Department of the Army Pamphlet 350–9

Training

Index and Description of Army Training Devices

Headquarters
Department of the Army
Washington, DC

12 May 2010

SUMMARY of CHANGE

DA PAM 350–9
Index and Description of Army Training Devices

This major revision, dated 12 May 2010–

- Adds descriptions of Army training devices fielded since the last revision of the pamphlet. The following devices were added or updated:

01-49/A; 01-125/A; 01-126/A; 01-142; 01-144/C; 01-157; 01-160/A; 01-160/B; 01-163; 01-167/A; 01-169; 01-173; 01-181; 01-183; 01-184; 01-186; 01-186/1; 01-186/3; 01-186/4; 01-186/5; 01-186/6; 01-186/7; 01-186/8; 01-188; 01-191; 01-197; 01-199; 01-201/1; 01-201/2; 01-201/3; 01-201/4; 01-201/5; 01-201/6; 01-202; 01-203; 01-204; 01-210; 01-211; 01-212; 01-213; 01-214; 01-215; 01-216; 01-217; 01-218; 01-219; 01-220; 01-221; 01-222; 01-223; 01-226; 01-226/A; 01-227; 01-230; 01-231; 01-232; 01-233; 01-234; 01-235; 01-236; 01-237; 01-238; 01-239; 01-240/2; 01-240/3; 01-240/3/A; 01-240/8; 01-240/9; 01-240/10; 01-240/11; 01-240/13; 01-241; 01-242; 01-243; 01-249; 01-250; 01-251; 01-252; 01;253; 03-20; 03-20/1; 03-20/2; 03-23; 05-21; 05-22; 05-104; 05-105; 05-105/1; 05-105/1/A; 05-105/1/B; 05-105/1/C; 05-105/1/D; 05-105/1/E; 05-105/1/F; 05-105/1/G; 05-105/1/H; 05-106; 05-107/1; 05-107/2; 05-108; 05-110; 05-111; 05-111/1; 05-112; 05-112/A; 05-113; 05-113/1; 05-113/2; 05-113/3; 05-114; 05-114/1; 05-115; 05-115/1; 05-116; 05-116/1; 05-117; 05-118; 05-118/1; 06-74/A; 06-107; 06-108; 06-109; 06-110; 06-111/A; 06-111/B; 06-111/C; 06-112; 06-112/A; 06-113; 06-113/A; 06-116; 06-117; 06-118; 06-118/1; 06-118/2; 06-118/3; 07-78/B; 07-126/A; 07-131; 07-131/1; 07-132; 07-132/A; 07-133; 07-158; 07-159; 07-161; 07-162; 07-163; 07-164; 07-165; 08-05/B; 08-50; 08-51; 08-52; 09-131/A; 09-134; 09-134/1; 09-134/2; 09-134/A; 09-134/A/1; 09-134/A/2; 09-135; 09-136; 09-137/A; 09-137/D; 09-137/E; 09-137/F; 09-138/5; 09-139; 09-139/A; 09-140; 09-140/A; 09-140/D; 09-141; 09-142; 09-143; 09-143/1; 09-143/2; 09-143/3; 09-143/4; 09-143/5; 09-143/6; 09-143/7; 09-143/8; 09-143/9; 09-143/10; 09-143/11; 09-143/A; 11-92; 11-99; 11-111; 11-112; 11-122; 11-122/1; 11-123; 11-123/A; 11-123/A/1; 11-124; 11-124/1; 11-125; 11-125/1; 11-126; 11-127; 17-176(P); 17-177(P); 170178(P); 17-224(P); 17-261(P); 17-189/D; 17-223/4; 17-223/4/A; 17-223/5; 17-223/5/A; 17-237/A; 17-237/B; 17-237/C; 17-237/D; 17-238/B; 17-239; 17-242; 17-242/1; 17-242/A; 17-243; 17-243/1; 17-243/2; 17-243/3; 17-243/4; 17-243/4/1; 17-243/4/2; 17-243/4/3; 17-243/5; 17-244; 17-249; 17-250; 17-255; 17-261(P); 17-265; 17-265/A; 17-265/B; 17-265/C; 17-265/D; 17-265/E; 17-266; 17-266/A; 17-266/B; 17-267; 17-267/A; 17-268; 17-269; 17-275; 17-275/A; 17-276; 17-276/A; 17-276/B; 17-276/C; 17-277; 17-282; 17-283; 17-283/A; 17-285; 17-285/A; 17-287; 17-289; 20-91; 20-92; 20-92/1; 20-92/2; 20-93; 23-58/A; 23-66; 23-67; 23-68; 23-69; 23-70; 23-71; 23-76; 23-77; 23-79; 23-80; 23-80/2; 23-80/4; 23-80/5; 23-80/6; 23-80/6/A; 23-80/6/B; 23-80/6/C; 23-80/6/D; 23-80/9; 23-80/10; 23-80/11; 23-80/12; 23-80/13; 23-80/14; 23-80/15; 23-81; 23-97/E; 30-24; 30-25; 30-26; 30-28; 30-29; 44-27/B; 44-27/C; 44-52/A; 44-55; 44-56; 44-72/A; 44-93/A; 44-93/B; 44-97; 55-28; 55-28/1; 55-50; 55-51/A; 55-51/B; 55-51/C; 55-51/D; 55-51/E; 55-52; 55-53; 55-54; 55-54/A; 55-54/B; 55-54/C; 55-55; 55-56; 55-56/A; 55-57; 55-58; 55-62; 55-62/A; 55-63; 55-64; 71-02/4/4; 71-03/5/1: 71-03/6/9; 71-03/7; 71-03/7/1; 71-0/7/2; 71-03/7/3; 71-03/8; 71-15; 71-25; 71-26; 71-27; 71-28; 71-29; 71-30; 71-31; 71-32;

- Expands on, or corrects descriptions published in the last revision of the pamphlet.
- Removes descriptions of obsolete Army training devices. The following devices were deleted:

01-111/B; 01-112; 01-148/9; 01-170; 01-171; 01-172; 01-175; 01-182; 01-187; 01-189; 01-190; 01-192; 01-198; 03-03; 03-05; 03-05/1; 03-05/2; 03/05/3; 03-07; 03-08; 03-13; 03-17; 05-01; 05-03; 05-05; 05-05/A; 05-08; 05-11; 05-103; 05-107; 05-109; 06-19/A; 06-61; 06-61/A; 06-61/B; 06-61/C; 06-68; 07-13/B; 07-15; 07-27; 07-31; 07-32; 07-41; 07-46; 07-51; 07-56/3; 07-56/3/A; 07-57; 07-57/A; 07-57/B; 07-57/C; 07-58; 07-60; 07-75; 07-120; 11-07; 11-08; 11-09; 11-25; 11-26/B; 11-35; 11-40; 11-41; 11-46; 11-52; 11-56; 11-88; 11-90; 11-107; 11-109; 17-56; 17-59; 17-59/1; 17-59/2; 17-61; 17-65; 17-66; 17-67; 17-67/B; 17-68/1; 17-68/2; 17-68/3; 17-68/4; 17-68/5; 17-68/6; 17-68/A/1; 17-68/A/2; 17-68/A/3; 17-68/A/4; 17-68/A/5; 17-68/A/6; 17-74; 17-127; 17-132/1; 17-132/2; 17-132/4; 17-136; 17-139; 17-139/A; 17-142; 17-143; 17-155; 17-157; 17-162; 17-162/A; 17-162/B; 17-182; 17-203; 17-204; 17-213; 17-216; 17-225; 17-262; 17-262/A; 17-263; 17-263/A; 17-264; 17-264/A; 23-15; 23-18; 23-59; 23-60; 23-61; 23-72; 23-73; 23-74; 23-75; 23-80/18; 30-27; 44-27; 44-27/A; 44-50; 44-50/A; 44-52/1; 44-58; 44-59; 44-60; 44-61; 44-62; 44-63; 44-67; 44-68; 44-70; 44-71; 44-71/A; 44-71/B; 44-72; 44-90; 44-95; 44-96; 55-12; 55-23; 55-27; 55-59; 55-62/A; 71-09; 71-12; 71-16; 71-17; 71-20; 71-06; 7107; 71-11;

- Adds entries to the Glossary.

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Headquarters
Department of the Army
Washington, DC
12 May 2010

Department of the Army Pamphlet 350–9

Training

Index and Description of Army Training Devices

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

History. This publication is a major revision.

Summary. This pamphlet presents guidance on the identification and description of the devices that have been acquired and fielded by the U.S. Army Program Executive Office Simulation Training and Instrumentation (PEO STRI) and are presently being used by the Active Army and Reserve components. It is a compilation of fact sheets that describe Army training devices.

Applicability. This pamphlet applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to PEO STRI (AMSTI-LO), 12249 Science Dr. Orlando, FL 32826-3276.

Distribution. This publication is available in electronic media only and is intended for command level A of the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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*This pamphlet supersedes DA Pam 350-9, dated 3 September 2002.

RESERVED

SECTION I
INTRODUCTION

1-1 Purpose

a. This pamphlet is published as an aid in the identification and description of training devices that were acquired and fielded by the U.S. Army Program Executive Office Simulation Training and Instrumentation (PEO STRI) and are presently being used by the Active Army and Reserve components. It is not to be used as authorization for requisitioning, stockage, or issue of this equipment. Many of the training devices depicted herein have been produced in limited quantities to meet specific training requirements and have not been generally distributed. For information concerning availability, supply, and maintenance support, contact the local Training Support Center (TSC).

b. For each training device, there is an illustration and description, together with other pertinent data, which may be utilized in determining if the device can be used to support a training requirement. Actual weights and dimensions may vary somewhat from the average or representative values shown. For information on small-arms targets and target materials see TM 9-6920-210-14.

c. Information on Army commodity managed, type classified devices is contained in SB 700-20.

d. Information concerning Army films, videotapes, and filmstrips is contained in DOD Catalog 5040.2-C-1; information concerning graphic training aids (GTA), for example, charts, cards, games, slides (2 by 2 inch), and transparencies (8 by 10 inch) is contained in DA Pamphlet 25-37.

e. A number of training devices were fabricated at various TSC's and distributed Army-wide but do not appear in this pamphlet. Information concerning availability of these types of devices, as well as locally fabricated Department of the Army Training Aids (DATA) type devices, can be obtained from the local TSC. Refer to their copy of TRADOC Pamphlet 350-9, "TRADOC Training Devices For Armywide Use." If the TSC does not have a copy, one can be obtained from the local installation publications office or by completing DA Form 17 (Requisition for Publications and Blank Forms) and sending it to the Commander, U.S. Army Training and Doctrine Command, Attn: AG Publications Stockroom, Fort Monroe, Virginia 23651.

f. Training device requirements for Grant Aid or Military Assistance Programs should be submitted through normal U.S. Army Security Assistance Center channels.

g. New training device requirements should be submitted by potential users in accordance with the provisions of AR 71-9.

1-2 Arrangement of pamphlet

This document is arranged in four major sections. They are: Section I, Introduction; Section II, Index; Section III, Training Equipment Summary Sheets; and Glossary

a. Index. The Index is a list of Army training devices by device (DVC) number. This number is assigned by PEO STRI during the acquisition cycle. The first two digits indicate the basic series of military equipment to which the training device relates and is consistent with those listed in AR 25-40. The remaining digits are assigned in chronological order. For example, 01-91 identifies an aviation (01) device and is the 91st device number assigned under that series. Similar training devices having a common application or training mission are assigned a letter designator (for example, 01-91A). A higher letter indicates the most current configuration. Devices that have a series of related components are identified with a diagonal and a numerical designator (for example, 01-91/2). Device numbers are to be used for requisitioning or for reference purposes only when a National Stock Number (NSN) has not been assigned and the item is the responsibility of PEO STRI. Following is the list of basic series numbers that are used in this pamphlet.

Basic Series No.	*Type of Equipment*
01	Aviation
03	Chemical
05	Engineer
06	Field Artillery
07	Infantry
08	Medical
09	Ordnance
11	Signal
17	Armor
20	General
23	Weapons
30	Military Intelligence
44	Air Defense Artillery
55	Transportation
71	Combined Arms

b. Training equipment summary sheets. These are arranged in numerical order by DVC number and contain information and illustrations that describe each training device. Some sheets list other identifying numbers in addition to the DVC numbers. Such numbers may be a corresponding Navy number, a model number, or a mainframe number. The device nomenclature may also include a model or type number assigned to or most generally associated with the training device. Most of the information on the sheets is self-explanatory. Some topics require further explanation as described below.

(1) *Training category/level utilized.* The training category is normally the same as the title for the applicable basic series number. Other designations such as "combat arms, basic weapons, and general," are used when such terms are more appropriate. The level utilized is normally one of the following three categories:

(a) Level 1. Applicable to post, installation, or service schools. These devices are installed as permanent fixtures such as the Bradley Fighting Vehicle Unit Conduct of Fire Trainer (Sheltered). They are generally located only at a branch service school or installation. Unit personnel may be moved to these device locations for training

(b) Level 2. These devices are used in structured training, as at NCO academies, leadership courses, or division schools. These devices may be located at other than Level 1 for support for structured training.

(c) Level 3. These devices may generally be available at the local TSC for troop unit training. This is a broad category and may apply to various sizes of organizations from division to platoon.

(2) Logistic Responsible Command, Service, or Agency. This is the designated managing activity for the device.

(a) U.S. Army Program Executive Office Simulation Training and Instrumentation (PEO STRI), Orlando, FL 32826-3276

(b) US Army Armament and Chemical Acquisition and Logistics Activity (ACALA), Rock Island, IL 61299-6000.

(c) US Army Communications-Electronics Command (CECOM), Fort Monmouth, NJ 07703-5006.

(d) Aviation and Missile Command (AMCOM), Redstone Arsenal, AL 35809

(e) US Army Tank-Automotive Command (TACOM), Warren, MI 48090.

(f) US Army Aviation and Systems Command (AVSCOM), St. Louis, MO 63120-1798.

(g) Defense Personnel Support Center (DPSC), Directorate of Medical Material, Philadelphia, PA 19100.

(h) US Army Medical Materiel Agency (USAMMA), Frederick, MD 21702-5001.

(i) US Army Training Support (ATSC) Fort Eustis, VA 23606.

(3) Applicable publications. These publications pertain to operation and maintenance of the training device. They may be DA Technical Manuals (TM), STRICOM Technical Documents (TD), Navy NAVSO, NAVEXOS, or NAVTRADEV "P" publications, or manufacturer's handbooks, depending on the managing activity and density of the training device in the field.

(4) Reference publications. These publications pertain to operation and maintenance of the tactical equipment to which the training device is related. They may be DA Technical Manuals (TM), Field Manuals (FM), Training Circulars, or others as applicable.

(5) Training requirements supported. This information is included to assist those responsible for training to relate the training device to the specific Military Occupational Speciality Code (MOSC) task training requirements that it supports. The tasks are identified with the applicable Army Training Evaluation Program (ARTEP), Army Training Manual (ATM), Soldier's Manual (SM), or Field Manual (FM)Activities managing training devices in their respective commodity areas are as follows.

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DVC No.	*Nomenclature*	*Page*
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SECTION III

TRAINING EQUIPMENT SUMMARY SHEETS

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BASIC SERIES 01
AVIATION

CH-47D ELECTRICAL SYSTEMS TRAINER

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CH-47D Electrical System Trainer is designed to reflect the realistic production helicopter configuration of the electrical components. The use of minimal operational components integrated with trainer-peculiar simulated components provide aircraft realism for the effective training of maintenance personnel.

Functional Description:
The CH-47D Electrical System Trainer (EST) is a computer driven electrical systems training device capable of training 20 separate systems with 220 programmable faults. The trainer consists of four major components; Instructor's Console, Computer Equipment Cabinet, Airframe, and Power Source. To facilitate transportation with minimum effort, these are equipped with swiveled self-locking, rubber tired casters. Leveling screw jacks attached to the trainer base provide stability when it is positioned for use.

a. The Instructor's Console contains the primary electronic controls for the trainer, e.g. trainer control panel, hand-held terminal, CRT screen, computer keyboard, graphics controller, and power supplies. A cable interfaces the console to the Airframe.

b. The Computer Equipment Cabinet is connected to the Instructor's Console by two power cords and two data records. It houses the main computer, a Winchester disk drive, and a dual floppy disk drive.

c. The airframe is comprised of three sections: Section 1 simulates the cockpit and forward cabin area, Section 2 the cabinet, and Section 3 the aft cabin and ramp area. The Airframe is shortened to eliminate space that is unnecessary for the training mission and maximize the classroom space that is available.

d. Power to drive the trainer is converted from line-fed 208vac 3-phase by the Trainer Power Supply. All trainer power is provided from this source, eliminating the requirement for a mechanically veri-drive unit to drive the generators. 24vdc power requirements are met in the same manner.

Physical Information:
Instructors Console: 48" x 34" x 54"
Computer Equipment Cabinet: 23" x 31" x 70"
Airframe:
(Section 1): 108" x 126" x 139"
(Section 2): 60" x 168" x 111"
(Section 3): 72" x 168" x 154"
Power Source: 23" x 15" x 38"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
Facility: 208vac, 75 A, 3-phase, 60 Hz

Applicable Publications:
TM 1-6910-708-14&P

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15F

CH-47D HARDWARE MAINTENANCE TRAINER

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The Hardware Maintenance Trainer is designated to support maintenance training on the CH-47D "Chinook" Helicopter. It offers a realistic environment for presenting the starting, power train, rotary wing, and flight control systems, including relative component locations, operation, and repair of the production helicopter. The specific training requirements supported are shown in the following descriptive data.

Functional Description:
The CH-47D Hardware Maintenance Trainer (HMT) consists of five major units. These are the Aircraft Station, Instructor Console, Electrical/Hydraulic Power Cart, Simulated APU/Electrical Sequence Unit Multipurpose Test Set and the Computation system.

The components comprising the aircraft station physically replicate and functions within the same parameters as their counter parts on the CH-47D Helicopter. Actual components are used whenever possible to demonstrate actual helicopter functions. The rotor heads have stub blades. The avionics system is not functional or installed, however, silk-screened control panels are installed to simulate helicopter configuration. The instructor has the capability of inserting faults into the trainer to cause abnormal indication in the training system. This allows the student to recognize symptoms, fault isolate their causes, and apply corrective action as he would on a CH-47D Helicopter.

The trainer includes an emergency shutdown system that removes electrical and hydraulic power from the trainer when any one of the ten Emergency Power Off switches is pressed. Test Procedures and adjustments are identical to test procedures for operational systems contained in the CH-47D Helicopter technical manual. Rapid fault insertion and real-time troubleshooting simulation and monitoring capabilities combine to provide the student with a realist maintenance trainer.

Physical Information:
Aircraft station: 122" W x 494" L x 233" H
Instructor Console: 45" W x 67" L x 46" H
Electrical/Hydraulic Power Card: 60" W x 105" L x 63" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

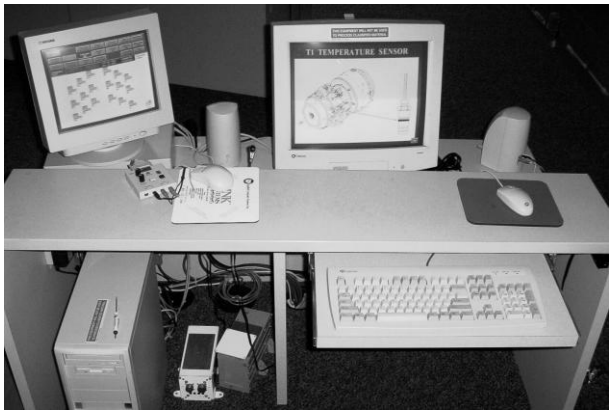
Power Requirements:
Aircraft Station: 115vac, 3-phase, 400 Hz and 28vdc, 40 Amps.
Rotor System Motor: 208vac, 3-phase, 30 Amps.
Instructor Console: 115vac, single-phase, 60 Hz, 4 Amps, 24vac, 60 Hz, 1 Amp, 28vdc, 9 Amp.s.
Computer & Utility outlet: 115vac, single-phase 60 Hz, 4 Amps.
Power Cart: 208vac, 3-phase, 60 Hz, 80 Amps.

Applicable Publications:
TD 1-6930-701 Series

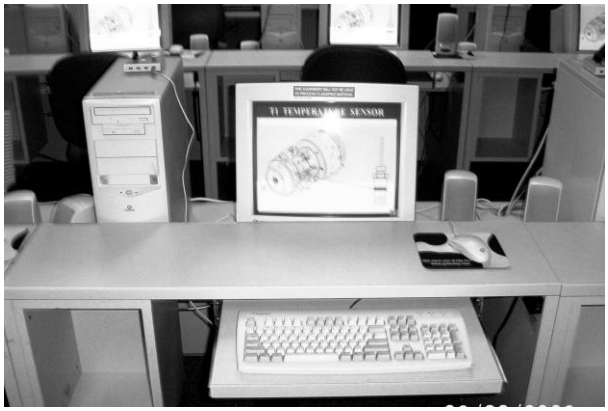
Reference Publication:
(Information not available)

Training Requirements Supported:
MOSC – 15U

CH-47 T55 GA714 ENGINE IMI CLASSROOM – 18/OST-I



Instructor Station



Student Station

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
This trainer provides initial and refresher training on the T55 GA 714 Engine.

Functional Description:
The CH-47 T55 GA 714 Engine Trainer is a computer based classroom network, which includes a server, 18 student stations and 1 instructor station.

Physical Information:
PC Based Classroom Set-up.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

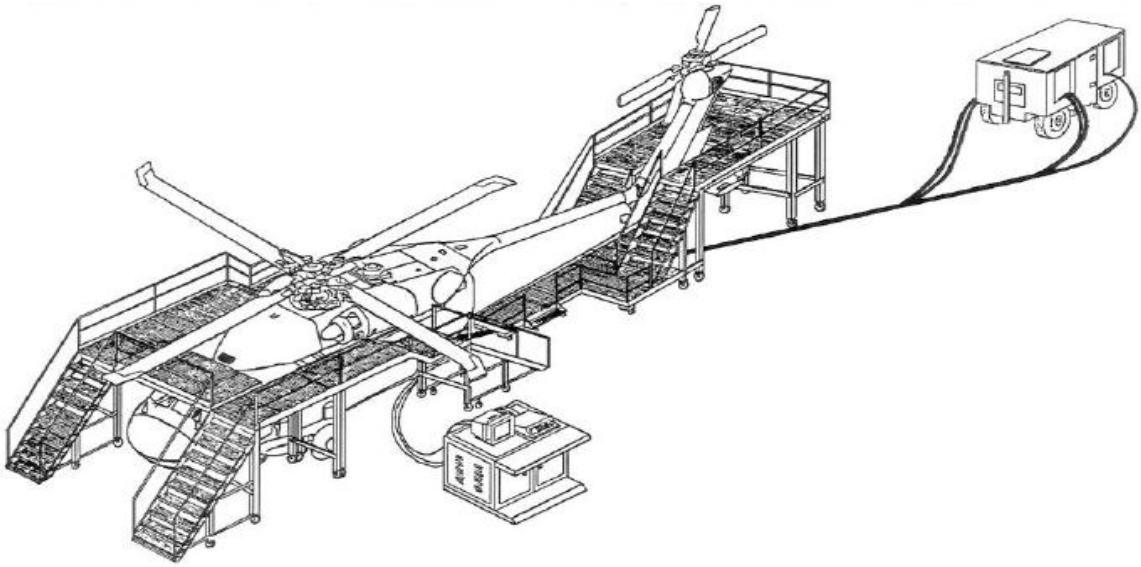
Power Requirements:
115vac 60 Hz

Applicable Publications:
Commercial Documentation

Reference Publications:
TM 1-2840-265-23&P

Training Requirements Supported:
MOSC 15B
151-AE

UH-60 BLACK HAWK MAINTENANCE TRAINER (BHMT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Black Hawk Maintenance Trainer (BHMT) is used by instructor personnel to provide both individual and group training in maintaining the UH-60A/L model helicopters. The BHMT is designed to teach maintenance personnel troubleshooting techniques, provide hands-on training in the removal and replacement of components/equipment, and preflight and operational checks.

Functional Description:
Device 01-107 is installed in a single-room training facility with sufficient room to complete all training tasks.

The trainee station includes a full-size replica of a UH-60A or UH-60L Black Hawk helicopter. The BHMT components are located in the same relationship as in the UH-60A/L helicopter. Cockpit controls operate realistically to provide simulated performance of aircraft systems.

All equipment functions, operations, responses, and interfaces are identical to those of the baseline UH-60A/L counterparts during normal maintenance operations, including the interaction between them. The avionics system has Inter-Cabin Communication capability only.

The trainer is designed to provide an accurate representation of the performance characteristics of the UH-60 helicopter during normal operating, emergency, and malfunctioning conditions by providing the widest range of task simulation, performance requirements, and realistic cues required for detection of malfunctions.

The automatic computer controlled mode of operation is capable of demonstrating the appropriate sights, sounds, and sequencing results during normal start-up and operating procedures.

The instructor operator station (IOS) is the trainer control center. The IOS provides the capability to select and initiate the training mode. Basic operating modes include training, demonstration, and maintenance.

Physical Information:
Trainee station including maintenance platform:
16' 10" H x 16' 5" W x 61' 9" L
Power Cart: 63" H x 60" W x 105" L
Instructor Operator Station: 44.47" H x 52.12"W x 27.5" D

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Minimum installation area required: 1000 square feet
Temperature range: 28 C
Relative humidity: 0-90%

Power Requirements:
120/208vac, 60 Hz, 3-phase

Applicable Publications:
TD 1-6930-706-10 Operators Manual
TD 1-6930-706-20 Maintenance Manual to include RPSTL

Reference Publications:
TM 1-1520-237 Series

Training Requirements Supported:
MOSC 15T10, 15T30, 15N10, 151A

UH-60 BLACK HAWK ELECTRICAL TRAINER (BHET)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Black Hawk Electrical Trainer (BHET) is used by instructor personnel to provide both individual and group training in maintaining the UH-60L model helicopters. The BHET is designed to teach maintenance personnel trouble-shooting techniques, provide hands-on training in the removal and replacement of components/equipment, and preflight and operational checks.

Functional Description:
Device 01-107/A is installed in a single-room training facility with sufficient room to complete all training tasks.

The trainee station includes a full-size replica of a UH-60L Black Hawk helicopter. The BHET components are located in the same relationship as in the UH-60L helicopter. Cockpit controls operate realistically to provide simulated performance of aircraft systems.

All equipment functions, operations, responses, and interfaces are identical to those of the baseline UH-60L counterparts during normal maintenance operations, including the interaction between them.

The avionics system has Inter-Cabin Communication capability only.

The trainer is designed to provide an accurate representation of the performance characteristics of the UH-60 helicopter during normal operating, emergency, and malfunctioning conditions by providing the widest range of task simulation, performance requirements, and realistic cues required for detection of malfunctions.

The automatic computer controlled mode of operation is capable of demonstrating the appropriate sights, sounds, and sequencing results during normal start-up and operating procedures.

The instructor operator station (IOS) is the trainer control center. The IOS provides the capability to select and initiate the training mode. Basic operating modes include training, demonstration, and maintenance.

Physical Information:
Trainee station including maintenance platform: 16' 10" H x 16' 5" W x 61' 9" L
Power Cart: 63" H x 60" W x 105" L
Instructor Operator Station: 44.47" H x 52.12" W x 27.5" D

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Minimum installation area required: 1000 square feet
Temperature range: 28 C
Relative humidity: 0-90 percent

Power Requirements:
120/208vac, 60 Hz, 3-phase

Applicable Publications:
TD 1-6930-706-10 Operators Manual
TD 1-6930-706-20 Maintenance Manual to include RPSTL.

Reference Publications:
TM 1-1520-237 Series

Training Requirements Supported:
MOSC 15F10, 15F30, 15N10, 151A

UH-60 BLACK HAWK ELECTRICAL TRAINER-M (BHET-M)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The UH-60M BLACK HAWK Electrical Trainer-M (BHET-M) will provide training which prepares the UH-60M BLACK HAWK electrician maintenance personnel, MOS 15F10, to maintain the aircraft.

Functional Description:
The trainer consists of a Student Station, Power Cart, Instructor Operator Station (IOS) and Maintenance Platform designed to support the training of maintenance tasks in the UH-60M helicopter. The device shall be configurable and upgradeable as components are added and/or enhanced in the actual aircraft. The BHET-M replicates the UH-60M aircraft component functional characteristics to enable the training of MOS 15F and selected 15N critical maintenance tasks.

Physical Information:
The trainer environment consists of a CAT-B airframe which houses the Student Station and the Maintenance Platform, an Instructor Operator Station, and a Power Cart. The Student Station provides a platform to house and troubleshoot electrical systems; contains the trainer host, input/output, and graphics computer systems displaying all cockpit data; and includes an audio system for radio and intercommunication, caution and advisory tones and aural cues. The IOS provides both the training and maintenance modes of operation, enabling the instructor to monitor and control the trainer and check system status. The Power Cart provides electrical and hydraulic power to the student station and replicates a standard auxiliary ground power unit.

Equipment Required, Not Supplied:
Aircraft Test Sets are to be supplied by the USAALS schoolhouse during training.

Special Installation Requirements:
The device will operate in temperatures up to 117°F in the training facility. The equipment will operate at temperatures up to 95°F.

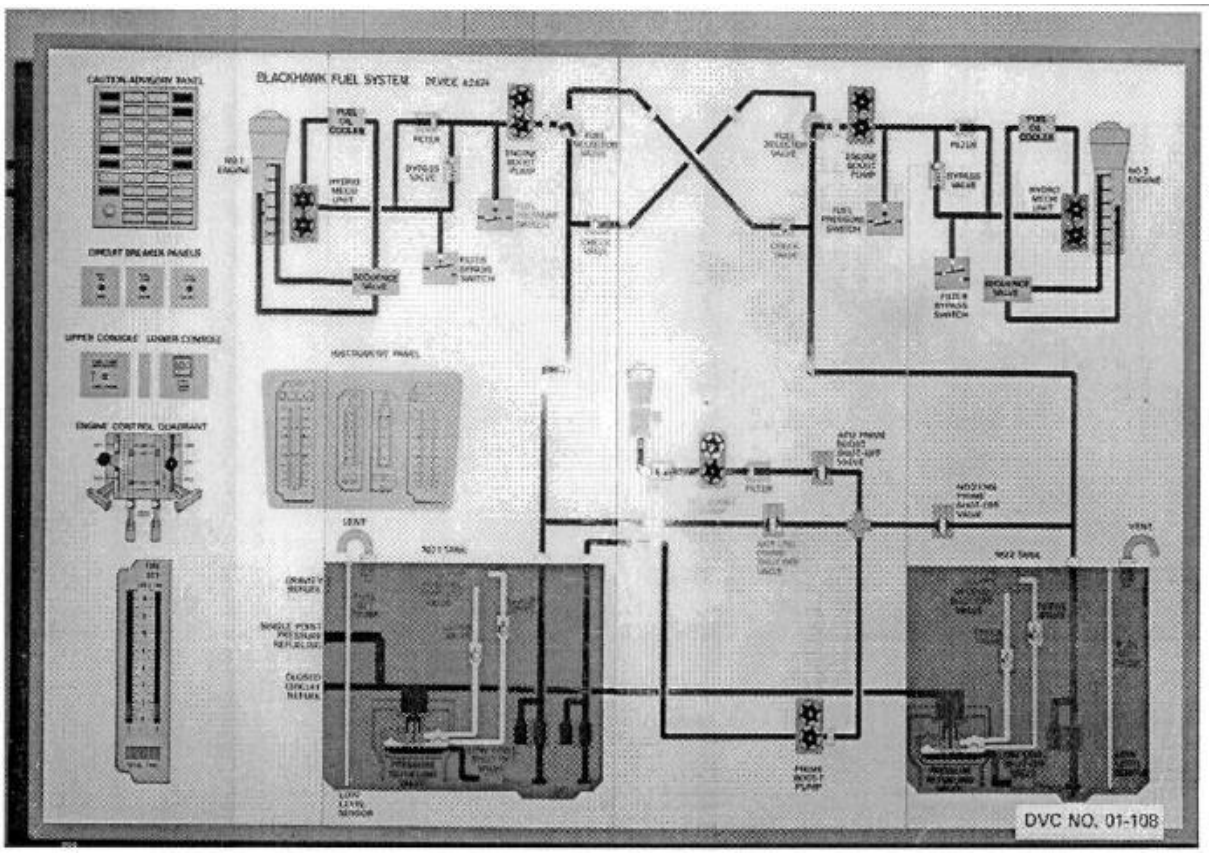
Power Requirements:
The trainer will interface to 120/208 VAC, 60Hz, 3 phase, 35 Amps/phase building power. Building power will interface to a trainer UPS system which provides limited battery power in the event of facility outrages.

Applicable Publications:
TM 1-BLACKHAWK, Interactive Electronic technical Manual for Army Models UH-60A, UH-60L, EH-60A, UH-60Q and HH-60L Helicopters.
TM 1-BLACKHAWK, Interactive Electronic Technical Manual for Army Models UH-60M Helicopters.

Reference Publications:
TM 1-1520-280-23

Training Requirements Supported:
MOS 15F and selected MOS 15N critical tasks, operational checks per technical manuals and Fault List Audit malfunctions.

UH-60 BLACK HAWK FUEL TRAINER



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer is for classroom use in the support of maintenance training for aircrews on the UH-60 Helicopter. It provides a realistic environment for presenting the Fuel System components of the production aircraft. The use of operational equipment and system simulation offers a comprehensive means of instructing installation, servicing, adjustment, and troubleshooting procedures. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer displays the complete Fuel System in animated, sectionalized, pictorial backlighted form. It provides the instructor with the controls; backlighted schematic; and built-in electrical logic which will permit demonstration of the theory of system operations, isolating malfunctions, and making proper adjustments or replacements. The instructor's panel permits the instructor to insert specific conditions of normal or abnormal nature.

Physical Information:
72" x 120" x 24"; 650 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
110vac, 60 Hz

Applicable Publications:
NAVTRADEV P-4487

Reference Publications:
TM 1-1520-237

Training Requirements Supported:

ARTEP 1-252 Tasks

5-8-3	5-11-5	5-11-6	5-12-3
5-11-4			

ARTEP 17-205 Tasks

1-10-2	2-7-1	2-7-2	2-7-3
2-5-1			

ARTEP 17-385 Tasks

2-7-1	2-7-2	2-7-3

ARTEP 57-55 Tasks

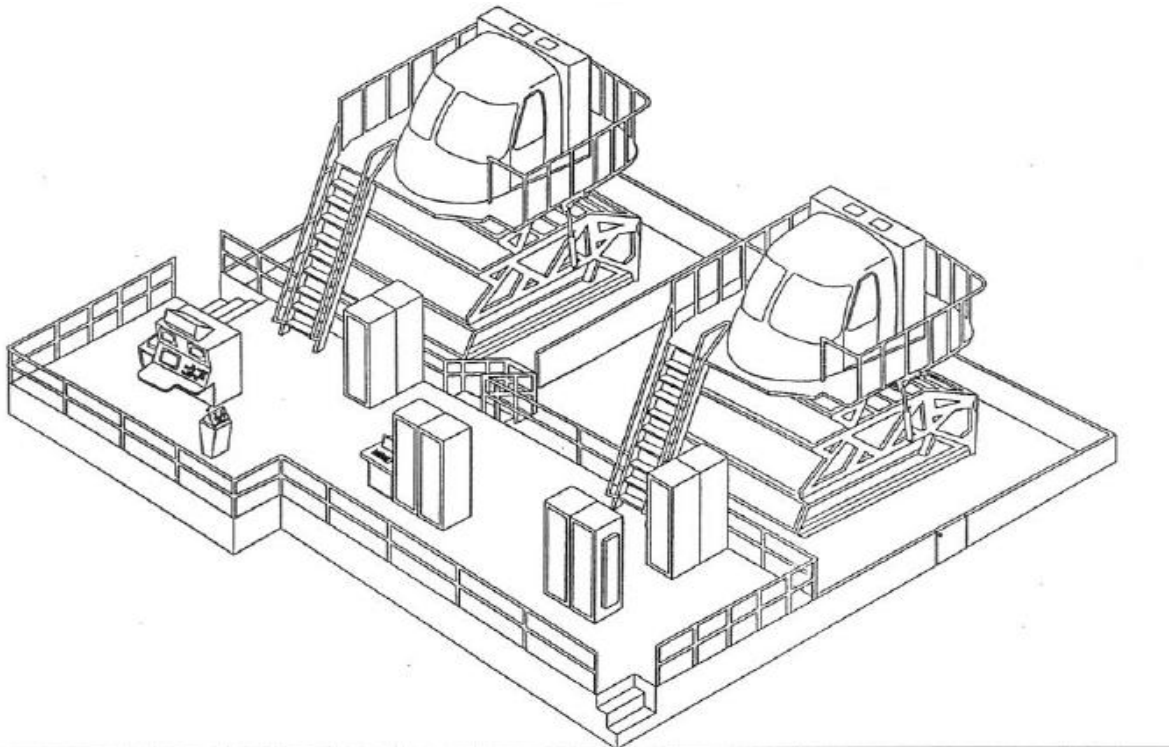
5-8-A	7-1-B	7-8-A	7-13-A
5-10-A	7-1-D	7-11-A	5-14-I
6-1-D	7-3-C	7-11-G	

MOSC 15-1N and 100

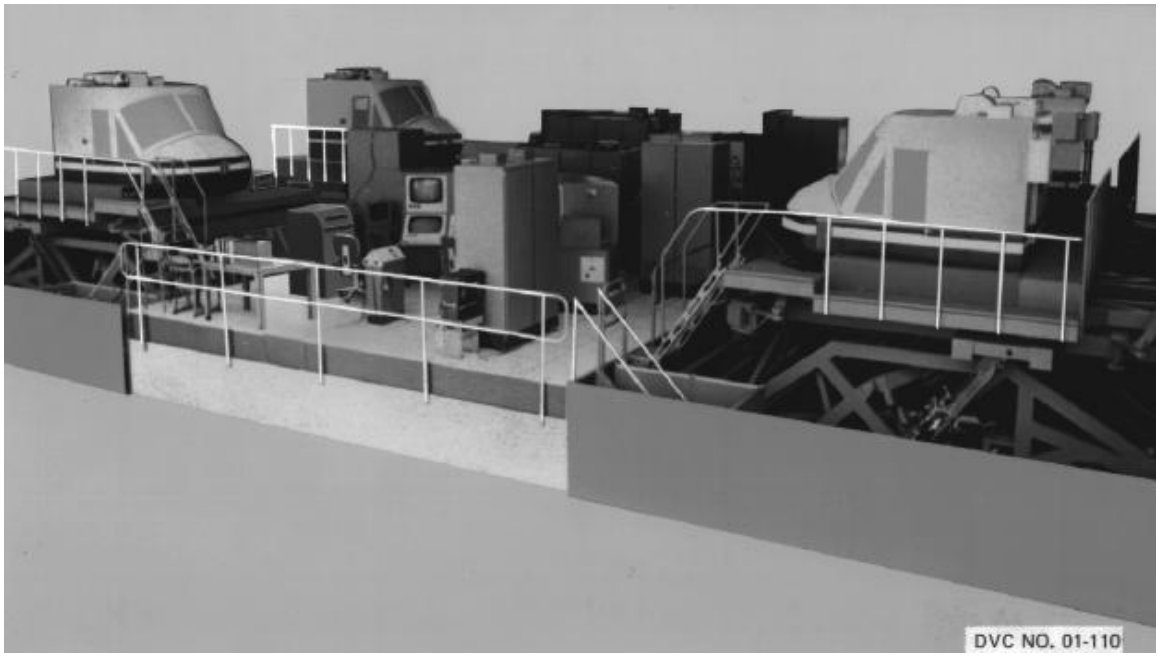
ATM Tasks

1502	4007	4009	6501
1503	4008	4040	

UH-1H SYNTHETIC FLIGHT TRAINER SYSTEM



2-Cockpit Configuration



4-Cockpit Configuration

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide training in the techniques of instrument flight in a helicopter and to aid in maintaining proficiency in those techniques after completion of formal training. The trainer is used for initial and refresher training of aviators in cockpit procedures, instrument flying techniques, and radio navigation for rotary-wing aircraft. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer may be comprised of either two or four simulated UH-1H cockpits mounted on motion platforms, with 5 degrees of freedom to provide motion cues, a digital computation system, and an instructor station. A sound system is included to provide complete aural cues. All training functions for each cockpit can be controlled by the device operator through the computer complex. Reliability and ease of maintenance are incorporated into the device through use of the modular construction concept. Under this concept, individual modules perform the computation, instruction, simulation (student cockpit), and the cockpit motion functions.

The digital computers used in this training device are programmed to perform many of the repetitive operations traditionally assigned to the human instructor. The instructor is now able to supervise simultaneously the training of as many as four students, each flying a different mission, since he is relieved of those tedious aspects of his job. While this changes the traditional one-to-one student-instructor ratio, the instructor retains the ability to override the computer and work individually with any student who needs his assistance. This multi-student capability is made possible by a feature called the automatic training mode. In this mode, pre-corded briefings and instructions prepare the student for his lesson. If a demonstration is necessary, computer programs activate the motion base and appropriate cockpit displays, thus enabling the instructor to explain difficult flight maneuvers to students in either real time or slow time.

Physical Information:

2-Cockpit configuration:
Trainer: 393" x 480" x 240"
Hydraulic pump unit: 240" x 144" x 120"

4-Cockpit configuration:
Trainer: 750" x 480" x 240"
Hydraulic pump unit: 480" x 144" x 120"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A climatically controlled building that maintains an ambient room temperature at 70 F and a relative humidity of 50% is desirable.

Power Requirements:

2-Cockpit configuration:
Trainer: 277/480vac, 3-phase, 4 wires, 130kva, 15kva
Hydraulic pump unit: 208/480vac, 3-phase, 4 wires, 52kva, 104kva.

4-Cockpit configuration:
Trainer: 277/480vac, 3-phase, 4 wires, 258kva, 30kva
Hydraulic pump unit: 208/480vac, 3-phase, 4 wires, 52kva, 208kva.

Applicable Publications:
TM 55-6930-207 Series

Reference Publications:
(Information not available)

Training Requirements Supported:

ARTEP 1-252 Tasks

5-4-4	5-8-4	5-12-3	5-12-4

ARTEP 1-167 Tasks

E-2	E-11	E-13	E-16
E-3			

ARTEP 1-55 Tasks

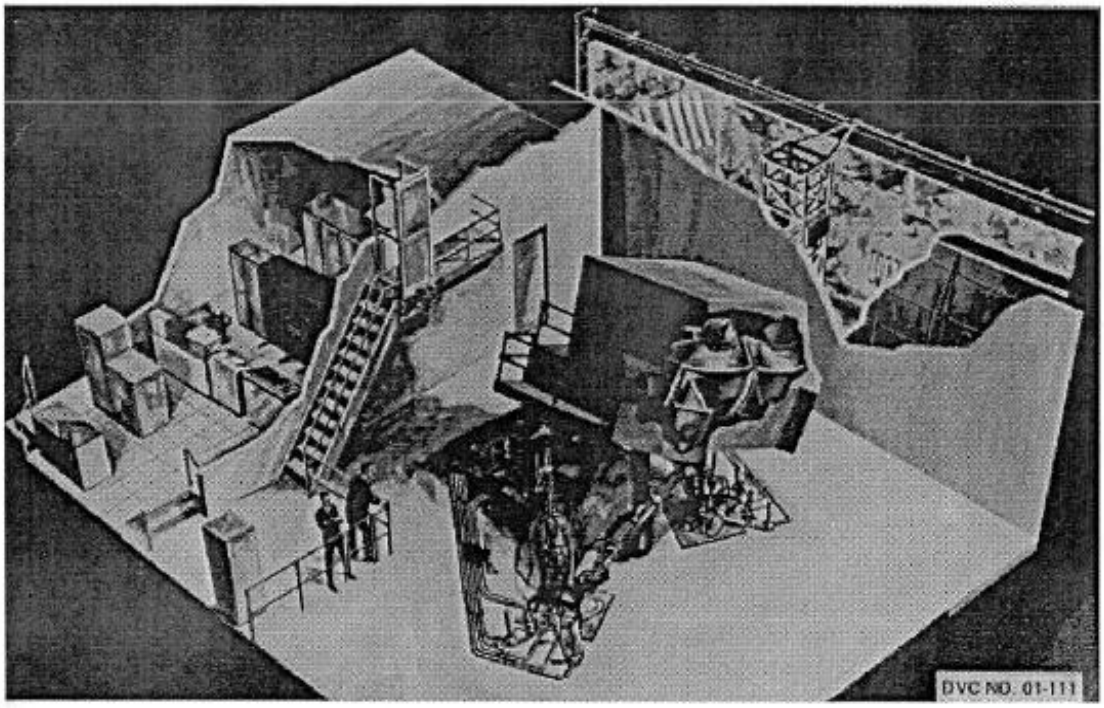
5-5-1	5-9-F	7-6-D	7-12-H
5-5-D	5-9-H	7-8-D	7-12-L
5-9-C	7-4-F	7-12-E	7-14-B

MOSC 15-1E and 100B

ATM TC 1-211 Tasks

1000	1002	1003	1004
1023	1053	1068	1075
1076	1077	1078	1079
1080	1081	1082	1083
1099			

CH-47D FLIGHT SIMULATOR



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide training in the techniques of visual and instrument flight in the CH-47 Helicopter and to aid in maintaining proficiency in these techniques after completion of formal training. The trainer is used for initial and refresher training of aviators in cockpit procedures, visual flying techniques, instrument flying techniques, and radio navigation for the CH-47D Helicopter. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer consists of one simulated CH-47D Helicopter cockpit mounted on a 6-degree freedom of motion system. The system is controlled by a Harris Nighthawk computer. A Digital Image Generator system provides identical high resolution displays out the front and side windows for the pilot and copilot trainee stations. A computer generated checkerboard display is presented through the chin windows to provide height above ground and relative motion information. As instructor station is located in the cockpit behind the trainer stations.

Physical Information:
Cockpit area: 192" x 192" x 216"
Computer room: 360" x 240" x 120"
Hydraulic area: 144" x 120" x 126"
Visual: 960" x 480" x 372"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Climatically controlled building that maintains an ambient room temperature at 70 F, and a relative humidity of 50 percent is desirable.

Power Requirements:
Cockpit and Visual: 120/280vac, 3-phase, 4 wires, 60 Hz
Hydraulic: 277/480vac, 3-phase, 4 wires, 60 Hz

Applicable Publications:
TM 55-6930-212 Series

Reference Publications:
(Information not available)

Training Requirements Supported:
ARTEP 55-167 Tasks

C-5	D-4	D-7	D-11
D-1	D-6	D-8	

MOSC 15-1G and 100C

ATM TC 1-216 Tasks

1000	1025	1075	1098	2076	2091
1001	1026	1076	1099	2078	2901
1002	1027	1077	2004	2079	2903
1007	1028	1078	2005	2080	2905
1015	1029	1079	2008	2081	2922
1016	1053	1080	2009	2084	2934
1017	1060	1081	2016	2086	2936
1018	1061	1082	2039	2087	2967
1022	1068	1083	2072	2090	2970

BLACK HAWK ELECTRICAL SYSTEMS TRAINER (INDIVIDUAL)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
This trainer is used for individual training, to demonstrate the functions of the Electrical System of the UH-60 Helicopter. It provides the means for training in the maintenance, inspection, troubleshooting, and safety of the UH-60 Electrical System. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The electrical trainer displays the operation of the ac and dc electrical and electronic systems including both the normal and malfunctioning conditions. Aircraft controls are active in order for both instructor and student to simulate operation of the system. Students are capable of "hands-on" operation of the trainer. Fault insertion capabilities have been provided, and all necessary test equipment for troubleshooting faults are incorporated on the panel. Student guidance and feedback based on interaction with the trainer is provided to assist in individual and self-paced capabilities. Components are displayed or located so that their relation to the approximate location on the helicopter is clearly visible.

Malfunctions include, but are not limited to, open circuits in ac and dc systems, over voltage relay inoperative, inverter failure, loss of main generator, emergency bus relay inoperative, improper voltage output for ac and dc systems, and APU inoperative.

Physical Information:
1 Instructor Console and 12 Student Stations.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
110vac

Applicable Publications:
TD 55-6910-715-14&P

Reference Publications:
TM 1-1520-237

Training Requirements Supported:
MOSC 15F10

UH-60 BLACK HAWK AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS) TRAINER (CLASSROOM)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
This trainer is used for classroom training to demonstrate the functions of the automatic flight control system on the UH-60 Helicopter.

Functional Description:
The training device is required to provide realistic hands-on training environment for avionics mechanic students. The avionics mechanic must be trained to perform operational checks, and to adjust and troubleshoot the avionics components in the Stability Augmentation System. The training device will enable the student to get classroom experience in performing GO/NO-GO checks, and diagnosing and replacing malfunctioning major components in the system.

Physical Information:
The AFCS classroom console consists of a computer, console with sound amplification, a Smart technologies monitor and Syncroeyes software that allows instructor to monitor and or interact with each student station individually or as a class.

Equipment Required, Not Supplied:
3.5"/1.44MB formatted diskette (minimum 12 per Student Station).

Special Installation Requirements:
(Information not available)

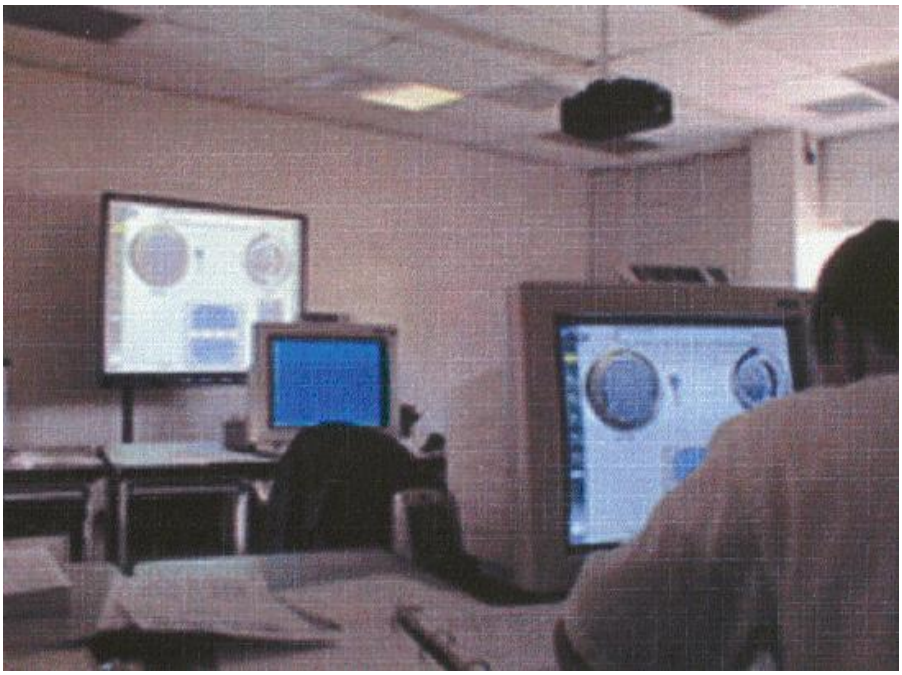
Power Requirements:
110vac

Applicable Publications:
TD 55-6910-719-14&P

Reference Publications:
TM 1-1520-237

Training Requirements Supported:
MOSC 15N

UH-60 BLACK HAWK AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS) TRAINER (INDIVIDUAL)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
This trainer is used for classroom training to demonstrate the functions of the automatic flight control system on the UH-60 Helicopter.

Functional Description:
The training device is required to provide a realistic hands-on training environment for avionics mechanic students. The avionics mechanic must be trained to perform operational checks and to adjust and trouble shoots the avionics components in the Stability Augmentation System. The training device will enable the student to get classroom experience in performing GO/NO-GO checks, and diagnosing and replacing malfunctioning major components in the system.

Physical Information:
The AFCS Trainer consists of an open architecture design using a Personal Computer platform networked to form a cluster of 12 Student Stations supported by one Instructor Operator Station.

Equipment Required, Not Supplied:
None required

Special Installation Requirements:
(Information not available)

Power Requirements:
110vac

Applicable Publications:
TD 55-6910-718-10

Reference Publications:
TM 1-1520-237

Training Requirements Supported:
MOSC 15N

CH-47 HELICOPTER AVIONICS MAINTENANCE TRAINER (CLASSROOM)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Trainer is used to train Avionics maintenance personnel in the performance of operational checks, troubleshooting techniques, and fault isolation procedures.

Functional Description:
The trainer is designed to allow the instructor to select a training task, which provides the student with a visual simulation of the CH-47 Avionics System and affected instruments during the performance of a task. Each student has the ability to individually perform trouble-shooting and fault isolation procedures by advancing through the ICW and determining the correct path to take.

Physical Information:
PC Based Set-up

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Classroom

Power Requirements:
120vac, 60 Hz

Applicable Publications:
(Information not available)

Reference Publications:
TM 1-1520-240 Series

Training Requirements Supported:
MOSC 15N

CH-47 HELICOPTER AVIONICS MAINTENANCE TRAINER (INDIVIDUAL)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Trainer is used to train avionics maintenance personnel in the performance of operational checks, troubleshooting techniques, and fault isolation procedures.

Functional Description:
The trainer is designed to allow the instructor to select a training task which provides the student with a visual simulation of the CH-47 Avionics System and affected instruments during the performance of a task. Each student has the ability to individually perform trouble-shooting and fault isolation procedures by advancing through the ICW and determining the correct path to take.

Physical Information:
PC Based Set-up

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Classroom

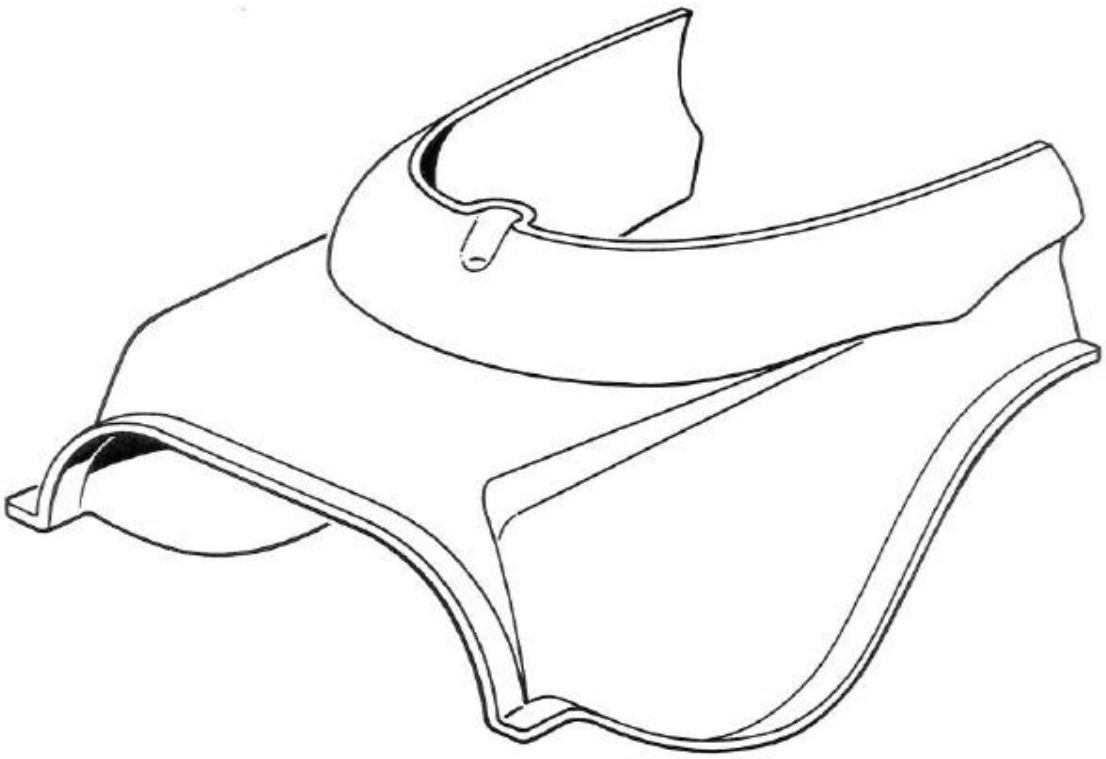
Power Requirements:
120vac, 60 Hz

Applicable Publications:
None

Reference Publications:
TM 1-1520-240 Series

Training Requirements Supported:
MOSC 15N

TRAINING AID - BLIND FLYING HOOD: CHANNEL VISION PERSONNEL



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
ATCOM

Source and Method of Obtaining:
Generally available through the supply system as authorized by AR 310-49.

Purpose of Trainer:
The trainer is used to teach aviator personnel instrument flying or blind flying in fixed wing aircraft.

Functional Description:
The device is a polystyrene pivot able face shield attached to the aviator's crash helmet. When the device is in place it allows the student to view the complete instrument panel but restricts peripheral vision. This restriction to vision is removable by the upward flick of a finger.

Physical Information:
8-1/16" x 9-3/8" x 6"

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15 and 100

ATMTC 1-135 Tasks

4501	4504	4508	4512
4502	4505	4509	4513

ATMTC 1-136 Tasks

4501	4504	4508	4512
4502	4505	4509	4513

ATMTC 1-137 Tasks

4501	4504	4508	4512
4502	4505	4509	4513

ATMTC 1-144 Tasks

4501	4504	4506	4510
4502	4505	4509	4511
4503			

ATMTC 1-145 Tasks

4501	4504	4506	4510
4502	4505	4509	4511
4503			

CH-47D SINGLE POINT PRESSURE REFUELING SYSTEM TRAINER (CH-47D SPPRST)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The training device simulates through computer graphics fuel flow and indicator actions during pressure refueling, intertank transfer functions, operational checks, and troubleshooting procedures for the CH-47D Chinook Helicopter.

The CH-47D SPPRST was also designed to incorporate other maintenance modules as developed to provide computer based instruction to include system description, principle of operations, maintenance tasks, systems simulations, MOC, and troubleshooting tasks for each system developed. Systems developed or under development are: Fuel, Electrical, Hydraulics, Flight Controls, Powerplant, Rotors, Drivetrain, APU, and Environmental.

Functional Description:
The SPPRST provides a platform that allows students to grasp an understanding of the CH-47D aircraft systems, location of components, and step by step performance of maintenance tasks troubleshooting. The device software allows the instructor to take control of the class or allow the student to progress on a preselected course. The student may interact with the instructor via his keyboard without interrupting the rest of the class.

Physical Information:
1 Instructor Operator System which includes, an Instructor Console with sound. Smart Sympodium and Syncroneyes software for Instructor/student interaction.
12 Student Stations.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

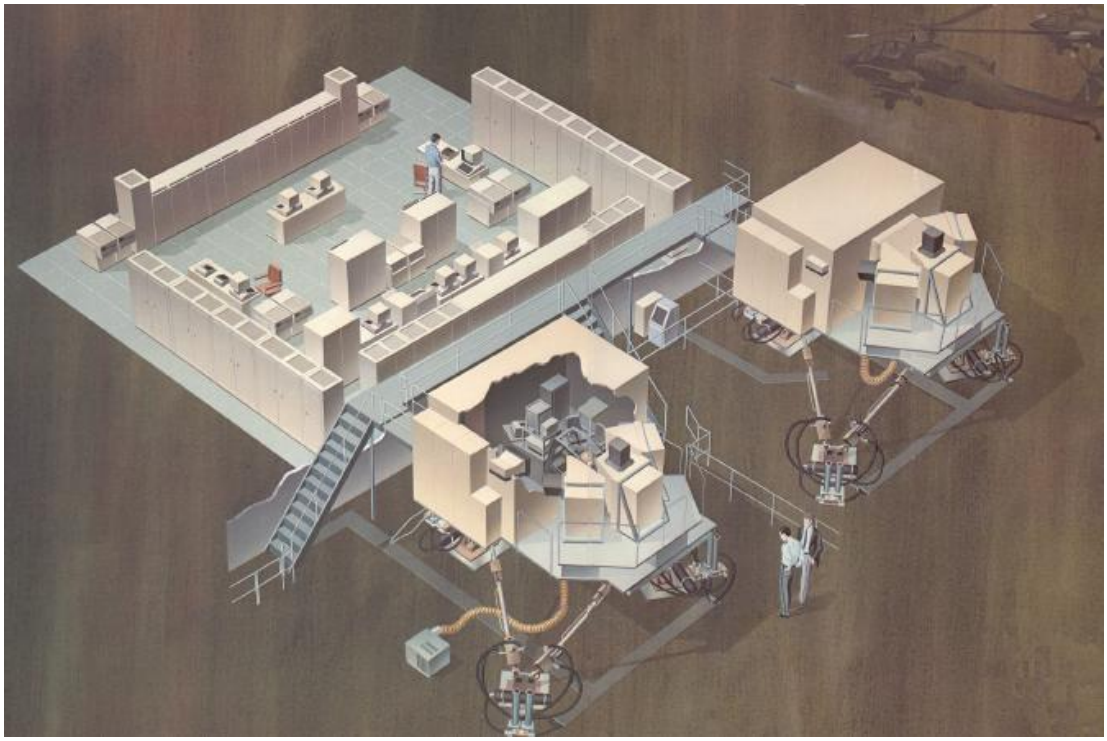
Power Requirements:
Volts: 120vac; AMPS: 13.85
Phase: Single; Hz: 60; Watts: 1461.4

Applicable Publications:
Operation and Maintenance Manuals for the CH-47D Single Point Pressure Refueling System Trainer.

Reference Publications:
TD 1-6910-703-20; TD 1-6910-703-10

Training Requirements Supported:
MOS 15U10, 15U30 Medium Lift Helicopter Repairman and Refresher Training for Non-Commissioned Officers.

AH-64A COMBAT MISSION SIMULATOR (CMS)



Training Category/Level Utilized:
Aviation Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Institutional and field use to support combat skills initial, refresher, and sustainment training of unit aircrews.

Functional Description:
The AH-64A CMS is designed to provide a training capability for flight and weapons delivery, normal and emergency procedures, and sensor system operating tasks required in the operational design of the basic helicopter. These systems include the pilot night vision sensor (PNVS) and the gunner's target acquisition and designation sight (TADS) systems. The simulator consists of pilot and copilot/gunner modules, instructor modules, motion subsystems, visual subsystems, and a computer complex.

The pilot and copilot/gunner trainee modules are replicas of the actual aircraft cockpits and each is mounted on a six degree-of-freedom motion base. The visual system provides a current state-of-the-art out-the-window scene and sensor imagery to each of the appropriate crew member video displays. Simulated imagery includes forward looking infrared (FLIR), day television (DTV), and direct view optics (DVO). The simulator is operated through the computer complex which fulfills subsystem interface requirements. The training functions are controlled from the instructor's station located in each trainee module. The pilot and copilot/gunner have the capability to train individually or as a crew performing an integrated combat mission.

Physical Information:
Cockpit Area: 1080" x 600" x 420"
Computer Room: 768" x 480" x 120"
Hydraulic Area: 144" x 192" x 120"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Climatically controlled building that provides 7000 sq. ft. of space and that maintains an ambient temperature of 70 degrees F. With a relative humidity of 60% or less is desirable.

Power Requirements:
120/208vac, 3-phase, Wye connected, 60 Hz, 4 wires
277/480vac, 3-phase, Wye connected, 60 Hz, 4 wires

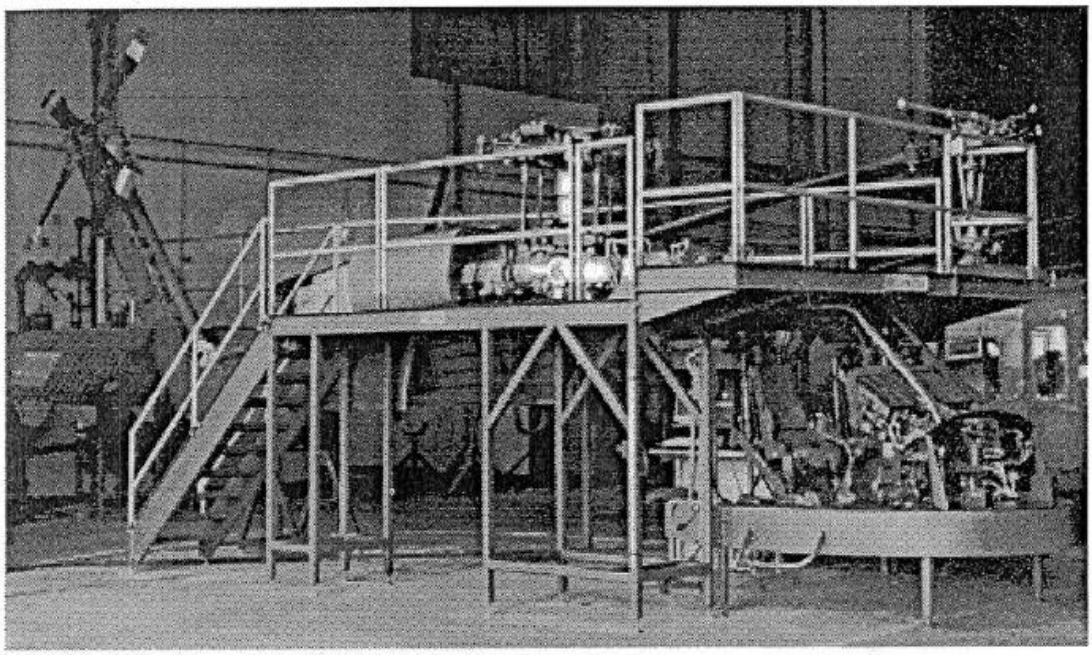
Applicable Publications:
TD 55-6930-213 Series

Reference Publications:
TM 55-1520-238 Series

Training Requirements Supported:
ATM Tasks

1000	1001	1002	1003
1004	1007	1013	1015
1016	1017	1018	1020
1021	1022	1023	1025
1026	1027	1028	1029
1031	1032	1033	1034
1035	1037	1038	1039
1051	1052	1053	1054
1055	1062	1063	1064
1068	1075	1076	1077
1078	1079	1080	1081
1082	1083	1090	1095
1098	1099	1100	1101
1102	1103	1104	1105
1106	1107	1108	1119
1140	1141	1142	1143
1144	1145	2004	2006
2007	2008	2018	2019
2020	2042	2043	2044
2049	2050	2052	2055
2061	2063	2065	2066
2067	2069	2072	2082
2083	2090	2091	

UH-60 BLACK HAWK COMPOSITE TRAINER



Training Category/Level Utilized:
Aviation

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
This trainer provides a realistic environment for an instructor to demonstrate installation, location and operation of electrical, hydraulic, engine, and flight control systems and components on the UH-60 Black Hawk aircraft.

Functional Description:
Under Instructor control, the instructor can select any of three modes of operation: cockpit, aircraft, and joint modes. In the cockpit mode, the student sees all the indicators that would be seen in an operational aircraft. The aircraft mode incorporates the hydraulic and flight control systems. The joint mode allows operation in the cockpit mode and aircraft mode. System operation is controlled by a microprocessor.

Physical Information:
This trainer is constructed of welded tubular steel and steel channel frames for support, utilizing actual aircraft components. It contains a cutaway main and tail rotor transmission, main rotor hub, stubbed blades, shortened power train, and flight controls with a self contained hydraulic system. A provision for the installation of hydraulic test equipment has been incorporated, as well as a provision for fault insertion by the instructor.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
220vac

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

UH-60 BLACK HAWK LANDING GEAR TRAINER (LGT)

NSN Not Assigned **DVC 01-141/A UH-60L Black Hawk Landing Gear Trainer (UH-60L LGT)**

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides a realistic classroom environment for training and evaluating utility helicopter personnel in the servicing, troubleshooting and repair of actual UH-60 helicopter landing gear and braking system.

Functional Description:
DVC 01-141 consists of five major assemblies which, when combined, provide the student with a realistic maintenance trainer capable of rapid fault insertion and real time troubleshooting. These assemblies and a description of their functions follows:

(*a*). *Instructor Panel Assembly.* This panel contains various switches, which allow the instructor to apply power to the trainer and insert specific faults. Using the panel, the instructor can apply or remove power using the Master Power On/Off switch, and can remove power using the Emergency Power Off Switch. The instructor panel allows the instructor to insert the following malfunctions:

(1) Tail Wheel Light
(2) Parking Brake Light
(3) Left Drag Beam
(4) Right Drag Beam
(5) Right Brake Pedal Bottoms Out
(6) Left Brake Pedal Does Not Hold
(7) Tail Wheel Continuity.

(*b*). *Simulated Cockpit Assembly.* This assembly partially simulates the cockpit of an actual UH-60 helicopter. The cockpit consists of the following assemblies and their respective functional components:

(1) Lower Console
Functional Miscellaneous Switch Panel
(2) Overhead Panel
Functional Caution/Advisory Panel Circuit Breaker
Functional Tail Wheel Lock Circuit Breaker
Functional Battery Switch
Functional External Power Switch
Functional Hydraulic Leak Test Switch
Functional Back-Up Hydraulic Pump Switch
(3) Instrument Panel (Co-Pilots Side)
Partially Functional Caution/Advisory Panel
Partially Functional Master Warning Panel
(4) Co-Pilot's Seat
(5) Directional Pedals (Stationary with perational toe brakes).
(6) Parking Brake Handle

These assemblies are full size and dimensionally correct in their mounting on the trainer cockpit structure. Functional components perform the same as in an actual UH-60 helicopter. Nonfunctional components are dynamark representations with the exception of the 3-D Engine Control Quadrant mock-up in the Overhead Panel.

(*c*). *Landing Gear System.* This system consists of the main landing gear (left and right) and the tail landing gear. It functions the same as in an actual UH-60 helicopter. A trainer unique cable and receptacle have been added to the left and right landing gear Drag Beam Switches and connected to the Instructor Panel to enable fault insertion. The tail wheel landing gear contains no trainer unique components. Cabling for the tail wheel landing gear is connected to the trainer harness to allow for fault insertion from the Instructor Panel.

(*d*). *Brake System.* This system consists of functional components with the exception of the brake lines, hydraulic fluid reservoir, and two trainer unique valves in the brake lines. These valves are connected to the Instructor Panel to allow fault insertion and simulation. The following are functional components of the brake system:

(1) Co-Pilot Master Cylinders (2)
(2) Slave Mixer Valve
(3) Parking Valve
(4) Brake Assemblies (2)
(5) Co-Pilot Toe Brakes (2)
(6) Parking Brake Handle

Physical Information:
84" H x 133" L x 84" W; 680 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
120vac, converted to 28vdc by a 28vdc power supply

Applicable Publications:
TD 1-6930-704, Instructor Utilization Handbook

Reference Publications:
TM 55-1520-237-23
TM 55-1520-237-T
DA PAM 738-751

Training Requirements Supported:
MOSC 15T10
MOSC 15T30

BASIC AIRCRAFT ELECTRICAL AND ARMAMENT SYSTEMS TRAINER

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides a realistic classroom environment to present techniques for familiarization with theory, operation, adjustment and maintenance of Basic Aircraft Helicopter electrical systems. The trainer provides a means for hands-on operational checks, electrical systems analysis, maintenance and repair, and troubleshooting of 105 different electrical faults selected by an instructor. The Electrical Trainer may be configured as an Armament Trainer, Device.

Functional Description:
Training Device 01-142, Basic Army Helicopter Electrical and Armament System Trainer, includes a trainer unique fuel cart and instructor console. The trainer contains functional and simulated controls and indicators which represent the electrical assemblies found on the AH-1F. The functional electrical systems include the following: Battery and External Power; Starter and Ignition; DC Generation; AC Alternator and Inverter, Power Distribution (AC/DC); Hydraulic/Control; Caution Warning; Air Data; Pitot Static, TGT; Fire Detection; Fuel Indications; RPM Warning; Torque Indications; Engine/Transmission Oil Pressure/Temperature Indications; 42 degrees and 90 degrees Gear Box Chip Detector; Radar Altimeter; and Night Vision Goggle.

The trainer is capable of simulating normal or abnormal operations by allowing the instructor to insert faults without risk or damage to aircraft components.

Physical Information:
Fuselage: 44’7” L x 36” W x 10’8” H
Wings: 124” W; 6,000 lbs

Equipment Required, Not Supplied:
28vdc External Power Unit

Special Installation Requirements:
None

Power Requirements:
220vac, 4 wires, 3-phase, 50 A, 60 Hz

Applicable Publications:
Aircraft Operation and Maintenance Manuals for AH-1F Helicopter.

Reference Publications:
(Electrical Configuration)
TM 11-6125-220-12
TM 11-6130-385-34
TM 55-2840-229-24
TM 55-4920-244-14

Reference Publications:
(Armament Configuration)
(Information not available)

Training Requirements Supported:
(Electrical Configuration)
SM 121-030/-XXXX Tasks
9205

SM 552-8165-XXXX Tasks
1511 1303 1002 3001 3502

SM 552-416-XXXX Tasks
3001 3002 3003 3502 3504

SM 04-9570.70-XXXX Tasks
0004 0005

SM 552-809-XXXX Tasks
1051 1052 1251 1451
1452 1453 1454 1455
1459 1651 1801 1852
1901 1902 1951

Training Requirements Supported
(Armament Configuration)
SM 121-030-XXXX Tasks
9025

SM 552-416-XXXX Tasks
3002 3100 3101 3304
3501 3503 3801 3802
3803

SM 552-816-XXXX Tasks
3003 3004 3101 3302
3501 3701 3801 1800
1801 1802 1808 1809
1810 1503 1504 1113
1114 1115 1116 1117
1301 1302 1304 1305
1306 1001 1110 1111
1112

SM 05-9570.20-XXXX Tasks
0007

SM 04-9570.70-XXXX Tasks
0001 0002 0003 0006
0007 0008 0009 0010

UH-60 BLACK HAWK COMMAND INSTRUMENT SYSTEM TRAINER (CIST)

NSN Not Assigned **DVC 01-143/1 UH-60 Black Hawk (CIST), (Student Station)**

Student Station

Server

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Trainer is used to train aviation maintenance personnel in the performance of operational checks, troubleshooting techniques, and fault isolation procedures

Instructor Station

Functional Description:
The trainer is designed to allow the instructor to select a training task, which provides the student with a visual simulation of the UH-60 Command Instrument System (CIS) and affected instruments during the performance of a task. Each student has the ability to individually perform troubleshooting and fault isolation procedures by advancing through the ICW and determining the correct path to take.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Classroom

Power Requirements:
120vac, 60 Hz

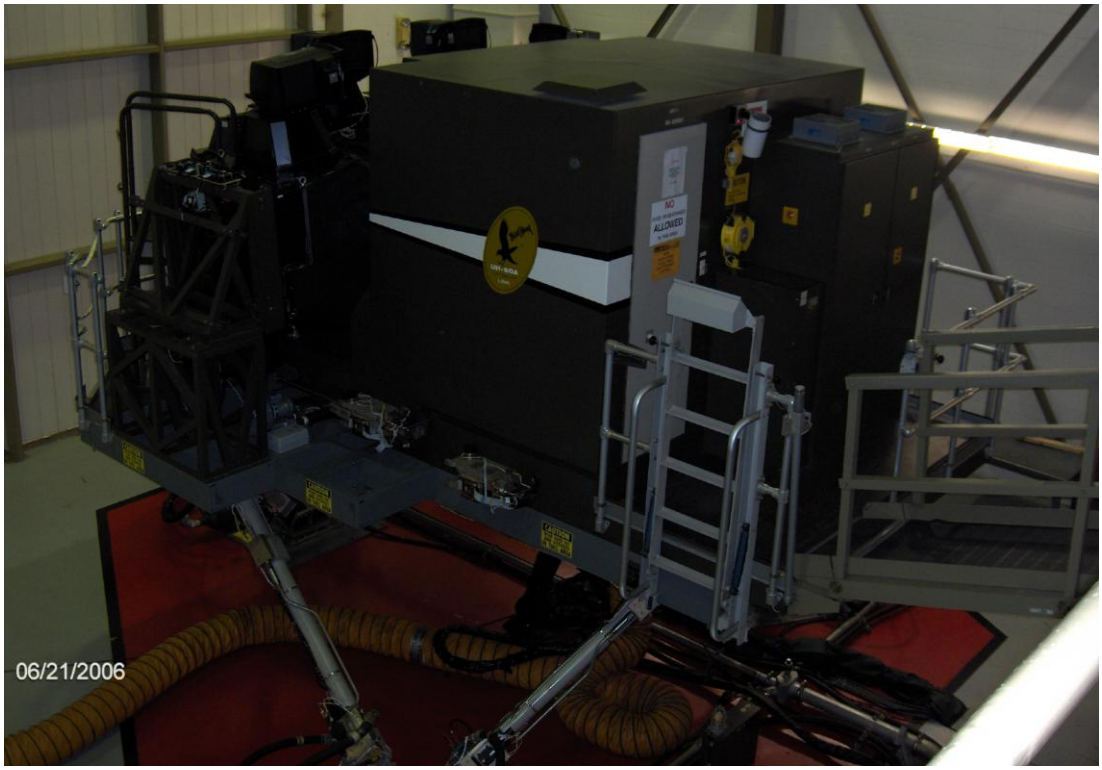
Applicable Publications:
TD 01-6910-716 Series

Reference Publications:
TM 55-1520-237 Series
TM 11-1520-237-23

Training Requirements Supported:
MOSC 15N

UH-60 A/L BLACK HAWK FLIGHT SIMULATOR

NSN 6930-00-614-9643 **DVC 01-144/A UH-60 A/L Black Hawk Flight Simulator with AUSA modification**
NSN 6930-00-614-9643 **DVC 01-144/B UH-60 A/L Black Hawk Flight Simulator with LSMP modification**
NSN 6930-00-614-9643 **DVC 01-144/C UH-60 A/L Additional Black Hawk Flight Simulator (ABHFS)**



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide realistic individual and crew qualification training, and sustainment of day/night visual and instrument flying skills, combat skills, and flight emergency procedures for both the pilot and copilot.

Functional Description:
The Black Hawk Flight Simulator is a cockpit mounted on a six degree of motion platform. The cockpit is provided with visual imagery derived from a computer generated imagery system. The cockpit is an authentic replica of the actual aircraft from the pilot and copilot station forward, with an on board instructor station to control training and evaluate student performance.

Physical Information:
Simulator area: 480” x 516” x 324” H
Computer area: 480” x 360” x 120” H
Hydraulic area: 144” x 192” x 120” H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Climatically controlled building that maintains an ambient temperature at 75 degrees F, and a relative humidity of 50 percent is desirable.

Power Requirements:
Simulator/Computer: 120/208vac, 3-phase, 60 Hz, 98kva.
Hydraulic pump: 277/480vac, 3-phase, 4 wires, 60 Hz, 05.9kva.

Applicable Publications:
TM 55-6930-215 Series

Reference Publications:
TM 55-1520-237 Series
TM 55-2840-248 Series

Training Requirements Supported:

ARTEP 1-252 Tasks

5-4-4	5-8-4	5-12-3	5-12-4

ARTEP 14-205 Tasks

1-15-2	1-15-4	3-8-2	3-8-3
1-15-3	2-1-4		

ARTEP 55-89 Tasks

5-1-2	5-1-3	5-1-4

ARTEP 57-55 Tasks

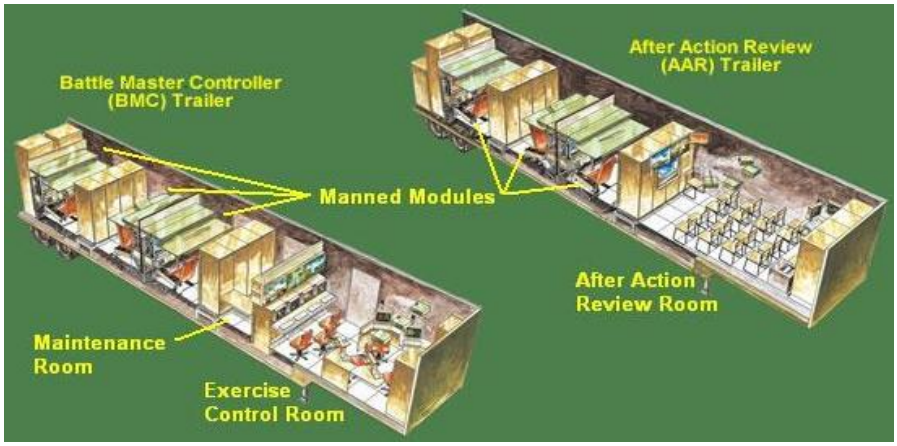
5-1-E	5-9-F	7-6-F	7-12-H
5-5-D	5-9-H	7-8-D	7-12-L
5-9-C	7-4-E	7-12-E	7-14-B

MOSC 15-1N and 100

ATM TC 1-212 Tasks

1000	1029	1079	2005	2091
1001	1032	1080	2008	2096
1002	1051	1081	2009	2099
1007	1052	1082	2016	2214
1014	1053	1083	2044	2401
1015	1060	1084	2072	2402
1016	1062	1095	2078	2435
1017	1063	1135	2079	2436
1018	1068	1136	2081	2451
1023	107	1137	2083	2452
1025	1076	1146	2086	2469
1026	1077	1150	2087	
1028	1078	2001	2090	

AVIATION COMBINED ARMS TACTICAL TRAINER (AVCATT)



Training Category/Level Utilized:
Combined Arms/Stand alone, with another AVCATT, CCTT and/or Live, Virtual, Constructive devices

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through PEOSTRI or local TSC

Purpose of Trainer:
AVCATT is a dynamic, reconfigurable system used for combined arms collective training and mission rehearsal, through networked simulation in a simulated battlefield environment. It supports institutional, organizational, and sustainment training for Active Component (AC) and Reserve Component (RC) aviation units world wide.

Functional Description:
AVCATT is a mobile training system that is comprised of qty 2, standard over the road semi-trailers. Located in the trailers are the Battle Master Control (BMC), After Action Review (AAR) and qty 6, reconfigurable aircraft cockpits. The system requires shore power. It can operate in a stand-alone mode or networked to various live, virtual and constructive devices.

Physical Information:
AVCATT in the operating configuration has a footprint of 22' x 53'. A typical hardstand measures 35' x 70'. Refer to the TFR for specific measurements.

Equipment Required, Not Supplied:
AVCATT is a mobile training device. It requires a semi-tractor to move each trailer. The tractor can be either commercial or military.
AVCATT is a stand-alone system that does not require any special equipment not specified in the Trainer Facilities Report (TFR). Each trailer is equipped with an environmental control unit (ECU). Due to sensitive electronic components, the internal temperature shall not go below 0°F. When fielded in extreme environments, it is recommended AVCATT be housed in a shelter to provide additional protection from extreme weather, environmental conditions. If power is lost when temperatures are at or below 0°F, a backup power source should be employed.

Special Installation Requirements:
Detailed installation requirements are listed in the TFR. The system requires shore power, water, hardstand with tie down anchor points. The slope of the hardstand shall not exceed 1% in either the length or width axes of the trailers.

Power Requirements:
AVCATT can operate off of commercial shore power, CCTT portable power supply or generator power. Power requirements are 480 Volt, 3 phase, 60 Hz or 380 Volt, 3 phase 50 Hz.

Applicable Publications:
TD 01-6910-706-05, Commercial Off-the-Shelf/Vendor Manuals
TD 01-6910-706-10-1, Battlemaster Controller Operator's Manual
TD 01-6910-706-10-2, Semi-Automated Forces Operator's Guide
TD 01-6910-706-10-3, After Action Review Operator's Manual
TD 01-6910-706-10-4, Role Player Operator's Guide
TD 01-6910-706-10-5, Unit Leader Exercise Planning Guide
TD 01-6910-706-10-6, Observer Controller Exercise Conduct and After Action Review Guide
TD 01-6910-706-10-7, Manned Module Operator's Guide
TD 01-6910-706-20, Systems Maintenance Manual

Reference Publications:
Trainer Facilities Report for the Aviation Combined Arms Tactical Trainer – Aviation Reconfigurable Manned Simulator (AVCATT)

Training Requirements Supported:
Commissioned officer aviators who maintain a pilot status code (PSC) of 1 and hold a basic branch code (BC) 15 (Aviation) or area of concentration (AOC) of 67J (Medical Service Corps).

Warrant officer and commissioned warrant officer aviators who maintain a PSC of 1 and primary military occupational specialty (PMOS) 152B through 156A.

Command post training for the aviation enlisted 93 series MOS.

AVCATT supports the Aviation Combined Arms Training Strategy re-iterated in:

ARTEP 1-111-MTP (10/27/2005) MISSION TRAINING PLAN FOR THE AVIATION BRIGADES

ARTEP 1-113-MTP (12/29/2005) MISSION TRAINING PLAN FOR THE ASSAULT HELICOPTER BATTALION

ARTEP 1-118-MTP (1/17/2006) GENERAL SUPPORT AVIATION BATTALION

ARTEP 1-126-MTP (3/8/2006) MISSION TRAINING PLAN FOR THE ATTACK RECONNAISSANCE HELICOPTER BATTALION/SQUADRON

TC 1-210 (6/20/2006) AIRCREW TRAINING PROGRAM COMMANDER'S GUIDE TO INDIVIDUAL, CREW, AND COLLECTIVE TRAINING

TC 1-210-1 (3/11/2003) UNITED STATES ARMY SPECIAL OPERATIONS AVIATION AIRCREW TRAINING PROGRAM COMMANDER'S GUIDE TO INDIVIDUAL AND CREW STANDARDIZATION

TC 1-237 (10/12/2007) AIRCREW TRAINING MANUAL, UTILITY HELICOPTER, H-60 SERIES

TC 1-238 (9/23/2005) AIRCREW TRAINING MANUAL, ATTACK HELICOPTER, AH-64A

TC 1-240 (10/24/2007) AIRCREW TRAINING MANUAL, CARGO HELICOPTER, CH-47D/F

TC 1-248 (4/12/2007) AIRCREW TRAINING MANUAL, OH-58D, KIOWA WARRIOR

TC 1-251 (9/14/2005) AIRCREW TRAINING MANUAL ATTACK HELICOPTER AH-64D (INCL CHG 1) PDF

TC 1-251, CHG 1 (5/28/2007) CHANGE 1 TO TC 1-251

AH-64A TARGET ACQUISITION DESIGNATION SIGHT (TADS) SELECTED TASK TRAINER (TSTT)

Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The TSTT is a single seat trainer which provides Target Acquisition Designation Sight system training for the AH-64A AQC. It provides training for the following critical individual tasks: AN/ASN 128 or 137 Doppler control head switchology, TADS internal and out front boresight procedures, Fire control panel switchology, and Optical Relay Tube (ORT) switchology.

Functional Description:
This device consists of three major components: a graphics processor, computer console, and a copilot/gunner training console. The trainer console is an actual TADS system with an added cathode ray tube for visual scenes to portray target. This visual is a motion sensor generated vector graphic system. The TSTT provides the means to practice gunner's station weapons procedures including: switchology, target recognition, acquisition and launch procedures using the TADS, and navigation procedures using the Doppler system.

Physical Information:
Training Console: 30" x 40.5" x 42.5" H
Computer Assembly: 27" x 18" x 29" H
Instructor Display: 17" x 16' x 12" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

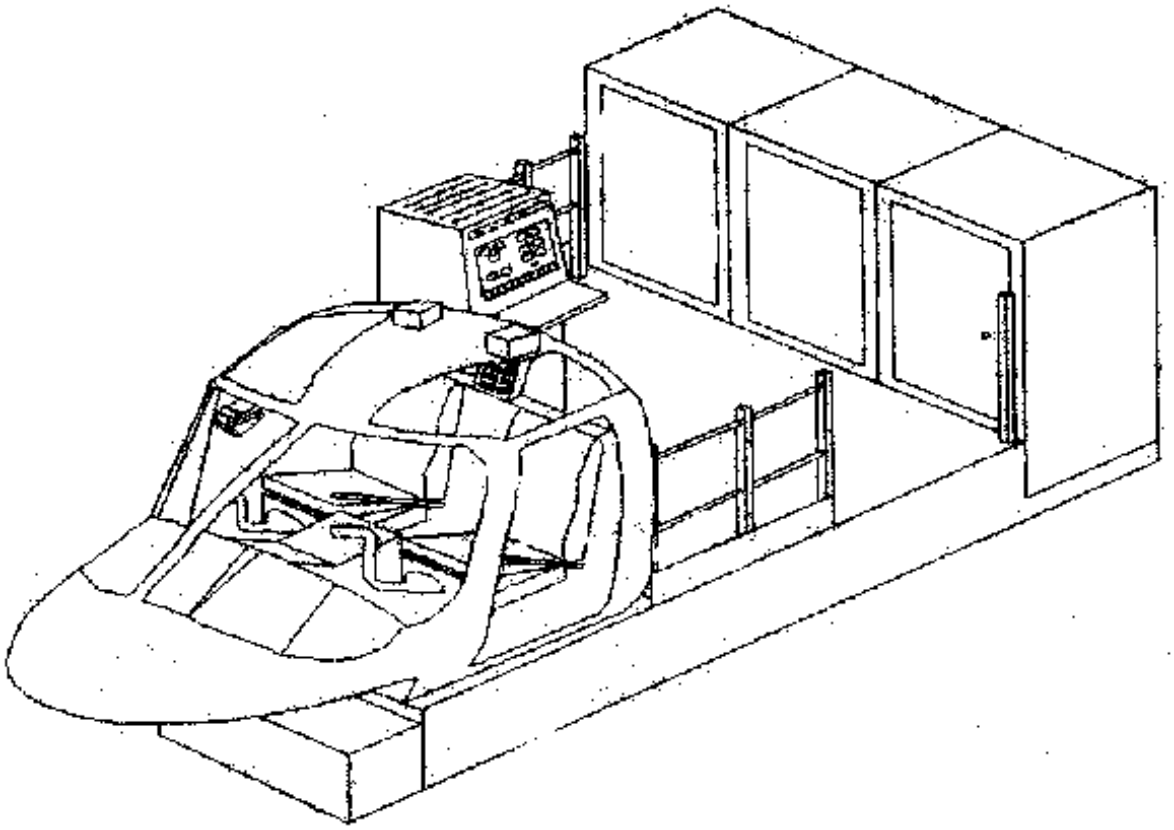
Power Requirements:
115vac, 10 Amps, 60 Hz

Applicable Publications:
Operator Manual, Target Acquisition Designation Sight (TADS) Selected Task Trainer

Reference Publications:
TM 55-1520-238 Series

Training Requirements Supported:
MOSC 15X

OH-58D (KIOWA WARRIOR) COCKPIT PROCEDURES TRAINER (CPT)



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The OH-58D CPT provides individual and crew training on cockpit procedures and operation of the weapons systems, communications system, Mast Mounted Sight (MMS), and Airborne Target Handover Systems (ATHS).

Functional Description:
The MMS imagery on the Kiowa Warrior CPT is provided through laser disks. Laser disks are also utilized to display the MFD scenery to the pilot and copilot. The host computer system allows data to be displayed in the TV mode or in the IR mode on either of the displays.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

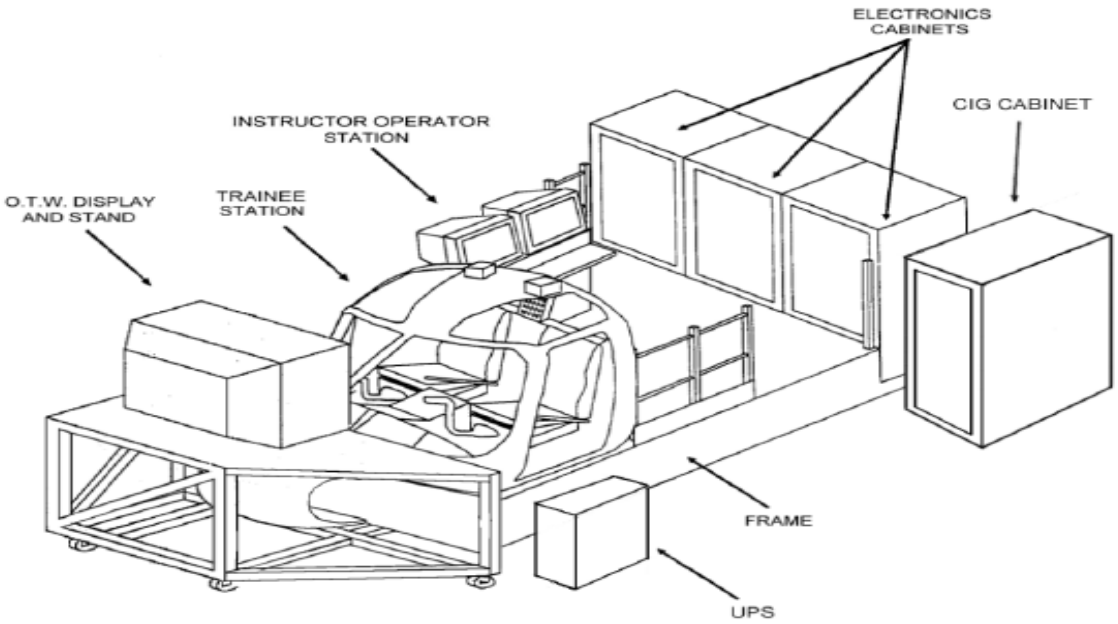
Power Requirements:
(Information not available)

Applicable Publications:
TD 01-6910-707-10; TM 01-6910-707-20

Reference Publications:
TD 01-6910-707-10; TM 01-6910-707-20

Training Requirements Supported:
(Information not available)

OH-58D (KIOWA WARRIOR) COCKPIT PROCEDURES TRAINER (CPT) – IMAGE GENERATOR (CPT-IG)



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train Pilots (officers) in MOS's 115D and 152D. The CPT-IG consists of a cockpit mock up (with visual system), that is networked to other CPT-IGs on a local area network that provides interaction among devices. ModSAF is utilized to provide a realistic threat environment. This will provide for flight line configuration commonality within the OH-58D B.0 aircraft.

Functional Description:
The CPT-IG is made up of several subsystems. They are Power Distribution, Electronic Control, Trainee Station, Host Computer, Computer Image Generation, Aural Cue & Communication, Instructor Operators Station, ModSAF Terminal, Video Imagery Cross-Link, and Air Condition/Cooling.

Physical Information:
The height is 6 ft. 5 inches; width is 5 ft. 7.5 inches; length is 16 ft. 4 inches, and weight 2600 pounds.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
The CPTIG requires 240/120vac, 50/60 Hz, 30 Amps service.

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
To train individual aviators at USAACE undergoing the OH-58D Aircraft Qualification Course, Instructor Pilot Course, and the Maintenance Pilot Course in the use of the Kiowa Warrior mission equipment package and in start-up, shutdown, and emergency procedures.
Capability/Improvements provides initial qualification training for OH-58D crews, training in communication systems, navigation systems, Improved data modem, ATHS, Mast Mounted Site, weapons systems and ASE.

OH-58D (KIOWA WARRIOR) MULTIMEDIA TRAINING SYSTEM (MTS) (INSTRUCTOR STATION)

Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The Multimedia Training System (MTS) is one component of the training program designed for OH-58D operators and maintenance personnel. It is a classroom learning system that consists of video terminals set up at individual station. At these stations, students can watch and participate in a variety of training exercises. Each MTS classroom also has an instructor station where an instructor uses a monitoring system known as Computer-Managed Instruction (CMI) to track the progress of the students.

Student's participation in MTS training work at their own pace. Since each student has his own terminal, he is not held back by any other student. As he completes a unit of instruction, he can select another unit and continue his studies. MTS training is not, however, isolated training. Rather it is "interactive". In order to complete a unit of study on a MTS, a student must continually answer questions, choose appropriate selections, and complete periodic testing before he can advance to the next unit. Any time he has a question or a problem, he can contact the instructor by sending a message directly to the instructor's terminal. The instructor can constantly monitor the progress of each student via a series of displays available on the instructor's software component of the MTS – the Computer-Managed Instruction (CMI) system.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15S/15J

OH-58D (KIOWA WARRIOR) MULTIMEDIA TRAINING SYSTEMS (MTS) (STUDENT STATION)

Training Category/Level Utilized:
(Information not available)

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The classroom Systems Trainer (CST) is one component of the training program designed for OH-58D operators and maintenance personnel. It is a classroom learning system that consists of video terminals set up at individual station. At these stations, students can watch and participate in a variety of training exercises. Each CST classroom also has an instructor station where an instructor uses a monitoring system known as Computer-Managed Instruction (CMI) to track the progress of the students.

Student participation in CST training work at their own pace. Since each student has his own terminal, he is not held back by any other student. As he completes a unit of instruction, he can select another unit and continue his studies. CST training is not, however, isolated training. Rather it is "interactive". In order to complete a unit of study on a CST, a student must continually answer questions, choose appropriate selections, and complete periodic testing before he can advance to the next unit. Any time he has a question or a problem, he can contact the instructor by sending a message directly to the instructor's terminal. The instructor can constantly monitor the progress of each student via a series of displays available on the instructor's software component of the CST - the Computer-Managed Instruction (CMI) system.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15S/15J

UH-60 COCKPIT EMERGENCY PROCEDURES TRAINER (CEPT)

Training Category/Level Utilized:
Aviation

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide training for Aircraft Qualification Course (AQC) in the normal and emergency operations encountered during start, run-up, and shutdown of a UH-60A/L helicopter.

Functional Description:
The CEPT is a full scale replication of a UH-60 Cockpit. It is reconfigurable from an "A" series UH-60 to an "L" series by changing instruments and selecting the appropriate software load. The trainer consists of the pilot and copilot stations, and instructor console with computer and peripherals.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
115vac, 3-phase, 60 Hz, 30 Amps

Applicable Publications:
TD 1-6930-707 Series

Reference Publications:
TM 55-1520-237 Series

Training Requirements Supported:
(Information not available)

GYCH-47D COMPOSITE MAINTENANCE TRAINER (CMT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer is for classroom use, providing a realistic environment to demonstrate cockpit procedural functions, including APU and engine operation related to helicopter maintenance. It also demonstrates installation, removal, operation, servicing, troubleshooting, and adjustment of the electrical, hydraulic, APU, engine, and flight control systems and components.

Functional Description:
The trainer is a YCH-47DF helicopter configured as a GYCH-47D composite trainer. All helicopter systems are complete and substantially identical in appearance, feel, and location to those in the CH-47D helicopter so that normal conditions can be observed by the student. Actual components are utilized whenever possible to demonstrate actual helicopter functioning. The instructor has the capability of inserting faults into the trainer to cause abnormal indications in the trainer system.

Physical Information:
The physical characteristics of the training aircraft are the same as a fleet aircraft. The dimensions and weight of the other trainer equipment are as follows:
VAX-11/730 Packaged System – 42” H x 21.25” W x 31.5” D
LA-120 DeskWriter III – 33” H x 27.5” W x 33.8” D
H9642-DB Expansion Cabinet with interface unit – 42” H x 21.25” W x 30” D
T11CA Magnetic Tape Unit – 60.25” H x 21.21” W x 30” D
LP32-BA Printer – 45” H x 27.5” W x 33” D
Instructor’s Console – 31” H x 72” W x 36” D

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
440volts, 60 Hz, 3-phase, 220volts, 60 Hz, 3-phase, 115volts, 60 Hz, single phase

Applicable Publications:
GYCH-47D Operating and Maintenance Instruction Manual.

Reference Publications:
TM 55-1520-240 Series
TM 55-1520-240T

Training Requirements Supported:
MOSC 15U10/15U30

OH-58D (KIOWA WARRIOR) COMPOSITE MAINTENANCE TRAINER (CMT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CMT is a media used to train ground and flight personnel on the operation, maintenance and inspection of the OH-58D helicopter. The CMT meets the needs for instructing personnel on component location, identification, installation and removal procedures.

Functional Description:
Major components of the OH-58D helicopter are mounted on a welded steel frame with 6-inch casters. Station, water, and buttock lines designated for trainer drive systems components coincide with actual helicopter location except for the OH-58D tail rotor gearbox. The aft two shafts connected to tail rotor gearbox are shortened and are trainer peculiar. Arrangement of the flight control, rotor, hydraulic, oil and drive systems is similar to the OH-58D helicopter.

The portable remote hydraulic cart supplies hydraulic power to the trainer, simulating normal action of the engine-driven hydraulic pump.

Electrical power for the trainer and the remote hydraulic cart is supplied through standard 110vac connectors and cables to the respective units.

Physical Information:
Trainer: 77.4” W x 488” L x 115” H
Main Rotor Diameter: 144.25”
Remote Hydraulic Cart: 40” W x 23” D x 36” H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

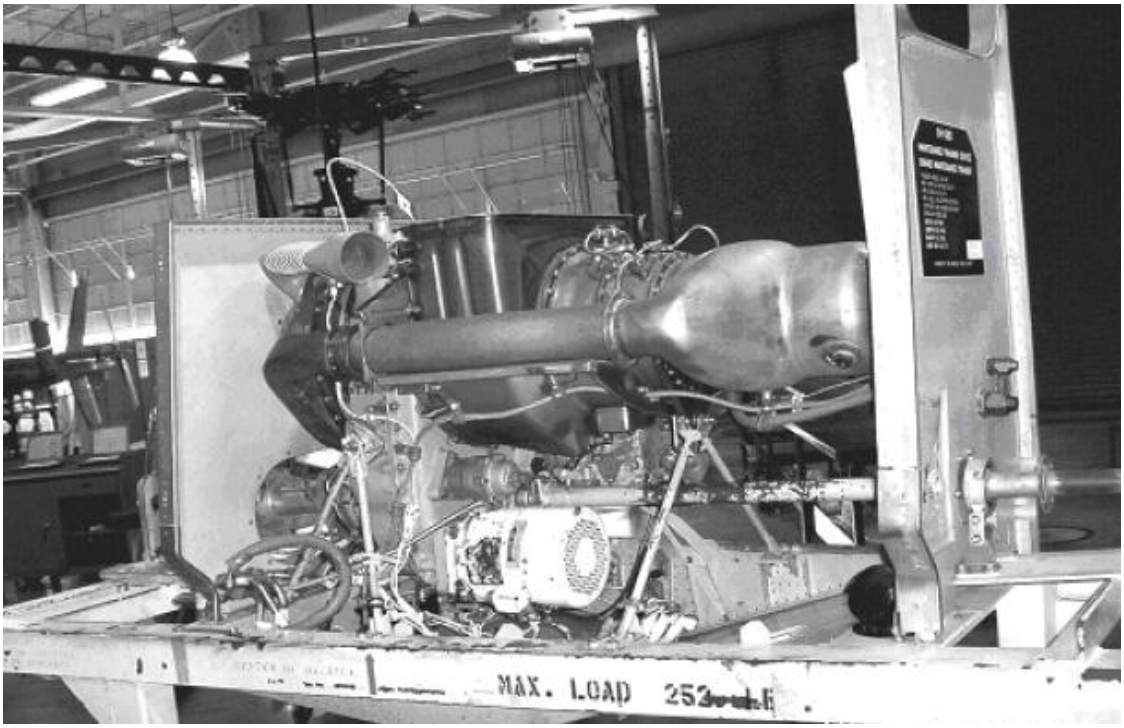
Power Requirements:
Trainer: 110vac, single-phase, 60 Hz, 15 Amps
Remote Hydraulic Cart: 110vac, single-phase, 60 Hz, 30 Amps.

Applicable Publications:
Commercial Documentation

Reference Publications:
TM 55-1520-248 Series

Training Requirements Supported:
MOS 15S

OH-58D (KIOWA WARRIOR) ENGINE MAINTENANCE TRAINER (EMT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Engine Maintenance Trainer (EMT) is used to familiarize and instruct personnel in the operation, maintenance, and repair of the OH-58 gas turbine engine. It is used in locating engine components, identification, removal, and installation procedures, and system rigging. The EMT is used for individual qualification of OH-58D Kiowa Warrior maintainer sustainment training. It provides a safe environment for students to learn and practice OH-58D Kiowa Warrior maintenance tasks.

Functional Description:
The EMT consists of a complete T-703/AD-700 engine mounted on a transportable steel frame. All fuel, oil, pneumatic, and electrical connections are installed between simulated forward and aft firewalls. The main drive shaft and first two sections of the tail rotor drive shaft are included in the trainer. It also has functional power controls to accommodate rigging procedures.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOS 15S

OH-58D (KIOWA WARRIOR) COMPOSITE ARMAMENT MAINTENANCE TRAINER (CAT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Composite Armament Trainer (CAT) has the purpose of training weapons system troubleshooting on the combined weapons systems in the aircraft as well as the MMS/weapons boresight. The trainer also allows students to be trained on the MMS, PDU, and CDS. The instructor has the capability of inserting faults into the trainer (opens, shorts, etc.) and allowing the students to troubleshoot the systems on board the aircraft.

Functional Description:
The CAT is operated through the use of a power cart and the Computer Fault Insertion Training System (CFITS). The trainer contains all the aircraft systems with the exception of the MMS. MMS functions are simulated in the CFITS, however a requirement of the trainer is that a functional MMS may be used. For the hardware that is not required to be functional, weighted and balanced replicas are installed.

The CFITS serves as a relay controller as well as providing some inputs to the data bus. This hardware utilizes a common computer with the AET and the CET. The difference in the CFITS is in the software that the system is running and the controller back plane in the controller cabinet. In addition to controlling the faults that the instructor chooses to initiate, it provides the student scoring and class tracking.

The Power Cart used in conjunction with this trainer is common with the AET and the CET and serves as the power source for the simulation of the aircraft components contained within the CAT. The CAT contains all of the aircraft components required for operation of the weapons systems. Because of this all of the components in the armament system and the MMS can be trained. Because of the use of aircraft hardware the software concurrent problems are negated.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15J10/151AE

SPECIAL OPERATIONS AVIATION COMBAT MISSION SIMULATOR (SOACMS) MH-60K AND MH-47E

MCN 6930-01-D12-1730 **DVC 01-160/A (SOACMS) MH-60L**
MCN 6930-01-D12-1729 **DVC 01-160/B (SOACMS) MH-47G**

Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Special Operations Aircraft Combat Mission Simulator (SOACMS) devices are high fidelity flight simulators that provide initial qualification, sustainment, and mission rehearsal training to Special Operations aircrews. Control loading systems provide realistic tactical and force cueing in the control system and a hydraulic seat shaker provides the simulation of high frequency rotor blade effects.

Functional Description:
The SOACMS contains simulated aircraft systems to include: Integrated Avionics System "Glass Cockpit"; Automatic Flight Control System; Multi-Mode Radar (provides Terrain Following/terrain Avoidance); FLIR (AAQ-16); and complete Aircraft Survivability suite and NAV/COMM systems and subsystems.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
Simulator: 120/208 Volts, 3 Phase, 60 Hz
Hydraulic system: 277 /480 Volts, 3 Phase, 60 Hz

Applicable Publications:
TD 55-6930-212-23, TD 55-6930-212-23-S1, TD 55-6930-215-23, TD 55-6930-215-23-S1

Reference Publications:
COTS Manuals

Training Requirements Supported:
(Information not available)

TH-67 COCKPIT PROCEDURES TRAINER

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue.

Purpose of Trainer:
For classroom use to familiarize trainees with the TH-67 Helicopter controls, and to give the trainees realistic practice in performing; Before starting engine, Starting engine, Engine run-up, Engine shutdown, Start malfunctions, and In-flight emergency procedures.

Functional Description:
The trainer consists of a student station, which is a full-scale reproduction of the TH-67 cockpit, instructor's platform, and instructors console with monitor, keyboard, and chair. All controls, indicators, etc., pertinent to the practice of the required procedures are either actual aircraft components or operable facsimiles of the helicopter equipment. The illusion of realism is imparted through control feel and sound systems. Controlled by the computer, which provides the physical and aural cues associated with engine operation and flight conditions. Malfunctions, may be introduced by the instructor, through his controls, or by the student's failure to follow correct operational procedures.

Physical Information:
Cockpit Assembly: 78" x 54" x 76", 635 lbs.
Instructor Platform: 91" x 37" x 44", 148 lbs.
Control Console: 28" x 26" x 44", 65 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A climatically controlled classroom that maintains ambient room temperature at 70F and a relative humidity of 60 percent or less is desirable.

Power Requirements:
115vac, 60 Hz outlet

Applicable Publications:
TH-67 Maintenance Manual for CPT, Doc # 109896-1

Reference Publications:
TH-67 Operators Supplement

Training Requirements Supported:
MOSC 15-150 Series.
Start, Run-up, Shutdown, Start malfunctions, and Emergency Procedures IAW Primary flight training guide.

OH-58D (KIOWA WARRIOR) AVIONICS, ELECTRONICS TRAINER (AET)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AET is used to provide training in Avionics/electronics maintenance task by simulation of faults or problems.

Functional Description:
The AET airframe consists of fuselage section, tail boom section, and mast mounted sight (MMS). The main rotor blades are replicated (stubby) and there are no tail rotor blades. The AET CFITS electronically introduces computer generated malfunctions (faults) into selected systems. The transmission is simulated. The Stability and control augmentation system (SCAS) is modified to use Simulated SCAS actuators, which are the electronic equivalent of the Hydraulic Actuators installed on the OH-58D. Aircraft survivability equipment (ASE) simulations (except ALQ-144) are accomplished by the use of internally wired wooden replicas. The ALQ-144 simulator does not use a wooden replica. The ALQ-144 power down sequence is not simulated. Communication security (COMSEC) simulation, two KY-58s and one KY-75 is accomplished by the use of wooden replicas with internal wiring. These replicas provide continuity of audio and push-to-talk (P-T-T) lines. Install discretes are open to provide COMSEC symbology.

Weapon Simulations are accomplished by selecting the desired configuration, using the CFITS. The selected weapon (s) will appear on the MFD weapons pages as being installed. The firing of rounds or rockets are not simulated.

Physical Information:
Airframe: 405” x 100” x 158”
CFITS: 32” x 36.5” x 69.3”

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
28vdc, 200 Amps
115vac, 3-phase, 400 Hertz
115vac, 1-phase, 60 Hertz

Applicable Publications:
AET 752-01-13-001

Reference Publications:
TM 1-1520-248 Series

Training Requirements Supported:
MOSC 15J10/15J30; 151AE; 152C

OH-58D (KIOWA WARRIOR) COMPOSITE ELECTRICAL TRAINER (CET)

Training Category/Level Utilized:
Aviation/Level 1, 2

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CET provides training in electrical system troubleshooting on the combined electrical systems in the OH-58D aircraft.

Functional Description:
The CET is similar in appearance to the aircraft and includes the tail boom because of the electrical components installed there. The CET is operated through the use of a power cart and the Computer Fault Insertion Training System (CFITS). The trainer allows students to be trained on the MMS, PDU, and CDS electrical controls as well as the aircraft wiring harnesses and electrical distribution system. With the CFITS, the instructor is capable of inserting electrical faults into the trainer, (opens, shorts, etc.) and allowing students to troubleshoot the systems on board the aircraft. The CFITS serves as a relay controller as well as providing some inputs to the data buss. This hardware utilizes a common computer with the AET and the CAT. The difference in the CFITS is the software that the system is running and the controller back plane in the controller cabinet. In addition to controlling the faults that the instructor chooses to initiate, it provides the student scoring and class tracking.

Physical Information:
377" L x 119" H x 100" W; 1990 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
3-phase, 220v facility power for the power cart
120v, single-phase for the CFITS.

Applicable Publications:
None

Reference Publications:
TM 55-1520-248 Series

Training Requirements Supported:
MOSC 15J10/15J30/151AE

AH-64 MAINTENANCE TRAINER (A6-X)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The A-6 trainer provides an environment that students and instructors can use to gain practical hands-on experience removing and installing components from selected inert aircraft systems.

Functional Description:
The A-6 device is made from a full sized AH-64A airframe refurbished from a crashed/damaged aircraft (CDA) and thirteen (13) subsystems. Components and subcomponents are mounted in the same relationship as the AH-64A Apache aircraft. The airframe is capable of hard-point mounting of actual aircraft components.

Physical Information:
Same physical size as AH-64A Helicopter

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

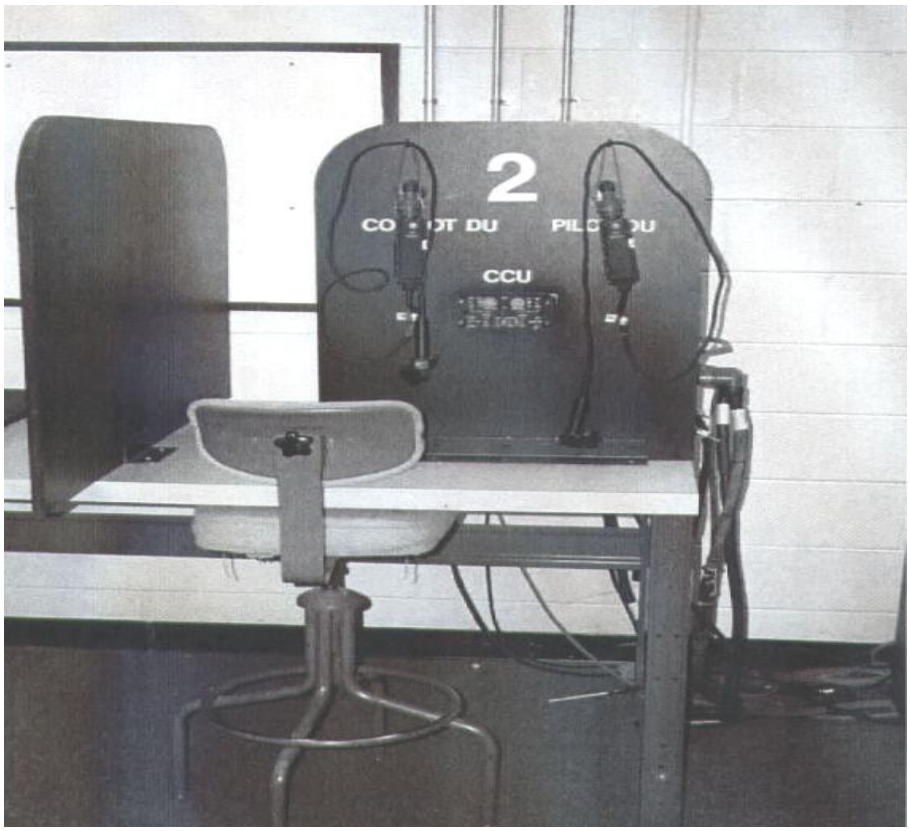
Power Requirements:
(Information not available)

Applicable Publications:
MD 7-351AEDST-1 (A-6)

Reference Publications:
TM 1-1520-238 Series

Training Requirements Supported:
MOSC 15R, 15X, 151A-3, 152F-E

AVIATOR'S NIGHT VISION INSTRUMENT SYSTEM/HEAD'S UP DISPLAY (ANVIS HUD)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Aviator Night Vision Image System/ Heads-Up-Display (ANVIS/HUD) system provides a significant increase in situational awareness and safety by allowing the pilot to fly "head out of the cockpit" during night operations and projecting critical flight information into the night vision goggles' view.

Functional Description:
The Aviator Night Vision Image System/ Heads-Up-Display (ANVIS/HUD) system collects and displays critical flight information from aircraft sensors and converts it into visual imagery. The system allows continuous "heads-up" flight without the need to continuously look down at the instrument panel.

Physical Information:
22 1/2 "x 37" x 35"

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
(Information not available)

Power Requirements:
120 volt AC

Applicable Publications:
TM 11-5855-263-10
TM 11-5855-300-23 & P

Reference Publications:
TM 11-5855-263-10
TM 11-5855-300-23 & P

Training Requirements Supported:
MOSC 15N

AN/APR-39A(V)1 RADAR DETECTING SET MOCK-UP

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AN/APR-39A(V)1 Radar Detecting Set Mock-up is a media designed to provide a realistic environment for demonstrating the operation and maintenance of the system. The use of operational equipment provides a comprehensive means of instructing installation, removal of components, and troubleshooting procedures.

Functional Description:
Major components of the Mock-up are the Control Unit, Indicator, Digital Processor, Forward Receiver, AFT Receiver and Antenna Detectors.

Physical Information:
23" L x 20" W x 9" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
28vdc

Applicable Publications:
None

Reference Publications:
TM 1-5841-294-12

Training Requirements Supported:
MOSC 15N

AN/AVR-2(V) LASER DETECTING SET MOCK-UP

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Laser Detecting Set Mock-up provides a real-time environment for demonstrating the operation and maintenance procedures for the AN/AVR-2(V). The use of operational equipment provides a comprehensive means of instructing installation, removal and troubleshooting procedures.

Functional Description:
The AN/AVR-2(V) Mock-up Components consist of a comparator and four (4) sensors.

Physical Information:
33” L x 27” W x 27.5” H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

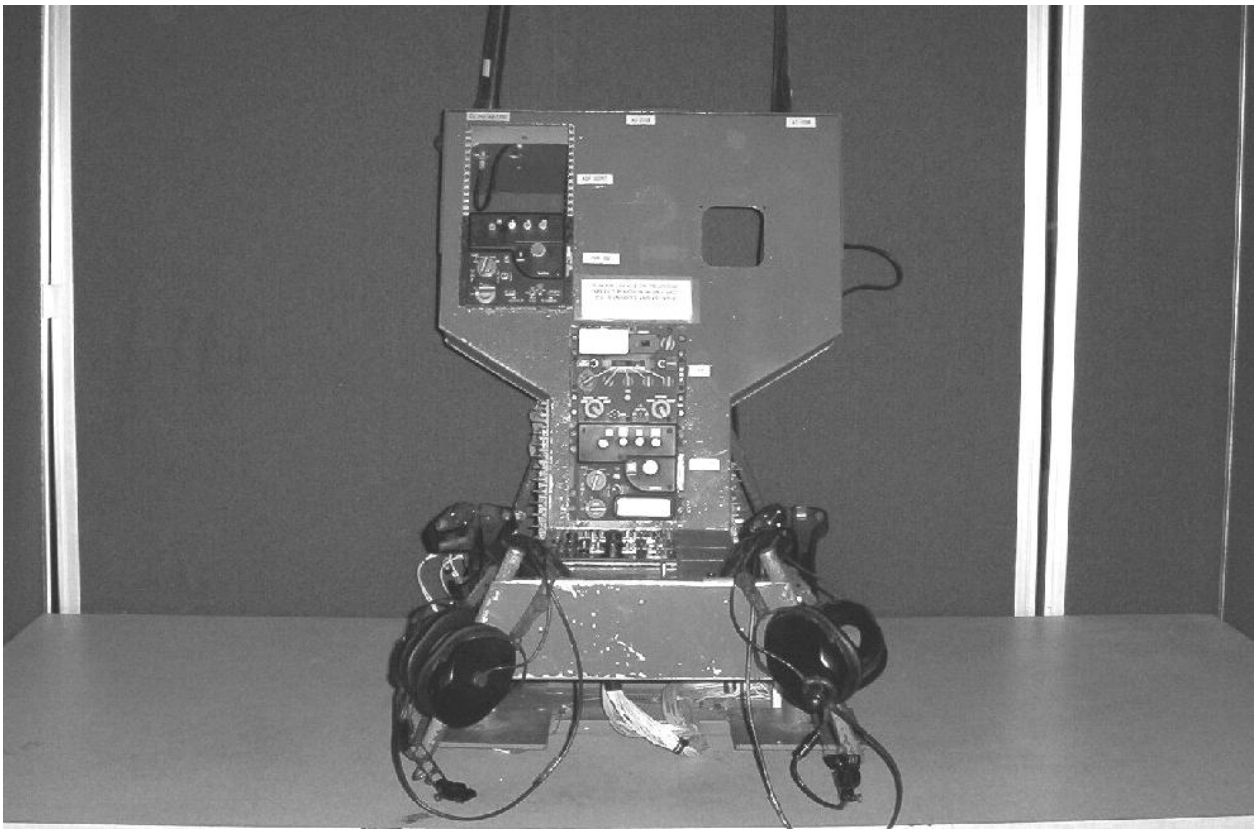
Power Requirements:
28vdc

Applicable Publications:
None

Reference Publications:
TM 1-5841-304-12

Training Requirements Supported:
MOSC 15N

STANDARD LIGHTWEIGHT AVIONICS EQUIPMENT (SLAE) COMMUNICATION MOCK-UP



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Standard Lightweight Avionics Equipment (SLAE) Communication Mock-Up provides communications training on Ultra High Frequency (UHF), Very High Frequency (VHF), Frequency Modulation (FM) and Intercom System (ICS) radios for the students to troubleshoot and perform maintenance training and skill development.

Functional Description:
The SLAE Communication Mock-Up consists of pilot & co-pilot ICS systems to include headsets & cyclic controls for the radios. The SLAE has two VHF Radios (AM, FM) and an UHF radio. A fault insertion system is used to simulate various malfunctions of the common system. The different between a Mark IV and Mark V SLAE is a fill port on Mark V for the KY- 58 radio. The SINCGAR radios are RT 1476A ARC 201.

Physical Information:
20” x 27”x 30”

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
(Information not available)

Power Requirements:
28 Volts DC

Applicable Publications:
TM 11-5895-1174 -23

Reference Publications:
TM 11-5895-1174 -23

Training Requirements Supported:
MOSC 15N

COMMUNICATION TOWER

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Communication Tower is a training platform used in conjunction with the Standard Lightweight Avionics Equipment (SLAE) Communication Mock-Up training device. The Communication tower will be used to train proper radio etiquette in communications.

Functional Description:
The Communication Tower consists of Intercom System (ICS) control boxes, Ultra High Frequency (UHF), Very High Frequency (VHF), and Frequency Modulation (FM) radios.

Physical Information:
97” x 73” x 10’

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
(Information not available)

Power Requirements:
120 Volts AC 60Hrzt and 28 Volts DC

Applicable Publications:
TM 11-5895-1174-23

Reference Publications:
TM 11-5895-1174-23

Training Requirements Supported:
MOSC 15N

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS) MARK 4

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Single Channel Ground and Airborne Radio System (SINCGARS) MARK 4 radio system is a modular component set. The individual components are totally interchangeable from one radio set to the next. SINCGARS radio set configurations provide identical, or in most cases, improved capabilities when compared to the AN/VRC-12 series radio sets they replace. Additionally, modular design lessens the burden on the logistics system to provide repair parts.

Functional Description:
The primary component of SINCGARS is the receiver/transmitter (RT). There are three avionic versions (RT-1476/1477/1478). All avionic models require external COMSEC devices. The airborne and ground versions are interoperable.

They appear physically different to the ground models and to each other. The only change in the airborne models is the face plate that is attached to the different configurations. The RT is identical in all three models, but the add-on modules change the capabilities of the base RT.

The RT-1476/ARC-201 is the basic version of the three. All three versions operate in both the single-channel and Frequency Hopping (FH) modes.

Physical Information:
14 ½ ” x 12 ½ ”x 13 1/2 ”

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
(Information not available)

Power Requirements:
28 volts DC

Applicable Publications:
TM 11-5821-333-12

Reference Publications:
TM 11-5821-333-12

Training Requirements Supported:
MOSC 15N

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (SINCGARS) MARK 5

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Single Channel Ground and Airborne Radio System (SINCGARS) MARK 5 radio system is a modular component set. The individual components are totally interchangeable from one radio set to the next. SINCGARS radio set configurations provide identical, or in most cases, improved capabilities when compared to the AN/VRC-12 series radio sets they replace. Additionally, modular design lessens the burden on the logistics system to provide repair parts.

Functional Description:
The primary component of SINCGARS is the receiver/transmitter (RT). There are three avionic versions (RT-1476/1477/1478). All avionic models require external COMSEC devices. The airborne and ground versions are interoperable.

They appear physically different to the ground models and to each other. The only change in the airborne models is the face plate that is attached to the different configurations. The RT is identical in all three models, but the add-on modules change the capabilities of the base RT.

The RT-1476/ARC-201 is the basic version of the three. All three versions operate in both the single-channel and Frequency Hopping (FH) modes.

Physical Information:
14 ½” x 12 ½” x 13 ½”

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
(Information not available)

Power Requirements:
28 Volts DC

Applicable Publications:
TM 11-5821-333-12

Reference Publications:
TM 11-5821-333-12

Training Requirements Supported:
MOSC 15N

KY-58 MOCK-UP

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Mock-up is designed to provide a realistic environment for demonstrating the operation and maintenance of the system. The use of operational equipment provides a comprehensive means of instructing installation, removal and troubleshooting procedures.

Functional Description:
The Mock-up consists of four (4) major components, the Mark IV and Mark V SINCGARS Radio, KY-58, ICS and antenna.

Physical Information:
14.25” L x 12” W x 13.50” H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
115vac, 60 Hz

Applicable Publications:
(Information not available)

Reference Publications:
TM 11-5810-262-20

Training Requirements Supported:
MOSC 15N

OH-58 WIRING AIRFRAME

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Device is a media designed to enable students to learn troubleshooting procedures for the wiring harness, doppler, ADF, VOR, Directional Gyro, and Altimeter systems.

Functional Description:
OH-58 Airframe includes electrical wiring harness, navigational system, doppler, ADF, VOR, Directional Gyro, and Altimeter Systems.

Physical Information:
OH-58 Airframe less tail boom and rotors.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
28vdc
115vac, 400 Hz

Applicable Publications:
None

Reference Publications:
TM 1-1520-248 Series

Training Requirements Supported:
MOSC 15N

UH-1 WIRING AIRFRAME

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Device is a media designed to enable students to learn troubleshooting procedures for the wiring harness.

Functional Description:
UH-1 airframe with electrical wiring harness.

Physical Information:
UH-1 Airframe less tail boom and rotors.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
28vdc
115vac, 400 Hz

Applicable Publications:
None

Reference Publications:
TM 55-1520-210 Series

Training Requirements Supported:
MOSC 15N

TACTICAL ENGAGEMENT SIMULATION SYSTEM (TESS) APACHE LONGBOW

NSN Not Assigned	DVC 01-186/1 (TESS) (B) Kit
NSN Not Assigned	DVC 01-186/3 (TESS) Ground Systems MCC I/O Unit
NSN Not Assigned	DVC 01-186/4 (TESS) Ground Systems MCC I/O Accessory Box
NSN Not Assigned	DVC 01-186/5 (TESS) Ground Kit GL Kit
NSN Not Assigned	DVC 01-186/6 (TESS) Ground TIB Assembly
NSN Not Assigned	DVC 01-186/7 (TESS) Ground Kit Repeater Assembly
NSN Not Assigned	DVC 01-186/8 (TESS) Ground Systems HHI

TESS B Kit

TESS Training Missile

SMODIM

Automatic Internal Boresight (AIBS)

Counterweight

ESLRF/D

30 MM Transmitter

FlashWESS

Training Laser Control Unit (TLCU)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI, PM Field OPS

Source and Method of Obtaining:
Available at all posts where Longbow Apache is assigned.

Purpose of Trainer:
TESS is a training and simulation system comprised of an aircraft system and a ground instrumentation system that supports individual, crew, gunnery, and collective live force-on-force training.

Functional Description:
TESS is comprised of embedded aircraft functions (A kit) and external functions (B kit) capable of simulating all AH-64D Apache weapon systems (line-of-sight and non-line-of-sight) tactical engagements. The "A" kit adds weapons emulation plus TESS subsystem controls and displays to the AH-64D Apache. The "A" kit consists of software installed in the aircraft to support the integration of "B" kit components. The "B" kit consists of: Smart Onboard Data Interface Module (SMODIM), TESS Training Missile (TTM) FlashWESS and Aircraft Kill Indicator, MILES Lasers for the 30mm gun and Eye Safe Laser Rangefinder/Designator (ESLRF/D), and training laser Control Unit (TLCU). The system provides real time casualty assessment for force-on-force and force-on-target collective training. The system is MILES/AGES II compatible, and provides real time data recordings for After Action Reviews (AARs).

TESS uses onboard Longbow Apache systems and displays to fulfill the requirement of being transparent to the user. LBA TESS is compatible with all MILES systems and the CTCs. The Mobile Command Center (MCC) (1 suite per kit) allows commanders the capacity to monitor Longbow training engagements in near real-time,

MCC

Repeater

Target Instrumentation Kit

Hand-Held Initializer

Ground Instrumentation Kit

conduct AARs and briefings, and replay engagement data. Stored flight data on the aircraft recorder card in the SMODIM can also be merged for playback and analysis.

Repeaters (4 in each set) extend the range of the operational area. Target Instrumentation System (20 per kit) are stationary instrumented "Tanks in a Bag" (TIB) with MILES sensors and Vehicle Kill Indicator.

Ground Instrumentation Kits (10 per system) are MILES sensors, Vehicle Kill Indicator, and a shoot back laser that can be installed on any vehicle. The Hand-Held Initializer (1 per kit) sets-up the system with player I.D., weapons load, etc.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

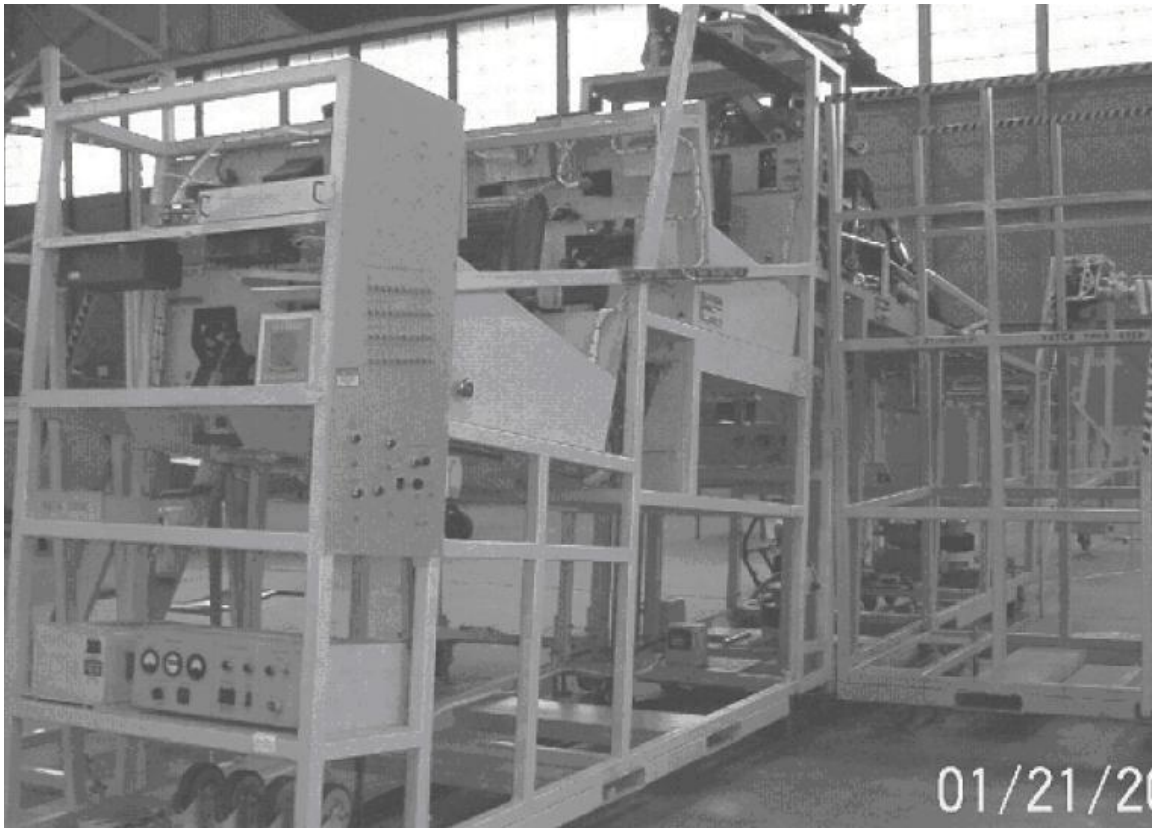
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
TM 55-1520-238 Series

Training Requirements Supported:
MOSC 152H and 152F

AH-64A FLIGHT CONTROL/POWERTRAIN SYSTEM TRAINER (A-2)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AH-64A Flight Controls and Power Train Systems Trainer (A-2) is designed to aid in training personnel in the operation and maintenance of applicable AH-64A helicopter systems. Normal, abnormal, and/or emergency helicopter operations can be simulated on the trainer. Simulation devices on the trainer permit the introduction of selected malfunctions to demonstrate abnormal system operation.

Functional Description:
Major components are the fuselage mock-up, motor generator set and hydraulic power unit. All components of the trainer are interfaced via associated cables and hoses.

Physical Information:
50’ W x 60’ L x 30’ H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
115vac, 60 Hz, 1-phase
460vac, 60 Hz, 3-phase, 30 Amps
230vac, 60 Hz, 3-phase, 60 Amps
230vac, 60 Hz, 1-phase, 30 Amps

Applicable Publications:
Commercial Documentation

Reference Publications:
TM 1-1520-238 Series

Training Requirements Supported:
MOSC 15R, 152 F-E, 151 A-E

AH-64 ARMAMENT/ELECTRICAL TRAINER A7

NSN Not Assigned **DVC 01-191/A AH-64 Armament/Electrical Plus Trainer A7 and A7+**

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The focus of the AET-A7+ is the transfer of task-related skills and knowledge; familiarization with aircraft component location; use of common tools, and advanced skill development in a high fidelity Total Aircraft Environment (TAE) and safe Training Task Environment (TTE). The training system enables Remove and Install task training, troubleshooting skills, Fault Isolation Procedure (FIP) performance, knowledge of systems operation, and performance of Maintenance Operational Checks (MOCs). Using the AET-A7+ Trainer System, students can identify, isolate, and correct faults within the Armament and Electrical Systems.

Functional Description:
An operational crashed/damaged aircraft system and components are used on the AET-A7+ device. Software and trainer-unique components simulate the functions of the actual aircraft. Software simulation of equipment failure enables the student to perform training tasks in a high fidelity environment. Noise levels are greatly reduced through modification of the Forward Avionics Bay Fans, simulation of the Auxiliary Power Unit (APU), and the use of the Mobile Power Supply Unit (MPSU).

Physical Information:
Instructor/Operator Station: 112.5” L x 59.2” W x 61” H
Hardware Training Device: 55’ L x 18’ W x 16’ H
Mobile Power Supply Unit: 90” L x 58” W x 60” H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: 120/208vac, 3-phase, 50-60 Hz, 60 Amps.
Device: 120/208vac, 3-phase, 400 Hz
Mobile Power Supply Unit: 480vac, 3-phase, 60 Hz, 150 Amps.

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:

MOSC 15X

COMBAT AVIATION VIRTUAL SIMULATION (CAVSIM)

NSN Not Assigned	DVC 01-193/1 Combat Aviation Virtual Trainer Fixed (CAV-T-F)
NSN Not Assigned	DVC 01-193/2 Combat Aviation Virtual Trainer Fixed - Mission Control Center (CAV-T-F-MCC)
NSN Not Assigned	DVC 01-193/3 Combat Aviation Virtual Trainer Fixed - After Action Review (CAV-T-F-AAR)
NSN Not Assigned	DVC 01-193/4 Combat Aviation Virtual Trainer Fixed - Ground Driver's Station (CAV-T-F-GDS)
NSN Not Assigned	DVC 01-193/5 Army Aviation Command and Control System (A2C2S) Mock-Up
NSN Not Assigned	DVC 01-193/6/1 Aviation Tactical Operations Center (AVTOC)
NSN Not Assigned	DVC 01-193/6/2 Company Tactical Operations Center (TOC)
NSN Not Assigned	DVC 01-193/7 Mobile Combat Aviation Virtual Trainer (MCAV-T)
NSN Not Assigned	DVC 01-193/8 Call-for-Fire (CFF) Trainer

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CAVSIM, located at Fort Rucker, is Army Aviation's virtual simulation collective training facility. The facility has 10 reconfigurable helicopter simulation devices and one single-seat fighter-bomber fixed-wing device which can be employed on the virtual battlefield to support collective training from platoon through battalion levels.

CAVSIM users include Aviation Center Basic and Career Courses, National Guard and Active Component units, and Aviation Task Forces training for deployments to Bosnia and Kosovo.

Functional Description:
CANSIM consists of several components functionally linked together to perform the required task. The functional components are:

01-193/1 Combat Aviation Virtual Trainer (CAV-T) – Fixed

The CAV-T is a non-motion collective trainer which can be used in a variety of rotary and fixed-wing aircraft configurations. The system has a PC simhost and image generators, and consists entirely of COTS hardware and COTS/Government software.

The CAV-T provides sufficient aircraft and battlefield functionality to support all Aviation unit METL training.

01-193/2 Mission Control Center (MCC)

The MCCs serve as control centers for Computer Generated Force (CGF) Commanders, Exercise Directors or Senior Trainers, or for Observers/Controllers. Each MCC can be configured for a specialized use as needed.

The CGF MCC is typically configured to provide control of Modular Semi-Automated Forces (ModSaf) or OneSaf which create the virtual environment, and generate red and blue forces to populate the battlefield.

01-193/3 After Action Review (AAR) Suite

The AAR suite permits Senior Trainers or Observer/Controllers to conduct multi-media After Action Reviews by employing digital tape, video tape, and radio communications replays.

The suite provides real time, slow motion, and faster-than-real time replays and viewing from a variety of three-dimensional angles and plan or map views.

01-193/4 Driver's Station

The driver's station is a non-motion generic ground vehicle station, which has a PC simhost and image generators. It can accommodate a two person crew and is most frequently used as a lead vehicle in an Aviation unit Forward Area Rearm/Refuel (FARRP) or downed aircraft recovery convoy.

01-193/5 Army Aviation Command and Control System (A2C2S) Mockup

The A2C2S device is a true scale wooden mockup of a UH-60 cargo compartment which can be outfitted with radio emulators and digital Army Tactical Command and Control System (ATCCS) devices to provide a Commander and his battle staff with a mobile C2 functionality.

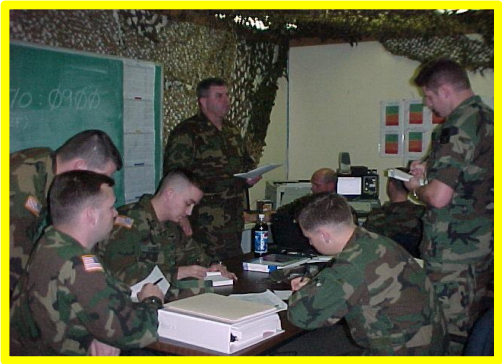
The device is equipped with left and right out-the-window views and is flown by a two man crew to provide a Commander and his staff with sensations of flight and realistic battlefield mobility.

01-193/6/1 Aviation Tactical Operations Center (AVTOC)

The AVTOC room can be configured with a wide variety of analog or digital C2 systems and displays to provide an operations center for a player battle staff.

The room can also be configured to serve as an operations hub for an Exercise Control Cell.

01-193/6/2 Company Tactical Operations Center (TOC)



Company or Troop TOCs are equipped with digital radio emulators, and can be configured to provide space for unit map, status, and briefing boards, and for pre-mission planning.

Typical users include AC and RC units and the Aviation Captains' Career Course students.

01-193/7 Mobile Combat Aviation Virtual Trainer (MCAV-T)

The MCAV-T is a non-motion collective trainer which is housed inside an over-the-road trailer. The system can be configured as either an OH-58D, a UH-60, or an AH-64A, and provides sufficient aircraft and battlefield functionality to support all Aviation unit METL training.

The system is readily deployable by commercial tractor to remote AC and RC training sites. When not deployed, the system can be connected to the CAVSIM facility simulation network for home station use.

01-193/8 Call-for-Fire (CFF) Trainer

The CFF Trainer is a PC based portable system which uses a stealth viewer, a Computer Generated Force station, and a projection system to generate a virtual environment in which students can be trained in Artillery call for fire procedures.

Principal users are the Aviation Center's Initial Entry Rotary Wing Course and Aviation Captains' Career Course students.

Physical Information:
(Information not available)

Equipment Required, not Supplied:
(Information not available)

Special Installation Requirements:
Facility Utilities

Power Requirements:
Facility Power

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

CH-47F TRANSPORTABLE FLIGHT PROFICIENCY SIMULATOR (TFPS)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
PM Cargo/NAVAIR Acquisition.

Purpose of Trainer:
The purpose of the CH-47F Transportable Flight Proficiency Simulator (TFPS) is to provide a means for initial and proficiency training of pilots, instructor pilots, and maintenance test pilots on CH-47F. CH-47F systems and aerodynamics are modeled to provide a realistic flight environment for CH-47F pilots. The "out the window" scene will be simulated for Visual Meteorological Conditions (VMC), Instrument Meteorological Conditions (IMC), and for Night Vision Goggles (NVG) training. CH-47F TFPS will be High Level Architecture (HLA) compliant. The threat environment is simulated using Computer Generated Forces (CGF). The CH-47F TFPS supports training on Army XXI tasks.

The CH-47F TFPS will have the capability to be operated and maintained at the company level and to deploy with the company anywhere in the world. The CH-47F TFPS can be operated by a minimum of one pilot at either of the crew stations, and by a maximum of two pilots in the crew stations and one Instructor/Operator.

Functional Description:
The CH-47F TFPS, Device TBD, is a transportable, training system capable of simulating ground, takeoff, flight, operational, and landing characteristics of the CH-47F under a wide range of realistic environmental conditions. On board aircraft, systems are simulated/stimulated for both normal and emergency operating procedures.

Physical Information:
The CH-47F TFPS is contained in two 14' x 28' containers, that when complexed together, occupy a 28' x 28' footprint. The device is designed to withstand a 164 knot wind when tied down to a concrete slab. The device requires a two 200 Amps, 60 Hertz supplies to power the device and provided Environmental Control Units. The ECUs will support operation between - 40C and 54C. The enclosure is light tight to support Night Vision Goggle (NVG) operation.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A 70 ton crane, 15 ton, and a 1.5 ton fork lift are required to complex and decomplex the device on a concrete pad. The concrete pad should be 70' x 70'. The heaviest enclosure half weighs approximately 37,000 lb.

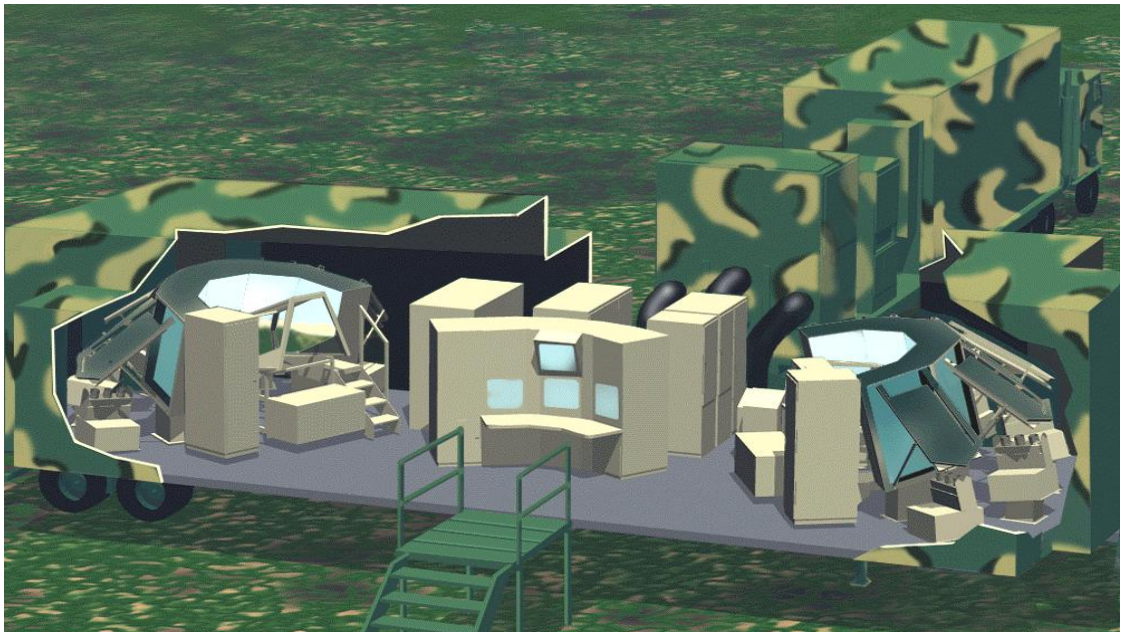
Power Requirements:
Two 200 Amps supplies of 120/208, 3-phase Y w/ground power is required for the device.

Applicable Publications:
TM01-6930-719-10 CH-47F TFPS Operators Manual
TM01-6930-719-23&P CH-47F TFPS System Interface Manual
TD01-6930-719-10 CH-47F TFPS Commercial-Off-The-Shelf Manuals

Reference Publications:
TM 01-6910-719-10

Training Requirements Supported:
CH-47F Operational Requirements Document (ORD)
CH-47F System Training Plan (STRAP)
TC 1-271 The Aircrew Training Manual for Cargo Helicopter CH-47F Draft.

AH-64D LONGBOW CREW TRAINER (LCT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PM-AAH

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Institutional and field use to support AH-64D Longbow combat skills initial, refresher, and sustainment training of unit aircrews.

Functional Description:
The AH-64D Longbow Crew Trainer (LCT) is designed to provide a training capability for flight, instruments and weapons delivery, normal and emergency procedures, and sensor system operating tasks required in the operational design of the basic helicopter. These systems include the Fire Control Radar (FCR), Pilot Night Vision Sensor (PNVS) and the gunner's Target Acquisition and Designation Sight (TADS) systems.

The simulator consists of a self-contained trailerized system, pilot and copilot/gunner cockpits, instructor module, motion seat subsystem, visual subsystem, and an integrated host computer. The pilot and copilot / gunner cockpits are replicas of the actual aircraft cockpits and each has a dynamic motion seat.

The visual system provides a current state-of-the-art out-the window scene and sensor imagery to each of the appropriate crew member video displays. Simulated imagery includes forward-looking infrared (FLIR) and day television (DTV). The training functions are controlled from the instructor operator station located in each trailerized training device.

Physical Information:
Device Trailer (59,000 LB) W x H x L
Transport Mode 8'6" x 13'6" x 53'
Deployed Mode 18'3" x 13'6" x 53'
Service Trailer (38,000 LB) 8'6" x 13'3" x 53'
Total Deployed Surface Footprint 66' x 95'

Equipment Required, Not Supplied:
Environmental Control Unit provides for required humidification. Needs approximately 4.5 Gallons of water daily, ECS has a 5 Gal water tank.

Special Installation Requirements:
None

Power Requirements:
None if use of self-contained power multifuel generator. If the unit elects not to power the LCT with the integrated generator, provisions for ground-supplied (SHORE) power must be facilitated with the installation.

LCT Component / SHORE power requirements:
DEVICE TRAILER;
40 kva / 103 Amps, 120/208vac, 3-phase, 60 Hz WYE

ECU;
105 kva / 291 Amps, 120/208vac, 3-phase, 60 Hz WYE

SERVICE SHELTER;
3 kva / 8 Amps, 120/208vac, 3-phase, 60 Hz, WYE

Applicable Publications:
TBP

Reference Publications:
TM 01-1520-251 Series

Training Requirements Supported:

1000	1004	1006	1008
1009	1010	1022	1024
1026	1032	1034	1036
1038	1040	1044	1046
1048	1052	1054	1058
1062	1064	1070	1072
1074	1082	1084	1110
1114	1116	1118	1122
1133	1134	1138	1140
1142	1143	1144	1145
1148	1151	1153	1155
1160	1170	1172	1174
1176	1178	1180	1182
1184	1188	1194	1196
1262	1416	1458	1462
1464	1469	1548	1835
2002	2004	2006	2010
2066	2130	2160	2162
2164	2180	2620	2630
2640	2650	2670	2675
2680			

AH-64D LONGBOW COLLECTIVE TRAINING SYSTEM (LCTS)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PM-AAH

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide team / collective training of Government selected critical tasks while deploying the AH-64D Longbow aircraft mission package. Support the training of team / company / battalion tactical tasks in a combined arms environment.

Functional Description:
The AH-64D Longbow Collective Training System (LCTS) is a multiple player station collective training device providing Unit / Staff-Level Multi-Aircraft Training System for rehearsals and crew / team interaction. The LCTS consists of at least 6 Tactical Player Stations (TPSs) with Out-the-Window (OTW) visual systems, command, staff and exercise control stations, multiple-video display, and After Action Review (AAR) capability.

The LCTS is transportable, incorporates the latest DIS protocols, and interfaces for networking with other LCTs, and CATT devices.

There are a total of six trailers in the suite, two of which will provide generator and ECS, three trailers house 2 each TPSs (AH-64D cockpits) and one house's the Instructor Operator Station and AAR facility.

Physical Information:
SERVICE TRAILERS (2 each):
8.5' wide x 53' long x 13.5' high.

- 2 Multi-Fuel Generators, Provides self-contained power.
- 4 Environmental Control Units (ECU)
- Clean and Service Storage Area

DEVICE TRAILERS (3 each):
8.5' wide x 53' long x 13.5' high, each expands to 14' total width deployed.

- 2 TPS / Crew Stations per trailer

OPERATIONS TRAILER (1 each):
8.5' wide x 53' long x 13.5' high each expands to 14' total width deployed.

- IOS and AAR

Trailers (6) deployed footprint 80 x 90 feet.

Equipment Required, Not Supplied:
Multi-Fuel for generator - 11 Gal/Hr, 300 Gal Tanks
Water for Environmental Control Unit - 5 Gal/Day

Special Installation Requirements:
(Information not available)

Power Requirements:
None – 2 Multi-Fuel Generators, Provides self-contained power.

Applicable Publications:
TBP

Reference Publications:

TM 01-1520-251 Series

Training Requirements Supported:

ATM Tasks:

1000	1004	1008	1009	1010
1026	1032	1034	1036	1038
1040	1044	1046	1048	1052
1054	1058	1062	1116	1118
1122	1134	1138	1140	1142
1143	1145	1148	1151	1153
1155	1160	1180	1184	1188
1194	1196	1262	1416	1458
1462	1464	1548	1835	2010
2066	2130	2160	2162	2164
2180	2620	2630	2640	2650
2670	2675	2680		

ARTEP Mission Tasks:

1-2-0001	1-2-0101	1-2-0103
1-2-0105	1-2-0106	1-2-0107
1-2-0108	1-2-0206	1-2-0207
1-2-0208	1-2-0210	1-2-0211
1-2-0301	1-2-0401	1-2-0402
1-2-0403	1-2-0501	1-2-0502
1-2-0603	1-2-0613	1-2-1301
1-2-2037	1-2-2038	1-2-2040
1-2-2041	1-2-2042	1-2-2043
1-2-2044	1-2-2103	1-2-2104
1-2-5102	1-2-5103	1-2-5104
1-2-5105	1-2-6101	1-2-6102
1-2-6103	1-2-6104	1-2-6106
1-2-6107	1-2-6108	1-2-6109
1-2-7105	1-2-7106	1-2-7113
1-2-7503		

UH-60 BLACK HAWK MEDICAL SUITE TRAINER (MST)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO Aviation

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Medical Suite Training Device is used to provide realistic hands-on training of operational and functional tasks for student flight medics for the MEDEVAC BLACK HAWK. This training device will permit training of the specific tasks for student medics attending the Flight Medic course (300-F6) to MEDEVAC combatants and non-combatants across the full spectrum of conflict in a BLACK HAWK. The training conditions include normal/daylight and night vision goggle conditions.

Functional Description:
The UH-60 MST replicates the floor space, cabin area, and functionality of the medical suite found in the MEDEVAC BLACK HAWK. The Medical Suite includes functional litter lifts, external rescue hoist, electrical systems, and seating (ambulatory patient and medical attendant), plus systems to replicate the operation of the On Board Oxygen Generating System (OBOGS) and the medical suction system for training purposes. The system was designed to allow the instructors to observe, record, interact with the students, and control the operation of the system from a central location (the Instructor Station) for the purpose of testing them against the course objectives and evaluating their performance. The UH-60 MST from a student's perspective accurately replicates the look, feel and function of a MEDEVAC BLACK HAWK aircraft.

Physical Information:
Cabin: 18'10" L x 21' W x 8'7" H
IOS: 9'9" L x 4'4" W x 7'5" H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
120vac, 3-phase, 5 wires, 60 Hz @100 Amps

Applicable Publications:
TD 1-6910-719 Series

Reference Publications:
TM 55-1520-237 Series

Training Requirements Supported:
MOSC – 91W

UH-60L BLACK HAWK AVIONICS WIRING SYSTEM TRAINER (UH-60L BAWST)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The purpose of the UH-60L Black Hawk Avionics Wiring Systems Trainer (BAWST) is to train avionics technicians on basic wire maintenance and troubleshooting procedures for the UH-60L helicopter. Students will be able to trace wires, fault isolate and identify open wire faults using TM 1-1520-237-23 series manuals. The BAWST device is a non-operational mockup of the cockpit and nose sections of the UH-60L helicopter. Students will gain a working knowledge of the basic wire maintenance and troubleshooting procedures as applied to the UH-60L communications and navigation systems.

Functional Description:
The BAWST device consists of full size simulated cockpit structure, lower console, instrument panel, upper console including pilot and copilot circuit breakers panels, nose and fire wall section, pilot and copilot seat wells, avionics harnesses and cables, a fault insertion panel and 3D representations of all avionics line replaceable units (LRUs) required to perform training tasks on the helicopter communication and navigation systems. All LRUs have aircraft connectors that allow them to interface with the trainer in a manner identical to that in the helicopter. Printing a high-resolution graphic image on the reverse side of Lexan that represents the controls and indicators of each panel produces realistic faceplates for each LRU. The fault insertion panel allows the instructor to insert up to 60 open/shorted wiring faults allowing students to trace wires, fault isolate, and identify the open/shorted wire faults. An access platform may be placed between two trainers allowing for easier troubleshooting of the rear of the circuit breaker panels and the avionics LRUs located in the back of the trainer. The access platform has stairs on both sides and a nonskid surface for safety.

Physical Information:
90" wide, 90" height, 102" length

Equipment Required, not Supplied:
No power required.

Special Installation Requirements:
(Information not available)

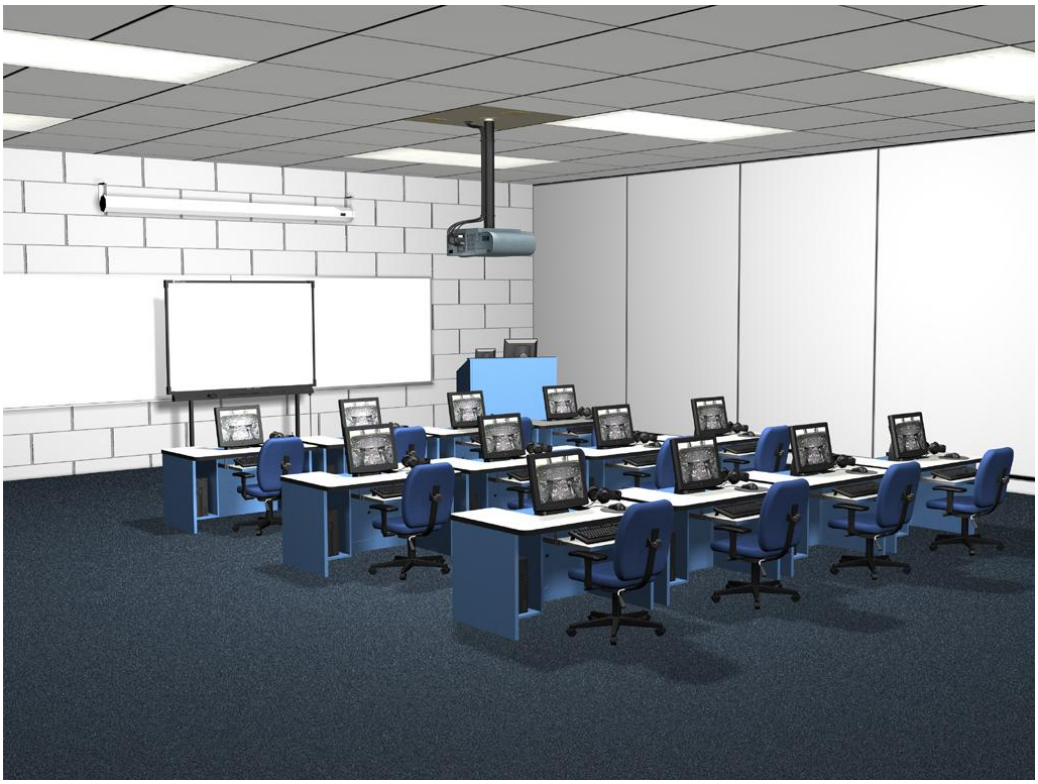
Power Requirements:
(Information not available)

Applicable Publications:
TM 01-6910-720-10

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15N

INTERACTIVE MULTIMEDIA INSTRUCTION MAINTAINER – USAALS ELECTRICAL IMI



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The electrical IMI provides authentic Level II and Level III representation of the operational functions, responses operation, theory of aircraft systems, maintenance procedures, and troubleshooting of the electrical system on the UH-60A/L Black Hawk aircraft. This is a computer based training system consisting of an instructor station with 18 student stations. The instructor has the ability to assign specific tasks or troubleshooting modules and monitor student progress. Each student has the ability to individually execute each module.

Physical Information:
Device Components:
- 18 computers
- 1 LINK instructor control systems
- 1 Instructor Station
- 12 Student desks and chairs
- 1 audio visual (projector, smart board, instructor console)
- 1 Server shared between two classrooms

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

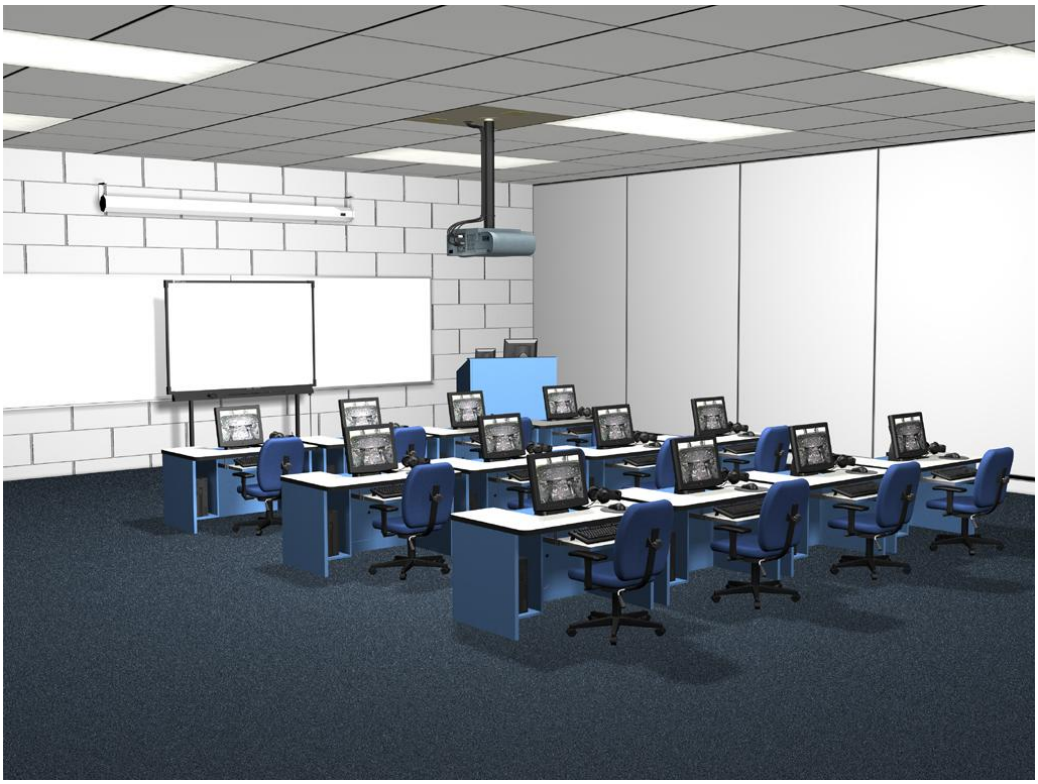
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T

INTERACTIVE MULTIMEDIA INSTRUCTION MAINTAINER – USAALS AUXILIARY POWER UNIT (APU) IMI



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The APU IMI provides authentic Level II and Level III representation of the operational functions, responses operation, theory of aircraft systems, maintenance procedures, and troubleshooting of the APU system on the UH-60A/L Black Hawk aircraft. This is a computer based training system consisting of an instructor station with 18 student stations. The instructor has the ability to assign specific tasks or troubleshooting modules and monitor student progress. Each student has the ability to individually execute each module.

Physical Information:
Device Components:
- 18 computers
- 1 LINK instructor control systems
- 1 Instructor Station
- 12 Student desks and chairs
- 1 audio visual (projector, smart board, instructor console)
- 1 Server shared between two classrooms

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

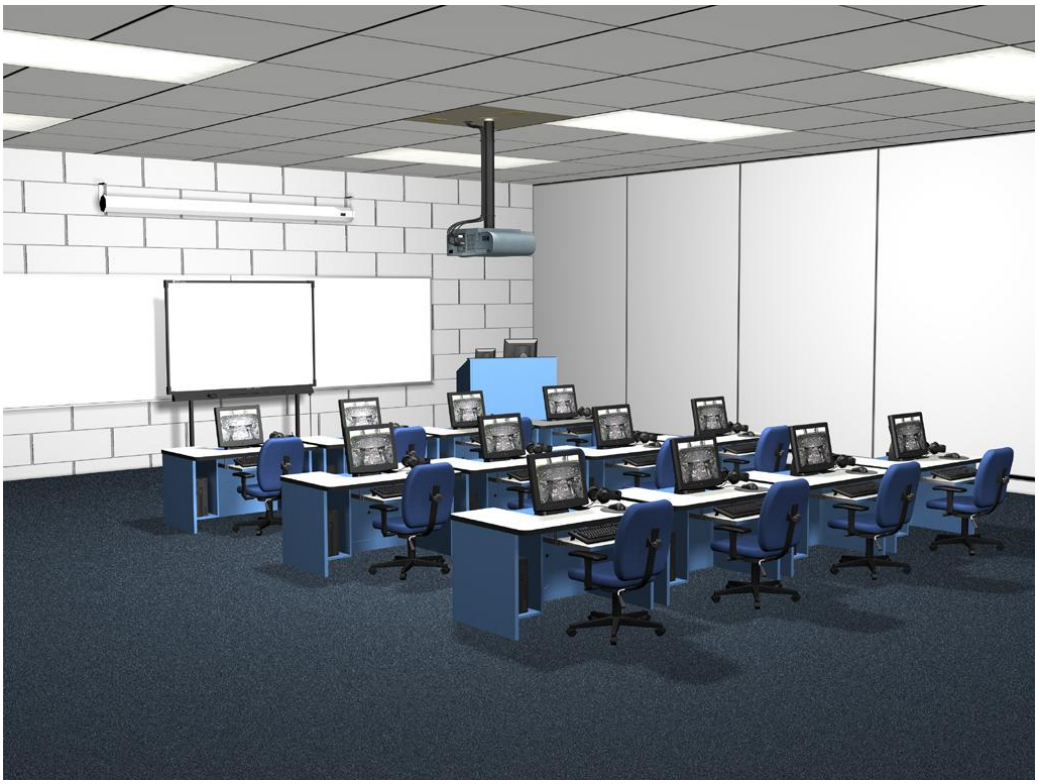
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T

INTERACTIVE MULTIMEDIA INSTRUCTION MAINTAINER – USAALS MAIN ROTOR IMI



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The Main Rotor IMI provides authentic Level II and Level III representation of the operational functions, responses operation, theory of aircraft systems, maintenance procedures, and troubleshooting of the Main Rotor system on the UH-60A/L Black Hawk aircraft. This is a computer based training system consisting of an instructor station with 20 student stations. The instructor has the ability to assign specific tasks or troubleshooting modules and monitor student progress. Each student has the ability to individually execute each module.

Physical Information:
Device Components:
- 20 computers
- 1 LINK instructor control systems
- 1 Instructor Station
- 12 Student desks and chairs
- 1 audio visual (projector, smart board, instructor console)
- 1 Server shared between two classrooms

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

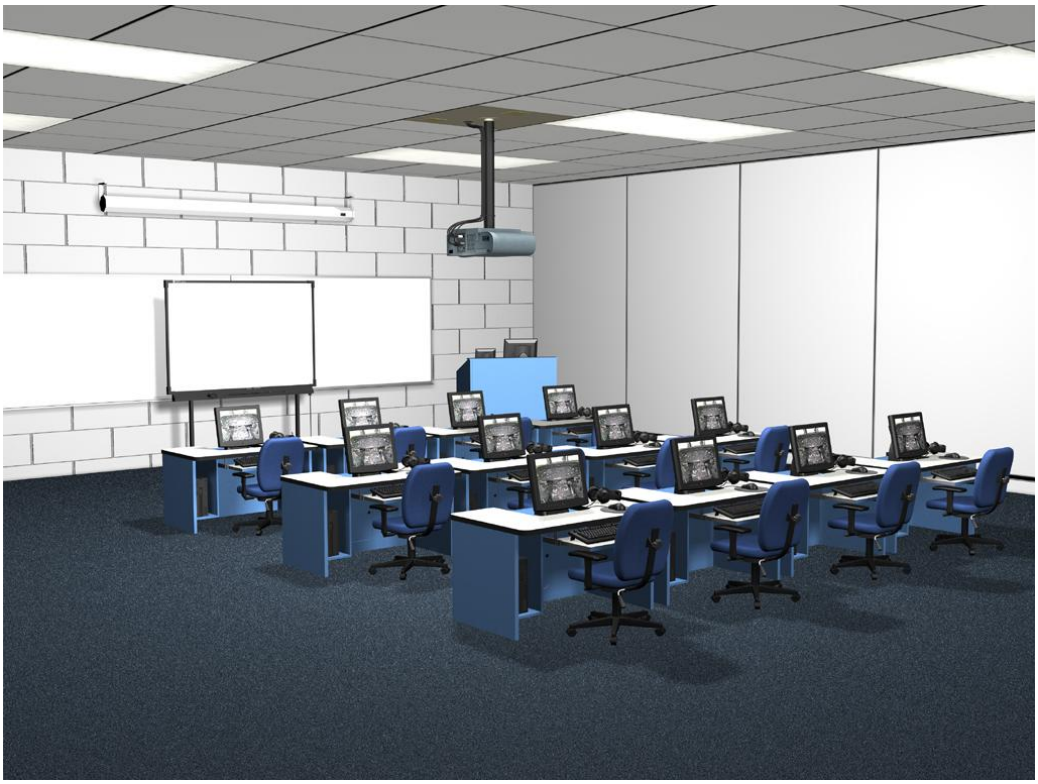
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T

INTERACTIVE MULTIMEDIA INSTRUCTION MAINTAINER – USAALS LANDING GEAR IMI



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The Landing Gear IMI provides authentic Level II and Level III representation of the operational functions, responses operation, theory of aircraft systems, maintenance procedures, and troubleshooting of the Landing Gear system on the UH-60A/L Black Hawk aircraft. This is a computer based training system consisting of an instructor station with 19 student stations. The instructor has the ability to assign specific tasks or troubleshooting modules and monitor student progress. Each student has the ability to individually execute each module.

Physical Information:
Device Components:
- 19 computers
- 1 LINK instructor control systems
- 1 Instructor Station
- 12 Student desks and chairs
- 1 audio visual (projector, smart board, instructor console)
- 1 Server shared between two classrooms

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

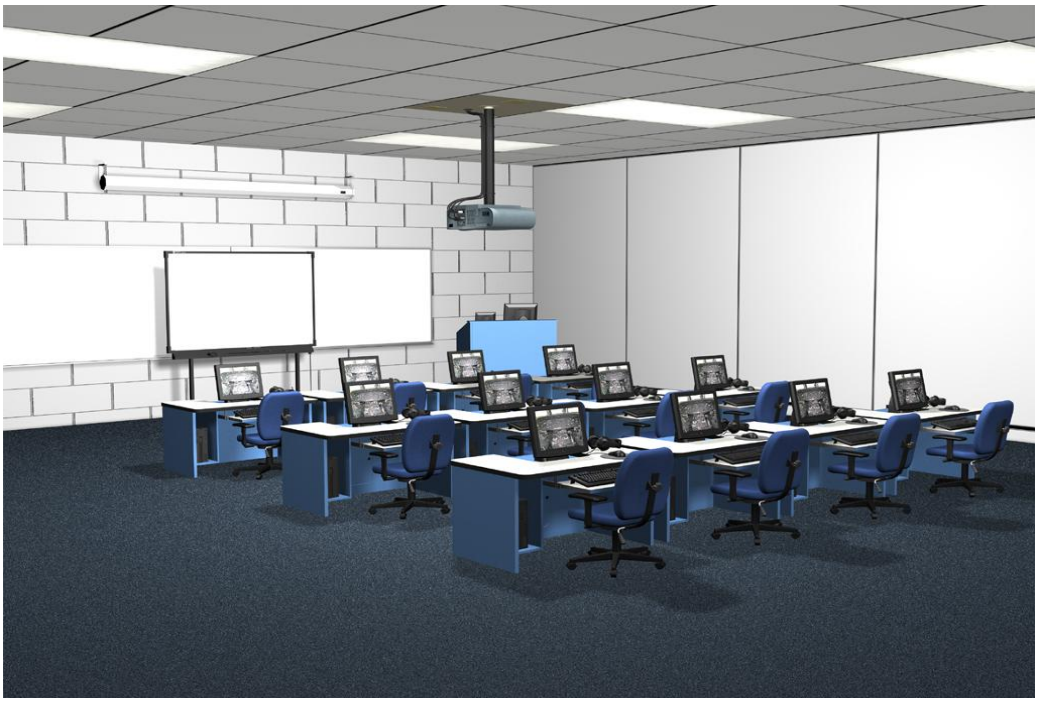
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T

INTERACTIVE MULTIMEDIA INSTRUCTION (IMI) OPERATOR – MAINTENANCE TEST PILOT PROGRAM USAAVNC



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
Two IMI Training System Products that support UH-60 Maintenance Test Pilot Training. One package includes the modernization of approximately 80 contact hours of Instructor-led Training with Training Support Package into an Instructional Media that includes 2D and 3D graphics, animated cutaway component simulations, and animated signal flows. The second package consists of a student controlled, self-paced, Level II and Level III Interactive Multimedia Instruction (IMI). This is a computer based training system consisting of an instructor station with 24 student stations. The instructor has the ability to assign specific modules and monitor student progress.

Physical Information:
Device Components:

- 24 Student station desks with chairs
- 24 (Dell P4 2.5 GHZ w/17" LCD monitors)
- 5 Instructor stations
- 5 Dell P4 2.5 GHZ w/19" LCD monitors, with CDR-W
- 1 Projector: plasma display
- 1 Server
- 5 Office XP Software
- 1 Smart Board system
- 1 LINK System II
- 1 Printer
- 1 Router/Hub
- 29 Windows XP Professional

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

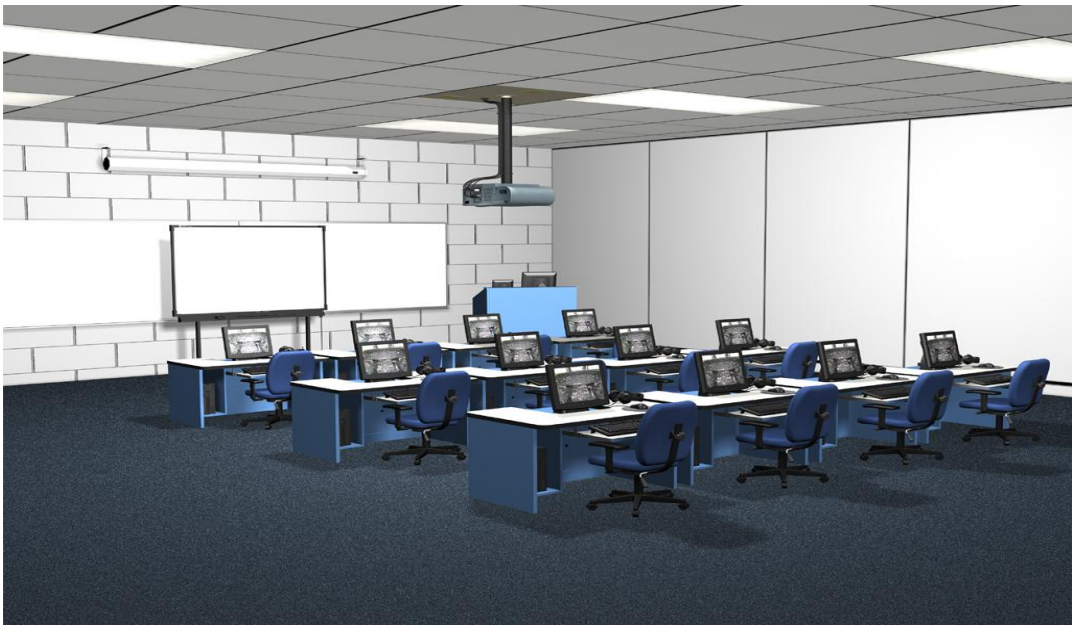
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T

INTERACTIVE MULTIMEDIA INSTRUCTION (IMI) OPERATOR – AVIATOR QUALIFICATION COURSE USAAVNC



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
(Information not available)

Functional Description:
The Aviator Qualification Course includes Instructor Pilot (IP), and Method Of Instruction (MOI) Training Courses. The Training Support Package (TSP) includes the modernization of approximately 114 contact hours of Instructor-led training into an Instructional Media that includes Level II and Level III dimension graphics, animated cutaway component simulations, and animated signal flows using the Authorware authoring system. The self-paced effort includes student controlled, self-paced, Level II and Level III Interactive Multimedia Instruction (IMI). AQC also includes presentation media to support the learning objectives for the UH-60 Instructor Pilot (IP) Course and Method of Instruction (MOI). Presentation media consist of Level II and Level III dimension graphics, digital photographs, animated graphics, and video as required to visually enhance the accomplishment of the IP and MOI training objectives.

This is a computer based training system consisting of an 6 instructor station and a 6 student stations lab. The instructor has the ability to assign specific modules and monitor student progress.

Physical Information:
Device Components:

- 6 Student station desks with chairs
- 6 Dell P4 2.5 GHZ w/17" LCD Monitor
- 6 Instructor Station
- 6 Dell P4 2.5 GHZ w/dual 17" LCD Monitor
- 6 3000 Lumen XGA Projectors, Instructor Presentation Systems
- 1 Dell P4 2.5 GHZ w/17" LCD Monitor
- 1 Printer, Network color laser, high capacity, duplex printing (e.g. HP 4600dtn)

Equipment Required, not Supplied:
AC power required.

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

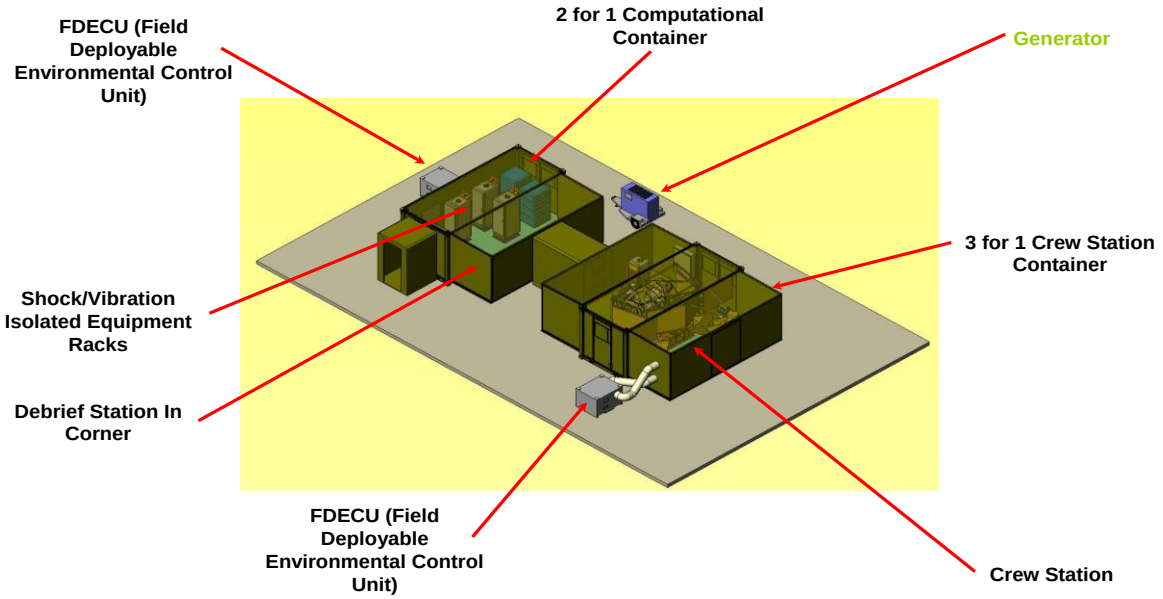
Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

UH-60 TRANSPORTABLE BLACK HAWK OPERATIONS SIMULATOR (TBOS)

Phase 2: Operational Configuration



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The T-BOS is a high-fidelity operator simulator for the UH-60L and UH-60M helicopters. The T-BOS will train and sustain specified individual and crew skills proficiency in normal, degraded, and emergency modes of operation. The T-BOS simulation design basis will be the UH-60L and UH-60M aircraft including the UH-60L, 60M, and 60M Upgrade Troop Assault configurations. The T-BOS will be a transportable training device with a modular design of hardware and software components to support training in the UH-60L and UH-60M configurations; a subsystem component design to allow assembly/disassembly for deployment within transportable containers; power and environmental air-conditioning support equipment for operations at remote locations; hardware and software necessary to serve as the medium for the training of aircrews and maintenance test pilots for the UH-60L and UH-60M; the capability to perform qualification and sustainment training under simulated Visual Meteorological Conditions (VMC), Air Warrior (AW), Nuclear, Biological, and Chemical (NBC) flight operations, as well as
Instrument Meteorological Conditions (IMC), day and night, to include the following UH-60L and UH-60M task categories:
* * * * *Basic and tactical flight maneuvers
* * * * *Visual and electronic navigation
* * * * *Voice and digital data communications
* * * * *Emergency procedures
* * * * *Operator and maintenance test flight procedures
* * * * *Mission rehearsal
* * * * *Crew station coordination.

Functional Description:
The T-BOS system shall operate in garrison conditions and field environments. The T-BOS system shall be transportable (capable of being moved to any location). It shall be transportable by ship, rail, road, and air (both military and commercial). The T-BOS system shall be deployable (capable of being set up and operated in designated locations/conditions). It shall be deployable for operations and training in the tactical environments of a Combat Aviation Brigade Corps staging area and Brigade and Battalion-level Assembly Areas. The T-BOS shall "survive" (operate normally without need of field or depot repair) all transportation and storage modes described within this document. It shall be operated by the customer unit's organic Instructor Pilots. Setup, teardown, reconfiguration, and maintenance shall be provided by

Contractor Logistics Support (CLS). The T-BOS system shall be compatible with Division transportation assets such as the M1074 Palletized Loading System (PLS) and the M925 and M1080/M280 prime mover/trailer. T-BOS shall have two states, Operating and Non-Operating (Storage).

Physical Information:
The T-BOS System is comprised of two (2) expandable ISO containers with the capability to be powered with two (2) GOTS 60KW generators and from 2 to 4 Field Deployable Environment Control Units (FDECUs). Each container weighs less than 15,000 pounds allowing for C-130 transport. The 20' X 8' X 8' containers consist of a 2:1 expandable container housing the systems computational subsystem, storage and workspace areas and a 3:1 container that houses the crew station container, DC power subsystem, Visual Subsystem, and Input/Output (I/O) subsystems.

Equipment Required, not Supplied:
AC power required

Special Installation Requirements:
(Information not available)

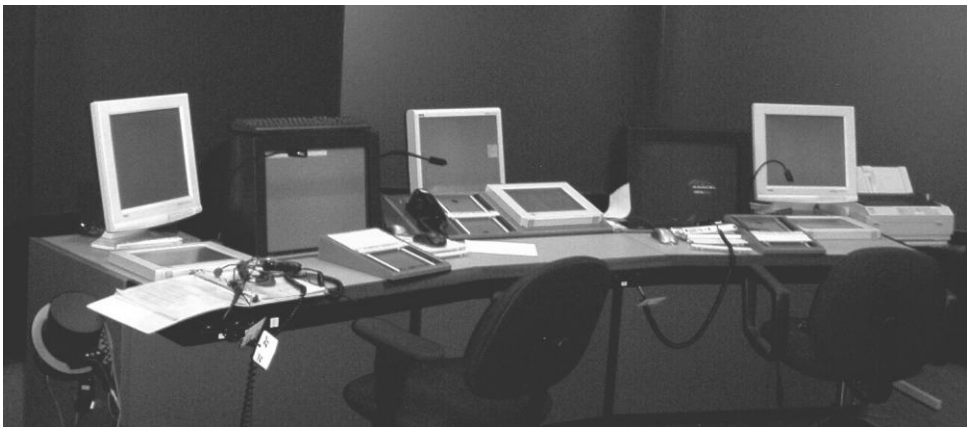
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

ENHANCED TOWER SIMULATOR (ETOS)



Student Station

Instructor Station

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The Enhanced Tower Simulator (ETOS) is a media to provide training in the tower phase of ATC training and the MOS 15Q Air Traffic Control.

Functional Description:
The Enhanced Tower Simulator (ETOS) includes six (6) 100" "out the window" (OTW) displays depicting 210 degrees of representation of the airfield and environment as viewed from a control tower. It simulates, visually and acoustically, a comprehensive aircraft database of U.S. Military and commercial aircraft. The ETOS is capable of simulating all military aircraft maneuvers, profiles and speeds. It also provides the controller with voice recognition, weather displays, aircraft, and weather sound effects.

The ETOS is capable of processing and displaying tower radar information airport and weather information, monitoring and controlling radio navigation aids and airfield lighting systems and provides a variety of display options for flexibility in integrating the device into existing tower configurations and available space. The Enhanced Tower Simulator provides three control positions, Load Controller, Ground Controller and Data Controller. Each position is capable of either independent operation and/or interoperable operation with other positions.

Physical Information:
Six visual units assembled 191.626” x 321.135”
Student Station: 122” x 38”
Instructor Station: 46” x 38”
Printer: 24” x 27”
Image Generator Cabinet: 24.5” x 33.5” x 83”
Computer Cabinet: 20” x 24” x 58”

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
115 volts AC, 60 Hz

Applicable Publications:
Commercial Documentation

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15Q

ARMY AVIATION RADAR TRAINING SYSTEM (AARTS)

AARTS Instructor Station

AARTS Student Station

Training Category/Level Utilized:
Aviation Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The AARTS Simulation system is a media used to provide training for U.S. Army Air Traffic Control (ATC) tasks in radar control operations.

Functional Description:
The Army Aviation Radar Training system is a modern, voice-activated, PC-based replacement for the first generation ATC Radar Training Simulator. System provides training for U.S. Army Air Traffic Control (ATC) tasks in radar control operations. The AARTS displays aircraft radar control scenario information in real-time display accuracy. Aircraft respond to controllers' commands. Capabilities include weather and seasonal environmental changes. The ability to accurately depict aircraft and aircraft characteristics include unique airborne military profiles. The system emulates radar informational data and the tower communication array. Nine systems are fielded at US Army Aviation Center where they are utilized for advanced individual training. Standard training scenarios are installed on the simulator and the user has scenario generation capability.

Physical Information:
Student Station: 4 ft x 7 ft
Instructor Station: 3 ft x 5 ft

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
115volts AC, 60Hz

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15Q

AH-64D ENVIRONMENTAL CONTROL SYSTEM OPERATIONAL TRAINER (ECSOT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AH-64D Environmental Control System Operational Trainer (ECSOT) provides a training platform for development of maintenance skills for Apache Longbow maintainers. The ECSOT will be used to train servicing tasks in support of U.S. Longbow AH-64D AVIM/AVUM (Aviation Intermediate Maintenance/Aviation Unit Maintenance). The ECSOT shall consist of the Hardware Training Device (HTD) used in conjunction with the Army's servicing cart.

Functional Description:
The AH-64D Environmental Control System Operational Trainer (ECSOT) will be a limited-operational device, which provides a training platform for development of 15R maintenance skills for Apache Longbow maintainers. The ECSOT will represent an operational vapor cycle air conditioning system using R-134 as the refrigerant. Servicing and operational functional checks will be accomplished using the same equipment required by the Longbow aircraft system.

Physical Information:
Hardware Training Device: 24" L x 33" W x 60" H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Student Stations: 120vac, single-phase, 60Hz, 20 Amps
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D FLIGHT CONTROL PART TASKS TRAINER-L8 (FCPTT-L8)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The FCPTT is a replication of the AH64D with functional subsystems. The purpose of the FCPTT is to support the training of the Apache Airframe Repairer (MOS 15R). Its functional subsystems include airframe hydraulics, flight controls, and drive train.

Functional Description:
The FCPTT replicates Longbow production aircraft operational systems/subsystems. These systems/subsystems will provide realistic training for ground maintenance operations and procedures. The FCPTT will serve as the selected training media used by instructors to strengthen maintenance personnel repair and servicing techniques.

Physical Information:
Instructor/Operator Station: N/A
Hardware Training Device: 44’ L x 15’ W x 15’ H
Mobile Power Supply Unit: 35” L x 16” W x 36” H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Device: 208vac, 3-phase, 60Hz, 40 Amps
Mobile Power Supply Unit: 208vac, single-phase, 60Hz, 20 Amps.

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R

AH-64D TAIL ROTOR SYSTEM AND TAIL LANDING GEAR PART TASKS TRAINER-L9 (TRSTLGPTT-L9)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The TRSTLGPTT is a full-size replication of the last 10 feet of an AH-64D aircraft with removable components. Its purpose is to support the training of critical Longbow Apache airframe repairer (MOS 15R) remove-and-install tasks and skills. The TRSTLGPTT is hardware trainer with functional modularity, which permits task training of airframe, landing gear, and drive train/flight control systems. It will also support task training associated with troubleshooting as well as removal/replacement of system components.

Functional Description:
The TRSTLGPTT provides a training platform for development of maintenance skills for Apache Longbow maintainers. The TRSTLGPTT will be used to train system familiarization, component identification, Remove/Install (R/I) and servicing tasks in support of U.S. Longbow AH-64D AVIM/AVUM (Aviation Intermediate Maintenance/Aviation Unit Maintenance). The TRSTLGPTT shall consist of one primary training element, the Hardware Training Device (HTD).

Physical Information:
Instructor/Operator Station: N/A
Hardware Training Device: 16’ L x 12’ W x 11’ H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Device: N/A
Mobile Power Supply Unit: N/A

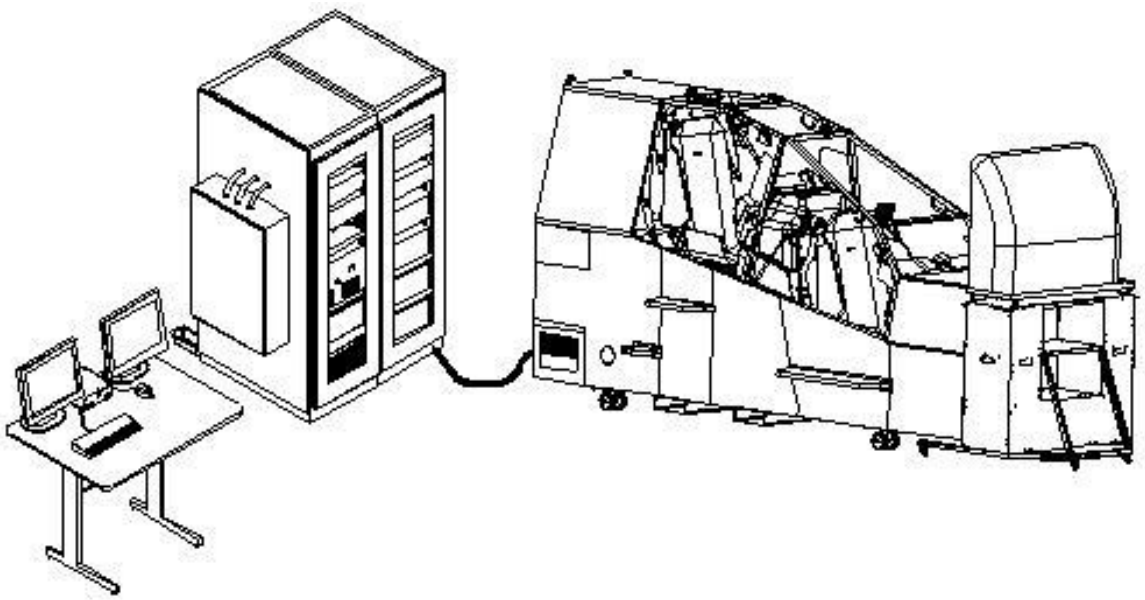
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R

AH-64D LONGBOW CONTROLS AND DISPLAYS SELECTED TASK TRAINER-L10 (LCDSTT-L10)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The LCDSTT is to provide front and back seat maintenance training of the location and functions of instruments and controls in the AH-64D as well as start-up, shut-down, weapons employment, and maintenance operational checks.

Functional Description:
Using a mock up of actual AH-64D cockpit the LCDSTT provides a dual seat training cockpit and an instructor/operator station (IOS), which enables the instructor to program the trainer to replicate desired training situations. The LCDSTT simulates the following "Sub-Systems":

Engine	Environmental Control	Drive Train
Electrical	Caution Warning Systems	Instrument
Rotor	Fuel	APU
Hydraulics	Flight Control/DASE	
MUX – FD/LS	Pneumatics	Fire Detection

LCDSTT also simulates the following "Mission Avionics" systems:

IHADDS	External Stores/Aerial Rockets
AWS	TADS/PNVS
PTWS	Avionics (ADS, Radio)

Physical Information:
Instructor/Operator Station: 4' L x 3' W x 3' H
Hardware Training Device: 14' L x 4' W x 7'3" H
Computer Cabinet Unit: 6' L x 3' W x 5' H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: Two 115/208vac, 3-phase, 60Hz, 60 Amps services, and two 100vac.
Hardware Training Device: Powered by IOS
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D ENVIRONMENTAL CONTROL SYSTEM PART TASK TRAINER-L11 (ECSPTT-L11)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Environmental Control System Part Task Trainer (ECSPTT) will be a limited-operational device, which provides a training platform for development of 15R maintenance skills for Apache Longbow maintainers. The ECSPTT will represent an operational vapor cycle air conditioning system using R-134 as the refrigerant. Servicing and operational functional checks will be accomplished using the same equipment required by the Longbow aircraft system.

Functional Description:
The ECSPTT provides a training platform for development of maintenance skills for Apache Longbow maintainers. The ECSPTT will be used to train system familiarization, component identification, Remove/Install (R/I) and servicing tasks in support of U.S. Longbow AH-64D AVIM/AVUM (Aviation Intermediate Maintenance/Aviation Unit Maintenance). The ECSPTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor Operator Station (IOS) as necessary.

Physical Information:
Instructor/Operator Station: TBD
Hardware Training Device: TBD
Mobile Power Supply Unit: TBD

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: TBD
Device: TBD
Mobile Power Supply Unit: TBD

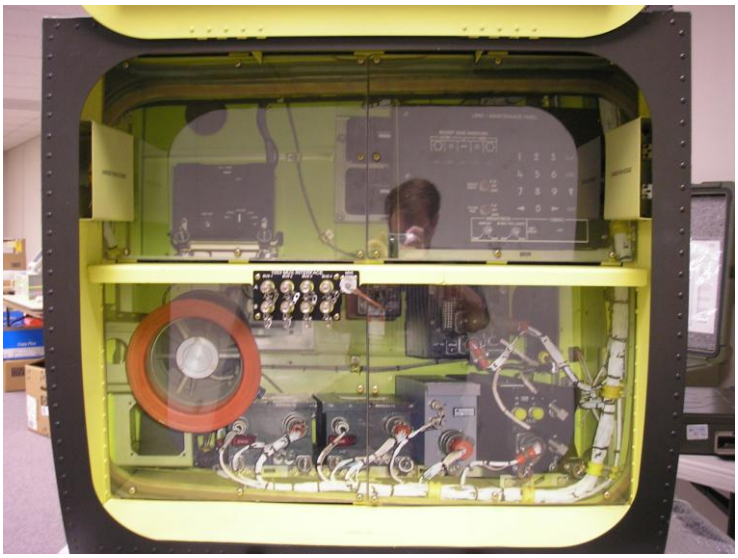
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R

AH-64D MAINTENANCE DATA RECORDER PART TASK TRAINER-L12 (MDRPTT-L12)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Maintenance Data Recorder Part Task Trainer (MDRPTT) will be a limited-operational device, which provides a training platform for development of 15R and 15Y maintenance skills for Apache Longbow maintainers. The MDRPTT will simulate the Longbow production aircraft Maintenance Data Recorder download process using the Longbow Integrated Maintenance Support System (LIMMS) and Ground Analysis Software (GAS) software.

Functional Description:
The MDRPTT provides a training platform for development of maintenance skills for Apache Longbow maintainers. The MDRPTT will be used to train system familiarization, component identification, Remove/Install (R/I) and servicing tasks in support of U.S. Longbow AH-64D AVIM/AVUM (Aviation Intermediate Maintenance/Aviation Unit Maintenance). The MDRPTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor Operator Station (IOS).

Physical Information:
Instructor/Operator Station: Part of Hardware
Hardware Training Device: 24” L x 33” W x 60” H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: Part of Hardware
Device: 120vac, 3-phase, 60 Hz, 20 Amps
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D LONGBOW MAST MOUNTED ASSEMBLY PART TASK TRAINER (MMAPTT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Mast Mounted Assembly Part Task Trainer (MMAPTT) will be a limited-operational device, which provides a training platform for development of 15R/15Y maintenance skills for Apache Longbow maintainers. The MMAPTT will be a simulated full mock-up MMA that will be used train removal and installation tasks.

Functional Description:
The MMAPTT replicates Longbow production aircraft operational systems/subsystems. These systems/subsystems will provide realistic training for ground maintenance operations and procedures. The MMAPTT will serve as the selected training media used by instructors to strengthen maintenance personnel repair and servicing techniques.

Physical Information:
Instructor/Operator Station: N/A
Hardware Training Device: 5' L x 5' W x 5' H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Device: N/A
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D 30MM GUN PART TASK TRAINER – L17 (GPTT-L17)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Gun Part Task Trainer (GPTT) is a full-size replication of an AH-64D aircraft gun system, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers 15Y. The GPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The GPTT design incorporates a hardware training device consisting of a fully functional/high fidelity 30mm gun, turret assembly, ammunition feed system, tandem cockpit (Pilot and CPG Longbow stations), associated black boxes, Instructor/Operator Station and Operational Software required to meet the training requirements specified herein supported in a aircraft representative frame.

Functional Description:
The GPTT shall represent a functional AH-64D 30MM weapons system to include all associated subcomponents. This includes gun, turret black boxes and ammunition handling system at a minimum. Crew station controls and functions associated with the 30MM armament system shall function per the basic aircraft design. The armament system can be real, modeled or simulated with the fidelity required to simulate normal operations. The GPTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor/Operator Station (IOS)/Operational Software as required meeting the training requirements.

Physical Information:
Instructor/Operator Station: Part of HTD
Hardware Training Device: 34'L x 8'W x 9'H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: Powered by HTD
Device: 120/208 VAC/3-phase, 60 Amp, 50-60 Hz
Mobile Power Supply Unit: N/A

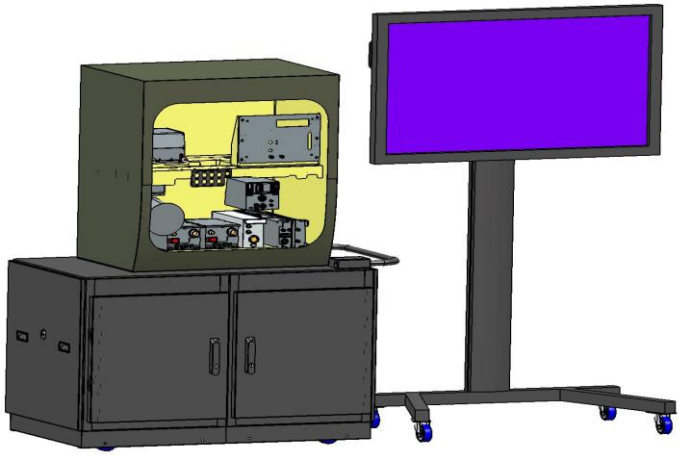
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R; 15Y

AH-64D MULTIPLEX PART TASK TRAINER – L16 (MPTT-L16)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Multiplex Part Task Trainer (MPTT) is an operational device, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers. The MPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The MPTT design shall incorporate a hardware-training device consisting of a Hardware Trainer Display, Instructor/Operator Station and Operational Software required to meet the training requirements.

Functional Description:
The MPTT shall represent a functional AH-64D Multiplex system to include all associated subcomponents. The device shall be capable of displaying simple two-channel data bus operation with the minimum of one bus controller and two bus clients (receiver/transmitter) and the interconnecting data bus with a back up bus and bus controller. The instructor shall be able to enter into the multiplex operation at any point and demonstrate how the bus controller functions and interacts with the clients via message traffic generated that "flows" in English language on the appropriate bus channel. The message will include all required data elements, including but not limited to RT address, status and message. The instructor shall be able to show operation of a "healthy" multiplex system (device default) to include how information on the bus is used by some clients but ignored by others and then demonstrate degraded operations including but not limited to incorrect device address, invalid status responses, primary bus failure, controller failure and client failures. The Multiplex system can be real, modeled or simulated with the fidelity required to simulate normal operations.

Physical Information:
Instructor/Operator Station and Hardware
Training Device: 6'L x 8'W x 7'H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: 120 VAC/
single phase, 30 Amp, 50-60 Hz
Device: Powered by IOS
Mobile Power Supply Unit: N/A

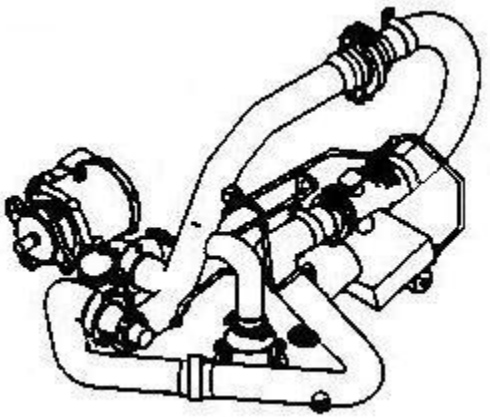
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R; 15Y

AH-64D INTEGRATED PRESSURIZED AIR SYSTEM (IPAS) PART TASK TRAINER (IPASPTT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Primary Integrated Pressurized Air System (IPAS) is an operational device, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers. The IPASPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The IPASPTT design shall incorporate a hardware-training device consisting of a Hardware Trainer Display, Instructor/Operator Station and Operational Software as required to meet the training requirements.

Functional Description:
The IPASPTT shall represent a functional AH-64D pressurized air system to include all associated subcomponents. The device shall be capable of providing simulated pressurized bleed air from both simulated engines when both engines are operating. Each engine supplies approximately 50% of the IPAS air required by the using systems. The secondary IPAS air source is bleed air from a single operating engine. Either engine is capable of supplying 100% of the pressurized air for the IPAS. During ground operations, the Auxiliary Power Unit (APU) supplies bleed air until engines are running and the APU is shut down. The system can be real, modeled or simulated with the fidelity required to simulate normal operations.

Physical Information:
Instructor/Operator Station: TBD
Hardware Training Device: TBD
Mobile Power Supply Unit: TBD

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: TBD
Device: TBD
Mobile Power Supply Unit: TBD

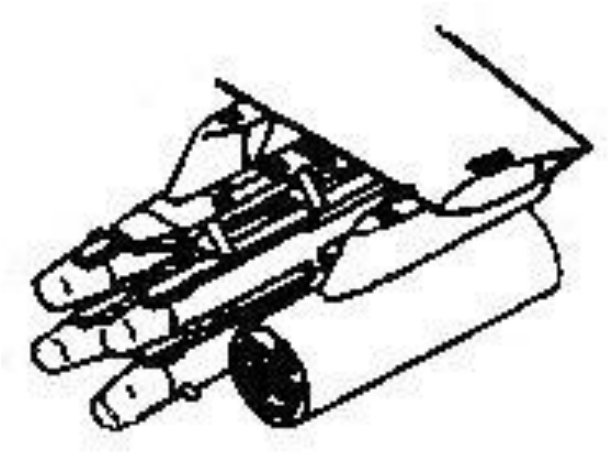
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D WING PART TASK TRAINER (WPTT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Wing Part Task Trainer (WPTT) is an operational device, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers. The WPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The WPTT design shall incorporate a hardware-training device consisting of a Hardware Trainer Display, Instructor/Operator Station and Operational Software as required to meet the training requirements.

Functional Description:
The WPTT shall represent a functional AH-64D wing armament system to include all associated subcomponents. The device shall replicate the functionality of the pylons, rocket pods, and hellfire missiles to include simulated pylon functionality. Crew station controls and functions associated with the WPTT system shall function per the basic aircraft design. The WPTT system can be real, modeled or simulated with the fidelity required to simulate normal operations. The WPTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor Operator Station (IOS)/Operational Software as required meeting the training requirements.

Physical Information:
Instructor/Operator Station: TBD
Hardware Training Device: TBD
Mobile Power Supply Unit: TBD

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power R quirements:
Instructor/Operator Station: TBD
Device: TBD
Mobile Power Supply Unit: TBD

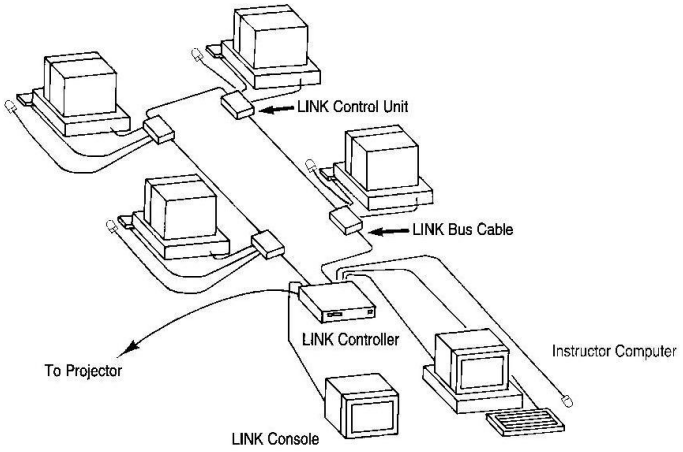
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D LINK SYSTEM CLASSROOM AND WORKSTATIONS



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Link System Classroom and Workstations provides the classroom instructor, with control over all linked trainee computers. Through the use of a linked system, it eliminates the time consuming requirements of roaming the classroom and repeating instructions again. The end result is a dramatic increase in teaching efficiency and an improved classroom environment, for the instructor and student.

Functional Description:
The Link System Classroom and Workstations is a training tool used at the schoolhouses to add in instruction presentation of classroom Interactive Multimedia Instruction (IMI) lesson plans. The system consist of one instructor computer/monitor, twelve student computers/monitors, overhead projector, and SMART Board, all linked together by a LINK System. It allows for student self pace instruction or provides the instructor the ability to teach as a group.

Physical Information:
Instructor/Operator Station: 1 computer/monitor, overhead projector, SMART Board, and LINK System.
Hardware Training Device: 12 students computers/monitors.
Mobile Power Supply Unit: N/A
Ft. Eustis requirement: 36 classrooms
Ft. Rucker requirement: 4 classrooms

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: 120vac, single-phase, 60 Hz, 20 Amps.
Student Stations: 120vac, single-phase, 60 Hz, 20 Amps
Mobile Power Supply Unit: TBD

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D AIRFRAME, ENGINE, AND DRIVE TRAIN SYSTEMS TRAINER-L6 (AEDST-L6)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AEDST-L6 is a full-size replication of the AH-64D with removable components. Its purpose is to support the training of critical Longbow Apache Airframe Repairer (MOS 15R) remove-and-install tasks and skills. The AEDST-L6 is hardware trainer with functional modularity, which permits simultaneous task training of airframe, engine, drive, brakes, landing gear, utility, fuel, environmental control, and drivetrain/flight control systems. It will also support task training associated with troubleshooting as well as removal/replacement of system components.

Functional Description:
The AEDST-L6 will be a limited-operational device, which provides a training platform for development of maintenance skills for Apache Longbow maintainers. The AEDST-L6 will be used to train system familiarization, component identification, Remove/Install (R/I) and servicing tasks in support of U.S. Longbow AH-64D AVIM/AVUM (Aviation Intermediate Maintenance/Aviation Unit Maintenance). The AEDST-L6 shall consist of one primary training element, the Hardware Training Device (HTD).

Physical Information:
Instructor/Operator Station: N/A
Hardware Training Device: 44’ L x 15’ W x 15’ H
Mobile Power Supply Unit: 35” L x 16” W x 36” H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Device: 208vac, 3-phase, 60Hz, 40 Amps
Mobile Power Supply Unit: 208vac, single-phase, 60 Hz, 20 Amps.

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1425-475 Series
TM 1-1270-476 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

AH-64D MULTIPLEX, AVIONICS, VISIONICS, WEAPONS, AND ELECTRICAL SYSTEMS TRAINER-L7 (MAVWEST-L7)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The MAVWEST-L7 consists of a full-size replication of the AH64D with functional subsystems and a separate Instructor/Operator Station (I/OS). The purpose of the MAVWEST is to support the training of the Apache Armament/ Electrical/ Avionics repairers (MOS15Y). Its functional subsystems include the Fire Control Radar (FCR), TADS, Pilot Night Vision Sensor (PNVS), IHADSS, Area Weapon System (AWS), Point Target Weapons System (PTWS), and 2.75" Folding Fin Aerial Rocket (FFAR) delivery system. Using the "fault-insertion" capability of the I/OS, the MAVWEST L7 enables the instructor to further develop students' skills and knowledge in weapons and electrical systems troubleshooting as well as fault isolation techniques. The MAVWEST-L7 consists of:

a. Hardware Training Device (HTD)
b. Instructor/Operator Station (IOS)
c. Trainer System Software (TSS)
d. IOS Software (IOSS)
e. Mobile Power Supply Unit (MPSU)

Functional Description:
The MAVWEST-L7 replicates Longbow production aircraft operational systems/subsystems. These systems/subsystems will provide realistic training for ground maintenance operations and procedures. The MAVWEST-L7 will serve as the selected training media used by instructors to strengthen maintenance personnel repair and servicing techniques.

Physical Information:
Instructor/Operator Station: 8' L x 3' W x 5' H
Hardware Training Device: 44' L x 15' W x 15' H
M1obile Power Supply Unit: 35" L x 16" W x 36" H

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: two 208vac, 3-phase, 60 Hz, 60 Amps services.
Device: 480vac, 3-phase, 60 Hz, 40 Amps.
Mobile Power Supply Unit: 480vac, 3-phase, 60 Hz, 40 Amps.

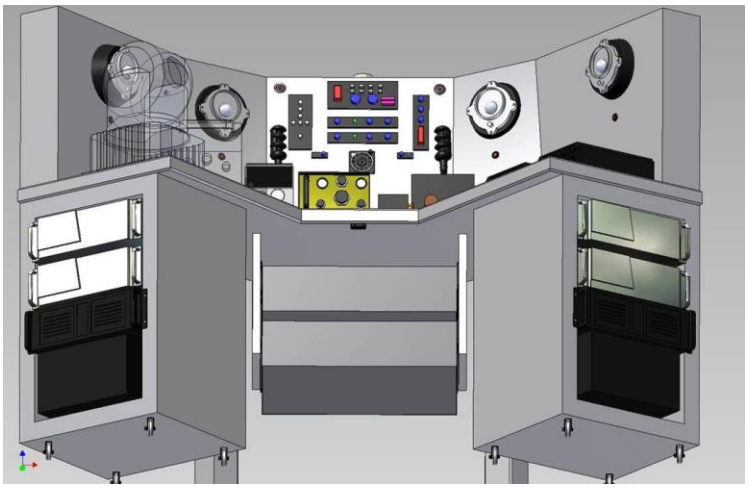
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1270-476 Series	TM 9-1425-475 Series
TM 1-1520-238 Series	TM 9-1427-475 Series
TM 1-5855-265 Series	TM 9-4925-233 Series
TM 9-1090-208 Series	TM 9-4935-476 Series
TM 9-1230-221 Series	TM 11-1520-238 Series
TM 9-1230-476 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R
15Y

COMMON MISSILE WARNING SYSTEM (CMWS) MAINTENANCE TRAINER (CMT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PD ASE

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CMT has been identified as a training platform for the development of maintenance skills for AN/AAR-57 maintainers. The CMT will be used to train system familiarization, component identification, servicing tasks and inspections, Maintenance Operational Checks (MOCs), Fault Isolation Procedures (FIPs) and Remove/Install (R/I) tasks in support of selected 15N Aviation Unit Maintenance (AVUM) tasks. The CMT device system shall consist of a Hardware Training Device (HTD) with an Instructor Operator Station (IOS).

Functional Description:
The CMT will be a limited-operational device, which provides a training platform for development of 15N maintenance skills for CMWS maintainers. The CMT will represent an operational AN/AAR-57 (CMWS) system. Troubleshooting and operational functional checks will be accomplished using the same equipment required by the Common Missile Warning System.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

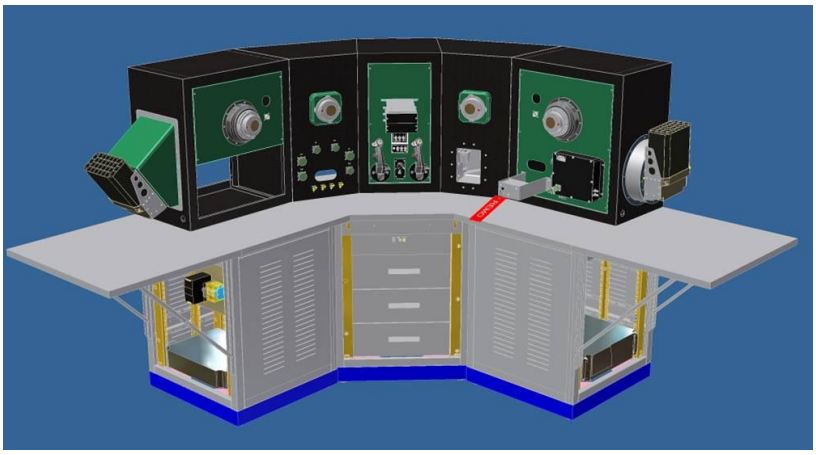
Power Requirements:
Instructor/Operator Station: N/A
Student Stations: 6 foot cable to connect to a 28 VDC and 400 Hz AC 3 Phase wall outlet.
Mobile Power Supply Unit: N/A

Applicable Publications:
01-6920-706-10: Common Missile Warning System (CMWS) Maintenance Trainer Instructor Utilization Handbook (IUH).
01-6920-706-20: Common Missile Warning System (CMWS) Maintenance Trainer System Manual (CSM), (System Maintenance Manual).
01-6920-706-20-1: Common Missile Warning System (CMWS) Maintenance Trainer Maintenance Allocation Chart (MAC), (System Maintenance Manual).
01-6920-706-20-2: Common Missile Warning System (CMWS) Maintenance Trainer Maintenance Log Book, (System Maintenance Manual).
01-6920-706-20-3: Common Missile Warning System (CMWS) Maintenance Trainer Commercial Off-the-Shelf (COTS) Manuals, (System Maintenance Manual).

Reference Publications:
BAE Manual: Technical Manual, AVUM Warning Receiver System, Countermeasure, AN/AAR-57(V)5, CMWS/ICMD(CH-47D Application).
BAE Manual: Schematic and Wiring Diagrams Set, Warning Receiver System, Countermeasure, AN/AAR-57(V)5, CMWS/ICMD(CH-47D Application).

Training Requirements Supported:
MOSC 15N Course, USAALS
TACOPS Course, USAAWC
PDAT Course, EAATS

COMMON MISSILE WARNING SYSTEM (CMWS) MAINTENANCE TRAINER - APACHE (CMT-A)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service or Agency:
PD ASE

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CMT-A has been identified as a training platform for the development of maintenance skills for AN/AAR-57 maintainers on the AH-64 Platform. The CMT-A will be used to train system familiarization, component identification, servicing tasks and inspections, Maintenance Operational Checks (MOCs), Fault Isolation Procedures (FIPs) and Remove/Install (R/I) tasks in support of selected 15Y Aviation Unit Maintenance (AVUM) tasks. The CMT-A device system shall consist of a Hardware Training Device (HTD) with an Instructor Operator Station (IOS).

Functional Description:
The CMT-A will be a limited-operational device, which provides a training platform for development of 15Y CMWS maintenance skills. The CMT-A will represent an operational AN/AAR-57 (CMWS) system. Trouble-shooting and operational functional checks will be accomplished using the same equipment required by the Common Missile Warning System.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Instructor/Operator Station: N/A
Student Stations: 6 foot cable to connect to a 28 VDC and 400 Hz AC 3 Phase wall outlet.
Mobile Power Supply Unit: N/A

Applicable Publications:
TBD: Common Missile Warning System (CMWS) Maintenance Trainer-Apache Instructor Utilization Handbook (IUH).
TBD: Common Missile Warning System (CMWS) Maintenance Trainer-Apache System Manual (CSM), (System Maintenance Manual).
TBD: Common Missile Warning System (CMWS) Maintenance Trainer-Apache Maintenance Allocation Chart (MAC), (System Maintenance Manual).
TBD: Common Missile Warning System (CMWS) Maintenance Trainer-Apache Maintenance Log Book, (System Maintenance Manual).
TBD: Common Missile Warning System (CMWS) Maintenance Trainer-Apache Commercial Off-the-Shelf (COTS) Manuals, (System Maintenance Manual).

Reference Publications:
BAE Manual: Technical Manual, AVUM Warning Receiver System, Countermeasure, AN/AAR-57(V)7, CMWS/ICMD(AH-64 Application).

Training Requirements Supported:
MOSC 15Y Course, USAALS
TACOPS Course, USAAWC
MTP Course, WAATS

BLACK HAWK-M AVIONICS MAINTENANCE TRAINER (BHAT-M)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The BHAT-M is designed to support training of avionics maintenance personnel, MOS 15N10, in the operation, troubleshooting and repair and maintenance of UH-60M avionics systems.

Functional Description:
The BHAT-M consists of an Instructor Operator Station (IOS) and a Student Station designed to support training in the operation, troubleshooting and repair of avionics systems in a UH-60M helicopter. All equipment functions, operations, responses, and interfaces are identical to those of the baseline UH-60M helicopter counterparts during normal maintenance operations, including interaction among them. The avionics systems have inter-cabin communication (ICC) capability only. The automatic computer controlled mode of operation is capable of demonstrating the appropriate sights, sounds and sequencing results during normal start-up and operating procedures. The IOS, as the trainer control center, provides the capability to select and initiate the training mode. Basic operating modes include training, demonstration and maintenance.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

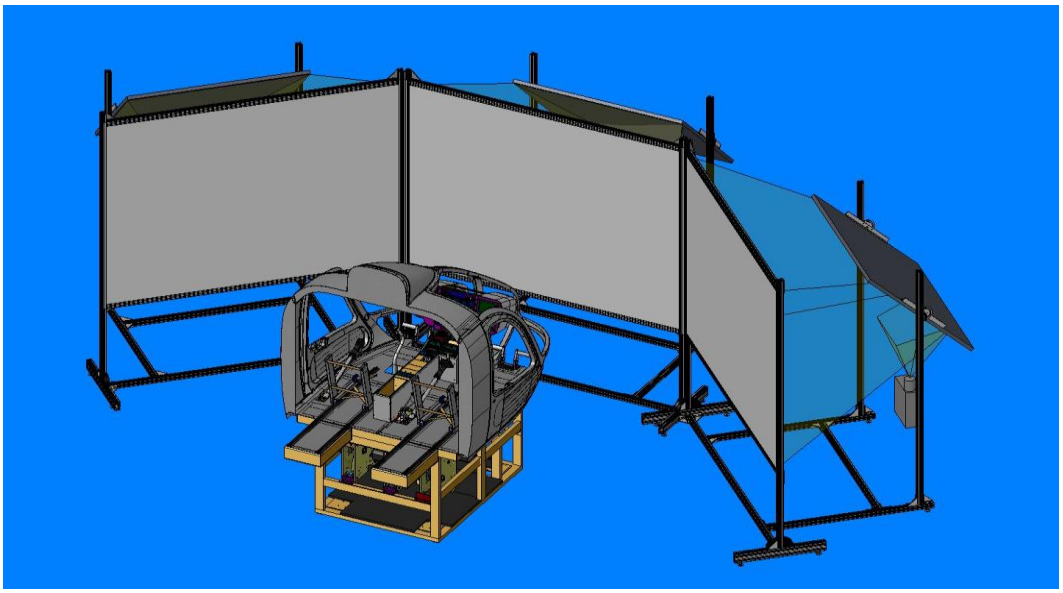
Power Requirements:
Instructor Operator Station: 120V AC, 60 Hz
Student Station: 208V AC, 60 Hz Phase 30 Amp/Phase

Applicable Publications:
TM 01-6930-715-10, Instructor Utilization Handbook
TM 01-6930-715-20, System Maintenance Manual
TM-01-6930-715-20-2, Commercial Off-The-Shelf Manuals

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15N10

LUH-72A COCKPIT PROCEDURAL TRAINER (CPT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for issue (limited production)

Purpose of Trainer:
A crew trainer for procedural, familiarization and transition training for Light Utility Helicopter (LUH) pilots. LUH CPT is designed to maintain pilot skill proficiency under day, night, night vision goggles, and Virtual Flight Rules and Instrument Flight Rules conditions.

Functional Description:
Two LUH CPT systems are non-motion and non-vibration training devices. The trainee station consists of a cockpit display system with high fidelity instrument panels, a digital control loading system and pilot and co-pilot light controls. Visual environments are incorporated in the out the window display which reproduces the cabin visual field of view of the actual aircraft.

All on-board systems are simulated to support normal, abnormal and emergency system operations training. Instructional scenarios can be generated by an instructor from the mobile Instructor Operator Station to include malfunctions/faults with resulting caution/system indicator failures.

Avionics systems include a fully functional crew and instructor communication system simulation using 3 VHF radios and an intercom.

Physical Information:
The trainer and its associated equipment can be installed within a small enclosure or classroom environment.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The LUH devices are designed for installation in a permanent facility which provides electrical power, air conditioning, protection from the elements, and a light-tight environment.

Power Requirements:
Power is distributed via the AC distribution panel.. Power to the electronics cabinet is controlled from a single switch. A phase detector and under/over voltage detector interrupts power to the device through the main circuit breaker shunt.

Applicable Publications:
CAE provided documentation includes all vendor documents, User Manual and Maintenance Manual.

Reference Publications:
MTF for UH-72A Lakota Light Utility Helicopter.

Training Requirements Supported:
Pilot skills associated with UH-72A LUH.

UH-60M BLACK HAWK STABILATOR AND TAIL ROTOR PART TASK TRAINER (BST-M)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The BST-M devices shall be used to train 15T10 and 15T30 aviation unit level system maintenance procedures in support of the UH-60M stabilator, tail pylon drive train and gearboxes, and the section III tail rotor drive shaft of the tail cone. Each device shall consist of a Student Station, Maintenance Platform and Facility Interface Equipment.

Functional Description:
The BST-M will be used to provide a realistic environment for training ground maintenance operations and procedures to support Military Occupational Specialty (MOS) 15T10 and 15T30 task related skills and knowledge. The device shall simulate UH-60M production aircraft operational systems only to the extent required to accomplish the service, inspection and maintenance tasks for the specified stabilator, tail pylon drive train and gearboxes, and section III tail rotor drive shaft of the tail cone systems.

The Student Station (SS) and Maintenance platform, the major configuration items, create a complete trainer environment. The SS consists of multiple inter-connected systems to provide the student with a coherent training device similar to the actual aircraft that permits free access for troubleshooting and normal servicing.

The SS is representative of the tail cone and tail pylon of the UH-60M from station 485 (access to drive shaft #4 forward bearing hanger) to station 820 (max tail rotor blade length with a tail rotor pair horizontal to the floor). The trainer is the width of the stabilator unfolded and has shortened tail rotor blades. All components are either replicas of UH-60M aircraft components or actual components with some modifications allowing tasks to be trained independently. The maintenance stand allows for efficient folding of the stabilator.

Physical Information:
Trainer height is 15.5 feet. The device can be moved with a facility on casters by fewer than 5 persons and locks in place when students are performing maintenance tasks.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

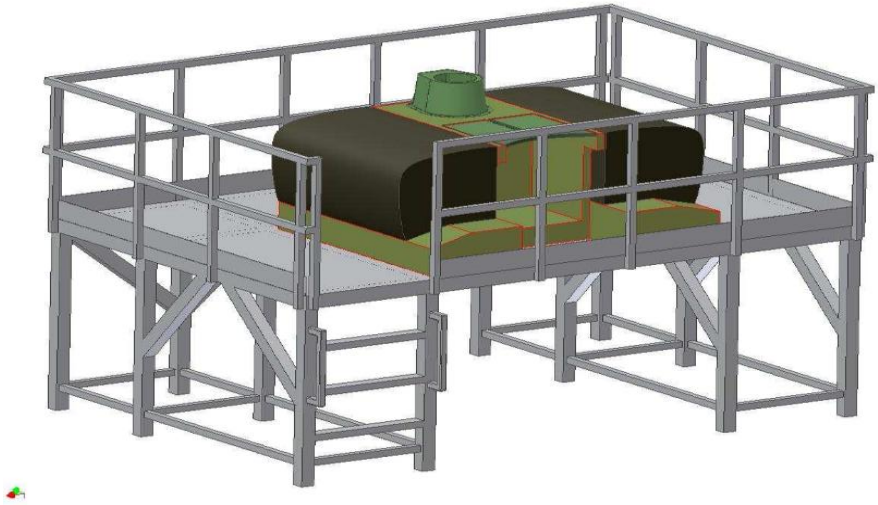
Power Requirements:
Student Station: 208V AC, 60Hz Phase 30 Amp/Phase

Applicable Publications:
Instructor Utilization Handbook, Operation and Maintenance Manual, Commercial Off-The-Shelf Manuals

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T10 and 15T30

UH-60M BLACK HAWK ROTOR BRAKE TRAINER (RBT)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The RBT has been identified as the UH-60M Utility Helicopter training platform for the development of maintenance skills for the UH-60M Rotor Brake system.. The RBT device system shall consist of a Student Station (SS), Instructor Operator Station (IOS), and Maintenance Platform.

Functional Description:
The UH-60M Black Hawk Rotor Brake Trainer (RBT) will be used to provide a realistic environment for training fundamentals and procedures associated with operation, troubleshooting and repair of the Rotor Brake system on UH-60M helicopters to support Military Occupational Specialty (MOS) 15T10 and 15T30 task related skills and knowledge.

The Student Station (SS) and Maintenance Platform create a complete trainer environment. The SS consists of multiple inter-connected systems to provide the student with a coherent training device similar to the actual aircraft and permits free access for troubleshooting and normal servicing. The SS contains the Master Cylinder with Bleeder valve, and the Reservoir and Hydraulic Refill Hand Pump to enable removing and replacing the master cylinder and bleeding the system. The Refill Hand Pump is simulated but the crank is high fidelity to allow fluid to pass through the system. The operator seat for accessing the Master Cylinder simulates the relationship of the right pilot's seat to the Master Cylinder. There is no host or visual system, and no databases associated with RBT. It is not interoperable, nor transportable.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

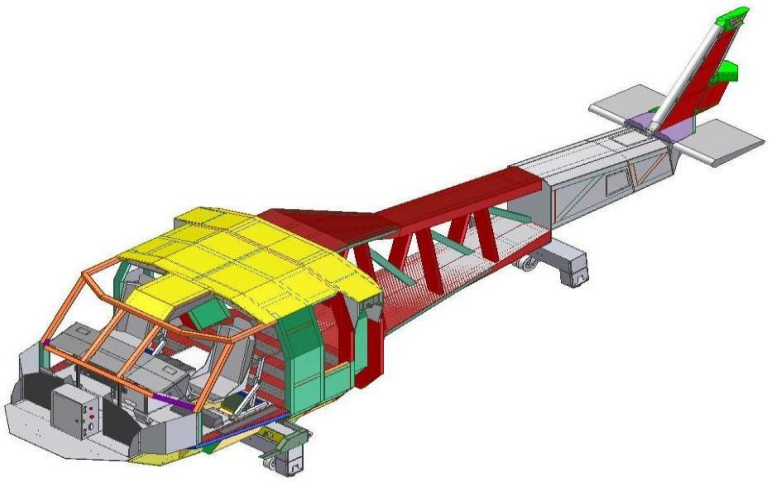
Power Requirements:
Instructor/Operator Station: 120V AC, 60Hz
Student Station: 208V AC, 60Hz Phase
30 Amp/Phase
Air Conditioner: 120V AC, 15 Amps, 1800W

Applicable Publications:
Instructor Utilization Handbook, COTS Manuals,
Vendor Manual: CAT Maintenance Manual: Schematic and Wiring Diagrams Set

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 15T10, 15T30

UH-60M BLACK HAWK AVIATION BASIC ELECTRONICS TRAINER (ABET)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-AVN

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The ABET has been identified as the UH-60M Utility Helicopter training platform for the development of maintenance skills for Electronics maintainers. The ABET device system shall consist of a Hardware Training Device (HTD), Instructor Operator Station (IOS), and a Low-Condensation Air Conditioner to support each Hardware Training Device (HTD).

Functional Description:
The UH-60M Black Hawk Aviation Basic Electronics Trainer (ABET) will be used to provide a realistic environment for training fundamentals and procedures associated with electrical/electronic troubleshooting, fault isolation and repair of UH-60A/L/M helicopters to support Military Occupational Specialty (MOS) 15F10 task related skills and knowledge.
The Student Station (SS) and Instructor/Operator Station (IOS) are designed to provide a hands-on, realistic environment to present techniques for familiarization with theory, operations, adjustment and troubleshooting of UH-60A/L/M helicopter electrical systems. There is no host or visual system, and no databases associated with ABET. It is not interoperable, nor transportable.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: 120V AC, 60Hz
Student Station: 208V AC, 60Hz Phase
30 Amp/Phase
Air Conditioner: 120V AC, 15 Amps, 1800W

Applicable Publications:
Instructor Utilization Handbook, COTS Manuals,
Vendor Manual: CAT Maintenance Manual: Schematic and Wiring Diagrams Set

Reference Publications:
TM 11-1520-271 Series
TM 1-1520-271 Series

Training Requirements Supported:
MOSC 15F10

SHADOW CREW TRAINER (SCT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (Limited production)

Purpose of Trainer:
The SCT is a mission simulator for the Shadow Tactical Unmanned Aerial System. The SCT provides platoon level sustainment training for the lightweight, rapidly deployable, short range, airborne reconnaissance system designed to give the battlefield commander a day/night, multi-sensor intelligence collection system. The SCT provides training positions for the Air Vehicle Operator, Payload Operator, Launch and Recovery Crew, Staff/Leader Station and Instructor Operator Station. Also included is the Web-hosted Interactive Multi-Media Instruction (IMI).

Functional Description:
The SCT will provide classroom/desktop training for the entire Shadow platoon participating in real world missions. Interoperability with other Army systems will be provided conducting training using complex mission scenarios.

Physical Information:
The SCT footprint requires approximately 380 square feet of floor space with an operating room ambient temperature ($+20^{o}$ Celsius $\pm 10^{o}$ Celsius) and relative humidity below 60%. The facility will also require an entrance 8 feet wide by 12 feet high to install the preassembled systems. The floor of the facility should be able to support 1500 pounds of equipment in an 8-foot by 8-foot space.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The device will require a single three-phase 208V 30 Amp power connection via a NEMA L21-30R receptacle If the role player station is desired to be in an adjacent room, then an additional NEMA 5-15R outlet will be required.

Applicable Publications:
Instructor Utilization Handbook, Semi-Automated Forces User's Manual, Troubleshooting and Repair Guide, Role Player Manual, Image Generator User's Manual, NET training materials, Interactive Media Instruction (IMI) training materials.

Reference Publications:
Applicable COTS manuals.

Training Requirements Supported:
MOSCs: 15W UAS Operator, 15JY1 UAS Maintainer, and 150U UAS WO Tech.

M1144 CARTRIDGE, IMPULSE, PRACTICE

Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The M1144 Cartridge, Impulse, Practice: Inert Trainer, is a inert replica of the BBU35/B Impulse Cartridge. This will be used to train proper loading procedures need to load the M217 and M218 Inert Training devises into the Counter Measure Warning System on U.S. Army Aviation Aircraft.

Functional Description:
The M1144 Cartridge, Impulse, Practice: Inert Trainer, is a inert replica of the BBU35/B Impulse Cartridge Represents the BBU35/B Impulse cartridge that is used to simulate the dispense/ignite M211/M212 which in turn are replicated by the M217/M218.

Physical Information:
Weight ---------- approx 2.5 grams
Length ---------- 0.53. in.
Width ---------- Closure Disk End Diameter 0.49 in.
Flange End Diameter 0.625 in
Color ---------- gold
Packing box: Inner Can
Weight ---------- 15.7 oz
Dimensions ---------- 2.437 in X 6.187 in
Outer Box (Contains 4 Inner Cans)
Weight ---------- 1.32 lbs
Dimensions ---------- 10 3/8 X 10
Cube ---------- 1.052

Equipment Required, Not Supplied:
Countermeasure Warning System dispense unit

Special Installation Requirements:
(Information not available)

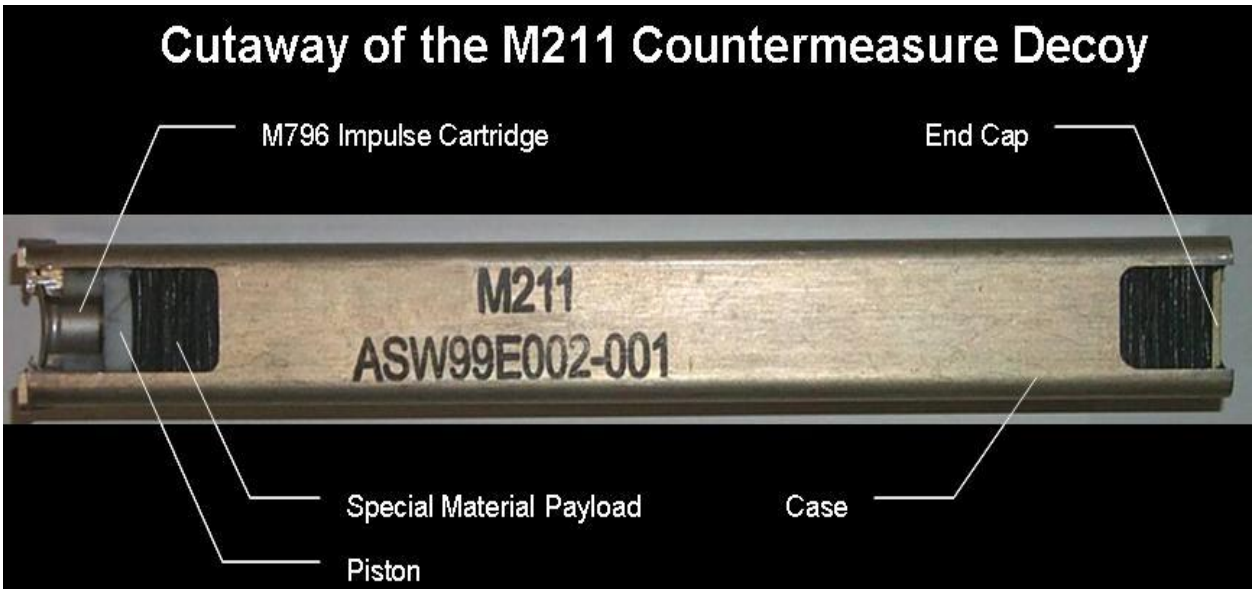
Power Requirements:
N/A

Applicable Publications:
TB 9-1370-213-12
TB 9-6920-3701-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Training Resident Courses at:
United States Army Aviation Center of Excellence, Fort Rucker, AL (USAACE): Commissioned Officers with Functional Area 15 (Aviation), Warrant Officers possessing:155A (Fixed Wing Pilot), 155E (C-12 Pilot), 153D (UH-60 Pilot), 154C (CH47D Pilot), 152D (OH-58D Pilot), 152F (AH-64A Pilot), 152H (AH-64D Attack Pilot), 151A (Aviation Maintenance Technician), and Career Management Field (CMF) 15.

M217 COUNTERMEASURE DECOY, INERT



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The Decoy, Infrared, Countermeasure: Inert Trainer, M217 is a inert replica of the M211 along with the M1144 Inert Impulse Cartridge will be used to simulate the training required for the M211 and BBU-35/B Impulse Cartridge into the Counter Measure Warning System on U.S. Army Aviation Aircraft.

Functional Description:
The Decoy, Infrared, Countermeasure: Inert Trainer, M217 is a inert replica of the M211 which is a M217 Aircraft Countermeasure Decoy consists of a 1" x 1" x 8" canister with a cup for insertion of a BBU-35/B Impulse Cartridge and containing a piston, a special materiel (SM) payload, and an end cap to seal the flare assembly unit. multi-spectral decoy flare utilizing the standard M206 1" x 1" x 8" form factor extruded aluminum case cartridge. It contains a brass forward closure, weighing 37 grams, which acts as a weight to improve the aerodynamics of the decoy. With a filler to replace the cast propellant grain approximately 6" long by 0.8" wide weighing approximately 110 grams. The total weight of the Decoy, Infrared, Countermeasure: Inert Trainer, M217 is approximately 220 grams

Physical Information:
Weight ---------- approx 0.66 lbs.
Length ---------- 8.1 in.
Width ---------- 0.97 in.
Height ---------- 0.97 in.
Body Material ---------- Aluminum
Color ---------- Anodized Aluminum
Packing box:
Weight ---------- 92 lb.
Dimensions ---------- 14 ½ in x 13 in. x 11 in.
Cube ---------- 1.3 cu. Ft.

Equipment Required, Not Supplied:
Countermeasure Warning System dispense unit

Special Installation Requirements:
(Information not available)

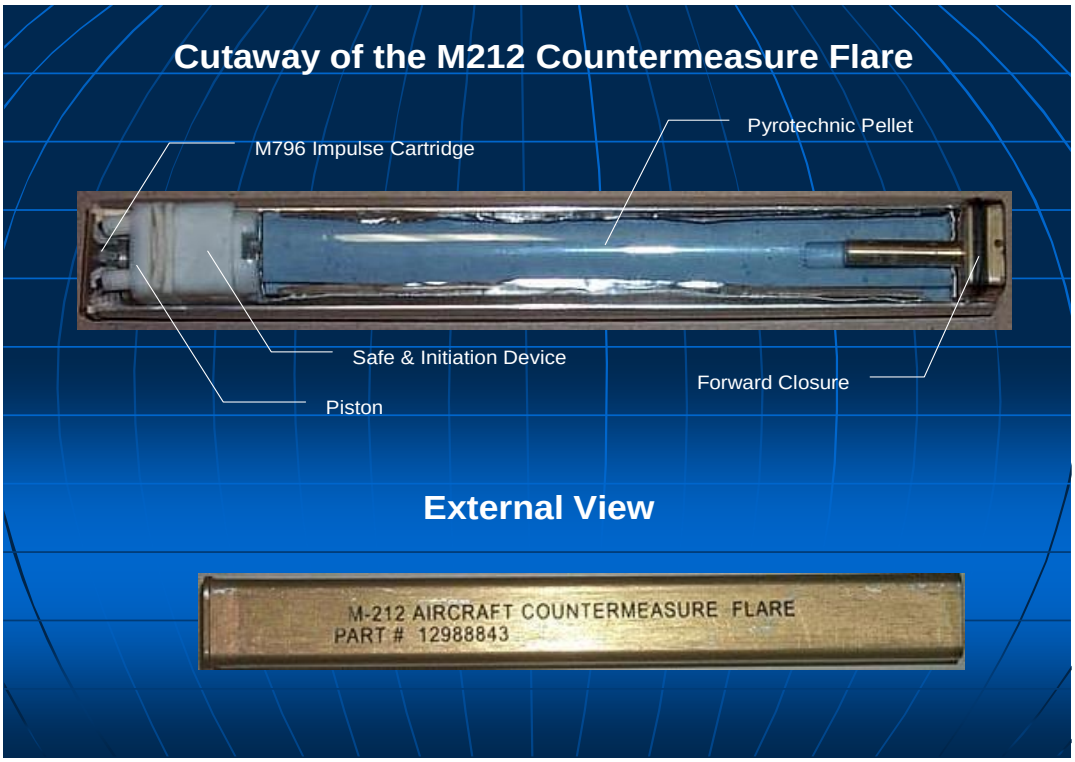
Power Requirements:
N/A

Applicable Publications:
TB 9-1370-213-12
TB 9-6920-3701-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Training Resident Courses at:
United States Army Aviation Center of Excellence, Fort Rucker, AL (USAACE): Commissioned Officers with Functional Area 15 (Aviation), Warrant Officers possessing:155A (Fixed Wing Pilot), 155E (C-12 Pilot), 153D (UH-60 Pilot), 154C (CH47D Pilot), 152D (OH-58D Pilot), 152F (AH-64A Pilot), 152H (AH-64D Attack Pilot), 151A (Aviation Maintenance Technician), and Career Management Field (CMF) 15.

M218 COUNTERMEASURE FLARE, INERT



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The Flare, Countermeasure: Inert Trainer, M218 is a inert replica of the M212 which is a multi-spectral decoy flare utilizing the M1144 Inert Impulse Cartridge will be used to simulate the training required for the M212 and BBU-35/B Impulse Cartridge into the Counter Measure Warning System on U.S. Army Aviation Aircraft.

Functional Description:
The Flare, Countermeasure: Inert Trainer, M218 is a inert replica of the M212 which is a multi-spectral decoy flare utilizing the standard M206 1" x 1" x 8" form factor extruded aluminum case cartridge. It contains a brass forward closure, weighing 37 grams, which acts as a weight to improve the aerodynamics of the decoy. With a filler to replace the cast propellant grain approximately 6" long by 0.8" wide weighing approximately 110 grams.

The total weight of the Flare, Countermeasure: Inert Trainer, M218 is approximately 220 grams.

Physical Information:
Weight ---------- approx 0.66 lbs.
Length ---------- 8.1 in.
Width ---------- 0.97 in.
Height ---------- 0.97 in.
Color ----------Anodized Aluminum
Weight ----------110-125 g
Packing ----------100 per wood box (2 PA-19 metal cans 50 ea.)
Packing box:
Weight ----------77 lb.
Dimensions ----------14 ½ in x 13 in. x 11 in.
Cube ----------1.3 cu.ft

Equipment Required, Not Supplied:
Countermeasure Warning System dispense unit

Special Installation Requirements:
(Information not available)

Power Requirements:
N/A

Applicable Publications:
TB 9-1370-213-12
TB 9-6920-3701-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Training Resident Courses at:
United States Army Aviation Center of Excellence, Fort Rucker, AL (USAACE): Commissioned Officers with Functional Area 15 (Aviation), Warrant Officers possessing:155A (Fixed Wing Pilot), 155E (C-12 Pilot), 153D (UH-60 Pilot), 154C (CH47D Pilot), 152D (OH-58D Pilot), 152F (AH-64A Pilot), 152H (AH-64D Attack Pilot), 151A (Aviation Maintenance Technician), and Career Management Field (CMF) 15.

UNMANNED AERIAL VEHICLE TRAINING DEVICE (UAV-TD)

Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The goal of the Hunter UAV Training Device (TD) is to enhance student training through the use of Computer Based Training (CBT), the Institutional Mission Simulator (IMS), the Instructor/Operator Station (IOS), the Maintenance Part-Task Trainer (PTT), and supported by the Training System Support Center (TSSC).

The IMS is capable of simulating conditions of mission planning and mission execution to include the activities of the Mission Commander (MC), Data Exploiter (DE), Air Vehicle Operator (AVO), and Mission Payload Operator (MPO). The IMS includes the capability to use Defense Mapping Agency (DMA) maps data to provide the necessary information to the MC, DE, AVO, and MPO. The IMS is a three bay console which provides a real sense of the tri-console environment in which all tri-console controls, indicators, instruments and communications perform the functions of the Hunter environment.

The IOS provides the capability for the instructor to select the Interactive Courseware (ICW) lesson for each student, download the lesson to the Student Station, monitor student progress, freeze and unfreeze the simulation, and insert emergencies and malfunctions.

The CBT provides highly interactive training with active student involvement. The CBT augments classroom training and provides individualized, self-paced training. Training consists of both Operator and Maintainer training.

The TSSC is a self-sufficient system and performs all technical and management functions necessary to support, maintain, configuration manage, and update itself through the lifecycle.

The PTTs provide the student with hands-on training through the use of actual equipment or mock-ups in a classroom environment. The PTTs use Hunter components when practical.

Functional Description:
The UAV-TD consists of a total of 8 student stations and one instructor station. The student stations are identical and consist of a simulated UAV-SR station.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 96U; 52D

CH-47F COCKPIT PROCEDURAL TRAINER (CPT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for issue (limited production)

Purpose of Trainer:
For classroom use to familiarize trainees with the CH-47F Helicopter controls, and to give the trainees realistic practice in performing; Before starting engine, Starting engine, Engine run-up, Engine shutdown, Start malfunctions, and In-flight emergency procedures.

Functional Description:
The trainer consists of a student station, which is a full scale reproduction of the CH-47F cockpit, instructor's platform, and instructors console with monitor, keyboard, and chair.

All controls, indicators, etc., pertinent to the practice of the required procedures are either actual aircraft components or operable facsimiles of the helicopter equipment. The illusion of realism is imparted through control feel and sound systems. Controlled by the computer, which provides the physical and aural cues associated with engine operation and flight conditions.

Malfunctions may be introduced by the instructor, through his controls, or by the student's failure to follow correct operational procedures.

Physical Information:
Cockpit Assembly: 72L x 102W x 100H; 2400 lb
Instructor Platform: 72L x 102W x 113H; 3000lb
Control Console: 46L x 40W x 53H; 100 lb
Overall (including maintenance platform and stairs): 187L x 113H x 170W; 5600 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A climatically controlled classroom that maintains ambient room temperature at 70F, and a relative humidity of 60 percent or less is desirable.

Power Requirements:
115 vac. 60 Hz outlet

Applicable Publications:
CH-47F Maintenance Manual for CPT

Reference Publications:
CH-47F CPT Instructor Utilization Handbook.

Training Requirements Supported:
MOSC 15-154F series.
Start, Run-up, Shutdown, Start malfunctions, and Emergency Procedures IAW Primary flight training guide.

SIMULATOR SYSTEM, FIRING, LASER: M78 FOR OH-58 OBSERVATION HELICOPTER AIR-TO-GROUND ENGAGEMENT SYSTEM/AIR DEFENSE (AGES/AD)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

In the M78 Simulator System, detection devices are attached to the airframe exterior. These sense enemy fire and detect the type of weapon directing such fire. A smoke indicator adds to the system's realism.

Physical Information:

Transit case: 47.5" L x 40.5" W x 15.88" H

Equipment Required, Not Supplied:

Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:

(Information not available)

Power Requirements:

9vdc

Applicable Publications:

TM 9-1270-222-10

Reference Publications:

Applicable Weapon System Manual

Training Requirements Supported:

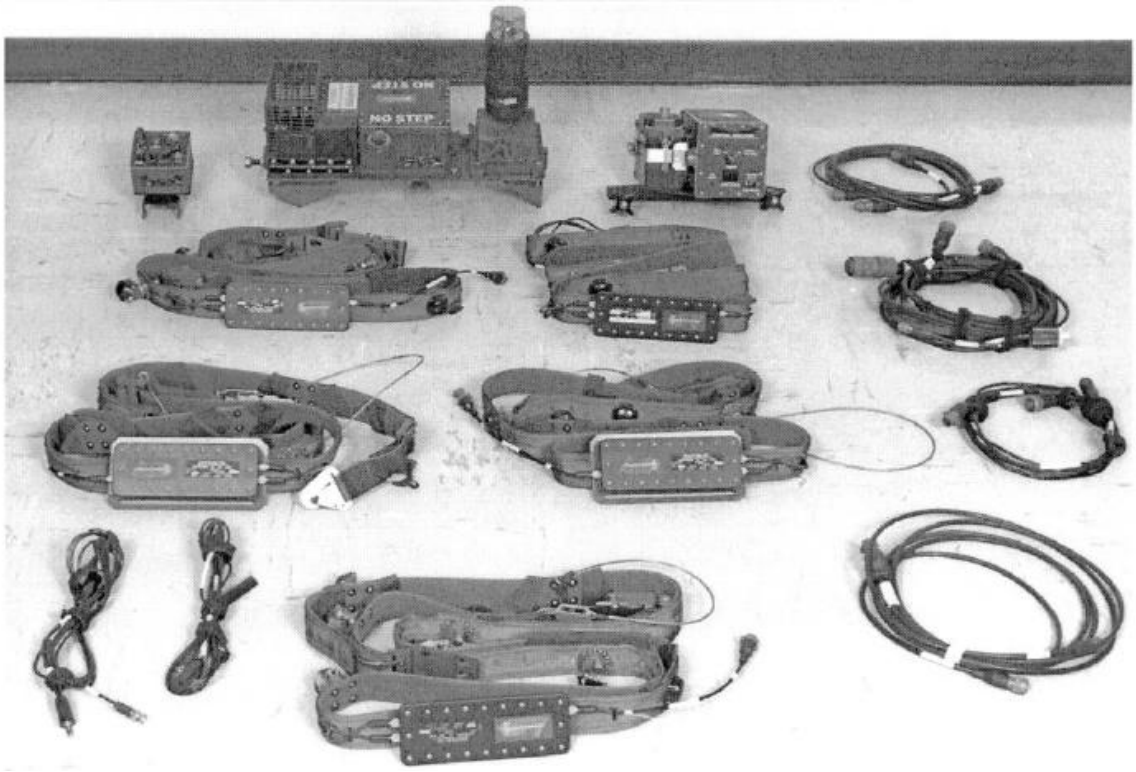
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: M79 FOR UH-1H UTILITY HELICOPTER AIR-TO-GROUND ENGAGEMENT SYSTEM/AIR DEFENSE (AGES/AD) (HIND-D)

NSN Not Assigned **DVC 01-240/3/A**



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

In the M79 Simulator System, detection devices are attached to the airframe exterior. These sense enemy fire and detect the type of weapon directing such fire. A smoke indicator adds realism. A transmitter can be attached to an M60 machine gun, if one is installed on board.

A modified version of the UH-1H MILES system is used for the OPFOR Hind-D aircraft and is assigned DVC 01-240/3/A.

Physical Information:
Transit case: 47.5" L x 40.5" W x 15.88" H

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-1270-224-10

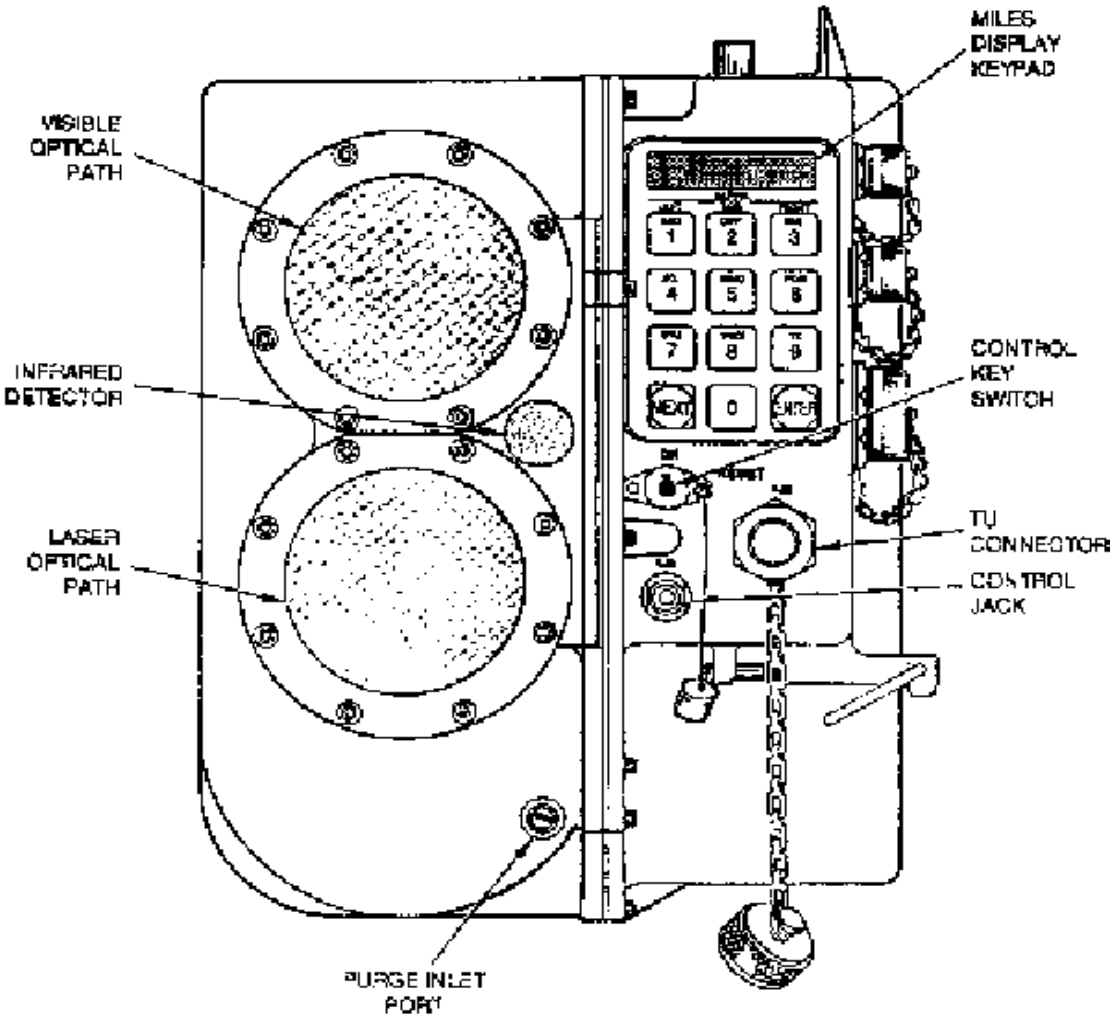
Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5

SIMULATOR SYSTEM, DESIGNATOR/RANGEFINDER, LASER: FOR HELLFIRE GROUND SUPPORT (HGSS)



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The AGES II/CTS-IS is the Army's Multiple Integrated Laser Engagement (MILES) training system for helicopters, putting aviation in the force-on-force fight. The AGES II/CTS-IS system consists of four Tactical Engagement Simulators (TES). Three of these TES's are currently installed on the AH-64 Apache (DVC 01-240/13), CH-47D Chinook (DVC 01-240/10) and the UH-6OA Black Hawk (DVC 01-240/11). The fourth system is the Hellfire Ground Support Simulator (DVC 01-240/8). The AGES II/CTC-IS permits realistic combat training, using eye safe laser Transmitters that "fire" laser beams instead of live ammunition. These beams are encoded signals, which simulate a Variety of weapon systems. Capabilities include range, accuracy and destructive capability. AGES II simulates weapons systems including the Area Weapon System (AWS), Laser Range Finder/ Designator (LRF/D) and the Point Target Weapon System (PTWS). Laser detection systems are mounted to sense opposing fire and determine whether a near-miss, hit but not killed or kill message has been received. The systems activates audio and visual cues indicating the presence and effect of opposing fire.

Functional Description:
The HGSS is designed as a field replacement for the LRF/D unit in the Target Designator Set, Electro-Optical, AN/TVQ-2 Ground Vehicular Laser Locator Designator (G/VLLD), in MILES AGES II exercises. The HGSS LRF/D accurately duplicates the interface and physical size, shape and weight of the G/VLLD LRF/D. It simulates offensive (range finding and designation) and vulnerability characteristics of the G/VLLD LRF/D. The HGSS is powered by vehicle and battery power. The battery is the same one, which powers the G/VLLD.

Physical Information:
17.4" L x 10.3" W x 12.9" H; 37 lbs max w/o battery
Optics: 12.6 power magnification; 3°- 4° field of view

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

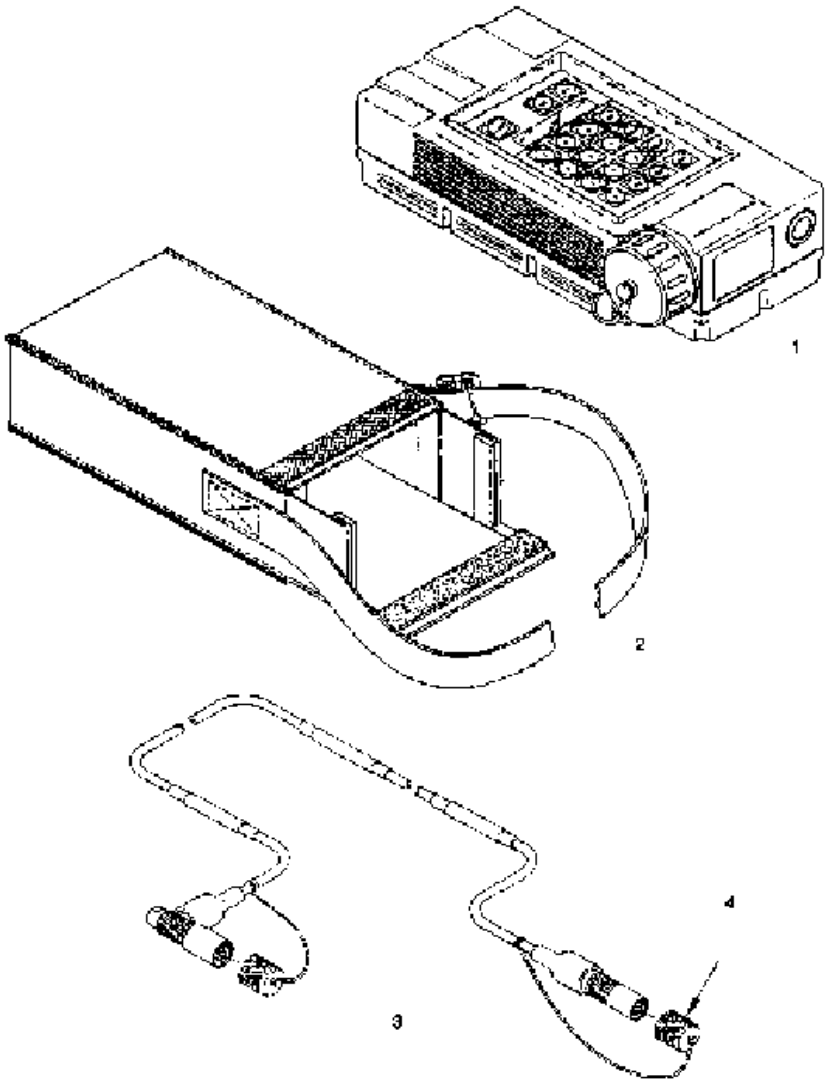
Power Requirements:
24vdc

Applicable Publications:
TM 9-1270-229-10
TM 9-1270-229-10-HR
SMM 9-1270-229-24&P

Reference Publications:
TM 1-1520-238-10

Training Requirements Supported:
MOSC 13F
Soldier's Manual STP6-13F14F-SM-TG

CONTROLLER DEVICE, SIMULATOR SUBSYSTEM, FIRING, LASER



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The AGES II/CTS-IS is the Army's Multiple Integrated Laser Engagement (MILES) training system for helicopters, putting aviation in the force-on-force fight. The AGES II/CTS-IS system consists of four Tactical Engagement Simulators (TES). Three of these TES's are currently installed on the AH-64 Apache (DVC 01-240/13), CH-47D Chinook (DVC 01-240/10) and the UH-6OA Black Hawk (DVC 01-240/11). The fourth system is the Hellfire Ground Support Simulator (DVC 01-240/8). The AGES II/CTC-IS permits realistic combat training, using eye safe laser Transmitters that "fire" laser beams instead of live ammunition.

These beams are encoded signals which simulate a Variety of weapon systems. Capabilities include range, accuracy and destructive capability. AGES II simulates weapons systems including the Area Weapon System (AWS), Laser Range Finder/ Designator (LRF/D) and the Point Target Weapon System (PTWS). Laser detection systems are mounted to sense opposing fire and determine whether a near-miss, hit but not killed or kill message has been received. The systems activates audio and visual cues indicating the presence and effect of opposing fire.

Functional Description:
The Controller Device (CD) is part of the AGES II Simulator System and provides the Observer Controller monitoring capability during training exercises using MILES AGES II equipment. The CD has the capability to set ammunition loads, "kill" or "resurrect" MILES equipped aircraft, and download exercise data from the aircraft console. It operates on a standard 9vdc battery and is sized and configured to permit it to be physically carried for extended periods of time. It can also transmit optically to a range of about five meters.

Physical Information:
8.84" L x 4.1" W x 2.25" D; 2 lbs 9 oz.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
9vdc (BA3090/U), Life 100 hrs (constant use)

Applicable Publications:
TM 9-1270-230-10
TM 9-1270-230-10-HR
SMM 9-1270-230-24&P
SMM 9-1270-232-34&P

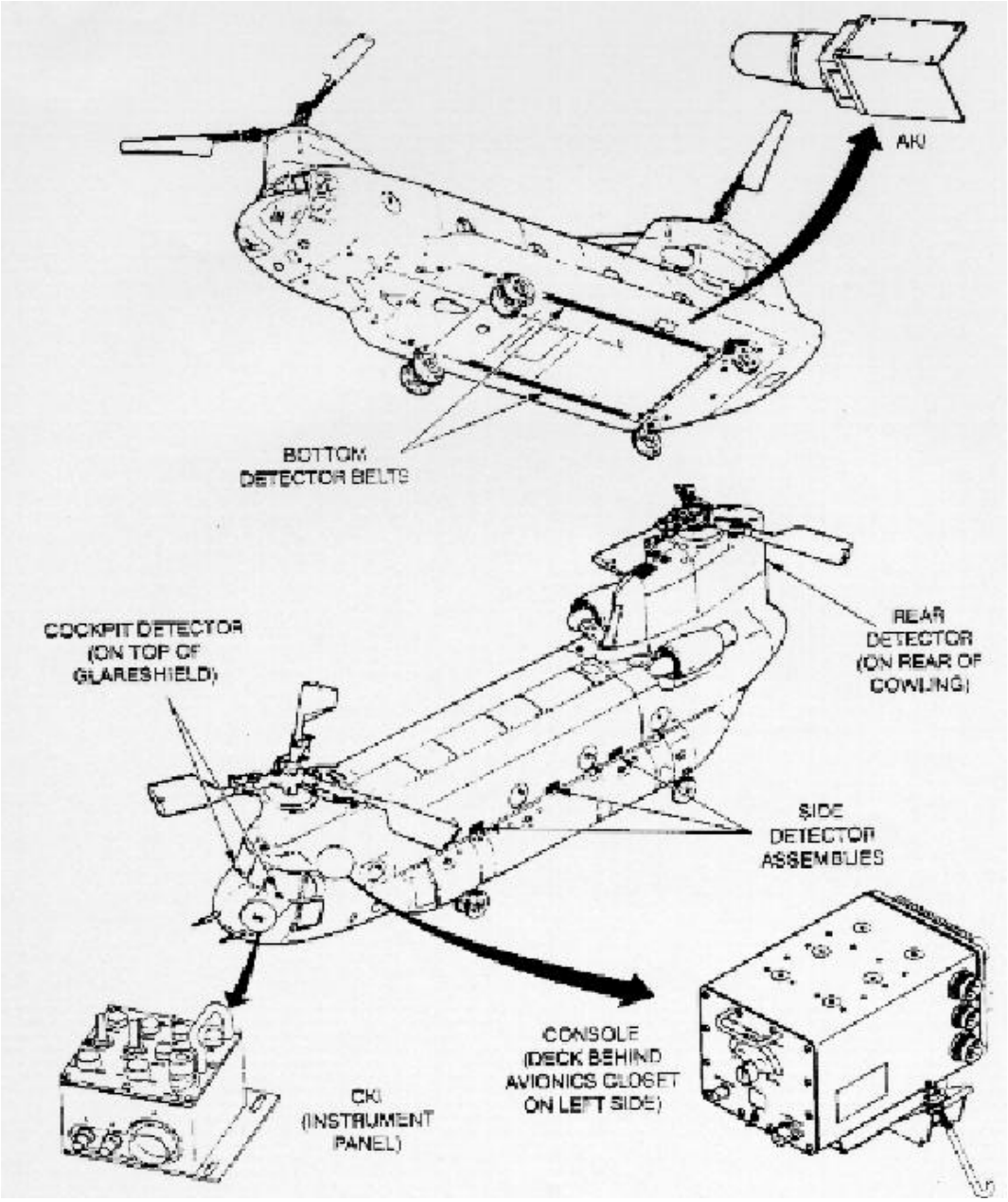
Reference Publications:
TM 1-1520-238-10

Training Requirements Supported:
ARTEP's Supported
7-15 17-55 71-2

MOSC 11B, 19D, 19E, 19Z

SM tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: FOR CH-47D CHINOOK HELICOPTER



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The AGES II/CTS-IS is the Army's Multiple Integrated Laser Engagement (MILES) training system for helicopters, putting aviation in the force-on-force fight. The AGES II/CTS-IS system consists of four Tactical Engagement Simulators (TES). Three of these TES's are currently installed on the AH-64 Apache (DVC 01-240/13), CH-47D Chinook (DVC 01-240/10) and the UH-6OA Black

Hawk (DVC 01-240/11). The fourth system is the Hellfire Ground Support Simulator (DVC 01-240/8).

The AGES II/CTC-IS permits realistic combat training, using eye safe laser Transmitters that "fire" laser beams instead of live ammunition. These beams are encoded signals which simulate a Variety of weapon systems. Capabilities include range, accuracy and destructive capability. AGES II simulates weapons systems including the Area Weapon System (AWS), Laser Range Finder/ Designator (LRF/D) and the Point Target Weapon System (PTWS).

Laser detection systems are mounted to sense opposing fire and determine whether a near-miss, hit but not killed or kill message has been received. The systems activates audio and visual cues indicating the presence and effect of opposing fire.

Functional Description:

DVC 01-240/10 is a passive receptor MILES system for the CH-47D Chinook which allows the aircraft to be "killed". It is configured using common system components with the exception of minor changes required to outfit the system on the helicopter.

Physical Information:

47.5" L x 40.5" W x 15.88" H; 90.2 lbs.

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

(Information not available)

Power Requirements:

28vdc @ less than 5 A

Applicable Publications:

TM 9-1270-228-10
TM 9-1270-228-10-HR
SMM 9-1270-228-24&P

Reference Publications:

TM 1-1520-238-10

Training Requirements Supported:

ARTEP's Supported

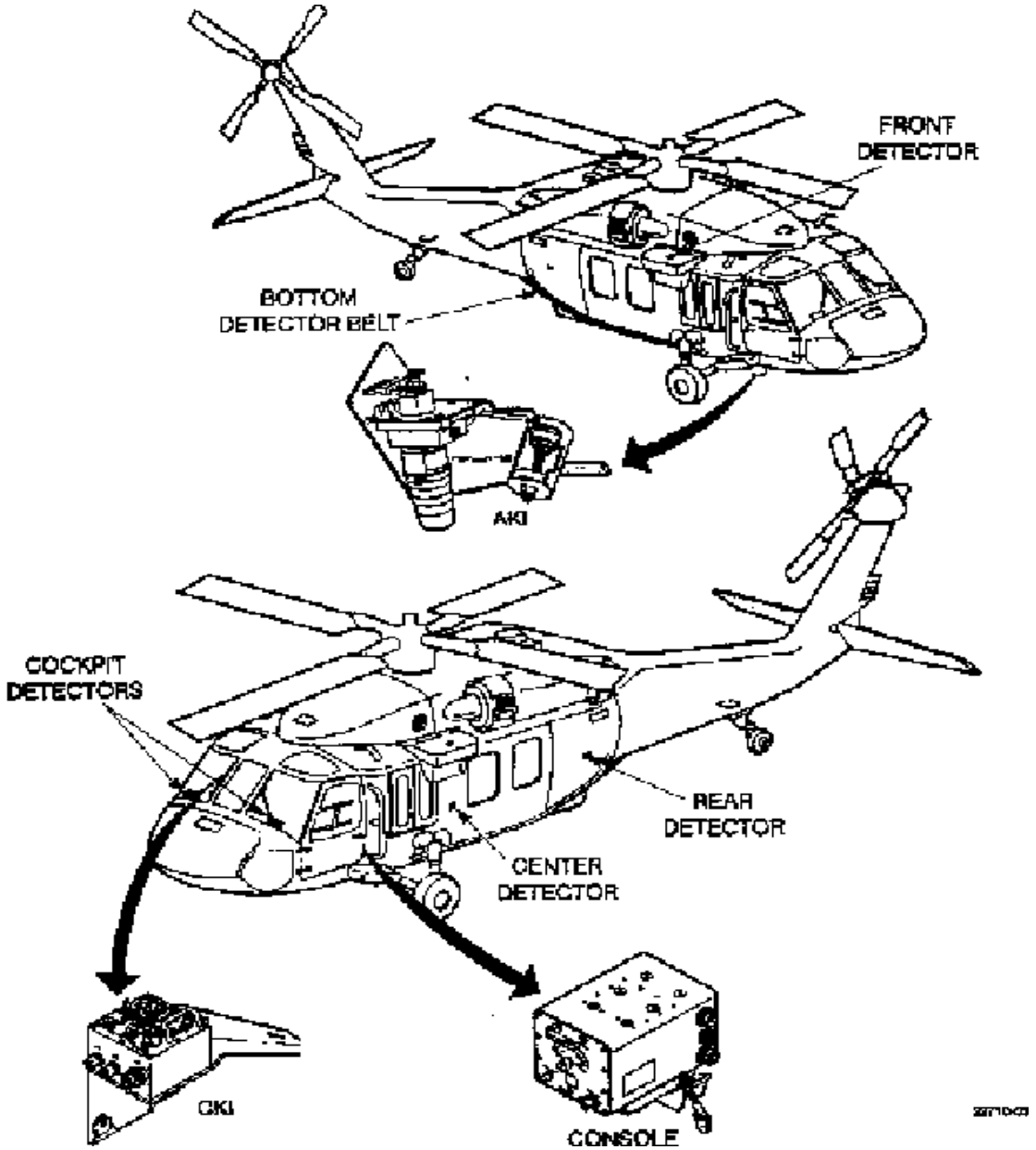
7-15 17-55 71-2

MOSC 11B, 19D, 19E, 19Z

SM tasks

All tactical tasks for skill levels 1 through 5

SIMULATOR SYSTEM, FIRING, LASER: FOR UH-60A BLACK HAWK HELICOPTER



Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The AGES II/CTS-IS is the Army's Multiple Integrated Laser Engagement (MILES) training system for helicopters, putting aviation in the force-on-force fight. The AGES II/CTS-IS system consists of four Tactical Engagement Simulators (TES). Three of these TES's are currently installed on the AH-64 Apache (DVC 01-240/13), CH-47D Chinook (DVC 01-240/10) and the UH-6OA Black

Hawk (DVC 01-240/11). The fourth system is the Hellfire Ground Support Simulator (DVC 01-240/8). The AGES II/CTC-IS permits realistic combat training, using eye safe laser Transmitters that "fire" laser beams instead of live ammunition. These beams are encoded signals which simulate a Variety of weapon systems. Capabilities include range, accuracy and destructive capability.

AGES II simulates weapons systems including the Area Weapon System (AWS), Laser Range Finder/ Designator (LRF/D) and the Point Target Weapon System (PTWS). Laser detection systems are mounted to sense opposing fire and determine whether a near-miss, hit but not killed or kill message has been received. The systems activates audio and visual cues indicating the presence and effect of opposing fire.

Functional Description:

DVC 01-240/11 is a passive receptor MILES system for the UH-60A Black Hawk which allows the aircraft to be "killed". It is configured using common system components with the exception of minor changes required to outfit the system on the helicopter.

Physical Information:

47.5" L x 40.5" W x 15.88" H; 90.2 lbs

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

None

Power Requirements:

28vdc @ less than 5 A

Applicable Publications:

TM 9-1270-227-10
TM 9-1270-227-10-HR
SMM 9-1270-227-24&P

Reference Publications:

TM 1-1520-238-10

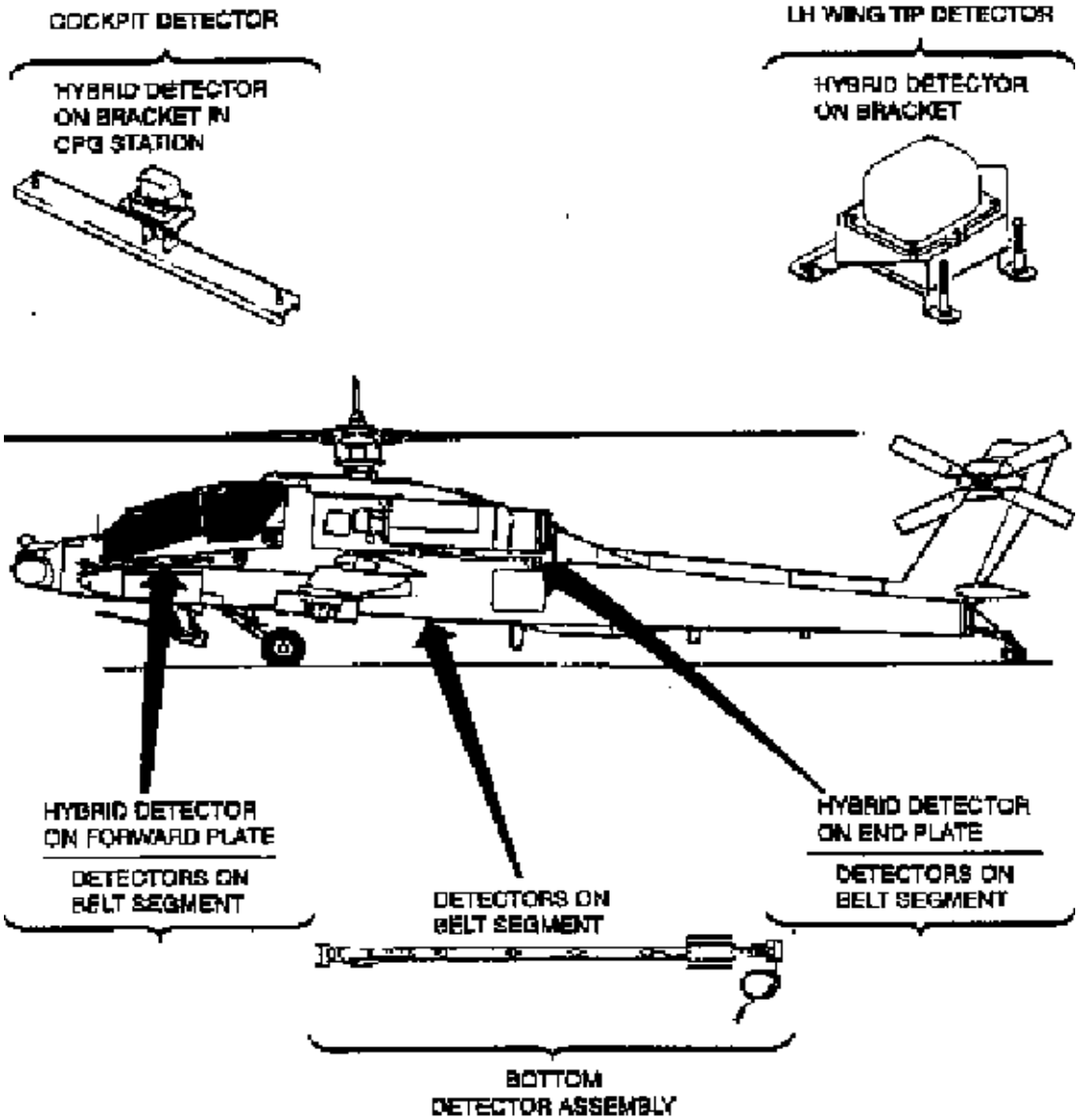
Training Requirements Supported:

ARTEP's Supported
7-15 17-55 71-2

MOSC 11B, 19D, 19E, 19Z

SM tasks
All tactical tasks for skill levels 1 through 5

SIMULATOR SYSTEM, FIRING, LASER: FOR AH-64 APACHE HELICOPTER



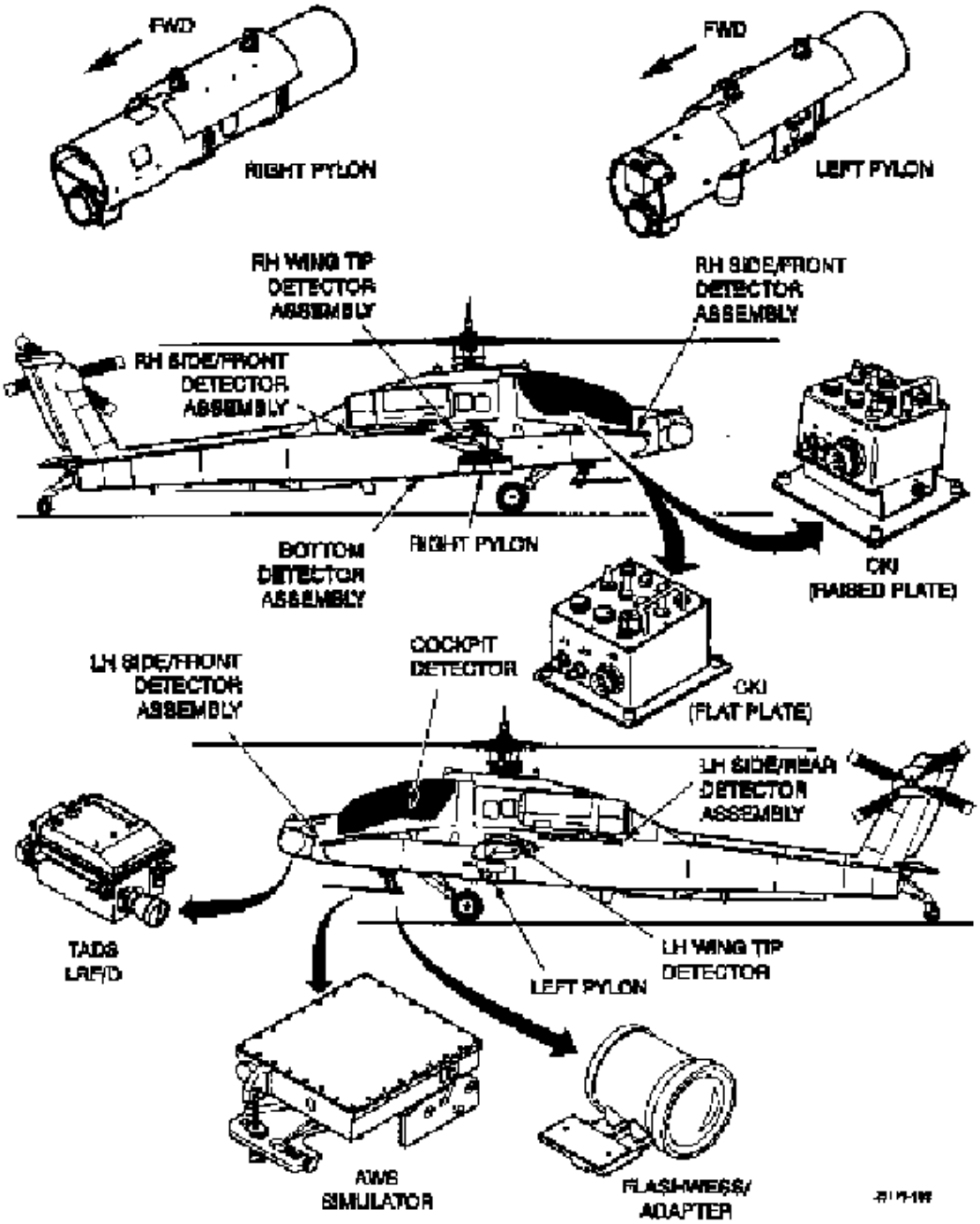
Training Category/Level Utilized:
Aviation/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The AGES II/CTS-IS is the Army's Multiple Integrated Laser Engagement (MILES) training system for helicopters, putting aviation in the force-on-force fight. The AGES II/CTS-IS system consists of four Tactical Engagement Simulators (TES). Three of these TES's are currently installed on the AH-64 Apache (DVC 01-240/13), CH-47D Chinook (DVC 01-240/10) and the UH-6OA Black Hawk (DVC 01-240/11). The fourth system is the Hellfire Ground Support Simulator (DVC 01-240/8). The AGES II/CTC-IS permits realistic combat training using eye safe laser Transmitters that "fire" laser beams instead

of live ammunition. These beams are encoded signals which simulate a Variety of weapon systems. Capabilities include range, accuracy and destructive capability. AGES II simulates weapons systems including the Area Weapon System (AWS), Laser Range Finder/Designator (LRF/D) and the Point Target Weapon System (PTWS). Laser detection systems are mounted to sense opposing fire and determine whether a near-miss, hit but not killed or kill message has been received. The systems activates audio and visual cues indicating the presence and effect of opposing fire.



Functional Description:
DVC 01-240/13 is a passive receptor MILES system for the AH-64 Apache which allows the aircraft to be "killed". It is configured using common system components with the exception of minor changes required to outfit the system on the helicopter.

Physical Information:
Transit case:
Equipment: 47.5" L x 40.5" W x 15.88" H
Equipment: 52.25" L x 43.75" W x 15.88" H
Launcher: 62.19" L x 25.25" W x 23.94" H
Equipment: 85.12" L x 19.94" W x 17.62" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
28vdc @ less than 5 A

Applicable Publications:
TM 9-1270-231-12&P
TM 9-1270-231-12&P-HR
SMM 9-1270-231-34&P

Reference Publications:
TM 1-1520-238-10

Training Requirements Supported:
ARTEP's Supported
7-15 17-55 71-2

MOSC 11B, 19D, 19E, 19Z

SM tasks
All tactical tasks for skill levels 1 through 5

AH-64D MODERNIZED-TARGET ACQUISITION/DESIGNATION SIGHT (TADS) SELECTED TASK TRAINER – L13 (M-TSTT-L13)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
A single seat trainer that provides Modernized - Target Acquisition Designation Sight system training for the AH-64D Co-Pilot/Gunner (CPG). It provides the AH-64D student with initial switchology and sequential weapons engagement procedures training in the initial phases of the AH-64D maintenance training. The TSTT provides training for the following critical individual tasks:

- M-TADS internal and out-front boresight procedures
- MPD and EUFD
- Target Acquisition and Designation Sight (TADS) Electronic Display and Control (TEDAC) Switchology
- Weapon's deployment
- Training swicthology and scenarios

Additionally this device proved to be invaluable for the 15Y Armament technician providing him a more in depth working knowledge of the total integration of the Armament and Fire Control System.

Functional Description:
This is a computer based trainer using mock up of actual Co-Pilot Gunner's cock pit with host computer for simulation allowing students to interact with the MTADS systems, TEDAC and Gunnery. The M-TSTT will be used to train Switchology and system familiarization tasks in support of U.S. Longbow AH-64D Aviation Unit Maintenance, and Aviation Intermediate Maintenance (AVUM/AVIM). The M-TSTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor Operator Station (IOS).

Physical Information:
Instructor/Operator Station and HTD; 10'L x 5'W x 7'H
Hardware Training Device:
Part of IOS in overall dimensions
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: Powered by HTD
Device: 120/208 VAC/3-phase, 60 Amp, 50-60 Hz
Mobile Power Supply Unit: N/A

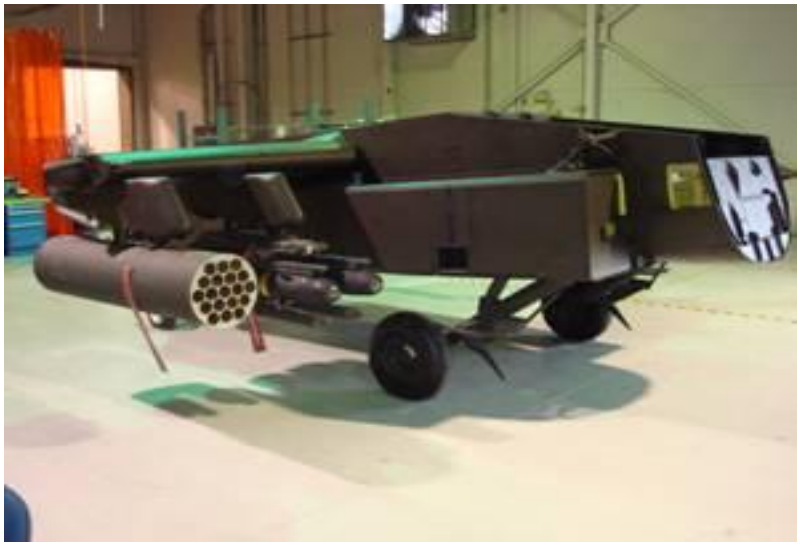
Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R; 15Y

AH-64D WING PART TASK TRAINER – L14 (WPTT-L14)



Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Wing Part Task Trainer (WPTT) is an operational device, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers. The WPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The WPTT design shall incorporate a hardware training device consisting of a Hardware Trainer Display, Instructor/Operator Station and Operational Software as required to meet the training requirements.

Functional Description:
The WPTT shall represent a functional AH-64D wing armament system to include all associated subcomponents. The device shall replicate the functionality of the pylons, rocket pods, and hellfire missiles to include simulated pylon functionality. Crew station controls and functions associated with the WPTT system shall function per the basic aircraft design. The WPTT system can be real, modeled or simulated with the fidelity required to simulate normal operations. The WPTT shall consist of two primary training elements, the Hardware Training Device (HTD) and Instructor Operator Station (IOS)/Operational Software as required meeting the training requirements.

Physical Information:
Instructor/Operator Station: N/A
Hardware Training Device: 17'L x 18'W x 7'H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: N/A
Device: N/A
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R; 15Y

AH-64D INTEGRATED PRESSURIZED AIR SYSTEM (IPAS) PART TASK TRAINER – L15 (IPASPTT-L15)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Primary Integrated Pressurized Air System (IPAS) is an operational device, which provides a training platform for development of maintenance skills for Apache Longbow Maintainers. The IPASPTT shall be used to train system familiarization and Maintenance Operational Checks (MOCs) in support of U.S. Army Longbow AH-64D Aviation Unit Maintenance and Aviation Intermediate Maintenance (AVUM/AVIM) tasks. The IPASPTT design shall incorporate a hardware training device consisting of a Hardware Trainer Display, Instructor/Operator Station and Operational Software as required to meet the training requirements.

Functional Description:
The IPASPTT shall represent a functional AH-64D pressurized air system to include all associated subcomponents. The device shall be capable of providing simulated pressurized bleed air from both simulated engines when both engines are operating. Each engine supplies approximately 50% of the IPAS air required by the using systems. The secondary IPAS air source is bleed air from a single operating engine. Either engine is capable of supplying 100% of the pressurized air for the IPAS. During ground operations, the Auxiliary Power Unit (APU) supplies bleed air until engines are running and the APU is shut down. The system can be real, modeled or simulated with the fidelity required to simulate normal operations.

Physical Information:
Instructor/Operator Station: 6'L x 3'W x 6'H
Hardware Training Device: 25'L x 18'W x 10'H
Mobile Power Supply Unit: N/A

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: Powered by device
Device: 208 VAC/3-phase, 60 Amp, 50-60 Hz
Mobile Power Supply Unit: N/A

Applicable Publications:
APTK 2002
Commercial Documentation

Reference Publications:

TM 1-1520-238 Series	TM 9-1230-476 Series
TM 1-1270-476 Series	TM 9-1230-221 Series
TM 9-1090-208 Series	TM 9-1425-475 Series
TM 9-1427-475 Series	TM 9-4925-233 Series
TM 9-4935-476 Series	TM 11-1520-238 Series
TM 1-5855-265 Series	TM 55-2480-248 Series

Training Requirements Supported:
MOSC 15R; 15Y

CH-47 CHINOOK HELICOPTER MAINTENANCE TRAINER (CHMT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CHMT has been identified as the CH-47 Cargo Helicopter training platform for the development of maintenance skills for Avionics maintainers. The CHMT device system shall consist of a Hardware Training Device (HTD), Instructor Operator Station (IOS), Trainer System Software, and IOS Software (IOSS).

Functional Description:
The CHMT will be an operational device, which provides a training platform for development of 15U maintenance skills for CH-47 Helicopter Repairmen. The CHMT will be used to train system familiarization, component identification, servicing tasks and inspections, Maintenance Operational Checks (MOCs), Fault Isolation Procedures (FIPs) and Remove/Install (R/I) tasks in support of CH-47 MOS 15U Critical Tasks. The CHMT systems will be a combination of air vehicle, modeled and trainer unique components. Troubleshooting and operational checks will be accomplished using the same test equipment required by the CH-47 Cargo Helicopter.

Physical Information:
Fuselage: 52.8’ L x 15.75’ W x 18.3’ H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Instructor/Operator Station: 120VAC, 60Hz
Hardware Training Device: 208VAC, 3-phase, 400Hz which will convert to 28VDC
Facility: 208VAC, 60 Hz, 3-Phase, 200A

Applicable Publications:
Instructor Utilization Handbook, COTS Manuals, Vendor Manual: CHMT Maintenance Manual.

Reference Publications:
TM 1-1520-271- Series
TM 1-1520-241- Series

Training Requirements Supported:
MOSC 15U

CH-47 CHINOOK COCKPIT PART TASK TRAINER (CCPTT)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer provides a training platform for development of maintenance skill and knowledge for CH-47 15U10 maintainers. The trainer is used to train system familiarization, component identification, maintenance procedures, and removal and installation procedures. The trainer simulates production aircraft operational systems to the extent required to accomplish the service and maintenance critical tasks for the selected systems. These systems are used to provide realistic training for ground maintenance operation and procedures.

Functional Description:
The trainer was manufactured from cockpit sections of the CH-47 airframe. It is representative of an aircraft flight control systems configuration of the CH-47. The aircraft cockpit consists of both primary and secondary airframe structures. The CCPTT was built on a platform or stand that allows for movement of the training device within the hosting facility and does not interfere with the fidelity of the training tasks that are to be performed.

Physical Information:
Fuselage: 16’ 9” L x 9’ 6”W x 12’ 4” H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
Instructor Utilization Handbook, COTS Manuals, Vendor Manual: CHMT Maintenance Manual.

Reference Publications:
TM 1-1520-271- Series
TM 1-1520-241- Series

Training Requirements Supported:
MOSC 15U

LIGHT ASSAULT/ATTACK RECONFIGURABLE (LASAR)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The LASAR Combat Mission Simulator (CMS) will provide air crews a real-world mission rehearsal capability to practice, validate, and verify tactics, techniques, and procedures to execute direct missions. It will also provide a mission rehearsal capability, interoperable with other United States Special Operations Command (USSOCOM) mission rehearsal systems.

Functional Description:
The LASAR is a full-fidelity, motion-based, aircraft specific, cockpit replica. All systems and controls required for aircrew training and mission execution will be functional. This includes the capability for all system functionality and operation (including weapons), with the ability to simulate all systems emergencies, malfunctions, and degraded system operations. The LASAR CMS provides the commander with a system to plan and rehearse a special operations mission that incorporates tactics, situational awareness (real-world combat environment), decision-making, and crew coordination. The mission of LASAR is to give the pilot the capability to train for, and rehearse missions which involve multi-aircraft tactics such as shipboard operations, formation flight, multi-aircraft insertion/extraction, aerial gunnery (including team tactics), visual (laser/strobe/pyrotechnics etc.), and secure communication between other air and ground parties. Identical to the actual aircraft capability, the Simulators will accept automated transfer of all applicable mission data from SOF mission planning systems.

Physical Information:
The LASAR CMS device is a side-by-side cockpit configuration. Only the cockpit is located within the dome. The Instructor Operator Station (IOS) is located outside of the dome area. Within the simulator compartment, there is one observer (role-player) station.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
N/A

Power Requirements:
N/A

Applicable Publications:
207-MMAN-001 LASAR Maintenance Manual
207-IUH-001 LASAR Training Support Utilization Handbook

Reference Publications:
MH-6 Army Special Operations Aviation (ARSOA) Series Aircrew Training Manual (ATM)

Training Requirements Supported:
Most of the aircraft -10 is supported.

MH-47G COMBAT MISSION SIMULATOR (CMS)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The MH-47G Combat Mission Simulator (CMS) will provide air crews a real-world mission rehearsal capability to practice, validate, and verify tactics, techniques, and procedures to execute direct missions. It will also provide a mission rehearsal capability, interoperable with other United States Special Operations Command (USSOCOM) mission rehearsal systems.

Functional Description:
The MH-47G is a full-fidelity, motion-based, aircraft specific, cockpit replica. All systems and controls required for aircrew training and mission execution will be functional. This includes the capability for all system functionality and operation (including weapons), with the ability to simulate all systems emergencies, malfunctions, and degraded system operations. The MH-47G CMS provides the commander with a system to plan and rehearse a special operations mission that incorporates tactics, situational awareness (real-world combat environment), decision-making, and crew coordination. The mission of MH-47G is to give the pilot the capability to train for, and rehearse missions which involve multi-aircraft tactics such as shipboard operations, formation flight, multi-aircraft insertion/extraction, aerial gunnery (including team tactics), visual (laser/strobe/pyrotechnics etc.), and secure communication between other air and ground parties. Identical to the actual aircraft capability, the Simulators will accept automated transfer of all applicable mission data from SOF mission planning systems.

Physical Information:
The MH-47G CMS device is a side-by-side cockpit configuration**.** The Instructor Operator Station (IOS) is a single-seat, three-monitor configuration, and is on-board the simulator device. Within the simulator compartment, there are also two observer (role-player) seats that can be positioned in a total of three separate locations. The seats utilize quick-release pins for easy removal, installation, and re-configuration.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
N/A

Power Requirements:
N/A

Applicable Publications:
TM 9-6920-3689-10 MH-47G Operations and Maintenance Manual
TSUH 9-6920-3689 MH-47G Training System Utilization Handbook

Reference Publications:
MH-47 Army Special Operations Aviation (ARSOA) Series Aircrew Training Manual (ATM

Training Requirements Supported:
Most of the aircraft -10 is supported.

MH-60M COMBAT MISSION SIMULATOR (CMS)

Training Category/Level Utilized:
Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The MH-60M Combat Mission Simulator (CMS) will provide air crews a real-world mission rehearsal capability to practice, validate, and verify tactics, techniques, and procedures to execute direct missions. It will also provide a mission rehearsal capability, interoperable with other United States Special Operations Command (USSOCOM) mission rehearsal systems.

Functional Description:
MH-60M is a full-fidelity, motion-based, aircraft specific, cockpit replica. All systems and controls required for aircrew training and mission execution will be functional. This includes the capability for all system functionality and operation (including weapons), with the ability to simulate all systems emergencies, malfunctions, and degraded system operations. The MH-60M CMS provides the commander with a system to plan and rehearse a special operations mission that incorporates tactics, situational awareness (real-world combat environment), decision-making, and crew coordination. The mission of MH-60M is to give the pilot the capability to train for, and rehearse missions which involve multi-aircraft tactics such as shipboard operations, formation flight, multi-aircraft insertion/extraction, aerial gunnery (including team tactics), visual (laser/strobe/pyrotechnics etc.), and secure communication between other air and ground parties. Identical to the actual aircraft capability, the Simulators will accept automated transfer of all applicable mission data from SOF mission planning systems.

Physical Information:
The MH-60M CMS device is a side-by-side cockpit configuration**.** The Instructor Operator Station (IOS) is a single-seat, three-monitor configuration, and is on-board the simulator device. Within the simulator compartment, there are also two observer (role-player) seats that can be positioned in a total of three separate locations. The seats utilize quick-release pins for easy removal, installation, and re-configuration.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
N/A

Power Requirements:
N/A

Applicable Publications:
TM 9-6920-3691-10 MH-60M Operations and Maintenance Manual
TSUH 9-6920-3690 MH-60M Training System Utilization Handbook

Reference Publications:
MH-60 Army Special Operations Aviation (ARSOA) Series Aircrew Training Manual (ATM)
TM 1-1520-282-10

Training Requirements Supported:
Most of the aircraft -10 is supported.

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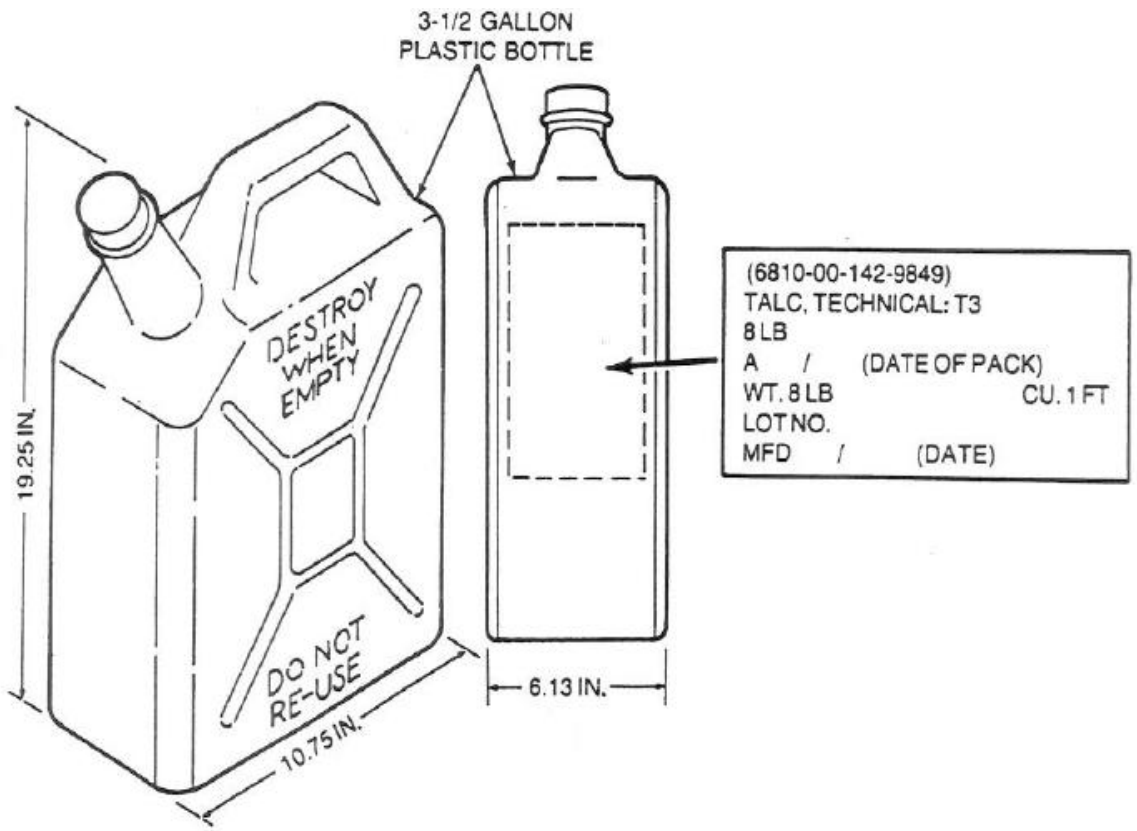
N/A

BASIC SERIES 03
CHEMICAL

TALC, TECHNICAL: T3



Training Category/Level Utilized:
Chemical/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To simulate CS1 or CS2 riot control agent powder when training with riot control agent dispersers in situations requiring the use of inert materials. T3 technical talc is an inert, micro pulverized white powder with the apparent bulk density and flow characteristics of CS1 riot control agent. Eight pounds of T3 talc are packed in a 3 1/2 gallon plastic screw-cap bottle. The T3 talc consists of 55 to 65 percent silica, 25 to 35 percent magnesium oxide, and 0.30 percent calcium oxide by weight. The T3 talc is ground to an average particle size of no more than 3.5 microns. It has an apparent density of no more than 0.25 grams per cubic centimeter.

Functional Description:
The T3 talc is transferred from the bottle to the riot control agent dispersers by using the transfer tube assembly from the M254 service kit. If T3 talc powder is used as the agent fill for the M33A1 disperser, the operator must install a short check valve assembly in the agent tank and a single jet spray unit on the disperser gun. When T3 talc is sprayed from a disperser, a cloud of airborne T3 talc particles is formed. The particles travel downwind from the release point. The powder settles and readily infiltrates terrain, vegetation, personnel, and equipment. However, as T3 talc is an inert material, it harms neither exposed personnel nor the environment. Because the particles are so fine, they are soon dissipated by weathering.

Physical Information:
Transit Case—19.25 x 10.75 x 6.13 inches
Loaded Transit Case—weighs 8 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

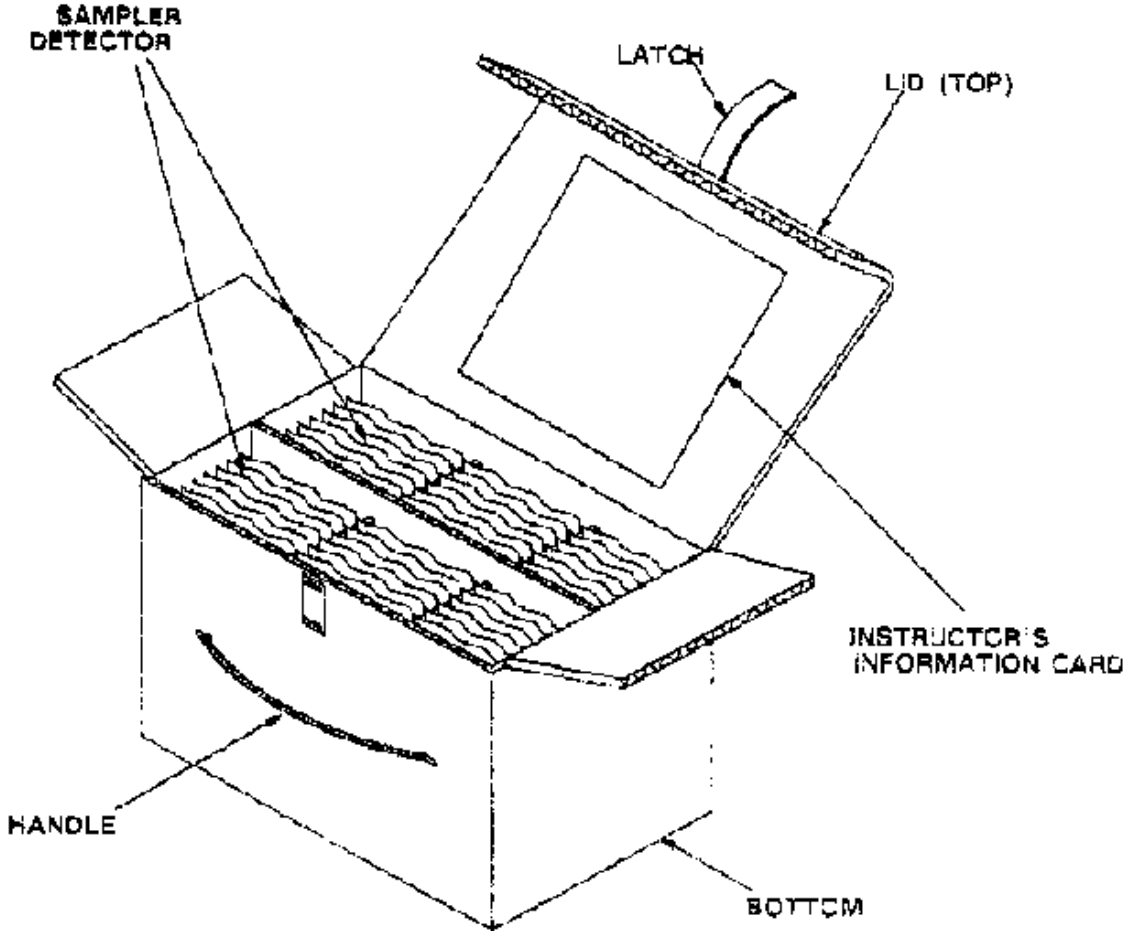
Power Requirements:
None

Applicable Publications:
Operator and Organizational Maintenance Manual for the M33A1, M3, M5 Riot Control Agent Dispersers.

Reference Publications:
TM 3-1040-214-12
TM 3-1040-220-12
TM 3-1040-221-12
TM 3-1040-262-13&P

Training Requirements Supported:
(Information not available)

M256 TRAINING AGENT CHEMICAL DETECTOR, TICKETS SIMULATOR (TRAINS)



Training Category/Level Utilized:
Chemical/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through Army Supply System.

Purpose of Trainer:
The purpose of the M256 TRAINS is to simulate a chemical agent response in the absence of agent or simulant in a training environment.

Functional Description:
The M256 TRAINS is a portable expendable item that consists of a carrying box and 36 sampler-detectors. The 36 sampler-detectors are individually wrapped and pre-engineered to provide specific responses. Twelve of these are for "all clear", six are to simulate nerve agent detection response (G or V), six are to simulate mustard detection response (H), six are for phosgene oxime (CX), three simulate hydrogen cyanide (AC), or cyanogen chloride (CK—STRONG, blue), and three simulate hydrogen cyanide (AC), or cyanogen chloride (CK—WEAK, pink). The sampler-detector is stamped "FOR TRAINING ONLY" in blue and has an associated code number to identify the specific response the sampler-detector should simulate. The M256 TRAINS contains an Instructor's Information Card for the instructor/trainer which describes the number code and contains suggestions for use.

Physical Information:
M256 Training Simulator: 29.845 x 19.050 x 13.652 cm
Carrying Box: 11.75 x 7.50 x 5.75"
Weight Complete: 1.135 kg (2.50 lb)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
TM 3-6665-320-10

Reference Publications:
FM 21-40
TM 3-6665-307-10

Training Requirements Supported:
Numerous applications determined by User Command.

M93A1 NUCLEAR, BIOLOGICAL, CHEMICAL RECONNAISSANCE SYSTEM (NBCRS) FOX SIMULATOR

Training Category/Level Utilized:
Chemical/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide classroom instruction to resident NBC Course students on NBC reconnaissance techniques and the operation of the M93A1 FOX Nuclear, Biological, and Chemical Reconnaissance System (NBCRS) during realistic NBC reconnaissance missions while avoiding wear and tear on actual vehicles and spreading chemical simulants on the ground.

Functional Description:
This device is a complete mock-up of the M93A1 FOX NBCRS. It consists of a driving simulator, a mechanical device (located in the classroom floor), an ASG1 for quantitative gamma radiation detection, and an instructor's control center. The mechanical device supplies the chemically contaminated surfaces necessary for simulating air/surface monitoring (surface monitoring with the double wheel sampling unit and directly with the air/surface sampler), and a sample collection and retention system.

Device 03-12 is used with the Vehicle Navigation Training Simulator (DVC 03-13) and the MM1 Mobile Mass Spectrometer (DVC 03-14). Used together, these devices can be used to train students in all aspects of NBC reconnaissance including the determination of contamination boundaries on roads, determination of chemical agents in the air, mapping areas of contamination by unknown chemical agents, detection of nuclear explosions, sample collection via the work port, and vehicle navigation.

Physical Information:
Vehicle Hull Dimensions: 287" L x 94.8" H x 117.3" W

Equipment Required, Not Supplied:
Ventilated hood, sink, storage area, and heating oven (used to make simulants).

Special Installation Requirements:

The NBCRS FOX simulator system must be located in an area large enough to support the system. It requires a built-up area sufficient to support a viewing section where other personnel can watch, learn, and critique the training crews.

The room must have a ventilation system capable of exhausting the simulant vapors during the hot air blower decontamination of the steel roller. The room must also be capable of accommodating the installation of the steel roller in a well directly behind the vehicle hull.

Additionally, an area (not necessarily in the same room) is required to make the simulants. This area must be equipped with a ventilated hood, sink, storage area, and heating oven. The heating oven is used to decontaminate the silicone wheels for re-use.

Power Requirements:

110/220vac

Applicable Publications:

(Information not available)

Reference Publications:

FM 3-101-2

Training Requirements Supported:

MOSC 54B L5

MOBILE MASS SPECTROMETER (MM1) SIMULATOR

Training Category/Level Utilized:
Chemical/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train soldiers in the operation of the Mobile Mass Spectrometer (MM1) in a classroom environment.

Functional Description:
DVC 03-14 consists of a Mobile Mass Spectrometer (MM1) (consisting of a Sensor Unit, Electronics Unit, and a Control Unit), a power supply and a video screen. The simulator is capable of demonstrating all operational sequences of the MM1 in a classroom environment.

When a predetermined amount of a specified substance is detected by the MM1 probe, the MM1 simulator sounds an alarm or warning and reports the name and amount of the substance.

Physical Information:
MM1:
Sensor Unit: 26.4" x 9.44" x 25.6"
Electronics Unit: 20.5" x 20" x 25.6"
Control Unit: 19.7" x 19.7" x 9.44"
Video Screen: 17" x 19" x 14"
Power Supply: 12" x 6" x 4"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A power supply capable of converting 110vac to 24vdc

Power Requirements:
24vdc

Applicable Publications:
(Information not available)

Reference Publications:
FM 3-101-2

Training Requirements Supported:
MOSC 54B L5 MM1 Operations

CHEMICAL AGENT MONITOR SIMULATOR (CAMSIM), XM32

Training Category/Level Utilized:
Chemical/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the CAM. Replicates system employment as closely as technology will permit.

Functional Description:
The Chemical Agent Monitor Simulator (CAMSIM) is housed within a standard CAM case marked as a simulator. The CAMSIM provides for simulation of point source and area based contamination of both G and H. The device does not use any chemicals as a simulant. The simulator is powered with a standard CAM battery or battery pack. The CAMSIM is compatible with the CAM Buzzer and all CAM accessories. The simulator stores and provides operator error messages to the instructor showing such errors as bumping the nozzle against a contaminated source, incorrect mode change, etc. The device sequences through the standard power up sequence of the CAM when powered up. The CAMSIM comes with a confidence tester, which exactly duplicates the function of the CAM confidence tester.

Physical Information:
The CAMSIM system is comprised of the following:
1 System carry case
1 CAMSIM sumulator with nozzle protective cap, environmental cap and battery cap assembly.
5 Simulation H Air/Vehicle sources with D cell
5 Simulation G Air/Vehicle sources with D cell
8 Simulation point sources
1 Set of 6 simulation nozzle filters with case
1 Instructor remote with battery
1 Set of 2 error cards with CAMSIM key on chain
1 Spare CAMSIM key
1 Simulation confidence tester
1 Tape for simulation nozzle filter case
1 CAMSIM personal computer interface cable
1 CAMSIM Operational Instructions

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

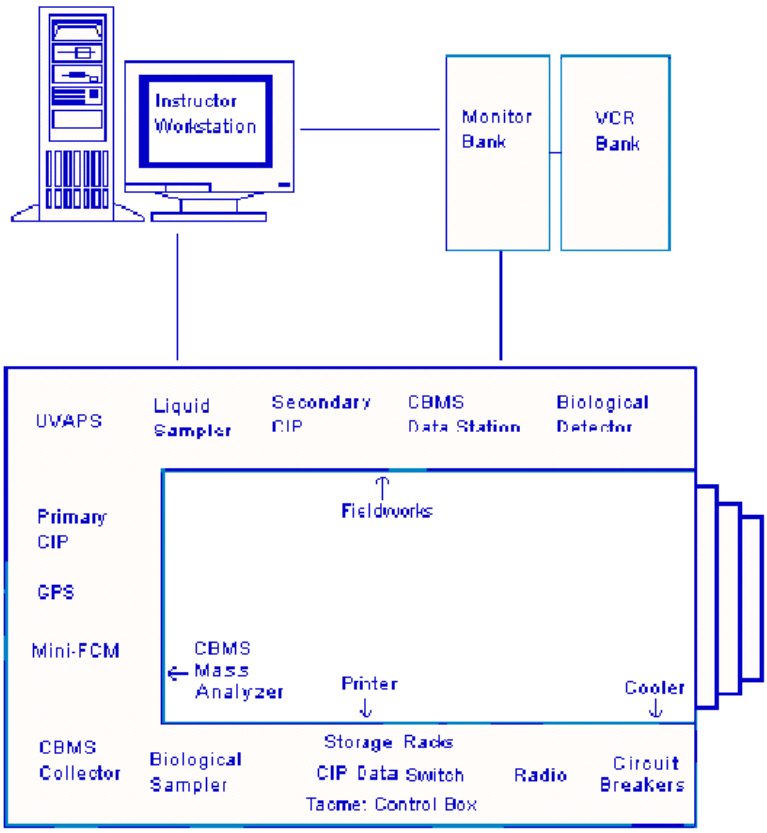
Power Requirements:
110vac

Applicable Publications:
(Information not available)

Reference Publications:
Operation Instructions for CAMSIM001 - US (NSN 6665-99-001-9985)

Training Requirements Supported:
(Information not available)

BIOLOGICAL INTEGRATED DETECTION SYSTEM (BIDS) PRE-PLANNED PRODUCT IMPROVED (P3I) SIMULATOR



Training Category/Level Utilized:
Chemical/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provides realistic training for the BIDS while avoiding wear and tear on actual vehicles.

Functional Description:
Biological Integrated Detection System (BIDS) Pre-Planned Product Improved (P3I) Simulator is a stationary, point sampling system consisting of an S-788/G Lightweight Multipurpose Shelter (LMS) mounted on a dedicated M1097 High Mobility Multipurpose Wheeled Vehicle (HMMWV). The BIDS is a multi-component system that provides monitoring, sampling, detection, and presumptive identification of biological warfare agents. This suite of trainers consists of:

1. Mock-up Trainer System (MUTS) with Observer/Controller Console (OCC). The BIDS P3I Mockup Trainer System provides a simulated environment to train soldiers on the use of the BIDS P3I System. Students learn and practice standard protocol procedures, alternate protocol procedures, maintenance and trouble hooting procedures, as well as startup and shutdown procedures using the Mockup Trainers.

An Observer Controller/Instructor Workstation computer and application is required for operation of each Mockup Trainer. The Observer Controller portion of the application inputs the student operator actions that determine the outcome on some instruments. The Instructor Workstation portion or the application allows cloud data and instrument failures to be injected, instruments to be reset, malfunction symptoms to be cleared, and allows the instructor to monitor operator progress.

2. The Master Instructor Workstation (MIW) with Hands On Workstation (HOW) can be used in conjunction with two mockup trainers joined in with the Enhanced Procedural Trainers (EPT) to function as a BIDS platoon.

3. Chemical Biological Mass Spectrometry (CBMS) ClassroomTrainer (CCT) with instructor workstation utilizes an instructor workstation and up to three CBMS training stations to train soldiers to perform as operators of the CBMS as used in the BIDS P3I system. Each CBMS training station contains a collector/concentrator, a data station, and a mass analyzer which replicate the functionality of the components in sufficient fidelity to allow operators to be trained to conduct biological detection operations, including system startup and shutdown procedures.

Physical Information:

The BIDS P3I is comprised of the following:

- Shelter platform
- Digital assembly interface boxes and associated Cabling.
- Circuit breaker panel and DC switchboard
- Bio Detector
- Bio Detector consumables, including confidence test solution.
- Bio Sampler
- CBMS collector/concentrator
- CBMS data station
- CBMS mass analyzer
- CIP, primary and secondary screens
- Fieldworks computer
- Hand-held assay trays and buffer solution
- GPS
- Liquid Sampler
- Mini-FCM
- Printer & print sharer
- Reagent kit
- TACMET control box
- UVAPS
- UVAPS laser power supply
- Network hub along with Ethernet cabling
- OCC/IW computer
- Monitors
- VCR bank
- Video cameras

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

(Information not available)

Power Requirements:

(Information not available)

Applicable Publications:

MIL-STD-498

MM1 Trainer User Manual (Kaman Sciences, Nov 1997)

BIDS P3I Procedural Network Trainer User's Manual - Version 1.0 (ITT Systems, Sep 1998)

Training Requirements Supported:

(Information not available)

AUTOMATIC CHEMICAL AGENT DETECTOR /ALARM SIMULATOR (ACADASIM)

NSN 6665-99-982-0141 **DVC 03-20/1 (ACADASIM) Chemical Agent Detector Training System (4 per suite)**
NSN 6665-99-131-5631 **DVC 03-20/2 (ACADASIM) Instructor Remote Controller (1 per suite)**

Training Category/Level Utilized:
Force Protection (CBRNE)/Level 4

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
U.S. Army PM NBC Defense Systems DSN 584-6574 / 6513 / 3684 or COM (410) 436-6574 / 6513 / 3684.

Purpose of Trainer:
ACADASIM™ offers an entirely electronic solution to ACADA training. The system is very easy to set up and use enabling small or large groups of people to train either indoors or outdoors should the so desire. The system simulates nerve and blister detection. The simulator also monitors the actions of the Soldier and reports these actions in real time to the instructor to enable any errors to either be determined or directly reported by the system. The ACADASIM can also be integrated with wide area battlefield simulation systems.

Functional Description:
The basic simulator is required to simulate two different types of substance, Nerve agent and Blister agent. These substances need to be simulated for the following scenarios:

- Stand-alone use in a field, up wind of a position, possibly connected to and M42 alarm.
- Use in a group of perhaps four, typically up wind of a position, possibly connected to an M42 alarm.
- Used in a diamond matrix to monitor a large area such as an air base.
- Used to monitor the atmosphere outside of a vehicle, possibly with the ability to also monitor the inside of a vehicle.
- Any of the above with the communications port of the simulator connected to a third party system, such as MICAD.

For each of these scenarios we then need to simulate.

- Spurious false alarms on any single simulator. A nerve or blister vapor cloud passing the detector (s).
- The ability to simulate the nature, density, rate of rise, decay and duration of the vapor cloud for each detector.
- Various faults that may occur on a real detector.

The ACADASIM simulates all of the above and more.

Different types of technology are employed for realistic simulation. A radio telemetry link is used to transmit commands to the simulator from the instructor remote. In order to maintain compatibility with Camsim, the ACADASIM can also respond to the Camsim ultrasound and electromagnetic sources.

The reasoning behind this is that if you deploy Camsim sources to simulate a down wind hazard and your Soldiers then try to deploy the ACADASIM in that down wind hazard then the ACADASIM will alarm, as would be the case with a real detector.

In a similar manner, the ACADASIM will respond to the same simulation confidence tester that is used for Camsim. By default, the ACADASIM also responds to the Camsim electromagnetic sources.

High-energy ultrasound is used to simulate a ground based or vapor cloud based contamination. There are two types of ultrasound source, each in its own operational frequency band. One band is used to simulate Nerve agent and the other Blister agent. The signals from each ultrasound source can be overlapped to create greater areas of coverage.

The ultrasound sources are detected by four microphones, one of which is fitted in each side of the top of the simulator. These microphones are very small and difficult to see. Care must be taken to ensure they are not obstructed by dirt or mud etc.

The primary simulator control is by means of the instructor remote. The instructor remote controls the simulator by means of a 2.4 GHz frequency hopping spread spectrum radio link. Based upon and industrial Palm Pilot™, the controller permits the instructor to define different types of vapor cloud. The instructor can also simulate various faults on the ACADASIM, in addition to monitoring any actions or errors the Soldier performs on the ACADASIM.

The ACADASIM itself is a very sophisticated, yet very easy to use simulator. As far as a Soldier is concerned the product is used in exactly the same way as the genuine ACADA, but for the instructor the may features of the system allow for comprehensive training and evaluation

The ACADASIM system has not been fielded to any one unit. This device is currently being used at the United States Army Chemical School and the National Guard CST's.

Physical Information:

Simulator
20 lbs (shipping weight without batteries)
10" deep
10" wide
16" high

Instructor Controller
1 lb (shipping weigh)
8" long
4" wide
1" thick

Equipment Required, Not Supplied:
"D" Size batteries

Special Installation Requirements:
None

Power Requirements:
"D" Size batteries

Applicable Publications:
Argon Electronics Commercial Manual: User's Manual, Issue 1.01

Reference Publications:
Argon Electronics Commercial Manual: User's Manual, Issue 1.01

Training Requirements Supported:
(Information not available)

NUCLEAR, BIOLOGICAL, CHEMICAL RECONNAISANCE VEHICLE (NBCRV) VIRTUAL CREW TRAINER (XM95)

Training Category/Level Utilized:
Chemical/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Through Active and Reserve Component Installations Training Support Centers (TSC). The virtual crew trainer is limited to those Soldiers assigned to units authorized the NBCRV, through direct fielding from the Joint Program Manager (JPM) Reconnaissance Platform and Integration Office.

Purpose of Trainer:
The NBCRV trainer uses Chemical, Biological, Radiological and Nuclear (CBRN) Reconnaissance based scenarios to present the individual and crews with CBRN hazards that cannot be duplicated at the unit location due to various regulatory restrictions of using simulants. It can be configured to include 6 vehicles simultaneously or represent other mounted reconnaissance platforms such as the Nuclear, Biological and Chemical Reconnaissance System (NBCRS) M93A1 and M93A1P1 variants. The NBCRV Master Instructor Workstation (MIW) provides the capability for exercise generation and After Action Review (AAR) that permits performance and evaluation of individual and collective tasks identified using the Combined Arms Training Strategy (CATS) for CBRN Reconnaissance Platoons. All scenarios are written and conform to current doctrine IAW FM 3-11.19 (Multiservice Tactics, Techniques, and Procedures for Nuclear Biological and Chemical Reconnaissance), and FM 3-11.86 (Multiservice Tactics, Techniques and Procedures for Biological Surveillance). The trainer provides the instructor/leader the ability to manipulate the environment using the MIW by changing weather data, type of agent, type of release, and detection component – specific parameters (e.g., Joint Biological Point Detection System (JBPDS) provides a presumptive identification of a known bio agent; Chemical Biological Mass Spectrometer (CBMS) Block II can detect known and unknown chemical hazards).

Special Instructions: The primary purpose of the virtual crew trainer is to support unit sustainment of individual and collective training. The trainer is designed to be used by Soldiers possessing the Military Occupational Specialty (MOS) 74D/74A, with the Additional Skill Identifier (ASI) L6.

Bases of Issue Plan (BOIP): To achieve a sustained, more predictable posture to generate trained and ready modular forces, the Army Force Generation (ARFORGEN) model was used to determine the BOIP. The ARFORGEN is the structured progression of increased unit readiness over time resulting in recurring periods of availability of the NBCRV Virtual Crew Trainer to support trained, ready and cohesive crews/units. The following metric will insure a Virtual Crew Trainer is available at the installation Training Support Center (TSC) to support the ARFORGEN Cycle (Reset/Train, Ready and Available) –

- 1ea Virtual Crew Trainer per Stryker Brigade Combat Team (SBCT)
- 1ea Virtual Crew Trainer per Heavy Brigade Combat Team (HBCT)
- 2ea Virtual Crew Trainers per Separate Chemical Company (Combat Support)

Functional Description:
The Nuclear Biological Chemical Reconnaissance Vehicle Crew Virtual Trainer is a computer based training system that supports the NBCRV platform. The trainer uses the Americas Army (AA) graphics engine while providing two methods of training. The first method: classroom training provides – software and limited mockups for training institutional, unit sustainment, and New Equipment Training (NET) of CBRN sensor equipment. The second method: class room individual and crew-drill training, provides – networked hardware & software to simulate NBCRV vehicle and sensor instruction. Each trainer suite consists of:

1. Instructor Station: The instructor station controls the exercise selection, location, and scenario. Station components allow the instructor to monitor and evaluate the performance of the trainees working on the other three stations.

a.) Instructor AA laptop computer, running Windows XP. Used to run the AA program and AA server.
b.) Instructor FBCB2 - A ruggedized laptop, running Linux. Used to run the FBCB2 program.

2. Driver Station: The driver views the selected exercise on the Driver AA laptop and drives the vehicle using the driver controls - Driver Wheel/Gear Box. The Driver has several visual views to select from in the AA program, which simulates those visual views available in the Stryker vehicle.

a.) Driver AA Laptop - A laptop computer, running Windows XP. Used to run the AA program.
b.) Driver Wheel/Gear Box - Controls vehicle direction and gear during AA simulation. Gear number and speed is displayed on Driver AA laptop screen during AA simulation.
c.) Driver Pedals – Controls vehicle speed during AA simulation. Right pedal accelerates and left pedal brakes.

3. Commander Station: The Commander views the selected exercises on the on the Commander AA laptop. The view shown on the AA laptop can be toggled through Remote Weapon Station (RWS), left, center, and right periscope views. The commander also has tactical Nuclear, Biological and Chemical Detection Analysis Communication System (NBCDACS) and Force XXI Battle Command, Brigade and Below (FBCB2) software on two ruggedized laptops. This software is integrated with the simulation to display NBC analysis and navigational information that is appropriate for the simulated environment.

a.) Commander NBCDACS – A ruggedized laptop running Windows XP. Used to run the NBCDACS program.
b.) Commander AA Laptop – A laptop computer running Windows XP. Used to run the AA program.
c.) Commander FBCB2 – A ruggedized laptop, running Linux. Used to run the FBCB2 program.

4. Surveyor Station: The Surveyor observes detection status on software simulations and mock-up devices of NBCRV sensors, reacts to agent alarms, deploys agent markers, and simulates other NBCRV surveyor functions.

a.) Surveyor NBCDACS – A ruggedized laptop, running Windows XP, Used to run the NBCDACS program.
b.) Surveyor AA laptop – A laptop computer, running Windows XP. Used to run the AA program and the message router.
c.) Surveyor Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD) Virtual Trainer – A ruggedized laptop, running Windows XP, Runs the software that simulates JSLSCAD functions. The JSLSCAD Operator Display Unit (ODU) Mock-up is also part of the Surveyor JSLSCAD Virtual trainer.
d.) Surveyor Chemical Biological Mass Spectrometer (CBMS) Virtual Trainer – A ruggedized laptop, running Windows XP, Runs the software that simulates CBMS functions. The CBMS Soldier Display Unit (SDU) mock-up and Double Wheel Sampling System (DWSS) Control Box Mock-up are also part of the Surveyor CBMS Virtual trainer.
e.) Surveyor Ruggedized Laptop – Provides a Virtual Chemical Vapor Sampling System (CVSS); Virtual Joint Biological Point Detection System (JBPDS); and Virtual METSMEN (Meteorological Data).
f.) DWSS Control Box Mock-up – A physical mock-up of the control-box, used with the CBMS.
g.) CBMS Soldier Display Unit (SDU) Mock-up and stand – A physical mock-up of the CBMS SDU and stand.
h.) JSLSCAD ODU Mock-up and stand – A physical mock-up of the JSLSCAD ODU and a stand.

5. Instructor Station: Controls the exercise selection, location, and scenario. The station components allow the instructor to monitor and evaluate the performance of the crew/individuals working on the other three stations.

a.) Instructor AA laptop computer, running Windows XP. Used to run the AA program and AA server.
b.) Instructor FBCB2 - A ruggedized laptop, running Linux. Used to run the FCBC2 program.

Physical Information:

Instructor AA Laptop	Instructor FBCB2	Driver AA Laptop
Driver controls – Wheels and Gearbox Unit	Driver controls – pedals	Steering wheel/pedals
Commander AA laptop	Commander NBCDACS	Commander FBCB2
Surveyor JSLSCAD Virtual Trainer	Surveyor NBCDACS	Network Hub
Surveyor JSLSCAD Display Mock – up	Surveyor AA Laptop	Projector
Surveyor CBMS II Virtual Trainer	Virtual CVSS	Cabeling
Surveyor CBMS II Display Mock-up	Virtual METSMAN	RWS Grip
Surveyor DWSS Control Box Mock-up	Virtual JBPDS	Transit Cases

Equipment Required, Not Supplied:
Clean dry indoor location; Large Table/s (tables side by side) capable of holding all the equipment.

Special Installation Requirements:
Follow setup procedures within the Technical Manual (TM).

Power Requirements:
The trainer requires a standard 120 V power source. At least two power strips should be used with the trainer, plugged into two wall outlets.

Applicable Publications:
MIL-STD-498; Virtual Crew Trainer TM 3-6665-406-10; complete list of all sensor and NBCRV TM's: NBCRV Operator TM 9-2355-311-10-10-1, 2 & 3 (volume 1, 2 & 3), Stryker Common TM 9-2355-311-10-1-1 & 2 (Volume 1 & 2), NBCSPG TM 3-6665-391-13&P, CBMS TM 3-6665-392-10, JSLSCAD TM3-6665-353-12&P, CVSS TM3-6665-393-13&P, JBPDS TM 3-6665-352-12&P.

Reference Publications:
None

Training Requirements Supported:
NBCRV Stryker Brigade Combat Team (SBCT) Course and the awarding of the Additional Skill Identifier (ASI) L6 at the U.S. Army CBRN School (USACBRNS); Unit Sustainment Training for SBCT, Heavy Brigade Combat Team (HBCT) and Separate Chemical Companies (Combat Support CS).

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BASIC SERIES 05
ENGINEER

TRAINING AID, MODEL BRIDGE: BAILEY

Logistic Responsible Command, Service, or Agency:
ATCOM

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To realistically demonstrate the methods of assembling the actual bridge, and for conducting practical exercises in constructing M2 Bailey-Type Bridges. The trainer is intended to be used for instruction in all phases of construction of this type bridge equipment. It can also be used for teaching the techniques of demolition of panel-type bridges and for demonstrating techniques involved in river crossing operations. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer is a 1:8 scale model of the M2 Bailey-Type Bridge. The trainer provides enough equipment to construct 10 bays (equivalent to 100 feet) of triple-single construction with launching nose; 9 bays (90 feet) of double-double construction; 6 bays (60 feet) of triple-double construction; 8 bays (80 feet) of double-triple construction; and 6 bays (60 feet) of triple-triple construction. Enough additional equipment is supplied to construct 2 bays of ramp. Lengths of the model bridges are restricted by the amount of equipment provided. Assembled model bridges have an overall width of 30" without the footwalks, and 38" with them. They vary in length from 15" to 180", and in height from 9" to 7".

Each bridge model kit is packed in three compartmented chests. A loading plan is located on the inside cover of each chest.

Physical Information:
Chest dimensions: 29" x 27" x 12"; 114 lb

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
TM 5-277K

Reference Publications:
TM 5-277

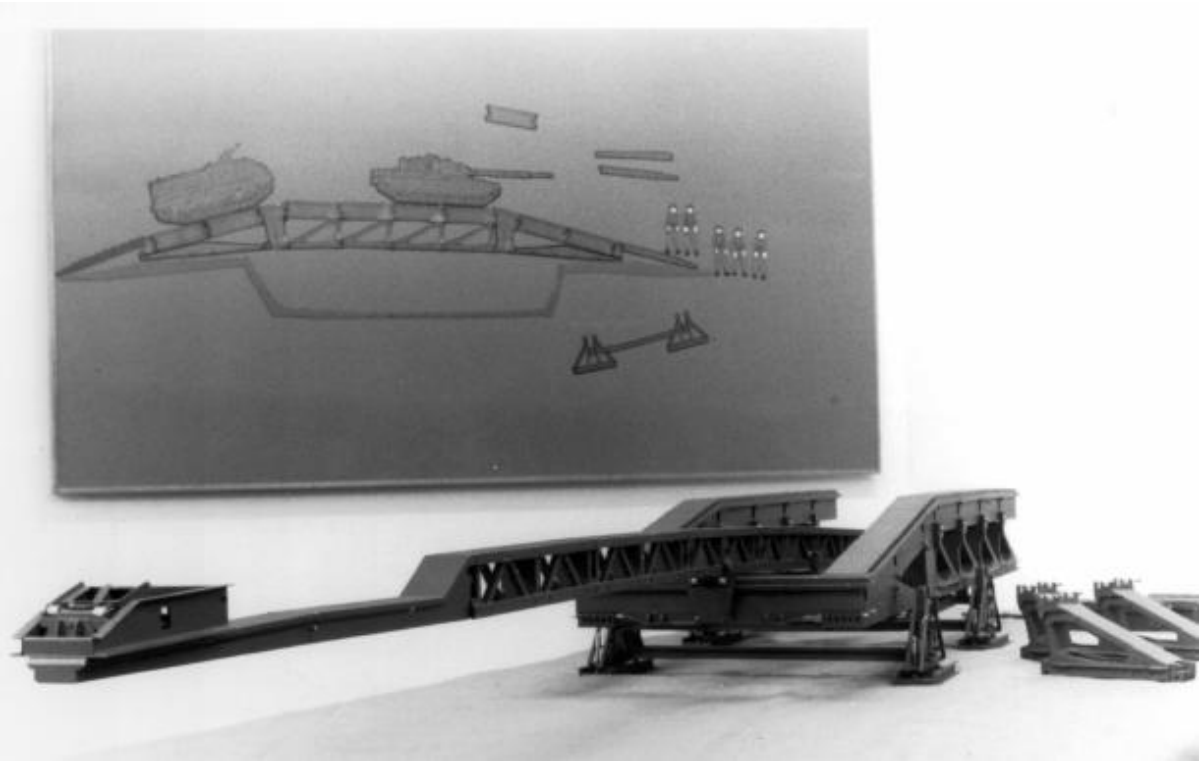
Training Requirements Supported:
ARTEP Tasks
8-8 8-9

MOSC 12B30, 12B40, 12C30, and 12C40

SM 051-197 Tasks

3006	3009	3011	3013
3007	3010	3012	4028
3008			

TRAINING SET, MEDIUM GIRDER BRIDGE MODEL 1/12 SCALE



Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Medium Girder Bridge Training Set (MGBTS) will be used as a training vehicle to initially train and then to maintain the functional proficiency of both Active and Reserve Components of the US Army to:

1. Identify the Medium Girder Bridge Components
2. Erect a single and double story girder bridge.
3. Load and unload Medium Girder Bridge components.
4. Layout bank markings for a single and a double story bridge.
5. Identify the necessary bridge building work parties.
6. Disassemble and assemble single and double story Medium Girder Bridge.

Functional Description:
The MGB Model is a detailed accurate scale model of the US adaptation of the UK Medium Girder Bridge currently being built for delivery into the Army's inventory. The device will be able to be assembled/disassembled in the same manner as the actual bridge. Each model set will consist of a 1:12 scale replication of the single story 5- bay ramp, 4 feet 4 inches in length, or the 12-bay double story, 10 feet 10 inches in length with erection set (the same composition as the actual MGB) packaged in both a shipping and storage container.

All the bridge set components and most of the erection set components perform the same functions as their tactical counterparts. The exceptions are that some rollers and jacks may be in a fixed position, rather than being fully functional.

The storage container has doors on both sides for ease of access, and is equipped with handles to facilitate movement.

Spare parts for both the bridge set and the erection set will be packaged in a separate storage/shipping container(s).

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
TM-5-5420-212-12

Reference Publications:
(Information not available)

Training Requirements Supported:
ARTEP Tasks
8-21 8-22 8-23

Soldier Manual Task Supported (Individual)

Task No.	Task Title
051-197-1019	Identify erection components used to erect a Medium Girder Bridge (MGB).
051-197-1020	Identify Medium Girder Bridge components.

MODULAR PACK MINE SYSTEM (MOPMS) TRAINING DISPENSER

Training Category/Level Utilized:
Combat/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available as directed by MOPMS distribution plan.

Purpose of Trainer:
The M136 MOPMS Training Dispenser is the trainer for the M131 MOPMS Ground Dispenser and Mine. It is used to demonstrate operation and maintenance procedures for the MOPMS.

Functional Description:
Constructed of high-density polyethylene the trainer is a self-contained shipping, storage and deployment unit. It is equipped with two handling straps and four foldout carrying handles. It is similar to the M131 (tactical) dispenser; however, it is completely inert and does not contain mines. The battery powered indicator control contains the electronics package, which receives, interprets and acts upon the signal received from the M71, Remote Control Land Mine System. An externally mounted lamp indicates receipt of a deploy command.

Physical Information:
Length: 32"; Width: 23"; Height: 14"; Cube: 5.7 cu ft; Weight: 155 lb.

Equipment Required, Not Supplied:
Control, Remote, Land Mine: M71

Special Installation Requirements:
None

Power Requirements:
Lithium Cell Battery: BA 5598/U

Applicable Publications:
TM 9-1345-209-10
TM 9-1290 208-23 & P
TM 9-1345-209-24 & P

Reference Publications:
TM 9-1345-209-10
TM 9-1290-208-23 & P
TM 9-1345-209-24 & P

Training Requirements Supported:
Operators of training device: MOSC 11B, 11C, 11H, 11M, 12B, 13B, 13E, 16R, 19E, 19D, 19K66

BUFFALO LIVE ARM TRAINING SYSTEM (BLATS)

Training Category/Level Utilized:
Engineer/ Assured Mobility/ Level 3

Logistic Responsible Command, Service, or Agency:
PEO Combat Support & Combat Service Support
PM Force Projection Product Manager
Assured Mobility Systems
TACOM/Detroit Arsenal
6501 E. 11 Mile RD
Warren, MI 48397-50

Source and Method of Obtaining:
PEO Combat Support & Combat Service Support
PM Force Projection Product Manager
Assured Mobility Systems

Purpose of Trainer:
BLATS offers an entirely self sufficient and mobile training platform for the familiarization of the Mine Interrogation Arm and all related Components for the current BUFFALO configurations. The BLATS system is designed to familiarize the Route Clearance Operator with the operation of the Interrogation arm capabilities and video system while interrogating a suspected Improvised Explosion Devise before entering the combat theater.

Functional Description:
The basic simulator is designed to recognize a suspected hazard while using the video system, Uncover and identify the suspected hazard and move the suspected hazard to a safe zone while the individual soldier is never required to exit the protection of the hull. These scenarios need to be simulated for the following real world situations.

- Route clearance for convoys routes
- Route clearance for foot patrols routes

For these scenarios we then need to simulate the following soldier task.

- Prepare operation/unstow interrogation arm.
- Probe suspicious objects roadside (vehicle on road object off road).
- Probe suspicious object in road (within the road edge boundaries).
- Probe suspicious object roadside over an obstruction.
- Probe suspicious object in road over an obstruction.
- Probe suspicious object with vehicle completely off road.
- Probe with object on a rising slope.
- Probe with object on a falling slope.
- Digging with the spike.
- Picking up an object with the spork.
- Raising and lowering of the interrogation arm (though all limitations).
- Rotation of arm though all limitations.
- Extension of arm though all limitations.
- Video system operation.
- Complete stowage of the interrogation arm.

The Blats will train the Soldier on the above competencies and familiarizes them with the efficient use of the above operations.

In order to provide realistic training the BLATS is constructed of a light sheet metal fabricated to have the look and feel of the current Buffalo. Placed inside of the frame is the original dash, seats, video monitor, crane camera control system and electronic crane control station. This frame is mounted on a mobile civilian purchased trailer giving it the capability of being moved to various location sites in order to obtain the correct training environment. In order to maintain structural integrity The BLATS utilizes the original bumper and Interrogation Arm

The primary electronic power source is provided by a Northern Star 6500 Watt Diesel Generator. The generator supplies power to the climate control unit. This allows soldiers to be trained in any weather condition.

The 12Volt power supply is obtained from the battery that is located on the Generator and supplies the electronics for the Interrogation Arm electronic control station (Located within the Cab) as well as the Lights, and electric fan. This battery is recharged though the generator itself.

The Hydraulics required to operate the interrogation arm is supplied by a Yanmar motor and Hydraulic pump.

Both the Generator and hydraulic motors are permanently mounted onto the side of the trailer in a location that allows for easy operation and routine maintenance to be performed.

The BLATS is a very sophisticated, yet easy simulator to use. The benefit of this simulator is that all components are from the exiting BUFFALO's currently used in the army's arsenal. This simulator offers the best advantages for allowing the soldiers to become familiar with the interrogation arms capabilities and controls prior to deploying to a real world environment.

There are currently 2 EA BLATS systems in use at the Fort Leanardwood Counter Explosive Hazard Center since FY 2007 with an additional one built in FY 2008 that has traveled from post to post training deploying units and currently has acquired over 4000 training hours. We expect to field these BLATS in FY 2009 to increase the unit and individual solders capability prior to deployment.

Physical Information:

Simulator
??????? Weight
372" Length
102" Wide
153" High

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

Self Sufficient (No external means required)

Applicable Publications:

North Star Generator Users Manual
Yanmar Motor Users Manual

Reference Publications:

TM 9-2320-327-10

Training Requirements Supported:

(Information not available)

M-7 DISPENSING SET, MUNITION, NETWORK COMMAND (SPIDER) TRAINER

SPIDER OPERATING SYSTEM

Training Category/Level Utilized:
Engineer/Level-1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
PM CCS has LRIP contract for the Spider system and CLS for system support for one year. Spider is scheduled for full materiel release in February 2009.

Purpose of Trainer:
The Spider Trainer, Dispensing Set, Munition, Network Command, NSN: 6920-01-568-7847, enables system training without live fire. It is comprised of two XM-92 Miniature Grenade Training Simulator (MGTS) Kits (6920-01-560-7248) and two Munition Control Unit Trainer (MCUT) Kits (6920-01-565-5599).

Functional Description:
The XM-96 MCUT is a training device with the same size, weight, and functionality of the Munition Control unit (MCU). The differences are the blue color, the munition port keying to prevent the insertion of Munition Adaptor Modules (MAMs) and Miniature Grenade Launcher (MGLs) and the immediate reusability of the unit after sterilization.

The XM-92 MGTS allows for safe training with tactical hardware by replacing the lethal grenades with training simulators. The MGTS simulates all the launch and firing events to the Munition Control Unit (MCU) of an actual (MGL). The MGTS contains a magnetic reed switch that transitions a visual indicator ball from black (unfired) to white (fired).

Physical Information:
The XM-92 MGTS containers are 18.60 wide x 8.40 deep x 14.60 inches high, weigh approximately 28.19 pounds each when loaded and have a cube of 1.32 ft^3.

XM-92 MGTS

The XM-96 MCUT container is green with a wide blue band around the bottom 1/3 of the can. The containers are 11.25 deep x 18.50 inches high, weigh approximately 36.2 pounds each when loaded and have a cube of 1.06 ft^3.

The XM-96 MCUT Kit container includes: 2 MCUTs, 2 antennas, 6 MCUT stakes, 6 sand bags, and 6 hardwire trip line spools.

Equipment Required, Not Supplied:
Dispensing Set, Munition, Network Command: XM7, Spider, LIN: M92387, NSN: 1230-01-536-0128.

Special Installation Requirements:
(Information not available)

Power Requirements:
The XM-96 MCUT is powered by 4 LSH 20 batteries (6135-01-463-7077). Batteries should last up to 30 days depending on usage of the MCUT.

The Spider system power requirements are shown in the TM 9-1230-781-13&P.

Applicable Publications:
TM 9-1230-781-13&P Technical Manual Operator and Field Maintenance Manual, Including Repair Parts and Special Tools List For Operator's and Field Maintenance Manual (Including Repair Parts and Special Tools List) (NSN: 1230-01-536-0128) (EIC: 4XA), (NSN: 6920-01-568-7847)

Reference Publications:
FM 3-34.210 (Formerly FM 20-32) Explosive Hazards Operations. This Engineer School field manual provides Training and Doctrine information for networked munitions systems.

Training Requirements Supported:
MOSC 21B, 11B, 19D, 19K, 18B, 18C

WIDE AREA MUNITION (WAM) (HORNET) COLLECTIVE TRAINER XM97

Wide Area Munition (Hornet) XM98 Individual Trainer with Legs down and dummy sensors deployed and XM97 Collective trainer with Safe and Handling Band installed. Both trainers are inert.

Logistic Responsible Command, Service or Agency:
TACOM Rock Island (formerly ACALA).

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainers were designed to provide the Combat Engineer with a classroom training aid as well as a field trainer for use in a collective environment such as the training centers. Thought they do no directly interact with the training centers computer simulations, they provide the employing soldier with realism through this hand on item.

Functional Descriptions:
The Wide Area Munition (WAM) or Hornet, as the Combat Engineers call it, has two devices to support training. They are the Individual Trainer (XM98) and the Collective Trainer (XM97). Both are inert training aids with the same physical dimensions and weight as the tactical Hornet Hand Emplaced (HE) XM93 munition. Both trainers weigh 35 pounds and are packaged in a PA160 shipping and storage container. They are marked with a blue stripe to distinguish them from live-loaded munition. Many tactical parts, such as the safe and handling band, are the same as used on the tactical munition.

The Hornet Collective Trainer, XM97:
The Hornet collective trainer is a totally inert training device used to train personnel in a collective environment. It is designed rugged to be used in a field environment to practice emplacement at an emplacement sites. It is not powered and give no illuminated indication, but has all the controls and they can be set. The XM97 does not deploy legs or microphone probes since these features are not required for arming or deployment. The XM97 will provide the operator with a nonfunctional mechanical interface with the M71 RCU and an antenna simulator.

Physical Information:

Height:	16.75 in. (42.5 cm) w/S&H band assembly
	12.5 in. (31.7 cm) w/o S&H band assembly
Width:	7.93 in. (20.1 cm) (across flats)
Diameter:	8.4 in. (21.3 cm) (with cover)
	8.0 in. (20.3 cm) (without cover)
Weight:	35 lb. (15.9 kg)

Shipping and storage container (PA 160):

Height	22 in. (55.8 cm)
Width	11 in. (27.9 cm) (flat to flat of rim)
Length	11 in. (27.9 cm) (flat to flat of rim)
Body tube	10 in. (25.4 cm) (inside diameter)
Container weight	20.6 lb. (9.3 kg) (empty)
Internal packing	1.4 lb. (0.6 kg)
Container weight	57 lb. (25.9 kg) (loaded)

Equipment Required, Not Supplied:
M71 Remote Control Unit (RCU) - TM 9-1290-208-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) For Control, Remote, Land Mine System: M71 (NSN 1290-01-161-3662). Organic to using units.

Power Requirements:

No external power required. Internally the XM98 uses one lithium BA 5112/U battery. This battery is available through the standard Army supply system. The Training Support Center (TSC) or maintenance personnel will install the battery.

Applicable Publication:

TM 9-1395-200-10 - Operator's Manual for Munition, Wide Area: XM93, Hand Emplaced (Hornet) (NSN 1377-01-425-7579 and Control, Remote, Land Mine System: M71 (NSN 1290-01-161-3662, Munition, Wide Area: Training Device XM98 (NSN 6920-01-432-9357), Collective Trainer, XM97) (NSN 6920-01-458-4335.

TM 9-1395-200-23&P - Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Munition, Wide Area: XM93, Hand Emplaced (Hornet) (NSN 1377-01-425-7579 and Munition, Wide Area: Training Device XM98 (NSN 6920-01-432-9357), Collective Trainer, XM97) (NSN 6920-01-458-4335.

Reference Publication:

FM 20-32 Mine/Countermine Operations. This USA Engineer School field manual provides the Training and Doctrine information for the XM93 WAM (Hornet).

Training Resident Courses at US Engineer School, Fort Leonard Wood:

12B OSUT, 12B BNCOC, 12B ANCOC, 12B OBC, and OAC.

Training Requirements Supported:

The WAM munitions have been incorporated in tasks: 5-3-0112; Emplace a Tactical Minefield and 5-3-0115; Emplace a Hasty Protective Minefield. The MTPs those tasks are attached to are:

5-027-35	EN CO, EN BN (ABN)
5-027-10	EN PLT, EN CO, EN BN (ABN)
5-427-35	EN CO, EN BN, CORPS (WHL)
5-427-10	EN PLT, EN CO, EN BN, CORPS (WHL)
5-157-35	EN CO, EN BN, INF DIV (LT)
5-157-10	EN PLT, EN CO, EN BN, INF DIV (LT)
5-447-35	EN CO, EN BN, CORPS (ABN)
5-447-37	EN CO, EN BN, CORPS (LT)
5-447-10	EN PLT, EN BN, CORPS (ABN)
5-447-11	EN PLT, EN BN, CORPS (LT)
5-217-35	EN CO, EN BN (AA)
5-217-10	EN PLT, EN CO, EN BN (AA)
5-063-35	EN CO, BRIGADE COMBAT TEAM
5-063-10	EN MOB PLT, EN CO, BCT
5-063-11	EN MOB SPT PLT, EN CO BCT

WIDE AREA MUNITION (WAM) (HORNET) INDIVIDUAL TRAINER XM98

Wide Area Munition (Hornet) XM98 Individual Trainer with Legs down and dummy sensors deployed and XM97 Collective trainer with Safe and Handling Band installed. Both trainers are inert.

Logistic Responsible Command, Service or Agency:
TACOM Rock Island (formerly ACALA).

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainers were designed to provide the Combat Engineer with a classroom training aid as well as a field trainer for use in a collective environment such as the training centers. Thought they do no directly interact with the training centers computer simulations, they provide the employing soldier with realism through this hand on item.

Functional Descriptions:
The Wide Area Munition (WAM) or Hornet, as the Combat Engineers call it, has two devices to support training. They are the Individual Trainer (XM98) and the Collective Trainer (XM97). Both are inert training aids with the same physical dimensions and weight as the tactical Hornet Hand Emplaced (HE) XM93 munition. Both trainers weigh 35 pounds and are packaged in a PA160 shipping and storage container. They are marked with a blue stripe to distinguish them from live-loaded munition. Many tactical parts, such as the safe and handling band, are the same as used on the tactical munition.

The Hornet Individual Trainer, XM98:
The XM98 is use in a classroom type environment to replicates the tactical XM93 Hornet munition. It is capable of receiving radio signals from the M71 RCU, just like the tactical munition. The RCU is an Associated Support Item of Equipment (ASIDE) for Hornet and is on the unit's Table of Organization and Equipment (TOE) item, not part of the Hornet system. The Hornet Individual trainer control panel is identical to the XM93 munition. A simulator battery pack is used in the individual trainer in place of the tactical Hornet's active battery pack. Switches and knobs are functional and most parts are similar to the tactical Hornet. The legs are individually deployable and the trainer has an instructor feedback panel that provides feedback to the instructor to aid evaluation that the operator actions were completed correctly.

Physical Information:

Height:	16.75 in. (42.5 cm) w/S&H band assembly
	12.5 in. (31.7 cm) w/o S&H band assembly
Width:	7.93 in. (20.1 cm) (across flats)
Diameter:	8.4 in. (21.3 cm) (with cover)
	8.0 in. (20.3 cm) (without cover)
Weight:	35 lb. (15.9 kg)

Shipping and storage container (PA 160):

Height:	22 in. (55.8 cm)
Width:	11 in. (27.9 cm) (flat to flat of rim)
Length:	11 in. (27.9 cm) (flat to flat of rim)
Body tube:	10 in. (25.4 cm) (inside diameter)
Container weight:	20.6 lb. (9.3 kg) (empty)
Internal packing:	1.4 lb. (0.6 kg)
Container weight:	57 lb. (25.9 kg) (loaded)

Equipment Required, Not Supplied:
M71 Remote Control Unit (RCU) - TM 9-1290-208-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) For Control, Remote, Land Mine System: M71 (NSN 1290-01-161-3662). Organic to using units.

Power Requirements:
No external power required. Internally the XM98 uses one lithium BA 5112/U battery. This battery is available through the standard Army supply system. The Training Support Center (TSC) or maintenance personnel will install the battery.

Applicable Publication:
TM 9-1395-200-10 - Operator's Manual for Munition, Wide Area: XM93, Hand Emplaced (Hornet) (NSN 1377-01-425-7579) and Control, Remote, Land Mine System: M71 (NSN 1290-01-161-3662), Munition, Wide Area: Training Device XM98 (NSN 6920-01-432-9357), Collective Trainer, XM97 (NSN 6920-01-458-4335).
TM 9-1395-200-23&P - Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Munition, Wide Area: XM93, Hand Emplaced (Hornet) (NSN 1377-01-425-7579) and Munition, Wide Area: Training Device XM98 (NSN 6920-01-432-9357), Collective Trainer, XM97 (NSN 6920-01-458-4335).

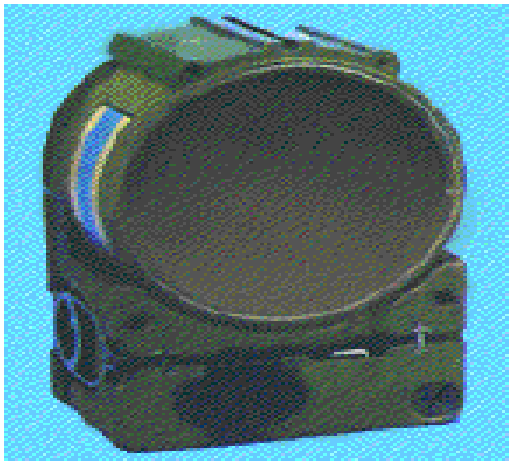
Reference Publication:
FM 20-32 Mine/Countermine Operations. This USA Engineer School field manual provides the Training and Doctrine information for the XM93 WAM (Hornet).

Training Resident Courses at US Engineer School, Fort Leonard Wood:
12B OSUT, 12B BNCOC, 12B ANCOC, 12B OBC, and OAC.

Training Requirements Supported:
The WAM munitions have been incorporated in tasks: 5-3-0112; Emplace a Tactical Minefield and 5-3-0115; Emplace a Hasty Protective Minefield. The MTPs those tasks are attached to are:

5-027-35	EN CO, EN BN (ABN)
5-027-10	EN PLT, EN CO, EN BN (ABN)
5-427-35	EN CO, EN BN, CORPS (WHL)
5-427-10	EN PLT, EN CO, EN BN, CORPS (WHL)
5-157-35	EN CO, EN BN, INF DIV (LT)
5-157-10	EN PLT, EN CO, EN BN, INF DIV (LT)
5-447-35	EN CO, EN BN, CORPS (ABN)
5-447-37	EN CO, EN BN, CORPS (LT)
5-447-10	EN PLT, EN BN, CORPS (ABN)
5-447-11	EN PLT, EN BN, CORPS (LT)
5-217-35	EN CO, EN BN (AA)
5-217-10	EN PLT, EN CO, EN BN (AA)
5-063-35	EN CO, BRIGADE COMBAT TEAM
5-063-10	EN MOB PLT, EN CO, BCT
5-063-11	EN MOB SPT PLT, EN CO BCT

SELECTABLE LIGHTWEIGHT ATTACK MUNITION (SLAM)



Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
(Information not available)

Source and Method of Obtaining:
The Selectable Lightweight Attack Munition (SLAM) is a lightweight, compact hand emplaced munition developed for Special Operations Forces (SOF). This mine/demolition device, with its revolutionary design, offers the user multiple modes of operation and termination. Its Explosively Formed Pentrator (EFP) Warhead gives SLAM the capability to engage targets at a close range or at stand-off distance of up to25 feet. SLAM's small size, versatility, and high lethality make it an effective weapon system in a hostile, unpredictable environment.

Purpose of Trainer:
The SLAM will be employed by SOF units beyond the FLOT to destroy enemy vehicles, parked aircraft, ammunition and POL sites, and storage facilities while avoiding direct contact with the enemy.

Functional Description:
Four operational modes encluding:
- Mine - Target overpass, magnetic influence
- Side Attack - target side pass, thermal differential Influence.
- Timed Demolition - Preset set time
- Command detonation - Operator input to blasting cap

Physical Information:
Size:

Length	5.2 in
Width	3.5 in
Depth	2.2 in

Weight: 2.2 lb

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

Training Requirements Supported:
(Information not available)

TRAINING KIT, SELECTABLE LIGHTWEIGHT ATTACK MUNITION (SLAM) ARMY M320E1 (UPGRADE)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PM-CCS, Enterprise & Systems Integration Center U.S. Army, ARDEC

Source and Method of Obtaining:
Available through local Training Support Center (TSC).

Purpose of Trainer:
The purpose of this training device is to train all Soldiers prior to live fire of the M4E1. The United States Engineer School, Ft. Leonard Wood, MO has determined that the audio and visual feedback provided by the M320E1 SLAM trainer is adequate, realistic training for Soldiers. This feedback will allow Leaders and operators to train in a safer environment and even reduce the amount of live fires per year that will be needed to fill the STRAC requirement. The current STRAC requirement is 1 live M4E1 SLAM per year per light Engineer Squad to 1 per Engineer Company since the trainer is so advanced/realistic.

Functional Description:
The M320E1 SLAM Improved Functional Trainer (SIFT) is composed of all the safety features, controls, interfaces and algorithms of a fully functional tactical M4E1 SLAM. The M320E1 SIFT does not have warhead explosives and explosive train, the Safe and Arming (S&A) device and the Lithium Reserve battery. The SIFT uses a similar housing and external operator interfaces as the M4E1 SLAM munition. It is as rugged as the M4E1 and is designed for classroom training. The SIFT contains outputs which can be used to power and control a Multiple Integrated Laser Engagement System (MILES) or Simulated Area Weapons Effects (SAWE) module. It incorporates a 9-volt commercial battery to power itself and both visible and audible indicators used as feed back when an error in setting the trainer is made as well as when it fires. These indicators can be turned off during the training session and turned on afterward to report if an error was made during the training session as well as the type of error. A provision is made to allow re-insertion of the SMEP and safety pin allowing multiple uses.

Physical Information:
The SLAM consists of the following parts packed in a PA 60 container. The Reusable Environmental Protective Pack (REPP), a Mounting Wire which is 16 feet of steel wire that can be used for tying SLAM to objects during emplacement. The mounting wire is wound in a flat spool and stored in the REPP, Carrying Strap is an adjustable nylon strap containing two snap hooks for attaching it to a REPP. The carrying strap may be used for mounting the SLAM to trees, poles, or other objects. Attached to the strap are two mounting nails and support wire, M1A5 priming adapter. A Leg Strap is provided for securing the REPP to the leg, or waist during carrying. The strap can be removed from the REPP and used to assist in mounting the SLAM. The instruction sheet found in the REPP is intended to be a memory toll for recalling procedures. The laser sight attaches to the SLAM omega sight, it allows for more accurate aiming for the side attack mode. The M320E1 SLAM training device is identical to M4E1 SLAM in size. Gold "INERT" decals are affixed to the M320E1 to designate it as a training device and help distinguish it from the tactical M4E1. The M320E1 is black with black markings and a black "warhead" where the indicator lights and battery are housed. Dimensions are 5.6 in x 3.9 in x 5.6 in 14.2 cm x 9.9 cm x 14.2 cm. The weight is 2.6 lb (1.2 kg). The M320E1 is a class VII level of supply.

Equipment Required, Not Supplied:
SLAM M320E1 Training Kit PA 60 Container Contents consists of 4 trainers per training kit, to include:

Leg Straps 8, Cross Tip Screwdriver 1, Laser Sights 4, Carrying Straps 8, REPPs Containing M320E1 SIFTS 4, Long Foam Padding Piece 4, Short Foam Padding Piece 2.

4 SIFT Spares Packs:

Spares Pack No. 1; Activation Lever Assembly 45, Activation Lever Assembly 15, Sensor Mode Enable Pin 60.

Spares Pack No. 2; Label, LED 5, Label INERT 20, Reset Tool (Hex L-Key) 10.

Spares Pack No. 3; Mounting Wire 16, Safety Pin 80, Activation Lever Shear Pin 200, Blasting Cap Well Plug 20.

Spares Pack No. 4; PIR Cover 20, Laser Sight 2, Laser Sight Lithium Battery 1/3N 6.

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
TM 9-1375-233-12 – Operator's and Unit Maintenance Manual – Draft 27 Feb 2008

TM 9-1375-213-34 – Direct Support and General Support Maintenance Manual for Demolition Materials.

Reference Publications:
AR 385-64: U.S. Army Explosives Safety Program

DA PAM 385-64: Ammunition and Explosives Safety Standards.

TM 60 Series – Explosive Ordinance Demolition Technical Manual.

FM 3-34.214 – Explosive and Demolitions.

AN/PSS-14 TRAINING SET INCLUDES: SWEEP MONITORING SYSTEM (SMS) TRAINING TARGET SET (TTS)

Sweep Monitoring System shown with tripod, with tracking cameras mounted top and bottom, cabled to instructor's base station computer.

AN/PPS-14 Training Target System

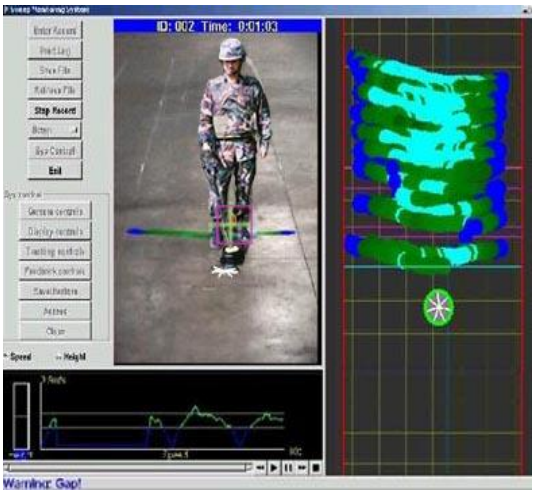
Training Category/Level Utilized:
Ordnance/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The AN/PSS-14 Training Set includes the Sweep Monitoring System (SMS) and the Training Target Set (TTS) and is used to train personnel assigned to a mine detection mission. The AN/PSS-14 Training Set supports New Equipment Training (NET), institutional training, and unit sustainment training. The SMS is a camera-based training tool that assists student-operators in acquiring and maintaining the skills required to properly employ the AN/PSS-14 Mine Detecting Set. The SMS provides real-time audio and visual feedback to the instructor and operator regarding lane coverage, sweep speed, and sensor head height.

Functional Description:
The SMS consists of a ruggedized base station computer, a tripod with two tracking cameras and speaker, and an ultra-lightweight optical target mounted atop the AN/PSS-14 Mine Detecting Set sensor head. Operator performance is displayed in real-time on the computer's display, and performance errors are announced in real-time through the speaker. Operator performance data is also stored for later review. The SMS is configured for a 1.5m



Instructor's view of base station computer (displays lane coverage, sweep speed, and sensor head height)

x 15m lane, replicating the combat mission scenario selected for the countermine training, mounted atop the AN/PSS-14 sensor head.

Virtual mines from the SMS database may be placed on the computer display to coincide with the placement of physical targets buried within a lane (such as the AN/PSS-14 Training Target Set, NSN 6920-01-554-5658, DVC 05-105/1), or used without physical counterparts, as needed.

Physical Information:

Tripod Storage Container, with Contents:

Weight	69 lb.
Length	19.5 in.
Width	60 in.
Height	12.5 in.

Base Station Storage Container, with Contents:

Weight	118 lb.
Length	27.5 in.
Width	37 in.
Height	19.5 in.

Tripod, Deployed:

Weight w/o main cable	36.5 lb.
Weight w/ main cable	43 lb.
Height	118.5 in.
Footprint	78 in. dia.

Base Station Computer, Deployed:

Weight with AC cable	36 lb.
Weight with DC cable	40 lb.
Length	20 in.
Width	17.5 in.
Height	13 in.

Optical Target Sphere:

Weight	<1oz.

Equipment Required, Not Supplied:

AN/PSS-14 Mine Detecting System, with ancillary equipment.

Special Installation Requirements:

(Information not available)

Power Requirements:

24/120/220VAC external power source

Applicable Publications:

TM 5-6665-373-12&P Manual for the AN/PSS-14 Mine Detecting Set, and TTS

TB 5-6665-412-10, Quick Reference Guide for the SMS and TTS

TM 5-6665-412-13&P, Operator and Field Maintenance Manual for the SMS and TTS

Training Resident Courses at:

USA Engineer School, Fort Leonard Wood:
CMF 21, CMF 21 BNCOC, Engineer Officer Basic Course (EOBC), and Engineer Captain Career Course (ECCC).

US Infantry School, Fort Benning:
CMF 11, CMF 11 BNCOC, ANCOC, Infantry Officer Basic Course (OBC), and Infantry Captain Career Course (ICCC).

Reference Publications:

FM 3-34.210. Explosives Hazards Operations

Training Requirements Supported:

Any personnel with a mine detection mission.

AN/PSS-14 TRAINING TARGET SET

NSN 6920-01-554-6002	DVC 05-105/1/A TT-30-AT (Training Target-30cm -Antitank, Low Metal)
NSN 6920-01-554-6012	DVC 05-105/1/B TT-25-AT (Training Target-25cm-Antitank, Low Metal)
NSN 6920-01-554-6017	DVC 05-105/1/C TT -20-AT (Training Target -20cm -Antitank, Low Metal)
NSN 6920-01-554-6028	DVC 05-105/1/D TT-12-AP (Training Target-12cm-Antipersonnel, Low Metal)
NSN 6920-01-554-6034	DVC 05-105/1/E TT-09-AP (Training Target-09cm-Antipersonnel, Low Metal)
NSN 6920-01-554-6038	DVC 05-105/1/F TT-06-AP (Training Target-06cm-Antipersonnel, Low Metal)
NSN 6920-01-554-6046	DVC 05-105/1/G TT-M-AT (Training Target-High Metal, Antitank)
NSN 6920-01-554-6054	DVC 05-105/1/H TT-M-AP (Training Target-High Metal, Antipersonnel)

Figure 1: Training Target Set

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Available from PEO STRI (ATTN: OPS-L), 12350 Research Parkway, Orlando, FL 32826.

Purpose of Trainer:
The AN/PSS-14 Training Targets are for use as training devices for training any Military Occupational Specialty (MOS) that is currently required to operate the AN/PSS-14 or similar mine detector, including, but not limited to, Combat Engineers, Infantry, Armor/Cavalry, Special Operations Forces and appropriate members of other services with a mine detection mission. The training targets are used in the conduct of new equipment training, institutional training, and unit sustainment training. Though developed as the training device for the Handheld Standoff Mine Detection System (HSTAMIDS), the training targets are also suitable for use in training of all hand held mine detector wands such as the AN/PSS-12.

Functional Description:
The training targets are selected and arrayed in a manner replicating the combat mission scenario selected for the countermine training.

Physical Information:

Training Target Overall Dimensions

Training Target Type	Diameter (cm)	Length (cm)	Quantity
TT-30-AT	30	10	12
TT-25-AT	25	8.33	14
TT-20-AT	20	6.67	12
TT-12-AP	12	4	12
TT-09-AP	9	3.15	14
TT-06-AP	6	3.15	12
TT-M-AT	30	10	14
TT-M-AP	9	3.15	14

Applicable Publications:
TM 5-XXXX-XXX-XX&P Operator's Manual for the AN/PSS-14 Mine Detecting Set;
TM 5-6665-298-10 Operator's Manual for the AN/PSS-12.

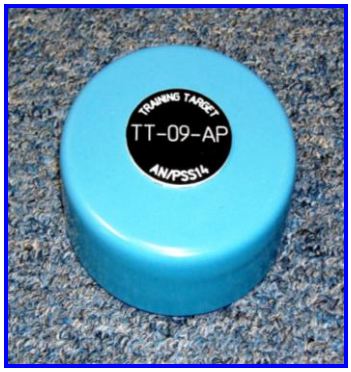
DVC 05-105/1A TT-30-AT

DVC 05-105/1B TT-25-AT

DVC 05-105/1C TT -20-AT

Figure 2: Low Metal Anti-Tank Training Targets

DVC 05-105/1D TT-12-AP



DVC 05-105/1E TT-09-AT

DVC 05-105/1F TT -06-AT

Figure 3: Low Metal Anti-Personnel Training Targets

DVC 05-105/1G TT-M-AT

DVC 05-105/1H TT-M-AP

Figure 4: High Metal Anti-Personnel and Anti-Tank Training Targets

Equipment Required, Not Supplied:
Tactical mine detector with ancillary equipment. SMS with Ancillary Equipment.

Power Requirements:
None

Reference Publications:
FM 20-32 Mine/Countermine Operations. This Engineer School field manual provides Training and Doctrine information for handheld mine detection systems.

Training Resident Courses at:

US Engineer School, Fort Leonard Wood:
CMF 11, CMF 12, CMF 11 BNCOC, CMF 12 BNCOC, ANCOC, Engineer Officer Basic Course (OBC), and Engineer Officer Advanced Course (AC)

US Infantry School, Fort Benning:
Infantry Officer Basic Course (OBC), and Infantry Officer Advance Course (AC)

Training Requirements Supported:
(Information not available)

RAPID WALL BREACHING KIT TRAINER (RWBK)

Training Category/Level Utilized:
Engineer-Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
ARDEC

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Classroom trainer (inert) will allow soldiers to train to standard with minimal impact on environmental resources.

Functional Description:
The Rapid Wall Breaching Kit (RWBK) provides a capability that is pre-formed, pre-packaged, and is easily and rapidly deployed. The kit provides an explosives means to rapidly create man-sized holes in buildings and walls for dismounted urban and mobility in complex terrain environments, to rapidly cut steel and other materials to breach obstacles, and to create obstacles to deny or impede enemy mobility.

Physical Information:
The RWBK consists of commercial explosives cutting tape (ECT) initiated by a Modernized Demolitions Initiator (MDI) and a RAE-16. These three items combined, along with a green carrying case complete the RWBK.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

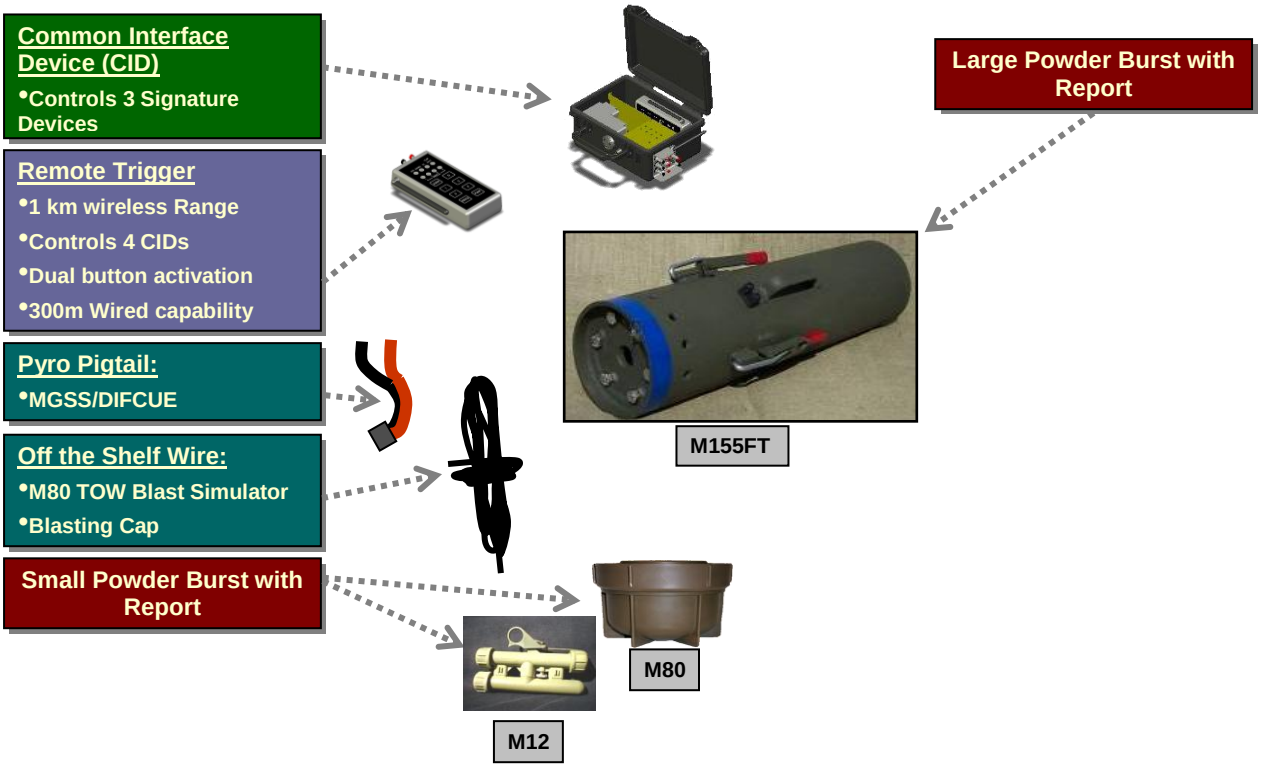
Power Requirements:
(Information not available)

Applicable Publications:
TM 9-1375-230-12&P JULY 2004 Operator and maintenance
TM 43-0001-38 MAY 2000 Army Ammunition Data Sheets

Reference Publications:
TM 60 series manual IAW AR 75-15 EOD render safe procedures

Training Requirements Supported:
MOSC 21B (Combat Engineers) 11B (Infantry) and any personal conducting urban operations.

TRAINING IMPROVISED EXPLOSIVE DEVICE (TIED)



Training Category/Level Utilized:
(Information not available)

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
(Information not available)

Functional Description:
(Information not available)

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
CECOM approved C Cell Batteries (10)
Frequency: 315 MHz on 4 channels
12vdc output

Applicable Publications:
(Information not available)

Reference Publications:
TM 9-6920-923-10 Operator's Manual Training Improvised Explosive Device (TIED).
SMM 9-6920-923-24&P System Maintenance Manual Training Improvised Explosive Device (TIED).

Training Requirements Supported:
(Information not available)

TRAINING IMPROVISED EXPLOSIVE DEVICE, INCREMENT 2 (TIED 2) COMMON INTERFACE DEVICE (CID), 433 MHz

Common Interface Device (CID)

Remote Trigger Unit (RTU)

Training Category/Level Utilized:
Engineer/Level

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The TIED 2 Common Interface Device (CID), and Remote Trigger Unit (RTU) form the detonation system used to activate various 12 volt cueing devices. The TIED 2 kit of which the CID and RTU are components simulate the experience of a live Improvised Explosive Device (IED). The kit creates explosion effects with various non-pyrotechnical and pyrotechnical cueing devices, both wired and unwired. The system is flexible and allows the use of various cueing devices as needed.

Functional Description:
The Common Interface Device provides electrical power and serves as the connection between the RTU and any attached cueing devices. Inside the CID is the necessary power source to trigger the various types of cueing devices including the Large IED Simulator, blasting cap(s), MGSS, and similar types of devices. The CID and RTU operate at 433 MHz Radio Frequency for OCONUS operations.

Physical Information:
CID Dimensions: 9.5” x 4.5” x 7.5 “ Weight: 6.2 lbs.
RTU Dimensions: 6.25” x 3” x 1.25” Weight: .04 lb.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

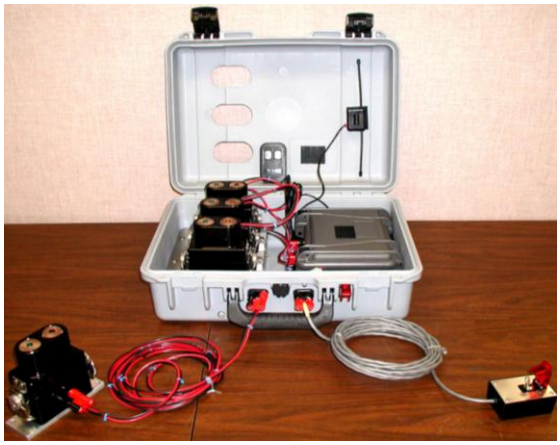
Power Requirements:
Common Interface Device: 12V Lead Acid Sealed Battery
Remote Trigger Unit: 9V dry cell Battery

Applicable Publications:
Operators Manual: 09-6920-923-10
System Maintenance Manual: 09-6920-923-24&P

Reference Publications:
(Information not available)

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely.

SELF CONTAINED PORTABLE (IMPROVISED EXPLOSIVE DEVICE) SIMULATOR (SCoPIS)



Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Self Contained Portable IED Simulator (SCoPIS) is a pyrotechnic training device. It is designed to be highly flexible and to allow flexibility in training. It is designed to replicate the visual signature, sound, and trigger activation of Improvised Explosive Devices (IEDs) used against U.S. and Allied troops around the world.

Functional Description:
The Self Contained Portable IED Simulator (SCoPIS) consists of (3) Firing Block devices, power pack, external case, and cabling. The (3) Firing Block devices are outfitted with dual in-line female banana connectors for ease of use, and electrostatic discharge filters to prevent static electricity discharges.

The power pack contains a 12 volt power supply, and features an integrated 315 MHz encoded receiver, built in arming delay, battery charger port, external trigger port, and an external device port. The external trigger port is a normally open circuit that when closed fires the device. This allows for the use of plug and play triggers of almost any type.

The cabling is dual in-line banana cables used for their ease of use and safety features.

The external case is designed for ease of use. It features 3 holes cut for the firing devices which allow the devices to be fired with the lid closed. The external case also features duplicate external device trigger ports, and an external arming switch.

The SCoPIS is designed to be highly flexible. It is easily removed from the outer case and repackaged into other containers. This allows flexibility in training. The system is extremely safe. It requires 2 amps to fire the M30 and M31 cartridges making the device immune to static electrical discharge. The built in arming delays give the individual setting the device up ample time to move out of the way before the system is armed. The system is rated at a 10 foot safety radius.

Physical Information:
Primary Unit Dimensions: 17" x 11.7" x 6.2"
Weight: 25 lb.

Equipment Required, Not Supplied:
M30 and M31A1 ammunition. Personal Protective Equipment (PPE).

Special Installation Requirements:
(Information not available)

Power Requirements:
12 volt, 5 Amps hour sealed cell lead acid battery for the power pack.
3 volt lithium wafer battery for the remote transmitter.

Applicable Publications:
Operators Manual: TM 09-6920-3695-10
System Maintenance Manual: 09-6920-3695-24 & P

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

SUICIDE BOMBER VEST (SBV)

Training Category/Level Utilized:
Ordnance/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue.

Purpose of Trainer:
The Suicide Bomber Vest is an Improvised Explosive Device (IED) simulator that can realistically demonstrate the behavior and effects of an individual suicide bomber. It supports training by allowing trainers to actually wear and detonate the device in lifelike scenarios. This device provides an instantaneous, high output, realistic explosion sound with billowing smoke to complete the effect. It provides an intense audible and visual shock effect generating the maximum sense of realism and impact in a live training environment.

Functional Description:
The Suicide Bomber Vest can be worn directly on the body and set off without harming the wearer or surrounding observers. One pull of the activation cord and the non-pyrotechnic detonations blast outward from the wearer for visual effect. The SBV is adjustable and ready to use right out of the box. The user need only load the non-pyrotechnical smoke simulation powder into the casings around the vest, load in a 12-gram Co2 cartridge and attach to the rip cord for each simulation. Each refill creates an explosion so the vest can be configured to achieve the desired effect with one to four detonations.

Physical Information:
Weight: Approximately 10 lbs
Vest apron approx. 12 x 16 inches (from and back).

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

FIRE MARKER UNIT (FMU) IMPROVISED EXPLOSIVE DEVICE (IED) TRAINING SYSTEM

NSN 6910-01-566-7897 **DVC 05-111/1** **Fire Marker Unit (FMU), Improvised Explosive Device (IED), Training System, 433 MHz**

FIRE MARKER UNIT

POCKET PYRO

FMU CHARGING RACK

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL.

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The FMU is designed to train key tasks of Explosive Hazards (EHs) defeat. The FMU provides the tools for trainers to create simulated battlefield cues and effects for a training audience, and will enable joint force commanders to effectively train the key tasks of IED threats. These capabilities are required throughout the full range of military operations, and throughout military, physical, and cultural environments.

Functional Description:
The FMU is designed to replicate the visual signature, sound, and trigger activation of Improvised Explosive Devices (IEDs) used against U.S. and Allied troops around the world. The device holds and fires up to seven standard military issue M30 and M31A1 pyrotechnic cartridges. The FMU can be triggered manually by using a tripwire that activates a radio frequency (RF) transmitter, or it can be triggered using radio frequency alone via use of a Pocket Pyro remote control unit.

Physical Information:
FMU Dimensions: 3.94” H x 13.39” W x 13.39” D; 11.03 lbs.
Pocket Pyro Remote Control Unit Dimensions: 8.66” H x 5.51” W x 3.15” D; 2.21 lbs.
FMU Charging Rack: 55.13 lbs.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
FMU: Rechargeable batteries (2 each: 3-cell packs of 4,500 mAh D-cells, NiCd).
AC Charger: Voltage = 115V AC ± 10% or 230V AC ± 10%.
Frequency @ 115V AC 50 Hz +5%, 60 Hz ± 5%.
Frequency @ 230V AC 50 Hz +5% or 60 Hz ± 5%.
Current: 1A.
Pocket Pyro: Rechargeable batteries (4 each: 1,500 mAh Nickel-Metal- Hydrite, AA type).
AC Adapter: Voltage = 115V AC ± 10% or 230V AC ± 10%.
Frequency @ 115V AC 50 Hz +5%, 60 Hz ± 5%.
Frequency @ 230V AC 50 Hz +5% or 60 Hz ± 5%.
Current: 1A.
FMU Charging Rack: Voltage = 85 to 265V AC.
Frequency 50 Hz +5%, 60 Hz ± 5%.
Current: 3.5A Max (Fused at 6.3A).

Environmental:
Temperature: Operating -4 degrees Fahrenheit (°F) to +140°F.
Non-operating - 65°F to 160°F.

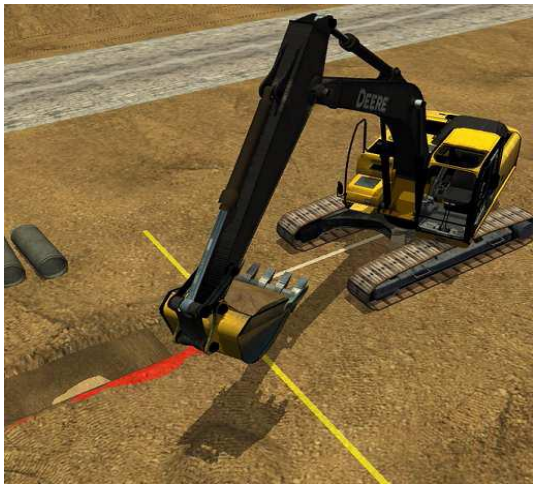
Applicable Publications:
Operators Manual: 05-6920-702-10
System Maintenance Manual: 05-6920-702-24&P

Reference Publications:
(Information not available)

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

CONSTRUCTION EQUIPMENT VIRTUAL TRAINER (CEVT) - HYDRAULIC EXCAVATOR (HYEX) LEVEL 1

Hydraulic Excavator Level I Simulator



Hydraulic Excavator (stealth view)

Training Category/Level Utilized:
Combat Engineer, Construction Equipment/ Level 1-8 (operators/supervisors)

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CEVT-Hydraulic Excavator (HYEX) Level I Simulator provides interactive instruction in basic excavator operation and skills through numerous lessons which progress from control orientation through complex application tasks. This virtual hands-on training is focused on two key areas – operator efficient performance and safety.

Functional Description:
The CEVT-(HYEX) Level I Simulator is a low scale virtual simulator, which replicate the form, fit, functions, and actions of the Army's Hydraulic Excavator Model 230LCR. The HYEX simulator train students on the basic principles of operating the equipment, to include locations, functions of controls and the proper tactics/advanced operation of the controls prior to getting in the actual equipment. The simulator provides a realistic interface for controlling, operating, and maneuvering the excavator, emphasizing efficient performance and safety.
The simulator incorporates ten interactive training. These lessons will allow the student to become familiar with the controls and perform the basic operating techniques associated with the equipment. It also includes a fully narrated interactive operator training on daily service checks, startup and operation, safety, and emergency response drills.

Physical Information:
The thirty (30) CEVT-HYEX Level I Simulators will be networked together to an Instructor Computer. The simulators will include a chair, a computer system, a simulator stand with the controls, display, display stand, audio headset, and an Uninterruptible Power Supply (UPS). The Instructor Computer will include a computer system and a printer.

Foot Print: 6 ft x 3.5 ft each (with the display about 30 inches from the student's head).
Computer w/ graphics card: Dell XPS M1330 with 2 GB RAM and 128MB NVIDIA GeForce 8400M GS video card or equivalent and Operating System Windows XP Professional.
Display: 46 inch LCD display and Stand w/adjustable shelf.
Audio: Creative Labs Sound Blaster Pro or better 2-Channel audio

Equipment Required, Not Supplied:
There are no special equipment requirements.

Special Installation Requirements:
There are no special installation requirements.

Power Requirement:
Each Level I simulator will have two (2) 120 V 20 amps receptacles for the computer and for the LCD display.

Applicable Publication:
Commercial-Off-the-Shelf (COTS) Manuals

Reference Publication:
Commercial-Off-the-Shelf (COTS) Manuals

Training Requirements Supported:
MOSC: 21E series

CONSTRUCTION EQUIPMENT VIRTUAL TRAINER WHEEL LOADER (CEVT-WL) LEVEL I

CEVT-WL GRAPHICS

CEVT-WL SIMULATION BASE AND HARDWARE

Training Category/Level Utilized:
Combat Engineer, Construction Equipment/ Level 1-8 (operators/supervisors)

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The CEVT-WL Level I Simulator provides interactive instruction in basic Caterpillar 924H Wheel Loader operation and skills through numerous lessons which progress from control orientation through complex application tasks. This virtual hands-on training is focused on two key areas – operator efficient performance and safety.

Functional Description:
The CEVT-WL Level I Simulator is a low scale virtual simulator, which replicate the form, fit, functions, and actions of the Army's Wheel Loader Model 924H. The CEVT-WL simulator train students on the basic principles of operating the equipment, to include locations, functions of controls and the proper tactics/advanced operation of the controls prior to getting in the actual equipment. The simulator provides a realistic interface for controlling, operating, and maneuvering the wheel loader, emphasizing efficient performance and safety. The simulator incorporates ten interactive training lessons. These lessons will allow the student to become familiar with the controls and perform the basic operating techniques associated with the equipment. It also includes a fully narrated interactive operator training on daily service checks, startup and operation, safety, and emergency response drills.

Physical Information:
The thirty (30) CEVT-WL Level I Simulators will be networked together to an Instructor Computer. The simulators will include a computer system, simulator base and hardware with the controls, video display, display stand, audio headset, and an Uninterruptible Power Supply (UPS). The Instructor Computer will include a computer system, monitor, and a printer.

Foot Print: 8 ft x 4 ft each (with the display about 48 inches from the student's head).
Simulation Computer w/ graphics card: Custom Simulation PC Intel Core 2 Duo E8600 Wolfdale 3.33GHz, 2 GB RAM, ATI Radeon X2 2GB video card, Windows Vista 64-bit Business.
Display: 42 inch LCD display and Stand w/adjustable shelf.
Audio: Creative HQ-1400 Headphones.
IOS Computer System: Dell Vostro 220 Intel Core 2 Duo E7300, 2GB SDRAM, 256MB ATI Radeon HD 3450, Dell 19in LCD Display, Dell 1320C Color Laser Printer
UPS: APC RS 1300VA LCD 120V

Equipment Required, Not Supplied:
There are no special equipment requirements.

Special Installation Requirements:
There are no special installation requirements.

Power Requirements:
Each Level I simulator requires one dedicated 15 Amp receptacle or dual shared 20 Amp receptacles (Max of 2 receptacles sharing the single 20 Amp breaker). Input voltage is 120V.

Applicable Publications:
Commercial-Off-The-Shelf (COTS) Manuals
Operator/Instructor Manual: TBD

Reference Publications:
Commercial-Off-The-Shelf (COTS) Manuals

Training Requirements Supported:
MOSC: 21E series

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1, (IEDES 1) MILES EMITTER UNIT (MEU)

Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
This MEU is a component of the IEDES 1 Training Device System. When the Electronic Common Interface Device (ECID) receives the trigger sequence from the Module Control Unit (MCU) to detonate a non-pyrotechnic or pyrotechnic device the MILES Emitter Unit (MEU) will emit multiple MILES codes in a 360º radius

Functional Description:
The MEU will use a 9 volt alkaline non-rechargeable battery and will have an operation life of 100 hours. The MEU will connect to a non-pyrotechnic Controller utilizing the color coded 485 connection. When the MCU sends a trigger event to an ECID to detonate 1 or more detonation devices the MEU will emit multiple MILES codes in a 360º radius. The maximum effective range is 35 meters. The MEU, Miles codes conform to the MILES Communication Code (MCC) and the PMT-90-S002J specification

Physical Information:
Primary Unit Dimensions: 3.75” diameter X 2.9” high
Weight: 1-lb

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
N/A

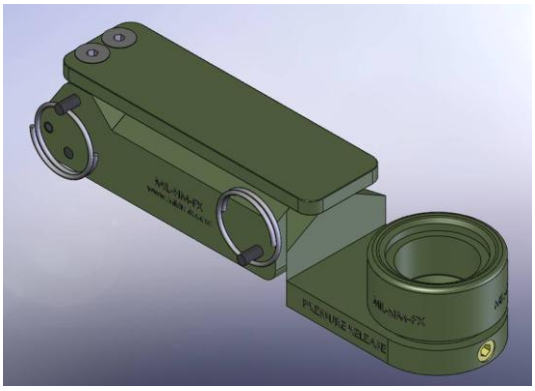
Power Requirements:
9 volt battery alkaline

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24 and P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1, (IEDES 1) PRESSURE DEVICE (PD)



Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device will be initiated by pressure-pull/pneumatics. This device can be capable of being concealable by burying, mounting to structures (e.g. car doors). Burying or mounting will not degrade the operation of this device.

Functional Description:
Operational devices will be initiated by pressure-pull/pneumatic, trip wire or motion sensor. The device will be concealable by burying without causing degradation to the device operations.

Physical Information:
Primary Unit Dimensions: 8.3” x 1.5” x 1.7” weight 1.3-lbs

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
N/A

Power Requirements:
N/A

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24 and P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1, (IEDES 1) PUSH PULL BOOBY TRAP (PPBT)

Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
This device will be initiated by pressure-pull/pneumatic, trip wire or motion sensor. Activation hardware will be supplied both devices. The Booby-Trap device can be capable of being concealable by burying, mounting to structure (e.g. car doors)

Functional Description:
Operator/user will initiate detonation sequence by pressure-pull/pneumatic, trip wire or motion sensor to detonate device or devices. Booby-Trap will be capable of being concealable by burying, mounting to structures (e.g. car doors) or covering with clothing without degrading the operation of the devices.

Physical Information:
Primary Unit Dimensions: 1.9’ diameter X 11.5’ LG
Weight: 2.4-lbs
What are its measurements?

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
N/A

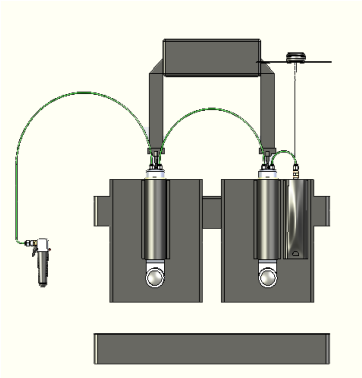
Power Requirements:
N/A

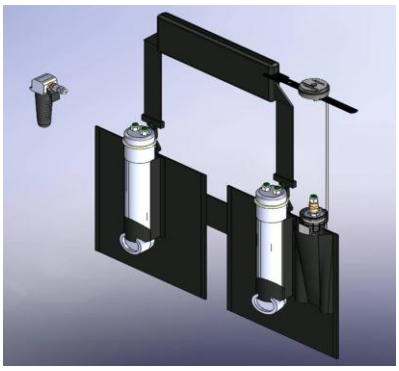
Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24 and P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1, (IEDES 1) MAN WORN SUICIDE VEST (SV)





Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Suicide Vest will provide non-pyrotechnic signature. The signature will simulate kill effects. This device will be initiated by pressure-pull/pneumatics. The Suicide Vest will be worn by personnel; covering with clothing will not degrade the operation of this device.

Functional Description:
The Suicide Vest is man worn and manually triggered providing a non-pyrotechnic effect. Attaching the Shoulder Mounted MILES Emitter Unit (SMMEU) to the attackers shoulder, the SMMEU will connect electrically to a 9 volt battery providing simulated kill effects once triggered. Manually initiated by the user, this SMMEU will transmit MILES kill codes 90º to the front and 90º to the rear on the Suicide attacker. The maximum effect range is 35 meters.

Physical Information:
Primary Unit Dimensions:13” x 16.5” Weight: 2-lbs

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
N/A

Power Requirements:
9 volt battery alkaline

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24 and P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), TRAINING SYSTEM, 433 MHZ

NO DEVICE PICTURE AVAILABLE

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The IED Effects Simulator Increment 1 (IEDES 1) Training System is a Training Aids, Devices, Simulators, and Simulations (TADSS) kit that will assist the Army in training the joint and individual service on operational support tasks, conditions, and standards needed to achieve U.S. Military Improvised Explosive Device (IED) objectives. The IEDES 1 is designed to train key tasks of Explosive Hazards (EHs) defeat in support of full spectrum operations and conflicts including Homeland Security. EH defeat consists of the ability to predict, prevent, detect, classify, neutralize, mark, report, and record EH; and to protect personnel, equipment, and facilities from EH effects. The mission area also includes the requirement of acquisition of EH devices, for the purpose of exploiting emerging threat technologies, developing countermeasures, render safe procedures, techniques, and tactics, to mitigate emerging EH threats. The IEDES 1 is configured to simulate a Small, Medium, Large, and Extra Large explosive signature; however, it is not configured to pinpoint a specific IED.

The IEDES 1 provides the tools for trainers to create simulated battlefield cues and effects for a training audience. The forces must be trained and prepared to break-through or circumvent anti-access and area denial strategies. The Army requires the capabilities to predict, prevent, detect, and neutralize EHs, as well as protect personnel, equipment, and facilities from the effects of EHs. The IEDES 1 will enable joint force commanders to effectively train in the key tasks of IED threats. These capabilities are required throughout the full range of military operations, and throughout military, physical, and cultural environments.

This device will be further developed, and future capability improvements will occur in increments, as technical advances will allow.

Functional Description:
The major components of IEDES 1 (433 MHz) are:

a. DVC 05-113 (MEU)
b. DVC 05-113/1 (PD)
c. DVC 05-113/2 (PPBT)
d. DVC 05-113/3 (SV)
e. DVC 05-115 (ECID 433 Mhz)
f. DVC 05-116 (MCU 433 Mhz)
g. DVC 05-117 (NPC)
h. DVC 05-118 (PSSD)
i. DVC 05-118/1 (NPSSD)

IEDES 1 training system utilizes an ECID and MCU that can be used with both pyrotechnic and non-pyrotechnic signature devices. The non-pyrotechnic devices can be used for indoor and outdoor training exercises. The NPSSD is scalable to replicate small to large IED signatures. The PSSD is used for outdoor, dismounted and mounted training exercises, and is scalable to replicate small to extra large IED signatures. Sufficient flash/bang/heat signature or other visual signature effects realistically replicate combat situations. When incorporated, an MEU device emits the appropriate MILES kill code to affect training personnel and equipment when IEDES 1 Pyrotechnic or Non-Pyrotechnic devices are triggered. Other operational features include the following:

a. The IEDES 1 provides visual and aural force-on-force and force-on-target engagement simulations to obtain feedback on the effects of IED engagement simulations on personnel, independent targets, and combat vehicles in support of Explosives Hazards Defeat (EHD) training objectives.

b. The IEDES 1 training system utilizes multiple safety features to prevent unintentional detonation of signature devices.

c. Only government type classified munitions M30, M31A1are used with the PSSD.

d. Wireless communication is within a Government approved radio frequency range in accordance with the Army spectrum management frequency authority for the geographical location, and in compliance with DoD spectrum management polices and procedures for CONUS and OCONUS locations.

e. Emits MILES codes IAW PMT 90-S002J to replicate kill effects and target pairing.

f. IEDES 1 operating in wireless mode can be disabled by CREW training devices.

g. IEDES 1 is capable of being used during periods of reduced visibility and darkness within the capabilities of the signature device being used.

Physical Information:

NOTE: Dimensions and weights of major components (see Functional Description) are identified under there respective Device Numbers.

The IEDES 1 training system is packaged in a total of (7) seven transit cases identified as follows: (weights identified include transit case and IEDES 1 components)

Transit Case	Case Contents
1. A-1	Non-Pyrotechnic
2. A-2	Non-Pyrotechnic
3. A-3	Non-Pyrotechnic
4. A-4	Non-Pyrotechnic
5. A-5	Non-Pyrotechnic
6. B-1	Pyrotechnic
7. Consumables Kit	Non-Pyro Consumables

Case Dimensions	Total Case Weight
1. 49”x 25”x 24”	Weight: 188.5 lbs.
2. 49”X25”X24”	Weight: 188.5 lbs.
3. 49”X25”X24”	Weight: 191.3 lbs.
4. 49”X25”X24”	Weight: 136 lbs.
5. 49”X25”X24”	Weight: 185.5 lbs.
6. 49”X25”X24”	Weight: 127.5 lbs.
7. 25.5”x 25.5” x 13.25”	Weight: 73 lbs.

Equipment Required, Not Supplied:

M30 and M31A1 pyrotechnic cartridges for PSSD

Special Installation Requirements:

None

Power Requirements:

NOTE: The power requirements of major components (see Functional Description) are identified under there respective Device Numbers.

Applicable Publications:

Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:

None

Training Requirements Supported:

Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), TRAINING SYSTEM, 315 MHZ

NO DEVICE PICTURE AVAILABLE

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The IED Effects Simulator Increment 1 (IEDES 1) Training System is a Training Aids, Devices, Simulators, and Simulations (TADSS) kit that will assist the Army in training the joint and individual service on operational support tasks, conditions, and standards needed to achieve U.S. Military Improvised Explosive Device (IED) objectives. The IEDES 1 is designed to train key tasks of Explosive Hazards (EHs) defeat in support of full spectrum operations and conflicts including Homeland Security. EH defeat consists of the ability to predict, prevent, detect, classify, neutralize, mark, report, and record EH; and to protect personnel, equipment, and facilities from EH effects. The mission area also includes the requirement of acquisition of EH devices, for the purpose of exploiting emerging threat technologies, developing countermeasures, render safe procedures, techniques, and tactics, to mitigate emerging EH threats. The IEDES 1 is configured to simulate a Small, Medium, Large, and Extra Large explosive signature; however, it is not configured to pinpoint a specific IED.

The IEDES 1 provides the tools for trainers to create simulated battlefield cues and effects for a training audience. The forces must be trained and prepared to break-through or circumvent anti-access and area denial strategies. The Army requires the capabilities to predict, prevent, detect, and neutralize EHs, as well as protect personnel, equipment, and facilities from the effects of EHs. The IEDES 1 will enable joint force commanders to effectively train in the key tasks of IED threats. These capabilities are required throughout the full range of military operations, and throughout military, physical, and cultural environments.

This device will be further developed, and future capability improvements will occur in increments, as technical advances will allow.

Functional Description:
The major components of IEDES 1 (315 MHz) are:

a. DVC 05-113 (MEU)
b. DVC 05-113/1 (PD)
c. DVC 05-113/2 (PPBT)
d. DVC 05-113/3 (SV)
e. DVC 05-115/1 (ECID 315 Mhz)
f. DVC 05-116/1 (MCU 315 Mhz)
g. DVC 05-117 (NPC)
h. DVC 05-118 (PSSD)
i. DVC 05-118/1 (NPSSD)

IEDES 1 training system utilizes an ECID and MCU that can be used with both pyrotechnic and non-pyrotechnic signature devices. The non-pyrotechnic devices can be used for indoor and outdoor training exercises. The NPSSD is scalable to replicate small to large IED signatures. The PSSD is used for outdoor, dismounted and mounted training exercises, and is scalable to replicate small to extra large IED signatures. Sufficient flash/bang/heat signature or other visual signature effects realistically replicate combat situations. When incorporated, an MEU device emits the appropriate MILES kill code to affect training personnel and equipment when IEDES 1 Pyrotechnic or Non-Pyrotechnic devices are triggered. Other operational features include the following:

a. The IEDES 1 provides visual and aural force-on-force and force-on-target engagement simulations to obtain feedback on the effects of IED engagement simulations on personnel, independent targets, and combat vehicles in support of Explosives Hazards Defeat (EHD) training objectives.

b. The IEDES 1 training system utilizes multiple safety features to prevent unintentional detonation of signature devices.

c. Only government type classified munitions M30, M31A1are used with the PSSD.

d. Wireless communication is within a Government approved radio frequency range in accordance with the Army spectrum management frequency authority for the geographical location, and in compliance with DoD spectrum management polices and procedures for CONUS and OCONUS locations.

e. Emits MILES codes IAW PMT 90-S002J to replicate kill effects and target pairing.

f. IEDES 1 operating in wireless mode can be disabled by CREW training devices.

g. IEDES 1 is capable of being used during periods of reduced visibility and darkness within the capabilities of the signature device being used.

Physical Information:

NOTE: Dimensions and weights of major components (see Functional Description) are identified under there respective Device Numbers.

The IEDES 1 training system is packaged in a total of (7) seven transit cases identified as follows: (weights identified include transit case and IEDES 1 components)

Transit Case	Case Contents
1. A-1	Non-Pyrotechnic
2. A-2	Non-Pyrotechnic
3. A-3	Non-Pyrotechnic
4. A-4	Non-Pyrotechnic
5. A-5	Non-Pyrotechnic
6. B-1	Pyrotechnic
7. Consumables Kit	Non-Pyro Consumables

Case Dimensions	Total Case Weight
1. 49”x 25”x 24”	Weight: 188.5 lbs.
2. 49”X25”X24”	Weight: 188.5 lbs.
3. 49”X25”X24”	Weight: 191.3 lbs.
4. 49”X25”X24”	Weight: 136 lbs.
5. 49”X25”X24”	Weight: 185.5 lbs.
6. 49”X25”X24”	Weight: 127.5 lbs.
7. 25.5”x 25.5” x 13.25”	Weight: 73 lbs.

Equipment Required, Not Supplied:

M30 and M31A1 pyrotechnic cartridges for PSSD

Special Installation Requirements:

None

Power Requirements:

NOTE: The power requirements of major components (see Functional Description) are identified under there respective Device Numbers.

Applicable Publications:

Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:

None

Training Requirements Supported:

Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), ELECTRONIC COMMON INTERFACE DEVICE (ECID), 433 MHZ

ECID (electrical connection ports)

ECID (signature device connectors)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Electronic Common Interface Device (ECID) is a major component of the IEDES 1 training system. The ECID is capable of initiating both pyrotechnic and non-pyrotechnic signature devices. The ECID can connect to a minimum of four signature devices utilizing a lead wire of 15 meters in length to each signature device. It is capable of initiating signature devices simultaneously or independently. ECID's communicate with the IEDES Module Control Unit (MCU) at a hardwired range of 500 meters, as well as wirelessly at a range of 1000 meters Line of Sight (LOS) on Government approved radio frequency bands of 433.0 - 433.375 MHz. Each ECID possesses a unique code to identify itself to the MCU and distinguish itself from other ECID's. The ECID is capable of accepting direct input from a variety of manual triggering devices, including, but not limited to pressure plates, trip wires or motion sensors.

Functional Description:
The ECID is capable of providing range, GPS location and detonation feedback to the MCU, in addition to battery life status and Built-In-Test (BIT) data. It stores event data including date/time stamp, GPS location of ECID, number of detonations, number of trigger events, and jamming status. The ECID provides an interface for data retrieval. The ECID is capable of providing status data and event data to the MCU, and storing 500 events. Each ECID possesses a unique code to identify itself to the MCU and distinguish itself from other ECID's.

Physical Information:
ECID Dimensions: 13" x 11" x 5.5" Weight: 12 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Rechargeable lead-acid battery: 12 volts, 5.4 AMPH

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), ELECTRONIC COMMON INTERFACE DEVICE (ECID), 315 MHZ

ECID (electrical connection ports)

ECID (signature device connectors)

Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Electronic Common Interface Device (ECID) is a major component of the IEDES 1 training system. The ECID is capable of initiating both pyrotechnic and non-pyrotechnic signature devices. The ECID can connect to a minimum of four signature devices utilizing a lead wire of 15 meters in length to each signature device. It is capable of initiating signature devices simultaneously or independently. ECID's communicate with the IEDES Module Control Unit (MCU) at a hardwired range of 500 meters, as well as wirelessly at a range of 1000 meters Line of Sight (LOS) on Government approved radio frequency bands of 315.0- 315.375 MHz. Each ECID possesses a unique code to identify itself to the MCU and distinguish itself from other ECID's. The ECID is capable of accepting direct input from a variety of manual triggering devices, including, but not limited to pressure plates, trip wires or motion sensors.

Functional Description:
The ECID is capable of providing range, GPS location and detonation feedback to the MCU, in addition to battery life status and Built-In-Test (BIT) data. It stores event data including date/time stamp, GPS location of ECID, number of detonations, number of trigger events, and jamming status. The ECID provides an interface for data retrieval. The ECID is capable of providing status data and event data to the MCU, and storing 500 events. Each ECID possesses a unique code to identify itself to the MCU and distinguish itself from other ECID's.

Physical Information:
ECID Dimensions: 13" x 11" x 5.5" Weight: 12 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Rechargeable lead-acid battery: 12 volts, 5.4 AMPH

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), MODULE CONTROL UNIT (MCU) 433 MHZ

IEDES Module Control Unit (MCU)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Module Control Unit (MCU) is a major component of the IEDES 1 training system. The MCU functions as a remote triggering unit capable of wirelessly controlling a minimum of four IEDES Electronic Common Interface Devices (ECID's) simultaneously or independently on four approved frequencies within 433.0 – 433.375 MHz, or controlling one ECID in a hard-wired configuration. The MCU controls both ECID's and pneumatic devices at a Radio Frequency (RF) range of 1,000m Line of Sight (LOS) and a hardwired range of 500 m. The MCU recognizes unique identifiers transmitted by its associated ECID's and communicates with those ECID's exclusively. The MCU transmits arming/disarming commands to ECID's, and provides dual initiation activation of detonation commands. The MCU is capable of initiating a Built-In-Test (BIT) for fault detection and connectivity status of ECID's and provides status notification to the operator. The MCU provides a low-battery life indicator. It is capable of storing and displaying trigger type(s), signature device type, location data, number of denotation commands given to each ECID, and each ECID's detonation/jamming status. It is capable of retrieving event data from its associated ECID's for After Action Review (AAR) purposes.

Functional Description:
The MCU is a hand held Personal Data Assistant (PDA) and functions as a remote triggering unit wirelessly controlling a minimum of four ECID's simultaneously or independently on each given frequency, or controlling one ECID at a hardwired range of 500 meters. The MCU communicates wirelessly to the ECID on Government approved radio frequencies. The MCU utilizes "plug and play" components to satisfy radio frequency requirements, and has a maximum effective range of 1,000 meters LOS.

Physical Information:
MCU Dimensions: 9" x 4" x 1.5" Weight: 3 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Rechargeable battery: 3.8 mAh

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), MODULE CONTROL UNIT (MCU) 315 MHZ

IEDES Module Control Unit (MCU)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Module Control Unit (MCU) is a major component of the IEDES 1 training system. The MCU functions as a remote triggering unit capable of wirelessly controlling a minimum of four IEDES Electronic Common Interface Devices (ECID's) simultaneously or independently on four approved frequencies within 315.0 – 315.375 MHz, or controlling one ECID in a hard-wired configuration. The MCU controls both ECID's and pneumatic devices at a Radio Frequency (RF) range of 1,000m Line of Sight (LOS) and a hardwired range of 500 m. The MCU recognizes unique identifiers transmitted by its associated ECID's and communicates with those ECID's exclusively. The MCU transmits arming/disarming commands to ECID's, and provides dual initiation activation of detonation commands. The MCU is capable of initiating a Built-In-Test (BIT) for fault detection and connectivity status of ECID's and provides status notification to the operator. The MCU provides a low-battery life indicator. It is capable of storing and displaying trigger type(s), signature device type, location data, number of denotation commands given to each ECID, and each ECID's detonation/jamming status. It is capable of retrieving event data from its associated ECID's for After Action Review (AAR) purposes.

Functional Description:
The MCU is a hand held Personal Data Assistant (PDA) and functions as a remote triggering unit wirelessly controlling a minimum of four ECID's simultaneously or independently on each given frequency, or controlling one ECID at a hardwired range of 500 meters. The MCU communicates wirelessly to the ECID on Government approved radio frequencies. The MCU utilizes "plug and play" components to satisfy radio frequency requirements, and has a maximum effective range of 1,000 meters LOS.

Physical Information:
MCU Dimensions: 9" x 4" x 1.5" Weight: 3 lb.

Equipment Required, Not Supplied:
None

.**Special Installation Requirements:**
None

Power Requirements:
Rechargeable battery: 3.8 mAh

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), NON-PYROTECHNIC CONTROLLER (NPC)

NPC (front view)

NPC (rear view)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Non-Pyrotechnic Controller (NPC) is a major component of the IEDES 1 training system. The NPC electrically connects to the Electronic Common Interface device (ECID), and Non-Pyrotechnic Scalable Signature Devices (NPSSD). It has RS-485 IN, and RS-485 OUT connector's to allow daisy chaining of attached devices.

Functional Description:
The NPC is used with the NPSSD which is capable of providing small through large Improvised Explosive Device (IED) signature effects, and firing multiple cartridges simultaneously (small - large). The NPSSD is initiated by the IEDES 1 Module Control Unit (MCU) and Electronic Common Interface Device (ECID). The NPSSD can be wirelessly initiated when connected to an IEDES ECID, and can be manually initiated when connected by hardwire to an MCU. The NPSSD is controlled by the (NPC). The NPC keeps track of the tubes that have been fired on the NPSSD, and sends status back to the ECID. When the NPC is powered off, and the tubes of the NPSSD are reloaded, the NPC will assume that all tubes have been reloaded when it is powered on again.

Physical Information:
NPC Dimensions: 7.5" x 9" x 4" Weight: 6 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
12V, 5.0 AMPH Rechargeable SLA

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), PYROTECHNIC SCALABLE SIGNATURE DEVICE (PSSD)

PSSD (side view)

PSSD (bottom view)

PSSD (top view)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Pyrotechnic Scalable Signature Device (PSSD)) is a major component of the IEDES 1 training system. The PSSD is designed to train key tasks of Explosive Hazards (EHs) defeat in support of full spectrum operations and conflicts including Homeland Security. EH defeat consists of the ability to predict, prevent, detect, classify, neutralize, mark, report, and record EH; and to protect personnel, equipment, and facilities from EH effects.

Functional Description:
The PSSD is capable of providing small through extra large signature effects, and firing multiple cartridges simultaneously (small - extra large). The PSSD is wirelessly initiated by the IEDES Module Control Unit (MCU) and Electronic Common Interface Device (ECID). It is capable of firing multiple iterations before requiring reloading. The PSSD has two removable/interchangeable 16 shot magazines. The pyrotechnic signature device will use type classified/material released pyrotechnic simulators; M30, M31A1. These pyrotechnic simulators provide a visual and aural signature. They are in the Army inventory and will not be provided as part of the kit. PSSD provides a 30 second delay accompanied by a visual and audio warning signal to allow the operator to clear the area prior to PSSD arming.

Physical Information:
PSSD Dimensions: 16” x 10.5” x 11” Weight: 18 lbs.

Equipment Required, Not Supplied:
M30 and M31A1 pyrotechnic cartridges

Special Installation Requirements:
None

Power Requirements:
Rechargeable lead-acid battery: 12 volts, 7.5 AMPH

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

IMPROVISED EXPLOSIVE DEVICE EFFECTS SIMULATOR, INCREMENT 1 (IEDES 1), NON-PYROTECHNIC SCALABLE SIGNATURE DEVICE (NPSSD)

NPSSD (side view)

NPSSD (discharge port view)

Training Category/Level Utilized:
Engineer/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Non-Pyrotechnic Scalable Signature Device (NPSSD)) is a major component of the IEDES 1 training system. The NPSSD is designed to train key tasks of Explosive Hazards (EHs) defeat in support of full spectrum operations and conflicts including Homeland Security. EH defeat consists of the ability to predict, prevent, detect, classify, neutralize, mark, report, and record EH; and to protect personnel, equipment, and facilities from EH effects

Functional Description:
The NPSSD is capable of providing small through large Improvised Explosive Device (IED) signature effects, and firing multiple cartridges simultaneously (small - large). The NPSSD is initiated by the IEDES 1 Module Control Unit (MCU) and Electronic Common Interface Device (ECID). The NPSSD can be wirelessly initiated when connected to an IEDES ECID, and can be manually initiated when connected by hardwire to an MCU. The NPSSD is controlled by the IEDES Non-Pyrotechnic Controller (NPC). CO2 gas is used to propel a special powder that provides a visual smoke signature, and a strobe light provides flash concurrently. Commercial plastic cups are used to provide an aural signature. The NPSSD CO2 tanks are refilled using the provided Fill Station tanks.

Physical Information:
NPSSD Dimensions: 27” x 11” x 4.5” Weight: 31.6 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
Operators Manual: 05-6920-703-10
System Maintenance Manual: 05-6920-703-24& P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

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BASIC SERIES 06
FIELD ARTILLERY

FIREFINDER INTERMEDIATE MAINTENANCE TRAINER (FIMT)

Training Category/Level Utilized:
Field Artillery/Level 1, 2

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To support training of AN/TPQ-37 Firefinder Radar System intermediate maintenance personnel.

Functional Description:
The Firefinder Intermediate Maintenance Trainer (FIMT) is a training device which provides computer based training on the AN/TPQ-37 Firefinder Radar system.

Physical Information:
The FIMT is composed of 4 major parts:

1. Power Distribution Unit (1 ea.)
2. Instructor/Operator Station (1 ea.)
3. AN/TPQ-37 Student Station (4 ea.)
4. Software Support Facility (SSF) (1 ea.)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
The FIMT is designed to be installed at a fixed location inside a closed, environmentally controlled building.

Power Requirements:
110/208vac, 3-phase (Wye), 4 wires, 60 $\pm$ 3 Hz

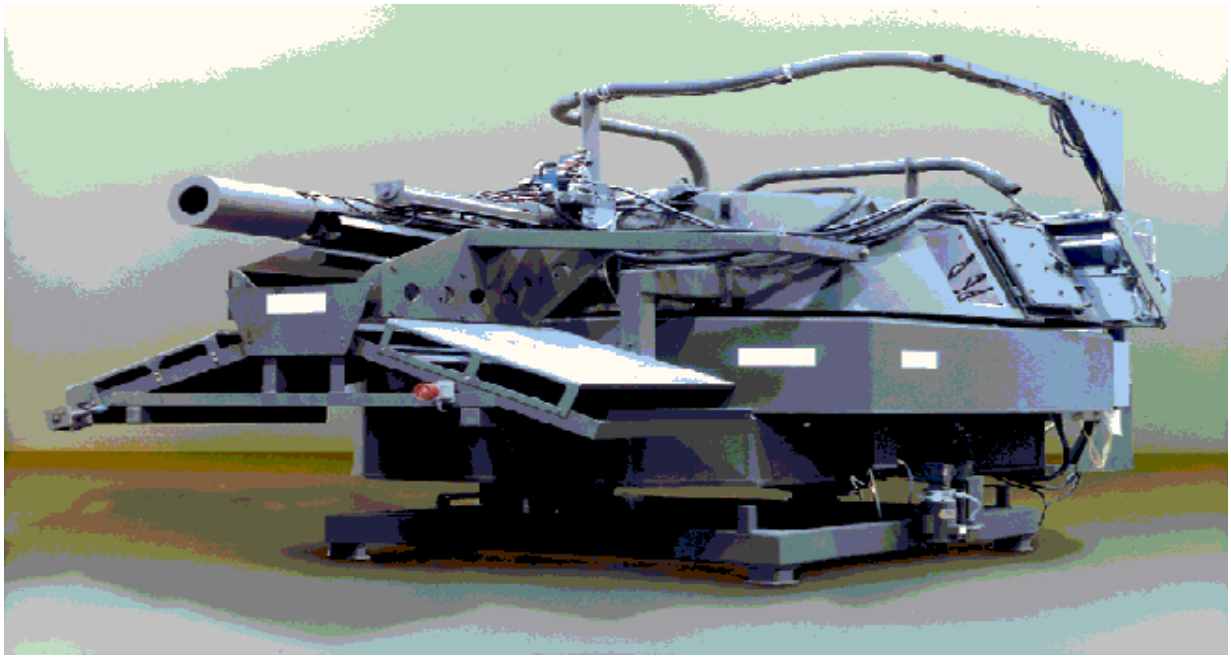
Applicable Publications:
TD 6-6910-702-10
TD 6-6910-702-20

Reference Publications:
None

Training Requirements Supported:
MOSC 94M

FIRE SUPPORT COMBINED ARMS TACTICAL TRAINER (FSCATT) A5

NSN Not Assigned DVC 06-68/G (FSCATT) A6



Training Category/Level Utilized:
Field Artillery/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Train the gunnery team (gunnery crew 13B, Fire Direction 13D).

Functional Description:
Functions just like the real M109 SP Howitzer. Device 06-68G has a digital on-board Fire Control System for conducting fire missions. Traverses 1600 mils left and right, elevates and cants. Uses dummy rounds, fuzzes, and charges. Has sensors that read the round, charge, fuze and fuze setting. Has AAR printout.

Physical Information:
The turret is taken off of an actual howitzer and installed in an aluminum box making the inside of the cab appear and operated the same as the actual howitzer.

Equipment Required, Not Supplied:
The M109A5/A6 Howitzer crews must (as applicable) provide some or all of the following equipment when using the Howitzer Crew Trainer (HCT) (depending on what tasks are to be trained during that period):

-Test Target Board with Havgars
-Gunner's Quadrant
-Gun Display Unit OD-144(V)1/ GYK-29(V) (Mount Required)
-Sight, Breech Bore
-M140 Alignment Device (Mount Required)
-M1A1 Collimator
-M1A2 Aiming Post
-M2 Aiming Circle
-M14 Light, Aiming Post
-M27, M34, and M35 Fuze Setters
-M118 Direct Fire Telescope
-M18 Fuze Wrench
-M118A2 Elbow Telescope
-Belt Primer
-Utility Pale
-Chamber Swab
-Staff Cleaning, 4 Foot
-Screw Driver, Flat Tip SP
-Hammer, Hand
-Wrench, Spanner Obturator
-Wrench, Spanner Fixed
-Oiler, Hand
-Cleaning Tool, Vent
-Spacers, M864
-Spacers, M825A1
-Twine, Fibrous (Boresight)
-Thermometer (Powder)
-Fire Extinguisher
-TA 312's/PRC 127's (if desired)
-WF-16 Field Wire
-Holder, Chamber Swabbing Sponge

Special Installation Requirements:
Access to building must be a minimum of 12 ft x 12 ft. Footprint is 35 ft x 35 ft for the A5 and 35 ft x 38 ft for the A6. Floor must be capable of supporting 14 tons.

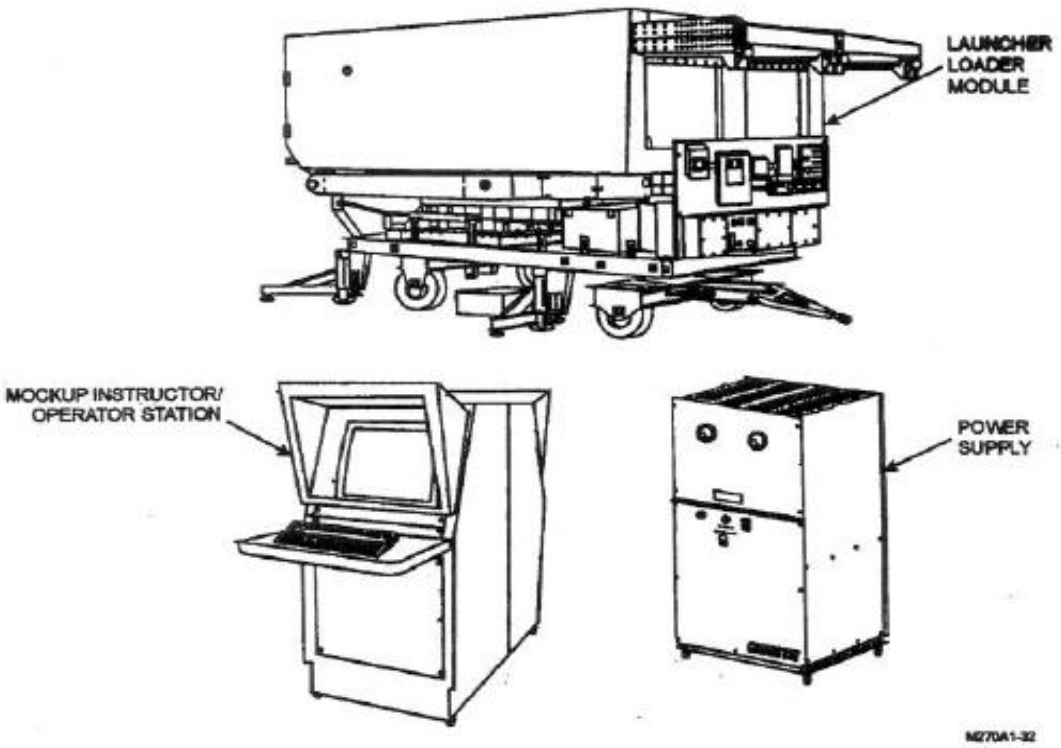
Power Requirements:
208/120 vac, 3 pahse, 60 Hz, 100 Amps service.

Applicable Publications:
TD 6-6920-703-10 (A5 HCT)
TD 6-6920-704-10 (A6 HCT)

Reference Publications:
TM 9-2350-311-Series (M109A5 SP Howitzer)
TM 9-2350-314-Series (M109A6 SP Howitzer)

Training Requirements Supported:
MOSC 13B10; 13B30; 13D30; 13F10; 13F30

M270A1 MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) ADVANCED MAINTENANCE TRAINING ENVIRONMENT (AMTE) MOCKUP TRAINER



Training Category/Level Utilized:
Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue

Purpose of Trainer:
Used to simulate M270A1 Multiple Launch Rocket System (MLRS) components and operations, and provide computer controlled malfunctions that simulate various equipment faults to familiarize mechanics in the procedures required to maintain the M270A1 MLRS. The mockup will be used to develop and maintain the critical maintenance skills required of qualified M270A1 MLRS mechanics.

Functional Description:
The MRLS AMTE Mockup runs the preprogrammed Maintenance Trainer Exercise Lesson's (MTELS) under the control of the instructor or automatic training management functions. Once an MTEL is initiated, students will locate the appropriate troubleshooting procedure in the M270A1 Interactive Electronic Technical Manual (IETM), using a Soldier's Portable On-System Repair Tool (SPORT), and will interact with the Launcher Loader Module (LLM).

The mockup consists of a LLM, which is composed of simulated Fire Control System (FCS) components and Launcher Drive System (LDS) components.

Physical Information:

LLM:	372" L x 480" W x 264" H	15,000 lbs
Power Supply (PS):		
	24" L x 25" W x 45" H	780 lbs
Mockup Instructor/Operator Station (MIOS):		
	30" L x 30" W x 72" H	300 lbs

Equipment Required, Not Supplied:

Nomenclature	Part No.	Qty
Multimeter		1
Power Distribution Breakout Box	13108250	1
Hoist Control Breakout Box	13103690	1
Boom Control Breakout Box	13103700	1

Special Installation Requirements:
The training environment should be as a minimum 40 feet in length, 40 feet wide and 30 feet high.

Instructions for installing the mockup are contained in the System Maintenance Manual TM 06-6920-706-20.

Power Requirements:
Operating voltage:
28vdc LMM
115vac, single-phase MIOS
480vac, 3-phase LMM, PS, HPU

Applicable Publications:
TM 06-6920-705-10 Instructor Operator Manual
TM 06-6920-706-20 System Maintenance Manual
Commercial Equipment Manuals

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 94P

M270A1 MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) ADVANCED MAINTENANCE TRAINING ENVIRONMENT (AMTE) DESKTOP TRAINER

NSN Not Assigned DVC 06-74/A M270A/1 MLRS-AMTE Orgnizational Maintenance Trainer (OMT)

Instructor Operator Station (IOS)

Student Desktop Diagnostic Trainer (DT)

Training Category/Level Utilized:
Field Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue.

Purpose of Trainer:
The DeskTop (DT) system provides a familiarization Maintenance Trainer Exercise Lesson (MTEL) where the student is free to navigate around and inside the MLRS, point to a designated object/component, and be presented with a dialog box of explanatory text. The DT is used to train personnel on the Unit level tasks peculiar to the M270A1 MLRS. The system provides training in troubleshooting, diagnosing, and fault isolating of the operational system, as well as training using the diagnostic procedures provided on the SPORT. The trainer allows the students to troubleshoot major components and simulate maintenance procedures in accordance with the appropriate technical manuals. Software package provides similar training capability to support the M270A1 MLRS system.

Functional Description:
The DT simulates the M270A1 MLRS as defined by the Interactive Technical manual (IETM). The Instructor Operator Station (IOS) simulates a set of 145 simulation test operations. The instructor controls the assignment of tasks and monitors the operation of the simulators using the IOS. The students troubleshoot the faults using the trainer controls and indicators at the student station and M270A1 troubleshooting procedures located in the IETM. The DT system supports multiple students at six networked trainer stations. The DT system uses virtual reality to enhance training realism.

The DT simulates the M270A1 MRLS components and operations, and provides computer controlled malfunctions that simulate various equipment faults to familiarize mechanics in the procedures required to maintain the MLRS. The DT will be used to develop and maintain the critical maintenance skills required of qualified MLRS mechanics.

Physical Information:
Instructor Operator Station:
1 per classroom
72" L x 30" W x 56" H, 305 lbs

Student Station:
6 per classroom
72" L x 30" W x 56" H, 320 lbs

Projector:
1 per classroom
12" L x 14" W x 5" H, 13 lbs

Classroom:
22' L x 27' W x 9' H

Equipment Required, Not Supplied:
AN/PSM-95 Test Set, Electronic System (SPORT) Qty. 6 Cage 68251; Part No. 18876; NSN 6625-01-445-0085

Special Installation Requirements:
(Information not available)

Power Requirements:
115vac ± 5%, 60 Hz ± 2 Hz, single-phase

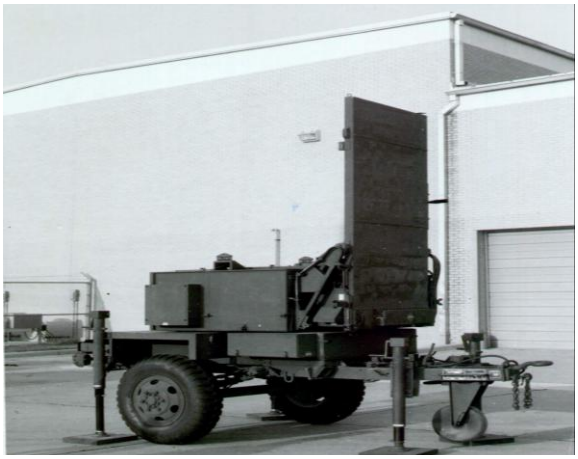
Applicable Publications:
TM 06-6920-706-10 - Instructor/Operator Manual
TM 06-6920-706-20 - System Maintenance Manual
Commercial Equipment Manuals

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 27M

FIREFINDER ORGANIZATIONAL MAINTENANCE TRAINER AN/TPQ-36(V)8

Operator Console



Firefinder Radar AN/TPQ-36 Antenna/Transceiver Group

Training Category/Level Utilized:
Field artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer provides Computer-Aided Instruction on AN/TPQ-36 (V) 8, simulating specific physical characteristics and performance of the radar system. This trainer is designed to supplement training of students currently being trained or previously trained in Firefinder Radar Maintenance, to include training on critical maintenance tasks.

Functional Description:
The trainer accurately simulates the Maintenance Technician's man-machine interface of the AN/TPQ-36 (V) 8 Radar System. The trainer consists of five AN/TPQ-36 (V) 8 Maintenance Trainers, each connected to an actual ANTPQ-36 Antenna/Transceiver Group. The trainer is designed to simulate accurately all functions of the AN/TPQ-36 (V) 8 Radar System, allowing the maintenance technician the opportunity to become proficient in skills required to maintain the AN/TPQ-36 (V) 8 radar.

Physical Information:
Operator Console: 65" x 101" x 83"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
360 square feet of floor space minimum per station.

Power Requirements:
110/208vac, 400 Hz, 3-phase, 10kva

Applicable Publications:
(Information not available)

Reference Publications:
TM 11-5840-380-23-1
TM 11-5840-380 23-2

Training Requirements Supported:
US Army MOSC 94M and 131A

FIREFINDER OPERATOR TRAINER (V) 8

Instructor Station

Student Station

Training Category/Level Utilized:
Field artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer provides Computer-Aided Instruction on AN/TPQ-36 (V) 8, simulating specific physical characteristics and performance of the radar system. This trainer is designed to supplement training of students currently being trained or previously trained in Firefinder Radar Operation, to include training on critical operator tasks.

Functional Description:
The trainer accurately simulates the Operator's man-machine interface of the AN/TPQ-36 (V) 8 Radar System. The trainer consists of two Trainers, each consisting of six Student Stations and an Instructor Station. The trainer is designed to simulate accurately all functions of the common shelter from the standpoint of the operator, providing the operator with exercises to practice and become proficient in skills required to operate the AN/TPQ-36 Radar.

Physical Information:
Instructor Station: 54" x 72" x 52"
Student Station: 54" x 54" x 60"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
12" raised floor system, 832 square feet of floor space.

Power Requirements:
110vac, 60 Hz, approx. 11.5kva

Applicable Publications:
(Information not available)

Reference Publications:
Operator's User Guide
Operator's Instructor Guide
(V) 8 System 10 & 23 manuals
Maintenance Manuals

Training Requirements Supported:
US Army MOSC 13R and 131A

TACTICAL PROFICENCY TRAINER-DIGITIZATION ENABLER UNIT (TPT-DEU)

Training Category/Level Utilized:
Field Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
Provides a digital linkage of the SINCGARS/ASIP to current M270 Tactical Proficiency Trainers (TPT's) and M270A1/HIMARS Fire Control Panel trainers. Accomodates up to 3 TPT's/FCPT's. Enables the TPT/FCPT to digitally communicate by radio AFADTS like the tactical launchers.

Functional Description:
The Tactical Proficiency Trainer-Digitization Enabler Unit (TPT-DEU) is a communication interface device that provides the required digital connection between the M270/M270A tactical Proficiency Trainer (TPT) and the Single Channel Ground and Airborne Radio System (SINCGARS). The TPT-DEU will be utilized by Multiple Launch Rocket System (MLRS) personnel (MOS 13M, 13P, 13F) and communications support personnel (MOS 31U) to effectively perform training in realistic tactical scenarios in a non-tactical environment.

The TPT-DEU performs the efficient interface of digital communication between two types of existing hardware, the SINCGARS and up to three TPTs. The utilization of the TPT-DEU eliminates the need for multiple SINCGARS for the units of a battery while maintaining the remote Command and Control capability of the battery for up to three trainers.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 13M, 13P, 13E, 31U

COMMAND AND CONTROL TACTICAL TRAINER (C2TT)

Training Category/Level Utilized:
Field Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
Provides simulation of the tactical movement and conduct of fire missions of a MLRS Battalions that consisted of Battalion and Battery Fire Direction Systems, MLRS Launchers, rocket/missile flyouts, submunition dispense and detonation.

Functional Description:
The Command and Control Tactical Trainer (C2TT), a simulation-based training package, is comprised of software components that represent the control features of the MLRS System of Systems. C2TT is comprised of the Scenario Generator, the Launcher Simulation, the Ammunition-fuel Supply Simulation, the Radio Interface Simulation, and the Control Center. In addition to the C2TT software components, C2TT will be fielded with a unique modem, known as Fire Direction (FD) Modem II, appropriate cables, speaker, modem power supply, and documentation.

C2TT has the capability to be used as a collective or individual trainer in classroom, motor pool, or tactical environments. C2TT is used to simulate and train MLRS Command and Control (C2) operator at Battery and Battalion with accurate and consistent digital messages from higher echelons and from MRLS launchers. The Scenario Generator is used to develop digital messages and message scripts and subsequently deliver them to (C2) echelons operating Field Artillery Tactical Data System (FATDS) Package 11 Fire Detection System (FDS).

The Launcher Simulation Represents from 1 to 9 launchers on a Battery net and responds to all digital messages from a FATDS Package 11 Battery FDS with accurate and doctrinally correct messages, according to a validated time line. The FD Modem II is a self-contained Frequency Shift Keying (FSK) modem that provides the interface to a SINCGARS transceiver or a Tactical Communications Interface Modem (TCIM).

Physical Information:
PC.Laptop with external modem; Scenario driver (AFATDS-Pkg 11 message formats); Launcher emulator

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

M270A1/HIMARS FIRE CONTROL PANEL TRAINER (FCPT)

Training Category/Level Utilized:
Field Artillery/ Level 1, 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue
Fielding coincident with M270A1 or HIMARS launchers fielding by PM PFRMS.

Purpose of Trainer:
Used to simulate the M270A1 or HIMARS tactical fire control panel. The accompanying software program provides training scenarios that aid the operator in improving the skills required to perform tactical fire missions on the launcher platform. In the institutional mode, the scenarios are instructor driven for feedback on the student skill growth.

Functional Description:
Commercial Off-The-Shelf PC-Based Trainer with Touch Screen Technology.
Maintains Current Tactical Proficiency Trainer Capabilities (3 Modes of Operation) Institutional Mode, Stand-Alone Mode, Free Play Mode.
Developed by Aviation and Missile Command Software Engineering Directorate.

Physical Information:
Trainer is a commercial off the shelf PC. Monitor has touch screen technology to provide virtual fire control panel functions and controls.

Equipment Required, Not Supplied:
One desk and chair per trainer.

Special Installation Requirements:
(Information not available)

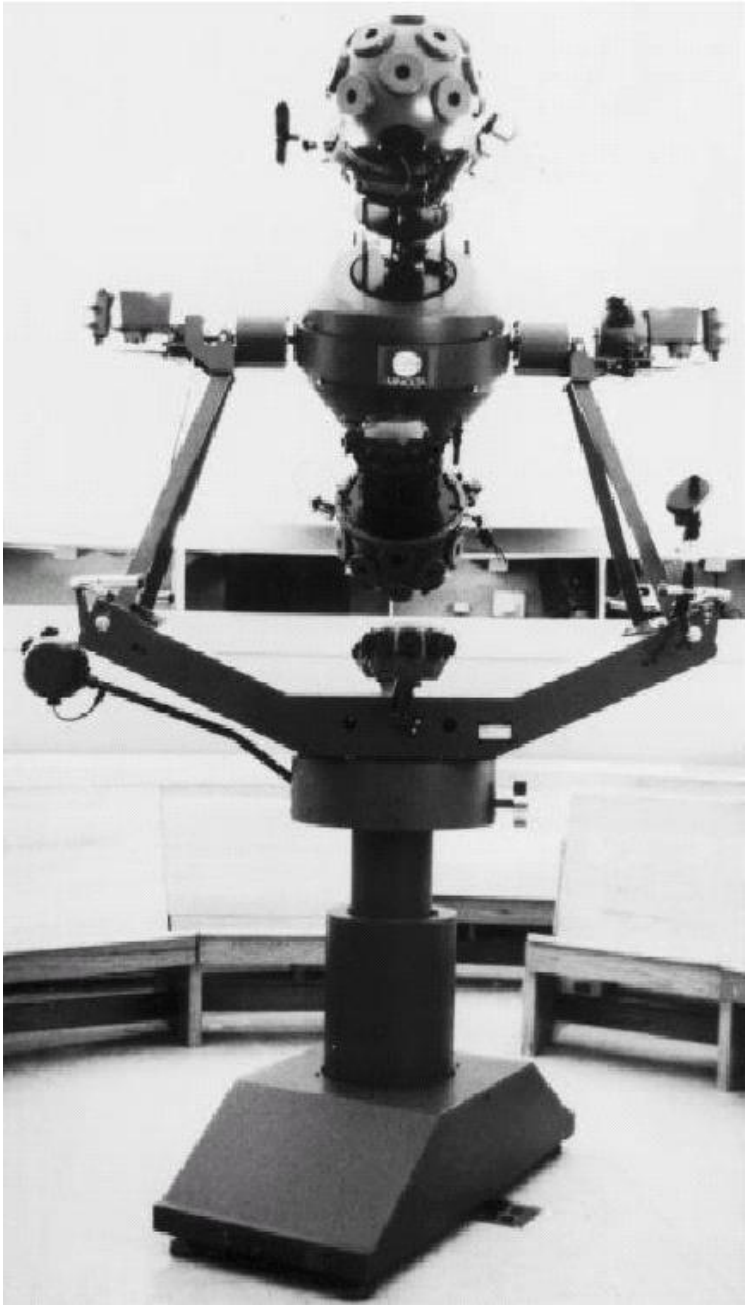
Power Requirements:
110vac, 60 Hz

Applicable Publications:
Operators Handbook for the Multiple Launch Rocket System (MLRS) (Embedded in the trainer software).

Reference Publications:
TM 9-1055-647-13&P (IETM - MLRS M270A1 Operators Manual).
TM 9-1055-1646-13&P (IETM - HIMARS Operators Manual).

Training Requirements Supported:
MOSCs:
13M10, 13M20, 13M30

CELESTIAL IDENTIFICATION TRAINER



Training Category/Level Utilized:
Field artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To create a realistic star field for the use of star navigation and celestial navigation in training Army artillery surveyors in astronomic navigation.

Functional Description:

The trainer is designated primarily as a navigation device. This device is a "Minolta MS-8 PLANETARIUM" which projects a realistic star field. The device is a new innovation for planetarium classrooms, utilizing improved projection instruments which recreate a real-world sky with star identification. The planetarium projectors project at least 3,400 star and sky objects to magnitude 5.75 including the Northern and Southern Circumpolar regions. The planetarium Motion System produces daily, annual, precession, latitude and azimuth motions. The overall system has both automated and manual control capabilities.

The trainer consists of the following auxiliary projectors: Ecliptic, Celestial coordinates, Meridian, Azimuth circle, Altitude circle, Daylight, Moon glow, Mooring and evening twilight glow, Arrow pointer, 10 Constellations, Panorama, Sidereal, Orrery and the following special effects protectors: Total solar eclipse, Lunar Eclipse, Comet, Ripple motion, Aurora, Meteor shower, Lightning, Image rotator, X-Y axis slew, Single axis slew, Geocentric earth, Satellite and Zenith. Additional special effects may be added at any time.

Physical Information:

Dome: 25.92 ft. in diameter

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

(Information not available)

Power Requirements:

110vac

Applicable Publications:

Commercial Handbook of Operating and Maintenance Instructions.

Reference Publications:

(Information not available)

Training Requirements Supported:

MOSC 82C
OBC Students
Career Course
W.O. School

CALL FOR FIRE TRAINER (CFFT) 1:4 CONFIGURATION

NSN 6910-01-560-3677 **DVC 06-111/B Call for Fire Trainer (CFFT) 1:12 Configuration**
NSN 6910-01-560-3689 **DVC 06-111/C Call for Fire Trainer (CFFT) 1:30 Configuration**

CALL FOR FIRE TRAINER (CFFT) 1:4 CONFIGURATION (DVC 06-111/A)

CALL FOR FIRE TRAINER (CFFT) 1:30 CONFIGURATION (DVC 06-111/C)

Training Category/Level Utilized:
Field Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Fixed Price Contract with Fidelity Technologies.

Purpose of Trainer:
Train how to call for fire.

Functional Description:

The Call For Fire Trainer is a lightweight, rapidly deployable, observed fire raining system that provides simulated battlefield training for Fire Support Specialist, Joint Fire Observers (JFO), and Soldiers at the institutional and unit level. The system provides simulated battlefield training to Forward Observers in four configurations: 1:4, 1:12, 1:30, and the Joint Fires and Effects Trainer System (JFETS). The JFETS at US Army Field Artillery School provides immersive environment for Army joint observed fires training that accurately replicates the Contemporary Operating Environment. The system provides simulsted battlefield scenarios for training observed fire tasks to all Soldiers regardless of their Military Occupational Specialty (MOS). Trains MOS 13F (FOs) and all Soldiers to call for and adjust indirect fire. Used to train Joint Fires Observers at USAFAS and re-qualify them semi-annually at home station. CFFT II will be a network capable and able to interface with other simulators and simulations.

Physical Information:

The system which comes in five shipping containers consists of an instructor station (with three or four computers depending on configuration); four, twelve, or thirty student stations (again depending on configuration); and a projector and screen. Student stations are arrayed in rows to facilitate specially calibrated binoculars that all students on a given row be able to focus on the screen projection. An enhanced student station, included in each system, comes with a simulated Lightweight Laser Designator Rangefinder used to train designation procedures.

Equipment Required, Not Supplied:

1:4 requires tables/chairs for the instructor station and four student stations in a room no smaller than 27’ L x 15’ W x 8’ H. 1:12 requires tables/chairs for the instructor station and twelve student stations in a room no smaller than 37’ L x 15’ W x 8’ H.

Special Installation Requirements:

Prior to fielding, 1:30 facility requirement includes room dimensions of 47’ L x 30’ W x 8’ H. To facilitate large audience view of screens, room must also have tiered floor to support the four rows of eight student stations each.

Power Requirements:

120vac

Applicable Publications:

Operator Manual – TD 06-6910-708-10
TSUH – TD 06-6910-708-TSUH
Maintenance Manual – SMM 06-6910-708-20

Reference Publications:

N/A

Training Requirements Supported:

Train soldiers how to call for fire.

HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS), DIAGNOSTIC AND TROUBLESHOOTING TRAINER (D/T)

NSN Not Assigned **DVC 06-112/A High Mobility Artillery Rocket System (HIMARS), Organizational Maintenance Trainer (OMT)**
NSN Not Assigned **DVC 06-113 High Mobility Artillery Rocket System (HIMARS), Mockup Trainer**
NSN Not Assigned **DVC 06-113/A High Mobility Artillery Rocket System (HIMARS), Hydraulic Power Cart**

Training Category/Level Utilized:
Field Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production) contact PEO STRI.

Purpose of Trainer:
The HIMARS MTS is a simulation system to provide direct support maintenance and operator level training for the M142 HIMARS. It trains the maintenance technicians in diagnostic, troubleshooting, remove and replace procedures using simulated HIMARS equipment. It stimulates vehicle fire control and launcher equipment.

Functional Description:
The HIMARS MTS consist of diagnostic and troubleshooting desk top trainers for classroom environment and full scale loader launcher mock-ups used in maintenance bay environment. Each component is connected to an instructor's station to monitor and collect student performance data.

DVC 06-112 (HIMARS), Diagnostic and Troubleshooting Trainer (D/T)

Diagnostic and troubleshooting trainer used in classroom environment, connected to an instructors station to monitor and collect student performance data.

DVC 06-112/A (HIMARS), Organizational Maintenance Trainer (OMT)

The HIMARS Organizational Maintenance Trainer (OMT) is a PC based device to teach Preventative Maintenance Checks and Services (PMCS) skills and Conduct of Fire Missions to HIMARS vehicle operators. Software packageprovides similar training capability to support the M270A1 MLRS system.

DVC 06-113 (HIMARS), Loader/Launcher Module Mockup

Loader launcher mockup used in maintenance bay environment to support troubleshooting remove and replacement tasks. The "Mockup" is used for training organizational and direct support technicians for maintenance tasks required to support the HIMARS weapons system.

DVC 06-113/A (HIMARS), Hydraulic Power Cart

The HPC assembly is designed as a completely mobile power cart to provide hydraulic and pneumatic pressure, and a ready source of 24 VDC power to operate the vehicles tactical control systems on the HIMARS vehicle. The HPC powers the HIMARS weapons system eliminating the need for engine power and reducing emission of toxic exhaust fumes inside the maintenance bay. A similarly configured device has been developed to support M270A1 MLRS institutional training.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Maintenance Bay Tactical Vehicle Hydraulic Rigid Line installation for training.

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
TM 06-6910-711-10 (HIMARS) Operators Manual
SMM 06-6910-711-20 (HIMARS) System Maintenance Manual
SMM 06-6910-711-20-01 (HIMARS) COTS System Maintenance Manual

Training Requirements Supported:
HIMARS vehicle operators (MOSC 13M).

XM1130 INERT CARTRIDGE, 105MM INSENSITIVE MUNITION, HIGH EXPLOSIVE

Training Category/Level Utilized:
Field Artillery/Level 2/3

Logistic Responsible Command, Service, or Agency:
PM CAS, Picatinny Arsenal, NJ

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Provides realistic training on identification, packaging/un-packaging and handling of Cannon Artillery Ammunition

Functional Description:
The device is packaged in a fiberboard container similar to the actual projectile. It contains an inert propellant charge and primer in the cartridge casing. It has a threaded ogive that can be used to install inert fuzes appropriate for the projectile.

Physical Information:
Weight – 34.06 lbs (15.45 kg)
Length – 21.63" (549.5 mm w/fuze)

Equipment Required, Not Supplied:
The PIAFS-1 Inert MOFA training fuze is used to complete the assembly of the final cartridge

Special Installation Requirements:
None

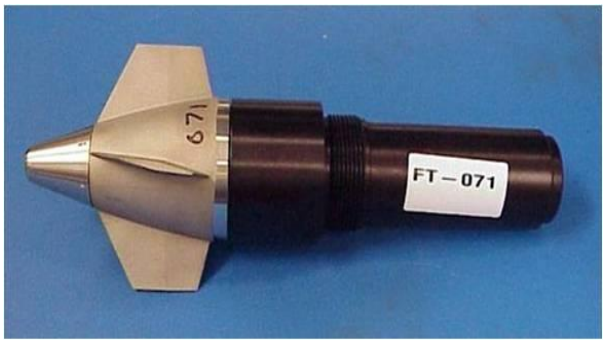
Power Requirements:
None

Applicable Publications:
TM 9-1300-251-20&P; TM 9-1015-252-10; TM 43-0001-28

Reference Publications:
None

Training Requirements Supported:
13 Series: Institutional and Operational Domain Ammunition training.
Supports MOSC 13B tasks 061-281-1543; 061-266-1508; 061-281-2006; 061-266-2236; 061-266-2237; 061-266-4019. MTP 6-037-30

XM1156 INERT FUZE, PRECISION GUIDANCE KIT (PGK) FUZE



Training Category/Level Utilized:
Field Artillery/Level 2/3

Logistic Responsible Command, Service, or Agency:
PM CAS, Picatinny Arsenal, NJ

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Provides realistic training on identification, cover removal and replacement, and handling of Cannon Artillery Ammunition

Functional Description:
The device is a non-functioning, inert replica of the actual fuze. It includes the protective cover over the rotating canards. It has a threaded base that can be used to mate the inert fuze to an appropriate projectile.

Physical Information:
Weight – 2.86 lbs
Length – 11.0”

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
TM 9-1300-251-20&P; TM 9-1025-215-10; TM 9-2350-314-10; TM 43-0001-28

Reference Publications:
None

Training Requirements Supported:
13 Series: Institutional and Operational Domain Ammunition training.
Supports MOSC 13B tasks 061-266-1508; 061-266-2236; 061-266-2237; 061-266-4019; 061-266-1509;061-266-1501; 061-306-1004; 061-270-1507. MTP 6-037-30

CALL FOR FIRE TRAINER INCREMENT II (CFFT II)

NSN 6910-01-576-8299	**DVC 06-118/1 Call for Fire Trainer Increment II (CFFT II) 1:4 Configuration**
NSN 6910-01-576-8318	**DVC 06-118/2 Call for Fire Trainer Increment II (CFFT II) 1:12 Configuration**
NSN 6910-01-576-8343	**DVC 06-118/3 Call for Fire Trainer Increment II (CFFT II) 1:30 Configuration**

CALL FOR FIRE TRAINER INCREMENT II (CFFT II) 1:4 CONFIGURATION (DVC 06-118/1)

CALL FOR FIRE TRAINER INCREMENT II (CFFT II) 1:30 CONFIGURATION (DVC 06-118/3)

Training Category/Level Utilized:
Filed Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Fixed Price Contract with fidelity Technologies.

Purpose of Trainer:
Train how to call for fire.

Functional Description:

The CFFT is a lightweight, rapidly deployable, observed fire training system that provides simulated battlefield training for Fire Support Specialists, Joint Fires Observers (JFOs), and Soldiers at the institutional and unit level. This system is an improvement over the CFFT I by providing the ability to link with other simulations, C2 systems or operational platforms. Another added capability is the provision to operate using classified material. The CFFT II provides simulated battlefield training to Forward Observers in four configurations: 1:4, 1:12, 1:30 and the institutional CFFT-II Plus (also known as the Joint Fires and Effects Trainer System (JFETS). Each CFFT II includes, as simulated military equipment (SME), a Lightweight Laser Designator Rangefinder (LLDR) as part of an enhanced student station. The CFFT-II Plus at the US Army Field Artillery School provides an immersive environment for Army and joint observed fires training that accurately replicates the Contemporary Operating Environment.

Physical Information:

The system which comes in five shipping containers consists of an instructor station (with three or four computers depending on configuration); four, twelve, or thirty student stations (again depending on configuration); and a projector and screen. Student stations are arrayed in rows to facilitate specially calibrated binoculars that all students on a given row be able to focus on the screen projection. An enhanced student station, included in each system, comes with a simulated Lightweight Laser Designator Rangefinder used to train designation procedures.

Equipment Required, Not Supplied:

1:4 requires tables/chairs for the instructor station and four student stations in a room no smaller than 27’ L x 15’ W x 8’ H. 1:12 requires tables/chairs for the instructor station and twelve student stations in a room no smaller than 37’ L x 15’ W x 8’ H.

Special Installation Requirements:

Prior to fielding, 1:30 facility requirement includes room dimensions of 47’ L x 30’ W x 8’ H. To facilitate large audience view of screens, room must also have tiered floor to support the four rows of eight student stations each.

Power Requirements:

120vac

Applicable Publications:

Operator Manual – TD 06-6910-708-10
TSUH – TD 06-6910-708-TSUH
Maintenance Manual – SMM 06-6910-708-20

Reference Publications:

N/A

Training Requirements Supported:

Train soldiers how to call for fire.

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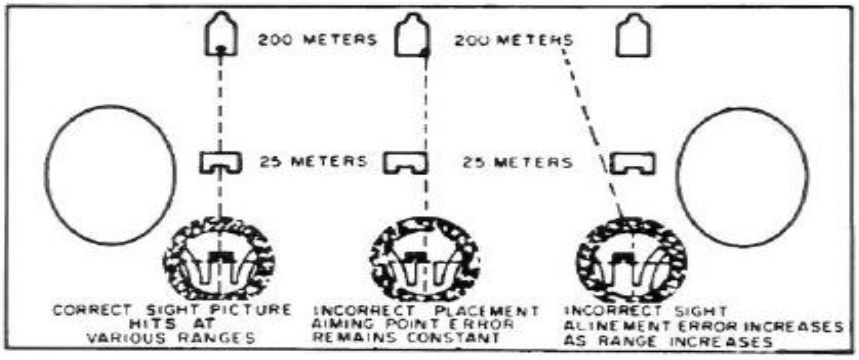
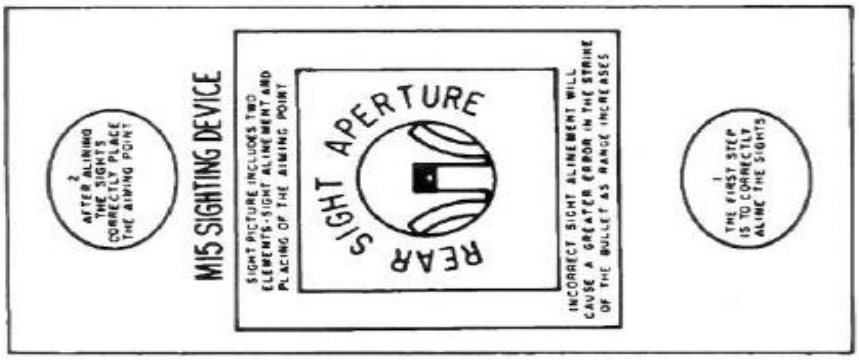
BASIC SERIES 07
INFANTRY

M15 SIGHTING DEVICE





DVC NO. 07-26

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Generally available through the supply system as authorized by AR 310-49.

Purpose of Trainer:
To support training of riflemen in the firing of the 7.62mm M14 Rifle and the 5.56 mm M16A1 Rifle. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The Rifle Sighting Trainer M15 is a cardboard device used to establish correct sight alignment.

Physical Information:
7" x 4"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

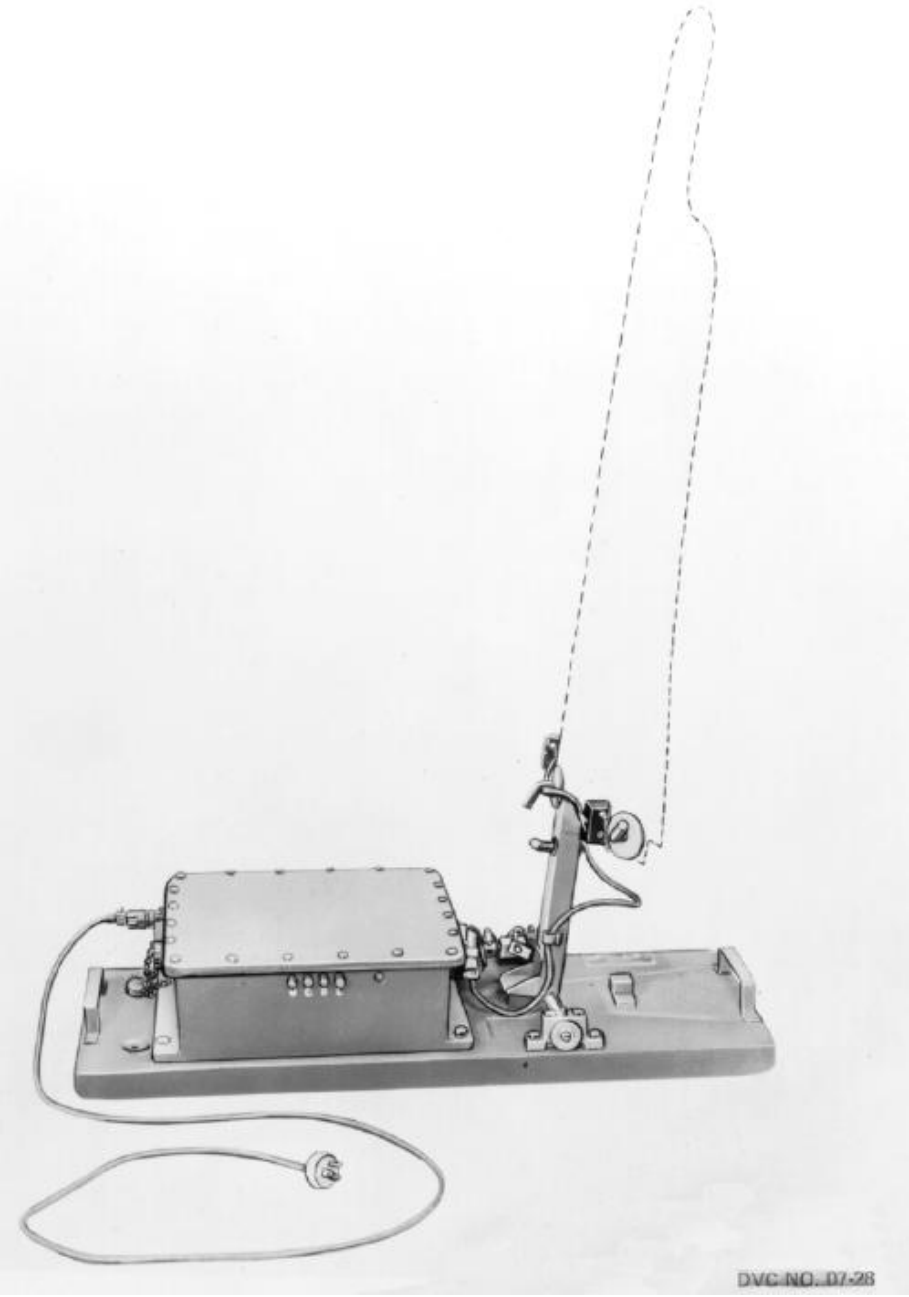
Applicable Publications:
(Information not available)

Reference Publications:
TM 9-1005-223 Series
TM 9-1005-249 Series
FM 3-22.09

Training Requirements Supported:
This trainer supports individual task training for M16 series weapons and M4 carbine training strategies outlined in FM 3-22.09, Rifle Marksmanship.

Individual Tasks (STP 21-1 SMCT)
07-311-2007, 071-100-0003

TARGET HOLDING MECHANISM, TRAINFIRE



Training Category/Level Utilized:
Infantry/Level 2

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Generally available through the supply system as authorized by AR 310-49.

Purpose of Trainer:
To support training of personnel in individual unit, field and combat small arms firing. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The TRAINFIRE Target Holding Mechanism, M31A1, with power pack, is an electric motor-driven device

designed for use in rifle training and will accommodate one target, either the kneeling E-silhouette or the prone F-silhouette target. It consists of cable assemblies and a mechanism assembly. The Standard A TRAINFIRE Mechanism, M31A1, replaces the Standard B TRAINFIRE Mechanism, M31.

Physical Information:
Mechanism assembly M31A1: 29" x 17" x 10"; 72 lb.

Equipment Required, Not Supplied:
Silhouette targets (See reference publication)

Special Installation Requirements:
None

Power Requirements:
Primary voltage (input): 110vac and 220vac
Secondary operating voltage: 12vdc to 16vdc

Applicable Publications:
TM 9-6920-203-14&P

Reference Publications:
FM 3-22.09

Training Requirements Supported:
This trainer supports individual training of small arms marksmanship.

Individual Tasks (STP 21-1 SMCT)
071-311-2007, 071-025-0007, 071-1-010-0006, 071-100-0003, 071-004-0006

5.56MM CONVERSION KIT (RIMFIRE)

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Conversion Kit (CK) provides a method to use .22 caliber LR, rimfire ammunition in the M16 or M16A1 Rifle for individual training purposes. The use of .22 caliber ammunition in place of the standard military 5.56mm ammunition will result in reduced training costs and allow the use of firing ranges that cannot accommodate the higher velocity and longer range cartridges. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device consists of two major components, a magazine insert (or adapter), for .22 caliber, LR ammunition, and a bolt assembly. The magazine component is a 10-round magazine which fits into a standard 5.56mm 20- or 30-round magazine. The .22 caliber bolt assembly consists of a smoothbore barrel configured externally to the 5.56mm chamber, and internally to accept the .22 caliber LR cartridge and a bolt with a rimfire firing pin. The device is installed in the M16 or M16A1 Rifle in place of the regular bolt carrier group, is blowback operated, is capable of firing in the semiautomatic mode only, and is limited in accuracy to 50 meters.

Physical Information:
Bolt adapter assembly: 8.75", 1 lb
Magazine insert 3", 4 oz.

Equipment Required, Not Supplied:
.22 caliber rimfire ammunition

Special Installation Requirements:
None

Power Requirements:
None

Special Requirements:
Familiarization with range procedures, weapon operation and maintenance, and safety practices.

Applicable Publications:
TM 9-6920-363-12&P

Reference Publications:
FM 3-22.9
TM 9-1005-249 Series

Training Requirements Supported:
This trainr supports individual task training for M16 series weapons and M4 carbine training strategies outlined in FM 3-22.09, Rifle Marksmanship

Individual Tasks (STP 21-1 SMCT)
071-311-2007, 071-100-0003

BLANK AMMUNITION FIRING ATTACHMENT: M2 MACHINE GUN

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device permits firing of linked blank .50 caliber ammunition with the M2 machine gun. It will function as the weapon effect signature simulator for the M2 machine gun in engagement simulation systems such as the Multiple Integrated Laser Engagement System (MILES).

Functional Description:
The firing attachment consists of one muzzle restriction with orifice, three spacer rods, one support, attaching hardware and guide assembly. It allows the weapon to function by restricting the gas flow at the muzzle end of the barrel. The guide assembly is used to act as a spacer to assure proper feeding of a live round of ammunition into the feedway. The attachment is designed to fire the production improved M1A1 blank ammunition.

Physical Information:
Length: 33"; Diameter: 5"

Equipment Required, Not Supplied:
M2 Machine Gun
M1A1 Blank Ammunition

Special Installation Requirements:
(Information not available)

Power Requirements:
None

Applicable Publications:
TM 9-6920-434-12&P

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
This device supports live force-on-force training IAW unit CATS.

M2 PRACTICE BOLT FOR SHORT RANGE AMMUNITION

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The M2 Practice Bolt provides a method to allow use of the M862 Practice Cartridge, while disallowing accidental firing of the standard 5.56mm cartridge. The M862 ammunition has a maximum range of 300 meters. This allows the use of firing ranges that cannot accommodate the higher velocity and long range cartridges. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The M2 Practice Bolt replaces the standard M16 Series Rifle Bolt Carrier Assembly to enable plastic practice ammunition to be fired. When firing the M862 Practice Cartridge, the M16 Series Rifle is converted from gas operation to blow back operation. The training ammunition enables realistic firing training to be carried out at a shorter distance with reduced danger areas.

Physical Information:
Length: 6"
Weight: .5 lb
Caliber: 5.56mm

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
TM 9-6920-746-12&P

Reference Publications:
TM 9-1005-249 Series
TM 9-1005-319 Series
FM 3-22.9

Training Requirements Supported:
This trainer supports individual task training for M16 series wepons and M4 carbine training strategies outlined in FM 3-22.09, Rifle Marksmanship.

Individual Tasks (STP 21-1 SMCT)
071-311-2007, 071-100-0003

M3 RECOIL AMPLIFIER FOR SHORT RANGE AMMUNITION

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Caliber .50 M3 Recoil Amplifier is used in conjunction with the M2 Machine Gun for firing the M858 ball and M860 tracer cartridges only. The short range training ammunition has a maximum range of 150 meters. This allows the use of firing ranges that cannot accommodate the higher velocity and longer range cartridges. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The M3 Recoil Amplifier screws into the M2 Machine Gun receiver in the same manner as the standard barrel is installed, to enable practice ammunition to be fired and still provide enough back pressure to sustain continuous firing. When firing with cal .50 practice cartridges (M858 Ball) or cal .50 tracer (M860) practice cartridges, gases that have been forced into the cylinder press against the piston ring, which surrounds the barrel, and thus, by the recoil of the barrel, effects an automatic function of the weapon. The recoil amplifier is constructed for the purpose of functional firing with short range cal .50 training ammunition when used with the cal .50 M2 Machine Gun. The short range training ammunition enables realistic training to be carried out at shorter distances with reduced danger areas.

Physical Information:
45" L x 5" W x 5" H; 28.75 lb
Caliber: .50 Cal

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Described in TM 9-1005-203-12&P

Power Requirements:
None

Applicable Publications:
TM 9-1005-203-12&P

Reference Publications:
TM 9-1005-213 Series
FM 3-22.65

Training Requirements Supported:
This trainer supports individual task training for M2 .50 caliber Machine Gun training strategies outlines in FM 3-22.65.

Individual Tasks (STP 21-1 SMCT)
071-313-3154

M287 TRACER BULLET TRAINER (TBT) FOR THE M137 AT4 ANTI-TANK WEAPON

Training Category/Level Utilized:
Anti-Armor/level 3

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
DVC 07-68 simulates operation and firing of the AT4 Tactical Anti-Tank Weapon. It allows the student to fire a 9mm tracer bullet at stationary and moving armor targets. The bullet has the same trajectory as the 84mm rocket that is fired by the AT4 weapon.

Functional Description:
M287 Practice Launcher is a right-shoulder fired trainer that is similar to the AT4 tactical weapon. It consists of a tube, sling, pop-up M16-type peep/post sight, transport safety, safety cocking lever, firing button, instruction decals, and bolt. A 9mm machine gun barrel is located inside the tube. Firing is accomplished by removing the bolt, placing the 9mm tracer bullet inside the bolt, inserting the bolt, removing the transport safety pin, placing the weapon on the right shoulder, releasing front and rear sights, cocking, depressing the safety, aiming and pressing the firing button. Maximum effective range is 300 meters.

Physical Information:
40" L; 15 lb
Shipping Configuration: 5 each per wooden box (115 lb), 4 boxes per pallet (530 lb)

Equipment Required, Not Supplied:
14 Spare Parts
Small Arms Repairman's Kit
6mm hex wrench; 3mm hex wrench

Special Installation Requirements:
None

Power Requirements:
None

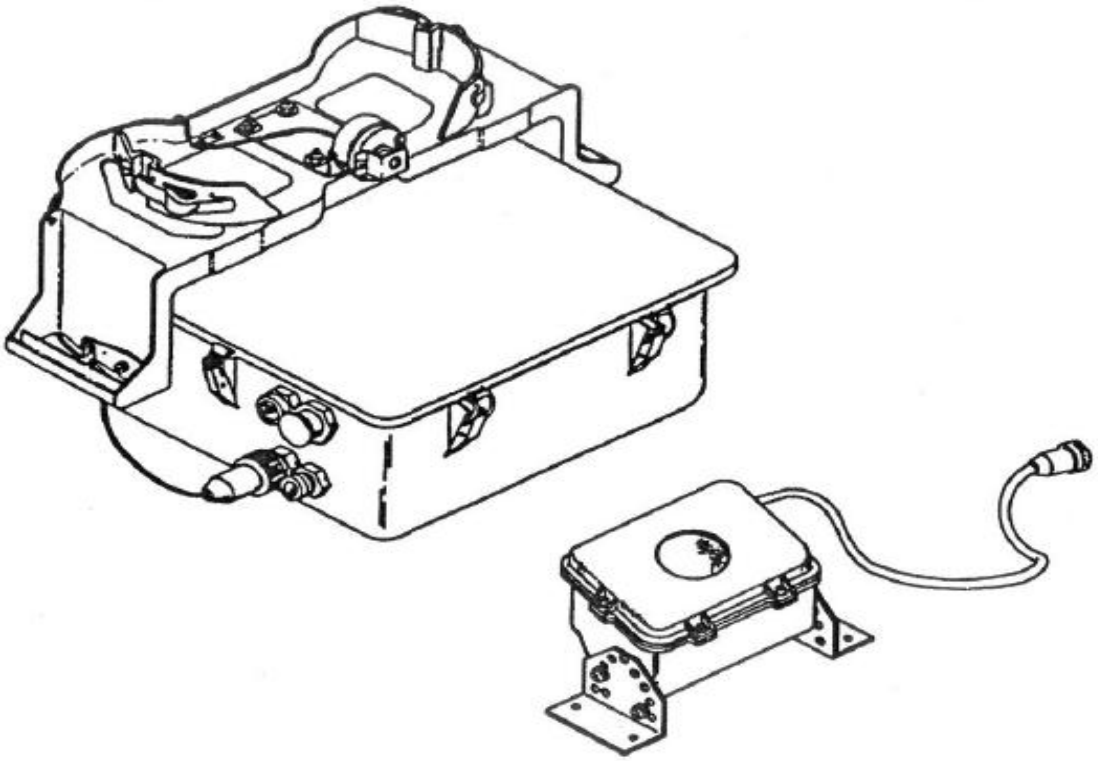
Applicable Publications:
TM 9-6920-886-14&P

Reference Publications:
FM 3-023.25

Training Requirements Supported:
This trainer supports individual task training for the AT-4 training strategies IAW FM 3-023.25, Shoulder Launched Munitions.

Individual Tasks (STP 21-1 SMCT)
071-054-0001, 071-054-0002,
071-054-0003, 071-054-0004

REMOTE TARGET SYSTEM (RETS) INFANTRY TARGET MECHANISM (ITM)



Training Category/Level Utilized:
MOSC 11B

Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Infantry Target Mechanism (ITM) is a component of the Remoted Target System (RETS) DVC 09-24. ITM is installed to hold movable and stationary targets. It may be fitted with a small arms muzzle flash simulator, a rifle fire simulator or used alone.

Functional Description:
The target mechanism raises and lowers targets on electronic commands from the Range Control Station (RCS). It contains a hit sensor which detects and transmits hit information to the MFS. The ITM provides visual effects via light emitting diodes. It operates either as a single-shot or automatic at a rate of 600 rounds per minute. It is environmentally sealed for all-weather use.

Physical Information:
14" W x 8" H x 14" D; 20 lb.

Equipment Required, Not Supplied:
RETS Infantry Range (refer to DVC 09-24)

Special Installation Requirements:
RETS Infantry Range (refer to DVC 09-24)

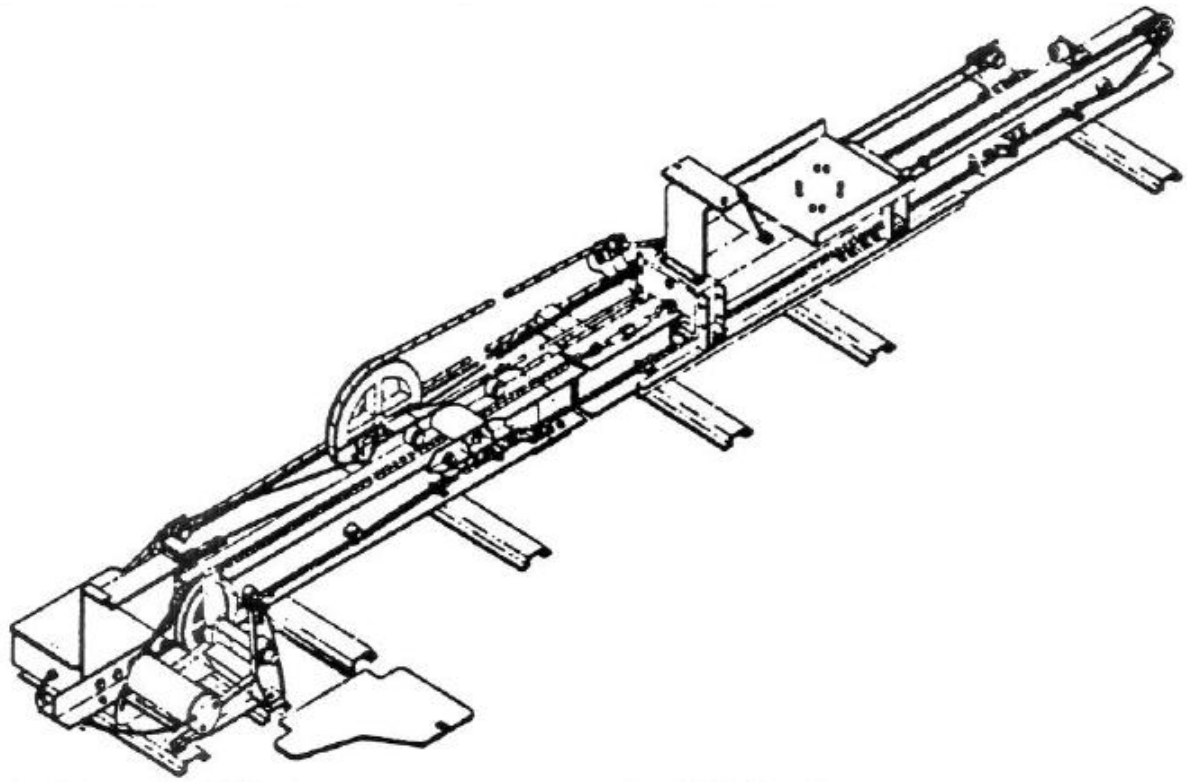
Power Requirements:
24 $\pm$ 1.5vdc, 10 A, 240 W

Applicable Publications:
TM 9-6920-742-14-2
TM 9-6920-742-14-3
TM 9-6920-742-24P-2
TM 9-6920-742-24P-3

Reference Publications:
TM 9-6920-742-14-1
TM 9-6920-742-24P-1

Training Requirements Supported:
Infantry MOSC's

REMOTE TARGET SYSTEM (RETS)
INFANTRY MOVING TARGET CARRIER (IMTC)



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Infantry Moving Target Carrier (IMTC) is a component of the Remoted Target System (RETS) DVC 09-24. IMTC simulates a man running from one concealed position to another. It carries an Infantry Target Mechanism (ITM) DVC 07-73.

Functional Description:
DVC 07-74 is electronically controlled from the RETS Range Control Station (RCS) DVC 11-51. The device moves forward or backward in either up or down position at one of three speeds: 1.8 ± .2 meters per second, 2.7 ± .2 meters per second, or 3.7 ± .2 meters per second. Speed is preset at the device, not remotely controlled.

Physical Information:
32" W x 46" H x 6" P
Weights:
Motor/Belt Drive Assembly 30lb
Electronics Assembly 20lb
Carriage Assembly 20lb per section

Equipment Required, Not Supplied:
RETS Infantry range (refer to DVC 09-24)

Special Installation Requirements:
RETS Infantry range (refer to DVC 09-24)

Power Requirements:
24 ± 3.6vdc, 30 A, 720 W

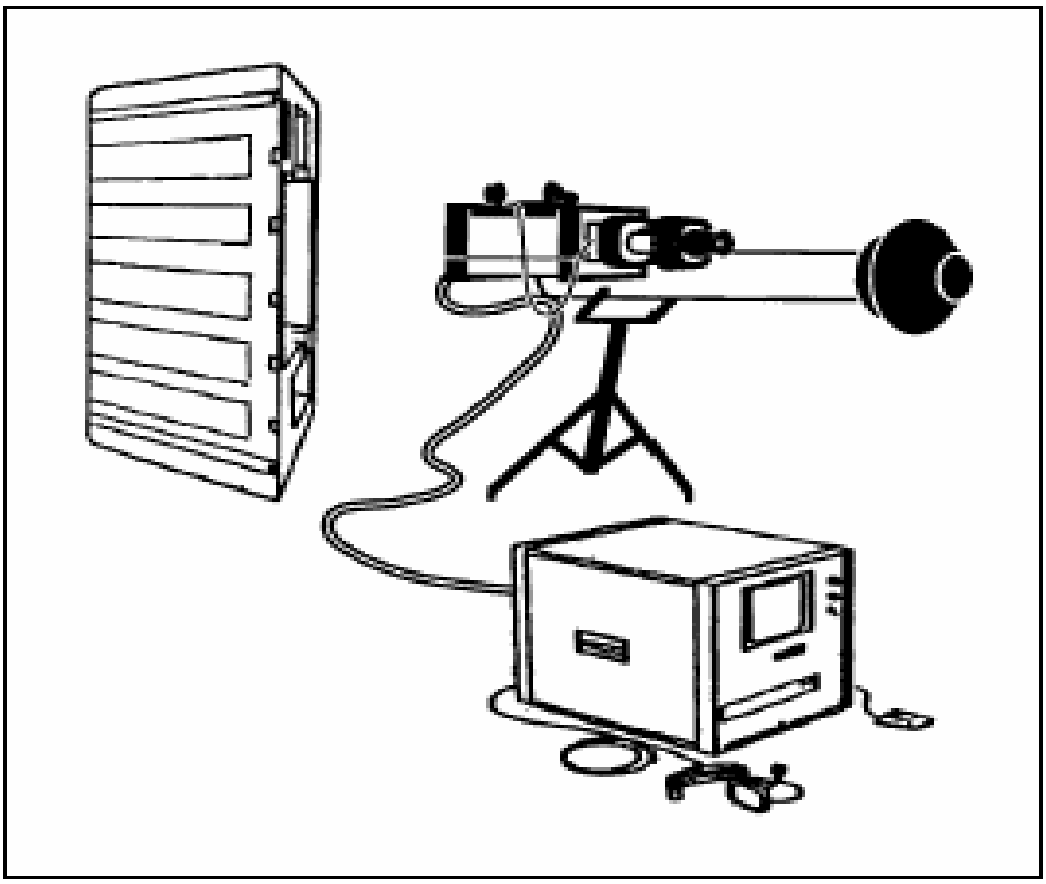
Applicable Publications:
TM 9-6920-742-14-3
TM 9-6920-742-24P-3

Reference Publications:
TM 9-6920-742-14-1
TM 9-6920-742-24P-1

Training Requirements Supported:
Infantry MOSC's

TRAINER, GUNNERY, ANTITANK: PRECISION GUNNERY TRAINING SYSTEM (PGTS) DRAGON, INDOOR

NSN Not Assigned **DVC 07-76/1 Trainer, Gunnery. Antitank: (PGTS) DRAGON, Indoor, (Instructor's Station)**



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited distribution).

Purpose of Trainer:
To provide realistic training and practice in engaging, tracking and firing of the Dragon Weapon Guided Missile System.

Functional Description:
DVC 07-76 is comprised of two units: Instructor Station and Student Station. The Student Station simulates the M47 Dragon Weapon Guided Missile system. It contains a day sight color monitor, night sight black and white monitor, printed wiring assembly, and external headset. A reflective mirror is placed in front of the student station to provide student movement feedback to the sensing central processing unit. Battlefield scenes, including both enemy targets and friendly vehicles are displayed through the student gunner's sight unit. The student can select a target, track it, and fire the weapon. Simulated blast and singing wire sounds can be heard through the headset. The student tracks the target by centering the crosshairs on the center of the target and can see hit or miss explosions through the sight. The student can also hear commands from the instructor station as well as battlefield sounds of small arms and guns firing.

The instructor controls the exercise from his station. The instructor's station includes a video monitor which allows him to see the same scenes as the student. The instructor's station is also equipped with a mouse cursor control, headset, computer, video disk player interface assembly, power supply, fan, and circuit breakers. Controls and options allow the instructor to view the mission exercise and replay for critique of the student's performance. A score is awarded by the controlling computer based upon the performance of the student during the mission exercise.

Physical Information:
Student Station: 13" H x 12" W x 49" L; 53 lbs.
Mirror: 40" H x 5" W x 26" D (folded)
Instructor Station: 18.5" H x 17.5" W x 25" L; 137 lbs.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

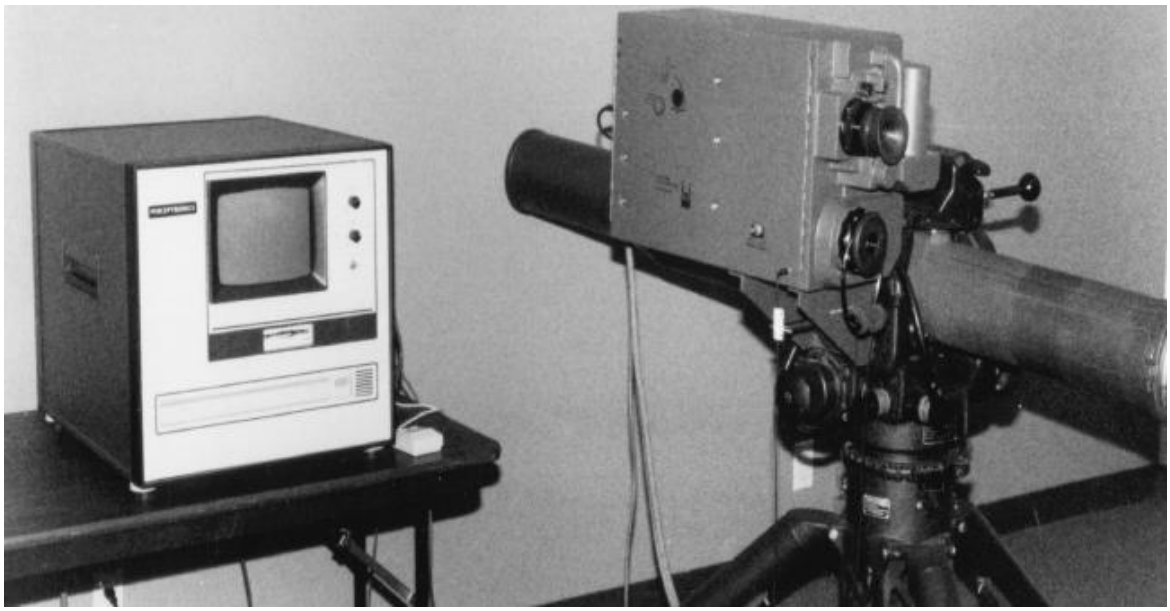
Power Requirements:
110/220vac, 60/50 Hz

Applicable Publications:
TM 9-6920-482-10
SMM 9-6920-482, Volumes I and II

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 11 Series

TRAINER, GUNNERY, ANTITANK: PRECISION GUNNERY TRAINING SYSTEM (PGTS) TOW, INDOOR



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited distribution).

Purpose of Trainer:
To provide realistic training and practice in engaging, tracking and firing of the TOW 2 Weapon Guided Missile System.

Functional Description:
DVC 07-77 is comprised of two units: Instructor's Station and Student Station. The student Station simulates the AN/TAS 4 Sight Assembly of the TOW 2 Weapon Guided Missile System. It mounts upon the M83 Traversing Unit of the M159E1 Tripod Mount without modification to the weapon system. The student station contains both an optical (day) sight and thermal (night) sight capability. Battlefield scenes, including both enemy targets and friendly vehicles are displayed through the student gunner's sight unit. The student can select a target, track it, and fire the weapon. Simulated blast and singing wire sounds can be heard through the headset. The student tracks the target by centering the crosshairs on the center of the target and can see hit or miss explosions through the sight. The student can also hear commands from the instructor as well as battlefield sounds of small arms and guns firing. The instructor controls the exercise from his station. The instructor's station includes a video monitor which allows him to see the same scenes as the student. The instructor's station is also equipped with a mouse cursor control, headset, computer, video disk player, interface assembly, power supply, fan, and circuit breakers.

Physical Information:
Student Station: 23.75" H x 29.56" W x 35.37" L; 115 lbs.
Instructor Station: 19.5" H x 19.5" W x 25" L; 137 lbs.

Equipment Required, Not Supplied:
TOW 2 Guided Missile System (M220A2), Missile Simulation Round.

Special Installation Requirements:
(Information not available)

Power Requirements:
110/220vac, 50/60 Hz
120/240vac, 50/60 Hz

Applicable Publications:
TM 9-6920-452
SMM 9-6920-452, Volumes I and II

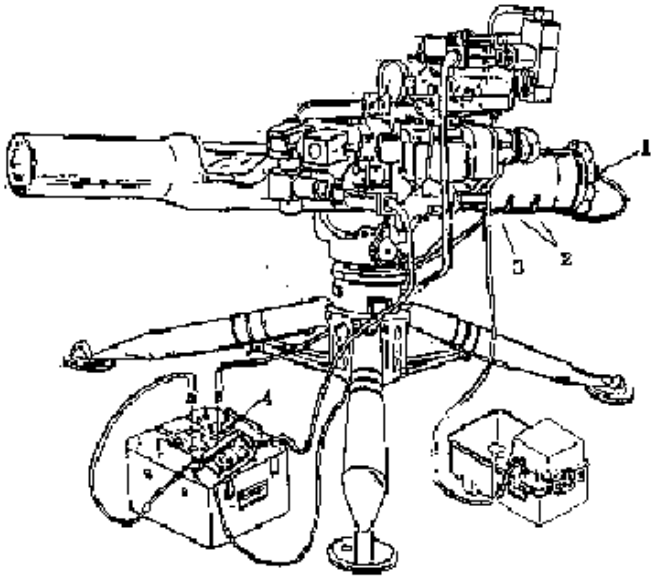
Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 11-Series

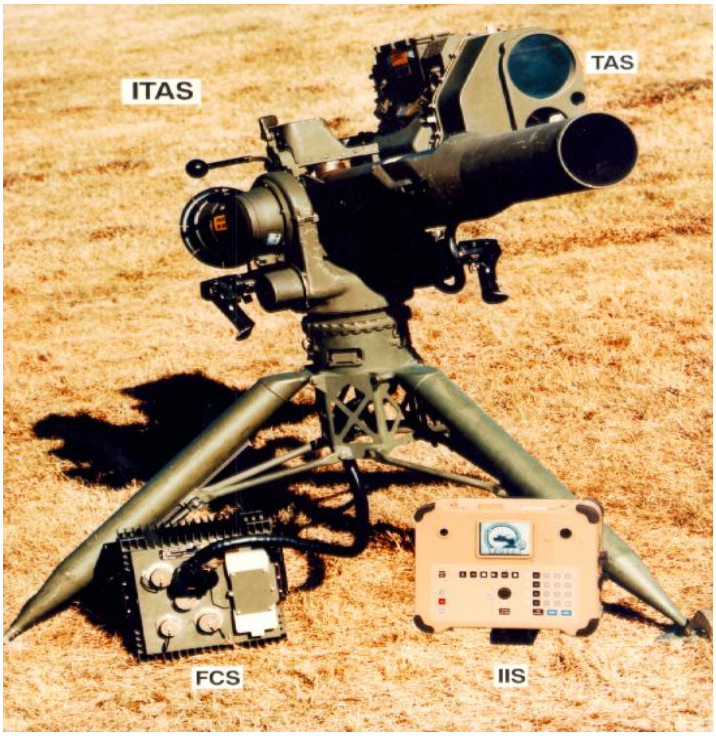
TRAINER, GUIDED MISSILE: PRECISION GUNNERY TRAINING SYSTEM (PGTS) TOW FIELD TACTICAL TRAINER (OUTDOOR)

NSN 6920-01-439-0598

DVC 07-78/A Trainer, Guided Missile: (PGTS) Improved TOW Field Tactical Trainer (Upgrade)



DVC 07-78



DVC 07-78/A

Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue, (limited distribution).

Purpose of Trainer:
The TOW FTT is used to teach precision gunnery skills to TOW 2 gunners in the field. This training can occur on designated ranges, general outdoor areas, or representative tactical environments. The TOW FTT can be used for both initial gunner familiarization in an outdoor environment as well as for gunner skill enhancement and progression.

Functional Description: (DVC 07-78)
DVC 07-78 TOW FTT equipment consists of the Trainer Missile Tube (TMT), day sight tracker interface, night sight interface, computer, remote control unit, battery tube, converter/changer, retroreflector assembly, three cables, two shipping containers and the TOW FTT operator's manual. The TOW 2 weapon system must be assembled, checked out, and then partially disassembled prior to installation of the TOW FTT. The TOW FTT attaches to a TOW 2 weapon system and replaces some of the TOW 2 components. The TOW 2 can be either tripod-mounted or mounted on the pedestal in an M151 truck or a M966 HMMWV TOW. The TOW FTT uses a retroreflector to sense its target. The retroreflector acts like a mirror and returns a portion of the laser beam generated by the transceiver in the Trainer Missile Tube (TMT).

Functional Description: (DVC 07-78/A)
The TOW ITAS Field Tactical Trainer (FTT) uses the actual Tube Lunched Optically Tracked Wire Guided (TOW) Improved Target Acquisition System (ITAS) hardware and uses the FTT Training Missile Tube (TMT) to simulate the actual TOW missile round. The FTT uses the TOW ITAS in both the manual and tracking modes. The FTT provides visual and aural cues associated with the TOW missile when engaging targets. Operator visual cues presented in the TAS display include simulated launch effects and simulated missile flight down range with burst on target. Tactical visual and aural cues are provided by the Anti Tank Weapon Effects Signature Simulator (ATWESS) cartridge and include launch flame, smoke and launch blast/explosion simulations. Missile flight trajectory characteristics have been provided to simulate both the TOW2A and TOW2B. The FTT utilizes the same displays and menu driven operating system as the TOW ITAS. The FTT is operational in both a mounted and tripod dismounted configuration.

Physical Information:
Trainer Missile Tube: 8.5" H x 8.5" W x 49.5" L; 33.6 lbs.
Day Sight: 11.1" H x 5.9" W x 11.7" L; 8.8 lbs.
Night Sight: 8" H x 10.1" W x 13.2" L; .7 lbs.
Computer: 11.11" H x 15.87" W x 15.87" L; 38 lbs.

Equipment Required, Not Supplied:
TOW 2 Guided Missile System (M220A2)
Missile Simulation Round
M80 Blast Simulator

Special Installation Requirements:
None

Power Requirements:
120/240vac, 60/50 Hz
Battery Power 24vdc
Vehicle Power 24vdc

Applicable Publications:
TM 9-6920-453-10

Reference Publications:
TM 9-1425-450-12, TOW 2 Weapon System Operator Manual

Training Requirements Supported:
MOSC 11-Series

TOW ITAS BASIC SKILLS TRAINER (BST)

Training Category/Level Utilized:
CAT 1/Company level

Logistic Responsible Command, Service, or Agency:
Fieldings and Net - Close Combat Missile Systems
Field Support - PEO-STRI

Source and Method of Obtaining:
POC: PEO STRI
CCMS Project Office

Purpose of Trainer:
The TOW ITAS Basic Skills Trainer (BST) is a PC-based indoor training device used to conduct initial entry basic skills training, perform basic and advanced gunnery sustainment training in the unit, and formally qualified gunners to meet soldier requirements for the TOW ITAS anti-tank weapon system.

Functional Description:
The BST consists of a PC-based Instructor Station and a Student Station. The Student Station consist of a Simulated Target Acquisition Subsystem (STAS) and a Simulated Fire Control Subsystem (SFCS) used with the ITAS tactical tripod, traversing unit, and a simulated round. The Instructor Station is a PC computer loaded with the BST software and a library of exercises designed for ITAS training. During Training, the instructor chooses exercises from the library and briefs the student about exercise objectives. When ready, the gunner, at the Student Station, looks through tactical sights, views the 3D exercises piped from the BST software on the Instructor Station, and conducts exercise engagements using the BST controls, switches and menus as he would the tactical system. Terrain imagery shown during BST exercises is derived from actual daylight and 2nd generation FLIR digital photographs of representative terrain. Targets are 3D wire-frame models overlaid with photo-realistic daylight and IR textures that move across preset waypoint paths on the terrain. The student scans his sector of fire, classifies and identifies targets and engages them where appropriate. The Instructor Station stores the student data to a floppy diskette, replays exercises for review, and scores the student's performance based on objective, numeric criteria (i.e. manual engagement flight control, Aided Target Tracker operation, and critical gunner errors).

Physical Information:

Instructor Station PC

Length	17.25 in	(43.8 cm)
Width	9.75 in	(24.8 cm)
Height	13.25 in	(33.7 cm)
Weight	40.00 lbs	(18.2 kg)

Student Station STAS

Length	29.00 in	(73.7 cm)
Width	13.75 in	(34.9 cm)
Height	12.50 in	(31.8 cm)
Weight	24.00 lbs	(10.9 cm)

Student Station SFCS

Length	5.00 in	(12.7 cm)
Width	5.00 in	(12.7 cm)
Height	4.00 in	(10.2 cm)
Weight	0.50 lbs	(0.23 cm)

Transit Case

Length	43.75 in	(111.1 cm)
Width	24.00 in	(61.0 cm)
Height	17.75 in	(45.0 cm)
Weight	50.00 lbs	(22.7 kg)

Equipment Required, Not Supplied:

The ITAS BST requires the tactical ITAS system Traversing Unit, Tripod, and Launch Tube. The BST also requires an ITAS MSR, ITAS FTT Battery Tube or a spent round to use for the simulated missile round.

Special Installation Requirements:

(Information not available)

Power Requirements:

120vac, 60 Hz, 9A (US)
220vac, 50 Hz, 4.5A (European)

Applicable Publications:

TOW ITAS Basic Skills Trainer Instructor Guide
TOW ITAS Basic Skills Trainer Operator Maintenance Manual.

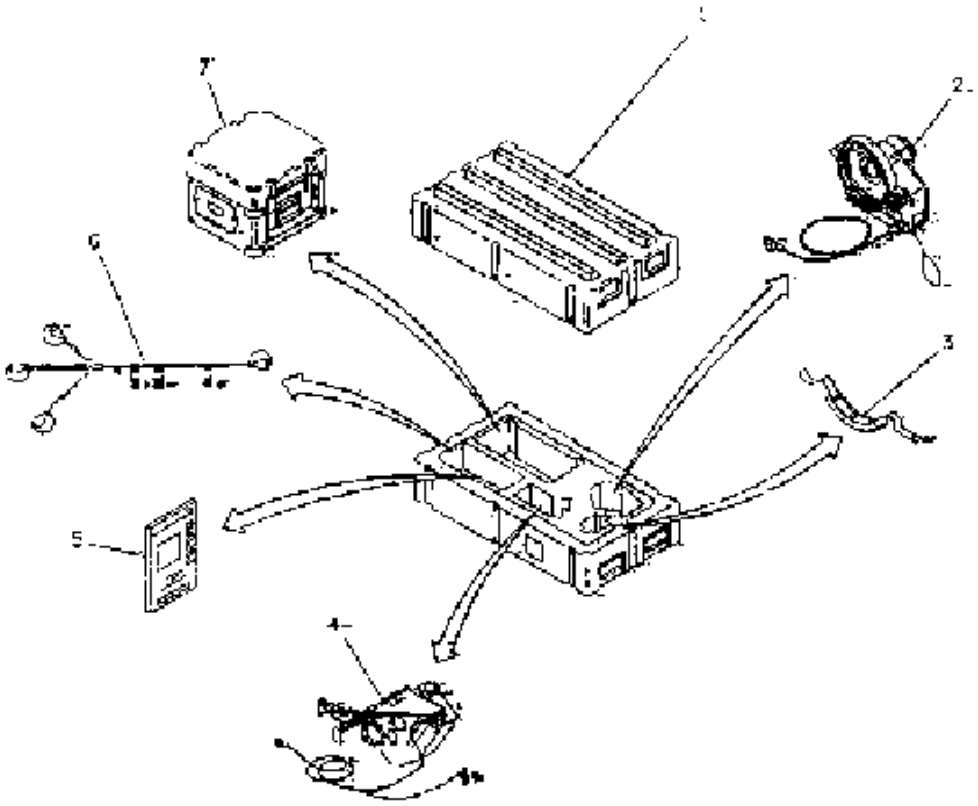
Reference Publications:

TOW ITAS Gunner New Equipment Training, Student Guide.
Technical Manual, Operator and Organizational Maintenance Manual for TOW Improved Target Acquisition Subsystem (ITAS) M41, TM 9-1425-923-12

Training Requirements Supported:

ITAS Basic Skills Training
ITAS Sustainment Training
ITAS Qualification Training

TRAINER, GUIDED MISSILE: PRECISION GUNNERY TRAINING SYSTEM (PGTS) IMPROVED INSTRUCTOR STATION (13468640) TOW FIELD TACTICAL TRAINER (OUTDOOR)



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited distribution).

Purpose of Trainer:
The Improved Instructor Station (IIS) is used to improve the training capabilities of the TOW FTT. The IIS is a remote control device that provides a video display of the gunner's sight picture (in both optical and thermal modes) on the TOW FTT. The IIS accommodates the FTT ground mounted training system. The Instructor Station records, in real time, the gunner's instantaneous sight picture, the gunner's tracking activity, target presentation, visual target effects and gunner performance data for replay and after-action review and critique. The IIS is used on the TOW FTT for gunnery and tactical training instruction during the conduct of gunnery tables, tactical tables, force-of-force gunnery exercises, and during integrated field training exercises.

Functional Description:
DVC 07-78/1 Improved Instructor Station equipment consists of one shipping container, optical sight interface, counterbalance assembly, thermal sight interface, IIS TOW FTT operator's manual, cable W5, and the Instructor Interface Unit.

Physical Information:
Instructor Interface Unit: 10.6" H x 12.4" W x 16.9" L; 29.5 lb.
Optical Sight Interface: 7.6" H x 7.9" W x 9.3" L; 9.8 lb.
Thermal Sight Interface: 13.8" H x 8.6" W x 12.0" L; 10.1 lb.
Counterbalance Assembly: 2.0" H x 2.4" W x 6.9" L; 3.0 lb.
Shipping Container: 21.3" H x 25.2" W x 36.6" L; 103 lb (packed).

Equipment Required, Not Supplied:
TOW Guided Missile Weapon System (M2202A).
TM (Operator and Organizational Maintenance for TOW 2 Weapon System).
M80 Blast Simulator.

Special Installation Requirements:
None

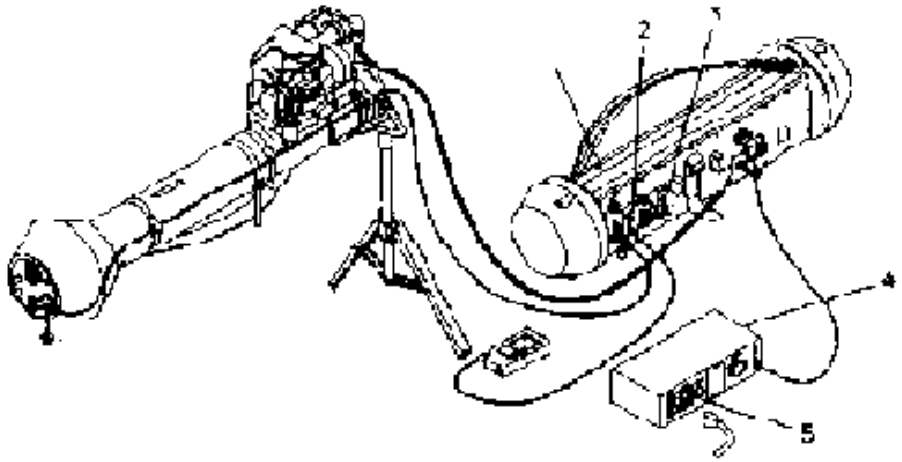
Power Requirements:
120/240vac, 60/50 Hz
Battery Power 24vdc
Vehicle Power 24vdc

Applicable Publications:
TM 9-6920-712-10

Reference Publications:
TM 9-1425-450-12, TOW 2 Weapon System Operator Manual.

Training Requirements Supported:
MOSC 11 Series

TRAINER, GUIDED MISSILE: PRECISION GUNNERY TRAINING SYSTEM (PGTS) DRAGON FIELD TACTICAL TRAINER (OUTDOOR)



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue, (limited distribution).

Purpose of Trainer:
The DRAGON FTT is used to teach precision gunnery skills to DRAGON gunners in the field. This training can occur on designated ranges, general outdoor areas, or representative tactical environments. The DRAGON FTT can be used for both initial gunner familiarization in an outdoor environment as well as for gunner skill enhancement and progression.

Functional Description:
DVC 07-79 DRAGON FTT equipment consists of the computer assembly, day sight tracker interface, night sight interface, trainer round, converter/charger, retroreflector assembly, W1 cable, WELSH bag, remote control unit (RCU), two shipping containers and the DRAGON FTT operator's manual. The DRAGON weapon system day tracker and night system tracker must be checked out, in accordance with chapter 2, TM 9-1425-484-10 prior to installation of the DRAGON FTT. The DRAGON FTT utilizes the DRAGON day tracker or night tracker and replaces the M222/M223 round. The DRAGON bipod-mounted in the same manner as the actual DRAGON.

Physical Information:
Trainer Round: 11" H x 11" W x 42" L; 33.6 lbs.
Day Sight Interface: 9.75" H x 9.5" W x 15.5" L; 7.7 lbs.
Night Sight Interface: 11.5" H x 9.75" W x 12" L; 6 lbs.
Computer: 10.5" H x 11.5" W x 46.5" L; 66 lbs.

Equipment Required, Not Supplied:
Tracker, Infrared Guided Missile SU-36/P
Night Vision Sight Tracker Infrared AN/TAS-5
M80 Blast Simulator

Special Installation Requirements:
(Information not available)

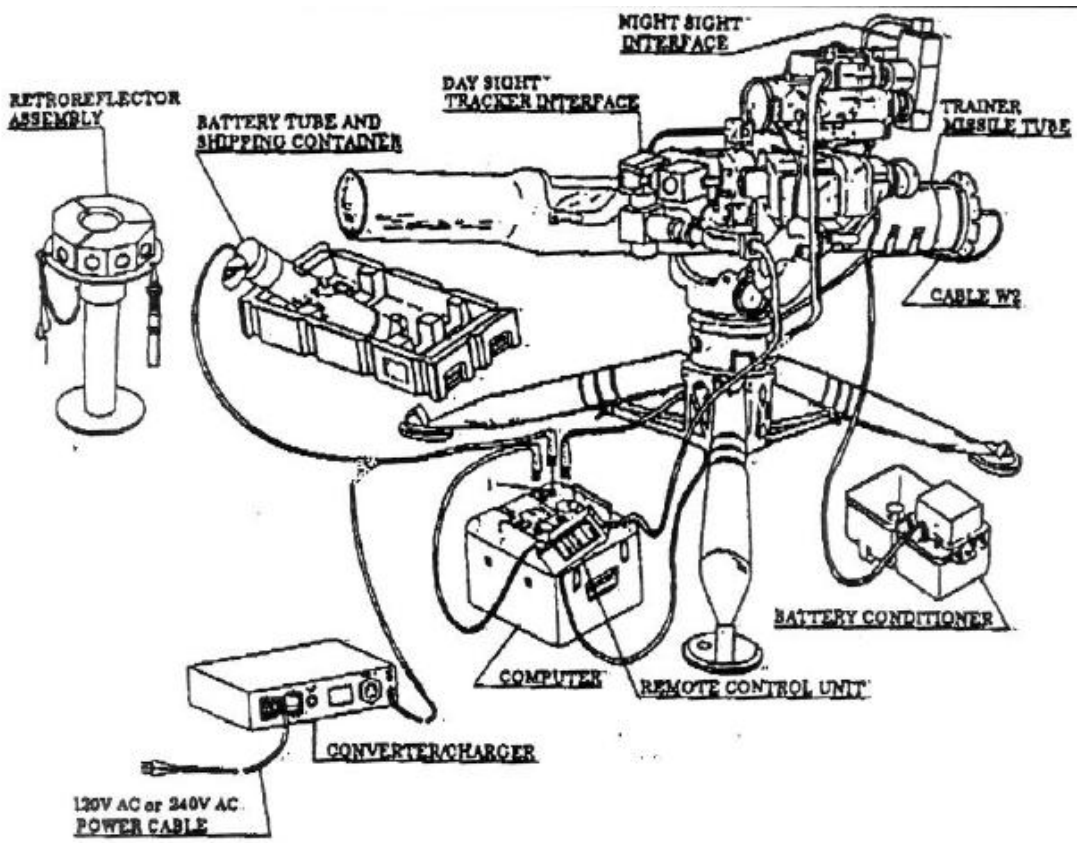
Power Requirements:
120/240vac, 60/50 Hz
Internal Battery Power 24vdc

Applicable Publications:
TM 9-6920-482-10

Reference Publications:
TM 9-1425-484-10, DRAGON Weapon System Operator Manual.

Training Requirements Supported:
MOSC 11-Series

TRAINER, GUIDED MISSILE: PRECISION GUNNERY TRAINING SYSTEM (PGTS) IMPROVED TOW VEHICLE (ITV)/TOW FIELD TACTICAL TRAINER



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue, (limited distribution).

Purpose of Trainer:
The Improved TOW Vehicle/TOW Field Tactical Trainer (ITV/TOW FTT) may also be used with the Light Armored Vehicle; Anti-Tank (LAV-AT). The ITV/TOW FTT is used to teach precision gunnery skills to ITV or TOW 2 gunners in the field. This training can occur on designated ranges, general outdoor areas, or representative tactical environments. The ITV/TOW FTT can be used for both initial gunner familiarization in an outdoor environment as well as for gunner skill enhancement and progression. The ITV/TOW FTT trains gunners to adopt a correct firing position, to assess target engageability, and to engage and track the target. Missile launch, flight, and impact effects are realistically simulated by the ITV/TOW FTT.

Functional Description:
DVC 07-123 ITV/TOW FTT equipment consists of the Trainer Missile Tube (TMT), day sight tracker interface, night sight interface, computer, remote control unit, battery tube, converter/charger, retroreflector assembly, three cables, two shipping containers and the ITV/TOW FTT operator's manual. The ITV weapon system must be assembled, checked out, and then partially dissembled prior to installation of the ITV/TOW FTT. For the LAV-AT perform operational equipment steps in accordance with TM 08625A-10/1.

Physical Information:
Trainer Missile Tube: 8.5" H x 8.5" W x 49.5" L; 33.6 lbs.
Day Sight: 11.1" H x 5.9" W x 11.7" L; 8.8 lbs.
Night Sight: 8" H x 10.1" W x 13.2" L; 3.7 lbs.
Computer: 11.11" H x 15.87" W x 15.87" L; 38 lbs.

Equipment Required, Not Supplied:
Improved TOW Vehicle (ITV), M901A1
M80 Blast Simulator

Special Installation Requirements:
None

Power Requirements:
120/240vac, 60/50 Hz
Vehicle Power 24vdc

Applicable Publications:
TM 9-6920-707-10

Reference Publications:
TM 9-2350-259-10, ITV Weapon System Operator Manual.
TM 08652A-10/1 LAV-AT

Training Requirements Supported:
MOSC 11-Series

JAVELIN BASIC SKILLS TRAINER

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
Close Combat Missile Systems Project Office, Redstone Arsenal, Al. 35898 is currently developing, fielding, and maintaining the system.

Source and Method of Obtaining:
Initial fielding is being accomplished by the Close Combat Missile Systems Project Office, Redstone Arsenal, Al 35898. Requests for replacement/repair can be made by Telephone 910-860-3554, or FAX 910-860-2701.

Purpose of Trainer:
The BST is a three-dimensional training device used to train students and qualify gunners on the Javelin weapon system. The BST is a self-contained, computer-based, indoor training computer (PC) that is equipped with special hardware and software. The major components of the BST are the Student Station and the Instructor Station.

Functional Description:
The Student Station consists of a Missile Simulation Round (MSR) which provides a three-dimensional simulation of the Javelin.

The Instructor Station centers around a desktop PC that provides means to install or upgrade software, create and save gunner training records, and monitor gunner performance during an exercise. The Instructor Station provides all power, video, and sound signals to the Student Station from a single point of connection. It also is equipped with a surge suppressor for protection from power fluctuations.

Physical Information:
The Student Station in container is 51.5 in. long, 25 in. high, 19.7 in. wide, and weighs 129 pounds. The Instructor Station in the container is 51.5 in. long, 25 in. high, 19.7 in. wide, and weighs 120 pounds.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
US 110vac, 60 Hz, 9A
European 220vac, 50 Hz, 9A

Applicable Publications:
TM 9-6920-666-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Javelin Gunner

JAVELIN TRAINER (BLOCK 1) BASIC SKILLS TRAINER (BST), UPGRADE

Figure 1. Student station

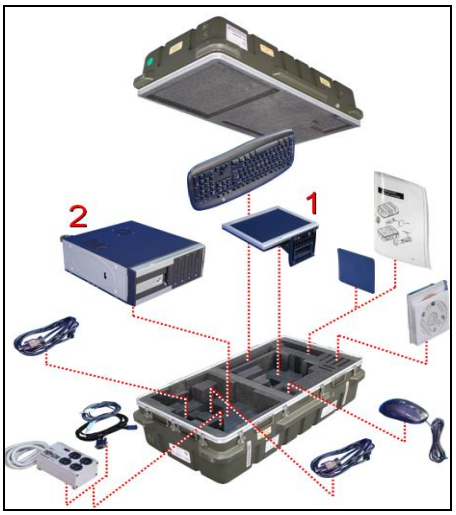


Figure 2. Instructor Station

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Javelin BST is a three-dimensional training device used to train students and qualify gunners on the Javelin weapon system. The Javelin BST is a self-contained, computer-based, indoor training computer (PC) that is equipped with special hardware and software.

Functional Description:
The major components of the Javelin BST are the Student Station and the Instructor Station. The student station consists of a simulated CLU (SCLU) and a Missile Simulation Round (MSR) which provides a three-dimensional simulation of the Javelin. A cable links the Student Station with the Instructor Station for transfer of Student Station power, video motion, and switch signals between the two components. The Instructor Station centers on a desktop PC that provides means to install or upgrade software, create and save gunner training records, and monitor gunner performance during an exercise. The Instructor Station provides all power, video, and sound signals to the Student Station from a single point of connection. It also is equipped with a surge suppressor for protection from power fluctuations. The Instructor Station generates exercises that provide a wide range of training situations to which the gunner must react using the Student Station. Training exercises for the Javelin BST are created using real terrain from actual visible and infrared imagery, and matching 3-demensional target models for natural target movement. Exercises developed using these processes are played back on the instructor station monitor during gunner training. The gunner views these exercises through the SCLU and reacts to the situations presented in each exercise.

Physical Information:
Student Station Dimensions:
"51.50 in x 27.25 in x 25.00 in" Weight: 129 lbs.
Instructor Station Dimensions:
"51.50 in x 27.25 in x 25.00 in" Weight: 120 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

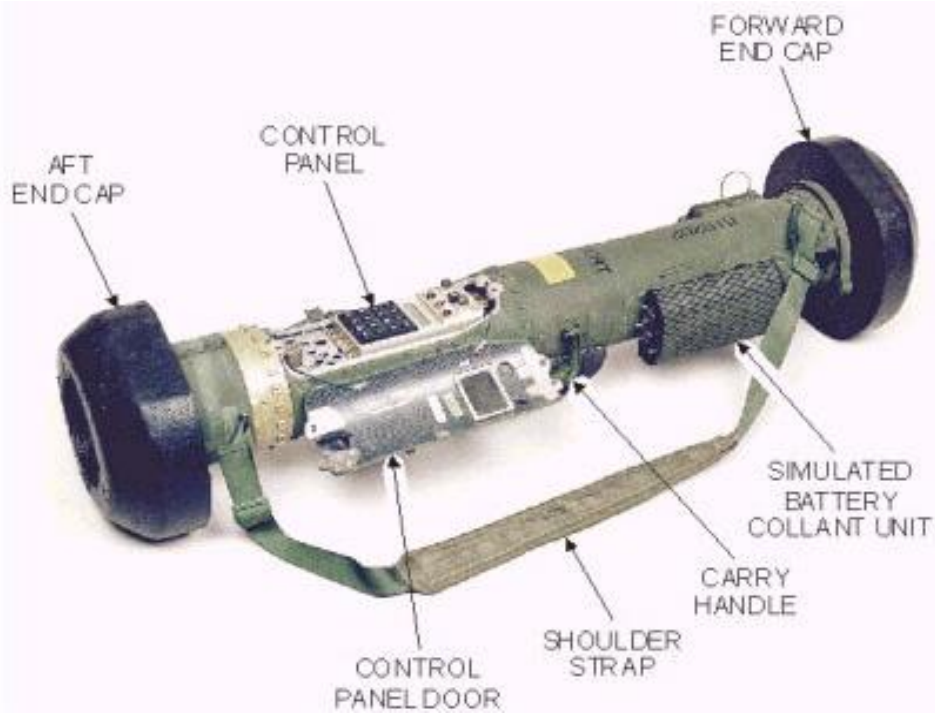
Power Requirements:
US commercial: 110 VAC, 60Hz, 9A
European commercial: 220 VAC, 50Hz, 9A

Applicable Publications:
Operators manual: TM 9-6920-666-10
System Maintenance Manual: None

Reference Publications:
TM 9-6920-666-10

Training Requirements Supported:
Javelin New Equipment Training
Javelin Sustainment Training
Javelin Qualification

JAVELIN FIELD TACTICAL TRAINER (FTT) (STUDENT STATION)



Training Category/Level Utilized:
Infantry/level 3

Logistic Responsible Command, Service, or Agency:
Close Combat Missile Systems Project Office, Redstone Arsenal, Al 35898 is currently developing, fielding, and maintaining the system.

Source and Method of Obtaining:
Initial fielding being accomplished by the Close Combat Missile Systems Project Office, Redstone Arsenal, Al 35898. Requests for replacement/repair can be made by Telephone 910-860-3554, or FAX 910-860-2701.

Purpose of Trainer:
The FTT Student Station (SS) provides visual, aural, and physical cues associated with the Javelin Missile when engaging targets. Visual cues provided by the FTT include Seeker imagery with the appropriate track gates and crosshairs. Aural cues include a simulation of launch signature effects of the Javelin Missile. Weight of the SR, when connected to the CLU, provide the simulation of the Javelin Missile.

Functional Description:
The Student Station is used for situational exercise (STX) or field training exercises. The FTT student station combines the Command Launch Unit (not supplied) with a simulated round and incorporates a Multiple Integrated Laser Engagement System (MILES) laser transmitter to allow simulated Javelin engagements during training exercises. The student station comes with a battery and charger.

Physical Information:
The Student Station in container is 51.75 in. long, 24.38 in. high, 27.75 in. wide, and weighs 153.19 pounds.

Equipment Required, Not Supplied:
Javelin Command Launch Unit.

Special Installation Requirements:
None

Power Requirements:
Student Station operates on a 12vdc FNC Rechargeable Battery. The battery can be charged with charger contained in the FTT Student Station. Battery charger operates on US 110vac, 60 Hz, 9A or European 220vac, 50 Hz, 9A.

Applicable Publications:
9-6920-688-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Javelin Gunner

JAVELIN FIELD TACTICAL TRAINER (FTT) (INSTRUCTOR STATION)

Training Category/Level Utilized:
Infantry/level 3

Logistic Responsible Command, Service, or Agency:
Close Combat Missile Systems Project Office, Redstone Arsenal, Al 35898 is currently developing, fielding, and maintaining the system.

Source and Method of Obtaining:
Initial fielding is being accomplished by the Close Combat Missile Systems Project Office, Redstone Arsenal, Al 35898. Requests for replacement/repair can be made by Telephone 910-860-3554, or FAX 910-860-2701.

Purpose of Trainer:
The FTT Instructor station (IS) when used in conjunction with the FTT Student Station can be used to monitor gunner performance. The visual display presented on the CLU display, as well as a simulation of the CLU status symbols, are presented to the instructor on the IS VCR. Displays presented on the IS monitor may be recorded, on videotape by the IS VCR. Playback of the training exercises can be accomplished on the IS monitor or any compatible VCR and monitor.

Functional Description:
The Instructor Station consists of a VCR contained in a hand held unit and is used to monitor, record on 8mm videotape, and play back a training session. The hand held unit provides environmental protection for the VCR. The Instructor Station also has a backpack for field use.

Physical Information:
The Instructor Station in container is 25.06 in. long, 15.19 in. high, 18.38 in. wide, and weighs 35.56 pounds.

Equipment Required, Not Supplied:
Cassette (type P6-120NTSC recommended). Javelin Command Launch Unit (CLU) and a Field Tactical Trainer-Student Station.

Special Installation Requirements:
None

Power Requirements:
Instructor Station operates on a 12vdc FNC Rechargeable Battery. The battery can be charged with charger contained in the FTT Student Station. Battery charger operates on: US 110vac, 60 Hz, 9A or European 220vac, 50 Hz, 9A.

Applicable Publications:
TM 9-6920-688-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Javelin Gunner

ENGAGEMENT SKILLS TRAINER (EST) 2000

Training Category/Level Utilized:
Small Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Engagement Skills Trainer (EST) 2000 is used as a unit and institutional, indoor, multipurpose, multilane, small arms, crew served and individual antitank training simulator. The EST is an industry proven, commercially available, computer operated simulator. The EST provides audio and visual presentations and feedback during training scenario exercises simulating the operation of a variety of small arms weapons. The EST simulator utilizes visual display systems, audio system(s), aiming detection system(s), pseudo or modified real weapons with weapon power source interfaced by computer to provide Marksmanship, Shoot/Don't Shoot decision training, and Unit Collective Squad Level training scenarios. These trainers safely replicate weapon training events which lead to live fire individual and weapon crew qualification and that contribute to increased weapon, crew, fire team, and squad combat effectiveness training in Army defined scenarios. The EST is used primarily to:

a. Train and evaluate individual marksmanship training for initial entry soldiers at the Army Training Centers.
b. Provide active and Reserve Component unit sustainment training in preparation for individual and crew small arms live fire weapons' qualification.
c. Provide Active and Reserve Component units a capability to train in Shoot/Don't Shoot situations currently not resourced.
d. Provide unit collective gunnery and tactical training for static dismounted Infantry, Scout, Engineer, Military Police Squads, and Combat Support/Combat Service Support (CS/CSS) elements.

Functional Description:

The EST system deploys three configurations: a stand-alone five (5) lane system, when networked, a ten (10) lane system and a fifteen (15) lane system. Dependent upon the lane correlation, the following modes of training are supported:

a. Collective training for an Infantry Squad of nine soldiers,

b. Collective training for a Scout Squad of five soldiers,

c. Collective training for an Engineer Squad of nine soldiers,

d. Collective training for a Military Police Squad of ten soldiers,

e. Collective training for a Combat Support/Combat Service Support (CS/CSS) element of up to ten soldiers.

f. Marksmanship training ten or more soldiers

The hardware for each EST 2000 system consists of an Instructor Operator Station (IOS), modified weapons, floor boxes, high-resolution projector, speakers, camera-detection system, air compressor, screen, and associated cabling and hoses. Weapon modifications include an eye-safe laser; sensors to measure trigger pressure, cant and ammunition magazine/belt status (as well as status of on-off or selector switches); and a compressed air operating system. The Rack Distribution Unit (RDU) located in the IOS serves as the main signal interface between components. Modified rifles, pistols, machineguns, and shotguns are modified to work with the systems and rendered incapable of firing live ammunition. Shoot/Don't Shoot, Collective, and Marksmanship scenarios are pre-loaded onto each I/O station that will be delivered with each subsystem.

Physical Information:

The EST 2000 components are of different sizes and weight. All components are protected during transit by transit cases. Facility size limit for the EST 2000:

5 Lane	10 Lane	15 Lane
35.0' length	35.0' length	35.0' length
17.5' width	35.0' width	52.5' width
8.0' height	8.0' height	8.0' height

The EST 2000 fields three (3) weapons suites to support individual weapon, crew, fire team, and squad level training modes of operation: Light, Heavy and Hybrid weapons suites.

Weapons:
M16A2, 5.56mm Rifle.
M16A4, 5.56mm Rifle
M4, 5.56mm Carbine.
M9, 9mm Pistol.
M249, 5.56mm Machine Gun
M60, 7.62mm Machine Gun.
M240B, 7.62mm, Machine Gun.
M2, Heavy Barrel Caliber .50 Machine Gun.
MK19 MOD3, 40mm Grenade Machine Gun.
*M320, 40mm Grenade Launcher.
M136, Launcher and Cartridge, 84mm, HEAT.
M1200, Winchester Shotgun, 12 gauge.
*M320 will replace the M203

EST 2000 Heavy Suite

28 Weapons

M9 Pistol - 2

M16A4 - 2

M4 - 8

M320 GL - 2

M4/320 - 2

M249 SAW - 2

M240B MG - 2

M136 AT4 - 2

M1200 - 2

MK19 GMG - 2

M2 HBMG - 2

M16/M203

M4/M203

EST 2000 Hybrid Suite

38 Weapons

M9 Pistol - 6

M16A4 - 6

M4 - 10

M320 GL - 2

M4/320 - 2

M249 SAW - 2

M240B MG - 2

M136 AT4 - 2

M1200 - 2

MK19 GMG - 2

M2 HBMG - 2

M16/M203

M4/M203

Equipment Required, Not Supplied:
CCO Close Combat Optics
MGO Machine Gun Optics
PVS-4 Night Vision Scope
TVS-5 Night Vision Scope
M3 Tripod and pintle with Traverse and Elevation Mechanism Weapons interface mounting hardware.

Special Installation Requirements:
Facility AC

Power Requirements:
The EST 2000, and its separable systems, operate on available power in both Continental United States (CONUS) and Outside CONUS (OCONUS), on either 110/220 volts, alternating current, at 50/60 hertz. Safeguards are incorporated to prevent attachment to mismatched power supply. All trainer equipment incorporates safeguards to prevent damage to equipment or personnel

Power requirements for each EST 2000 5 lane subsystem:

IOS:
110vac, 60 Hz, 15 Amps circuit or, 220vac, 50 Hz, 7.5 Amps circuit.
Outlet located within 20 ft. (6m) of IOS.
Compressor:
110vac, 60 Hz, 20 Amps circuit or, 220vac, 50 Hz, 10 Amps circuit.
Outlet located within 8 ft. (2.5m).

Applicable Publications:
Engagement Skills Trainer (EST) Operator's Manual TM 07-6920-704
Engagement Skills Trainer (EST) System Maintenance Manual (SMM) - SMM 07-6920-704
Engagement Skills Trainer (EST) COTS Manuals (As Required) - TD 07-6920-704
What Training Manuals are use in order to operate this device?

Reference Publications:
None

Training Requirements Supported:
Initial Entry Training & Unit Training Individual. The EST 2000 is capable of producing and storing training feedback on simulated fire scoring. The system provides for: Boresighting and Zeroing, Weapon Recoil, Ballistic Simulation, Simulated Weapon System Accuracy, Ammunition Basic Loads, Magazines and Ammunition Belts, Simulation of Shooting Positions and Targetry.

Unit Training Collective. The EST supports training of dismounted, squad missions, specifically, squad defense and ambush in support of train up for low intensity conflict, Military Operations in Urban Terrain (MOUT), special operations, anti-terrorism, support and stability operations, and mid to high intensity conflict. The EST simulates a variety of combat and combat related scenarios to reduce the likelihood of replication of scenarios. Scenarios are life like, true to size, coloration, probable surroundings, compatible with mission areas of responsibility, progressive, and engage the soldier in a realistic response to a perceived realistic situation. The scenarios include appropriate battlefield conditions and terrain depicting snow, desert, MOUT (indoor and outdoor), jungle, forest, day, night (both unaided and aided with binoculars, optical sights, and night vision equipment), smoke, ground fog, and MOPP level 4. The device has the capability to "stop action" and "replay action" at normal, slower than normal, and faster than normal speeds. In the playback mode, the device displays individual soldier shot groups as they respond to specific squad leader communications. Playback is audio and visual (on command) and provides a printout for the squad and teams, as well as, the individual members. The device also has the capability to store and retrieve squad, team, and individual data from one scenario to the next for comparative purposes.

Maximum realism and resolution is provided that enables the following tasks to be performed:

a. Friend and Threat personnel recognition and identification.

b. Recognition and identification of fleeting and stationary threat personnel partially obscured by objects.

c. Recognition and identification of all personnel depicted in the scenario (Friend, Threat, Allied, Civilian Personnel.)

d. Recognition and identification of Threat or Civilian Personnel that may or may not be armed with concealable weapons such as knives and pistols.

e. Recognition and identification of personnel in low light and other marginal conditions.

f. Recognition and identification of facial expressions on selected personnel.

g. Recognition and identification of a variety of combat and non-combat vehicles.

LASER MARKSMANSHIP TRAINING SYSTEM (LMTS) INITIAL ENTRY TRAINING (IET) BATTALION SET

NSN Not Assigned **DVC 07-131/1 Laser Marksmanship Training System (LMTS), IET Summer Surge Kits**

Training Category/Level Utilized:
Basic Weapons/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Laser Marksmanship Training System (LMTS) will simulate weapons training events which lead to live fire qualifications for individual and crew weapons. LMTS will be used primarily as a unit/individual, indoor/outdoor, multi-lane, small arms crew served and individual marksmanship training device. It uses the individual soldier's personal issued weapon and will allow units to conduct individual and sustainment marksmanship training using biological and chemical protective equipment. Since it is light, transportable, uses self sustained power sources and requires no fixed facilities support, it is also ideal for training scenarios in the field.

The LMTS Large Suite will support 6 rifle lanes plus one machine gun lane and is optimized for brigade Basic Rifle Marksmanship training.

Functional Description:
The LMTS is a system that provides quantitative feedback in place of the "Dime/Washer" exercise, focusing on the four fundamentals of marksmanship (steady position, sight alignment and picture, breathe control and trigger squeeze). It provides real time feedback in all seasons on the soldier's assigned weapon, transmitter. The Zero Reflective target is used to zero the weapons and laser transmitter. It also provides training for correct sight picture and alignment. The laser detectors are located in the TR700 and TR900 targets and are optimized for use at 25 meters however these will work accurately from 6 inches out to 50 meters for the TR700 target and from about 6 inches out to about 75 meters for the TR900 target.

The TR700 target registers and counts the number of hits on a numerical counter up to 99. The TR700 uses target silhouette masks in 100, 200, or 300 meter sizes to simulate

the target size and scale. The TR900 target is connected via cable to a scoring device loaded with software, which records the time and placement of shots on the target by the laser transmitter upon being "fired" by the soldier. The target comes with overlays to simulate various distances for the soldier's point of aim. The scoring device displays the time of shot, time between shots, placement of shots, the shot order (1,2,3....), center of shot group and shot dispersion. Up to ten (10) targets can be connected to a single scoring device.

The Machine Gun Training System target is a replica of the exact 10 meter qualification target used by the US Army. The target registers hits from the laser transmitter mounted on the machine gun and requires only 10 meters for operation. The target comes enclosed in its own carry case, which is portable and can be set up in a variety of locations to meet machine gun training requirements. With either standard blank ammunition or the addition of the SafeShot blank firing replacement barrels for the M-249, M-240, and the M-60, Training Tasks 1-8 and Qualification Tasks 9 and 10 can be met, providing full recoil and instant feedback. The MGTS gives shooters the ability to observe hits and a near miss, adjust fire, and operate with speed, and allows trainers to observe the shots in real time, save the session for later review or printed as a hard copy reference. Up to 10 targets may be linked to one computer. The MGTS includes all cables and software and is stored in its own travel storage case.

Physical Information:
The LMTS IET Battalion Set is comprised of the following components:

Four 460-6 System each consisting of six TR900 targets, six M16 25m/15m overlays and two M9 overlays, six MP400 lasers, six 'AA' batteries, six 5.56 mandrels, two M9 mandrels, four scoring device and cables, control box, BL640 Long cable and BL650 Daisy chain cables, 2 power strips, software manuals.

Four 130-6E Warrior kits each consisting of one TR700 target, military mask set, power supply, one 5.56 mandrel, one 9mm mandrel, one MP400 laser transmitter, one 'AA' battery, 130 Instruction manual.

Four LMTS Accessory Kits each consisting of Laser Alignment Device (LAD) 5.56 with case, two total Laser Alignment device Multi-caliber, seven 25M Zero Reflective targets, and two LTA380 M9 Laser Transmitters 12volt power converter, power strip, one 100ft extension cord, three 50ft extension cords, and 6 ea 25ft extension cords.

Cases:
65 lbs (20 7/8 x 12 ½ x 32 15/16)
42 lbs (20 7/8 x 12 ½ x 32 15/16)
42 lbs (20 7/8 x 12 ½ x 32 15/16)
35 lbs (20 11/16 x 12 ½ x 13 7/8)
Total weight: 184 lbs
Cubic feet: 21.97

The LMTS Summer Surge Kit is comprised of the following components: DVC 07-131/1

One 460 System consisting of eight TR900 targets, eight M16 25m/15m overlays and eight M9 overlays, eight MP400 lasers, eight 'AA' batteries, eight 5.56 mandrels, and cables, control box, BL640 Long cable and BL650 Daisy chain cables, 3 power strips, software manuals.

Four 130E Warrior kits consisting of four TR700 target, military mask set, power supply, eight 5.56 mandrel, four 9mm mandrel, one MP400 laser transmitter, four 'AA' battery, 130 Instruction manual.

Equipment Required, Not Supplied:
Soldiers issued weapon (M9, M16/M4, M249)

Special Installation Requirements:
None

Power Requirements:
One “AA” battery for each MP400 laser transmitter; four 'AA' batteries or 110V/50 Hz power supply for TR700 target; 11OV/50 Hz for each TR900 target, 11OV/50 Hz for the MGTS; 11 OV/50 Hz for the laptop scoring device.

Applicable Publications:
460 System Instructions Manual MGTS Instruction Manual

Reference Publications:
460 System – FM 3-22.9 (FM 23-9); Exercises 1-4; MGTS – Training Tasks 1-8 and Qualification Tasks 9 & 10

Training Requirements Supported:
Primary Marksmanship Instruction, Remedial (on-site) marksmanship instruction during fire.

LASER MARKSMANSHIP TRAINING SYSTEM (LMTS) LARGE SUITE

NSN Not Assigned **DVC 07-132/A Laser Marksmanship Training System (LMTS) Large Suite**
NSN Not Assigned **DVC 07-132/B Laser Marksmanship Training System (LMTS) ROTC**

Training Category/Level Utilized:
Basic Weapons/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Laser Marksmanship Training System (LMTS) will simulate weapons training events which lead to live fire qualifications for individual and crew weapons. LMTS will be used primarily as a unit/individual, indoor/outdoor, multi-lane, small arms crew served and individual marksmanship training device. It uses the individual soldier's personal issued weapon and will allow units to conduct individual and sustainment marksmanship training using biological and chemical protective equipment. Since it is light, transportable, uses self sustained power sources and requires no fixed facilities support, it is also idea for training scenarios in the field.

The LMTS Large Suite will support 6 rifle lanes plus one machine gun lane and is optimized for brigade Basic Rifle Marksmanship training.

Functional Description:
The LMTS is a system that provides quantitative feedback in place of the "Dime/Washer" exercise, focusing on the four fundamentals of marksmanship (steady position, sight alignment and picture, breathe control and trigger squeeze). It provides real time feedback in all seasons on the soldier's assigned weapon's transmitter. The Zero Reflective target is used to zero the weapons and laser transmitter. It also provides training for correct sight picture and alignment. The laser detectors are located in the TR700 and TR900 targets and are optimized for use at 25 meters however these will work accurately from 6 inches out to 50 meters for the TR700 target and

from about 6 inches out to about 75 meters for the TR900 target. The TR700 target registers and counts the number of hits on a numerical counter up to 99. The TR700 uses target silhouette masks in 100, 200, or 300 meter sizes to simulate the target size and scale. The TR900 target is connected via cable to a scoring device loaded with software, which records the time and placement of shots on the target by the laser transmitter upon being "fired" by the soldier. The target comes with overlays to simulate various distances for the soldier's point of aim. The scoring device displays the time of shot, time between shots, placement of shots, the shot order (1,2,3….), center of shot group and shot dispersion. Up to ten (10) targets can be connected to a single scoring device.

The Machine Gun Training System target is a replica of the exact 10 meter qualification target used by the US Army. The target registers hits from the laser transmitter mounted on the machine gun and requires only 10 meters for operation. The target comes enclosed in its own carry case, which is portable and can be set up in a variety of locations to meet machine gun training requirements. With either standard blank ammunition or the addition of the SafeShot blank firing replacement barrels for the M-249, M-240, and the M-60, Training Tasks 1-8 and Qualification Tasks 9 and 10 can be met, providing full recoil and instant feedback. The MGTS gives shooters the ability to observe hits and a near miss, adjust fire, and operate with speed, and allows trainers to observe the shots in real time, save the session for later review or printed as a hard copy reference. Up to 10 targets may be linked to one computer. The MGTS includes all cables and software and is stored in its own travel storage case.

Physical Information:
The LMTS Large Suite is comprised of the following components:

One 460 System consists of six TR900 targets, six M16 25m/15m overlays and two M9 overlays, six MP400 lasers, six 'AA' batteries, six 5.56 mandrels, two M9 mandrels, one scoring device and cables, control box, BL640 Long cable and BL650 Daisy chain cables, 2 power strips, software manuals.

Six 130E Warrior kits consisting of one TR700 target, military mask set, power supply, one 5.56 mandrel, one 9mm mandrel, one MP400 laser transmitter, one 'AA' battery, 130 Instruction manual.

One Machine Gun Training System Package (MGTS) comes in one transit case with MP400 Laser with barrel brackets for M249, M240 and M2; 30m main cable, 3m Daisy Chain (linking) cable, power supply, software CD and MGTS Instruction manual.

One LMTS Accessory Kit consists of Laser Alignment Device (LAD) 5.56 with case, Laser Alignment device Multi-caliber, seven 25M Zero Reflective targets, and two LTA380 M9 Laser Transmitters 12volt power converter, power strip, one 100ft extension cord, three 50ft extension cords, and 6 ea 25ft extension cords.

Cases:
65lbs (20 7/8 x 12 ½ x 32 15 15/16)
42lbs (20 7/8 x 12 ½ x 32 15/16)
42lbs (20 7/8 x 12 ½ x 32 15/16)
35lbs (20 11/16 x 12 ½ x 13 7/8)
68lbs (20 7/8 x 12 ½ x 32 15/16)
Total weight: 252lbs
Cubic feet: 21.97

The DVC 07-132/B contains the following parts:
5ea 25M Zero, 5ea M16 Non-firing System, 5ea TR-700 Target, 5ea E-type mask set, 1ea CC-700 Carrying Case, 2ea USAR Target Scoring Device, 5ea Advance Alt-C Target System, 1ea 16 Non-gun Case, 1ea 460-5 Target System consisting of: (5 x TR-900 Targets , 5 x Power Supplies, 1 x Control Cable, 4 x Daisy Chain Cables, 1 x USB Control Box, 1 x CB-440 Cable, 1 x Instruction Manual, 1 x Software CD, 5 x Military Overlay pack, 3 x Carrying Cases)

Equipment Required, Not Supplied:
Soldiers issued weapon (M9, M16/M4, M249).

Special Installation Requirements:
None

Power Requirements:
One 'AA' battery for each MP400 laser transmitter; four 'AA' batteries or 110V/50 Hz power supply for TR700 target; 110V/50 Hz for each TR900 target, 110V/50 Hz for the MGTS; 110V/50 Hz for the laptop scoring device.

Applicable Publications:
460 System Instruction Manual
MGTS Instruction Manual

Reference Publications:
460 System - FM 3-22.9 (FM 23-9); Exercises 1-4;
MGTS – Training Tasks 1-8 and Qualification tasks 9 & 10

Training Requirements Supported:
Primary Marksmanship Instruction, Remedial (on-site) marksmanship instruction during live fire.

LASER MARKSMANSHIP TRAINING SYSTEM (LMTS) SMALL SUITE

Training Category/Level Utilized:
Basic weapons/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Laser Marksmanship Training System (LMTS) will simulate weapons training events which lead to live fire qualifications for individual and crew weapons. LMTS will be used primarily as a unit/individual, indoor/outdoor, multi-lane, small arms crew served and individual marksmanship training device. It uses the individual soldier's personal issued weapon and will allow units to conduct individual and sustainment marksmanship training using biological and chemical protective equipment. Since it is light, transportable, uses self sustained power sources and requires no fixed facilities support, it is also idea for training scenarios in the field.

The LMTS Small Suite will support 2 rifle lanes plus one machine gun lane and is optimized for battalion Basic Rifle Marksmanship training.

Functional Description:

The LMTS is a system that provides quantitative feedback in place of the "Dime/Washer" exercise, focusing on the four fundamentals of marksmanship (steady position, sight alignment and picture, breathe control and trigger squeeze). It provides real time feedback in all seasons on the soldier's assigned weapon.

The LMTS uses Class IIIA Laser Transmitters to simulate the fire capability of pistols, rifles, and machine guns. The Laser Transmitters attach to the barrel of the weapon and have adjustments for windage and elevation. Soldiers can dry fire, use standard blanks or SafeShot blanks with Blazer upper receivers to activate the laser transmitter. The Zero Reflective target is used to zero the weapons and laser transmitter. It also provides training for correct sight picture and alignment. The laser detectors are located in the TR700 and TR900 targets and are optimized for use at 25 meters however these will work accurately from 6 inches out to 50 meters for the TR700 target and from about 6 inches out to about 75 meters for the TR900 target. The TR700 target registers and counts the number of hits on a numerical counter up to 99. The TR700 uses target silhouette masks in 100, 200, or 300 meter sizes to simulate the target size and scale. The TR900 target is connected via cable to a scoring device loaded with software, which records the time and placement of shots on the target by the laser transmitter upon being "fired" by the soldier. The target comes with overlays to simulate various distances for the soldier's point of aim. The scoring device displays the time of shot, time between shots, placement of shots, the shot order (1,2,3….), center of shot group and shot dispersion. Up to ten (10) targets can be connected to a single scoring device.

The Machine Gun Training System target is a replica of the exact 10 meter qualification target used by the US Army. The target registers hits from the laser transmitter mounted on the machine gun and requires only 10 meters for operation. The target comes enclosed in its own carry case, which is portable and can be set up in a variety of locations to meet machine gun training requirements. With either standard blank ammunition or the addition of the SafeShot blank firing replacement barrels for the M-249, M-240, and the M-60, Training Tasks 1-8 and Qualification Tasks 9 and 10 can be met, providing full recoil and instant feedback. The MGTS gives shooters the ability to observe hits and a near miss, adjust fire, and operate with speed, and allows trainers to observe the shots in real time, save the session for later review or printed as a hard copy reference. Up to 10 targets may be linked to one computer. The MGTS includes all cables and software and is stored in its own travel storage case.

Physical Information:

The LMTS Small Suite is comprised of the following components:

One 460 System consists of two TR900 targets, two M16 25m/15m overlays and two M9 overlays, two MP400 lasers, two 'AA' batteries, two 5.56 mandrels, two M9 mandrels, one scoring device and cables, control box, BL640 Long cable and BL650 Daisy chain cables, 2 power strips, software and Instruction manual.

Two 130 (1 target) Systems consisting of one TR700 target, military mask set, power supply, one 5.56 mandrel, one 9mm mandrel, one MP400 laser transmitter, one 'AA' battery, 130 Instruction manual.

One Machine Gun Training System Package (MGTS) comes in one transit case with MP400 Laser with barrel brackets for M249, M240 and M2; 30m main cable, 3m Daisy Chain (linking) cable, power supply, software CD and MGTS Instruction manual.

One LMTS Accessory Kit consists of Laser Alignment Device (LAD) 5.56 with case, Laser Alignment device Multi-caliber, two 25M Zero Reflective targets, and two LTA380 M9 Laser Transmitters 12volt power converter, power strip, one 100ft extension cord, three 50ft extension cords, and 6 ea 25ft extension cords.

Equipment Required, Not Supplied:

Soldiers issued weapon (M9, M16/M4, M249).

Special Installation Requirements:

None

Power Requirements:

One 'AA' battery for each MP400 laser transmitter; four 'AA' batteries or 110V/50 Hz power supply for TR700 target; 110V/50 Hz for each TR900 target, 110V/50 Hz for the MGTS; 110V/50 Hz for the laptop scoring device.

Applicable Publications:

460 System Instruction Manual
130 System Instruction Manual
MGTS Instruction Manual

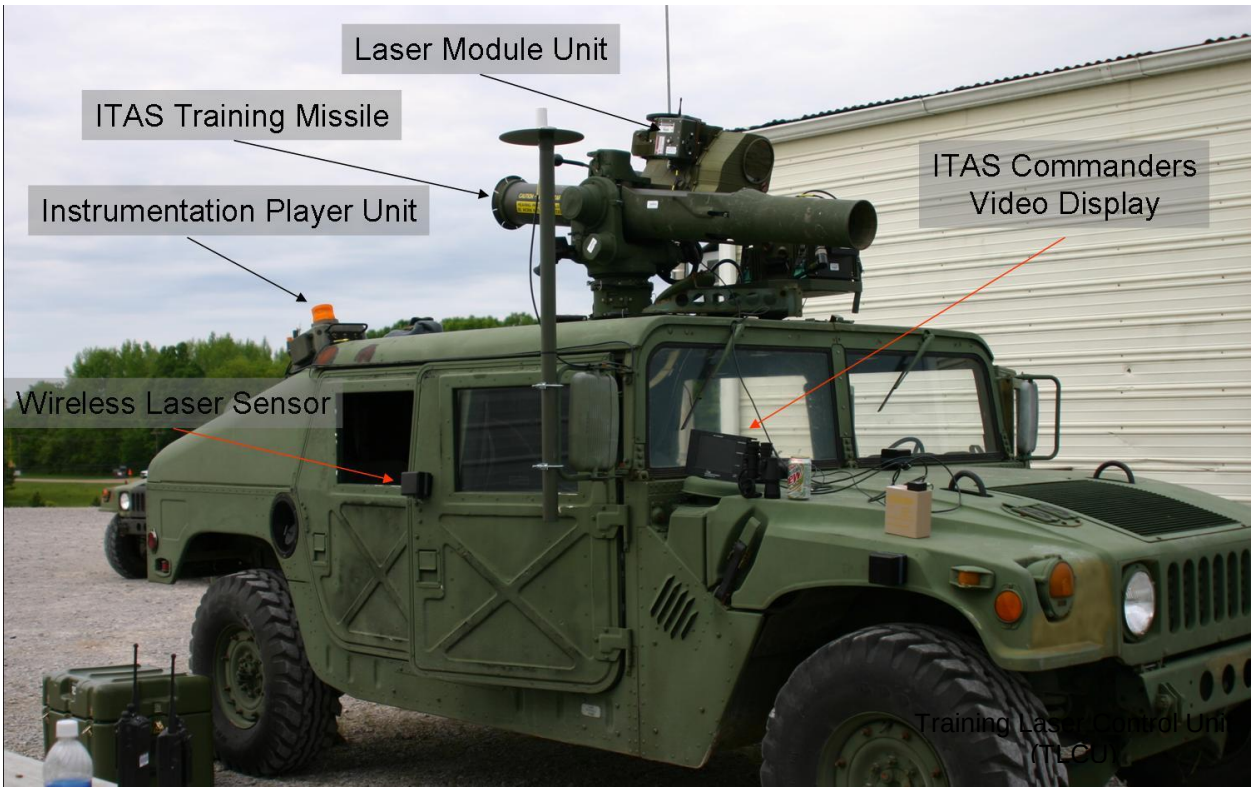
Reference Publications:

460 System - FM 3-22.9 (FM 23-9); Exercises 1-4;
MGTS – Training Tasks 1-8 and Qualification tasks 9 & 10

Training Requirements Supported:

Primary Marksmanship Instruction, Remedial (on-site) marksmanship instruction during live fire.

TOW IMPROVED TARGET ACQUISITION SYSTEM-TACTICAL ENGAGEMENT SIMULATION SYSTEM (ITAS-TESS) FIELD TRAINING SYSTEM



Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI, PM Field OPS

Source and Method of Obtaining:
Available at Light Infantry posts.

Purpose of Trainer:
ITAS-TESS is a training and simulation system comprised of a HMMWV or Ground-Mounted system and a ground instrumentation system that supports individual, crew, gunnery, and collective live force-on-force training at Home Station or the Combat Training Centers (CTC).

Functional Description:
ITAS-TESS is a wireless training system capable of simulating all TOW missiles. The system is comprised of a Laser Module Unit (LMU) which incorporates three eye safe lasers: a pointing laser; a boresight laser; and a MILES laser. This unit mounts on the side of the ITAS. The Instrumentation Player Unit (IPU) provides position location, telemetry radios for CONUS and OCONUS use, System Kill Indicator, MILES sensors, and a flash data card for recording and playback for AAR. The Training Missile provides the power link to the system. Six wireless MILES sensors are included in each kit. The vehicle commander can observe on his video display what the gunner sees. The system is transparent to the Soldier and compatible with all MILES systems and the CTCs.

Physical Information:
The LMU does not disturb the balance of the ITAS.

Equipment Required, Not Supplied:
SINCGARS battery for IPU.
ATWESS Cartridges.

Special Installation Requirements:
Consult Operator's Manual.

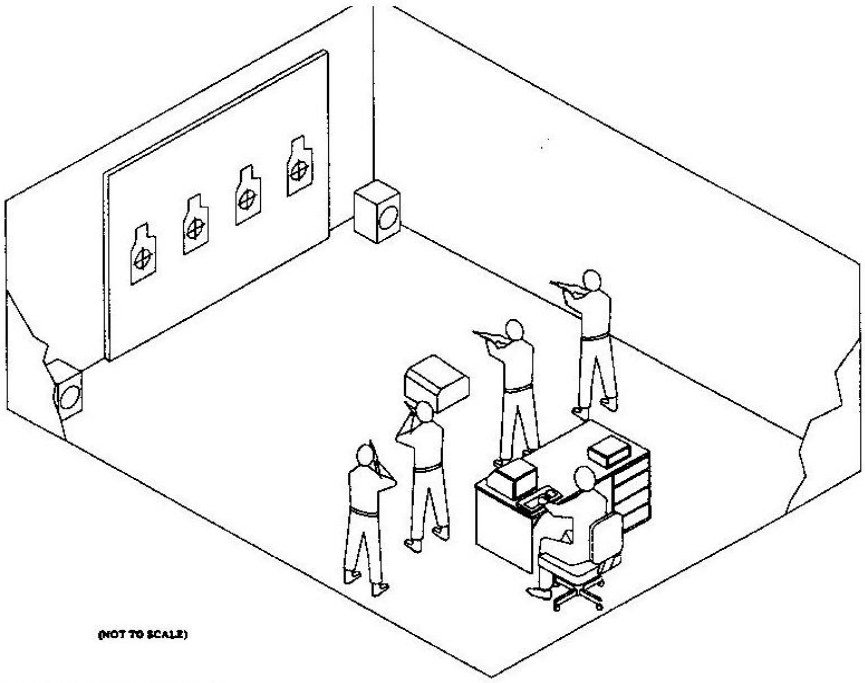
Power Requirements:
Operates off vehicle battery power or separate power supply (provided) when ground-mounted.

Applicable Publications:
Operator's and System Maintenance Manuals in each kit.

Reference Publications:
Infantry Manuals.

Training Requirements Supported:
MOSC 11B.

FIREARMS TRAINING SYSTEM (FATS) IV



FOUR LANE TRAINER

Training Category/Level Utilized:
All MOS/Level 1-4

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (Limited production).

Purpose of Trainer:
The training system is a computer-based system designed to train students in weapon operation and proficiency. The system exposes students to realistic training and combat situations and provides advanced diagnostic tools for the instructor.

Functional Description:
The device is an electronics video presentation system contained in a large console, a control console, a large white screen and various non-live fire semi-automatic weapon simulators. The device presents a target or situation on the screen and requires the trainee to decide if and when to shoot. The device tests decision-making skills and marksmanship and provides a complete replay of results, in real time, slow motion or frame by frame. Evaluation during and after training can be conducted through the replay and printout of results.

An instructor supervises training from the Instructor Control Station (ICS) and controls simulator functions and communications, directing students via the instructor's personal computer. The PC interfaces with, and controls the Primary Simulation Computer via a router connection. This PSC is designed to accept up to eight simulated, compressed air-powered weapons to be fired at combat scenarios the screen.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
System can be set up and operated in any room 15' x 30' x 8'. The recommended room size is 25' x 30' x 8' high (7.62m x 9.14m x 2.43m high) or larger. The room also must have provisions to block out all sunlight. If room lights are necessary, they must be fluorescent. The room should be protected from extreme temperature or humidity by a controlled environment.

Power Requirements:
110vac; 60 Hz, single-phase power.

Applicable Publications:
Combat Arms Training System – ARNG (CATS – ARNG) Operation and Maintenance Manual published by Fats, inc. (FATS P/N 1022686) – May 10, 2004

Reference Publications:
(Information not Available)

Training Requirements Supported:
MOSC/All Series

LASER MARKSMANSHIP TRAINING SYSTEM (LMTS), SNIPER TRAINING SYSTEM (STS)

Training Category/Level Utilized:
Basic weapons/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Laser Marksmanship Training System (LMTS) Sniper Trainer System will simulate weapons training events which lead to live fire qualifications for US Army Designated Marksman and Snipers. The STS will be used primarily as an advanced individual marksmanship training device. It uses the individual soldier's personal issued weapon, optics and accessories and allows units to conduct individual marksmanship training using biological and chemical protective equipment. Since it is light, transportable, uses self sustained power sources and requires no fixed facilities support, it is also idea for training scenarios in the field.

The STS will support training the Army 5.56mm, 7.62mm and .50 caliber sniper weapons systems.

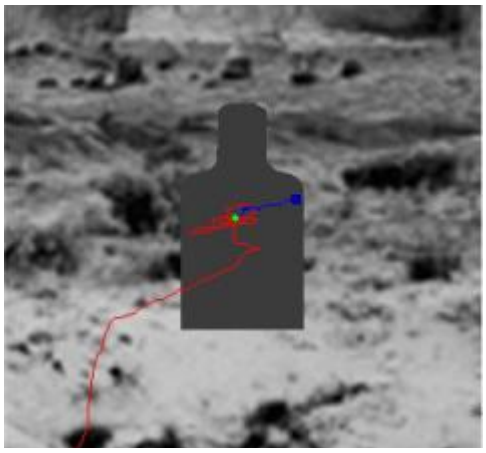
Functional Description:
The Sniper Trainer System is a lightweight, low cube, day or night capable long range marksmanship training system. Like the other LMTS training devices, the STS does not require special or stand alone facilities. It can be used outdoors and requires a training distance of 25m (as measured from the of the weapons scope to the face of the target) since the targets are scaled for this distance. However, these targets can be viewed at distances of greater than 25m during range estimation exercises to provide more variations in range.

Firing is simulated by a weapons mounted, eye safe laser transmitter which attaches to the barrel of the weapon. The sniper/designated marksman and instructor receive instant feedback via the computer on each shot.

Soldiers can dry fire, or use standard blanks to activate the laser transmitter.

The STS incorporates a ballistics program that adjusts the point of impact for each weapon and ammunition combination based on real world variables such as wind, slope, altitude and weather conditions. Instructors enter ballistic variables into the scenarios to challenge the shooter to make the necessary sight adjustments to achieve a target hit. Targets are properly scaled for range estimation at clearly specified training distances (as verified by mil-dot or other reticle, which is not included). Target presentations seen by the sniper or designated marksman correspond to the display on the computer screen in scale, color, and wind references. Additional targets may be used and scaled by the user for mission specific training.

The STS supports in-depth after action reviews using a full feature "trace mode" and selectable mil-dot reticle or minute of angle (MOA) grid overlays for shot placement analysis.



The STS Instructor Control Panel provides the following information via pictures and graphs displayed on the Laptop screen:

a. Weapon/ammunition combination
b. Temperature control
c. Humidity Control
d. Altitude Control
e. Slant Angle Control
f. Equivalent target range at training distance
g. Ballistic offset display panel
h. Weapon/Ammunition data source input option
i. Target data barcode input option
j. Target range adjustment control
k. Wind speed and Direction Control

Physical Information:

The LMTS Sniper Trainer System is comprised of the following components stored in the case, the case lid and accessory case:

The STS case contains the following components:

- One laptop Control Station with pre-loaded STS system software.
- Hit Detection Device (HDD)
- Accessory case (see list below)
- Remote Unit USB (Box 1)
- Remote Cable, 30m

The STS case lid contains the following components:

- Target area (calibration target)
- Wind Speed Indicator Magnets (Set of 16)
- Wind Vector Indicator magnets (Set of 8)
- Target Scenarios (Set of 12)

The STS Accessory case contains the following components:

- Remote Unit USB, Local (Box 2)
- Power Adapter for USB unit (local)
- USB and parallel cables, white
- MP400 Laser with mounting bracket
- Adaptors for 5.56, 7.62 and .50 cal barrels
- Laser Cable
- Computer power supply
- HDD Filter
- Wind velocity and Direction indicators
- USB Box 1
- 30m remote cable

One Case:

- Dimension: 30 x 20 x 12 in.
- Total weight: 70 lbs (31.7 Kg)
- Cubic inches: 95

Equipment Required, Not supplied:

Soldiers issued weapon and optics.

Special Installation Requirements:

None.

Power Requirements:

One 'AA' battery for each MP400 laser transmitter; 110V/50 Hz for the laptop Control Station; 110V/50 Hz for USB Box 2.

Applicable Publications:

Sniper Trainer System Instruction Manual

Reference: Publications:

Sniper Trainer Manual FM 3-23-10

Training Requirements Supported:

Visual feedback on marksmanship fundamentals, Shot grouping analysis; Range estimation and elevation adjustment; Wind estimation and windage adjustment; Ballistics correction for weather conditions; and slant range correction.

CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK) FOR M9 SEMI-AUTOMATIC PISTOL

CCMCK M9 Blue Training Barrel

CCMCK Face Mask

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC or as AAL to the weapon.

Purpose of Trainer:
The purpose of this training device is to temporarily convert the M9 Semi-automatic Pistol for firing of low-velocity 9mm marking ammunition.

This device is a component of the Close Combat Mission Capability Kit (CCMCK). The CCMCK weapon conversion system and ammunition allows for force-on-force close combat training using ammunition that marks the target yet presents minimal hazard to personnel wearing appropriate safety equipment. Other CCMCK weapon conversion kits include the M16/M4 Rifle/Carbine, M249 Squad Automatic Weapon, and M11 Compact Pistol.

Functional Description:
The CCMCK weapon conversion kit allows for Soldier/Operator conversion and installs in the same manner as the standard service barrel. The converted weapon retains original upper/lower receivers, slides, and frames with mounted accessories (sights, rail systems, optics/electro-optics, aiming lights, etc.), if attached.

CCMCK provides normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution. The CCMCK conversion kit will not allow service ammunition to be fired when a weapon is converted for use with the CCMCK ammunition.

CCMCK marking ammunition is loaded into the standard magazine for the weapon, fed into the converted weapon, and operated in accordance with the normal operating procedures for that weapon. Once loaded, it cycles the weapon and functions in the same manner as service ammunition. Converting the weapon to use CCMCK marking ammunition does not cause any undue effects or degradation of the normal service components, overall weapon longevity, or the general function of the weapon.

Physical Information:
The CCMCK conversion kit for the M9 consists of a blue training barrel assembly that directly replaces the standard service barrel. All CCMCK weapon conversion kits have distinctive blue markings to enable identification under normal visibility conditions that the weapon is modified for CCMCK firing. CCMCK M9 barrel dimensions: 5.0”(L) x 0.6”(W) x 1.1”(H), Weight: 0.4 lbs, Caliber: 9mm.

The CCMCK face mask is a single piece nylon mask which wraps around the lower face and neck and attaches in the back with velcro. The brow band adds additional protection between the helmet and goggles.

Equipment Required, Not Supplied:
As a minimum, the required safety equipment for using CCMCK in Force-On-Force training, in addition to the CCMCK face mask, will consist of single hearing protection, standard Combat Helmet or Advanced Combat Helmet, standard gloves, standard Sand, Wind and Dust goggles, groin protection, and two layers of clothing (standard combat shirt and Battle Dress Uniform (BDU) or Army Combat Uniform (ACU) with sleeves rolled down). These are included in the soldier and organizational

equipment (OCIE) CTA 50-900 items. Safety equipment/clothing must be worn in a manner such that there is no exposed skin during training.

Special Installation Requirements:
(Information not available)

Power Requirements:
None

Applicable Publications:
TM 9-6920-3700-10: Operator's Manual for Close Combat Mission Capability Kit (CCMCK).
TM 9-6920-3700-20: Unit Maintenance Manual for Close Combat Mission Capability Kit (CCMCK).

Reference Publications:
TM 43-0001-27: Army Ammunition Data Sheets, Small Caliber Ammunition.
TM 9-1305-201-34: Direct Support and General Support Maintenance Manual. Small Arms to 30MM Inclusive.
TM 9-1305-201-20: Organizational Maintenance Manual for Small Arms Ammunition to 30MM Inclusive.
TM 9-1005-317-10: Operator's Manual Pistol, Semi-automatic, 9mm, M9.

CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK) FOR M11 COMPACT PISTOL

CCMCK M11 Feed Ramp and Blue Training Barrel

CCMCK Face Mask

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC or as AAL to the weapon.

Purpose of Trainer:
The purpose of this training device is to temporarily convert the M11 Compact Pistol for firing of low-velocity 9mm marking ammunition.

This device is a component of the Close Combat Mission Capability Kit (CCMCK). The CCMCK weapon conversion system and ammunition allows for force-on-force close combat training using ammunition that marks the target yet presents minimal hazard to personnel wearing appropriate safety equipment. Other CCMCK weapon conversion kits include the M16/M4 Rifle/Carbine, M249 Squad Automatic Weapon, and M9 Semi-automatic Pistol.

Functional Description:
The CCMCK weapon conversion kit allows for Soldier/Operator conversion and installs in the same manner as the standard service barrel. The converted weapon retains original upper/lower receivers, slides, and frames with mounted accessories (sights, rail systems, optics/electro-optics, aiming lights, etc.), if attached.

CCMCK provides normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution. The CCMCK conversion kit will not allow service ammunition to be fired when a weapon is converted for use with the CCMCK ammunition.

CCMCK marking ammunition is loaded into the standard magazine for the weapon, fed into the converted weapon, and operated in accordance with the normal operating procedures for that weapon. Once loaded, it cycles the weapon and functions in the same manner as service ammunition. Converting the weapon to use CCMCK marking ammunition does not cause any undue effects or degradation of the normal service components, overall weapon longevity, or the general function of the weapon.

Physical Information:
The CCMCK conversion kit for the M11 consists of a feed ramp and blue training barrel that directly replaces the standard service barrel. All CCMCK weapon conversion kits have distinctive blue markings to enable identification under normal visibility conditions that the weapon is modified for CCMCK firing. CCMCK M11 barrel dimensions: 3.8”(L) x 0.7”(W) x 1.1”(H), Weight: 0.4 lbs, Caliber: 9mm.

The CCMCK face mask is a single piece nylon mask which wraps around the lower face and neck and attaches in the back with velcro. The brow band adds additional protection between the helmet and goggles.

Equipment Required, Not Supplied:
As a minimum, the required safety equipment for using CCMCK in Force-On-Force training, in addition to the CCMCK face mask, will consist of single hearing protection, standard Combat Helmet or Advanced Combat Helmet, standard gloves, standard Sand, Wind and Dust goggles, groin protection, and two layers of clothing (standard combat shirt and Battle Dress Uniform (BDU) or Army Combat Uniform (ACU) with sleeves rolled down). These are included in the soldier and organizational

equipment (OCIE) CTA 50-900 items. Safety equipment/clothing must be worn in a manner such that there is no exposed skin during training.

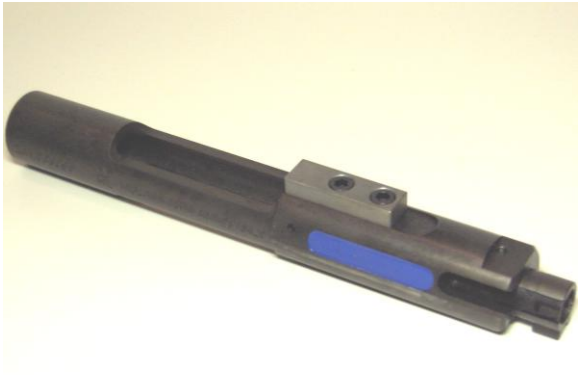
Special Installation Requirements:
(Information not available)

Power Requirements:
None

Applicable Publications:
TM 9-6920-3700-10: Operator's Manual for Close Combat Mission Capability Kit (CCMCK).
TM 9-6920-3700-20: Unit Maintenance Manual for Close Combat Mission Capability Kit (CCMCK).

Reference Publications:
TM 43-0001-27: Army Ammunition Data Sheets, Small Caliber Ammunition.
TM 9-1305-201-34: Direct Support and General Support Maintenance Manual. Small Arms to 30MM Inclusive.
TM 9-1305-201-20: Organizational Maintenance Manual for Small Arms Ammunition to 30MM Inclusive.
TM 9-1005-317-10: Operator's Manual Pistol, Semi-automatic, 9mm, M9.

CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK) FOR M16/M4 RIFLE/CARBINE



CCMCK Training Bolt and Carrier Assembly

CCMCK Face Mask

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC or as AAL to the weapon.

Purpose of Trainer:
The purpose of this training device is to temporarily convert the family of M16 rifles (M16A2, M16A3, M16A4) and M4 carbines (M4, M4A1) for firing of low-velocity 5.56mm marking ammunition.

This device is a component of the Close Combat Mission Capability Kit (CCMCK). The CCMCK weapon conversion system and ammunition allows for force-on-force close combat training using ammunition that marks the target yet presents minimal hazard to personnel wearing appropriate safety equipment. Other CCMCK weapon conversion kits include the M249 Squad Automatic Weapon, M9 Semi-automatic Pistol, and M11 Compact Pistol.

Functional Description:
The CCMCK weapon conversion kit allows for Soldier/Operator conversion and installs in the same manner as the standard service bolt and carrier assembly. The converted weapon retains original upper/lower receivers, slides, and frames with mounted accessories (sights, rail systems, optics/electro-optics, aiming lights, etc.), if attached.

CCMCK provides normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution. The CCMCK conversion kit will not allow service ammunition to be fired when a weapon is converted for use with the CCMCK ammunition.

CCMCK marking ammunition is loaded into the standard magazine for the weapon, fed into the converted weapon, and operated in accordance with the normal operating procedures for that weapon. Once loaded, it cycles the weapon and functions in the same manner as service ammunition. Converting the weapon to use CCMCK marking ammunition does not cause any undue effects or degradation of the normal service components, overall weapon longevity, or the general function of the weapon.

Physical Information:
The CCMCK conversion kit for the M16/M4 consists of a training bolt and carrier assembly that directly replaces the standard service bolt and carrier assembly. All CCMCK weapon conversion kits have distinctive blue markings to enable identification under normal visibility conditions that the weapon is modified for CCMCK firing. CCMCK M16/M4 bolt and carrier assembly dimensions: 7.2”(L) x 1.0”(W) x 1.0”(H), Weight: 0.8 lbs, Caliber: 5.56mm.

The CCMCK face mask is a single piece nylon mask which wraps around the lower face and neck and attaches in the back with velcro. The brow band adds additional protection between the helmet and goggles.

Equipment Required, Not Supplied:
As a minimum, the required safety equipment for using CCMCK in Force-On-Force training, in addition to the CCMCK face mask, will consist of single hearing protection, standard Combat Helmet or Advanced Combat Helmet, standard gloves, standard Sand, Wind and Dust

goggles, groin protection, and two layers of clothing (standard combat shirt and Battle Dress Uniform (BDU) or Army Combat Uniform (ACU) with sleeves rolled down). These are included in the soldier and organizational equipment (OCIE) CTA 50-900 items. Safety equipment/clothing must be worn in a manner such that there is no exposed skin during training.

Special Installation Requirements:
(Information not available)

Power Requirements:
None

Applicable Publications:
TM 9-6920-3700-10: Operator's Manual for Close Combat Mission Capability Kit (CCMCK).
TM 9-6920-3700-20: Unit Maintenance Manual for Close Combat Mission Capability Kit (CCMCK).

Reference Publications:
TM 43-0001-27: Army Ammunition Data Sheets, Small Caliber Ammunition.
TM 9-1305-201-34: Direct Support and General Support Maintenance Manual. Small Arms to 30mm Inclusive.
TM 9-1305-201-20: Organizational Maintenance Manual for Small Arms Ammunition to 30mm Inclusive.
TM 9-1005-319-10: Operator's Manual for Rifle, 5.56mm, M16A2; Rifle, 5.56mm, M16A3; Rifle, 5.56mm, M16A4; Carnine, 5.56mm, M4; Carbine, 5.56mm, M4A1.

CLOSE COMBAT MISSION CAPABILITY KIT (CCMCK) FOR M249 SQUAD AUTOMATIC WEAPON (SAW)

CCMCK Training Bolt and Slide Assembly

CCMCK Face Mask

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC or as AAL to the weapon.

Purpose of Trainer:
The purpose of this training device is to temporarily convert the M249 Squad Automatic Weapon (SAW) for firing of low-velocity 5.56mm marking ammunition.

This device is a component of the Close Combat Mission Capability Kit (CCMCK). The CCMCK weapon conversion system and ammunition allows for force-on-force close combat training using ammunition that marks the target yet presents minimal hazard to personnel wearing appropriate safety equipment. Other CCMCK weapon conversion kits include the M16/M4 Rifle/Carbine, M9 Semi-automatic Pistol, and M11 Compact Pistol.

Functional Description:
The CCMCK weapon conversion kit allows for Soldier/Operator conversion and installs in the same manner as the standard service bolt and slide assembly. The converted weapon retains original upper/lower receivers, slides, and frames with mounted accessories (sights, rail systems, optics/electro-optics, aiming lights, etc.), if attached.

CCMCK provides normal weapon employment cues such as aiming, firing, force-on-force training, and interactive live-fire scenario task and mission execution. The CCMCK conversion kit will not allow service ammunition to be fired when a weapon is converted for use with the CCMCK ammunition.

CCMCK marking ammunition is loaded into the standard magazine for the weapon, fed into the converted weapon, and operated in accordance with the normal operating procedures for that weapon. Once loaded, it cycles the weapon and functions in the same manner as service ammunition. Converting the weapon to use CCMCK marking ammunition does not cause any undue effects or degradation of the normal service components, overall weapon longevity, or the general function of the weapon.

Physical Information:
The CCMCK conversion kit for the M249 consists of a training bolt and slide assembly that directly replaces the standard service bolt and slide assembly, a CCMCK specific ejector blade assembly thet replaces the standard service ejector blade, and a blue feed tray adapter. All CCMCK weapon conversion kits have distinctive blue markings to enable identification under normal visibility conditions that the weapon is modified for CCMCK firing. CCMCK M249 conversion kit dimensions: 5.7”(L) x 1.1”(W) x 1.5”(H), Weight: 0.7 lbs, Caliber: 5.56mm.

The CCMCK face mask is a single piece nylon mask which wraps around the lower face and neck and attaches in the back with velcro. The brow band adds additional protection between the helmet and goggles.

Equipment Required, Not Supplied:
As a minimum, the required safety equipment for using CCMCK in Force-On-Force training, in addition to the CCMCK face mask, will consist of single hearing protection, standard Combat Helmet or Advanced Combat Helmet, standard gloves, standard Sand, Wind and Dust

goggles, groin protection, and two layers of clothing (standard combat shirt and Battle Dress Uniform (BDU) or Army Combat Uniform (ACU) with sleeves rolled down). These are included in the soldier and organizational equipment (OCIE) CTA 50-900 items. Safety equipment/clothing must be worn in a manner such that there is no exposed skin during training.

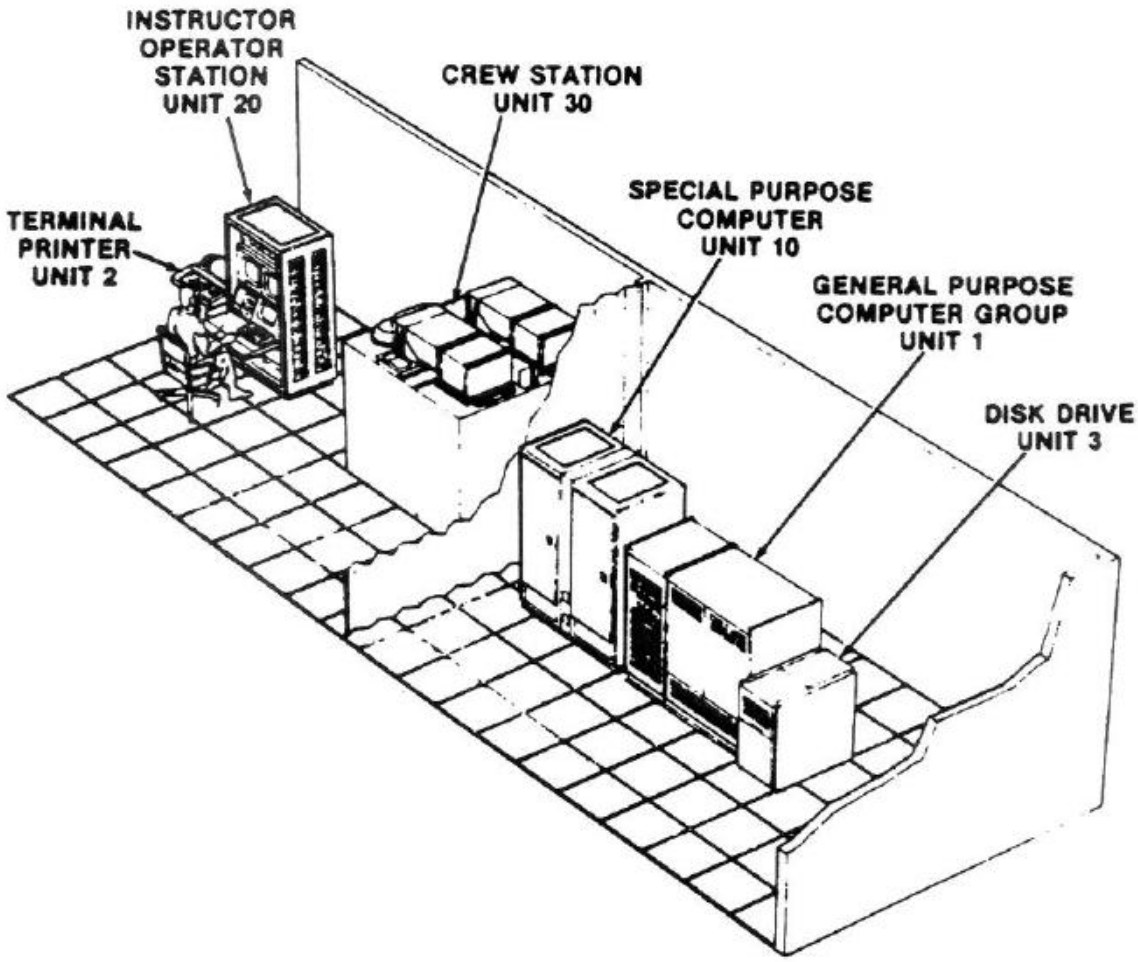
Special Installation Requirements:
(Information not available)

Power Requirements:
None

Applicable Publications:
TM 9-6920-3700-10: Operator's Manual for Close Combat Mission Capability Kit (CCMCK).
TM 9-6920-3700-20: Unit Maintenance Manual for Close Combat Mission Capability Kit (CCMCK).

Reference Publications:
TM 43-0001-27: Army Ammunition Data Sheets, Small Caliber Ammunition.
TM 9-1305-201-34: Direct Support and General Support Maintenance Manual. Small Arms to 30mm Inclusive.
TM 9-1305-201-20: Organizational Maintenance Manual for Small Arms Ammunition to 30mm Inclusive.
TM 9-1005-201-10: Operator's Manual Machine Gun, 5.56mm, M249 with equipment.

BRADLEY FIGHTING VEHICLE UNIT CONDUCT OF FIRE TRAINER (M2/M3 U-COFT)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the development of basic and advanced gunnery skills for the M2/M3 track commander and gunner.

Functional Description:
DVC 17-73 is a computer-controlled simulator. Two computers, one a general purpose (GPC) and the other, a special purpose (SPC), make up the trainer's visual simulation system. The output of the visual subsystem is a high resolution full color video/imagery that is viewed through sights and periscopes located in a replicated M2/M3 crew station. The color video provides simulation of tactical battle scenes consisting of a variety of terrain and man-made cultural features and a number of potential target types. An instructor operator station is located next to the crew station. Training is controlled and monitored from this console in consonance with computer-aided instruction techniques. Simulated adverse weather conditions, degraded fire control systems, and a combination of other factors normally encountered by an M2/M3 crew are integrated into the training program.

Physical Information:
Special Purpose Computer (SPC): 61" x 30" x 75"; 3500 lb
Instructor Operator Station. (IOS): 41" x 51" x 72"; 1041 lb
Ml Crew Station: 65" x 90" x 83"; 2700 lb
General Purpose Computer (GPC): 47" x 30" x 64"; 1200 lb
GPC EXP Cabinet: 26" x 30" x 64"; 600 lb
Disk Unit: 21" x 36" x 42"; 370 lb
Printer: 28" x 34" x 33"; 150 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer must be installed in an enclosed, air conditioned building having an available vacant floor space of approximately 11 by 36 feet. Lighting and air conditioning control are pre-established building requirements.

Power Requirements:
SPC: 120/208vac, 50 A, 3-phase, 11kva
IOS: 120/208vac, 20 A, 3-phase, 4kva
GPC: 120/208vac, 30 A, 3-phase, 4kva
GPCEXP: 120vac, 30 A, 1-phase, N/A
Disk Unit: 120vac, 11 A, 1-phase, .77kva
Printer: 120vac, 5 A, 1-phase, .34kva
Miscellaneous: .03kva

Applicable Publications:
TM 9-6920-741-10
TM 9-6920-741-23
TM 9-6920-741-23-100
TM 9-6920-741-40
TM 9-6920-741-40-100
HB 17-12-M1

Reference Publications:
None

Training Requirements Supported:
MOSC 19K

BRADLEY FIGHTING VEHICLE INSTITUTIONAL CONDUCT OF FIRE TRAINER (M2A1/M3A1 I-COFT)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the development of basic and advanced gunnery skills for the M2/M3 track commander and gunner.

Functional Description:
DVC 17-73/A is a floor-mounted enhanced adoption of four Unit-Conduct of Fire Trainers (U-COFTs) and computer stations each of which provides basic, sustainment, transition and cross-training of critical crew tasks performed by the Bradley Fighting Vehicle gunners and vehicle commanders in a training institutional environment. The I-COFT adaptation tailors the basic U-COFT by deleting the shelter subsystems, by adding a software package developed to meet institutional training needs and by adding hardware, which represents less than a 10% change in the hardware configuration. These additions include an Ethernet Controller that is also being added for the receipt, storage and transfer of the training records of individual gunners and vehicle commanders up to nine (9) I-COFT, i.e., thirty-six (36) U-COFT equivalents. I-COFT is a computer controlled simulator.

Two computers, one a general purpose (GPC) and the other a special purpose (SPC), make up the trainer's visual simulation system. The output of the visual subsystem is a high resolution full color video imagery that is viewed through sights and periscopes located in a replicated M2/M3 crew station. The color video provides simulation of tactical battle scenes consisting of a variety of terrain and man-made cultural features and a number of potential target types. An instructor operator station is located next to the crew station. Training is controlled and monitored from this console in consonance with computer aided

instruction techniques. Simulated adverse weather conditions, degraded fire control systems, and a combination of other factors normally encountered by an M2/M3 crew are integrated into the training program.

Physical Information:

4-Special Purpose Computers: 61" x 30" x 75"; 3500 lb. ea.
4-Instructor Operator Stations: 41" x 51" x 72"; 1041 lb. ea.
4-Crew Stations: 65" x 90" x 83"; 2700 lb. ea.
4-General Purpose Computers: 47" x 30" x 54"; 1200 lb. ea.
4-GPC EXP Cabinets: 26" x 30" x 64"; 600 lb. ea.
4-Disk Units: 21" x 36" x 42"; 370 lb. ea.
4-Printers: 28" x 34" x 33"; 150 lb. ea.
Ethernet Connection

Equipment Required, Not Supplied:

None

Special Installation Requirements:

The trainer must be installed in an enclosed, air conditioned building having an available vacant floor space of approximately 11 by 36 feet. Lighting and air conditioning control are pre-established building requirements.

Power Requirements:

SPC: 120/208vac, 50 A, 3-phase, 11kva
IOS: 120/208vac, 20 A, 3-phase, 4kva
GPC: 120/208vac, 30 A, 3-phase, 4kva
GPCEXP: 120vac, 30 A, 1-phase, N/A
Disk Unit: 120vac, 11 A, 1-phase, .77kva
Printer: 120vac, 5 A, 1-phase, .34kva
Miscellaneous: .03kva

Applicable Publications:

TM 9-6920-741-10
TM 9-6920-741-23
TM 9-6920-741-23-100
TM 9-6920-741-40
TM 9-6920-741-40-100

Reference Publications:

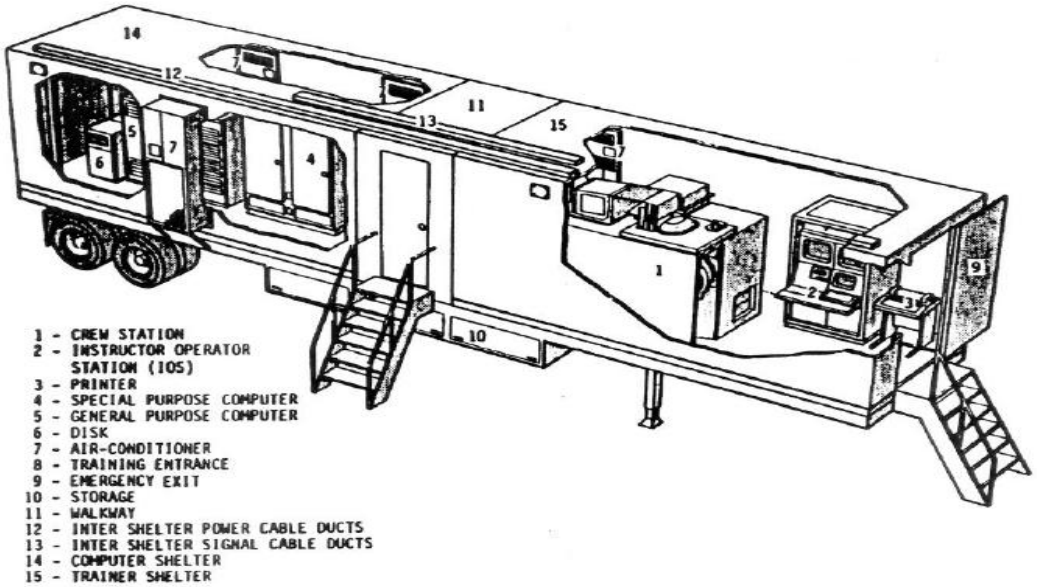
FM 3-22.1

Training Requirements Supported:

MOSC 19D, 11B

M2A1/M3A1 BRADLEY FIGHTING VEHICLE MOBILE CONDUCT OF FIRE TRAINER (M2A1/M3A1 M-COFT)

NSN Not Assigned **DVC 07-167/B M2A2/M3A2 ODS BFV Mobile COFT (M2A2/M3A2 M-COFT)**



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train the Gunner and Track Commander on the Bradley Fighting Vehicle in organizational procedures, target acquisition, reticle aim, target engagement and system management.

Functional Description:
The M-COFT is used at the battalion level primarily to sustain gunnery proficiency of unit gunners and track commanders (TC) between annual qualification periods. Each M-COFT consists of a crew compartment replication; a gunner station and a TC station; an instructor/operator station; a visual system; an aural/audio system; and a computer system. A computer generated image system provides visual presentations to the gunner and TC through the vehicle Optical system. M-COFT has the ability to train in operational procedures, target acquisition, identification and engagement using either the primary or alternate fire control and sighting equipment. M-COFT provides a simulated battlefield environment with tank stabilized or unstabilized, stationary and moving, single and multiple arrays, day and night, and reduced visibility conditions. The instructor/operator station allows monitoring of the gunner and TC fire control equipment and selection of the training to be conducted and provides a scoring system for evaluation of crew performance.

Physical Information:
45' L x 8' W x 13’6" H; approx. 40,000 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
M-COFT is installed in two basic mobile facility shelters mounted on a 45-foot air-ride trailer. The Government provides a 30' x 60' concrete pad at each armory with electrical and telephone lines in accordance with an approved facility plan. The contractor provides an electrical distribution center at each site.

Power Requirements:
120/208vac, 60 HZ, 3-phase, 4-wires
Maximum peak power is 125kva, including 20% design reserve.

Applicable Publications:
TM 9-6920-745-10; TM 9-6920-745-23
TM 9-6920-745-23-100

Reference Publications:
FM 3-22.1

Training Requirements Supported:
MOSC 11B, 19D, 12 Series

TANK WEAPON GUNNERY SIMULATION SYSTEM/ PRECISION GUNNERY SYSTEM (TWGSS/PGS)

NSN Not Assigned	DVC 07-168/3 (PGS): PGS for M2/M3, M2A1/M3A1, and M2A2/M3A2 BFV
NSN Not Assigned	DVC 07-168/5 (PGS): PGS for Light Armored Vehicle (LAV)
NSN Not Assigned	DVC 07-168/6 (PGS): Retro-reflectors
NSN Not Assigned	DVC 07-168/7 (PGS): Controller Gun
NSN Not Assigned	DVC 07-168/9 (PGS): PGS for M2A3/M3A3 Bradley Fighting Vehicle
NSN Not Assigned	DVC 07-168/10 (PGS): PGS for M6 Bradley Fighting Vehicle Linebacker
NSN Not Assigned	DVC 07-168/11 (TSV) for M2/M3 (BFV), (PGS)

Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Precision Gunnery Simulation System (PGS) for M2, M3, M2A1/M3A1, and M2A2/M3A2 Bradley Fighting Vehicle (PGS) develops, maintains, and evaluates crew and unit proficiency in gunnery skills. PGS trains gunnery tasks as described in M2/M3 manuals (FM 23-1, FM 3-20.21 and FT 25-A1. It also trains those tasks for maneuver exercises at platoon and company level in 7-8 MTP and FM 3-21.71.

PGS is used to provide realistic simulations for the preparation of live firing the gunnery tables in day and night conditions. It allows the training of crews in collective tasks for platoon, company, and battalion level force-on-force exercises. With PGS, precision gunnery is integrated with tactical training, to give the crews experience in precision and degraded mode gunnery while under the pressure of opposing force engagements.

For Device 07-168/6, a mini-size retroreflector (DVC 07-168/6) is also available for use on scaled ranges.

Functional Description:
The Precision Gunnery Simulation System (PGS) is a vehicle mounted device. The PGS uses a laser transceiver, retro-flectors, detectors, computer system, tracer burst obscuration, an aural cue effects generator, control panel target interface, and after action review computer. A control gun has been designed for use in force-on-force training. The control gun will allow a referee to intervene and control the training scenario from a range of up to 2000 meters.

Physical Information:
Total system weight configured for transit is 218 lbs. distributed between three transit cases as shown below.
Vehicle Interface Unit: 4 lbs.
Control Panel: 11 lbs.
TBOS Driver unit: 2 lbs.
Target Computer Unit: 3 lbs.
Retro Detector Unit: 3 lbs.
Hull Defilade Detector Unit: 1 lb.
TDRS Memory card: 2 oz.
TBOS Eyepiece Unit: 1 lb.
Shorting Plug: 5 oz.
RSI Unit: 4 lbs.
RSI Unit Antenna Assembly: 4 lbs.
Retro Reflector Unit: 2 lbs.

Equipment Required, Not Supplied:
Battery, 9v, Alkaline

Special Installation Requirements:
None

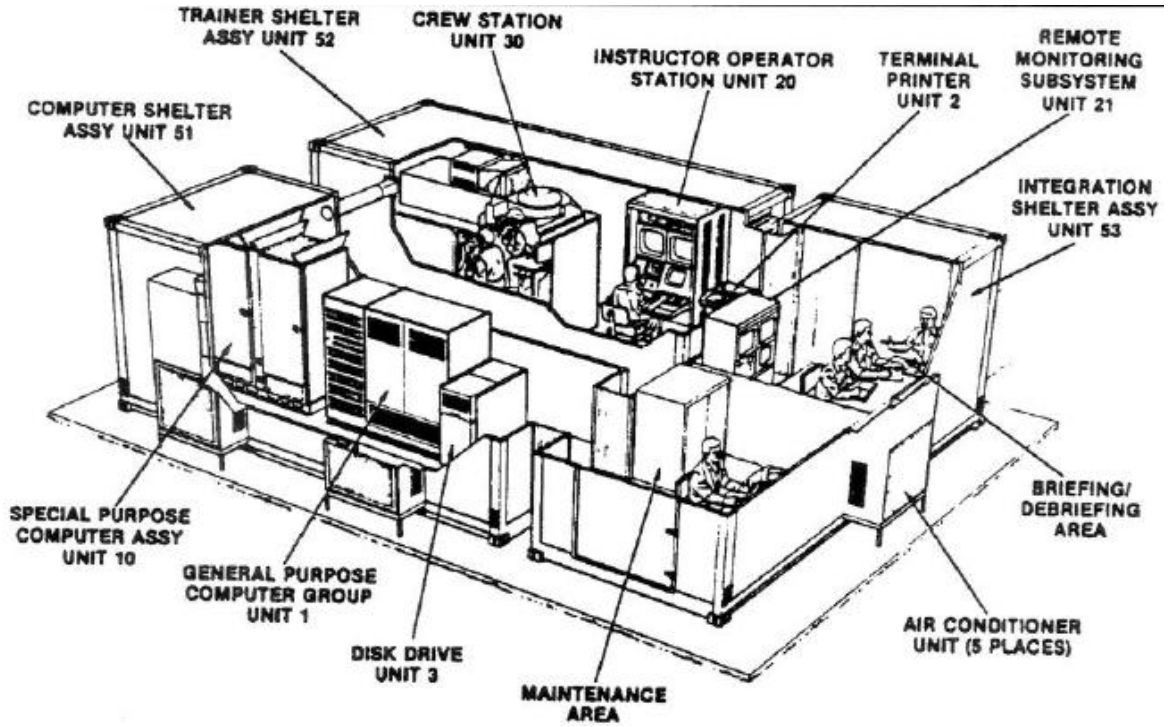
Power Requirements:
21-29vdc

Applicable Publications:
TM 9-6920-710-12&P-1; TM 9-6920-710-12&P-3

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 11B, 19D

M2A2/M3A2 BRADLEY FIGHTING VEHICLE (BFV) UNIT-CONDUCT OF FIRE TRAINER (U-COFT) OPERATION DESERT STORM (ODS) ENHANCEMENTS



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The ODS enhanced COFT mission is to develop or sustain critical gunnery skills required for qualification of vehicle commanders and gunners. The COFT system provides training over a variety of situations encountered in combat. Exercises range from simple target acquisition and firing on a stationary target to more difficult scenarios involving ammunition selection, night conditions, own vehicle motion, multiple moving targets, variable visibility, and other complex conditions.

Functional Description:
Device 17-209 added the following ODS enhancements to existing Device 17-74A:

a. Hardware and software to replicate the M2A2/M3A2 Bradley Eyesafe Laser Rangefinder (BELRF).

b. Nonfunctional hardware upgrades to replicate the M2A2/M3A2 Bradley Missile Countermeasures Device (MCD).

c. Nonfunctional hardware upgrades to replicate the M2A2/M3A2 Bradley Navigation/Positioning System (NAV/POS).

d. Hardware and software to replicate the M2A2/M3A2 Bradley Battlefield Combat Identification System (BCIS) (Initial Enhancement only).

Physical Information:
Computer Shelter: 238.5" x 96" x 96"; 12,000 lb.
Trainer Shelter: 238.5" x 96" x 96"; 9,000 lb.
Integration Shelter: 238.5" x 96" x 96"; 7,000 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The Government provides a clear and level site to specified drainage and compactness, and also electrical and telephone lines. The site must be a minimum of 40' x 38'. When multiple adjacent installations are planned at the same location, the size of each site may be 40' x 38'. The contractor provides a concrete pad and the electrical interface from the power source. In CONUS and where 60Hz power is available at OCONUS sites, the contractor provides an electrical distribution center and isolation

transformer as the interface between the power source and the trainer. Where only 50Hz power is available, the contractor installs a transformer, and electrical distribution center or an electrical service center with both.

Power Requirements:

120/208vac, 3-phase, 50/60 Hz, 4 wires. Maximum peak power is 125kva, including 20% design reserve.

Applicable Publications:

TM 9-6920-891-10 - Operator's Manual

TM 9-6920-891-23 - Org/Direct Support Maintenance

TM 9-6920-891-23-100 - Organizational/Direct Support Assembly Drawings and Parts List

TM 55-6920-737-15 - Transportability Instructor's Handbook

Reference Publications:

FM 3-22.1; FM 22.12

Training Requirements Supported:

MOSC 11B, 19D

M2A2/M3A2 BRADLEY FIGHTING VEHICLE (BFV) INSTITUTIONAL-CONDUCT OF FIRE TRAINER (I-COFT) OPERATION DESERT STORM (ODS) ENHANCEMENTS

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The ODS enhanced COFT mission is to develop or sustain critical gunnery skills required for qualification of vehicle commanders and gunners. The COFT system provides training over a variety of situations encountered in combat. Exercises range from simple target acquisition and firing on a stationary target to more difficult scenarios involving ammunition selection, night conditions, own vehicle motion, multiple moving targets, variable visibility, and other complex conditions.

Functional Description:
Device 07-170 added the following ODS enhancements to existing Device 07-166:

a. Hardware and software to replicate the M2A2/M3A2 Bradley Eyesafe Laser Rangefinder (BELRF).

b. Nonfunctional hardware upgrades to replicate the M2A2/M3A2 Bradley Missile Countermeasures Device (MCD).

c. Nonfunctional hardware upgrades to replicate the M2A2/M3A2 Bradley Navigation/Positioning System (NAV/POS).

d. Hardware and software to replicate the M2A2/M3A2 Bradley Battlefield Combat Identification System (BCIS) (Initial Enhancement only).

Upon installation of the ODS enhancements, the trainer will lose the ability to function in the I-COFT mode. The four units that are linked to function as an I-COFT will no longer be linked; therefore, the trainer will only function in the Unit-Conduct of Fire Trainer (U-COFT) mode.

Physical Information:
Special Purpose Computer (SPC): 61" x 30" x 75"; 3500 lb.
Instructor Operator Station (IOS): 41" x 51" x 72"; 1041 lb.
M2/M3 Crew Station: 65" x 90" x 64"; 2700 lb.
General Purpose Computer (GPC): 47" x 30" x 64"; 1200 lb.
GPC EXP Cabinet: 26" x 30" x 64"; 600 lb.
Disk Unit: 21" x 36" x 33"; 370 lb.
Printer: 28" x 34" x 33"; 150 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer must be installed in an enclosed, air conditioned building having an available vacant floor space of approximately 11 by 36 feet. Lighting and air conditioning control are pre-established building requirements.

Power Requirements:
SPC: 120/208vac, 50 A, 3-phase, 11kva
IOS: 120/208vac, 20 A, 3-phase, 4kva
GPC: 120/208vac, 30 A, 3-phase, 4kva
GPCEXP: 120vac, 30 A, 1-phase, N/A
Disk Unit: 120vac, 11 A, 1-phase, .77kva
Printer: 120vac, 5 A, 1-phase, .34kva
Miscellaneous: .03kva

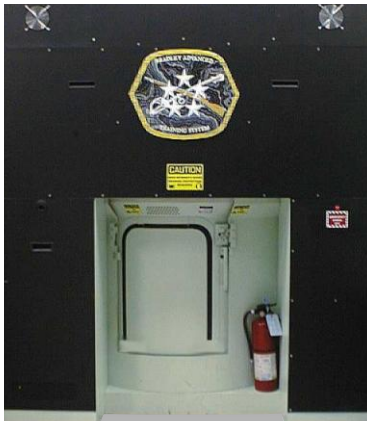
Applicable Publications:
TM 9-6920-892-10 - Operator's Manual
TM 9-6920-892-23 - Org/Direct Support Maintenance
TM 9-6920-892-23-100 - Organizational/Direct Support Assembly Drawings and Parts List

Reference Publications:
FM 3-22.1; FM 22.12

Training Requirements Supported:
MOSC 11B, 19D

BRADLEY ADVANCED TRAINING SYSTEM – URBAN OPERATIONS (BATS-UO)

NSN Not Assigned — **DVC 07-171/2 (BATS-G), PN: BP00070-02, w/ESIG Computer**
NSN 6920-01-508-2488 — **DVC 07-171/2/A (BATS-G), PN: BP00070-02, Sheltered w/ESIG Computer**
NSN 6920-01-508-2489 — **DVC 07-171/3 (BATS-G), PN: BP00070-03, w/Ensemble Computer**



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the development of basic and advanced skills for the Bradley commander and gunner.

Functional Description:
Designed to train or sustain gunner proficiency of crews so that they shall be able to perform the critical skills required in gunnery and combat. A crew station simulates the appearance and functions of training essential turret operating controls, indicators, and weapon sights. An Instructor Operator Station (IOS) through which the I/O initiates exercises, monitors the crew performance, and interacts with the crew during the training session. An updated Image Generator provides an Urban Operations database.

Physical Information:
Turret shelter: 238.5" x 96" x 96"
IOS/RMS shelter: 238.5" x 96" x 96"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer must be install in an enclosed, air conditioned building. Available floor space of approximately 1,200 square feet is required. A transit path 10 feet wide and 14 feet high is required from the Power Requirements floor space to load/unload the system for installation and uninstall.

Sheltered:
Low extreme: Minus 46°C (-51°F) with no solar load.
High extreme: Plus 52°C (125°F) plus a solar load of 1120 watts per square meter (W/m²) (355 BTU/ft²hr) of the shelter exterior

Power Requirements:
208vac +/- 10 percent, 3-phase, 60 Hz +/- 1 percent.

Applicable Publications:
TD 9-6930-712-12, Instructor's Utilization Handbook
TD 9-6930-712, BATS-UO Maintenance Manual
Commercial Publications

Reference Publications:
FM 3-22.1

Training Requirements Supported:
MOSC 11B, 19D

STRYKER ANTI-TANK GUIDED MISSILE BASIC SKILLS TRAINER (ATGM BST)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Its purpose is to provide the following gunner skills training: initial-entry ATGM basic gunner skills, basic and advanced individual gunnery, sustainment training in the unit, and formal qualification training.

Functional Description:
The Instructor Station software injects simulated terrains and targets into the ATGM launcher site, and the gunner uses the tactical ATGM launcher controls to engage the simulated targets. Terrain and target images are presented in both daylight and IR views. The exercises are interactive three-dimensional simulations of tactical engagements designed to train gunners in all aspects of target engagement. The gunner sees a variety of targets as he scans his sector of fire, and detects, classifies, identifies, and engages them or not as appropriate for a particular exercise.

Physical Information:
The ATGM Basic Skills Trainer is a PC-based appended training device installed inside the ATGM vehicle. During training, the ATGM Gunner Station components are disconnected from the tactical system and reconnected to the ATGM BST Interface Assembly. The Interface Assembly is then connected to the BST Instructor Station (PC).

Equipment Required, Not Supplied:
Stryker vehicle

Special Installation Requirements:
Refer to ATGM BST Operator's Manual for set-up.

Power Requirements:
A dry, indoor training area with a standard three-wire grounded 120V (US) power outlet.
A power surge protector for the Instructor Station PC.

Applicable Publications:
Operator Manual and Instructor Guide

Reference Publications:
Anti-Tank Guided Missile (ATGM) Weapon System Basic Skills Trainer (BST) Operator Manual.
Anti-Tank Guided Missile Vehicle (ATGM) Technical Manual, Operator's Manual, TM 9-2320-311-10-7, May 2003.

Training Requirements Supported:
The instructor will have satisfied at least 2 years of anti-armor operations training, received BST NET certification, and completed and passed all training exercises in the ATGM BST Instructor Guide.
The student will have the following experience and training prior to beginning of BST practice session: Instruction on the ATGM physical characteristics and functionality, based on the ATGM Vehicle Technical Manual, Operator's Manual, familiarity with the ATGM BST purpose, physical characteristics, and with functions of the BST components, an understanding of the principles of detecting, classifying, locking onto, and engaging targets with the ATGM system.

A3 THROUGH SIGHT VIDEO (TSV) FOR M2A3/M3A3 BRADLEY FIGHTING VEHICLE

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The A3 Through-Site Video (TSV) is designed to support training at all proficiency level as well as during simulated or live fire exercises. The TSV system provides an important building block in the Combined Arms Training Strategy.

Functional Description:
The A3 TSV is a vehicle-appended system that provides video and audio recording of gunnery or tactical engagements exercise in real time. The A3 TSV consists of three subsystems: The vehicle interface kit (VIK) subsystem, the recorder kit (RK) subsystem the after action review (AAR) subsystem. The VIK subsystem provides assembly brackets with interface box, power cable, video and audio cable, operators manual and transit case. The RK subsystem provides TEAC hand held controller with cable, TEAC dual/triple deck recorder with dust cover and transit case. The AAR subsystem is a stand-alone component of the A3 TSV that allows single channel full screen display that may be set up anywhere a110/220vac power source is available. It is used by crews, commanders, and training managers to review gunnery engagements video tapes generated by the RK subsystem.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
HI-FI 8 mm video tapes

Special Installation Requirements:
IAW TM 9-6920-917-10 - Chapter 2 provides step-by-step procedures to install and operate the vehicle interface kit and recorder kit.

Power Requirements:
28v power obtained from MRE heater

Applicable Publications:
TM 9-2350-294-10 - Operate Maintain the M2A3/M3A3 Bradley Fighting Vehicle.
TM 9-6920-917-10 - Thru-Sight Video (TSV) System for M2A3/M3A3 Series Bradley Fighting Vehicle.

Reference Publications:
TEAC recorders COTS Manual (AAR Subsystem)

Training Requirements Supported:
MOSC 11B, 19D, 12A

M2A2 MOBILE CONDUCT OF FIRE TRAINER XXI (M-COFT XXI)

NSN Not Assigned	DVC 07-174/A M2A2 (ODS) Mobile COFT XXI (M2A2 ODS M-COFT XXI)
NSN Not Assigned	DVC 07-174/B M2A2 (ODS) Institutional COFT XXI, (M2A2 ODS I-COFT XXI)
NSN Not Assigned	DVC 07-174/C M2A2 (ODS) Unit COFT XXI (M2A2 ODS U-COFT XXI)
NSN Not Assigned	DVC 07-174/D M2A2 Institutional COFT XXI (M2A2 I-COFT XXI)
NSN Not Assigned	DVC 07-174/E M2A2 Unit COFT XXI (M2A2 U-COFT XXI)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train the Bradley Commander and Gunner on the BradleyM2A2 and M2A2 ODS fighting vehicle in organizational procedures, target acquisition, reticle aim, target engagement and system management.

Functional Description:
The M-COFT XXI is used at the battalion level, primarily to sustain gunnery proficiency of unit Bradley Commanders (BC) and gunners between annual qualification periods. Each M-COFT XXI consists of a crew compartment replication; a gunner station and a BC station; an instructor/operator station; a visual system; an aural/audio system; and a computer system. A computer generated image system provides visual presentations to the BC and gunner through the tank optical system. M-COFT XXI has the ability to train in operational procedures, target acquisition, identification and engagement, using either the primary or alternate fire control and sighting components. M-COFT XXI provides a simulated battlefield environment with Bradley stabilized arrays, day/night, and reduced visibility conditions. The instructor /operator station allows monitoring of the BC and gunner fire control equipment and selection of training to be conducted and provides a scoring system for the evaluation of crew performance.

Physical Information:
45' L x 8' W x 13' 6" H; approx. 33,500 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
M-COFT XXI is installed in two basic mobile facility shelters mounted on a 45-foot air-ride trailer. The Government provides a 30' x 60' concrete pad at each armory with electrical and telephone lines in accordance with an approved facility plan. The contractor provides an electrical distribution center at each site.

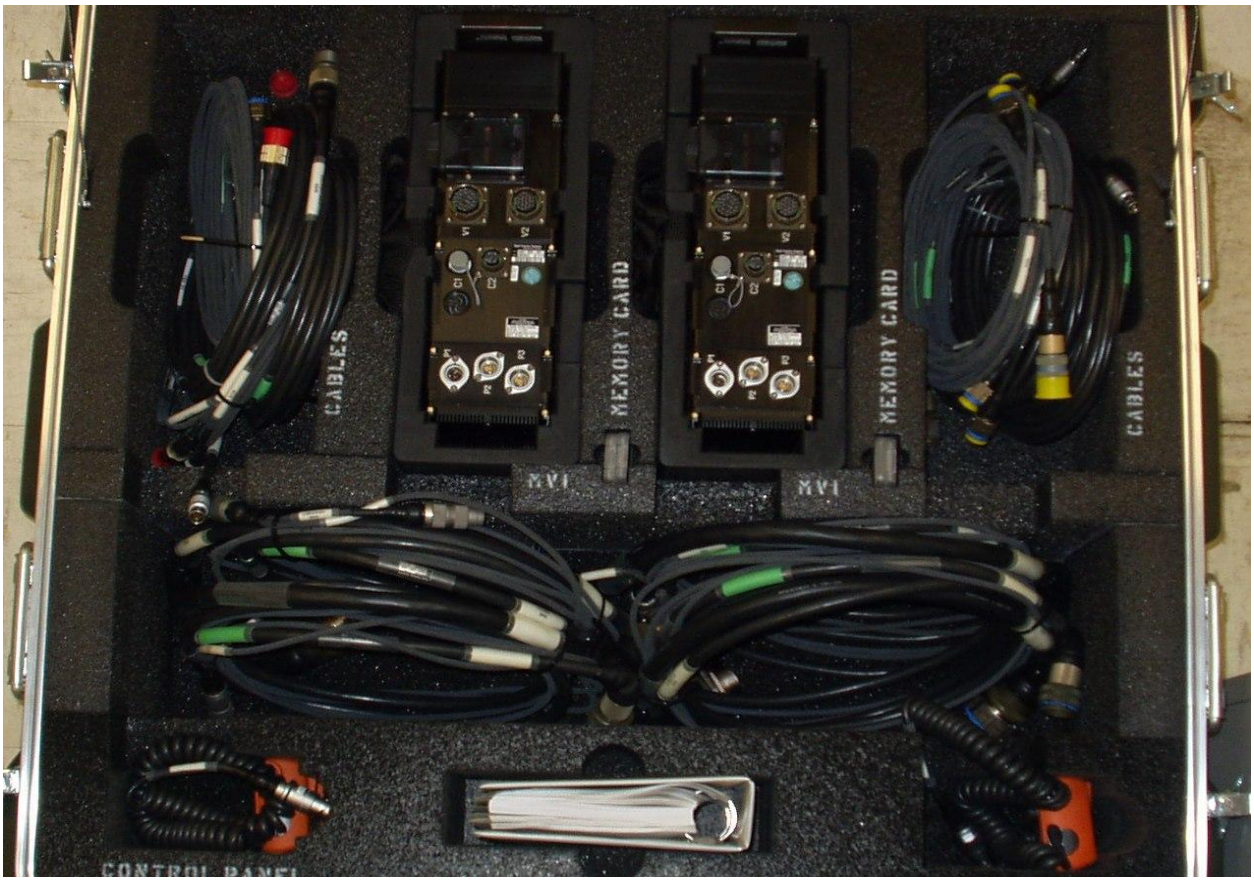
Power Requirements:
100-Amps, 120/240vac, single-phase power. Maximum peak power is 125kva, including 20% design reserve.

Applicable Publications:
TM 9-6920-744-15-XXI (Transportability Guidance COFT XXI)
TM 9-6930-713-10 Instructor/Operators Manual

Reference Publications:
FM 3-22.1

Training Requirements Supported:
MOSC 11B, 19D, 12-Series

BRADLEY A3 MULTI MEDIA RECORDER (MMR) THRU SITE VIDEO (TSV)



Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC at Ft Bliss, Carson, Knox, Hood, Sill, and Benning.

Purpose of Trainer:
The Bradley A3 MMR TSV is a vehicle mounted recorder that records video from CIV, IBAS and the intercom communication system during live fire or laser based training. The recording is trigger event based or manual (continuous) by use of the control panel. The After Action Review (AAR) Laptop computer provides simultaneous playback of up to four (4) channels of audio/video with Synchronized Play, Pause, Fast Forward, Rewind and Stop controls on a 14 inch screen display using a 110/220 VAC power source.

Functional Description:
The kit consists of four (4) distinct subsystems: TSV Main Assembly, Rubber Housing, Compact Flash Memory Card, and a Control Panel (CP), as described below:

a) TSV Main Assembly – contains the electronics for the TSV system. It consists of the Power Module; Computer Module; Multimedia Recorder (MMR) Module; CF Memory Card Holder with LED,

b) Rubber Housing - The TSV Main Assembly is placed in a shock absorbing rubber housing.

c) Compact Flash Memory Card - The Memory Card is a commercial 8 Gb Compact Flash memory card.

d) Control Panel (CP) – The operator uses the LCD screen and the CP push buttons to interact with the simulator.

The TSV Kit also includes video and audio cabling, Operators Manual and transit case. Due to packaging and lifting constraints, there are two transit cases consisting of four (4) MMRs, four (4) Rubber Housings, eight (8) CF memory cards, 4 CPs, and eight (8) Cable Sets.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
28 V DC

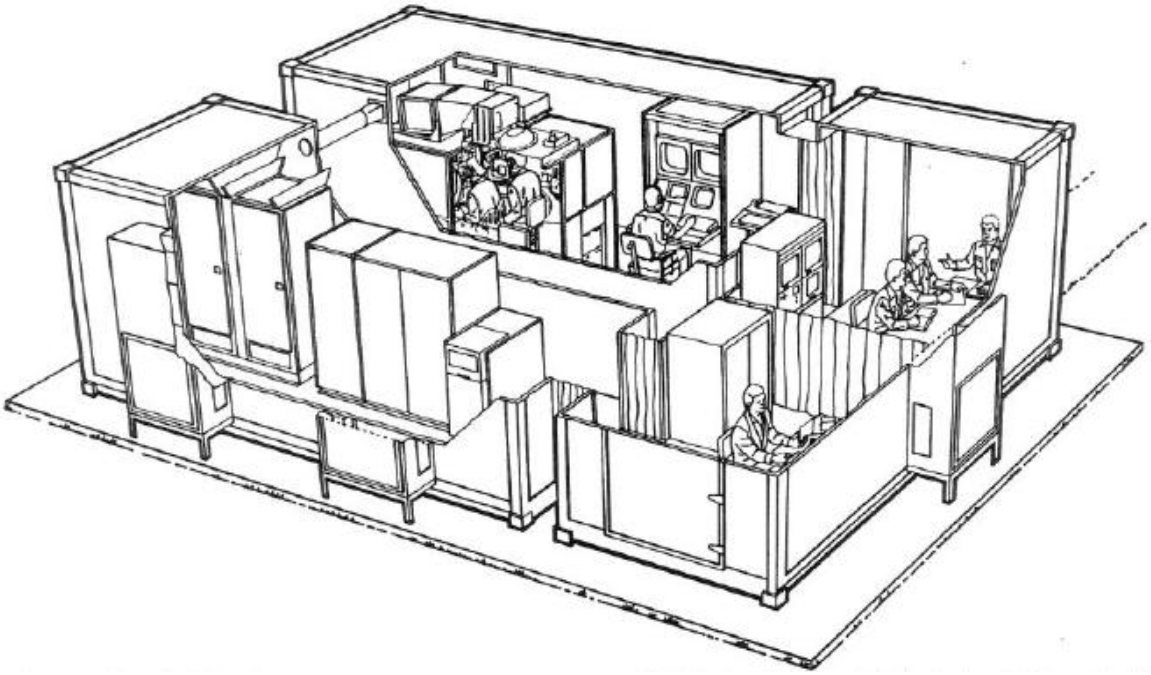
Applicable Publications:
(Information not available)

Reference Publications:
8875 809-647

Training Requirements Supported:
(Information not available)

M2A2/M3A2 BRADLEY FIGHTING VEHICLE UNIT CONDUCT OF FIRE TRAINER ENHANCED (U-COFT-E) UNSHELTERED

NSN Not Assigned DVC 07-176/A M2A2/M3A2 (ODS) Bradley Fighting Vehicle (U-COFT-E) Unsheltered



Training Category/Level Utilized:
Armor/Level

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the development of Basic and advanced gunnery skills for the M2/M3 Bradley Fighting Vehicle.

Functional Description:
(Information not available)

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer must be installed in an enclosed, air-conditioned building having an available vacant floor space approximately 11 by 36 feet. Lighting an air conditioning control are pre-established building requirements.

Power Requirements:
120/208vac, 3-phase, 50/60 Hz

Applicable Publications:
IUH TD 9-6920-3680-10

Reference Publications:
TM 9-2350-252-10-1
TM 9-2350-252-10-2
TM 9-2350-252-10-3

Training Requirements Supported:
MOSC 11B, 19D

M2A2/M3A2 BRADLEY FIGHTING VEHICLE MOBILE CONDUCT OF FIRE – ENHANCED (M-COFT-E)

NSN Not Assigned **DVC 07-177/A** **M2A2/M3A2 (ODS) Bradley Fighting Vehicle Mobile Enhanced Operation Desert Storm (M-COFT-E-ODS) Sheltered**

Training Category/Level Utilized:
Armor/Level

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides realistic training for the development of Basic and advanced gunnery skills for the M2/M3 Bradley Fighting Vehicle.

Functional Description:
(Information not available)

Physical Information:
Trainer Shelter: 238.5” x 96” x 96”: 9,000 lb
Integration Shelter: 238.5” x 96” x 96”: 7,000 lb
Classroom Shelter: 238.5” x 96” x 96”: 7,000 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The Government provides a clear and level site to specified drainage and compactness, and also electrical and telephone lines. The site must be a minimum of 40” x 38”, when multiple adjacent installations are planned at the same location, the size of each site may be 40”x 32”. The contractor provides an electrical interface from the power source. In CONUS and where 60 Hz power is available at OCONUS sites, the contractor provides and electrical distribution center and isolation transformer as the interface between the power source and the trainer. Where only 50 Hz power is available, the contractor installs a transformer, and electrical distribution center or an electrical service center, which encompasses both.

Power Requirements:
120/208vac, 3-phase, 50/60 Hz, 4 wires, Maximum peak power is 125kva.

Applicable Publications:
IUH TD 9-6920-3680-10

Reference Publications:
TM 9-2350-252-10-1
TM 9-2350-252-10-2
TM 9-2350-252-10-3

Training Requirements Supported:
MOSC 11B, 19D

APPENDED BRADLEY FULL-CREW INTERACTIVE SKILLS TRAINER (AB-FIST)

NSN Not Assigned **DVC 07-178/A** **(AB-FIST) – Platoon Instructor/Operator Station**

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The A-FIST XXI will provide precision gunnery training at National Guard armories.

Functional Description:
The Appended Bradley Full-Crew Interactive Skills Trainer (AB-FIST) provides the capability to train crews using manual controls. The training system is compatible with the M2A2/M3A2 Bradley Fighting Vehicle (BFV). Only U.S. Army National Guard Infantry units train on the AB-FIST. The training system will allow the entire crew to conduct gunnery training while the BFV is powered off inside the armory. Training scenarios are designed to simulate all tables of FM 3-20.21. The system provides aural, visual and sensor simulation. An instructor/operator selects the exercises, briefs the crew, monitors crew performance and conducts after action reviews. The crew performs the exercises under simulated conditions. Exercises become more challenging as the crew progresses through the training matrix. The training software scores the engagements automatically. Exercises include execution of day/night main gun, coax and TOW gunnery tasks; engagements of stationary/moving, single/multiple targets in desert or European terrain. The training system will periodically interject weapon system faults to further challenge the crew.

Physical Information:
Total system weight configured for transit is 1961 lbs.
Host Computer Cabinet: 188 lbs.
Image Generator Cabinet: 297 lbs.
Vehicle Interface Cabinet: 160 lbs.
I/O Monitor: 77 lbs.
Visual Display Monitor: 77 lbs.
Vehicle Interface Cables: 140 lbs.
Power/Video Cables: 187 lbs.
Driver Platform Displays: 117 lbs.
ISU Platform/Display: 137 lbs.
VCR/AAR: 32 lbs.
ASU Platform/Display: 130 lbs.
Commander's Platform: 149 lbs.
Appended Item Container 1 of 2: 125 lbs.
Appended Item Container 2 of 2: 145 lbs.

Equipment Required, Not Supplied:
The unit must provide a fully functional M2A2 BFV and CVC helmets.

Special Installation Requirements:
The armory must have a grounded 115v AC, 30 Amps (dedicated branch circuit) power source within 50 feet of the training site.

Power Requirements:
Grounded 115vac, 30 Amps

Applicable Publications:
TM 9-6920-3672
TM 9-6920-3672-10

Reference Publications:
FM 3-22.1
FM 3-20.21 (Draft)
Applicable manuals for commercial off-the-shelf (COTS) equipment.

Training Requirements Supported:
MOSC 11B and 19D

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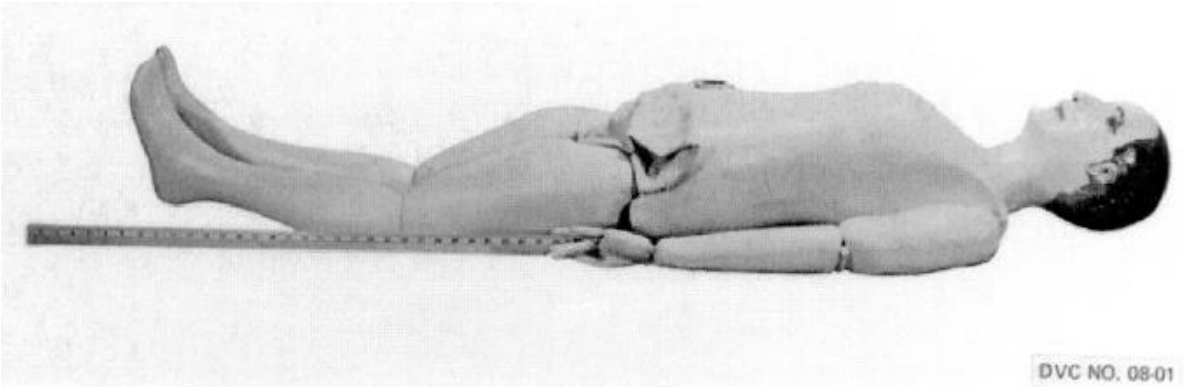
BASIC SERIES 08
MEDICAL

NURSING TECHNIQUE TRAINING DOLL



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC (replaced by DVC 08-01/A).

Purpose of Trainer:
The device is intended to be used by military medical personnel at all levels of medical training and evaluation of basic nursing care. It provides trainees realistic practice in nursing care techniques and is used in evaluation of techniques such as catheterization, bladder irrigation, colonic irrigation enemas, nasal and otic douching, and hypodermic injection. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device is an adult size, plastic model with operable joints, genitals, urethral and rectal tubes, and internal tanks. It is particularly suited for the attachment of any of the various moulage kits that are designed to fit a human subject.

Physical Information:
Life size

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

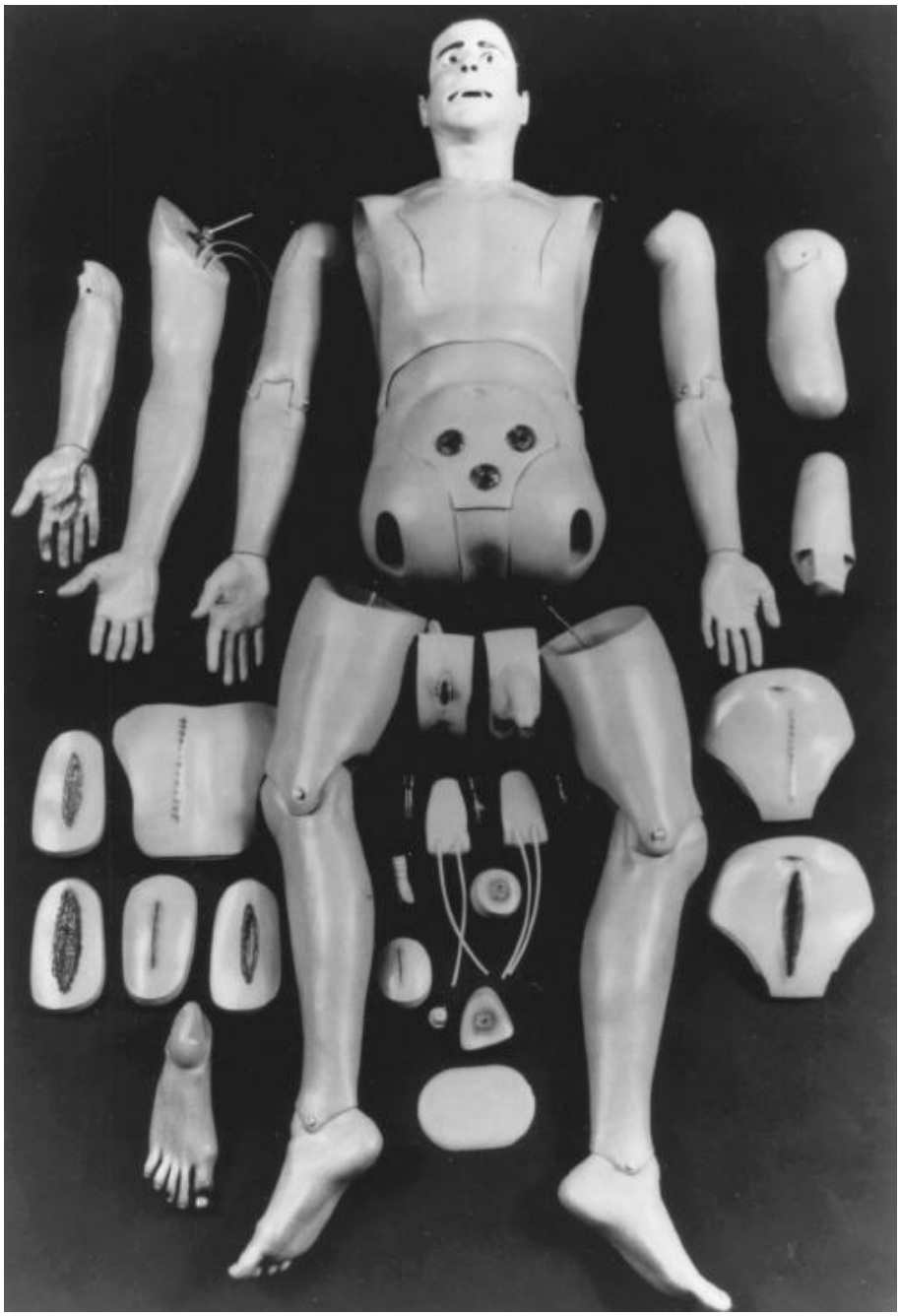
Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
All Soldiers' Manual tasks for 91CMF

MANIKIN, NURSING DOLL



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is intended to be used by military medical personnel at all levels of medical training and evaluation of basic nursing care. It provides trainees realistic practice in nursing care techniques and is used in evaluation of techniques such as catheterization, bladder irrigation, colonic irrigation enemas, nasal and otic douching and hypodermic injection. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device is adult size, made of plastic material that simulates the appearance, texture and resilience of human skin with interchangeable male and female genitals for complete catheterization. It has a life-size intubation head with simulated skull, a functional mouth with flexible tongue and removable dentures, a trachea, pinchable nose, and simulated lungs that inflate with ventilation for mouth to mouth respiration. The joints of this device simulate ball and socket action for natural movements. It has an esophagus with reservoir for lavage and gavage; rectum with reservoir for enemas and colonic irrigation; a stomach reservoir that can be filled with fluids to simulate gastric regurgitation and surgical belly plate with stomas. It has six injection sites and two interchangeable IV pads. Simulated blood, casualty make-up and provided. interchangeable wounds can be used to simulate different types of casualties. The device is provided with a carrying case.

Physical Information:
Adult Life Size

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
Basic Officer, Medical Corps Warrant Officer and Enlisted Personnel Course, in all MOSC 91 Series

ANATOMICAL MODEL: TORSO AND HEAD

Training Category/Level Utilized:
Medical/Level 2

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The model provides a representative replica of the human torso to be used in teaching the anatomy of the head, neck, and torso, with particular emphasis on their relationship to each other. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The model is life-size, three-dimensional, and made of a thermosetting resin. All parts of the model are hollow and the basic color of resins extend through their entire thickness. The following training devices are subcomponents of the Torso and Head Anatomical Model: Human Skull, and Teeth and Gums, Brushing Demonstration. On the right side of the model the superficial tissues, such as skin and fat, have been removed exposing the superficial muscles. The buttocks region has been dissected more deeply to show the underlying groups of muscles which are important in the articulation and movement of the upper leg. The spinal column is exposed in its entirety and can be studied in detail.

Deep dissection of the back exposes the spinal nerves and the sympathetic nervous system for purposes of demonstration. To the right of the vertebral column a special dissection has been made to show how the chest cavity is completely taken up by the lungs, which extend all the way back through the chest cavity. Various systems, such as digestive, circulatory, and glandular, are provided with special attachments for removal or placement in the main part of the model. The musculature is presented in such a way that the student can perceive in which direction the muscles function.

Physical Information:

Life Size, 36" x 16" x 10"; 19 lbs

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

Commercial Anatomy/Physiology Manual

Reference Publications:

FM 8-230

STP-8-42C14-SMTGS	STP 8-91H14-SMTG
STP 8-42D14-SMTG	STP 8-91J14-SMTG
STP 8-42E15-SMTG	STP 8-91L14-SMTG
STP 8-71G15-SMTG	STP 8-91Q15-SMTG
STP 8-76J15-SMTG	STP 8-91R15-SMTG
STP 8-9lA12-SMTG	STP 8-91S15-SMTG
STP 8-9lB25-SMTG	STP 8-91T14-SMTG
STP 8-91C25-SMTG	STP 8-91U14-SMTG
STP 8-91D15-SMTG	STP 8-91V14-SMTG
STP 8-91E15-SMTG	STP 8-91Y14-SMTG
STP 8-91F14-SMTG	STP 8-92B15-SMTG
STP 8-91G14-SMTG	STP 8-91P15-SMTG

Training Requirements Supported:

MOSC's

42C	91E	91R
42D	91F	91S
42E	91G	91T
71G	91H	91U
76J	91J	91V
91B	91L	91Y
91C	91P	92B
91D	91Q	

ADULT HUMAN MALE SKELETON

Training Category/Level Utilized:
Medical/Level 2

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device provides the student with a realistic model of an adult male for use at all levels of medical, paramedical, or first aid/emergency care training. Used in Didactic Training of Medical Personnel usually in schools or Medical Unit Training.

Functional Description:
The skeleton is manufactured of a plastic/polyester material to simulate weight, color, and texture of human bones. The joints articulate and disarticulate for flexion. Comes with stand and hang-up mountings.

Physical Information:
62" H; 26 lbs (approximately)
Supporting stand; 18 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
Commercial Anatomy Manual

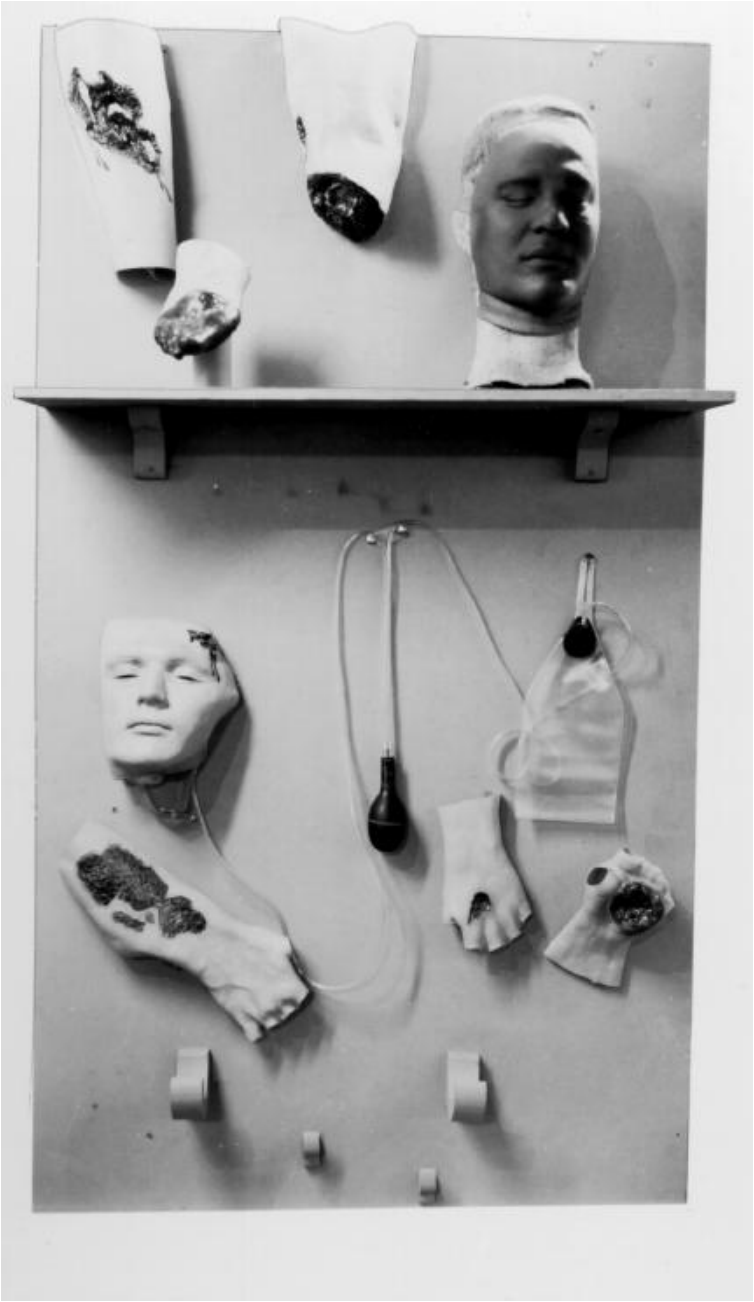
Reference Publications:
FM 8-230

STP 8-42C14-SMTG	STP 8-76J15-SMTG
STP 8-42D14-SMTG	STP 8-91A12-SMTG
STP 8-42E15-SMTG	STP 8-9lB25-SMTG
STP 8-71G15-SMTG	STP 8-9lC25-SMTG
STP 8-91D15-SMTG	STP 8-91R15-SMTG
STP 8-91E15-SMTG	STP 8-91S15-SMTG
STP 8-91F14-SMTG	STP 8-91T14-SMTG
STP 8-91G14-SMTG	STP 8-91U14-SMTG
STP 8-91H14-SMTG	STP 8-91V14-SMTG
STP 8-91J14-SMTG	STP 8-91Y14-SMTG
STP 8-91L14-SMTG	STP 8-92B15-SMTG
STP 8-91Q15-SMTG	STP 8-91P15-SMTG

Training Requirements Supported:
MOSC's

42C	91E	91R
42D	91F	91S
42E	91G	91T
71G	91H	91U
76J	91J	91V
91B	91L	91Y
91C	91P	92B
91D	91Q	

WAR-WOUND MOULAGE SET



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
DVC 08-04 is an enhancement of DVC 08-14 Casualty Simulation Kit providing the means to train military personnel in first aid treatment of combat-type casualties and permits trainees to practice and develop first aid skills. Use of the device helps remove shock of first sight of a severe wound and develops skill in identifying and treating wounds.

Functional Description:

The device consists of a set of vinyl-plastiol models or moulages, each of which closely simulates an actual wound to the human body. Each moulage is life-sized, with bone structure and flesh shown in relief on the surface. It is finished in colors simulating real human skin, bone, and flesh.

The moulage may be strapped onto a soldier acting as a casualty or as a recipient of treatment during a FTX or lesson in first aid. During training, the subject wearing the moulage can manually operate a pump and reservoir which causes simulated blood to flow through veins and arteries built into the moulage. The flow may be either pulsating or steady.

In addition to the following life size moulages, the set comes with a pump and "blood" reservoir, and five packages of powder for making one gallon each simulated blood formula in a carrying case:

a. Amputation of leg
b. Compound fracture of femur
c. Compound fracture of humerus
d. Compound fracture of lower leg
e. Gunshot wound of the hand (palm)
f. Laceration of the forehead (scalp)
g. Shrapnel wound of the abdominal wall with protruding intestines.
h. Shrapnel wound of the lower jaw with partial loss of jaw.
i. Atomic burn of the back
j. Atomic burn of the chest
k. Atomic burn of the face
1. Atomic burn of the hand (palm, & dorsal area)
m. Face in shock
n. Frostbite of foot
o. Phosphorus burn of the hand
p. Second and third degree burns of the forearm
q. Trench foot
r. Hypodermic needle insertion technique moulage
s. Sucking wound of the chest.

Physical Information:

Life-size, 29 lb, 2.2 cu ft

Equipment Required, Not Supplied:

(Information not available)

Special Installation Requirements:

None

Power Requirements:

None

Applicable Publications:

AHS TTP 8-3 Pamphlet "How to Moulage"

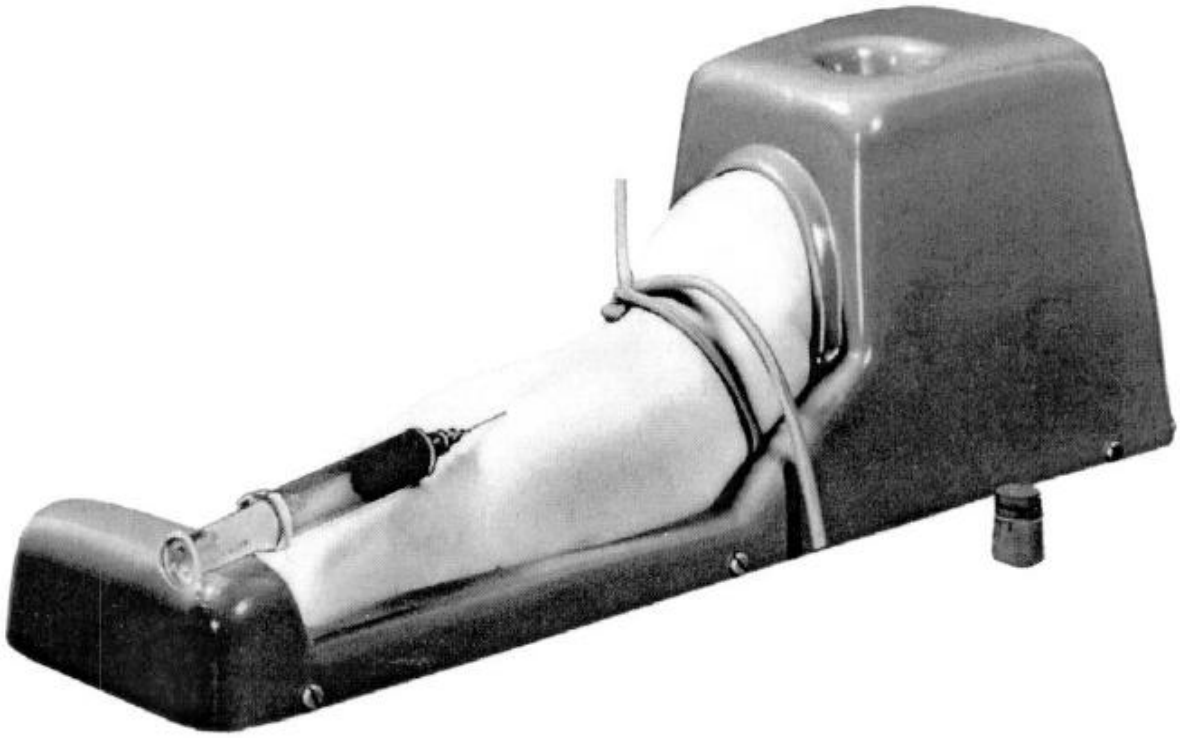
Reference Publications:

FM 21-2

Training Requirements Supported:

All MOSC's Self-Aid/Buddy-Aid Tasks.

INTRAVENOUS THERAPY TRAINER



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC (replaced by DVC 08-05/A).

Purpose of Trainer:
To provide safe, realistic, and painless practice in performing intravenous injections in the human antecubital area.

Functional Description:
The trainer consists of a life-scale, operable plastic model of a human arm that is encased in a plastic stand in such a position that either of the two main veins located in the antecubital area are exposed for successful insertion of a hypodermic needle.

Physical Information:
Dimensions approximately 24" x 6"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
Soldier's Manual tasks for 91 CMF.

INTRAVENOUS THERAPY TRAINER

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide realistic practice in performing intravenous injections in the antecubital area and dorsum part of the hand.

Functional Description:
The device consists of a life-size plastic arm and hand with two simulated vein sites in the antecubital area and in the dorsum part of the hand for injection and withdraw of fluids. It has a normal range of wrist and elbow motion to simulate a true right or left arm to allow for application of tourniquets and arm boards. The device is provided with a carrying case.

Physical Information:
Adult size arm and hand.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

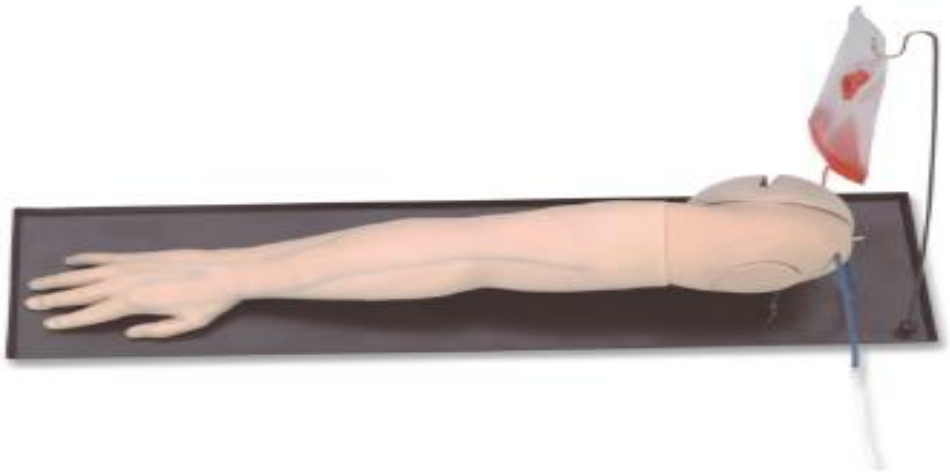
Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
Basic Officer, Medical Corps Warrant Officer (MOSC 011A).
Enlisted Personnel Courses in MOSC 91B, 91C, 91D 91V, 92B, and 18D.

DELUXE INTRAVENOUS (IV) TRAINING ARM (120) TASK TRAINER



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
To provide lifelike training on injections to major veins.

Functional Description:
The Deluxe IV Training Arm (No. 120) gives unlimited access to the major veins in the arm and hand, and a deltoid IM injection site. The IM site contains a foam pad that was designed to be squeezed out and dried to facilitate multiple uses. It has multiple veins: 4 in the hand, 5 in the forearm and 3 antecubital. Specific veins include antecubital, basilic, cephalic sites and dorsal metacarpal. It allows for insertion of an IV in the arms and hands with an initial flash cue and includes the capability of IV fluids to be infused by an IV catheter. The Deluxe IV Training Arm allows for multiple punctures with a minimum of ten punctures at each site prior to requiring replacement parts.

Physical Information:
Full-sized, anatomically correct arm that extends from the upper arm to the fingertips.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

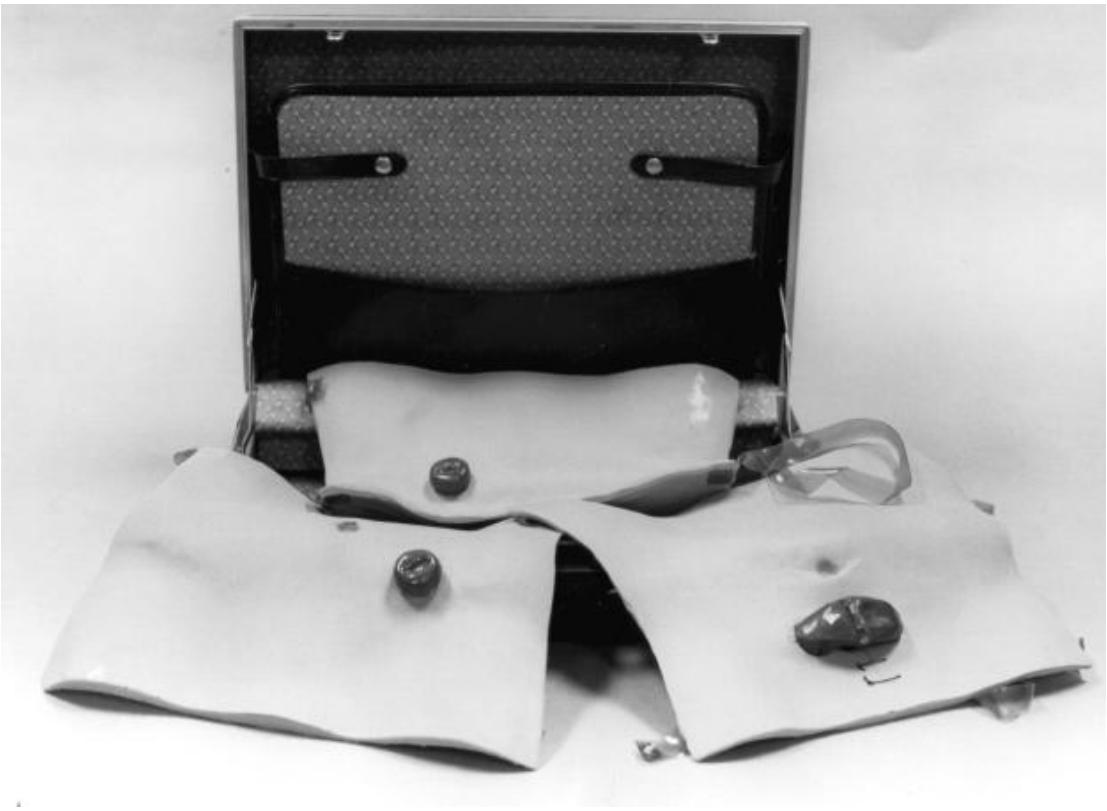
Power Requirements:
None

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
Enlisted Personnel Courses in MOSC 91W

COLOSTOMY MOULAGE KIT



Training Category/Level Utilized:
Medical/Level 2

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is to provide demonstrations or practice in colostomy irrigation. It is intended for courses of instruction in nursing techniques. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The kit consists of full-scale moulages of the abdomen, constructed to fit either a human subject or DVC 08-01, Nursing Technique Training Doll. The kit contains one "single barreled" uncomplicated colostomy moulage, one "single barreled" colostomy moulage with necrotic skin edges, and one "doubled-barreled" colostomy moulage. The kit is contained in a plastic carrying case. Each moulage is complete with base, flexible tubing, and reservoir. A sheet of sponge rubber separates the plastic skin from the base.

Physical Information:
Kit with carrying case 28" x 18" x 8"

Equipment Required, Not Supplied:
Human subject, or DVC 08-01, Nursing Technique Training Doll.

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
FM 8-273
FM 8-273-20

Training Requirements Supported:
MOSC 91C in Resident Training ARTEP 8-123.

CASUALTY SIMULATION KIT

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device provides materials for realistically simulating many types of wounds incurred in battle or disaster. The materials are used in training military and civilian groups in first aid to casualties and to condition these groups not to be shocked at the appearance of the casualties. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The Casualty Simulation Kit consists of 100 stick-on wound moulages and a variety of makeup material to be applied, in accordance with the accompanying instructions, to selected persons who act as casualties during simulation of a battle or disaster.

After application of the selected wound moulages, makeup is applied to represent different types of bleeding (depending on the type or severity of the wound), frothing at the mouth, loss of stomach content, shock, perspiration, bruises, contusion, and other effects.

The Instructors Guide for the Casualty Simulation Kit provides many full-color illustrations which amplify the text and greatly assist the person applying the moulages and makeup. This Guide lists all makeup and other materials required, along with commercial source of national stock number.

Physical Information:
Kit: 15" x 9" x 14"; 25 lb.

Equipment Required, Not Supplied:
As listed in Applicable Publications.

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
NAVEXOS P-2709, Instructors Guide for Casualty Simulation Kit, device 11E10.

Reference Publications:
FM 8-23

Training Requirements Supported:
AMEDD ARTEP with patient care mission.

MOSC 91 CMF

SM 081-XXX Tasks
1002 1478 2101 2102
1467

Combat Life Saver Program (All levels)

RESUSCITATION TRAINING MANIKIN

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device provides realistic practice in mouth-to-mouth and/or cardiopulmonary resuscitation, bleeding control, and the application of leg splints or traction. This training device supports training in first aid and medical Soldier's Manual tasks in all MOSC's. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device is an adult male, noninflatable body with heart-lung resuscitation, visual indicating device, air vent, broken femur, dilated pupil, and penetrating arm wound simulation. This torso is separable at the waist and has a removable head. This training device also comes with plastic face mask pieces, outer garments, and two carrying bags. This manikin will simulate breastbone reaction and carotid pulse pressure of an unconscious person.

Physical Information:
Life size, non-inflatable body with removable head.

Equipment Required, Not Supplied:
Letter "Recommendations for Decontaminating Manikins Used in CPR Training, 1983 Update."
BDU's/Fatigues.

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
Commercial Manual

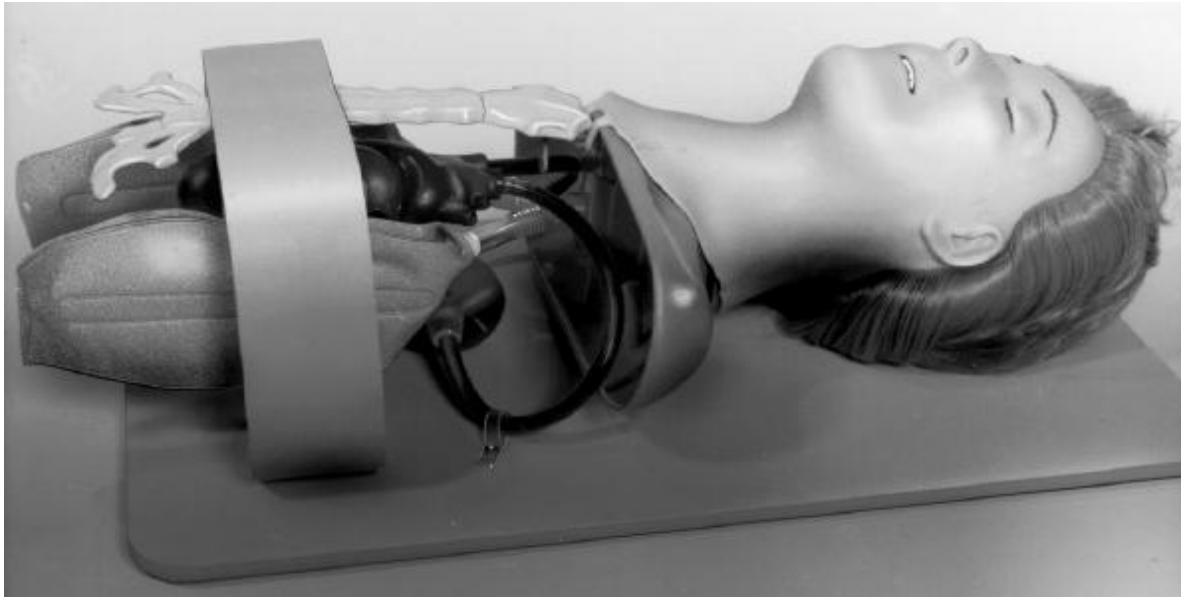
Reference Publications:
FM 8-230
FM 21-2

STP 8-42C14-SMTG	STP 8-9lH14-SMTG
STP 8-42D14-SMTG	STP 8-9lJ14-SMTG
STP 8-42E15-SMTG	STP 8-9lL14-SMTG
STP 8-71G15-SMTG	STP 8-9lQ15-SMTG
STP 8-76J15-SMTG	STP 8-9lR15-SMTG
STP 8-9lA12-SMTG	STP 8-9lS15-SMTG
STP 8-9lB25-SMTG	STP 8-9lT14-SMTG
STP 8-9lC25-SMTG	STP 8-9lU14-SMTG
STP 8-9lD15-SMTG	STP 8-9lV14-SMTG
STP 8-9lE15-SMTG	STP 8-9lY14-SMTG
STP 8-9lF15-SMTG	STP 8-92B15-SMTG
STP 8-91G14-SMTG	STP 8-9lP15-SMTG

Training Requirements Supported:
Tasks:
081-831-1000
081-831-0047

All 8-Series ARTEP's
Buddy-Aid Life Saving Skills

MANIKIN, HEAD AND TORSO, CPR TRAINING



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide a realistic human blood circulation system to be used to demonstrate and train both artificial ventilation and external cardiac compressions. The device is portable and can be used for indoor as well as out-of-doors demonstrations. It can be used in medical classes, also for basic first aid instructions. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device is an adult model, natural size Torso Manikin. The head section is made of rubber base material while the blood circulation system is made of a plastic composition. When the device is used in the artificial ventilation (mouth-to-mouth resuscitation) mode, the practicing intermittent positive pressure inflates and deflates the lungs. When used in the external cardiac compression mode, the device shows the heart being compressed between the sternum and the spine and the exchange of blood in its circulation tubes. After basic instructions, the device is self-taught. Accessories furnished in a sterilization kit are: stand for head, tubing with nipple, syringe, sterilizing solution, measuring glass, and funnel.

Physical Information:
Device: 24" x 15" x 8"; 35 lb
Carrying Case: 26" x 17" x 10"

Equipment Required, Not Supplied:
Letter "Recommendations for Decontaminating Manikins Used in CPR Training, 1983 Update."

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
Commercial Manual

Reference Publications:
FM 8-230
FM 21-11
STP 21-1-SMCT

Training Requirements Supported:
Tasks:
081-831-0048
081-831-0046
081-831-1042

MOSC's All Skill Level 1
Buddy-Aid Life Saving
All 8-Series ARTEP's and other units with medical personnel.

SIMULATED INJURY MOULAGE SET

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
This kit is designed to train both military and civilian groups in the first aid treatment of casualties and the recognition of medical problems and application of learned skills. This kit is also important in conditioning groups of trainees not to be shocked at the appearance of the casualties. The specific training requirements supported are shown following the descriptive data.

Functional Description:
This kit contains assorted, easily applied lifelike form simulated wounds plus makeup materials which can create additional simulated injuries. After application of the selected wound moulages, makeup is applied to represent different types of bleeding, shock, bruises and contusions. These applications simulate battle or disaster wounds.

Physical Information:
Corrugated tuck-top mailer with vacuum- formed insert tray: 10" x 17" x 3".

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
FM 8-23

Training Requirements Supported:
MOSC All first aid and medical tasks.

MANIKIN, THORACIC CROSS-SECTION

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC (Device no longer procurable).

Purpose of Trainer:
To teach the positions and interactions of the thoracic anatomical structures during artificial ventilation and external cardiac massage. This device is intended for use as a demonstrator only. It is not suitable as a practical exercise training device.

Functional Description:
The Thorax Cut-Away is a cross section through the lower half of the sternum. The lower half of the thoracic cage consists of lung area, removable heart with simulated blood, rib cage, sternum and vertebral column. This training aid closely resembles the conditions found in an adult. The heart, lying beneath the sternum, is separated from the spine by the esophagus and great vessels. Only where the correct pressure is exerted and the sternum depressed from 1 1/2 to 2 inches is blood ejected from the heart. When the pressure is relaxed, the venous blood returns to the heart.

Physical Information:
Manikin, plastic, life-size with carrying case; 7 lb.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

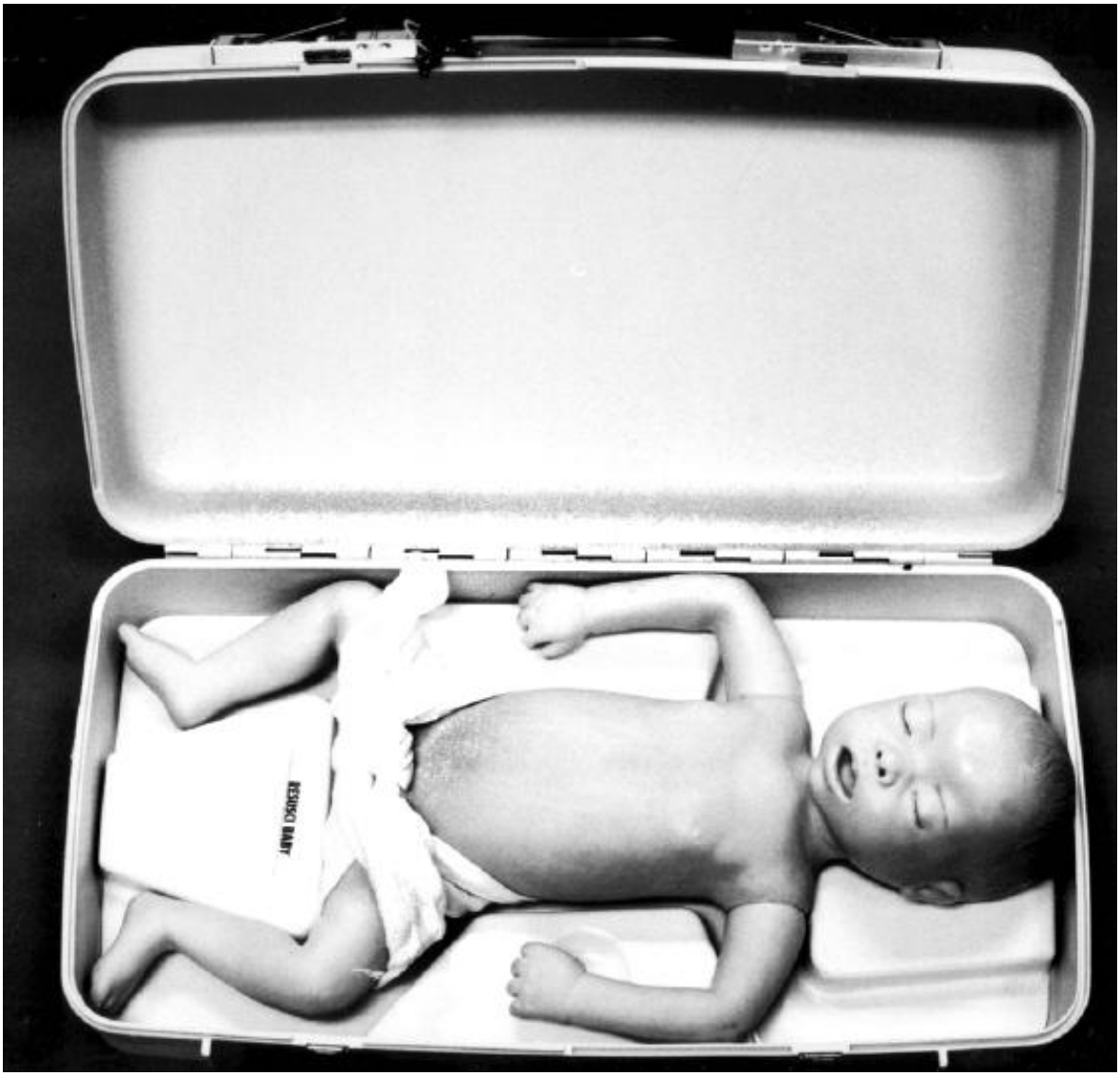
Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC All, skill levels 1 and 2; and SM Tasks involving cardiac compression.

INFANT RESUSCITATION TRAINING MANIKIN



Training Category/Level Utilized:
Medical/Level 1

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device provides realistic practice in mouth-to-mouth and/or cardiopulmonary resuscitation on infants. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The device is an infant, plastic, non-inflatable body with movable head, arms and legs. The infant manikin also shows gastric extension should excessive pressure be used for inflation.

Physical Information:
Infant size, noninflatable body with carrying case, 22" x 11" x 6"; 11 lb

Equipment Required, Not Supplied:
Letter "Recommendations for Decontaminating Manikins Used in CPR Training, 1983 Update."

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
"Emergency Care and Transportation of the Sick and Injured" American Academy of Orthopedic Surgeons.
Red Cross CPR Module "Respiratory and Circulation Emergencies".
American Heart Association Manual for Instructors for Cardiac Life Manual.
Student Manual for Basic Life Support Cardiopulmonary Resuscitation.

Training Requirements Supported:
Required for certification as Emergency Medical Technician by State Department of Health. Must have 91-Series MOSC to receive training.

ARRHYTHMIA SIMULATOR

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device will be used to train field medical care personnel in the recognition of life-threatening cardiac arrhythmias through the use of the Defibrillator/Electrocardiograph/Monitor Recorder NSN: 6515-01-173-2053.

Functional Description:
The simulator is battery powered and completely portable. The device is capable of simulating a normal cardiac rhythm plus 17 irregular rhythms and has a 12-lead connection.

Physical Information:
Has a universal ECG jack (for arrhythmias) 10 banana jacks (for ECG testing).
11/2" x 51/2" x 71/2"; .75 lb.

Equipment Required, Not Supplied:
9-volt battery
Defibrillator/ECG/Monitor Recorder, NSN 6515-01-173-2053.

Special Installation Requirements:
None

Power Requirements:
9vdc for the device; 110-220vac for the defibrillator.

Applicable Publications:
(Information not available)

Reference Publications:
Operator Manual and Photo of Abnormal Tracings.

Training Requirements Supported:
AMEDD ARTEP tasks with patient care mission.
STP 8-91B25-SMTG
Task: 081-833-3009

MOS 91B
(This task is normally taught at the Academy and Medical Unit Level)

TRAINING KIT, NERVE AGENT ANTIDOTE, MARK I, TYPE 1

Training Category/Level Utilized:
General/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
This nerve agent antidote autoinjector training kit is for training individuals in the proper administration of Antidote for Chemical Nerve Agent poisoning without using real injectors.

Functional Description:
The training device has the same basic appearance as the real autoinjector except for color-coding and description of contents. The training device functions in the same manner as the actual injectors except that the device does not contain drug products or needle. Color coding is light blue with white on black labels. The device functions with an audible click and ejects a 0.25 inch plastic flat prod (needle) when activated with an applied pressure of 1.5 to 9 pounds.

Physical Information:
Each auto-injector incorporates a removable safety cap. The assembled kit comes packaged in a black Styrofoam case. Recocking devices.

Equipment Required, Not Supplied:
Replacement items can be ordered through normal channels:
(1) Training Device, 2 PAM Chloride Injections, NSN 6910-01-194-2227.
(2) Training Device, Atropine Injection, NSN 6910-01-194-0378.
(3) Clip, MARK I, NSN 6530-01141-7458.
(4) Pouch, MARK I, NSN 6530-01-141-7457.

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
FM 21-2-SMCT
STP 21-1-SMCT

Training Requirements Supported:
MOSC All, Skill Level 1

CONVULSANT ANTIDOTE FOR NERVE AGENT TRAINING DEVICE (CANATD)

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To aid in the training of individuals for the proper administration of Convulsant Antidote for Nerve Agent (CANA) without the use of the actual injectors.

Functional Description:
DVC 08-37 functions in the same manner as the CANA autoinjector. It has the same basic appearance as the actual autoinjector, with flanges on the sides and a safety cap to prevent activation. It has a recocking capability and can be operated by individuals in chemical and environmental protective clothing and under conditions of low visibility. Color coding for the training device is blue with white labels and black lettering. After the safety cap is removed and 2-8 pounds of axial pressure is applied, a 3-4 mm plastic tip will protrude, demonstrating activation. The training device does not contain the drug product or needle.

Physical Information:
6.3" L x 1" diameter

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

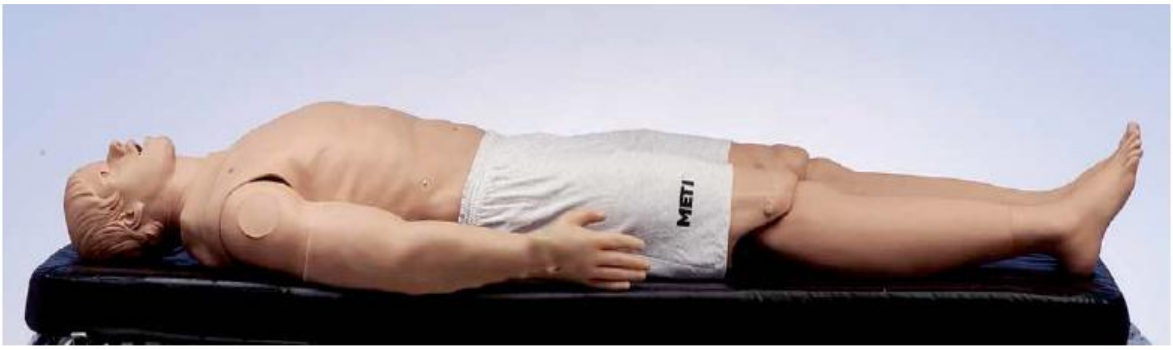
Power Requirements:
None

Applicable Publications:
(Information not available)

Reference Publications:
FM 8-285

Training Requirements Supported:
All MOSCs and Skill Levels

EMERGENCY CARE SIMULATOR (ECS-100) TASK TRAINER



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
To provide medical training in combat situations from realistic depiction of casualties to optimal mobility over tough terrain realistic practice in performing intravenous injections in the antecubital area and dorsum part of the hand.

Functional Description:
The ECS represents a streamlined system of physiological models, with anatomical believability and real pharmacology that will help emergency professionals-in-training learn to recognize, treat and communicate any conceivable extent of trauma or illness. The ECS physiological models allow the METI ECS (ECS-100) to interact with the student and automatically respond to clinical interventions in a physiologically appropriate way. The ECS physiological models allow the instructor to focus on student learning, rather than merely operating the simulator. Adoption of proficiency-based simulator training by the 91W and BNCOC curricula will benefit medics and their patients, and will increase the skills and confidence of U.S. military medical personnel. With other patient simulators on the market, the instructor must spend the time manipulating the simulator to react to how he/she determines is the 'appropriate' response to an intervention. The ECS physiological models ensure that the patient response is consistent with human physiology, thus mitigating the opportunities for negative learning.

Physical Information:
Adult size arm and hand

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
Enlisted Personnel Courses in MOSC 91W and BNCOC

RESCUE RANDY TASK TRAINER

Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
To provide lifelike adult or juvenile victim handling, transportation and extrication training.

Functional Description:
The Rescue Randy contains anatomically correct features with articulated joints. The weight distribution of the Rescue Randy is according to the human weight distribution chart. It weights 165 lbs and is 6ft tall. It is made of durable PVC vinyl that makes it water resistant. The Rescue Randy contains rust resistant joints for the elbow, shoulder, hips and knee.

Physical Information:
Adult size arm and hand

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

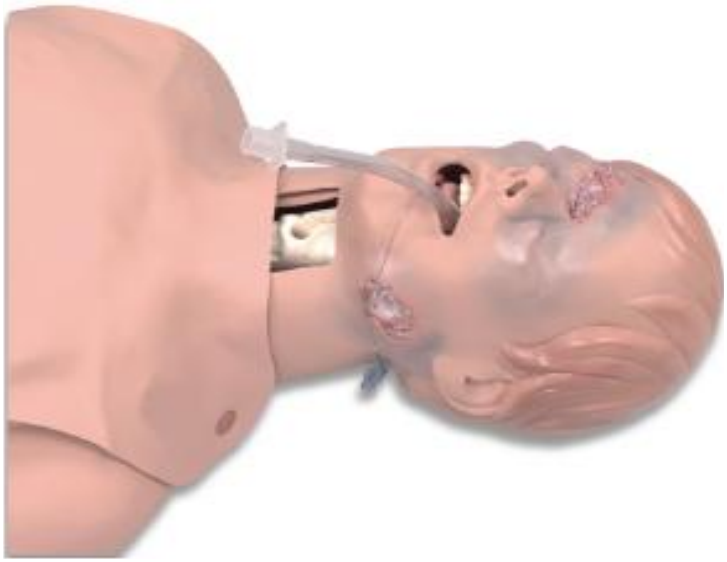
Power Requirements:
None

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
Enlisted Personnel Courses in MOSC 91W

CRITICAL AIRWAY MANAGEMENT TRAINER



Training Category/Level Utilized:
Medical/Level 3

Logistic Responsible Command, Service, or Agency:
USAMMA

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
To provide lifelike adult or juvenile victim handling, transportation and extrication training.

Functional Description:
The Critical Airway Management Trainer is a device that accurately represents the human airway with visual and tactile cues. It features anatomical landmarks including sternum and rib cage plus substernal notch. The manikin contains tongue, teeth, vocal cords, uvula, glottis, epiglottis, vallecula, oropharynx, nasopharynx, larynx, arytenoids cartilage and trachea. The Critical Airway Management Trainer supports airway adjuncts such as Nasopharyngeal Airway, Oropharyngeal Airway, Combitube, Endotracheal (ET) tube, and Laryngeal Mask Airway (LMA). By using the features of tongue swelling and laryngospasm the instructor creates a critical airway management problem that requires the student to perform surgical cricothyroidotomy. The Trainer also supports oropharynx suctioning of the patient and provides ventilation cues, such as the chest wall rising and falling, when all types of ventilation are correctly administered.

Physical Information:
Full sized, human-like upper torso and head device

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
Enlisted Personnel Courses in MOSC 91W

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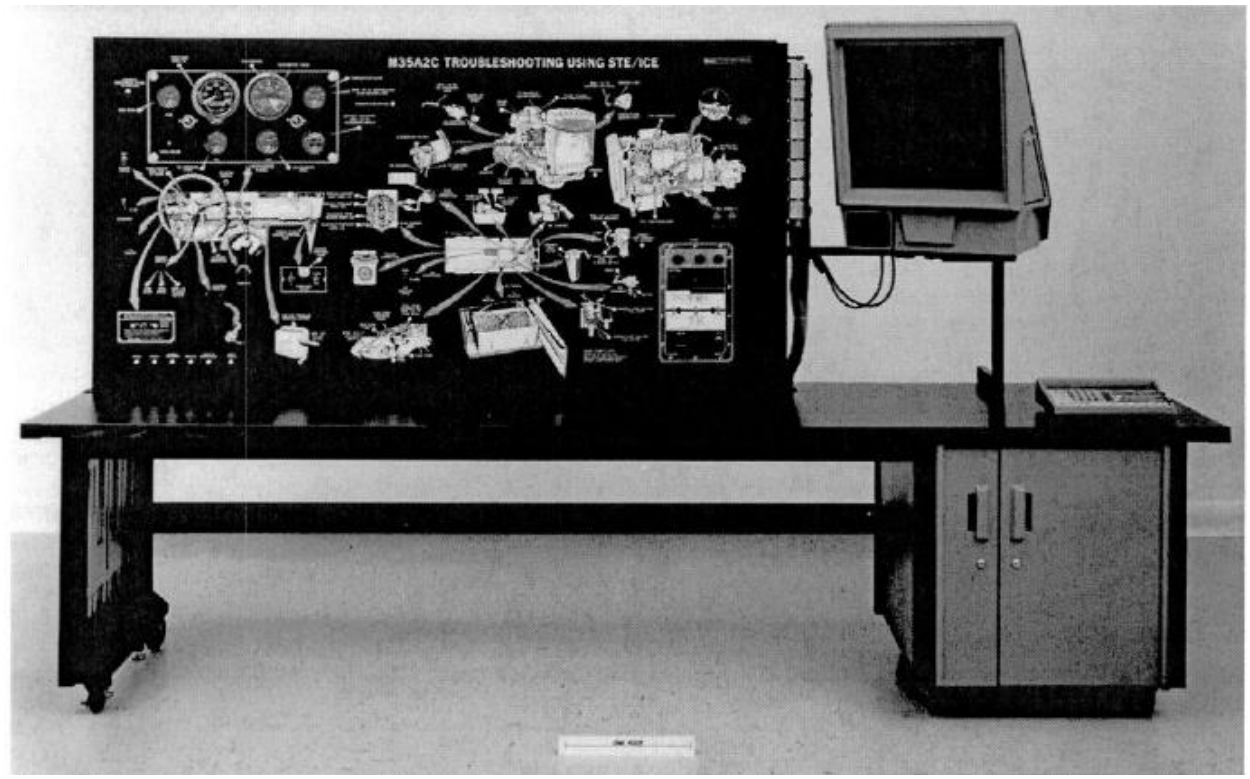
BASIC SERIES 09
ORDNANCE

M35A2C TROUBLESHOOTING USING STE/ICE TRAINER



Training Category/Level Utilized:
Ordnance/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use to provide maintenance training and familiarization for selected systems of an M35A2C vehicle. The trainer provides organizational, direct support (DS), and general support (GS) maintenance personnel with training in operating procedures, symptom analysis, and troubleshooting procedures.

Functional Description:
Device 09-23 is a computer-based training system, providing operating and maintenance characteristics for simulated M35A2C vehicle systems.

The device consists of a display panel of simulated M35A2C system components and vehicle test meter (VTM), an EC 3 computer, video disc player and monitor, control console, two diskette drive units, visuals, two flexible diskettes, trainer power cable, operator's manual, and maintenance manual. An accessories box containing a simulated VTM current probe, tachometer probe, two pressure transducers and four cable assemblies are also supplied with the trainer.

This student/instructor operated device is designed for demonstration or system maintenance hands-on use and requires minimal familiarization time. No warm-up time, special cooling, or special maintenance personnel are required.

Student motivation is accomplished through 32 unique malfunction simulations and immediate performance feedback as the student operates the system and VTM.

Through the use of the control console, the simulated systems on the display panel respond with normal operation or system malfunctions similar to the actual vehicle systems. Student performance is monitored by indicators contained on the control console to indicate total time to solve the problem and components replaced.

Physical Information:
120" L x 71" H x 29" D; 485 lb

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
The trainer is designed to operate in a standard classroom within a temperature range of 39°F to 100°F and a relative humidity of up to 80 percent.

Power Requirements:
115vac, single-phase, 60 Hz, 15 A

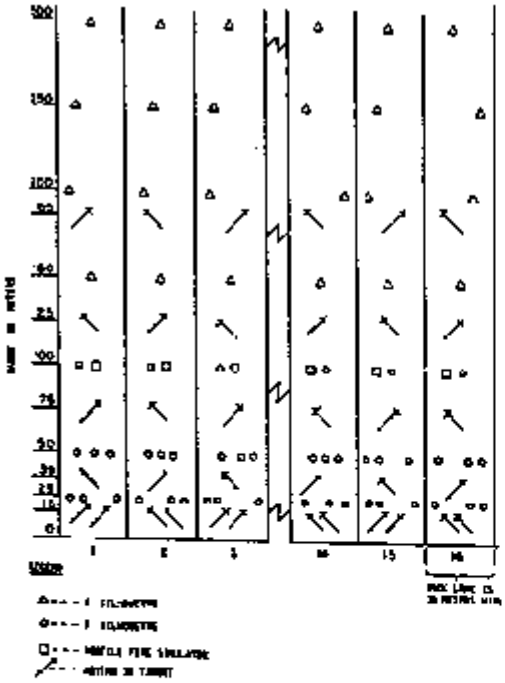
Applicable Publications:
TM 9-6910-252-10 Operator's Manual for M35A2C Troubleshooting Using STE/ICE, Device 9-23.
TM 9-6910-252-24&P Organizational, Direct Support, and General Support Maintenance Manual.
Including Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for M35A2C.
Troubleshooting Using STE/ICE, Device 9-23.

Reference Publications:
TM 9-2320-209-20
TM 9-2320-209-20-2 Series

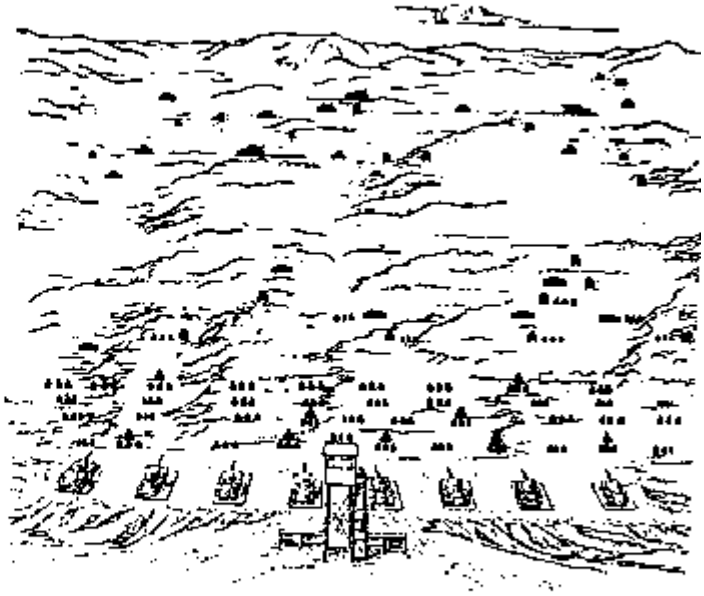
Training Requirements Supported:
MOSC 63B

SL1 091-499 Task
1120
1122

REMOTED TARGET SYSTEM (RETS)



Infantry Range Layout.



Armor Range Layout.

TYPICAL RETS RANGES

Training Category/Level Utilized:
Infantry/Armor/Aviation/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

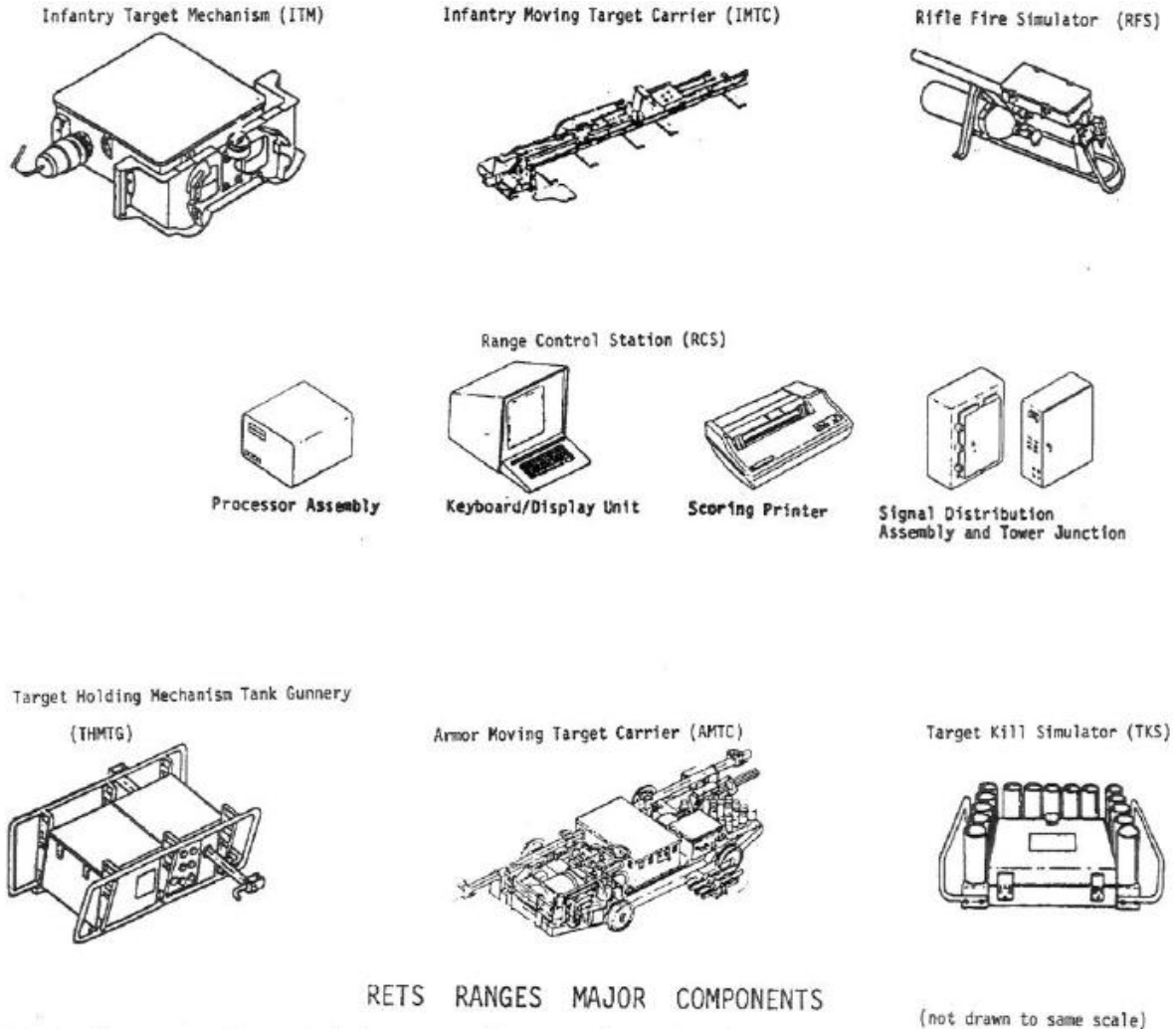
Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Remoted Target System (RETS) is targetry equipment which, when installed on standard Army ranges, supports marksmanship, gunnery, and combined arms training. RETS consists of stationary and moving infantry and armor target hardware with related control hardware and software. A range control station provides automatic and manual control of target mechanisms, detects and accumulates target-hit data, and pints a permanent record for evaluation of the firer's or crew's performance. Simulators adding realism to training scenarios include infantry night muzzle flash, armor target kill, and infantry and armor hostile fire simulators.

Detailed descriptions of the major RETS component simulators and control equipment are located in this publication as follows:

(RETS) Infantry Target Mechanism (ITM)	DVC 07-73
(RETS) Infantry Moving Target Carrier (IMTC)	DVC 07-74
(RETS) Infantry Rifle Fire Simulator (RFS)	DVC 07-75
(RETS) Range Control Station (RCS)	DVC 11-51
(RETS) Target Holding Mechanism Tank Gunnery (THMTG)	DVC 17-63
(RETS) Armor Moving Target Carrier (AMTC)	DVC 17-131
(RETS) Gunfire Simulator (GUFS)	DVC 17-133

Other optional components are used. Range layouts vary according to mission and available range location.



Functional Description:
RETS targets are raised and lowered by electromechanical and hydraulic devices that are actuated and monitored by a computer system located in the Range Control Station. Automatic and manual controls are available. Scoring of individual and/or range performance is also processed. Moving targets are operated on track-mounted carriers. Muzzle and rifle fire simulators using light-emitting diodes (LED), target kill (pyrotechnic) simulators, and gas fired (propane/oxygen) gunfire simulators may be mounted on target holding mechanisms and carriers.

Physical Information:
Refer to descriptions of individual components listed above.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Sufficient space is required to emplace range equipment with electrical power accessibility and range safety considerations taken into account.

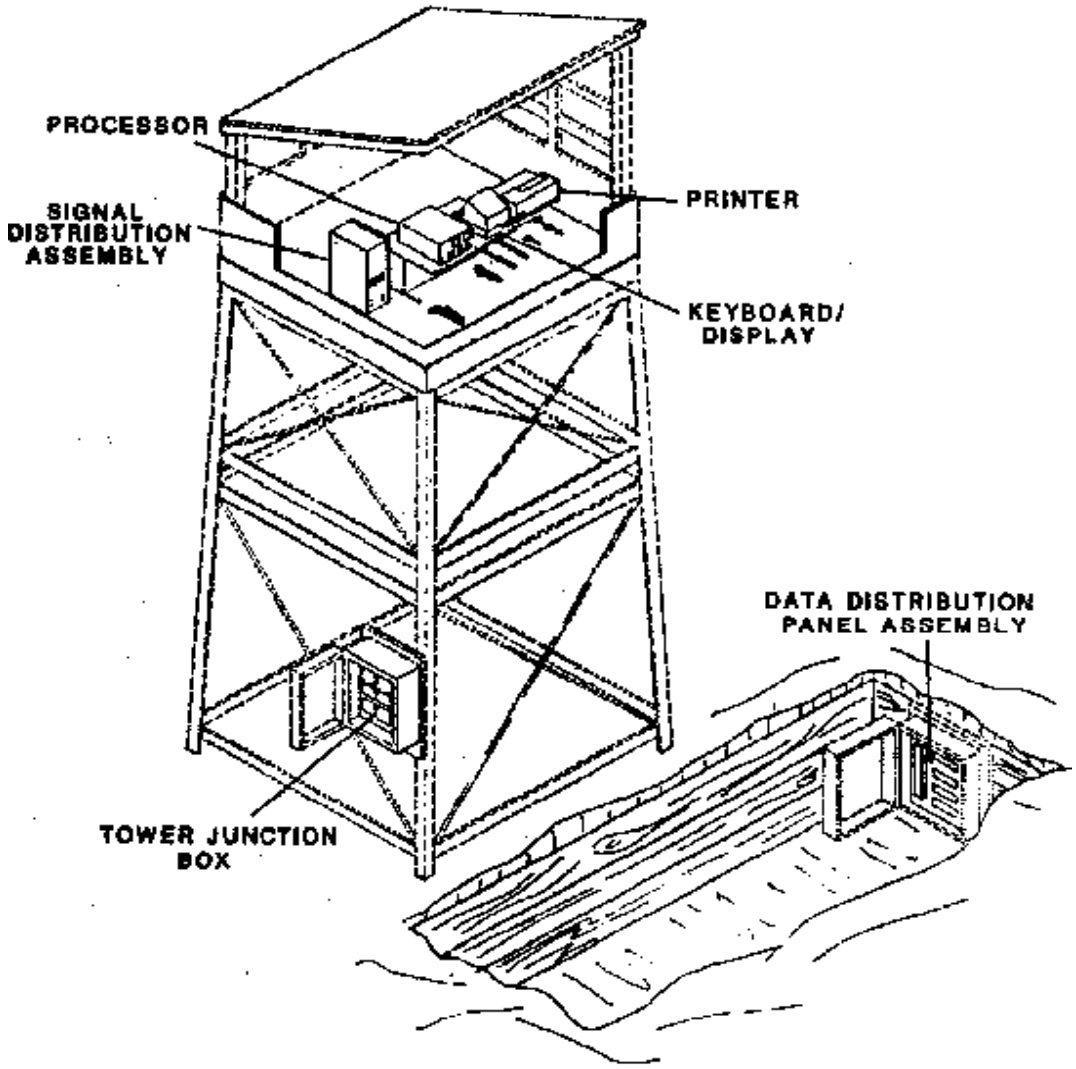
Power Requirements:
Varies

Applicable Publications:
TM 9-6920-742-14-1
TM 9-6920-742-24&P-1

Reference Publications:
TM 9-6920-742-14-2 thru -6
TM 9-6920-742-24P-2 thru -6

Training Requirements Supported:
Infantry/Armor/Aviation MOSC's.

REMOTE TARGET SYSTEM (RETS) RANGE CONTROL STATION (RCS)



Training Category/Level Utilized:
Military Intelligence/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Range Control Station (RCS) is a component of the Remote Target System (RETS) DVC 09-24. RCS provides for both automatic and manual control and status monitoring of up to 511 independent target mechanisms. RCS includes a computer, scoring printer, and signal distribution assembly with tower junction box. Signals are carried from RCS to the target mechanisms through buried lines.

Functional Description:
RCS components function as follows:

a. Computer: For Infantry ranges, the computer consists of an IBM-compatible personal computer with a dedicated RETS I/O PWA, a monitor, a keyboard, an SDA cable, a printer stand and a serial printer. For Armor ranges, the computer assembly includes an additional computer and a six-function trackball. The computer assembly executes manual and automatic target operations and Built-In-Test functions, and monitors and reports target status information.

b. Scoring Printer. Provides a hard copy printout of trainee performance, as well as range performance, and a listing of the current scenario.

c. Signal Distribution Assembly and Tower Junction Box. Provides interconnection between processor assembly and tower junction box, and input power to other RCS components. The Tower Junction Box is the interface between the RCS and the down-range service.

Physical Information:
Varies

Equipment Required, Not Supplied:
None

Special Installation Requirements:
A roofed tower, centrally located immediately behind the firing line houses the computer assembly, printer, and signal distribution assembly, Range personnel have a clear field of view from the tower. The junction box is mounted near the base of the tower; the buried signal transmission lines run from this point out to the range.

Power Requirements:
None

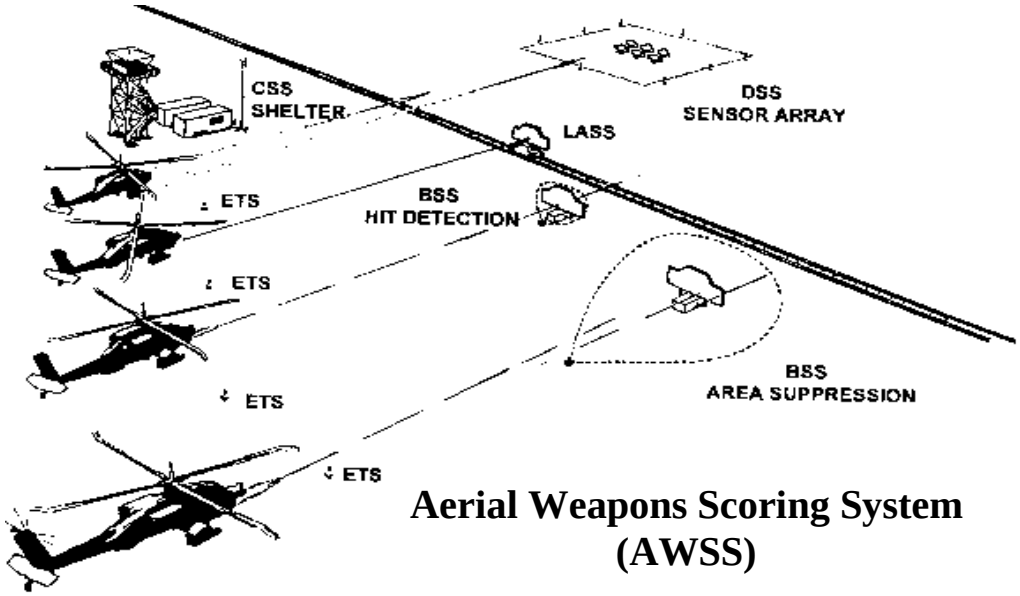
Applicable Publications:
TM 9-6920-742-14-1
TM 9-6920-742-24P-1

Reference Publications:
TM 9-6920-742-14-2 thru -6
TM 9-6920-742-24P-2 thru -6

Training Requirements Supported:
Infantry/Armor/Aviation/MOSC's

AERIAL WEAPONS SCORING SYSTEM (AWSS) (ANALOG CONFIGURATION)

NSN Not Assigned **DVC 09-25/A Aerial Weapons Scoring System (AWSS) (Digital Configuration)**



Aerial Weapons Scoring System (AWSS)

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide objective scoring (at individual and crew level) of weapons systems employed from attack, armed reconnaissance, utility, and cargo helicopters. AWSS is contractor operated and transparent to the supported unit.

Functional Description:
The 09-25 is the analog configuration and the 09-25A is the digital configuration. The AWSS is an integrated group of computer controlled sensors used to detect and score 2.75 inch rockets and cannon/machine gun engagements during conduct of live-fire training and qualification tables. The LASS is a sub-component of the AWSS; it detects and "scores" designated laser energy when employed with the Hellfire training missile. The AWSS is an integrated group of computer-controlled sensors used to score crew live fire gunnery exercises at designated ranges. The system has Doppler radar sensors to score .50 caliber, 20mm, and 30mm cannons. It has acoustical sensors to score rocket, and rocket sub-munitions. The system also has an integrated data link subsystem and a computer subsystem to process data and to provide scoring results. There are two mobile systems in CONUS that are contractor maintained and operated. Setup of the system requires two days and one day to take down.

Physical Information:
Operating Frequency – UHF 380-420 MHz programmable 2400-2483.5 MHz programmable.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Self contained transportable system. Only requirement is that range needs to be surveyed for sensor placement.

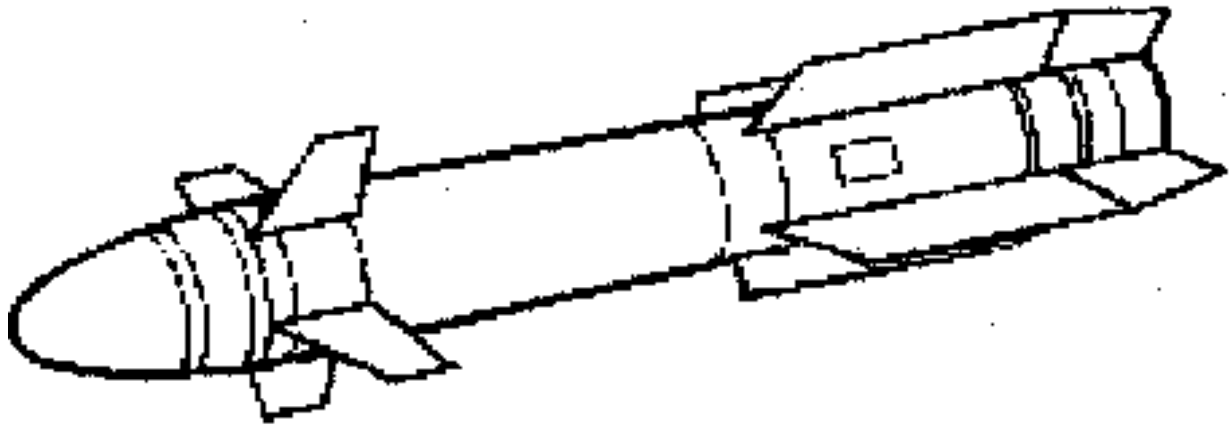
Power Requirements:
Power – Scoring Sensors12vdc, CSS 110vac, 50-60 Hz

Applicable Publications:
AWSS Operational Requirements Document, 29 May 95.

Reference Publications:
FM 1-140, Helicopter Gunnery

Training Requirements Supported:
Helicopter Gunnery per FM 1-140, tables VI - VIII

HELLFIRE MISSILE DUMMY GROUND CREW TRAINER



Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Trains Hellfire missile loading procedures and provides the weighted conditions of a loaded missile.

Functional Description:
The HDM is a completely inert replica of a Hellfire missile that has the weight of the actual missile.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

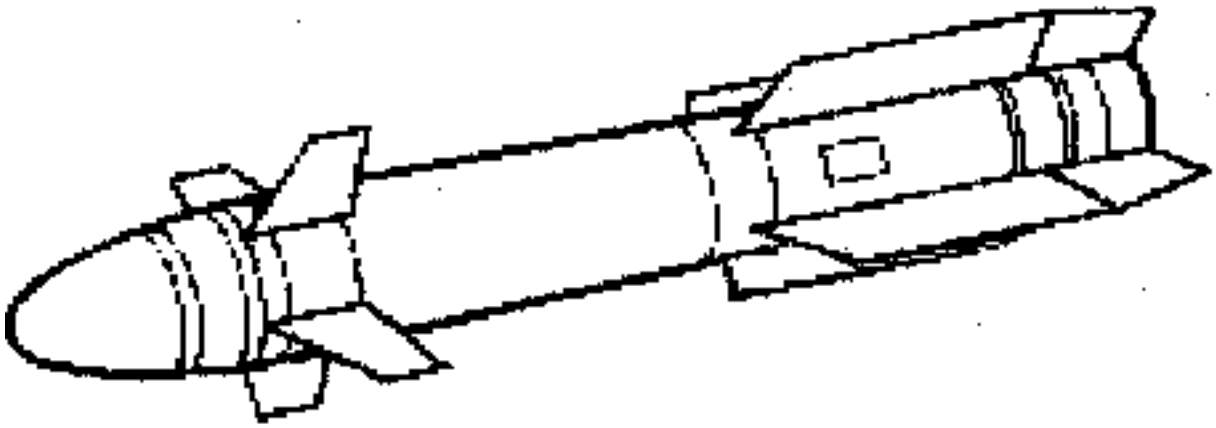
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

HELLFIRE MISSILE LAUNCH SIMULATOR



Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide on-board procedural training on the employment of Semi-Automatic Laser (SAL) Hellfire missiles during simulated target engagements.

Functional Description:
The SAL Hellfire Missile Launch Simulator is an inert Hellfire missile with a functional SAL seeker head and can be mounted on the launcher rail for training purposes. When activated, it simulates the SAL missile engagement process. The crew must perform the same procedures and meet the same conditions and constraints required in an actual tactical engagement. During the simulated engagement process, the crew receives the same system cues that would be present in an actual engagement.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

M2A1/M3A1 BRADLEY FIGHTING VEHICLE TURRET HANDS-ON-TRAINER (HOT)

NSN Not Assigned **DVC 09-131/A** **M2/M3A2 Operation Desert Storm Hands-on-Trainer (HOT) Upgrade**

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Used to simulate normal and malfunction operating conditions associated with the operational M2A1/M3A1 vehicles. Trains operational, troubleshooting, repair, and alignment skills required for proper maintenance of the vehicle.

Functional Description:
DVC 09-131 is a computer-controlled, three-dimensional, rotating simulation of an M2A1/M3A1 turret. An Instructor Station is mounted on the rotating platform. The turret is supported by a stand that also contains the hull entrance way. Students work inside the trainer while being directed by the instructor and observed from the viewing platform. They are required to recognize and test normal and malfunction operating conditions. Students troubleshoot, adjust, remove, replace, install, and repair system components as applicable. The trainer enables students to view normal and malfunction scenes via a simulated gunner's eyepiece. Students also manually and electrically operate the turret traversing system, the TOW lift actuator, the TOW rotor, and the 25mm weapons rotor.

Physical Information:
109" x 198" x 278"; 13,960 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Minimum Classroom ceiling height: 14'

Power Requirements:
120vac, 60 Hz, 15 A, single-phase

Applicable Publications:
TM 9-6910-241-10

Reference Publications:
TM 9-2350-252-10-2
TM 9-2350-252-10-2-1
TM 9-2350-252-10-2-2
TM 9-2350-252-10-2-3
TM 9-1240-399-34
TM 9-1425-453-43
TM 9-4910-751-14-1

Training Requirements Supported:
MOSC 27E
MOSC 45T
MOSC 91K

BASIC ELECTRONICS MAINTENANCE TRAINER (BEMT)

NSN Not Assigned **DVC 09-134/1 Basic Electronics Maintenance Trainer (BEMT) , Instructor Station**
NSN Not Assigned **DVC 09-134/2 Basic Electronics Maintenance Trainer (BEMT) , Student Station**

Training Category/Level Utilized:
Signal/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
BEMT is designed to support the training of students in all aspects of basic electronics including theory and hands-on application. The system allows instructors to assign lesson modules to either a class of students or individual students and to track their progress.

Functional Description:
The BEMT consists of 220 Student/Instructor stations and a system console linked together in a Local Area Network (LAN). All of the stations are basically the same with the exception of the system console. The system console is operated by the system manager in the Trainer Control Center (TCC).

BEMT Student/Instructor workstations are built around 80386 Personal Computer (PC). A video disk player, a NIDA electronics trainer and multifunction test set are connected to the PC. The system console in the TCC consists of two 80386 computers connected to the LAN server which is a 80486 computer. The console system also includes an optical disc drive and a switch unit that allows the three computers to share a monitor.

The BEMT LAN runs on Novel NetWare Version 3.11. The workstations run Windows 3.11 and DOS 6.22. Most of the courseware is written in IconAuthor Version 3.0, while student administrative and progress data is stored in a SuperBase 1.3 database. The interface for all of the above software has been written and compiled using Microsoft C.

Physical Information:
Workbench or computer desk.
DVC 09-134, MCN: 691001C134734, NSLIN: XA100G
DVC 09-134/1, MCN: 691001C134737, NSLIN: XA100G
DVC 09-134/2, MCN: 691001C134738, NSLIN: XA100G

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
Commercial-off-the-Shelf (COTS) Manual.

Reference Publications:
COTS Manual

Training Requirements Supported:
MOSC - Various

BASIC ELECTRONICS MAINTENANCE TRAINER (BEMT) UPGRADE

NSN Not Assigned **DVC 09-134/A/1 Basic Electronics Maintenance Trainer (BEMT) Upgrade, Instructor Station**
NSN Not Assigned **DVC 09-134/A/2 Basic Electronics Maintenance Trainer (BEMT) Upgrade, Student Station**

Training Category/Level Utilized:
Signal/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
BEMT is designed to support the training of students in all aspects of basic electronics including theory and hands-on application. The system allows instructors to assign lesson modules to either a class of students or individual students and to track their progress.

Functional Description:
The BEMT consists of a computerized aided instructional device (CAI), with the capability for computer-based instruction and hands-on practical exercise training. The trainer also may consist of test consoles, circuit card sets particular to the military occupational skill being trained and associated lab text manuals. The test console (130 E) is a pre-wired AC/DC power supply system equipped with input-output circuitry, control switches, and easy to read display. It accepts a wide range of circuit cards for use in group or self-paced hands-on basic training. The circuit card set consists of hundreds of pre-wired circuitry covering AC, DC, Analog and Digital Instruction, AM, FM, Fiber Optics, Signal Processing, Microprocessors, Microwave Transmission, Rotating Machinery, and Automotive.

The training environment typically consists of a classroom setup of the required number of student stations (SSs), monitored by an instructor operator station (IOS). The SSs and the IOS are Pentium IV or better Personal Computer (PC) that runs Microsoft operating system. Through the use of the ViewNet 3000 system, a Multimedia Switching System that provides the ability to connect unlimited groupings of up to 100 VGA monitor workstations to a main video control bus, the instructor is able to monitor and/or grade all activities of the student and provide computer aided remediation if elected.

Additional BEMT hardware may include commercial available test equipment such as oscilloscope, logic controller, logic probe, functional generator, and multimeter.

Physical Information:
Various hardware sizes and dimensions that will fit in a workbench or computer desk.
DVC 09-134/A/1, MCN: 691001C134739, NSLIN: XA100G
DVC 09-134/A/2, MCN: 691001C134741, NSLIN: XA1008

Equipment Required, Not Supplied:
Workbench, computer desk, and chair are not supplied.

Special Installation Requirements:
The facility is responsible in providing adequate space, ventilation, air conditioning, physical security, utility and power surge protection.

Power Requirements:
Facility power must be 120/208Y vac., 3-phase, 4-wire rated at 100-Amps or higher. Circuit breakers must be rated at 20-Amps.

Recommend install no more than 3 student stations per circuit.

Recommend install a quad receptacle for every student station.

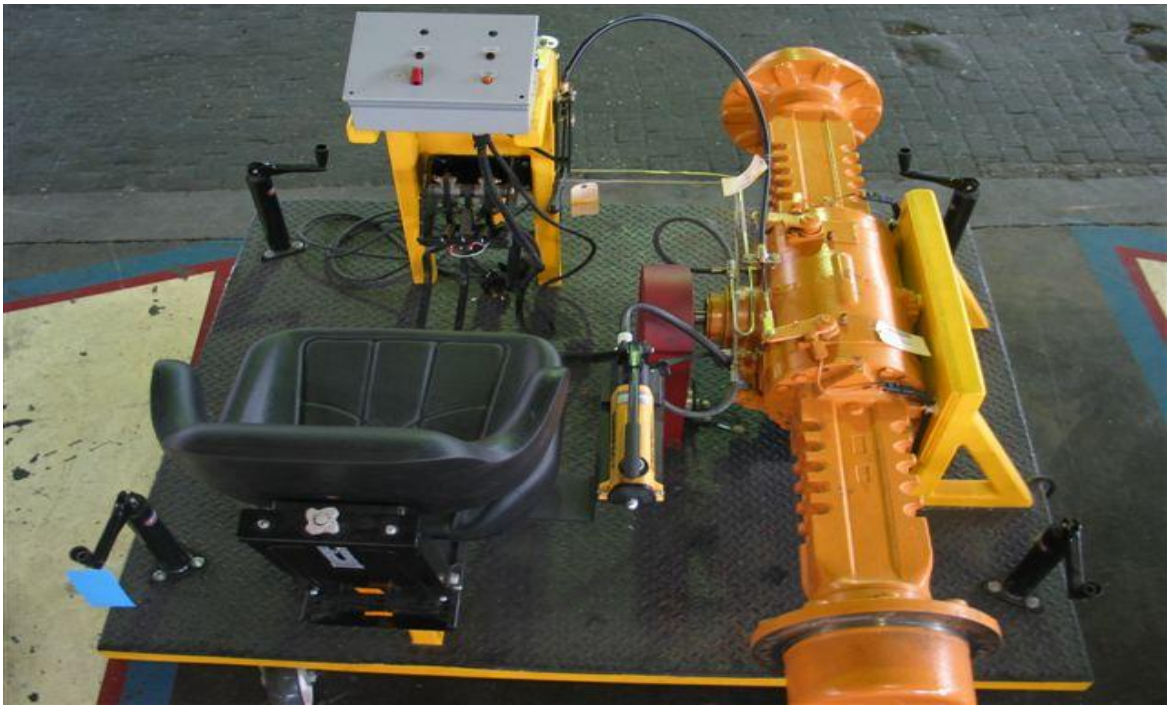
Recommend install a duplex receptacle on a 20-Amps dedicated circuit for the projector.

Applicable Publications:
Commercial-off-the-Shelf (COTS) Manual.

Reference Publications:
COTS Manual

Training Requirements Supported:
The system will train all identified critical basic electronic tasks for MOSCs 15B, D, F, G, H, J, K, M, N, R, S, T, U, X, Y, 27E10, 35P, 27T, 27X, 33W, 35C, 35H, 35M, 39B, 35Y, 35D, 35E, 35F, 35J, 35L, 35N, 35Q, 35R, 45E, 45K, 45G, 55D, 63A, 63B, 63E, 63M, Warrant Officer-881A1, 881A2, Enlisted-88L20, 88L30, 88L40.

BACKHOE LOADER (BHL) WET BRAKES TRAINING DEVICE



Training Category/Level Utilized:
Ordnance/Level 1

Logistic Responsible Command, Service, or Agency:
U.S. Army Engineer School (USAES), Maneuver Support Center (MANSCEN)

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The purpose of this trainer is to train maintenance personnel on wet brakes technology used in heavy construction equipment. This device will be to train the students on theory of a hydraulic system, troubleshooting and repair of mechanical, electrical, hydraulic and as well as the gear systems.

Functional Description:
The device is made up of several brake related components of a CASE 580 series Backhoe Loader, the major component being the rear axle. The rear axle is mounted on a steel platform and is operated by an electric motor. The device has an operator's station with operator's panel, a seat, brake pedals and a complete hydraulic brake system. For easy maneuverability, the platform is mounted on 4" swivel type wheels.

From the operator's panel the operator will start the device by pressing the "START" button. This will set the rear axle gear train in motion. As the operator presses the brake pedals the rear axle gear train will stop.

Physical Information:
Overall Dimensions: 72"W x 76"L x 53"H
Weight: 1900 Lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Available power source 220VAC, 20amp; Twist Lock receptacle. Device has an 18ft cord with twist lock plug attached.

Power Requirements:
220VAC, 20amp

Applicable Publications:
None

Reference Publications:
(Information not available)

Training Requirements Supported:
Military Occupational Specialty (MOS) 62B – Construction Equipment Repairer and MOS 919A – Engineer Equipment Repair Technician.

AIR CONDITIONING MAINTENANCE TRAINER

Training Category/Level Utilized:
Ordnance/Level 1

Logistic Responsible Command, Service, or Agency:
USAOMMS

Source and Method of Obtaining:
Not generally available for issue (Limited Production)

Purpose of Trainer:
The air conditioning maintenance trainer supports training in 9 critical tasks. The device supports critical, expedient, theater-driven EPA requirements of Section 608, Chapter 6, of the Clean Air Act of 1990. Without this device, testing cannot meet the standards under Chapter 6 of the Clean Air Act. Clean Air Act requires that Soldiers who operate and maintain U. S. Army refrigeration equipment must be certified 608 Type I and II.

Functional Description:
Compressor Technology: Semi-Hermetic
Condensing Method: Air-Cooled
HP Range: 1/3 to 1/2 HP
Refrigerant Options: R-134a
Applications: High, Medium, and Low temperature

Physical Information:
Mounted on a portable cabinet with wheels and storage space below able to hold a toolbox and be secured
MCN: 691001C128106
NSLIN: XA1008

Equipment Required, Not Supplied:
Students and cadre must wear PPE (goggles and gloves)

Special Installation Requirements:
Condensing unit will have fan guards for safety measures.

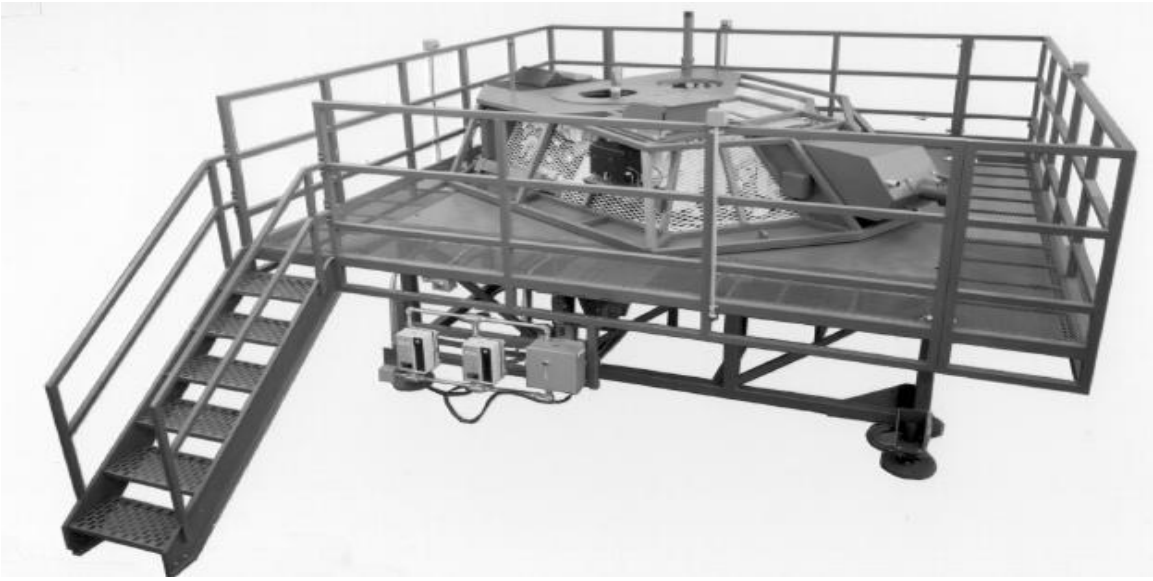
Power Requirements:
110/120 VAC 60 Hz

Applicable Publications:
N/A

Reference Publications:
COTS Manuals

Training Requirements Supported:
MOSC 52C10/30 and 63J30
Marines Basic Refrigeration Technician (ITRO)
Programs of Instruction (POI)

M1A1 TANK TURRET ORGANIZATIONAL MAINTENANCE TRAINER (TTOMT)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train Organizational mechanics in troubleshooting techniques, removal, replacement and repair of the M1A1 Tank Systems/components.

Functional Description:
The Tank Turret Organizational Maintenance Trainer (TTOMT) is a computer-controlled, three-dimensional simulation of an M1A1 tank turret with an instructor's control station mounted immediately behind and on the same rotating platform as the turret. Expanded metal meshwork encloses the turret, allows visibility to personnel on the viewing platform, and allows the instructor/operator to observe activity in the trainer.

The TTOMT consists of actual M1A1 tank operating components, active simulated components, trainer peculiar components, and fully simulated space-constraint dummy components. It allows students to:

a. Troubleshoot simulated equipment failures.

b. Remove and replace components of the turret hydraulic, fire control, electrical, and armament systems.

c. Service main accumulator, Gunner's Auxiliary Sight, Commander's Station Gunner's Primary Sight extension, and Laser Rangefinder optical and electrical cavities.

d. Operate the turret, including traversing and elevating simulated main and secondary weapons.

Physical Information:
22' L x 14' H x 16' W; 15,000 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Minimum access to installation area for TTOMT is 35' L x 25' W x 14' H; floor capable of bearing 17,000 lb load.

Power Requirements:
110vac, 15 A, 50/60 Hz, single-phase

Applicable Publications:
TD 9-6910-702-10
TD 9-6910-702-24&P

Reference Publications:
None

Training Requirements Supported:
MOSC 63A

M1A2 SEP HANDS-ON-TRAINER (HOT)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train Organizational mechanics in troubleshooting techniques, removal, replacement and repair of the M1A2 Tank Systems/components.

Functional Description:
The Hands-On-Trainer (HOT) is to be utilized in the training of M1A2 SEP turret maintenance personnel on the organizational maintenance procedures for the turret system. The simulation provides troubleshooting, removal/replacement of components, and performing maintenance service tasks on the M1A2 SEP tank. The trainer is a computer-controlled, three-dimensional simulation of an M1A2 SEP tank turret with an instructor's control station mounted immediately behind and on the same platform as the turret.

The trainer components consist of actual M1A2 SEP tank operational components, active simulated components, trainer peculiar components, and fully-simulated space constraint dummy components. The latter are used to create a real M1A2 SEP tank turret environment. Simulations of all M1A2 SEP unique tank systems are provided.

Physical Information:
22' L x 14' H x 16' W; 15,000 lbs

Equipment Required, Not Supplied:

Break Out Box Kit	5999-01-130-8077
Break Out Box Adapter	6150-01-199-2373
Tank Mechanics Tool Kit	5180-00-357-7727
Firing Circuit Tester	1015-01-258-0997
Digital Multimeter	6625-01-265-6000

Special Installation Requirements:
Minimum access to installation area for M1A2 HOT is 35' L x 25' W x 14' H; floor capable of bearing 17,000 lb load.

Power Requirements:
115vac, 40 A, 60 Hz, single-phase (US)

Applicable Publications:
TM 17-6920-904-10
TM 17-6920-904-20

Reference Publications:
None

Training Requirements Supported:
MOSC 63A or 63A (ASI-K4)

M1A1 ABRAMS INTEGRATED MANAGEMENT/ENHANCED DIAGNOSTICS (M1A1 AIM/ED) HANDS-ON-TRAINER (HOT)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train in troubleshooting techniques, removal, replacement and repair of the M1A1 AIM/ED Tank system and components.

Functional Description:
The M1A1Abrams Integrated Management/Imbedded Diagnostics (M1A1 AIM/ED) Hands-On-Trainer (HOT) is to be utilized in training M1A1 AIM/ED turret maintenance personnel on turret organizational maintenance procedures.

Physical Information:
22’ long x 14’ high x 16’ wide; 1500 lbs.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Minimum access to installation area for M1A1 AIM/ED HOT is 35' L x 25' W x 14' H; floor capable of bearing 17,000 lb capable floor bearing load.

Power Requirements:
115vac, 40 A, 60 Hz, single-phase (US)

Applicable Publications:
TD 9-6910-702-10
TD 9-6910-702-24&P

Reference Publications:
None

Training Requirements Supported:
MOSC 45K

M1A1 ABRAMS INTEGRATED MANAGEMENT/ENHANCED DIAGNOSTICS (M1A1 AIM/ED) DIAGNOSTIC TRAINER (DT)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train in troubleshooting techniques, removal, replacement and repair of the M1A1 AIM/ED Tank system and components.

Functional Description:
The M1A1Abrams Integrated Management/Imbedded Diagnostics (M1A1 AIM/ED) Hands-On-Trainer (HOT) is to be utilized in training M1A1 AIM/ED turret maintenance personnel on turret organizational maintenance procedures.

Physical Information:
22' long x 14' high x 16' wide; 1500 lbs.

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
Minimum access to installation area for M1A1 AIM/ED HOT is 35' L x 25' W x 14' H; floor capable of bearing 17,000 lb capable floor bearing load.

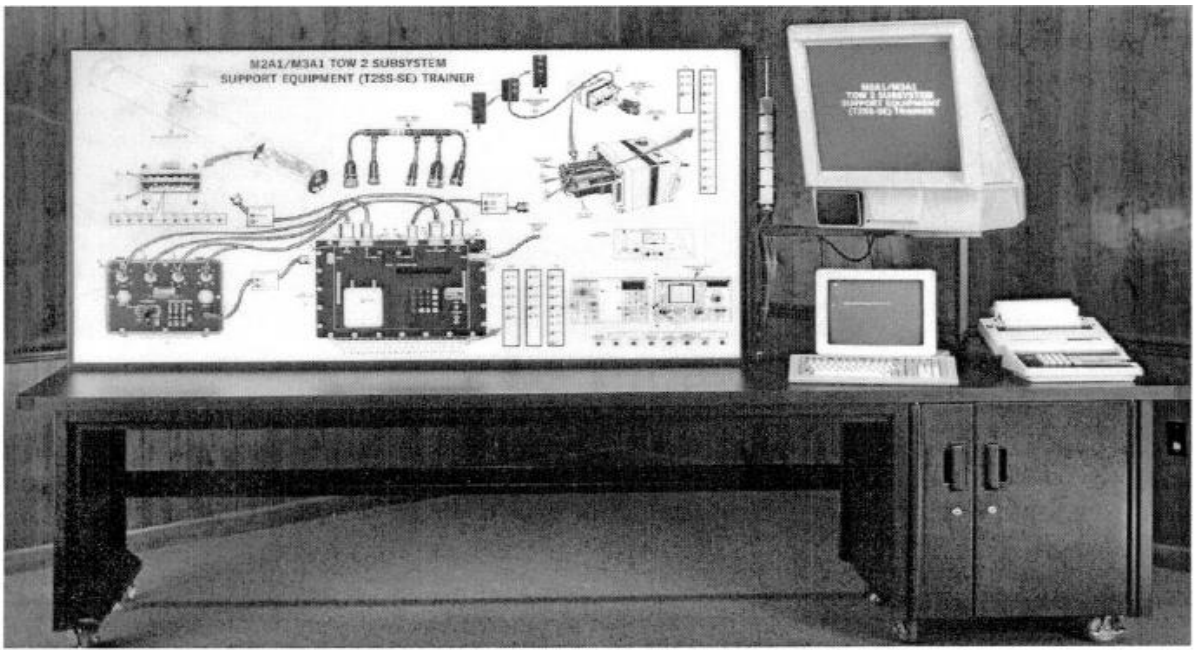
Power Requirements:
115vac, 40 A, 60 Hz, single-phase (US)

Applicable Publications:
TD 9-6910-702-10
TD 9-6910-702-24&P

Reference Publications:
None

Training Requirements Supported:
MOSC 45K, 63A

M2A2/M3A2 BRADLEY FIGHTING VEHICLE TOW-2 SUBSYSTEM SUPPORT EQUIPMENT (T2SS-SE) TRAINER



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Simulates normal and malfunction operating conditions associated with the operational M2A2/M3A2 TOW-2 subsystem vehicles. Trains operational, troubleshooting, repair, and alignment skills required for proper maintenance on the vehicle.

Functional Description:
DVC 09-138/5 consists of a console-mounted display panel, CRT terminal, printer, visual projection system, and a programmable computer. The trainer display panel contains graphic representations of trainer components and are arranged in the same manner as the actual equipment. All simulated controls and indicators are functional and operable by the trainee. When activated, the controls and indicators will cause associated responses depending upon the mode of training selected. Through the use of mode, condition control, and component switches, the trainer simulates normal and malfunction operating conditions. The trainee is required to troubleshoot and test these conditions using the appropriate technical manuals. The instructor may enter malfunctions and monitor student progress. The student record is maintained and updated and a performance printout is generated.

Physical Information:
120" L x 29" W x 71" H; 364 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Minimum classroom ceiling height: 8'

Power Requirements:
120vac, 60 Hz, 15 A, single-phase

Applicable Publications:
TD 17-6910-701-10

Reference Publications:
TM 9-4935-474-14-2

Training Requirements Supported:
MOSC 94A

M1A2 DIAGNOSTIC/TROUBLESHOOTING (D/T) AND DLS MAINTENANCE TRAINER

NSN Not Assigned **DVC 09-139/A M1A2 SEP Diagnostic/Troubleshooting (D/T) Trainer**

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train personnel in the location, operation, fault diagnosis, troubleshooting, and repairing of Line Replaceable Units (LRUs) on the M1A2 Abrams Main Battle Tank.

Functional Description:
The Student Station is the component of the D/T and DLS maintenance training system where the student troubleshoots simulated faults on the M1A2 Abrams Main Battle Tank using trainer controls and indicators and M1A2 troubleshooting procedures.

The instructor controls the assignment of tasks and monitors the operation of the Student Stations using the Instructor Operator Station (TD 09-140 or TD 09-140/A). The D/T and DLS trainers support multiple students at several networked Student Stations. Virtual reality is used to enhance training realism.

The M1A2 SEP Diagnostic/Troubleshooting (DT) trainer provides a 3 dimensional virtual model of the M1A2 SEP tank to teach maintenance personnel how to utilize the Technical manual in repairing the M1A2 SEP tank. Students can interact with the virtual tank model that is fully operational or with a simulated fault.

The M1A2 SEP DT runs preprogrammed Lessons under the control of the Instructor or automatic training management functions. Once a lesson is initiated, the DT courseware presents maintenance situations and problems that contain one or more faults. Students will locate the appropriate troubleshooting procedure in the Technical Manual and will interact with both 2D and 3D screens at the student station. Depending on the training intent and the sequence of the lesson, students will perform any number of eligible actions. The student may select, manipulate, connect, and disconnect components and cables in the virtual environment as necessary to perform maintenance procedures.

Physical Information:
62.5" L x 48" H x 28.5"' W plus 6" for monitor overhang and cable clearance; 200 lbs (approximately).

Equipment Required, Not Supplied:
All items required for the set-up and operation of the training system are provided.

Special Installation Requirements:
Floor Loading: 90 lbs per sq inch per trainer; 8' ceiling height.

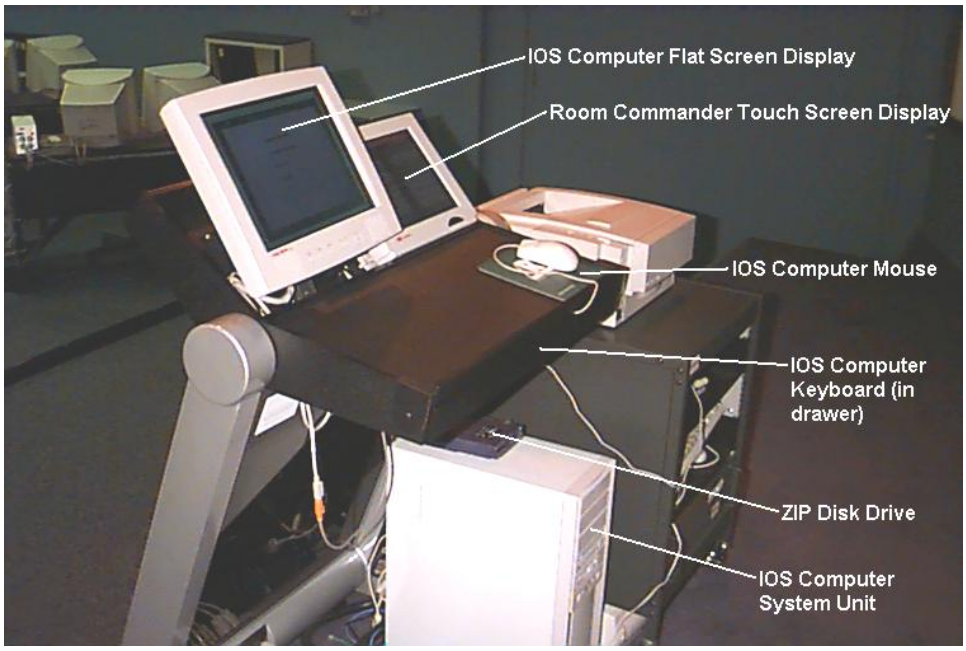
Power Requirements:
120vac, 60 Hz, single-phase, 15 A (US) per trainer

Applicable Publications:
TM 9-6920-903-10
TM 9-6920-903-20

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

INSTRUCTOR OPERATOR STATION (FT. KNOX)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train personnel in the location, operation, fault diagnosis, troubleshooting, and repairing of Line Replaceable Units (LRUs) on the M1A2 Abrams Main Battle Tank.

Functional Description:
The Instructor Operator Station (IOS) is the component of the DT/DLS maintenance training system that provides a console from which the Instructor can control one or more Student Stations on a local area network. The IOS provides a central repository for student records, a fixed location for the network printer and is utilized by the instructor for presentations and other teaching functions. The instructor controls the assignment of tasks and monitors the operation of the Student Stations (TD 09-139) using the IOS. The D/T and DLS trainers support multiple students at several networked Student Stations where the student troubleshoots simulated faults on the M1A2 Abrams Main Battle Tank using trainer controls and indicators and M1A2 troubleshooting procedures. Virtual reality is used to enhance training realism.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(information not available)

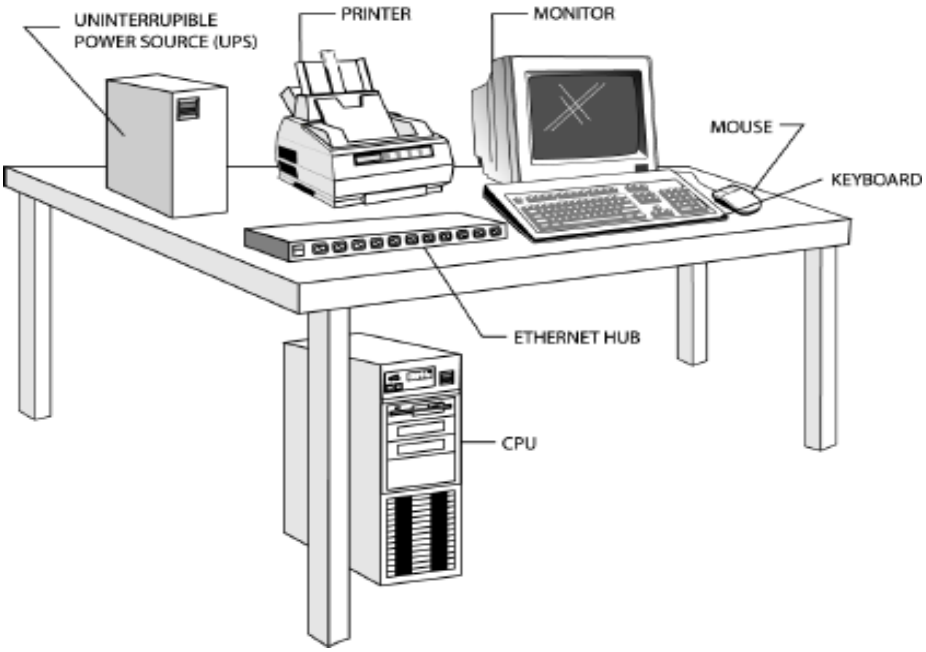
Power Requirements:
120vac, 60 Hz, single-phase, 15 A (US) per trainer.

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 63A

INSTRUCTOR OPERATOR STATION (ABERDEEN PROVING GROUND)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train personnel in the location, operation, fault diagnosis, troubleshooting, and repairing of Line Replaceable Units (LRUs) on the M1A2 Abrams Main Battle Tank.

Functional Description:
The Instructor Operator Station (IOS) is the component of the DT/DLS maintenance training system that provides a console from which the Instructor can control one or more Student Stations on a local area network. The IOS provides a central repository for student records, a fixed location for the network printer and is utilized by the instructor for presentations and other teaching functions.

The instructor controls the assignment of tasks and monitors the operation of the Student Stations (TD 17-188) using the IOS. The D/T and DLS trainers support multiple students at several networked Student Stations where the student troubleshoots simulated faults on the M1A2 Abrams Main Battle Tank using trainer controls and indicators and M1A2 troubleshooting procedures. Virtual reality is used to enhance training realism.

Physical Information:
62.5" L x 48" H x 28.5" W plus 6" for monitor overhang and cable clearance; 200 lbs (approximately).

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Floor Loading: 90 lbs per sq inch per trainer; 8' ceiling height.

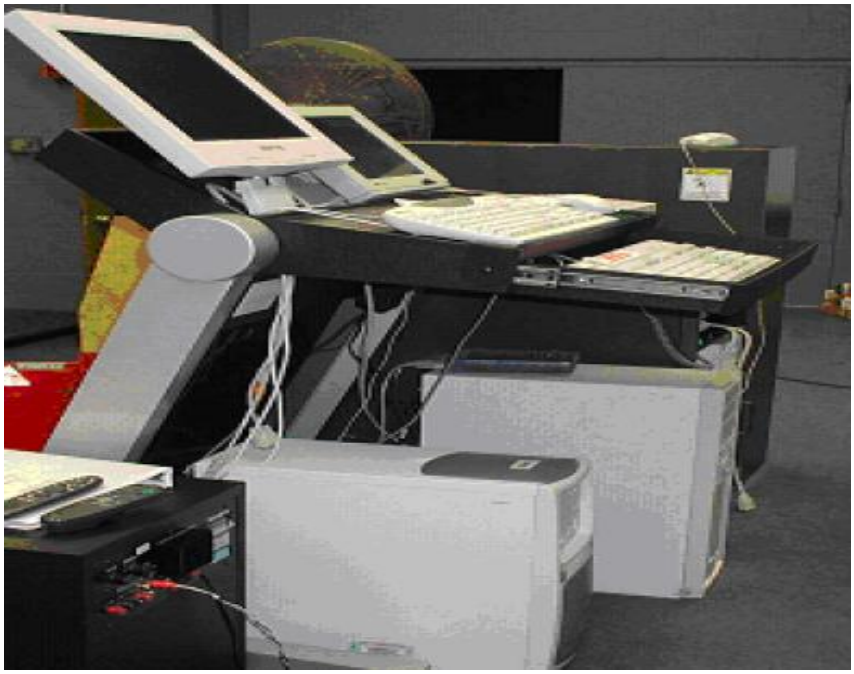
Power Requirements:
120vac, 60 Hz, single-phase, 15 A (US) per trainer.

Applicable Publications:
(Information not available)

Reference Publications:
TD 17-6910-711-10
TD 17-6910-711-20

Training Requirements Supported:
(Information not available)

M1A2 SYSTEM ENHANCED PACKAGE (SEP) INSTRUCTOR STATION (MAINTENANCE TRAINER AT FT. KNOX)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train personnel in the location, operation, fault diagnosis, troubleshooting, and repairing of Line Replaceable Units (LRUs) on the M1A2 Abrams Main Battle Tank.

Functional Description:
The Instructor Operator Station (IOS) is the component of the DT maintenance training system that provides a console from which the Instructor can control one or more Student Stations on a local area network. The IOS provides a central repository for student records, a fixed location for the network printer and is utilized by the instructor for presentations and other teaching functions. The instructor controls the assignment of tasks and monitors the operation of the Student Stations (DVC 09-139/A) using the IOS. The D/T trainers support multiple students at several networked Student Stations where the student troubleshoots simulated faults on the M1A2 SEP Abrams Main Battle Tank using trainer controls and indicators and M1A2 SEP troubleshooting procedures. Virtual reality is used to enhance training realism.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(information not available)

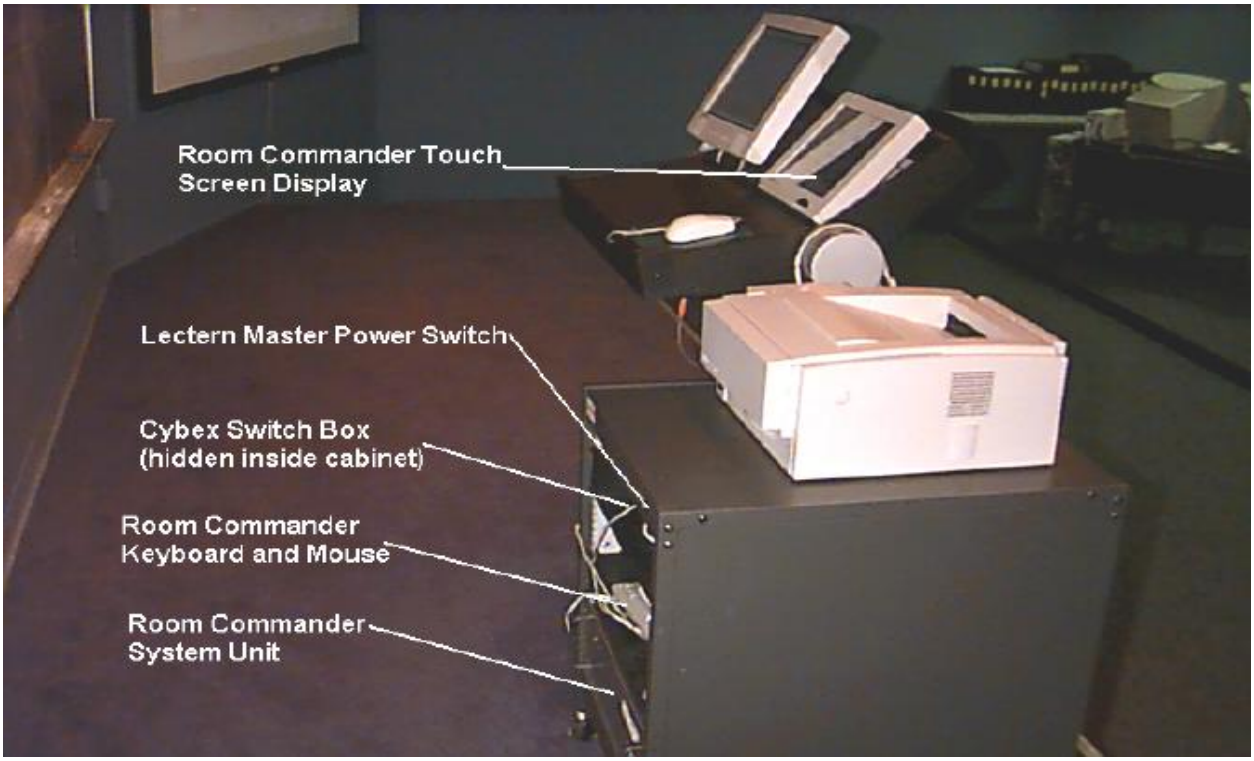
Power Requirements:
120vac, 60 Hz, single-phase, 15 A (US) per trainer.

Applicable Publications:
TM 09-6920-903-10
TM 09-6920-903-20

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 63A (ASI K4)

EQUIPMENT CONTROL SYSTEM (ALE)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The purpose of the Equipment Control System is to provide centralized control of the Advance Learning Environment (ALE). The Maintenance Training System (MTS) provides the training content for the ALE. The MTS equipment includes two components:

1) Hardware Component: Hands on Trainers (HOT), Device 17-67/B
2) Virtual Reality Component:
a) Diagnosis/Troubleshooting (D/T) and Direct Support Electrical System Test Set Line Replaceable Unit Simulators (DLS) Student Station, Device 09-142.
b) D/T and DLS Instructor Operator Station Computer (Ft. Knox), Device 09-143.
c) D/T and DLS Instructor Operator Station Computer (Aberdeen Proving Ground), Device 09-143/A.

Functional Description:
The Advanced Learning Environment (ALE) integrates technologies with educational methodologies and consists of: Facilities, Infrastructure, Materials, User Support, and Evaluations. The Equipment Control System is comprised of the Student Training Center switch, lighting control, and the Room Commander System.
1) Student Training Center 3 (STC3-Device 09-142) may be controlled from either:
a) The STC keyboard, mouse, and simulated Commanders Control Handle Assembly.
b) The IOS keyboard and mouse.
c) The Remote Student Station keyboard and mouse in the Hardware Component (HWC). Control is switched by a control box located in the Room Commander cabinet (located next to the lectern), in conjunction with automatic control by the Cybex PC Extender boxes located at STC3, the IOS, and the HWC remote Student Station.
2) The ALE lighting in the Virtual Reality Component area consists of both fluorescent lighting and dimmer-controlled incandescent spotlights. The controls for these lights are located next to the stage door. There is an additional switch to control the “50%” bank of fluorescent lights at the door to the classroom.

3) The Room Commander System is comprised of a PC, keyboard, mouse, Cybex switch box, lectern master power switch, and the Room Commander touch screen display. The Room Commander system provides device control for projectors, monitors, and the instructor panel.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(information not available)

Power Requirements:
120vac, 60 Hz, single-phase, 15A (US)
The following rules must be observed for the ALE equipment to work correctly:
1) VRC can operate independently of HWC, however, the HWC demonstration station Cybex PC Extender boxes must have AC power supplied at all times.
2) HWC cannot operate without the VRC.
3) MTS devices (D/T trainers, DLS, and HOTs) can operate without visualization and video systems.
4) IOS must be powered on before Student Stations.
5) VRC and HWC Equipment Cabinet components stay on all the time.
6) IOS keyboard/mouse switch in IOS mini-cabinet on Cybex control box (A = IOS computer, B = Student Console #3 computer) should be on position A at start up. This is indicated by two LEDs illuminated next to the A position.

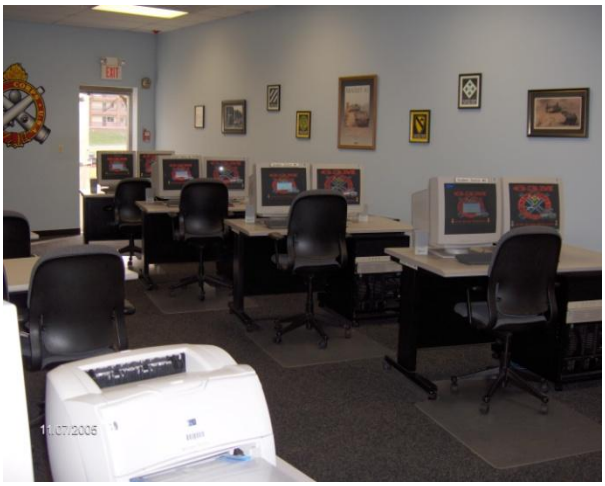
The following steps must be performed prior to using the ALE equipment in either the VRC or the HWC:
1) Ensure the Equipment Cabinet power strip is on.
2) Smart SWITCH 2200 green PWR LED is on.
3) Osicom Livelink 700 green POWER LED is on.
4) Video Distribution Amplifier red power LED is on.
5) Ensure the remote Student Station power strip is on. The green POWER GOOD LEDs on the back of the two Cybex boxes (one PC Companion and one PC Expander) located at the remote Student Station will be illuminated.

Applicable Publications:
None

Reference Publications:
TD 17-6910-711-10, Addendum for Technical Advanced Learning Environment (ALE).

Training Requirements Supported:
MOSC 63A or 3A (AI-K4)

BRADLEY FIGHTING VEHICLE M2A3/M3A3 ORGANIZATIONAL MAINTENANCE DESKTOP TRAINER



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
To train in troubleshooting techniques, removal, replacement and repair of the M2A3/M3A3 BFV system and components.

Functional Description:
A Virtual Reality, dual screen training device that simulates the interior of the Bradley Fighting Vehicle system. The system provides skill level development for system operation, fault diagnosis, troubleshooting, adjustment, removal/replacement, and repair task.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
The trainer must be installed in an enclosed, air conditioned building. Lighting and air conditioning control are pre-established building requirements.

Power Requirements:
110vac, 15A, 50/60 Hz, single-phase

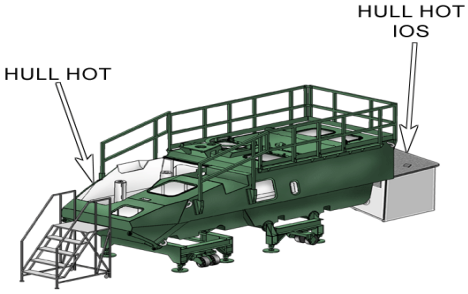
Applicable Publications:
TM 9-2350-294-10-2-1
COTS Reference Manuals

Reference Publications:
TM 9-2350-294-10-2-1

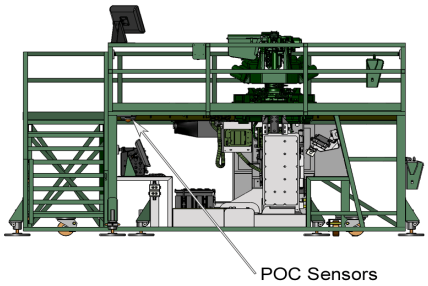
Training Requirements Supported:
MOSC 11B, 19D

STRYKER MAINTENANCE TRAINING SYSTEM (MTS)

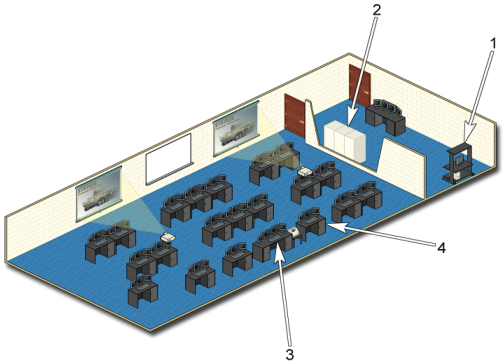
NSN Not Assigned	09-143/1	Diagnostic Troubleshooting Trainer, Series 63, STRYKER (MTS)
NSN Not Assigned	09-143/2	Diagnostic Troubleshooting Trainer, Series 45, STRYKER (MTS)
NSN 6920-01-575-4009	09-143/3	Powerpack Part Task Trainer (PTT), w/AC STRYKER (MTS)
NSN 6920-01-575-4000	09-143/4	Powerpack Part Task Trainer (PTT), w/o AC STRYKER (MTS)
NSN 6920-01-575-3954	09-143/5	Brake Part Task Trainer (PTT), STRYKER (MTS)
NSN 6920-01-575-3975	09-143/6	Suspension Part Task Trainer (PTT), STRYKER (MTS)
NSN 6920-01-575-3942	09-143/7	Drive Line Part Task Trainer (PTT), STRYKER (MTS)
NSN 6920-01-575-4116	09-143/8	Remote Weapons System (HOT) (RWS HOT) STRYKER (MTS)
NSN 6920-01-575-3902	09-143/9	Mobile Gun System Hands-On-Trainer (MGS HOT) STRYKER (MTS)
NSN 6920-01-575-3887	09-143/10	Mobile Gun System Autoloader Hands-On-Trainer (MGS AL HOT) STRYKER (MTS)
NSN Not Assigned	09-143/11	Training Management System (TMS), STRYKER (MTS)
NSN 6920-01-575-3904	09-143/A	Hull Hands-On-Trainer (HOT) Hybrid, STRYKER (MTS)



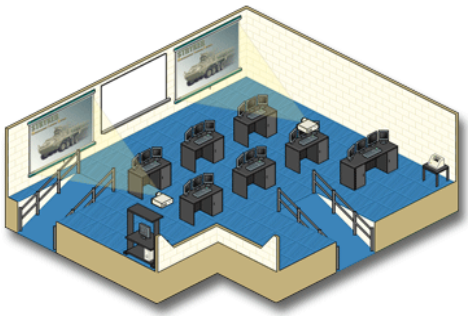
ICV HULL HOT



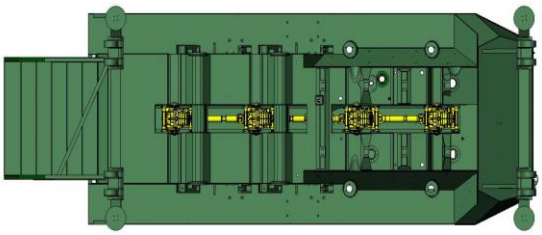
Remote Weapons System



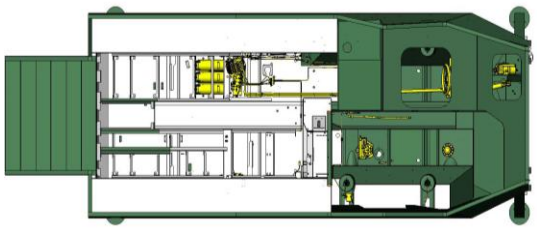
DTT/63 Classroom



DTT/45 Classroom

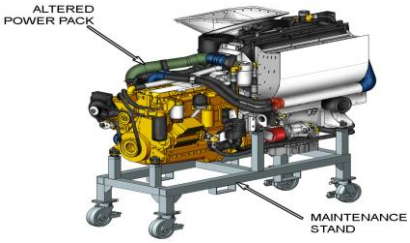


Drive Line Part Task Trainer



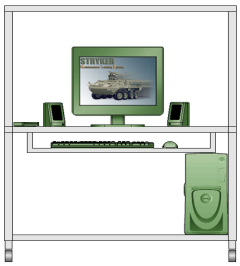
Suspension Part Task Trainer

Brake Part Task Trainer



Power Pack Part Task Trainer

Student Work Station System



Training Management System

Instructor/Operator Station

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Stryker Maintenance Training System (MTS) is a family of training devices that accurately simulate the configuration and operation of the Stryker Infantry Carrier Vehicle (ICV) and its Remote Weapons System (RWS). The Stryker MTS is used to support maintenance and troubleshooting training for MOS Series 63B, 45K and 91S mechanics assigned to maintain the Stryker Vehicle and the RWS.

Functional Description:
There are four classes of training devices used in the Stryker MTS: 1) Diagnostic Troubleshooting Trainers (DTTs), 2) Part Task Trainers (PTTs), 3 Hands On Trainers (HOTs), and 4) Training Management Systems (TMS). The DTTs are computer-based virtual-reality, video-training devices that students operate to navigate through Stryker ICV troubleshooting and maintenance training. The HOT trainers integrate virtual training with physical hardware training, using replicated, instrumented ICV system components to form integrated vehicle subsystems. In a PTT, a specific subsystem is realistically duplicated to allow students to remove and replace Line Replaceable Units (LRUs). All MTS training devices allow instructors to monitor and score student performance during training. The TMS provides centralized support for classroom management functions, student record archiving, and lesson plan preparation and management.

STRYKER MAINTENANCE TRAINING SYSTEM (MTS)

Physical Information:

Vehicle High Bay Space Requirements

Device	Qty	(ft/m²) Length	(ft/m²) Width	(ft/m²) Area	(ft/m²) Ceiling	(ft/m²) Total Area
Hull HOT	5	52.5/12.80	26.25/8.0	1102.5/102.8	25/7.62	5512.5/514.0
IOS	6	6/1.83	6/1.83	36/3..35	25/7.62	180/16.75
PTT	3	42/12.80	21/6.40	882/81.9	25/7.62	2646/245.7
Power Pack PTT	5	14/4.27	10/3.05	140/13	n/a	700/6.5
PTT HOP Kit Stands	5	6/1.83	6/1.83	36/3.35	n/a	300/67
UPS	1	6/1.83	9/2.74	54/5	n/a	54/5
Charging Cabinet	1	6/1.83	6/1.83	6/1.83	n/a	36/3.35

DTT/63 Classroom Space Requirements

Device	Qty	(ft/m²) Length	(ft/m²) Width	(ft/m²) Area	(ft/m²) Ceiling	(ft/m²) Total Area
SWS	20	7/2.13	5/1.52	35.325	n/a	500/65.03
IOS	1	8/2.44	5/1.52	40/3..72	n/a	40/3.72
DTT/63 Utility Rm	1	n/a	n/a	n/a	n/a	90/8.4

Mobile Gun System High Bay Space Requirements

Device	Qty	(ft/m²) Length	(ft/m²) Width	(ft/m²) Area	(ft/m²) Ceiling	(ft/m²) Total Area
RWS HOT	1	42/12.80	21/6.40	882/81.9	25/7.62	882/81.9
IOS Desk	1	6/1.83	6/1.83	36/3.35	n/a	36/3.35
UPS	1	6/1.83	9/2.74	54/5	N/A	54/5

DTT/45 Classroom Space Requirements

Device	Qty	(ft/m²) Length	(ft/m²) Width	(ft/m²) Area	(ft/m²) Ceiling	(ft/m²) Total Area
SWS	20	6/1.83	5/1.52	30/2.78	n/a	5512.5/514.0
IOS	6	6/1.83	6/1.83	36/3..35	n/a	180/16.75
PTT	3	42/12.80	21/6.40	882/81.9	n/a	2646/245.7
Power Pack PTT	5	14/4.27	10/3.05	140/13	n/a	700/65
Power Pack Hop Kit Stands	5	6/1,83	6/1.83	36/3.35	n/a	180/17.65
UPS	1	6/1.83	9/2.74	54/5	n/a	54/5
Charging Cabinet	1	6/1.83	6/1.83	36/3.35	n/a	36/3.35

Equipment Required, Not Supplied:
General Purpose Test Equipment
Facility Power

Special Installation Requirements:
Contact PM CATT PEO STRI Orlando, FL

Power Requirements:
30KVA, 60Hz, 280 VAC with 125A over current protection Device (OCPD)
25KVA 208VAC three-phase isolated power supply with 80A OCPD

Applicable Publications:
See Stryker MTS System Description Matrix

Reference Publications:
See Stryker Tactical Vehicle Publications

Training Requirements Supported:
MOS 63B, 45K, 91S

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BASIC SERIES 11
SIGNAL

SECURE MOBILE ANTI-JAM RELIABLE TACTICAL-TERMINAL TRAINING SYSTEM (SMART-T TS)

Training Category/Level Utilized:
Signal/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The SMART-T Training System provides 80 hours of student instructional material using Interactive Courseware and Interface Device Software Simulations. The SMART-T Training System is capable of instructing students in simulated usual and unusual conditions, plus faulted conditions for troubleshooting instruction.

Functional Description:
The SMART-T Training System consists of multiple computer workstations, each capable of performing specific training and instructional functions. Training system consist of two (2) Instructor/Operator Stations (IOSs), twenty four 24 Student Stations, one (1) Server and a separate Support Environment consisting of a Courseware Support Environment and a Software Support Environment. The Instructor Station provides the ability to administer and manage training by controlling Training System operations and monitoring student progress utilizing both the Instructor and Training System Services software. These applications enable instructors to organize, distribute and manage student lessons, progress and evaluations. Students interact with the Training System and instructors from a student station. 20 student stations are used to provide students with the ability to learn SMART-T operations and maintenance through the use of sequential multimedia lessons. 4 student stations serve as backup systems.

Physical Information
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Commercial Power 110v, single-phase

Applicable Publications:
SMART-T Training System
Support Document Volume 1 Part 1
1 April 2000

SMART-T Training System
Support Document Volume 1 Part 2
1 March 2000

SMART-T Training System
Support Document Volume 2
1 March 2000

SMART-T Training System
Support Document Volume 3 Part 1
13 September 1999

SMART-T Training System
System maintenance Manual
22 October 1999

Reference Publications:
None

Training Requirements Supported:
260-F9 Air Force and Marine Smart-T Operator/Maintenance Course.
260-31F10 Army Smart-T Operator/Maintenance Course.

MILSTAR SATELLITE SIMULATOR

Training Category/Level Utilized:
Signal/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Payload Simulator allows terminals to interact with an emulation of an Advanced Extremely High Frequency (AEHF) satellite. The simulator is housed in a double rack that contains the Radio Frequency (RF) and Digital Single Processing Subsystems and Computer Subsystem. A Sun Workstation is used to configure and operate the simulator. The Medium Capability Simulator (Med-Sim) is designed to emulate simultaneous Low Data Rate (LDR) and Medium Data Rate (MDR) Block I and Block II Milstar Satellites.

Med-Sim is a physical piece of hardware with controlling software that provides real LDR and MDR links under realistic conditions. It was designed as a training tool for Army SMART-T operators, and requires minimal operator intervention. The Simulator supports four training sites at Fort Gordon allowing operators to interface Node Centers under realistic conditions without using actual operational satellite resources.

Functional Description:
The goal of the Payload Simulator is to create a system that allows terminals to interact with an emulation Laboratory Advanced EHF Payload Simulator. Since the Payload Simulator is intended to be used for terminal development a number of test features are included that are not presenting an actual satellite payload. Future functional capabilities and advanced test features of the Payload Simulator that will be provided as enhancements are fielded. There are some features of an actual payload that are not included in the Payload Simulator. For example, there is no functionality to support payload to spacecraft or spacecraft to payload messages.

The major subsystem of the Med-Sim are the Antenna Subsystem, the RF Subsystem, the Digital Subsystem, and the Computer Subsystem. The antenna subsystem consists of a 200 foot tower and three antenna suites. Each suite is comprised of two 18-degree beam-width 22-dBi gain horns. One 44 GHz uplink receive horn, and one 20.7 GHz downlink transmit horn. The RF subsystem consists of two suites of equipment. One suite is dedicated to MDR and one to LDR. Each suite consists of a dual uplink/downlink hopping synthesizer, transmitter/receiver and receiver backend.

The digital subsystem is comprised of a VME chassis that houses a single board computer and Lincoln Lab digital signal processing boards. The computer subsystem consists of a SUN Ultra-SPARC workstation and a DELL Pentium class PC.

Physical Information:
Milstar Simulator is comprised of four equipment racks housed in a self-contained shelter, a remote workstation, and 200 foot antennae.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Lighting protection required for tower, shelter, and phone lines.

Power Requirements:
Commercial Power 110v single-phase

Applicable Publications:
Operation of Lincoln Laboratory EHF Satcom Payload Simulator Draft Rev 5 30 August 2002.

Reference Publications:
Operation of Lincoln Laboratory EHF Satcom Payload Simulator Draft Rev 5 30 August 2002.

Training Requirements Supported:
260-F9 Air Force and Marine Smart-T Operator/Maintainer Course.
260-31F10 Army Smart-T Operator/Maintainer Course

FIXED TACTICAL INTERNET

Training Category/Level Utilized:
Signal and Combined Arms / Level 1

Logistic Responsible Command, Service, or Agency:
CECOM will provide configuration management for digital tactical radio hardware (the KOK-13(A) and KOI-18 encryption key devices, the EPLRS radio sets and EPLRS Network Manager Software) as they are responsible for the digital tactical radio systems. The remaining system components are commercial hardware with generic purposes (installation kits, towers/poles, and UPS). No formal configuration management is required on this commercial hardware aside from general property management. LCCS is provided by PEO STRI, PM Field OPS, and Constructive Training.

Source and Method of Obtaining:
The Fixed Tactical Internet is installed by PM TRADE, PM Digitized Training at the direction of the Army Training Support Center (ATSC) on behalf of HQDA. The FTI is installed and sustained by the WCLS MDEP.

Purpose of Trainer:
The Fixed Tactical Internet (FTI) is a semi-permanent network of Enhanced Position Location Reporting System (EPLRS) radio sets with an EPLRS Network Manager that enables digital communications across the Army's Tactical Internet. The FTI acts as an alternative means to provide on-demand digital communications in support of testing, training, maintenance and experimentation at Brigade and below. The FTI significantly reduces the requirement for deployment of signal assets during small unit training events. FTI provides the backbone that enables simulation injection into the tactical C4I environment and the integration between the live tactical environment and the virtual and constructive simulated environments if the installation decides to develop this capability. The FTI fielding schedule coincides with the Unit Set Fielding Modernization Schedule and includes the Stryker Brigade Combat Teams (SBCT).

Functional Description:
The FTI is a network of Enhanced Position Location Reporting System (EPLRS) radio systems using an EPLRS Network Manager (ENM) to provide the communications backbone to support home station FBCB2 digital training. This backbone replicates the tactical internet by allowing digital systems to communicate without organic signal support thus reducing the OPTEMPO of signal assets in support of FBCB2 training. Where FTI and the Digital Multi-Purpose Range Complex are co-located, the FTI will be responsible for managing the Lower TI Net that provides Situational Awareness (SA) and Command and Control (C2) messaging before and during Live Fire exercises. The OPS-C LCCS will be responsible for maintenance of all FTI equipment with the exception of the actual tower or poles, and power generation equipment. These items are an installation responsibility.

Physical Information:

Standard FTI Equipment Provided:

- EPLRS Radio Sets
- User Read Out (URO) (Component of End Item List)
- EPLRS Power Adapter (Component of End Item List)
- Installation Kit: (Component of Additional Authorized Items List: Antenna, Antenna Cable Assembly, Power Cable Assembly, Mount)
- Locking Bar, EPLRS (Component of Ancillary Item List) w/ Locks
- CF-28/29/73 Toughbook w/ EPLRS Network Manager (ENM) Software
- AN/CYZ-10 (w/ ANCD software) or SKL (Simple Key Loader)
- Un-interruptible Power Supply (UPS)
- KD-100 Key Tape Disintegrator
- Antenna Towers or Poles (when required)
- Shelters (when required)
- Cages (for inside remote shelters) (Requirement of TB 380-41)
- LS-18 or equivalent AC/DC power adapter (needed only if RS comes w/ DC only Power Adapter, NSN 6130-01-461-9310)
- Lock, High Security, Combination (NSN 5340-00-285-6523) (for Cages)
- FBCB2 (white boxes) w/ Cables (J6)
- FBCB2 InterNet Controller (INC)
- FBCB2 Vehicle Adapter Assembly (VAA)
- FBCB2 INC-EPUU Cable (J3)
- GSA Approved Safe

Equipment Required, Not Supplied:

None

Special Installation Requirements:

Installation is provided by PM TRADE, PEO STRI as directed by ATSC based upon HQDA directed requirements.

Power Requirements:

110 volts, 50/60 Hz

Applicable Publications:

TM 11-5825-283-10
TB 11-5825-298-10-1
TM 11-5810-394-10
TB 380-41
NAG-16F
TB 380-40-22

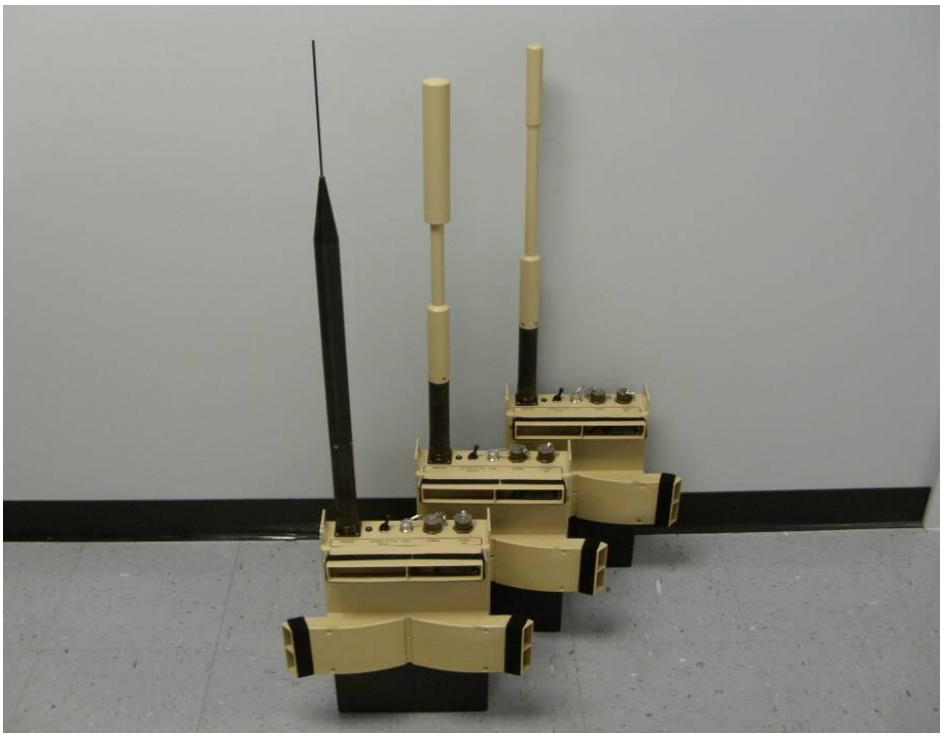
Reference Publications:

AR 190-13
DA PAM 190-51
AR 380-5
AR 380-19
AR 380-40
AR 710-2
DA PAM 25-380-2

Training Requirements Supported:

COMSEC Custodian Course
ENM Course
FBCB2 Operators/Leaders Course
ATNT Course (Advanced Tactical Network Training)

QUICK REACTION DISMOUNTED TRAINER (QRD-T) SYSTEM



Training Category/Level Utilized:
Signal/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The QRD-T System is used to train soldiers in use of the actual QRD System that is used to provide protection against Remote Controlled Improvised Explosive Devices (RCIEDs) over a wide range of operating training frequencies.

Functional Description:
The QRD-T System is capable of use for operator training efforts providing the look and feel of the actual QRD System. The QRD-T System devices closely resemble the size, switch types, connectors, displays, Light-Emitting Diodes (LEDs), buzzer, and other external or observable components of the actual QRD System. A functional antenna is included that supports the transmission and receipt of signals in the 315 MHz frequency range. The GPS interface provides time and reference data to the Main Unit. The functional GPS antenna can receive 1.575 GHz GPS signals. The QRD-T System interface transmits and receives signals in the following Training Frequencies: 315.000 MHz, 315.125 MHz, 315.250 MHz, and 315.375 MHz.

Physical Information:
The QRD-T System is comprised of either a three-unit suite or a four-unit suite. The three-unit suite is comprised of the Guardian B1, Guardian B, and Guardian C. The four-unit suite contains an additional Guardian B1 unit. The Guardian B1 provides low-band coverage, the Guardian B provides mid-band coverage, and the Guardian C provides high-band coverage. Maximum protection is achieved when all of the three or four units are used as a suite.

Each Guardian unit contains the following equipment:

- Main Unit
- Antenna
- Remote Control Unit (RCU)
- Battery Assembly
- Timing Reference System (TRS) and Code Plug
- Man Pack
- Battery Charger

There are three antennas with the QRD-T System. Each antenna connects to a specific Guardian unit (B1, B, or C). The carry handle of each Main Unit contains the number of rivets that correspond to the number of rings on the base of each antenna for easy identification (1 rivet = 1 ring, 2 rivets =-2 rings, 3 rivets = 3 rings).

The antennas are identified as follows:

- Guardian B1 (3 rings) is used for low-band coverage
- Guardian B (2 rings) is used for mid-band coverage
- Guardian C (1 ring) is used for high-band coverage

Equipment Required, Not Supplied:
There is no equipment required but not supplied for the QRD-T System.

Special Installation Requirements:
None

Power Requirements:
The Battery Assembly contains two rechargeable batteries that provide power directly to the Main Unit. The batteries are contained in a battery enclosure that attaches to the Main Unit. The Battery Charger is also supplied and is used to charge the batteries in the Main Unit. The typical charge time for a fully depleted battery is 17 hours.

Applicable Publications:
Operators User Manual: 11-6920-707-10
Systems Maintenance Manual: 11-6920-707-24&P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Training-Counter Radio Controlled Improvised Explosive Device Electronic WARFARE 2 (T-CREW 2) Quick Reaction Dismounted Trainer (QRD-T) System threat is likely.

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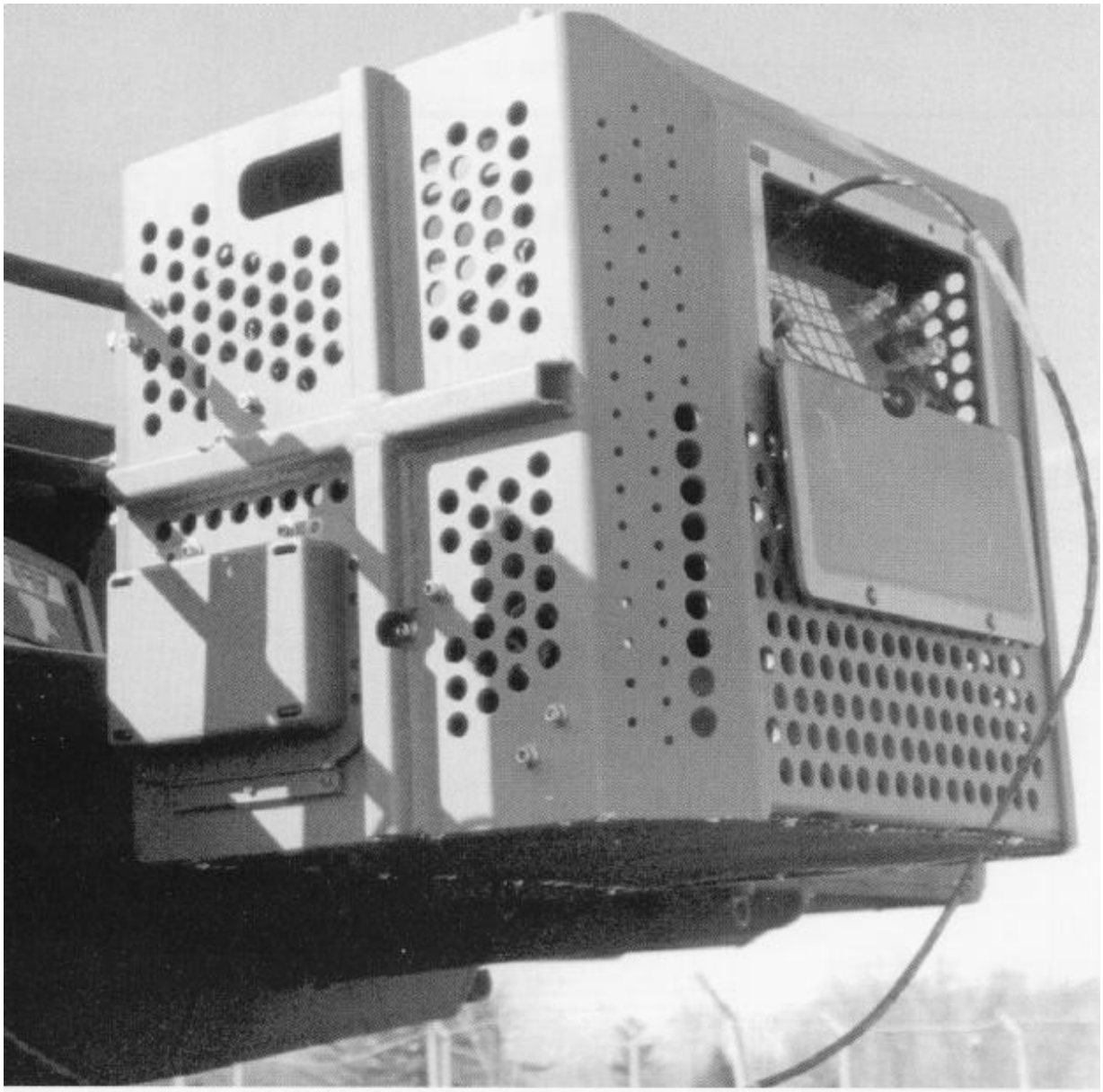
BASIC SERIES 17
ARMOR

THROUGH-SIGHT VIDEO (TSV) FOR M1A1 AND M1A2 MAIN BATTLE TANK AND M2/M3 BRADLEY FIGHTING VEHICLE

NSN Not Assigned DVC 17-143/1 (TSV) for M1A1 and M1A2 Main Battle Tank and M2/M3 Bradley Fighting Vehicle; Audio and Video Recording (AVR) Subsystem

NSN Not Assigned DVC 17-143/2 (TSV) for M1A1 and M1A2 Main Battle Tank and M2/M3 Bradley Fighting Vehicle; Environmental Enclosure Unit (EEU)

NSN Not Assigned DVC 17-143/3 (TSV) for M1A1 and M1A2 Main Battle Tank and M2/M3 Bradley Fighting Vehicle; After Action Review (AAR) Subsystem



VEHICLE MOUNTED ENVIRONMENTAL ENCLOSURE UNIT

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Mounted on an M1, M2, or M3 series vehicle, the TSV will be used for unit gunnery and tactical training during the conduct of gunnery tables, force-on-force gunnery exercises, and during integrated field training exercises. The TSV system provides training at all proficiency levels as well as during simulated or live fire exercises.

Functional Description:
The TSV is a vehicle appended system that provides video and audio recording of gunnery or tactical engagement exercises in real-time. The TSV consists of two subsystems: The audio and video recording (AVR) subsystem (contained in transit cases one and two, DVCs 17-143/1 and 17-143/2) and the after action review (AAR) subsystem (transit case three, DVC 17-143/3). The AVR subsystem simultaneously records on video tape, the gunner's sight picture and the oral commands and responses of the crew during gunnery training exercises. The AAR subsystem is a stand-alone component of the TSV system that may be set up anywhere a 110/220 vac power source is available. It is used by crews, commanders, and training managers to review gunnery engagement video tapes generated by AVR subsystem.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
M1A1 Main Battle Tank
M1A2 Main Battle Tank
M2/M3 Bradley Fighting Vehicle

Special Installation Requirements:
None

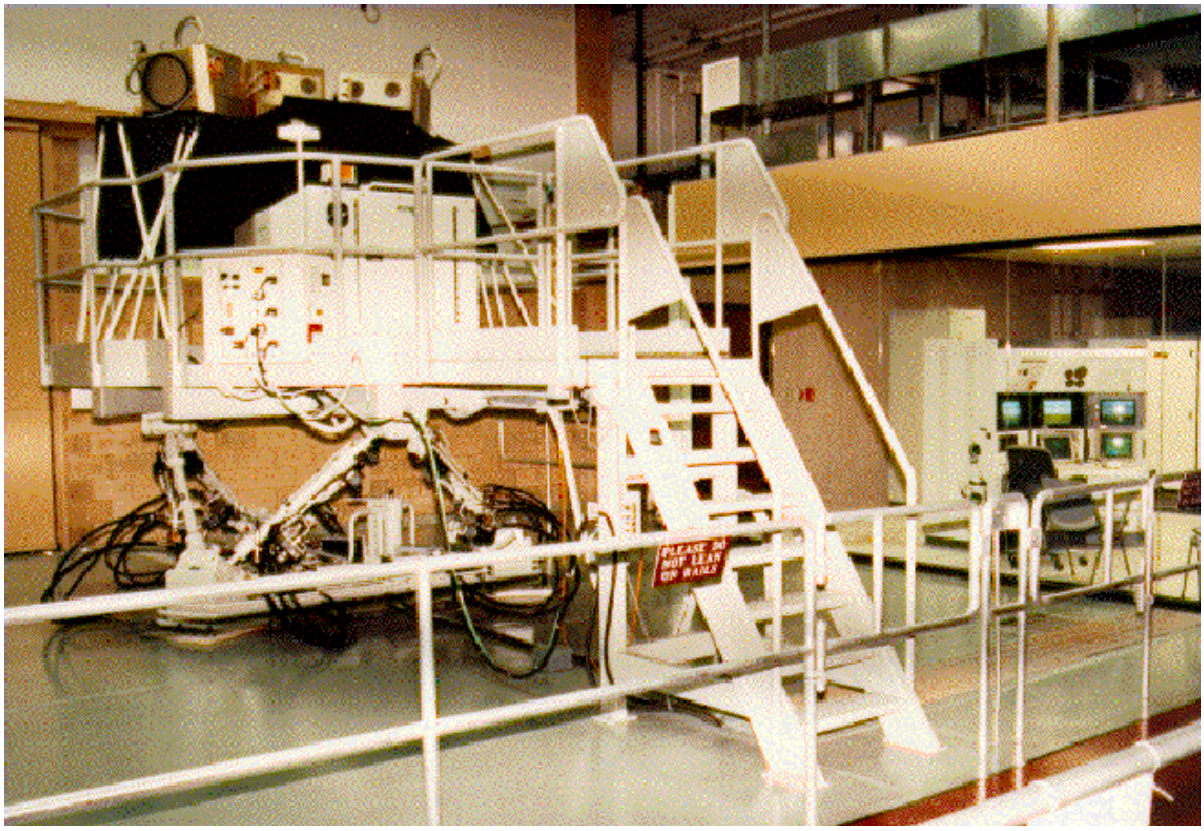
Power Requirements:
110/220-volt, 60 Hz - CONUS
110/220-volt, 50 Hz - Korea
220/240-volt, 50 Hz - Europe

Applicable Publications:
TD 9-6920-708-10, Vol 1
TD 9-6920-708-10, Vol 2

Reference Publications:
TM 9-6920-708-20

Training Requirements Supported:
MOSC 19K, 11B, 19D

M1A1 TANK DRIVER TRAINER (TDT)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The purpose of the M1 Tank Driver Trainer (TDT) is to develop and/or sustain the tank driving skills of the student driver and to provide cross training from similar vehicles.

Functional Description:
The M1 Tank Driver Trainer (M1TDT) provides initial and transition driver training for the M1 Abrams Armor Tank Crewman. The device consists of a driver trainer station, instructor/operator station, a visual system, an aural/audio system, a computer system, and a fully integrated 6 DOF motion system. A real-time color computer image generation (CIG) subsystem provides visual scenes to the driver through the periscope or on monitor screens for out-of-hatch training. The instructor, via the instructor/operator station, is capable of selecting a visual scene, viewing the visual scene, monitoring each trainee's performance and introducing malfunctions and emergency control situations.

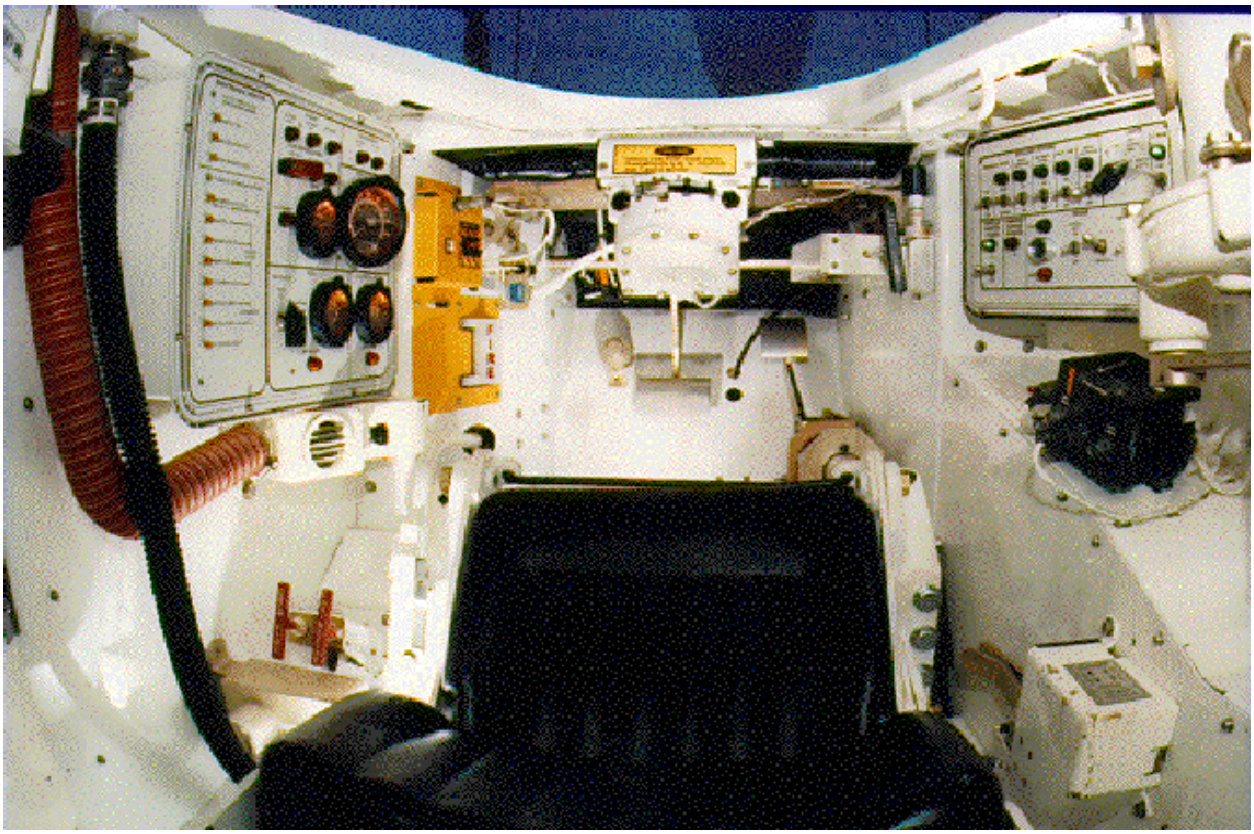
Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Due to motion platforms, facility required 17 foot minimum ceiling height.

Power Requirements:
Motion System – 480-volts +/- 10%, 50/60 Hz +/- 1%, 3-phase Delta.
Host Computer and Image Generator - 120/208 AC, 60 Hz, 3-phase, Y connection.

Applicable Publications:
Instructor Utilization Handbook 9-6930-701
Operators Manual TM 9-6930-701-10

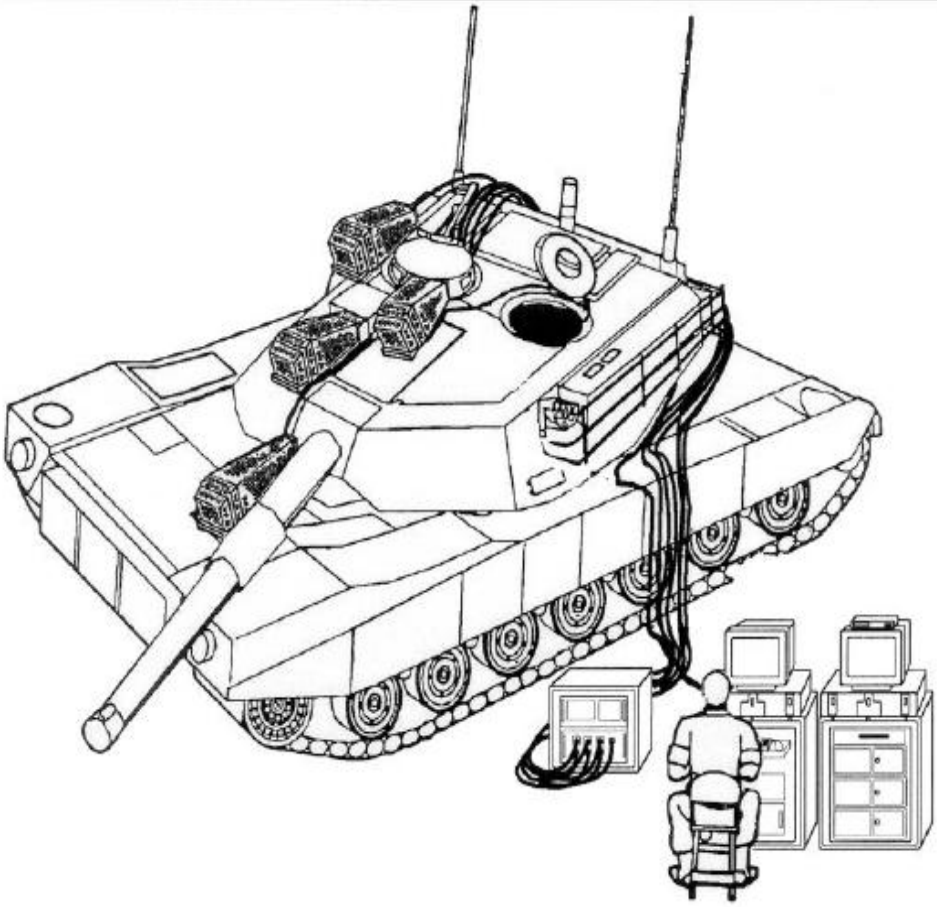


Driver's Station

Reference Publications:
None

Training Requirements Supported:
MOSC 19 Driver

ABRAMS FULL-CREW INTERACTIVE SKILLS TRAINER XXI (A-FIST XXI)



Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The A-FIST XXI will provide precision gunnery training at National Guard armories.

Functional Description:
The Abrams Full-Crew Interactive Simulation Trainer (A-FIST XXI) provides the capability to train crews using manual controls as well as the tank commanders .50 cal MG. The training system is compatible with the M1A1 Abrams tank. Only U.S. Army National Guard armor units are currently scheduled to receive A-FIST XXI. The training system will allow the entire crew to conduct gunnery training while the tank is powered off inside the armory. Training scenarios are designed to simulate all tables of FM 3-20.12 dated May 2001. The system provides aural, visual and sensor simulation. An instructor/operator selects the exercises, briefs the crew, monitors crew performance and conducts after action reviews. The crew performs the exercises under simulated combat conditions in an actual tank. Exercises become more challenging as the crew progresses through the program of instruction. The training software scores the engagements automatically.

Exercises include execution of day/night main gun, coax and .50 cal. machine gun tactical gunnery tasks; engagements of stationary/moving, single/multiple targets in desert or European terrain. The training system will periodically interject weapon system faults to further challenge the crew. The A-FIST XXI uses the same software baseline as the Rehosted COFT gunnery trainer and shares common hardware components including the Instructor/Operator Station.

Physical Information:
Total system weight configured for transit is 1770 lbs.
Host Computer Cabinet: 205 lbs.
Image Generator Cabinet: 265 lbs.
Vehicle Interface Cabinet: 160 lbs.
Situation Display Case: 90 lbs.
Visual Display Case: 90 lbs.
Commander Monitor Container: 145 lbs.
Gunner Monitor Container: 145 lbs.
Cable Container: 230 lbs.
Driver Monitor/Platform Container: 100 lbs.
Turret Platform Container: 145 lbs.
Appended Items Container (1 of 2): 105 lbs.
Appended Items Container (2 of 2): 90 lbs.

Equipment Required, Not Supplied:
The unit must provide a fully functional M1A1 tank and CVC helmets.

Special Installation Requirements:
The armory must have a grounded 110v AC, 30 Amps power source within 50 feet of the training site.

Power Requirements:
Grounded 110vac, 30 Amps

Applicable Publications:
TM 9-6920-906-10
SMM 9-6920-906
IUH AFIST/COFT XXI

Reference Publications:
Applicable manuals for commercial off-the-shelf (COTS) equipment.
FM 3-20-12 (May 2001)

Training Requirements Supported:
MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 SYSTEM ENHANCED PROGRAM (SEP) (PERMANENT) (PAGTS)

NSN Not Assigned **DVC 17-176/A (AGTS) for M1A2 System Enhanced Program (SEP) (Permanent)**

AGTS Crew Station Subsystem

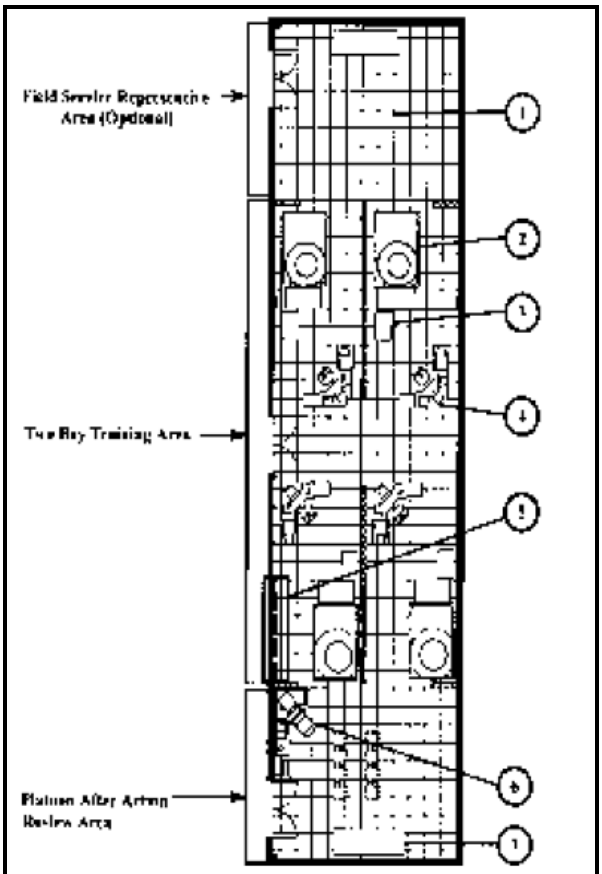
Commander's Station

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AGTS provides individual crew and platoon precision and degraded mode gunnery training for tank commanders and gunners of the M1A2SEP Abrams Tank. The AGTS can be setup in any one of three configurations: permanent, relocatable, or mobile. This section addresses the permanent configuration.



1) Field Service Representative (FSR) area.
2,3,4) Crew Station/Electronic Interface Unit/Instructor Operator Station. These three components comprise the core of the ATGS. There are 4 AGTS.
5) There are four power panels (one for each AGTS).
6) The Prebrief/After Action Review area houses the AAR station and provides seating for crew(s) briefing.
7) The air conditioners are located in the FSR and PAAR station areas and are controlled under facility standard operating procedures.

Functional Description:
The M1A2 AGTS provides crew gunnery to commanders and gunners of the M1A2 Abrams Tank. This is accomplished by means of four functional subsystems; Computational, Instructional, Visual and Crew station. The Crew Station subsystem provides the crew with simulated vehicle components of the actual crew stations, which provide proper stimulus of and response to crew actions

Instructor/Operator Station (IOS) with a Crew Station in the background

in a manner approximating the associated operational system. The visual subsystem simulates tactical scenes consisting of a variety of terrain and man–made cultural features and a number of potential target types so that the crew members can be trained in target detection, classification, and gunnery under combat conditions. The Instructional subsystem provides training exercises in which crew(s) interacts with each other and the trainer, in response to visual and aural cues while performing a variety of special–purpose task training and tactical firing exercises.

The Instructor/Operator Station (IOS) is an element of the instructional subsystem and provides for the selection and assignment of desired exercises from a list of multi–problem exercises correlated to crew capabilities in European or desert terrain databases. The evaluation of crew performance is provided in the form of IOS displays and computer printouts. A training management program provides data necessary to assess crew readiness, direct crew training, and judge crew gunnery proficiency.

The trainer is equipped with Force XXI Battle Command Brigade-and-Below (FBCB2) digital communication capability. FBCB2 is a battle command information system designed for units performing missions at the tactical level. The AGTS provides FBCB2 functionality at both the crew station and at the IOS to enable digital communications during training exercises. FBCB2 displays the relevant Situational Awareness (SA) picture for the tank commander by plotting the location of his own vehicle, adjacent friendly units, graphical overlays, and enemy icons.

The AGTS has undergone a series of improvements to its capabilities. P3I initiatives include two (2) additional unity vision blocks for the tank commander increasing his field of view, a new European terrain database, and improvements to the PAAR. The AGTS continues to mimic the most current capabilities of the Abrams tank through recurring upgrades to the Abrams Common Software Library (ACSL) and FBCB2.

Physical Information:
The M1A2 Advanced Gunnery Training System (Permanent-PAGTS) is designed for installation in a training area approximately 92.2 by 22.8 meters to provide for a Field Service Representative (FSR) area, a Two Bay Training area, and a Prebrief/After Action Review (PAAR) area.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The AGTS trainer, monitoring system and special support equipment operates on standard 230/115-volts, ± 10%, single-phase, 50/60 Hz power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from power fluctuations, sags, surges, and transients. Trainer utility power receptacles have been provided as part of the equipment installation. The receptacles have been placed so that a 120-volt duplex receptacle is within 6 feet of any area where maintenance is to be performed.

Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 (PERMANENT) (PAGTS) PRE-BRIEF AFTER ACTION REVIEW (PAAR)

PRE-BRIEF AFTER ACTION REVIEW (PAAR) STATION

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for general issue (limited production).

Purpose of PAAR:
The PAAR station is used when conducting section and platoon training. It is not a trainer, but rather a component of the Abrams M1A2SEP AGTS trainer, where two to four co-located crew stations are linked for training. It does not operate alone, but only in conjunction with Abrams M1A2SEP AGTS crew stations (Training Device # 17-176A) .

It provides the instructor the capability to conduct platoon/section training exercises where offensive and defensive tactical operations gunnery tasks and procedures are being trained. These exercises provide the capability to train command and control procedures and fire distribution planning while conducting tactical operations.

Functional Description:
The PAAR station provides both a plan view (2D) and stealth (3D) display and logs and re-plays the exercises with digital voice communications using the logger and exercise manager software. The operator can also initiate a scan of the log file from previous fired exercises to permit the operator to select data for playback to analyze and brief the platoon/section during the After Action Review (AAR).

Physical Information:
The PAAR consists of the operator's station with monitors and keyboards, after-action displays and PAAR computer. This equipment may be housed in a shelter or arranged in an institutional setting as pictured.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The Abrams M1A2SEP AGTS PAAR operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from transient power fluctuations, sags, and surges.

Shelterized PAAR

Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 SYSTEM ENHANCED PROGRAM (SEP) (RELOCATABLE) (RAGTS)

NSN Not Assigned **DVC 17-177/A (AGTS) for M1A2 System Enhanced Package (SEP) (Relocatable)**

AGTS Crew Station Subsystem

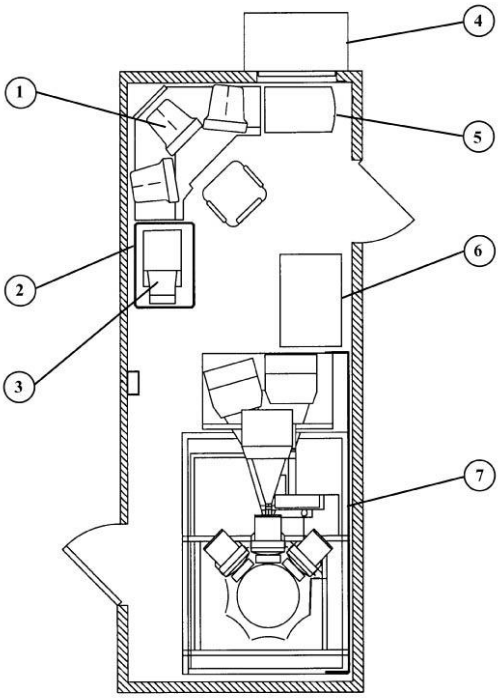
Commander's Station

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AGTS provides individual crew and platoon precision and degraded mode gunnery training for tank commanders and gunners of the M1A2 SEP Abrams Tank. The AGTS can be setup in any one of three configurations: permanent, relocatable, or mobile. This section addresses the relocatable configuration. The AGTS is also capable of provide training skills for platoon operations. The relocatable system is designed to be set up in an outdoor environment. Additional equipment to support this type of setup includes a trainer shelter assembly and a Heating Ventilation Air Conditioning (HVAC) unit. Power must be readily available as well as a solid foundation on which the trainer shelter can be placed.



1) Instructor/Operator Station
2) General Purpose Computer
3) Laser Printer
4) Air Conditioner
5) Special Purpose Computer
6) Electronic Interface Unit
7) Crew Station

Functional Description:
The M1A2SEP AGTS provides crew gunnery to commanders and gunners of the M1A2SEP Abrams Tank. This is accomplished by means of four functional subsystems; Computational, Instructional, Visual and Crew station. The Crew Station subsystem provides the crew with simulated vehicle components of the actual crew stations, which provide proper stimulus of and response to crew actions in a manner approximating the associated operational system. The visual subsystem simulates tactical scenes consisting of a variety of terrain and man–made cultural features and a number of potential target types so that the crew members can be trained in target detection, classification, and gunnery under combat conditions. The Instructional subsystem provides training exercises in which crew(s) interacts with each other and the trainer, in response to

visual and aural cues while performing a variety of special–purpose task training and tactical firing exercises. The Instructor/Operator Station (IOS) is an element of the instructional subsystem and provides for the selection and assignment of desired exercises from a list of multi–problem exercises correlated to crew capabilities in European or desert terrain databases. The evaluation of crew performance is provided in the form of IOS displays and computer printouts. A training management program provides data necessary to assess crew readiness, direct crew training, and judge crew gunnery proficiency.

The trainer is equipped with Force XXI Battle Command Brigade-and-Below (FBCB2) digital communication capability. FBCB2 is a battle command information system designed for units performing missions at the tactical level. The AGTS provides FBCB2 functionality at both the crew station and at the IOS to enable digital communications during training exercises. FBCB2 displays the relevant Situational Awareness (SA) picture for the tank commander by plotting the location of his own vehicle, adjacent friendly units, graphical overlays, and enemy icons.

The AGTS has undergone a series of improvements to its capabilities. P3I initiatives include two (2) additional unity vision blocks for the tank commander increasing his field of view, a new European terrain database, and improvements to the PAAR (Device 17-177P). The AGTS continues to mimic the most current capabilities of the Abrams tank through recurring upgrades to the Abrams Common Software Library (ACSL) and FBCB2.

Physical Information:
The shelter for the AGTS for M1A2 (Relocatable-RAGTS) is approximately 20 feet in length, 8 feet wide, and 8 ½ feet high.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements*:*
The AGTS trainer, monitoring system and special support equipment operates on standard 230/115 volts, ± 10%, single-phase, 50/60 Hz power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from power fluctuations, sags, surges, and transients.

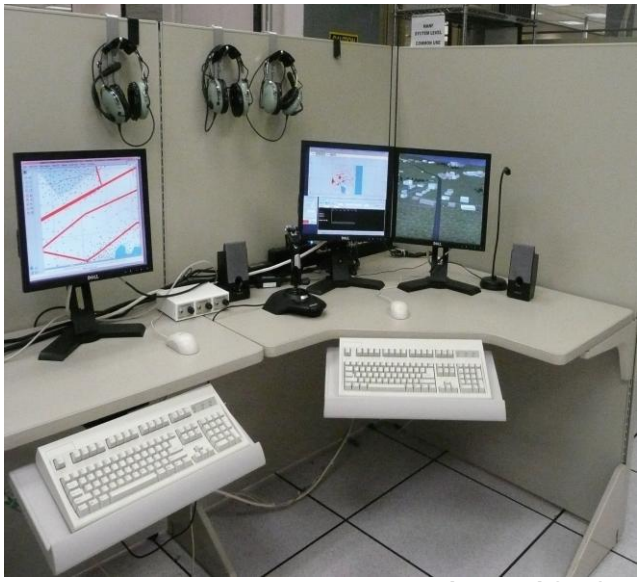
Trainer utility power receptacles have been provided as part of the equipment installation. The receptacles have been placed so that a 120-volt duplex receptacle is within 6 feet of any area where maintenance is to be performed.

Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 (RELOCATABLE) (RAGTS) PRE-BRIEF AFTER ACTION REVIEW (PAAR)



PRE-BRIEF AFTER ACTION REVIEW (PAAR) STATION

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for general issue (limited production).

Purpose of PAAR:
The PAAR station is used when conducting section and platoon training. It is not a trainer, but rather a component of the Abrams M1A2SEP AGTS trainer, where two to four co-located crew stations are linked for training. It does not operate alone, but only in conjunction with Abrams M1A2SEP AGTS crew stations (Training Device # 17-177A).

It provides the instructor the capability to conduct platoon/section training exercises where offensive and defensive tactical operations gunnery tasks and procedures are being trained. These exercises provide the capability to train command and control procedures and fire distribution planning while conducting tactical operations.

Functional Description:
The PAAR station provides both a plan view (2D) and stealth (3D) display and logs and re-plays the exercises with digital voice communications using the logger and exercise manager software. The operator can also initiate a scan of the log file from previous fired exercises to permit the operator to select data for playback to analyze and brief the platoon/section during the After Action Review (AAR).

Physical Information:
The PAAR consists of the operator's station with monitors and keyboards, after-action displays and PAAR computer. This equipment may be housed in a shelter or arranged in an institutional setting as pictured.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The Abrams M1A2SEP AGTS PAAR operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from transient power fluctuations, sags, and surges.

Shelterized PAAR

Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 SYSTEM ENHANCED PROGRAM (SEP) (MOBILE) (MAGTS)

NSN Not Assigned **DVC 17-178/A (AGTS) for M1A2 System Enhanced Package (SEP) (Mobile)**

AGTS Crew Station Subsystem

Commander's Station

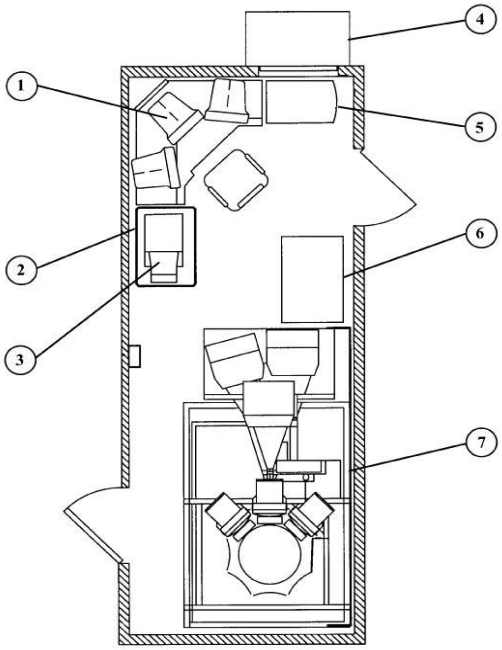
Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The AGTS provides individual crew and platoon precision and degraded mode gunnery training for tank commanders and gunners of the M1A2SEP Abrams Tank. The AGTS can be setup in any one of three configurations: permanent, relocatable, or mobile. This section addresses the mobile configuration.

Functional Description:
The M1A2 AGTS provides crew gunnery to commanders and gunners of the M1A2SEP Abrams Tank. This is accomplished by means of four functional subsystems; Computational, Instructional, Visual and Crew station.



1) Instructor/Operator Station
2) General Purpose Computer
3) Laser Printer
4) Air Conditioner
5) Special Purpose Computer
6) Electronic Interface Unit
7) Crew Station

The Crew Station subsystem provides the crew with simulated vehicle components of the actual crew stations, which provide proper stimulus of and response to crew actions in a manner approximating the associated operational system. The visual subsystem simulates tactical scenes consisting of a variety of terrain and man–made cultural features and a number of potential target types so that the crew members can be trained in target detection, classification, and gunnery under combat conditions. The Instructional subsystem provides training exercises in which crew(s) interacts with each other and the trainer, in response to visual and aural cues while performing a variety of special–purpose task training and tactical firing exercises. The Instructor/Operator Station (IOS) is an element of the instructional subsystem and provides for the selection and assignment of desired exercises from a list of multi–problem exercises correlated to crew capabilities in European or desert terrain databases. The evaluation of crew performance is provided in the form of IOS displays and computer printouts. A training management program provides data necessary to assess crew readiness, direct crew training, and judge crew gunnery proficiency.

The trainer is equipped with Force XXI Battle Command Brigade-and-Below (FBCB2) digital communication capability. FBCB2 is a battle command information system designed for units performing missions at the tactical level. The AGTS provides FBCB2 functionality at both the crew station and at the IOS to enable digital communications during training exercises. FBCB2 displays the relevant Situational Awareness (SA) picture for the tank commander by plotting the location of his own vehicle, adjacent friendly units, graphical overlays, and enemy icons.

The AGTS has undergone a series of improvements to its capabilities. P3I initiatives include two (2) additional unity vision blocks for the tank commander increasing his field of view, a new European terrain database, and improvements to the PAAR (Device 17-178P). The AGTS continues to mimic the most current capabilities of the Abrams tank through recurring upgrades to the Abrams Common Software Library (ACSL) and FBCB2.

Physical Information:
The shelter for the AGTS for M1A2SEP (Mobile-MAGTS) is approximately 20 feet in length, 8 feet wide, and 8 ½ feet high. The recommended clearance area for a trailer mounted shelter is 68 x 28 feet.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

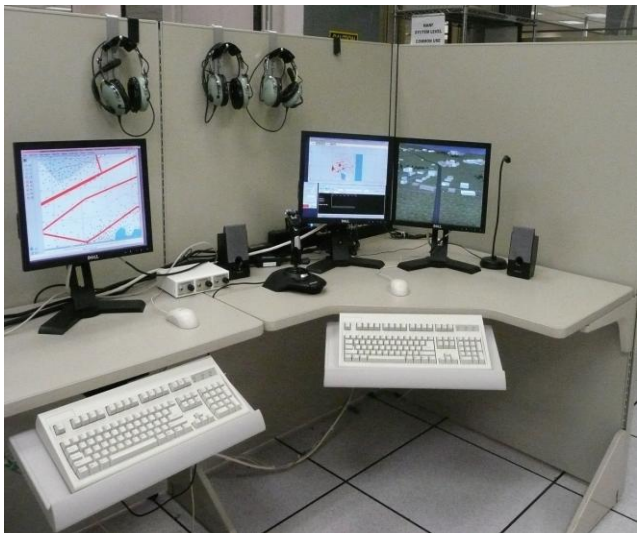
Power Requirements:
The AGTS trainer, monitoring system and special support equipment operates on standard 230/115-volts, ± 10%, single-phase, 50/60 Hz power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from power fluctuations, sags, surges, and transients. Trainer utility power receptacles have been provided as part of the equipment installation. The receptacles have been placed so that a 120-volt duplex receptacle is within 6 feet of any area where maintenance is to be performed.

Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

ADVANCED GUNNERY TRAINING SYSTEM (AGTS) FOR THE M1A2 (MOBILE) (MAGTS) PRE-BRIEF AFTER ACTION REVIEW (PAAR)



PRE-BRIEF AFTER ACTION REVIEW (PAAR) STATION

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for general issue (limited production).

Purpose of PAAR:
The PAAR station is used when conducting section and platoon training. It is not a trainer, but rather a component of the Abrams M1A2SEP AGTS trainer, where two to four co-located crew stations are linked for training. It does not operate alone, but only in conjunction with Abrams M1A2SEP AGTS crew stations (Training Device # 17-178A).

It provides the instructor the capability to conduct platoon/section training exercises where offensive and defensive tactical operations gunnery tasks and procedures are being trained. These exercises provide the capability to train command and control procedures and fire distribution planning while conducting tactical operations.

Functional Description:
The PAAR station provides both a plan view (2D) and stealth (3D) display and logs and re-plays the exercises with digital voice communications using the logger and exercise manager software. The operator can also initiate a scan of the log file from previous fired exercises to permit the operator to select data for playback to analyze and brief the platoon/section during the After Action Review (AAR).

Physical Information:
The PAAR consists of the operator's station with monitors and keyboards, after-action displays and PAAR computer. This equipment may be housed in a shelter or arranged in an institutional setting as pictured.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The Abrams M1A2SEP AGTS PAAR operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from transient power fluctuations, sags, and surges.

Shelterized PAAR

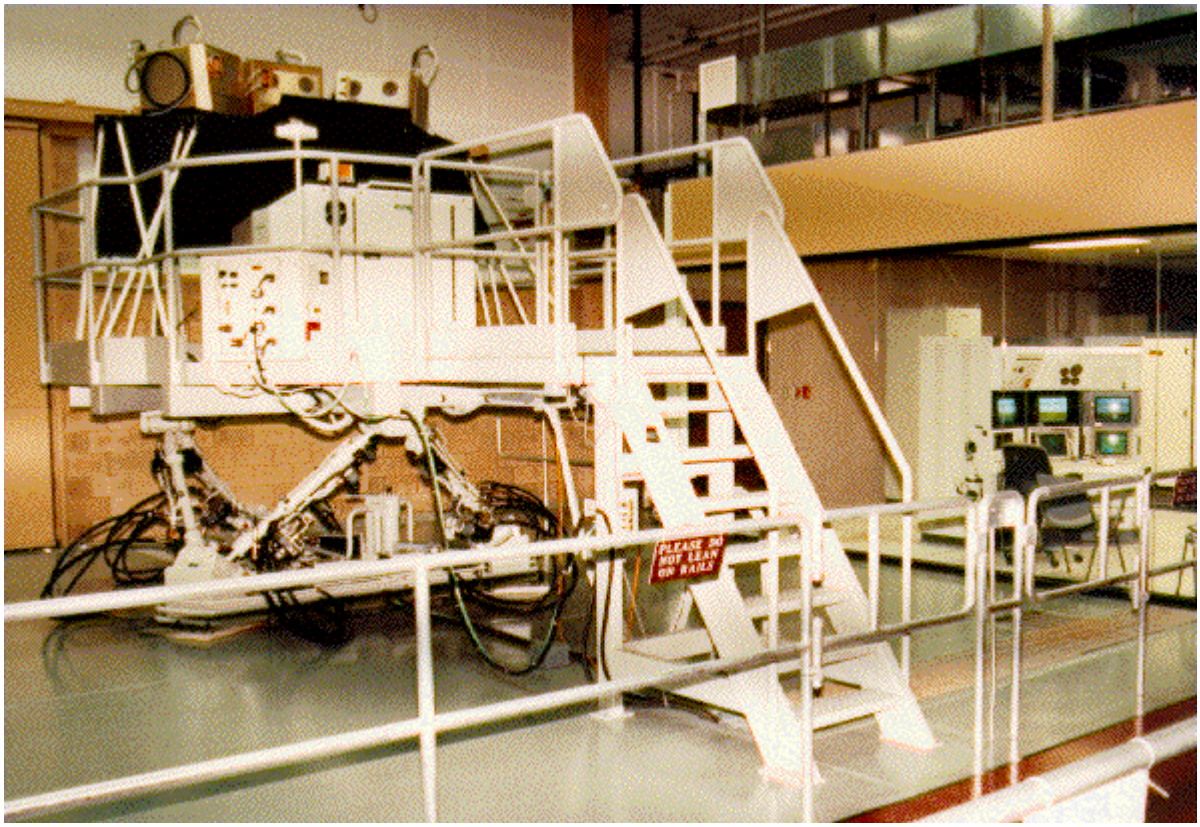
Applicable Publications:
SMM 17-6920-706-AGTS (Volumes 1-3)
SMM 17-6920-706-WSSA-M1A2 (Volumes 1-3)
SMM 17-6920-706-PAAR (Volumes 1-3)

Reference Publications:
FM 3-20-12 (FM 17-12-1) 14 May 2001

Training Requirements Supported:
M1 Abrams Armor Crewman, MOSC 19K

M1A2 TANK DRIVER TRAINER (TDT)

NSN Not Assigned **DVC 17-187/A M1A2 System Enhanced Program (SEP) Tank Driver Trainer (TDT)**



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Initial and transition driver training for the M1 Abrams Armor Tank Crewman at Ft. Knox, Kentucky.

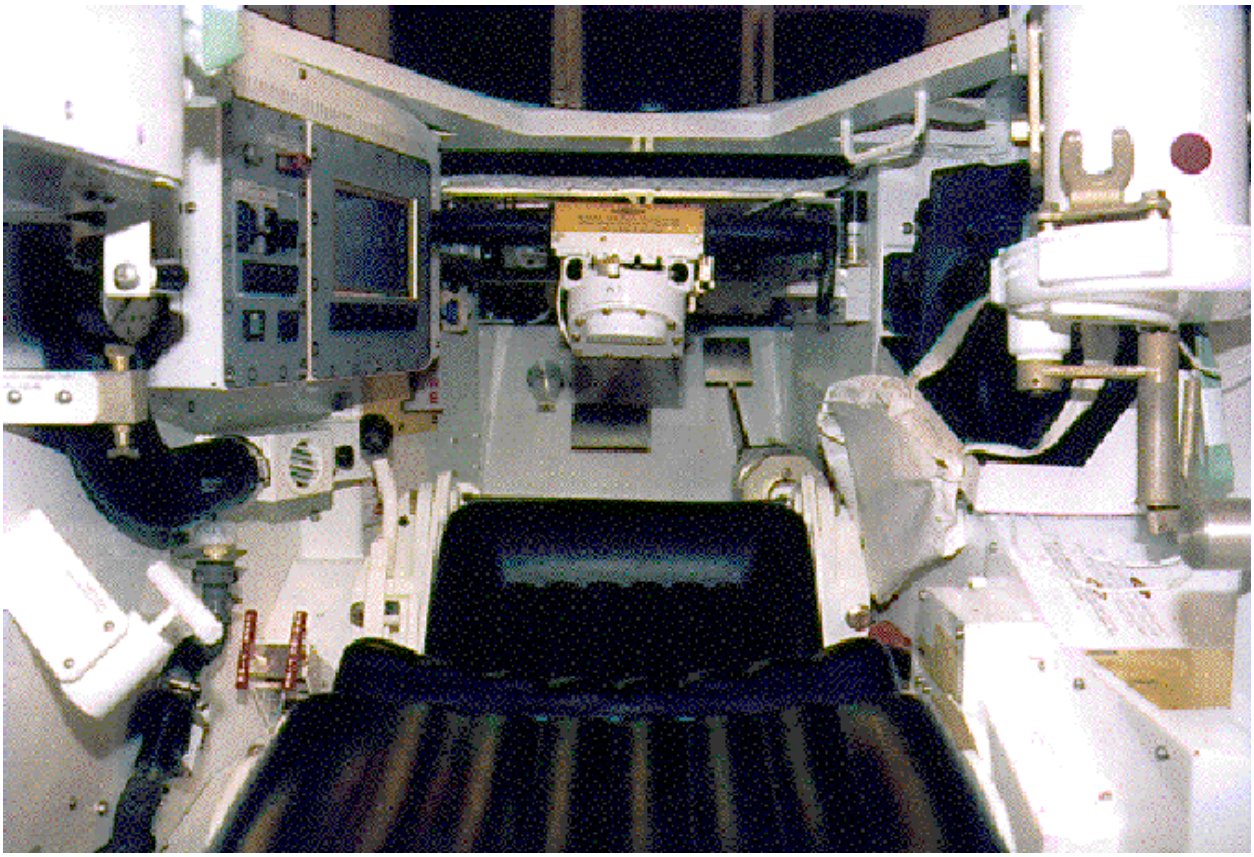
Functional Description:
The M1A2 Tank Driver Trainer (M1TDT) provides Advanced and transition driver training for the M1A2 Abrams Armor Tank Crewman. The device consists of a driver trainer station, instructor/operator station, a visual system, an aural/audio system, a computer system, and a fully integrated 6 DOF motion system. A real-time color computer image generation (CIG) subsystem provides visual scenes to the driver through the periscope or on monitor screens for out-of-hatch training. The instructor, via the instructor/operator station, is capable of selecting a visual scene, viewing the visual scene, monitoring each trainee's performance and introducing malfunctions and emergency control situations. The M1A2 TDT has two training data-bases; European and Desert. The Drivers Integrated Display (DID) and the Battlefield Override are two hardware additions to this trainer.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Due to motion platforms, facility required 17 foot minimum ceiling height.

Power Requirements:
480-volts +/- 10%, 50/60 Hz +/- 1%, 3-phase Delta connection.
Host Computer and Image Generator - 120/208 AC 60 Hz, 3-phase Y connection.



Driver's Station

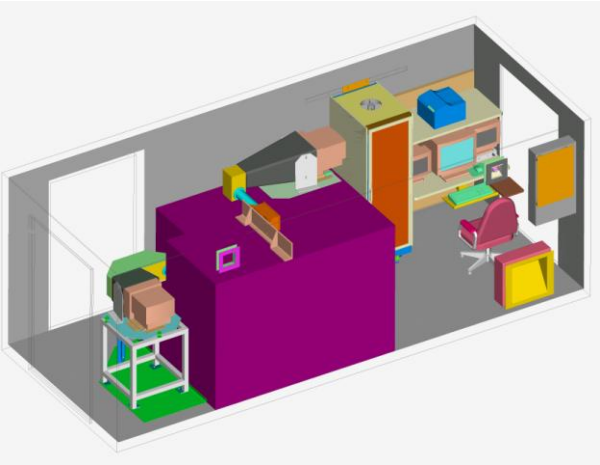
Applicable Publications:
Instructor Utilization Handbook 17-6930-705
Operators Manual TM 17-6930-705-10

Reference Publications:
None

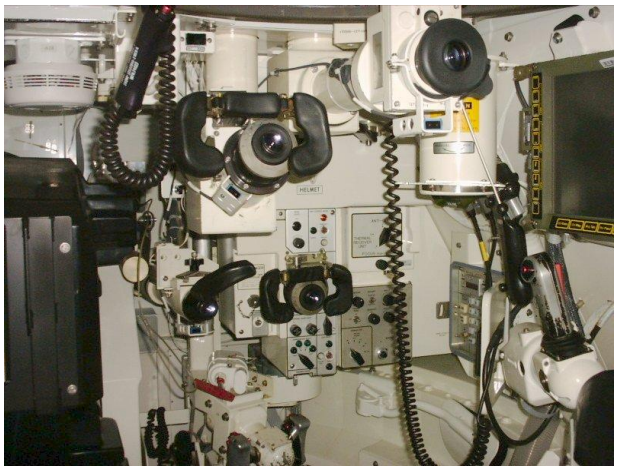
Training Requirements Supported:
MOSC 19 Advanced Driver

M1A1 CONDUCT OF FIRE TRAINER – ADVANCED GUNNERY TRAINING SYSTEM (M1A1 COFT-AGTS)

NSN Not Assigned	**DVC 17-224/A**	**(C-AGTS) for M1A1 (COFT-AGTS) SA/TUSK**
NSN Not Assigned	**DVC 17-224/B**	**(C-AGTS) for M1A1 (COFT-AGTS) SA/TUSK/SCWS**



M1A1 C-AGTS Crew Station Shelter



M1A1 C-AGTS Crew Station

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Abrams M1A1 C-AGTS provides individual crew and platoon precision and degraded mode gunnery training, organizational procedures, target acquisition, reticle aim, target engagement and system management for tank commanders and gunners of the M1A1 Abrams Tank. The CAGTS can be setup in any one of three configurations: permanent, relocatable, or mobile. The M1A1 C-AGTS is used at the battalion level, primarily to sustain gunnery proficiency of unit gunners and tank commanders (TC) between annual qualification periods.

Functional Description:
Each M1A1 C-AGTS consists of a crew compartment replicating the gunner station and TC station and an instructor/operator station. Training exercises are presented to the gunner and commander through the tank's optical system utilizing a computer system with visual and aural/audio sub-systems.

M1A1 C-AGTS has the ability to train operational procedures, target acquisition, and identification / engagement using either primary or alternate fire control and sighting equipment. The training scenarios provide a simulated battlefield environment challenging the crew with stabilized and unstabilized, stationary and moving, single and multiple target arrays, in day / night and reduced visibility conditions.

The instructor/operator station controls the training scenario and allows the instructor to monitor the gunner and commander's operation of fire control equipment and target engagement procedures, while the computer's training management matrix system scores the crew's performance. Training proficiency and advancement records are maintained and records can be transferred with the students between locations as required.

The M1A1 C-AGTS has undergone a series of improvements to its capabilities. P3I initiatives include improvements to the PAAR (Device #17-124P), the addition of FBCB2 and IIGEN FLIR under SA/TUSK, and the planned addition of the Stabilized Commanders Weapon Station (SCWS). The M1A1 C-AGTS continues to mimic the most current capabilities of the M1A1 Abrams tank via recurring upgrades from the Abrams Common Software Library (ACSL).

Physical Information:
20' L x 8' W x 8" H; approx. 13,000 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

M1A1 C-AGTS Platoon Configuration

M1A1 C-AGTS Mobile Configuration

Power Requirements:
120/208vac, 60 Hz, 3-phase, 4-wires
Maximum peak power is 125kva including 20% design reserve.

Applicable Publications:
TM 9-6920-899-10
TM 9-6920-899-15

Reference Publications:
TM 9-6920-899-23
TM 9-6920-899-23-100
TM 9-6920-899-23-109

Training Requirements Supported:
MOSC 19K, 12-Series

M1A1 CONDUCT OF FIRE TRAINER – ADVANCED GUNNERY TRAINING SYSTEM (M1A1 COFT-AGTS) PRE-BRIEF AFTER ACTION REVIEW (PAAR)

PRE-BRIEF AFTER ACTION REVIEW (PAAR) STATION

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for general issue (limited production).

Purpose of PAAR:
The PAAR station is used when conducting section and platoon training. It does not operate alone, but only in conjunction with M1A1 Abrams C-AGTS crew stations (Training Devices # 17-224, 17-224A, 17-224B) where two to four co-located crew stations are linked for training.

It provides the instructor the capability to conduct platoon/section training exercises where offensive and defensive tactical operations gunnery tasks and procedures are being trained. These exercises provide the capability to train command and control procedures and fire distribution planning while conducting tactical operations.

Functional Description:
The PAAR station provides both a plan view (2D) and stealth (3D) display and logs and re-plays the exercises with digital voice communications using the logger and exercise manager software. The operator can also initiate a scan of the log file from previous fired exercises to permit the operator to select data for playback to analyze and brief the platoon/section during the After Action Review (AAR).

Physical Information:
The PAAR consists of the operator's station with monitors and keyboards, after-action displays and PAAR computer. This equipment may be housed in a shelter or arranged in an institutional setting as pictured.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The M1A1 Abrams C-AGTS PAAR operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from transient power fluctuations, sags, and surges.

Shelterized PAAR

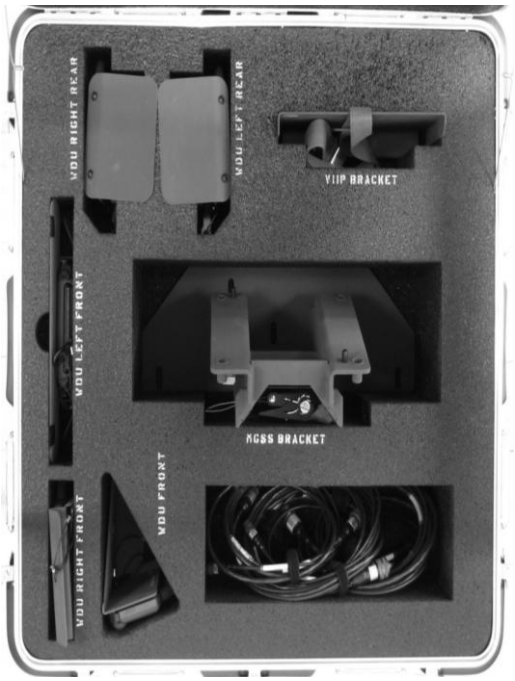
Applicable Publications:
TM 9-6920-899-10
TM 9-6920-899-15

Reference Publications:
TM 9-6920-899-23
TM 9-6920-899-23-100
TM 9-6920-899-23-109

Training Requirements Supported:
MOSC 19K, 12-Series

STRYKER MOBILE GUN SYSTEM - TACTICAL ENGAGEMENT SIMULATION SYSTEM (MGS-TESS)

NSN Not Assigned **DVC 17-243/4/1 STRYKER (MGS) (TESS) AIMTEST-SA**
NSN Not Assigned **DVC 17-243/4/2 STRYKER (MGS) (TESS) (TSV) (AAR) Playback System**



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for use (limited production)

Purpose of Trainer:
MGS-TESS is designed to operate on the Stryker MGS during Force-on-Force (FOF) and gunnery training exercises.

Functional Description:
MGS-TESS provides laser based Precision Gunnery (PG) capabilities and FOF training for the U.S. Army Stryker MGS. The Inbore Device Stryker (IDS) is available as a cost saving alternative to main gun live fire. While utilizing the Vehicle Instrumentation Interface Package (VIIP) the system interfaces with instrumentation systems at Maneuver Combat Training Centers (MCTCs). MGS-TESS is a 28 Volts Direct Current (VDC) system powered by the vehicle and interconnecting cables. User replacement of batteries is necessary only for the Wireless Detector Units (WDU) and Commander's .50 Caliber (Cal) Small Arms Transmitter (SAT). MGS-TESS simulates both the firing capabilities and the vulnerability of the vehicle. The main weapon and secondary weapon are simulated with the Transceiver Unit (TU) and the Commander's .50 Cal is simulated with the SAT. The simulator interfaces both to the vehicle and crew; to the vehicle with brackets and connectors and to the crew with audio and visual signals.

Physical Information:
The MGS-TESS system will be contained in two transit cases. Contains components, mounting hardware, cables, manuals. Case 2 is only needed for Force on Force training. The GFE equipment is delivered in separate transit cases. MGSS, DIFCUE, Inbore Device, VIIP, AAR/Setup Computer, Controller Gun.

Operation Temperature	-20°C to 55°C
Humidity	Rainproof
Current Draw Rate	2.5 Amp
WDU batteries (2 each)	1.5 V (AA)
SAT battery (CR2)	3.0 V Lithium

Equipment Required, Not Supplied:
AA1.5V Batteries, Vehicle BII

Special Installation Requirements:
Training Device Interface Panel (TDIP) Cover must Installed by depot personnel and must be present for MGS-TESS system installation

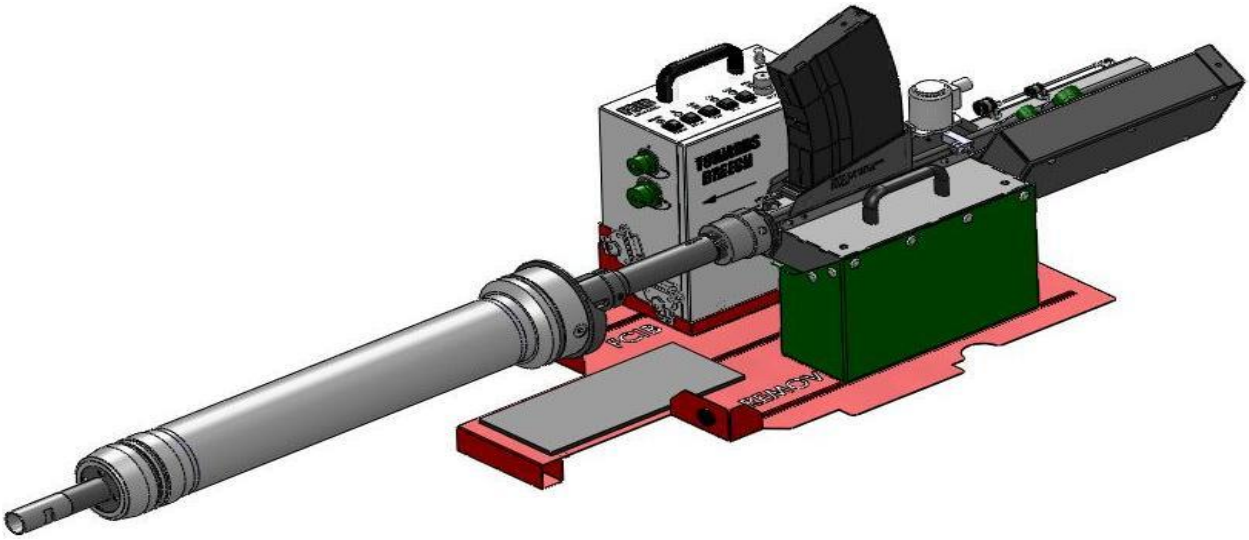
Power Requirements:
28 VDC (10 Amp)

Applicable Publications:
TM 9-6920-921-10

Reference Publications:
TM 9-2355-321-10, ST 3-20.13-2,DA Form 2408-4, DA Form, TM 9-1265-376-10

Training Requirements Supported:
MOSC 19K

SUB-CALIBER INBORE 105MM SEMI-AUTOMATIC, STRYKER (IDS)



Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally Available for issue (limited production)

Purpose of Trainer:
Used in conjunction with MGS TESS to provide full and half scale, sub caliber live fire gunnery and urban (MOUT), warfare training.

Functional Description:
The IDS is designed for use with the Stryker MGS 105mm, M68A1E8 cannon. The IDS is intended for live fire gunnery or urban gunnery training with full or hald scale targets. Maximun target engagements of 2000 meters are achieved using Cal. 50, M17 Trace. Urban training using M860 SRTA-T has a maximum effective range of 170 meters. Ballistic solution data for both M962 and M17 is incorporated into the ballistic computer of the STRYKER MGS vehicle.

Physical Information:

Caliber	50 (12.7X99)
System of Operation	Electronically controlled
Type of Action	Electronically controlled, mechanically actuated
Rate of Fire	6 rounds per minute. Electronically controlled. (Factory Adjustable)
Length	70 Inches
Width	7 5/8 Inches
Height	14 Inches (with 18 round magazine installed)
Weight (Barrel Assembly)	50 Lbs
Weight (Receiver Assembly)	28 Lbs
Weight (Total Shipping in Box)	215 Lbs
Barrel Length	45 In
Muzzle Velocity	1210 m/s (M962 SLAP-T)
886 m/s (M17 Tracer)	
850 m/s (M860 SRTA-T)	
Maximum Effective Range	2000 Meters (M962 SLAP-T)
1500 Meters (M17 Tracer)	
170 Meters (M860 SRTA-T)	
Used in Conjunction with	US M68A1E8, 105mm Gun
Safety	Mechanical Safe, Electrical Safe and Main Gun Safety System

ENVIRONMENTAL CONDITIONS.

VARIABLE	VALUE
Humidity	Rainproof
Operation Temperature Range	0° C to 70° C
Storage Temperature Range	-40° C to +70° C

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The IDS is used in conjunction with the MGS TESS system in Sub-Cal mode and cannot be used as a standalone training device

Power Requirements:
24V DC

Applicable Publications:
TM 9-6920-921-10

Reference Publications:
TM 9-2355-321-10, ST 3-20.13-2 DA 2408-4 DA Form

Training Requirements Supported:
MOSC 19K

STRYKER MOBILE GUN SYSTEM (MGS) ADVANCED GUNNERY TRAINING SYSTEM (AGTS)

Illustration 1

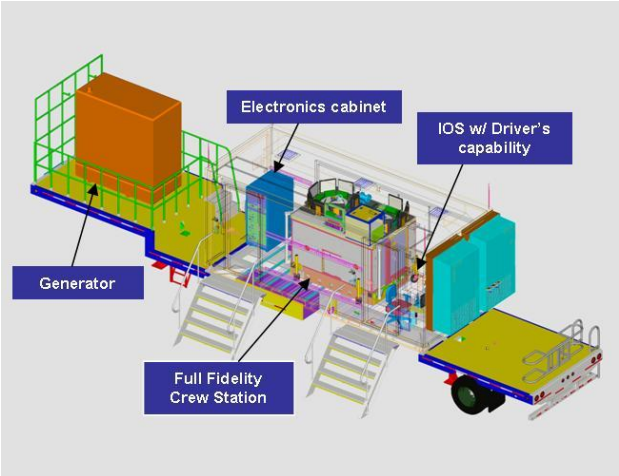


Illustration 2

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Stryker MGS AGTS provides gunnery simulation training for MGS crews,MOS 19K. Stryker MGS AGTS trainers are setup in two configurations, institutional and mobile. In the institutional configuration, illustration 1 above, three crew stations are capable of being linked for MGS section or platoon training. In mobile configuration, illustration 2 above, the trainer is mounted and is capable of being linked for section and platoon training. These stand-alone crew trainers provide gunner and vehicle commander training in precision and degraded mode gunnery tasks. The instructor, via the instructor/operator station, is capable of selecting a gunnery exercise, starting, pausing and stopping the exercise, and monitoring each crew's performance. Malfunctions and battle damage are randomly induced in exercises.

Functional Description:
Each Stryker MGS AGTS consists of a crew station replicating the gunner's and vehicle commander's compartment; an instructor/operator station; a visual system; an aural/audio system; and a computer system. A computer generated image system provides visual presentations to the gunner and VC through the optical system. Stryker MGS AGTS has the ability to train operational procedures, target acquisition, identification and engagement using either the primary or alternate fire control and sighting equipment. Stryker MGS AGTS provides a simulated battlefield environment with stationary and moving single and multiple target arrays presented in day, night and reduced visibility conditions. The instructor/operator station allows monitoring of the gunner and VC and selection of training scenarios to be conducted and provides a scoring system for evaluation of crew performance. A Pre-brief After Action Review (PAAR) capability is also provided for review of section and platoon training analysis.

Physical Information:
Crew Station Shelter: 20' L x 8' W x 8' H
Mobile Trainer: approximately 45' L x 8' W x 12 ½ ' H.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The Stryker MGS AGTS trainer, monitoring system and special support equipment operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from power fluctuations, sags, surges, and transients. Trainer utility power receptacles have been provided as part of the equipment installation. The receptacles have been placed so that a 120-volt duplex receptacle is within 6 feet of any area where maintenance is to be performed.

Applicable Publications:

TD 17-6920-721-10, Training System Utilization Handbook (TSUH) Stryker MGS AGTS (Vols. 1-2)

SMM 17-6920-721-24&P, System Maintenance Manual (SMM), Stryker MGS AGTS (Vols. 1-4)

Reference Publications:

TM 9-2355-321-10, Operator's Manual, Stryker Mobile Gun System

FM 3-20.12, Field Manual, Mobile Gun System Gunnery

Training Requirements Supported:

MOSC 19K

STRYKER MOBILE GUN SYSTEM (MGS) ADVANCED GUNNERY TRAINING SYSTEM (AGTS) PRE-BRIEF AFTER ACTION REVIEW (PAAR)

PRE-BRIEF AFTER ACTION REVIEW (PAAR) STATION

Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for general issue (limited production).

Purpose of PAAR:
The PAAR station is used when conducting section and platoon training. It is not a trainer, but rather a component of the Stryker MGS AGTS trainer, where two or three co-located crew stations are linked for training. It does not operate alone, but only in conjunction with Stryker MGS AGTS crew stations (Training Device # 17-261) .

It provides the instructor the capability to conduct platoon/section training exercises where offensive and defensive tactical operations gunnery tasks and procedures are being trained (IAW FM 3-20.151). These exercises provide the capability to train command and control procedures and fire distribution planning while conducting tactical operations. The PAAR also provides the instructor the capability to insert Computer Generated Forces (CGF) into the training scenarios to enhance training.

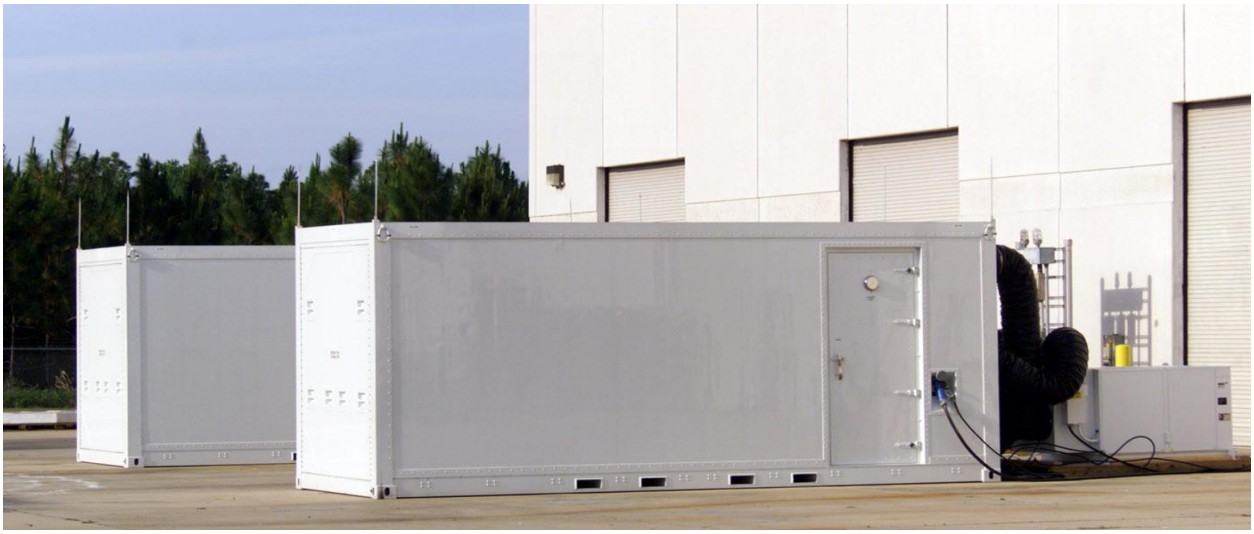
Functional Description:
The PAAR station provides both a plan view (2D) and stealth (3D) display and logs and re-plays the exercises with digital voice communications using the logger and exercise manager software. The operator can also initiate a scan of the log file from previous fired exercises to permit the operator to select data for playback to analyze and brief the platoon/section during the After Action Review (AAR).

Physical Information:
The PAAR consists of the operator's station with monitors and keyboards, after-action displays and PAAR computer. This equipment may be housed in a shelter or arranged in an institutional setting as pictured.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The Stryker MGS AGTS PAAR operates on standard 380/415/480 VAC, 3 phase, 50/60 Hz Commercial Site power. The system will tolerate the stated input power, ± 1%. Power line conditioners have been installed to protect the equipment from transient power fluctuations, sags, and surges.



Shelterized PAAR

Applicable Publications:

TD 17-6920-721-10, Training System Utilization Handbook (TSUH) Stryker MGS AGTS (Vols. 1-2)

SMM 17-6920-721-24&P, System Maintenance Manual (SMM), Stryker MGS AGTS (Vols. 1-4)

Reference Publications:

TM 9-2355-321-10, Operator's Manual, Stryker Mobile Gun System

FM 3-20.13, Field Manual, Mobile Gun System Gunnery

Training Requirements Supported:

MOSC 19K

M1A2 MOBILE CONDUCT OF FIRE TRAINER XXI (M1A1 M-COFT XXI)

NSN Not Assigned **DVC 17-266/A M1A1 Institutional Conduct Of Fire Trainer XXI (M1A1 I-COFT XXI)**
NSN Not Assigned **DVC 17-266/B M1A1 Unit Conduct Of Fire Trainer XXI (M1A1 U-COFT XXI)**

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train the gunner and tank commander on the Abrams M1A1 tank in organizational procedures, target acquisition, reticle aim, target engagement and system management.

Functional Description:
The M-COFT XXI is used at the battalion level, primarily to sustain gunnery proficiency of unit tank commanders (TC) and gunners between annual qualification periods. Each M-COFT XXI consists of a crew compartment replication; a gunner station and a TC station; an instructor/operator station; a visual system; an aural/audio system; and a computer system. A computer generated image system provides visual presentations to the TC and gunner through the tank optical system. M-COFT XXI has the ability to train in operational procedures, target acquisition, identification and engagement, using either the primary or alternate fire control and sighting equipment. M-COFT XXI provides a simulated battlefield environment with tank stabilized arrays, day and night, and reduced visibility conditions. The instructor /operator station allows monitoring of the gunner and TC fire control equipment and selection of training to be conducted and provides a scoring system for the evaluation of crew performance.

Physical Information:
45' L x 8' W x 13'6" H; approx. 33,500lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
M-COFT XXI is installed in two basic mobile facility shelters mounted on a 45-foot air-ride trailer. The Government provides a 30' x 60' concrete pad at each armory with electrical and telephone lines in accordance with an approved facility plan. The contractor provides an electrical distribution center at each site.

Power Requirements:
100-Amps, 120/240vac, single-phase power. Maximum peak power is 125kva including 20% design reserve.

Applicable Publications:
TM 9-6920-744-15-XXI (Transportablility Guidance COFT XXI)
TM 9-6930-713-10 Instructor/Operators Manual IUH AFIST/COFT XXI

Reference Publications:
FM 3-20.12 (May 2001)

Training Requirements Supported:
MOSC 11B, 19D, 12-Series

M1/M2 M-COFT BRIGADE COMBAT TEAM (BCT) XXI TRAINER

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The COFT XXI will provide precision gunnery training at National Guard armories.

Functional Description:
COFT XXI is an upgrade to a legacy COFT, wherein virtually all of the original electronics are replaced with commercial off the shelf (COTS) electronics while preserving and refurbishing the crew station shell, controls and indicators. This simulator is mobile and contains an M1A1 (tank) and an M2A2 (Bradley) trainer. There is an on-board generator to enable the trainer to be transported almost anywhere to conduct training where power isn't available as long as there is a flat surface. COFT XXI provides precision gunnery training for Abrams and Bradley crews. Each variant includes a unique library of exercises organized into training programs

Physical Information:
The COFT XXI system is housed in two transportable shelters that are mounted end to end (tandem) on a 45-foot, air-ride flatbed semi-trailer. Each of the 20-foot shelters is installed on the trailer so that a 4-foot walkway is provided between them. One shelter houses the crew station for a Bradley and the other shelter for a tank crew station. Each shelter weights approximately 9,000 lbs.

Equipment Required, Not Supplied:
The unit must use CVC helmets.

Special Installation Requirements:
COFT XXI receives electrical power from an electrical distribution center (EDC) provided at each remote training site. One 120/240 VAC, single-phase power service is routed to the COFT XXI system through a connection panel located on the outside of the rear shelter.

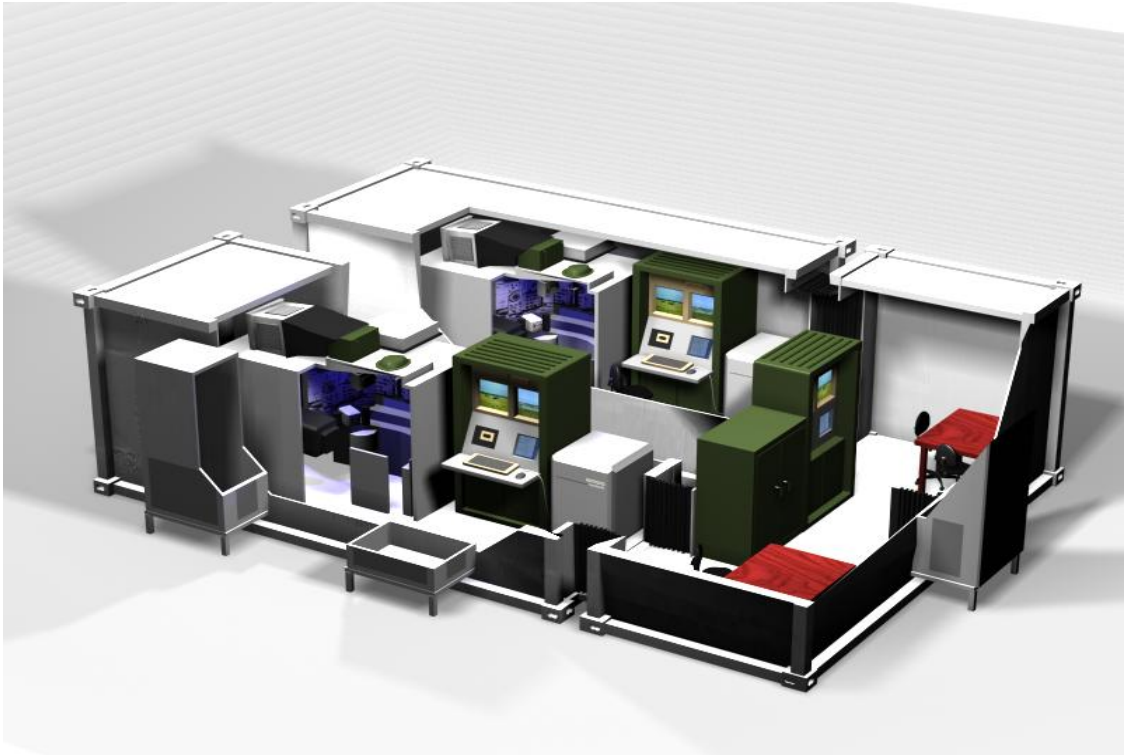
Power Requirements:
100-amp, 120/240 VAC, single-phase power

Applicable Publications:
TM 55-6920-744-15-XXI
TM 17-6930-713-10

Reference Publications:
FM 3-22.1; FM 3-20.21 (Draft)

Training Requirements Supported:
MOSC 11B, 19D, and 19K

M1/M2 U-COFT BRIGADE COMBAT TEAM (BCT) XXI TRAINER



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The COFT XXI will provide precision gunnery training at National Guard armories.

Functional Description:
COFT XXI is an upgrade to a legacy COFT, wherein virtually all of the original electronics are replaced with commercial off the shelf (COTS) electronics while preserving and refurbishing the crew station shell, controls and indicators. This simulator contains an M1A1 (tank) and an M2A2 (Bradley) trainer. COFT XXI provides precision gunnery training for Abrams and Bradley crews. Each variant includes a unique library of exercises organized into training programs

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
The unit must use CVC helmets.

Special Installation Requirements:
COFT XXI receives electrical power from an electrical distribution center (EDC) provided at each remote training site. One 120/240 VAC, single-phase power service is routed to the COFT XXI system through a connection panel located on the outside of the rear shelter.

Power Requirements:
100-amp, 120/240 VAC, single-phase power

Applicable Publications:
TM 55-6920-744-15-XXI
TM 17-6930-713-10

Reference Publications:
FM 3-22.1; FM 3-20.21 (Draft)

Training Requirements Supported:
MOSC 11B, 19D, and 19K

SUBCALIBER INBORE TRAINING DEVICE

.50 Caliber Inbore Device

Training Category/Level Utilized:
Armor/Level 3 Abrams Tank Gunnery

Logistic Responsible Command, Service, or Agency:
PM Ground Combat Systems

Source & Method of obtaining
Available through the supporting Training Support Center.

Purpose of Trainer:
This device (known as the .50 caliber Advanced Inbore Marksmanship Training Enhancement System for Tanks – AIMTEST) is an integral component to the Combined Arms Training Strategy (CATS) for Abrams Tank Crew Gunnery Training to conduct sustainment and remedial training.

Functional Description:
The device is installed into the breech of the Abrams 120mm cannon. It consists of a single shot bolt-action receiver, solenoid actuated trigger, which is activated through a single connection on the right side of the Breechblock assembly and interfaces with and utilizes the vehicles firing circuits. In operation, the device provides full crew interaction and utilizes the Abrams fire control system.

Physical Information:
The device is a heavy .50 caliber bolt-action receiver and barrel encased in a precision machined, 120mm casing. The barrel is a standard Browning M2HB machinegun barrel. It fires all standard NATO .50 caliber ammunition to include M962 Saboted Light Armor Penetrator – Tracer (SLAP-T).

Major Components:
a. Assembly, Barrel, 120mm
b. Assembly, Receiver
c. Assembly, Bolt
d. Assembly, Trigger 24 volts DC (vdc)
e. Assembly, Electrical Lead (120mm by type gun)
f. Assembly, Anti-Roll & Counter Recoil Assist (ARCRA)
g. Tray, Ammunition 2 ea. (120mm by type tank)

Equipment Data:
Caliber.....50 BMG (12.7 x 99mm)
System of Operation..... Manual
Type of Action..... Bolt Action, Single Shot
Length..... 59 inches
Width..... 6 5/8 inches
Height.....9 ¾ inches
Weight (Barrel Assembly)..... 59 lbs
Weight (Receiver/Bolt/Trigger Assy).....17 lbs
Weight (Total Shipping in Box).....141 lbs
Barrel Length..... 45 in
Muzzle Velocity.....4000 fps with M962 SLAP-T
Muzzle Velocity.....3050 fps with M20 API-T
Maximum Effective Range.....2000 meters w/ M962 SLAP-T
Maximum Effective Range..... 1500 meters with M20 API-T
Trigger Pull.....20 lbs

Trigger Assembly (SOLENOID):
Weight.....4 lbs
Width..... 5.2 inches
Height.....3.4 inches
Operational Voltage Range.....22 - 28 volts DC
Operational Amperage Range.....2 – 8 Amps
Operational Temperature Range.....-46 to +60 Celsius
Operational Force.....Maximum 52 daN (116 lbs) Normal 45 daN (100 lbs)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 19K

THRU SITE VIDEO RECORDER COMMON (TSVRC) THRU SITE VIDEO (TSV)

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC at Fort Knox, Fort Hood, Fort Bliss and Fort Carson.

Purpose of Trainer:
The Thru Site Video Recorder Common (TSVRC) is an upgrade to the TSVR System (NSN: 5836-01-559-2503) to make it compatible with the Bradley ODS Fighting Vehicle. In addition, the TSVRC system replaces the spinning hard drive based Vehicle Recording Unit (VRU) of the TSVR System with a 4 channel SD Card Media recorder (VRU-4SD). With the upgrade to a solid state media recorder afforded by the SD card media, the TSVRC system also eliminates the need for the Vibration Cage Assembly (VCA) of the TSVR System.

Functional Description:
The TSVRC system consists of the following components:

a) Vehicle Recording Unit (VRU-4SD) - The VRU houses a 4 channel SD Card A/V Recorder. A total of 4 removable SD media card ports are provided with output ports to allow the unit to be used as a playback device. Download capability of all files to a PC via USB is also provided.

b) Universal Through Site Camera (TSC) - The TSC is an aluminum housed camera with beam splitter optics to allow images to be captured through the gun sight optics onboard the vehicle. The TSC mounts on to the M1 Series GPS-E or GAS (using the GAS adapter). The TSC allows the commander or gunner to see through their sights while the embedded camera captures video from the sight.

c) Low Light Crew Cameras (CRW-CAM) - Two (2) black and white Low Light Crew Cameras with infrared illuminators capture crew coordination with-in the vehicle cabin.

d) External Audio Adapter (EAA) - The External Audio Adapter connects between the vehicle communications J Box and the crew communication helmet to capture audio from the radio and intercom for recording on the VRU.

e) CDU Video Adapter cable (CDU), - The CDU Video Adapter Cable is a “T” adapter that taps into the read panel of the Commanders

f) TIS Video Adapter (TIS) - The TIS Video adapter cable captures TIS video from the M1A2SEP vehicle.

g) M1 Gunners Aux Sight Camera Adapter (GAS)- The Gunner Aux Sight Camera adapter allows the Through Sight Camera to mount on the Gunners Aux Sight (GAS)

h) M1 Loaders Camera Bracket (MCB)- Camera bracket for the M1 Loaders Crew Camera.

i) M1 Gunners Camera Bracket (SGB)- Camera bracket for the M1 Gunners Crew Camera

j) M2 Dual Camera Bracket (DCB)- M2 Dual Crew Camera Mounting Bracket

k) M2 GPS Adapter Ring (M2C) – M2 GPS Through Sight Camera Adapter Ring

l) M2 Aux Sight Adapter Ring (ASA)- M2 Aux Sight Through Sight Adapter Ring

m) Bradley Floor Plate Power Cable (C121-20)- Bradley ODS Floor Plate Power Cable

n) Hand Held Monitor (HHM) - The Hand Held Monitor connects to the AVB and provides a means to position crew cameras prior to a recording evolution.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:

Technical Characteristics

- Current draw < 5 amps @ 28 volts
- Four channel Video/Audio Approximately 1 hour per GB subject to the record/playback complexity of the scene
- Remote Control Unit Operational (from 1/2 foot to 3 feet)
- USB data transfer rate 120mb per second
- Operating Temperature -10°C to 40°C

Applicable Publications:
TM 17-6920-906-10

Reference Publications:
(Information not available)

Training Requirements Supported:
Live fire or laser based training.

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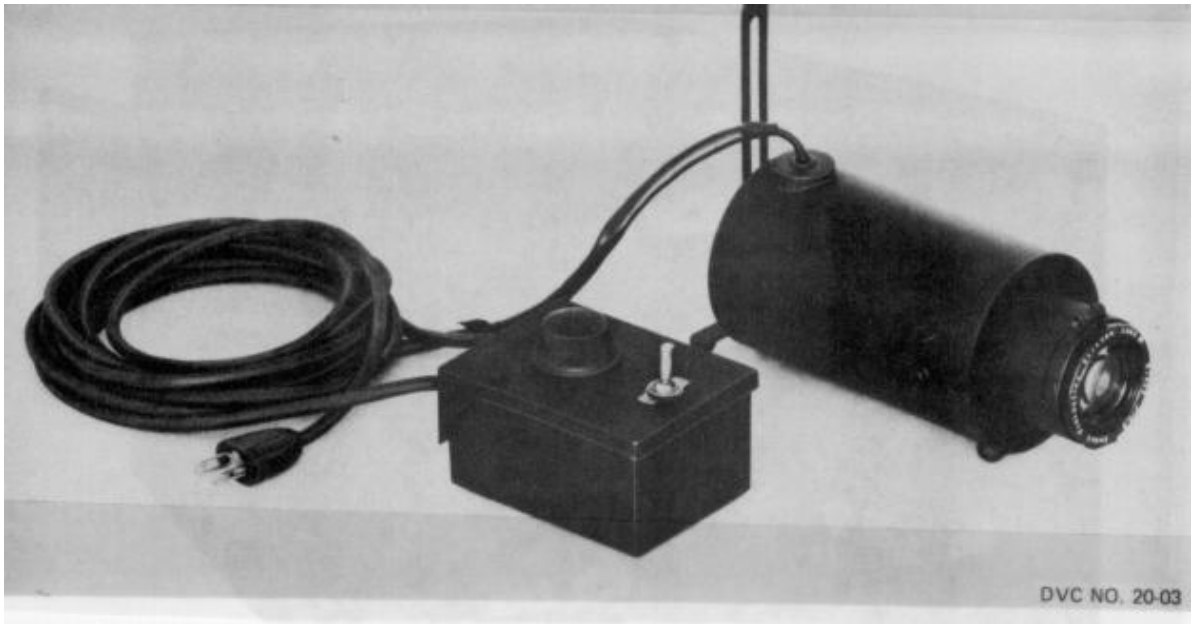
BASIC SERIES 20
GENERAL

NIGHT-VISION SHADOWGRAPH PROJECTOR



Training Category/Level Utilized:
General/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer is for classroom use to project silhouettes of objects on a screen to teach night-vision techniques to a variety of personnel types under simulated training conditions.

Functional Description:
The device is a light-tight, single-slide projector, which can project a 2" x 2" slide onto a 48" x 144" screen from a distance of 30 feet, or cover a smaller screen at a lesser distance. A voltage control is utilized in the power line to provide variable intensity. This permits background night simulation on the screen varying from absolute dark through starlight to full moonlight.

Physical Information:
Projector: 14" L x 5" D

Equipment Required, Not Supplied:
Projection screen

Special Installation Requirements:
None

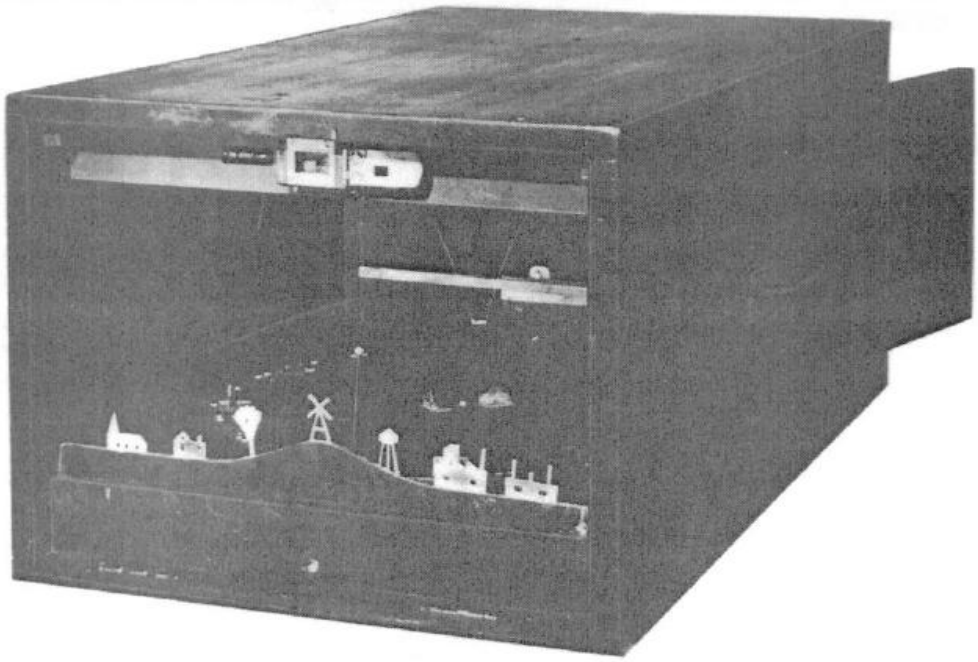
Power Requirements:
110vac

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
MOSC 11-Series

TWO-DIMENSIONAL NIGHT VISION TRAINER



Training Category/Level Utilized:
General/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer is used in the classroom to provide night vision training of pilots and lookout personnel through simulated training exercises conducted in a completely blacked-out room under accurately controlled artificial illumination adjusted to simulate natural outdoor conditions. Trainee background will consist of flying and/or navigation watch experience.

Functional Description:
The device is a basic synthetic vision trainer intended to illustrate two-dimensional shadowgraphs of typical outdoor scenes, projected on a screen, at levels of illumination corresponding to those, which would occur on a starlit night.

Major components of the device consist of: Silhouettes, Slide projector, Aircraft mechanism, Cloud and Fog effect guides, Turntable, Constant voltage transformer, Operator's control panel, and Accessory kit. The device is housed in a wooden box with two compartments, accessible from both ends.

Physical Information:
30" x 18" x 15"; 67 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
110vac

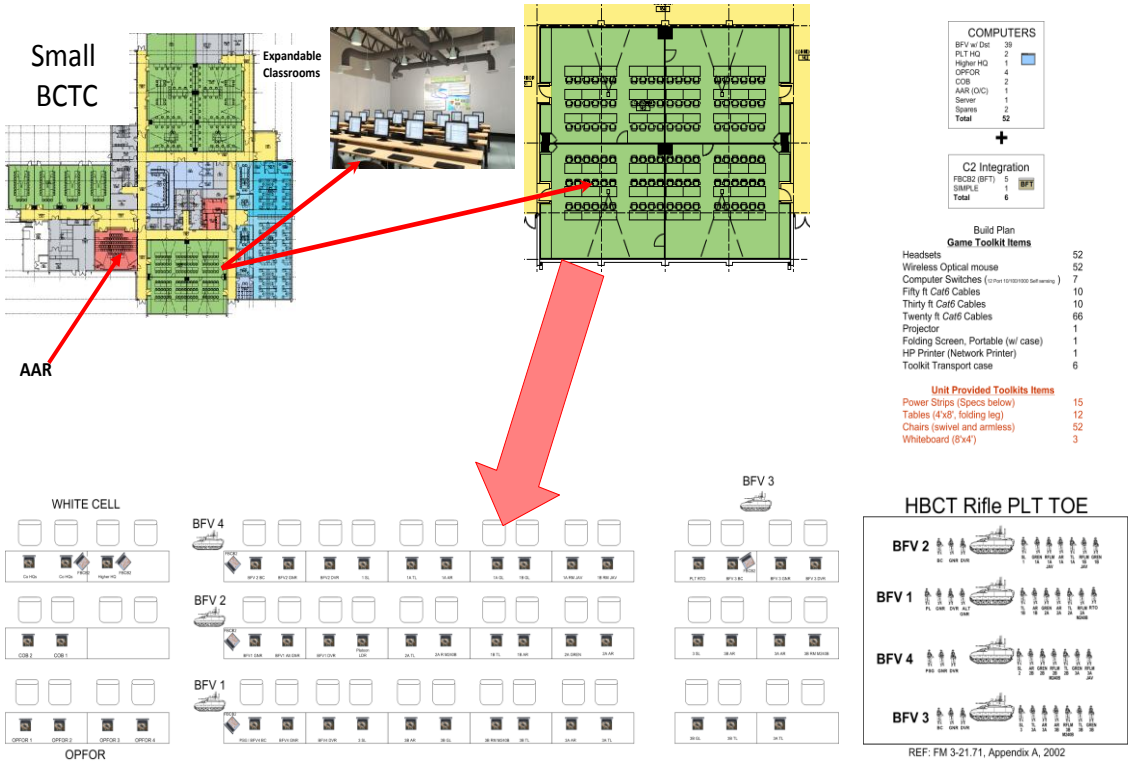
Applicable Publications:
NAVEXOS P-1912, Maintenance Handbook for Night Vision Trainer.

Reference Publications:
TM 11-1090-269-Series

Training Requirements Supported:
MOSC 15-Series

GAMES FOR TRAINING (GFT)
(INCLUDES VIRTUAL BATTLESPACE 2 TRAINING SIMULATION)

Example Classroom Layout in a Small BCTC
"A Way – not The Way"



Training Category/Level Utilized:
Communications/Electronics/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available through local TSC

Purpose of Trainer:
The U. S. Army Training and Doctrine Command (TRADOC) gaming training capability production document addresses the need to improve current Battalion (leaders & staff)/company & below, individual, collective, and multi-echelon training and fill training capability gaps caused by limited capability and availability of Training Aids, Devices, Simulations and Simulators (TADSS) and live training opportunities.

Gaming technology presents an immersive environment where training for a wide variety of individual and collective tasks and associated cognitive and commander-centric skills can occur. Gaming applications can provide the conditions to train tasks to enhance cultural awareness, language skills, Improvised Explosive Device (IED) recognition, and negotiation skills to name but a few.

The U. S. Army TRADOC concept for Gaming is not for the development, production, and fielding of a custom software package. Instead, the concept calls for an alternative, low cost training solution that leverages commercial and government off-the-shelf (COTS/GOTS) games and advanced simulation technology. Gaming technology is comprised of individual applications, each with unique characteristics that lend to improving an existing training capability or fill training capability gaps.

Functional Description:
The Games for Training Family of Systems utilizes Commercial-Off-The-Shelf (COTS) equipment and COTS/Government-Off-The Shelf (GOTS) software training solutions. The system comes in a portable toolkit that includes hardware and software. The kit may be configured in a classroom environment with a server networked to multiple student stations with various ancillary equipment (headsets, steering wheels, head mounted displays, joysticks) or for individual training to support training on a variety of task, techniques and procedures.

Physical Information:
Each gaming system consists of 52 laptops with ancillary equipment (headsets, steering wheels, head mounted displays, and joysticks)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None. The GFT may be configured in one classroom or multiple classrooms, depending on the needs of the installation.

Power Requirements:
Example of Power Requirements of the 52-laptop suite:
1. The power requirements for the 52 laptops with switches and steering wheel control is twelve 20 amp circuits or eight 30 amp circuits.
2. Based upon an average draw of 4 amps per laptop and 2.5 amps per switch.
3. This does not include HVAC/lighting/other power requirements.

This is the minimum requirement, and this should be used as a reference. The installation's Directorate of Public Works or similar directorate would have the correct requirements and coding for the building in which the GFT is installed.

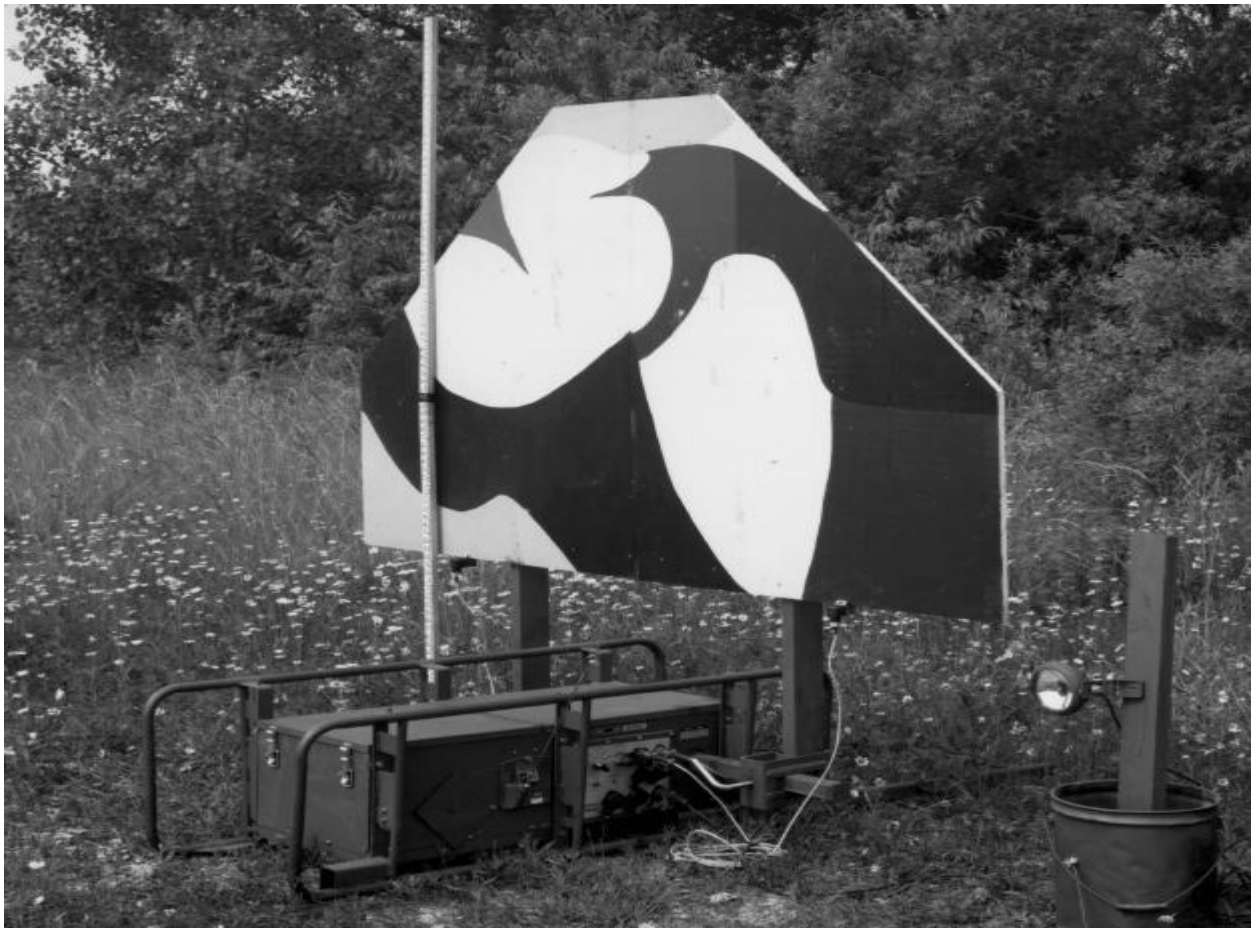
Applicable Publications:
None

Reference Publications:
COTS Manuals

Training Requirements Supported:
Supports individual and collective Soldier and leader training. Gaming will help units meet training requirements and address the educational needs of the Army in the operational, institutional, and self-development domains. Could be used to train in any MOSC.

REMOTED TARGET SYSTEM (RETS)
TARGET HOLDING MECHANISM TANK GUNNERY (THMTG)

NSN 6920-01-085-8514 **DVC 20-92/1 (RETS), (THMTG), Holding Mechanism**
NSN 5840-01-090-9304 **DVC 20-92/2 (RETS), (THMTG), Transmitter Radio**



Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Target Holding Mechanism Tank Gunnery (THMTG) is a component of the Remote Target System (RETS) DVC 09-24. THMTG is also used in other training applications. THMTG supports the training of tank gunnery personnel in identifying and firing on hostile vehicles and personnel. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer consists of a transmitter, transmitter battery (nickel-cadmium), transmitter battery charger, receiver, electronic control assembly, hit sensor assembly, visual hit indicator, tank target mechanisms, tank target mechanism battery charger (lead-acid), and lead-acid battery. The transmitter is man-portable and transmits signals to the receiver. Housing the receiver is the tank target mechanism which, when activated by means of the electronic control unit, elevates and lowers the target. The target will automatically drop to the down position by means of the hit sensor assembly when struck. A visual hit indicator (12v 15 W lamp) is also activated when the target is struck. Provisions are included to permit a hostile fire indicator.

Physical Information:
Transmitter: 13" x 7" x 7"
Receiver: 5" x 6" x 7"
Tank target mechanism: 61" x 24" x 16"

Equipment Required, Not Supplied:
Silhouette targets

Special Installation Requirements:
None

Power Requirements:
Transmitter: 12vdc nickel-cadmium battery
Tank target mechanism: 12vdc lead-acid battery

Applicable Publications:
TM 9-6920-742-14-5
TM 9-6920-742-24P-5

Reference Publications:
FM 17-12 with supplements

Training Requirements Supported:

SM 171-121 Tasks
1008

SM 171-123 Tasks
1204 1354

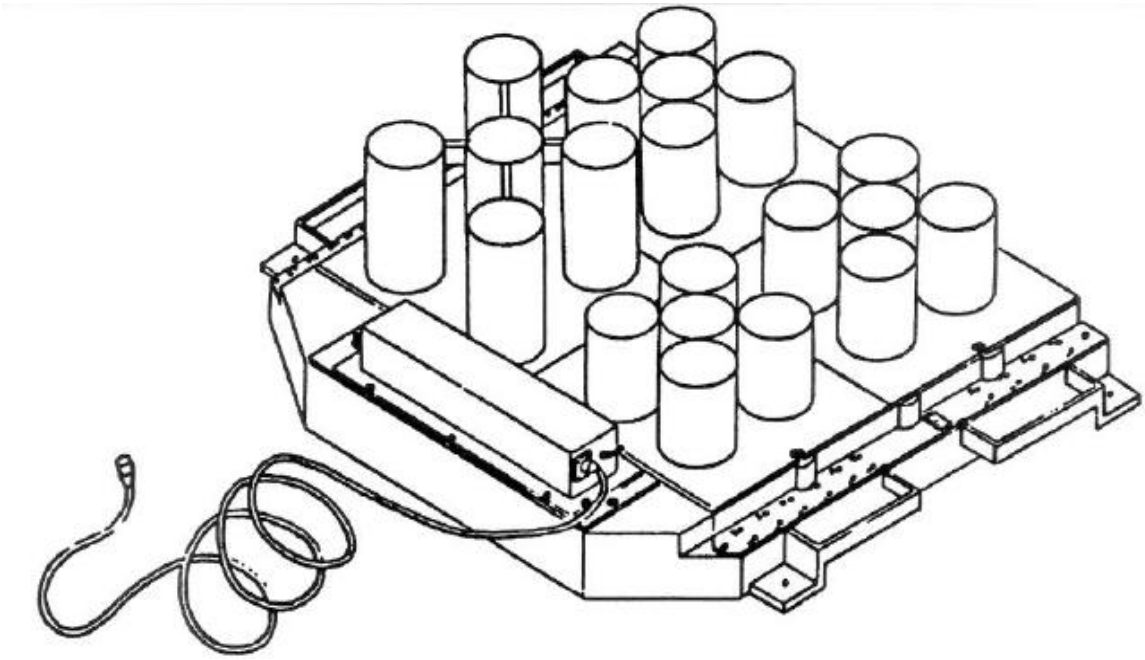
SM 171-124 Tasks
1754 2055

SM 171-127 Tasks

1009	1389	1539	1555
1014	1395	1544	1778
1018	1397	1552	1781
1381	1521		

SM 171-139 Tasks
1016 1017 1036 1038

REMOTED TARGET SYSTEM (RETS) GUNFIRE SIMULATOR (GUFS)



Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Gunfire Simulator (GUFS) is a component of the Remote Target System (RETS) DVC 09-24. GUFS simulates tank gunfire at a distant target, tank gunfire hitting an armor target, and a burning target in both day and night exercises. It may be used alone or in combination with the Target Holding Mechanism Tank Gunnery (THMTG) DVC 17-63 and/or Armor Moving Target Carrier (AMTC) DVC 17-131.

Functional Description:
DVC 17-133 consists of 20 vertical firing tubes mounted on a flat frame. When fitted with electronic circuitry, an external switch, and a power cable connected to a 12vdc source, the device will fire any of three types of pyrotechnic cartridges to produce the desired ordnance effect. The 50mm M21, steel-on-steel, and smoke cartridges are used, either singly or in various combinations.

Physical Information:
30" W x 10" H x 26" L; 116 lb

Equipment Required, Not Supplied:
12vdc battery

Special Installation Requirements:
Used on RETS firing ranges, with range safety considered.

Power Requirements:
12 $\pm$ 1vdc, 1.5 A, minimum duration .45 m/sec. Maximum ignition current 32-mw seconds/ohm.

Applicable Publications:
TM 9-6920-742-14-2
TM 9-6920-742-24P-2

Reference Publications:
TM 9-6920-742-10
TM 9-6920-742-24&P

Training Requirements Supported:
Various MOSC's

M21 BLANK FIRING ATTACHMENT FOR M240 MACHINE GUN

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The M21 Blank firing Attachment permits the firing of linked blank 7.62mm ammunition in the M240 Machine Gun. This allows simulation of live round firing in tactical engagement exercises to support tactical training.

Functional Description:
The M240 MG is gas operated, i.e.; gases behind the exiting bullet are bled off thorough ports in the barrel and this back pressure is used to cycle the weapon for continuous firing. The orifice in the M21 BFA is designed to duplicate that action by restricting blank firing gases and creating back pressure that will provide a cyclic rate similar to the rates experienced using service ammunition.

The M21 Blank Firing Adapter for the M240 Machine Gun is designed to replace the Flash Hider on the weapon for training exercises. Of one-piece cast corrosion-resistant steel, the BFA design incorporates a specific sized orifice to restrict gases generated by blank firing just as a bullet passing thorough the barrel and a parabolic chamber to enhance the aural signature of the weapon under blank firing conditions. Fins on the outer diameter of the BFA help dissipate heat buildup. The front end of the BFA is designed to accept installation of various extensions to insure expulsion of gases when the M240 MG/M21 BFA combination is used in the M60A1/A3 Tank, or Ml/M1A1 MBT.

Physical Information:
Weight: Approximately 3 lb. (Each component)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

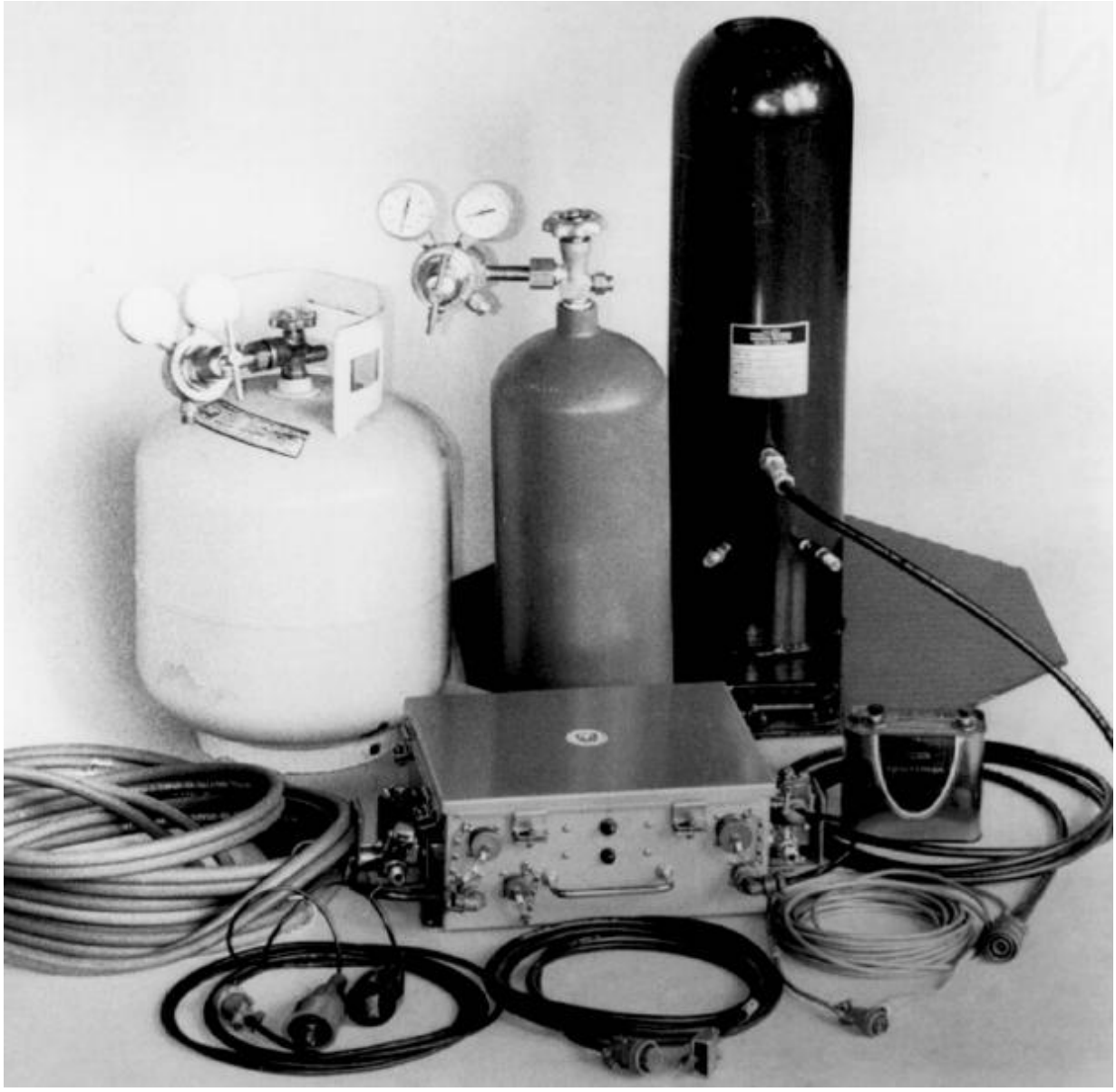
Power Requirements:
None

Applicable Publications:
TM 9-1005-316-12&P

Reference Publications:
TM 9-1005-313 Series

Training Requirements Supported:
MOSC 11B, 19D, 19K

ARTILLERY, MINE, AND DEMOLITION NOISE SIMULATOR



Training Category/Level Utilized:
Combat/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide realistic simulation of common battle noises. Supports general basic training.

Functional Description:

The devices are noise simulators which can be used in all types of combat courses. They can be used to simulate the noise of artillery and mortar fire, demolition, and mines instead of high explosives in demolition pits. The device operates on the oxygen-propane principle with gases metered through solenoid valves with a timing device initiating a spark in the gas filled chamber to cause the explosion. A remote trigger switch is used to fire the device from a remote location and it can fire a single shot or a sequence of six shots at 10 second intervals. During normal firing, the device is safe at a distance of 10 feet.

Physical Information:
Firing Chamber Assembly: 24" x 24" x 32 1/2" high
Timing Box: 18" x 13" x 5 1/2" high
Total Weight: 125 lb.

Equipment Required, Not Supplied:
12vdc battery

Special Installation Requirements:
Two pits approximately 48" deep, 48" wide, and 48" long are required. One pit is used for the explosion chamber. The other pit is for the oxygen and propane cylinders and the timing assembly. The pits should be separated by at least one foot of earth and reinforced by 4" x 4" corner posts with 2" x 6" sideboards to prevent the walls from collapsing due to the shock experienced when the device is detonated.

Power Requirements:
100vac, single-phase, 60 Hz. Can also be operated from 12vdc battery.

Applicable Publications:
NAVTRADEV P-4909, Operation and Maintenance Guide.

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 11-Series, 13-Series, and any user applications.

SMALL ARMS FLASH-NOISE GUNFIRE SIMULATOR

Training Category/Level Utilized:
Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide simulated small-arms gunfire (rifle or machine gun noise and flash) for infantry training. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer consists of a gun simulator, a carrying case, and an ac-to-dc converter. Outwardly, the device resembles a real machine gun. It may be fired from the device or remotely in single shots or bursts, using a metered mixture of oxygen and propane, which is ignited inside the barrel by a spark plug. Oxygen and propane cylinders are enclosed in the carrying case.

An instructor may fire the device remotely while observing results or a number of these devices may be operated simultaneously by locating remote trigger switches for all related devices at a central location.

Note: Earlier models (DVC 07-22, 07-22A, and 07-22B) used a standard ignition system. Both C and D models use solid state ignition assemblies for greater reliability.

Physical Information:
Gun simulator: 51" x 19" x 46"; 36 lb
Carrying case: 13" x 12" x 23"; 137 lb
Converter: 8" x 7"; 6 lb

Equipment Required, Not Supplied:
One 24-volt storage battery (for optional dc operation only)
One 3-conductor electrical cable (AC power)

Special Installation Requirements:
None

Power Requirements:
110/220vac, single-phase, or 24vdc.

Applicable Publications:
For earlier models use: NAVSO P-2964, Maintenance Handbook with Parts List for Simulator, Small Arms, Flash Noise, Device 3F63
For DVC 07-22C use: NAVTRADEV P-4427, Maintenance Manual with Parts List
For DVC 07-22D use: NAVTRADEV P-4650

Reference Publications:
(Information not available)

Training Requirements Supported:
This trainer supports individual and collective training requiring a reaction to small arms fire.

Individual Tasks:
(STP 21-1 SMCT) 071-326-0502
(STP 7-11B24-SM-TG) 1071-410-0002

Battle Drills (ARTEP 7-1)
07-3-D3992, 07-3-D3993

Collective Training: supports platoon and below collective tasks in all modular Brigade Combat Team (BCT) Combined Arms Strategies (CATS)

5.56MM RIFLE TRAINING AID, M16A1

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
For classroom use to aid instruction in the operation, assembly, and disassembly of the Rifle, M16A1, 5.56mm, and to assist in the teaching of parts recognition and nomenclature. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer is a 2:1 scale mockup of the M16A1 Rifle with all parts operable but nonfiring. The device can be manually operated through the complete cycles of semi-automatic and automatic rates of fire. It can be field-stripped and reassembled using the same procedures as with the actual rifle

Physical Information:
58" x 48" x 20"; 30 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
NAVTRADEV P-3553, Guide for 2:1 Scale Mockup of M16A1 Rifle, Device 3F68.

Reference Publications:
FM 23-9

Training Requirements Supported:
SM 091-63A
1120

5.56MM RIFLE TRAINING AID, M16A2

Training Category/Level Utilized:
Ordnance/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
For classroom use to aid instruction in the operation, assembly, and disassembly of the Rifle, M16A2, 5.56mm, and to assist in the teaching of parts recognition and nomenclature. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The trainer is a 2:1 scale mockup of the M16A2 Rifle with all parts operable but nonfiring. The device can be manually operated through the complete cycles of semi-automatic and automatic rates of fire. It can be field-stripped and reassembled using the same procedures as with the actual rifle

Physical Information:
58" x 48" x 20"; 30 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

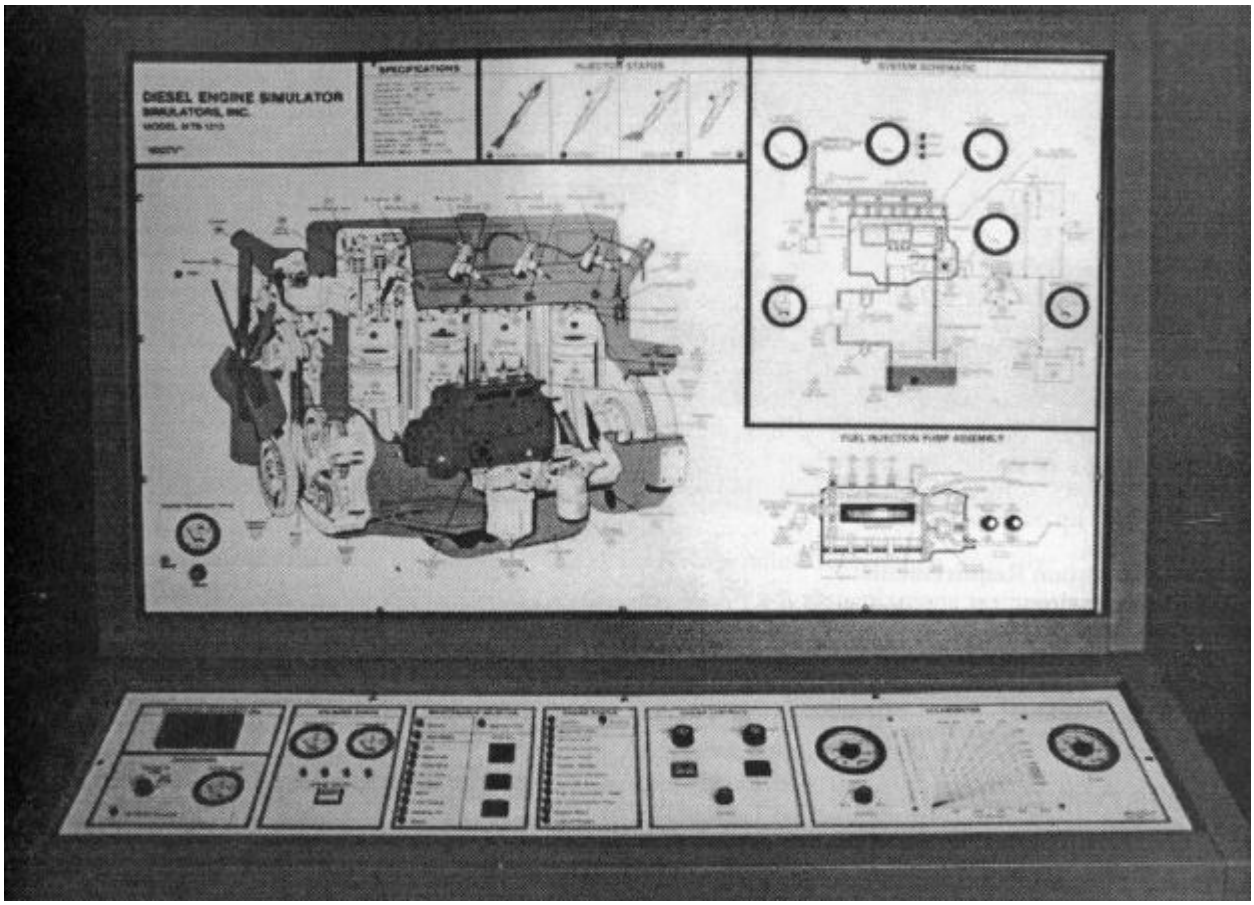
Power Requirements:
None

Applicable Publications:
NAVTRADEV P-3553, Guide for 2:1 Scale Mockup
of M16A1 Rifle, Device 3F68.

Reference Publications:
FM 23-9

Training Requirements Supported:
SM 091-63A
1120

DIESEL ENGINE SIMULATOR



Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use or shop training on Diesel Engine technology. The device is a totally electronic simulation of a typical automobile or truck type of engine. The device allows easy insertion or removal of fault conditions by the use of pre-programmed malfunctions. The device provides training for mechanics into operation and troubleshooting techniques. It is intended to cut down on instruction time, increase trainee enthusiasm, provide theoretical and hands-on use, offer built-in testing and evaluation features and provide training at all levels.

Functional Description:
The simulator portrays a typical four cylinder, four cycle, turbo-charged diesel engine. The device consists of a metal cabinet with a front panel containing a graphic and schematic layout of the engine and various indicators and controls. A lower "desk" panel contains various controls, indicators, testing devices, and a built-in simulated dynamometer. An Instructors' panel located on the side of the cabinet provides facilities for selecting, inserting and clearing fault conditions and also contains the built-in trainee evaluation devices.

The simulator is driven by a digital micro-computer located inside the cabinet. The device is fully interactive and reacts to programmed fault conditions as in a real engine. All sub-systems of an actual engine are covered, including the fuel, electrical air and mechanical features. The device is safe to use, cannot be damaged by incorrect trainee actions during normal use and requires no tools.

A variable speed/stop action feature is available and the simulator can also accommodate a printer to record the trainees' activity.

Physical Information:
Cabinet: 54" W x 44" H x 23" D (at base)
Upper Front Panel: 50" x 30"
Lower Desk Panel: 50" x 10 1/2"
Instructors' Panel: 13" x 8"
Weight: approximately 150 lb

Equipment Required, Not Supplied:
Table or Bench 30" high-top 60" x 30" with a non-slip top or 1/2" lip on three sides.

Special Installation Requirements:
Classroom environment approximately 8' x 8' minimum.
110vac, 60 Hz electrical outlet.

Power Requirements:
110vac, 60 Hz, 250 W

Applicable Publications:
TD 55-6910-701

Reference Publications:
None

Training Requirements Supported:

SM 091-169	SM 091-499
0112	1052
0306	1154
0308	1155
0309	1801
0310	1803
0317	1804
	1959
	1962
	3050
	3060
	3080

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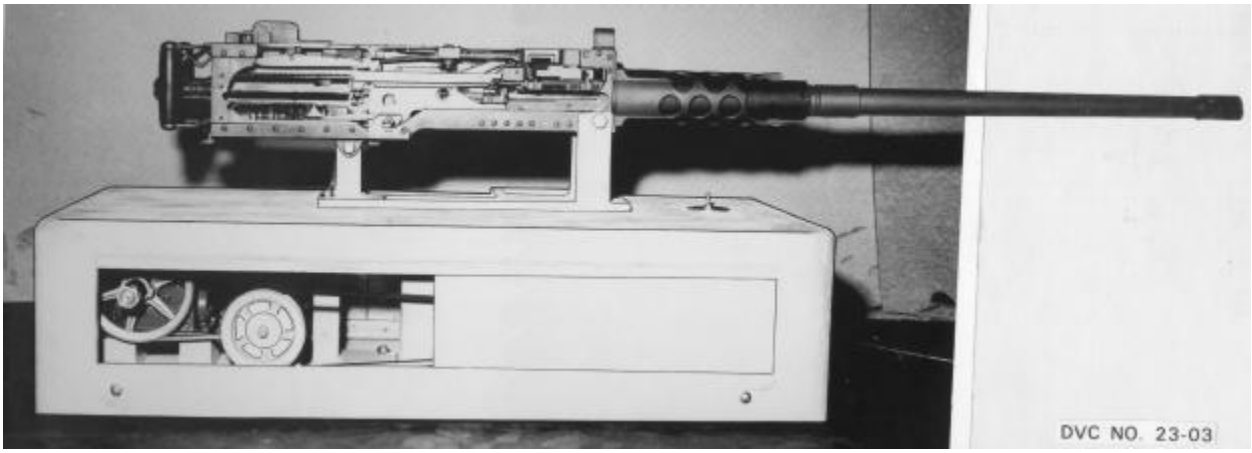
BASIC SERIES 23
WEAPONS

MOTORIZED SECTIONALIZED GUN .50 CALIBER, M2 MACHINE GUN



Training Category/Level Utilized:
Basic Weapons/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use to demonstrate the cycle of operation of the .50 Caliber M2 Machinegun.

Functional Description:
The device is a motorized, sectionalized .50 caliber machinegun with sections cut out to expose important features for easy examination by students. The firing pin spring, oil buffer spring, and bolt driving spring have been shortened to reduce the force required to drive the device. Electric motors drive the gun through slow motion firing cycles (approximately seven times per minute) while dummy ammunition is fed into the breech mechanism, demonstrating clearly the interrelationship of the working parts. Dummy cartridges that have been ejected from the chamber fall into a compartment below the gun. Movement can be halted at any time with the motor switch, located on top of the cabinet, enabling the instructor or student to point out the relative positions of various parts at any point in the firing cycle. The gun is mounted on a cabinet assembly containing a 1/3 HP 110vac motor. Thirty dummy cartridges and links are furnished with each gun.

Physical Information:
54" x 24" x 24"; 175 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
110vac

Applicable Publications:
Maintenance Handbook for DVC 23-03

Reference Publications:
TM 9-1005-213

Training Requirements Supported:
MOSC 11-Series

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE M1A1 TANK

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The SAWE MILES II M1/M1A1 System accurately, and in real time, simulates the effects of direct and indirect weapons fire, nuclear and chemical weapons, and mines as they would affect the Abrams tank and crew in combat. This allows realistic combat training without the hazards of live ammunition.

Functional Description:
The SAWE MILES II M1/M1A1 Abrams Tank System uses eye-safe laser transmitters, compatible with all other MILES training devices. The system simulates firing capabilities of the 105mm or 120mm main gun, the coax machine gun, and the M2 and M240 machine guns, using normal firing procedures. A laser firing code includes a Player ID for identification of other vehicles. Blank fire and MTGSD pyrotechnic charges add realism to weapons. The system detects all opposing fire, identifies opposing weapons and Player ID, and determines the effect of incoming fire on the using vehicle, and it has a high-visibility Combat Vehicle Kill Indicator (CVKI) that signals others that the vehicle has received incoming direct or indirect fire.

An M1/M1A1 SAWE MILES II kit consists of: M2 and M240 Laser Transmitters, Combat Vehicle Kill Indicator (CVKI), Detector Belt system, Mine Effects Simulator (MES) Receivers, Blank Firing Adapters/Attachments, Global Positioning Satellite/Mission Control Station (GPS/MCS) Antenna, Hull to Turret Transmitter (HUTT), Man Worn Detector Device (MWDD), and Chemical Agent Alarm Simulator (CAAS). The SAWE MILES II M1/M1A1 system can operate safely at temperatures from -35 degrees C (-25 degrees F) to + 62 degrees C (+144 degrees F).

MAN WORN DETECTOR DEVICE (MWDD): The MWDD contains an adjustable cloth helmet harness containing an electronics module, and induction loop antenna, and four detectors. The Torso vest consists of a cloth and web assembly with pockets for magazines and grenades, a display console and audio alarm, an electronics module, a battery, eight laser detectors, a GPS antenna, an MCS receiver antenna, and a MES antenna.

PROTECTIVE MASK INTERFACE (PMI): The PMI (CAAS) is a simulator device that mounts between the M40 protective mask and its canister. It is a sealed, self-contained unit that contains a breathing sensor and a low frequency transmitter.

Physical Information:

Laser Transmitters:	Weight (Pounds)	Dimensions (Inches)	Base Load (Rounds)	Standard Kill (Range) (Meters)
120mm/Coax Machine Gun	6.62	10.7 x 5.5 x 5.5	40/9900	200-2500/25-800
105 mm/Coax Machine Gun	6.62	10.7 x 5.5 x 5.5	55/9900	200-2500/25-800
M2 Machine Gun	5.5	7.2 x 6.3 x 9.3	1200	25-800
M240 Machine Gun	5.5	5.25 x 3.0 x 6.3	600	25-800

Detector Assemblies:			Number of Detectors
Belt Segment C(2)	2.6	116 ± 2 x 2	6
Belt Segment D	1.8	78 ± 2 x 2	4
Belt Segment E	2.06	194 ± 2 x 2	4
Man-Worn Helmet Harness	1.56	11.0 (diameter) x 3.5	5
Man-Worn Torso Harness	2.81	40 x 7.75 to 18 x 2	8

Equipment:		
CVKI	11.62	14 x 7.3 (diameter) without adapter
SAWE MILES II Console	9.2	9.5 x 6.0 x 5.5 without adapter
Remote Display Assembly	0.2	4 x 3.4 x 1.4 without adapter
Battery Box	1.31	7 x 5 x 4
GPS/MCS Antenna	2.0	7 x 7 x 1.5 without adapter
HUTT	0.7	4 x 4 x 2
Radio Control Device	1.5	5 x 5 x 3
SAT/SAW	5.50	4 x 3.2 x 3.6
PMI	PMI is approximately the size and shape of the M8A1 Chemical Agent Alarm.	

Equipment Required, Not Supplied:
Hoffman Device
Battery, Lithium, 12v (80058) BA-5590/U
Battery, Alkaline, 6v (2) (80058) BA-5200/U
Battery, Alkaline, 9v (90058) BA-3090/U
Small Arms Alignment Fixture (SAAF)
Blank-Fire Attachment (BFA) M19
Blank-Fire Attachment (BFA) M21

Special Installation Requirements:
None

Power Requirements:
M1/M1A1 – 24vdc vehicle power or 12vdc external (battery box)
Console - Battery, Alkaline, 6v (2) (80058) BA-5200/U
MWDD - Battery, Lithium, 12v (80058) BA-5590/U (Approximately 100 hours of power or 4 days of normal use.)
Battery, Alkaline, 9v (90058) BA-3090/U (Approximately 100 hours of power or 4 days of normal use.)

Applicable Publications:
TM 86-90-0

Reference Publications:
FM 21-11
DA PAM 738-750
SB 11-6
TM 9-1005-213-10
TM 9-1005-313-10
TM 9-1005-314-12&P
TM 9-1005-316-12&P
TM 9-1005-265-12&P
TM 9-2350-255-10
TM 9-2350-264-10

Training Requirements Supported:
ARTEPs Supported
7-15, 17-55, 71-2

MOSC 19K, 12-Series

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE M2/M3 BRADLEY FIGHTING VEHICLE (BFV)

NSN Not Assigned **DVC 23-07/A M2/M3 Bradley (SAWE)/MILES II (TOW XMRT w/MAIS Laser)**

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide remotely directed and realistic combat training exercises without the use of live ammunition.

Functional Description:
The Simulated Area Weapons Effects Multiple Integrated Laser Engagement System II (SAWE MILES II) for the M2/M3 Bradley Fighting Vehicle (BFV) simulates the effects of incoming direct fire from laser transmitters, and indirect fire, nuclear, chemical, and mine simulation from the Mission Control Station (MCS). A console contains the computer that receives and interprets incoming-fire signals. Laser transmitters fitted to the weapons simulate outgoing direct fire. Laser detector belts mounted on the four sides of the turret detect incoming direct fire and send the signals to the console for interpretation. The commander, gunner, and driver wear laser detectors and are vulnerable to incoming laser fire when outside the vehicle.

The SAWE MILES II system for the BFV contains the following components: TOW Laser Transmitter, Main Gun (25mm)/M240C Machine Gun Laser Transmitter, Detector Belt System, Combat Vehicle Kill Indicator, Mine Effects Simulator (MES) Receiver, Global Positioning System/Mission Control Station Antenna, Flashwess or AWESS, Tow Tube Simulator, Hull-To-Turret Transmitter, Cables, Coax Machine Gun Microphone, Console, Battery Box, Remote Display Assembly, Radio Control Device, and Man Worn Detection Devices.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE M113 ARMORED PERSONNEL CARRIER (APC)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide remotely directed and realistic combat training exercises without the use of live ammunition.

Functional Description:
The Simulated Area Weapons Effects Multiple Integrated Laser Engagement System II (SAWE MILES II) for the M113 Armored Personnel Carrier (APC) simulates the effects of incoming direct fire from laser transmitters, and indirect fire, nuclear, chemical, and mine simulation from the Mission Control Station (MCS). A console contains the computer that receives and interprets incoming-fire signals. Laser transmitters fitted to the weapons simulate outgoing direct fire. Laser detector belts mounted on the vehicle detect incoming direct fire and send the signals to the console for interpretation. The commander, driver, and infantrymen wear laser detectors and are vulnerable to incoming laser fire when outside the vehicle.

The SAWE MILES II system for the M113 APC contains the following components: Combat Vehicle Kill Indicator, Mine Effects Simulator Receiver, M2 Laser Transmitter, Detector Belt System, Global Positioning System/Mission Control Station Antenna, Cables, Console, Battery Box, Radio Control Device, and Man Worn Detection Devices.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE T72/T80 TANK

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide remotely directed and realistic combat training exercises without the use of live ammunition.

Functional Description:
The Simulated Area Weapons Effects Multiple Integrated Laser Engagement System II (SAWE MILES II) system for the T72/T80 Tank simulates the effects of incoming direct fire from laser transmitters, and indirect fire, nuclear, chemical, and mine simulation from the Mission Control Station (MCS). A console contains the computer that receives and interprets incoming-fire signals. Laser transmitters fitted to the weapons simulate outgoing direct fire. Laser detector belts mounted on the vehicle detect incoming direct fire and send the signals to the console for interpretation. The commander, driver, and loader wear laser detectors and are vulnerable to incoming laser fire when outside the vehicle.

The SAWE MILES II system for the T72/T80 Tank contains the following components: M2 Laser Transmitter, Detector Belt System, Combat Vehicle Kill Indicator, Mine Effects Simulator Receiver, Blank Firing Adapters, Global Positioning System/Mission Control Station Antenna, Hull-To-Turret Transmitter, Cables, Console, Battery Box, Remote Display Assembly, Main Gun/Coax Machine Gun Transmitter, Radio Control Device, and Man Worn Detection Devices.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE BMP (M551) TANK

NSN Not Assigned **DVC 23-13/A (SAWE) (MILES) II for the BMP (551) Tank (Upgrade Kit)**

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The SAWE MILS II BMP Armored Fighting Vehicles M551 System accurately, and in real time, simulates the effects of direct and indirect weapons fire, nuclear and chemical weapons, and mines as they would affect the Abrams tank and crew in combat. This allows realistic combat training without the hazards of live ammunition.

Functional Description:
The SAWE MILES II M1/M1A1 Abrams Tank System uses eye-safe laser transmitters, compatible with all other MILES training devices. The system simulates firing capabilities of the 105mm or 120mm main gun, the coax machine gun, and the M2 and M240 machine guns, using normal firing procedures. A laser firing code includes a Player ID for identification of other vehicles. Blank fire and MTGSD pyrotechnic charges add realism to weapon. The system detects all opposing fire, identifies opposing weapons and Player ID, and determines the effect of incoming on the using vehicle, and it has a high-visibility Combat Vehicle Kill Indicator (CVKI) that signal others that the vehicle has received incoming direct or indirect fire.

An M1/M1A1 SAWE MILES II kit consists of: M2 and M240 Laser Transmitters, Combat Vehicle Kill Indicator (CVKI), Detector Belt system, Mine Effects Simulator (MES) Receivers, Blank Firing Adapters/Attachments, Global Positioning Satellite/Mission Control Station (GPS/MCS) Antenna, Hull to Turret Transmitter (HUTT), Man Worn Detector Device (MWDD), and Chemical Agent Alarm Simulator (CAAS). The SAWE MILES II M1/M1A1 system can operate safely at temperatures from -35 degrees C (-25 degrees F) to +62 degrees C (+144 degrees F).

MAN WORN DETECTOR DEVICE (MWDD): The MWDD contains an adjustable cloth helmet harness containing an electronics module, and induction loop antenna, and four detectors. The Torso vest consists of a cloth and web assembly with pockets for magazines and grenades, a display console and audio alarm, an electronics module, a battery, eight laser detectors, a GPS antenna, an MCS receiver antenna, and a MES antenna.

PROTECTIVE MASK INTERFACE (PMI): The PMI (CAAS) is a simulator device that mounts between the M40 protective mask and its canister. It is a sealed, self-contained unit that contains a breathing sensor and a low frequency transmitter.

Physical Information:

Laser Transmitters:	Weight (Pounds)	Dimensions (Inches)	Base Load (Rounds)	Standard Kill (Range) (Meters)
152 mm/Missile/ Coax Machine Gun	6.62	10.7 x 5.5 x 5.5	40/5/9900	200-2500/25-800

Detector Assemblies:			Number of Detectors
Belt Segment K	1.8	78 ± 1 x 2	4
Belt Segment L	2.06	194 ± 2 x 2	16
Man-Worn Helmet Harness	1.56	11.0 (diameter) x 3.5	5
Man-Worn Torso Harness	2.81	40 x 7.75 to 18 x 2	8

Equipment:		
CVKI	11.62	14 x 7.3 (diameter) without adapter
SAWE MILES II Console	9.2	9.5 x 6.0 x 5.5 without adapter
Remote Display Assembly	0.2	4 x 3.4 x 1.4 without adapter
Battery Box	1.31	7 x 5 x 4
GPS/MCS Antenna	2.0	7 x 7 x 1.5 without adapter
HUTT	0.7	4 x 4 x 2
Radio Control Device	1.5	5 x 5 x 3
Missile Tube Simulator	20.0	56 x 8.0 (diameter)
Radio Control Device	1.5	5 x 5 x 3
SAT/SAW	5.50	4 x 3.2 x 3.6
PMI	PMI is approximately the size and shape of the M8A1 Chemical Agent Alarm.	

Equipment Required, Not Supplied:
Battery, Lithium, 12v (80058) BA-5590/U
Battery, Alkaline, 6v (2) (80058) BA-5200/U
Battery, Alkaline, 9v (90058) BA-3090/U
Blank-Fire Attachment (BFA) M21, for 7.62mm Machine Gun M240

Special Installation Requirements:
None

Power Requirements:
Battery, Lithium, 12v (80058) BA-5590/U
Battery, Alkaline, 6v (2) (80058) BA-5200/U
Battery, Alkaline, 9v (90058) BA-3090/U

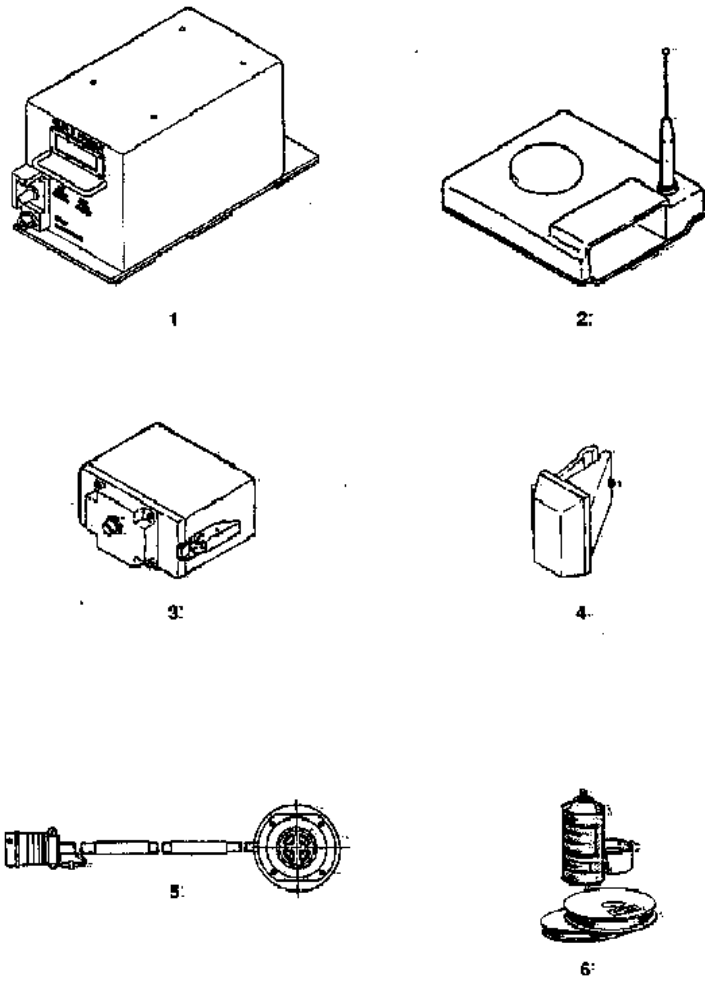
Applicable Publications:
TM 132-92-0

Reference Publications:
FM 21-11
DA PAM 738-750
SB 11-6

Training Requirements Supported:
ARTEPs Supported
7-15, 17-55, 71-2

MOSC 19D, 19E, and 19Z

SIMULATED AREA WEAPONS EFFECTS (SAWE) MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) II FOR THE MOBILE INDEPENDENT TARGET SYSTEM (MITS)

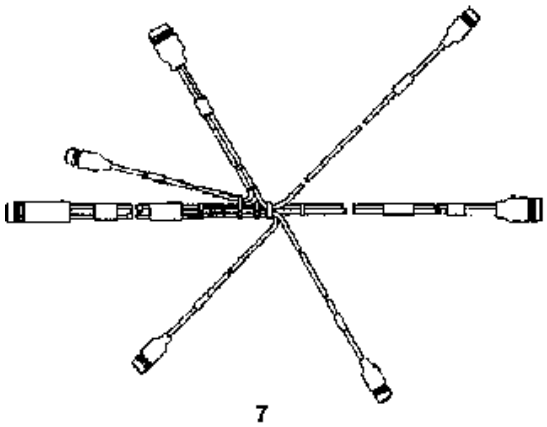


Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.
Available Kits:
- Armored Vehicle, Launched Bridge (AVLB)
- D7F Tractor, Full-Tracked
- Generators
- *JD410 Backhoe
- *MW24C Loader
- M35A 2-1/2 Ton Cargo Truck
- M88A1 Recovery Vehicle, Armored
- M109A1 Howitzer, Medium Self-Propelled
- M110A1 Howitzer, Heavy Self-Propelled
- M151 Truck, Utility 1/4 Ton Jeep
- *M250 Crane
- M548 Carrier, Cargo, Full Tracked
- M578 Recovery Vehicle, Light Armored
- M728 Combat Engineer Vehicle (CEV)
- M911 Truck, HET
- M916 Truck, Tractor, Support Equipment Transport
- M925 Truck, Cargo 5 Ton
- M966 HMMWV TOW, 1-1/4 Ton
- M977 Cargo Truck, 10 Ton
- M968 HMMWV, Utility Truck, TON 1-1/4 Ton
- M1008 Truck, Cargo, 1/4 Ton
- M1009 Truck, Utility, 3/4 Ton

*Vehicles that use the Basic MITS Kits. See DVC 07-56/17.



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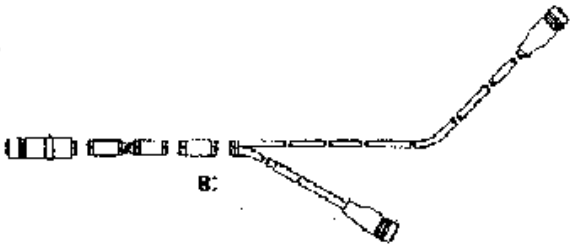

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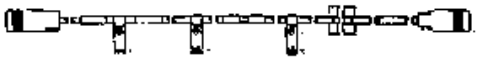

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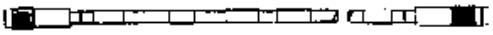

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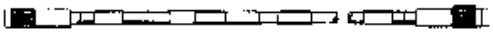


12

Purpose of Trainer:

The SAWE MILES II MITS simulator lets you take part in realistic combat training exercises. The system permits computerized simulation of direct fire, nuclear or chemical weapons and mines as they would affect your equipment during actual combat.

Functional Description:

The console contains the electronics for the SAWE MILES II SYSTEM that replaces the ECU of the basic system.

The SAWE MILES II MITS system simulates the effects of incoming direct fire from laser transmitters, and indirect fire, nuclear and chemical events, and mine simulations sent from the Mission Control Station (MCS), a console that contains the computer that receives and interprets incoming fire signals.

For direct fire against the vehicle or equipment, a detector signals that a laser beam has fire. The console decodes the laser signal, identifies the weapon, and evaluates the possible damage that the weapon can have upon the particular type of vehicle or equipment. If it determines that the weapon would have “killed” or “damaged” the vehicle/equipment, the computer activates various devices to identify that the vehicle/equipment has been hit or killed. This information is also provided to the opposing force. These devices include CVKI or SDA, the Audio/visual Cue Device, if installed and the Audio Buzzer Assembly.

Indirect nuclear or chemical events, or mines, the MCS transmits an event message that signals to players the type of event, the type of ammunition being fired, and the location of the impact (or affected) area. The system console maintains an internal record of the location of receiving signals from overhead Global Positioning Satellites. When an indirect fire, nuclear, chemical, or mine event is signaled by the MCS, the console receives and decodes the signal. If the computer determines that you are within the target area, it then determines the effects of the incoming fire on the vehicle or equipment, and signals to the player and opposing force the effects of the fire. A NEAR MISS, a HIT, or a KILL, against using the CVKI or SDA, the Audio/Visual Cue Device, if installed and the Audio Buzzer Assembly.

In addition to the devices that visually or audibly indicate a NEAR MISS, HIT, or KILL to the vehicle or equipment, the console keeps a record of the events that have affected the vehicle equipment and displays this information on a display window on the front panel of the console. Like the MITS ECU, the console maintains a record of all these events during the course of an exercise, and the last 16 events can be "recalled" for display at any time.

A later version of the MITS is the Universal Detection System (Device 23-14A) that also has an expansion kit (Device 23-14A/1).

Physical Information:

Total system weight: 40.5

Battery Box
Buzzer Assembly, MITS
Cable Assembly, Interface Control MITS
Cable Assembly, System MITS
Plate Assembly, GPS/MCS Antenna
Cable Assembly, GPS Antenna
Cable Assembly, MCS Antenna
Cable Assembly, MES Receiver
Cable Assembly, A/V Cue
Cable Assembly, Battery Charger MITS

(Those items that are not identified as MITS are new MILES SAWE II components.)

Equipment Required, Not Supplied:

Battery, Lantern type, 6v (4 ea) BA-200
Battery, Lantern type, 9v (1 ea) EN-522

Special Installation Requirements:

See TM 9-1265-379-10 - Operator's Manual Multiple Integrated Laser Engagement (MILES), Simulator System, Laser, Mobile Independent Target System (MITS).

Power Requirements:

Input: 24vdc
Start-up Max Power: 24vdc at 1.2 A = 35VA
Nominal Power: 24vdc at .058 A = 1.4VA

Applicable Publications:

None

Reference Publications:

SD 133-90-0
TM 9-1265-379-10
SMM 1265-379-24&P

Training Requirements Supported:

ARTEPs Supported
7-15, 17-55, 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical task for skill levels 1 through 5.

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M16A1/M16A2 RIFLE KIT

MILES 2000 Torso

CUBIC MILES 2000 Halo (Top), M16A2/M4 SAT (Right)
ICON MILES 2000 Halo (Bottom)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater boresight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the "flash and bang" triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

If Killed the receiving target loses the ability to "cheat" the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the "low bat" indicator being activated, a "cheat" kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and one SAT (for the correct weapon) make up the MILES kit.

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest

Applicable Publications:
Operator Manuals:
M16A2 23-6920-702-10
M24 SWS 23-6920-702-10
M249 SAW 23-6920-702-10
M60 MG 23-6920-702-10
M2 MG 23-6920-702-10

Reference Publications:
None

Training Requirements Supported:

ARTEPs	7-15, 17-55, 71-2
MOSCs	11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M249 SQUAD AUTOMATIC WEAPON KIT

MILES 2000 Torso

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

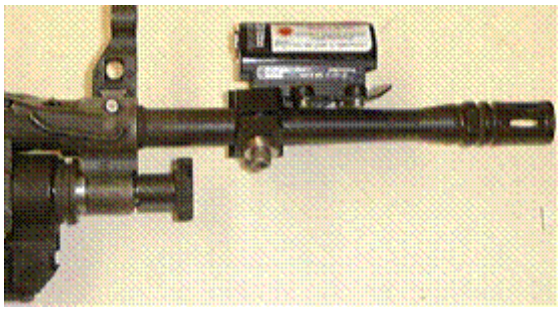
Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater Bore-sight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

CUBIC MILES 2000 Halo

If Killed the receiving target loses the ability to “cheat” the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the “low bat” indicator being activated, a “cheat” kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).



MILES 2000 M249 SAT

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and one SAT (for the correct weapon) make up the MILES kit.

Transit case dimensions: 46.3"L x 40.3"W x 17.5"H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest.

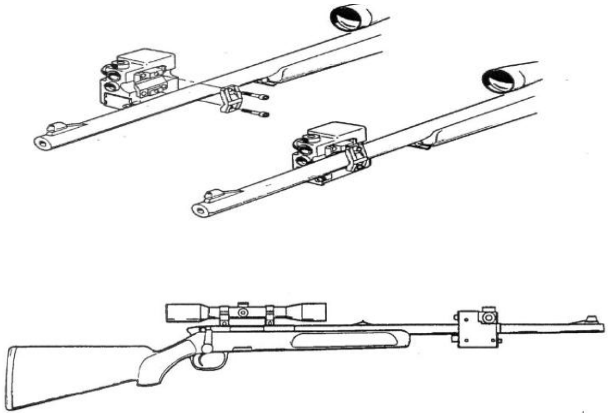
Applicable Publications:
Operator Manuals:
M16A2 23-6920-702-10
M24 SWS 23-6920-702-10
M249 SAW 23-6920-702-10
M60 MG 23-6920-702-10
M2 MG 23-6920-702-10

Reference Publications:
None

Training Requirements Supported:

ARTEPs	7-15, 17-55, 71-2
MOSCs	11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M24/M40 SNIPER WEAPON SYSTEM KIT



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater Bore-sight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the "flash and bang" triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

If Killed the receiving target loses the ability to "cheat" the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the "low bat" indicator being activated, a "cheat" kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and 1 SAT(for the correct weapon) make up the MILES kit.
Transit Case dimensions: 46.3" L x 40.3" W x 17.5" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest
3.6-volt lithium battery for the SAT

Applicable Publications:
Operator Manuals:
M16A2 23-6920-702-10
M24 SWS 23-6920-702-10
M249 SAW 23-6920-702-10
M60 MG 23-6920-702-10
M2 MG 23-6920-702-10

Reference Publications:
TD 23-6920-705-10; TM 3920-10/2

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M60 MACHINE GUN KIT

MILES 2000 Torso

CUBIC MILES 2000 Halo

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater Bore-sight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the "flash and bang" triggers the laser transmitter. The receiving laser detectors If Killed the receiving target loses the ability to "cheat" the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the "low bat" indicator being activated, a "cheat" kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and one SAT (for the correct weapon) make up the MILES kit.

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest

Applicable Publications:
Operator Manuals:
- M16A2 23-6920-702-10
- M24 SWS 23-6920-702-10
- M249 SAW 23-6920-702-10
- M60 MG 23-6920-702-10
- M2 MG 23-6920-702-10

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M240 MACHINE GUN KIT

MILES 2000 Torso

CUBIC MILES 2000 Halo (Top) M240 SAT (Right)
ICON MILES 2000 Halo (Bottom)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater Bore-sight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the "flash and bang" triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

If Killed the receiving target loses the ability to "cheat" the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the "low bat" indicator being activated, a "cheat" kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and one SAT (for the correct weapon) make up the MILES kit.

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest

Applicable Publications:
Operator Manuals:
M16A2 23-6920-702-10
M24 SWS 23-6920-702-10
M249 SAW 23-6920-702-10
M60 MG 23-6920-702-10
M2 MG 23-6920-702-10

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M2 MACHINE GUN KIT

M2 SAT (Small Arms Transmitter)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater Bore-sight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

If Killed the receiving target loses the ability to “cheat” the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the “low bat” indicator being activated, a “cheat” kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
One Torso detector (Vest), one Helmet detector (HALO) and one SAT (for the correct weapon) make up the MILES kit.

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery for the vest

Applicable Publications:
Operator Manuals:
- M16A2 23-6920-702-10
- M24 SWS 23-6920-702-10
- M249 SAW 23-6920-702-10
- M60 MG 23-6920-702-10
- M2 MG 23-6920-702-10

Reference Publications:
None

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) AT-04 KIT

PICTURE NOT AVAILABLE

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The MILES 2000 system uses laser beams to simulate actual weapons fire. An eye-safe invisible laser beam is sent out by each weapon's transmitter when it is fired. The laser beam is coded, and simulates all of the weapon's capabilities including range, accuracy, and destructive capability.

Laser detector systems are used to sense incoming fire. The detector systems register incoming laser beams and determine whether they have scored a Near Miss, Hit, or Kill. Incoming fire can result in more than one type of a Hit or Kill. Types of Hits or Kills include Mobility, Communications, Firepower, or a Catastrophic Kill of the entire vehicle.

Functional Description:
a. Realistic simulation of flash, bang and smoke by pyrotechnic means.
b. Uses blank fire and Anti-Tank Weapons Effect Signal true Simulator (ATWESS) to add realism.
c. Electrically initiated pyrotechnics.
d. Normal firing procedures used for all weapons.
e. Detects all incoming fire, identifies opposing weapons and player ID (PID), and determines the effect of incoming fire on the individual or vehicle.
f. Uses eye-safe laser transmitters.
g. Compatible with all other MILES devices.

Physical Information:
14.8lbs, 40" L x 3.4" W

Equipment Required, Not Supplied:
Two AA (1.5vdc) batteries.

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
TM 08673A/09134A-10/3

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
(Information not available)

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) TOW GROUND MOUNT/DAY TRACKER KIT

MILES 2000 Torso

CUBIC MILES 2000 Halo (Top)
ICON MILES 2000 Halo (Bottom)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES) 2000. MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. Training Device 07-56/6D has modified printed wiring boards which reduce time of flight but do not shorten the effective range of the transmitters. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System, Firing, Laser, M64 for TOW consists of a laser transmitter resembling a TOW tracker head which completely replaces the actual TOW tracker head, an antitank weapons effect simulator and detector mounted in a simulated TOW tube, and two man-worn detector assemblies installed on load-carrying harnesses and straps which fit over standard issue steel helmets.

Physical Information:
Transit case: 33" x 29" x 19"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-6920-368-10-2

.

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
ARTEPs Supported 7-15, 17-55, 71-2
MOSC 11B, 11Z, 19D, 19E, and 19Z
SM Tasks
All tactical tasks for skill levels 1 through 5

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M113 ARMORED PERSONNEL CARRIER (APC) VEHICLE SYSTEM KIT

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

The Combat Vehicle System (CVS) is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The Laser Detectors (belts) receive incoming coded laser information and interpret the signal into Hit, Near Miss, or Kill. A Hit will cause the KSI to flash 4 times, a Near Miss causes 2 flashes, and a Kill causes continuous flashing which is seen by other players. When Killed, the vehicle can not maneuver nor fire its weapons.

Physical Information:
The M2K M113 Vehicle System consists of the following:

a. Detector Belts on all four sides of the vehicle.
b. A Laser Transmitter attached to the barrel of the M2 Machine Gun.
c. A Control Unit.
d. A Kill Status Indicator (KSI).
e. Battery Box Assy.
f. System Cable.
g. 2 Individual Weapon System (IWS).
h. Transit case dimensions: 46.3" L x 40.3" W x 17.5" H (1 Kit per case).

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery (for IWS)
Vehicle power to system

Applicable Publications:
M16A2 23-6920-702-10
M2 MG 23-6920-702-10
M113 TD 9-6920-713-10
TD 23-6920-713-10
TM 6920-10/10

Reference Publications:
TD 23-6920-893-10
TM 6920-10/5

Training Requirements Supported:
ARTPs
7-15, 17-55, 71-2

MOSCs
11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M1/M1A1/M1A2 KIT

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device (IWS) is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. The M2K system incorporates a After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The Laser Detectors (belts) receive incoming coded laser information and interpret the signal into Hit, Near Miss, Communications Kill, Mobility Kill, and Catastrophic Kill. A Hit will cause the KSI to flash 4 times, a Near Miss causes 2 flashes, and a Catastrophic Kill causes continuous flashing which is seen by other players. When a Communication Kill takes place the tanks radio communication ceases. A Mobility Kill disables the tank maneuverability. A catastrophic Kill disables the vehicle completely.

Physical Information:
The M1A1/A2 Vehicle System consists of the following:

1 Universal Laser Transmitter (ULT) w/adapter for the barrel of the Main Gun.
1 Control Unit
1 Loaders Unit
1 Kill Status Indicator (KSI)
1 Optical Turret Position Detector (OTPD)
1 Battery Box Assy.
1 Coax Mic Assy.
Detector Belts LR and RF
1 System Cable
1 Transmitter Cable
1 M240 SAT w/adapter
1 M2 SAT w/adapter
4 IWS

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H (1 Kit per case).

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery (for IWS)
Vehicle power to system

Applicable Publications:
M16A2 23-6920-702-10
M2 MG 23-6920-702-10
M1A1/A2 TD 9-6920-720-10

Reference Publications:
None

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M2/M3 FAMILY OF FIGHTING VEHICLES KIT

NSN Not Assigned **DVC 23-51/A M2K (MILES 2000) VIS COM**

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device (CVS) is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The Laser Detectors (belts) receive incoming coded laser information and interpret the signal into Hit, Near Miss, Communications Kill, Mobility Kill, and Catastrophic Kill. A Hit will cause the KSI to flash 4 times, a Near Miss causes 2 flashes, and a Catastrophic Kill causes continuous flashing which is seen by other players. When a Communication Kill takes place, the vehicle radio communication ceases. A Mobility Kill disables the vehicle maneuverability. A catastrophic Kill disables the vehicle completely.

Physical Information:
The M2/M3 Vehicle System consists of the following:

1 Universal Laser Transmitter (ULT) w/adapter and Flash WESS for the barrel of the 25mm main gun
1 Control Unit
1 Kill Status Indicator (KSI)
1 Optical Turret Position Detector (OTPD)
1 Battery Box Assy.
1 Coax Mic Assy.
2 TOW Vehicle Simulation Tube
TOW Tube Connector
TOW interface Assy.
ATWESS
Shorting Plug Assy.
Detector Belts LR and RF
1 System Cable
1 Transmitter Cable
3 IWS

Transit case dimensions: 46.3" L x 40.3" W x 17.5" H (1 Kit per case)

Transit Case for TOW Tubes (2 per Case) 61.6" x 24.7" x 16"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
9vdc battery (for IWS)
9vdc battery (for OTPD)
Vehicle power to system

Applicable Publications:
M16A2 23-6920-702-10
M2/M3 TD 9-6920-720-10

Reference Publications:
None

Training Requirements Supported:

ARTEPs	7-15, 17-55, 71-2
MOSCs	11B, 11Z, 19D, 19E, 19Z

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) INDEPENDENT TARGET SYSTEM (ITS) KIT

PICTURE NOT AVAILABLE

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

The Combat Vehicle System (CVS) is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The Laser Detectors (belts) receive incoming coded laser information and interpret the signal into Hit, Near Miss, and Kill. A Hit will cause the KSI to flash 4 times, a Near Miss causes 2 flashes, and a Kill causes continuous flashing which is seen by other players. This Kit can be placed on non-combatant vehicles, bridges, bunkers and ancillary equipment like generators.

Physical Information:
The ITS Kit consists of the following:
1 Control Unit
1 KSI w/Adapter
1 KSI Post Assy.
1 Battery Box Assy.
1 Detector Array
1 Cable Assy. Dome
2 Cable Assy. Power
1 Cable Assy ITS
Transit case dimensions: 46.3" L x 40.3" W x 17.5" H (1 Kit per case)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
24vdc

Applicable Publications:
63-6920-701-10

Reference Publications:
None

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) CONTROLLER DEVICE/TRAINING DATA TRANSFER DEVICE (CD/TDTD)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain.

This device (CD/TDTD) is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. The M2K system incorporates a After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The CD/TDTD is used by Exercise Controllers to control exercises by (1) setting up weapon type and Player ID for each IWS. (2) The CD/TDTD downloads data stored in components of the device (up to 500 events). The CD/TDTD can also fire MILES codes (SELECTABLE) Hit, Near Miss, and Kill. In addition, the device can be used to resurrect/reset any weapon system after it has been "Killed". This component is used to download events from any M2K component, then upload the information into a computer loaded with the MILES After Action Review Software (MAARS) via the TDTD/PC Interface Device. The computer (MARRS Laptop Kit) and MAARS "interpret" and manipulate the data to generate the After Action Report used to present the After Action review to the participants.

Physical Information:
1 Controller Device
Transit case dimensions: 38.7" L x 25" W x 13.5" H
(10 CD/TDTD Kits per case with 2 TDTD/PC Interface Devices)

Equipment Required, Not Supplied:
Computer w/MAARS software.
TDTD/PC Interface Device (Not supplied for each CD/TDTD).

Special Installation Requirements:
None

Power Requirements:
2 AA Batteries

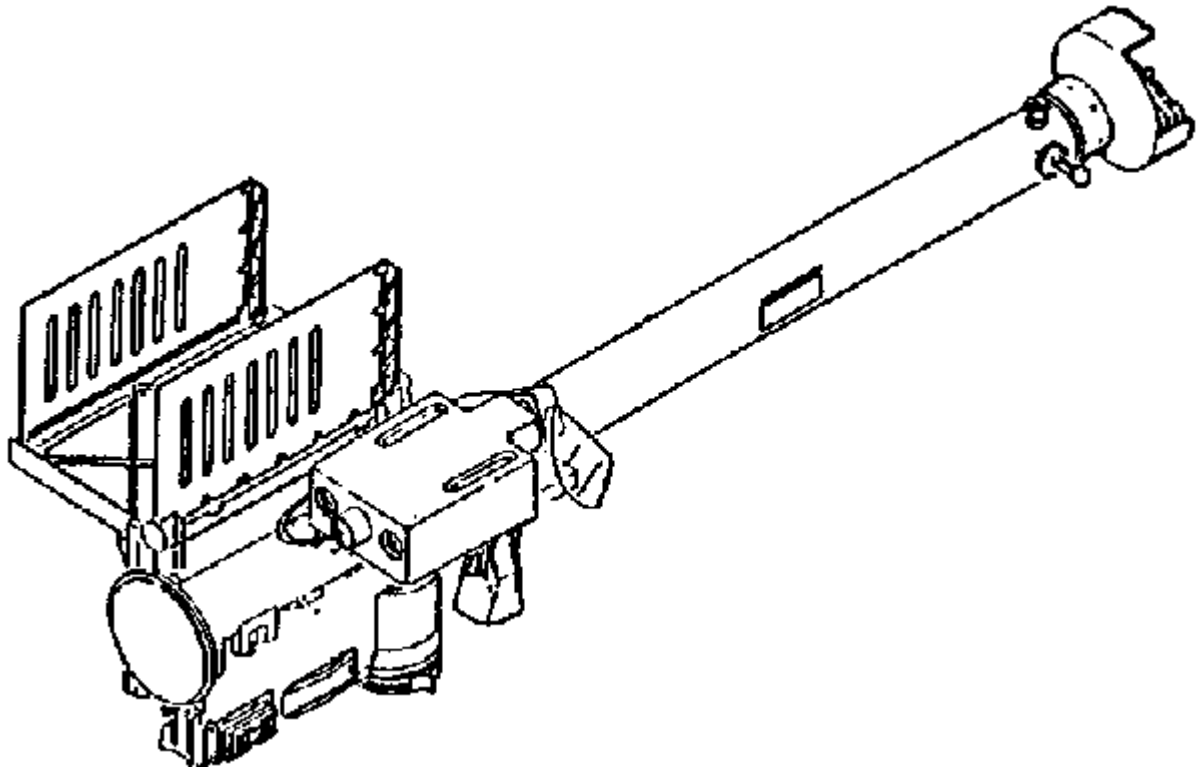
Applicable Publications:
63-6920-703-10

Reference Publications:
None

Training Requirements Supported:

ARTEPs	7-15, 17-55, 71-2
MOSCs	11B, 11Z, 19D, 19E, 19Z

SIMULATED AREA WEAPONS EFFECTS (SAWE)/(MILES) II STINGER MILES



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The M74 Simulator System consists of a Stinger missile launcher simulator which is equipped with a laser for transmitter and ATWESS (launch effect) simulator. The recently upgrated device will provide MILES player ID and selectable power settings to support SA-14/SA-18 requirements. Operating personnel may wear torso and helmet harnesses that detect enemy fire against them.

Physical Information:
Transit case: 66.25" L x 13.25" W x 13.5" H

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-1265-209-10

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
ARTEPs Supported 7-15, 17-55, 71-2
MOSC 11B, 11Z, 19D, 19E, and 19Z
SM Tasks:
All tactical tasks for skill levels 1 through 5.

M2K MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) M4/M16A1/M16A2

MILES 2000 Torso

CUBIC MILES 2000 Halo (Top) ICON MILES 2000 Halo (Bottom)

M16A2/M4 SAT (Right)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain. The M2K system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises.

This device is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The M2K kit, consisting of 5 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons (man-worn, crew served and vehicle systems). The laser firing SATs attach easily to conventional field weapons, (with much greater boresight retention than the Basic MILES), allow ground troops to fire coded (to distinguish weapon type, and player ID) laser signals. Soldiers fire blank ammunition, the "flash and bang" triggers the laser transmitter. The receiving laser detectors determine Hit, Near Miss, Kill status of received fire.

If Killed the receiving target loses the ability to "cheat" the system and no longer can fire his weapon. If the battery in the DCPU is removed and replaced without the "low bat" indicator being activated, a "cheat" kill is assessed when the battery is reinserted. An automated small arms alignment fixture (ASAAF) (DVC 99-88) is available to align weapons equipped with the small arms transmitter (SAT).

Physical Information:
Transit case: 29" x 22" x 28"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Firing attachment, blank ammunition, M16A2
Cartridge, 5.56mm blank, M200

Special Installation Requirements:
None

Power Requirements:
9vdc

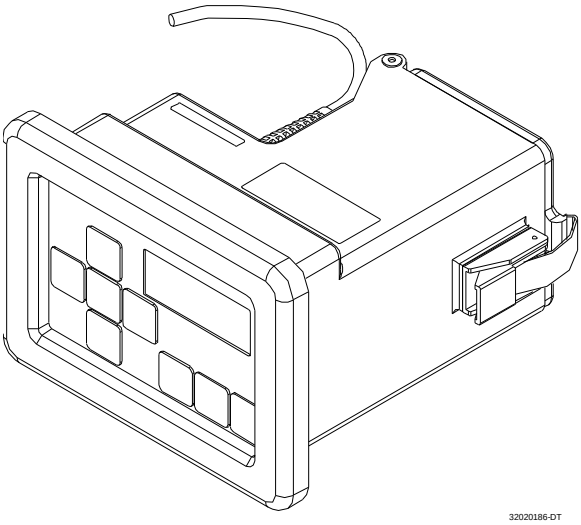
Applicable Publications:
TM 9-1265-211-10

Reference Publications:
TM 9-1005-249-10
TM 9-1005-319-10

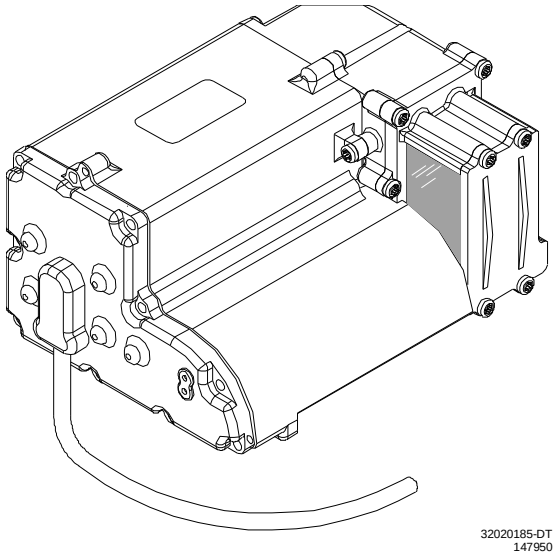
Training Requirements Supported:
ARTEPs Supported 7-15, 17-55, 71-2
MOSC 11B, 11Z, 19D, 19E, and 19Z
SM Tasks:
All tactical tasks for skill levels 1 through 5.

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM 2000 (MILES 2000) ASAAF KIT

NSN Not Assigned **DVC 23-58/A MILES 2000 ASAAF Kit**



ASAAF DISPLAY ASSEMBLY



ASAAF ALIGNMENT HEAD

Training Category/Level Utilized:
Combined Arms

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The ASAAF is used for automatic boresight alignment of all small arm weapons and machine guns.

Functional Description:
The ASAAF consists of a Display Assembly and Alignment Head. The Display Assembly provides an LCD display of information as user of his/her weapon processes through the alignment process. The Alignment Head is attached to the Small Arms Transmitter (SAT) which has been attached to the barrel of the weapon. The Alignment Head is an electromechanical device, which automatically adjusts the SAT's laser position as directed by the Display Assembly. The Display Assembly is battery is battery powered which allows the ASAAF to be operated at any location.

Physical Information:
ASAAF Control Unit:
Length: 5 inches
Width: 4 3/8 inches
Depth: 2 1/2 inches
Weigh: 2 lbs.

Alignment Head:
Weight: 1 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

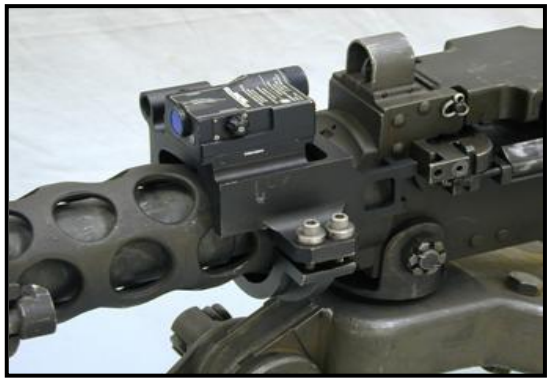
Power Requirements:
6-volt Battery (DVC 23-58)
6-volt Battery or AC (DVC 23-58A)

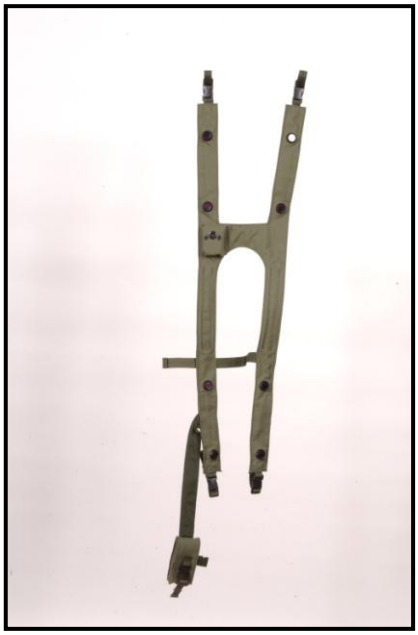
Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) M2 MACHINE GUN KIT, INSTRUMENTABLE





Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4GHz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The MILES IWS consists of 6 fielded distinct weapon firing systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. The laser firing SATs attach easily to conventional field weapons, allow ground troops to fired coded (to distinguish weapon type and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the SAT. The receiving laser detectors determine, Hit, Near Miss, or Kill status of received fire. If Killed, the receiving target disables the system preventing the “killed” player from firing his/her weapon.

Physical Information:
The Manworn Harness consists of an infrared detector array attached to a vest that contains a sound transmitting device and a Harness Control Unit (HCU). The HCU has a local Radio Frequency (RF) transceiver that allows it to communicate to the Small Arms Transmitter (SAT). The HCU receives encoded messages from the detectors.

The Halo consists of an electronic module and a set of infrared detectors mounted on a durable fabric. The Halo encircles the head providing 360 degrees coverage as a target. The Halo electronics receives encoded messages from the detectors and repeats the message to the Harness through embedded inductive loops.

The Small Arms Transmitter (SAT) is mounted on the barrel of personnel weapons and transmits MILES Laser messages to a target. When the Harness is killed, the SAT is automatically disabled.

Transit case dimensions:
37.3” (L) x 35.3” (W) x 17.5” (H)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

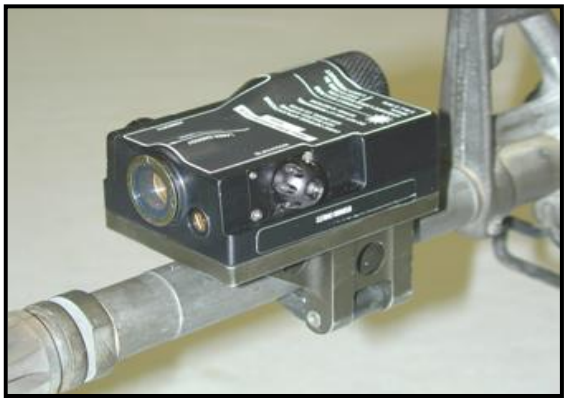
Power Requirements:
SAT and Halo: ½ AA, 3.6v, lithium-thionyl chloride battery.
HCU: AA, 3.6v, lithium-thionyl chloride battery.

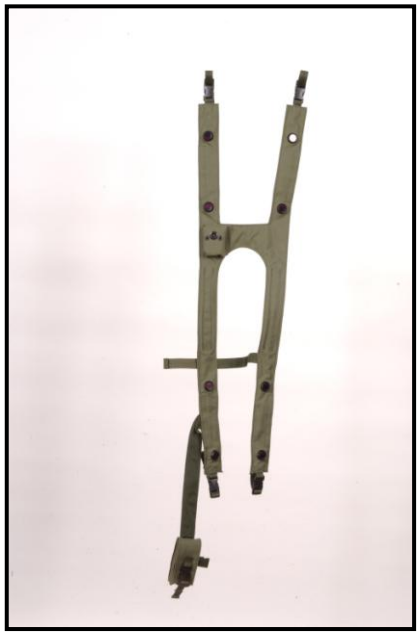
Applicable Publications:
TM 23-6920-706-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-706-24 - Maintenance Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-707-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS), Training Data Transfer Device (TDTD)

Reference Publications:
None

Training Requirements Supported:
(Information not available)

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) M16/M4 RIFLE KIT, INSTRUMENTABLE





Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4GHz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The MILES IWS consists of 6 fielded distinct weapon firing systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. The laser firing SATs attach easily to conventional field weapons, allow ground troops to fired coded (to distinguish weapon type and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the SAT. The receiving laser detectors determine, Hit, Near Miss, or Kill status of received fire. If Killed, the receiving target disables the system preventing the “killed” player from firing his/her weapon.

Physical Information:
The Manworn Harness consists of an infrared detector array attached to a vest that contains a sound transmitting device and a Harness Control Unit (HCU). The HCU has a local Radio Frequency (RF) transceiver that allows it to communicate to the Small Arms Transmitter (SAT). The HCU receives encoded messages from the detectors.

The Halo consists of an electronic module and a set of infrared detectors mounted on a durable fabric. The Halo encircles the head providing 360 degrees coverage as a target. The Halo electronics receives encoded messages from the detectors and repeats the message to the Harness through embedded inductive loops.

The Small Arms Transmitter (SAT) is mounted on the barrel of personnel weapons and transmits MILES Laser messages to a target. When the Harness is killed, the SAT is automatically disabled.

Transit case dimensions:
37.3” (L) x 35.3” (W) x 17.5” (H)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

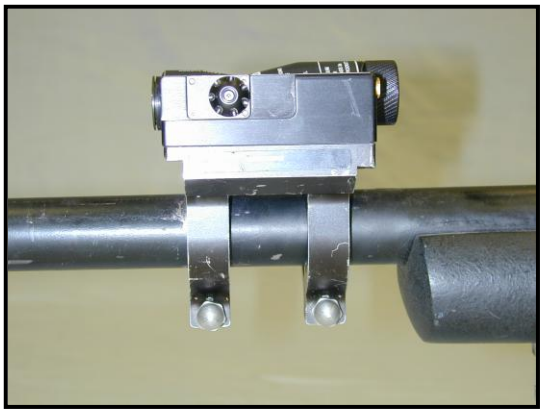
Power Requirements:
SAT and Halo: ½ AA, 3.6v, lithium-thionyl chloride battery.
HCU: AA, 3.6v, lithium-thionyl chloride battery.

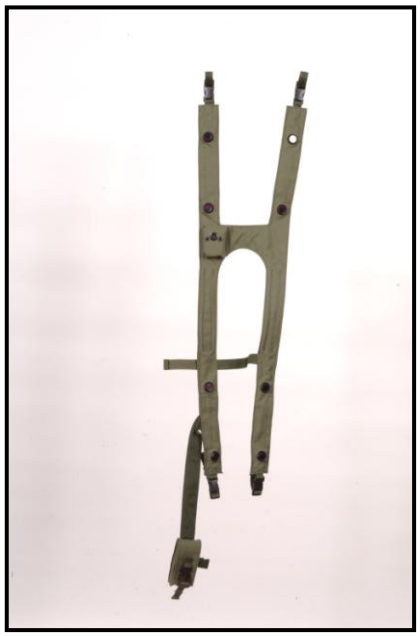
Applicable Publications:
TM 23-6920-706-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-706-24 - Maintenance Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-707-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS), Training Data Transfer Device (TDTD)

Reference Publications:
None

Training Requirements Supported:
(Information not available)

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) M24 SNIPER WEAPON SYSTEM KIT, INSTRUMENTABLE





Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4GHz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The MILES IWS consists of 6 fielded distinct weapon firing systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. The laser firing SATs attach easily to conventional field weapons, allow ground troops to fired coded (to distinguish weapon type and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the SAT. The receiving laser detectors determine, Hit, Near Miss, or Kill status of received fire. If Killed, the receiving target disables the system preventing the “killed” player from firing his/her weapon.

Physical Information:
The Manworn Harness consists of an infrared detector array attached to a vest that contains a sound transmitting device and a Harness Control Unit (HCU). The HCU has a local Radio Frequency (RF) transceiver that allows it to communicate to the Small Arms Transmitter (SAT). The HCU receives encoded messages from the detectors.

The Halo consists of an electronic module and a set of infrared detectors mounted on a durable fabric. The Halo encircles the head providing 360 degrees coverage as a target. The Halo electronics receives encoded messages from the detectors and repeats the message to the Harness through embedded inductive loops.

The Small Arms Transmitter (SAT) is mounted on the barrel of personnel weapons and transmits MILES Laser messages to a target. When the Harness is killed, the SAT is automatically disabled.

Transit case dimensions:
37.3” (L) x 35.3” (W) x 17.5” (H)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
SAT and Halo: ½ AA, 3.6v, lithium-thionyl chloride battery.
HCU: AA, 3.6v, lithium-thionyl chloride battery.

Applicable Publications:
TM 23-6920-706-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-706-24 - Maintenance Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-707-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS), Training Data Transfer Device (TDTD)

Reference Publications:
None

Training Requirements Supported:
(Information not available)

M107 MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) SNIPER WEAPON SYSTEM KIT, INSTRUMENTABLE

M107 SAT

MILES IWS Halo

MILES IWS Harness

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The MILES IWS M107 Sniper Set includes the M107 Small Arms Transmitter, a MILES IWS Halo, and a MILES IWS H Harness, and all associated support items of equipment (ASIOE). The purpose of this set is to provide the operator with all the equipment he will need to perform his assigned training mission, using his real world weapon in a MILES IWS training environment.

Functional Description:
The MILES IWS M107 Sniper Set is used exactly as all other MILES IWS sets are used. The M107 Small Arms Transmitter (SAT) is mounted on the operator's real world weapon, and the operator is outfitted with the MILES IWS harness and halo. The SAT on the weapon associates with the harness and halo, and the operator is ready to align the SAT to the weapon and proceed through the training scenario.

Physical Information:
SAT Dimensions:
3.30"L X 2.00"W X 1.47"H
Weight: 22.7 oz.

Halo Dimensions:
31" Circumference x 3" Width
Weight: 7.2 oz.

Harness Dimensions:
39"L x 10.25"W
Weight: 38.4 oz.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

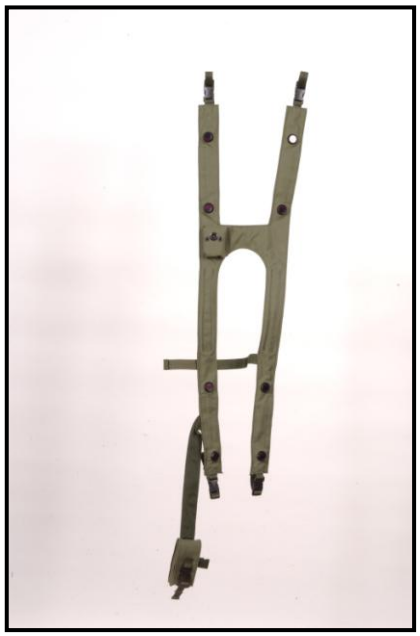
Power Requirements:
The M107 SAT uses a 3.6v Lithium battery
NSN: 6135-01-435-4921
The Halo uses a 3.6v lithium battery
NSN: 6135-01-435-4921
The Harness uses 2 each 3.0v Lithium batteries
NSN: 6135-01-351-1131

Applicable Publications:
The MILES IWS manuals:
23-6920-706-10
23-6920-706-24&P

Reference Publications:
None

Training Requirements Supported:
This Set supports CTC rotational exercises, as well as other Force On Force training events.

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) M240 MACHINE GUN KIT, INSTRUMENTABLE



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4GHz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The MILES IWS consists of 6 fielded distinct weapon firing systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. The laser firing SATs attach easily to conventional field weapons, allow ground troops to fired coded (to distinguish weapon type and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the SAT. The receiving laser detectors determine, Hit, Near Miss, or Kill status of received fire. If Killed, the receiving target disables the system preventing the “killed” player from firing his/her weapon.

Physical Information:
The Manworn Harness consists of an infrared detector array attached to a vest that contains a sound transmitting device and a Harness Control Unit (HCU). The HCU has a local Radio Frequency (RF) transceiver that allows it to communicate to the Small Arms Transmitter (SAT). The HCU receives encoded messages from the detectors.

The Halo consists of an electronic module and a set of infrared detectors mounted on a durable fabric. The Halo encircles the head providing 360 degrees coverage as a target. The Halo electronics receives encoded messages from the detectors and repeats the message to the Harness through embedded inductive loops.

The Small Arms Transmitter (SAT) is mounted on the barrel of personnel weapons and transmits MILES Laser messages to a target. When the Harness is killed, the SAT is automatically disabled.

Transit case dimensions:
37.3” (L) x 35.3” (W) x 17.5” (H)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

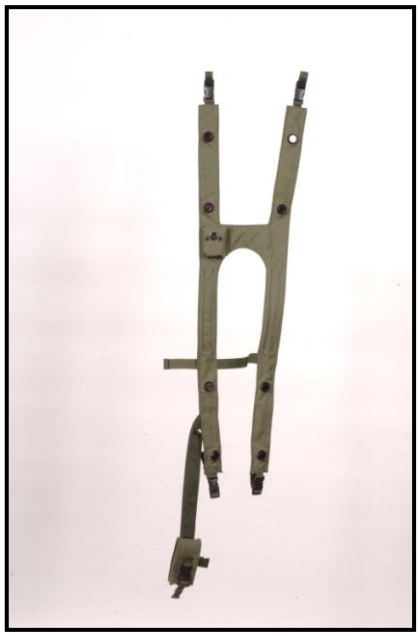
Power Requirements:
SAT and Halo: ½ AA, 3.6v, lithium-thionyl chloride battery.
HCU: AA, 3.6v, lithium-thionyl chloride battery.

Applicable Publications:
TM 23-6920-706-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-706-24 - Maintenance Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-707-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS), Training Data Transfer Device (TDTD)

Reference Publications:
None

Training Requirements Supported:
(Information not available)

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM INDIVIDUAL WEAPONS SYSTEM (MILES IWS) M249 SQUAD AUTOMATIC WEAPON KIT, INSTRUMENTABLE



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4GHz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The MILES IWS consists of 6 fielded distinct weapon firing systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. The laser firing SATs attach easily to conventional field weapons, allow ground troops to fired coded (to distinguish weapon type and player ID) laser signals. Soldiers fire blank ammunition, the “flash and bang” triggers the SAT. The receiving laser detectors determine, Hit, Near Miss, or Kill status of received fire. If Killed, the receiving target disables the system preventing the “killed” player from firing his/her weapon.

Physical Information:
The Manworn Harness consists of an infrared detector array attached to a vest that contains a sound transmitting device and a Harness Control Unit (HCU). The HCU has a local Radio Frequency (RF) transceiver that allows it to communicate to the Small Arms Transmitter (SAT). The HCU receives encoded messages from the detectors.

The Halo consists of an electronic module and a set of infrared detectors mounted on a durable fabric. The Halo encircles the head providing 360 degrees coverage as a target. The Halo electronics receives encoded messages from the detectors and repeats the message to the Harness through embedded inductive loops.

The Small Arms Transmitter (SAT) is mounted on the barrel of personnel weapons and transmits MILES Laser messages to a target. When the Harness is killed, the SAT is automatically disabled.

Transit case dimensions:
37.3” (L) x 35.3” (W) x 17.5” (H)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
SAT and Halo: ½ AA, 3.6v, lithium-thionyl chloride battery.
HCU: AA, 3.6v, lithium-thionyl chloride battery.

Applicable Publications:
TM 23-6920-706-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-706-24 - Maintenance Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS)
TM 23-6920-707-10 - Operator Manual, Multiple Integrated Laser Engagement System (MILES), Individual Weapons System (IWS), Training Data Transfer Device (TDTD)

Reference Publications:
None

Training Requirements Supported:
(Information not available)

M110 MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) INDIVIDUAL WEAPONS SYSTEM (IWS), SNIPER WEAPON SET, INSTRUMENTABLE

M110 SAT

MILES IWS Halo

MILES IWS Harness

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The MILES IWS M110 Sniper Set includes the M110 Small Arms Transmitter, a MILES IWS Halo, and a MILES IWS H Harness, and all associated support items of equipment (ASIOE). The purpose of this set is to provide the operator with all the equipment he will need to perform his assigned training mission, using his real world weapon in a MILES IWS training environment.

Functional Description:
The MILES IWS M110 Sniper Set is used exactly as all other MILES IWS sets are used. The M110 Small Arms Transmitter (SAT) is mounted on the operator's real world weapon, and the operator is outfitted with the MILES IWS harness and halo. The SAT on the weapon associates with the harness and halo, and the operator is ready to align the SAT and proceed through the training scenario.

Physical Information:
SAT Dimensions:
3.30"L X 2.00"W X 1.47"H
Weight: 22.7 oz.

Halo Dimensions:
31" Circumference x 3" Width
Weight: 7.2 oz.

Harness Dimensions:
39"L x 10.25"W
Weight: 38.4 oz.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

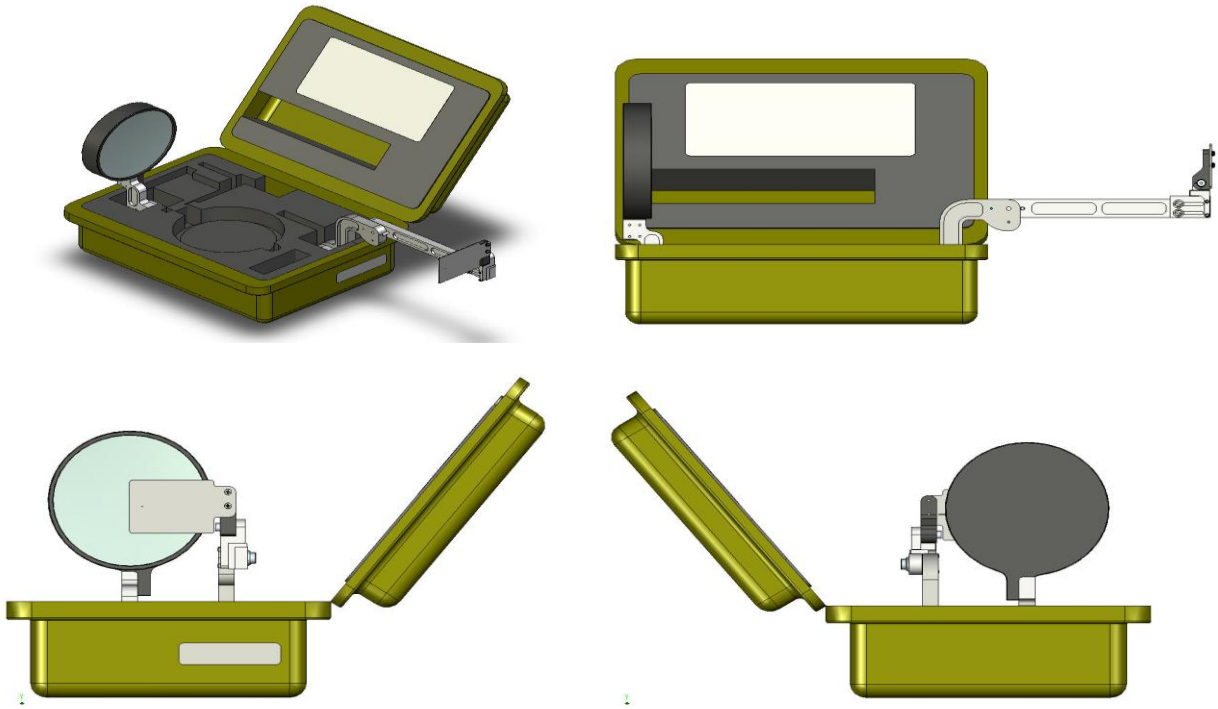
Power Requirements:
The M110 SAT uses a 3.6v Lithium battery
NSN: 6135-01-435-4921
The Halo uses a 3.6v lithium battery
NSN: 6135-01-435-4921
The Harness uses 2 each 3.0v Lithium batteries
NSN: 6135-01-351-1131

Applicable Publications:
The MILES IWS manuals:
23-6920-706-10
23-6920-706-24&P

Reference Publications:
None

Training Requirements Supported:
This Set supports CTC rotational exercises, as well as other Force On Force training events.

MIRROR ALIGNMENT JIG KIT (MAJiK)



Training Category/Level Utilized:
Combat Arms Level/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The purpose of the trainer is to replace the current target sheet alignment method for all MILES-IWS SAT with MAJiK. The MAJiK is an ancillary aid device used to align the MILES IWS SAT laser to the soldier's weapon sight picture.

Functional Description:
The MAJiK is a mechanical device that employs a mirror to reflect the laser transmitter's visible alignment onto a target card that uses a crosshair as reference point. The setup and device allow the user to set his weapon's sight at an infinite range so that the laser transmitter unit is aligned with the weapon's sight at long distance for better weapon simulation accuracy.

Physical Information:
External: Transit case weighs 15 lbs and dimensions of 16.25'' (L) x 13'' (W) x 7'' (H). Internal: A mirror and extended arm with target card that fold down into the transit case.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

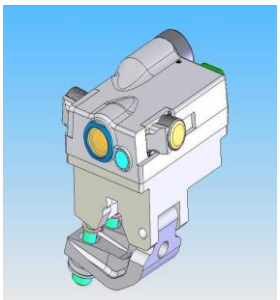
Power Requirements:
None

Applicable Publications:
Operator Manual, Multiple Integrated Laser Engagement (MILES), Individuals Weapons System (IWS)
TM 23-6920-706-10
Maintenance Manual, Multiple Integrated Laser Engagement (MILES), Individuals Weapons System (IWS)
TM 23-6920-706-24&P
Operator Manual, Multiple Integrated Laser Engagement (MILES), Individuals Weapons System (IWS), Training Data
Transfer Device TM-23-6920-707-10,

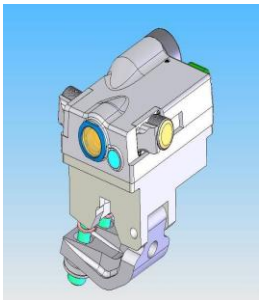
Reference Publications:
(Information not available)

Training Requirements Supported:
Multiple Integrated Laser Engagement (MILES), Individuals Weapons System (IWS)

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM, INDIVIDUAL WEAPONS SYSTEM (MILES IWS) SNIPER KIT



M107 SAT



M110 SAT

MILES IWS Halo

MILES IWS Harness

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The MILES IWS Sniper Kit includes one M107 and one M110 Small Arms Transmitter, two MILES IWS Halos, two MILES IWS H Harnesses, and all associated support items of equipment (ASIOE). The purpose of this kit is to provide the Sniper Team with all the MILES IWS equipment needed by the sniper team to perform their MILES environment training mission.

Functional Description:
The sniper kit contains all MILES IWS equipment needed to perform the MILES environment training mission, and is used exactly as all other MILES IWS sets are used; the kit simply encases the MILES IWS equipment (M107 and M110 SAT, halos, and harnesses) so that the sniper team is properly equipped to perform the training mission in the MILES training environment. The M107 and M110 Small Arms Transmitters (SATs) are mounted on the operator's real world weapon, and the operator is outfitted with the MILES IWS harness and halo. The SAT on each weapon associates with the operator's harness and halo, and the operator is ready to align the SAT and proceed through the training scenario.

Physical Information:
M107 and M110 SAT Dimensions:
3.30"L X 2.00"W X 1.47"H
Weight: 22.7 oz.
Halo Dimensions:
31" Circumference x 3" Width
Weight: 7.2 oz.
Harness Dimensions:
39"L x 10.25"W
Weight: 38.4 oz.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
The M107 and M110 SAT uses a 3.6v Lithium battery
NSN: 6135-01-435-4921
The Halo uses a 3.6v lithium battery
NSN: 6135-01-435-4921
The Harness uses 2 each 3.0v Lithium batteries
NSN: 6135-01-351-1131

Applicable Publications:
The MILES IWS manuals:
23-6920-706-10
23-6920-706-24&P

Reference Publications:
None

Training Requirements Supported:
This Set supports CTC rotational exercises, as well as other Force On Force training events.

SIMULATOR SYSTEM, FIRING, LASER: M16A1 RIFLE

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System, Firing, Laser M60 for M16A1 Rifle consists of a laser transmitter mounted on the barrel on the M16A1, a man-worn detector assembly installed on a load-carrying harness, and a strap which fits over a standard issue steel helmet. When a laser beam from a transmitter strikes a detector, an alarm located near the soldier's left ear informs him when he has suffered a "near miss" or that he has been "killed". If the soldier is killed the alarm will be continuous. To shut off the alarm, the soldier must remove a key from his transmitter and put it into a receptacle on his load carrying harness. With the key removed from the transmitter, the laser transmitter will not operate. Removing the weapon capability to fire simulates a combat casualty.

Physical Information:
Transit case: 29" x 22" x 28"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v transistor)
Firing attachment, blank ammunition, M15A2
Cartridge, 5.56mm blank, M200

Special Installation Requirements:
None

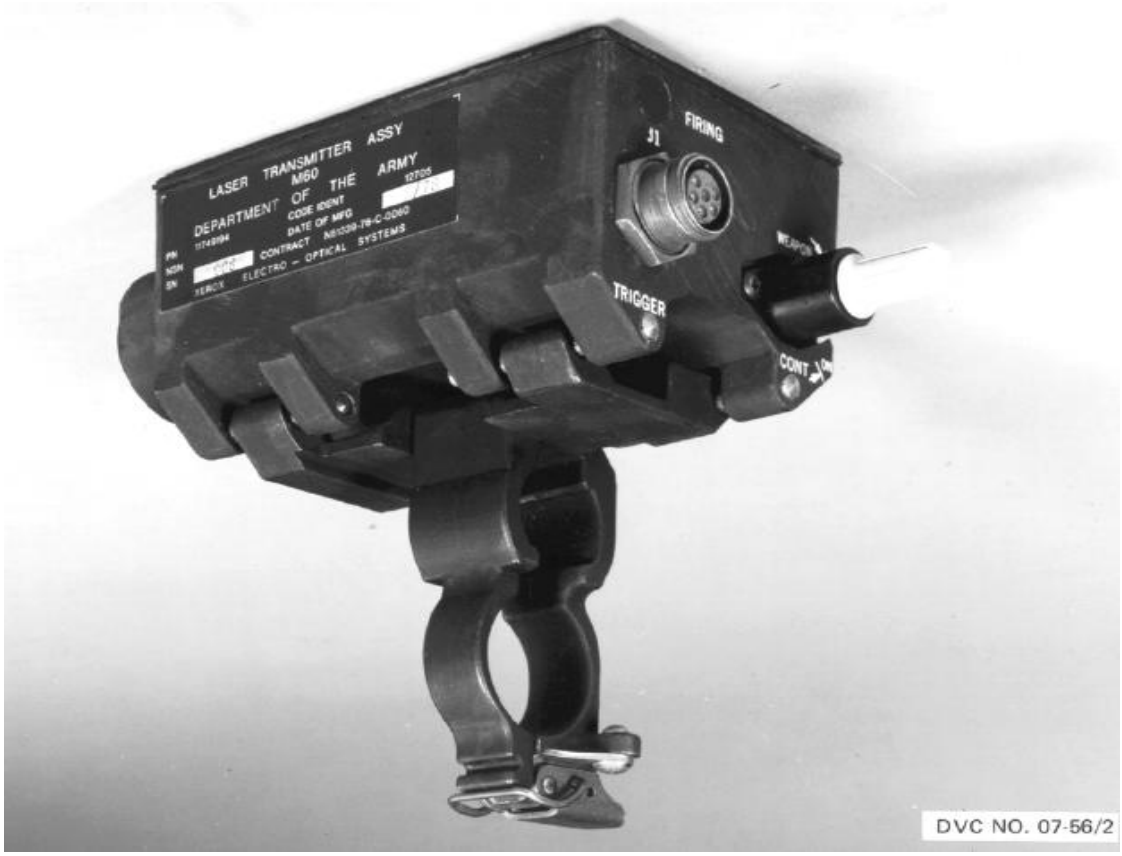
Power Requirements:
9vdc

Applicable Publications:
TM 9-6920-370-10-1

Reference Publications:
Associated Weapon System Manual

Training Requirements Supported:
This device supports live force-on-force training IAW unit CATS.

SIMULATOR SYSTEM, FIRING, LASER: M60 MACHINE GUN



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition. The Simulator System, Firing, Laser, M61, for M60 Machine Gun consists of a laser transmitter mounted on the barrel of the M60 Machine Gun.

Physical Information:
Transit case: 26" x 13" x 13"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Firing attachment, blank ammunition, M13A1
Cartridge, 7.62mm blank, M82 linked with M13 link

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-6920-370-10-2

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
This device supports live force-on-force training IAW unit CATS.

SIMULATOR SYSTEM, FIRING, LASER: VIPER

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System, Firing, Laser, M68 for Viper Rocket consists of a laser transmitter mounted in the front of a simulated tube and an antitank weapons effect simulator mounted in the rear of the dedicated tube.

Physical Information:
Transit case: 50" x 21" x 13"

Equipment Required, Not Supplied:
Battery, BA 3090/U (9v, transistor)

Special Installation Requirements:
None

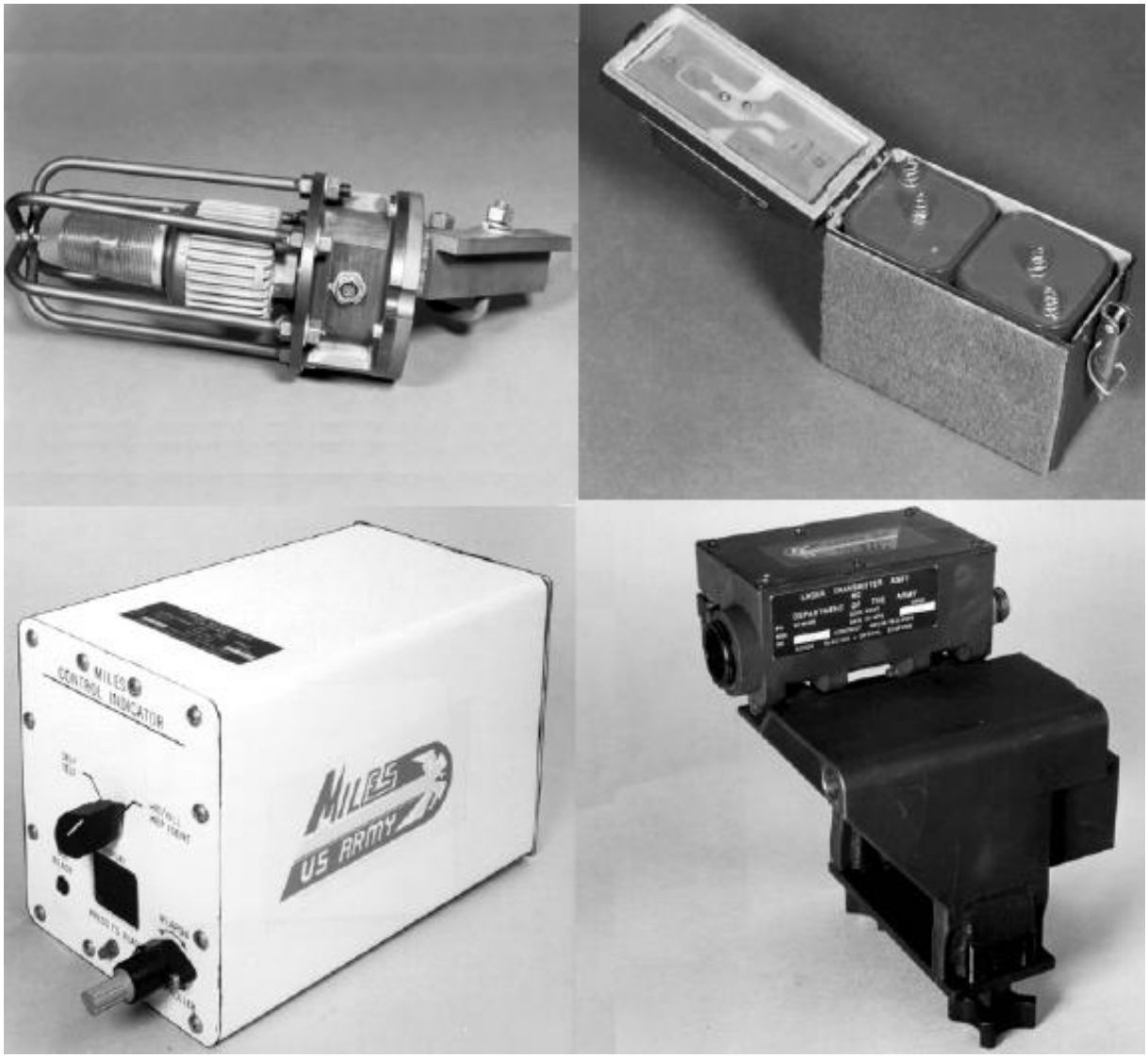
Power Requirements:
9vdc

Applicable Publications:
TM 9-6920-368-10-3

Reference Publications:
Applicable Weapon System Manual

Training Requirements Supported:
This device supports live force-on-force training IAW unit CATS.

SIMULATOR SYSTEM, FIRING, LASER: M113 APC



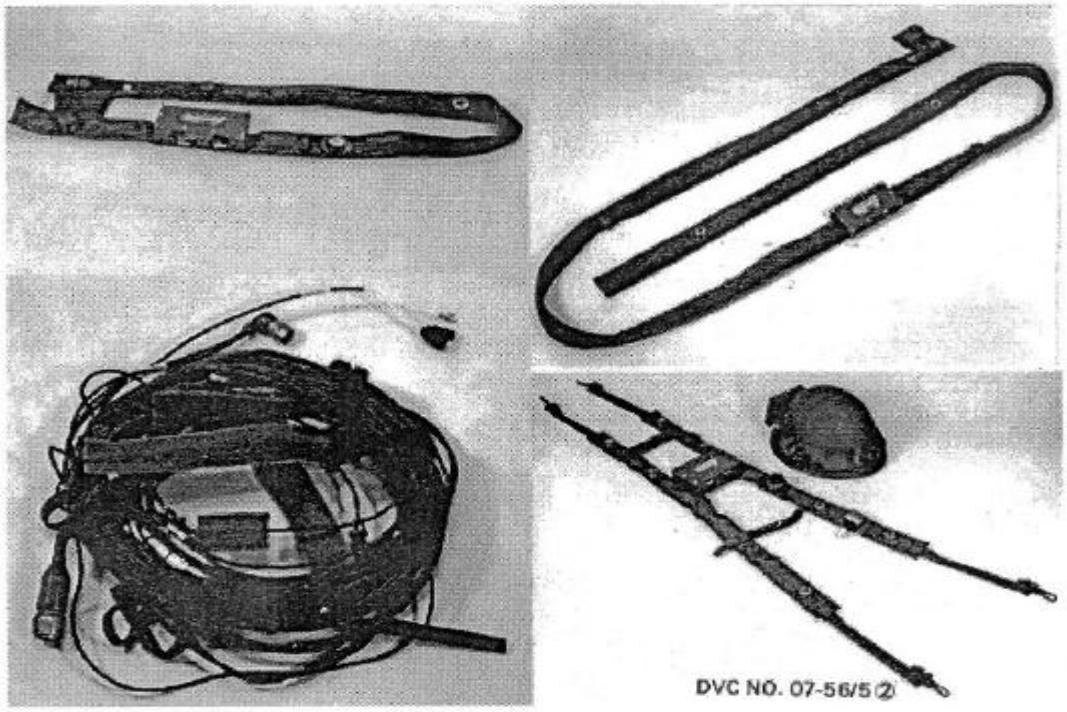
Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.



Functional Description:

The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System, Firing, Laser, M63 for M113 APC consists of a laser transmitter mounted on the barrel of the M2 Machine Gun, detector belt segments on all four sides of the vehicle, a vehicle kill indicator mounted on top of the vehicle, and a man-worn detector assembly installed on a load-carrying harness and a strap which fits over a standard issue steel helmet.

When the laser detector belts are struck by a laser beam, one of three things will happen: the strobe, mounted on top of the vehicle, will flash continuously to indicate a kill, four times to indicate a hit, or twice to indicate a near miss. To deactivate the strobe if a kill occurs, the weapon key from the vehicle's machine gun transmitter must be removed and put into a receptacle on the control console located in the vehicle. With the key removed from the machine gun transmitter, the transmitter is inoperable. All other vehicle transmitters are automatically turned off after a kill.

Physical Information:

Transit case: 36" x 35" x 16"
M113 rails: 55"x 15" x 15"

Equipment Required, Not Supplied:

Battery, BA 3090 (9v, transistor)
Battery, BA 200 (6v, lantern)
Firing attachment, blank ammunition, Ml9
Cartridge .50 caliber blank, for M2 Machine Gun

Special Installation Requirements:

None

Power Requirements:

6vdc and 9vdc

Applicable Publications:

TM 9-6920-370-10-3

Reference Publications:

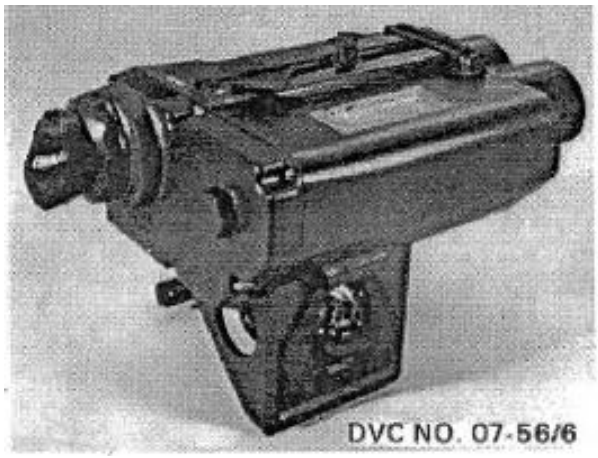
Applicable Weapon System Manual

Training Requirements Supported:

This device supports live force-on-force training IAW unit CATS.

SIMULATOR SYSTEM, FIRING, LASER: TOW BASIC

NSN Not Assigned — **DVC 23-80/6/A Simulator System, Firing, Laser: TOW Extended Range**
NSN Not Assigned — **DVC 23-80/6/B Simulator System, Firing, Laser: TOW II**
NSN Not Assigned — **DVC 23-80/6/C Simulator System, Firing, Laser: TOW II Extended Range**
NSN Not Assigned — **DVC 23-80/6/D Simulator System, Firing, Laser: TOW II with Modified Time of Flight**



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. Training Device 23-80/6D has modified printed wiring boards which reduce time of flight but do not shorten the effective range of the transmitters. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System, Firing, Laser, M64 for TOW consists of a laser transmitter resembling a TOW tracker head which completely replaces the actual TOW tracker head, an antitank weapons effect simulator and detector mounted in a simulated TOW tube, and two man-worn detector assemblies installed on load-carrying harnesses and straps which fit over standard issue steel helmets.

Physical Information:

Transit case: 33" x 29" x 19"

Equipment Required, Not Supplied:

Battery, BA 3090 (9v, transistor)

Special Installation Requirements:

None

Power Requirements:

9vdc

Applicable Publications:

TM 9-6920-368-10-2

Reference Publications:

Applicable Weapon System Manual

Training Requirements Supported:

This device supports live force-on-force training IAW unit CATS.

SIMULATOR SYSTEM CONTROLLER'S GUN, LASER

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Controller's Gun, Simulator System, Laser, M251 is required to ascertain the status of any laser detector. The gun contains a laser, and a "near miss" or "kill" switch. In the "kill" position it serves as the controller's weapon to circumvent any cheating during exercises. In the "near miss" position it serves as a means of testing the detectors.

Physical Information:

Transit case: 29" x 28" x 13"

Equipment Required, Not Supplied:

Battery, BA 3090 (9v, transistor)

Special Installation Requirements:

None

Power Requirements:

9vdc

Applicable Publications:

TM 9-6920-369-10-3

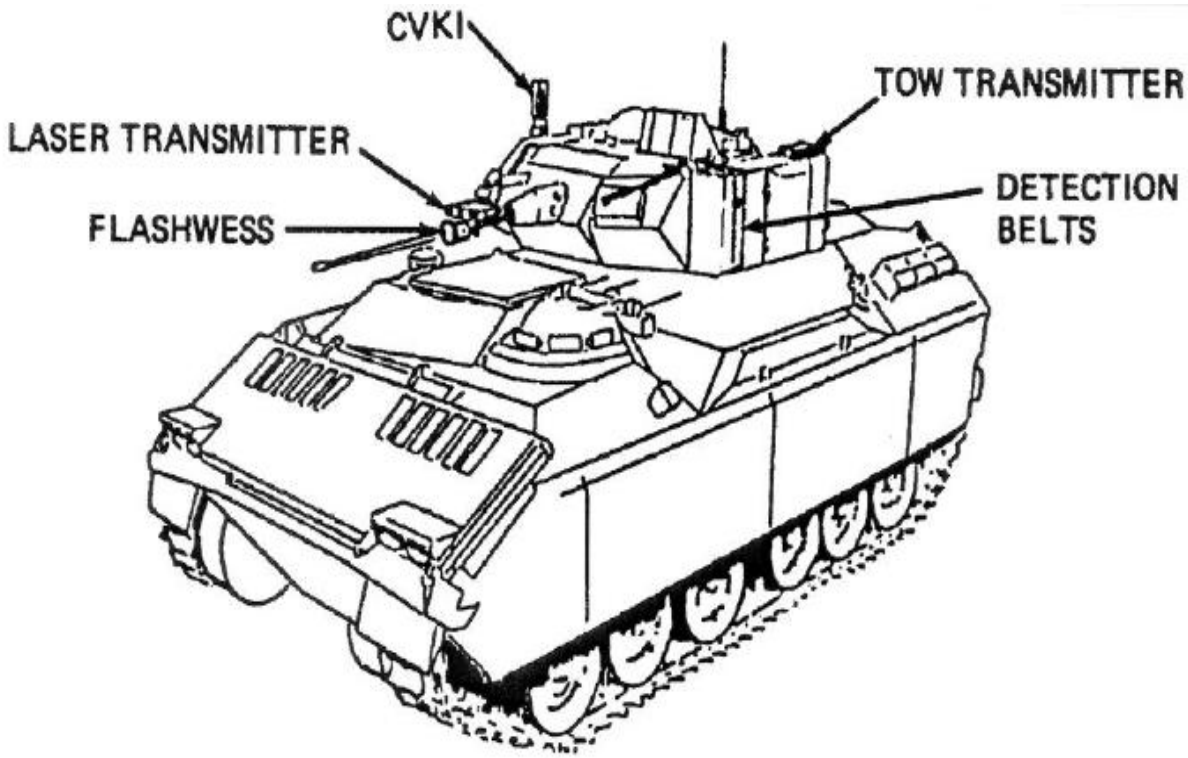
Reference Publications:

Applicable Weapon System Manual

Training Requirements Supported:

This device supports all live MILES-based training.

SIMULATOR SYSTEM, FIRING, LASER: M83 FOR M2/M3 FIGHTING VEHICLES



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

In the M83 Simulator System, all weapons on the M2 and M3 vehicles are equipped with laser transmitters that are fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing fire. Crew members wear torso and helmet harnesses that detect fire against them. A control console and flashing light are included.

Physical Information:
Equipment: 52.25" L x 43.75" W x 15.88" H
TOW Tubes: 62.19" L x 25.25" W x 23.94" H

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-1265-375-10

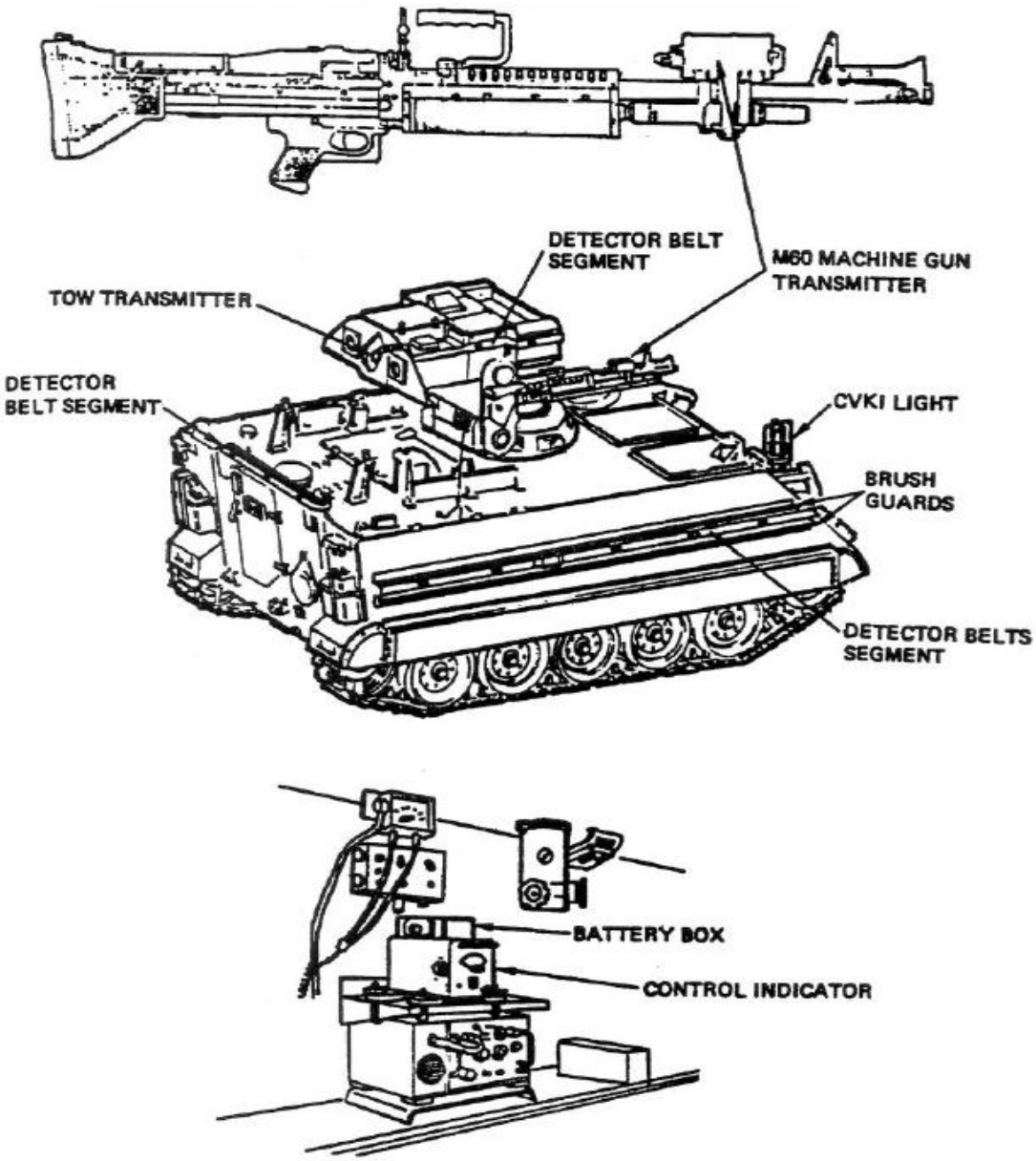
Reference Publications:
TM 9-1005-313-10
TM 9-2350-252-10
TM 9-1005-316-12&P

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: M73 FOR M901 IMPROVED TOW VEHICLES



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:

The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

In the M73 Simulator System, all weapons on the M901 Improved TOW Vehicle are equipped with laser transmitters that are fired wing normal operating procedures. Special detector belts on the vehicle's exterior sense opposing fire. Crew members wear torso and helmet harnesses that detect fire against them. A control console and flashing light are included.

Physical Information:

Transit Cases: 37" L x 35.5" W x 16.5" H

Equipment Required, Not Supplied:

Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:

None

Power Requirements:

9vdc

Applicable Publications:

TM 9-1265-202-10

Reference Publications:

TM 9-1006-224-10
TM 9-1265-368-10-2
TM 9-1425-470-12

Training Requirements Supported:

ARTEPs Supported

7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks

All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: M82 FOR M1 ABRAMS TANK

DEVICE PICTURE

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

In the M82 Simulator System for the Ml tank consists of three laser transmitters and a fire detection system. All weapons on the Ml are equipped with laser transmitters that are fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing fire. Crewmembers wear torso and helmet harnesses that detect fire against them. A control console and flashing light are included.

Physical Information:
Transit Cases: 47.5" L x 40.5" W x 15.88" H

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Battery, BA 200U (6v)

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-1265-373-10

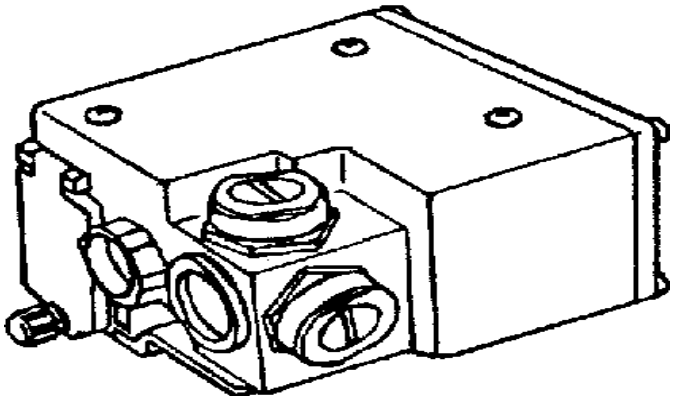
Reference Publications:
TM 9-1005-213-10
TM 9-1005-313-10
TM 9-1005-314-12&P
TM 9-2350-255-10

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: M89 FOR M16/M16A2 RIFLE



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Simulator System for M16A1/M16A2 Rifle consists of a small arms laser transmitter mounted on the barrel of the weapon, a man-worn detector assembly installed on a load-carrying harness, and a strap which fits over a standard issue steel helmet. When a laser beam from a transmitter strikes a detector, an alarm located near the soldier's left ear informs him when he has suffered a "near miss" or that, he has been "killed". If the soldier is killed the alarm will be continuous. To shut off the alarm, the soldier must remove a key from his transmitter and put it into a receptacle on his load carrying harness. With the key removed from the transmitter, the laser transmitter will not operate. Removing the weapon capability to fire simulates a combat casualty.

Physical Information:
Transit case: 29" x 22" x 28"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Firing attachment, blank ammunition, M15A2
Cartridge, 5.56mm blank, M200

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
(Information not available)

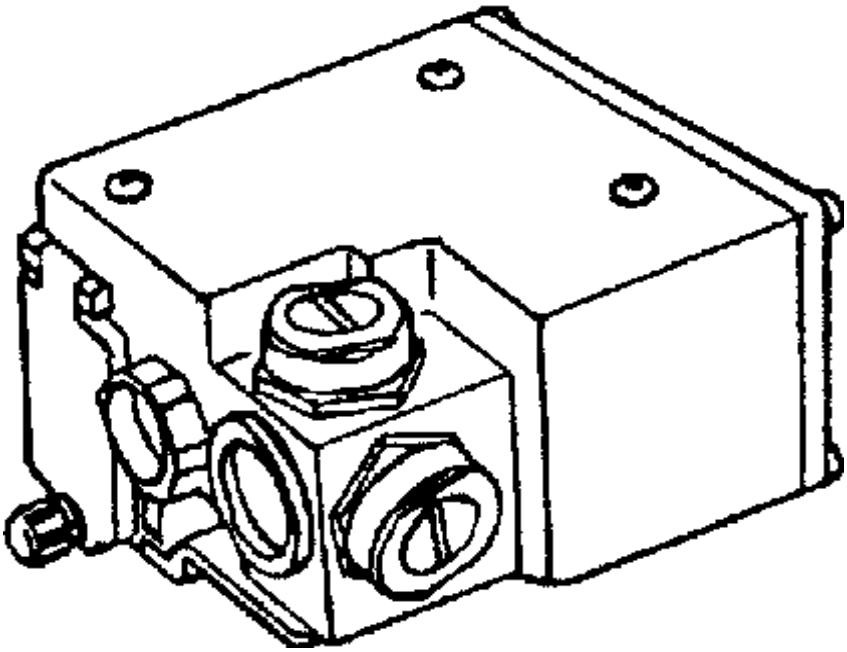
Reference Publications:
(Information not available)

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, FIRING, LASER: M90 FOR SQUAD AUTOMATIC WEAPON (SAW)



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main guns use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons. The specific training requirements supported are shown following the descriptive data.

Functional Description:
The MILES family, consisting of 18 fielded distinct weapon firing simulator systems, employ eye-safe lasers and microelectronics to realistically simulate the firing capabilities of rifles, machine guns, and other direct-fire weapons. Small battery-operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/ visual indications of a kill, hit, or near miss. Kill indicators on men or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The M90 Simulator System for M249 SAW consists of a small arms laser transmitter mounted on the barrel of the weapon, a man-worn detector assembly installed on a load-carrying harness, and a strap which fits over a standard issue steel helmet. When a laser beam from a transmitter strikes a detector, an alarm located near the soldier's left ear informs him when he has suffered a "near miss" or that he has been "killed". If the soldier is killed the alarm will be continuous. To shut off the alarm, the soldier must remove a key from his transmitter and put it into a receptacle on his load carrying harness. With the key removed from the transmitter, the laser transmitter will not operate. Removing the weapon capability to fire simulates a combat casualty.

Physical Information:
Transit case: 29" x 22" x 28"

Equipment Required, Not Supplied:
Battery, BA 3090 (9v, transistor)
Firing attachment, blank ammunition, M15A2
Cartridge, 5.56mm blank, M200

Special Installation Requirements:
None

Power Requirements:
9vdc

Applicable Publications:
TM 9-1265-211-10

Reference Publications:
TM 9-1005-201-10
TM 9-1005-319-10

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

SIMULATOR SYSTEM, LASER INDICATOR, M40: FOR INDEPENDENT MOBILE TARGET SYSTEM (IMTS)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Independent Mobile Target System (IMTS) provides the capability of conducting Tactical Engagement Simulation (TES) exercises using Multiple Integrated Laser Engagement Systems (MILES). The IMTS provides realistic combat training using military vehicles and weapons equipped with MILES without the danger of live ammunition.

Functional Description:
When a weapon is properly aimed at a IMTS equipped person or vehicle and laser fired IMTS records the score, (Hit, Near Miss, or Kill), and the identification number of the firing laser. The target type of each IMTS equipped vehicle is selected and set into IMTS by switch selection and a MILES controller key prior to the start of the combat exercise. IMTS is composed of an Electronics Controller Unit (ECU) which houses the necessary electronics, control panel, and four BA-200/U six volt batteries; a detector assembly for receiving MILES laser code; mounting bracket for attachment of the IMTS to various vehicles; power cables; a strobe light and cage with integrated 360 degree detector, and transit case to carry all the IMTS items. The IMTS controls are located on the ECU front panel.

The IMTS has two visual indicators; the display located on the ECU front panel, and the strobe light (part of the SDA). An audio indicator (sonalert) is also located on the ECU front panel. The strobe light is used in the Built In Test (BIT) mode to indicate proper operation, and during training to indicate a Near Miss, Hit or Kill during an engagement exercise. The BIT function helps the operator test the battery and decide if a IMTS field replaceable component is faulty.

The probability of Kill Loader (PKL) for IMTS is a battery operated, hand-held device with a 1-foot, none removable cable for interfacing with the IMTS electronic controller unit (ECU) to upload PK tables. Also included are software and a personal computer (PC)/PKL interface cable for connecting the PKL to an IBM compatible or laptop computer for downloading the PK tables to the PKL. The PKL provides the capability to change the PK tables in IMTS for MILES training exercises.

Physical Information:
ECU: 5" x 5" x 11.5", 7.5 lb.
SDA: 6.25" x 6.5", 5.8 lb.
Detector Array: 2 arrays 18' each, 2 arrays 12' each, 2.5 lb.
System weight: 40.5 lb.

Equipment Required, Not Supplied:
Batteries, 6v lantern type, BA 200, 4ea. 9v (EN 522), 1ea.
Hook Type Velcro, Cleaner and Glue.

Special Installation Requirements:
See TM 9-1265-379-10 Operator's Manual Multiple Integrated Laser Engagement (MILES), Simulator System, Laser, and Independent Mobile Target System (IMTS).

Power Requirements:
Input: 24vdc
Start-up Max Power: 24vdc at 1.2 A = 36 VA
Nominal Power: 24vdc at .058 A = 1.4 VA

Applicable Publications:
TM 9-1265-379-10
SMM 1265-379-24&P

Reference Publications:
(Information not available)

Training Requirements Supported:
ARTEPs Supported
7-15 17-55 71-2

MOSC 11B, 11Z, 19D, 19E, and 19Z

SM Tasks
All tactical tasks for skill levels 1 through 5.

ANTI-TANK GUIDED MISSILE (ATGM) FIELD TACTICAL TRAINER (FTT)

Training Category/Level Utilized:
Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue, (limited distribution).

Purpose of Trainer:
The ATGM is used for force on force training. This training can occur on designated ranges, general outdoor areas, or representative tactical environments.

Functional Description:
The Anti-Tank Guided Missile (ATGM) Field Tactical Trainer (FTT) uses the actual ATGM hardware and uses a FTT Training Missile Tube (TMT) and Auxiliary Anti-Tank Weapons Effect Simulation System (ATWESS) tube to simulate the actual missile rounds. The FTT provides visual and aural cues associated with the ATGM missile when engaging targets. Operator visual cues presented in the Target Acquisition System (TAS) display include simulated launch effects and simulated missile flight down range with burst on target.

Tactical visual and aural cues are provided by the ATWESS cartridge and include launch flame, smoke and launch blast/explosion simulations. Missile flight trajectory characteristics have been provided to simulate both the TOW2A and TOW2B. The FTT utilizes the same displays and menu driven operating system as the ATGM tactical system. The FTT consists of two embedded training cards that are part of the tactical ATGM Fire Control Subsystem (FCS) and an appended TMT and Auxiliary ATWESS tube that is loaded into the inboard/outboard launchers respectfully.

Within ATGM, there is real time, high fidelity, and model of both the TOW2A and TOW2B missiles. These models, when activated through commands from the tactical system, simulate launch motor ignition, flight motor ignition and sustain burn until impact as prescribed by their flight profile. During a training engagement, the FTT takes ATGM thermal video and combines it with simulated missile images/explosions to provide the gunner with realistic engagement displays.

The basic load of the ATGM system is six missile rounds. The system is used to conduct either Home station or Combat Training Center Force-on-Force training. This training can occur on designated ranges, general outdoor areas, or representative tactical environments.

Physical Information:

Major FTT Components:

- Training Missile Tube (TMT): Simulates the ATGM missile round. The TMT is built into a missile body for installation into the ATGM launcher. The TMT consists of a Missile Body, the Laser Transmitter Assembly and the End Cap Assembly (ECA).
- Auxiliary ATWESS Tube: Simulates the second missile round capability of the ATGM.
- Stow Bag: The Stow Bag is a foam lined canvas container for stowage and transit of cables, Boresight Assembly and Key Clamp during field exercises.
- Boresight Assembly: Is an optical alignment fixture that is temporarily clamped onto the end of the launch tube during FTT/ATGM boresight procedures. The Boresight Assembly allows a circular reticule generated in the TMT to be overlaid onto the daysight crosshair reticule of the ATGM for alignment of the Multiple Integrated Laser Engagement System laser with the Target Acquisition.
- Key Clamp: The Key Clamp provides a reference for installation of the Boresight Assembly.
- Cables: The FTT employs a total of three cables for operations. The W1 connects the rear of the Elevated TOW System to the TMT & Auxiliary ATWESS tube and provides power and signal. The W2 provides connection from an internal jack providing interface of the FTT system to the SAWE MILES II console and the DCI. The W3 will provide interface from the same internal jack to the MILES XXI system.
- Transit Cases: The two Transit Cases provide protection for the FTT components during storage and shipment.

Equipment Required, Not Supplied:

ATGM TOW Guided Missile System, Installed in LAV-III
ITAS Fire Control System
ATWESS cartridges
SAWE/MILES II or MILES XXI

Special Installation Requirements:

None

Power Requirements:

Vehicle Power 24vdc

Applicable Publications:

Operator manual for ATGM

Reference Publications:

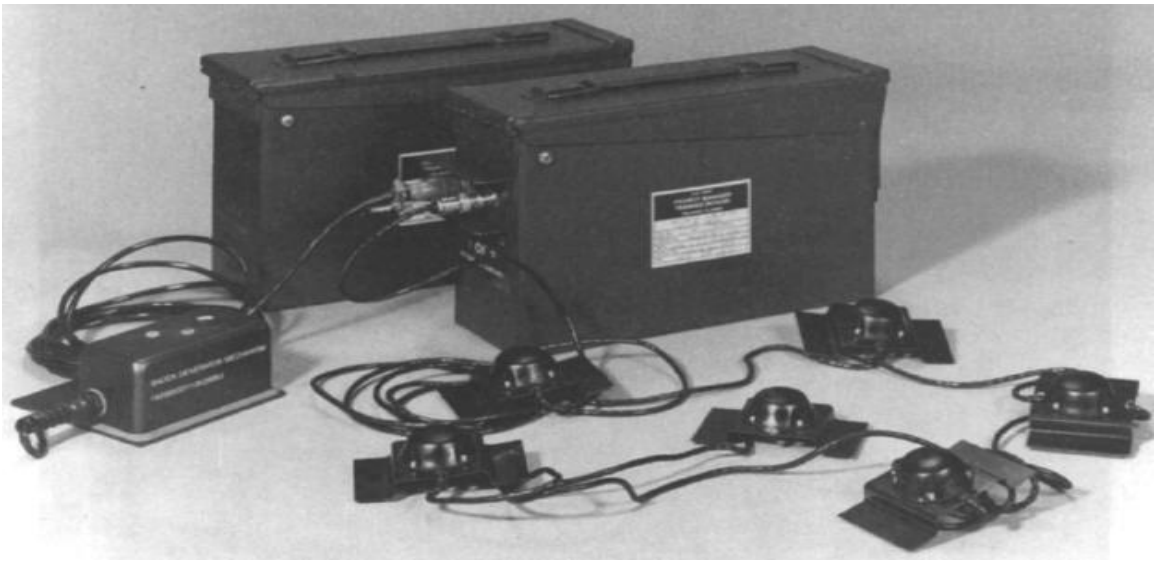
ATGM Weapon System Operator Manual

Training Requirements Supported:

MOSC 11-Series

INDICATOR, SIMULATOR SYSTEM, LASER TARGET INTERFACE DEVICE (LTID)

NSN Not Assigned **DVC 23-91/A** **(LTID)**



Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
ACALA

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Laser Target Interface Device (LTID) interfaces existing live-fire tank/man target mechanisms with standard MILES transmitters enabling the transmitters to knock down targets. LTID provides realistic and valuable marksmanship training without the high cost of ammunition and target repair/replacement encountered in live-fire training programs.

Functional Description:
LTID is comprised of a Detection Assembly, an Electronic Assembly, and a Shock Generator Mechanism (SGM).

The Detection Assembly simulates target vulnerability using six detectors fastened with Velcro to the target. The Electronic Assembly contains the detector amplifier, decoder, SGM activation electronics, and two standard 6-volt lantern batteries. The SGM activates the target lift mechanism when a “hit” is decoded.

In operation, a MILES transmitter-equipped weapon engages an LTID-equipped target, the Detection Assembly receives the transmitter laser signal, converts it to electrical pulses, and routes them to the Electronic Assembly where they are amplified and decoded. If a “hit” is decoded, the SGM triggers the target lift mechanism to lower the target.

DVC 17-146A has been assigned to LTIDs modified for use during APACHE MILES training.

Physical Information:
Number of Pieces: Four
Electronics Assembly: 11" x 4" x 7"
Storage Case, containing: 11" x 4" x 7"
Detection Assembly: 8" x 4" x 2" (packaged)
SGM: 6" x 6" x 3" (packaged)
Total Weight: 9 lb

Equipment Required, Not Supplied:
Batteries, 6-volt, BA-200/U
Velcro, 11749428
Primer, 11749034
Roller, Hand, 6523520
Controller Gun, 11748811
Target Holding Mechanisms
MILES Transmitters

Special Installation Requirements:
None

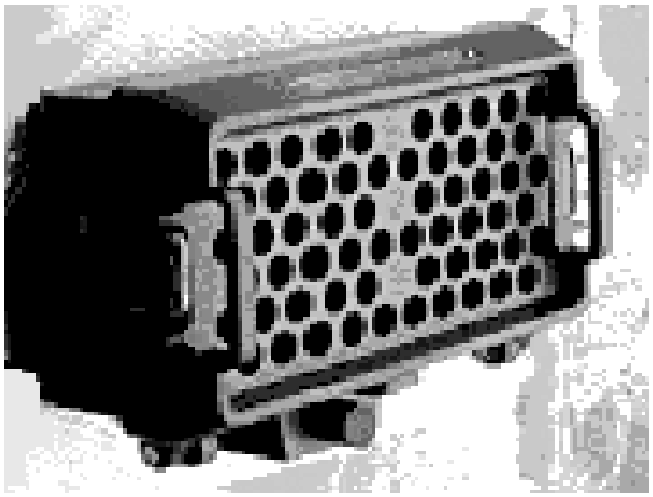
Power Requirements:
Two standard 6-volt lantern batteries.

Applicable Publications:
TM 9-1265-376-10, - Operator’s Manual for Indicator Simulator System, Laser Target Interface Device (LTID).

Reference Publications:
None

Training Requirements Supported:
Simulated live-fire training on ranges.

MAIN GUN SIGNATURE SIMULATOR (MGSS) (MILES 2000)



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain.

The MGSS is a component of the Multiple Integrated Laser Engagement System 2000 (M2K). The M2K is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges. The M2K system is primarily used for force-on-force training from squad up to and including Brigade level. The M2K system incorporates a After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises. M2K equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The MGSS is mounted on the M1A1/M1A2 tank and simulates the main gun firing. The MGSS holds 60 pyrotechnics when fully loaded and is "keyless" for safety. When the main gun trigger is activated a signal goes to the MGSS and fires 1 pyrotechnic for each firing. The pyrotechnic creates the flash and bang of the main gun, triggering the Universal Laser Transmitter (ULT).

Physical Information:
MGSS Launcher
Interface Cable
Transit case dimensions: 46.3" L x 40.7" W x 17.5" H
(1 MGSS Kits per case)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Vehicle power

Applicable Publications:
9-6920-892-10

Reference Publications:
None

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M113/BMP-2 OPPOSING FORCES (OPFOR) SURROGATE VEHICLE (OSV)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI/TACOM

Source and Method of Obtaining:
PEO STRI, PM TRADE

Purpose of Trainer:
To provide realistic, challenging and cost-effective Opposing Force (OPFOR) BMP-2 Surrogate Vehicle (OSV) representation during force-on-force exercises at the Maneuver Combat Training Centers. It is a realistic simulation of the Russian manufactured BMP-2 Infantry Fighting Vehicle.

Functional Description:
The OSV is an M113A3 Family Of Vehicle (FOV) modified to look like BMP-2. The OSV has a stabilized two-man turret and visual modifications to simulate the appearance of the BMP-2. Weapon systems are simulated by SAWE/MILES II.

Physical Information:
122" W x 98" H x 245" L; 27,700 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Electrical power is provided by the vehicle's generator batteries.

Applicable Publications:
Hull, Operators Manual
TM 9-2350-366-10-1 dated May 01
Hull, Unit Maintenance Manual
TM 9-2350-20-1-1 dated May 01
TM 9-2350-20-1-2 dated May 01
Hull, Unit, Direct Support and General Support (RPSTL)
TM 9-2350-366-24-P-1 dated July 01
Hull, Direct Support and General Support Maintenance
TM 9-2350-366-34-1 dated May 01
Turret, Operators Manual
TM 9-2350-366-10-2 dated May 01
Turret, Unit Maintenance Manual
TM 9-2350-366-20-2 dated May 01
Turret, Unit, Direct Support and General Support (RPSTL)
TM 9-2350-366-24-P-2 dated July 01
Turret, Direct Support and General Support Maintenance
TM 9-2350-366-34-2 dated May 01

Reference Publications:
None

Training Requirements Supported:
MOSC 11B, 45K, 63H, 63

MILES XXI (STRYKER) COMMON KIT

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The devise is a component of the Multiple Integrated Laser Engagement System (MILES). MILES XXI is a family of training systems, accurately, and in real time, simulates the effect of direct and indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES XXI provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main gun use weapon effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:
The MILES XXI family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of combat vehicles, rifles, machine gun, and other direct-fire weapons. Small battery operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of the specific weapons) invisible laser pulses instead of lice ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on personnel or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Combat Vehicle, Simulator System, Firing, Laser on the M113 Armored Personnel Carrier are equipment with a laser transmitter that are fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing force fire. Crewmembers wear man-worn devices that detect incoming fire against them. A control console and flashing light are included in the system.

Outgoing Direct Fire from the vehicle main gun, coax, and missile is simulated by "firing" coded laser beams from laser transmitters mounted on the front of the turret. Each weapon (missile, 25mm Main Gun, and Coax Machine Gun) has a different MILES code. Muzzle flash from the 25mm main gun is simulated by the FLASHWESS, a high-intensity light mounted next to the laser transmitter, which flashes each time the main gunfire's. The fire, smoke, and backblast of a weapon firing is simulated by one of four ATWESS devices that are part of the Signature Simulator, which fires pyrotechnic cartridges each time a simulated weapon is "launched".

Incoming fire, the MILES XXI system simulates the effects of both direct and indirect fire engagements. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether your vehicle sustains a NEAR MISS, HIT, or KILL. The visual message on the console will display Miles Code and Player Identification (PID).

The MILES Code is a 2-digit MILES XXI code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging you. This event information is stored in the console and downloaded after exercises for use in After Action Reviews. The MILES Code and PID accurately show the performance of specific troops and weapons. KILL simulates total disability to your vehicle. In addition to incoming fire, disconnecting or interrupting power to vehicle console will also cause a KILL. Vehicles can sustain 4 types of HIT — FIREPOWER KILL on the weapon simulates damage to the Main Gun, Coax, and STINGER. MOBILITY KILL simulates power train, track, wheel or other damage that would keep the vehicle from driving. COMMO KILL simulates loss of radio communications. HIT NO DAMAGE simulates vehicles being engaged, but your vehicle received no damage as a result of the engagement. NEAR MISS means direct or indirect fire was close, but did not hit vehicle.

Physical Information:
Transit case: 52” L x 43” W x 17” H

Equipment Required, Not Supplied:
Battery
Blank Ammunition
Weapon/Vehicle

Special Installation Requirements:
None

Power Requirements:
Lithium Ion

Applicable Publications:
TM Number TBD

Reference Publications:
(Information not available)

Training Requirements Supported:
ARTEPs 7-15, 15-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

M2/M3A2/A3 BRADLEY FIGHTING VEHICLE, (MILES XXI)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Only used at CTCs, not available for use at other locations.

Purpose of Trainer:
This device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES XXI is a family of training systems, accurately, and in real time, simulates the effect of direct and indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES XXI provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments. Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main gun use weapon effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:
The MILES XXI family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of combat vehicles, rifles, machine gun, and other direct-fire weapons. Small battery operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of the specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on personnel or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Combat Vehicle, Simulator System, Firing, Laser on the M2/M3 Bradley Fighting Vehicle are equipped with a laser transmitter that is fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing force fire. Crewmembers wear man-worn devices that detect incoming fire against them.

Outgoing Direct Fire from the vehicle main gun, coax, and missile is simulated by "firing" coded laser beams from laser transmitters mounted on the front of the turret. Each weapon (missile, 25mm Main Gun, and Coax Machine Gun) has a different MILES XXI code. Muzzle flash from the 25mm main gun is simulated by the FLASHWESS, a high-intensity light mounted next to the laser transmitter, which flashes each time the main gunfire's. The fire, smoke, and backblast of a weapon firing is simulated by one of four ATWESS devices that are part of the Signature Simulator, which fires pyrotechnic cartridges each time a simulated weapon is "launched".

Incoming fire, the MILES XXI system simulates the effects of both direct and indirect fire engagements. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether your vehicle sustains a NEAR MISS, HIT, or KILL. The visual message on the console will display Miles Code and Player Identification (PID). The MILES Code is a 2-digit MILES XXI code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging you. This event information is stored in the console and downloaded after exercises for use in After Action

Reviews. The MILES Code and PID accurately show the performance of specific troops and weapons. KILL simulates total disability to your vehicle. In addition to incoming fire, disconnecting or interrupting power to vehicle console will also cause a KILL. Vehicles can sustain 4 types of HIT — FIREPOWER KILL on the weapon simulates damage to the Main Gun, Coax, andSTINGER. MOBILITY KILL simulates power train, track, wheel or other damage that would keep the vehicle from driving. COMMO KILL simulates loss of radio communications. HIT NO DAMAGE simulates vehicles being engaged, but your vehicle received no damage as a result of the engagement. NEAR MISS means direct or indirect fire was close, but did not hit vehicle.

Physical Information:
Transit case: 46” L x 40” W x 17” H

Equipment Required, Not Supplied:
Battery
Blank Ammunition
Weapon

Special Installation Requirements:
None

Power Requirements:
Lithium Ion

Applicable Publications:
TM Number TBD

Training Requirements Supported:
MOSCs 11B, 11Z, 19D

M1A1/A2/SYSTEM ENHANCED PACKAGE (SEP) TANK, (MILES XXI)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Only used at CTCs, not available for use at other locations.

Purpose of Trainer:
The devise is a component of the Multiple Integrated Laser Engagement System (MILES). MILES XXI is a family of training systems, accurately, and in real time, simulates the effect of direct and indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES XXI provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments. Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main gun use weapon effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:
The MILES XXI family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of combat vehicles, rifles, machine gun, and other direct-fire weapons. Small battery operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of the specific weapons) invisible laser pulses instead of lice ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. Kill indicators on personnel or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Combat Vehicle, Simulator System, Firing, Laser on the M2A3/M3A3 Bradley Fighting Vehicle are equipment with a laser transmitter that are fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing force fire. Crewmembers wear man-worn devices that detect incoming fire against them. A control console and flashing light are included in the system.

Outgoing Direct Fire from the vehicle main gun, coax, and missile is simulated by "firing" coded laser beams from laser transmitters mounted on the front of the turret. Each weapon (missile, 25mm Main Gun, and Coax Machine Gun) has a different MILES XXI code. Muzzle flash from the 25mm main gun is simulated by the FLASHWESS, a high-intensity light mounted next to the laser transmitter which flashes each time the main gunfire's. The fire, smoke, and backblast of a weapon firing is simulated by one of four ATWESS devices that are part of the Signature Simulator, which fires pyrotechnic cartridges each time a simulated weapon is "launched." Incoming fire, The MILES XXI System simulates the effects of both direct and indirect fire engagements. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether your vehicle sustains a NEAR MISS, HIT, or KILL. The visual message on the console will display Miles Code and Player Identification (PID). The MILES Code is a 2-digit MILES XXI code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging you. This event information is stored in the console and downloaded after exercises for use in After Action Reviews.

M1A1/A2/SYSTEM ENHANCED PACKAGE (SEP) TANK, (MILES XXI)

The MILES XXI Code and PID accurately show the performance of specific troops and weapons.
KILL simulates total disability to your vehicle. In addition to incoming fire, disconnecting or interrupting power to vehicle console will also cause a KILL. Vehicles can sustain 4 types of HIT — FIREPOWER KILL on the weapon simulates damage to the Main Gun, Coax, and STINGER. MOBILITY KILL simulates power train, track, wheel or other damage that would keep the vehicle from driving. COMMO KILL simulates loss of radio communications. HIT NO DAMAGE simulates vehicles being engaged, but your vehicle received no damage as a result of the engagement. NEAR MISS means direct or indirect fire was close, but did not hit vehicle.

Physical Information:
Transit case: 46” L x 40” W x 17” H

Equipment Required, Not Supplied:
Battery
Blank Ammunition
Weapon

Special Installation Requirements:
None

Power Requirements:
Lithium Ion

Applicable Publications:
TM Number TBD

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSCs 11B, 11Z, 19D, 19K, 19Z

UNITECH/ICON INDEPENDENT TARGET SYSTEM (ITS), (MILES)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of the trainer is to replace the Basic MILES target systems at Home Stations and Maneuver Combat Training Center Centers Army wide. The ITS system is capable of providing the following functions over and above that of the Basic MILES system it is replacing: Player Identification (PID), fratricide identification, multiple levels of kill and vulnerability due to direction of attack.

Functional Description:
The ITS is comprised of a set of detector belts that gather and route laser-based data and information to the ITS Vehicle Detection Device (ITS VDD). The system also comprises a Kill Indicator Assembly, which flashes to give an indication the player has been engaged, and a power module. The subsystems that make up the ITS are connected using industry standard networking technologies and processing hardware. The software is an amalgamation of Commercial-off-the-shelf products (COTS) and ITS product-unique applications.

Physical Information:
Transit case: 3' L x 2' W x 1' H, two person lift transit case.

Equipment Required, Not Supplied:
Not Applicable

Special Installation Requirements:
None

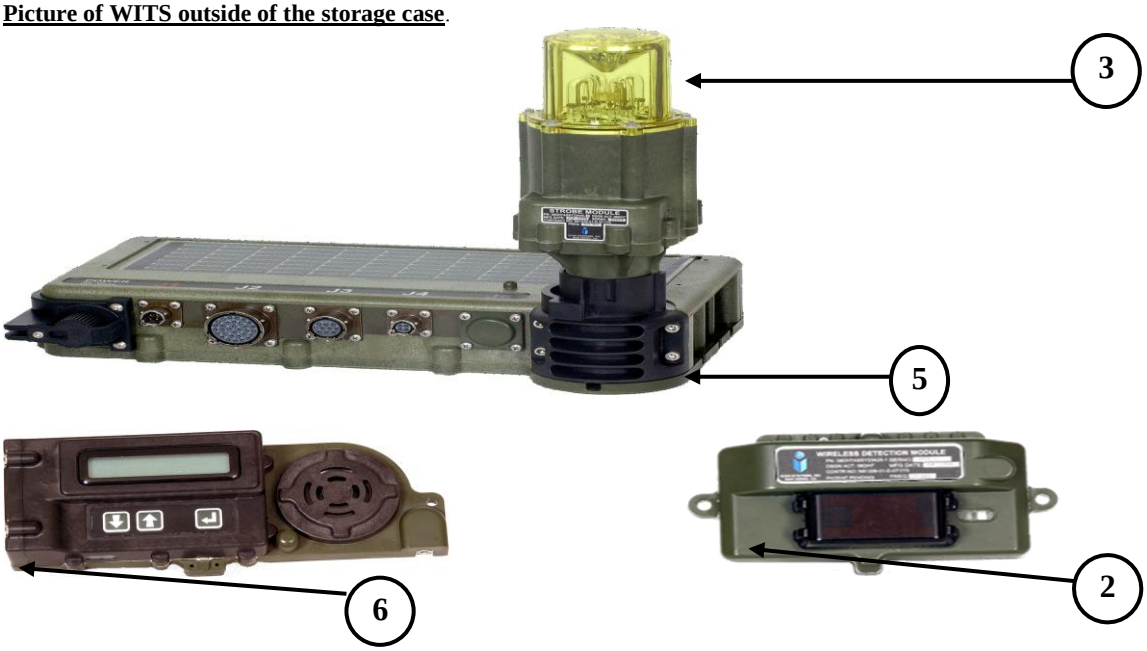
Power Requirements:
Vehicle Power or Six (6) internal rechargeable D-cells Batteries.

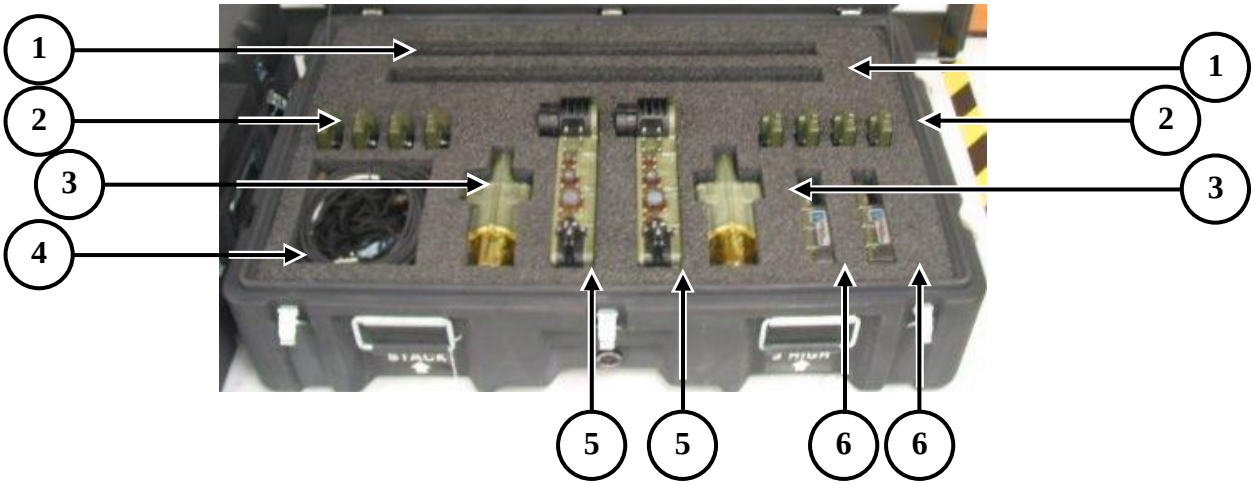
Applicable Publications:
TM 9-6920-3660-10
SMM 9-6920-3660-24&P

Training Requirements Supported:
MOSCs 11B, 11Z, 19D, 19K, 19Z

WIRELESS INDEPENDENT TARGET SYSTEM (WITS) BASIC KIT (915 MHz)

Picture of WITS outside of the storage case.





1. Mast Assembly (TBD – underdevelopment will be supplied at later date) 2 each
2. Wireless Detector Modules (WDM) 8 each
3. Strobe Module 2 each
4. Universal Power Cables 2 each
4. Dome Light Power Cable 2 each
5. Power Module 2 each
6. Remote Display Module (RDM) 2 each
***7. WITS Transit & Storage Container Case (*Item drawing number for case not shown) 1 each**

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local Training Support Center (TSC)

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain.

The WITS is a component of the Multiple Integrated Laser Engagement System (MILES)
The MILES system is primarily used for force-on-force training from squad up to and including Brigade level. The system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises. The WITS equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The WITS can be mounted on tactical vehicles, trailers and even bridges. It is designed to support all noncombat tactical vehicles and other items that are not involved in the direct combat scenario.

Physical Information:
WITS Training Devices
Transit case dimensions:
38.5 x 25 x 13
(L x W x H), 65 lbs.
Measured in inches not cm.
(2ea WITS Kits per case)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

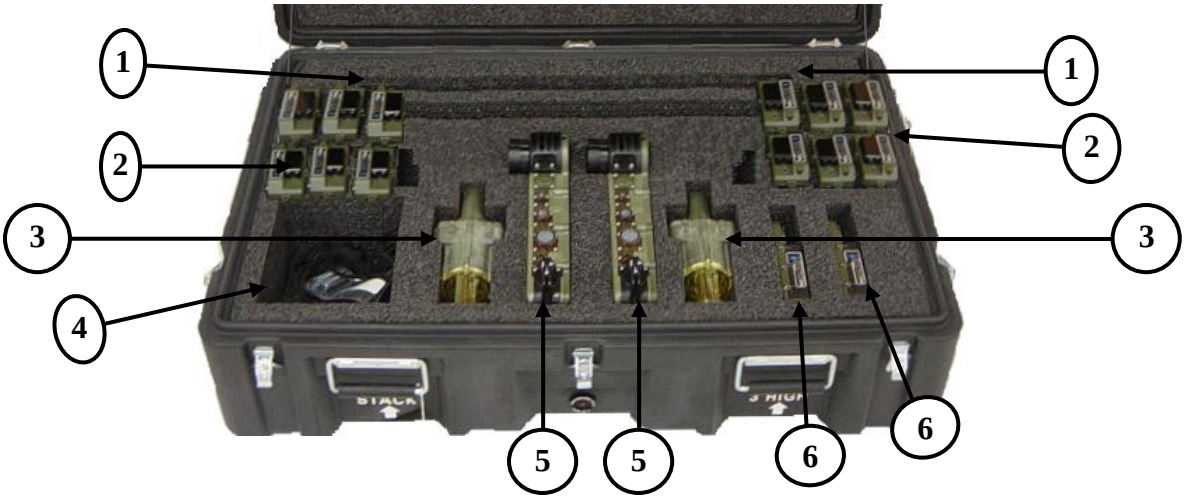
Power Requirements:
Vehicle Power

Applicable Publications:
SMM 9-6920-3693-24&P

Reference Publications:
None

Training Requirements Supported:
MOSCs 11B, 11Z, 19D, 19K, 19Z

WIRELESS INDEPENDENT TARGET SYSTEM (WITS) M113 KIT (915 MHz)



Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The WITS M113 KIT system is capable of operating in a (MILES) environment in force-on-force live training areas. The WITS M113 KIT system is capable of providing the following functions over and above that of the Basic MILES system it is replacing: Player Identification (PID), fratricide identification, multiple levels of kill and vulnerability due to direction of attack. The WITS M113 KIT provides additional detectors to support the M113 Armored Personnel Carrier (APC). New weapons, ammunition, and weapon performance will be accommodated.

Functional Description:
The MILES WITS program trains Active Duty and Reserve battalion task forces in Force-on-Force (FoF) exercises at home station, and the Combat Training Centers (CTCs). The MILES WITS program detects the direct fire effects and simulates signature effects of actual weapon systems primarily during FoF exercises from squad through brigade level (i.e. engage committed forces, Military Operations in Urban Terrain (MOUT), special operations, mobility, and counter mobility). By providing these capabilities in a training environment MILES WITS enable soldiers to make, then correct mistakes and therefore help reduce casualties in actual combat. It is comprised of a set of wireless detector modules (WDM) that gather and route laser-based data and information to the WITS Remote Display Module (WITS RDM). The system also comprises a kill indicator assembly by way of Strobe Module which flashes to give an indication the player has been engaged. The Strobe Module energy source is driven by a separately detached battery operated Power Module. The subsystems that make up the WITS are connected using industry standard networking technologies and processing hardware. The software is an amalgamation of Commercial-off-the-shelf products (COTS) and WITS product-unique applications.

Physical Information:
Note: each case contains 2ea WITS M113 Kits
1. Mast Assembly (TBD – underdevelopment will be supplied at later date) 2 each
2. Wireless Detector Modules (WDM) 12 each
3. Strobe Module 2 each
4. Universal Power Cables 2 each
4. Dome Light Power Cable 2 each
5. Power Module 2 each
6. Remote Display Module (RDM) 2 each
*7. WITS Transit & Storage Container Case (*Item drawing number for case not shown) 1 each

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
(Information not available)

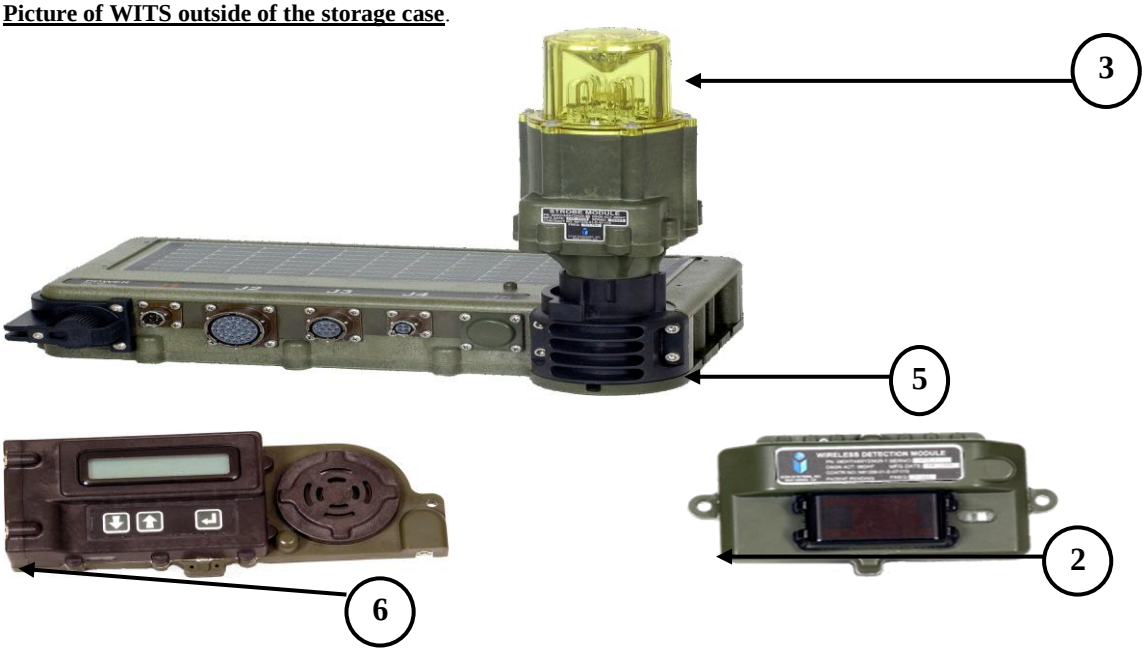
Applicable Publications:
TM Number TBD

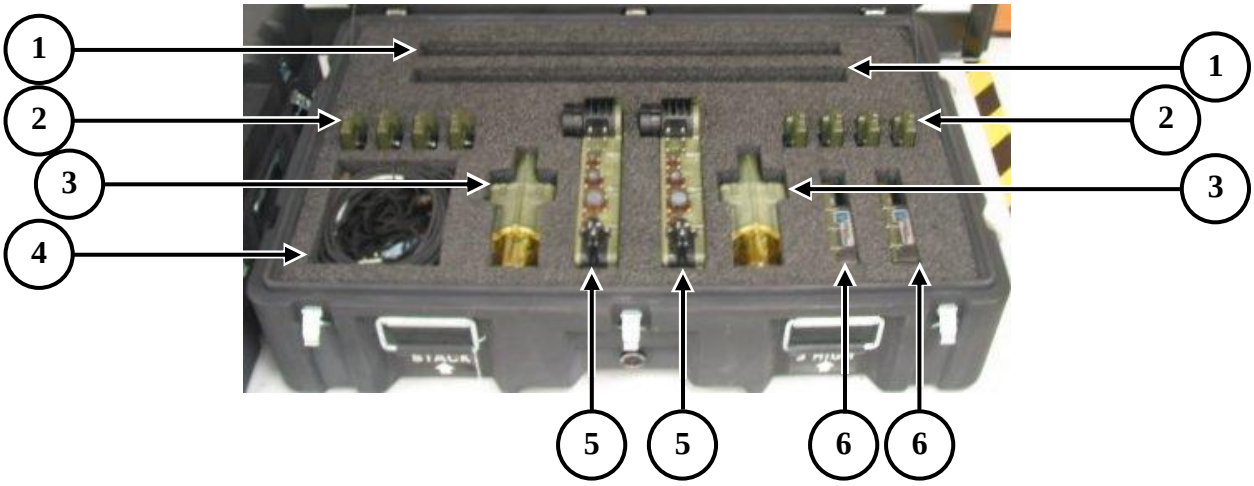
Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 11B, 11Z, 19D, 19K, 19Z

WIRELESS INDEPENDENT TARGET SYSTEM (WITS) BASIC KIT (2.4 GHz)

Picture of WITS outside of the storage case.





1. Mast Assembly (TBD – underdevelopment will be supplied at later date) 2 each
2. Wireless Detector Modules (WDM) 8 each
3. Strobe Module 2 each
4. Universal Power Cables 2 each
4. Dome Light Power Cable 2 each
5. Power Module 2 each
6. Remote Display Module (RDM) 2 each
***7. WITS Transit & Storage Container Case (*Item drawing number for case not shown) 1 each**

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local Training Support Center (TSC)

Purpose of Trainer:
The Purpose of this trainer is to replace Basic MILES systems at home-station due to age of technology and cost to maintain.

The WITS is a component of the Multiple Integrated Laser Engagement System (MILES)
The MILES system is primarily used for force-on-force training from squad up to and including Brigade level. The system incorporates an After Action Review capability not in the Basic MILES, which greatly enhances training for the soldiers participating in the exercises. The WITS equipment is downward compatible with the Basic MILES equipment presently fielded.

Functional Description:
The WITS can be mounted on tactical vehicles, trailers and even bridges. It is designed to support all noncombat tactical vehicles and other items that are not involved in the direct combat scenario.

Physical Information:
WITS Training Devices
Transit case dimensions:
38.5 x 25 x 13
(L x W x H), 65 lbs.
Measured in inches not cm.
(2ea WITS Kits per case)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

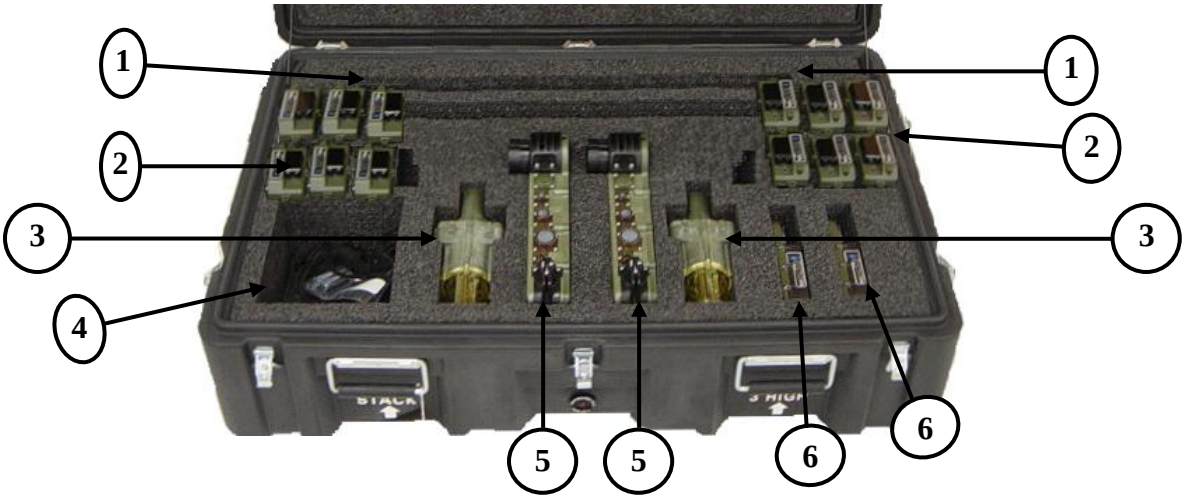
Power Requirements:
Vehicle Power

Applicable Publications:
SMM 9-6920-3693-24&P

Reference Publications:
None

Training Requirements Supported:
MOSCs 11B, 11Z, 19D, 19K, 19Z

WIRELESS INDEPENDENT TARGET SYSTEM (WITS) M113 KIT (2.4 GHz)



Training Category/Level Utilized:
Engineer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The WITS M113 Extended KIT system is capable of operating in a (MILES) environment in force-on-force live training areas. The WITS M113 Extended KIT system is capable of providing the following functions over and above that of the Basic MILES system it is replacing: Player Identification (PID), fratricide identification, multiple levels of kill and vulnerability due to direction of attack. New weapons, ammunition, and weapon performance will be accommodated. The WITS 2.4 Ghz M113 Extended Kit editions are designed to work in the higher frequency environments in Overseas Continental Unites States (OCONUS) training areas Germany and Korea.

Functional Description:
The MILES WITS program trains Active Duty and Reserve battalion task forces in Force-on-Force (FoF) exercises at home station, and the Combat Training Centers (CTCs). The MILES WITS program detects the direct fire effects and simulates signature effects of actual weapon systems primarily during FoF exercises from squad through brigade level (i.e. engage committed forces, Military Operations in Urban Terrain (MOUT), special operations, mobility, and counter mobility). By providing these capabilities in a training environment MILES WITS enable soldiers to make, then correct mistakes and therefore help reduce casualties in actual combat. It is comprised of a set of wireless detector modules (WDM) that gather and route laser-based data and information to the WITS Remote Display Module (WITS RDM). The system also comprises a kill indicator assembly by way of Strobe Module which flashes to give an indication the player has been engaged. The Strobe Module energy source is driven by a separately detached battery operated Power Module. The subsystems that make up the WITS are connected using industry standard networking technologies and processing hardware. The software is an amalgamation of Commercial-off-the-shelf products (COTS) and WITS product-unique applications.

Physical Information:
Note: each case contains 2ea WITS M113 Kits
1. Mast Assembly (TBD – underdevelopment will be supplied at later date) 2 each
2. Wireless Detector Modules (WDM) 12 each
3. Strobe Module 2 each
4. Universal Power Cables 2 each
4. Dome Light Power Cable 2 each
5. Power Module 2 each
6. Remote Display Module (RDM) 2 each
*7. WITS Transit & Storage Container Case (*Item drawing number for case not shown) 1 each

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

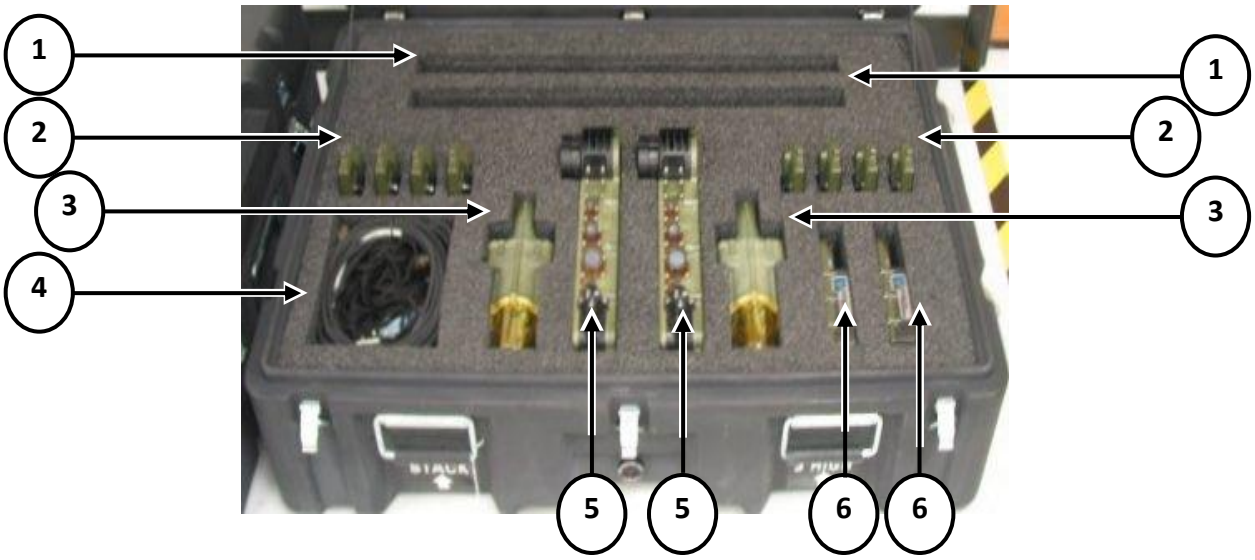
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

WIRELESS INDEPENDENET TARGET SYSTEM (WITS) 915 MHz, MINE RESISTANT AMBUSH PROTECTED (MRAP) VERSION 26



1. Mast Assembly (TBD – underdevelopment will be supplied at later date) 2 each
2. Wireless Detector Modules (WDM) 8 each
3. Strobe Module 2 each
4. Universal Power Cables 2 each and Dome Light Power Cable 2 each
5. Power Module 2 each
6. Remote Display Module (RDM) 2 each
***7. WITS Transit & Storage Container Case (*Item drawing number for case not shown) 1 each**

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The purpose of the MILES WITS device is to train battalion task forces in Force-on-Force (FoF) exercises at home station, and the Combat Training Centers (CTCs). The 915MHz MRAP WITS links to the Combat Vehicle System (CVS) Small Arms Transmitter (SAT) .50cal type. MILES WITS enable soldiers to make then correct mistakes and therefore help reduce casualties in actual combat. It is comprised of a set of wireless detector modules (WDM) that gather and route laser-based data and information to the WITS Remote Display Module (WITS RDM). The system also comprises a kill indicator assembly by way of Strobe Module which flashes to give an indication the player has been engaged. The Strobe Module energy source is driven by a separately detached battery operated Power Module. The subsystems that make up the WITS are connected using industry standard networking technologies hardware. The software is an amalgamation of Commercial-off-the-shelf products (COTS) and WITS product-unique applications.

Functional Description:
The 915MHz MRAP WITS system mounts on any of the various tactical vehicles. It operates in a (MILES) environment in FoF live training areas. The 915MHz MRAP WITS links the SAT to the WITS. The WITS system provides the following functions over and above that of the Basic MILES system it is replacing: Player Identification (PID), fratricide identification, multiple levels of kill and vulnerability due to direction of attack. It accommodates new weapons, ammunition, and weapons performance.

Physical Information:
WITS Training Device:
Transit Case: 38.5 x 25 x 13, (L x W x H)
65 lbs. Measured in inches not cm. 2ea WITS per Case.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Cell Batteries

Applicable Publications:
SMM 9-6920-3693-24&P (Maintenance)
TM 9-6920-3693-10 (Operator)

Reference Publications:
None

Training Requirements Supported:
ARTEPs 7-15, 17-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) MK-19 SIMULATION PLAYER UNIT (SPU)

NSN 6920-01-543-0355

MK-19 Simulation Player Unit (SPU)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The MK-19 SPU system supports realistic combat training exercises without using live ammunition. It provides a common approach for the Stryker Remote Weapon Station, M113 pintle mount, AAV, HMMWV and ground mount. The MK-19 SPU system consists of a Laser Module, Operator Module, Audio Cue Device (ACD), and Trigger Assembly. The MK-19 Simulation Player Unit incorporates a modular design resulting in an interoperable solution simulating the firing and actual effects of a MK-19 in a MILES environment.

The SCG provides MILES equipment control and set-up. It allows the Observer Controller to kill, reset, and resurrect individuals or vehicles that have been "killed" during an exercise. The SCG also provides the controller with selectable features: four ammo types along with their unique ballistic characteristics, accurate time of flight (TOF) simulation based on range and ammo type selected, compensation for super elevation due to ammo ballistics, and an integrated detection system for casualty assessment.

Functional Description:
MK-19 SPU: The Laser Module emits visible flash cues and an invisible (infrared) laser beam toward a target. A blue LED Laser Firing Indicator located on the rear of the Laser Module provides the gunner with a visible indication the laser has fired. A target is outfitted with a detector assembly that senses the laser beam from the Laser Module to cause a target KILL or NEAR MISS.
The SCG sends laser codes to the detector module on MILES equipment. It also lets the Observer Controller reset MILES equipment, configure players, and verify operational status of MILES equipment. The SCG is easy to use and ergonomically friendly. The shape resembles a

DVC 23-98/1 Smart Controller Gun (SCG)

Smart Controller Gun (SCG)

9mm handgun. User controls consist of a finger activated trigger for quick laser firing and simple switch panel with three keys; Up, Down and Enter for quick MILES code selection.

Physical Information:
The MK-19 SPU has the following features: independent casualty assessment, programmable lethality using the smart controller gun, rechargeable battery for power source, built-in optical alignment, easy boresight verification, 20 hrs of alignment retention and a lighted display for real time information to the user.

The SCG has the following features: MILES laser encoding/decoding functions, 904 nm laser operating frequency, Pre-aligned sights, Blue LED at the back of SCG indicates transmission of code or firing of the device, Backlit LCD shows laser transmission status and MILES code data received from laser transmitter, Laser detector for incoming MILES codes detection, Rugged aluminum housing for all-weather use, Single 3.6 V AA battery power source for easy replacement (approx 1 year operating life with normal use), Sleep mode after 10 second non-use for power saving, and IRDA port for software reprogramming and player download.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

GEO-BEARING MARK-19 SIMULATION PLAYER UNIT (GBMK-19 SPU)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The GBMK-19 SPU is an upgrade to the already fielded MK-19 SPU, P/N 162073, Device Number: 17-242, NSN: 6920-01-543-0349 Training Device. This upgrade inserts the Geo-Bearing and Geo-Pairing capability into the basic SPU. The GBMK-19 SPU is a major subsystem in the MILES family of Force-on-Force (FOF) training devices. The GBMK-19 SPU training device is provided with the capability to be used independently or as part of the instrumented range.

The Geo-Bearing capability being added to the MK-19 SPU will add better targeting capability in an instrumented training area, as well as adding more realism to the training device performance. The purpose of this set is to provide the operator with all the equipment he will need to perform his assigned training mission, using his real world weapon in a MILES IWS training environment.

Functional Description:
The GBMK-19 Simulation Player Unit (MK-19 SPU) is a training device that uses laser technology and simulated audio report to support realistic combat training exercises without using live ammunition. The GBMK-19 SPU is issued as a kit that appends to the MK-19 Automatic Grenade Launcher. The MK-19 SPU system consists of a Laser Module, Operator Module, Audio Cue Device (ACD), and Trigger Assembly. The Laser Module emits visible flash cues and an invisible (infrared) laser beam toward a target. A blue LED Laser Firing Indicator located on the rear of the Laser Module provides the gunner with a visible indication the laser has fired. A target is outfitted with a detector assembly that senses the laser beam from the Laser Module to cause a target KILL or NEAR MISS. The Geo-Bearing capability being added to the MK-19 SPU will add better targeting capability in an instrumented training area, as well as adding more realism to the training device performance.
Also, see chart at the end of second page.

Physical Information:
Due to continued development of upgrades, this data will be supplied when upgrades are complete.

Equipment Required, Not Supplied:
MILES Controller Device

Special Installation Requirements:
None

Power Requirements:
Assy, Laser Module, GB MK-19
Battery: 2 Volt, recharged by interconnection to the ACD Module power source.
Assy, Operator Module, MK-19
Cable-powered from interconnection to Audio Cue Device
Assy, Audio Cue Device (ACD), MK-19
Battery: 12 Volt, Recharged buy Solar Cells mounted on case exterior

Applicable Publications:
The GBMK-19 SPU Operator and Maintenance Manuals (publications numbers not yet assigned).

Reference Publications:
None

Training Requirements Supported:
This training device supports CTC rotational exercises, as well as other Force On Force training events.

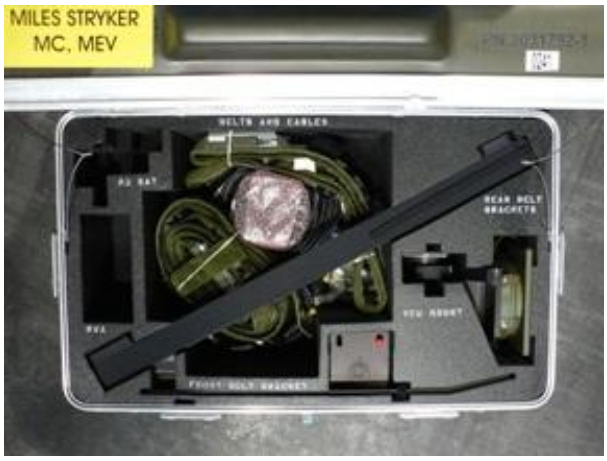
The GBMK-19 SPU Kit P/N: 186128-1 consists of the following items:

Name	Part Number	Quantity (each)
Prime Item Spares		
Assembly, Operator Module	162074-1	1
Assembly, Laser Module	162075-1	1
Target, Interim Armored Vehicle (IAV) / Remote Weapon Station (RWS)	162078-1	1
Target, Ground	162079-1	1
Assembly, Trigger	162128-1	1
Bracket, Interface, Audio Cue Device (ACD)	162282-1	1
Assembly, Audio Cue Device (ACD)	162928-1	1
Assembly, Laser Module	186131-1	1
Associated Support Items Of Equipment (ASIOE)		
Assembly, Transit Case	162077-2	1
Wrench, Allen, Hex, 3/16", T-Handle	7041A16	1
Any Approved MILES Controller Device		

STRYKER DELTA KIT FOR THE ICV, CV, FSV, RV

NSN 6920-01-543-0366	DVC 23-99/1 STRYKER Delta Kit for MCV and MEV (MILES XXI)
NSN 6920-01-543-0429	DVC 23-99/2 STRIKER Delta Kit for Engineer Squad Vehicle (ESV) (MILES XXI)
NSN 6920-01-543-0438	DVC 23-99/3 STRIKER Delta Kit for Anti-Tank Guided Missile (ATGM) (MILES XXI)
NSN 6920-01-543-0443	DVC 23-99/5 STRIKER Delta Kit for NBCRV System (MILES XXI)

DVC 23-99



DVC 23-99/1

DVC 23-99/2

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The devise is a component of the Multiple Integrated Laser Engagement System (MILES). MILES XXI is a family of training systems, accurately, and in real time, simulates the effect of direct and indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES XXI provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments.

Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main gun use weapon effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:

The MILES XXI family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of STRYKER Combat vehicles, machine guns, and other direct-fire weapons. Small battery operated laser transmitters, which attach easily to conventional field weapons, allow STRYKER Vehicle Crews to fire coded (to distinguish range and killing power of the specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indication of a kill, hit, or near miss. Kill indicators on personnel or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

Outgoing Direct Fire from the vehicles missile or small arms transmitter is simulated by "firing" coded laser beams from laser transmitters mounted on the front of the vehicle. Each weapon (Missile, M240 and M2 Machine Gun) has a different MILES XXI code. Muzzle flash from the Missile is simulated using ATWESS Charges and Machine Guns use blank ammunition, which is simulated each time a weapon is fired providing weapon signatures. The MILES XXI System simulates the effects of both direct and indirect fire engagements. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether your vehicle sustains a NEAR MISS, HIT, or KILL. The visual message on the console will display MILES Code and Player Identification (PID). The MILES Code is a 2-digit MILES XXI code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging you. This event information is stored in the console and downloaded after exercises for use in After Action Reviews. The MILES Code and PID accurately show the performance of specific troops and weapons. KILL simulates total disability to your vehicle. In addition to incoming fire, disconnecting or interrupting power to vehicle console will also cause a KILL. Vehicles can sustain 4 types of HIT-FIREPOWER KILL on the weapon simulating damage to the Main Gun, Coax, and Missile. MOVILITY KILL simulates power train, track, wheel or other damage that would keep the vehicle from driving. COMMO KILL simulates loss of radio communications. HIT NO DAMAGE simulates vehicles being engaged, but your vehicle received no damage as a result of the engagement. NEAR MISS means direct or indirect fire was close, but did not hit vehicle.

Physical Information:

The STRYKER Vehicle System Tactical Engagement Simulator System is equipped with a laser transmitter that is fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing forces fire. The STRYKER MILES XXI kit consists of 2 transit cases, one is a common kit and the second is a Delta Kit for the different variants of the STRYKER. All will require the common kit and then the Delta kit that supports that variant. The different variants of STRYKER are, Infantry Carrier Vehicle (ICV), Command Vehicle (CV), Fire Support Vehicle (FSV), Reconnaissance Vehicle (RV), Mortar Carrier (MC), Medical Vehicle (MEV), Engineer Support Vehicle (ESV), Anti Tank Guided Missile Vehicle (ATGM), and the Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV). There are 5 different Delta Kits and they support (ICV,CV,FSV,RV), (MC and MEV), (ESV), (ATGM), and (NBCRV).

Equipment Required, Not Supplied:

Battery
Blank Ammunition
Weapon/Vehicle

Special Installation Requirements:

None

Power Requirements:

Lithium Ion

Applicable Publications:

TM number TBD

Reference Publications:

(Information not available)

Training Requirements Supported:

ARTEPs	7-15, 15-55, 71-2
MOSCs	11B, 11Z, 19D, 19E, 19Z

OPPOSING FORCE SURROGATE TRAINING SYSTEM - MAIN BATTLE TANK VEHICLE (OSTS-MBT)

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide realistic, challenging and cost-effective Opposing Force Surrogate Training Systems – Main Battle Tank (OSTS-MBT) representation during force-on-force exercises at the Maneuver Combat Training Centers. It is a realistic simulation of a threat Main Battle Tank.

Functional Description:
The OSV is a M113A3 Family Of Vehicle (FOV) modified to look like a threat Main Battle Tank. The OSTS-MBT has a stabilized two-man turret and visual modifications to simulate the appearance of a threat Main Battle Tank. Weapon systems are simulated by SAWE/MILES II.

Physical Information:
122" W x 98" H x 245" L; 27,700 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

UNITECH/MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES), UNIVERSAL CONTROLLER DEVICE (UCD) INDICATOR SIMULATOR SYSTEM, LASER

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of the trainer is to replace the Basic MILES controller devices at Home Stations and Maneuver Combat Training Center Centers Army wide. The MILES Universal Controller (UCD) Device performs the following:

a. Transmit all MILES Codes for a maximum range of greater than 100 meters with special function outputs to 500 meters [Kill, Near Miss, Reset, Resurrect, time sync] to approximately 500 meters.

b. Expanded decode functions for system checks and fault isolation.

c. Lab and field testing of MILES target systems.

d. Player/Equipment preparation for force-on-force or force-on-target exercises.

Functional Description:
The MILES UCD is a lightweight device carried in a standard M-12 service holster and is fully compatible with the MILES Communication Code Standard. It contains a mounting rail that is compatible with MIL-STD-1913 for attaching a supplemental sighting device. The UCD is used to remotely set and control TES weapons effects, TES devices, and the soldier in training.

Physical Information:
Transit case: 22” L × 25.4” W × 13.8’’ H - two-person lift transit case (24 per case).

Equipment Required, Not Supplied:
N/A

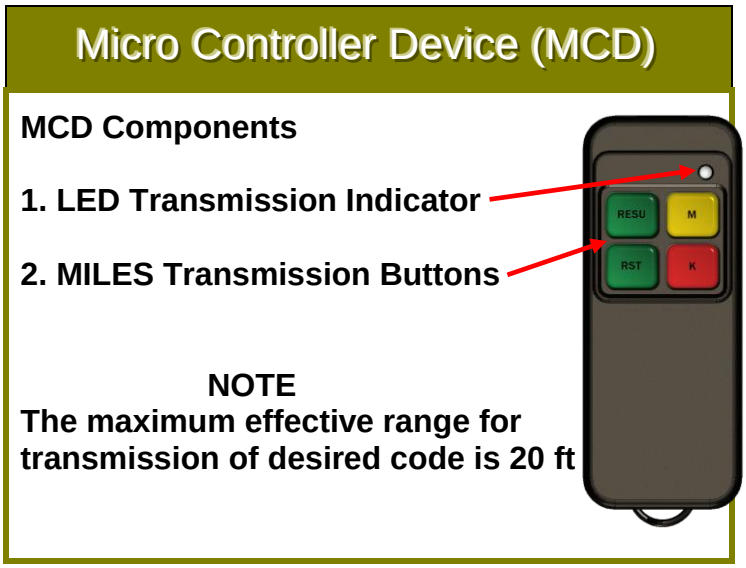
Special Installation Requirements:
None

Power Requirements:
The UCD contains two replaceable AA batteries.

Applicable Publications:
TM 9-6920-3682-10
SMM 9-6920-3682-24&P

Training Requirements Supported:
ARTEPs 7-15, 15-55, 71-2
MOSCs 11B, 11Z, 19D, 19E, 19Z

UNITECH/MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES), MICRO CONTROLLER DEVICE (MCD) INDICATOR SIMULATOR SYSTEM, LASER



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The purpose of the trainer is to replace the Basic MILES controller devices at Home Stations and Maneuver Combat Training Center Centers Army wide. The MILES Micro Controller Device performs the following:

a. Transmit the universal kill, reset, resurrect, and near miss sequence code for a maximum range of 5 meters IAW the MILES Communication Code standard except the Player Identification (PID) and ammunition type shall not be transmitted.

b. Provides a visual indication of the laser transmit.

Functional Description:
The MILES MCD will be used to support:

a. Lab and field testing of MILES target systems.

b. Player/Equipment preparation for force-on-force or force-on-target exercises.

c. Player training of MILES systems.

Physical Information:
Transit case: 22" L × 25.4" W × 13.8'' H - two-person lift transit case (48 per case). The MCD's are shipped with 24 UCD per case.

Equipment Required, Not Supplied:
N/A

Special Installation Requirements:
None

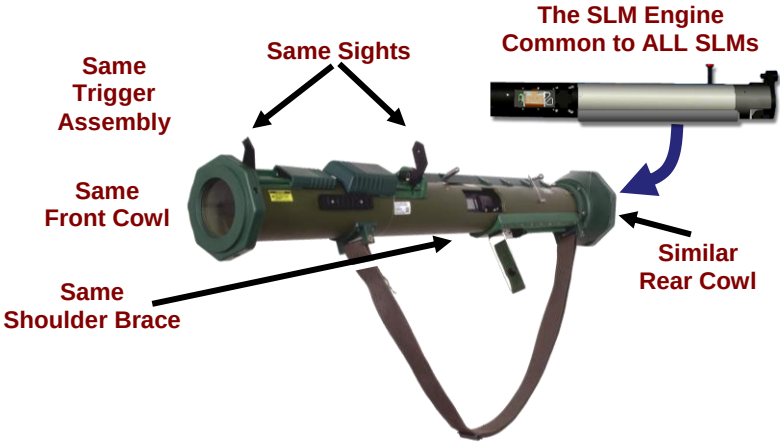
Power Requirements:
MCD contains one replaceable CR-2032 battery.

Applicable Publications:
TM 9-6920-3682-10
SMM 9-6920-3682-24&P

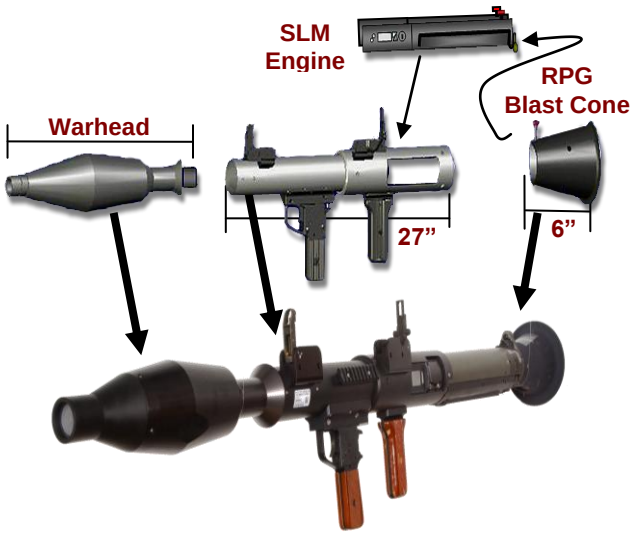
Training Requirements Supported:
MOSCs 11B, 11Z, 19D, 19K, 19Z

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES) SHOULDER LAUNCHED MUNITIONS (SLM)

NSN 6920-01-568-4494	DVC 23-102/A	(MILES), (SLM), AT4 VISMOD
NSN 6920-01-568-3181	DVC 23-102/B	(MILES), (SLM), RPG7 VISMOD
NSN 6920-01-568-3183	DVC 23-102/C	(MILES), (SLM), Engine Assembly



AT4



RPG7

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI, PM Field OPS

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES is a family of training systems which simulate the effects of direct-fire weapons at their operational ranges and operate in a fully integrated tactical training environment. MILES provides the capability for two-sided, real-time tactical engagement for realistic casualty assessments. Firing the weapon simulators is much like firing the actual weapons. However, instead of firing live ammunition, these simulators transmit harmless laser beams. To allow the

simulation to be as real as possible the missiles use weapons effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:
AT4 Description

The SLM systems are stand alone and operationally similar devices used by soldiers during force-on-force exercises. The SLM trainer used to simulate the AT4 is the most realistic of the systems and is shown above. When activated by placing it on one's shoulder and firing the trigger, it transmits a laser message which simulates the firing of a missile. It also can activate a pyrotechnic cue to simulate the back blast. It is powered from either an alkaline or Lithium magnesium 9 volt transistor style battery. The Pyrotechnic used for this simulation is the previously qualified M22.

RPG7 Description

The SLM representing the RPG7 is shown below. While its similarity to an actual weapon is less than the AT4 version, it looks very much like an actual weapon including a removable warhead. Like the AT4, it transmits a laser optical message and can trigger the same pyrotechnic device.

SLM Engine ASSY Description

The SLM Engine ASSY transmits a laser message which simulates the firing of a missile. It also can activate a pyrotechnic cue to simulate the back blast. It is powered
from either an alkaline or Lithium magnesium 9 volt transistor style battery. The Pyrotechnic used for this simulation is the previously qualified M22.

Physical Information:

Transit Case is 43" L, 25" W, 12" H, 98 lbs
Each transit case contains 3 AT4 launchers

Equipment Required, Not Supplied:

ATWESS Cartridges

Special Installation Requirements:

None

Power Requirements:

9 vdc

Applicable Publications:

TM 9-6920-3692-10
TM 9 6920-3692-24&P

Reference Publications:

Infantry Manuals

Training Requirements Supported:

MOSC 11B, 19D

STRYKER TOW SIMULATOR (STS) FOR ATGM DELTA KIT

Training Category/Level Utilized:
Armor/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The STS is used for situational training exercises (STX) or field training exercises (FTX) in a MILES or TES force on-force environment. The STS is designed to be used in conjunction with the MILES XXI Stryker Common Kit, P/N 2031790-1, and MILES XXI Stryker ATGM Delta Kit, P/N 2031794-1, when installed on the M1134 Stryker ATGM Vehicle. The STS replaces the ATGM Field Tactical Trainer (FTT), previously used on this vehicle for force-on-force training applications.

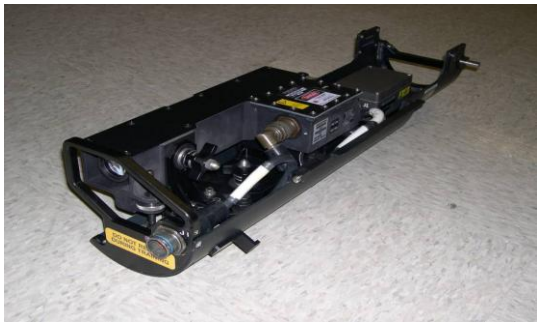
Functional Description:
The STS is comprised of two main assemblies, the TOW Laser Device (TLD) and TOW ATWESS Device (TAD). Also included are three cables used to interface the STS to the Stryker ATGM weapons system when used in MILES training exercises.

The TLD provides for the laser simulation of the TOW missile round. The TLD is built in a "tube" configuration that is approximately half the length of a TOW missile body, and is installed into the ATGM launch tube in a similar manner.

The TAD fires Anti-Tank Weapons Effect Signature Simulator (ATWESS) cartridges that replicate the initial launch explosion of a TOW missile. The TAD is built in a "tube" configuration that is approximately half the length of a TOW missile body, and is installed into the ATGM launch tube in a similar manner.

The STS system is fully interoperable with the MILES XXI system, and receives configuration information such as Player ID, and ammo load from the MILES XXI, as well as vehicle casualty status which is used to determine if the TOW weapon may be fired.

Physical Information:



TOW Laser Device

Weight: 20 lbs (9.1 kg)

Dimensions: Length = 29.5 inches (74.9 cm)
Diameter = 8.25 inches (21 cm)

TOW ATWES Device

Weight: 19 lbs (8.6 kg)

Dimensions: Length = 29.5 inches (74.9 cm)
Diameter = 8.25 inches (21 cm)

Equipment Required, Not Supplied:
MILES XXI Stryker Common Kit -- P/N 2031790-1
MILES XXI Stryker ATGM Delta Kit -- P/N 2031794-1

Special Installation Requirements:
Required tools are part of Stryker BII toolkit. For installation procedures, see App. F of TM 9-6920-919-10.

Power Requirements:
+24 VDC vehicle power

STS Kit in Transit Case

Weight: 79 lbs (35.8 kg)

Dimensions: Length = 38.5 inches (97.8 cm)
Height = 13.0 inches (33.0 cm)
Width = 24.5 inches (62.2 cm)

Applicable Publications:
TM 9-6920-919-10 – Operator's Manual, Multiple Integrated Laser Engagement System (MILES XXI), Combat Vehicle System (CVS) Kit for STRYKER Series Vehicle – Anti-tank Guided Missile (ATGM

Reference Publications:
SMM 9-6920-908-24 – System Maintenance Manual, General Support Maintenance, Repair Parts and Special Tools Lists, Multiple Integrated Laser Engagement System (MILES XXI), Combat Vehicle System (CVS) Kits

Training Requirements Supported:
MILES force-on-force and force-on-target training

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM, INDIVIDUAL WEAPONS SYSTEMS (MILES-IWS) TRAINING DATA TRANSFER DEVICE (TDTD)

Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The purpose of this trainer is to replace Basic MILES and MILES 2000 systems at home-station and the Combat Training Centers (CTCs) due to age of technology and cost to maintain. The major differences between MILES Individual Weapons Systems (MILES IWS) and predecessor devices is in battery selection; the use of 2.4Ghz ZigBee to communicate between the vest and Small Arms Transmitter (SAT); the use of a red laser, alignment knobs, and reflective paper targets to align the SAT. Weight of the device is also reduced from earlier devices. The MILES IWS kits are instrumentable for use in instrumented ranges.

This device is a component of the Multiple Integrated Laser Engagement System Individual Weapons Systems (MILES IWS). MILES IWS is a family of training systems, which simulate the effects of direct-fire weapons at their operational ranges. MILES IWS is primarily used for force-on-force training from squad up to and include Brigade level.

Functional Description:
The Combat Analysis System (CAS) package runs the MILES IWS data base to record and analyze exercise events information and print reports for after action review (AAR). The CAS provides for data to be downloaded to the PC from the harness processing unit via the COP interface. The CAS software package is loaded on an industry standard IBM compatible laptop or PC running Windows XP.

Physical Information:
The TDTD system comprises the Combat Analysis System (CAS) computer software package installed on a PC and the Computer Optical Port (COP). The CAS software and the COP are supplied as part of the CAS system.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

STRYKER VEHICLE INSTRUMENTATION INTERFACE PACKAGE (VIIP)

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Vehicle Instrument Interface Package (VIIP) provides the communications interface between vehicles and the instrumentation systems at maneuver Combat Training Centers (CTC) and the Alaska Range, Homestation Instrumentation Training System (HITS), Deployable Instrumented Training System (DITS) and Deployable System for Training and Readiness (DSTAR). The VIIP appends to vehicles and allows for simulated direct and indirect-fire engagements. The VIIP instruments tanks, Bradleys and Strykers using the Multiple Integrated Laser Engagement System (MILES) XXI, the Mobile Gun System Tactical Engagement Simulation System (MGS TESS), the Tank Weapon Gunnery Simulation System (TWGSS) or Precision Gunnery System (PGS). VIIP provides brigade commanders and training exercise managers exercise oversight and capability for comprehensive After Action Review (AAR) production.

Functional Description:
The VIIP provides the communication interface between all of the STRYKER vehicle variants and the instrumentation systems at Joint Readiness Training Center (JRTC), National Training Center (NTC), and Combat Maneuver Training Center (CMTC). It enables the STRYKER Brigade Combat Team (SBCT) to conduct exercises. VIIP merges the communication between the MILES XXI (most current version of MILES) vehicle control unit (VCU) and the data communication interface (DCI).

This makes it possible for the core instrumentation subsystem (CIS) to receive and to interact with the MILES XXI CVS (combat vehicle system) mounted on the STRYKER. The CIS receives player position (GPS) from the VIIP. Casualty commands are sent from the CIS to the player and are then picked up by the DCI, processed by the VIIP, and sent to the MILES XXI CVS. Direct fire causing a HIT in the MILES XXI CVS will be reported back to the CIS via VIIP and the DCI. Status changes in the MILES XXI CVS are handled in a similar way. In conjunction with the MILES XXI-equipped STRYKER, the VIIP will allow for real-time tracking, status, and control capability. It will also provide SBCT commanders and training exercise managers' oversight and data for comprehensive after action review (AAR) production. The VIIP is used on the following vehicle platforms: Infantry carrier vehicle (ICV), Command vehicle (CV), Mortar carrier (MC), Reconnaissance vehicle (RV), Medical evacuation vehicle (MEV), Engineering support vehicle (ESV), Fire support vehicle (FSV), and Anti-tank guided missile vehicle (ATGM). The VIIP will also be included on the following vehicles: Mobile gun system (MGS) and Nuclear biological chemical reconnaissance vehicle (NBCRV). The VIIP system is housed in a refurbished 60-mm ammunition box. This housing will be attached to the STRYKER vehicle in the bustle racks on the side of the vehicle utilizing heavy-duty straps already available on the vehicle. The GPS and DCI antennas are mounted on the lid of the housing. In addition the VIIP has its own power conditioner; the STRYKER batteries provide power.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
Own power conditioner; Batteries operated

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

INSTRUMENTABLE MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (I-MILES) TACTICAL VEHICLE SYSTEM (TVS)

DEVICE PICTURE NOT PROVIDED

Training Category/Level Utilized:
Armor/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local Training Support Center (TSC)

Purpose of Trainer:
This device is a member of the MILES family of training systems. It replaces the Multiple Integrated Laser Engagement System's (MILES) Independent Target Systems (ITS), device number 17-237, at home stations and Maneuver Combat Training Centers. This trainer will provides real-time casualty effects during Force on Force training scenarios.

MILES is a family of training systems that accurately, and in real time, simulates the effect of direct and, when connected to an instrumentation system, indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES provides the capability for force-on-force, real-time tactical engagement at unit sizes up to battalion level and for realistic casualty assessments. Crew served weapons have a laser transmitter attached and activates when weapon is fired with blank ammunition. Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams.

Functional Description:
The MILES family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of tactical vehicles with crew served weapons, such as the M2 machine gun and/or the M240 machine gun.

The I-MILES TVS components are:

a. Control (Operator) module
b. Vehicle Kill Indicator (VKI) – with the amber strobe lamp separated from the electronics/computer processing unit.
c. Laser Detectors (LD) – mounted with a primary and secondary attachment.
d. M2 Small Arms Laser Transmitter (SAT) with brackets.
e. M240 Small Arms Laser Transmitter (SAT) with brackets.
f. Power Module.

Some of the platforms which use the TVS are equipped with either/both the M2 or M240 machine gun. These machine guns are equipped with the appropriate Small Arms Laser Transmitter (SAT) that are fired using normal operating procedures. Each weapon has a different MILES code. The receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual indications of a kill, hit, or near miss. If a MILES code is received, kill indicators on personnel or vehicles will disable the associated weapon(s). The hit and kill probabilities are similar to those achieved when using live ammunition. TVS detectors are on the vehicle's exterior to sense opposing force fire. The TVS simulates the effects of direct fire engagements. The TVS has the capability to simulate the effects of indirect fire engagements when it is connected to an instrumentation system. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether the vehicle sustains a KILL or one of four types of HITS. The visual message on the display module will indicate the MILES Code and

Player Identification (PID). The MILES Code is a 2-digit MILES code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging the TVS platform. This event information is stored in the console and is capable of being downloaded after exercises for use in After Action Reviews. The MILES Code and PID accurately show the performance of specific troops and weapons.

Vehicle KILL simulates total disability to the vehicle. In addition to incoming fire, disconnecting or interrupting power to vehicle console or tampering with the detectors will also cause a KILL. Vehicles can sustain four types of hits:

a. MOBILITY KILL simulates power train, track, wheel or other damage that would keep the vehicle from driving.
b. COMMO KILL simulates loss of radio communications.
c. NO EFFECT simulates vehicles being engaged, but the vehicle received no damage as a result of the engagement.
d. NEAR MISS means direct or indirect fire was close, but did not hit vehicle.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
All

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BASIC SERIES 30
MILITARY INTELLIGENCE

BASIC MORSE MISSION TRAINER (BMMT)

Training Category/Level Utilized:
Military Intelligence/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide training and practice in the reading and typed transcription of Morse code.

Functional Description:
DVC 30-25 is a self-contained electronic system composed of three subsystems: an Instructor/Operator Station (IOS) subsystem consisting of two independent identical IOSs, a Student Station (SS) subsystem consisting of thirty individual student stations, and a Communications Subsystem (CS) that contains common audio and data networking capabilities. The BMMT provides for the implementation of self-paced Computer Based Instruction (CBI) of International Morse Code (IMC) and touch typing independently at each SS while simultaneously enabling the real-time monitoring of any selected SS from either or both of the IOS positions. The BMMT additionally incorporates provisions for course and curriculum management, individual and/or class status monitoring, and a courseware authoring and editing capability.

System networking is accomplished in a star-wired ring configuration that allows maximum distribution of controlled functions while retaining a centralized data base. IOS controls and indicators consist of the computer, color monitor, keyboards, and a dot matrix printer. The intercom master control assembly is used for calling students or selected groups. SSs consist of a color monitor and computer with keyboard. The Communications Subsystem (CS) consists of three units, the Remote Station Assembly (RSA) which is the audio interface at both the SS and the IOS. There are 32 RSAs in the BMMT. Master Control Assembly (MCA) which is the intercom control panel at each IOS. There are two MCAs in the BMMT. Last is the Communications Control Unit (CCU), which is the central audio switching, and routing device. There is one CCU in the BMMT.

Physical Information:
CS: 45.5" x 30" x 30"; 601.58 lb
IOS: 47.5" x 30" x 60"; 181.5 lb
SS: 50" x 30" x 30"; 82.5 lb
NOTE: Weights do not include cables, carrels, and chairs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
120vac, single-phase, 50-60 Hz

Applicable Publications:
Systems Interface Manual (SIM) TD 11-6940-708-20
Instructor/Operator Manual (IOM), TD 11-6940-708-10

Reference Publications:
None

Training Requirements Supported:
MOSC 98D, 98H, Marine Corps, Navy, Air Force

INTELLIGENCE AND ELECTRONIC WARFARE TACTICAL PROFICIENCY TRAINER (IEWTPT)

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Intelligence and Electronic Warfare Tactical Proficiency Trainer (IEWTPT) is a non-system training device that is multipurpose and multi-intelligence discipline, that enables practical battle command training through the realistic simulation, stimulation, and presentation of Joint and Army intelligence capabilities.

Functional Description:
The IEWTPT is a new multipurpose and multi-intelligence discipline non-system training device that will enable training on war fighting Military Intelligence (MI) systems. IEWTPT provides the ability for MI commanders to conduct individual, crew, collective, and unit training.

The Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) provides Warfighting commanders at all echelons the Intelligence, Warfighting Function (IWF) based on realistic Intelligence, Surveillance, and Reconnaissance (ISR) assets, people (maneuver commander, G-2, G-3, collection managers, analysts/operators), and processes. IEWTPT is a Non-System Training Device (NSTD) that stimulates and/or replicates MI warfighting systems. IEWTPT provides proficiency training for operators and battle staffs and allows commanders to synchronize their ISR assets. Analyst/system operators are able to exploit exercise intelligence data during training just as they would in "real world" operations. IEWTPT is comprised of three components: Target Signature Arrays (TSA), Technical Control Cell (TCC) and the HUMINT Control Cell (HCC).

IEWTPT provides a realistic target environment for multi-intelligence disciplines including SIGINT, IMINT, HUMINT, CI, MASINT and OSINT. IEWTPT must stimulate multiple systems TSAs (TUAV, TES, CGS, GRCS, CHATS, ACS, Prophet, etc.). IEWTPT also provides static and dynamic training events. These training events include interactive environment for individual, collective and mission rehearsals/exercises and occur in an integrated, playback and stand-alone mode. IEWTPT generates an After Action Review (AAR) of operator performance, crew performance and battle staff actions. It uses unclassified through classified data from the simulation/scenarios up to the Top Secret Sensitive Compartmented Information (TS/SCI) level.

The TCC must interface with the Combat Training Centers (CTC) and Homestation training instrumentation systems to provide a total battlefield picture.

The TSA stimulates the IEW war fighting equipment using the data propagated by the TCC. This netting of the TCC to TSA provides the architecture for MI unit level sustainment training. The TSA has the capability to record, and play back a scenario for standalone individual or crew training without the TCC. The nine IEW war fighting

systems, identified below, will have a TSA built and installed by that specific IEW system Program Manager.

- Common Ground Station (CGS)
- Tactical Unmanned Aerial Vehicle (TUAV) (Ground Control Station (GCS))
- GUARDRAIL Common Sensor (GRCS) (Integrated Processing Facility (IPF))
- PROPHET (Ground, Air, Control)
- Counterintelligence (CI) Human Intelligence (HUMINT) Automation Tool Set (CHATS)
- Tactical Exploitation System (TES)//Distributive Tactical Exploitation System (DTES)
- Aerial Common Sensor (ACS)
- Distributed Common Ground System-Army (DCGS)

The HCC is the Army's latest sustainment trainer for HUMINT/CI Collectors. The HCC allows the HUMINT/CI Collector to gather intelligence information from the virtual human while a HUMINT/CI instructor monitors the student's performance. At the end of the tactical questioning training event, the HUMINT/CI collector reviews After Action Review statistics as well as HUMINT/CI instructor commands. The HCC currently is fielded with the IEWTPT at the Battle Command Training Centers. Finally, IEWTPT is transportable to support training if units are deployed.

Physical Information:

IEWTPT can be installed at fixed sites. Portable configurations are also available.

Equipment Required, Not Supplied:

These items should be provided by the simulation center responsible for running exercises supported by IEWTPT. These items include:

Constructive Simulations -
Tactical Simulation (TACSIM)
Combat Training Centers (CTC)
Joint Conflict and Tactical Simulation (JCATS)
Tactical Signature Arrays (TSAs) –
Common Ground Station (CGS)
Tactical Unmanned Aerial Vehicle (TUAV)
Tactical Exploitation System/ Division TES (TES/DTES)

Special Installation Requirements:

TCC size will vary from approximately 168 square feet for the single SECRET collateral enclave to approximately 336 square feet for the dual SECRET and TS/SCI enclave. Also needed are a safe and a secure telephone unit (STU) III or equivalent phone. Connection to the LAN/wide area network to the constructive simulation driver and out to the local TSA locations is required. Doors should be 36" wide by 84" tall or larger for ease of movement of the TCC equipment. Maintenance shop for TCC requires approximately 144 square feet and a storage area for spare parts requires approximately 144 square feet.

HCC installation size will vary from 132 square feet to 220 square feet depending on how the user decides to setup the room. There will be a projector, projection screen, computer and additional system components. The system is Unclassified, so there is no requirement for Classified Storage (safe) or secures telephone. HCC system is standalone and does NOT require network connection to LAN/WAN. Doors should be 36" wide by 84" tall or larger for ease of movement of the HCC Storage Cases. HCC sites can reuse the existing TCC maintenance area for storage of spares/cases. If site does not have a TCC, then approximately 10 square feet of storage space is required for spares and storage cases.

Power Requirements:

The TCC system requires 120 Volts Alternating Current (AC) provided to each Uninterruptible Power Supply (UPS) system located in the bottom transit case of each transit case stack.

- Power for a single TCC System requires four, 20 amp circuit drops, installed in the facility.
- Power for a dual TCC System requires seven, 20-amp circuit drops, installed in the facility.

HCC Power Requirements: Each HCC system requires 120 Volts AC on single 15 or 20 Amp Circuit to power. No UPS is provided because all computer systems are Laptops and contain batteries.

Applicable Publications:

62-P56803H TCC Systems Security Authorization Agreement (SSAA)
98-P56873H TCC Software Version Description (SVD) document
99-P56791H TCC Fort Huachuca Site Survey Report
68-P56864H TCC Software User's Manual (SUM)
68-P56865H TCC Operator's Manual

Reference Publications:

None

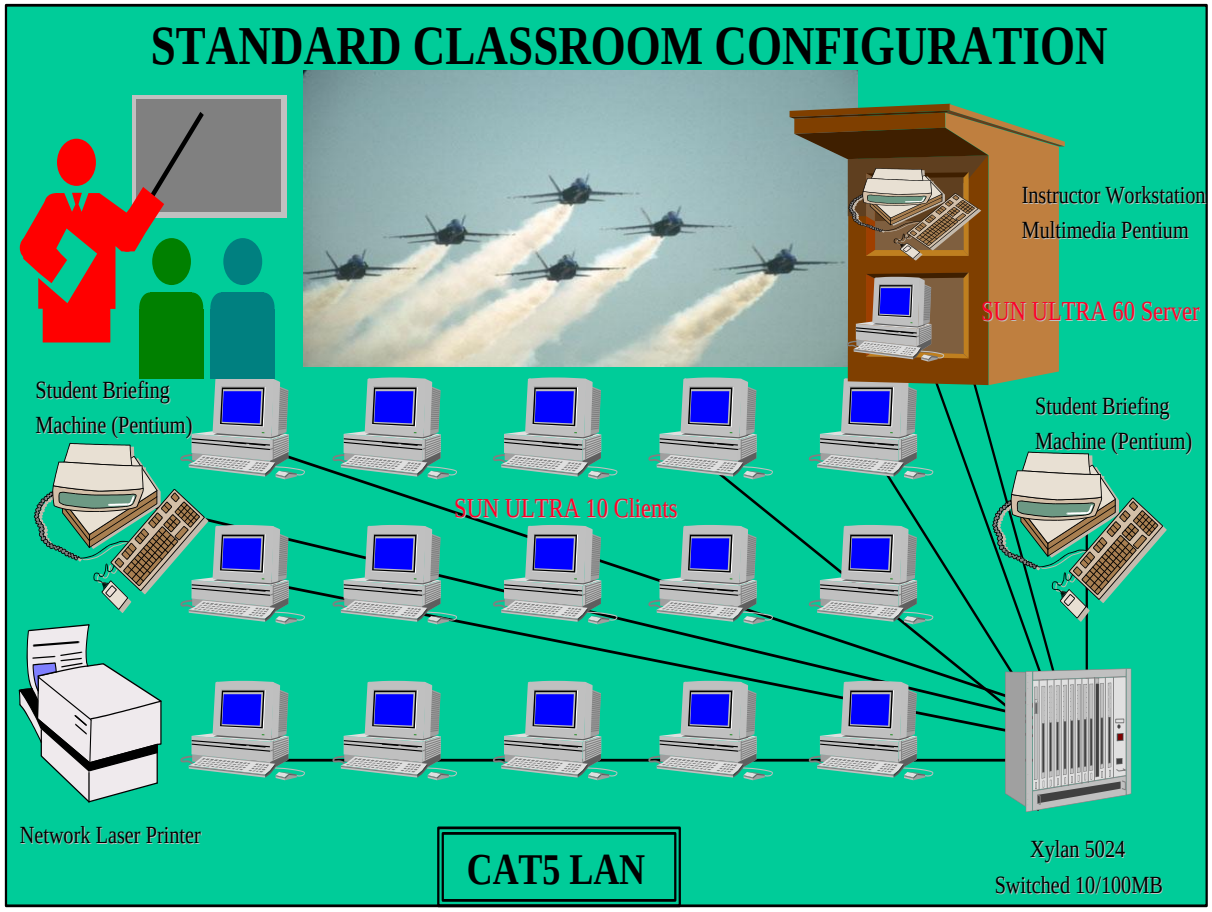
Training Requirements Supported:
Enlisted MOSC:
33W
96B, 96D, 96H, 96U
97B, 97E
98C, 98G, 98G1A, 98Y, 98P
Enlisted Courses:
Phase II CMF 33 (1-33-C42 EW/Intercept Sys Maint Sup)
Phase II CMF 96 (2-96-C42 MI ANCOC)
Phase II CMF 98 (2-98-C42 EW/Cryptographic Sup)
NOTE: Junior and senior noncommissioned officers (same MOSs as above) will train by using the IEWTPT in a simulated operational environment in which they must perform/practice their staff and supervisory tasks.
Warrant Officers MOS:
350B, 350D, 350U
351B, 351E
352C, 352G, 352J
353A
Warrant Officer Courses:
MIWOBC (MOSs 350B, D, 350U, 351B, E, 352C, D, G, J, & 353A)
MIWOAC (MOSs 350B, D, 351B, E, 352C, D, G, J, & 353A)
Officers MOS:
35C, 35D, 35E, 35G
Officer Courses:
MIOBC
MICCC (MOSs 35C, 35D, 35E, & 35G)

NOTE: Field grade MI officers will train their MI units by using the IEWTPT in a simulated operational environment during which they must perform/practice their leadership, staff and supervisory tasks.

Assignment Specific Courses:

Counterintelligence Force Protection Source Operations (CFSO)
TES Analysis Course (TAC)
MI Pre-Command Course 2G-F41
G2/ACE Chiefs
CGSOC Advanced Individual Training Elective

THIN CLIENT DISTRIBUTED COMMON GROUND SYSTEM TRAINER (TCDCGS-T)



Training Category/Level Utilized:
Military Intelligence/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Thin client, in concert with virtual machine (VM ware) software, supports multiple instantiations of MI and MI Battle Command (BC) applications and analytical software such as the Distributed Common Ground System Army DCGS-A Multi-function Workstation (MFWS), and Command Post of the Future (CPOF).

Functional Description:
Thin Client architecture is the primary method of bringing training into the classroom. The Thin Client architecture, which uses a client/server solution where by the client (or training workstation) is designed to be especially compact with bulk of the data processing occurring at the server, enables system and application replication negating the requirement for actual POR s system hardware.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC: 35 series
All MI ANCOC
Officer Specialties: WOTC; 35E

ADVANCED MORSE MISSION TRAINER (AMMT)

Training Category/Level Utilized:
Military Intelligence/Level 1

Logistic Responsible Command, Service, or Agency:
USAIC&FH

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide realistic Morse Intercept Training in Strategic and Tactical operations for Continuous Wave CW), Frequency Shift Keying (FSK), and Double FSK (DFSK).

Functional Description:
The AMMT is a computer based training device that operates by using or emulating the Common Remote System (CRS) software to support multi-mode collection training. It consists of multiple workstations. Each workstation consists of a multi-signal simulator, a computer consisting of a harddrive, monitor, a standard keyboard with special key enhancements, which emulates the keyboard used in the field, and a mouse. These workstations are organized into two instructional suites and one support suite. Each instructional suite has one network switch sub-system, two Instructor Operator Stations and a laser printer. One suite is configured with 20 Student Stations (SS's), while the second suite is configured with 10 (SS's). The IOS, SS and printer are networked within the suite as well as being connected on a Local Area Network (LAN) to support the suite.

The support suite should have four Writer Development Stations (WDS) networked to all the instructional suites, two hubs and a laser printer. The AMMT also contains a centralized and back-up database server for lessons and data. The centralized database server and two CD recorders should upload and archive lessons. The support suite should be capable of developing and using lessons and grading and scoring using the same algorithm used in the MMT. The support suite should also be able to monitor individual student progress, score tests and track and provide test results. The AMMT uses a database to collect, process, and store all pertinent administrative, lesson, and student performance evaluation data, and other management functions.

Physical Information:

Component	Purpose	Quantity
Computer:	Replicate CRS position	41
HFCS-2000A:	Multi-signal simulator	41
Or		
HFCS-1000	Multi-signal simulator	82
Lase Printer	Suite Document Printer	3
CD Recorder	Courseware Storage	2

(*Note*: Networking is now provided by Intel Center CIO/G-6 as part of generic classroom infrastructure. Hubs and switches are no longer considered unique or specific to any particular training system.)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
Functional Course 920-SQIA, for US Army Skill Identification Qualifier "A" Manual Morse Intercept. This course provides follow on support training to Army MOSC 35S (Signals Analyst), and the Air Force 1N2X1 Cryptological Morse Operator.

COUNTER RADIO (CONTROLLED IMPROVISED EXPLOSIVE DEVICE) ELECTRONIC WARFARE, INCREMENT 2 TRAINING DEVICE (CREW 2)

NSN 6910-01-565-1383 **DVC 30-30/1** **Counter Radio (Controlled Improvised Explosive Device) Electronic Warfare, Increment 2 Training Device (CREW 2, 433MHz)**

Primary Unit

Remote Control Unit

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Provides realistic training in the use of current electronic countermeasures (ECM) equipment in respect to an adaptive threat and the potential impacts of radio frequency (RF) emitters on C2 systems equipment.

Functional Description:
DVC 30-30 provides a training simulator that looks, feels, and operates like the current ECM equipment fielded to operational units for protection against Radio-Controlled Improvised Explosive Devices (RCIED) with the exception that the Radio Frequency (RF) environment and emissions will reside in a virtual environment so as best to recreate battlefield conditions.

Physical Information:
Unit Dimensions: 13” x 16” x 12.5”,
Weight: 58.4 lb. with Mounting Tray.
Remote Control Unit Dimensions: 11” x 7.5”x 3.5”,
Weight: 2.8 lb.

Equipment Required, Not Supplied:
Primary Unit and Remote Control Unit: Mounted with commercial fasteners.

Special Installation Requirements:
Primary Unit: Mounted within an “A” kit enclosure on vehicle.
Remote Control Unit: Mounted in right-front seat area of vehicle.

Power Requirements:
Primary and Remote Control Unit: 24V vehicle power.

Applicable Publications:
Operators Manual: 11-6920-702-10
System Maintenance Manual: 11-6920-702-24&P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate a vehicle in an environment where the Radio Controlled Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

INTERRUPT DEVICE, INCREMENT 1

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Allows the CREW 1 or Duke training devices to disable any IED trainer that uses a hard-wired trigger and Improvised Explosive Device (IED) simulator.

Functional Description:
DVC 30-31provides a training simulator that is hard-wired between a trigger and IED. When the Interrupt Device receives a disarm code from the CREW 1 or Duke training devices it opens the circuitry between the trigger and IED thereby preventing detonation.

Physical Information:
Dimensions: 7” x 4” x 2”
Weight: 1.6 lb.

Equipment Required, Not Supplied:
“AA” Batteries (8) total

Special Installation Requirements:
None

Power Requirements:
“AA” Batteries (8) total

Applicable Publications:
NOTE: Interrupt Device is under CREW 1 Technical Publications.
Operators Manual: TM 11-6920-701-10
System Maintenance Manual: SMM 11-6920-701-24&P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely

INTERRUPT DEVICE, INCREMENT 2

NSN 6910-01-565-1522 **DVC 30-31/A/1** **Interrupt Device 2, 433 MHz**

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Interrupt Device 2 (ID2) may be operationally hardwired between any electrical detonation system and any electrically detonated cuing device. The ID2 is capable of receiving disable commands from the CREW 2 training device when emplaced within the operating range of the CREW 2 training device. The disable command opens the circuit between the cuing device and the detonator thereby preventing detonation of the attached explosive device.

Functional Description:
The ID2 is capable of transmitting identification of eight (8) different types of cuing devices to the CREW 2 training device for AAR purposes. When the CREW 2 training device moves out of effective range, the ID2 resets by closing the previously opened circuit; thereby making detonation of the hardwired explosive device possible. The ID2 possesses the identical physical characteristics of the Interrupt Device 1, and utilizes the same radio frequency as the CREW 2 training device. The only distinguishing characteristic of the ID2 from the Interrupt Device 1 is an eight (8) position switch on the side of the ID2 unit.

Physical Information:
Dimensions: 7-9/16” wide x 2-1/16” high x 3-15/16” deep.
Weight: 1.529 lb.

Equipment Required, Not Supplied:
“AA” Batteries (8) total

Special Installation Requirements:
None

Power Requirements:
“AA” Batteries (8) total

Applicable Publications:
Operators Manual: 11-6920-701-10 (same as the Interrupt Device 1; will be revised to incorporate Interrupt Device 2)
System Maintenance Manual: 11-6920-701-24 and P (same as the Interrupt Device 1; will be revised to incorporate Interrupt Device 2)

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely.

COUNTERMEASURE INDICATOR UNIT (CIU)

NSN 6910-01-565-1360 **DVC 30-32/1** **Countermeasure Indicator Unit (CIU), 433 MHz**

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The Countermeasure Indicator Unit (CIU) provides a 360 degree visual indication via a Light Emitting Diode (LED) indicator beacon to personnel within visual range of the CIU when operating in both day and night operations that an operational CREW 2 training device is within range of the CIU. The CIU is capable of receiving radio frequency from the CREW 2 training device across all four assigned frequencies.

Functional Description:
When the CIU is in normal mode operations (2) red LEDs within the indicator beacon will illuminate indicating an operating CREW 2 training device is NOT within operational range of the CIU. When the CIU is in tactical mode operations the red LEDs are not illuminated also indicating an operating CREW 2 training device is NOT within operational range of the CIU, and enabling a reduction of position awareness and saving CIU battery power. When an operating CREW 2 training device is within operational range of the CIU (2) green LEDs within the indicator beacon will illuminate indicating the CREW 2 training device is transmitting. The CIU is powered by a 12 volt rechargeable battery, and includes a 110/220 volt recharging pack capable of being housed within the CIU.

Physical Information:
Dimensions: 9-5/8” wide x 4-3/8” high x 7-1/2” deep
Weight: 6.436 lb.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
12 volt lead-acid rechargeable battery

Applicable Publications:
Operators Manual: TM 11-6920-704-10
System Maintenance Manual: SMM 11-6920-704-24&P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate in an environment where the Improvised Explosive Device threat is likely.

MOBILE MULTI-BAND JAMMER (MMBJ)
315 MHz TRAINING DEVICE

NSN 5865-01-566-2603 DVC 30-33/1 Mobile Multi Band Jammer (MMBJ), 433 MHz Training Device

RECEIVER / TRANSMITTER

REMOTE DISPLAY UNIT (RDU)

DC POWER SUPPLY

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Provides realistic training in the use of current electronic countermeasures (ECM) equipment in respect to an adaptive threat and the potential impacts of radio frequency (RF) emitters on C2 systems equipment.

Functional Description:
The MMBJ provides a training simulator that looks, feels, and operates like the current ECM equipment fielded to operational units for protection against Radio-Controlled Improvised Explosive Devices (RCIED) with the exception that the Radio Frequency (RF) environment and emissions will reside in a virtual environment so as best to recreate battlefield conditions. This device operates at 315 MHz.

Physical Information:
Receiver / Transmitter Dimensions: 19” x 20” x 4.5”
Weight: 14.8 lb.
Remote Display Unit Dimensions: 7.25” x 4.5” x 2.25”
Weight: 1.6 lb.
DC Power Supply Dimensions: 11.75” x 6.25” x 5”
Weight: 2.2 lb.

Equipment Required, Not Supplied:
The Receiver / Transmitter, DC Power Supply, and Remote Display Unit are mounted with commercial fasteners.

Special Installation Requirements:
Receiver / Transmitter and DC Power Supply: Mounted in right-rear area of the vehicle.
Remote Display Unit: Mounted in right-front seat area of vehicle.

Power Requirements:
Receiver / Transmitter and Remote Display Unit: 24V vehicle power
DC Power Supply: Pass-thru device (draws no power)

Applicable Publications:
Operators Manual: 11-6920-705-10
System Maintenance Manual: 11-6920-705-24 & P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate a vehicle in an environment where the Radio Controlled Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

CREW VEHICLE RECEIVER/JAMMER (CVRJ)
315 MHz TRAINING DEVICE

RECEIVER / TRANSMITTER

REMOTE CONTROL UNIT (RCU)

Training Category/Level Utilized:
Military Intelligence/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
Provides realistic training in the use of current electronic countermeasures (ECM) equipment in respect to an adaptive threat and the potential impacts of radio frequency (RF) emitters on C2 systems equipment.

Functional Description:
The CVRJ trainer provides a training simulator that looks, feels, and operates like the current ECM equipment fielded to operational units for protection against Radio-Controlled Improvised Explosive Devices (RCIED) with the exception that the Radio Frequency (RF) environment and emissions will reside in a virtual environment so as best to recreate battlefield conditions. This device operates at 315 MHz.

Physical Information:
Receiver / Transmitter Dimensions: 17.5” x 13.5” x 13.0” Weight: 24.0 lb.
Remote Control Unit Dimensions: 5.8” x 3.9” x 2.0”
Weight: 2.0 lb.

Equipment Required, Not Supplied:
The Receiver / Transmitter Unit: Mounted with commercial fasteners.
Remote Control Unit: N/A

Special Installation Requirements:
Receiver / Transmitter: Mounted in right-rear area of the vehicle.
Remote Control Unit: N/A

Power Requirements:
Receiver / Transmitter and Remote Control Unit: 24V vehicle power

Applicable Publications:
Operators Manual: 11-6920-70610
System Maintenance Manual: 11-6920-706-24 & P

Reference Publications:
None

Training Requirements Supported:
Individual Training: Any MOS with a mission requirement to operate a vehicle in an environment where the Radio Controlled Improvised Explosive Device threat is likely. Operators may also include military civilians and contractors.

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BASIC SERIES 44
AIR DEFENSE ARTILLERY

IMPROVED MOVING TARGET SIMULATOR (IMTS)

Training Category/Level Utilized:
Air Defense/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Improved Moving Target Simulator (IMTS) is used to instruct gunners in the use of the STINGER weapon system.

Functional Description:
The IMTS is a computer driven system that projects background scenes and moving targets on a 40-foot diameter screen. The IMTS utilizes detailed video projections, sound generation, infrared radiation (IR) and IR countermeasures simulation to create realistic battlefield environments. The IMTS is controlled by an instructor console located within the dome. The system provides for up to three targets which can be presented simultaneously or in any sequence. Up to three students, using STINGER Thacking Head Trainers (THT) for the STINGER weapons, can be trained at one time. The targets are computer controlled and follow preprogrammed trajectories. A computer controls the scenario and records student/weapon activities.

Physical Information:
40-foot diameter hemispherical screen Instructor console.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Suitable building or structure.

Power Requirements:
110vac, 50n Hz, 3kva

Applicable Publications:
TM 9-6920-2427-10
TM 9-6920-2427-20

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

IMPROVED MOVING TARGET SIMULATOR (IMTS) UPGRADE

Training Category/Level Utilized:
Air Defense/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Improved Moving Target Simulator (IMTS) Upgrade program incorporates the latest technology to train the Stinger gunner and team in the techniques and skills required for successful operation of the Stinger Man portable Air Defense System (MANPADS) used to train three MANPADS gunners individually or simultaneously, to identify, acquire and track airborne targets and launch Stinger RMP and Block One improved missiles.

Functional Description:
The IMTS training system consists of a 360 degree, 40 foot diameter hemispherical dome, an Instructor/Operator Station, Computer Image Generator capable of projecting simulated scene, weather, clouds, aircraft (with Countermeasures), IFF, 8 background environments, gunner scoring system, and student performance measurement.

Physical Information:
40-foot diameter hemispherical screen Instructor console

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Suitable building or structure.

Power Requirements:
110 vac, 50n Hz, 3 KvA

Applicable Publications:
TM 9-6920-2427-10
TM 9-6920-2427-20

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

STINGER TROOP PROFICIENCY TRAINER (STPT)

NSN Not Assigned **DVC 44-52/1/A Stinger Troop Proficiency Trainer (STPT), Upgraded Support Package**

Training Category/Level Utilized:
Air Defense/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
To provide realistic training in the tactics and use of the Stinger weapon system.

Functional Description:

The STPT is a training device that uses computer generated graphics and sound to provide realistic background and targets for the purpose of training gunners in target identification, tactics and firing procedures used with the Stinger weapons. The trainer is configured with 20 preplanned scenarios using various aircraft and terrains. The instructor can determine the scenarios to be used by specifying selected targets, terrain, target speed, flight path, distance and disturbances. The instructor has the ability to start/stop a scenario at any time and can also freeze the action and critique the student at any time. The instructor can communicate with the student and a third party by the use of headsets provided with the trainer. After completion of a scenario the instructor can replay the mission and critique the gunners on their performance. A permanent record can be generated from the trainer's database showing the scenarios performed and the gunner's score.

The trainer consists of three assemblies. Unit 1 contains the monitor assembly and Unit 2 contains the computer assembly. Together they make up the instructor station that is used to run the scenarios and evaluate the gunner. They are each housed in a separate ruggedized container that also serves as their shipping containers. The instructor station also contains the communication hook-up for the headsets used by the instructor, gunner and observer. Unit 3 is an interface unit that attaches the weapon to the instructor station. The interface unit for the Stinger is a mock-up of the weapon on which a monitor is mounted for the sight picture and gyros are used to sense the gunner's movements and to detect the weapons position. The controls and functions of the surrogate Stinger are the same as those on the actual weapon. The weapons weight and center of gravity are maintained to provide the actual feel of the weapon in the field.

Physical Information:

Number of pieces: 3
Unit 1: 28" H x 27 1/2" D x 26 14/16" W; 125.7 lb
Unit 2: 28" H x 27 1/2" D x 26 14/16" W; 255.7 lb
Unit 3: 14 3/8" H x 59 13/16" D x 19 1/2" W; 34.5 lb
Total System Weight: 315.9 lb

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

115vac, 50/60 Hz
220vac, 50/60 Hz
24vdc

Applicable Publications:

Stinger Instructor/Operator Manual TD 44-6920-702-10
System Maintenance Manual TD 44-6920-703

Reference Publications:

FM 44-18-1

Training Requirements Supported:

MOSC 16S

STINGER TROOP PROFICIENCY TRAINER (STPT) (IMPROVED)

Training Category/Level Utilized:
Air Defense/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Available through local TSC.

Purpose of Trainer:
The Stinger Troop Proficiency Trainer (STPT) is an engagement skills trainer for the US man-portable, shoulder-fired infrared radiation (IR), home (heat seeking), guided missile systems known as MANPADS. The legacy system can be found under NSN 6920-01-283-5015. Utilizing the latest commercially available hardware and software, the STPT provides a state of the art, reliable, effective, low cost training solution for Stinger firing procedures under battle conditions. Providing interactive three-dimensional (3D) simulations of tactical engagement sequences, the device delivers the gunners with the basic technical skills required to successfully engage targets with the Stinger weapon system.

Functional Description:
There are 2 main components of the STPT's hardware, an Instructor Station and a Student Station. The Instructor Station is a ruggedized personal computer, running on Windows 2000 that drives the student station. The Student Station hardware replicates Stinger weapon with a simulated terrain scene that reacts to the operation and orientation of the launch tube.

Instructor Station: During exercise sessions, various combinations of targets are presented that follow pre-set routes across the terrain. The gunner observes and tracks the targets through the Sight Assembly and performs a variety of tasks to engage those targets, as determined by the particular requirements of each exercise. The system evaluates the trainee throughout the whole firing procedure. The Instructor Station automatically scores certain aspects of gunner performance (tracking score, hit/miss, etc.), while the instructor scores other aspects manually (scanning the sector, target prioritization, etc.). As part of the after action report, the computer will note incorrect actions performed by the trainee, so examples are: fired at a friendly target; failed to properly super elevate; failed to hold fire trigger for 3 seconds; failed to remove the BCU after firing; failed to IFF target before engagement.

Student Station: The size, weight and feel of the STPT system is closely replicated with the real Stinger missile system. The system is designed to be disassembled for ease of storage without the need of hand tools (See Figure 6). The STPT housing is made primarily out of aluminum and was designed to withstand the hazards of frequent transport and field use.

The display used to represent the terrain scene is a high-resolution color LCD display in a ruggedized custom enclosure. The virtual horizon is an actual photograph of real locations utilizing stereoscopic imaging to create depth perception while maintaining real-time feedback to the gunner's inputs from his position in the battlefield. The operator can traverse 180 degrees, viewing the virtual battlefield.

Physical Information:
Instructor Station: 16" W, 11" H, 9" D, 40 lbs
Student Station: 64" W, 14" H, 22.5" D, 38 lbs
Transit Case (Instructor): 25" W, 19" H, 17" D, 50 lbs
Transit Case (Student): 52" W, 28" H, 24" D, 93 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

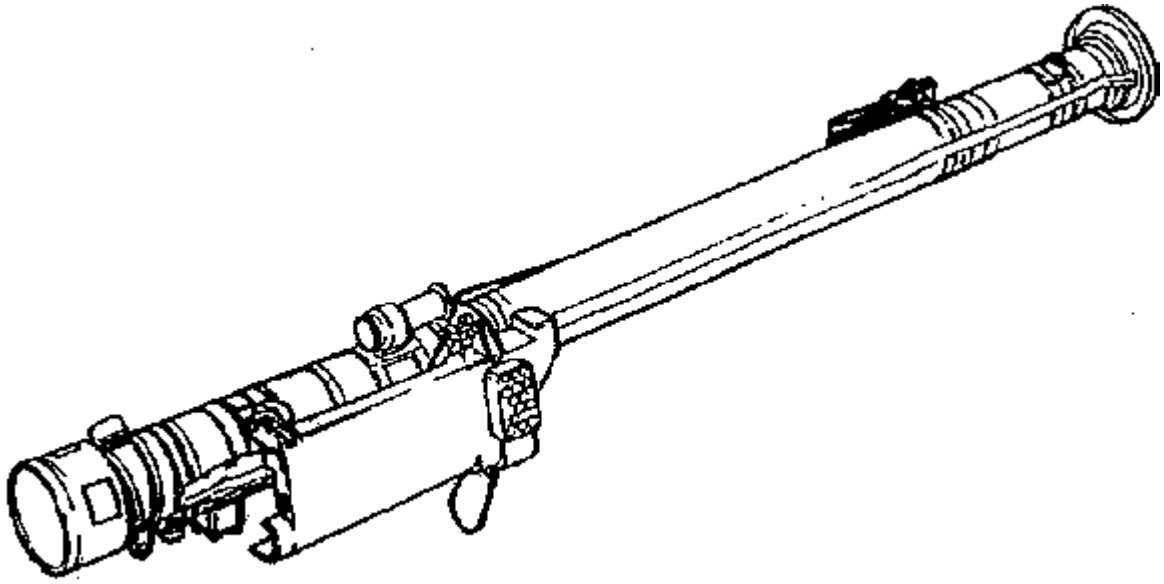
Power Requirements:
115vac, 50/60 Hz
220vac, 50/60 Hz

Applicable Publications:
Stinger Instructor/Operator Manual TD 44-6920-702-10
System Maintenance Manual TD 44-6920-703

Reference Publications:
FM 44-18-1

Training Requirements Supported:
MOSC 16S

AVENGER CAPTIVE FLIGHT TRAINER (CFT)



Training Category/Level Utilized:
Air Defense/Platoon/Level 1

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
If a requirement exists, NICP at (AMCOM)

Purpose of Trainer:
To train in the techniques of acquiring tracking and engaging targets with the AVENGER, ATAS and LINEBACKER Weapon Systems.

Functional Description:
A simulated weapon with the same appearance as the tactical round with electrical components necessary to provide the trainer with the same audio/visual indications as the tactical weapon for the purpose of acquiring and tracking a target.

Physical Information:
In storage container:
Weight: 76 pounds
Length: 66 inches
Width: 13.5 inches
Height: 13.2 inches

Unpacked/Ready for Training:
Weight: 23 pounds
Length: 60 inches

Equipment Required, Not Supplied:
AVENGER, ATAS or LINEBACKER Weapon System
Argon Gas Bottles (usually supplied with weapon system)
Argon Gas

Special Installation Requirements:
None

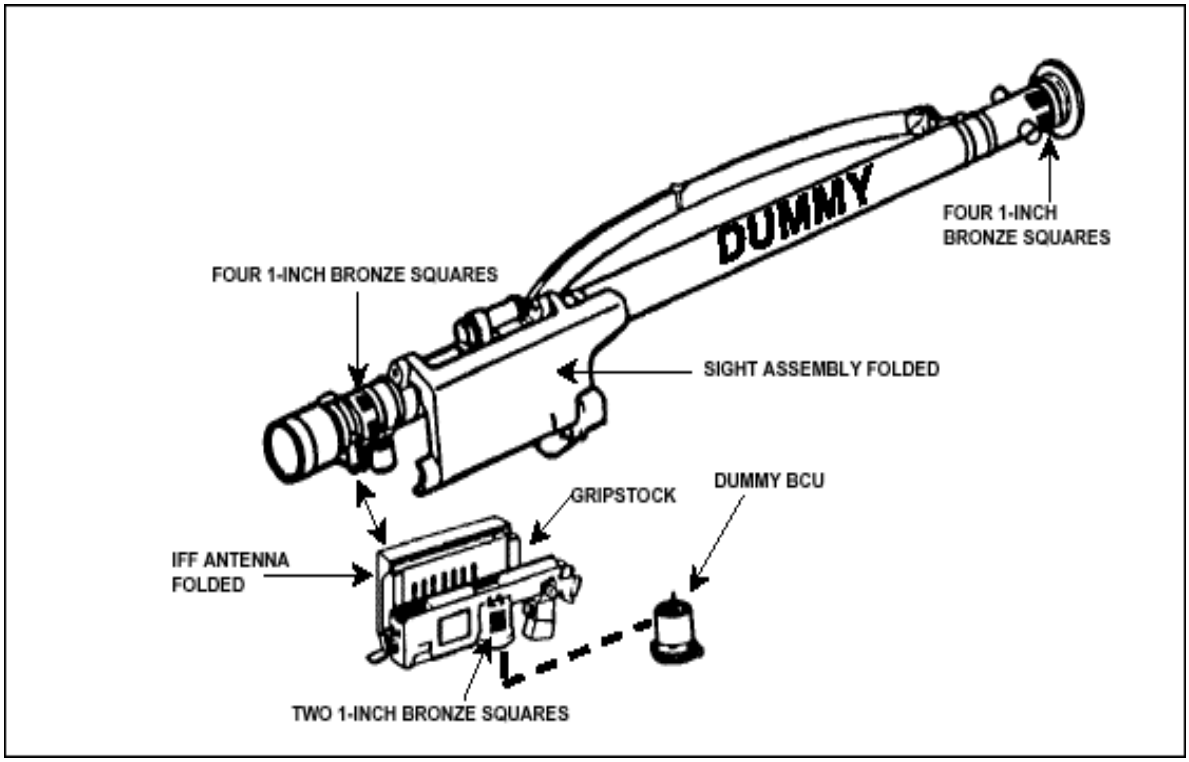
Power Requirements:
Powered by the Weapon System

Applicable Publications:
TM 9-6920-429-12

Reference Publications:
TM 9-1440-431-23P

Training Requirements Supported:
(Information not available)

STINGER FIELD HANDLING TRAINER (FHT)



Training Category/Level Utilized:
Air Defense/Team or Squad /Level 1

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
If Requirement Exists, NICP at AMCOM

Purpose of Trainer:
To provide practice in the basic skills of Weapon Handling to Include Reaction Times, Sighting and Ranging.

Functional Description:
A Dummy Missile Round, a Dummy Separable Grip stock, a Dummy IFF Interrogator Belt pack with interconnecting Cables, and a Dummy Battery Coolant Unit (BCU).

Physical Information:
In storage container:
Weight: 100 pounds
Length: 66 inches
Width: 13.5 inches
Height: 18 inches
Unpacked/Ready for Training:
Weight: 36.1 pounds
Length: 59.5 inches

Equipment Required, Not Supplied:
MANPADS None
ATAS, AVENGER, and LINEBACKER Weapon System
ARGON Gas

Special Installation Requirements:
None

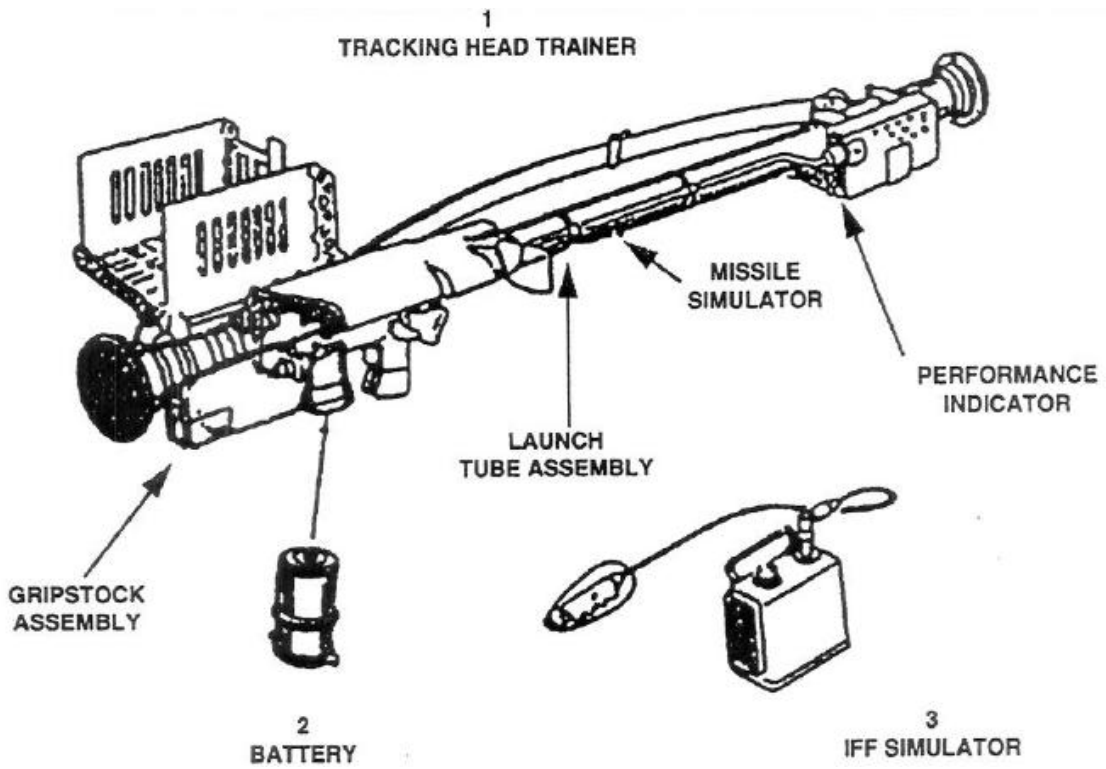
Power Requirements:
None

Applicable Publications:
TM 9-1425-429-12

Reference Publications:
TM 9-1425-429-24P

Training Requirements Supported:
(Information not available)

STINGER TRACKING HEAD TRAINER SET (THT)



Training Category/Level Utilized:
Air Defense/Team or Squad

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
If Requirement Exists, NICP at AMCOM.

Purpose of Trainer:
To train in the techniques of acquiring, tracking, and engaging targets in the MANPADS mode.

Functional Description:
A simulated weapon with the same appearance as the tactical round with electrical components necessary to provide the trainer with the same audio/visual indications as the tactical weapon.

Physical Information:
In Storage Container:
Weight: 123 pounds
Length: 66 inches
Width: 13.5 inches
Heigh: 13.2 inches

Unpacked/Ready for Training:
Weight: 37 pounds
Length: 60 inches

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
None

Power Requirements:
Trainer Battery (6920-01-186-0517)
Argon Gas

Applicable Publications:
TM 9-6920-429-12

Reference Publications:
TM 9-1425-429-24P

Training Requirements Supported:
(Information not available)

MISSILE ROUND TRAINER (MRT) - WEIGHTED

DVICE PICTURE NOT AVAILABLE

Training Category/Level Utilized:
Air Defense Artillery/Level 3

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Missile Round Trainer (MRT) is used in both institution and unit to teach Patriot missile crewmembers handling, loading, and electrical checks without using a ready round. Eliminates the use of live missiles for training.

Functional Description:
MRT simulates a Patriot ready round missile in size, weight, shape, and electrical connections.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

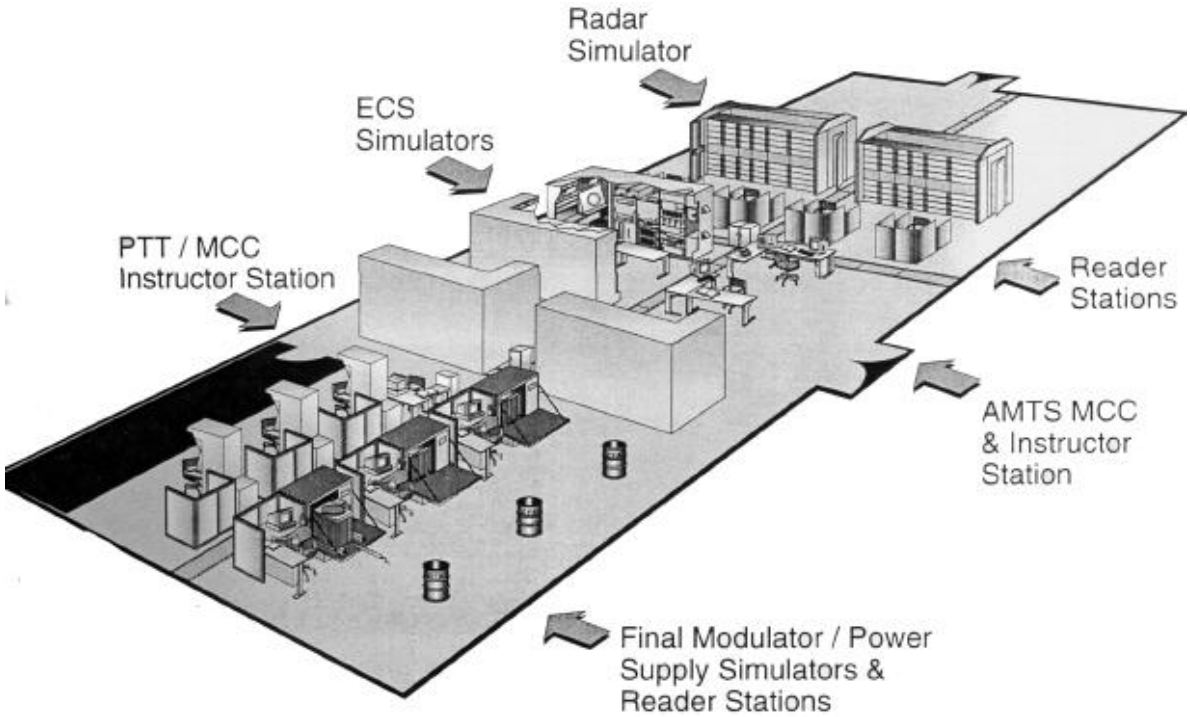
Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

PATRIOT ORGANIZATIONAL MAINTENANCE TRAINER (POMT)



Training Category/Level Utilized:
Air Defense Artillery/Level 3

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
(Information not available)

Functional Description:
The POMT training device provides the capability to simultaneously train fourteen, two man PATRIOT operator/maintainer teams in the maintenance of the PATRIOT ECS and radar in a school environment. Training is accomplished at the system and part tasks levels using display aided maintenance (DAM) and non-DAM procedures. Tasks include fault locate, remove and replace (R&R), calibrate, adjust, operate and test.

The POMT assemblies are simulations of the tactical assemblies, which are either actively or passively simulated. Active assemblies are active to the extent necessary to perform the maintenance task. Active assemblies may contain switches, lamps, alphanumeric displays, keyboards and loop back sensing connections. Passive assemblies are simulators designed for fidelity reasons only. There are two tactical RF oscillators in the POMT system. There are no tactical circuit card assemblies in the POMT. The POMT systems use commercial computer workstations along with a local area network and a VME interface rack/modules to control and process training and maintenance activities.

The POMT is separated into three major sections: The Active Maintenance Training Simulator (AMTS), Part Task Trainer (PTT) and ECS Curbside (ECSCS) stand-alone.

The POMT AMTS consists of an ECS curbside shelter, an ECS roadside shelter, a radar curbside interior/exterior shelter and a radar roadside interior/exterior shelter. The AMTS provides system training on the ECS and radar. Several hardware items are duplicated in non-tactical positions to enhance training capabilities.

The POMT ECSCS consists of two ECS curbside shelters that duplicate the hardware and training capabilities of the AMTS ECS curbside.

The POMT PTT consists of an ECS Display and Control Console Simulator (DCCS) and a radar Final Modulator Simulator (FMS). In addition, the PATRIOT System Maintenance Trainer (PSMT) student scenarios utilize PTT hardware.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
MI-CP1503761F, POMT Prime Item Development Specification.
BR 22816-1, POMT 1 and 2 AMTS Operator's Manual
BR 22816-2, POMT 1 and 2 AMTS Maintenance Manual
BR 22816-3, POMT 1 and 2 AMTS RPSTL
BR 22816-4, POMT 1 and 2 PTT Operator's Manual
BR 22816-5, POMT 1 and 2 PTT Maintenance Manual
BR 22816-6, POMT 1 and 2 PTT RPSTL
BR 22816-7, POMT 1 and 2 ECSCS Operator's Manual
BR 22816-8, POMT 1 and 2 ECSCS Maintenance Manual
BR 22816-9, POMT 1 and 2 ECSCS RPSTL

Training Requirements Supported:
(Information not available)

RADAR SET MARCH ORDER AND EMPLACEMENT (MO&E) TRAINER

DEVICE PICTURE NOT AVAILABLE

Training Category/Level Utilized:
Air Defense Artillery/Level 3

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To train Patriot missile crew members, Patriot operators and system mechanics, Patriot system maintenance technicians, and Patriot and Air Defense Commissioned officers in March order and emplacement (MO&E) tasks. All MO&E tasks will be trained using a training device instead of a tactical system. This reduces a Patriot radar set requirement for MO&E tasks by 223 hours.

Functional Description:
MO&E trainer is a mockup of the Patriot radar set physical characteristics as applied to march order and emplacement tasks. The trainer consists of a radar set trailer with outriggers, electrical power, a rotating platform with antenna face, and shelter.

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
(Information not available)

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

PATRIOT INTERMEDIATE MAINTENANCE INSTITUTIONAL TRAINER (PIMIT)

Training Category/Level Utilized:
Air Defense/ Artillery/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The PIMIT simulates the Patriot System to the extent necessary to effectively train intermediate maintenance students. The PIMIT consist of both hardware and software designed to provide training capabilities on the Patriot Engagement Control Station (ECS), Radar Set (RS), and Launcher.

Functional Description:
The PIMIT is a training device capable of presenting repeatable intermediate maintenance (IM) training scenario's, enabling IM students to develop levels of proficiency in the use of IM concepts, tools, software, and techniques. The system consists of multiple workstations each operating independently to provide simulated PATRIOT IM training. The PIMIT is used by PTD instructors to train IM students (94S) on PATRIOT scenarios. All students are required to have a Secret Clearance to attend IM training, but no clearance is needed to use the trainer.

Physical Information:
Hardware:
- Hardware Platform
- Dell Dimension 8100 Series Computer
- 1.3 GHz Pentium 4
- 60 GB Hard Drive
- 32 MB Video Card
- Sound card and speakers
- 16X DVD
- 21" Trinitron Monitor
- 256 MB RAM
- Headphones
- Floppy Drive
- 250 MB Zip drive
- 3 Year Warranty
- Network Card
- Windows XP Professional Edition
- HP 2200d Laserjet Printer
- Hardware Quantities
- 9 USAOMMCS at Ft. Bliss
- 1 CAS
- 4 Raytheon
- Operator Response Panel: 17.5 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The PIMIT is designed to be installed at a fixed location, inside a closed, environmentally controlled building, in a classroom setting and communications with the peripheral equipment through unique software drivers. The operational software determines the sequence of operations according to step-by-step instructions contained in a given scenario data file. Information is presented to the user by means of a color monitor, printer, display terminal, or Operator Response Panel (ORP). The user responds to the information using the mouse, keyboard, or ORP.

Power Requirements:
110vac, 60 Hz

Applicable Publications:
BR 18923 Operator's Maintenance, and Repair Parts and Special Tools List.

Reference Publications:
None

Training Requirements Supported:
MOSC 94S

AVENGER INSTITUTIONAL CONDUCT OF FIRE TRAINER (I-COFT)

Training Category/Level Utilized:
Air Defense/Artillery

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Avenger Institutional Conduct of Fire Trainer (ICOFT) consists of instructor and student stations. The system is capable of training in individual or unit mode without any physical changes. Monitors duplicate the Student Station FLIR display. A Scenario Generation tool is inside the instructor station. Student Stations simulate the tactical Avenger turret interior, supporting hardware/software components, and physically and functionally simulates the physical components.

Functional Description:
The system enables an instructor to create exercises from the Instructor Station; enables a student in the Student Station to perform the mental and physical activities required during search and engagement missions; and provides dynamic and hard copy graphical displays to facilitate Scenario Generation by approved operator personnel. An upgrade to the software has been installed to enhance the capabilities of more scenarios to meet current mission requirements.

Physical Information:
One Instructor station and six student stations. The ICOFT consists of the following systems: Power Distribution System, Instructor Station Computer system, student station computer video system, communications system, ICOFT control Electronics, and elevation control system. Student Station: height-76'', weidth-47", length-100", weight-1395lbs, noise level-68dBA.

Equipment Required, Not Supplied:
None.

Special Installation Requirements:
The Government provides a clear and level site to specified drainage and compactness, and also electrical and telephone lines. The site must be a minimum of 40'X32". The contractor provides a concrete pad and the electrical interface from the power source. In CONUS and where 60 Hz power is available at OCONUS sites, the contractor provides an electrical distribution center and isolation transformer as the interface between the power source and the trainer. Where only 50 Hz power is available, the contractor installs a transformer and electrical distribution center or an electrical service center which encompasses both.

Power Requirements:
Rating-110vac/208vac
Frequency-60 Hz single-phase at 110vac, 60 Hz at 208vac single-phase.
Current-13.2 Amps max at 120vac, 13 Amps max at 208vac.
Power-1200 watts nominal at 120vac
Consumption-1900 watts nominal at 208vac
Humidity: Operating or 20 to 80% relative, non-condensing Non-operating.

Applicable Publications:
Detailed tactical procedures for operating the Student Station turret mockup are identical to the real Avenger as described in the Avenger Operator's Manual, TM 9-1425-433-10.

Reference Publications:
TM 9-1425-433-10
FM 44-44
ARTEP 44-117-21-MTP

Training Requirements Supported:
MOSC 14S

SENTINEL MAINTENANCE TRAINER (SMT)

Instructor Operator Station

Student Workstation

Antenna Transceiver Group

Test Equipment Simulator

Training Category/Level Utilized:
Air Defense/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The trainer provides Computer-Aided Instruction on the AN/MPQ-64, simulating specific physical characteristics and performance of the radar system. This trainer is designated to supplement training of students currently being trained in Firefinder Intermediate Maintenance; specifically, to perform Sentinel maintenance troubleshooting and repair duties on the AN/MPQ-64.

Functional Description:
The trainer accurately simulates the Intermediate maintenance technician's man-machine interfaces of the AN/MPQ-64 radar system. The trainer consists of an Instructor/Operator Station, four Student Workstations, four antenna transceiver group simulators, four test equipment simulators, a main power distribution unit, and one Software Support Center.

Physical Information:

Instructor/Operator Station	44" x 72" x 53"
Student Station	44" x 72" x 53"
Software Support Center	30" x 120" x 50"
Antenna Transceiver Group	38" x 76" x 70"
Test Equipment Simulator	26" x 23" x 45"
Main Power Distribution Unit	30" x 32" x 62"

Equipment Required, Not Supplied:
None

Special Installation Requirements:
12" raised floor system, 1800 square feet of floor space.

Power Requirements:
110/220vac, 3-phase, 4 wires, 60 Hz, "Wye connected, kva/phase (unknown).

Applicable Publications:
None

Reference Publications:
TM 9-6920-700-10
TM 9-6920-700-20

Training Requirements Supported:
US Army MOSC 35M10

AVENGER SLEW TO CUE TABLE TOP TRAINER (AT3)

NSN Not Assigned **DVC 44-93/A AVENGER Table Top Trainer (AT3), (Student Station)**
NSN Not Assigned **DVC 44-93/B AVENGER Table Top Trainer (AT3), (Instructor Station)**

Student Station

Instructor Station

Training Category/Level Utilized:
Air Defense/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
The Avenger Slew-To-Cue Table Top Trainer is an interactive desktop trainer that provides a deployable system capable of meeting the Air Defense gunnery training requirements. This trainer will provide a basic entry level training system to train crewmembers in engagement techniques (alert, cue, search, detect, acquire, identify, track, and engage).

Functional Description:
DVC 44-93 is an interactive graphics trainer of the principle features of the Avenger turret/gunner station. The system includes a monitor that presents the out-of-window (canopy) view and the gunner's Forward Looking Infrared (FLIR) display. The system also provides an interface to a tactical gunner hand station, control foot switches, and other Graphical User Interface switches used to simulate gunner controls to allow the gunner to perform air defense engagements. The system provides training for the additional Slew-To-Cue (STC) capabilities. Additionally the training systems can be networked to an instructor station capable of supporting up to eight crew stations at one time. This device will replace DVC 44-73, Avenger Table Top Trainer (AT3).

Physical Information:
Student station: 2 transit cases
Crew station case: 29" H x 22" W x 22" D, weight ~ 107 lbs
Computer case: 17" H x 27" W x 31" D, weight ~ 105 lbs
Instructor Operator Station: 1 transit case
IOS case: 18" H x 22" W x 22" D, weight ~ 51 lbs

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
115/220vac, 50/60 Hz

Applicable Publications:
Student Station/Instructor Station Manual: MIS-54524
TM-9-1425-433-10/Operator's Manual for the Avenger Weapon System.

Reference Publications:
None

Training Requirements Supported:
MOS 14S
MOS 14B

Added Improvements/Upgrades:
Recent software and hardware upgrades have been installed through 50% of current Avenger AT3 systems. This upgrade meets current requirements for ongoing Army missions

SENTINEL TRAINING SYSTEM (STS) (OPERATOR TRAINER)

Training Category/Level Utilized:
Air Defense/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Sentinel Training System (STS) Operator Trainer (SOT) provides Computer-Aided Instruction (CAI) on the AN/MPQ-64. To accomplish this, the Sentinel OT simulates specific physical characteristics and performance of the radar system. The SOT is designed to supplement training of students currently being trained in Sentinel systems operations.

Functional Description:
The Sentinel Operator Trainer (SOT) is designed to support operational training of students on the Sentinel radar. Specifically, it is designed to perform Sentinel operations as required. Instructors/operators interact with the Instructor/Operator console to manage the use of six student stations to train personnel in the operational tasks of the sentinel radar. The major functions to be performed by the SOT equipment and the instructor/operator are:
System Management
Training Management
Student evaluation/records Management

Physical Information:
Composed of the Following:
1 Instructor/Operator Station (IOS): 44" x 144 x 48, weight - 300 lbs.
1 Printer Table: 30" x 24" x 42", weight - 20 lbs.
6 Student Workstation (SWS): 44" x 72" x 53", weight - 300 lbs.
6 Antenna Transceiver Group (ATG) Simulator: 34" x 76" x 60", weight - 600 lbs.
6 HMMWV Group (HVG) Simulator: 32" x 49" x 42", weight - 200 lbs.
1 Software Support Center (SSC): 30" x 120" x 48", weight - 240 lbs.
1 External Interface Unit (EIU): 30" x 60" x 60", weight - 120 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The SOT is designed to be installed at a fixed location inside a closed, environmentally controlled area.

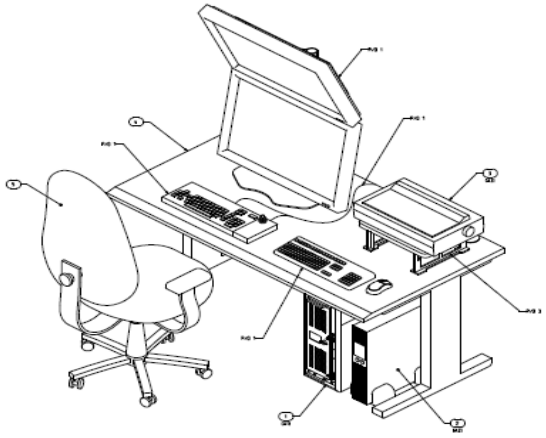
Power Requirements:
Line Voltage: 208v
Phase Voltage: 120v
3-phases (WYE), 4 wires
Frequency 60 Hz
Power (maximum) 35kva

Applicable Publications:
None

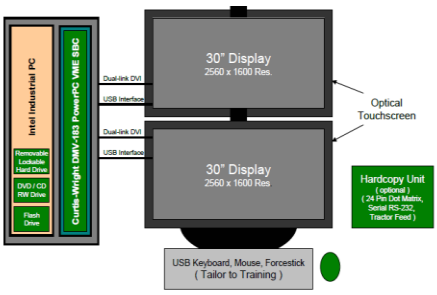
Reference Publications:
TM9 -6920-699-10
TM9-6920-699-20

Training Requirements Supported:
(Information not available)

RECONFIGURABLE TABLE TOP TRAINER (RT3)



RT3 Block Diagram



Training Category/Level Utilized:
Air Defense Artillery/Level 3

Logistic Responsible Command, Service, or Agency:
AMCOM

Source and Method of Obtaining:
GSA contract or Engineering Services Contract

Purpose of Trainer:
The Reconfigurable Table Top Trainer (RT3) Student Station supports unit and school training needs without the use of tactical equipment. The RT3 stand alone trainer has the capability of being linked together to allow training at a 'system' level if desired with the use of additional hardware such as Ethernet routers / switches. The RT3 serves as a hardware platform for various software applications. RT3 is highly flexible and reconfigurable to support or replicate other trainer needs as required. Interfaces include TCP/IP as the basis for interconnecting several stand-alone stations together to support **system level training exercises.** RT3 can store training data for supporting performance reviews. Larger scale training is supported with DIS and TADIL-J (future) capability.

Functional Description:
The RT3 station is COTS based hardware comprised of both x86 and PowerPC processors with two configurable 30" touch screen displays, capable of supporting different display outlays/button positions/sizes as well as keyboards such as COTS QWERTY style, mouse, and the PATRIOT unique keyboard. Interfaces include TCP/IP, serial RS232, X.25 (future). The RT3 Student Station interacts with the students using PATRIOT console replicas of man stations 1 and 3 in the ECS and ICC. The students perform practical exercises using embedded training software such as Troop Proficiency Trainer (TPT).

Physical Information:
A RT3 work station computer dimensions are: 20.4"H x 8.4" W x 25.8"D and weighs 81.5 lbs. There are also Two 30" flat panel monitors mounted vertically. Plus there are two keyboards, a mouse and printer, with optional UPS that is 17.1" H x 15.3" D x 3.5" W and weighs 53 lbs.

Equipment Required, Not Supplied:
Allen Wrench (supplied with kits)

Special Installation Requirements:
See Equipment Required section.

Power Requirements:
60 Hz or 400 Hz power source
Two separate 15 AMP circuit breaker protected power sources.

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

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BASIC SERIES 55
TRANSPORTATION

COLLISION AVOIDANCE RADAR NAVIGATION SYSTEM (CARNS)

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide a classroom installation that duplicates radar and navigational signals and relays these signals to receivers which provide audio, visual, or a combination of both for training and certification of maritime personnel. Four types of navigational aids can be demonstrated by using the nucleus of the device (computer and interface) plus the proper receivers.

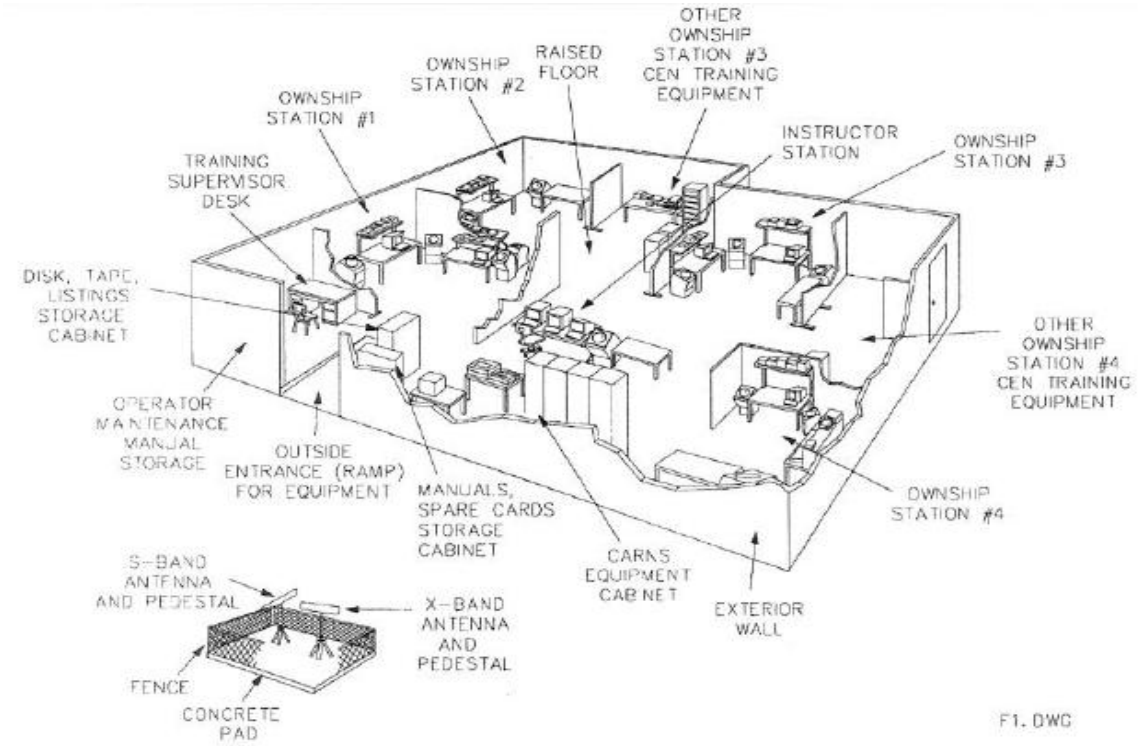
Functional Description:
The Collision Avoidance Radar Navigation System (CARNS) utilizes a digital microcomputer, which is interfaced to radar and Electronic Chart Display and Information Systems (ECDIS) displays. Exercises stored on disk simulate own ships, vessels, and harbors or shorelines. The student is positioned in front of a Plan Position Indicator (PPI). The instructor selects the exercise and can manually make changes to the exercise parameters.

CARNS is a four-ownership system: it has four observer student stations. Each student station contains radar displays, ECDIS displays, and radios.

Personal Computers with keyboard terminals located at all student stations enable student interactions with the instructor, such as briefing/debriefing, question/answer, data-input, etc. Over 90 exercises are included as well as a complete lesson plan package.

Physical Information:

Item:	"W"	"H"	"D"	Weight (lb)
CARNS Equipment Cabinet:	63	77	31	1,200
Instructor's Station:				
Table:	72	26	30	35
Keyboard Display	18	14.5	14.25	41
Printer LAIOO-CA/JKSR	22	7	15.5	25
Plotter DMP-29	22	5.5	19	25
Radar Display w/Video Select Switch	28	46	29	165
12' B&W Monitor	22	24	18	53
19' CRT Monitor (Digitizer Display)	19	18	20	56



Item:	"W"	"H"	"D"	Weight (lb)
Joy Stick	10	7	4	2
Data Bid Pad	16	3	16	10
Radio Telephone RAY 66	9	4.5	14.25	7
Student's Station:				
Radar Display (8)	28	46	29	165
Ownship Control Unit (4)	19	9	1	620
Keyboard Display (VT101) (8)	18	14.5	14.25	41
Chart Table (6)	72	38	30	30
Radio Telephone Ray 66 (8)	9	4.5	14.25	7
Raytheon Pathfinder - MK-II ECDIS (4)	27.5	47.3	43.3	374

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer dissipates approximately 27,000 BTU per hour. It can be expected to withstand the following environmental conditions:

Temperature: 5 0° to 120° F (Operating), -40° 150° F (Nonoperating) 10° to 49° C (Operating), -40° to 66° C (Nonoperating).

Humidity, noncondensing: 10% to 90% (Operating), 5 to 95% (Nonoperating).

No special ducting is required. The free standing equipment rack is provided with sufficient fans to induce cooling air into the rack.

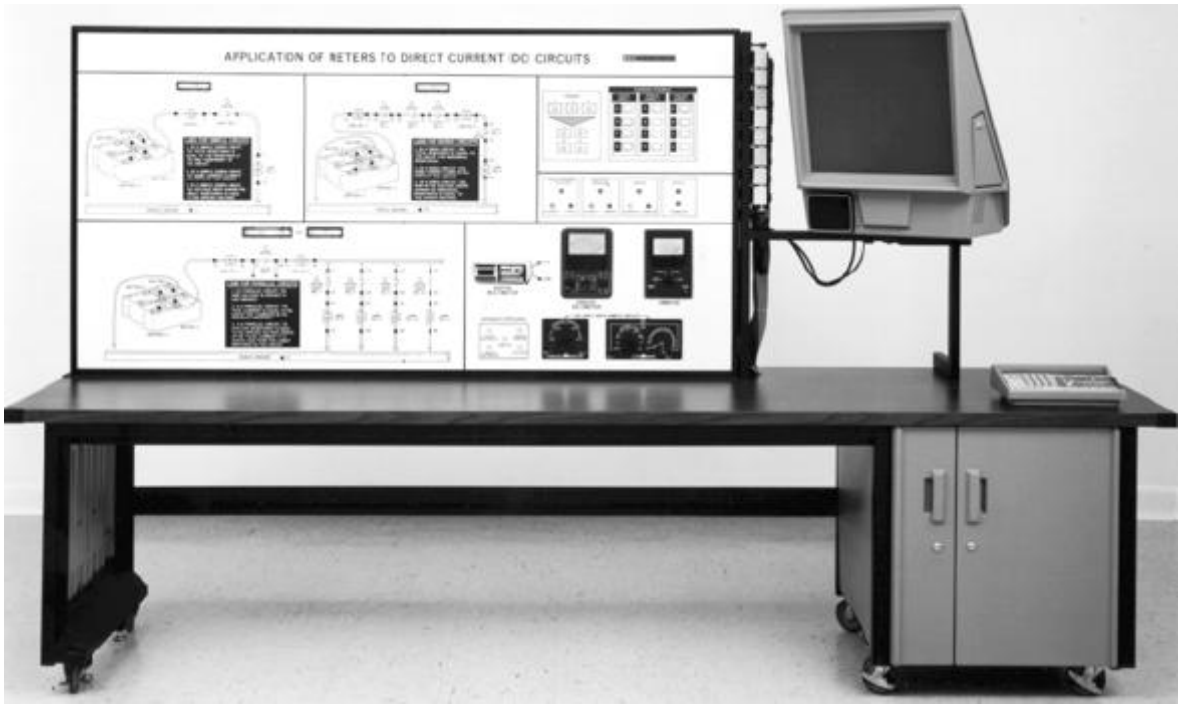
Power Requirements:
208vac, 60 Hz, 3-phase, 4 wires
120vac, 60 Hz

Applicable Publications:
TD 55-6940-701-14-1
Commercial Computer Documentation Set (CCDS) Volumes -2 thru -56.
Instructor's Utilization and On-The-Job Training Handbooks.

Reference Publications:
Dutton's "Navigation and Piloting" (Maloney).
"Radar Instruction Manual" Maritime Administration, US Dept. of Commerce, January 1978.
"Radar Navigation Manual", publication 1310, Defense Mapping Agency, Hydrographic/Topographic Center.

Training Requirements Supported:
MOSC's 500A, 510A
Marine Warrant Officer pre-appointment and advanced training.
Marine Radar Observer Courses (one specifically for air cushion vehicle personnel, and another for certificate renewal).

APPLICATION OF METERS TO DIRECT CURRENT (DC) CIRCUITS



Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use to provide training and familiarization in taking measurements on various circuit types (simple series, and parallel). The trainer provides maintenance personnel with training in proper test instrument selection and operation for different simulated circuit types.

Functional Description:
Device 55-11 is a computer-based training system, providing test instrument operating characteristics for various types of circuits.

The device consists of a display panel of simulated circuit types and test instruments (ammeter, analog multimeter, digital multimeter, loadbank, and variable resistor), and EC 3 computer, video-disc player and monitor, control console, two diskette drive units, visuals, two flexible diskettes, trainer power cable, operator's manual, and maintenance manual. Five test lead assemblies are also supplied with the trainer.

This student/instructor operated device is designed for demonstration or student exercise hands-on use and requires minimal familiarization time. No warn-up time, special cooling, or special maintenance personnel are required.

Student motivation is accomplished through 22 unique exercises and immediate performance feedback as the student uses the various simulated test equipment to take measurements on the appropriate circuit type.

Through the use of the control console, the simulated circuits and test instruments on the display panel respond according to actual test instrument circuit interface. Student performance is monitored by indicators contained on the control console to indicate total time to solve the problem. Display panel switches allow the student- to select and answer exercise problems, check instrument selection and test procedure and call up information on the videodisc monitor. Display panel indicators provide exercise problem, instrument selection, and test procedure feedback.

Physical Information:
120" L x 71" H x 29" D; 485 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer is designated to operate in a standard classroom within a temperature range of 30° F to 100° F and a relative humidity of up to 80%.

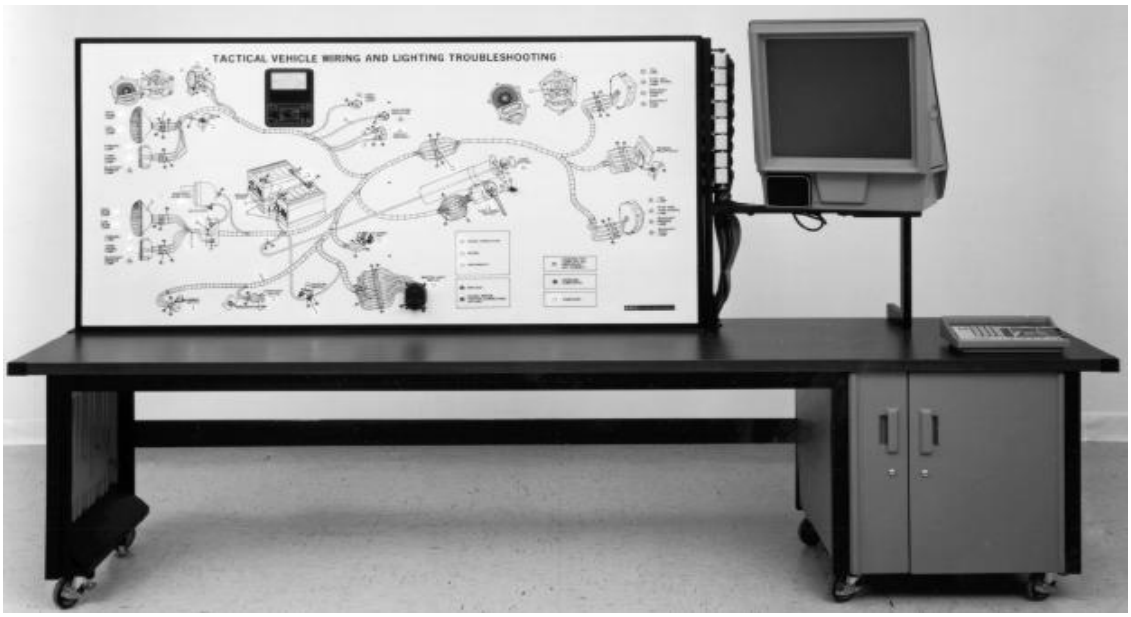
Power Requirements:
115vac, single-phase, 60 Hz, 15A

Applicable Publications:
TM 9-6910-249-10, - Operator's Manual for Application of Meters to Direct Current (DC) Circuits Device 55-11.
TM 9-6910 249-24&P, - Organizational, Direct Support, and General Support Maintenance Manual Including
Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts) for Application of Meters to Direct Current (DC) Circuits, Device 55-11.

Reference Publications:
None

Training Requirements Supported:
MOSC 63B

TACTICAL VEHICLE WIRING AND LIGHTING TROUBLESHOOTING TRAINER



Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use to provide maintenance training and familiarization with tactical vehicle wiring and lighting systems. The trainer provides organizational, direct support (DS), and general support (GS) maintenance personnel with training in operating procedures, symptom analysis, and troubleshooting procedures.

Functional Description:
Device 55-14 is a computer-based training system, providing operating and maintenance characteristics for simulated Tactical Vehicle wiring and lighting systems.

The device consists of a display panel of simulated wiring and lighting system components and multimeter, an EC 3 computer, video disc player and monitor, control console, two diskette drive units, visuals, two flexible diskettes, trainer power cable, operator's manual, and maintenance manual. Two test leads are also supplied with the trainer.

This student/instructor operated device is designed for demonstration or system maintenance hands-on use and requires minimal familiarization time. No warm up time, special cooling, or special maintenance personnel are required.

Student motivation is accomplished through 23 unique malfunction simulations, 4 measuring exercises, and immediate performance feedback as the student operates the system and multimeter.

Through the use of the control console, the simulated systems on the display panel respond with normal operation or system malfunctions similar to the actual vehicle systems. Student performance is monitored by indicators contained on the control console to indicate total time to solve the problem and components replaced.

Physical Information:
Length: 120" L x 71" H x 29" D; 485 lb

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The trainer is designed to operate in a standard classroom within a temperature range of 39° F to 100° F and a relative humidity of up to 80%.

Power Requirements:
115vac, single-phase, 60 Hz, 15 A

Applicable Publications:
TM 9-6910-251-10
TM 9-6910-251-24&P

Reference Publications:
None

Training Requirements Supported:
MOSC 63B
SM 091-474, Task 3143

REFRIGERATION AND AIR CONDITIONING TRAINER

Training Category/Level Utilized:
Transportation/Level 2

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide classroom training in refrigeration and air conditioning theory with hands-on application through the performance of practical laboratory experiments.

Functional Description:
The Refrigeration and Air Conditioning Trainer is comprised of a number of training devices which are used to demonstrate experiments in the electrical and mechanical aspects of the refrigeration cycle and its application to all types of residential, commercial, and industrial air chilling mechanisms and controls.

All machines and control components are standard commercially available models-mounted, plumbed, wired and arranged for ease of understanding, simplification of connection, and convenience of operation.

Physical Information:

Item:	"W"	"H"	"D"	Weight(lb)
Potential Relay Demonstrator, H-PRD	20	8	10	40
Refrigeration Test Branch, 262-19x	75	48	36	350
Commercial Refrigeration Trainer, H-CRT-1	61	76	31	750
Industrial Refrigeration Trainer, H-1RT-1	90	77	33	1000
Water Cooling Tower, H-ACTK-CT	50	55	36	35
Portable Charging Machine, 10770	21	43	20	100
Refrigeration/Freezer Training Kit, H-ACTK-2	40	40	26	300
Domestic Two-Door Refrigerator Training Kit, H-ACTK-3	40	40	26	300
Walk-in Cooler Training Kit, H-ACTK-5	40	40	26	300
Ice Cream Freezer Training Kit, H-ACTK-7	40	40	26	300
Air Conditioning Training Kit, H-ACTK-10	40	40	26	300
Three-phase Compressor Controls Trainer, H-TPCT	38	39	22	120
Single-phase Compressor Trainer w/stand, H-CPT-1-MCI-1000	52	76	31	260
Compressor Fault Simulator w/stand, H-CFS-1A-MCI-1000	52	76	31	265
Oil Burner Demonstrator, H-OBD-1	60	48	32	500
Oil Burner Furnace Control Demonstrator w/stand, H-0BF-2-MC1-1000	52	76	31	260
Air Conditioning Controls Trainer, H-ACCS	50	36	16	250
Heat Pump Controls Trainer, H-HPT-1	38	39	22	120
Refrigeration System Trainer, H-RST-2	52	76	31	480
Basic Refrigeration Trainer, H-RST-3B	52	76	31	480

Equipment Required, Not Supplied:
Standard air conditioning and refrigeration tool cabinet with tools and commercial test instruments. Fume hood or Oil Burner Demonstrator is required.

Special Installation Requirements:
None

Power Requirements:
120/240vac, 60 Hz, single-phase, 3-wires with ground
120vac, 60 Hz, single-phase with ground

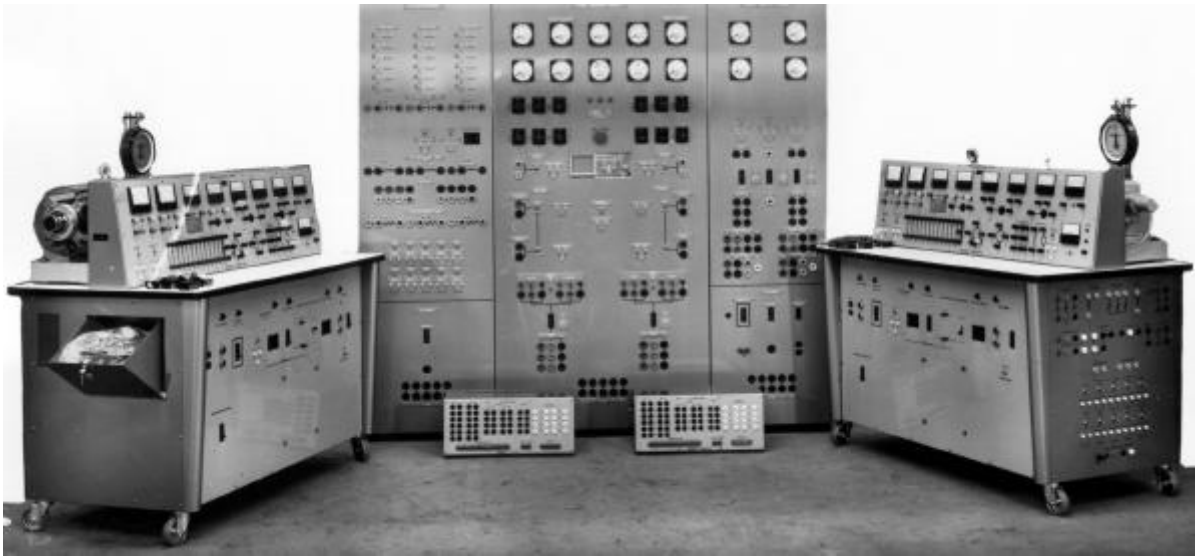
Applicable Publications:
TD 55-6910-723

Reference Publications:
Commercial Documentation

Training Requirements Supported:
SM Task:

551-750-1501	551-750-4504
551-750-1502	551-750-4507
551-750-4501	551-750-4508
551-750-4502	551-750-4509
551-750-4503	

ELECTRICAL TRAINER



Training Category/Level Utilized:
Transportation/Level 2

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide classroom training in electric power generation and control theory with hands-on application through the performance of practical laboratory experiments.

Functional Description:
The Electrical Trainer is comprised of a number of training devices which are used to demonstrate experiments in DC and AC power generation, as well as single- and three-phase motor and control theory, typically on various types of l/3 horsepower motors/generators. Provisions are made for experiment type training in such areas as transformer configurations, AC and DC controllers, AC and DC solid state motor drives, angular position control, DC servomotor control and coordinate linear position controllers.

All machines and control components are standard commercially available models-mounted, wired, and arranged for ease of understanding, simplification of connection, and convenience of operation.

Physical Information:

Item:	"W"	"H"	"D"	Weight(lb)
Electrical Laboratory Switchboard, HME-3	85.5	92	84	1300
Electrical Laboratory Machine, H-REM-120-CMMP (2)	64	60	42	1600
AC and DC Machine Experimental Student Station (12)				
Student Station, HMD-100-CM	65	60	34	1000
Bedplate, MGE3-100-DG	4	48	16	27
DC Machine, DM-IOOA	12	13.5	14	50
Multifunction Machine, MFM-100	11	13.5	14	45
Synchronous Machine, SM-100-3	10.5	13.5	14	60
Wound Rotor Motor, VRM-100-3A	10.5	13.5	14	50
Induction Motor, IM-100	10.5	13.5	14	35
Universal AC Motor, ACUM-100	10.5	13.5	14	35
Shaded Pole Motor, SHPM-100	10.5	13.5	14	35
Split Phase Motor, SPM-100	10.5	13.5	14	35
Capacitor Start Motor, CSM-100	10.5	13.5	14	35
Wound Rotor Speed Controller, WRSC-100	5	12.5	9	15
DC Armature Resistance Controller, DC-ARC-100	7	9	7	15
Variable AC Voltage and Paralleling Controller, H-IEC-B1	7.56	19	6.25	25
Alternator Voltage Controller, H-IEC-B2	7.56	19	6.25	25
Power Factor Controller, H-IEC-B3	7.56	19	6.25	25
Adjustable Frequency Speed Controller, H-IEC-B4	7.56	19	6.25	25
DC Motor Mag-Amp Controller, H-IEC-DC1	7.56	19	6.25	25
DC SCR-Controller, H-IEC-DC2	7.5	12	8	25
Manual DC Starter DC-MS-100	8.5	14	8	20
Automatic DC Starter, DC-AS-100	7.5	19	8.25	30
Automatic DC CEMF Starter, DC-CEMF-100	7.5	19	8.25	30
Three-Phase AC Magnetic Starter, MS-100-3A	7.5	9	7	20
Resistance Load, RL100A	5	19	8.25	30
Resistance/Reactance Load RLC-100	7.5	19	8.25	50
Variable Inertia Load, VIL-100	10	20	14	40
Series Field Rheostat, SFR-100	7.25	5	4.75	2
Speed Control Rectifier, SCR-100B	7.5	19	8.25	25
Prony Brake, PB-100	14	11	16	25

Item:	"W"	"H"	"D"	Weight(lb)
Dynamic Brake, DB-100	7.25	5	4.75	5
DC Injection Brake, DCIB-100	7.5	9	7	10
Electro Dynamometer DYN-100A-DM	19	13	14	70
Strobe Tachometer, SLA-100-D	5.5	4	6.75	2
Synchronous Lamp, SYN-100	7.5	9	7	10
Phase Sequence Indicator PSI-100	7.5	9	7	10
Digital Photo Tachometer, HPT-100	3.5	6	6.25	5
Tachometer, HT-100-H	1.5	4.75	3.75	2
Transformer Learning Package (12):				
Experimental Transformer, T-100A(3)	7.5	9	7	15
Dissectable Transformer, 1290B-6C	7	16	16	20
Dissectable Storage Case, HC-1290	7	16	16	20
AC Controller, ACC-100-FT (12)	24.375	37	15	140
DC Controller DCC-100-FT (12)	24.375	37	15	140
Modular AC Motor Controller, ACC-100-K (12)	24	25	10	150
Modular DC Motor Controller, DCC-100-K (12)	24	25	10	150
Three Phase Frequency Drive, H-VFD-100-A (12)	18	23	12	120
Single Board Microcomputer Unit (12)	4	12.5	12.5	15
Microcomputer, MCB-1	4	12.5	12.5	15
Experimental Board Section Accessory, EBA-2	1.5	8.5	4.5	1
Solid State Relay Interface, EBA-3	1.5	8.5	4.5	1
Angular Position Control Unit (12):				
Angular Position Controller, H-IEC-A	7.56	19	8.25	25
Unipolar Stepper Motor, H-IEC-A1	7.5	7.25	7.25	5
Bipolar Stepper Motor, H-IEC-A2	7.5	7.25	7.25	5
DC Servo Motor Unit H-IEC-DCS (12)	7.56	19	8.25	25
Multiple Axis Linear Position Trainer, H-IEC-XY (12)	7.5	12	8.5	20

Equipment Required, Not Supplied:
Optional: Dual Trace Oscilloscope

Special Installation Requirements:
None

Power Requirements:
208vac, 60 Hz, 3-phase, 4-wire with ground
120vac, 60 Hz, single-phase with ground

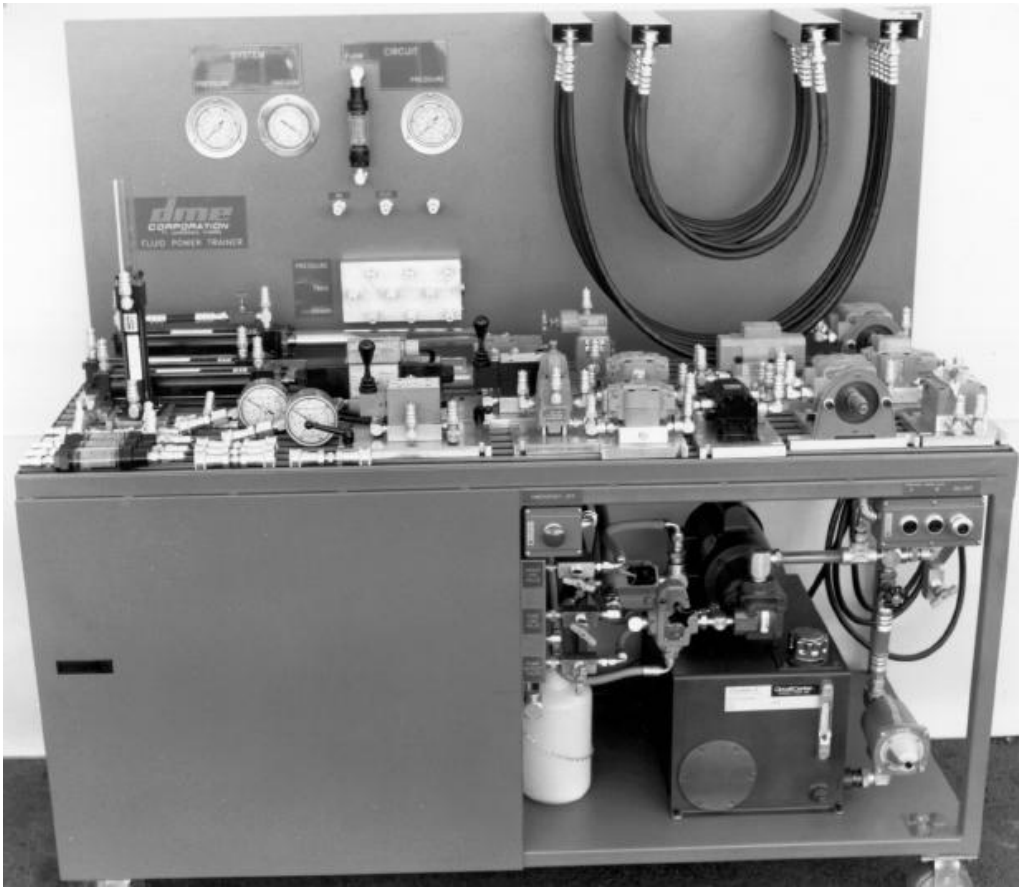
Applicable Publications:
TD 55-6910-722

Reference Publications:
Commercial Documentation

Training Requirements Supported:
SM Task:

551-727-1204	551-749-1704
551-746-1501	551-749-2501
551-746-1506	551-749-2503
551-746-1508	551-749-2505
551-747-1201	551-749-2507
551-749-1201	551-749-2508
551-749-1501	551-749-2510
551-749-1502	551-749-2515
551-749-1503	551-749-2516
551-749-1504	551-749-2520
551-749-1508	551-749-2521
551-749-1513	551-749-2525
551-749-1514	551-749-2506

HYDRAULIC TRAINER



Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

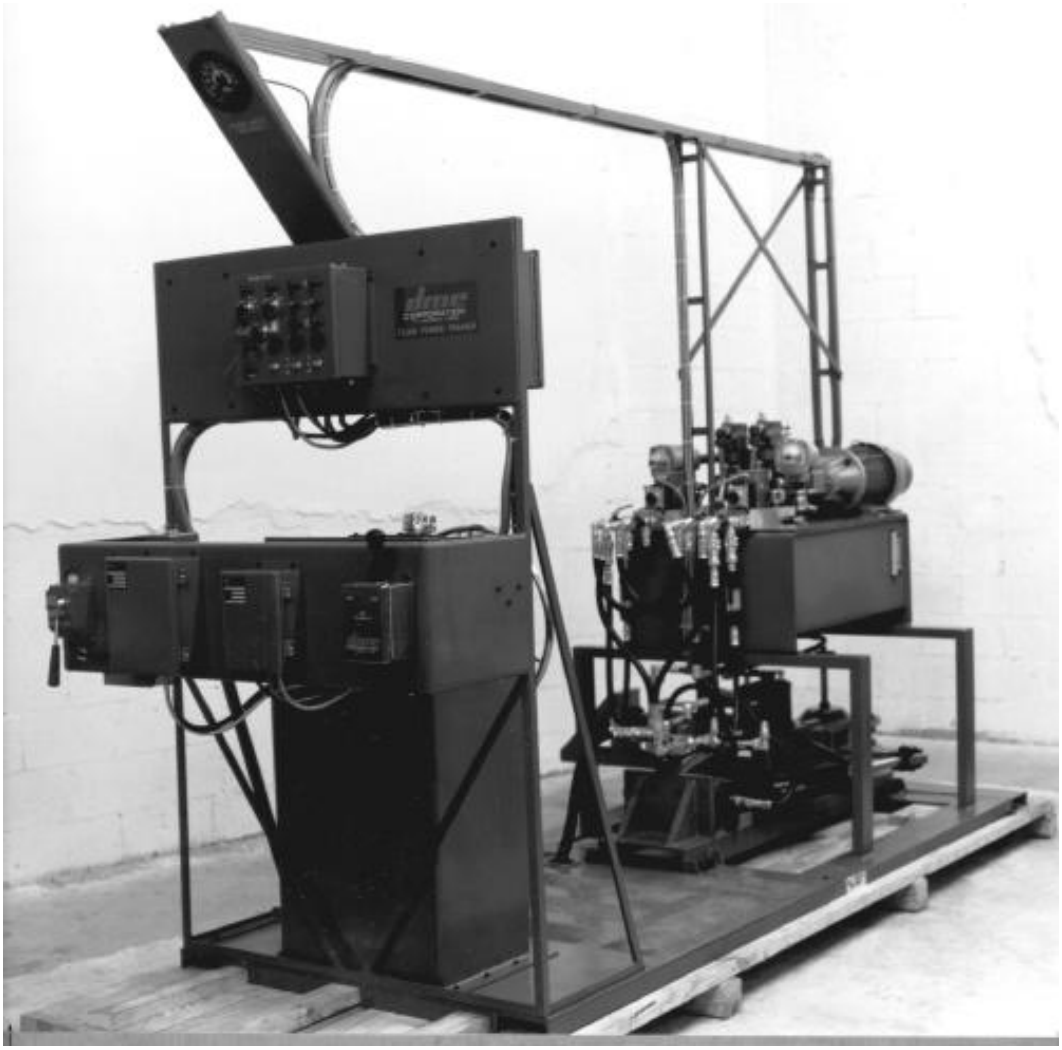
Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
For classroom use to provide training and familiarization in hydraulic circuit design and maintenance. The trainer provides personnel with training in configuring hydraulic circuits for a variety of operations using operational hardware. The trainer also provides maintenance and troubleshooting training for typical hydraulic system malfunctions and the opportunity to observe and operate a fully functional ship hydraulic steering system.

Functional Description:
Device 55-22 consists of two separate hydraulic assemblies: (I) the Student Hydraulic Training Bench, and (2) the Hydraulic Steering System Demonstrator. Each assembly is a self-contained fully functional system incorporating a hydraulic power source and operational hydraulic components.

The Student Hydraulic Training Bench provides entry and advanced level training in hydraulic systems assembly, maintenance, troubleshooting, and repair. Each bench is a fully operational independent test station equipped with a hydraulic power unit, instrument panel, and quick-mount component mounting surface for hydraulic circuit assembly and component disassembly. A full set of hydraulic components are provided with the bench, including manual and solenoid directional control valves, linear actuators, motors, a flow divider, and deceleration, sequencing, brake, check and flow control valves. Additional pumps, motors, actuators, and control valves are provided for disassembly and assembly.

Hydraulic power is provided by an electrically driven, fixed displacement pump rated at 1.5 gallons per minute at 1000 psi. A compound relief valve limits system pressure to 500 psi at all times. All hydraulic fluid power for circuit assembly is obtained from ports on the panel-mounted manifold.



Hydraulic circuits typically found in marine, industry, and aerospace applications can be assembled using the hydraulic components provided, and quick disconnect hoses. Two 4-inch pressure gauges, a vacuum gauge, and a flowmeter are panel mounted to monitor system performance. Additional quick-disconnect pressure gauges and flowmeters, included with each bench, may be inserted at any point in the assembled circuits.

All components used on the bench are commercial off-the-shelf items mounted on quick-mount subplates to secure components operating under pressure. Two lengths of quick disconnect hoses, are suspended from a rack for ease of access and use.

The Hydraulic Steering System Demonstrator is a complete, independent, fully functional marine steering system mounted on a rigid foundation. The demonstrator consists of a duplex hydraulic power unit, a hydraulic steering engine, an emergency-hand hydraulic system, a full follow-up control system, a non follow-up control system, a rudder angle indicator system, and a rudder loading system. Quick disconnects between all major system components allow connection of pressure gauges and flowmeters to monitor system performance. All components used on the demonstrator, including all controls and indicators, are typical of hardware actually used shipboard.

The system is configured to show the functional elements of a ship steering system in a compact, accessible assembly. A control console allows student to experience the “feel” of the helmsman’s controls. Quick, realistic, and positive response of the steering system is provided by the demonstrator, and a rudder loading system simulates rudder forces typical of a vessel under way.

Physical Information:
Student Hydraulic Training Bench:
72" L, 70" H (Overall), 40" H (Work Surface), 30" W
Hydraulic Steering System Demonstrator:
Length: 110" L, 72" H (Disassembled), 86" H (Assembled), 44" W

Equipment Required, Not Supplied:
None

Special Installation Requirements:
Student Hydraulic Training Bench: None
Hydraulic Steering System Demonstrator: Designed for permanent installation in a classroom or laboratory. The demonstrator is to be wired directly to 220 vac power.

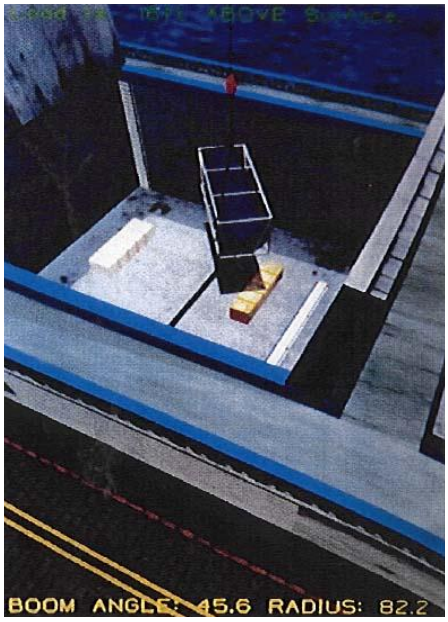
Power Requirements:
Student Hydraulic Training Bench:
120vac, 60 Hz, 20 A
Hydraulic Steering System Demonstrator:
220vac, 60 Hz, 40 A, 3-phase

Applicable Publications:
TD 55-6910-724-1
TD 55-6910-724-2
TD 55-6910-724-3

Reference Publications:
None

Training Requirements Supported:
MOSC - Various

CRANE OPERATOR TRAINING SYSTEM



Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The crane simulator is a computerized, full mission trainer that simulates the operating controls and handling characteristics of the hagglund ship tower crane, dock gantry crane, and the 40-ton rough terrain container crane. The simulator creates deployment scenarios that require army crane operators to on-load / off-load M1A1 battle tanks, and Bradley fighting vehicles from various ocean going cargo vessels.

Functional Description:
Commuter based system: silicon graphics 1000 system. Operates in real time to simulate out-the-window viewing from the crane cab. Generates full color scene content of a crane operating from an ocean vessel. Pier and on a beach. Has a sound system that produces a variety of sounds of the crane-operating environment, including crane engine noises, collisions, hoist, and trolley noises. Has 3 degree of freedom electric motion system capable of providing motion sensations to the operator, including the sensation of crane depression when a heavy object is raised, up or down, shock and payload. Has a number of portable subsystems, laptop configuration, that replicates control systems, movement and lift actions and reactions as and introduction to the full motion system.

Physical Information:
Instructor/Operator Station:
Computer: 26" H x 21" W x 29" D
UPS Cabinet: 9.91" H x 5.61" W x 15.75" D
UPS Battery Unit: 9.91" H x 5.61" W x 15.75" D
UPS Powerpass Distribution Mdl: 9.91" H x 5.61" W x 15.75" D
X-Terminal Computer: 1.75" H x 13.5" W x 12.5" D
X-Terminal Monitor: 16.02" H x 17.71" W x 16.69" D
Simulation Monitors: 19.34" H x 19.21" W x 21.02" D
Printer: Unknown
Modem: 1.5" H x 6.4" W x 5.26" D

Student Station:
Head Tracker Control Unit: 1.625" H x 7.25" W x 9.5" D
Head Tracker Transmitter: 7.625" H x 10.875" W x 1.25" D
Head Tracker Receiver: 2.625" H x 3.25" W x .375" D

Motion System (MS):
MS Computer: 7.1" H x 4.5" H x 1" D
MS Power Supply: 3.0" H x 5.0" W x 1.35" D

Display System:
Projector: 14.25" H x 22.68" W x 42.36" D

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:

Instructor/Operator Station:

Computer: 240vac, 30 Amps
Uninterruptible Power Supply: 240vac
X-Terminal Computer: 120vac
X-Terminal Monitor: 120vac
Simulation Monitors: 120vac
Printer: 120vac
Modem: 120vac
Real-time Input/output Sys Power Sup: 120vac

Student Station:

Aural Cue Amplifier: 12vdc, 100watts
Head Tracker: 120vac

Motion System (MS):

Motion System Motors: 80vdc
Motion System Computer: Unavailable
Motion System Power Supply: 90-264vac, 57-63Hz

Display System:

Projector: 120vac

Applicable Publications:

TD 55-6930-701, - Crane Operator Training System; Operator's Manual.

TM 55-6930-701, - Crane Operator Training System; Maintenance Manual.

Reference Publications:

(Information not available)

Training Requirements Supported:

MOSC 88H

CRANE SIMULATOR (PORTABLE)

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
The Portable Crane Simulator is a computerized, full mission trainer, which simulates the operating controls and handle characteristics of the hagglund ship tower crane. The simulator creates deployment scenarios that require army crane operators to on-load/off-load MIAI battle tanks and Bradley fighting vehicles from various ocean going cargo vessels.

Functional Description:
The Portable Crane Simulator is a computerized based system operating in real-time to simulate out the window viewing from the crane cab. It generates full color scene content of a crane operating from an ocean vessel.

Physical Information:
All components contained in a portable metal case.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
115vac, 60 Hz

Applicable Publications:
Commercial documentation

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 88H

GLOBAL MARITIME DISTRESS SIGNALING SYSTEM (GMDSS)

Training Category/Level Utilized:
Watercraft Communications Operation

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provide a simulation-based training curriculum to master skills necessary to operate GMDSS communications equipment in all operational conditions. Simulated equipment includes: MF/HF DSC Radio, VHF DSC Radio, Inmarsat C, NAVTEX, and MF/HF Radiotelex. Ancillary equipment includes EPIRB, SART and SCT-VHF.

Functional Description:
The US Army GMDSS Simulators consist of three major parts: realistic instrumentation / controls (real and simulated), PC video display with keyboard, and instructor operator station. The realistic instrumentation / controls provides an immersive, fully interactive, realistically depicted communications base. Each student station can be configured with scenarios to provide training in the mechanics of actual equipment operation as well as operational techniques. Manufactured stations with configurations of instrumentation/controls (emulating the LSV, LCU, and LT) provide the operator interface. Stations include fully functional radios, laptops and modems within an interactive system. All stations are compatible with other stations, allowing for interactive scenarios. The student stations have been produced in two configurations: A Real Gear Trainer system and a Personal Computer (PC) Simulation system. The Real Gear Trainer version mounts the communications equipment, copies of those on our Army vessels, on a base station. The PC system incorporates virtual bridge communications equipment. The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes / configures the attached student stations, conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum. Simulated procedures encompass voice and radiotelex operation over a wide range of frequencies with a variety of propagation conditions, satellite communications, receipt of maritime safety information, sending and receiving distress, urgency and safety messages.

Physical Information:
Real Gear Trainers: 5'6" high x 6'2" wide x 3' long.
IOS: 6' high x 7'10" wide x 2'9" long.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
Standard 120vac
Minimum 40 Amps per IOS

Applicable Publications:
Commercial documentation

Reference Publications:
US Coastguard Publications

Training Requirements Supported:
MOSCs 88K:
880 A1
880 A2

VS300 FULL MISSION VESSEL BRIDGE SIMULATOR, FIXED BASE, (NO MOTION)

NSN 6910-01-582-3722 **DVC 55-51/B VS200 Small Craft Vessel Bridge Simulator, Fixed Base, (No Motion)**
NSN 6910-01-582-3746 **DVC 55-51/C Theater Support Vessel (TSV), Full Mission Vessel Bridge Simulator, Fixed Base, (No Motion)**

Training Category/Level Utilized:
Watercraft Vessel Operations

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provide a simulation-based training curriculum to master skills necessary to operate a wide variety of current Army watercraft, selected Naval, USCG and commercial vessels in all operational conditions. Simulated vessels include; 1) 55-51/A, VS300 - LCU-2000, LSV, LT-800, USCG cutter, aircraft carrier and various commercial container ships., 2) 55-51/B, VS 200 – LCM-8 MOD I & II, SLWT, MT, ST 900, and High Speed Vessel X1, and 3) 55-51/C, TSV – High Speed Vessel X1 and Theater Support Vessel 1X. Ancillary equipment include; 1) 55-51/A, VS300 - a full GMDSS communications suite, EPIRB, SART, SCT-VHF, VHF radio, 3cm and 10 cm Navigational Radars, ECDIS, Magnetic compass, intercom and CCTV., 2) 55-51/B, VS 200 – VHF radio, 3cm and 10 cm Navigational Radars, ECDIS, Magnetic compass, intercom and CCTV, and 3) 55-51/C, TSV – a full GMDSS communications suite, EPIRB, SART, SCT-VHF, VHF radio, UHF Radio 3cm and 10 cm Navigational Radars, ECDIS, Magnetic compass, intercom and CCTV.

Functional Description:
The US Army Bridge Simulator consists of three major parts; 1) realistic instrumentation/maneuvering controls (real and simulated), 2) PC based graphic user interface video displays, and 3) instructor operator station. The realistic instrumentation/controls provide an immersive, fully interactive, realistically depicted vessel bridge. The interior of the simulator is configured to emulate; 1) 55-51/A, VS300 - the LSV, LCU and LT, 2) 55-51/B, VS 200 – the LCM, ST, and SLWT, and 3) 55-51/C, TSV – TSV. Each student or students can be placed into scenarios, which will provide training in the mechanics of actual vessel operations, underway watch procedures as well as operational techniques. The simulator is equipped with virtual reality binoculars and head mounted displays which provide students with overall situational awareness. Virtual spotlight enhances realistic nighttime operations training.

The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes and conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum.

Simulated procedures encompass vessel operations in over 28 major US and world ports in countries such as Kuwait, Korea, Japan, Saudi Arabia, and Italy. Simulator can be integrated with Vessel Bridge Simulators and Barge Derrick cranes simulators to provide multiple ship exercises, piloting scenarios and multiple towing scenarios. Weather effects include wind, rain, snow, fog, sand, haze and the ability to dictate sea and tidal conditions. Daytime and nighttime operations are included. Intelligent autonomous vessel traffic can be simulated to provide a realistic environment to train vessel maneuvering and

adherence to the maritime navigational rules of the road.Simulated procedures encompass vessel operations in over 25 major US and world ports in countries such as Kuwait, Korea, Japan, Saudi Arabia, and Italy. Simulator can be integrated with Vessel Bridge Simulators to provide multiple ship exercises, piloting scenarios and multiple towing scenarios. Weather effects include wind, rain, snow, fog, sand, haze and the ability to dictate sea and tidal conditions. Daytime and nighttime operations are included. Intelligent autonomous vessel traffic can be simulated to provide a realistic environment to train vessel maneuvering and adherence to the maritime navigational rules of the road.

Physical Information:

55-51/A, VS300 - 16'8" high x 50' wide x 42' long. 20 Ft Radius screen with seven projected visual channels providing 270 x 31 degree field of view front and sides. Two (2) 50-inch display monitors providing 125-degree field of view rear.

55-51/B, VS200 - 16'8" high x 15' wide x 15' long. Seven - 50 inch displays providing 315 x 33 degree field of view front, sides and rear.

55-51/C, TSV - 14' high x 32' wide x 56' long. 15 Ft Radius screen with 11 projected visual channels providing 270 x 31 degree field of view front and sides. Three (3) 50-inch display monitors providing 125 degree field of view rear. IOS: 6' high x 18'8" wide x 8' long.

Power Requirements:

Standard 120VAC
Minimum 40 Amps per IOS

HVAC Requirements:

HVAC System shall maintain the interior of the facility at a temperature between 62 and 76 degrees F with a relative humidity between 50% and 80%. System shall provide for 30 persons in the facility at any given time

Equipment Required, Not Supplied:

None

Special Installation Requirements:

(Information not available)

BARGE DERRICK (BD) CRANE SIMULATOR

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Barge Derrick (BD) Crane Simulator is a CSC Virtual Crane® Simulator configured to meet U.S Army requirements.

Functional Description:
The BD Crane simulator is an integral component of CSC Virtual Ship®, which is the basis of the FMB and SCB simulators. The crane and ship simulators share common functions such as visualization, environment definition, and dynamic response.

Physical Information:
Fixed Base: 3 ft x 4 ft Operators Cab with seat and controls
Screen: Rear projections 6 x 8 ft
IOS: Key Board attached to student station

Equipment Required:
Uninterrupted power supply (UPS)

Special Installation Requirements:
None

Power Requirements:
Standard 120VAC
Maximum 40 Amps per IOS and 109 Amps per STS

Applicable Publications:
Commercial Documentation

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC 88H

SHIPBOARD FIRE FIGHTING SIMULATOR

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provides a simulation-based training curriculum to train skills necessary to fight, control or maintain fires aboard cargo vessels.

Functional Description:
The USA Shipboard Fire Fighting Simulator consists of four major parts: visual display (HMD), 25ft fire hose, a portable computer system (IOS) and Ceiling mounted motion sensors. The visual display system provided an interactive, virtual world using a high-resolution database. Each student station is configured with a Head Mounted Device that provides the Student a 360-degree field of view. The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes/configures the attached student stations, conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios that support the approved curriculum.

Simulated procedures encompass Task Necessary for students to learn how to Fight, Control and maintain Chemical, Electrical and oil based Fires.

Physical Information:
25 Ft Fire Hose, General Purpose Nozzle
Screen: Student Head Mounted Device
IOS: Keyboard, Portable computer Rack

Equipment Required, Not Supplied:
Uninterrupted power supply (UPS)

Special Installation Requirements:
None

Power Requirements:
120vac 60 Hz
Maximum 40 Amps per IOS and 109 Amps per STS.

Applicable Publications:
Operators Manual M-101.2, Harmless Hazards Training System, Series 101 (HHTS).

Reference Publications:
None

Training Requirements Supported:
MOSCs:
88K-Series
88L-Series
88H-Series
880A1/2
881A1/2

ELECTRIC SWITCHBOARD SIMULATOR

Training Category/Level Utilized:
Watercraft Vessel Operations

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provide a simulation-based training curriculum to master skills necessary to operate and maintain a shipboard switchboard.

Functional Description:
The switchboard is divided into three main sections. The two generator sections and one shore power section. A small add-on panel houses power factor and VAR meters for each generator. There is also an external emergency switch board and a load bank connected via power cables.

The main switchboard provides generator selection for control and power distribution for both 240 and 120 volts AC.

The main switchboard generator sections control, paralleling, and power distribution for both 240 and 120 volts AC. Power monitoring is provided by ammeters, voltmeters, frequency meters, and synchronization meters. Controls are provided for manual and automatic generator voltage regulation and generator engine speed regulation.

The power generation system provides primary (240 VAC, 3-phase, 60 Hz 250kW) and emergency (240vac, 3-phase, 60 Hz, 40kW) electrical power.

Primary power is generated by one of two ship's service diesel generator (SSDG) sets, which supply the main switchboard and the emergency switchboard through a bus tie from the main switchboard. Emergency power is generated by an emergency diesel generator set, which supplies the emergency switchboard for continued operation of vital systems and equipment during loss of primary power. The switchboard is capable of receiving shore power (480/240vac) through a shore power cable terminating at a two-connection shore power box. If available shore power is 480vac, the power is selected at the main switchboard through a circuit breaker and stepped down to 240vac by three shore power transformers, prior to main switchboard entry. Shore power of 240vac is selected at the main switchboard by circuit breaker, and bypasses the 480vac transformers. Automatic bus transfer equipment, located in the emergency switchboard, isolates the emergency switchboard from the main switchboard upon loss.

An interlock system is incorporated into the switchboard to prevent shore power from being applied to the switchboard while generator power is applied. The interlock system also prevents the emergency switchboard emergency generator circuit breaker from being closed.

The emergency switchboard bus tie provides 240vac to the emergency switchboard. Power selection is provided by closing circuit breakers on the switchboard. The switchboard bus tie also serves as an emergency 240vac power feedback source for the main switchboard from the emergency switchboard, to power selected equipment systems during emergency power conditions.

The Dynamite 300 Portable Load Bank is capable of providing a total of 289 Kilowatts of load at 240vac, 3 phase. The load can be added and subtracted in increments.

Physical Information:
Main Switchboard
77 ¾” H; 62” W; 36 ¼” D
Add-on panel
15 ¾” H; 19 ¾” W

Emergency Switchboard
78” H; 65” W; 36 ¼” D

Equipment Required, Not Supplied:
N14 Cummins(V8) Diesel Engine with a Newage International Stamford AC generator.

Special Installation Requirements:
(Information not available)

Power Requirements:
Power is supplied by an N14 Cummins(V8) Diesel Engine with a Newage International, Stamford AC generator; 250KW, 240v, 3-phase, 60 Hertz, .8pf, WYE wound.

Load Bank
300 KW @ 480vac
289 KW @ 240vac

Applicable Publications:
(Information not available)

Reference Publications:
TM 55-1905-223 Series

Training Requirements Supported:
MOSCs:
88
881

KOREAN CRANE OPERATOR TRAINING SYSTEM

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
The Korean Crane Operator Training System is a computerized, full mission trainer that simulates the operating controls and handles characteristic of Dock Gantry Crane. The simulator creates deploy scenarios that require crane operator to on-load/off-load equipment from ocean going vessels.

Functional Description:
The Korean Crane Operating Training System is a computer base system operating in real-time to simulate out the window viewing from the crane cab.

Physical Information:
4’ x 6’ x 4’

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
220vac, 3-phase, 60 Hz

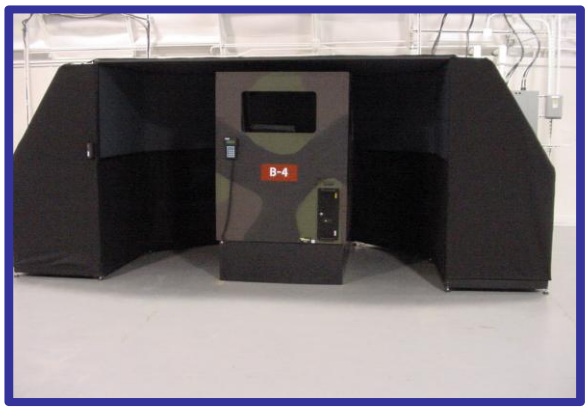
Applicable Publications:
Commercial documentation

Reference Publications:
Commercial documentation

Training Requirements Supported:
MOSC:
88H

US ARMY OPERATOR DRIVING SIMULATOR (USA-ODS)

NSN Not Assigned **DVC 55-54/A US Army Operator Driving Simulator (USA-ODS), 6 Degrees of Freedom**
NSN Not Assigned **DVC 55-54/B US Army Operator Driving Simulator (USA-ODS), 3 Degrees of Freedom, FMTV, 3 or 5 Channel**
NSN Not Assigned **DVC 55-54/C US Army Operator Driving Simulator (USA-ODS), Fixed Base, Generic, (No Seat Motion)**



Training Category:
Motor Transport Operation

Logistic Responsible Command:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provide a simulation-based training curriculum to master skills necessary to operate medium and heavy tactical vehicles in all operational conditions. Simulated vehicles include: FMTV, M915, M939, HEMTT, PLS, & HET.

Functional Description:
The USA ODS consists of four major parts: visual display system, cab and dash instrumentation/controls, motion cueing device, and instructor operator station. The visual display system provides an immersive, fully interactive, realistically depicted virtual world using high-resolution fully textured 3-D databases. Each student station can be configured with 3 or 5 visual channels to provide over 180° and 220° field of view, respectively. Manufactured cabs with 3 configurations of instrumentation/controls (emulating the HTV, MTV, Generic vehicles) provide the operator interface. Cabs include fully functional gauges and indicators with a force feedback steering system. All cabs are compatible with all vehicles simulated; with the particular cab types being designed to more closely match the controls of the target vehicle. The student station has been produced in two configurations: A full-motion system and a limited motion system. The full-motion version mounts the cab and visual displays on a full 6-Degrees-of-Freedom motion platform.

The limited motion system incorporates a 3-DOF seat actuator. The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes/configures the attached student stations, conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum.

Simulated procedures encompass vehicle operation on-road and off-road -over a range of terrain- with a variety of weather conditions. Weather effects include wind, rain, snow, and fog. Daytime and nighttime, including blackout operations, are included. Intelligent autonomous traffic is simulated to provide a realistic environment to train for vehicle maneuvering.

Physical Information:

Full-Motion STS: Operational envelope – 12'6" high x 15' wide x 22' long (does not include a suggested 2' safety buffer on all sides).

Limited-Motion STS: 7' high x 10' wide x 16' long.

IOS: 7' high x 5' wide x 8' long.

Power Requirements:

Standard 120vac

Maximum 40 Amps per IOS and 109 Amps per STS

Equipment required (but not supplied):

None

Special Installation Requirements:

None

Applicable Publications:

(Information not available)

Reference Publications:

(Information not available)

Training Requirements Supported:

(Information not available)

SMALL CRAFT BRIDGE SIMULATOR (VS-200)

Training Category/Level Utilized:
Transportation/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Small Craft Bridge Simulator (VS-200) is a media used to improve the skills of inexperience Army Mariners. Simulated training emphasizes communications, teamwork, and ability to understand instruments.

Functional Description:
The Small Craft Bridge Simulator (VS-200) is a sophisticated interactive training device that replicates the performance of various small crafts in the Army inventory. The system contains a vast array of electronics to include Virtual Binoculars, Spotlights, Head Mounted Displays, a GMDDS Suite, Marine Radios and Electronic Chart Display System (ECDS).

Physical Information:
(Information not available)

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

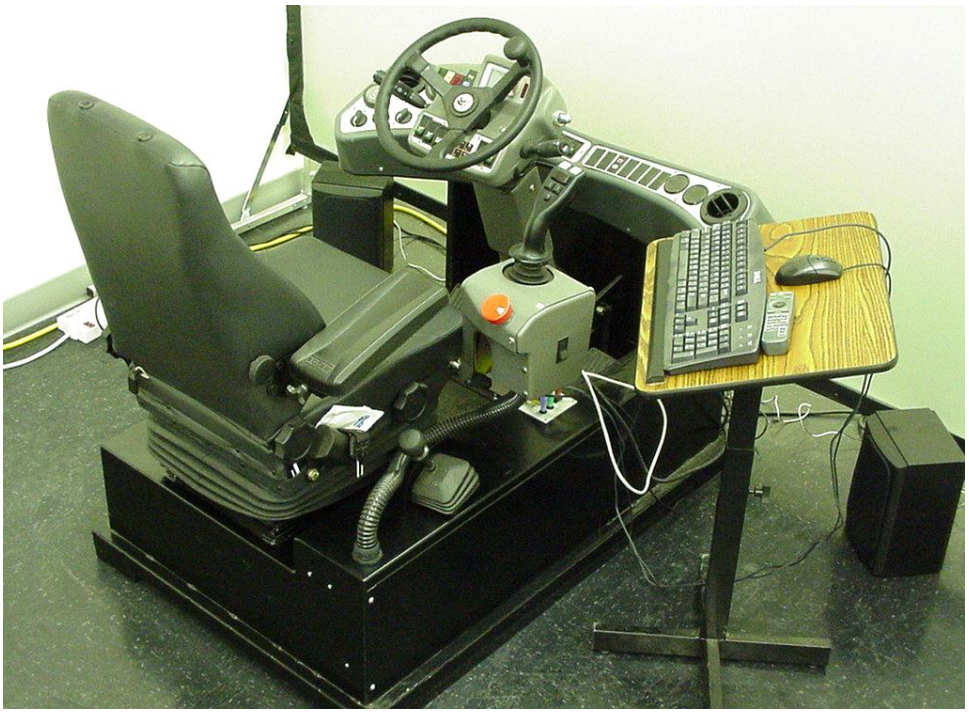
Power Requirements:
110vac, 60 Hz

Applicable Publications:
Commercial Documentation

Reference Publications:
FM 55-501
FM 55-502
Commercial Charts and Manuals

Training Requirements Supported:
MOSCs:
88K10
88K20
88K30 BNCOC
88K40 ANCOC
880A1 Warrant Officer Basic
880A2 Warrant Officer Advanced
Pre-Deployment Training
Bridge Team Training
Bridge Resource Management

RT 240 ROUGH TERRAIN CONTAINER HANDLER (RTCH) SIMULATOR, FIXED BASE, GENERIC, (NO SEAT MOTION)



Training Category/Level Utilized:
Rough Terrain Container Handler

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provides a simulation-based training curriculum to master skills necessary to operate the Kalmar RTCH in all operational conditions.

Functional Description:
The USA RTCH Trainer consists of four major parts: visual display system, cab and dash instrumentation/controls, and instructor operator station. The visual display system provides an, interactive, virtual world using a high-resolution fully textured database. Each student station is configured with 1 visual channel to provide the operator a field of view as seen from the operator's seat. The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes/configures the attached student stations, conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum.

Simulated procedures encompass RTCH operations, start up procedures, signal, double and triple stacking of containers, on-road and off-road driving, with a variety of Instructor induced faults that require a reaction from the student.

Physical Information:
Fixed Motion Base
3ft x 4ft Operators Cab With seat & controls
Screen: Rear projection 6 x 8 ft
IOS: Key Board attached to student station

Equipment Required, (But Not Supplied):
Uninterrupted power supply (UPS)

Special Installation Requirements:
None

Power Requirements:
Standard 120vac
Maximum 40 Amps per IOS and 109 Amps per STS

Applicable Publications:
Commercial Documentation

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC: 88H

RT 240 ROUGH TERRAIN CONTAINER HANDLER (RTCH) SIMULATOR, FIXED BASE, GENERIC, (CONTAINERIZED, 20 FT)

Training Category/Level Utilized:
Rough Terrain Container Handler

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provides a simulation-based training curriculum to master skills necessary to operate the Kalmar RTCH in all operational conditions. This device is used to support Mobile Training Team (MTT) training request by taking training to the unit.

Functional Description:
The USA RTCH Trainer consists of four major parts: visual display system, cab and dash instrumentation/ controls, and instructor operator station. The visual display system provides an, interactive, virtual world using a high-resolution fully textured database. Each student station is configured with 1 visual channel to provide the operator a field of view as seen from the operator's seat. The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes/configures the attached student stations, conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum.

Simulated procedures encompass RTCH operations, start up procedures, signal, double and triple stacking of containers, on-road and off-road driving, with a variety of Instructor induced faults that require a reaction from the student.

This training device is mounted in a 20ft ISO container with its own 10KW diesel generator set (GENSET) and door mounted Heat/AC unit.

Physical Information:
Fixed Motion Base
3ft x 4ft Operators Cab with seat & controls
Screen: Rear projection 6ft x 8ft
IOS: Key Board attached to student station
20 Ft ISO Container
10KW Diesel Generator
Door Mounted Heat/AC Unit

Equipment Required, (But Not Supplied):
Uninterrupted power supply (UPS)
Capability to lift/move container

Additional Equipment:
10KW Diesel GENSET
Door Mounted Heat/AC Unit

Special Installation Requirements:
None

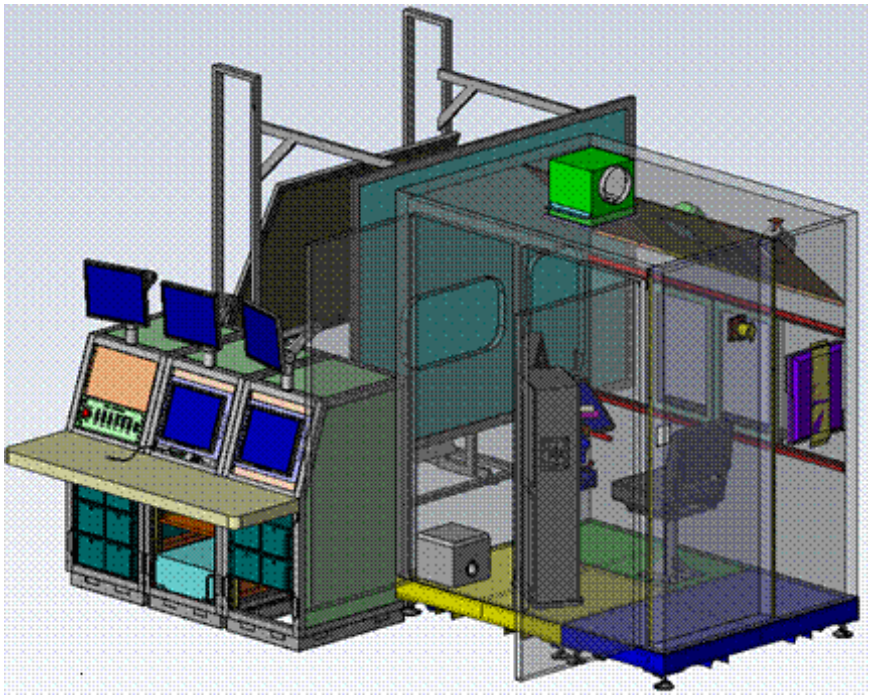
Power Requirements:
Standard 120vac
Maximum 40 Amps per IOS and 109 Amps per STS

Applicable Publications:
Commercial Documentation

Reference Publications:
(Information not available)

Training Requirements Supported:
MOSC: 88H

LOCOMOTIVE ENGINEER TRAINING SIMULATOR (LETS)



Training Category/Level Utilized:
Locomotive and Train Operation

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
To provide realistic locomotive and train operating simulation-based training to master the skill of train dynamics and train handling simulating various type of freight cars, loaded or empty, over various track profiles.

Functional Description:
The LETS consists of three major parts: The locomotive half-cab which contains the AAR 105 control stand and rear visual monitor, the visual display system which consists of a 96" diagonal rear projection screen with projector supplying 1280x1024 resolution and a train performance display monitor providing the student with the information as to the train's status. The Instructor Operator Station, which control the simulation allowing the instructor/operator to input various scenarios involving type of motive power, train makeup, track configuration and scenarios testing student reaction to various situations. The system is run by five computers; a host computer, forward image generation, instructor operator station, rear view image generation, and records computer. The instructor/operators station also has a web camera to monitor the student's reaction and intercom with microphone to communicate with the engineer. 105-style control stand has all functioning gauges and controls that would be found in the present DoD locomotive fleet. Visuals are all CGI generated with 50 miles of trackage embedded in the software. Instructor/operator has the ability to all types of weather occurring day or night. The audio speakers within the half cab will realistically reproduce all sounds associated with train operations.

Physical Information:
The simulator is non-motion based and is engineered to fit in a 16x18 feet room. The system runs on 115v AC power.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

MARINE EVACUATION SYSTEM (MES), 17-METER SLIDE MARINE EVACUATION SYSTEM (MES), 100 PERSON LIFERAFT WITH SOLAS-A PACK SUITCASE MODEL TRAINING UNIT

Training Category/Level Utilized:
High Speed Craft Safety

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainers:
Provide a training curriculum to master skills necessary to operate the Marine Evacuation System aboard High Speed Craft in all operational conditions. Training equipment includes: 17-meter MK-1 slide with cradle, 100 person SRL liferaft with case, MES Suitcase display model, and SOLAS-A Pack (survival equipment).

Functional Description:
The US Army MES Trainer consists of four major parts: a suitcase model MES, 17-meter slide, 100-person liferaft, and Solas-A Pack. These are fully functional replicas of actual equipment, providing immersive and realistic safety training. Each student is trained in the mechanics of equipment operation as well as survival techniques. The 17-meter Slide and liferaft are deployed by crane from the Landship in 3rd Port (Fort Eustis, VA). The liferaft system incorporates real and simulated safety and survival equipment as components of the SOLAS-A Pack. The MES Suitcase model provides a means for the instructor to provide familiarization with procedures prior to employing the real liferaft and slide.

Training procedures encompass survival craft launch and evacuation procedures, location and use of survival equipment in the liferaft (including signal flares, watermaker, and pumps).

Physical Information:
Slide (inflated): 8’6” high x 9’7” wide x 55’10” long, weight 490 pounds.
Liferaft (inflated): 10’3” high x 17’2” wide x 37’10” long, weight 1191 pounds.
Stowed dimensions (includes cradles and CO^2 bottles): 6’7” high x 6’7” wide x 5’7” long, weight 2459 pounds.

Power Requirements:
Standard 120vac for vacuum-powered inflation / deflation.

Equipment Required, (Not Supplied)
Crane to lift equipment into training configuration.

Special Installation Requirements:
None

Applicable Publications:
User’s Manual

Training Requirements Supported:
MOSCs 88K-Series
88L-Series
880A 1/2
881A 1/2

HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE (HMMWV) EGRESS ASSISTANCE TRAINER (HEAT)

Training Category/Level Utilized:
Transportation/ On-Site Personnel Trainer/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
The HEAT is used to provide safety instruction for vehicle occupants using a salvaged HMMWV body with doors, gunner's hatch, and ancillary items of correct dimensions and weight, such as seat belts; VIC-3 radio communications; gunner's platform; and combat locks. The purpose is to reduce injuries and fatalities associated with HMMWV rollover accidents. The trainer exposes the soldier to the disorienting effect of a vehicle rollover, and the associated physical effort required to execute a safe escape from an overturned vehicle. The HEAT builds and reinforces crew confidence by physically rehearsing and executing the steps required to survive a vehicle rollover.

Functional Description:
The trainer mechanically rotates the HMMWV training compartment in either direction through 90 to 180 degrees within nine (9) seconds of activation, and then returns the crew compartment to an upright position at the completion of the exercise. The HEAT is equipped with the capability for audio communication from the I/O to the students inside the trainer. The system has two video cameras in the crew compartment to give the I/O situational awareness of the interior; and also provides a recording tool for After Action Reviews (AAR). I/Os have the ability to stop and hold the trainer stationary at any time during operation, observing from any location in and around the device while using a remote control incorporating a dead man safety switch feature. Students also have the ability to stop the device from within the trainer via an emergency stop (E-Stop) button. The trainer automatically stops rotating if vehicle door combat locks are not properly engaged. The trainer can be operated indoors as well as outdoors in various weather environments. The HEAT is transportable on common military trailers using existing material handling equipment.

Physical Information:
HEAT in Stowed Position

- Height: 97 inches
- Width: 106 inches
- Length: 177 inches
- Weight: 13,200 lbs.

HEAT Fully Operational

- Height: 121 inches
- Width: 182 inches
- Length: 177 inches
- Weight: 13,200 lbs.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
No special requirements

Power Requirements:
The HEAT has battery power and can also be powered by existing, electrical power sources (110 and 220 voltage), using a power cable with universal power adapters.

Applicable Publications:
Operator Manual, Maintenance Manual

Reference Publications:
None

Training Requirements Supported:
Trains all MOSC series.

POLARIS NAVIGATION TRAINER

Training Category/Level Utilized:
Watercraft Vessel Operations and Navigation/Level 1

Logistic Responsible Command, Service or Agency:
OEM Warranty

Source and Method of Obtaining:
Commercial off the Shelf – Kongsberg Maritime Simulations, Inc.

Purpose of Trainer:
Provide a simulation-based training curriculum to master skills necessary to operate a wide variety of current Army watercraft, selected Naval, USCG and commercial vessels in all operational conditions. Simulated vessels include; LCU-2000, and LSV; USCG cutter, aircraft carrier and various commercial container ships, High Speed Catamaran Passenger Vessels and commercial tugboat. Ancillary equipment includes; headsets for simulated radio communications. Radars, ECDIS, Magnetic compass, and throttle controls are build into the software program. The trainer is split-based at two separate buildings; 16 student stations with instructor station at one facility and 4 student stations and instructor station at another.

Functional Description:
The Polaris Navigation Trainers consists of two major parts: 1). 20 - PC based Student Stations with realistic instrumentation/maneuvering controls (simulated), and 2). 2 - PC based Instructor Operator stations. The PC based simulated instrumentation/controls provide an immersive, fully interactive, realistically depicted vessel bridge. Each student or students can be placed into scenarios, which will provide training in the mechanics of actual vessel operations, underway watch procedures as well as operational techniques. Each Student station is equipped with two (2) 21-inch monitors, which provide students with overall situational awareness. Students have the ability to use binoculars, spotlights and the ability to pan the horizon 360 degrees.

The Instructor Operator Station is the main simulation control point supporting the instructor's role in simulator training. The Instructor Operator Station initializes and conducts training scenarios, monitors and assesses student performance, and maintains simulation scenarios and the approved curriculum.

Simulated procedures encompass vessel operations in over 10 major US and world ports in countries such as Korea, Japan, Saudi Arabia, and Italy. All student stations can be integrated to provide multiple ship exercises, piloting scenarios and multiple towing scenarios. Daytime and nighttime operations are included.

Physical Information:
Student Stations: 20 - PC based stations with Two (2) 21-inch display monitors, keyboard, mouse and headsets for communications.
Instructor Station: 2 – PC based stations with Two 1 – 21-inch display monitor, keyboard and mouse.
HVAC Requirements: standard facility temperature

Equipment Required, Not Supplied:
None

Special Installation Requirements:
(Information not available)

Power Requirements:
Standard 120vac Minimum 40 Amps per IOS

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

ENGINE ROOM SIMULATOR (ERS), FIXED BASE, (NO MOTION)

Training Category/Level Utilized:
Watercraft Vessel Operations/Level 1

Logistic Responsible Command, Service or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Provide a simulation-based training curriculum to master skills necessary to operate and maintain engineering systems of four classes of Army watercraft, to include a High Speed Vessel, based on the US Army Vessel Spearhead, TSV-1X and the US Navy USS Swift, HSV-2. The ERS will provide Army watercraft engineers, from entry level to Chief Engineer, with real-time, man-in-the-loop simulation training to Army doctrinal standards.

Part-task functionality training will allow dedicated training on each of the various sub-systems found in the engine room, linking theory to dynamically operating components. This simulator will train complex interaction between engine room systems and single sub-systems to entire ship systems. Training can be taught in either normal or abnormal operating condition, thus allowing students to be subjected to conditions that may not be encountered while underway. Collective-task (team training) will allow for advanced training of students working as a team to operate, maintain, and troubleshoot full-system/full mission simulation scenarios.

Functional Description:
The ERS combines computer-based simulation with vessel-specific, three-dimensional, physically interactive simulation and stimulation hardware components.

The ERS is comprised of several functional areas;

a. Instructor Operating Station (IOS) - the main simulation control point supporting the instructor's role in simulator training. The IOS initializes and conducts training scenarios, monitors and assesses student performance.

b. Engine Room (ER) - reconfigurable hardware to represent any of four vessel engine rooms.

c. Engine Operating Stations (EOS) - replicates the vessel's engine control room.

d. Workstation Room - includes student computer workstations and a briefing/AAR area.

e. Remote Operating Stations (ROS) – replicates vessels' bridge control and monitoring stations.

Physical Information:
ERS: Total 3300 square feet, two-level facility.

IOS: Centrally-located, raised, one-way reflective glass, with line-of-sight and electronic audio/visual monitoring of the ER and ROS areas.

Workstation Room: 900 square feet, 12 two-student computer-based workstations, projector, instructor operating station and smart board.

ER: 1000 Square feet, raised- panel floor, with modular electronic interface between moveable system hardware components and simulation software.

ROS: Approximately 400 square feet, contains bridge control and monitoring stations, power distribution and control compartment, and emergency generator compartment.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
The ERS facility requires 13-ton HVAC to dissipate the calculated heat load of simulation equipment and personnel. Additionally, the requirement for dedicated electrical circuits and amperage is approximately 1.5 time that of a typical classroom/office facility.

Power Requirements:
(Information not available)

Applicable Publications:
(Information not available)

Reference Publications:
(Information not available)

Training Requirements Supported:
(Information not available)

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BASIC SERIES 71
COMBINED ARMS

MOBILE AUTOMATED INSTRUMENTATION SYSTEM (MAIS)

Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
OTC

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
To provide a fully mobile, high fidelity, encrypted, real time casualty assessment (RTCA) and test instrumentation system.

Functional Description:
Mobile Automated Instrumentation Suite (MAIS) supports tests required to conduct realistic force development in a combined arms environment. The instrumentation suite is capable of data collection, test/exercise control, and combat simulation for RTCA during force-on-force engagements. Typical training/testing will consist of a combined arms exercise including armor, mechanized infantry, logistics, engineers, field artillery, air defense artillery, minefields, aviation, and chemical weapons. MAIS has the capability to emulate threat weapons as well as friendly forces.

Physical Information:
Comprised of a mobile Command, Control, and Communication Center (C3 Center) and five categories of Player Units (PU) as shown above, MAIS is capable of supporting combined arms testing or training exercises of up to 1830 participants in real-time. Unique to MAIS is the capability to fully tune communications across the entire UHF TV band (512-806 MHz) enabling full mobility worldwide and the fact that all PUs are based on a common electronic assembly.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

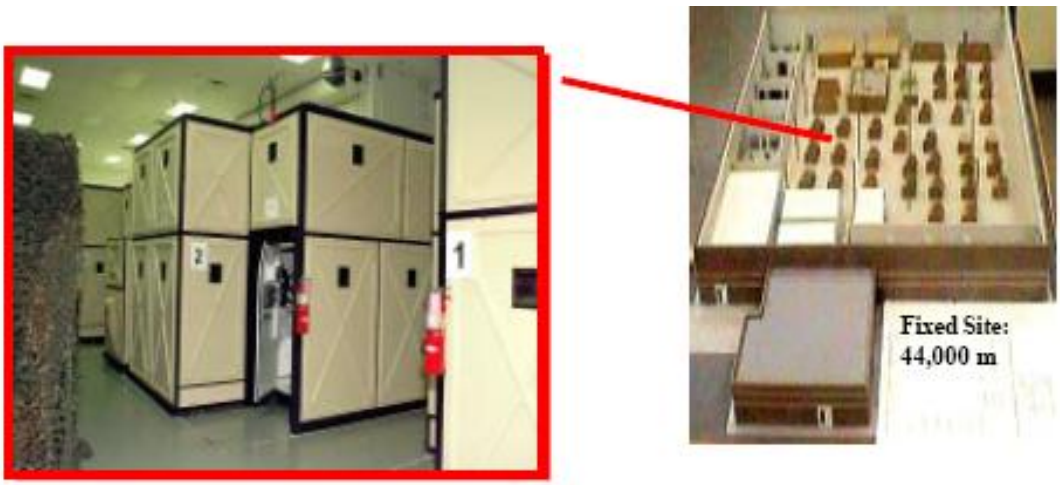
Power Requirements:
220 and 115vac, 3-phase, 60 Hz

Applicable Publications:
See OTC

Reference Publications:
See OTC

Training Requirements Supported:
(Information not available)

CLOSE COMBAT TACTICAL TRAINER (CCTT) FIXED SITE INSTALLATION



Training Category/Level Utilized:
Armor & Mechanized Infantry/Level I

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited distribution).

Purpose of Trainer:
To provide a realistic, virtual, collective (unit) training environment in which to train and sustain proficiency in Mission Training Plan (MTP) tasks. The primary tasks supported include command and control, maneuver/movement techniques, and fire support. All tasks are performed by full combat vehicle crews within a stressful, fully task loaded, synthetic combined arms environment in which the training audience must integrate the functions of combat and combat service support into their maneuver battle.

Functional Description:

(CCTT) sites include Ml, M2/M3, FIST-V, MMWV and M113 combat vehicle interior mock-ups, which replicate, with high precision, the form, fit, and function of the actual vehicle crew compartments. Each station is equipped with most of the operational controls and indicators that are found in the real vehicle's crew stations.

Each simulator is a stand-alone unit that networks with other simulators using a microprocessor based host computer, graphics imaging computer, sound system, control and interface controller cards. Terrain data bases representing the National Training Center (Ft Irwin) and surrounding area, an area of Central Germany, Kosovo, Korea, Ft Hood, Grafenwohr, Ft. Riley, Ft Carson, Ft. Stewart, Pinon Canyon or Baghdad. During the exercise, the interaction of indirect fire, close air support, resupply, repair, command posts, howitzers, mortars, and supply trucks are all simulated.

Semi-automated forces (platoons, companies, and battalions) are controlled by a few personnel through a special computer interface to provide both enemy and friendly adjacent and supporting units. Realism is further enhanced by the imposition of real-world limitations such as fuel consumption, basic ammunition loads, expended ammunition, and reliability and maintenance of components.

Physical Information:
Ml Simulator:
16' 1" L x 14' 1" W x 10' 6" H; 3800lbs
M2/M3 Simulator:
16' 0" L x 14' 0" W x 10' 6" H; 3900lbs
M113 APC Simulator:
14' 9" L x 14' 6" W x 9' 7" H; 2139lbs
M981 FIST-V Simulator:
14' 9" L x 14' 6" W x 9' 7" H; 2657lbs
HMMWV Simulator:
11' 8" L x 20' 2" W x 9' 4" H; 3900lbs
Dismounted Infantry WS:
15' 0" L x 32' 10" W x 9' 4" H; 9942lbs

Equipment Required, Not Supplied:
Combat Vehicle Crewman (CVC) helmets
Personal Chemical Protective Equipment (if required by scenario)

Special Installation Requirements:
Due to the size and complexity of (CCTT), it is housed in a 44,000-m2 building specifically designed to meet its needs. The Army Corps of Engineers developed a common design which has been locally adapted at each of 7 CONUS sites. Each building has power, temperature and humidity controls, office areas, Tactical Operations Center (TOC) mock-ups, Semi-Automated Forces workstations, and five After Action Review rooms to support the simultaneous training of platoons and companies or a battalion (-) size unit. The below listed major subcomponents of a (CCTT) Fixed Site (71-002), are available for inclusion in any fixed site, however, all are required to be part of the local area network to function:

71-02/1 NSN 6910-01-579-8210 (CCTT) Fixed Site M1 Tank Series – This device number denotes all the various types of M1 tank modules simulated at (CCTT) fixed sites.

71-02/1/1 (CCTT) Fixed Site M1A1 - This manned module (MM) simulates the crew stations and the functionality of the M1A1 tank.

71-02/1/2 (CCTT) Fixed Site M1A1 (D) – This MM simulates the crew stations and the functionality of the M1A1 tank with the FBCB2 digital equipment installed.

71-02/1/3 (CCTT) Fixed Site M1A2 - This MM simulates the crew stations and the functionality of the M1A2 tank.

71-02/1/4 (CCTT) Fixed Site M1A2 (SEP) – This MM simulates the crew stations and the functionality of the M1A2 with the SEP upgrades applied.

71-02/1/5 (CCTT) Fixed Site M1(V) – This device number denotes the generic M1 variant module without any kit applied. A kit must be installed before the module can be operated in an exercise.

71-02/1/5/1 (CCTT) Fixed Site M1A1 Kit applied to M1(V) – This MM simulates the crew stations and the functionality of an M1A1.

71-02/1/5/2 (CCTT) Fixed Site M1A1 (D) Kit applied to M1(V) – This MM simulates the crew stations and the functionality of the M1A1 with the FBCB2 digital equipment installed.

71-02/1/5/3 (CCTT) Fixed Site M1A2 Kit applied to M1(V) – This MM simulates the crew stations and the functionality of the M1A2.

71-02/1/5/4 (CCTT) Fixed Site M1A2 (SEP) Kit applied to M1(V) – This MM simulates the crew stations and the functionality of the M1A2 (SEP).

71-02/3 NSN 6910-01-580-1488 (CCTT) Fixed Site M2/M3 Bradley Series – This device number denotes all the various types of M2/M3 Bradley Fighting Vehicle (BFV) modules simulated at (CCTT) fixed sites. The configurations are the same for M2 and M3.

71-02/3/1 (CCTT) Fixed Site M2A2 BFV – This MM simulates the crew stations and the functionality of the M2A2 BFV manned module.

71-02/3/2 (CCTT) Fixed Site M2A2 (D) of the M2A2 BFV – This MM simulates the crew stations and functionality of the M2A2 BFV with the FBCB2 digital equipment installed.

71-02/3/3 (CCTT) Fixed Site M2 (V) – This device number denotes a generic M2 variant module without any kit applied. A kit must be installed before the module can be operated in an exercise.

71-02/3/3/1 (CCTT) Fixed Site M2 ODS Kit applied to an M2 (V) – This MM simulates the crew stations and functionality of an M2 (ODS).

71-02/3/3/2 (CCTT) Fixed Site M2 (D) Kit applied to an M2 (V) – This MM simulates the crew positions and functionality of an M2A2 with FBCB2 applied.

71-02/3/3/3 (CCTT) Fixed Site M2 BFIST Kit applied to an M2 (V) – This MM simulates the crew positions and functionality of the Bradley Fire Support Vehicle for the field artillery.

71-02/3/4 (CCTT) Fixed Site M2(V) A2 of an M2A2 – This MM simulates the crew positions and functionality of an M2A2.

71-02/3/5 (CCTT) Fixed Site M2(V) A3 of an M2A3 – This MM simulates the crew positions and functionality of an M2A3.

71-02/3/6 (CCTT) Fixed Site M2 ODS BFV (Hard Wired)

71-02/4 NSN 6910-01-580-4902 (CCTT) Fixed Site Dismounted Infantry (DI) Series

71-02/4/1 (CCTT) Fixed Site Dismounted Infantry (DI) PLT. LDR. – This MM simulates the functionality of a dismounted Infantry Platoon Leader

71-02/4/2 (CCTT) Fixed Site Dismounted Infantry (DI) SQD. LDR -This MM simulates the functionality of a dismounted Infantry Squad Leader.

71-02/4/3 (CCTT) Fixed Site - Enhanced Dismounted Infantry Manned Module (EDIMM)

71-02/5 (CCTT) FIST-V Series

71-02/5/1 NSN 6910-01-581-1019 (CCTT) FIST-V Fire Support Vehicle – This MM simulates the crew stations and functionality of this type of field artillery Fire Support Vehicle.

71-02/5/2 (CCTT) Fixed Site FIST-V (D), – This MM simulates the crew stations and functionality of a FIST-V that is FBCB2 equipped.

71-02/6 NSN 6910-01-580-2979 (CCTT) Fixed Site M113 Series 71-02/6/1 (CCTT) Fixed Site M113 Armored Personnel Carrier – This MM simulates the crew stations and the functionality of the M113 Armored Personnel Carrier.

71-02/6/2 (CCTT) Fixed Site M113 (D) M113 MM Equipped with FBCB2 – This MM simulates the crew stations and functionality of an M113 MM equipped with FBCB2.

71-02/7 NSN 6910-01-580-1622 (CCTT) HMMWV Series

71-02/7/1 (CCTT) HMMWV w/ TACP for use by USAF TACP personnel – This MM simulates the crew stations and functionality of the HMMWV. Additional equipment is included for use by USAF TACP personnel.

71-02/7/2 (CCTT) HMMWV (D) FBCB2 Equipped – This MM simulates the HMMWV that is FBCB2 equipped.

71-02/7/3 (CCTT) Fixed Site HMMWV

71-02/7/4 (CCTT) Fixed Site HMMWV Module with FBCB2 and JCAS.

71-02/8 NSN 6910-01-580-4931 (CCTT) Tactical Operations Centers (TOC) that include: -Battalion Operations Center (BN. TOC) (3 ea. M577 mock-ups w/ extensions and light kits for S-2, S-3 & FSE)
-Support Operations Centers (OC) (6 ea. M577 mock-ups w/ extensions and light kit for CS & CSS operations)
-Higher Headquarters (HHQ) Cell w/ radio and work area.

71-02/9 NSN 6910-01-580-2430 (CCTT) Master Control Console (MCC)

71-02/10 NSN 6910-01-580-2439 (CCTT) Maintenance Console (MC)

71-02/11 NSN 6910-01-580-1509 (CCTT) AAR Series – Fixed Site After Action Review (AAR) Station

71-02/11/1 (CCTT) Standard AAR Fixed Site Station.

71-02/11/2 (CCTT) AAR (D) is a fixed site AAR that is FBCB2 equipped.

71-02/12 NSN 69-10-01-580-4952 (CCTT) Semi-Automated Forces (SAF) Series

71-02/12/1 (CCTT) Standard SAF Workstation – This station the operations of the Blue and OPFOR SAF units and behaviors in an exercise.

71-02/13 NSN 6910-01-580-4875 (CCTT) Operations Center (OC) Workstation – These workstations are located inside the Tactical Operations Centers. They support Combat Support (CS) and Combat Service Support (CSS) operations within CCTT. Staff officers and NCO's will use maps and radios linked to the SAF stations to control their elements and support the maneuver units. Functional areas include FABTOC, Mortar FDC, UMCP and CTCP.

71-02/14 (CCTT) FOX NBC Reconnaissance Vehicle – This MM simulates the crew stations and functionality of the FOX vehicle.

Power Requirements:
208 and 120vac, 3-phase, 60 Hz

Applicable Publications:
(CCTT) Facilitator's Guide – Fixed Site, CFG1-01
TD 17-6930-702, Maintenance Manual

Reference Publications Not Supplied:
None

Training Requirements Supported:
MOSCs 11 and 19-Series

CLOSE COMBAT TACTICAL TRAINER (CCTT) VIRTUAL SQUAD TRAINING SSYSTEM (VSTS)

Tethered Immersive Soldier System

"Field Ready" Wearable System

Training Category/Level Utilized:
Dismounted Infantry/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI

Source and Method of Obtaining:
Not generally available for issue (limited distribution)

Purpose of Trainer:
To provide a realistic, virtual, individual or collective (up to squad) training environment in which to train and sustain proficiency in Mission Training Plan (MTP) tasks. Some of the principal tasks include:

- Conducted dismounted movement (Foot Combat Patrol) in an urban environment
- React to IED/VBIED
- React to Mortar fire
- Establish a Hasty CP
- React to DF, Ambush (RPG)
- Enter and clear room(s)
- React to hostile crowd
- Call for and adjust fire
- Call for and receive MEDEVAC
- Search a Building during a platoon reconnaissance
- Establish an OP / Screen line
- Call for and receive additional support (QRF is launched to SQDs position)

These tasks are conducted by troops immersed in two different types of training simulators – "Field Ready" wearable and tethered immersive systems and can be augmented with OPFOR, additional BLUFOR, GREYFOR, or civilian computer-generated forces.

Training takes place in a variety of virtual environments representing current geopolitical areas of interest as well as CONUS MOUT training sites.

Functional Description:
The Virtual Squad Training System (VSTS) is a dismounted Soldier trainer designed to train individual and collective tasks, up to the squad level, in a virtual training environment. VSTS augments live training by providing elements of the contemporary operating environment (COE) that are too difficult or expensive to replicate at home station (e.g., reacting to hostile crowds, improvised explosive devices (IED), mortar fire, or clearing a room/building).

VSTS consists of four tethered immersive Soldier systems, five "Field Ready" wearable Soldier systems, a BattleMaster station, a Semi-Automated Force (SAF) workstation, a Scenario Authoring station and an After Action Review station.

Each VSTS comes with a helmet mounted display (HMD), a weapon and a voice communications system. The VSTS weapons mix is 5 x M4, 2 x M16/M203 and 2 x M249.

VSTS as delivered has four terrain databases:

- Northern Baghdad, Iraq (geo-typical)
- Ba'aditha (geo-typical, notional middle eastern village)
- McKenna MOUT (Ft. Benning)
- Cassidy MOUT (Ft. Campbell)

The Northern Baghdad terrain database is approximately 8 KM x 8 KM and contains buildings that resemble those of the Northern Baghdad area. Buildings include apartments, office buildings, single and double story homes, row

houses, mosques and a market place. There are thirty buildings (five different types) that Soldier can enter, move through and fight in to support the tasks enter and clear a room/building. Other capabilities of the system include the ability to training enablers such as, irregular forces, crowds, vehicles, IED, etc.

In addition to the human-in-the-loop simulators, VSTS provides an authoring capability to develop training scenarios, a Battlemaster or exercise control station that provides full control over the simulators and training scenario. A version of the OneSAF Testbed (OTB) is provided to augment the scenarios with additional ground and aerial forces, along with an independent, more scripted computer generated force capability. Finally, an after action review (AAR) station is provided to record and playback of all network traffic for post-exercise critique.

Physical Information:

The 'Field Ready' Wearable is completely worn by the user; the only space that is required is to accommodate the user's posture changes for kneeling and prone. Weight: 80 lbs (approx).

Tethered Immersive operates within a 10 x 10 x 10 foot enclosure. Total system weight: 250 lbs (approx).

Equipment Required, Not Supplied:

None

Special Installation Requirements:

None

Power Requirements:

VSTS uses standard 110/115 AC power.

Applicable Publications:

VSTS Operations & Maintenance Manual (OMM), Pub.# TBD

Reference Publications:

Dismount Infantry Simulation Software User's Guide

Training Requirements Supported:

(Information not available)

CLOSE COMBAT TACTICAL TRAINER (CCTT) MOBILE SERIES

Training Category/Level Utilized:
Armor/Level I
Mechanized Infantry/ Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

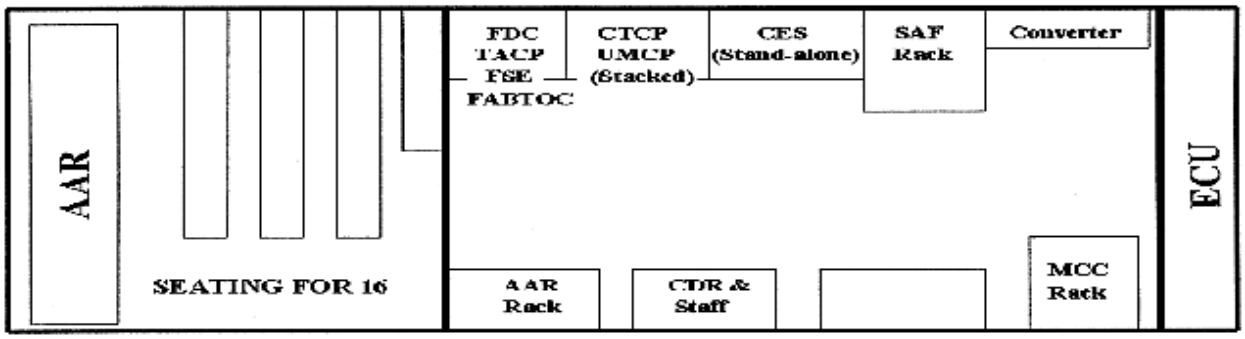
Source and Method of Obtaining:
Not generally available for issue (limited distribution).

Purpose of Trainer:
To provide a realistic, virtual, collective (unit) training environment in which to train and sustain proficiency in tank and Bradley platoon Mission Training Plan (MTP) tasks. The primary tasks supported include command and control, maneuver/ movement techniques, and fire support. All tasks are performed by full combat vehicle crews within a stressful, fully task loaded synthetic combined arms environment in which the training audience must integrate the functions of combat and combat service support.

Functional Description:
The (CCTT) Mobile Series consists of two types of platoon sets i.e. M1A1 tank and M2/M3 Bradley. Each mobile platoon set is a self-contained system housed and transported in four or five climate controlled 48' trailers. The trailers house 4 combat crew manned module simulators, a Semi-Automated Forces workstation suite, an After Action Review system and briefing space, a 350 or 500 Kw generator and power conditioner, and a repair facility. The Infantry set also includes a Dismounted Infantry (DI) set of workstations for the platoon leader and two squad leaders.

The M1 and M2/M3 simulators are combat vehicle interior mock-ups which replicate, with high-precision, the form, fit, and function of the actual vehicle crew compartments – driver, loader, gunner and commander. Each station is equipped with most of the operational controls and indicators that are found in actual Ml and M2/M3 crew stations including the SINCGARS radio. Each simulator is a stand-alone unit that networks with other simulators using a microprocessor based host computer, graphics imaging computer, sound system, and control and interface controller cards. Vehicles operate on a virtual terrain database that represents either the area surrounding the National Training Center (Ft Irwin), areas of Central Germany, Kosovo, Korea, Ft. Hood, Grafenwohr, Ft. Riley, Ft Carson, Ft. Stewart, Pinon Canyon or Baghdad. During the exercise the interaction of indirect fire, close air support, resupply, repair, command posts, howitzers, mortars, and supply trucks are all simulated.

A SAF operator through a special computer interface controls semi-automated forces (SAF) representing both adjacent and supporting friendly units as well as enemy units. The imposition of real-world limitations, such as fuel consumption, basic ammunition loads, expended ammunition, and reliability and maintenance of components further enhance realism.



AAR Trailer Layout

Physical Information:

The tank platoon set consists of four M1A1 Simulators (16' 1" L x 14' 1" W x 10' 6" H; 3800lbs) in 2 trailers. Remaining two trailers contain Master Control Console, SAF, After Action Review, maintenance console, power generator, and maintenance workspace.

The Bradley platoon set consists of four M2/M3 Simulators (16' 0" L x 14' 0" W x 10' 6" H; 3900lbs) in two trailers. Remaining 3 trailers contain a Dismounted Infantry Workstation (15' 0" L x 32' 10" W x 9' 4" H; 9942lbs), Master Control Console, SAF, AAR, maintenance console, power generator, and maintenance workspace.

Equipment Required, Not Supplied:

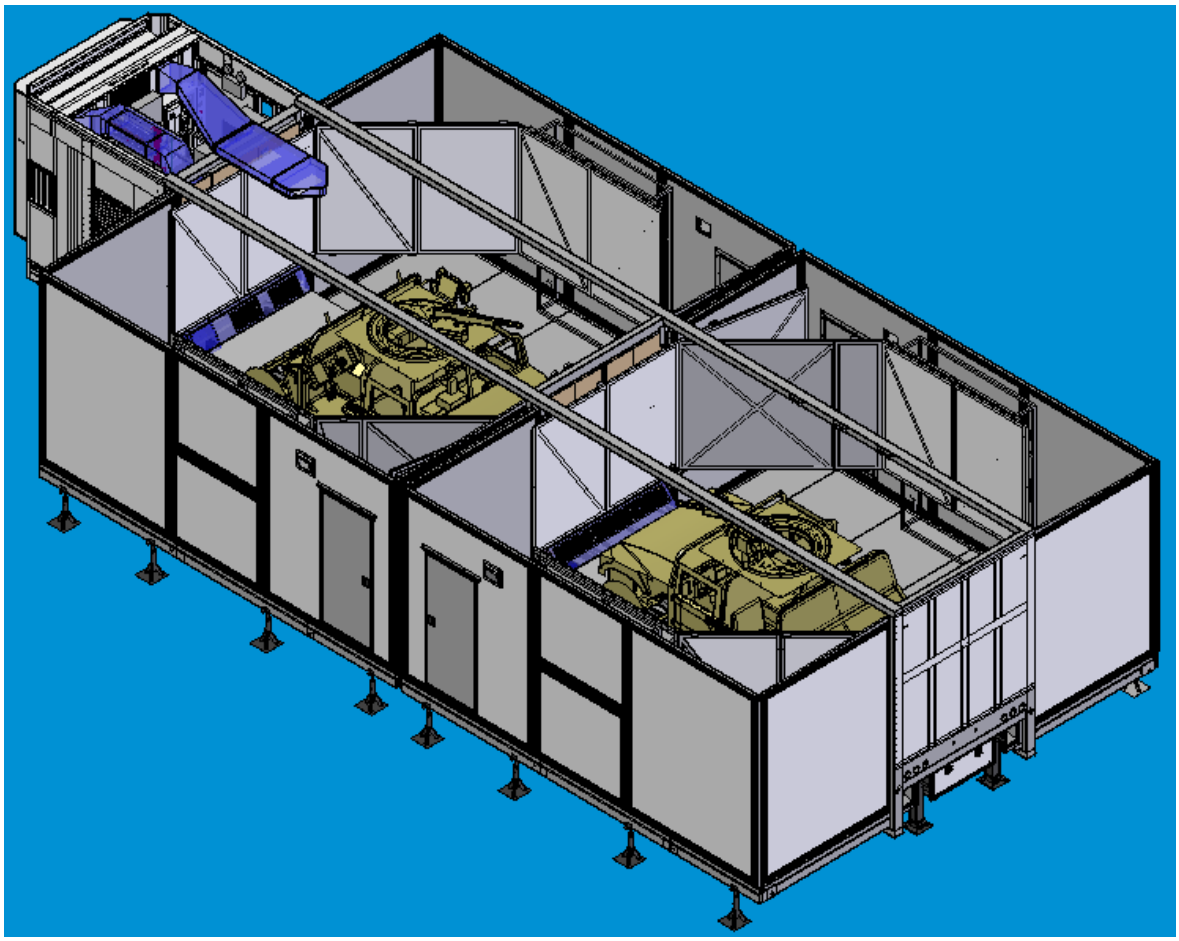
Combat Vehicle Crewman (CVC) helmets.

Personal Chemical Protective Equipment (if required by scenario).

Special Installation Requirements:

The (CCTT) mobile sets are designed to support U. S. Army National Guard unit training on weekends and at Annual Training at geographically dispersed sites. The sets are therefore required to be set-up, dismantled, and moved up to 40 times per year and must to be able to operate autonomously while supporting training. The (CCTT) Mobile Platoon Set (71-03) includes:

71-03/1	(CCTT) Mobile M1A1 Mobile Tank Set
71-03/1/1	NSN 6910-01-580-5797 (CCTT) Mobile M1A1 Module Trailer Each trailer contains two M1A1 tank Manned modules (MM).
71-03/1/2	(CCTT) Mobile M1A1 Mobile Modules – Each MM simulates the crew stations and functionality of the M1A1 tank.
71-03/1/3	NSN 6910-01-581-0253 (CCTT) Mobile Tank Platoon Portable Power Supply (PPS) Trailer – This trailer contains the generator needed to power a complete tank platoon set.
71-03/1/4	(CCTT) Mobile Tank Platoon (PPS) Generator – This 350 Kw diesel generator provides power for the three other trailers of the tank platoon set.
71-03/1/5	(CCTT) Mobile M1 (V) Set – Each Set contains two M1 (V) tank manned modules (MM).
71-03/1/6	(CCTT) Mobile M1A1 Kit applied to mobile M1 (V) modules – This MM simulates the crew stations and functionality of an M1A1.
71-03/2	(CCTT) Mobile M2/M3 Mobile Bradley Set.
71-03/2/1	NSN 6910-01-580-5770 (CCTT) Mobile M2/M3 Module Bradley Trailer – Each trailer contains two M2A2 Bradley Fighting Vehicle (BFV) manned module (MM).
71-03/2/2	(CCTT) Mobile M2/M3 Mobile Bradley Modules – Each MM simulates the crew stations and functionality of the M2A2 BFV.
71-03/2/3	NSN 6910-01-581-0155 (CCTT) Mobile M2/M3 Mobile platoon Portable Power Supply (PPS) Trailer – This trailer contains the generator needed to power a complete Bradley platoon set.
71-03/2/4	(CCTT) Mobile M2/M3 Mobile Platoon (PPS) Generator This 500 Kw diesel generator provides power for the four other trailers of the Bradley platoon set.
71-03/2/5	NSN 6910-01-580-6113 (CCTT) Mobile Dismounted Infantry (DI) Trailer – This trailer contains and transports three DI Workstations.
71-03/2/6	(CCTT) Mobile DI set – CCTT mobile DI stations include the dismounted Platoon Leader and his two Squad Leaders.
71-03/2/6/1	(CCTT) Mobile DI Squad Leader Station.
71-03/2/6/2	(CCTT) Mobile DI Platoon Leader Station.
71-03/2/7	(CCTT) Mobile M2(V) Mobile Trailer – This trailer contains and transports two M2(V) modules.
71-03/2/8	(CCTT) Mobile M2 (V) Mobile Modules with A2 Kit installed – These MM replicate the crew stations and functionality of the M2A2 MM.
71-03/2/9	(CCTT) Mobile M2 (V) w/ODS Kit
71-03/2/10	(CCTT) Mobile M2 (V) w/BFIST Kit
71-03/2/11	(CCTT) Mobile M2 (V) BFIST Trailer



CCTT Mobile RVS Trailer (71-03/6/1)

71-03/3	(CCTT) Mobile Operations Center (OC) Set.
71-03/3/1	NSN 6910-01-580-6106 (CCTT) Mobile OC Trailer – This trailer contains and transports all the OC workstations and equipment.
71-03/3/2	(CCTT) Mobile OC Workstations – include AAR, SAF, Artillery, Mortars, Combat Engineers.
71-03/3/3	(CCTT) Mobile OC AAR Workstation.
71-03/4	(CCTT) Mobile PPS trailer with 350 Kw generator and five sets of cables to power five other MCCTT trailers.
71-03/5	(CCTT) Mobile Theater After Action Review (MTAAR) 50 Hz.
71-03/5/1	(CCTT) Mobile Theater After Action Review (MTAAR) 60 Hz.
71-03/6	(CCTT) Mobile Reconfigurable Vehicle Simulator (RVS) Series.
71-03/6/1	(CCTT) Mobile (RVS) Trailer.
71-03/6/2	(CCTT) Mobile (RVS) Module with M998 Cargo HMMWV Kit.
71-03/6/3	(CCTT) Mobile (RVS) Module with M1026 Armor HMMWV Kit.
71-03/6/4	(CCTT) Mobile (RVS) Module with M707 Fire Support HMMWV Kit.
71-03/6/5	(CCTT) Mobile (RVS) Module with M977 Cargo HEMTT Kit.
71-03/6/6	(CCTT) Mobile (RVS) Module with M978 Fuel HEMTT Kit.
71-03/6/7	(CCTT) Mobile (RVS) Weapons (WPN).
71-03/6/7/1	CCTT Mobile (RVS) (WPN) (M2 .50 Cal).
71-03/6/7/2	(CCTT) Mobile (RVS) (WPN) (M 19).
71-03/6/7/3	(CCTT) Mobile (RVS) (WPN) (M 240).
71-03/6/7/4	(CCTT) Mobile (RVS) (WPN) (MK 249 SAW).
71-03/6/7/5	(CCTT) Mobile (RVS) (WPN) (M4).
71-03/6/7/6	(CCTT) Mobile (RVS) (WPN) (M9).
71-03/6/7/7	(CCTT) Mobile (RVS) (WPN) (AT4).
71-03/6/7/8	(CCTT) Mobile (RVS) (WPN) (M16).
71-03/6/7/9	(CCTT) Mobile (RVS) (WPN) (TOW).
71-03/6/7/10	(CCTT) Mobile (RVS) Storage Trailer.
71-03/6/8	(CCTT) Mobile (RVS) Sensor.
71-03/6/8/1	(CCTT) Mobile (RVS) Sensor (LRAS).
71-03/6/9	(CCTT) Mobile (RVS) w/ASV Kit.

The RVS (Reconfigurable Vehicle Simulator) will provide mounted leaders with a virtual training simulator, which will emulate selected combat and tactical vehicles of combat, combat support, and combat service support. Built around the (CCTT) HMMWV simulator, it will provide the crew members the ability to see the battlefield in 3-dimensions from their crew position point of view, maneuver on the battlefield, utilize available weapon systems and communicate via simulated voice and digital communications systems to other leaders/crew members within the exercise. Wheeled vehicles being simulated include several variants of HMMWV, HEMTT, HET, and the Family of Medium Tactical Vehicles. Ring Mount weapons include .50 cal, MK-19, M240, M249 SAW, and the TOW. Crew weapons include M4, M16, M9 and AT4.

Power Requirements:
480vac, 3-phase, 60 Hz (Not designed for OCONUS power).

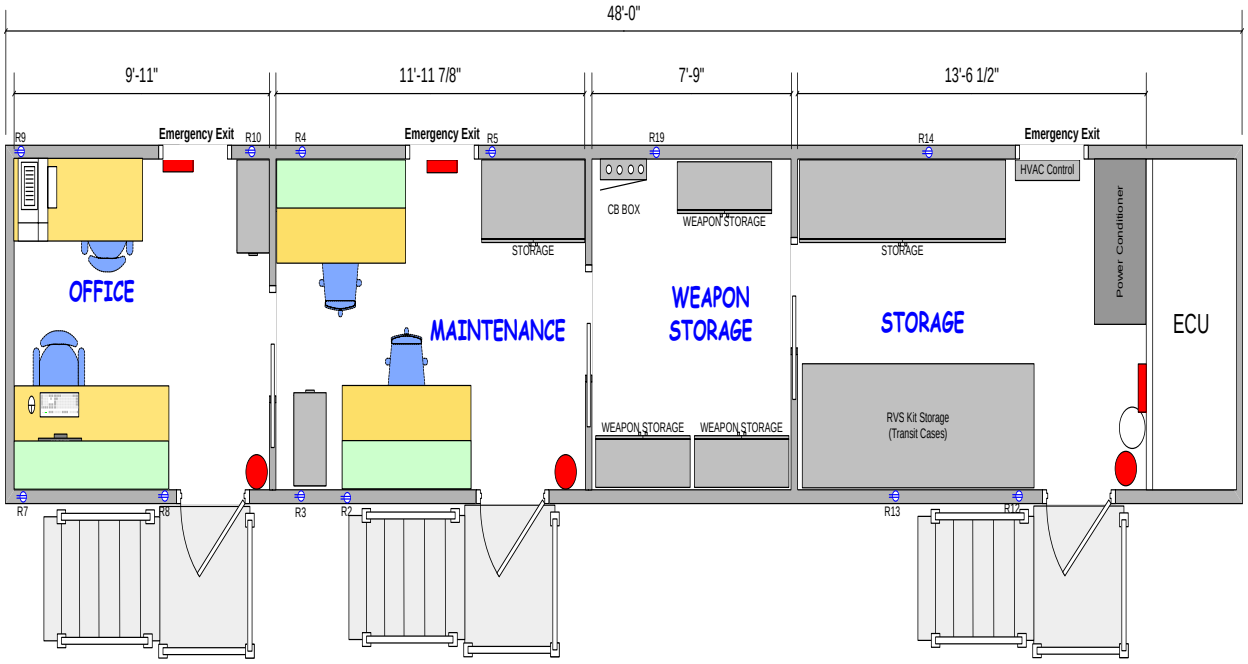
Applicable Publications:
(CCTT) Facilitator's Guide – Mobile Set, CFG2-02
TD 17-6930-702, Maintenance Manual

Reference Publications:
None

Training Requirements Supported:
MOSC 11 and 19-Series

CLOSE COMBAT TACTICAL TRAINER (CCTT) MOBILE RECONFIGURABLE VEHICLE TACTICAL TRAINER (RVTT)

NSN 6910-01-582-5558 DVC 71-03/7/1 CCTT Mobile RVTT Maintenance, Office and Supply (MOS) Trailer



Training Category/Level Utilized:
Armor & Mechanized Infantry/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
Supports the Reconfigurable Vehicle Tactical Trainer (RVTT) Training Operations

Functional Description:
Trailer provides space for Office, maintenance and Storage

Physical Information:
Length 48'-53'
Width 8'

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

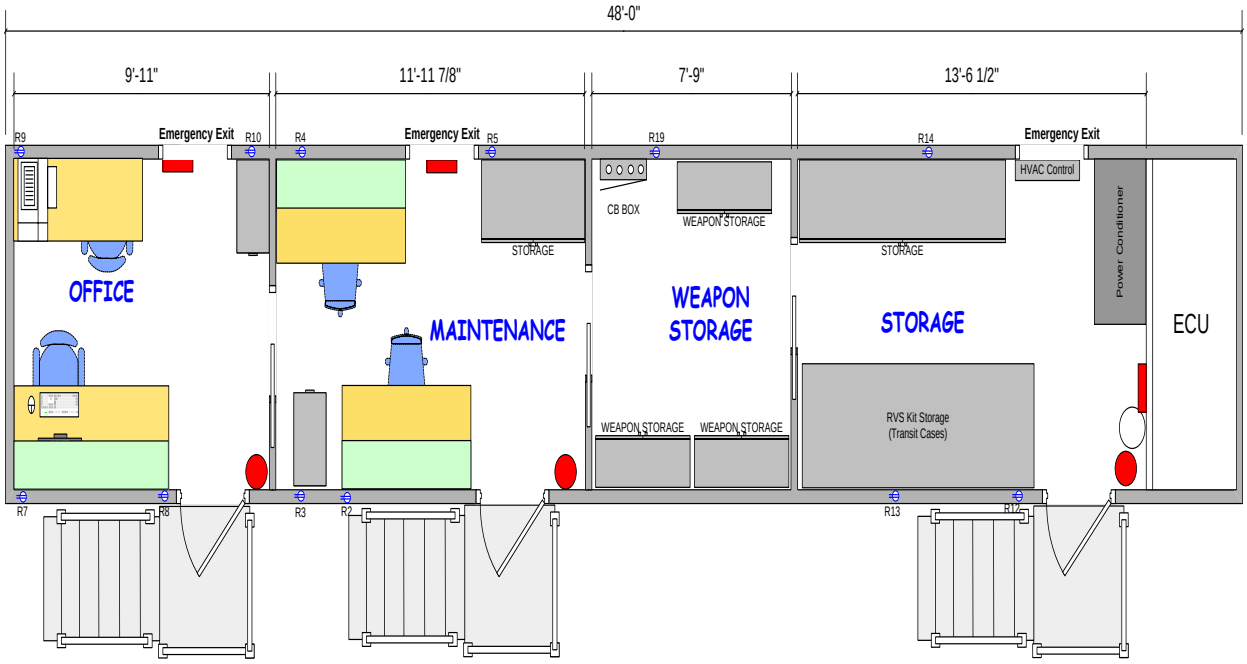
Power Requirements:
Shore Power or Generator

Applicable Publications:
OPS & Maint. Manuals Supplied by LMSTS

Reference Publications:
None

Training Requirements Supported:
MOSC 11 and 19 Series

MAINTENANCE OFFICE STORAGE SEMITRAILER (MOST) DI RECONFIGURED TRAILER



Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando, Florida

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
Operation Maintenance and Storage to support the Reconfigurable Vehicle Tactical Trainer (RVTT)

Functional Description:
Maintenance Office Storage Semitrailer (MOST) DI Reconfigured trailer is 48 ft long, 102 in wide, 150 in high trailer converted from Dismounted Infantry trailers.
The Environmental Control Unit is mounted on the front of the trailer. Ventilation supply and return air are ducted in the ceiling. There is a removable sound partition, with a door, separating the four sections. The four sections are; part & Kits Storage, Maintenance, Weapons storage and Office. The MOST Semitrailer is equipped with interfaces and cabling for security cameras and motion detection. Additional Storage is provided in under-belly storage cabinets. This semitrailer is configured to operate on 480VAC, 60Hz power.

Physical Information:
48 ft long, 102 in wide, 150 in high trailer converted from Dismounted Infantry Trailers. Part Number (57039) 199961-1.

Equipment Required, Not Supplied:
RVTT System

Special Installation Requirements:
CCTT RVS Mobile installation and set up.

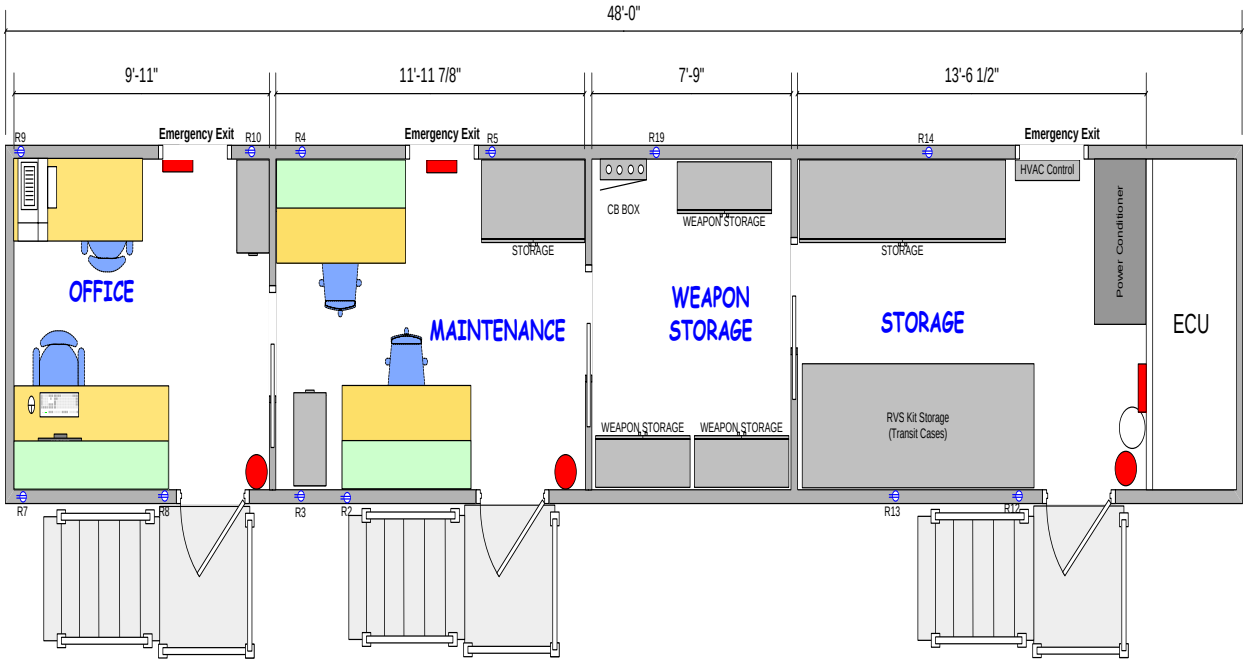
Power Requirements:
480 VAC, 60Hz power

Applicable Publications:
TD-71-6930-701 series

Reference Publications:
None

Training Requirements Supported:
MOSC 11 and 19 Series

MAINTENANCE OFFICE STORAGE SEMITRAILER (MOST)



Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando, Florida

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
Operation Maintenance and Storage to support the Reconfigurable Vehicle Tactical Trainer (RVTT)

Functional Description:
Maintenance Office Storage Semitrailer (MOST) trailer is 53 ft long, 102 in wide, 162 in high trailer. The Environmental Control Unit is mounted on the front of the trailer. Ventilation supply and return air are ducted in the ceiling. There is a removable sound partition, with a door, separating the four sections. The four sections are; part & Kits Storage, Maintenance, Weapons storage and Office. The MOST Semi trailer is equipped with interfaces and cabling for security cameras and motion detection. Additional Storage is provided in under-belly storage cabinets. This semitrailer is configured to operate on 380VAC, 50Hz power. The 120443-91 shall have the capability of being reconfigured as a 120443-92.

Physical Information:
53 ft long, 102 in wide, 162 in high trailer. Part number (57039) 120443-91.

Equipment Required, Not Supplied:
RVTT System

Special Installation Requirements:
CCTT RVS Mobile installation and set up.

Power Requirements:
This semitrailer is configured to operate on 380VAC, 50Hz power.

Applicable Publications:
TD-71-6930-701 series

Reference Publications:
None

Training Requirements Supported:
MOSC 11 and 19 Series

RECONFIGURABLE VEHICLE SIMULATOR SUPPORT SEMITRAILER (RVSS)

Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando, Florida

Source and Method of Obtaining:
Not generally available for issue (limited production)

Purpose of Trainer:
Operation Maintenance and Storage to support the Reconfigurable Vehicle Simulator (RVS)

Functional Description:
Reconfigurable Vehicle Simulator Support Semitrailer (RVSS) is 53 ft long, 102 in wide, 162 in high trailer. The Environmental Control Unit is mounted on the front of the trailer. The Fire Detection System (FDS) includes a Fenwel FP-D Panel that requires interconnection with and Operation Center (OC) trailer and or fixed site equipped with a Fenwal Fire Alarm Control panel. This trailer is meant to serve as storage and transport for the kits, weapons, screens and RVS trailer support items that service a group of up to three (3) RVS trailers.

Physical Information:
53 ft long, 102 in wide, 162 in high trailer. Part Number (57039) 120443-90.

Equipment Required, Not Supplied:
RVTT System

Special Installation Requirements:
Requires interconnection with an Operation Center (OC) trailer and/or fixed site.

Power Requirements:
Requires interconnection with an Operation Center (OC) trailer and/or fixed site.

Applicable Publications:
TD-71-6930-701 series

Reference Publications:
None

Training Requirements Supported:
MOSC 11 and 19 Series

WARFIGHTERS' SIMULATION (WARSIM)

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Software can be obtained by DOD agencies through a Memorandum of Agreement with PEO STRI and by foreign customers through Foreign Military Sales. Hardware can be procured through PEO STRI or commercial vendor.

Purpose of Trainer:
To provide computer simulation support of command and staff training at the brigade and division levels.

Functional Description:
The WARSIM simulation system consists of commercial-off-the-shelf (COTS) computer and communications resources. The system will use computer-based simulation and associated hardware to support the training of unit commanders and their battle staffs, from battalion through theater level, as well as support training events in educational institutions. WARSIM will allow units worldwide to train using their organizational equipment. The system has been designed to be compliant with High Level Architecture (HLA) for Advanced Distributed Simulation (ADS) to facilitate interoperability with other HLA-compliant simulations, simulators, and live training events. Typical exercises may be Army standalone training exercises or joint exercises supported by other services.

Major functionality includes automated behaviors to reduce role-player workload, AAR, Scenario generation, exercise control, synthetic natural environment, distributed operations, interoperability with C4I systems and other virtual and constructive simulations.

Domain functionality ranges from high intensity conflict to support/stability operation and includes military intelligence (MASINT, ELINT, IMINT, HUMINT COMINT), ground maneuver, reconnaissance and security, mobility, counter-mobility, biological, chemical, smoke, survivability, artillery, rotary wing and fixed wing aviation, air defense, limited naval operations, civil affairs, psychological operations, special operations forces, supply, air and ground transportation, medical, maintenance, civilians, suicide bombers, IEDs, weather, and accounts the non-combat effects (morale, training, etc.).

Physical Information:
WARSIM can be installed at fixed sites. Portable and laptop versions are also available. COTS equipment consisting of server class machines and Common Hardware Platforms (CHP) equivalent to those purchased by the U.S. Army.

Equipment Required, Not Supplied:
WARSIM Models – Land and Intelligence models require server class machines with Linux OS. Numbers of servers are dependent on the size of the exercise scenario.

Command Post Interface – Command and Control (C2) Gateway, Server Class with Windows 2003 Server OS; Common C4I Adapter, Server Class with Windows 2003 Server OS; Simulation Tactical Server (STS), CHP with Windows XP OS.

Controller Workstations – AAR, Senior Control and Role-Player workstations are equivalent to the Common Hardware Platforms (CHP) with Windows XP OS.

Technical Control Workstation – RTI Exec/HLA Control workstation are CHP with Windows XP OS.

Connectivity – Real Time infrastructure (RTI) Gateway - Server Class with Linux OS; Network File System, Server Class with Linux OS; Object Owner, Server Class with Linux OS; Federation Bridge, Server Class with Linux OS; Remote Gateway, Server Class with Linux OS; Distributed Interactive Simulation (DIS) Bridge, Server Class with Linux OS; Virtual control, CHP with Windows XP OS; Exercise Data Server, CHP with Windows XP OS; Cluster Gateway, CHP with Windows XP OS.

AAR – Data Collector/Processor, Server Class with Linux OS; AAR Work Station, CHP with Linux OS.

Security – Domain controller – Server Class with Windows 2003 Server OS; RIALTO – CHP with Linux OS.

Special Installation Requirements:
Equipment is installed based on site requested configuration.

Power Requirements:
110vac for CONUS
220vac for OCONUS

Applicable Publications:
User's Guide
Technical Publications
WARSIM Hardware Specification

Reference Publications:
Technical publications are provided on a CD and hard copy. User "Help Tool" is built in to the role-player Workstation.

Training Requirements Supported:
Battle simulation for command post exercise (CPX) training support. Targeted to brigade, division and Corps commanders and staffs.

JOINT READINESS TRAINING CENTER – MILITARY OPERATIONS IN URBAN TERRAIN – INSTRUMENTATION SYSTEM (JRTC-MOUT-IS)

Training Category/Level Utilized:
Combined Arms

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue.

Purpose of Trainer:
Provide Feedback to troops training in a MOUT environment while at the JRTC.

Functional Description:
MOUT-IS provides the JRTC a basic capability for monitoring and recording audio and video data, within the MOUT complex in a limited number of buildings, to support After Action Reviews for live fire and force-on-force training exercises. The system consists of the integration of Commercial Off the Shelf (COTS)/Non-Developmental Items (NDI) hardware and software components.

Physical Information:
The Military Operations on Urbanized Terrain (MOUT) complex at Fort Polk, LA is 8km x 7km box within the Joint Readiness Training Center's (JRTC) Maneuver Area consisting of a series of villages and tactical objective sites. The centerpiece is a town called Shughart-Gordon. Shughart-Gordon is a twenty-nine (29) building enclave replicating a third world town. In addition there is an eight (8) building airfield named Self Airfield, and a five (5) building mock military installation named Word Military Compound.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

Power Requirements:
None

Applicable Publications:
None

Reference Publications:
None

Training Requirements Supported:
MOSC All

CORPS BATTLE SIMULATION (CBS)

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Software can be obtained by DOD agencies through a Memorandum of Agreement with PEO STRI and by foreign customers through Foreign Military Sales. Hardware can be procured through PEO STRI or commercial vendor.

Purpose of Trainer:
Provides Corps and Division Level Battle Staff Training by presenting realistic, free-play events requiring time-sensitive analysis, evaluations, and decisions. The Corps Battle Simulation (CBS) simulates combat, combat support, and combat service support of forces in battle. It incorporates movement, close combat, artillery support, chemical and engineer activities, logistics (to include maintenance, medical, and re-supply), as well as tactical air, army aviation and air defense. These factors must be fully integrated by the commander and his staff in order to synchronize his battlefield assets and to control operations effectively.

Functional Description:
The architecture of the simulation, combined with sophisticated software provides the cell players fast, flexible, and interactive control. Video displays offer real time information on the electronic units that represent the battlefield assets and on the progress of the battlefield. Through a combination of graphics and menu-driven commands the cell players send orders to the computer and control the displays provided by the workstation. Secure communications link geographically dispersed CBS workstations. CBS can be adapted to a variety of scenarios, terrain, or forces. It has been used effectively for battlefield drills, as well as training for non-combat operations.

CBS contains a Master Interface, which provides an ALSP interface between CBS and other multi-service simulation models for participation in a Joint Training Confederation Exercise.

The mainframe computer provides a high-speed computational capacity and hosts the game models for CBS. It also handles database management software and game operation utilities.

Physical Information:
CBS suites can be installed in fixed sites or are portable.

Equipment Required, Not Supplied:

Workstation - (minimum) Dell 670, Intel XEON 3.2GHzprocessor (single), 4 GB memory, EIDE (ATAPI) CDROMDrive, 3.5 inch floppy, Two 74GB SATA Harddrives, NVIDIA PCI-Express Video Card, Two monitors,82545GM Gigabit Ethernet Network Adapter.

HP xw8400, Intel XEON 2.0GHz processor (dual), 4 GB Memory, IDE DVD/CD RW drive, Two 80 GB SATA hard drives, NVIDIA Quadro NVS 185 Video Card with 128MB memory, Two monitors, 2 Broadcom NetXtreme Gigabit Ethernet Network Adapters.

GEEP(Game Executive Event Processor), CBS Linux-based functions (i.e. GEEP): Micro-Star International MS9161 Motherboard, Dual AMD Opteron 250 processors, 20 GB memory (some legacy equipment may be limited to 12 GB memory), Dual 146GB Ultra320 SCSI Disk Drives, EIDE (ATAPI) DVD-RW, ATI AGP Video Card, Dual Gigabit Ethernet (Broadcom BCM5704), Single monitor.

Special Installation Requirements:

Equipment is installed based on site requested configuration. Facilities required for a CBS exercise include an appropriate support environment for the selected hardware suite, space for the controllers, and field locations for the battle staffs and their Tactical Operations Centers (TOCs). Communications lines between the various components of the system and between the controllers and the TOCs must be provided. A clean, air-conditioned environment is required for both the Central Computer and the workstation equipment.

Power Requirements:

110vac for CONUS
220vac for OCONUS

Applicable Publications:

Executive Overview
Analyst Guide Vol. I Ground
Analyst Guide Vol. II Logistics
Analyst Guide Vol. II Air
Installation and Maintenance Manual
Operators Manual
User Handbook

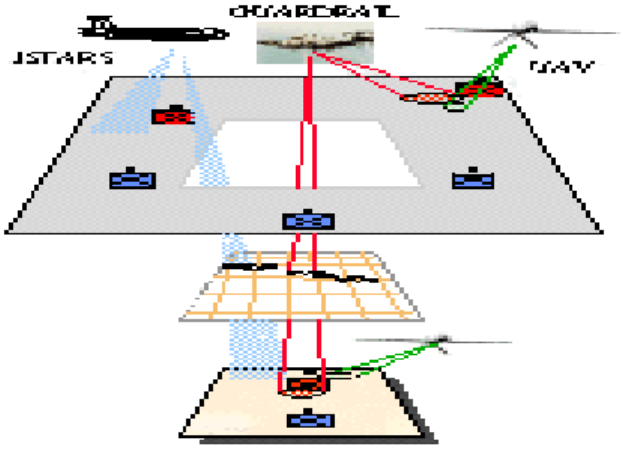
Reference Publications:

None

Training Requirements Supported:

MOSCs 82C
OBC Students
Career Course
W.O. School

COMBAT SYNTHETIC TRAINING ASSESSMENT RANGE (CSTAR) SYSTEM



Training Category/Level Utilized:
Combined Arms/ (Intelligence)

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
(Information not available)

Purpose of Trainer:
CSTAR is a brigade-level collective training system that trains commanders, staffs and system operators in the integration and employment of emerging Intelligence, Surveillance and Reconnaissance (ISR) capabilities, specifically UAV, JSTARS, and SIGINT. A brigade-sized organization can then learn to understand the larger impact of these capabilities on extended battle space, the tactical decision-making process and tactical targeting.

Functional Description:
Today in training, commanders can only plan for (and fight against) what is within their maneuver box. CSTAR extends the physical and temporal limits of the brigade by creating a larger virtual battlefield. CSTAR trains the brigade on how to receive, filter, interpret and otherwise manage the information derived from emerging ISR sensors. CSTAR enhances battlefield visualization and situation awareness, allowing the brigade to make better decisions and focus fires. CSTAR is a Warfighter Rapid Acquisition Program (WRAP) - Congress funds program RDT&E, and the Army funds support costs. The accelerated acquisition and fielding schedule required by a WRAP bridges the gap between mature technologies and emerging needs.

Physical Information:
CSTAR is a brigade-level collective training system that trains commanders, staffs and system operators in the integration and employment of emerging Intelligence, Surveillance, and Reconnaissance (ISR) capabilities, specifically UAV, JSTARS, and SIGINT. A brigade-sized organization can then learn to understand the larger impact of these capabilities on extended battle space, the tactical decision making process and tactical targeting.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
None

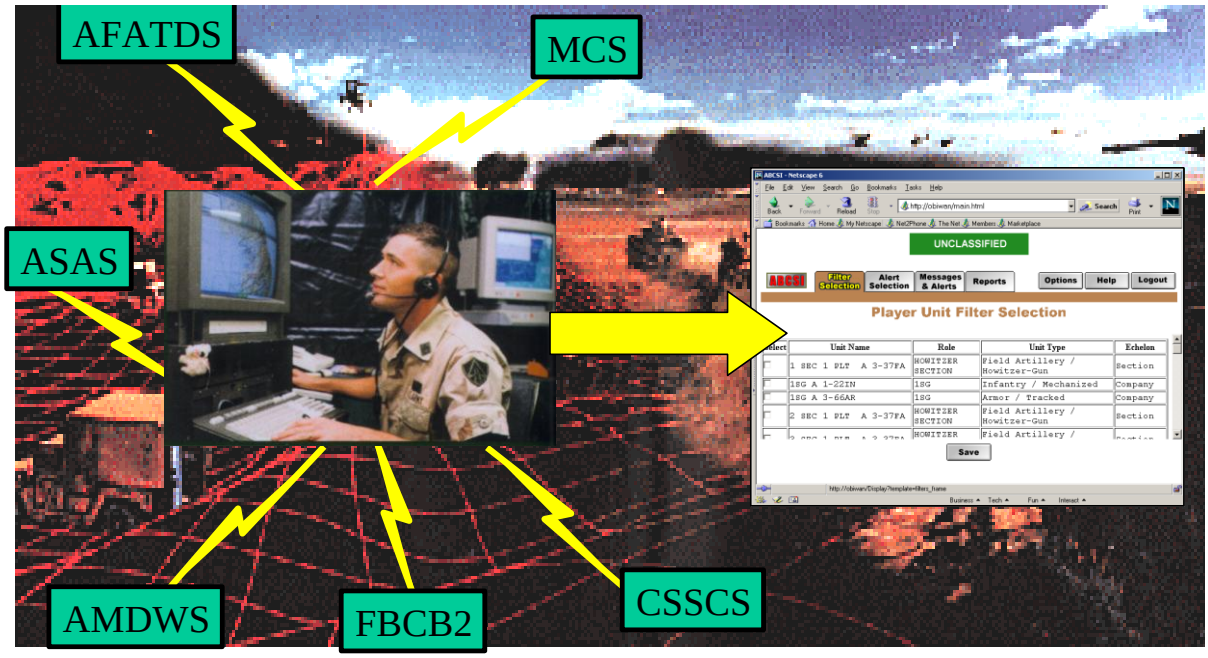
Power Requirements:
Normal building power

Applicable Publications:
CSTAR System User Manual
CSTAR Maintenance Manual

Reference Publications:
None

Training Requirements Supported:
MOSCs 35D, MOS 96B, MOS 96H, MOS 96U

MANEUVER COMBAT TRAINING CENTER – ARMY BATTLE COMMAND SYSTEM INTEGRATION (MCTC/ABCSI)



Training Category/Level Utilized:
Combined Arms/Level I

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not available for issue.

Purpose of Trainer:
The MCTC/ABCSI supports the overall digitization concept for the armed forces as defined by the Army Battle Command System (ABCS) architecture. As ABCS digital devices are fielded to tactical units, analysts, observer/controllers (O/Cs), and other staff evaluators of the MCTCs require the capabilities of ABCSI to view the transmitted tactical digital data. The MCTC/ABCSI system collects command, control, communications, computers, and intelligence (C4I) data generated at the MCTCs, to distribute that data to the personnel who are monitoring and controlling live training, and to provide information products, based on the collected data, for use in After Action Reviews (AARs). The MCTC/ABCSI system allows the MCTCs to collect and analyze digital tactical messages transmitted during an exercise. An automated AAR feature provides the training analysis and feedback (TAF) analyst with the ability to properly analyze training events, respond to events in a timely and doctrinally correct manner, and provide meaningful products for AARs. The ABCSI High Level Architecture (HLA) environment provides a conduit for connecting virtual and constructive simulations with live forces to create a seamless training environment. The HLA environment also provides situational awareness (SA) information to the MCTC core instrumentation system (CIS) for ground truth and perceived truth comparison.

Functional Description:
MCTC/ABCSI is comprised of three components: (1) The ABCSI collection environment (ACE), (2) The TAF Analyst graphical user interface (GUI), referred to as TAG, and (3) The ABCSI HLA environment. The ACE component is the environment for the collection, viewing, and archiving of tactical digital data from the Army tactical command and control systems (ATCCS), C4I systems, and force XXI battle command brigade and below (FBCB2). The ACE collects digital message set data from the following ATCCS systems supporting battlefield functional areas (BFAs): (1) advanced field artillery tactical data systems (AFATDS), (2) maneuver control system (MCS), (3) combat service support control system (CSSCS), (4) all source analysis system (ASAS), and (5) air and missile defense workstation (AMDWS). The ACE collects, reassembles, and parses the digital packet transmissions and provides on-demand, near-real-time information to the TAF Analyst through the TAG. The message sets that ACE collects data from are: TACFIRE package 10, variable message format (VMF) package 11, AFATDS VMF (proprietary), united states message text format (USMTF), joint variable message text format (JVMF), forward area air defense data link (FDL), and CSSCS USMTF-like (proprietary). The ACE non-intrusively collects data from the single channel ground and airborne radio system

(SINCGARS), enhanced position location reporting system (EPLRS), near term digital radio (NTDR), local area networks (LANs), and military wire lines, if necessary.

The TAG is designed to support the TAF analysts during unit rotations. The TAF analyst has the capability to automatically use the web-based GUI or customize the GUI to support his respective area of interest by tailoring filtering profiles to satisfy various monitoring and/or collection requirements as battles and communications conditions change. TAG provides the analyst with the ability to save, retrieve, and manipulate tactical digital data to support AAR development. The TAG also provides the TAF analyst with user selectable filters, selectable messages, selectable real-time alerts, operational alerts and error messages, message searches, and reports. The TAF analyst can automatically create reports from a pre-defined list or customize reports for inclusion in AAR development. The user can generate predefined or customized graphical output (e.g. histograms, pie charts), tabular output, reports based on filter selection criteria or entire sets of messages to support AAR development.

The HLA environment connects virtual and constructive simulations with live forces to create a seamless training environment. The HLA environment acts as a conduit to transfer situational awareness related exercise tactical digital messages to the CIS. The HLA environment also includes an HLA gateway that translates between DIS and HLA simulations.

The HLA component in ABCSI consists of two HLA federations, one for exercise digital tactical messages (C4I Federation) and the other for linking DIS-based simulations with HLA-compliant simulations and stimulation packages (SIM Federation).

Physical Information:

The MCTC/ABCSI suite is located in the operations building 1560 at JRTC on Ft. Polk, LA.

The MCTC/ABCSI suite is located in the operations building 988 at NTC on Ft. Irwin, CA.

The MCTC/ABCSI suite is located in the operations building 100 at CMTC in Hohenfels, GE.

Equipment Required, Not Supplied:

The following communications devices are needed on an as required basis depending on the level of the exercise: SINCGARS, EPLRS, NTDR, LANs, and military wire lines.

Special Installation Requirements:

(Information not available)

Power requirements:

(Information not available)

Applicable Publications:

(Information not available)

Reference Publications:

(Information not available)

Training Requirements Supported:

(Information not available)

FIXED TACTICAL INTERNET (FTI) (LOWER)

Training Category/Level Utilized:
Combined Arms

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
TRADOC (ATSC) approves and sets the priority.

Purpose of Trainer:
The Fixed Tactical Internet (lower) provides digital communications support for FBCB2 Situational Awareness, Set Fielding and other digital platforms/systems throughout an installation/training area. The FTI is a training enabler, which reduces OPTEMPO and PERSTEMPO within a signal unit.

Functional Description:
The Fixed Tactical Internet (lower) is a series of Enhanced Position Location Reporting System (EPLRS) Radio Sets (RS) placed on towers within an installation, controlled by an EPLRS Network Manager (ENM). The FTI relieves the signal battalion's EPLRS platoons by providing support on a 24/7 basis during routine maintenance checks, FBCB2 (SEP) installation and small unit training.

Physical Information:
Currently FTI is fixed location only.

Equipment Required, Not Supplied:
None

Special Installation Requirements:
System is installed based on site requirements.

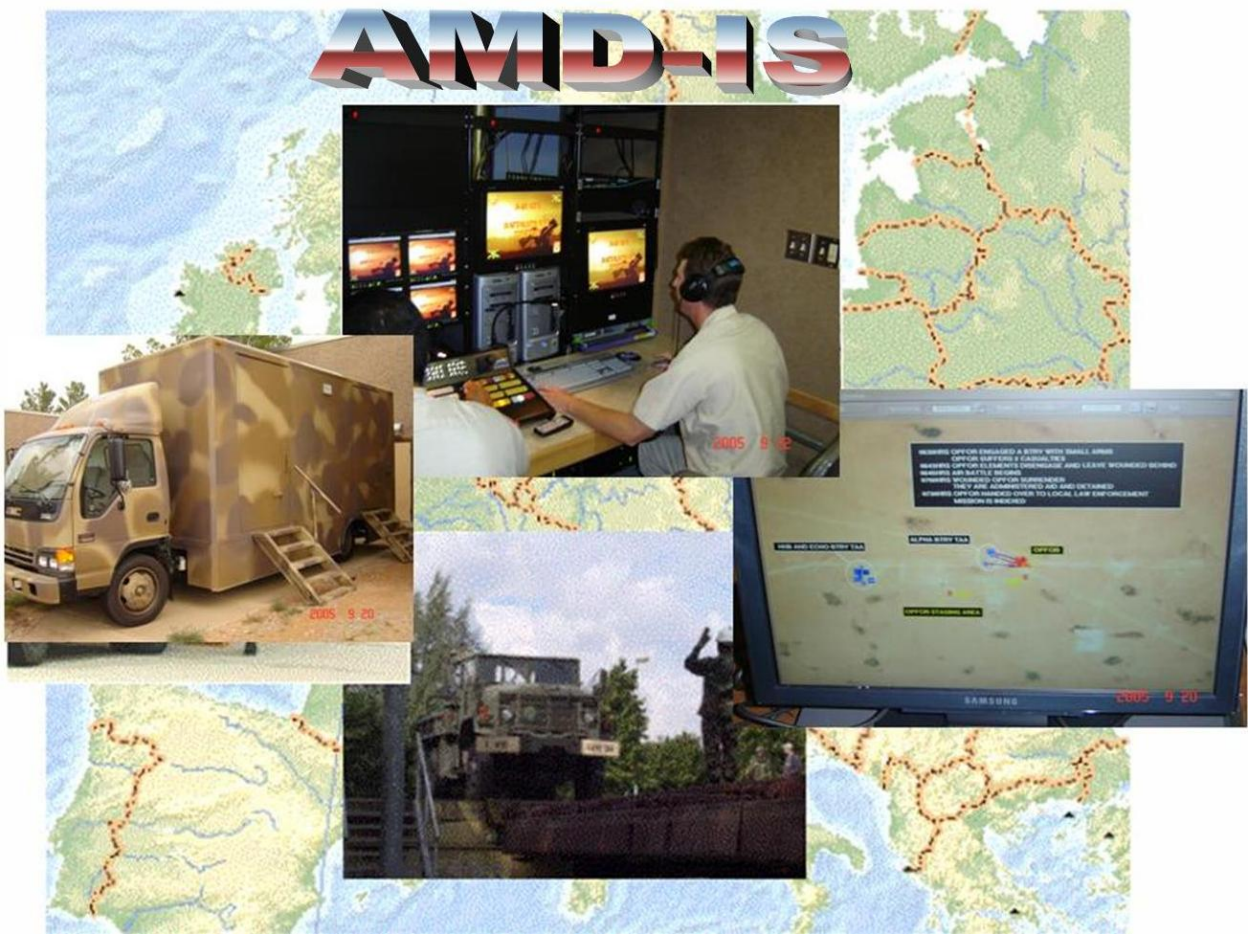
Power requirements:
110vac

Applicable Publications:
EPLRS TM -10/-20

Reference Publications:
None

Training Requirements Supported:
Supports the tactical use and training of FBCB2, situational awareness.

AIR AND MISSILE DEFENSE INSTRUMENTATION TRAINING SYSTEM (AMD-IS)



Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
TBD

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Brigade/Regiment live training.

Functional Description:
The system is designed to optimize the data collection and presentation process and provide an NTC like experience to the Air Defense community. The AMD-IS is the system of systems for Air Defenders and as a cub-component of the AMD-IS includes the Army standard Interim-Homestation Instrumentation Training System (I-HITS). The AMD-IS can be utilized as a complete system or can be utilized as a stand-alone I-HITS. In support of collective training output, information is in the form of digital graphics, multi-media presentations, video presentations, statistical and narrative summaries, and hardcopy paper products. The system also utilizes the Multiple Integrated Laser Engagement System Individual Weapon System (MILES IWS) on the personnel and equipment participating in instrumented training exercises. Data collection, reporting, management, computation, generation, display, and weapons effects simulation are performed by analog and digital means through the integrated functioning of the subsystems of the AMD-IS and the MILES IWS devices. The Rehearsal/AAR data can be analyzed, formatted, and re-distributed to the rotational units from the Fort Bliss operations center and/or the National Training Center Training Analysis Feedback (TAF) facility. This system enhances the ability of Fort Bliss to conduct force-on-force combined arms/ Joint training by allowing the collection of engagement data for analysis and Rehearsal/AAR production and presentations to the units training at the Fort Bliss training area or at the NTC.

Physical Information:

The AMD-IS transfers field data via RF and fiber optics to the Operations Center. Consists of six subsystems:

(1) Core Instrumentation Subsystem
(2) Range Data Measurement Subsystem
(3) Range Monitoring and Control Subsystem
(4) Live Fire Subsystem
(5) Spectrum Management Subsystem
(6) I-HITS.

The AMD-IS uses hardware and software configured to collect, report, store, manage, process, and display audio, video and event data for BCT training at the Fort Bliss training area. The system is sized to support 300 instrumented players with the capability to expand to 1000 instrumented players and a maximum expansion capability of 4000 instrumented players.

Equipment Required, Not Supplied:

Live Air Assets
Air Defense Assets
Track combat vehicles
Weapons
Aviation Assets
Pyrotechnics
Unit specific vehicle MILES equipment

Special Installation Requirements:

AD mounting kits for the MILES IWS devices.

Power Requirements:

None

Applicable Publications:

None

Reference Publications:

350-50

Training Requirements Supported:

MOSCs - Air Defense, Armor, Infantry, Field Artillery, Brigade Combat Team, Engineer, Single Core, and Military Intelligence.

VIRTUAL CONVOY COMBAT TRAINER – LOCKHEED (VCCT-L)

Training Category/Level Utilized:
Combined Arms

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Virtual Convoy Combat Trainer is a virtual simulation system envisioned to train soldiers in tactics, techniques, and procedures and reinforce the safety measures in performing vehicular patrols and engaging in convoy operations. The VCCT is utilized to train crews of military vehicles (specifically High Mobility Multipurpose Wheeled Vehicles (HMMWVs) to identify a potential ambush, how to identify improvised explosive devices (IEDs), how to avoid an ambush, how to return fire, maneuver and react appropriately in the Contemporary Operating Environment (COE).

Functional Description:
The VCCT-L puts soldiers in a realistic virtual environment utilizing a 220-degree wraparound screen to surround a simulated HMMWV vehicle in its virtual environment. Modified actual weapons (with pneumatic recoil capability) are provided for the convoy trainees to utilize for protection and to engage computer-generated opposing forces combatants and vehicles. The VCCT-L is housed in mobile shelters which can be transported to other locations. The VCCT-L is provided as a suite consisting of four separate VCCT-L mobile systems. Each VCCT-L mobile system is 53 feet by 24.5 feet deployed. Each mobile system consists of four 53-foot-long modified semi truck trailers. The deployed width of each trailer is 24.5 feet. The trailer has two side expansions (fold-outs) to accommodate the visual display system. Exterior connections for power and Local Area Network (LAN) are also provided to allow the connection of external power and the interconnection of the four systems within the suite. For the LAN, a 10/100BaseT Ethernet Switch is used to interconnect all Distributed Interactive Simulation (DIS) and High Level Architecture (HLA) systems through a MaK DIS / HLA gateway. Each mobile system contains the following areas:

a. One High Mobility Multipurpose Wheeled Vehicle (HMMWV) Manned Simulator Area containing five (5) soldier positions: driver, commander, gunner, left and right rear passenger/rifleman.

b. One Instructor/Operator Station (IOS) and After Action Review (AAR) Workstation Area, which also includes a Semi-Automated Forces (SAF)/Computer Generated Forces (CGF) Workstation.

c. One Maintenance Compartment Area which consists of computer equipment racks, a small room air conditioner, an air compressor with holding tank and dryers, and a work bench area.

d. One Storage Compartment Area which houses the 60 KW Diesel Power Generator (skid mounted) when not in use.

Physical Information:
The VCCT-L is housed in mobile shelters which can be transported to other locations. The VCCT-L is provided as a suite consisting of four separate VCCT-L mobile systems. Each VCCT-L mobile system is 53 feet by 24.5 feet deployed. Each mobile system consists of four 53-foot-long modified semi truck trailers. The deployed width of each trailer is 24.5 feet. The trailer has two side expansions (fold-outs) to accommodate the visual display system.

Equipment Required, Not Supplied:
Forklift at training sites

Special Installation Requirements:
There are no special installation requirements.

Power requirements:

The VCCT-L suite can be powered by either site-provided commercial power or the generators provided with the VCCT suite and a site provided fuel tank. If commercial power is provided, the VCCT-L suite requires a 480 volt/60 Hertz, three-phase, four wires, grounded commercial power source. Two circuits are required to power the VCCT-L suite, four individual services at 100 Amps each. The trailer power cables will plug directly into these site provided receptacles or run on trainer provided diesel generators. Hardstand commercial power is the preferred power method.

Power to the trailers is to be supplied by the site facility through a hard stand commercial power interface connector or onboard diesel generators which will have to be off-loaded from the trailers, fueled and monitored during operation. The power distribution to the VCCT-L mobile system equipment is contained within the trailers.

Applicable Publications:

Commercial-Off-The-Shelf Manuals

Reference Publications:

Commercial-Off-The-Shelf Manuals

Training Requirements Supported:

(Information not available)

VIRTUAL CONVOY COMBAT TRAINER – RAYDON (VCCT-R)

Training Category/Level Utilized:
Combined Arms

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
The Virtual Convoy Combat Trainer is a virtual simulation system envisioned to train soldiers in tactics, techniques, and procedures and reinforce the safety measures in performing vehicular patrols and engaging in convoy operations. The VCCT is utilized to train crews of military vehicles (specifically High Mobility Multipurpose Wheeled Vehicles (HMMWVs) to identify a potential ambush, how to identify improvised explosive devices (IEDs), how to avoid an ambush, how to return fire, maneuver and react appropriately in the Contemporary Operating Environment (COE).

Functional Description:
The VCCT-R system consists of a mobile suite (two 53-foot-longs by 8.5-foot-wide trailers) of HMMWV crew trainers operating on a simulated urban battlefield to support crew gunnery and convoy operations training. One suite consists of four simulated HMMWV vehicles, one Instructor Operator Station (IOS) and After Action Review (AAR) station, and one communication station to provide simulated radio for each vehicle commander and the IOS/AAR operator. Each vehicle consists of one each driver, gunner, commander and two (2) observer/rifleman (O/R) stations. Each of these stations is a modular unit and has its own host training software and visual application software. Networking among crew modules and trailers provides a standardized method for modules to work together as a convoy.

Driver, gunner, commander and observer/rifleman (O/R) crew stations are simulated. The driver station provides a view of the virtual battlefield through three 17" flat panel displays mounted on the driver station dashboard. The gunner, commander and O/R view the virtual battlefield through Helmet Mounted Displays (HMDs). The driver station provides driver controls for steering, transmission gear selection, brakes, accelerator pedal, and parking brake for control of the vehicle. The gunner station utilizes simulated mocked-up crew served weapons (M2, MK19, and M249) with the commander and O/Rs utilizing simulated M16 and M4 weapons, respectively.

The IO Station provides the tools necessary for pre-brief and control of training scenarios. The IO Station consists of a Stealth viewer, a OneSAF Test Bed (OTB) data logger, an Exercise Control Computer, a Dual SINCGARS radio communications panel, and an FBCB2 terminal.

Two simulated SINCGARS radios, including dual faceplate with operational controls, handsets with PTT switches and speakers, are provided. Two radios are provided to support two-person operation of the IOS/AAR Station.

The IOS/AAR Station computers and the four HMMWV Crew Stations and Communication Station are linked via the Distributed Interactive Simulation (DIS) Network, which consists of Fast Ethernet media with a capacity of 100 Mb/sec. Simulation data and voice (radio traffic) is transmitted on this network.

Physical Information:
The VCCT-R system consists of a mobile suite (two 53-foot-long by 8.5-foot-wide trailers) of HMMWV crew trainers operating on a simulated urban battlefield to support crew gunnery and convoy operations training.

Equipment Required, Not Supplied:
Forklift at training sites.

Special Installation Requirements:
There are no special installation requirements.

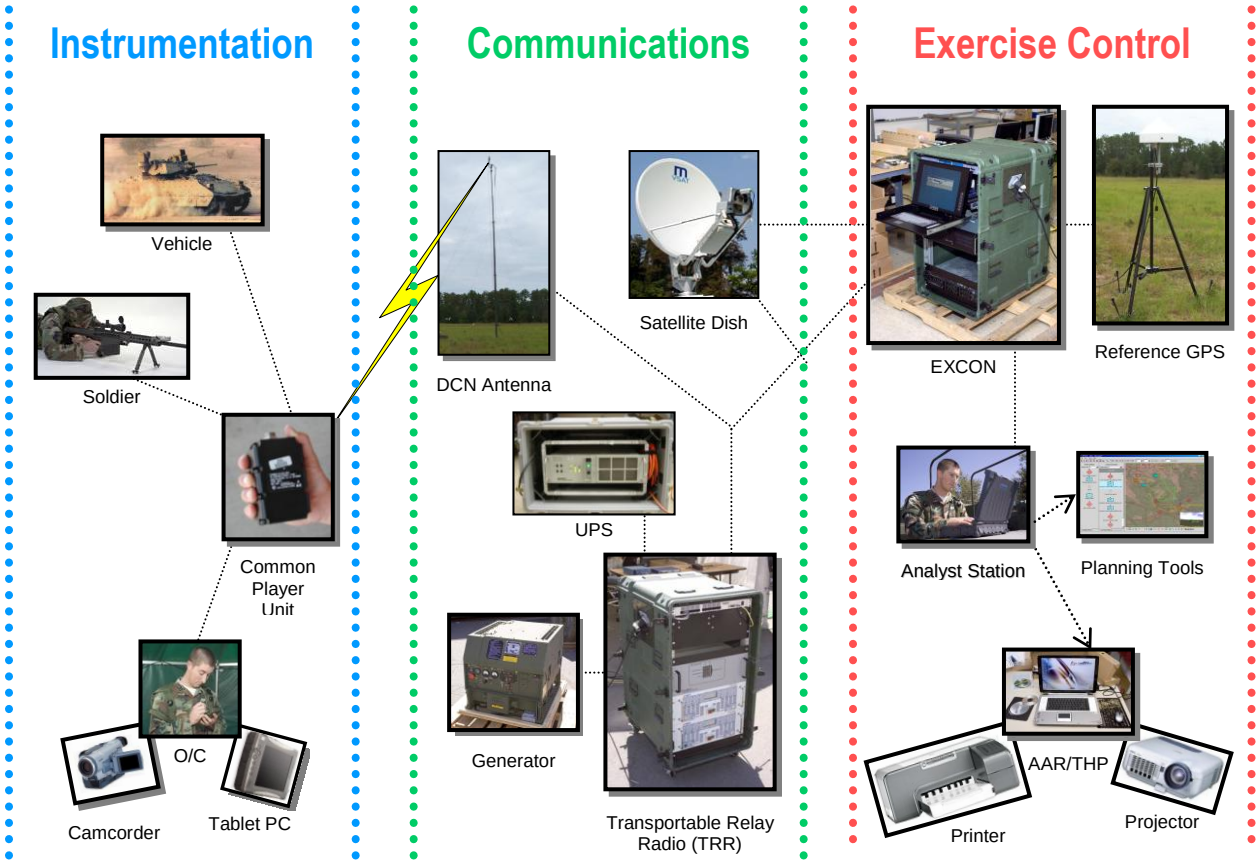
Power requirements:
The power requirement for each semi trailer unit is a single phase 120/240vac, 4 wire 60 Hz System with a 100A hookup per trailer. The system is designed to connect to existing COFT pads using the provided 60 feet long power adapter cable (RAYDON Part 5001540). Since these pads supply 3-phase power, only two of the phases (Phase A and Phase B) are used. When this type of facility power is used, 120/208vac are supplied to the trailer.

Applicable Publications:
Commercial-Off-The-Shelf Manuals

Reference Publications:
Commercial-Off-The-Shelf Manuals

Training Requirements Supported:
(Information not available)

INITIAL - HOMESTATION INSTRUMENTATION TRAINING SYSTEM (I-HITS)



Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Not generally available for issue (limited production) Distribution Plan is controlled by ATSC.

Purpose of Trainer:
Homestation Company live instrumented training

Functional Description:
I-HITS is a mobile, scalable version of the Maneuver Combat Training Center (MCTC) that provides the necessary live training support capabilities and functionality the unit will utilize during a MCTC-like training experience at the fielded Homestation (HS). I-HITS includes all the systems that support collective force-on-force (FOF), force-on-target (FOT), and Live fire (LF) training at the HS maneuver training facilities, MOUT, live fire range complexes and at deployed sites.

I-HITS collects exercise data for the assessment of unit performance and provides exercise control and training performance feedback to support the train-assess-train model for live training. Other core interface components will provide access to other sources of data to include tactical platforms; instrumented Tactical Engagement Simulation System (TESS), such as MILES, Air to Ground Engagement System II (AGES II) TESS, Tank Weapons Gunnery Simulation System/Precision Gunnery System (TWGSS/PGS), and Longbow TESS. I-HITS collects and records event data from live and simulated battlespace participants, including Blue Force (BLUEFOR), role players, and Opposing Force (OPFOR) elements, and targetry systems.

I-HITS provides multiple, deployable company team and below training capability using organic tactical communications for exercise management and control, and for exercise data collection. I-HITS takes advantage of HS infrastructure, such as the Fixed Tactical Internet (FTI), is transportable and deploys as part of the unit training kit. I-HITS configuration supports BLUFOR and OPFOR players exercising in a company/team maneuver area 10 Km by 10 Km. Player identities distinguish between BLUFOR,

OPFOR, and role player participants and include dismounted, mounted and airborne platforms comprising the combined arms company team. I-HITS interfaces with legacy, instrumentable Tactical Engagement Simulation (TES) (e.g., MILES 2000, MILES XXI, MILES IWS, AGES II, Longbow TESS, MLRS, Paladin, TWGSS/PGS, OneTESS, etc.) to support FOF, FOT, and LF TES.

I-HITS Functional Architecture:

Exercise Planning:

- Long Range	- Near Term
- Short Range	- Scenario Development

System Preparation:

- Training Land Management	- Scenario Preparation
- Movement to Site	- System Instalation
- Installation	- Rehearsal
- Emplacement	- Readiness Verification

Exercise Execution:

- Training Support	- Target Presentation
- Combat Area Simulation	- Data Collection
- Weapon Simulation	- Data Management
- Weapon Effect Simulation	- Exercise Control
- Target Control	- Data Alalysis

Training Feedback:

- Downrange Feedback	- Information Presentation
- Information Preparation	- Information Distribution

System Support:

- Deployment	- Enviromental Compliance
- Safety Support	- Equipment Recovery
- Maintenance/Storage	- System Reset
- Enviromental Stewardship	- Verification

Physical Information:

Current I-HITS standard sub-systems and physical configuration components are listed below and will remain relatively constant until upgraded to meet HITS FOC capabilities during one of the pre-planned Modification / Upgrade periods closest to its position in the HITS fielding plan.

Sub-System/Components and Description:

1. Istrumentation Sub-System - Collects, sends and receives data to/from Communications Sub-System.
   a. Common Player Unit - Radio Interface.
   b. Vehicle - Ground Player Unit.
   c. Soldier - Manworn Player Instrumentation Adapter Harness.
   d. Observer Controller (O/C) - O/C Instrumentation Harness.
   e. Tablet PC - Ruggedized Tablet PC.
   f. Camcorder - Video Camcorder/Digital Camera.
2. Communications Sub-System - Transmits data to/from Instrumentation Sub-System to Exercise Control Sub-System.
   a. DCN Antenna - Digital Communications Network (DCN) antenna supports one or two remote relay units on a single mast.
   b. Satellite Dish - Transmits TRR data from remote locations to the Exercise ControlSubsystem.
   c. UPS - Conditions generator power for TRR and/or EXCON.
   d. Generator - Provides power for TRR and/or EXCON.
   e. Transportable Relay Radio (TRR) - Passes Instrumentation Subsystem data to Exercise Control Subsystem and forwards Exercise Control Subsystem commands to the Instrumentation Subsystem.
3. Exercise Control Sub-System
   a. Exercise Control (EXCON 1) - Ruggedized rack of servers to process and store exercise related data.
   b. Exercise Control (EXCON 2) - Same as EXCON 1 plus a reference GPS.
   c. Reference GPS - Improves GPS accuracy for player units.
   d. Analyst Station - Ruggedized PC for preparing exercises, monitoring exercises, sending administrative commands, and preparing AARs.
   e. Planning Tools - Software on analyst station for preparing exercises.
   f. AAR/THP - Software on analyst station for preparing AARs.
   g. Printer - Printer.
   h. Projector - Projector for AAR presentations.

Equipment Required, Not Supplied:

Instrumentable MILES (2000, XXI, IWS, CVS, etc) must be available in order to conduct a fully instrumented I-HITS exercise. Otherwise, the system will only display position location, not pairing lines and engagements.

Unit Equipment as required
Weapons
Blank ammunition
Pyrotechnics as required

Special Installation Requirements:

Installation of I-HITS components to support the exercise will be in either cantonment facilities or remote unimproved locations. I-HITS components will be easily installed by the operator without special support, or tools. The (I-HITS) (71-28) includes:

71-28/1	(I-HITS) Instrumentation Sub-System
71-28/1/1	(I-HITS) Manworn Player Instrumentation Adapter Harness
71-28/1/2	(I-HITS) Instrumented MILES 2000 H-Harness (Manworn Vest)
71-28/1/3	(I-HITS) Ground Player Unit (vehicle instrumentation)
71-28/1/4	(I-HITS) Observer/Controller Equipment Suite
71-28/1/5	(I-HITS) Observer/Controller Base Station

71-28/1/6	(I-HITS) 32 Bay Battery Charger
71-28/1/7	(I-HITS) 9 Bay Battery Charger (Brentronics)
71-28/1/8	(I-HITS) 9 Bay Battery Charger (Ultra Life)
71-28/2	(I-HITS) Communications Sub-System
71-28/2/1	(I-HITS) Dual Channel Transportable Relay Radio Rack
71-28/2/2	(I-HITS) DCN Antenna
71-28/2/3	(I-HITS) GPS Timing Antenna
71-28/2/4	(I-HITS) Antenna Suite Mast, 50'
71-28/2/5	(I-HITS) Observer Controller Voice Network Repeater
71-28/2/6	(I-HITS) Observer Controller Voice Network Antenna
71-28/2/7	(I-HITS) Satellite Dish with Controller
71-28/2/8	(I-HITS) Short Range Line-of-Sight Microwave, Pair
71-28/2/9	(I-HITS) 1500 KVA UPS
71-28/2/10	(I-HITS) Generator
71-28/3	(I-HITS) Exercise Control Sub-System
71-28/3/1	(I-HITS) Exercise Control Rack #1
71-28/3/2	(I-HITS) Exercise Control Rack #2
71-28/3/3	(I-HITS) GPS Reference Receiver Antenna with Tripod
71-28/3/4	(I-HITS) Analyst Station
71-28/3/5	(I-HITS) Issue/Receipt Equipment

Power Requirements:
None

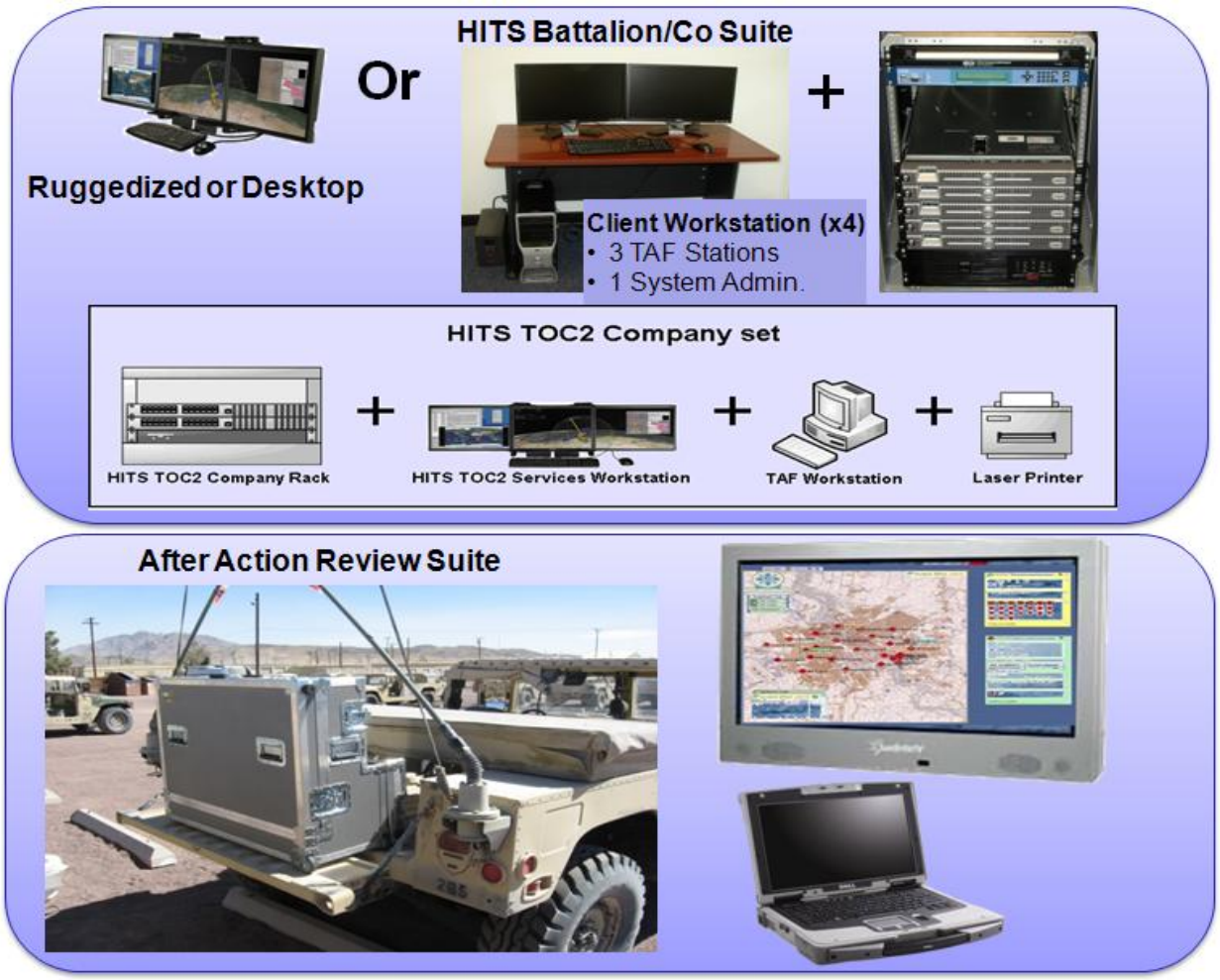
Applicable Publications:
Hardware:
- Ground Player Unit-2 with Cubic Player Unit (GPU-2 W/CPU) – Publication Number: ICEAGPCPU90601
- Wideband RF Power Amplifier Operation Manual – Publication Number: KAW2020M12
- Lithium-Ion Multistation Charger, Instruction Manual - Publication Number: PC-3200M
- Barracuda 7200.7 Hard Drive User's Guide - Publication Number: 100270026, Rev H
- Teac DVD/RW Drive User's Guide - Publication Number: DV-W516GA
- Supermicro X6DHT-G Motherboard User'r Manual - Publication Number: MNL-0767
- Hawkeye User's Manual - Publication Number: RDP-1158/1158T
- Novatel GPS Antenna User's Guide - Publication Number: GPS-533
- Linksys 16 Port and 24 Port 10/100/1000 Gigabit Switch User's Guide - Publication Number: SR2016/SR2024
- Black Box Terminal Server Reference Guide - Publication Number: LES2700A-16-R3
- XPLORE Technologies: iX104C^2 User's Handbook - Publication Number: 95-01030
- XPLORE Technologies: Supplement to the iX104C^2 User's Handbook - Publication Number: 95-01037
- DELL Precision M70 Workstation Quick Reference Guide, Rev. A00 - Publication Number: C52579
- DELL Portable Computers Product Information Guide, Rev. A05 - Publication Number: X4474
- INTEL PRO/1000 Server Adapters Quick Install Guide - Publication Number: C51053-001
- Digital Technology SRNDT Series 2400VA Operating and Maintenance Manual - Publication Number: 510-13426-A
- Stancil User Guide for TEN-4 Voice Recording System - Publication Number: TEN-4 UG
- Stancil Administrator Guide for TEN-4 Voice Recording System - Publication Number: TEN-4 AG
- ASTRO XTS 5000 Digital Portable Radio Model II User Guide - Publication Number: 6881094C26-F
- ASTRO XTVA Base Station P2061 Instruction/Service Manual - Publication Number: 68P07994D23-A
- Motorola PDR3500 Transportable Repeater Basic Service Manual - Publication Number: 6881093C75-B

Software:
- XPLORE Technologies: CD Recovery Guide/Restoring the O/S - Publication Number: 95-01043
- XPLORE Technologies: Open Me First, iX104C^2 Quick Start Guide - Publication Number: 95-05031
- ROXIO: Easy Media Creator User Guide - Publication Number: 532760-00
- JASC Software Paintshop PRO 9 User Guide - Publication Number: 07-PSP9-07
- MCAFEE® System Protection Getting Started Guide - Publication Number: NAI-681-0011-1
- MS Windows XP Professional "Start Here" Guide, Ver. 2002 - Publication Number: X08-48124
- MS Windows Server 2003 w/ SP1 Standard Edition "Getting Started" Manual - Publication Number: X09-38360
- Crystal Reports Version 9 - Publication Number: 55-00072-085
- INTEL PRO Network Connections - Installation Guides, Drivers, & Diagnostics CD - Publication Number: C36827-002

Reference Publications:
350-50

Training Requirements Supported:
Air Defense, Armor, Infantry, Field Artillery, Brigade Combat Team, Engineer, Single Core, Military Intelligence.

HOMESTATION INSTRUMENTATION TRAINING SYSTEM (HITS)



Training Category/Level Utilized:
Combined Arms/Level 1/3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Available through local TSC

Purpose of Trainer:
The purpose of the Homestation Instrumentation Training System (HITS) is to provide a set of tools to train and sustain readiness at Homestation (HS) and when deployed. HITS supports live training certification of Army National Guard (ARNG) Enhanced Brigades Platoon-level for combat arms and company-level for Combat Support (CS) and Combat Service Support (CSS); commander's battalion readiness assessment/validation of maneuver, combat and combat support battalions and staffs.

Functional Description:
Homestation Instrumented Training System (HITS) supports collective maneuver training for Battalion and smaller units. Integrated with future and legacy Tactical Engagement Simulation (TES), the HITS provides position location and weapons effects data for real time exercise monitoring and After Action Review (AAR) capability. The system supports full spectrum Contemporary Operational Environment (COE) operations by leveraging other training enablers to include integration into virtual and constructive simulations. HITS will be a live collective training system that provides a real-time casualty assessment and reporting for Force-On-Force (FOF) and Force-On-Target (FOT) training capabilities across the Full Spectrum of Operations at a security level up to Secret.

HITS Requirements/Capabilities include:
-2000 Live participants and 80000 Constructive entities
-Captures, records & displays "live/real-time" training data on live participants
-Provide Exercise Control and Safety
-Collect, assess and provide training feedback
-Assesses training to a level of fidelity not currently available
-Interoperable within a LVC Integrated Architecture to support Army and Joint exercises.

Physical Information:
Homestation Instrumentation Training System (HITS) Training Operations Command & Control (TOC2) includes multiple hardware and software components that when combined form a basic system configuration for a specific simulation level that is scaled appropriately to its application. These system configurations are referred to as "sets" and consist of the following:

- Company set
- Battalion set

1. The HITS TOC2 Battalion set core hardware consists of the following hardware.
    a. Rugged rack mount case, consists of a rugged Hardigg rackmount case equipped with casters to reduce the need for lifting, and handles along its size to facilitate handling and storage. The shell of the rackmount is rotationally molded to increase its strength, with corners that are up to 20% thicker to absorb shocks and decrease the likelihood of damage during transit, handling or storage. Its interlocking ribs allow for stable stacking along with high-strength aluminum reinforcement. A handy storage drawer provides stowage and an area for organizing component cabling. The Company Rack provides 5U equipage and mounts the following equipment.
    b. External Switch (Dell Power Connect 2716 with 16 1//100/1000 Base-T-ports)
    c. Internal Switch (Dell Power Connect 2716 with 16 1//100/1000 Base-T-ports)
    d. Cisco Adaptive Security Appliance (ASA 5510) Firewall with integrated Advance Inspection and Prevention Security Services Module (AIP SSM)
    e. Power Distribution Unit (PDU) American Power Conversion AP7800 metered with eight outlets (100/120V 15A)

As well as protecting internally mounted components from shock, vibration, and impact, the Rack also limits human contact once the components have been installed.

2. 4 ea. Client Work Stations
    a. The HITS TOC2 Client Work Stations is a MaxVision rugged portable workstation that provides three integrated foldout LCD displays. Its software includes the CTIA Services and Extended Services software components. CTIA Services provides a set of Application Programming Interfaces (APIs) that interact with LT2 components, and allow for the interaction between other components.
    b. The Extended Services component provides much of the exercise control functionality such as converting messages between the players units and CTIA, recording situational awareness data from a live exercise to a disk, and storing and managing LT2 communication.
3. 3 ea Training Analysis Feedback (TAF) workstation(s)
    a. The Training Analysis Feedback (TAF) workstation typically consists of a standard Dell business class desktop computer, or as an option, a rugged MaxVision workstation with dual foldout LCD displays. The TAF provides the primary interface for exercise setup and management and feedback activities. It is the main terminal that the user will use to operate the system.
    b. Printer.

1. The HITS TOC2 Company set core hardware consists of the following hardware.
    a. The HITS TOC2 Company set Rack consists of a rugged Hardigg

rackmount case equipped with casters to reduce the need for lifting, and handles along its size to facilitate handling and storage. The shell of the rackmount is rotationally molded to increase its strength, with corners that are up to 20% thicker to absorb shocks and decrease the likelihood of damage during transit, handling or storage. Its interlocking ribs allow for stable stacking along with high-strength aluminum reinforcement. A handy storage drawer provides stowage and an area for organizing component cabling. Its interlocking ribs allow for stable stacking along with high-strength aluminum reinforcement. A handy storage drawer provides stowage and an area for organizing component cabling. The Company Rack provides 5U equipage and mounts the following equipment.

b. External Switch (Dell Power Connect 2716 with 16 1//100/1000 Base-T-ports)

c. Internal Switch (Dell Power Connect 2716 with 16 1//100/1000 Base-T-ports)

d. Cisco Adaptive Security Appliance (ASA 5510) Firewall with integrated Advance Inspection and Prevention Security Services Module (AIP SSM)

e. Power Distribution Unit (PDU) American Power Conversion AP7800 metered with eight outlets (100/120V 15A)

As well as protecting internally mounted components from shock, vibration, and impact, the Rack also limits human contact once the components have been installed.

2. HITS Services workstation,

a. The HITS TOC2 Services workstation is a MaxVision rugged portable workstation that provides three integrated foldout LCD displays. Its software includes the CTIA Services and Extended Services software components. CTIA Services provides a set of Application Programming Interfaces (APIs) that interact with LT2 components, and allow for the interaction between other components.

b. The Extended Services component provides much of the exercise control functionality such as converting messages between the players units and CTIA, recording situational awareness data from a live exercise to a disk, and storing and managing LT2 communication.

3. Training Analysis Feedback (TAF) workstation(s)

a. The Training Analysis Feedback (TAF) workstation typically consists of a standard Dell business class desktop computer, or as an option, a rugged MaxVision workstation with dual foldout LCD displays. The TAF provides the primary interface for exercise setup and management and feedback activities. It is the main terminal that the user will use to operate the system.

4. After Action Review equipment

a. The After Action Review (AAR) kit is a portable display system for AAR and other presentations and consists of the following equipment:

b. Rugged Dell Latitude XFR D630 Laptop Computer

c. Rugged All-Weather 32-in. LCD Monitor

d. Commercial off-the-shelf (COTS) Camcorder

The Rugged Dell Laptop Computer, extreme durability, and is especially designed for the military and government. Its rugged design meets MIL-STD-810F standards for operation in extreme temperatures, moisture and altitude. Weighing approximately 9-pounds, it includes a large 14.1-inch screen to enhance working and viewing display area. The Rugged All-Weather 32-inch LCD Monitor is stored and viewed in its transit case. Its screen technology is designed to be viewable in direct sunlight, reducing eyestrain and irritation.
A standard COTS Camcorder is used to record AAR presentations or other events.
The equipment is designed to provide quick setup time and can be easily be set up in the back of a High Mobility Multipurpose Wheeled Vehicle (HMMWV). Using the power source of the HMMWV, the AAR Field Kit does not require an external generator.
Its rugged all-weather LCD display is viewable in direct sunlight and the equipment can be easily packed within two ruggedized transit cases.

5. AAR Field Kit 2.0

- The AAR Field Kit 2.0 consists of a TekPanel LCD computer. Comprised of a high-resolution

32-inch LCD monitor and powerful integrated computer, the unit is packaged in a rugged aluminum panel case to withstand handling stress and vibration. It is equipped with a touch screen and a built-in AC/DC power capability, and its integral design minimizes space requirements for HMMWV mounting.

- Printer.

Equipment Required, Not Supplied:
Player radio for Dismount or vehicle application.

Special Installation Requirements:
Any special instructions other than those already explained?

Power Requirement:
110 vac

Applicable Publications:
Applicable User Manuals
Computer System Operator's Manual/Commercial Off-the-Shelf (COTS) Manuals

Training Requirements Supported:
MOSCs - Supports all MOS series

JOINT LAND COMPONENT CONSTRUCTIVE TRAINING CAPABILITY (JLCCTC) OBJECTIVE SYSTEM

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Software can be obtained by DOD agencies through a Memorandum of Agreement or a Distribution Agreement with PEO STRI and by foreign customers through Foreign Military Sales. Hardware can be procured through PEO STRI or commercial vendor.

Purpose of Trainer:
To provide computer simulation support of command and staff training at the brigade and below and at division and above levels.

Functional Description:
Joint Land Component Constructive Training Capability Objective System (JLCCTC OS) is a collection of integrated Simulation Models that stimulate Army Battle Command Systems (ABCS) to facilitate Command and Staff training. Joint Land Component Constructive Training Capability –Multi Resolution Federation (JLCCTC-MRF) is an interconnected set of constructive simulation software, supporting software and commercial-off-the-shelf (COTS) hardware that will support training of commanders and their staffs in maneuver, logistics, intelligence, air defense and artillery. The components are connected by a combination of the standard High Level Architecture (HLA) Run Time Infrastructure (RTI), Distributed Interactive Simulation (DIS), and custom interfaces are the Corps Battle Staff Master Interface (MI) and point-to-point (PTP). The JLCCTC-MRF is designed for training Army commanders and their staffs. The JLCCTC provides a simulated operational environment, in which computer generated forces stimulate and respond to the command and control processes of the commanders and staffs. The JLCCTC models will provide full training functionality for leader and battle staff for the Army and the Joint, Interagency, Intergovernmental and Multi-national spectrum. The JLCCTC provides an interface to Operational Battle Command equipment allowing commanders and their staffs to train with their go to war systems. Joint Land Component Constructive Training Capability –Entity Resolution Federation (JLCCTC-ERF) is a federation of simulations, simulation C4I interfaces, data collection and after action review tools. JLCCTC-ERF stimulates the Army Battle Command Systems (ABCS) to facilitate battlestaff collective training by requiring staff reaction to incoming digital information while executing the commander's tactical plan. The targeted training audience is brigade and battalion battlestaffs, including functional command post (CP) training and full CP training. Battlestaffs of higher echelons may also employ JLCCTC-ERF to achieve specific training objectives. The JLCCTC-ERF is a federation of models that maps (DIS/HLA) simulation entities (1 for 1) to the Army Battle Command Systems (ABCS/C4I). Within the federation we provide practical maneuver, logistic, intelligence, air, fire support and air-defense, stimuli to C4I for unit training.

This gives the commander the ability to focus on the Army BOS (Battlefield Operational System) systems and train his staff by using a list federation of simulations. These federations of simulations include;

JCATS – Joint Conflict and Tactical Simulation: A high resolution, multisided, multi-service, entity level simulation with integrated capabilities used for training, analysis, planning and mission rehearsal. JCATS provides an interactive, high-resolution, entity-level, conflict simulation that models joint, multi-sided air, ground and sea combat on a high/low resolution digitized polygonal terrain. The simulation also models the use of non-lethal weapons and urban environments.

JDLM - Joint Deployment Logistics Model (JDLM) (LOGFED) – Supports both simulation and training, and real –world operations. Provides higher logistics fidelity in all Classes of supply, and in maintenance. Additionally, provides interface between simulations and BCS3, translating simulation based activities into tactical events.

WARSIM - Warfighters' Simulation next-generation constructive training simulation that creates a realistic training environment for Commanders and their staffs; includes combat modeling, significant Log modeling, C2 interface and intel models.

TACSIM – Tactical Simulation is designed to provide training to intelligence staffs, collection managers, and analysts in a simulated war situation. It is a high fidelity simulation of intelligence activities that supports training from large scale joint exercises to specific intelligence section tasks.

Physical Information:
COTS equipment consisting of server class machines and common hardware equivalent to those purchased by the U.S. Army

Equipment Required, Not Supplied:
Common hardware consists of a state-of-the-art Personal Computer with sufficient processing and storage to run the updated, ported to current operating systems, utilizing the Microsoft Windows and/or the Linux operating systems. The technical specifications of the computer were chosen to support the way ahead in Army constructive simulation, to allow it to run certain simulation models when fielded.

Special Installation Requirements:
None

Power Requirements:
110vac for CONUS
220vac for OCONUS

Applicable Publications:
JLCCTC Training/Operator Guides

Reference Publications:
None

Training Requirements Supported:
Battle Command and Staff training

ONE SEMI-AUTOMATED FORCES (OneSAF)

Training Category/Level Utilized:
Combined Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
OneSAF can be obtained by a DoD agency through a Distribution Agreement and by foreign customers through Foreign Military Sales.

Purpose of Trainer:
To provide a Computer Generated Forces (CGF) and Semi-Automated Forces (SAF) computer simulation for collective, staff, individual, crew, embedded, distributed training, and mission rehearsal up to a brigade level.

OneSAF is also a cross domain simulation suitable for supporting training, analysis, research, experimentation, mission-planning, and rehearsal activities, provides the latest physics-based modeling and data enhanced data collection and reporting capabilities.

Functional Description:
OneSAF is an entity-level computer simulation that supports both Computer Generated Forces (CGF) and Semi-Automated Forces (SAF) applications. OneSAF consist is government-off-the-shelf (GOTS) computer software. It is uses to train brigade and below constructive simulators and virtual simulators. OneSAF can be used to train the Warfighter in a collective, staff, individual, crew, embedded, distributed training environments. It is also capable of performing mission rehearsal.

OneSAF supports interoperability using Distributed Interactive Simulation (DIS), High Level Architecture (HLA), Military Scenario Development Language (MSDL) and Joint Consultation Command and Control Information Exchange Data Model (JC3IEDM) and Army Battle Command System (ABCS) devices. These tools allow OneSAF to operate with other Army simulations, as well as Joint simulations with other services, and international simulators used by other countries.

OneSAF will soon be used in the virtual domain for training but replacing the current sim for virtual trainers for the Army including Aviation Combined Arms Tactical Trainer (AVCATT). Close Combat Tactical Trainer (CCTT), and the Common gunnery Architecture (CGA). OneSAF has a unique synthetic natural environment (SNE) that is generated by the OneSAF Environmental Runtime Component (ERC). The ERC allows for highly detailed buildings, weather and climate effects, a wide range of terrain databases that can be used for Live, Virtual and Constructive applications. The detailed buildings called Ultra-High Resolution Buildings (UHRB) have detailed interiors to include walls, windows, and even furniture. They can have subterranean features like tunnels that connect them, and can be damaged dynamically during the simulation.

OneSAF also has Command Control (C2) adapter that allows it to communicate with a wide range of C2 devices to include AFATDS, AFATDS, AMDWS, MCS-GW, ASAS-L, FBCB2, and MCS-WS.

OneSAF can model unit behaviors from a fire team to a company level for both combat and non-combat troops. These behaviors can be modeled in either a virtual or constructive environment. They can be controlled but Graphical User Interfaces (GUIs) that proved an increased span of control on workstations.

Physical Information:
OneSAF is a software tool that can be installed on any computer that meets the minimum hardware requirements.

Equipment Required, Not Supplied:
A PC with the following requirements is needed:
CPU: 2.4 GHz
Memory: 2 GB DDR at 266 MHz
Monitor: Resolution 1280x1024
Video Card: NVIDIA Quadro 4 280 NVS / 64 Mb RAM (Note: This is only for the 3D viewer and other cards may not be supported)
Hard Drive: Ultra ATA 100 7200 RPM (Minimum 120 GB total space)
Dual Network Interface Cards: 1000 Fast Ethernet PCI Cards (Dual NIC ONLY needed for C2 interoperability, but helpful for HLA or DIS interoperability)
Network connection: 1 GB Ethernet
CD-RW: 40x/10x/40x DC-RW
DVD
A PC with the following requirements is recommended:
CPU: 3.2 GHz
Memory: 4 GB DDR at 266 MHz
Monitor: Resolution 1280x1024
Video Card: NVIDA or ATI Radeon /256 RAM
Hard Drive: 120 GB total space
Dual Network Interface Cards: 1000 Fast Ethernet PCI Cards (Dual NIC ONLY)
Network connection: 1 GB Ethernet
DVD
The PC will have to have the following software:
Linux 32 bit or 64 bit Red Hat Enterprise Linux, Workstation – Version 5.1 (Kernel Version 2.6.9)
Windows XP Operating System with Service Pack 3 (32-bit only)
Software used for additional tools in OneSAF can be found in the Software Baseline List found on OneSAF.net

Special Installation Requirements:
Installation instructions can be found in the OneSAF Maintenance Manual found on OneSAF.net

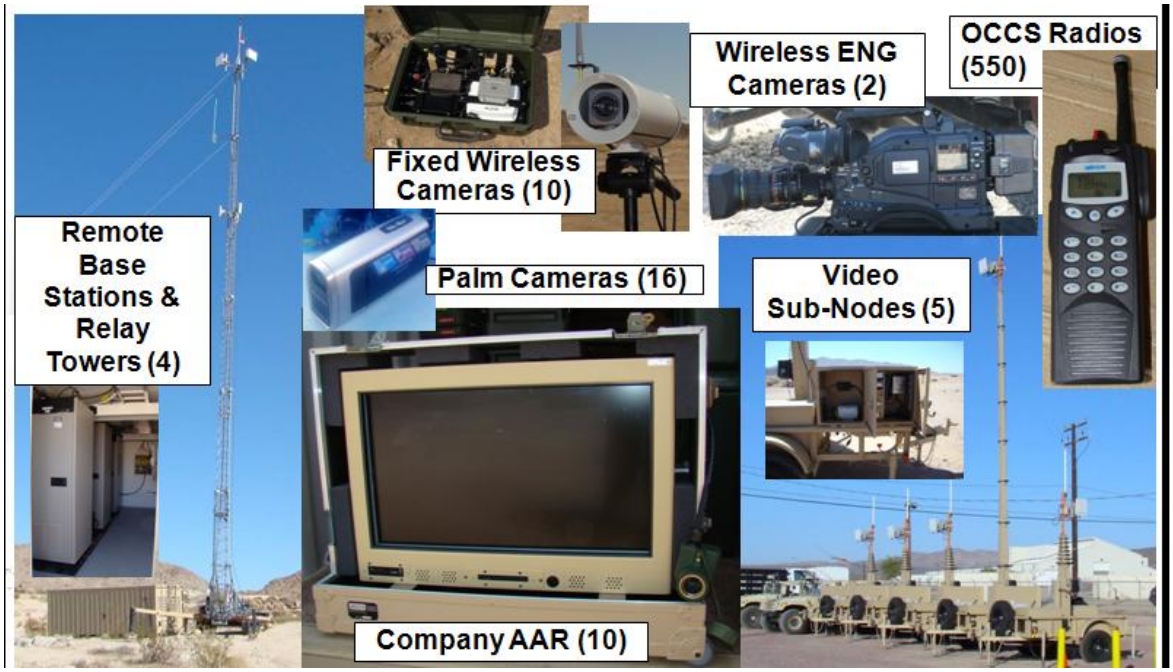
Power Requirements:
OneSAF is a software component so the power requirements follow what the hardware requires.

Applicable Publications:
OneSAF Users Manual
OneSAF Maintenance Manual
Hardware Baseline Lists
Software Baseline Lists
Information Security Plan
OneSAF v3.0 Authorization to Operation
(Note: Numerous other publications can be found on OneSAF.net)

Reference Publications:
All of these publications are provided in PDF on OneSAF.net

Training Requirements Supported:
MOSCs - Multiple

EXPORTABLE TRAINING CAPABILITY INSTRUMENTATION SYSTEM (ETC-IS)



Training Category/Level Utilized:
Combined Arms/Level 1

Logistic Responsible Command, Service, or Agency:
PEO-STRI, Orlando FL

Source and Method of Obtaining:
Not generally available for issue (limited production).

Purpose of Trainer:
Brigade/Regiment live training.

Functional Description:
The system is designed to provide Combat Training Center (CTC)-Level training for brigade combat teams (BCT) at home stations and support of collective training output information in the form of digital graphics, multimedia presentations, statistical and narrative summaries, and hardcopy paper products. Army Battle Command systems (ABCS)to monitor, stimulate (using constructive simulations) and control the training unit as higher command. The system also utilizes the tactical engagement simulation system (TESS) on the personnel and equipment participating in instrumented training exercises. Tactical audio and video of the training unit are captured and collected, compiled with other data from Observer Controllers and ABCS to produce after action review (AAR) products and take-home packages. This system enhances the ability of Army to conduct force-on-force training by allowing the collection of engagement data for analysis and AAR production and presentations to the training units.

Physical Information:
The ETC consists of multiple shelters that serve as training analysis feedback (TAF) and maintenance work areas, Mobile AAR Facilities, storage containers, IT equipment shelters, portable Radio towers. In a travel configuration the system consists of storage containers and air transportable components. In a functional configuration the system requires up to an 20x40 KM training area and a cantonment area of 185’ x 145’

Equipment Required, Not Supplied:
Track combat vehicles
Weapons
Aviation Assets

Special Installation Requirements:
Any special instructions other than those already explained.

Power Requirements:
The system can be powered from shore power (1600 amp, 208-volt) and generator power for the training area assets or can has the capability to be totally self sufficient through the use of generator power.

Applicable Publications:
TD 20-6910-701-20 (COTS) (Commercial Manuals)
OUM 6910-701-10 (Operator Manuals)
SMM 20-6910-701-24-P (Maintenance Manuals)

Reference Publications:
Exportable Training Capability (ETC) Operational and Organizational (O&O) Plan

Training Requirements Supported:
MOSCs - Armor, Infantry, Field Artillery, Air Defense Artillery, Engineer, Single Core, Military Inelegance, and DCT.

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APPENDIX A

Appendix A
References

Section I
Required Publications
This section contains no entries.

Section II
Related Publications

TRADOC PAM 350-9
TRADOC Training Devices for Army wide use.

Section III
Prescribed Forms

This section contains no entries.

Section IV
Referenced Forms

DA Form 4
Department of the Army Certification for Authentication of Records (EGA).

DA Form 17
Requisition for Publications and Blank Forms.

DA Form 2028
Recommended Changes to Publications and Blank Forms.

DA Form 2408–4
Weapon Data.

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APPENDIX B

Appendix B contains those devices for which there are device numbers assigned, however there has been limited or no data provided for the DA PAM 350-9. The devices are arrange in the same order as Section II Index of Training Devices.

INDEX OF APPENDIX B DEVICES

AVIATION (O1-SERIES)

DVC No.	*Nomenclature*	*Page*
01-244	Unmanned Aerial Vehicle Hunter (UAVH)	0
01-245	Unmanned Aerial Vehicle Shadow (UAVS)	0
01-246	Communication Traffic Simulator (CTS)	0
01-247	Unmanned Aerial Vehicle Simulation (UAVSIM)	0
01-248	Command Control Communication Computer (C4) Intelligence Surveillance & Recognizance	0

MEDICAL (O8-SERIES)

DVC No.	*Nomenclature*	*Page*
08-53	Nuclear, Biological, Chemical-Casualty Training System	0

ORDNANCE (09-SERIES)

DVC No.	*Nomenclature*	*Page*
09-144	M1A2 System Enhancement Program (SEP) Desk-Top Maintenance Training System (DT MTS)	0
09-145	M1A2 System Enhancement Program (SEP) Hands-On-Trainer Maintenance Training System (HOT MTS)	0

SIGNAL (11-SERIES)

DVC No.	*Nomenclature*	*Page*
11-92	Joint Surveillance & Target Attack Radar System (J-STARS) Ground Station Module Trainer System (GSMTS)	0

WEAPONS (23-SERIES)

DVC No.	*Nomenclature*	*Page*
23-107	Alignment Fixture Laser: MI (Short Range) Small Arms (SAAF)	0

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GLOSSARY

Section I
Abbreviations

Amp
Ampere

ACMS
Automated Configuration Management Subsystem

ACMS/SSF
Automated Configuration Management System/Software Support Facility

A-FIST
Abrams Full-Crew Interactive Simulation Trainer

AAA
Anti-Aircraft Artillery

AADCOM
Army Air Defense Command

AAF
Army Air Field

AAR
After Action Review

AAV-P
Amphibious Assault Vehicle-Personnel Carrier

ABCSI
Army Battle Command System Integration

AC
Alternating Current

ACALA
US Army Armament and Chemical Acquisition and Logistics Activity

ACSL
Abrams Common Software Library

ACT
Apache Crew Trainer

ADF
Automatic Direction Finder

ADFT
Artillery Direct Fire Trainer

ADM/LOG
Administrative/Logistics

ADS
Advanced Distributed Simulation

AEGS
Armor Exercise Generation Subsystem

AET
Avionics, Electronics Trainer

AFCS
Automatic Fire Control System

AGE
Auxiliary Ground Equipment

AGES/AD
Air-to-ground Engagement System/Air Defense

AGS
Armored Gun System

AIT
Advanced Individual Training

AL
Alabama

ALE
Advance Learning Environment

AM
Amplitude Modulation

AMIT
Aviation Maintenance Interchangeable Trainer

AMMT
Advance Morse Mission Trainer

AMTC
Armor Moving Target Carrier

AMTE
Advanced Maintenance Training Environment

AMTS
Active Maintenance Trainer Simulator

ANVIS/HUD
Aviator's Night Vision Instrument System/Heads Up Display

APC
Armored Personnel Carrier

APOBS
Anti-Personnel Obstacle Breaching System

APU
Auxiliary Power Unit

AQC
Aircraft Qualification Course

AR
Army Regulation

ARF
Airborne Relay Facility

ARNG
Army National Guard

ARTBASS
Army Training Battle Simulation System

ARTEP
Army Training Evaluation Program

ASAS-T
All Source Analysis System Trainer

ASET IV
AN/TPQ-45 Electronic Warfare Training Set

AT3
Avenger Table Top Trainer

GLOSSARY (Continued)

ATAS
Air-to-Air Stinger

ATC
Air Traffic Control

ATCOM
US Army Aviation and Troop Command

ATGM
Anti-Tank Guided Missile

ATHS
Airborne Target Handover System

ATM
Army Training Manual

ATS
Advanced Training Simulator

ATWESS
Anti Tank Weapons Effects Signature Simulator

AVCATT-A
Aviation Combined Arms Tactical Trainer Aviation Reconfigurable Manned Simulator

AVQ
Used in Device 07-56/17

AVR
Audio And Video Recording

AVTOC
Aviation Tactical Operations Center

AWS
Area Weapon System

AWSS
Area Weapon Scoring System

BATS-G
Bradley Advanced Training System Gunnery

BBS
Brigade/Battalion Battle Simulation

BCIS
Battlefield Combat Identification System

BCLR
Ballistic Computer and Laser Rangefinder

BDU (Used in Device 08-15)
Battle Dress Uniform

BEAT
Black Hawk Electrical Avionics Trainer

BELRF
Bradley Eyesafe Laser Rangefinder

BEMT
Basic Electronics Maintenance Trainer

BFA
Blank Firing Adapter

BFV
Bradley Fighting Vehicle

BGMTS
Bradley Gunnery and Missile Tracking System

BHMT
Black Hawk Maintenance Trainer

BIDS
Biological Detection System

BIT
Built-On Test

BITE
Built-In Test Equipment

BMMT
Basic Morse Mission Trainer

BN/TF
Battalion/Task Force

BNCOC
Basic Non-Commissioned Officer Course

BRM
Basic Rifle Marksmanship

BST
Basic Skills Trainer

BWO
Backward Wave Oscillator

C
Celsius

C-E
Communications-Electronics

C3
Command Control and Communication

CAAS
Chemical Agent Alarm Simulator

CAD
Computer Aided Design

CAI
Computer-Aided Instruction

CAMSIM
Chemical Agent Monitor Simulator

CANA
Convulsant Antidote for Nerve Agent

CANATD
Convulsant Antidote for Nerve Agent Training Device

CARNS
Collision Avoidance Radar Navigation System

CART
Collision Avoidance Radar Trainer

GLOSSARY (Continued)

CAT
Composite Armament Trainer

CAT 91
Canadian Army Trophy 1991

CATIES
Combined Arms Training-Integrated Evaluation System

CATTS
Combined Arms Tactical Training Simulator

CAV-T
Combat Aviation Virtual Trainer

CAVSIM
Chemical Agent Monitor Simulator

CAVSIM
Combat Aviation Virtual Simulation

CBI
Computer Based Instruction

CBS
Corps Battle Simulation

CCDS
Commercial Computer Documentation Set

CCHTF
Close Combat Heavy/Light Battalion Task Force

CCTT
Close Combat Tactical Trainer

CCTV
Closed Circuit Television

CCU
Communications Control Unit

CD
Controller Device

CECOM
US Army Communications-Electronics Command

CEPT
Cockpit Emergency Procedures Trainer

CET
Composite Electrical Trainer

CEV
Combat Engineer Vehicle

CEW
Combat Engineer Workstation

CFITS
Composite Fault Insertion Training System

CFF
Call-for-Fire

CFFT
Call-for-Fire Trainer

CFT
Captive Flight Trainer

CGF
Computer Generated Force

CHAALS
Communications High Accuracy Airborne Location System

CHP
Common Hardware Platform

CID/GCDPS
Commander's Integrated Display/ Gunner's Control Display Panel Subsystem

CIG
Computer Image Generation

CIS
Command Instrument System

CIS
Core Instrumentation Subsystem

CIST
Command Instrument System Trainer

CK
Conversion Kit

CLU
Command Launch Unit

CMI
Computer-Managed Instruction

CMS
Combat Mission Simulator

CMT
Composite Maintenance Trainer

CMTC
Combat Maneuver Training Center

CMTC-IS
Combat Maneuver Training Center - Instrumentation System

CO/TM
Company/Team

COFT
Conduct Of Fire Trainer

COI
Course Of Instruction

CONUS
Continental/Contiguous United States

COTS
Commercial-Off-The-Shelf

CPT
Cockpit Procedures Trainer

CPR
Cardio-Pulmonary Resuscitation

GLOSSARY (Continued)

CPU
Central Processing Unit

CRT
Cathode Ray Tube

CRYPTO
Cryptographic

CS
Computational Subsystem

CS
Communications Subsystem

CS1
Tear Gas

CSMET
Crew Station Mission Equipment Trainer

CS2
Tear Gas

CSCI
Computer Software Configuration Item

CSS
Crew Station Subsystem

CST
Classroom System Trainer

CSTARS
Combat Synthetic Training Assessment Range

CTS-U
Communication Traffic Simulator-Upgrade

CVC
Combat vehicle crewman

CVKI
Combat Vehicle Kill Indicator

CVS
Combat Vehicle System

CW
Continuous Wave

CWAR
Continuous Wave Acquisition Radar

CWEPT
Cockpit, Weapons and Emergency Procedures Trainer

DAM
Display Aided Maintenance

DART
Disappearing Automatic Retaliatory Target

DASE
Digital Automatic Stabilization Equipment

DATA
Department of the Army Training Aids

DATS
Data Automated Tower System

DB
Decibel

DBm
Decibel (Referenced to Milliwatts)

DBRITE
Digital Bright Radar Indicator Tower Equipment

DBST
Digital Battle Staff Trainer

DC
Direct Current

DEC
Digital Equipment Corporation

DECON
Decontamination

DFSK
Double Frequency Shift Keying

DI
Dismounted Infantry

DPERT
Driver Procedural Emergency Reaction Trainer

DPR
Data Processing Rack

DPSC
Defense Personnel Support Center

DS
Direct Support

DSCS
Defense Satellite Communications System

DT
Desk Top

DTOC
Division Tactical Operations Center

DTV
Day Television

DVC
Device

DVO
Direct Video Optics

ECA
Electronic Control Assembly

ECM
Electronic Countermeasures

ECS
Engagement Control Stations

ECU
Electronics Controller Unit

GLOSSARY (Continued)

EEU
Environmental Enclosure Unit

EIDS
Electronic Information Delivery System

ELINT
Electronic Intelligence

EMT
Engine Maintenance Trainer

EPT
Enhanced Procedural Trainer

ESV
Engineer Squad Vehicle

EST
Engagement Skills Trainer

F
Fahrenheit

FAAD C2
Forward Area Air Defense Command and Control

FAST
Day Record Fire Range Target System

FATMT
Field Artillery Turret Maintenance Trainer

FBCB2
Force XXI Battle Command Brigade-and-below

FCP-TPT
Fire Control Panel Tactical Proficiency Trainer

FCPT
Fire Control Panel Trainer

FCS
Fire Control System

FCUHPT
Flight Control and Utility Hydraulic Panel Trainer

FFTD
Firefinder Training Device

FHT
Field Handling Trainer

FID
Fault Insertion Device

FIMT
Firefinder Intermediate Maintenance Trainer

FIST
Fire Support Teams

FLIR
Forward Looking Infrared

FM
Field Manual

FM
Frequency Modulation

FMS
Foreign Military Service

FOT
Family Of Trainers

FOV
Field-Of-View

FS
Fire Support

FSATS
Fire Support Automated Test System

FSCATT
Fire Support Combined Arms Tactical Trainer

FSE
Fire Support Element

FSK
Frequency Shift Keying

FSR
Field Service Representative

FSS
Full System Simulator

FTI
Fixed Tactical Internet

FTS
Field Termination Site

FTT
Field Tactical Trainer

FTX
Field Training Exercise

G/VLLD
Ground Vehicular Laser Locator Designator

GE
Germany

GGMTS
Ground Station Module Trainer System

GHS
Gunner's Handstation

GHz
Gigahertz (thousands of MHz)

GMDSS
Global Maritime Distress Signaling System

GMSDS
Global Maritime Safety Distress System

GPC
General Purpose Computer

GPS
Global Positioning System

GLOSSARY (Continued)

GPTS
Generic Principles Training Suite

GRCS
Guardrail/Common Sensor

GRMT
Guardrail Maintenance Trainer

GS
General Support

GTA
Graphic Training Aid

GUARDFIST
Guard Unit Armory Device Full-crew Interactive Simulation Trainer

GUFS
Gunfire Simulator

H
High

HATS
Hawk Advanced Training Simulator

HGSS
Hellfire Ground Support Simulator

HITMORE
Helicopter Installed Television Monitor and Recorder

HLA
High Level Architecture

HOT
Hands-on Trainer

HP
Hewlett Packard

HPIR
High Power Illuminator Radar

HSI
Used in Device 01-143

HSTAMIDS
Handheld Standoff Mine Detection System

HSWS
Home Station Workstation Subsystem

HTA
Hohenfels Training Area

HUTT
Hull to Turret Transmitter

HMMWV
Used in Device 71-06)

Hz
Hertz

I/O
Input/Output

I/OSS
Instructor/Operator Station Subsystem

I-COFT
Institutional Conduct Of Fire Trainer

IAW
In Accordance With

IBM
International Business Machine

ICP
Indicator Control Panel

ICTS
Integrated Communication Training System

ICW-SS
Interactive Courseware Student Station

IEW
Intelligence and Electronic Warfare

ID
Identification

IETM
Interactive Electronic Technical Manual

IFCST
Institutional Fire Control System Trainer

IGRV
Improved Guardrail V

IHADSS
Integrated Helmet and Designation Sight System

IIS
Improved Instructor Station

ILTEM
Improved Lift Target Elevating Mechanism

IMC
International Morse Code

IMT
Institutional Maintenance Trainer

IMTC
Infantry Moving Target Carrier

IMTS
Improved Moving Target Simulator

IOS
Instructor Operator Station

IPS
Integrated Process Facility

IR
Infrared Radiation

IRETS
Infantry Remoted Equipment Target System

IRSAM
Infrared Surface To Air

GLOSSARY (Continued)

ISU
Integrated Sight Unit

ITAS
Improved Target Acquisition System

ITM
Infantry Target Mechanism

ITV
Improved TOW Vehicle

IWS
Individual Weapon System

JCATS
Joint Conflict and Tactical Simulation

JDLM
Joint Deployment and Logistics Model

JROMPS
Joint Radio Operator and Maintenance Procedures Simulator

JRTC
Joint Readiness Training Center

JRTC-IS
Joint Readiness Training Center-Instrumentation System

JSTARS
Joint-Surveillance and Target Attack Radar System

JUAV
Joint Unmanned Aerial Vehicle

JTIDS
Joint Tactical Information Distribution System

K-Band
12.5 - 17.5 GHz

km
Kilometer

KSI
Kill Status Indicator

KVA
Kilovolt-Ampere

L
Long

L-Band
1220 - 1350 MHz

LAN
Local Area Network

LAV
Light Armored Vehicle

LAV-AT
Light Armored Vehicle; Anti Tank

LBS.
Pounds

LDS
Launcher Control System

LED
Light-Emitting Diodes

LES
Launch Environment Simulator

LGT
Landing Gear Trainer

LLM
Launcher Loader Module

LMS
Lightweight Moving Target System

LOMAH
Location Of Hit And Miss System

LORAN
Long Range Area Navigation

LR
Long Rifle

LRF/D
Laser Range Finder/Designator

LSA
Logistic Support Analysis

LSI
Used in Device 01-125

LTID
Laser Target Interface Device

MAIS
Mobile Automated Instrumentation System

MANPAD
Portable Air Defense

MAPP
Methyl acetylene Propadiene Propane Propylene

MBG
Medium Girder Bridge

MBT
Main Battle Tank

MC
Maintenance Console

MC
Modernized Cobra

MCA
Military Construction Army

MCA
Master Control Assembly

MCAV-T
Combat Aviation Virtual Trainer-Mobile

MCC
Mission Control Center

MCD
Missile Countermeasures Device

M-COFT
Mobile Conduct of Fire Trainer

GLOSSARY (Continued)

MCS
Mission Control Station

MCTC
Maneuver Combat Training Center

MCV
Mortar Carrier Vehicle

MDS
Meteorological Data System

MEP
Mission Equipment Package

MES
Mine Effects Simulator

METL
Mission Essential Task List

MEV
Medical Evacuation Vehicle

MG
Machine Gun

MGBTS
Medium Girder Bridge Training Set

MGSS
Main Gun Signature Simulator

MHz
Megahertz

MICOM
US Army Missile Command

MILES
Multiple Integrated Laser Engagement System

MISS
Master Instructor Station Subsystem

MITS
Mobile Independent Target System

MIW
Master Instructor Workstation

MLRS
Multiple Launch Rocket System

mm
Millimeter

MMBJ
Mobile Multi-Band Jammer

MMS
Mast mounted Sight

MMT
Morse Mission Trainer

MO&E
March Order And Emplacement

MOPMS
Modular Pack Mine System

MOSC
Military Occupational Speciality Code

MOUT
Military Operations In Urban Terrain

MPC
Mobile Production Center

MPU
Mobile Production Unit

MRT
Missile Round Trainer

MRAP
Mine Resistance Ambush Protected

MSR
Missile Simulation Round

MST
Medical Suite Trainer

MTEL
Maintenance Trainer Exercise Lesson

MTELS
Maintenance Trainer Exercise Lessons

MTP
Mission Training Plan

MTS
Maintenance Training System

MVU
Mobile Video Unit

MWDD
Man Worn Detection Device

N_1
Compressor Speed

N_2
Turbine Speed

NAV/POS
Navigation/Positioning System

NAVAID
Navigational Aid

NAVEXOS
Executive Office of the Secretary of the Navy

NAVSO
Navy Support Office

NAVTRADEV
Naval Training Device

NBC
Nuclear Biological and Chemical

GLOSSARY (Continued)

NBCRS
Nuclear Biological Chemical Reconnaissance System

NCO
Non-Commissioned Officer

NCSRT
Non-communication Signal Recognition Trainer

NDI
Nondevelopmental Item

NSN
National Stock Number

NTC
National Training Center

NTC-IS
National Training Center-Instrumentation System

O.D.
Olive Drab

OAP
Overtemp Alarm Panel

OBC
Officer Basic Course

OC
Operations Center

OCONUS
Outside the Continental United States

ODS
Operation Desert Storm

OIP/MPAT
Optical Improvement Program/Multi-Purpose Anti-Tank

OPFOR
Opposing Force

ORP
Operator Response Panel

OSV
OPFOR Surrogate Vehicle

PCOFT
Platoon Conduct of Fire Trainer

PABX
Private Automated Branch Exchange

PAD
Portable Air Defense

PC
Personal Computer

PCM
Pulse Code Modulation

PCOFT
Patriot Conduct of Fire Trainer

PCP
Platoon Command Post

PDCU
Power and Distribution and Control Unit

PDS
Power Distribution System

PDU
Power Distribution Unit

PGS
Precision Gunnery System

PGT
Platoon Gunnery Trainer

PGTS
Precision Gunnery Training System

PIMIT
Patriot Intermediate Maintenance Institutional Trainer

PK
Probability of Kill

PKL
Probability of Kill Loader

PMI
Protective Mask Interface

PNVS
Pilot Night Vision Sensor

POMT
Patriot Organizational Maintenance Trainer

PP1
Pseudopilot Position 1

PP2
Pseudopilot Position 2

PPI
Plan Position Indicator

PPPDDDT
Power Plant/Power Drive Dynamic Display Trainer

PPS
Portable Power Supply

PRIME
Precision Range Integrated Maneuver Exercise

PSI
Pounds Per Square Inch

PTT
Part Task Trainer

PTWS
Point Target Weapon System

PVD
Plan View Display

QFMT
Quickfix Maintenance Trainer

QRD-T
Quick Reaction Dismounted Trainer System

GLOSSARY (Continued)

RCS
Range Control Station

RDMS
Range Data Measurement System

RDF
Radio Direction Finder

RETS
Remoted Target System

RF
Radio Frequency

RFS
Rifle Fire Simulator

RFSAM
Radio Frequency Surface to Air

RMS
Remote Monitoring Station

RMCS
Range Monitoring and Control Subsystem

RMS
Remote Monitoring Subsystem

RPM
Revolutions Per Minute

RS
Radar Set

RSA
Remote Station Assembly

RTCA
Real Time Casualty Assessment

RTS
Radio Terminal Set

RYA
Relay Assembly

S-Band
2500 - 3500 MHz

SA
Situational Awareness

SAD
Scenario Authoring Device

SAF
Semi-Automated Forces

SAL
Semi-Automatic Laser

SAT
Small Arms Transmitter

SATCOM
Satellite Communications

SAW
Squad Automatic Weapon

SAWE
Simulated Area Weapons Effects

SCC
Support Control Console

SCT
Shadow Crew Trainer

SDA
Side Detector Assembly

SEOS
Electronic Warfare Equipment Operator Simulator Suite

SEP
System Enhancement Program

SGM
Shock Generator Mechanism

SIM
Simulant Mines

SIMNET
Simulation Network

SINCGARS
Single channel Ground and Airborne Radio System

SLAM
Selectable Lightweight Attack Munition

SM
Soldier’s Manual

SMART-T
Secure Mobile Anti-Jam Reliable
Tactical Terminal

SMAW
Shoulder-Mounted Multipurpose Assault Weapon

SMT
Sentinel Maintenance Trainer

SOACMS
Special Operations Aviation Combat Mission Simulator

SPACOL
Space Collection Trainer

SPC
Special Purpose Computer

SPORT
Soldier's Portable On-System Repair Tool

SPPRST
Single Point Pressure Refueling System Trainer

SS
Shelter Subsystem

SS
Student Station

SSF
Software Support Facility

GLOSSARY (Continued)

SSS
Sensor Signal Simulator

STE/ICE
Simplified Test Equipment for Internal Combustion Engines

STLS
Stinger Launcher Simulator

STPT
Stinger Troop Proficiency Trainer

STRICOM
US Army Simulation Training and Instrumentation Command

STS
Sentinel Training System

STX
Situational Exercise

T2SS-SE
TOW-2 Subsystem Support Equipment

TACOM
US Army Tank-Automotive Command

TACSIM
Tactical Simulation

TADS
Target Acquisition and Designation
Sight

TAF
Training Analysis Feedback

TAFO
Training Analysis Feedback Officer

TBMT
Trail Blazer Maintenance Trainer

TC
Tank Commander

TCB
Turret Control Box

TCF
Technical Control Facilities

TD
Technical Document

TD
Training Device

TDB
Turret Distribution Box

TDECC
Tactical Display and Engagement Control Console

TDMA
Time Division Multiplex Approach

TDT
Tank Driver Trainer

TDTD
Training Data Transfer Device

TECCS
Tactical Engagement Close Combat
System

TEHTT
Turret Electrical and Hydraulic Troubleshooting Trainer

TES
Tactical Engagement Simulator

TES
Tactical Engagement System

TESS
Tactical Engagement Simulation System

THMTG
Target Holding Mechanism Tank Gunnery

THP
Take Home Package

THT
Tracking Head Trainer

TM
Technical Manual

TMT
Training Missile Tube

TOC
Tactical Operations Center

TOMT
Turret Organizational Maintenance Trainer

TOW
Tube Launched Optically Tracked Wire Guided

TPT-DEU
Tactical Proficiency Trainer-Digitation Enabler Unit

TRADOC
US Army Training and Doctrine Command

TRAINS
Training Agent Chemical Detector Tickets Simulator

TRANS
Transmission

TS
Training System

TSC
Training Support Center

TSFO
Training Set Fire Observation

TSGMS
Used in Device 01-123/09

GLOSSARY (Continued)

TSTT
TADS Selected Task trainer

TSV
Through-Sight Video

TTOMT
Tank Turret Organizational Trainer

TTT
Table Top Trainer

TWB
Tow Control Box

TWGSS
Tank Weapon Gunnery Simulation System

TWGSS/PGS
Tank Weapon Gunnery Simulation System/Precision Gunnery System

U-COFT
Unit Conduct of Fire Trainer

UAV
Unmanned Aerial Vehicle

UCOFT
Unit Conduct of Fire Trainer

ULT
Universal Laser Transmitter

USAICS
US Army Intelligence Center and School

USAMMA
US Army Medical Materiel Agency

USAR
US Army Reserve

USAREUR
United States Army Europe

USMC
United States Marine Corps

VAC
Volts Alternating Current

VCR
Video Cassette Recorder

VDB
Vehicle Distribution Box

VDC
Volts Direct Current

VHF
Very High Frequency

VIGS
Videodisc Gunnery Simulator

VS
Visual Subsystem

VTM
Vehicle Test Meter

W
Watt

W
Wide

W.O.
Warrant Officer

WAM
Wide Area Munition

WARSIM
Warfighter's Simulation

WCB
Weapons Control Box

WESS
Tank Gunfire Simulator

WRAP
Warfighter Rapid Acquisition Program

WSD
Weapon System Development

WSD-T
Weapon System Development-Trainer

X-Band
8500 – 9600 MHz

Section II
Terms:
This section contains no entries.

Section III
Special Abbreviations and Terms:
This section contains no entries.

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