OPERATOR'S MANUAL

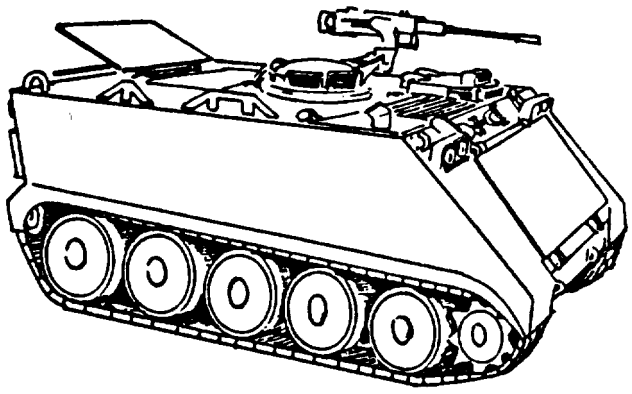
FOR

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES):

SIMULATOR SYSTEM, FIRING LASER: M63
(NSN 1265-01-077-6082)

FOR

M113 APC
AND M220 TOW VEHICLE



H E A D Q U A R T E R S , D E P A R T M E N T O F T H E A R M Y

JULY 1988

TECHNICAL MANUAL
TM 9-1265-370-10-3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 15 JULY 1988

OPERATOR'S MANUAL
FOR
MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES)
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FOR
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REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander U.S. Army Simulation, Training, and Instrumentation Command (STRICOM), ATTN: AMSTI-LSM, 12350 Research Parkway, Orlando, FL 32826-3276. A reply will be furnished to you.

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*Supercedes TM 9-1265-370-10-3 dated 22 January 1982

Storage Instructions

Equipment Distribution:

The MILES Equipment for the M113 and M220 TOW vehicle is shown in Task 2 of this Technical Manual (TM). Use the picture with Task 2 as a guide for equipment distribution. Be sure to issue a copy of this TM along with the MILES equipment.

Equipment Return and Storage:

CAUTION

MAKE CERTAIN THAT THE MWLD TORSO AND HELMET HARNESSES ARE COMPLETELY DRY BEFORE STORAGE IN TRANSIT CASE.

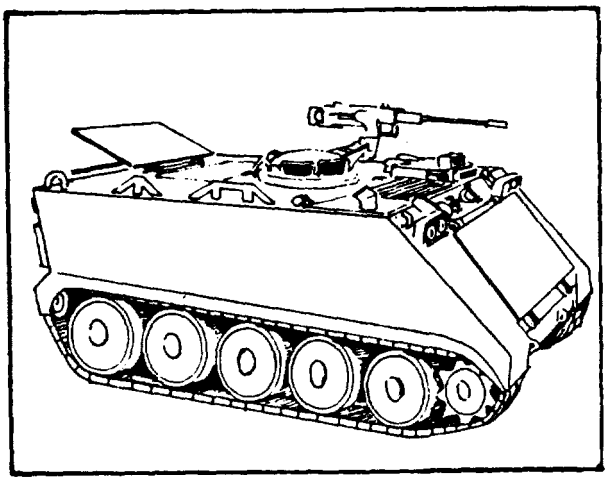
When receiving equipment for storage, always inspect the returned equipment using Operational Task 5 in this TM for guidance.

Return all MILES Equipment and the TMs to their transit cases.

Special Instructions for Infrequently Used Equipment:

If M113-M220/MILES Equipment is unused for 60 days, remove from transit case and perform Outside Tasks 2, 3, 6, and 8; Inside Tasks 1 and 3; Machine Gun Task 1; MWLD tasks 1 and 2; and Operational Task 5.

Skills Needed To Use This Manual



TO USE THIS MANUAL YOU MUST BE ABLE TO:

1. Aim and fire the M2 machine gun. (See TM 6920-43412&P.)

2. Prepare the M2 for blank-fire operation. (See TM 6920-434-12&P.)

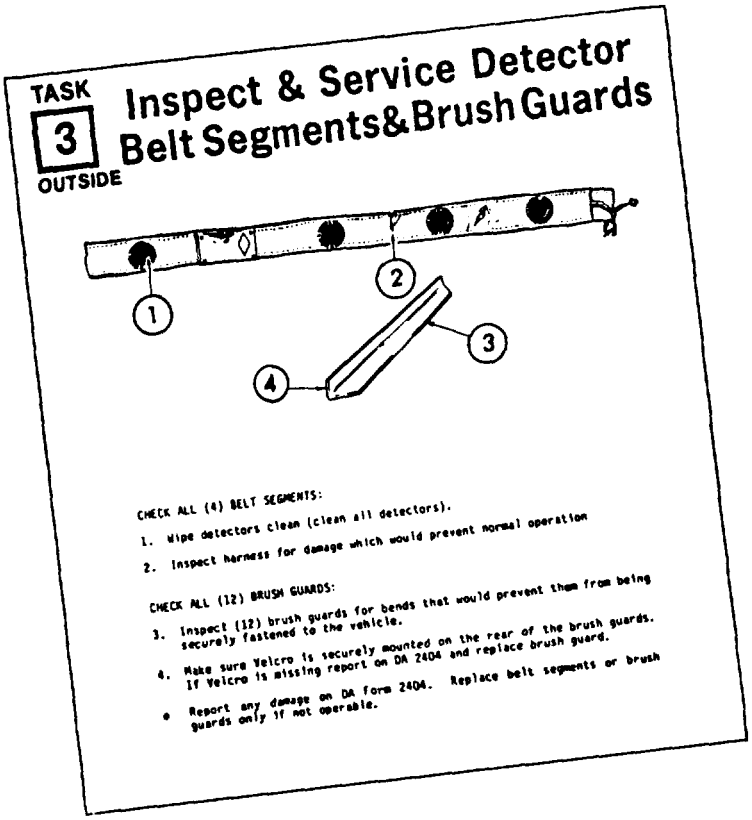
3. Complete DA Form 2402.

IF YOU CAN NOT DO THESE TASKS, ASK YOUR NCO OR INSTRUCTOR TO SHOW YOU HOW. WHEN YOU CAN DO ALL THESE TASKS, GO ON WITH THIS MANUAL.

How to Use This Manual

Before you use any M113-M220/MILES equipment, read this Manual

- The first part of the manual briefly explains the purpose of the equipment and how it is used.
- Then comes step-by-step guidance for every task you need to do with the M113-M220/MILES equipment.



TASK 3 OUTSIDE

Inspect & Service Detector Belt Segments & Brush Guards

CHECK ALL (4) BELT SEGMENTS:

1. Wipe detectors clean (clean all detectors).
2. Inspect harness for damage which would prevent normal operation

CHECK ALL (12) BRUSH GUARDS:

3. Inspect (12) brush guards for bends that would prevent them from being securely fastened to the vehicle.
4. Make sure Velcro is securely mounted on the rear of the brush guards. If Velcro is missing report on DA 2404 and replace brush guard.

- Report any damage on DA form 2404. Replace belt segments or brush guards only if not operable.

- The task pages look like this. Some longer tasks run more than one page. Before you begin a task, read all the steps in the tasks and look at each drawing carefully. To help perform the task, some steps have matching numbers on the drawings. Perform each step exactly the way you are instructed.

- Do each task in the order it occurs in the manual.

DON'T JUMP AHEAD DON'T SKIP ANY STEPS

- If your equipment has a problem you can't fix using this manual, report it on DA Form 2402. To get a replacement, turn in the faulty equipment and the completed DA Form 2402 to your NCOIC.

- In the back of this manual is a list of abbreviations and an explanation of terms (glossary) used in this manual. If you read a word you don't understand, check the list of abbreviations and the glossary.

General Information

This manual shows you how to operate and maintain the M113-M220 APC/MILES laser simulator equipment. The operator and maintenance tasks are listed in the Table of Contents. For operator and maintenance information pertaining to MILES TOW equipment see TM 9-1265-36810-2.

Purpose of Equipment:

MILES equipment for the M113 APC and M220 TOW vehicle consists of a laser transmitter and a laser detector system. The simulator system allows realistic combat training without the hazards of using live ammunition.

Forms and Records:

a. Reports of Maintenance or Equipment Replacement. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750.

b. Reporting Equipment Improvement Recommendations (EIRs).

   EIRs can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why a procedure is difficult. EIRs may be submitted on SF 368. Mail direct to: Commander, U.S. Army Armament, Munitions and Chemical Command, ATTN: AMSMC-QAD, Rock Island, IL 61299-6000.

c. Hand Receipt Manual

   Hand receipts for Components and End Item (COE1), Basic Issue Items (BII), and Additional Authorization List (AAL) items are published in a Hand Receipt manual, TM 9-1265-10-3-HR. This manual is published to aid in property accountability and is available through: Commander, U.S. Army Adjutant General Publication Center, 2800 Eastern Boulevard, Baltimore, MD 21220.

Equipment Description

Capabilities and Features:

Major components of the M113-220/MILES System consist of:

1. Laser transmitter mounted on barrel of M2 machine gun, and activated by sound of blank cartridges being fired.

2. Detector belt segments mounted on all four sides of the vehicle hull.

3. A Combat Vehicle Kill Indicator (CVKI) mounted to the engine cover lifting eye. The CVKI is a light which flashes to indicate laser hits on the vehicle.

The M113-M220/MILES system can be operated in temperatures from -35°C (-31°F) to 62°C (144°F). It permits tactical skills to be practiced under realistic conditions.

The laser transmitter sends harmless invisible laser (light) beams toward targets. If the laser beam hits the target, a detector assembly on the target senses the beam, causes an alarm to sound in the intercom of the target vehicle, and causes the externally-mounted light to begin flashing. If the laser beam hits a soldier, a buzzer sounds on the man-worn laser detector harness.

Battery Information:

The M113-M220/MILES system uses BA-200/U, 6-volt carbon-zinc batteries, and BA-3090/U, 9-volt alkaline batteries. These batteries provide approximately 100 hours of power to the system.

How It Works

MILES-equipped weapons work much like the real weapons. However, instead of firing machine gun bullets, the MILES-equipment weapons fire laser light beams at targets. To make the MILES-equipped weapons as real as possible, the machine gun fires blank ammunition.

LOCATION OF COMPONENTS: For M113 APC