DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DEMILITARIZATION PROCEDURES FOR BALLISTIC AERIAL TARGET SYSTEM (BATS) AND LIGHT TARGET GUIDED MISSILE SYSTEM MQM-33A AND MQM-33B

Headquarters, Department of the Army, Washington, D.C.
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CHAPTER 1

INTRODUCTION

1-1. Scope

This manual provides additional technical instructions covering the methods and degree of demilitarization of surplus items of the Ballistic Aerial Target System and Light Target Guided Missile System, as required by DOD 4160.21-M-1. DOD 4160.21-M-1, which contains the basic information on demilitarization, shall be used in conjunction with this manual. Where this manual conflicts with DOD 4160.2 l-M- 1, the latter takes precedence.

1-2. Reporting of Equipment Publication Improvements

Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commander, US Army Missile Command, ATTN: AMSMI-NPM, Redstone Arsenal, AL 35809.

1-3. Authorization

Demilitarization of surplus military materiel shall be limited to that which the National Inventory Control Points (NICP) have identified as requiring demilitarization. Demilitarization of those items which are not normally physically accepted by a Property Disposal Officer (PDO) will be accomplished by the activity having physical custody of the property upon completion of all required utilization and donation screening. Such action will be coordinated with the PDO. Where appropriate, demilitarization of this property may be accomplished as a condition of sale, provided that there are effective controls and surveillance to assure proper demilitarization, Where the PDO is the custodian of the property and is unable to perform the required demilitarization, he may require demilitarization as a condition of sale, with proper inspection and surveillance, or may obtain assistance from the activity turning in the property.

1-4. Certification

A certificate reading substantially as quoted below and signed by two qualified Government representatives will be executed and placed in the applicable contract or property disposal file for all items demilitarized.

"1 certify that (indicate items) were demilitarized in accordance with (cite specific instructions which were complied with; e.g., Defense Demilitarization Manual, DOD 4160. 21-M-1, TM 750-262-4 -9)."

1-5. Purpose of Demilitarization

The purpose of demilitarization of equipment is to alter its characteristics to the extent necessary to preclude its unauthorized use, to destroy the military advantages inherent in the equipment, to render innocuous those items that are dangerous, to protect the national interest, and to preclude the compromise of security requirements.

1-6. General Instructions

The procedures in this manual are written from the point of view of starting with assembled items, but they are also applicable to like items in the supply system.

CHAPTER 2

METHODS OF DEMILITARIZATION

2-1. General

This chapter defines methods, describes procedures and precautions, and lists the equipment required to perform the operations prescribed in the following chapters. Alternate methods may be employed when they will achieve equivalent results with equal efficiency and without added safety hazards.

2-2. Burning

A clean burning flammable material such as gasoline should be used for burning. It should

be accomplished in an approved area. Since fire alone may not achieve the damage expected, the material being demilitarized should be inspected following the burn to insure adequacy of the operation.

2-3. Cutting

Cutting may refer to two different types of operations:

a, Cables and like items should be severed completely, using a wire cutter, axe, hacksaw, or equivalent.

b. Cutting may also be accomplished using an acetylene or arc-welding torch. The following safety precautions must be observed during torch cutting,

(1) Demilitarization by torch cutting is inherently hazardous. High order and low order explosions may occur in torch cutting closed chambers such as tanks, accumulators, recoil mechanism components, aircraft struts, hollow rods or hollow valve stems, even though the components are not under pressure or have had small holes drilled in them.

(2) An explosive condition may result from the heat of the torch vaporizing oil, paint, or components inside the component. In addition, gases from the cutting torch may enter the hollow space, either adding to or creating a highly explosive condition.

(3) In torch cutting, it must be realized that components under spring pressure may become dangerous upon sudden release of the spring-holding construction.

(4) Safety precautions are also necessary where flammable materiels or materials such as sodium and magnesium are involved in the the torch cutting operation.

(5) Precautions against the hazards of torch cutting should include isolation of the working area, a technical knowledge of the construction of the component to be torch cut, and remote control of the cutting operation.

2-4. Damaging

(See Mutilating, para 2-6).

2-5. Detonating

a. Location requirements: Approved demolition are a located in accordance with requirements outlined in TM 9-1300-206.

b. Personnel requirements: Three operators and two casuals. Ammunition inspectors or specially trained class V personnel will be responsible for insuring that qualified operating personnel are used for operations involving ammunition or explosives and that instructions in this manual are understood and followed.

c. Equipment requirements:

(1) Approved handling equipment.

(2) Flameproof coveralls, safety shoes, and safety glasses (operators only).

(3) Detonating cord.

(4) Galvanometer, FSN 6625-212-4605, or equivalent.

(5) Blasting machine.

(6) Approved hand tools.

(7) Composition C-4 (2 1/2 lb charge), FSN 1375-028-5148.

(8) Blasting caps, electric no. 8, FSN 1375-028-5224.

d. References required:

(1) TM 9-1410-302-35/3

(2) TM 9-1410-302-20

(3) TM 9-1300-206

(4) FM 5-25

e. Procedure

NOTE

Alternate methods of demolition may be used; however, strict compliance of the provisions of TM 9-1300-206 must be adhered to.

(1) Place item in an approved pit, trench, or site located in accordance with requirements of TM 9-1300-206. Items should be placed in the direction which offers the least exposure. Sandbags may be used to position items and prevent movement.

(2) Place the specified quantities of composition C-4 as shown in figure 2-1. Secure the charges with masking tape.

(3) Perform a static electrical and continuity test at the blasting cap lead wires and firing lead wires using a detect-a-meter or equivalent.

(4) Connect the blasting cap lead wires in series and connect to the grounded firing lead wires.

(5) Carefully insert the blasting caps into the composition C-4 charge.

(6) Tape the blasting cap lead wire to the weapon, leaving sufficient slack to prevent pulling.

(7) Clear the area of personnel and proceed to the firing point.

(8) Unshort the firing lead wires at the firing end and perform an electrical continuity test of the firing circuit.

WARNING

In the event of a misfire, at least three additional attempts should be made to fire the circuit. Wait at least 30 minutes before investigating a misfire and disconnecting the firing circuit. Wait at least 15 minutes after firing before inspecting the results.

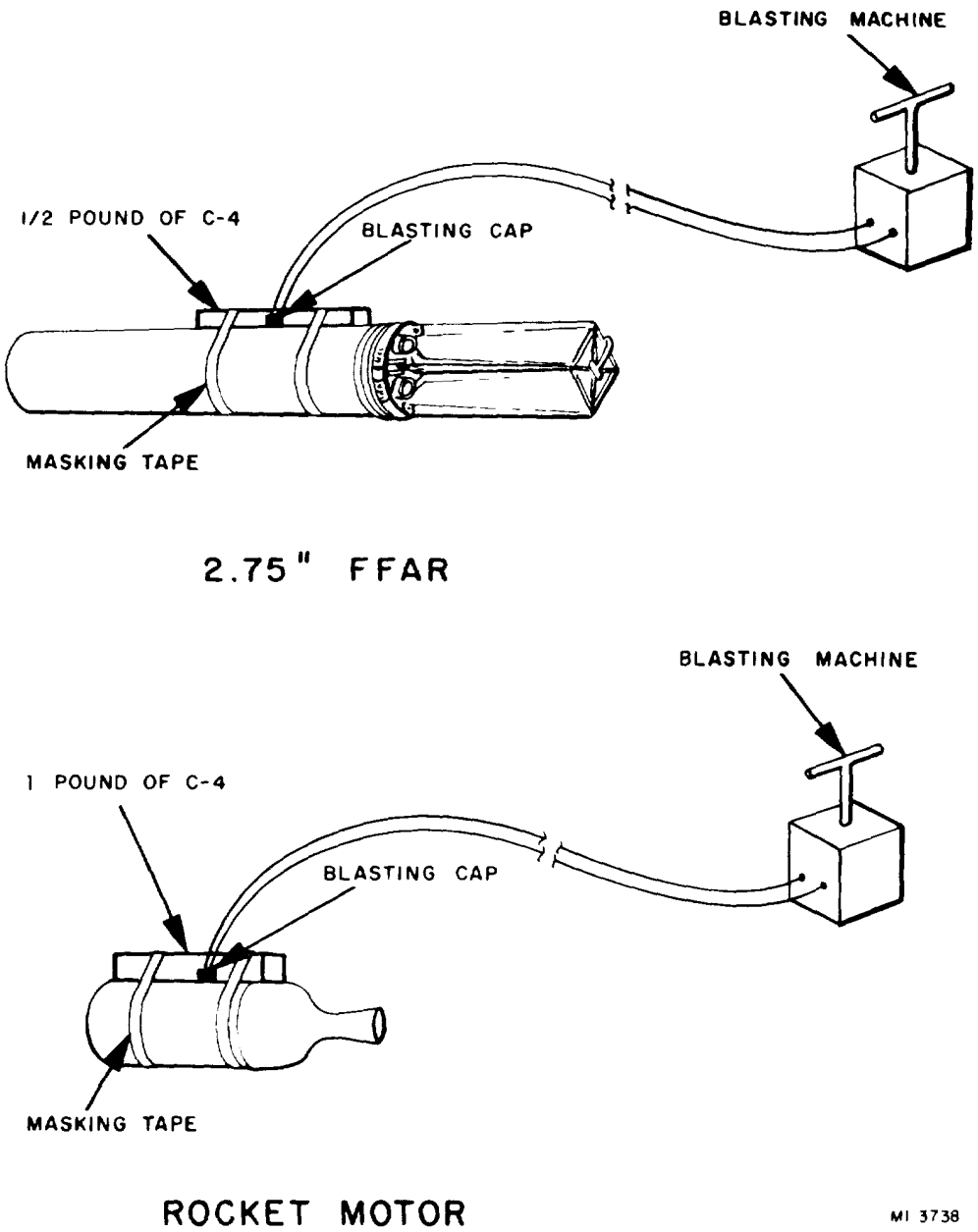

Figure 2-1. Detonating Class V Items

2-6. Mutilating

Mutilating refers to damaging an item beyond repair by the use of a hammer, sledgehammer, crowbar, torch, or other appropriate tool. Applies to solid objects that cannot be smashed.

2-7. Smashing

Smashing refers to the complete crushing of a relatively fragile item by the use of a hammer, sledgehammer, or other appropriate tool.

2-8. Welding

Welding refers to the welding of designated sections together to render the equipment permanently inoperative, or to the application of a welded bead at a key point to obtain the same result. Either acetylene or arc-welding equipment may be used.

CHAPTER 3

DEMILITARIZATION PROCEDURES

Section I. BALLISTIC AERIAL TARGET SYSTEM

3-1. Ballistic Aerial Target

The target is demilitarized when the propellants and pyrotechnic components have been removed.

3-2. Propellants and pyrotechnic Components

Remove the items listed in Table 3-1. Demilitarize the flare and starter cartridge by burning (para 2-2). Demilitarize the rocket motors by detonation (para 2-5). Refer to TM 9-1340-418-12 for removal procedures.

Table 3-1. BATS Components Requiring Demilitarization

Nomenclature	*FSN*
Cartridge, Engine Starter MXU 4A/A	1377-863-9387
Rocket Motor, 2.75 inch, MARK 40 MOD 3	1340-93$6021
Flare, W112B	1370-767-7622

Section II. LIGHT TARGET GUIDED MISSILE SYSTEM MQM 33A & MQM 33B

3-3. Light Target Guided Missile System MQM 33A & MQM 33B

The MQM 33A & B are demilitarized when the cylinder assemblies, propeller, rocket motor, and the double and triple tuner cavities are destroyed. The se items are listed in Table 3-2.

3-4. - Cylinder Assembly

The two types of cylinders which may be installed on the engine are listed in Table 3-2. Remove the cylinder assemblies and cut them in half horizontally using an acetylene torch (para 2-3).

3-6. Propeller

To demilitarize the propeller, remove it, and cut it through the hub and the center of each blade (para 2-3).

3-6. Rocket Motor

Remove the rocket motor and demilitarize it by detonation (para 2-5).

3-7. Double and Triple Tuner Cavities

To demilitarize the cavities, remove and destroy by smashing (para 2-7).

Table 3-2. *MQM* ***33A &*** *MQM* ***33B Component Requiring Demilitarization***

Nomenclature	*APN*	*FSN*	*Reference*
Cylinder Assembly	10491	2810-048-7177	TM 9-1550-200-20P/1 Item 26, Fig. 12
Cylinder Assembly	54668	2810-691-6836	TM 9-1550-200-20P/1 Item 26, Fig. 12
Repeller Assembly	22088	1610390-5408	TM 9- 15 SO-200-20P/l Item 1, Fig. 11
propeller Assembly	22048	1610-390-5408	TM 9-1550-200-20P/1 Item 1, Fig. 11
Rocket Motor	ES2650	1340-028-6 133	TM 9-1550-200-20P/2
Tuner Double Cavity	114628	1340-961-8131	TM 9- 1550 200-20P/3 Item 37, Fig, 22
Tuner Triple Cavity	114627	1340-952-0000	TM 9-1550-200-20P/3 Item 47, Fig. 22

APPENDIX A

REFERENCES

AMC safety manual	*AMCR 385-100
Authorization and reporting of demilitarization class V material	*AMCR 750-8
Defense demilitarization manual	DOD 4160.2 l-M-l
Defense disposal manual	DOD 4160.21-M
Mechanized accounting procedures for property disposal activities	*AMCR 755-3
Preparation of standing operating procedures (SOP's) for ammunition operations	*AMCR 750-14
Requisitioning, receipt, and issue system	AR 725-50
Storage and shipment of supplies and equipment	*AMCR 740-3
Care, handling, preservation, and destruction of ammunition	TM 9-1300-206

• Copies may be obtained from: US Army Maintenance Management Center, ATTN. AMXMD-MP, Lexington, KY 40507

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Distribution

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