TM 9-1095-201-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL

GROUND SIGNAL PROJECTOR M1A1; HAND PYROTECHNIC PROJECTOR M9; AND PYROTECHNIC PISTOL AN-M8 WITH PYROTECHNIC PISTOL MOUNT M1

HEADQUARTERS, DEPARTMENT OF THE ARMY
NOVEMBER 1962

Change in Force: C2

TM 9-1095-201-15
C2

CHANGE
No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC 30 September 1991

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL

GROUND SIGNAL PROJECTOR M1A1 (1095-00-731-2570) (EIC: 4WK);
HAND PYROTECHNIC PROJECTOR M9 AND
PYROTECHNIC PISTOL AN-M8 WITH
PYROTECHNIC PISTOL MOUNT M1 (1095-00-726-5657) (EIC: 4MP)

TM 9-1095-201-15, 13 NOVEMBER 1962, is changed as follows:

1. The Hand Pyrotechnic Projector M9 is no longer supported. Disregard all materials in this technical manual pertaining to the M9 Hand Pyrotechnic Projector.

2. Page 10, paragraph 18, item c (1) through (3) is changed to read (1) “Wear issue gloves, eye protection, ear plugs and helmet. (2) If worn, disconnect lanyard from pistol. (3) Open barrel of pistol. (4) Insert signal into barrel, with primer end toward firing pin. (5) Close barrel. (6) Fire at an angle of approximately 45 degrees. (7) Squeeze back the trigger until the pistol fires. (8) Exercise extreme care when firing through trees or similar obstructions. (9) When the aircraft parachute flare M9A1 is to be fired, hold the pistol firmly with both hands. The weight and design of this flare causes extreme recoil when fired.”

3. Page 11, paragraph 19 item a (1) through (3) is changed to read (1) “If misfire, wait 2 seconds and pull trigger again. (2) If still misfire, keep projector pointed as before and wait 30 seconds. (3) Manually remove signal from projector. (4) Examine the signal for primer indentation due to firing pin. (5) If no indentation exists, the firing mechanism may be defective: see table IV, Troubleshooting. (6) If indentation exists, place tape on primer end. (7) Place misfired/DUD round in safe area/pit and dispose of in appropriate manner as prescribed by local range and safety SOPs. (8) If DUDs, do not touch; mark locations and notify explosive ordnance detachment (EOD).”

4. Page 11, paragraph 19 item c (1) through (4) is changed to read (1) “If misfire, wait 2 seconds and pull trigger again. (2) If still misfire, keep pistol pointed as before and wait 30 seconds. (3) Manually remove signal from pistol. (4) Except for the M9A1 aircraft parachute flare, examine the signal for primer indentation due to “firing pin. (5) If no indentation exists, the firing mechanism may be defective: see table IV, Troubleshooting. (6) If M9A1 misfire or if indentation exists, place tape on primer end. (7) Place misfired/ DUD round in safe area/pit and dispose of in appropriate manner as prescribed by local range and safety SOPs. (8) If DUDs, do not touch; mark locations and notify explosive ordnance detachment (EOD).”

5. Add the folowing paragraphs in chapter 3, section II, paragraph 29 before the first paragraph. “wherever the term Cleaner Lubricant and Preservative (CLP) or the words 'lubricant', 'lube', 'LSA', 'LAW' or 'oil' are cited in this TM, interpret to mean CLP, LSA or LAW can be utilized as applicable. The following constraints must be adhered to:

a. Under all but the coldest arctic conditions, LSA or CLP are the lubricants to use on your weapon. Either may be used at -10°F and above. However, do not use both on the same weapon at the same time.

b. LAW is the lubricant to use during cold arctic conditions, +10°F and below.

c. Any of the lubricants may be used from -10°F to +10°F.

d. Do not mix lubricants on the same weapon. The weapon must be thoroughly cleaned during, change from one lubricant to another. Dry Cleaning Solvent (SD) is recommended for cleaning during change from one lubricant to another.

Rifle Bore Cleaner (RBC) may be used to remove carbon buildup in the bore and other portions of the weapon.”

6. Add “Appendix IV Expendable Supplies and Materials List (ESML)” and include the following:

Item No.	Level	National Stock Number	Description	U/M
1	c	1005-00-242-5687	Bottle, Assembly Cylindrical (19204) 8448444	E A
2	c	6850-00-224-6656	Cleaning Compound, Rifle Bore: small arms bore cleaning solution (RBC) 2-02 (59.15-m1) bottle (81349) MIL-C-372	OZ
3	c	9150-00-292-9689	Lubricating Oil, Weapons: (LAW) 1-qt (.95-1) can (81349) MIL-L-14107	QT
4			Lubricating Oil, Weapons: (LSA), semifluid	
	c	9150-00-935-6597	2-02 (59.15-ml) plastic bt	OZ
	c	9150-00-889-3522	4-02 (118.3-ml) bt (81349) MIL-L-46000	OZ

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

PATRICIA P. HICKERSON
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-40-E, (Block 0899), Unit, Direct and General Support Maintenance requirements for TM 9-1005-201-15.

* U.S. G.P.O.:1991-543-050:40202

PIN: 026692-002

Change in Force: C1

TM 9-1095-201-15
C1

CHANGE

No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 1 May 1991

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL

GROUND SIGNAL PROJECTOR M1A1;
HAND PYROTECHNIC PROJECTOR M9; AND
PYROTECHNIC PISTOL AN-M8 WITH
PYROTECHNIC PISTOL MOUNT M1

TM 9-1095-201-15, 13 November 1962, is changed as follows:

1. Page 11, paragraph 19, item number a(1) . . . "still fails to fire, unload weapon." will be changed to read: . . . "still fails to fire, maintain firing position with weapon pointed in a safe direction for 30 seconds, then unload weapon."

2. Page 11, paragraph 19, item number b(1) . . . "still fails to fire, unload weapon." will be changed to read: . . . "still fails to fire, maintain firing position with pistol pointed in a safe direction for 30 seconds, then unload pistol."

3. Page 11, paragraph 19, item number c(1) . . . "still fails to fire, unload weapon." will be changed to read . . . "still fails to fire, maintain firing position with pistol pointed in a safe direction for 30 seconds, then unload pistol."

4. Page 11, paragraph 19, item number c(2) . . . "after two attempts to fire, unload the pistol" . . . will be changed to read . . . "after two attempts to fire, maintain firing position with pistol pointed in a safe direction for 30 seconds, then unload pistol and dispose of the flare quickly and safely."

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

PATRICIA P. HICKERSON
Colonel, United States Army
The Adjutant General

DISTRIBUTION: To be distributed in accordance with DA Form 12-40A, Unit, Direct and General Support Maintenance Requirements for TM 9-1095-201-15.

* U.S. G.P.O.:1991-543-050:40135

Technical Manual
No. 9-1095-201-15

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *13 November 1962*

GROUND SIGNAL PROJECTOR M1A1; HAND PYROTECHNIC PROJECTOR M9; AND PYROTECHNIC PISTOL AN-M8 WITH PYROTECHNIC PISTOL MOUNT M1

***This manual supersedes TM 9-2018/TO 39A-20 -2, 8 February 1954 including Cl, 28 October 1957; TM 9-1290, 18 March 1943; ORD 7&8, SNL B-40, 17 January 1957; ORD 7&8, SNL B-38/TO 11W2-9-3-34, 2 October 1956; and ORD 7-8, SNL B-33/TO 11W2-9-2-24, 16 November 1956.**

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual contains instructions, information, and guidance of personnel responsible for operation, organizational, field, and depot maintenance of the ground signal projector M1A1 (fig. 1), hand pyrotechnic projector M9 (fig. 2), and pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1 (figs. 3 and 4).

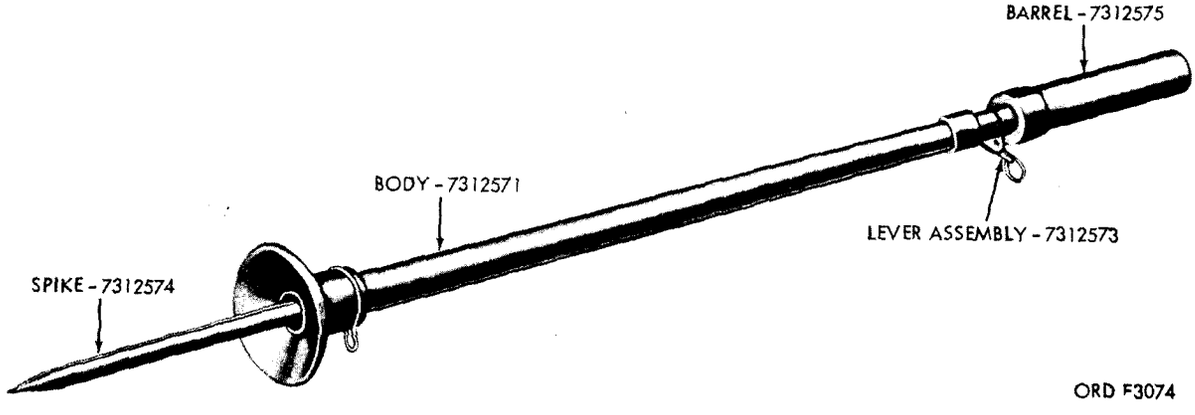

Figure 1. M1A1 ground signal projector.

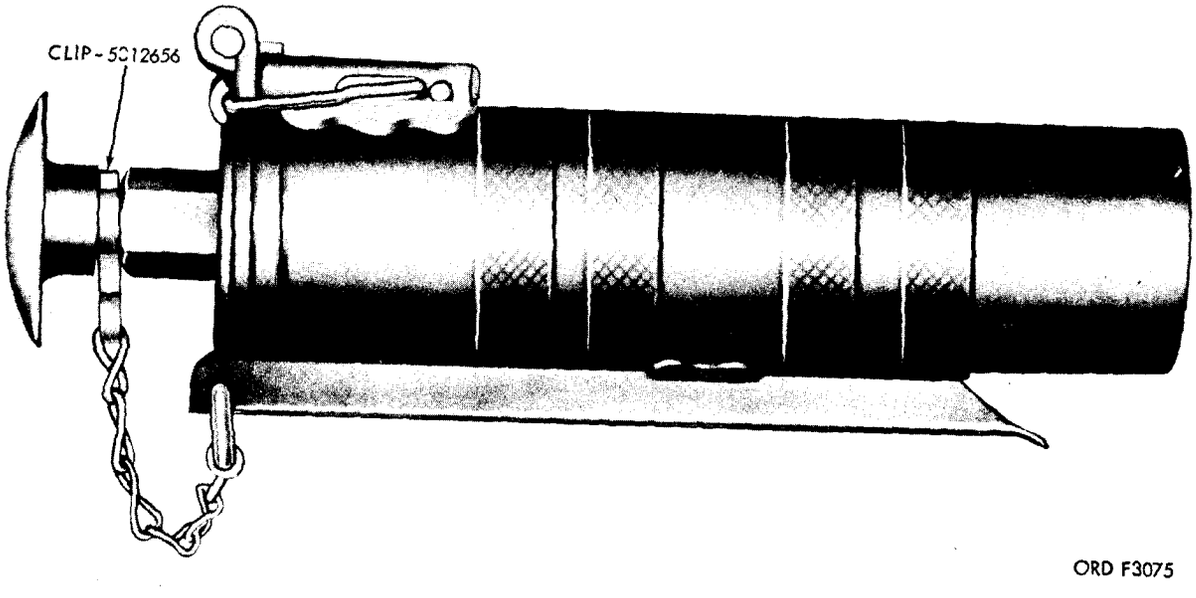

Figure 2. M9 hand pyrotechnic projector.

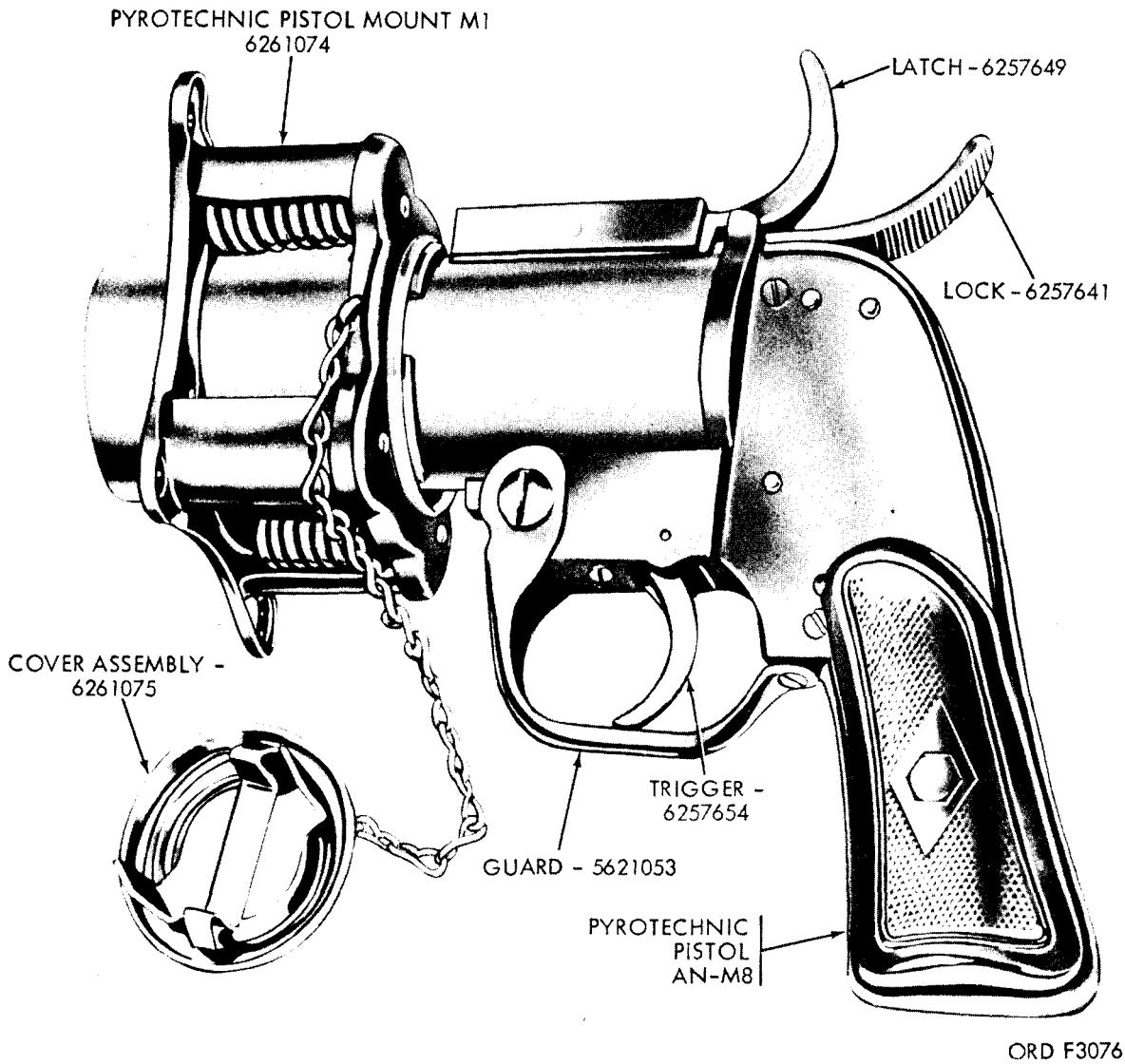

Figure 3. AN-M8 pyrotechnic pistol with pyrotechnic pistol mount M1.

b. This manual contains a description of and procedures for disassembly, inspection, repair, and assembly of the above items. Appendix I contains a list of current references, including supply manuals, forms, technical manuals, and other available publications applicable to the materiel. Appendix II contains the maintenance allocation chart which indicates the echelon to perform maintenance. Appendix III contains a list of basic issue items.

c. TM 9-1095-201-25P contains a list of repair parts and special tools which are required by personnel performing organizational, field, and depot maintenance on the weapons.

d. Any errors or omissions will be forwarded on DA Form 2028, direct to the Commanding General, Headquarters, U.S. Army Weapons Command, Rock Island Arsenal, Rock Island, Illinois, ATTN: AMSWE-SMM.

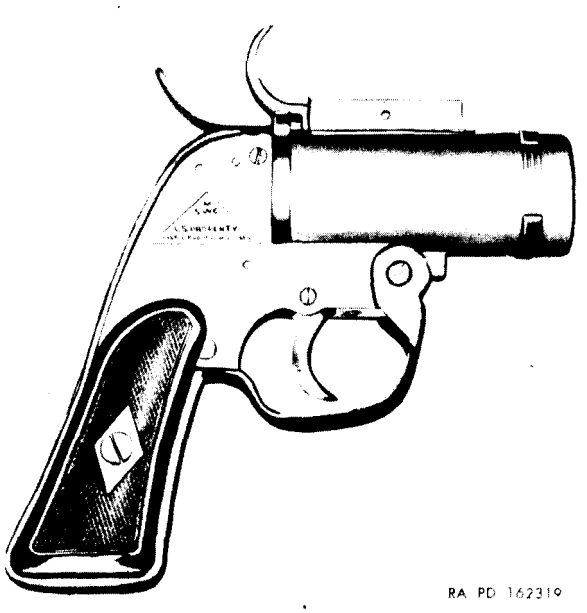

Figure 4. AN-M8 pyrotechnic pistol.

e. This manual differs from TM 9-2018/ T.O. 39A-20-2, dated 8 February 1954, as follows:

(1) Adds information on depot maintenance.

(2) Revises information as indicated:

(a) Preventive maintenance.

(b) Operation.

(c) Troubleshooting.

(d) Inspection.

(e) Organizational maintenance.

(f) Field maintenance.

(3) Deletes reference to lubrication chart.

2. Maintenance Allocation

a. Operator Maintenance. The prescribed maintenance to be performed by the operator will apply as reflected in the operator-maintenance (first echelon) column of the maintenance allocation chart (app. II). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the operator, the items will be moved to the echelon indicated in the allocation chart for the type of repairs required.

b. Organizational Maintenance. The prescribed maintenance to be performed by maintenance personnel of the using organization will apply as reflected in the organizational-maintenance (second echelon) column of the maintenance allocation chart (app. II). In all cases where the nature of the repair, modification, or adjustment is beyond the scope or facilities of the. using organization, the supporting Ordnance maintenance unit should be informed so that trained personnel with suitable tools and equipment may provide necessary repairs.

c. Field and Depot Maintenance. The prescribed maintenance to be performed by field or depot maintenance personnel, will apply as reflected in the fourth or fifth echelon column of the maintenance allocation chart (app. II). The repair parts are listed and may be requisitioned from TM 9-1095-201-25P.

3. Forms, Records, and Reports

a. General. Responsibility for the proper execution of forms, records, and reports rests upon the officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for their compilation, maintenance, and use. Records, reports, and authorized forms are normally utilized to indicate the type, quantity, and condition of materiel to be inspected, to be repaired or to be used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of materiel in the hands of troops and for delivery of materiel requiring further repair to Ordnance shops, arsenals, depots, etc. The forms, records, and reports determine the work required, the progress of the work within the shops, and the status of the materiel after repair.

b. Authorized Forms. The forms generally applicable to units operating or maintaining this materiel are listed in appendix I. For instructions on use of these forms, refer to FM 9-3 and 9-4. For a listing of all forms, refer to DA Pam 310-2.

c. Field Reports of Accidents.

(1) *Injury to personnel or damage to materiel.* The reports necessary to comply with the requirements of the Army safety program are

prescribed in detail in AR 385-40. These reports are required whenever accidents involving injury to personnel or damage to materiel occur.

(2) *Ammunition.* Whenever an accident or malfunction of ammunition occurs, firing of the remainder of the lot which malfunctions will be immediately discontinued. In addition to any applicable reports required in (1) above, details of the accident or malfunction will be reported as prescribed in AR 700-1300-8.

d. Report of Unsatisfactory Equipment or Materials. Any deficiencies detected in the equipment covered herein, which occur under the circumstances indicated in AR 700-38, should be reported immediately in accordance with the applicable instrictions in cited regulation:

Section II. DESCRIPTION AND DATA

4. Description

a. Ground Signal Projector M1A1 (fig. 1). This unit is a light-weight, heavy-duty, mechanically supported ground projector. It is single-loading, manually fired, and is used to project the M27 high burst ranging ground signal.

b. Hand Pyrotechnic Projector M9 (fig. 2). This equipment is a small, compact, lightweight, hand-supported and hand-operated projector used in signaling from aircraft to aircraft, aircraft to ground, and ground unit to ground unit. The unit is single-loading.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount Ml (fig. 3).

(1) The pyrotechnic pistol AN-M8 (fig. 4) is a single shot, double action, breech-loading-type pistol, used for the same purposes as the projector M9 *(b* above) and utilizes the same signals. In addition, the pistol AN-M8 is used to project the parachute aircraft flare M9A1.

(2) The pyrotechnic pistol mount Ml (fig. 5) is used as a holder for the AN-M8 pistol. The mount is provided with four symmetrically placed helical springs, which absorb the recoil shock and a cushioning gasket, to absorb the counterrecoil. The cover is provided for use when the pistol is removed from the mount.

(3) A canvas holder (an article of Air Force supply) for both the pistol and appropriate number of aircraft signals, is supplied and securely attached to the airplane at or near the pistol mount location. This holder is held in position by a suitable bracket or shelf (provided by the airplane manufacturer) which is equipped with the necessary snap fasteners for attaching the holder. The pistol is carried in the holder, as shown in figure 6.

5. Differences Between Models

The projector M9 and the pistol AN-M8 serve the same purpose, i.e., signaling and/or production of illumination for military operations. The projector M1A1 is used for field artillery training purposes only. It projects a high bursting signal that produces a smoke puff, at the top of its ascent, simulating an exploding shell.

6. Nameplate and Serial Number

a. Ground Signal Projector M1A1. This unit has no nameplate or serial number affixed to it or stamped in it.

b. Hand Pyrotechnic Projector M9. The name and model number of the projector are stamped in the breech plate (fig. 7). The serial number is stamped on the latch assembly.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1. The name and model number of the pistol AN-M8 are stamped in the right-hand frame plate (fig. 4). The serial number is stamped on the back of the frame. No name or serial number is stamped on the mount Ml.

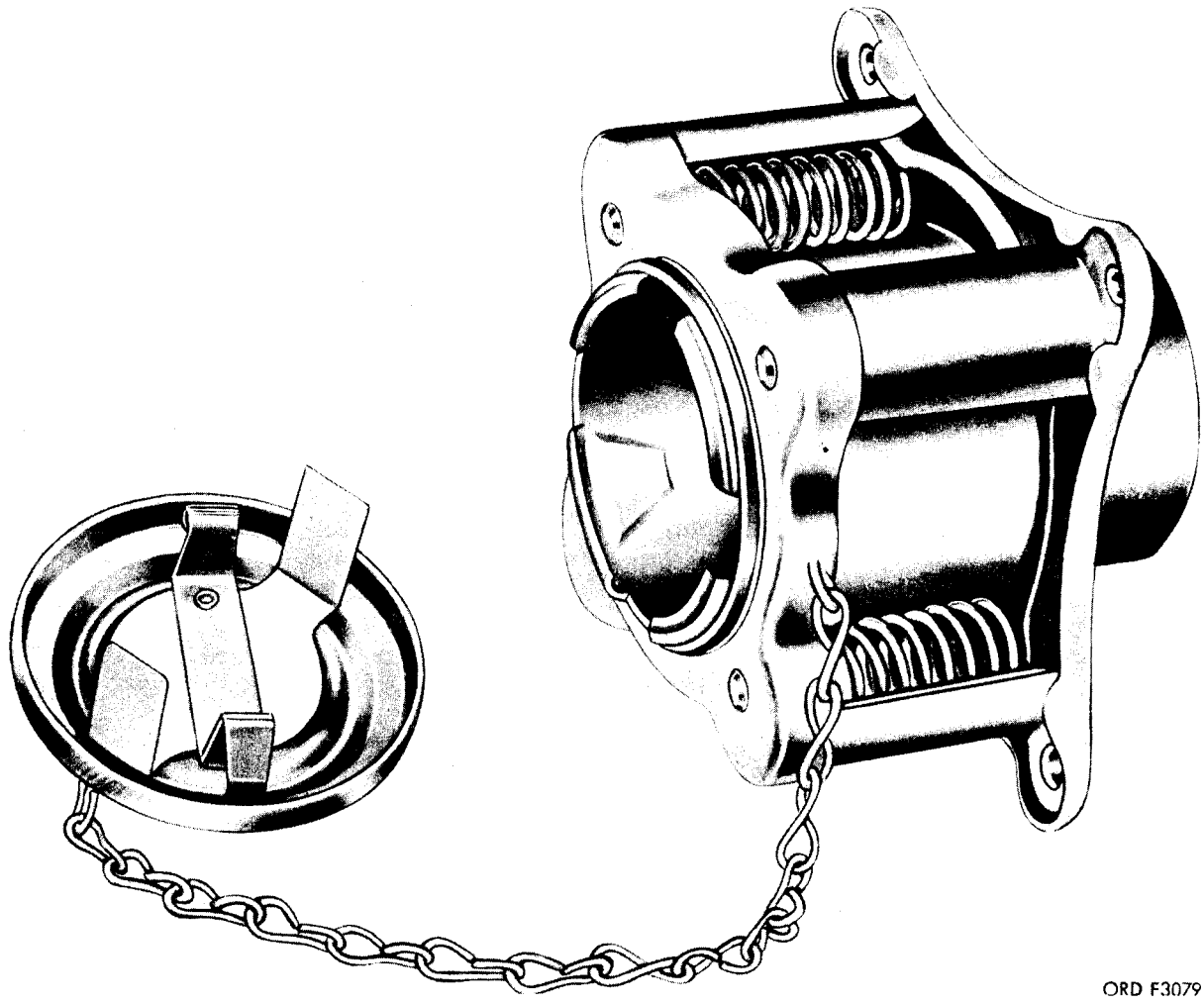

Figure 5. Pyrotechnic pistol mount M1.

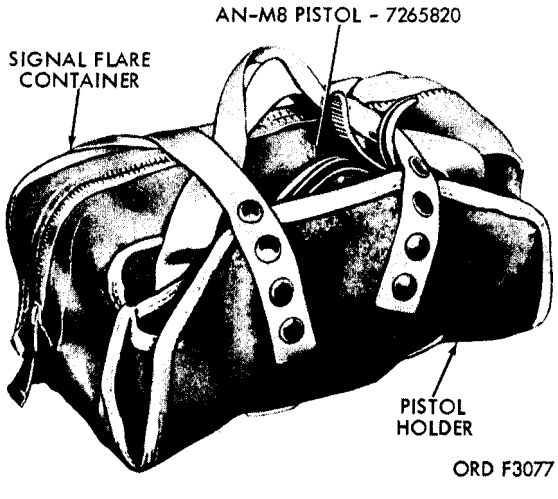

Figure 6. Pistol, pistol holder, and signal flare container – an article of Air Force supply.

7. Tabulated Data

a. Ground Signal Projector M1A1

Weight (w/support)	12.67 lb
Length (w/o support and spike)	15-3/4 in.
Length (w/support w/o spike)	49 in.
Length (w/support and spike)	57-1/2 in.
Bore:	
Diameter	1.636 in.
Length	11-5/8 in.
Associated equipment	lanyard

b. Hand Pyrotechnic Projector M9.

Weight	1 lb
Length (overall)	8 in.
Length of barrel	6 in.
Diameter of bore	1.575 in.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1.

(1) Pyrotechnic pistol AN-M8.

Weight ----------2.13 lb
Length (overall) ---------- 8 in.
Length of barrel ---------- 4-1/8 in.
Diameter of bore ---------- 1.580 in.
Trigger pull ---------- 5 to 8 1b

(2) *Pyrotechnic pistol mount M1.*
Weight ---------- 1.12 lb

d. Ammunition. For information on ammunition, see table V.

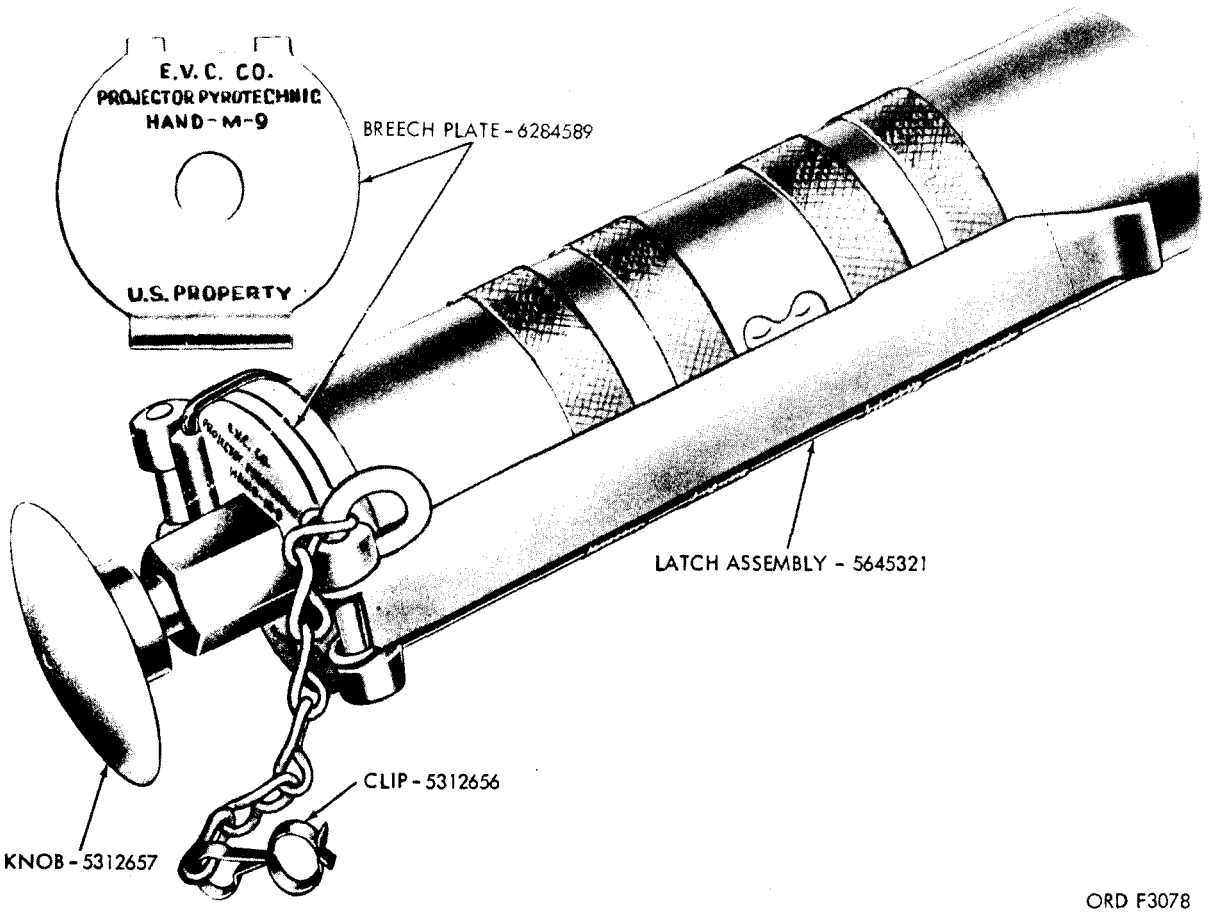

Figure 7. M9 hand pyrotechnic projector — location of name and model number.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

8. General

a. When a new or reconditioned projector MlAl, hand projector M9, pistol AN-M8 with pistol mount Ml is received, it is the responsibility of the officer in charge to determine whether the materiel has been properly prepared for service by the supplying organization and to be sure it is in condition to perform its function.

b. All repair parts, tools, and equipment will be checked with the listing in appendix III, this manual, and TM 9-1095-201-25P.

c. A record will be made of all missing parts, tools, and equipment and of any malfunctions. Deficiencies will be corrected as quickly as possible.

d. The materiel should be cleaned and prepared for service in accordance with instructions in paragraph 9.

9. Services

a. Unpacking.

(1) *Ground signal projector M1A1.*

(a) Check identification label of the issue pack (nomenclature and stock number).

(b) Remove tape from closure seam of fiber can container.

(c) Remove wrapped projector from container.

(d) Remove each projector from VC1 bag.

(2) *Hand pyrotechnic projector M9.*

(a) Check identification label of the issue pack (nomenclature and stock number).

(b) Remove tape from closure seam of fiber board carton.

(c) Remove wrapped projector from carton.

(d) Remove each projector from greaseproof barrier material VCI bag.

(3) *Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount* Ml.

(a) Check identification label of the issue pack (nomenclature and stock number).

(b) Remove tape from closure seam of fiber board carton.

(c) Open carton and remove wrapped pistol and mount from the supports within the carton.

(d) Remove pistol and mount from greaseproof barier material.

b. Cleaning.

(1) *Ground signal projector M1A1.*

(a) Remove excess preservative with wiping cloths.

(b) Immerse the projector in dry-cleaning solvent or volatile mineral spirits.

(c) Dry projector thoroughly before lubricating.

(2) *Hand pyrotechnic projector M9.*

(a) Remove excess preservative with wiping cloths.

(b) Immerse the projector in dry-cleaning solvent or volatile mineral spirits.

(c) Dry projector thoroughly before lubricating.

(3) *Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1.*

(a) Remove excess preservative with wiping cloths.

(b) Immerse the pistol and mount in dry-cleaning solvent or volatile mineral spirits and, with a brush, remove the preservative from the interior and exterior surfaces.

(c) Dry pistol and mount thoroughly before lubricating.

c. Lubrication. Check lubrication of the projector MlAl, projector M9, pistol AN-M8 and mount Ml, and lubricate as necessary (pars. 29 and 30).

d. Inspection.

(1) *Ground signal projector M1A1.*

(a) Check the 1ever assembly and make certain that it operates (fig. 1).

(b) Check complete assembly (pars. 45-48) .

(2) *Hand pyrotechnic projector M9.*

(a) Check operation of all controls (fig. 7).

(b) Check complete assembly (pars. 49-52).

(3) *Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1.*

(a) Check operation of controls (fig. 3).

(b) Check complete assembly (pars. 53-56) .

Section II. CONTROLS

10. General

This section describes, locates, and illustrates the various controls provided for the operation and maintenance of the projector MlAl, projector M9, and pistol AN-M8 with mount Ml.

11. Ground Signal Projector M1A1

The lever assembly is the only control on this projector. The improvised lanyard is attached to the ring on the lever assembly (fig. 1) which enables the projector to be operated from a safe distance.

12. Hand Pyrotechnic Projector M9

a. Knob. The knob (fig. 7), which is located at the rear of the projector, contains the firing pin. Depression of the knob causes the firing pin to strike the signal primer.

b. Clip. The purpose of the clip (fig. 7) is to prevent accidental depression of the knob and firing of the projector. The clip is shown in the SAFE position in figure 2. To prevent loss, the clip is attached to the latch pin with a chain.

c. Latch Assembly. The latch assembly (fig. 7) is fitted with a plunger that snaps into the catch which is welded to the barrel. The purpose of this arrangement is to keep the breech closed. Pu11ing up on the latch assembly will cause the plunger to disengage and the breech to open.

13. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1

a. Lock. The lock (fig. 3) is used to lock or open the breech. Pulling up on the lock will cause it to disengage from the frame, permitting the frame to swing downward, thereby opening the breech. When the frame is pulled upward, it closes the breech and engages the lock.

b. Latch. The latch (fig. 3) is located in front of the lock and assists in locking the pistol into the mount.

c. Trigger. The trigger (fig. 3) is located within the trigger guard. The pistol is a double-action type, retracting the trigger cocks the hammer against spring tension and releases the hammer at a specified point to strike the firing pin.

Section III. OPERATION UNDER USUAL CONDITIONS

14. General

This section contains instructions for the operation of the ground projector MlAl, hand projector M9, and pistol AN-M8 with pistol mount Ml, under conditions of moderate temperatures and humidity. Instructions for operation under unusual conditions are covered in paragraphs 22, 23, and 24.

15. Preparation for Use

a. Ground Signal Projector M1A1.

(1) The projector can be fired with or without the spike attached.

(2) Force spike (fig. 1) into the ground at the desired angle.

(3) Pull on lanyard until the lever assembly is pulled down.

b. Hand Pyrotechnic Projector M9.

(1) Remove clip (fig. 2) from SAFE position.
(2) Disengage latch assembly and open breech (fig. 7).
(3) Replace clip into SAFE position (fig. 2).

c. pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1.

(1) Press up on knurled side of lock (fig. 3) and open breech.
(2) Close the breech.
(3) Press back trigger and dry fire weapon.
(4) When pistol is installed in the pistol mount Ml, this is accomplished in *(a)* through *(d).*
(a) Remove the mount cover from mount.
(b) Hold the pistol in position, so that the lugs on the barrel line up with the slots in the mount.
(c) Push the pistol into the mount as far as it will go.
(d) Rotate the pistol one-eighth turn, or 45 degrees, until the mount latch on the pistol barrel snaps into one of the slots on the mount.

16. Service Before Firing

Perform the before firing operations in table II, Operators Preventive-Maintenance Services.

17. Loading

a. Ground Signal Projector M1A1. Slowly insert the signal into the barrel, primer end first.

b. Hand Pyrotechnic Projector M9.

(1) With projector open, insert signal through breech end.
(2) Make certain that the ejector protruding from breech end of the barrel engages the rim of the signal.
(3) Close the breech and engage the latch plunger in the barrel catch.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1.

(1) Open the breech by pressing upward on the breech lock.
(2) Insert signal into the barrel through the breech, primer end last.
(3) Snap the breech closed.
(4) The aircraft parachute flare M9A1 must be loaded through the muzzle.
(a) Insert the flare through the muzzle.
(b) Stop when ejector engages the groove.
(c) The parachute flare M9A1 will not pass through the mount M1, therefore, it must be fired freehand.

18. Firing

a. Ground Signal Projector M1A1.

(1) Sit, kneel, or lie so that head is well below and behind projector muzzle.
(2) Firmly grasp lower part of projector body with one hand and snap lanyard down sharply with the other.
(3) Exercise extreme care when firing through trees or similarly inflammable obstructions.

b. Hand pyrotechnic Projector M9.

(1) Hold projector barrel firmly in one
(2) Direct projector away from face and other personnel in area.
(3) Pull safety spring from SAFE position.
(4) Strike hand knob sharply with palm of other hand.

Note. Firing can be accomplished by striking the hand knob against some rigid object.

(5) Exercise extreme care when firing through trees or other obstructions.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1.

(1) Squeeze back the trigger until the pistol fires.
(2) Exercise extreme care when firing through trees or similar obstructions.
(3) When the aircraft parachute flare M9A1 is to be fired, hold the pistol firmly with both hands. The weight and design of this flare causes extreme recoil when fired.

19. Misfire

a. Ground Signal Projector M1A1.

(1) If signal fails to fire, make two more attempts to fire. If signal still fails to fire, unload the weapon.

(2) Examine the signal for primer indentation due to firing pin. If indentation exists, dispose of signal and load projector with a new signal.

(3) If no indentation exists, the firing mechanism may be defective; see table IV, Troubleshooting.

b. Hand Pyrotechnic Projector M9.

(1) If signal fails to fire, make two more attempts to fire. If signal still fails to fire, unload the weapon.

(2) Examine the signal for primer indentation due to firing pin. If indentation exists, dispose of signal and load projector with a new signal.

(3) If no indentation exists, the firing mechanism may be defective; see table IV, Troubleshooting.

c. Pyrotechnic Pistol AN-M8 with Pyrotechnic Pistol Mount M1.

(1) If signal fails to fire, make two more attempts to fire. If signal still fails to fire, unload the weapon.

(2) In the case of the aircraft parachute flare M9A1, after two attempts to fire, unload the pistol and dispose of the flare quickly and safely.

(3) For signals other than the M9A1, examine the signal for primer indentation due to firing pin. If indentation exists, dispose of signal and load pistol with a new signal.

(4) If no indentation exists, the firing mechanism may be defective; see table IV, Troubleshooting.

20. Service During Firing

Perform the "during firing" operations in table II. Operators Preventive-Maintenance Services.

21. Unloading

a. Ground Signal Projector M1A1.

(1) Pull projector from the ground.

(2) Invert projector.

(3) Allow signal case to fall out on ground.

b. Hand Pyrotechnic Projector M9.

(1) Disengage the latch from the barrel catch.

(2) Open the breech.

(3) Remove signal case from breech end of barrel.

c. Pyrotechnic Pistol AN-M8 with pyrotechnic Pistol Mount M1.

(1) Open the breech by pushing up on the breech lock.

(2) Pull the signal case from the pistol.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

22. General Conditions

a. In addition to the normal operating procedures for usual conditions, special instructions for operating and servicing the projectors under unusual conditions are contained or referred to herein. In addition to the normal preventive-maintenance, service special care in cleaning and lubrication must be observed where extremes of temperature, humidity, and atmospheric conditions are present or anticipated. Proper cleaning, lubrication and storage and handling of lubricants not only insure operation and functioning but also guard against excessive wear of the working parts and deterioration of the materiel.

b. See paragraph 30 for instructions on lubrication under unusual conditions, preventive-maintenance schedules in table III for preventive-maintenance checks to be made when materiel is subjected to unusual conditions, and paragraphs 31 through 35 for preventive-maintenance services.

c. When chronic failure of materiel results from subjection to extreme conditions, report of such chronic failure should be made in accordance with paragraph *3d.*

23. Operation in Cold Climates

a. In climates where the temperature is consistently below freezing, it is necessary to prepare the materiel for cold-weather operation.

b. Exercise the various controls through their entire range, at intervals as required, to aid in keeping them from freezing in place and to reduce the effort required to operate them.

c. When materiel is not in use, pay particular attention to protecting it with the proper covering making certain they are securely fastened so that snow and ice will be kept from the operating parts. Provide as much protection as possible for all parts of the materiel and equipment.

d. See TM 9-207 for information on following points:

Handling and storage of lubricants.
Problems of cold-weather operation.
Lubrication in preparation for and during cold-weather operation.
Operation and maintenance in extreme cold.

e. See FM 31-70 for additional information on basic cold weather operations.

24. Operation in Hot Climates

a. General.

(1) In hot climates, the film of oil necessary for operation and preservation will dissipate quickly. Inspect materiel frequently, paying particular attention to all hidden surfaces, such as the bore, springs and spring seats, firing pin, and like places, where corrosion might occur and not be quickly noticed.

(2) Perspiration from the hands is a contributing factor to rusting because it contains acids and salts. After handling, clean, wipe dry, and restore the oil film.

(3) For care, handling, and preservation of ammunition, see paragraph 64.

b. Hot, Dry Climates.

(1) When operating in hot climates where sand and dust are likely to enter the bore and mechanism, the materiel should be wiped clean more frequently than usual, and disassembled to the extent that all parts can have a thorough cleaning.

(2) Oiling should be kept to a minimum, as oil will collect dust which will cause wear of the working parts. It should be applied lightly and only to the surfaces or working parts showing signs of wear.

(3) Rapid temperature changes cause a moisture condensation film to form on unpainted metal, resulting in rust. Immediately, when this moisture film occurs on metal parts of the weapon, wipe briskly until dry and coat with (PL special) general purpose lubricating oil to prevent rusting.

c. Hot, Damp, and Salty Atmosphere.

(1) Inspect materiel frequently, when operating in hot, moist areas.

(2) When the materiel is active, clean and lubricate the bore and exposed metal surfaces more frequently than is prescribed for normal service.

(3) Moist and salty atmospheres have a tendency to emulsify oils and greases and destroy their rust-preventive qualities. Inspect all parts frequently for corrosion. Protect from elements as much of the time as firing conditions permit.

(4) When the materiel is inactive, cover surfaces with a film of (PL special) general purpose lubricating oil. Keep protective covering in place.

CHAPTER 3
MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, TOOLS, SPECIAL TOOLS, AND EQUIPMENT

25. General

Repair parts, tools, and equipment are issued to the using organization for operating and maintaining the materiel. Tools and equipment should not be used for purposes other than prescribed and, when not in use, should be properly stowed.

26. Repair Parts

Repair parts are supplied to the using organization for replacement when they become worn, broken, or otherwise unserviceable. No repair parts are supplied to first echelon. Repair parts supplied to second, third, fourth, and fifth echelons are listed in TM 9-1095-201-25P.

27. Tools and Equipment

Tools and equipment having general application to this materiel are authorized by tables of allowances (TA's) and tables of organization and equipment (TO&E's).

28. Special Tools and Equipment

No tools or equipment specially designed for first or second-echelon maintenance are required for the materiel. The special tool tabulated in table I is listed and authorized for issue in TM 9-1095-201-25P.

Table I. Special Tools

Item name	Part No.	Use
WRENCH, SPANNER: bushing retainer.	6131778	To disassemble and assemble firing pin bushing retainer in the pyrotechnic pistol AN-M8 (fig. 16).

Section II. LUBRICATION

29. Lubrication Instructions

The lubrication procedures in *a* and *b* below are important; pay particular attention to the specific points made regarding different parts of the projectors and pistol.

a. The procedures in (1) through (3) below should be followed in order to accomplish effective lubrication and preservation of the projectors, pistols, and their component parts.

(1) All parts must be thoroughly cleaned and dried before oiling.
(2) Lubrication should be careful and sparing. This is best accomplished by using a lintless cloth that was dipped in the lubricant and then completely wrung out.
(3) All excess oil should be wiped off. Excess oil attracts grit, sand, and other foreign matter that cause excessive wear of the moving parts. This results in failures in firing and other malfunctions.

b. The specific points in (1) through (3) below must be checked.

(1) The barrel must be thoroughly cleaned after firing. Swab the barrel with a lintless cloth saturated in (CR) cleaning compound solvent rifle bore cleaner until the swabs come out clean.
(2) The firing pin and surrounding breech area must be thoroughly cleaned of any burned powder residue with (CR) cleaning compound solvent rifle bore cleaner.
(3) All moving parts must be disassembled after firing and thoroughly cleaned.

30. Lubrication Under Unusual Conditions

a. Service Intervals. Reduce service intervals, lubricate more frequently to

compensate for abnormal or extreme conditions, such as high or low temperatures, prolonged periods of firing, continued firing in sand or dust, or exposure to moisture. Any one of these operations or conditions may cause contamination and quickly destroy the protective properties of the lubricant.

b. Extreme Cold-Weather Lubrication. Lubricate parts with weapons lubricating oil (LAW) when temperature is below 0°F.

c. Extreme Hot-Weather Lubrication. Special lubricants will ordinarily not be required at extreme high temperatures, as lubricants prescribed for temperatures above 0°F provide adequate protection. However, more frequent servicing than specified in table II is necessary because the heat tends to dissipate the lubricants.

d. Lubrication for Humid and Salt-Air Conditions. High humidity, moisture or salt air contaminate lubricants, necessitating more frequent service than specified in table II.

e. Lubrication After Operation Under Sandy or Dusty Conditions. If prolonged firing has occurred under dusty or sandy conditions, clean and inspect all lubricated surfaces for fouled lubricants. Lubricate as necessary.

Section III. PREVENTIVE-MAINTENANCE SERVICES

31. General

a. Responsibility and Intervals. Preventive-maintenance services are the responsibility of the using organization. These consist of before-firing, during-firing, after-firing, daily, and weekly services performed by the operator (first echelon), and the scheduled services to be performed at the weekly, bimonthly, and semiannual intervals by the armorer of the using organization (second echelon).

b. Definition of Terms. The general inspection of each item applies also to any supporting member or connection and is generally a check to see whether the item is in good condition, correctly assembled, secure, and not worn.

(1) The inspection for good condition is usually an external visual inspection to determine whether the unit is damaged beyond safe or serviceable limits. The term good condition is explained further by the following: not bent or twisted, not chafed or burred, not broken or cracked, not bare or frayed, not dented or collapsed, not torn or cut, not deteriorated.

(2) The inspection of a unit to see that it is correctly assembled is usually an external visual inspection to see if it is in its normal assembled position in the materiel and functions properly when manually operated.

(3) Inspection of a unit to determine if it is secure is usually an external visual examination or a check by wrench or hand for looseness. Such an inspection must include any brackets, lockwashers, locknuts, locking wire, or cotter pins used.

(4) By worn is meant worn beyond serviceable limits or to a point likely to result in failure if the unit is not replaced before the next scheduled inspection.

32. Cleaning and Care

a. General. Any special instructions for cleaning and care of components are contained in the pertinent sections. General instructions are given in *b* and *c* below.

b. Cleaning Instructions.

(1) *Powder-fouled parts.* Use (CR) cleaning compound solvent rifle bore cleaner to clean all parts which have been exposed to powder fouling during firing.

Note. This compound is not a lubricant. Parts which require Lubrication will be wiped dry and oiled. Do not use dry-cleaning solvent or mineral spirits paint thinner, because these solvents will not readily dissolve the corrosive salts from powder and primer compositions.

(2) *General usage.* Use dry-cleaning solvent or mineral spirits paint

thinner to clean or wash grease or oil from all parts of the weapon.

(3) *Heavy accumulations.* New materiel, and component parts received from storage for immediate use may have heavy accumulations of grease or coatings of rust-preventive compound. This may be partly by scraping with sticks or other articles which will not damage parts. Remove the residue with waste, wiping cloths, or a brush saturated with (CR) cleaning compound. After cleaning, rinse off any remaining compound with cold water. Dry and lubricate as specified in paragraph 29. Apply a light grade of oil to all nonpainted metal surfaces to prevent rusting.

c. General Precautions in Cleaning.

(1) Dry-cleaning solvent and mineral spirits paint thinner are flammable and should not be used near an open flame. Fire extinguishers should be readily available when these materials are used. In addition, they evaporate quickly and have a drying effect on the skin. If used without gloves, they may cause cracks in the skin and, in the case of some individuals, a mild irritation or inflammation. Use only in well-ventilated places.

(2) Avoid getting petroleum products, such as dry-cleaning solvent, mineral spirits paint thinner, or lubricants on rubber parts as they will attack the rubber and destroy its characteristics.

(3) The use of Diesel fuel oil, gasoline, or benzene (benzol) for cleaning or the use of high-pressure water or steam for cleaning the weapon is prohibited.

(4) Do not dilute (CR) cleaning compound solvent rifle bore cleaner. Do not add antifreeze. Store cleaners in a warm place, if practical. Shake (CR) cleaning compound well before using.

33. Basic Preventive Maintenance

The general preventive-maintenance procedures outlined in *a* through *e* below will be observed in addition to those referred to in table II. Special maintenance of specific components of the materiel is covered, when necessary, in the sections pertaining to the components.

a. Rust, dirt, grit, gummed oil, and water cause rapid deterioration of internal mechanism and outer unpainted surfaces. Particular care should be taken to keep all bearing surfaces clean and properly lubricated. Remove all traces of rust from unpainted bearing surfaces with crocus cloth, which is the coarsest abrasive to be used by the using organization for this purpose.

b. Loose parts will be tightened and broken parts replaced or repaired.

c. At least every 6 months, check if all modifications have been applied. For a list of current modification work orders, see DA Pam 310-4. No alteration or modification will be made except as authorized by modification work orders.

d. Check equipment for completeness. Replace missing items and turn in for repair all damaged items. Use only tools that are provided and see that they are serviceable. After use, items must be thoroughly cleaned, coated with a film of oil, and stowed in their proper chests or tool rolls.

e. Inspect and service the weapon, as described in paragraphs 40 through 42 at least once every 6 months and after any extended travel with the weapon, as the tactical situation permits.

34. Schedule of Preventive Maintenance

a. Purpose. To insure mechanical efficiency, it is necessary that the materiel be systematically inspected at regular intervals, so defects may be discovered and corrected before they result in serious damage or failure. Certain scheduled maintenance services or unsatisfactory operating characteristics beyond the scope of the operators to correct must be reported at the earliest opportunity to the designated individual in authority.

b. Schedule. The items and points to be inspected and serviced are listed in table II.

Table II. Operators Preventive-Maintenance Services

Item No.	Procedures	Paragraph reference	Intervals			
			Daily			Weekly
			Before firing	During firing	After firing	
1.	*Projector (M1A1).* Inspect threads and function of spike. Pull lanyard until lever assembly is pulled down. Check firing pin striker by releasing the lanyard. Inspect projector before using.	16	X	---	---	X
2.	*Bore (M1A1).* Clean, dry, and lubricate	29	X	---	X	X
3.	*Moving Parts (M1A1).* Clean and lubricate as required	29	X	---	---	X
4.	*Projector (M9).* Inspect function of knob. Inspect action of firing pin spring. Inspect projector before using.	16	X	---	---	X
5.	*Bore (M9).* Clean, dry, and lubricate	29	X	---	X	X
6.	*Moving Parts (M9).* Clean and lubricate	29	X	---	---	X
7.	*Pistol (AN-M8).* Inspect barrel for obstructions. Inspect function of firing pin.	16	X	---	---	X
8.	*Bore (AN-M8).* Clean and lubricate as required	29	X	---	X	X
9.	*Moving Parts (AN-M8).* Clean and lubricate	29	X	---	---	X

35. Preventive Maintenance by Armorer

a. Service by the armorer includes a systematic check to see that all operators preventive maintenance has been properly performed at the prescribed intervals and that the materiel is in the best possible operating condition. The services set forth in table III are to be performed or supervised by the armorer at the designated intervals, in addition to any maintenance required as a result of the checks and services by the operator. The frequency of the preventive-maintenance services prescribed is considered a minimum requirement for operation of materiel under usual conditions. Under unusual operating conditions, such as extreme temperatures, mud, dust or sand, extremely moist or salty atmosphere, or in rain or snow, it will be necessary to perform the maintenance services more frequently.

b. The operator should have the materiel in a clean condition for scheduled maintenance service by the armorer.

Table III. Preventive-Maintenance Services by Armorer

Item No.	Procedures	Paragraph reference	Intervals		
			Weekly	Bimonthly (60 days)	Semiannually (6 months)
1.	*Projector (M1A1).* Check for wear, erosion, and damage to projector. Check firing mechanism for functioning.	47	---	---	X
2.	*Projector (M9).* Check for wear, erosion, and damage to projector. Check firing mechanism, knob, and latch group for proper functioning.	51	---	---	X
3.	*Pistol (AN-M8).* Check for wear, erosion, and damage to pistol. Check firing mechanism, latch group, frame group, barrel group, and trigger mechanism for proper functioning.	55	---	---	X
4.	*Lubricate.* See that all items have been lubricated as prescribed	29	---	X	
5.	*Equipment.* See that equipment and tools are complete, serviceable, cleaned, and properly stored.	9	---	---	X
	UNUSUAL CONDITIONS				
6.	Maintenance operations, as prescribed under usual conditions, will apply under unusual conditions except for extreme cold weather. Intervals are shortened in extreme cold weather.	30			

Section IV. TROUBLESHOOTING

36. Scope

This section contains troub1eshooting information and tests for locating and correcting some of the troubles which may develop in the materiel. Troubleshooting is the systematic study of trouble signs, testing to determine the defective components, and applying corrective action. Each ma1functsion is followed by probable causes and suggested procedures to be followed.

37. Troubleshooting

Table IV is intended as a guide in troubleshooting for all levels of maintenance. This table does not cover all possible malfunctions that may occur. Only the more common malfunctions are listed. The corrective actions are governed by the scope of the leaders or officers and corrections may or may not be made at the using level by the leaders or officers depending on the availability of tools required and the supply of parts available to the using unit.

Table IV. Troubleshooting

Malfunction	Probable cause	Corrective action
M1A1		
Projector fails to fire	Defective signal or flare	Replace.
	Improper seating of signal or flare.	Seat properly and fire.
	Defective firing mechanism	Replace firing mechanism if parts are broken.
M9		
Projector fails to fire	Defective signal or flare	Replace
	Improper seating of signal or flare.	Seat properly and fire.
	Defective firing mechanism	Replace firing mechanism, if parts are broken.
AN-M8		
Pistol fails to fire	Defective signal or flare	Replace
	Defective firing pin	Replace

CHAPTER 4
INSPECTIONS

Section I. GENERAL

38. Scope

This chapter provides specific instructions for the inspection by Ordnance maintenance personnel of materiel in the hands of troops in the field, in Ordnance shops, and in alerted units scheduled for oversea duty. Troubleshooting information is incorporated wherever applicable as a normal phase of inspection.

39. Purpose of Inspection

Inspections are made for the purpose of (1) determining the condition of an item as to serviceability, (2) recognizing conditions that would cause failure, (3) assuring proper application of maintenance policies at prescribed levels, and (4) determining the ability of a unit to accomplish its maintenance and supply missions.

40. Categories of Inspection

In general, three categories of inspection are performed by Ordnance field maintenance personnel.

a. Inspection of Materiel in the Hands of Troops in the Field.

(1) *Spot-check inspection.* This is an inspection performed on a percentage of materiel in order to ascertain the adequacy and effectiveness of organizational maintenance and supply. Included within this scope is inspection of equipment to detect incipient failures before unserviceability occurs; inspection to ascertain the availability and use of technical and supply manuals and lubrication orders; inspection to determine the accuracy of records, authorized levels of equipment and supplies, practice of supply economy, preservation, and safekeeping of tools, availability of repair parts and supplies; and knowledge of the proper procedures for requisitioning supplies and equipment and followup thereon.

(2) *Command maintenance.* Command maintenance inspections will be performed at least annually. The purpose of the inspection is to ascertain the serviceability of equipment, to predict maintenance and supply requirements, and to determine the adequacy of facilities and effectiveness of procedures. Information obtained during the inspection should indicate future requirements for depot maintenance and for replacement, as well as disclose immediate needs for maintenance and application of modification work orders. During inspection, correction of deficienties will be made on spot when practical. For additional information relative to these inspections and the forms to be used therewith, refer to AR 750-8.

b. Ordnance Shop Inspection.

(1) *Initial inspection.* This is an inspection of materiel received in Ordnance shops for the purpose of determining the degree of repair and parts requirement. This includes determination of modification work orders to be applied.

(2) *In-process inspection.* This is performed in the process of repairing the materiel, to insure that all parts conform to the prescribed repair standards, that the workmanship is in accordance with approved methods and procedures, and that deficiencies not disclosed by the initial inspection are found and corrected.

(3) *Final inspection.* This is an acceptance inspection performed by

a final inspector after repair has been completed, to insure that the materiel is acceptable for return to user or storage.

c. Preembarkation Inspection. This inspection is conducted on materiel in alerted units scheduled for oversea duty to insure that such materiel will not become unserviceable or worn out in a relatively short time. It prescribes a higher percentage of remaining usable life in serviceable materiel to meet a specific need beyond minimum serviceability.

Section II. INSPECTION PROCEDURES

41. General

***Warning:* Before starting an inspection, be sure the weapon is clean. Do not actuate the trigger or firing mechanism until the weapon has been cleared. Inspect the chamber to insure that it is empty. Avoid having live ammunition in the vicinity of work area.**

a. Check to see that the weapon has been cleaned of grease, excessive oil, dirt, or foreign matter which might interfere with proper functioning or obscure the true condition of the parts.

b. Make an overall inspection of the weapon for general appearance, condition, experiencing and check for apparent results of lack of knowledge, misinformation, neglect, improper handling and storage, security, and preservation.

c. See that all authorized modifications have been applied, that no unauthorized alterations have been made, and that no work beyond the authorized scope of the unit is being attempted. Check DA Pam 310-4 and current MWO files for any modification work orders printed after the date of this manual.

d. Instruct the using personnel in proper preventive-maintenance procedures (par. 33).

e. Check on completeness of the organizational maintenance allowances and procedures for obtaining replenishments.

f. Inspect lettering on nameplates for legibility.

g. Note general appearance. Check exterior of materiel for missing or broken parts.

h. Check storage conditions of general supplies.

i. Initiate a thorough report on materiel on "deadline," with reasons therefor, for further appropriate action.

j. Report to the responsible officer any carelessness, negligence, unauthorized modifications, or tampering. This report should be accompanied by recommendations for correcting the unsatisfactory condition.

42. Inspection of Materiel in the Hands of Troops in the Field

Refer to TM 9-1100 and AR 750-8 for responsibilities and fundamental duties of inspecting personnel, the necessary notice and preparations to be made, forms to be used, and general procedures and methods to be followed by inspectors. In the course of this inspection, the inspector will accomplish the following:

a. Determine serviceability, i.e., the degree of serviceability, completeness, and readiness for immediate use, with special reference to safe and proper functioning of the materiel. If the materiel is found unserviceable or incipient failures are disclosed, the deficiencies will be corrected on the spot or advice given as to corrective measures when applicable, or the materiel will be tagged and delivered to Ordnance maintenance personnel for repair.

b. Determine causes of mechanical and functional difficulties that troops may be

43. Ordnance Shop Inspections

a. Initial Inspection. In addition to material covered in paragraphs 41 and 42, the initial inspection will determine the cause of unserviceability, extent of required repairs, and estimate of parts required.

Table IV, Troubleshooting is provided to help determine malfunction. If the required repair is determined to be beyond the scope of field maintenance personnel, the materiel will be tagged and delivered to rebuild organizations (depot maintenance). For malfunctions and corrections pertinent to the using personnel, see table I, Operators Preventive-Maintenance Services.

b. In-Process Inspection. Detailed instructions for in-process inspection of the materiel are contained in the maintenance and repair chapter together with the applicable repair instructions.

c. Final Inspection. Detailed instructions for final inspection of materiel are contained in paragraphs 59 and 60.

44. Preembarkation Inspections of Materiel in Units Alerted far Oversea Movement

a. General. Materiel destined for oversea movement must be inspected for serviceability as described in paragraph 40. Serviceable materiel will also meet the standards set forth in TB ORD 385.

b. Spare Parts and Equipment. When shipped overseas the weapons must be accompanied by a complete set of spare parts and equipment as normally issued. All parts and equipment must be examined for serviceability. Replace any defective items. It is not normally necessary to inspect items in sealed packages.

CHAPTER 5

MAINTENANCE AND REPAIR

Section I. GROUND SIGNAL PROJECTOR M1A1

45. General

a. The ground signal projector (fig. 8) consists of a long tubular body, a breech assembly, and a spike. The breech assembly contains the moving parts of the unit. The barrel is threaded into the breech.

b. One end of the body is flared for support on the ground. A spike is provided to aid in the support of the unit on soft terrain. The spike is threaded into the flared portion of the body, point outward, and is thrust into the ground up to the flared portion of the body. When on hard ground, the spike is not used and is stored by screwing it point first into the flared portion of the body.

c. The breech assembly houses the firing mechanism. The unit is fired by pulling down on a lanyard. The lanyard is secured to the lever assembly. One end of lever assembly is inserted through an opening in the breech and into the striker, then secured with pin and cotter pin. The firing pin is threaded into the striker and the striker is assembled into the breech; the barrel is assembled to the breech. Pulling down on the lanyard causes the striker with firing pin to move upward, thus causing the firing pin to be forced through a clearance hole in the breech and into the primer of the signal within the barrel.

d. Detonation of the pyrotechnic produces propellent gases which force the striker and firing pin back to the original position. When the projector is held vertically, the weight of the striker is sufficient to pull it down to its original position.

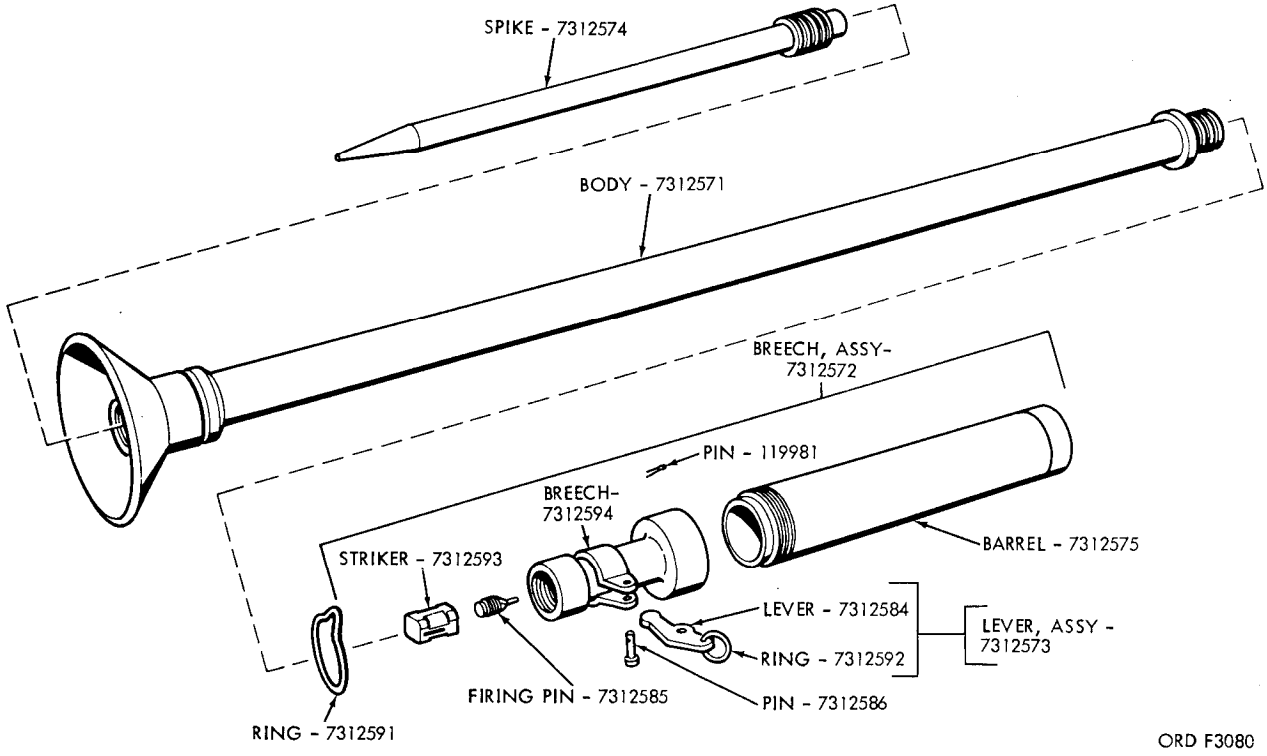

Figure 8. M1A1 ground signal projector — exploded view.

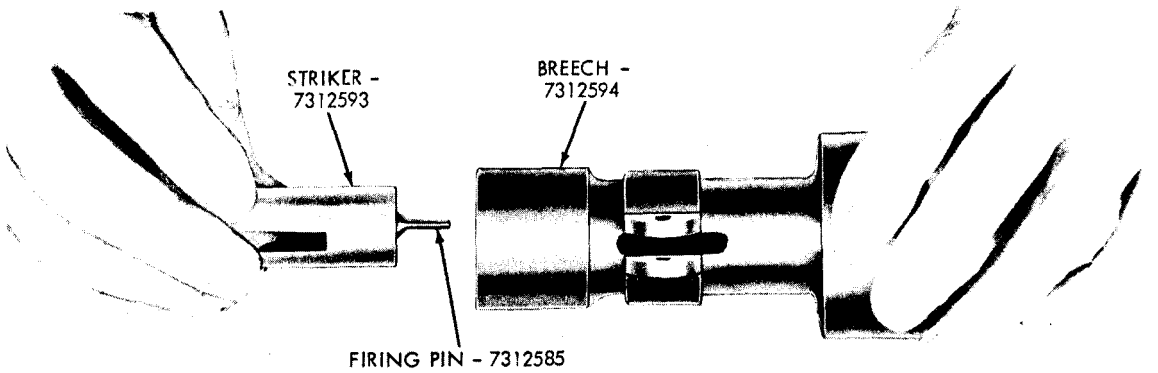

Figure 9. Assembly of firing pin and striker in breech.

46. Disassembly (fig. 8)

a. Place body in a vise and remove spike.
b. Remove breech assembly from body.
c. Remove barrel from breech.
d. Remove cotter pin; push pin and remove the lever assembly.
e. Turn breech on end and remove striker and firing pin.

47. Repair

Maintenance consists of cleaning, lubricating, and stoning of parts, when necessary, to insure smooth dependable operation. Inspect parts for excess wear and serviceability. If inspection reveals unserviceable parts, remove and replace.

48. Assembly

a. Install Firing Pin and Striker (fig. 9).
(1) Insert firing pin into the striker.
(2) Insert assembled striker and pin, with firing pin leading, into small end of breech.
(3) Aline slot in striker with slot in the breech.

b. Install Breech Assembly (fig. 8).
(1) Insert lever into striker slot.
(2) Aline hole in lever with holes in breech and insert pin.
(3) Insert cotter pin into pivot pin and secure.
(4) Depress lever and check operation of firing pin.

c. Install Barrel, Body, and spike (fig. 8).
(1) Assemble barrel to breech and tighten.
(2) Assemble body to the breech assembly.
(3) Assemble spike, pointed end first, into flared end of body.

Section II. HAND PYROTECHNIC PROJECTOR M9

49. General

a. Hand Pyrotechnic Projector M9. This is a small hand-operated and hand-supported projector that consists of a barrel assembly, breech assembly, latch assembly, and firing pin assembly (fig. 10).

b. Barrel Assembly. The barrel assembly is the main portion of the projector. It contains a pin and barrel. The barrel is welded and riveted and has a spring and ejector housing located on the rear portion of the barrel. It also has a locking hook centrally located on the barrel.

c. Breech Assembly. The breech assembly is located within the rear section of the projector. The breech assembly

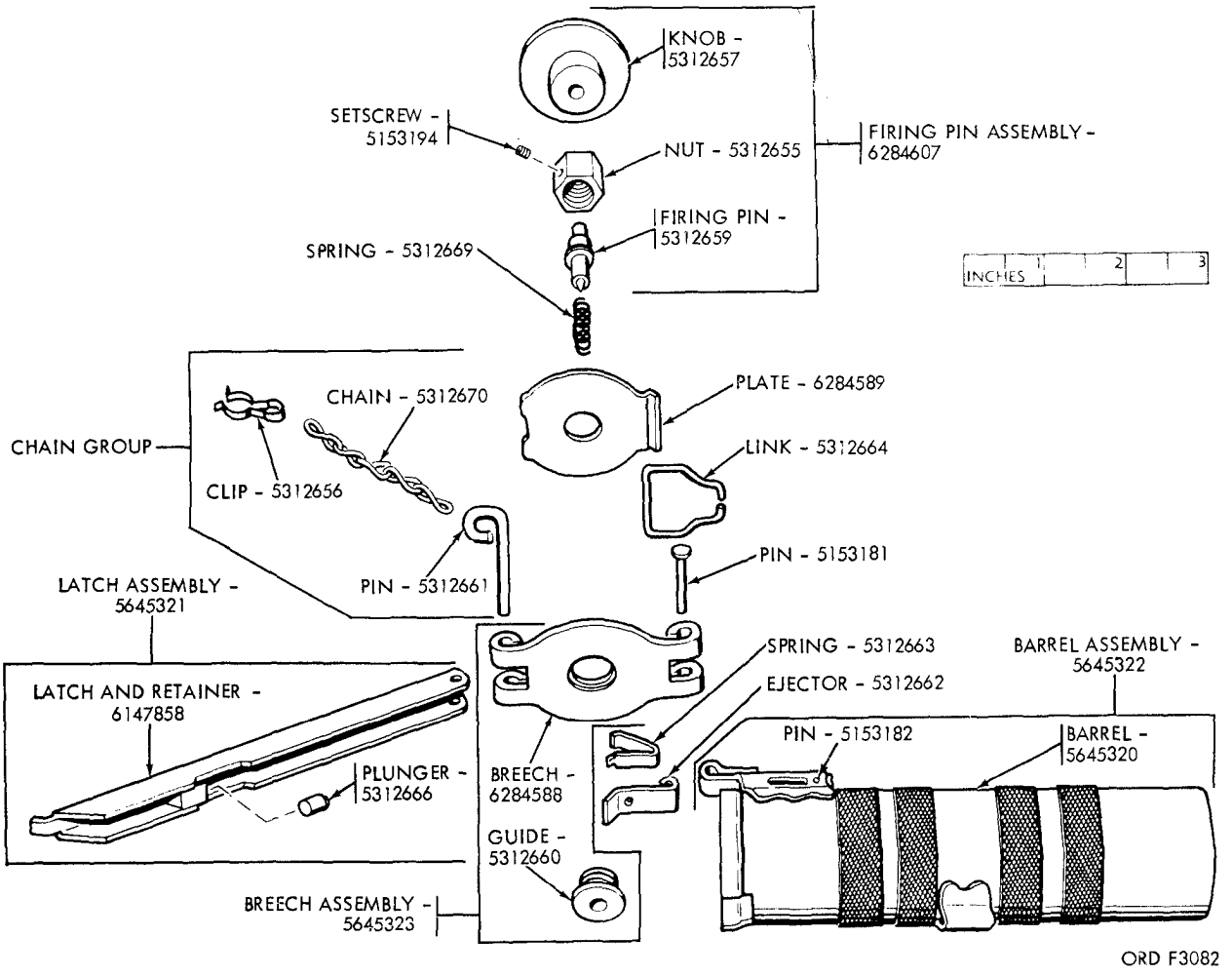

Figure 10. M9 hand pyrotechnic projector – exploded view.

consists of a breech and guide, and is connected to the barrel with a plate, pin, and link. It is connected to the firing assembly and secured by the guide.

d. Latch Assembly. The latch assembly is installed to the breech and secured with a latch pin. The latch assembly consists of latch, retainer, plunger, and spring.

e. Firing Pin Assembly. The firing pin assembly is installed to the breech assembly and located at the rear of the projector. The firing pin assembly consists of a knob, nut, and pin.

50. Disassembly

a. Barrel Assembly. With the latch assembly in an unlocked position, remove pin. Remove the ejector and spring from housing on the barrel.

b. Breech Assembly. Remove pin which connects latch assembly to breech and remove breech assembly.

c. Firing Pin Assembly. Remove setscrew from the firing pin nut. Loosen firing pin nut, using a 5/8-inch open-end wrench, and remove firing pin assembly and spring. Remove plate.

51. Maintenance and Repair

Maintenance consists of cleaning and lubricating. Inspect parts for excess wear and serviceability. If inspection reveals unserviceable parts, remove and replace.

52. Assembly

a. Firing Pin Assembly. Install spring over firing pin and in firing pin nut. Place

plate over firing pin guide and place ejector link between the groove in plate and breech. Insert firing pin through firing pin guide. Install firing pin nut on firing pin guide and secure with a 5/8-inch open-end wrench. Install setscrew into firing pin nut and secure.

b. Latch Assembly. Aline the holes in latch assembly with the holes in breech and insert pin.

c. Barrel Assembly. Assemble the ejector and spring into the housing, located on the rear section of the barrel. Snap the link open and insert prongs through the housing and into the ejector.

Section III. PYROTECHNIC PISTOL AN-M8 WITH PYROTECHNIC PISTOL MOUNT M1

53. General

a. Pyrotechnic Pistol with Pyrotechnic Pistol Mount. The pyrotechnic pistol with pyrotechnic pistol mount consists of a pistol and pistol mount (fig. 3).

b. Pyrotechnic Pistol Mount. The pyrotechnic pistol mount (fig. 5) is used as a holder for the pistol. The pistol is retained in the mount by lugs on the muzzle end of the barrel. The mount is provided with four symmetrically p1aced helical springs which absord the recoil shock. There is a cushioning gasket located within the mount which absorbs the counterrecoil when the pistol is fired. The cover is provided for use when the pistol is removed from the mount.

c. Pyrotechnic Pistol. The pyrotechnic pistol (fig. 11) is a double-action, single-loading pistol used for projecting flares or signaling between troops, from ground troops to aircraft, from aircraft to aircraft, or from aircraft to ground troops. The pistol consists basically of two groups, the barrel group and the frame group.

d. Barrel Group. The barrel group (fig. 12) consists of a pin, latch, lock, springs, and barrel assembly.

e. Frame Group. The frame group (fig. 13) houses the firing pin, safety, springs, hammer, pawl, slide, and bearing. When the trigger is depressed, the slide moves forward. The pawl is pinned to the slide and is spring loaded to keep the nose of the pawl raised. As the slide moves forward, the pawl engages and rotates the hammer rearward against the action of the spring. The projecting part of the pawl engages the bearing at a critical point, which acts to depress the pawl and release the hammer to strike the firing pin. When the trigger is released, the slide is forced back, because of the action of the spring. The pawl is depressed when it passes under the hammer. The projection on the forward end of the slide prohibits the hammer from contacting the firing pin, when the trigger is partially depressed and released. The safety is spring loaded and is forced against the hammer. When the breech is closed, the hammer moves

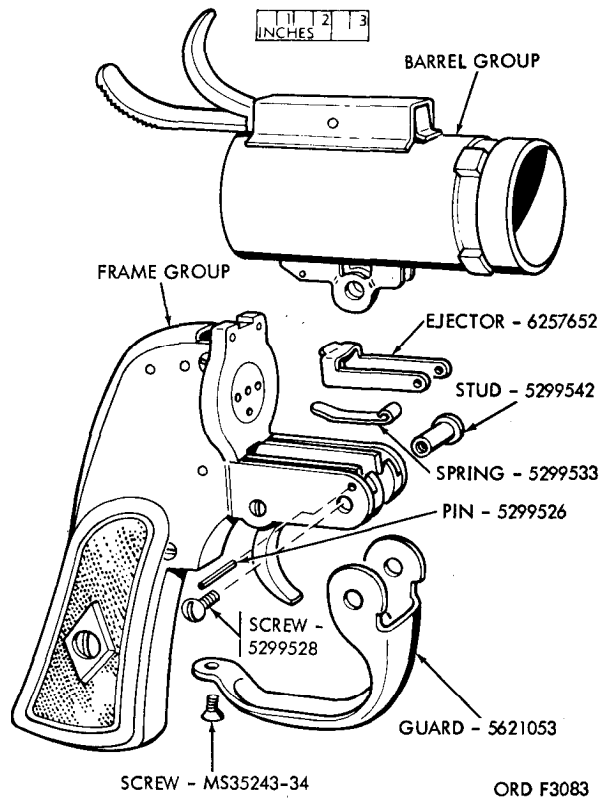

Figure 11. AN-M8 pyrotechnic pistol — exploded view.

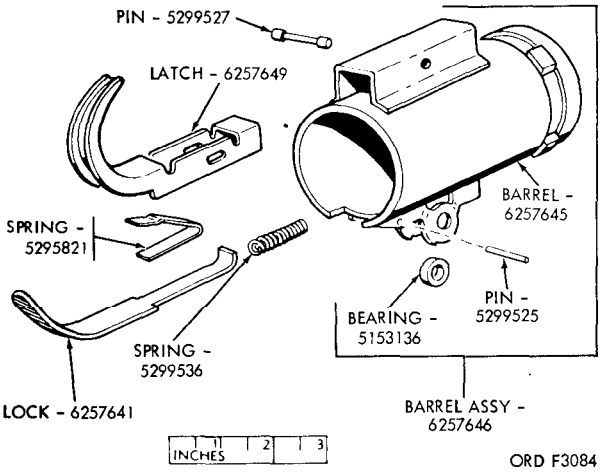

Figure 12. Barrel group – exploded view.

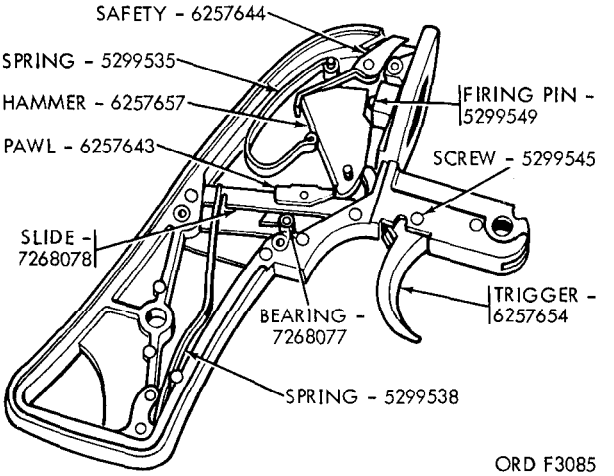

Figure 13. Frame group – internal view.

rearward and the safety is depressed by the lock.

54. Disassembly

Note. The items below refer to figure 12 unless otherwise indicated.

a. Barrel Group (fig. 12).

(1) Remove pin 5299527 with a drift pin.

Note. Be careful not to allow springs to fly out of the housing.

(2) Pull latch 6257649 and lock 6257641 rearward, slowly out of housing on the barrel.
Separate latch, spring 5299536, lock, and spring 5295821.
Remove pin 5299525, with small drift pin, remove spring 5299533 (fig. 11) and bearing 5153136 from barrel assembly 6257646.

b. Frame Group.

Note. The items below refer to figure 11.

(1) Remove screw MS35243-34 from under side of guard 5261053.
(2) Remove screw 5299528 from right side of pistol below the barrel.
(3) Remove stud 5299542 from left side of pistol and the trigger guard.
(4) Drive out pin 5299526 with a small drift pin.
(5) Remove barrel group from the frame group and lift ejector 6257652 off the frame group.

Note. For further disassembly of frame group the items below, refer to figure 14.

(6) Remove screw 5299529 from the right side of the pistol grip; remove nut 5295823 from the left side of the pistol grip. Remove right- and left-hand grips.
(7) Remove three screws MS35243-34 and screw 5299545 from plate 6257648 on the right side of frame assembly. Lift off plate and liner 6257642.
(8) Remove screw 5299548 from under side of frame near the trigger and remove spring 5299530.
(9) Remove spring 5299535, hammer 6257657, safety 6257644, and spring 5299537. Keep safety and spring together, if possible, and remove bearing 7268077.
(10) Turn the frame over and remove screws MS35243-34 from the plate 6257653.
(11) Remove plate with liner 7268094 and disassemble liner from plate.
(12) Remove slide 7268078 from spring 5299538 by pulling the notched end of the slide upward and away from the spring.
(13) Apply pressure to spring and remove.
(14) Remove pin 5299532 with a small drift pin. Turn frame over and remove pawl 6257643 from slide and remove spring 5299539.
(15) Push trigger upward into frame until pin 5295834 is visible. Remove

pin, with a small drift pin, and remove trigger 6257654.

(16) Remove slide 7268078.

Note. The items below refer to figure 15 unless otherwise indicated.

(17) Remove firing pin as follows:

(a) Remove setscrew 5295822.

(b) Remove retainer 5295820, using wrench 6131778 (fig. 16).

(c) Remove spring 5299534 and firing pin 5299549.

(d) Remove bushing 5299543, by unscrewing it from the frame.

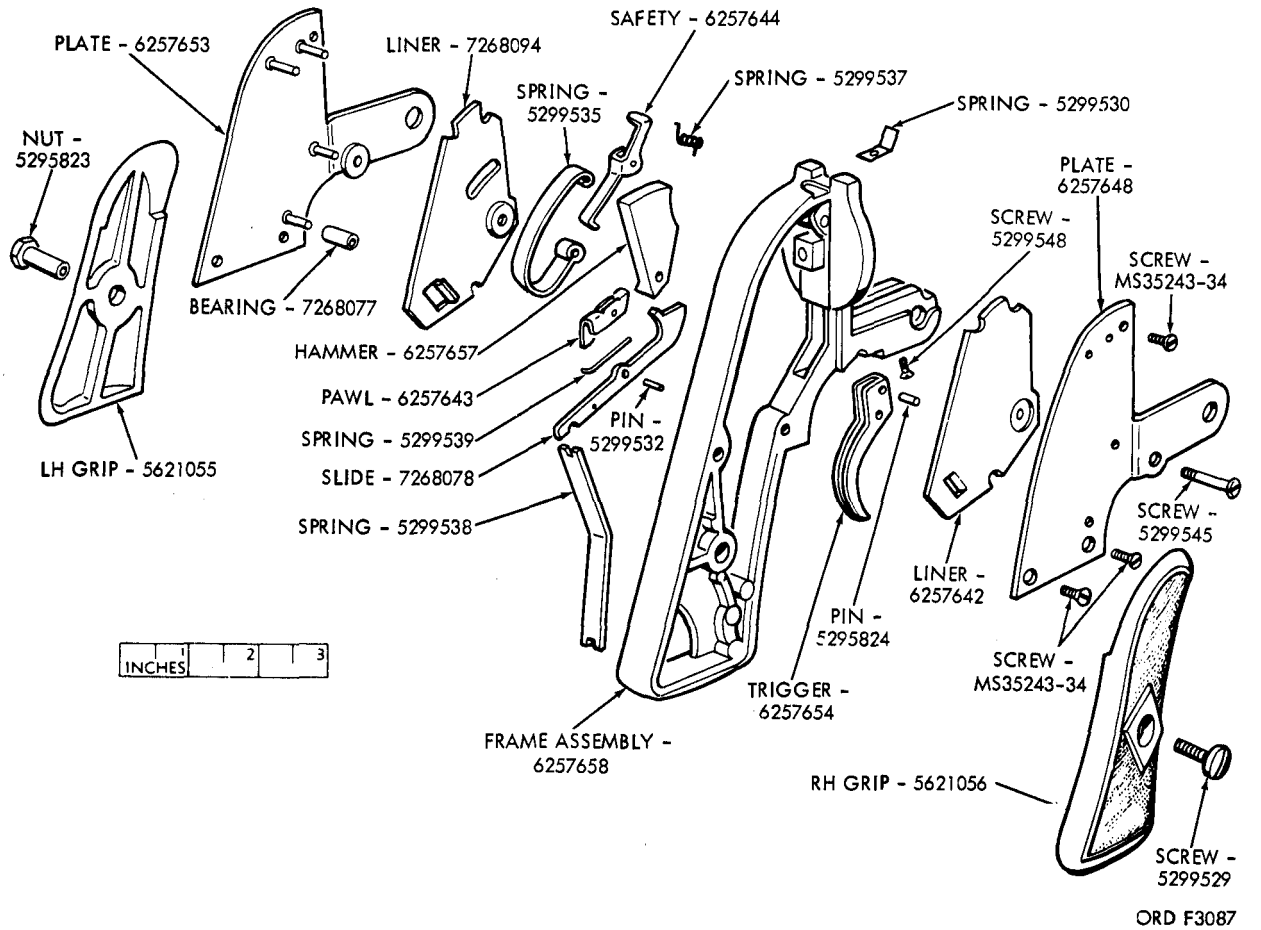

Figure 14. Frame group — exploded view.

55. Maintenance and Repair

Maintenance of the pyrotechnic pistol and mount will be limited to that required by cleaning operations described in paragraphs 33, 34, and 35 and by lubrication operations described in paragraphs 29 and 30. Inspection is for the purpose of determining the condition of the pistol and whether repairs and adjustments are required to insure its serviceability. When disassembling the pistol for cleaning purposes, inspect the pistol as described in *a, b,* and c below.

a. Before inspection is started, clear the pistol of live ammunition (par. 41) and thoroughly clean (par. 32) to remove fouling, dirt, rust, or other foreign matter.

b. Inspection of the assembled pistol and mount consists of visual and functioning inspections. Inspections are made on the barrel group, frame group, and mount.

c. If inspection reveals that parts or assemblies are unserviceable, remove and replace.

56. Assembly

a. Frame Group.

Note. The items listed below in subparagraphs (1) through (3) refer to figure 17.

(1) Place slide 7267078 into the frame, until the pin hole in its nose is visible above the trigger keyway in the frame.

(2) Insert trigger 6257654 in keyway and aline the upper hole with the hole in the slide.

(3) Install pin 5295824 in position and pull trigger down into operating position.

Note. The items listed below in subparagraphs (4) through (7) refer to figure 14 unless otherwise indicated.

(4) Place spring 5299539 in position, above the pin hole in the middle of the slide 7268078. Hold the spring in position, with the left hand, and place pawl 6257643 on slide and spring. Aline pin holes in the pawl with the holes in the slide and install pin 5299532 making certain that spring rests above the pin. The spring should maintain raised position of the pawl.

(5) Install folded end of spring 5299538 in notch, located in handle of frame, with slotted end of spring forced against the rear of the frame. Install notched end of slide into notched end of spring.

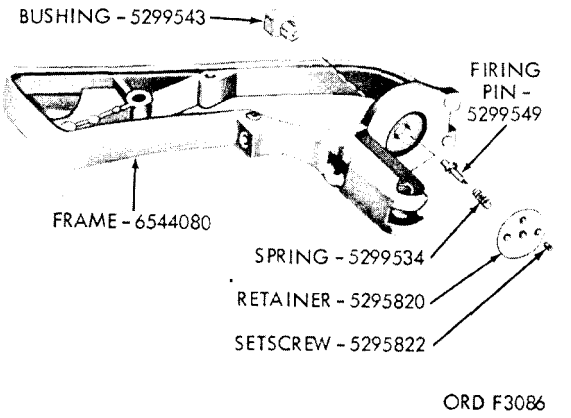

Figure 15. Firing pin and related parts – exploded view.

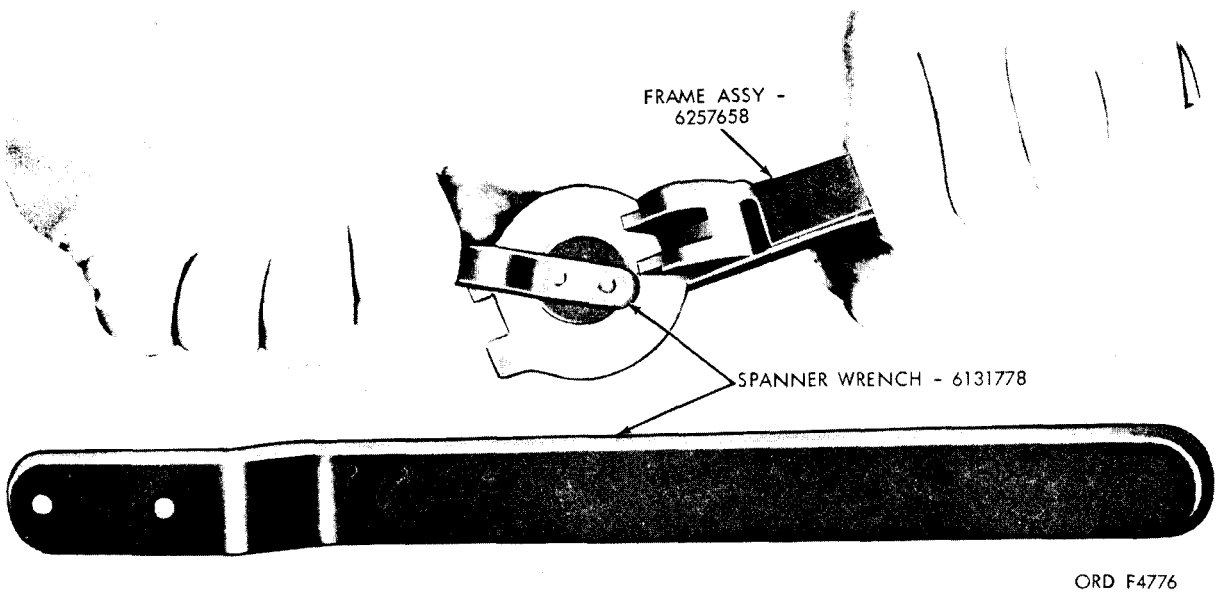

Figure 16. Removal and assembly of bushing retainer.

(6) Install left-hand frame plate liner on the back plate. Turn frame over and assemble back plate and liner to frame, fitting the slide between the two hooked back plate guides. Secure the back plate with three screws MS35243-34 to the frame.

(7) Install bearing 7268077 on the fixed pin located below pawl 6257643.

(8) Install spring 5299537 in safety 6257644, so that the spring extension is at the bottom of spring coil (fig. 18). Install safety with spring on pin located in upper right-hand side of frame (fig. 13). Pull back the safety and test for spring action; make certain that spring extension presses against the frame for support.

(9) Pivot safety out of position, install hammer on fixed pivot pin. Manipulate trigger; make certain that the pawl engages the hammer.

(10) Install hammer spring on pin located in the upper section of frame.

Note. The items listed below in subparagraphs (11) through (14) refer to figure 14.

(11) Install spring 5299530 in frame keyway, the raised part of spring is facing the hinge stud hole, and secured in place with screw 5299548.

(12) Install the liner 6257642 and plate 6257648 to frame, and secure with three machine screws MS35243-34.

(13) Aline hole in trigger with the holes in the right and left-hand plates and install screw 5299545.

(14) Install right and left-hand grips in proper position and secure in place with screw 5299529 and nut 5295823.

Note. The items listed below in subparagraphs (15) through (18) refer to figure 11.

(15) Install ejector 6257652 and spring 5299533 on the frame above the trigger, wit h the pin clearance holes in ejector legs and eye of spring forward.

(16) Install barrel group on the frame. Aline holes in frame, ejector, spring, and barrel. Install pin 5299526 in holes until flush on both sides with the plates. Check and make certain that barrel group

(17) Install guard on frame. Aline the two large holes in guard with large hole in frame. Install stud 5299542 from left side of projector and secure with screw 5299528.

(18) Install screw MS35243-34 which secures trigger guard on underside of frame,.

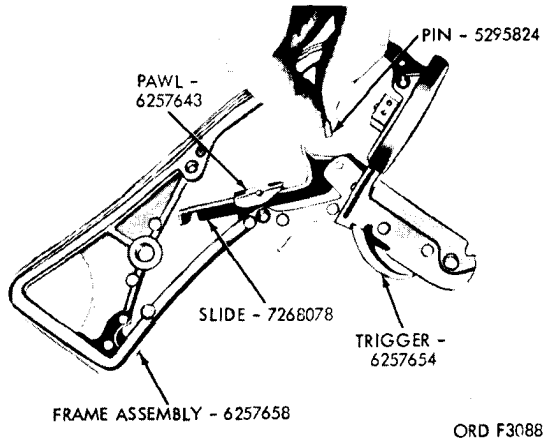

Figure 17. Assembly of trigger group.

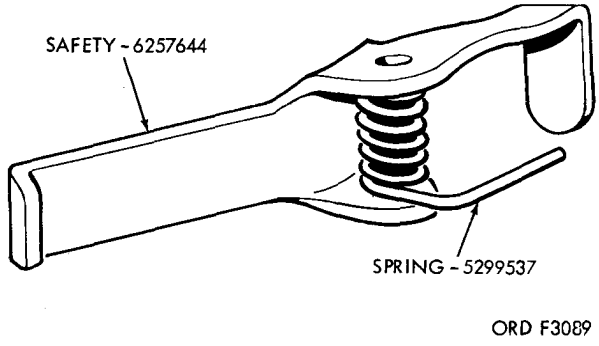

Figure 18. Assembly of spring and safety.

b. Barrel Group.

Note. The items listed below refer to figure 19 unless otherwise indicated.

(1) Install spring 5299536 in latch 6257649 and place unknurled section of lock 6257641 in latch keyway.

(2) Install spring 5295821 in latch keyway, between the latch and breech lock, with the notched spring leg

forward. Carefully install the group into welded housing on the barrel.

(3) Install pin 5299527 (fig. 12) through housing and breech lock; the pin is flush with sides of housing.

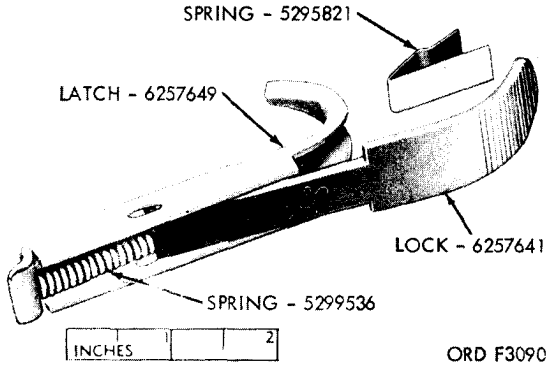

Figure 19. Assembly of latch group.

Section IV. MAINTENANCE UNDER UNUSUAL CONDITIONS

57. Extreme Cold-Weather Maintenance

Refer to TM 9-207 for general information pertaining to the preparation, operation, and maintenance of Ordnance materiel under conditions of extreme cold (0° to -65° F.).

58. Extreme Hot-Weather Maintenance

a. In hot, damp climate, corrosive action on all parts of the projector or pistol will occur and will be accelerated in areas of high humidity and during the rainy season. Evidence will appear in the form of rust on metal surfaces.

b. Protect unfinished exposed metal surfaces with general purpose (PL special) lubricating oil.

c. Make frequent inspections of inactive weapons. Remove corrosion from exterior surfaces with crocus cloth and apply a protective coating of oil.

CHAPTER 6

FINAL INSPECTION

59. General

Final inspection, to insure that the materiel is complete and serviceable, is performed after the materiel has been repaired and assemb1ed in Ordnance maintenance shops for return to user. Final acceptance will depend largely upon the care exercised during repair procedures. Therefore, it is imperative that the in-process inspections in paragraph *42b(2)* be performed carefully during repair.

60. Specific Inspection Procedures

a. Visual. Visually inspect the materiel for missing, bent, or otherwise damaged components. Determine that applicable modification work orders (MWO's) have been completed.

b. Function. Hand function (cycle) materiel through the normal operations, to determine that materiel functions properly.

CHAPTER 7

AMMUNITION

61. General

Ammunition for use in pyrotechnic pistols and projectors is issued in the form of complete rounds of fixed ammunition. A complete round consists of all the ammunition components required to fire the pistol or projector once. The complete round consists of a primer, a delay element, propelling charge, and a pyrotechnic charge, all contained in a cartridge case. The term "fixed," used in connection with ammunition fired from pyrotechnic dischargers, signifies the propelling charge is fixed (not adjustable) and that the round is loaded into the discharger as a unit.

62. Classification

a. Dependent upon use or the effect produced, ammunition fired from pyrotechnic dischargers is classified as aircraft illamination signals, aircraft parachute flares, and projectile air burst simulators.

b. Aircraft illumination signals (fig. 20) were originally intended for signaling from aircraft-to-aircraft or from aircraft-to-ground. The use of ground projectors also permits their use by ground troops. The signals are manufactured to produce, upon firing, a single colored star or two stars of the same or different colors. The double star signals are also available with a tracer element of the same color as one of the stars. The colors of stars and tracers are green, red, and yellow. Early models of the signals (without "A1" suffix designations) are available and are assembled inside of a paper case with a brass head; other models (with "A1'' suffix designations) are assembled inside of an all aluminum one-piece or two-piece case. Some of these signals, with brass heads and aluminum cases, may be encountered. Later models "A2" suffix designations) are of one-piece rimmed-case construetion with a steel closing cap.

c. The projectile airburst simulator M27 (fig. 21) is used in training to simulate the high burst of artillery projectiles, and produces a smoke puff at the top of its rise of approximately 650 feet.

d. The aircraft parachute flare M9A1 (fig. 22) is intended for aerial reconnaissance. Upon firing, the flare case is projected from the pistol and, after a 2.5-second delay, ignited candle and parachute are expelled from the case.

e. The projectile air burst simulator M74 (fig. 20) is intended primarily for umpires, to simulate air burst of artillery fire for training troops. Simulators of earlier manufacture have an aluminum body and brass base; simulators of later manufacture have an all aluminum case.

63. Identification

a. General. Ammunition and ammunition components are completely identified by the painting and marking (including an ammunition lot number) on the ammunition items and on all original packing containers; refer to figures 20 through 23.

b. Model. To identify a particular design, a model designation is assigned at the time the item is classified as an adopted type. This model designation becomes an essential part of the standard nomenclature and is included in the marking on the item. The present system of model designation for a standard item consists of the letter "M'' followed by an Arabic numeral, for example, "M9." Modifications are indicated by adding the letter "A" and the appropriate Arabic numeral. Thus, "M9A1" indicates the first modification of an item for which the original model designation was "M9." Items standardized for use by both Army and Navy are designated by ''AN" preceding the model designation.

c. Ammunition Lot Number. When ammunition is manufactured, an ammunition lot number, which becomes an essential part of the marking, is assigned in accordance with pertinent specifications.

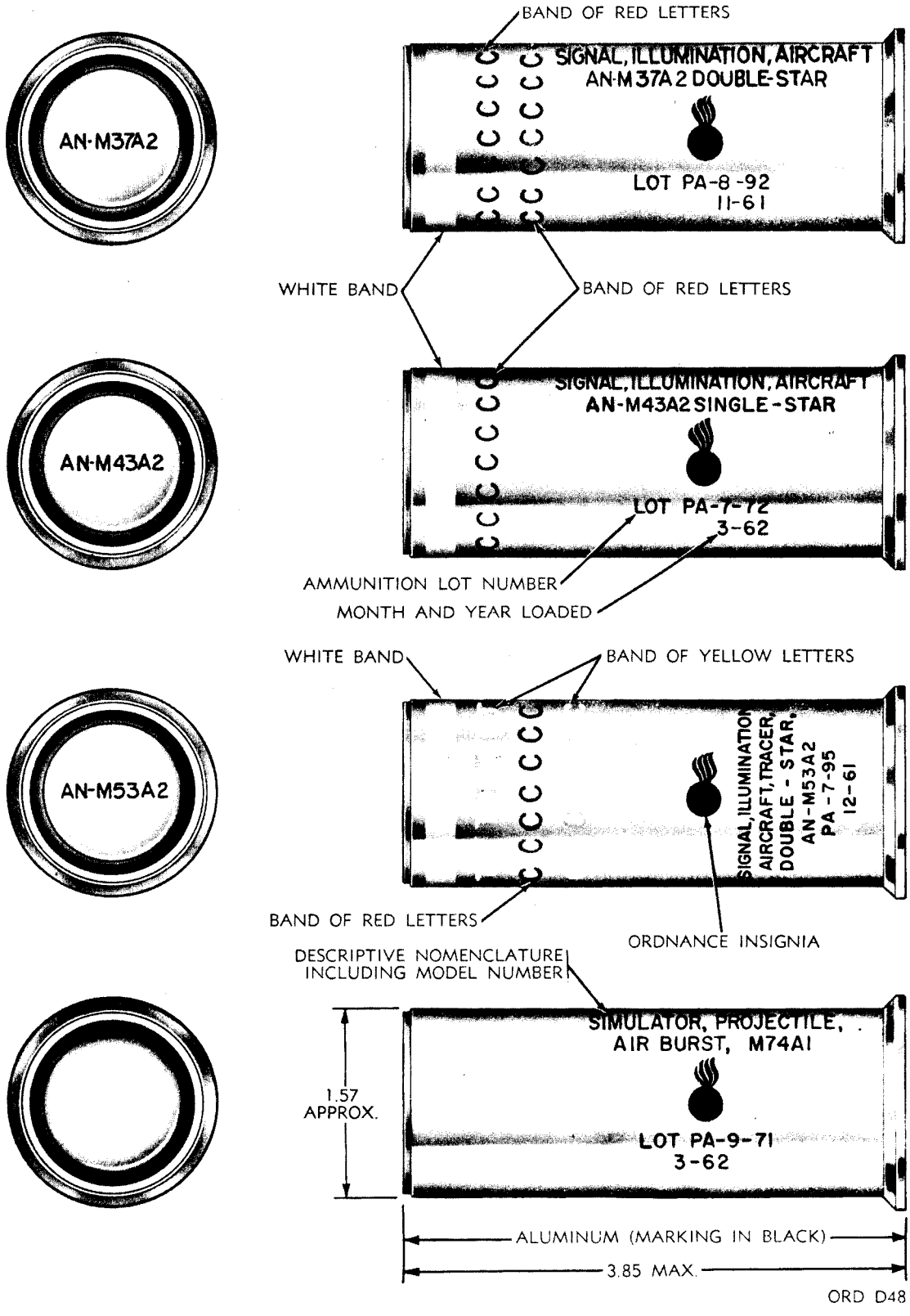

Figure 20. Aircraft illumination signals and projectile air burst simulators.

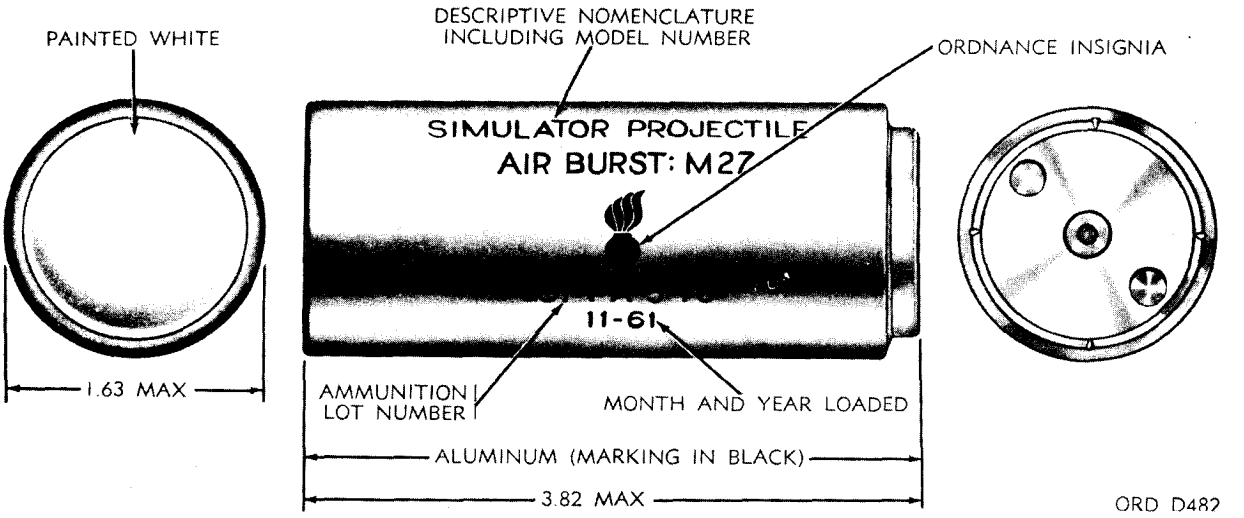

Figure 21. Projectile air burst simulator M27

The lot number is stamped or marked on every loaded complete round and on all packing containers. It is required for all purposes of record, including reports on condition, functioning, or accident, in which ammunition may be involved. In any one lot of ammunition, the components used in the assembly are manufactured under as nearly identical conditions as practicable.

d. Painting. The ammunition described herein is coated with a colorless lacquer. In addition to the lacquer, aircraft illumination signals have colored bands or colored bands of letters painted around the case, in colors corresponding to the stars and tracer assembled within. To provide a ready means of identification, the closing disk on the projectile air burst simulator M27 is painted white.

e. Marking.

(1) *On the body (stenciled unless otherwise indicated):*
Descriptive nomenclature including model number.
Ammunition lot number including the loader's initials or symbol (stamped on aircraft parachute flare).
Month and year of manufacture (stamped on aircraft parachute flare).
Ordnance insignia (stamped on aircraft parachute flare).
"TR" or colored band of letters ("T") on aircraft illumination signals containing a tracer.

(2) *On the base of the aircraft parachute flare case (stamped unless otherwise indicated):*
Ammunition lot number including loader's initials or symbol.
Month and year of manufacture.
Model number (stenciled).

(3) *On the head of aircraft illumination signals (stenciled):*
Color of star or stars (paper-cased signals only).
Model number (aluminum-cased signals only).

64. Care, Handling, and Preservation

Warning: Pyrotechnics must be handled with appropriate care at all times. The explosive elements in primers and expelling charges are particularly sensitive to undue shock and high temperature. Boxes containing pyrotechnics should not be dropped, thrown, tumbled, or dragged.

a. Ammunition is packed to withstand conditions ordinarily encountered in the field. Care must be observed to keep packings from becoming broken or damaged. All broken packings must be repaired

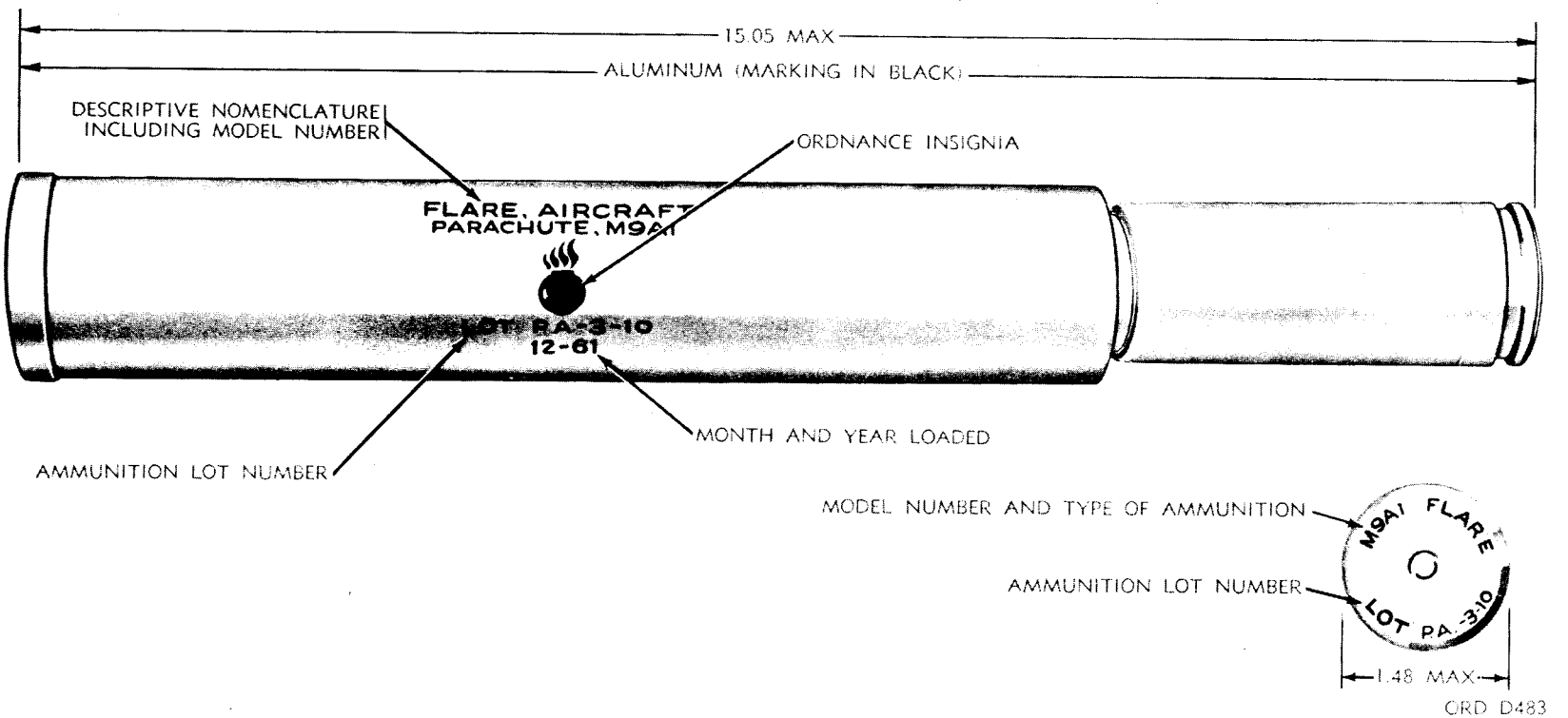

Figure 22. Aircraft parachute flare M9A1.

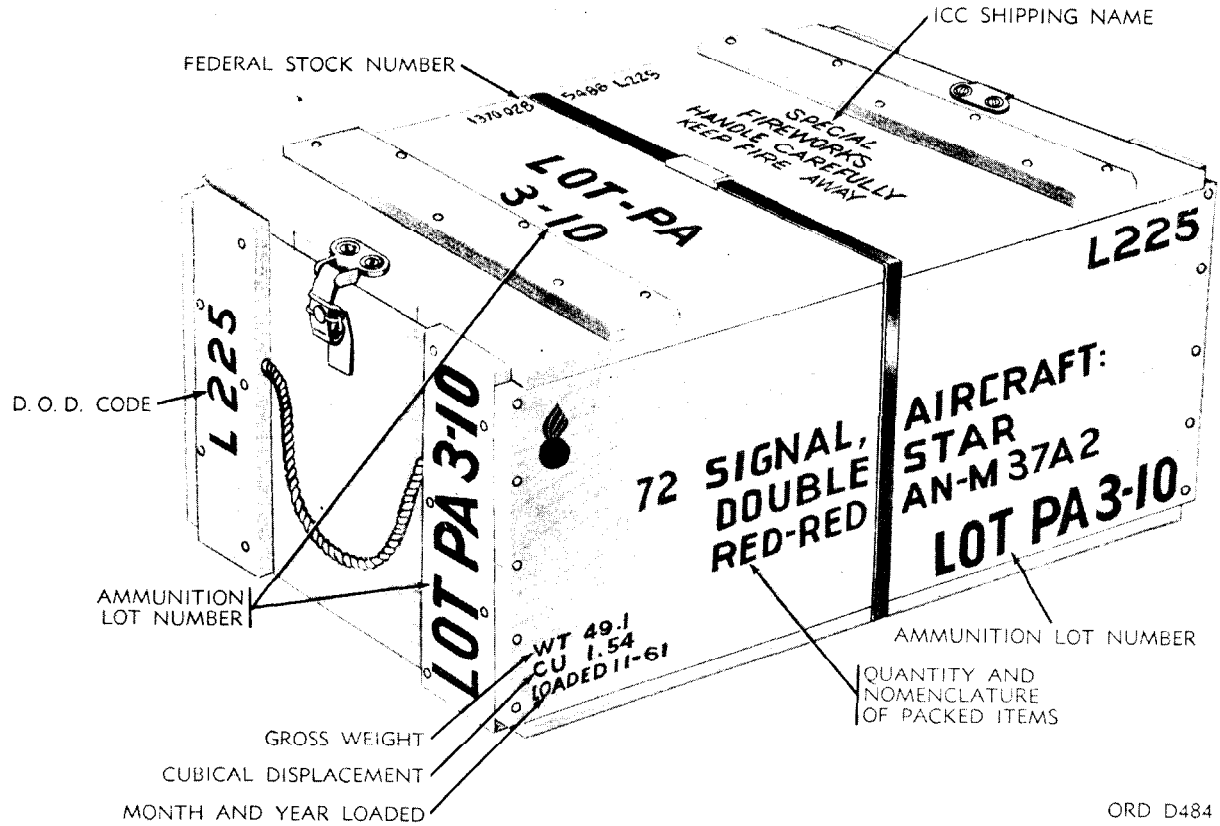

Figure 23. Packing box for aircraft illumination signals.

immediately and careful attention given to the transfer of all marking to the new parts.

b. Since pyrotechnics are adversely affected by moisture and high temperature, due consideration should be given as indicated in (1) and (2) below.

(1) Do not break the moisture-resistant seal until the pyrotechnic is to be used.

(2) Store pyrotechnics in a dry, well-ventilated place, out of the direct rays of the sun, and protected against excessive or variable temperatures.

c. Do not attempt to disassemble the complete round or any of its components.

d. Before loading into the discharger, the round should be free of sand, mud, moisture, frost, snow, ice, oil, grease, and any foreign matter.

e. Do not handle duds, as they are extremely dangerous. They will not be moved or touched but will be destroyed in place in accordance with TM 9-1903.

65. Authorized Rounds

The ammunition authorized for use in the pyrotechnic pistol AN-M8, hand pyrotechnic projector M9, and ground signal projector M1A1 is listed in table V. Standard nomenclature, which is used in the listing, completely identifies the ammunition, except for ammunition lot number.

Table V. Authorized Rounds

Standard nomenclature	Complete round: Weight (lb)	Complete round: Length (in)	Burning time (sec)	Candlepower (approx)
FOR PROJECTOR, SIGN L, G OUND M1A1				
SIMULATOR, PROJECTILE AIR BURST: M27----------	0.42	3.82	Instantaneous	Smoke cloud only.
FOR PISTOL, PYRC ECHN C: AN-M8				
FLARE, AIRCRAFT: parachute, M9A1 ----------	2.11	5.05	60 to 70	60M
SIMULATOR, PROJECTILE AIR BURST: M74 or M74A1	0.34	3.85	Instantaneous	600M (flash) (smoke cloud)
FOR PISTOL, PYROTECHNIC : AN-M8 AND OJE TOR, YROTECHNIC , HAND: M9				
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M37 series, red-red.	0.35	3.85	10±3	25M (each star)
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M38 series, yelow-yellow.	0.35	3.85	10±3	20M (each star)
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M39 series, green-green.	0.39	3.85	10±3	20M (each star)
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M40 series, red-yellow.	0.35	3.85	10±3	25M (R star) 20M (Y star)
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M41 series, red-green.	0.39	3.85	10±3	25M (R star) 20M (G star)
SIGNAL, ILLUMINATION, AIRCRAFT: double star, AN-M42 series, green-yellow.	0.39	3.85	10±3	25M (G star) 20M (Y star)
SIGNAL, ILLUMINATION, AIRCRAFT: single star, AN-M43 series, red.	0.27	3.85	10±3	25M
SIGNAL, ILLUMINATION, AIRCRAFT: single star, AN-M44 series, yellow.	0.26	3.85	10±3	25M
SIGNAL, ILLUMINATION, AIRCRAFT: single star, AN-M45 series, green.	0.32	3.85	10±3	25M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M53 series, yellow tracer, red-yellow star.	0.40	3.85	T, 2.5 to 4 Star, 3 to 4.5	T, 30M R star, 48M Y star, 36M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M54 series, green tracer, red-red star.	0.38	3.85	T, 2.5 to 4 Star, 3 to 4.5	T, 25M Star, ea 48M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M55 series, green tracer, green-red star.	0.38	3.85	T, 2.5 to 4 Star, 3 to 4.5	T, 25M G star, 20M R star, 48M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M56 series, green tracer, green-green star.	0.38	3.85	T, 2.5 to 4 Star, 3 to 4.5	T, 30M Star, ea 20M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M57 series, red tracer, red-red star.	0.39	3.85	3 to 4.5	Star, ea 48M
SIGNAL, ILLUMINATION, AIRCRAFT: AN-M58 series, red tracer, green-red star.	0.39	3.85	3 to 4.5	G star, 28M R star, 48M

approx. – approximate
G – green
M – thousand
R – red
sec – second
T – tracer
Y – yellow

66. Preparation for Firing

After removal from packing materials, rounds of ammunition for the weapons described herein are ready for firing. Rounds prepared for firing but not fired will be returned to their original condition and packings and be appropriately marked. Such rounds will be used first in subsequent firings, in order that stocks of opened packings may be kept to a minimum.

67. Precautions in Firing

The precautions in *a* through *h* below should be closely observed, in order to prevent injury to personnel or damage to materiel.

a. Rounds should be free of foreign matter, sand, mud, moisture, frost, snow, ice, or grease when being loaded into the weapon.

b. Rounds with cracked, dented, or deformed cases or loose closing tops should not be fired.

c. In discharging signals freehand (without pistol mount) from aircraft, or from the ground, care will be exercised to aim so that no damage results to the aircraft or friendly ground troops.

d. Overhead cover should be provided

when firing. When discharging the weapon free hand (without pistol mount), the firer's body should be below the level of the muzzle of the pistol or projector.

e. When firing projectile air burst simulators over the heads of troops, the weapon should not be aimed at an elevation of less than 45 degrees to insure sufficient height of burst. Personnel should not face toward the point of burst of the simulator.

f. Due to the powerful recoil, two hands should be used when firing the aircraft parachute flare M9A1. Never fire this flare from a grounded aircraft.

g. Misfires will be handled in accordante with paragraph 19 and AR 385-63.

h. Appropriate precautions should be observed when firing in wooded or other areas containing objects in the line of fire. In such firing, injury to the firer or adjacent personne1 may result should the signa1 or flare strike a branch, overhead wires, or other object that would prevent its normal flight and function.

68. Packing and Marking

a. Packing.

(1) The types and quantities of signals and flares packed in wooden boxes, as well as pertinent data, are shown in table VI.

(2) Complete data are published in SM 9-5-1370.

b. Marking. The information in (1) through (10) below is marked in black on packing boxes of pyrotechnics (fig. 23).

(1) Interstate Commerce Commission (ICC) shipping name.

(2) Federal Stock Number and Department of Defense Ammunition Code.

(3) Ammunition lot number.

(4) Gross weight of packing box and contents.

(5) Cubical displacement of packing box.

(6) Date loaded.

(7) Quantity and descriptive nomenclature of packed items.

(8) Ordnance insignia.

(9) Name and address of box manufacturer and date manufactured.

(10) Inspector's stamp.

Table VI. Ammunition Packing Data

Item	Packing	Dimensions (in)	Volume (cu ft)	Weight (lb)
Aircraft parachute flare ----	7/mtl cntr, 2 cntr (14 flare)/wdn bx ------	17-1/4 x 17-3/8 x 9-1/4 --	1.59	49.7
	1/fbr cntr M102, 25 cntr (25 flare)/wdn bx	19-1/2 x 15-3/8 x 16-1/8	2.78	99.7
Aircraft illumination signals	10/ctn, 8 ctn (80 signal)/wdn bx ---------	20 x 11-1/2 x 12-1/8 -----	1.60	57.1
	12/ctn, 6 ctn (72 signal)/wdn bx ---------	15-5/8 x 13-5/8 x 12-5/8	1.54	57.8
	12 ctn, 12 ctn (144 signal)/wdn bx --------	28-1/8 x 13-5/8 x 12-5/8	2.78	92.9
Simulators ----------	10/wax dipped wtrprf ctn, 10 ctn (100 simulators)/wdn bx.	23-7/8 x 11-1/4 x 11-3/4	1.81	64.3
	10/wax dipped wtrprf ctn, 8 ctn (80 simulators)/wdn bx.	20-5/8 x 12-1/8 x 11-1/2	1.65	48.9
	2/fbr cntr M73, 50 cntr (100 simulators)/wdn bx.	23-5/8 x 9-7/8 x 12-5/8 --	1.66	70.7

bx — box
cntr — container
ctn — carton
fbr — fiber
mtl — metal
wdn — wooden
wtrprf — waterproof

CHAPTER 8

DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE

69. General

a. Destruction of the ground signal projector MlAl, pyrotechnic pistol AN-M8, or hand pyrotechnic projector M9, when subject to capture or abandonment in the combat zone, will be undertaken by the using army only when, in the judgement of the unit commander concerned, such action is necessary in accordance with order of or policy established by the army commander. When the projector or pistol is in the possession of Ordnance maintenance personnel or in storage, destruction will be in accordance with FM 9-1 and applicable portions of the information in *b, c,* and *d* below.

b. The information that follows is for guidance only. Certain of the procedures described require the use of explosives and incendiary grenades, which normally may not be authorized items of issue to the using organization. The issue of these and related materials and the conditions under which destruction will be effected are command decisions in each case, according to the tactical situation. Of the several means of destruction, those most generally applicable are:

(1) *Mechanical.* Requires axe, pick mattock, sledge, crowbar, or similar implement.

(2) *Burning*. Requires gasoline, oil, incendiary grenades, or other flammables,

(3) *Demolition.* [1]Requires suitable explosives or ammunition.

(4) *Gunfire.* [1]Includes artillery, machine guns, rifles using rifle grenades, and launchers using antitank rockets. Under some circumstances, hand grenades may be used.

(5) *Disposal.* Requires burying in the ground, dumping in the streams or marshes, or scattering so widely as to preclude recovery of essential parts.

In general, destruction of essential parts, followed by burning will usually be sufficient to render the materiel useless. However, se1ection of the particular method of destruction requires imagination and resourcefulness in the utilization of the facilities at hand under the existing conditions. Time is usually critical.

c. If destruction to prevent enemy use is resorted to, the materiel must be so badly damaged that it cannot be restored to a usable condition in the combat zone either by repair or cannibalization. Adequate destruction. requires that all parts essential to the operation of the materiel, including essential spare parts, be destroyed or damaged beyond repair. However, when lack of time and personnel prevents destruction of all parts, priority is given to the destruction of those parts most difficult to replace. Equally important, the same essential parts must be destroyed on all like materiel, so that the enemy cannot construct one complete unit from several damaged ones.

d. If destruction by demolition or gunfire is directed, due consideration should be given to the observance of appropriate safety precautions.

70. Destruction of Ground Signal Proiector M1A1, Pyrotechnic Pistol AN-M8, or Hand Pyrotechnic Proiector M9

a. Method No. 1-by Mechanical Means. Using an axe, pick mattock, sledge, or other heavy implement, thoroughly smash the projector or pistol. Elapsed time: about 1 minute.

b. Method No. 2-by Burning. Place the projector or pistol on a pile of combustible. Pour gasoline over the combustible.

[1]Generally applicable only when the projector or pistol is to be destroyed in conjunction with other equipment.

Ignite and take cover. A hot fire is required to render the materiel useless. Elapsed time: about 3 minutes,

Caution: **When igniting gasoline, due consideration should be given to the highly inflammable nature of gasoline and its vapor. Carelessness in its use may result in painful burns.**

c. Method No. 3 - by Disposal. Bury the projector or pistol in a suitable hole or throw it into a stream. Elapsed time: about 2 minutes.

CHAPTER 9

SHIPMENT AND STORAGE

71. Shipping Instructions

a. Responsibility. When shipping the projector or pistol, the officer in charge of preparing the shipment will be responsible for furnishing materiel in a serviceable condition and properly processed for shipment, including the preparation of Army shipping documents.

b. Preparation for Shipment. Personnel withdrawing the projector or pistol from storage for shipment must not remove preservatives other than to insure that the materiel is complete and serviceable. It is has been determined that preservatives are not adequate, they must be restored prior to shipment, as prescribed in paragraph 73.

c. Army Shipping Documents. prepare all Army shipping documents in accordance with AR 725-5.

72. Storage Instructions

a. General.

(1) Prepare DD Form 6 for all shipments received in a damaged or otherwise unsatisfactory condition.

(2) Projectors or pistols received for storage and already processed for domestic shipment must not be reprocessed, un1ess inspection performed on receipt of materiel reveals corrosion, deterioration, etc.

(3) Completely process projector or pistol upon receipt directly from manufacturing facilities or when preservatives have been rendered in effective.

(4) Projector or pistol to be prepared for limited storage must be given a limited technical inspection and processed as prescribed in paragraph 73. The results of the inspection and classification will be noted by attaching tags indicating any deficiencies.

(5) After inspection, replace or repair all missing or broken parts. If repairs are beyond the scope of the unit and materiel will will be inactivated for an appreciable length of time, place materiel in limited storage and attach tags specifying the repairs needed. The reports of these conditions will be submitted by the unit commander for action by an ordnance maintenance unit.

(6) When materiel is inactivated, it will be processed in accordance with paragraph 73.

b. Inspection During Storage. Perform a visual inspection periodically to determine general conditions of materiel. If damage or corrosion is found on any part, repair or reprocess as prescribed in paragraph 73.

c. Storage Site. The preferred storage site is indoors.

73. Cleaning, Preservation, Packaging, and Packing Instructions

Note. Prior to cleaning, disassemble the grips, barrel assembly, and frame assembly.

a. Cleaning. Clean all surfaces by one of the methods indicated in (1) through (3) below, whichever is applicable or available at installation. It is of utmost importance that all parts be spotlessly cleaned prior to application of preservatives and packaging.

(1) *Dip-tank method (metal accessories only).* Place metal parts in a metal perforated basket and submerge and agitate for approximately 1 minute in a tank containing dry-cleaning solvent or volatile mineral spirits. Remove and submerge into a second tank containing clean solvent. Agitate for about 1 minute and remove. Submerge into a third tank containing a suppressor or fingerprint remover oil (type A) to remove all acids. Remove and dry the parts thoroughly with dry compressed air

(provided with special moisture filter traps), infra-red lamps, heating oven, or by wiping the part with clean lint-free cloths.

(2) *Scrubbing method.* Clean all parts by scrubbing with cloths soaked in the solvent (1) above, by wiping with clean, solvent-soaked cloths. When the solvent-soaked cloths used for the first scrubbing operation become too dirty for further use, discard them and use clean solvent-soaked cloths. Clean cloths must be soaked with clean solvent for the final wiping operation. Apply fingerprint remover oil (type A) and dry thoroughly as prescribed in (1) above.

(3) *Vapor degreaser method (metal accessories only).* Tanks containing a heated solution of trichlorethylene or perchloroethylene (type II) are used mostly for degreasing items that are very greasy, oily, and grimy and not readily cleaned by the dip-tank method (1) above. Place parts in a metal perforated basket and submerge just below the vapors in the tank for about 2 or 3 minutes until all the oil or grease melts and runs off items in the basket. Remove basket and apply fingerprint remover oil (type A) to items and dry thoroughly as prescribed in (1) above.

Warning: **Personnel operating vapor degreasers are cautioned not to breathe the vapor fumes.**

b. Preservation. Remove fingerprints and apply a coat of oil (PL special), general purpose lubricating oil to the metal portion of the projector and pistol.

c. Packaging.

(1) *Ground signal projector M1A1.*

(a) Put the projector in a type 1 barrier material bag and secure with heat.

(b) Put bag and contents into fiber can container.

(c) Assemble top to container and seal with tape.

(2) *Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1.*

(a) Put each pistol and mount in a type 1 barrier material bag and secure with heat.

(b) Construct mount and pistol supports from corrugated fiberboard.

(c) Position supports in the corrugated fiberboard carton and locate the wrapped mount and pistol in the supports within the fiberboard box.

(d) Close carton and seal along the closure seam with 3-inch Kraft gummed cloth tape or equal.

(3) *Hand pyrotechnic projector M9.*

(a) Wrap each projector in barrier material; secure with tape.

(b) Insert wrapped projector into barrier-type bag and seal with heat.

(c) Position the wrapped projector in the fiberboard carton (fig. 26).

(d) Close carton and seal along the closure seam with 3-inch Kraft gummed cloth tape or equal.

d. Packing Instructions.

(1) *Ground signal projector M1A1.* Pack in accordance with MIL-C-3955.

(2) *Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1.* Pack in accordance with MIL-P-3974 and drawing F7267877.

(3) *Hand pyrotechnic projector M9.* Pack in accordance with MIL-P-20102A.

e. Marking Instructions. Standard and precautionary marking will be applied to boxes as prescribed in TM 9-200.

APPENDIX I

REFERENCES

1. Publication Indexes

The following indexes should be consulted frequently for the latest changes or revisions of references given in this appendix and for new publications relating to materiel covered in this manual.

Index of Army Motion Pictures, Film Strips, Slides, and Phono Recordings. DA Pam 108-1

Military Publications:

Index of Administrative Publications. . . . . DA Pam 310-1
Index of Blank Forms . . . . . DA Pam 310-2
Index of Graphic Training Aids and Devices . . . . . DA Pam 310-5
Index of Supply Manuals - Ordnance Corps. . . . . DA Pam 310-29
Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders. DA Pam 310-4
Index of Training Publications . . . . . .DA Pam 310-3

2. Supply Manuals

The following supply manuals of the Department of the Army supply manuals pertain to this materiel:

a. Destruction to Prevent Enemy Use.

Ammunition and Explosives: Land Mines . . . . . SM 9-5-1345
Ammunition Explosives (Class 1370 Pyrotechnics) . . . . . SM 9-5-1370

b. GeneraI.

Introduction. . . . . .. ORD 1

c. Repair, Rebuild, and Supply.

Organizational, Field and Depot Maintenance Repair Parts and Special Tool List for M1A1 Ground Signal Projector, M9 Hand Pyrotechnic Projector, AN-M8 Pyrotechnic Pistol with Pyrotechnic Pistol Mount M1. TM 9-1095-201-25P
Shop Set, Field Maintenance, Small Arms (5180-754-0664) . . . . . SM 9-4-5180-A18
Shop Set, Field Maintenance, Small Arms, Post, Camp, and Station, Set A (5180-348-7393). SM 9-4-5180-A28
Tool Kit, Armorer's . . . . . SM 9-4-5180-A56
Tool Kit, Small Arms Repairman's (5180-357-7770) . . . . . SM 9-4-5180-A57

3. Forms

The following forms pertain to this materiel.

DA Form 9-79, Parts Requisition.
DA Form 9-80, Job Order File.
DA Form 9-81, Exchange Part or Unit Identification Tag.
DA Form 828, Job Time Ticket - Individual.
DA Form 829, Rejection Memorandum.
DA Form 2028, Recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9.
DA Form 2407, Unsatisfactory Equipment Report.
DD Form 6, Report of Damaged or Improper Shipment.

4. Other Publications

The following explanatory publications contain information pertinent to this materiel and associated equipment.

a. Ammunition.

Ammunition, General . . . . . TM 9-1900
Ammunition for Training . . . . . TA 23-100
Care, Handling, Preservation, and Destruction of Ammunition . . . . . TM 9-1903
Demolition Materials . . . . . TM 9-1946
Disposal of Supplies and Equipment:
  Ammunition . . . . . AR 755-140-1
Explosives and Demolitions . . . . . FM 5-25
Safety:
  Identification of Inert Ammunition and Ammunition Components . . . . . AR 385-65
  Regulations for Firing Ammunition for Training, Target Practice, and Combat. AR 385-63

b. Chemical Attacks and Decontamination.

Chemical, Biological, and Radiological (CBR) Decontamination . . . . . TM 3-220
Grenades and Pyrotechnics . . . . . FM 23-30
Military Chemistry and Chemical Agents . . . . . TM 3-215
Small Unit Procedures in Nuclear, Biological, and Chemical Warfare . . . . . FM 21-40

c. General.

Dictionary of United States Army Terms . . . . . AR 320-5
Logistics (General): Malfunctions Involving Ammunition and Explosives AR 700-1300-8
Military Symbols . . . . . FM 21-30
Military Terms, Abbreviations, and Symbols: Authorized Abbreviations and Brevity Codes. AR 320-50
Military training . . . . . FM 21-5
Ordnance Direct Support Service . . . . . FM 9-3
Ordnance General and Depot Support Service . . . . . FM 9-4
Ordnance Service in the Field . . . . . FM 9-1
Safety: Accident Reporting and Records . . . . . AR 385-40
Techniques of Military Instructions . . . . . FM 21-6

d. Inspection and Maintenance.

Basic Cold Weather Manual . . . . . FM 31-70
Cleaning and Black Finishing of Ferrous Metals . . . . . TM 9-1861
Cleaning of Ordnance Materiel . . . . . TM 9-208-1
Field Inspection and Serviceability Standards for Small Arms Materiel . . TB ORD 587
Inspection of Ordnance Materiel in Hands of Troops. . . . . TM 91100
Logistics (General): Unsatisfactory Equipment Report. . . . . AR 700-38
Maintenance of Supplies and Equipment: Command Maintenance Inspections. AR 750-8
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel; and Related Materials Including Chemicals. TM 9-247
Operation and Maintenance: General Signal Projector MlAl; Hand Pyrotechnic Projector M9; Pyrotechnic Pistol Mount Ml. TM 9-2018/TO 29A-20-2
Operation and Maintenance of Ordnance Materiel in Extreme Cold Weather 0° to -65° F. TM 9-207

e. Shipment and Standby or Long Term Storage.

General Packaging Instructions for Ordnance General Supplies . . . . . TM 9-200
Issue of Supplies and Equipment: Preparation, Processing, and Documentation for Requisitioning, Shipping, and Receiving. AR 725-5
Standards for Oversea Shipment and Domestic Issue of Ordnance Materiel Other Than Ammunition-and Army Aircraft. TB ORD 385

APPENDIX II

MAINTENANCE ALLOCATION CHART

1. Purpose

To allocate specific maintenance operations to the proper echelon on the basis of time, tools, and skills normally available to various echelons in combat situation and influenced by maintenance policy and sound maintenance practices as authorized in AR 750-6.

2. Explanation of Columns

The maintenance allocation chart designates overall responsibility for the maintenance function on end item or assembly. Repair and/or overhaul of major assemblies is designated by authority of the Army Commander representative, except for the specific repair subfunctions listed in the maintenance allocation charts. Deviation from maintenance operations allocated in the maintenance allocation chart is authorized only upon approval of the Army commander representative,

SERVICE — To c to preserve, and to replenish lubricants.

INSPECT — To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.

REPLACE — To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

REPAIR — To restore to a serviceable condition by replacing unserviceable parts or by any other action required utilizing tools, equipment and skills available, to include welding, grinding, riveting, straightening, adjusting, etc.

OVERHAUL — To restore to a condition comparable to new by disassembling the item to determine the condition of each of its component parts and reassembling it using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

SYMBOL "X" — The symbol "X" placed in the appropriate column indicates the echelon responsible for performing that particular maintenance operation, but does not necessarily indicate that repair will be stocked at that level. Echelons higher than the echelon marked by "X" are authorized to perform the indicated operation.

(1) Group No.	(2) Component and related operations	(3) Echelons 1st	2d	3d	4th	5th
	Ground Signal Projecto M1A1 109					
1	*Barrel* 7312575:					
	Service	X				
	Repair	----	---	---	X	
2	*Body assembly* 7312571:					
	Service	X				
	Repair	----	---	---	X	
3	*Breech assembly* 7312572:					
	Service	X				
	Repair	----	---	---	X	
4	*Lever firing pin striker* 7312572:					
	Service	X				
	Repair	----	---	---	X	
	Replace	----	---	---	X	
5	*Spike assembly* 7312574:					
	Service	X				
	Repair	----	---	---	X	
	Replace	----	---	---	X	

(1) Group No.	(2) Component and related operations	(3) Echelons 1st	2d		3d	4th	5th
	Hand pyrotechnic projector M9 1095-726-5668						
1	*Barrel assembly* 5645322:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	---	---	X
	Overhaul	---	---	---	---	---	X
2	*Breech assembly* 5645323:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
3	*Firing pin assembly* 6284607:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
4	*Latch assembly* 5645321:						
	Service	X					
	Repair	---	---	---	X		
	Pyrotechnic pistol AN-M8 with pyrotechnic pistol mount M1 1095-726-5657						
	Pistol, Pyrotechnic, AN-M8 7265820						
1	*Barrel assembly* 6257646:						
	Service	X					
	Repair	---	---	---	X		
2	*Frame assembly* 6257658:						
	Service	X					
	Repair	---	---	---	X		
3	*Latch:* mount 6257649:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
4	*Guard:* trigger 5621053:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
	Pyrotechnic Pistol Mount M1 6261074						
1	*Cover assembly* 6261075:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
2	*Sleeve recoil (Mfr Assy)* 6257670:						
	Service	X					
	Repair	---	---	---	X		
3	*Ring Connecting Round* 5299564:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		
4	*Chain: weldless* 7161312:						
	Service	X					
	Repair	---	---	---	X		
	Replace	---	---	---	X		

APPENDIX III

BASIC ISSUE ITEMS LIST

Section I. PREFACE

1. General

This appendix is a list of the basic issue items that are required for stockage by first echelon. It includes accessories, attachments, and component assemblies with quantities thereof, which constitute the major end item of equipment; and the first echelon accessories, tools, supplies, spare assemblies, and repair parts accompanying the equipment, all of which constitute the major end item for issue to users.

2. Explanation and Definitions

a. Source, Maintenance, and Recoverability Code. This column lists a code that indicates the selection status and source of supply of the repair part or item, the lowest echelon capable of installing the repair part, and the recoverability aspects of the repair part. An example of this code is P, O, R. The P indicates that the item is a mission stockage list repair part that is procured and stocked on a national program basis, the O indicates that the repair part is authorized to first and second echelons, and the R indicates that the repair part is an expendable, recoverable item. When repair parts supply responsibility has been assigned to a technical service other than Ordnance, the basic number of the supplying technical service is listed in the first position of the source code, for example, 11 for a Signal Corps item. Refer to paragraph 3 for an explanation of all codes appearing in this manual.

b. Federal Stock Number. This column lists the Federal stock number which has been assigned by the Cataloging Division, Defense Logistics Services Center.

c. Description. This column lists the Federal item name (shown in capital letters) and any additional description required for supply operations. The abbreviation w/e (with equipment) when used as a portion of the nomenclature indicates that the major item or major combination includes all armament, equipment, accessories, and repair parts issued with the item. The technical service number is also included for reference.

d. Unit of Issue. This column lists the minimum quantity that will be supplied. Where the unit of issue is shown as ft, in, etc., such as for bulk materials, the requisition should indicate the exact amount that is required.

e. Quantity Authorized. This column lists the quantity of the listed item authorized for stockage by first echelon.

f. Illustration. This column indicates the figure number of the illustration that depicts the item.

3. Explanation of Codes

a. Technical Service Number. Items not coded in this column are considered (9) Ordnance items.

Code	*Explanation*
12	Adjutant General

b. Recoverability. When no code is indicated in column *1(d),* the item is expendable and not recoverable.

Code	*Explanation*
R	Indicates a repair part or assembly that is expendable and recoverable and is economically repairable and, when available, is furnished by supply on an exchange basis.

4. Suggestions and Recommendations

Notice of discrepancies and recommendations for additions and deletions of repair parts and special tools should be forwarded on DA Form 2028 direct to Commanding General, Headquarters, US Army Weapons Command, Rock Island Arsenal, Rock Island, Illinois, ATTN: AMSWE-SMM.

Section II. BASIC ISSUE ITEMS

(1) Source, maintenance, and recoverability code				(2)	(3)	(4)	(5)	(6)
(a) Technical service No.	(b) Source	(c) Maintenance level	(d) Recoverability	Federal stock No.	Description	Unit of issue	Quantity authorized	Illustration
					MAJOR COMBINATION			
					The major combination listed below is requisitioned for initial issue only.			
			R	1095-726-5657	PISTOL, PYROTECHNIC: AN-M8, w/mount, pistol, pyrotechnic, M1 (7265657).	1	----	3
					COMPONENTS OF MAJOR COMBINATION			
					The items listed under subheadings below are components of the major combination. Replacement for all items will be requisitioned separately under their individual stock numbers.			
					MOUNT, PISTOL, PYROTECHNIC, M1 (6261074)	----	----	5
			R	1095-726-5820	PISTOL, PYROTECHNIC: AN-M8 (7265820) -----	----	----	4
					MAJOR ITEMS			
					The major items listed below are requisitioned for initial issue.			
			R	1095-726-5668	PROJECTOR, PYROTECHNIC, HAND: M9 (7265668).	1	----	2
			R	1095-731-2570	PROJECTOR, SIGNAL, GROUND: M1A1 (7312570)	1	----	1
					REPAIR PARTS			
					None authorized.			
					TOOLS AND EQUIPMENT			
					None authorized.			
					MISCELLANEOUS MATERIEL			
					The items listed under subheadings below are not issued with the major combination or major items, but are requisitioned in accordance with TOE, TA or as otherwise authorized.			
					Ammunition			
					Ammunition for use with above weapons is shown in SM 9-5-1370.			
					Material Issued by Other Technical Services			
					The following items are issued by The Adjutant General in accordance with distribution formula. Additional copies, when required, will be requisitioned from The Adjutant General.			
12	----	----	----	----------	TECHNICAL MANUAL, TM 9-1095-201-25P			

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By Order of Secretary of the Army:

EARLE G. WHEELER,
General, United States Army,
Chief of Staff.

Official:
J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

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CNGB (1)
CofEngrs (1)
TSG (1)
CSigO (1)
AMC, Det #1 (ORD) (1)
USA Ord CD Agcy (2)
USCONARC (3)
USA Mat Comd (5)
ARADCOM (2)
ARADCOM Rgn (2)
OS Maj Comd (2) except
  USAREUR (3)
  USARJ (3)
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Bn (2)
Co/Btry (1) except
  Ord Co (2)
Instl (2)
USA Msl Comd (2)
USA Wpns Comd (2)
USA Ammo Proc & Sup Agcy (2)
GENDEP (OS) (1)
Ord Sec, GENDEP (2)
Ord Dep (OS) (2)
Army Dep (2) except
  Raritan (10)
POE (1)
Army Tml (1)
OSA (1)
Ord PG (10)
Ord Arsenals (5)
Springfield Armory (5)
Ord Dist (2)
Br Svc Sch (2) except
  USA Ord Sch (50)

NG: State AG (3); Units – Same as Active Army except allowance is one copy to each unit.
USAR: Same as Active Army except allowance is one copy to each unit.
For explanation of abbreviations used, see AR 320-50.

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