TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

DISPERSER, RIOT CONTROL

AGENT, PORTABLE, M3

(FSN 1040-711-8296)

This copy is a reprint which includes current pages from change 1

HEADQUARTERS, DEPARTMENT OF THE ARMY

FEBRUARY 1972

WARNINGS

Agent CS is regarded as nonflammable; however, the finely divided dust suspended in air may be ignited by a weak spark and constitutes an explosive hazard. AMCR 385-104 minimum explosive dust concentration is 0.025 oz/cu ft.

Purge the air in the air pressure system before attempting any maintenance or modification to the pressure system. Never stand in the way of pressurized air escaping from the M3 disperser.

Personnel must wear a protective mask, protective mask hook, and rubber gloves when filling and using the M3 disperser with agent.

If the gun trigger spring breaks during firing, push the trigger forward to stop the flow of agent. Engage the trigger safety in the safety-catch. Turn the pressure tank handle clockwise to shut off the air supply.

Unserviceable hose assemblies must be replaced. No repair is authorized.

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *25 October 1972*

Operator's and Organizational Maintenance Manual

**DISPERSER, RIOT-CONTROL AGENT,
PORTABLE, M3
(FSN 1040-711-8296)**

TM 3-1040-214-12, 18 February 1972, is changed as follows:

1. New or changed material is indicated by a vertical bar in the margin of the page.

2. Remove old pages and insert new pages as indicated below.

Remove pages	*Insert pages*
None	A (reverse blank)
4-1 and 4-2	4-1 and 4-2
4-9 and 4-10	4-9 and 4-10

3. File this change sheet in front of the manual for reference purposes.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:
VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-28 (qty rqr block No. 117) Operator maintenance requirements for Portable Riot Control Agent Dispersers.

LIST OF EFFECTIVE PAGES

Insert latest changed pages; dispose of superseded pages in accordance with applicable regulation.

NOTE

On a changed page, the portion of the text affected by the latest change is indicated by a vertical line in the outer margin of the page.

Total number of pages in this manual is 56 consisting of the following:

Page No.	*Change No.*	*Page No.*	*Change No.**
A (reverse blank)	1	4-11 thru 4-26	0
i and ii	0	5-1	0
1-1 thru 1-12	0	5-2 blank	0
2-1 thru 2-6	0	A-1	0
3-1 and 3-2	0	A-2 blank	0
4-1	1	B-1 and B-2	0
4-2 thru 4-9	0	C-1 and C-2	0
4-10	1	Index 1 and Index 2	0

*Zero in this column indicates an original page.

TECHNICAL MANUAL
No. 3-1040-214-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *18 February 1972*

OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL

DISPERSER, RIOT CONTROL AGENT, PORTABLE, M3

(FSN 1040-711-8296)

***This manual supersedes TM 3-1040-214-12, 5 June 1962, including all changes**

LIST OF ILLUSTRATIONS

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

These instructions are for use by the operator and organizational maintenance personnel. They apply to the Disperser, Riot Control Agent, Portable, M3.

1-2. Record and Report Forms

a. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750.

b. The reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding Officer, Edgewood Arsenal, ATTN: SMUEA-DE-ET, Edgewood Arsenal, MD 21010.

Section II. DESCRIPTION AND DATA

1-3. Description

The M3 portable riot control agent disperser (fig. 1-1) is designed to disseminate micropulverized irritant riot control agent into the atmosphere. The M3 disperser consists primarily of the gun group, hose group, and tank group.

1-4. Gun Group

The gun group (fig. 1-2) is the M9 riot control agent disperser gun. It consists of a valve section and barrel section.

a. Valve Section. The valve section includes the valve body, trigger, trigger safety, and safety catch.

b. Barrel Section. The barrel section consists of an aluminum barrel, handle, collar, rubber tube, and knurled locknut. A locknut connects the barrel to the valve assembly. A rubber tube is installed in the full length of the barrel and valve body. The rubber tube has a sleeve at one end and a connector at the other end. The collar and setscrews hold one end of the rubber tube and the sleeve in a locked position. The hose coupling on the hose group (fig. 1-3) is connected to the valve body.

1-5. Hose Group

The hose group (fig. 1-3) consists of a fabric covered hose with a threaded coupling at one end and a quick-disconnect coupling half at the other end. The threaded coupling on the hose is connected to the open end of the valve body. The quick-disconnect coupling half is connected to the agent delivery pipe (fig. 1-4). Each end of the rubber hose should be painted with an aluminum band and stenciled in red *"M3 DISP ONLY."*

1-6. Tank Group

The tank group (fig. 1-4) consists of a pressure section, agent section, and carrier section.

a. Pressure Section.

(1) *Pressure tank and valve assembly.* The pressure tank (fig. 1-5) is a cylindrical, steel tank that contains the pressurized air for dispersing the agent in the agent tanks (*b* below). A pressure tank valve assembly is screwed into the base of the pressure tank. The valve assembly contains a check valve and cap. The cap protects the check valve and is removed when the cylinder is to be recharged with air. A coupling plug is also assembled to the valve assembly, and it is the

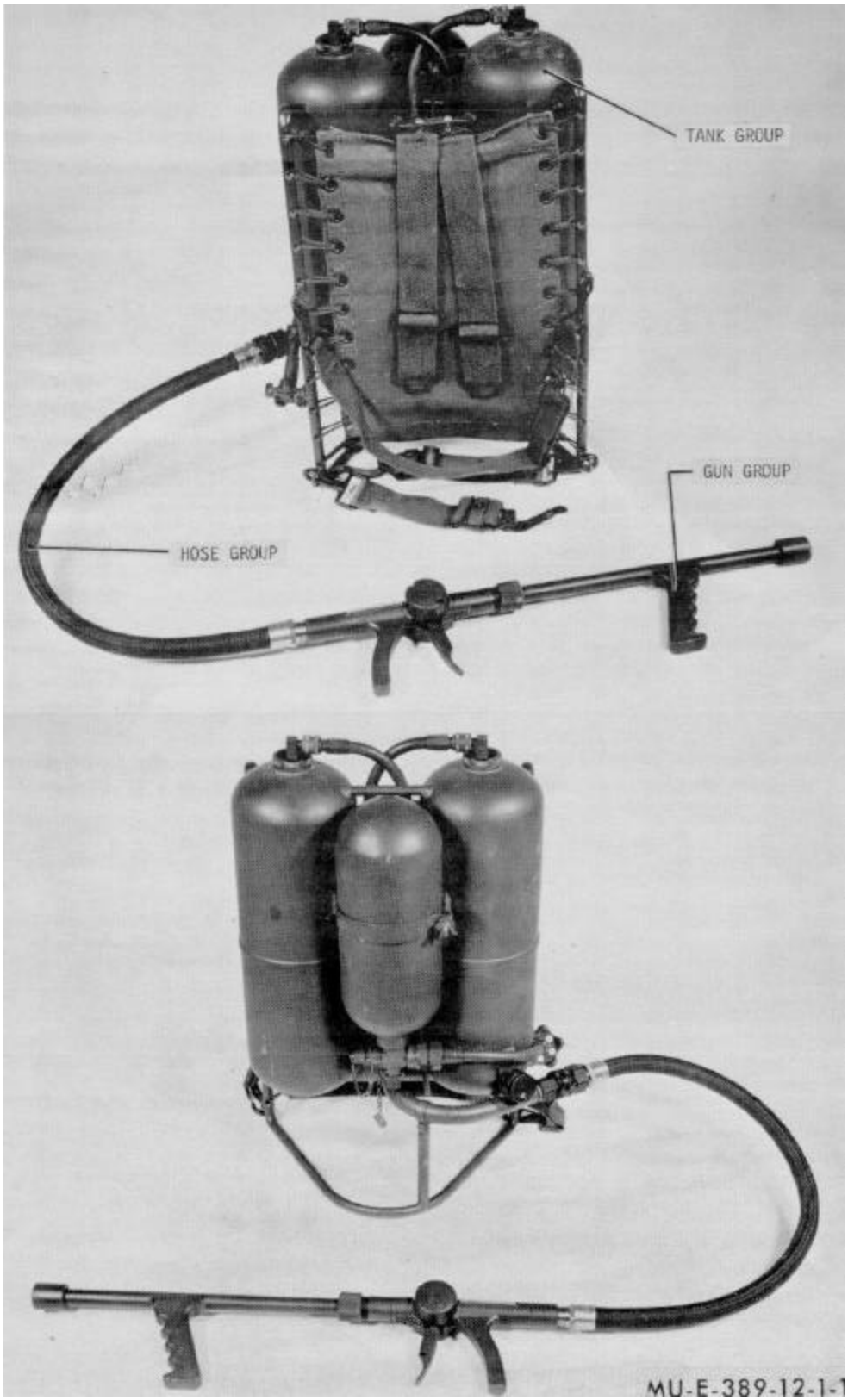


Figure 1-1. M3 portable riot control agent disperser.

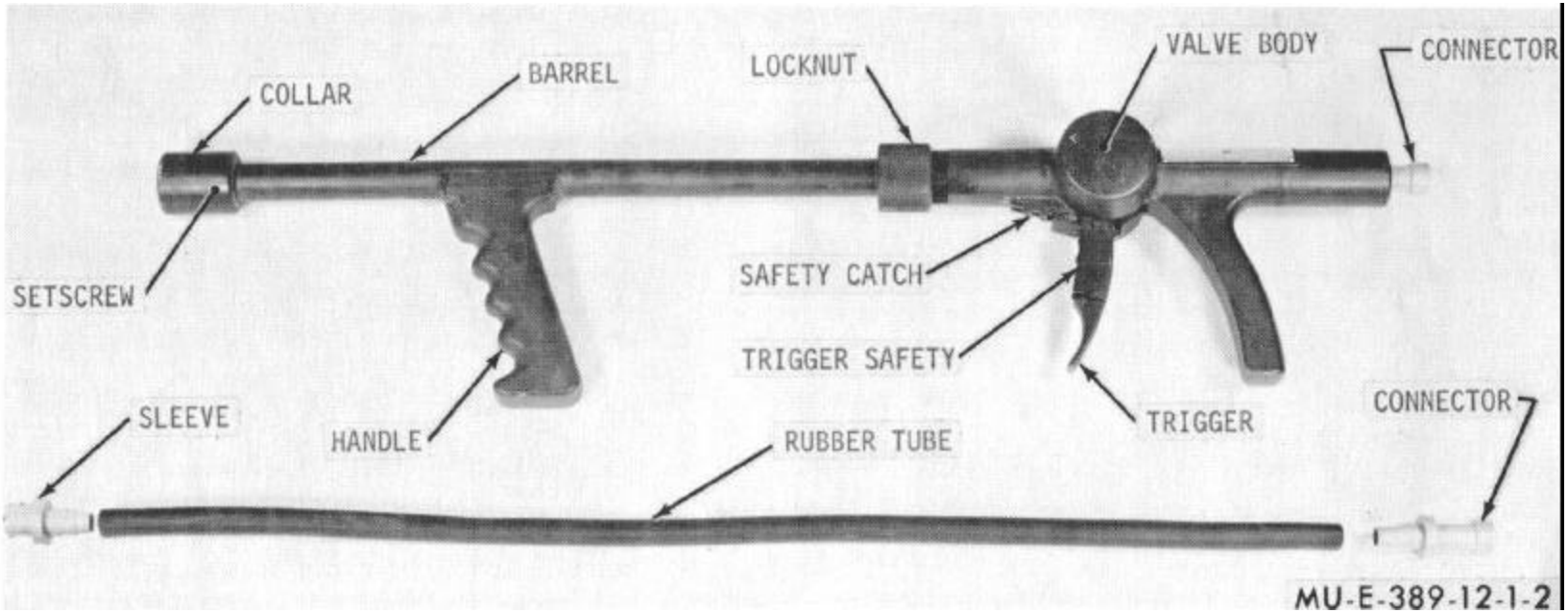


Figure 1-2. Gun group.

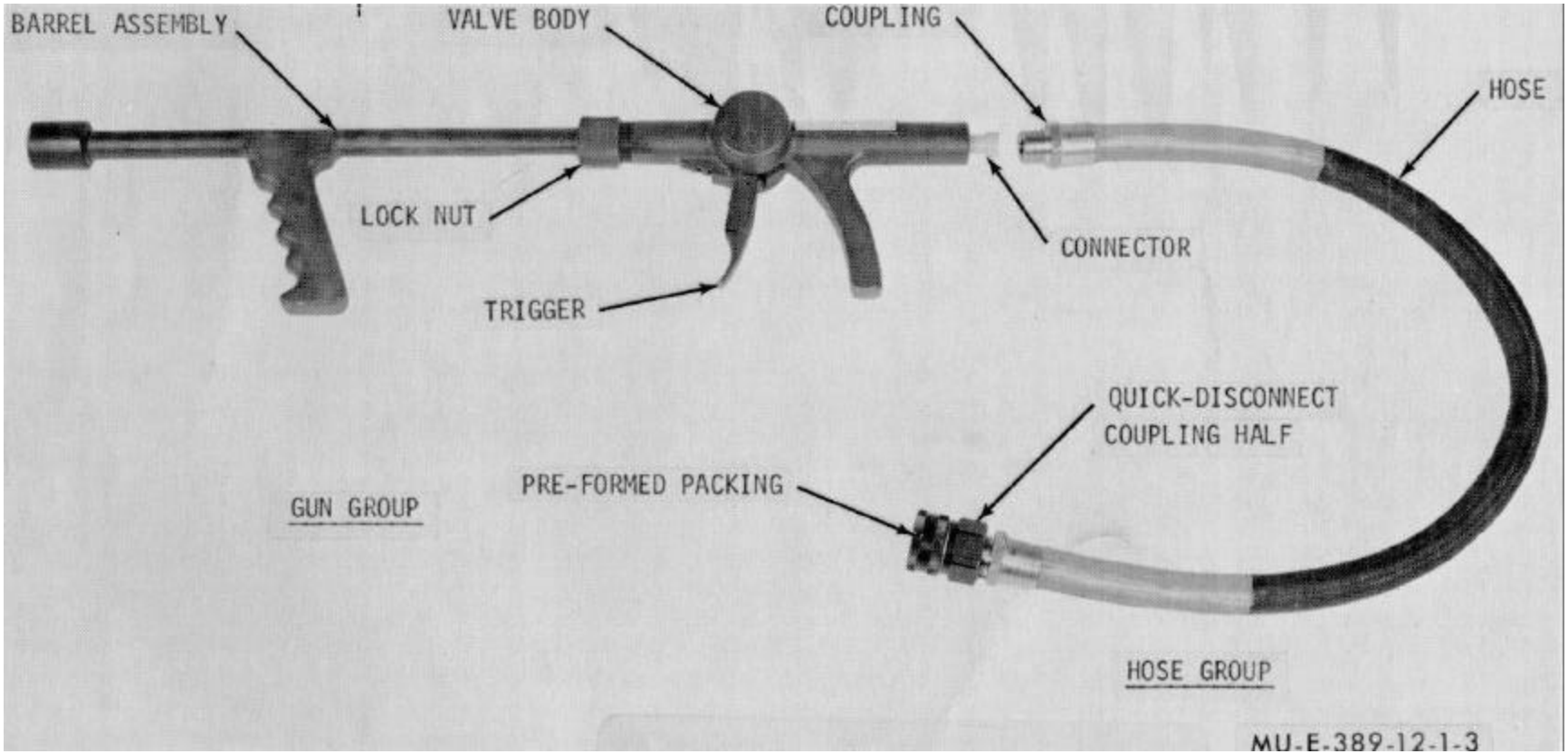


Figure 1-3. Hose group and gun group.

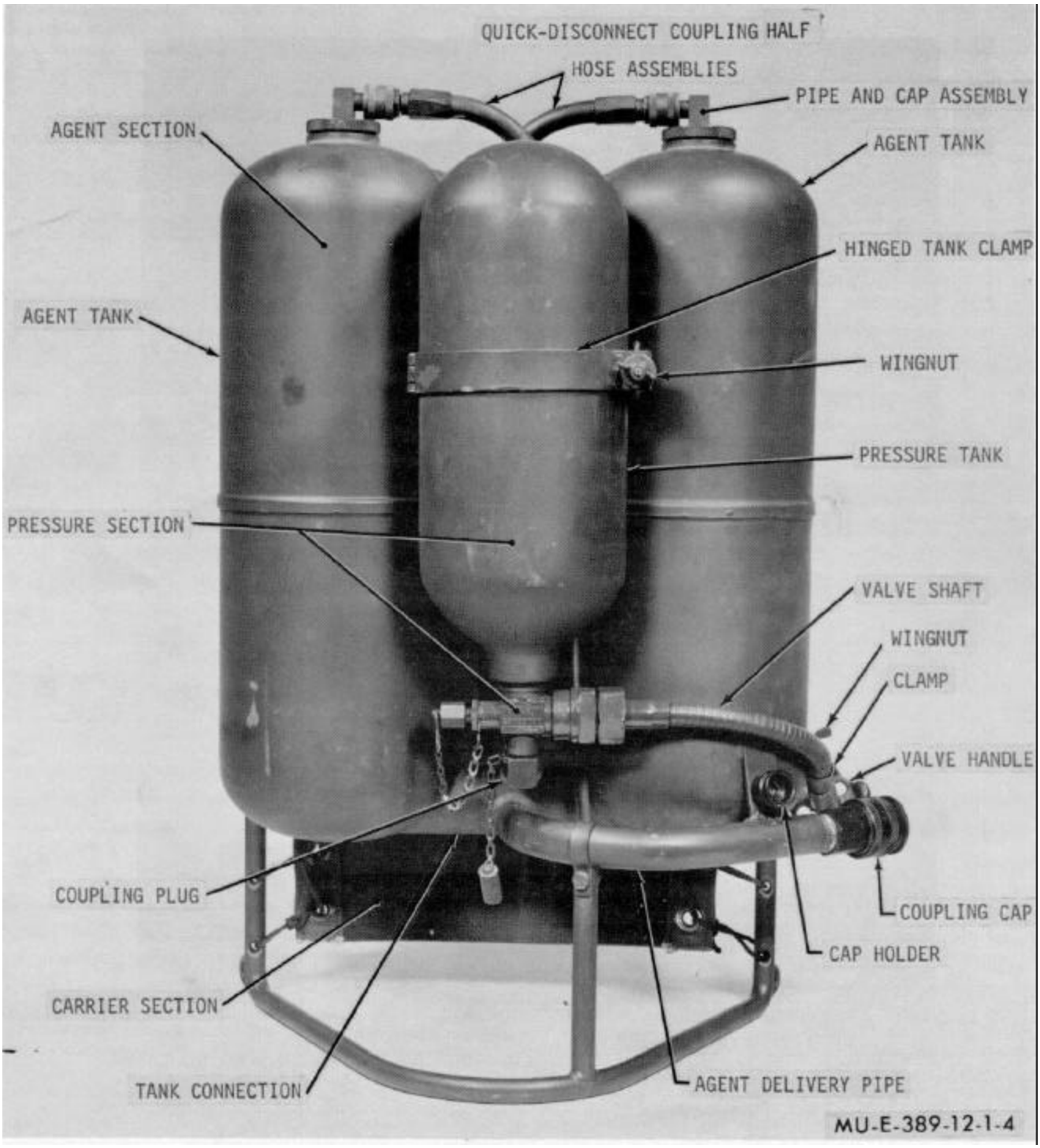


Figure 1-4. Tank group.

direct connection to the quick-disconnect coupling half (fig. 1-6). A cap (fig. 1-5) covers the coupling plug when the pressure tank is disconnected from the agent section. A valve handle connected to the valve shaft operates a valve that controls the flow of pressurized air in the pressure tank. The pressure tank is strapped to the agent tanks (fig. 1-4). A hinged tank clamp holds the pressure tank in place. The valve shaft is clamped to the body of the agent tank with a

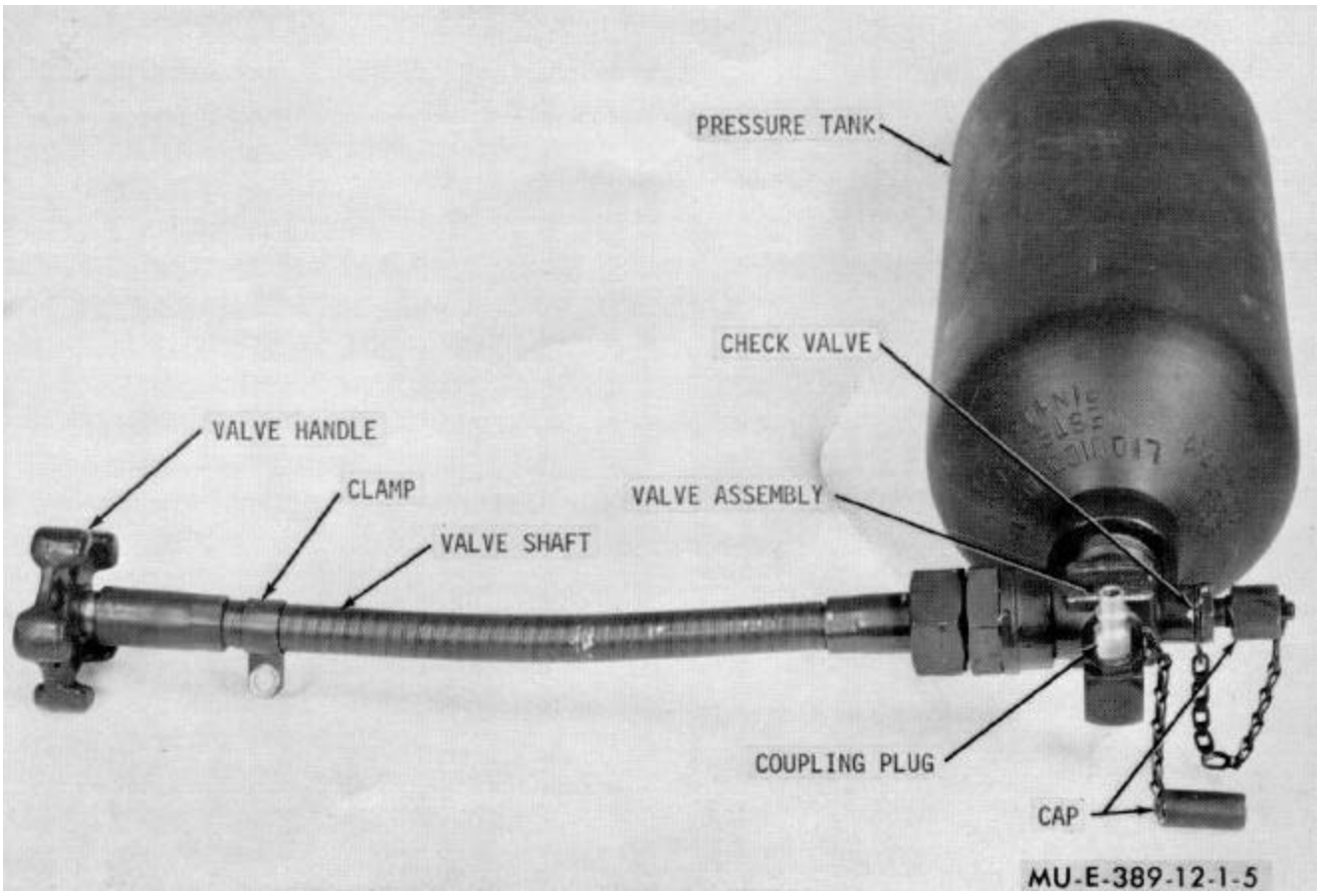


Figure 1-5. Pressure tank and valve assembly.

clamp and wingnut. For maximum efficiency, air pressure is between 1,700 psi and 2,100 psi.

(2) *Pressure regulator and tube assembly.* One end of a tube assembly (fig. 1-6) is connected to the inlet side of the pressure regulator. The other end of the tube assembly contains a quick-disconnect coupling half. This coupling is the connection for the pressure tank coupling plug (fig. 1-5). The pressure regulator reduces the air pressure coming from the pressure tank.

(3) *Safety valve adapter and hose assemblies.* One end of each hose assembly (fig. 1-6) is connected to the safety valve adapter. The quick disconnect coupling half on the other end of each hose assembly is connected to the pipe and cap assembly. Pressurized air from the pressure regulator passes through the safety valve adapter, hose assemblies, and into each agent tank.

(4) *Safety valve.* The safety valve (fig. 1-7) is connected between the outlet side of the pressure regulator and safety valve adapter. The bottom of the safety valve contains a replaceable safety head containing a disk that will rupture when air pressure exceeds 150 psi ± 25 psi.

(5) *Shutoff valve and handle.* A shutoff valve (fig. 1-6) is connected between the safety valve adapter and the diffusion pipe assembly. A shutoff valve handle, turned counterclockwise, opens the shutoff valve and permits pressurized air in the agent tanks and the diffusion pipe assembly to escape through the vent tube assembly (fig. 1-7) and into the atmosphere.

b. Agent Section.

(1) *Pipe and cap assembly.* The pipe and cap assembly (fig. 1-6) is screwed into the top of each agent tank. A hose assembly is connected to each of the pipe and cap assemblies. Pressurized air passes through the hose assemblies, pipe and cap assemblies, and into each agent tank. The safety valve adapter also contains a second air route to relieve air pressure from the agent tanks through the diffusion pipes (fig. 1-7), shut-off

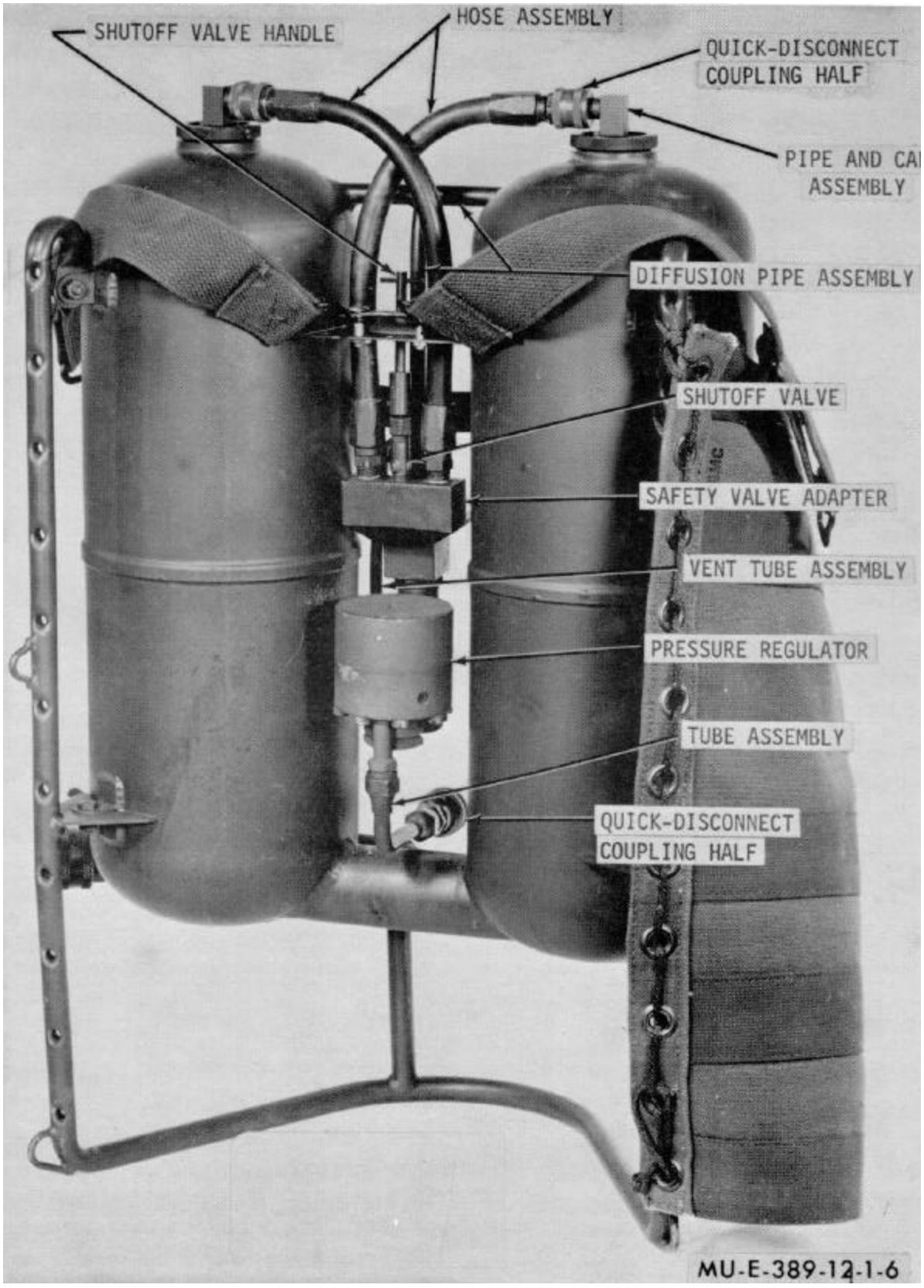


Figure 1-6. Pressure regulator and hose assembly.

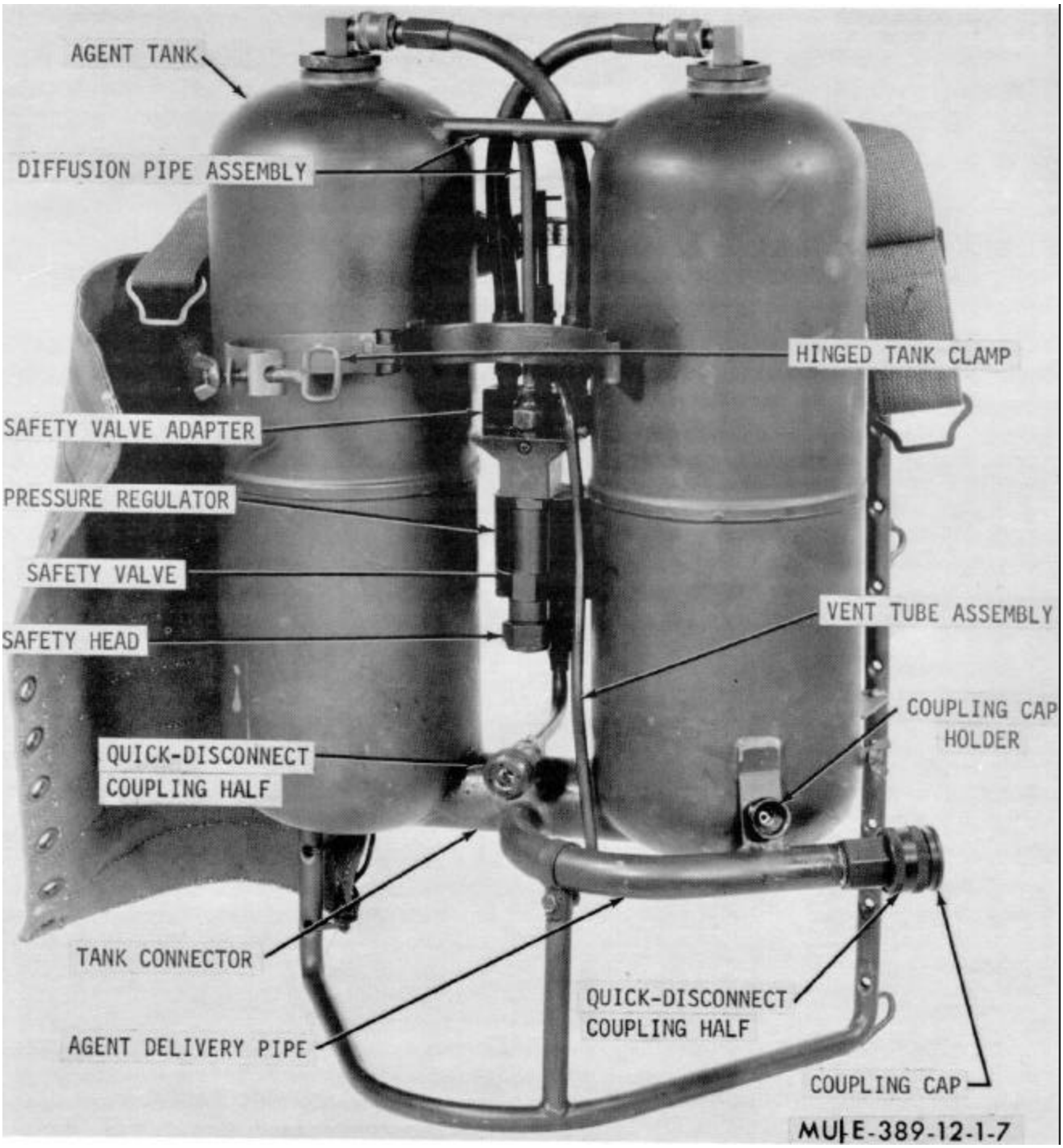


Figure 1-7. Safety valve and shutoff valve.

valve, vent tube assembly, and into the atmosphere.

(2) *Agent tanks.* Two cylindrical tanks (fig. 1-7) are joined together near the top by the interconnecting diffusion pipe assembly and near the bottom by the interconnecting tank connector. The agent delivery pipe is also welded to the interconnecting tank connector. The open end of the agent delivery pipe contains a connector for the quick-disconnect coupling half on the hose assembly (fig. 1-3). A removable quick-disconnect coupling cap (fig. 1-7) covers the open end of the delivery pipe when the disperser is not in use and the hose assembly is disconnected

from the agent delivery pipe. The cap is stowed on the coupling cap holder when the disperser is in use. A hinged clamp is welded to both tanks and is used to hold the pressure tank in place. The clamp is locked in place by a wing nut assembly.

c. Carrier Section. The carrier section (fig. 1-8) consists of a tubular frame, carrier pack, and strap assemblies. The carrier pack is attacked to the tubular frame with cotton cords. The upper shoulder straps are attached at one end to a metal strap welded to a bracket between the agent tanks. The lower shoulder straps, at one end, are attached to the lower part of the tubular frame. The upper and lower shoulder straps are connected together by quick-release buckles. The body straps are attached at one end of the tubular frame and are connected together by a breakaway buckle. The carrier section provides a means for the operator to conveniently carry the tank group on his back during use and operation of the disperser.

1-7. Identification Plates

a. Gun Group. An identification plate (fig. 1-9) is riveted to the valve body immediately above the trigger. The plate contains pertinent information on the gun.

b. Agent Tank. An identification plate (fig. 1-10) is riveted to the upper (shoulder) strap support located between the agent tanks. The plate contains pertinent information on the agent tanks.

1-8. Tabulated Data

All data are approximate.

a. General.

Range (in still air)	40 ft.
Duration of firing:	
Single burst	19 sec.
Short burst (5- to 6-sec. duration)	30 sec.
Pressure regulator setting	40 ± 10 psi
Operating pressure	30 to 90 psi
Weight (empty)	47 lb.
Weight (in packing chest)	100 lb.
Weight (filled):	
CN1, DM1, or CN1-DM1 Mixture	67 lb.
CS1	55 lb.
T1 (talc)	76 lb.

b. Tank Group.

Weight	42 lb
Height	27 in.
Width	20 in.
Depth	11 in.
Pressure:	
Pressure tank (max. efficiency)	1,700 to 2.100 psi
Agent tanks	30 to 90 psi
Weight per filling (two tanks):	
CS1	8 lb.
T1 (talc)	29 lb.

c. Hose Group.

Weight	$1\frac{3}{4}$ lb.
Length	37 in.

d. Gun Group.

Weight	$3\frac{1}{2}$ lb.
Length	26 in.

e. Packing Chest.

Length	$29\frac{5}{8}$ in.
Width	22 in.
Height	$14\frac{3}{8}$ in.

1-9. Functioning
(fig. 1-11)

When the valve handle is turned counterclockwise, the pressure tank valve opens, and pressurized air is released from the pressure tank. Pressurized air passes through the pressure tank valve and into the regulator tube and pressure regulator, where the air pressure is reduced to operating pressure. The air then enters the safety valve, which contains a disk in the safety head. This disk ruptures when air pressure in the safety valve rises above 150 psi ±25 psi. A check valve in the outlet end of the safety valve closes when the disk bursts, and the agent is prevented from entering the atmosphere. Air in the safety valve flows into the safety valve adapter through both hose assemblies, cap and pipe assemblies, the diffusion tube, and mixes with the agent in the agent tanks. When the trigger is pressed, air and agent enter the tank connector, hose assembly, and gun barrel and go into the atmosphere. When the shutoff valve handle is turned counterclockwise, the shutoff valve opens and vents air pressure through the diffusion pipe, vent tube, and into the atmosphere.

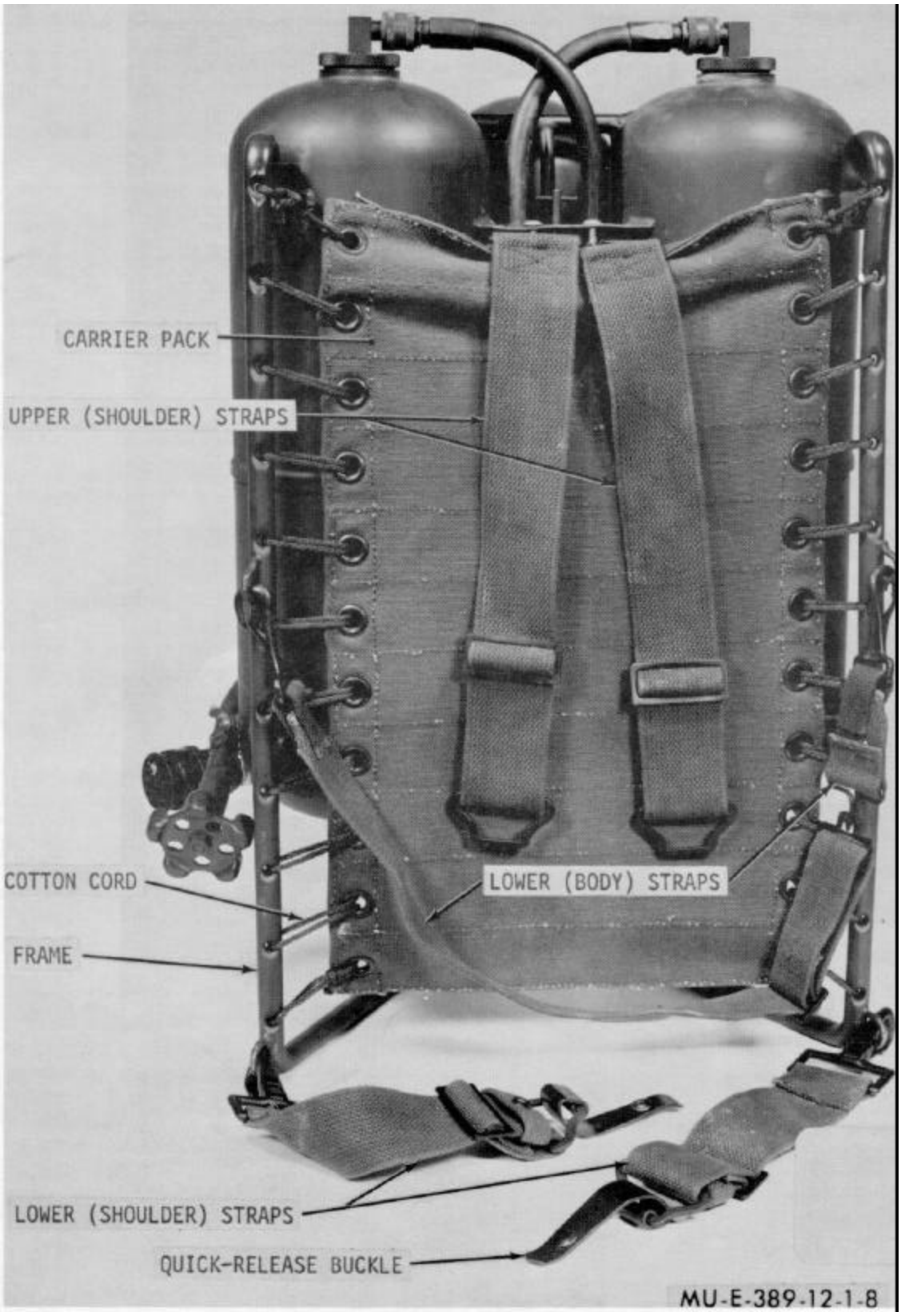


Figure 1-8. Carrier section.

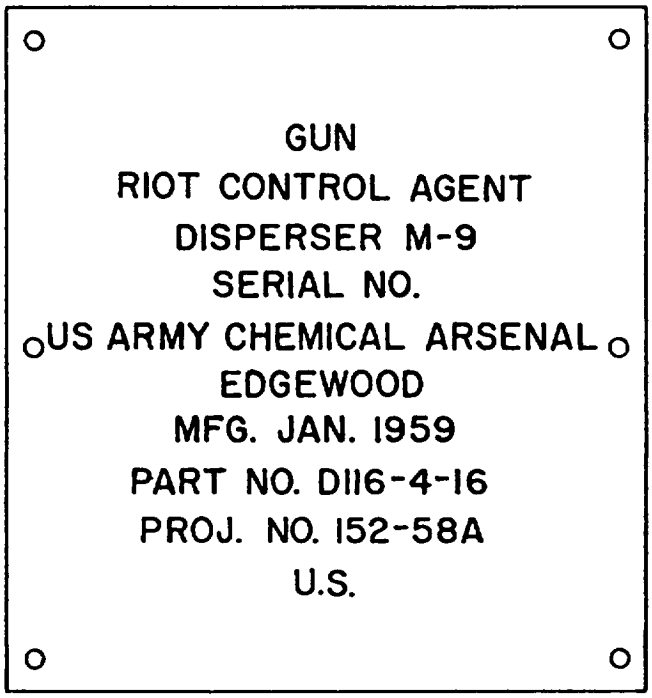


Figure 1-9. Gun identification plate.

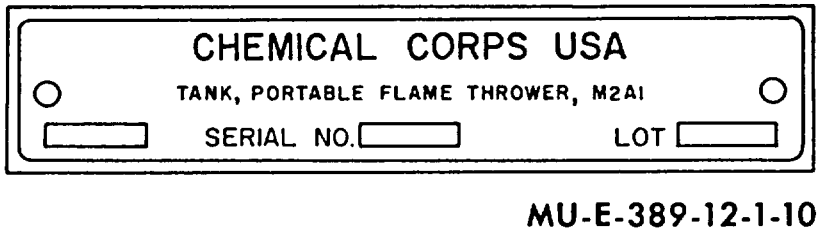


Figure 1-10. Agent tanks identification plate.

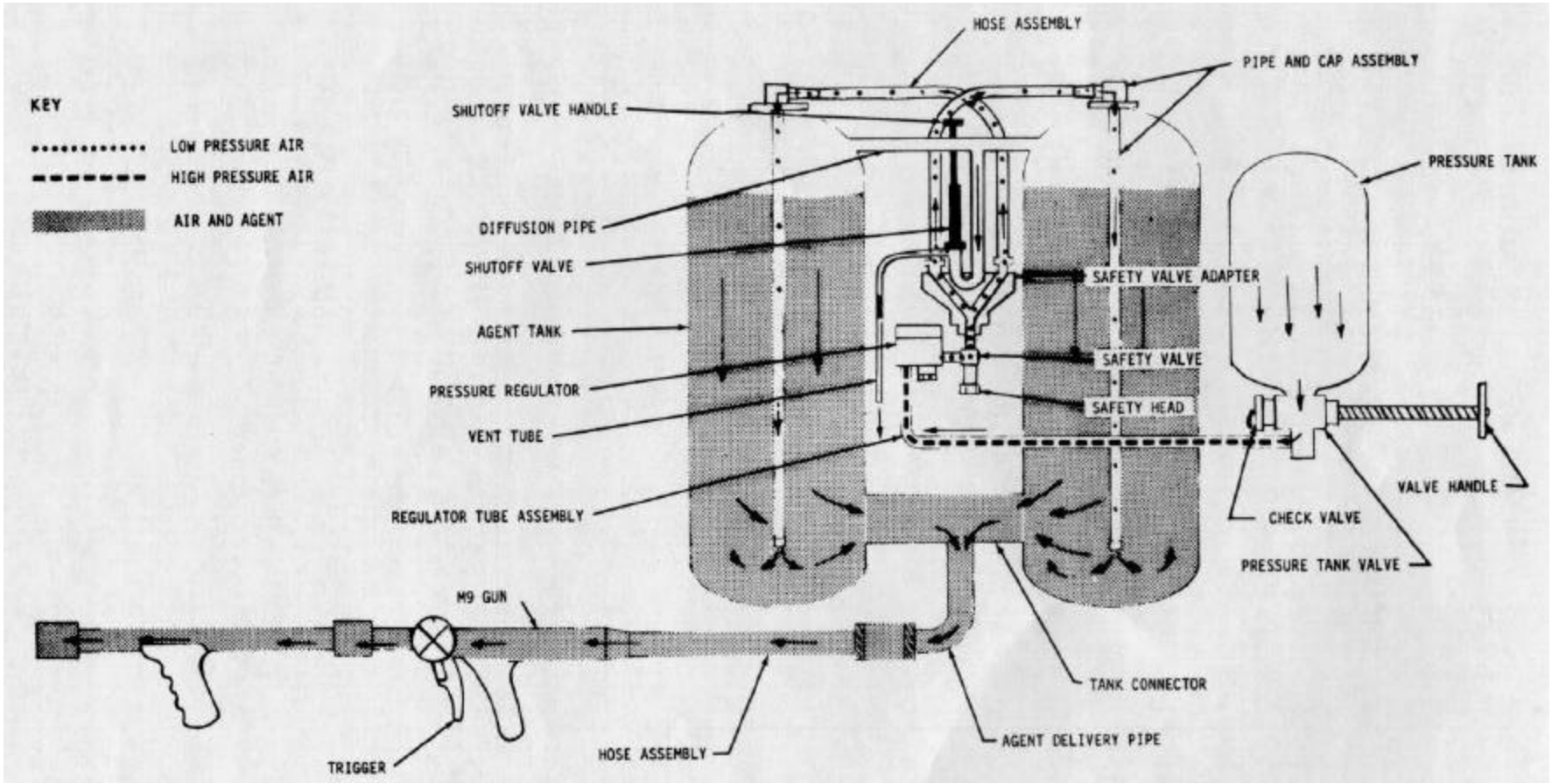


Figure 1-11. Agent and air pressure system.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. CONTROLS

2-1. General

The location and purpose of the controls for the M3 disperser are described in this section.

2-2. Shutoff Valve Handle

a. Location. A shutoff valve handle (fig. 2-1) is located between the two agent tanks.

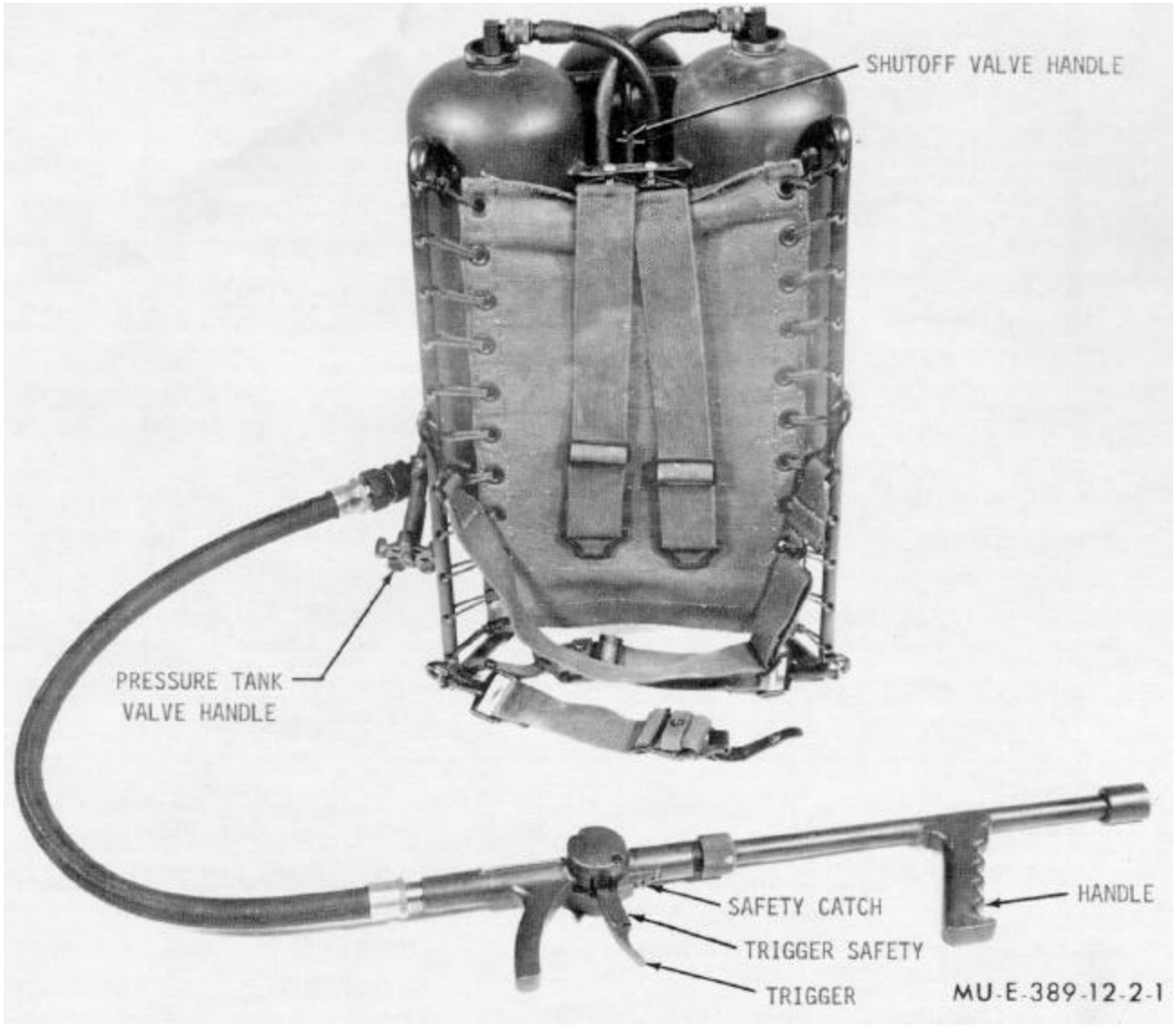


Figure 2-1. Controls

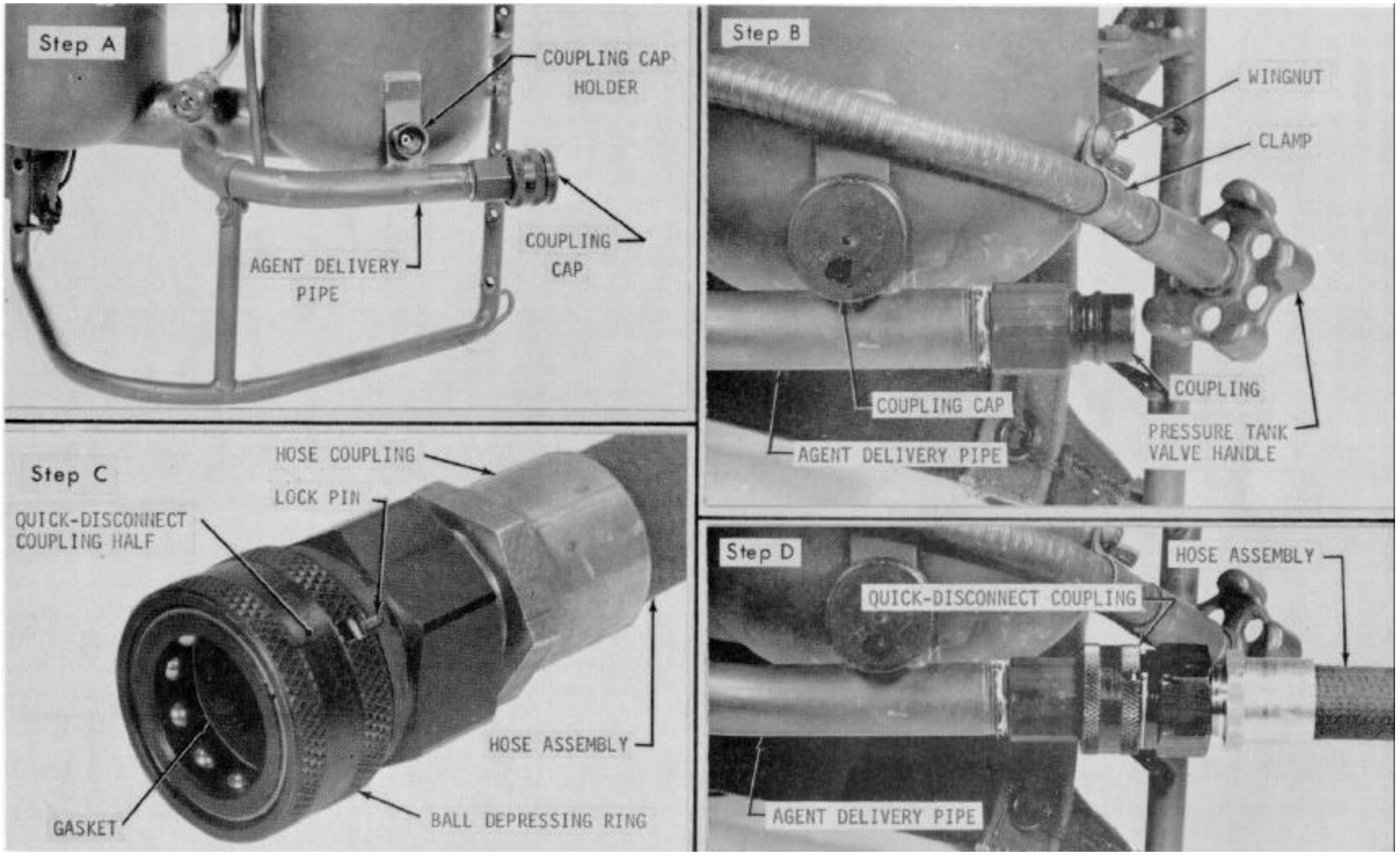


Figure 2-2. Connecting hose group to tank group.

b. Purpose. The shutoff valve handle is connected to the shutoff valve. The valve is opened by turning the handle counterclockwise and is closed by turning the handle clockwise. Opening the shutoff valve permits venting of the agent tanks.

2-3. Pressure Tank Valve Handle

a. Location. The pressure tank valve handle (fig. 2-2) is located at the lower right side of the tank group. It is located at the operator's right hip when he is carrying the tank group.

b. Purpose. The valve handle operates the pressure tank valve. Moving the handle counterclockwise opens the pressure tank valve and releases pressurized air to the agent tanks. Moving the handle clockwise closes the valve.

2-4. Trigger

a. Location. The trigger (fig. 2-1) is located immediately below the valve section of the gun.

b. Purpose. The trigger controls the releasing of agent under pressure from the gun. Squeezing the trigger opens a constriction in the rubber tube permitting pressurized air to disperse agent. Releasing the trigger blocks the tube passage in the rubber tube, and the flow of agent is stopped.

2-5. Trigger Safety

a. Location. The trigger safety (fig. 2-1) is located on the trigger.

b. Purpose. The trigger safety has to be depressed and disengaged from the safety catch before the trigger can be actuated. The trigger safety prevents accidental operation of the gun.

Section II. OPERATION UNDER USUAL CONDITIONS

2-6. General

This section contains instructions for operating the M3 disperser under usual conditions.

2-7. Protective Clothing

Personnel will wear a protective mask, M6 protective mask hood, and rubber gloves during agent filling, operating, cleaning, and decontaminating the M3 disperser.

a. Protective Mask and M6 Protective Mask Hood. The protective mask and the M6 protective mask hood are not furnished as part of this equipment. They must be requisitioned separately.

b. M3 Rubber Gloves. Two pairs of rubber gloves are packed with the disperser.

2-8. Carrying Instructions

a. Tank Group. The tank group is carried on the back of the operator (fig. 2-3). It is secured to the operator's body by shoulder and body straps. Position the tank group on the operator's back as follows:

(1) Connect the quick-release buckle on the left shoulder strap and slide the left arm into the sling. Bring the right shoulder strap over the right shoulder and connect the quick-release buckle on the right side.

(2) Secure the body strap.

(3) Adjust the shoulder and body straps to insure a comfortable fit.

b. Gun Group. The gun is carried at the operator's right side. His left hand grasps the handle of the barrel assembly, and his right hand is positioned on the handle of the valve section (fig. 2-3).

2-9. Firing Procedure

WARNING

Personnel must wear a protective mask, protective mask hood, and rubber gloves when using the M3 disperser.

WARNING

Agent CS is regarded as nonflammable; however, the finely divided dust suspended in air may be ignited by a weak spark and constitutes an explosive hazard (AMCR 385-104). Minimum explosive dust concentration is 0.025 oz/ cu ft.

a. Firing Position. The disperser can be fired from either a standing or a kneeling position.

NOTE

To effectively disperse the agent, hold the agent tanks in an upright position during firing.

b. Aiming. During firing operations, aim the gun downwind toward the target. If operating in a crosswind is unavoidable, adjust the drift of agent.

Figure 2-3. Firing position.

c. Firing. Fire the disperser as follows:

(1) Using the right hand, turn the pressure tank valve handle counterclockwise. Air will be heard rushing into the agent tanks. When the rush of air stops, the disperser is ready for firing.

WARNING

If the trigger spring breaks during firing, push the trigger forward to stop the flow of agent. Engage the trigger safety in the safety catch. Turn the pressure tank handle clockwise to shut off the air supply.

(2) Point the gun toward the target. With the right hand, depress the trigger safety and squeeze the trigger. Agent will be dispersed from the gun nozzle.

NOTE

If the disperser is fired in a single burst, the duration of the firing will be approximately 19 seconds. The concentration of agent will decrease rapidly. If the disperser is fired in short bursts of 5 to 6 seconds, the firing time will increase to 30 seconds.

(3) Release the trigger to stop firing.

(4) Engage the trigger safety in the safety catch to prevent accidental firing.

NOTE

Perform the following steps after firing is completed.

(5) Turn the pressure tank valve handle clockwise to stop the flow of pressurized air to the agent tank.

(6) Move to a remote area. Release the body and shoulder straps and lower the disperser to the ground.

2-10. Cleaning Operations

Immediately after the mission has been completed, the operator of the disperser is responsible for performing the cleaning operations below.

a. Clothing. The user must clean the contaminated clothing, including protective mask, protective mask hood, and rubber gloves. Recommended method is to wash the clothing in warm soapy water, rinse in clear water, and air-dry. TM 3-220 contains specific decontamination information.

b. Personnel. Personnel engaged in operating the disperser will flush their body with cold water for 3 to 4 minutes followed by a thorough shower using soap and cold water. A complete change of clothing is recommended.

c. Equipment. When a firing mission (para 2-9*c*) has been completed, the residual agent in the disperser should be disposed of as follows:

(1) Carry the disperser to a remote area.

(2) Close the pressure tank valve by turning the valve handle (fig. 2-1) clockwise.

(3) Open the shutoff valve by turning the handle (fig. 2-1) counterclockwise.

(4) Dig a deep hole, approximately 1-foot deep.

(5) Disconnect the hose assemblies (fig. 1-6) from the pipe and cap assemblies.

(6) Remove the pipe and cap assemblies.

(7) Dump the residual agent from the agent tanks into the hole ((4) above) and bury the agent.

(8) Replace the cap and pipe assemblies. Tighten both caps.

(9) Cross both hoses as shown in figure 1-6 and connect them to the pipe and cap assemblies.

(10) Close the shutoff valve opened in (3) above.

(11) Open the pressure tank valve closed in (2) above.

(12) Press and hold the trigger until all air pressure is exhausted.

(13) Return the M3 disperser to organizational maintenance personnel for cleaning and decontaminating (para 4-12 through 4-15).

Section III. OPERATION UNDER UNUSUAL CONDITIONS

2-11. Operation in Extreme Cold

Extremely cold weather will not affect the operation of the disperser. However, the hose group and the rubber tube (gun group) should be inspected regularly, because extreme cold causes rubber components to become brittle.

2-12. Operation in High Wind

A high wind can have considerable effect on the use of the disperser. To make sure that the agent has maximum effect, the disperser should always be used upwind of the target and never in a headwind. If operation in a strong crosswind is unavoidable, adjust for drift of the agent.

2-13. Operation in Extreme Heat and Humidity

Extreme heat and humidity will have no effect upon the operation of the disperser. However, all rubber components should be examined regularly as heat and humidity have adverse effects on rubber components.

CHAPTER 3

OPERATOR'S MAINTENANCE INSTRUCTIONS

Section I. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-1. General

The preventive-maintenance checks and services (table 3-1) provide the operator with a list of maintenance services which must be performed at the intervals prescribed. Use the list to make sure that all required maintenance is accomplished. If corrective action is not authorized at operator's level, do not use the equipment. Report equipment defects to organizational maintenance personnel.

3-2. Explanation of Columns

A number under before or after-operation in the "Interval and sequence No." column indicates that the services opposite the number must be performed in numerical sequence at the prescribed time.

Table 3-1. Preventive Maintenance Checks and Services Operator's Maintenance Category

Interval and sequence No.		Item to be inspected	Procedure	Reference
Before-operation	After-operation			
			AGENT SECTION	
1	- - - - -	Pipe and cap assembly ----------	Check to see that pipe and cap assemblies are net loose. Handtighten knurled tank caps.	fig. 1-6.
2	- - - - -	Hose assemblies and quick-disconnect coupling half.	Check to see that hose quick-disconnect coupling half operates properly.	fig. 1-6.
3	- - - - -	Agent tanks ----------	Check the hydrostatic and volumetric test date on the agent tanks.	para 4-3*a*.
4	- - - - -	Hinged clamp and wingnut----------	Check hinged tank clamp and wingnut. See that pressure tank is secured properly.	fig. 1-4.
5	10	Shutoff valve ----------	Check to see that the shutoff valve is closed ----------	fig. 1-6.
			PRESSURE SECTION	
6	- - - - -	Pressure tank, valve assembly, valve handle, and valve shaft.	*a.* Check to see that the valve shaft is secured properly with clamp and wingnut. Check valve handle and valve shaft for possible damage.	fig. 1-4.
			b. Check that the volumetric test date on the pressure tank.	para 4-3*b*.
			CARRIER SECTION	
7	11	Strap assemblies, carrier pack, frame, and attaching hardware.	Check for damaged webbing and cotton cord. Check for missing cord and damaged straps and hardware.	fig. 1-8.
			HOSE GROUP	
8	- - - - -	Hose assembly----------	Check to see that gun and hose are attached to tank group.	fig. 1-1.
			GUN GROUP	
9	12	Gun assembly, trigger, trigger safety, and rubber tube.	Check operation of trigger and trigger safety----------	fig. 1-2. para 2-5.

Section II. TROUBLESHOOTING

3-3. General

Table 3-2 gives the operator possible causes of and corrective actions to correct malfunctions of the M3 disperser.

3-4. Troubleshooting

The operator is authorized to perform troubleshooting procedures in table 3-2. Report other defects to organizational maintenance personnel.

Table 3-2. Troubleshooting

Item No.	Malfunction	Probable cause	Corrective action
1	No discharge of agent when trigger is pressed.	*a.* Pressure tank valve not open *b*. Agent tank empty	Fully open pressure tank valve. (Turn handle counterclockwise.) Report to organizational maintenance.
2	Range too short or range drops rapidly.	Pressure tank valve not open	Fully open pressure tank valve.
3	Agent leaks	*a*. Loose connection *b*. Damaged or defective part	Tighten. Report to organizational maintenance.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

4-1. General

The M3 disperser is shipped in a packing chest (Fig. 4-1). The chest contains the tank group, hose group, gun group, accessories, and repair parts.

4-2. Unpacking and Inspecting

Unpack the M3 disperser as follows:

a. Cut the steel strapping. If the lid is secured to the packing chest with screws, remove screws.

b. Unlock the hasps at the front ends of the packing chest. Remove the contents from the packing chest.

c. Inspect to make sure that the following equipment is present and serviceable:

(1) Tank group (fig. 1-4).

(2) Hose group (fig. 1-3).

(3) Gun group (fig. 1-3).

(4) Repair parts (fig. 4-2).

(5) Rubber gloves (two pairs) (not shown in a figure).

4-3. Testing-Agent Tanks and Pressure Tanks

The hydrostatic and volumetric testing will be performed by general support maintenance on the following equipment at the intervals specified below.

a. Agent Tanks. Agent tanks shall be subjected to hydrostatic test at least once every 4 years. The date the test is performed will be either stenciled on the item or stamped on an aluminum strip attached to the agent tanks. Test procedures will be performed in accordance with TM 3-1040-251-15.

b. Pressure Tank. The air pressure tank shall be subjected to a hydrostatic-volumetric test at least once every 4 years. The date the test is performed will be either stenciled on the item or stamped on an aluminum strip attached to the pressure tank. Test procedures will be performed according to TM 3-1040-251-15.

4-4. Testing-Hose Assembly

The hose assembly will not be subjected to either a hydrostatic or volumetric test. The hose assembly used with the M3 disperser must be painted on both ends (para 4-18*b*).

NOTE

Manufacturing dates and depot maintenance issue dates are stamped on the hose assembly couplings. These dates are significant only when the hose assembly is used with the flamethrowers. These dates have no meaning when the hose assembly is used with the M3 disperser.

4-5. Assembling Gun Group and Hose Group

a. Gun Group.

(1) Moisten the connector (step A, fig. 4-3). Insert the connector into the rubber tube. The end of the rubber tube should meet the shoulder on the connector (step B).

(2) With the right hand, depress the trigger safety and squeeze the trigger (step B).

(3) Slide the rubber tube into the valve section until the connector is seated in the valve body.

(4) With the trigger depressed, pull and stretch the other end of the hose and remove the slack in the hose. While the hose is under tension, release the trigger. Release the rubber tube.

(5) Loosen the setscrews on the collar and remove the collar (step C).

(6) Slide the barrel section (step C) on the loose end of the rubber tube. Engage the key on

Figure 4-1. Packing chest.

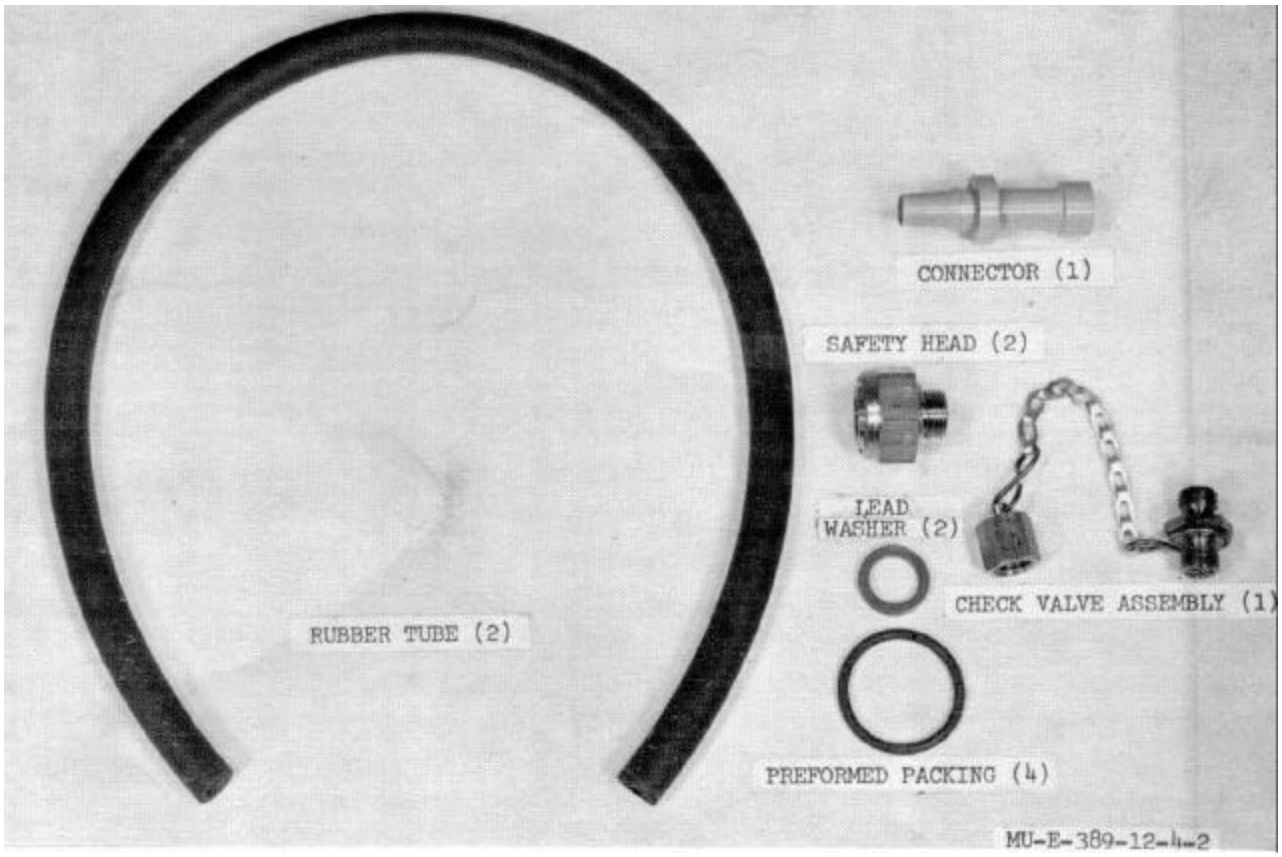


Figure 4-2. Repair parts.

the barrel with the slot in the threaded portion of the valve section.

CAUTION

Do not use a wrench to tighten the locknut.

(7) Handtighten the locknut to the barrel section (step C).

(8) Moisten and install the tapered end of the sleeve (step C) into the open end of the rubber tube at the barrel end.

(9) Press the trigger. Push the sleeve into the gun barrel. Release the trigger.

(10) Slide the collar over the sleeve and the end of the gun barrel. Tighten setscrews.

b. Hose Group.

(1) Apply antiseize compound or tape on the coupling threads (fig. 1-3).

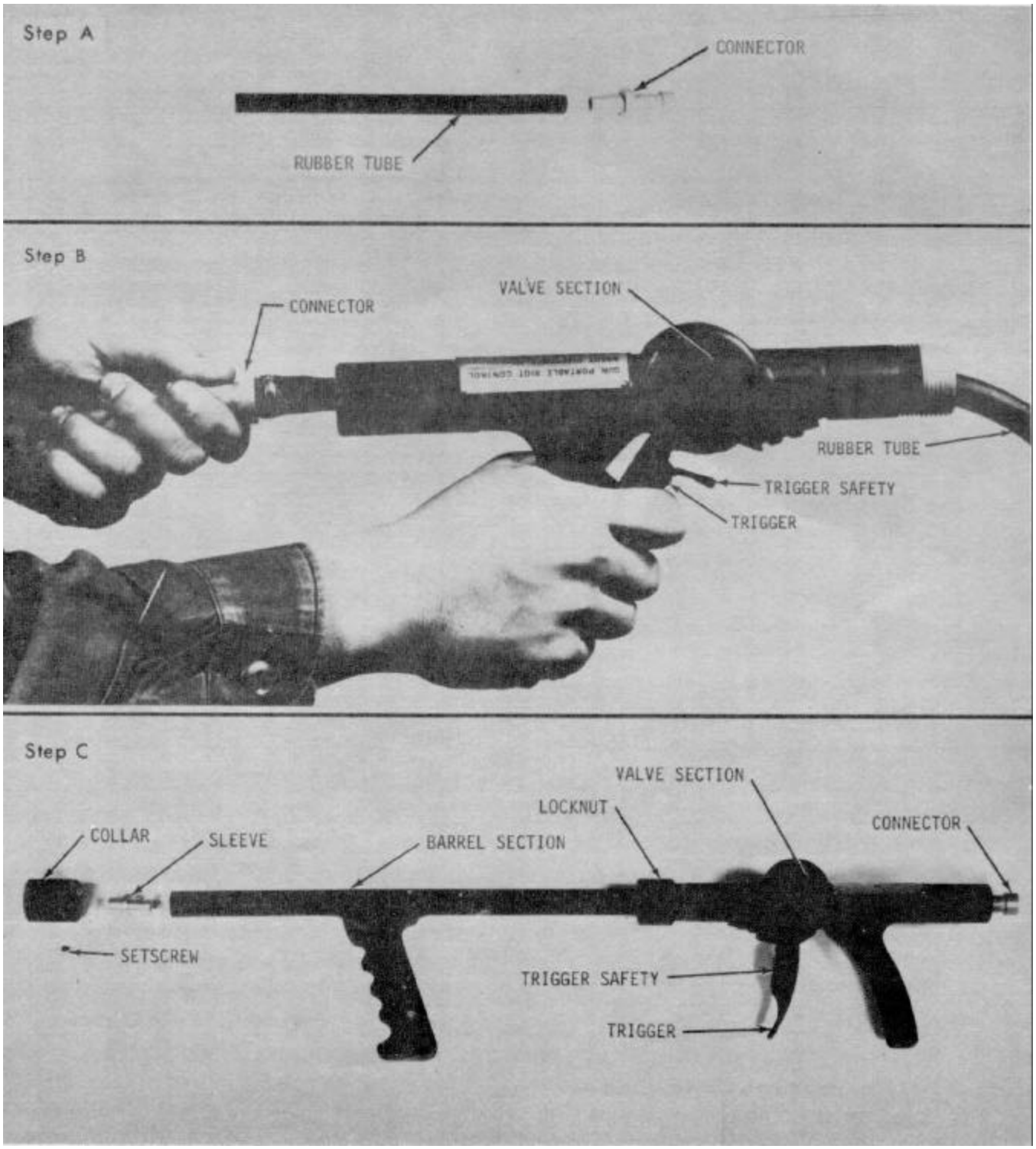
(2) Slide the hose assembly coupling over the connector.

(3) Using a wrench, tighten the coupling to the valve body. Do not overtighten.

(4) Install a quick-disconnect coupling half on the hose assembly coupling and tighten.

4-6. Assembly of Tank Group

The tank group is shipped completely assembly. Remove protective material from the tank group.



MU-E-389-12-4-3

Figure 4-3. Assembling gun group.

Section II. SERVICING

4-7. General

This section describes the method used to fill the agent tanks with riot control agent (or T1 talc for test firing). It also includes information for pressurizing the pressure tanks.

4-8. Filling Agent Tanks

Agent tanks filled with riot control agent (or T1 talc) must be kept in an upright position. This will prevent agent (or T1 talc) from entering and blocking the air passages in the diffusion pipe and hose assemblies (Fig. 1-7). Agent (or T1 talc) may be issued in plastic containers (*a* below) or bags (*b* below). One bag or container is sufficient to fill both agent tanks. Filling operations should be performed outdoors and in a remote area away from personnel not assigned to these operations.

WARNING

Personnel must wear a protective mask, protective mask hood, and rubber gloves when filling the agent tank with agent.

a. Agent in Plastic Containers.

(1) Obtain the following protective equipment for personnel involved in filling operations:

(a) Protective mask.

(b) Protective mask hood.

(c) Rubber gloves.

(2) Obtain one container of agent.

NOTE

Agent in one container is sufficient to fill both agent tanks.

(3) Close the pressure tank valve by turning the valve handle (Fig. 2-1) clockwise.

(4) Open the shutoff valve by turning the shutoff valve handle (Fig. 2-1) counterclockwise.

NOTE

If a hissing noise is heard, wait until it stops.

(5) Remove the coupling cap (Fig. 2-2) from the agent delivery pipe (step A). Install coupling cap on coupling cap holder (step B).

(6) Check to see that the rubber gasket in the ball depressing ring is not missing and is in place (step C).

(7) Rotate the ball depressing ring (step C) on the hose coupling until the slot in the ring is in line with the lock pin. Pull back the ball depressing ring on the hose coupling. Connect hose coupling to the agent delivery pipe tank coupling (step D).

(8) Allow the ball depressing ring to en gage the balls. Make certain that the coupling is secured. Rotate the ball depressing ring so that the slot is not in line with the lock pin.

(9) Disconnect the hose assemblies from the pipe and cap assemblies. Remove the pipe and cap assemblies.

NOTE

If the interior surface of the agent tank shows signs of minor corrosion, the agent tank should still be used.

(10) Don protective mask, protective mask hood, and rubber gloves.

(11) Tilt the M3 disperser (Fig. 4-4). Insert the container spout into the opening of one of the agent tanks.

(12) Apply and release pressure on the sides of the container to force agent from the containers into the agent tank. Perform this operation until the agent tank is filled.

(13) Fill the second agent tanks ((11) and (12) above).

(14) Remove agent that may have become lodged in the tank threads.

(15) Reinstall the pipe and cap assemblies removed in (9) above). Handtighten pipe and cap assemblies.

(16) Cross both hoses as shown in figure 1-6 and connect them to the pipe and cap assemblies.

(17) Close shutoff valve opened in (4) above.

(18) Perform the following operations if agent has been spilled on the exterior of the equipment.

(a) Dampen a rag or sponge with decontaminating solution (para 4-13*a*).

(b) Wipe the agent off the exterior surfaces.

(c) Place the rag or sponge in the decontaminating solution for 30 minutes.

(d) Rinse sponge and rag in clean water and air-dry.

(e) Dispose of the used solution (para 4-13b).

Figure 4-4. Filling agent tanks.

(f) Flush the exterior of the equipment with water. Wipe the equipment with a clean cloth.

(g) Use pressurized air (5 to 10 psi), if available, to thoroughly dry the equipment.

(19) Agent tanks filled with agent must be kept in an upright position (Fig. 1-1) to prevent clogging and malfunction of equipment.

b. Agent in Bags.

(1) Obtain the following protective equipment for personnel involved in filling operation.

(a) Protective mask.

(b) Protective mask hood.

(c) Rubber gloves.

(2) Obtain a filling hopper or funnel, if available.

(3) Obtain one bag of agent.

NOTE

Agent in one bag is sufficient to fill both agent tanks.

(4) Close the pressure tank valve by turning the valve handle (Fig. 2-1) clockwise.

(5) Open the shutoff valve by turning the shutoff valve handle (Fig. 2-1) counterclockwise.

NOTE

If a hissing noise is heard, wait until it stops.

(6) Remove the coupling cap (Fig. 2-2) from the agent delivery pipe (step A). Install coupling cap on the coupling cap holder (step B).

(7) Check to see that the rubber gasket in the ball depressing ring is not missing and is in place (step C).

(8) Rotate the ball depressing ring (step C) on the hose coupling until the slot, in the ring is in line with the lock pin. Pull back the ball depressing ring on the hose coupling. Connect hose coupling to the agent delivery pipe tank coupling (step D).

(9) Allow the ball depressing ring to engage the balls. Make certain that the coupling is secured. Rotate the ball depressing ring so that the slot is not in line with the lock pin.

(10) Disconnect the hose assemblies from the pipe and cap assemblies. Remove the pipe and cap assemblies.

(11) Don protective mask, protective mask hood, and rubber gloves.

(12) Insert the filling hopper nozzle or funnel into the open end of the agent tank.

(13) Open the top of the bag and dump approximately half of the agent into one agent tank.

(14) Insert the hopper nozzle or funnel into the open end of the second agent tank.

(15) Dump the remaining agent into the second agent tank.

(16) Remove agent that may h. ¢e been lodged into the tank threads.

(17) Reinstall the pipe and cap assemblies removed in step (10) above. Handtighten pipe and cap assemblies.

(18) Cross both hoses as shown in figure 1-6 and connect them to the pipe and cap assemblies.

(19) Close shutoff valve opened in (5) above.

(20) Perform the following operations if agent has been spilled on the exterior of the equipment.

(a) Dampen a rag or sponge with decontaminating solution (para 4-13*a*).

(b) Wipe the agent off the exterior surface.

(c) Place the rag or sponge in the decontaminating solution for 30 minutes.

(d) Rinse sponge and rag in clean water and air-dry.

(e) Dispose the used solution (para 413b).

(f) Flush the exterior of the equipment with water. Wipe the equipment with a clean cloth.

(g) Use pressurized air (5 to 10 psi), if available to thoroughly dry the equipment.

(21) Agent tanks filled with agent must be kept in an upright position (Fig. 1-1) to prevent clogging and malfunction of equipment.

4-9. Pressure Testing and Charging the Pressure Tank

a. Pressure Testing. Air pressure in the pressure tank must be checked as follows: (1) prior to use with the disperser, and (2) prior to recharging pressure tank. Air pressure must be between 1,700 psi and 2,100 psi for maximum efficiency. Perform pressure test as specified in TM 3-1040-221-12 by using the M27 service kit.

b. Charging Pressure Tanks. Air pressure must be checked (a above) prior to charging pressure tanks. TM 3-1040-221-12 contains charging operations by using the M27 service kit. Air may be provided by either commercial cylinders (TM 3-1040-221-12) or suitable air compressors (para 4-11).

4-10. Purging and Replacing Pressure Tank

WARNING

Purge the air in the air pressure system before attempting any maintenance or modification to the pressure system.

a. Purging Operation.

(1) Close (clockwise) pressure tank valve with handle (Fig. 2-1).

(2) Open (counterclockwise) shutoff valve to vent air pressure in agent tanks (Fig. 2-1).

b. Removal.

(1) Place the tank group in a horizontal position with pressure tank on top side.

(2) Remove and retain wingnut (step B, Fig. 2-2) and clamp.

(3) Open (counterclockwise) pressure tank valve with handle. After venting pressurized air, close pressure tank valve.

(4) Disconnect hinged tank clamp by completely loosening wingnut (Fig. 1-4).

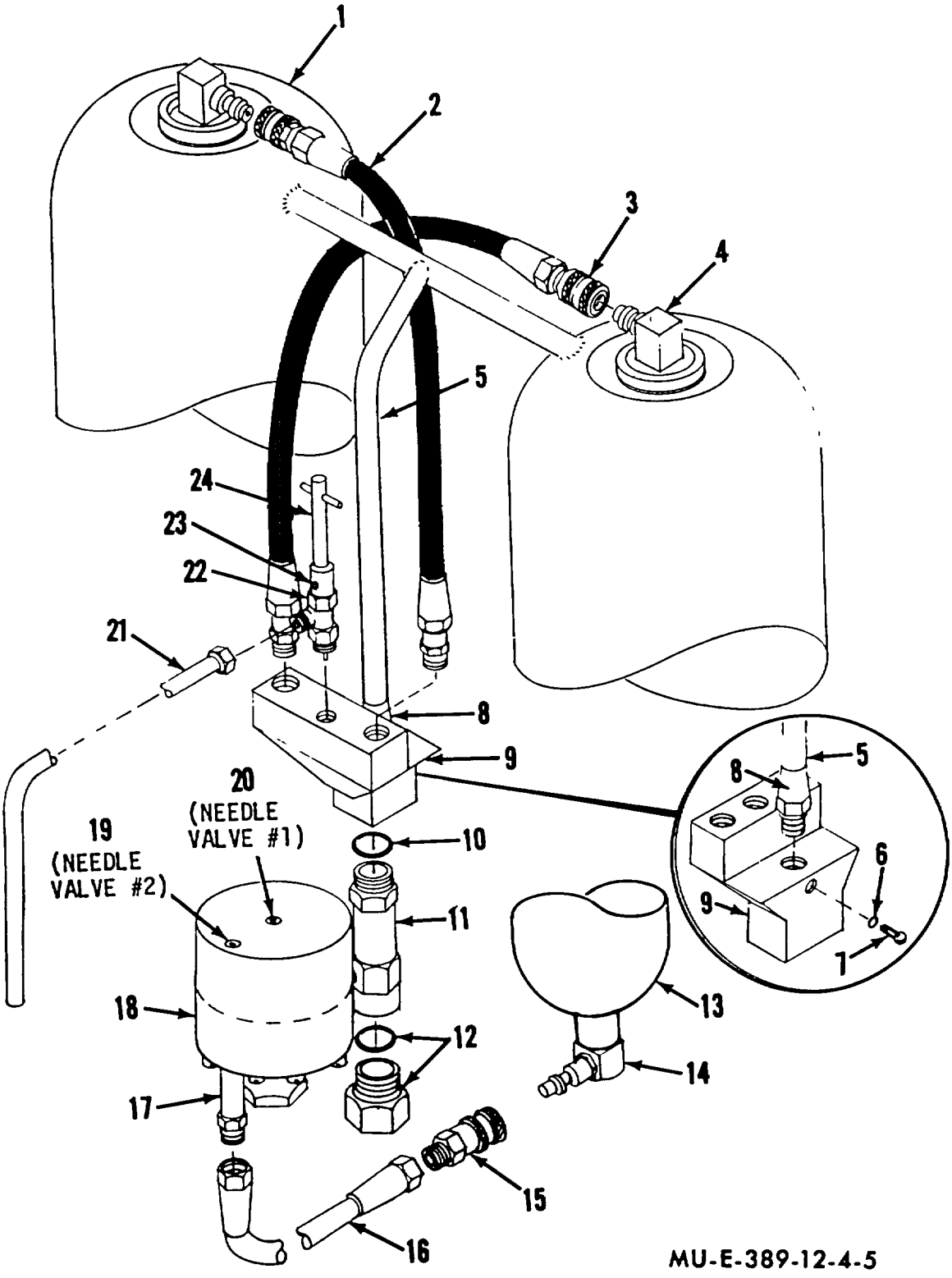


Figure 4-5. Fuel and pressure section.

1 Agent tank
2 Hose assembly
3 Quick-disconnect coupling half
4 Pipe and cap assembly
5 Diffusion tube assembly
6 Preformed packing
7 Screw
8 Nut
9 Adapter
10 Washer
11 Safety valve
12 Safety head
13 Pressure tank
14 Coupling plug
15 Quick-disconnect coupling plug
16 Tube assembly
17 Inlet adapter
18 Pressure regulator
19 Needle valve-2
20 Needle valve-1
21 Vent tube
22 Shutoff valve
23 Setscrew
24 Shutoff valve handle

Figure 4-5-Continued

CAUTION

Exercise care when disconnecting the pressure tank coupling plug from pressure regulator quick-disconnect coupling half to prevent damage to the tube.

(5) Disconnect the quick-disconnect coupling half (15, Fig. 4-5) from the coupling plug (14).

(6) Remove and retain the pressure tank and valve assembly.

(7) Install cap on the pressure tank coupling plug (4).

c. Installation.

(1) Remove the cap (Fig. 1-5) from the coupling plug.

(2) Place the tank group in a horizontal position with the quick-disconnect coupling half facing up (Fig. 1-7).

(3) Align and connect the pressure tank coupling plug (14, Fig. 4-5) to the pressure regulator quick-disconnect coupling half (15).

(4) Test to see that the coupling plug is engaged and locked in the quick-disconnect coupling half. The knurled ring on the quick-disconnect coupling half should not slide freely when properly connected.

(5) Close the hinged tank clamp (Fig. 1-4) around the pressure tank and fasten the attached wingnut.

(6) Fasten the valve shaft to the boss on the agent tank with the clamp and wingnut.

4-11. Approved Air Compressors and Service Units

a. Approved Air Compressors. Compressors that have been approved for charging pressure tanks of the M3 dispersers are listed below:

(1) M1A1 7 cfm power-driven reciprocating compressor (TM 3-1040-203-12).

(2) AN-M4 3 1/2 cfm flamethrower power-driven reciprocating compressor (TM 3-1040210-12).

(3) AN-M4B 3 1/2 cfm flamethrower power-driven reciprocating compressor (TM 3-1040224-12).

(4) AN-M4C 3 1/2 cfm flamethrower power-driven reciprocating compressor (TM 31040-244-12).

(5) AN-M4D 3 1/2 cfm flamethrower power-driven reciprocating compressor (TM 31040-263-12).

b. Approved Service Unit. The service unit that has been approved for charging pressure tanks for the M3 Disperser is the M4A2 service unit flamethrower truck-mounted (TM 3-1040-219-12).

Section III. DECONTAMINATING AND CLEANING

4-12. General

Dispersers that have been used on a mission are partially cleaned by the operator (para 2-10). Organizational maintenance personnel will disassemble and completely decontaminate the disperser when it is returned to organizational maintenance. Decontaminating operations on the gun group, hose group, and tank group are outlined below. TM 3-220 contains additional decontamination procedures.

NOTE

Use soap and water to clean the equipment when talc is used.

4-13. Decontaminating Solution

NOTE

Decontaminating solution is used to decontaminate equipment that contains agent.

a. Preparing Solution. Obtain a 20-gallon can or suitable container to mix a decontaminating solution. Mix 4 ounces general purpose detergent (FSN 7930-476-5223) or 4 ounces of wetting agent (FSN 6850-456-1784) and 1 gallon of monoethanolamine (MEA) (FSN 6810-270-6207) with 9 gallons of water.

b. Disposing Solution. When the decontaminating operations are completed, prepared solution (a above) can be disposed of by dumping it into a chemical disposal system.

c. Disposing of Agent with MEA. Agent can be dissolved and destroyed in a watery solution; 10 percent MEA and 0.3 percent of non-ionic detergent (TRITON X or IGEPAL CO-630). Ratio of solution to agent must be 100: 1 (AMCR 385104).

4-14. Gun Group and Hose Group

WARNING

Purge the air in the air pressure system before attempting any maintenance or modification to the pressure system.

a. Removal.

(1) Close (clockwise) pressure tank valve with handle (Fig. 2-1).

(2) Open (counterclockwise) shutoff valve to vent pressure in agent tanks (Fig. 2-1).

(3) Personnel should wear a protective mask, protective mask hood, and protective gloves when decontaminating the disperser.

(4) Disconnect the quick-disconnect coupling half on the hose assembly (step D, Fig. 2-2) from the agent delivery pipe.

(5) Remove the coupling cap from the holder. Connect the coupling cap to the open end of the agent delivery pipe (step B, Fig. 2-2).

(6) Disconnect the hose assembly coupling (Fig. 1-3) from the valve body.

(7) Place the hose assembly in the decontaminating solution (para 4-13*a*).

(8) Loosen setscrews (step C, Fig. 4-3) and remove collar.

(9) Remove sleeve.

(10) Depress trigger and remove connector and rubber tube from the barrel of the gun.

(11) Loosen locknut and separate barrel section from the valve section.

(12) Place all gun components, including rubber tube, into the decontaminating solution for a minimum of 30 minutes.

b. Decontaminating and Cleaning.

(1) After 30 minutes have elapsed, remove the parts from the decontaminating solution.

(2) Using a brush clean all threads of any foreign deposits. Clean also the hose assembly quick-disconnect coupling half.

(3) Flush all parts with clear water. Dry the parts with a clean cloth and thoroughly dry with pressurized air (5 to 10 psi).

(4) When all parts are clean and dry, recheck for possible deposits of agent by sniffing. If required, repeat steps (1) through (3) above.

NOTE

If the gun is not to be used at the present time, stow the parts in the packing chest. To increase the serviceability of the rubber tube stow it in the packing chest as a separate item.

c. Assembly. Perform the following if the gun group and hose group are to be used in the near future: assemble the gun group and hose group (para 4-5).

4-15. Tank Group

a. Removal.

(1) Purge the air in the air pressure system (para 4-10a).

(2) Remove the pressure tank (para 4-10b).

(3) Place the coupling cap (step B, Fig. 22) on the open end of the agent delivery pipe.

CAUTION

The pressure regulator and attaching parts are removed from the disperser to prevent possible water damage to the parts during cleaning and decontaminating operations.

(4) Unlace and retain one cotton cord that attaches carrier pack to frame.

NOTE

The parts and assemblies mentioned in steps (5) to (13) inclusive are to be cleaned with air pressure (between 25 psi and 35 psi) only. Water and decontaminating solution could damage internal parts.

(5) Disconnect hose assemblies (2, Fig. 4-5) from the pipe and cap assemblies (4).

(6) Hold the pressure regulator (18) and

disconnect the diffusion tube nut (8) from the safety valve adapter (9).

(7) Remove and retain the pressure regulator and attaching parts.

(8) Disconnect the tube assembly (16) from the inlet adapter (17).

(9) Using pressurized air (between 25 psi and 35 psi), clean the air passages in the disconnected parts of any agent (or T1 talc) as follows:

WARNING

Never stand in the way of pressurized air.

(10) Apply air pressure to the inlet adapter (17) located on the bottom of the pressure regulator (18). This operation will clean the air passage in the pressure regulator (18) and safety valve (11).

(11) Apply air pressure to the opening in the bottom of the safety valve adapter (9). This operation will clean the air passage in the safety valve adapter (9) and hose assemblies (2).

(12) Open the shutoff valve (22). Apply air pressure to the end of the vent tube (21). This operation will clean the air passage in the shutoff valve (22) and diffusion tube adapter (9).

(13) If air cannot be detected coming out of the diffusion tube adapter (9), perform the following operation: Clean adapter air passage with a wire and perform step (12) above.

(14) Obtain a plug from the M27 service kit (TM 3-1040-221-12). Close the open end of the diffusion tube (5) with the plug.

(15) Remove one pipe and cap assembly (4).

(16) Pour decontaminating solution (para 4-13a) into the agent tank. Fill to approximately 2 inches from the top.

(17) Install the pipe and cap assembly (removed in (15) above) and tighten.

(18) Tape and seal open ends on the pipe and cap assemblies (4).

(19) Shake the agent tanks several times to agitate the solution in the tanks. Turn agent tank upside down to fill the diffusion tube with solution.

(20) Submerge the tank group in a decontaminating solution for 30 minutes.

b. Decontaminating and Cleaning.

(1) After 30 minutes have elapsed, remove the tank group from the solution.

(2) If required, scrub the exterior surfaces of the agent tank and carrier parts to remove any visible agent.

(3) Remove tape from both pipe and cap assemblies (4). Remove both pipe and cap assemblies. With a wire clean the cap holes (fig. 4-6).

(4) Using a brush, clean all threads of any foreign deposits.

(5) Dump the solution in the agent tanks into a chemical disposal system.

(6) Remove plug from diffusion tube.

(7) Flush the interior of the agent tanks and all exterior surface including the carrier parts with clean water.

(8) Dry the parts with a clean cloth and thoroughly dry with pressurized air (5 to 10 psi). Thoroughly dry the interior of the agent tanks to prevent corrosion. Minor internal surface corrosion in the agent tank is acceptable.

(9) When all parts are cleaned and dry, recheck possible deposits of agent by sniffing. If required, repeat decontaminating procedure.

c. Assembly.

(1) Install pipe and cap assemblies (4) and tighten.

(2) Position the tube assembly (16) as shown in figure 4-5. Connect the tube assembly (16) to the inlet adapter (17) and tighten.

(3) Hold the pressure regulator in a position to tighten the diffusion tube nut (8) to the adapter (9).

(4) Cross both hose assemblies (2) and connect each hose assembly quick-disconnect coupling half (3) to the pipe and cap assemblies (4).

(5) Connect the carrier pack to the frame with the cotton cord.

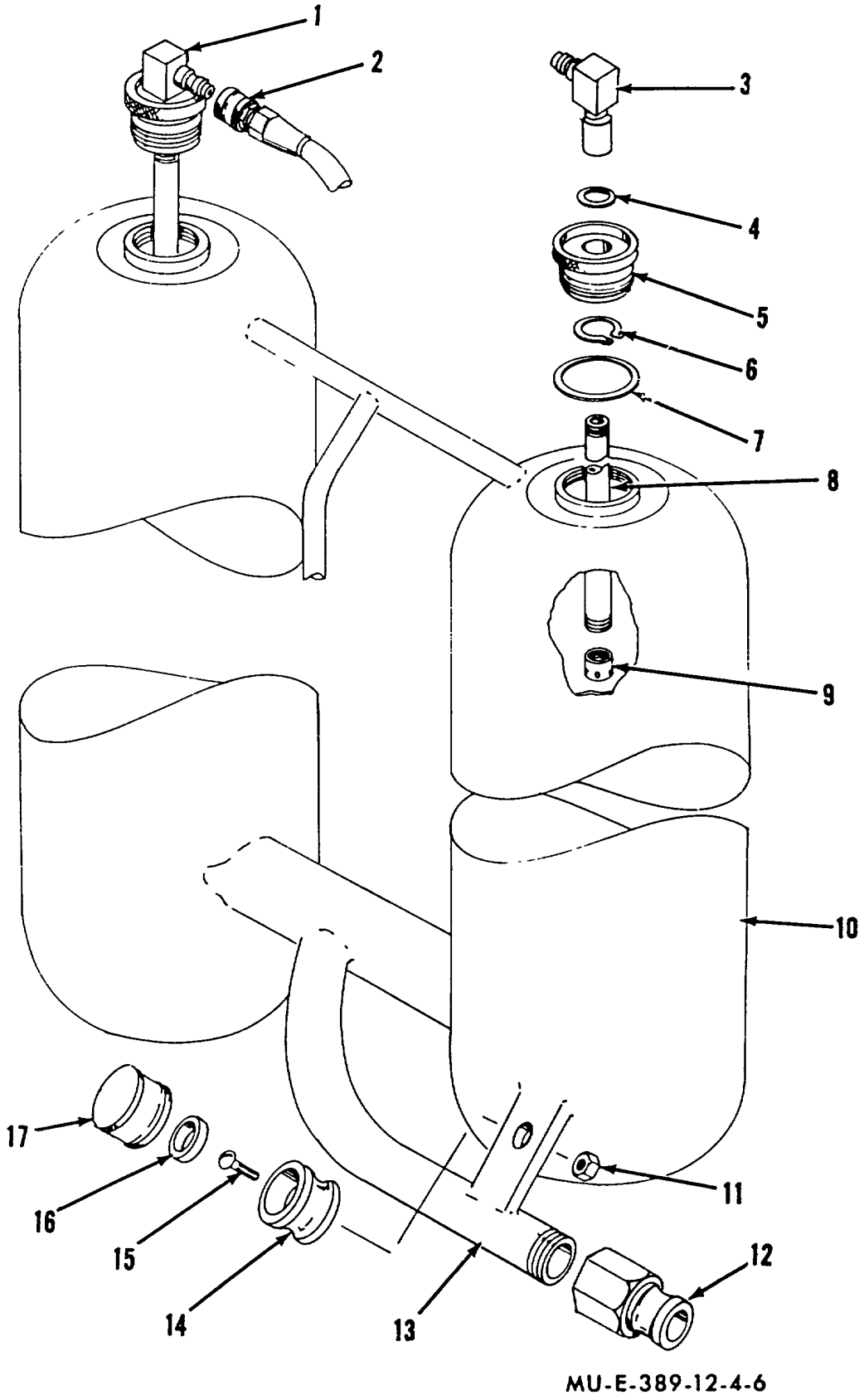


Figure 4-6. Agent section.

Section IV. PAINTING

4-16. General

Organizational maintenance personnel are authorized to retouch the paint on the tank, hose and gun groups.

a. Hose Assembly. Paint the hose assembly (para 4-26).

b. Safety Head. The safety head (Fig. 1-7) shall not be painted. Mask or cover the safety head before painting tank group.

4-17. Paints to be Used

a. Primer. Prime all worn and scratch surfaces with one coat of synthetic paint primer.

b. Enamel. Apply one coat of green lusterless enamel.

Section V. SERVICING

4-18. Servicing-Before Issuing for Use

Equipment defects, beyond authorized organizational maintenance, must be reported to direct support maintenance. Before issuing a disperser to the operator for use, perform the following visual inspections.

a. Tank Group.

(1) *Pressure tank and valve assembly.*

(a) Inspect pressure tank (Fig. 1-5) for damage.

(b) Inspect valve shaft and handle for damage. Check operation of handle.

(c) Inspect caps for damage and missing parts. Handtighten loose caps.

(d) Check coupling plug on valve assembly for damage.

(e) Check volumetric testing dates (para 4-3).

(f) Adjust pressure regulator if required (para. 4-36).

(2) *Agent tank.*

(a) Inspect agent tanks (Fig. 1-6) and (Fig. 1-7) for damage. Minor internal surface corrosion in the agent tanks is acceptable.

(b) Inspect safety valve and pressure regulator for damage. Check pressure regulator quick-disconnect coupling half for damage.

(c) Check hose assemblies for damage and deterioration.

(d) Check shutoff valve handle for damage.

(e) Check vent tube for damage.

(f) Check coupling cap for damage. Install coupling cap on agent delivery pipe coupling. Replace cap if missing.

(g) Check hydrostatic and volumetric testing dates (para 4-3*a*).

(3) *Carrier pack and frame assembly.*

(a) Inspect carrier frame (fig. 1-8) for damage. Check attaching hardware for damage and missing parts.

(b) Inspect carrier pack, shoulder straps, and cotton cord for damage, mildew, rot,-and wear. Check all attaching buckles and hardware for damage and missing parts.

b. Hose Group.

(1) Inspect hose assembly for kinks, cuts, damage, and deterioration.

(2) Check painting and stenciling (para 4-2).

WARNING
Unserviceable hose assemblies must be replaced. No repair is authorized.

(3) Inspect quick-disconnect coupling half for possible damage. Check inner balls for damage or loss. Check ball depressing ring for ease of operation. Check inner rubber gasket for damage and deterioration.

c. Gun Group.

(1) Inspect rubber tube (Fig. 1-2) for holes, cracks, and deterioration. Check especially the area that is collapsed by the operation of the trigger.

(2) Inspect rubber tube, sleeve, and connector for possible damage.

(3) Inspect barrel section for cracks, dents, and defective threads. Inspect locknut threads for possible damage. Inspect collar and setscrew for possible damage.

(4) Inspect valve section for damage, dents, and defective threads. Check cover plate for damage and missing screws. Operate and check the trigger and trigger safety for proper operation. Adjust if necessary (para 4-25b).

(5) Assemble gun group (para 4-5).

4-19. Servicing After Use

After disperser has been used by the operator, perform the following operations:

a. Check to see that the operator performed cleaning operations (para 2-10).

b. Decontaminate the disperser if agent has been used (para 4-12 through 4-15). If T1 (talc) has been used, clean the tank group with air pressure (para 4-15*a*(1) to (13) inclusive).

c. Inspect pressure tank (Fig. 1-5) including attaching parts for damaged and missing parts.

d. Inspect agent tanks (Fig. 1-4) including attaching parts for damage.

e. Check vent tube (21, Fig. 4-5). Open end should be free of foreign material.

f. Inspect carrier pack (Fig. 1-8), shoulder straps, and cotton cord for damage, mildew, rot, and wear. Check all attaching buckles, hardware, and carrier frame for damage and missing parts.

g. Inspect hose assembly (Fig. 1-3) for damage and deterioration.

WARNING
Unserviceable hose assemblies must be replaced. No repair is authorized.

h. Inspect quick-disconnect coupling half for damage. Check inner balls and ball depressing ring for ease of operation. Check inner rubber gasket for damage and deterioration.

i. Inspect the gun group (Fig. 1-3) as follows:

(1) Disassemble the M9 gun (para 4-14).

(2) Inspect rubber tube for holes, cracks, and deterioration. Check especially the area that is squeezed by the trigger.

(3) Inspect rubber tube sleeve and connector for damage.

(4) Inspect barrel section for cracks, dents, and defective threads. Inspect locknut threads for damage. Inspect collar and setscrews for damage.

(5) Inspect valve section parts for damage, dents, and defective threads. Check cover plate for damage and missing screws Operate and check trigger and trigger safety for proper operation.

(6) Stow the rubber tube in the packing chest as a separate item.

(7) Stow the disassembled gun in the packing chest.

4-20. Preventive-Maintenance Checks and Services

a. Purpose. The preventive-maintenance checks and services (table 4-1) provide organizational maintenance personnel with a list of maintenance services which must be performed at the intervals prescribed. Use the list to make sure that all required maintenance is accomplished. If corrective action is not authorized at organizational level, report equipment defects to direct support maintenance personnel.

b. Explanation of Columns. A number under the sequence number column indicates that the service opposite the number must be performed monthly in numerical sequence.

Table 4-1. Preventive-Maintenance Checks and Services

Organizational Maintenance Category — Monthly Schedule

Sequence No	Item to be inspected	Procedure	Paragraph reference
		GUN GROUP	
1	M9 gun	Inspect M9 gun for damage	para 4-23.
2	Rubber tube, collar connector, and sleeve.	Inspect rubber tube for holes, cracks, and deterioration. Check especially the area that is collapsed by the operation of the trigger. Inspect sleeve and connector for damage. Replace parts as authorized.	Fig. 1-2. para 4-24.
3	Valve section	a. Inspect the valve section for damage. Inspect threads for damage.	Fig. 4-7.
		b. Check cover plate for damage and missing screws	Fig. 4-7. para 4-25.
		c. Operate the trigger and trigger safety catch for proper operation. Check for missing or damaged parts. Replace parts as authorized.	Fig. 2-1. para 4-25.
		d. Adjust trigger if required	para 4-25*b*.

Table 4-1. Preventive-Maintenance Checks and Services-Continued

Organizational Maintenance Category — Monthly Schedule

Sequence No	Item to be inspected	Procedure	Paragraph reference
4	Barrel section	Inspect the barrel section for damage. Inspect locknut and threads for damage. Inspect collar and setscrews for damage and missing parts. Replace parts as authorized.	Fig. 1-2. para 4-25.
		HOSE GROUP	
5	Hose assembly	*a.* Check painting and stenciling of hose *b*. Check hose assembly for cuts, kinks, and deterioration.	Fig. 4-8. para 4-27.
6	Hose fitting, quick-disconnect coupling half, and gasket.	Check hose fitting threads for damage. Perform operation of quick-disconnect coupling half. Check coupling ring and retaining balls. Check inner preformed packing for damage and deterioration. Replace parts as authorized.	Fig. 4-8. para 4-27.
		TANK GROUP-PRESSURE SECTION	
7	Pressure tank and valve assembly	Inspect for damage Inspect dust caps and chains for missing parts and damage. Replace parts as authorized. Check test dates	Fig. 1-5. para 4-30. para 4-3*b*.
8	Valve shaft assembly and handle	Secure pressure tank and operate valve handle to check operation of valve shaft and valve assembly. Operate valve handle clockwise and counterclockwise several times. Replace parts as authorized.	Fig. 1-5. para 4-31.
9	Pressure regulator	Adjust pressure regulator	Fig. 4-9. para 4-36.
10	Pressure regulator and safety valve	Inspect pressure regulator and safety valve for damage. Replace parts as authorized.	Fig. 4-5. para 4-32.
11	Safety valve, washer, and safety head	Check to see that safety head is not painted. Inspect safety head and washer for damage. Replace parts as authorized.	Fig. 4-5. para 4-33.
12	Pressure tank	Check test dates. Pressurize tank when required after pressure test.	para 4-3. para 4-9.
13	Hose assemblies	Inspect hose assemblies for cuts and deterioration. Operate quick-disconnect coupling half and check for damage to attaching parts. Replace parts as authorized.	Fig. 4-5. para 4-29.
14	Shutoff valve, handle, and vent tube	Operate shutoff valve handle to check operation of shutoff valve. Check for missing vent tube. Open end should be free of foreign material.	Fig. 4-5. para 4-35.
15	Pressure regulator tube and quick-disconnect coupling half.	Inspect for dents, cracks, and other damage. Operate and inspect quick-disconnect coupling half for damage.	Fig. 1-6.
16	Preformed packing and setscrews	Inspect screws for damaged threads. Inspect preformed packing for damage.	Fig. 4-5. para 4-34.
		TANK GROUP-AGENT SECTION	
17	Pipe and cap assembly	Inspect pipe and cap assemblies, including attaching parts, for damage. Inspect preformed packing for deterioration. Inspect cap threads for excessive wear. Replace parts as authorized.	Fig. 4-6. para 4-28.
18	Agent tank	Check test dates	para 4-3.
		TANK GROUP-CARRIER SECTION	
19	Carrier pack	Inspect frame for damage. Check for loose and missing cotton cord and hardware. Inspect carrier pack, shoulder straps, cotton cord, and attaching parts for cuts and tears and mildew. Replace parts as authorized.	Fig. 1-8. para 4-39.

Table 4-1. Preventive-Maintenance Checks and Services-Continued

Organizational Maintenance Category — Monthly Schedule

Sequence No	Item to be inspected	Procedure	Paragraph reference
		GENERAL	
20	Exposed-metal painted surfaces on disperser.	Inspect painted surfaces for corrosion, rust, and chipped paint. Clean and repaint surfaces as required.	para 4-16 and 4-17.
		ACCESSORY GROUP	
21	Publications ----------	See that a copy of TM 3-1040-214-12 is packed with the equipment.	
22	Gloves ----------	Inspect gloves for tears and deterioration. Replace gloves as required.	
		REPAIR PARTS	
23	Connector, safety heads, check valves preformed packing, washers, and rubber tube.	Inspect for damage and deterioration. Replace parts as authorized.	Fig. 4-2.

Section VI. TROUBLESHOOTING

4-21. General

Table 4-2 lists troubleshooting procedures for organizational maintenance personnel.

4-22. Troubleshooting

Report all malfunction beyond the scope of organizational maintenance to direct support maintenance personnel.

Table 4-2. Troubleshooting

Item No.	Malfunction	Probable cause	Corrective action
1	Agent leaks at connection between gun and hose coupling.	Loose connection between gun and hose.	Tighten connection.
2	Agent leaks at trigger or locknut.	Rubber tube defective ----------	Replace rubber tube (para 4-24).
3	Agent leaks at agent delivery pipe coupling and quick-disconnect coupling half on hose assembly.	*a*. Quick-disconnect coupling half not installed properly on delivery pipe coupling.	Disconnect quick-disconnect coupling half and connect correctly.
		b. Preformed packing in quick-disconnect coupling half missing or damaged.	Replace preformed packing (para 4-27b).
		c. Defective quick-disconnect coupling half.	Replace quick-disconnect coupling half (para 4-27a).
4	Agent leaks between pipe and cap assembly and agent tank.	*a*. Tank cap loose----------	Handtighten tank cap.
		b. Tank cap threads dirty----------	Clean threads.
		c. Preformed packing rings missing or damaged.	Replace preformed packing rings (para 4-28).
		d. Damaged pipe and cap assembly------	Replace pipe and cap assembly para 4-28).
5	Agent leaks between pipe and cap assembly and hose assembly quick-disconnect half.	*a*. Quick-disconnect coupling half not installed properly on pipe and cap connector.	Disconnect quick-disconnect coupling half and connect correctly.
		b. Pipe and cap connector defective------	Replace connector (para 4-28).
6	No discharge of agent when trigger is pressed.	*a*. Pressure tank valve closed ----------	Fully open pressure tank valve (turn handle counterclockwise).
		b. Agent tank empty----------	Fill tanks with agent (para 4-8).
		c. Insufficient pressure in pressure tank.	Replace pressure tank with a fully charged pressure tank (para 4-10).
7	Trigger or trigger safety inoperative.	*a*. Dirt accumulated under trigger safety.	Clean.
		b. Safety catch improperly adjusted ------	Adjust safety catch (para 4-25).

Table 4-2. Troubleshooting-Continued

Item No.	Malfunction	Probable cause	Corrective action
8	Range too short or range drops rapidly.	*a*. Pressure tank valve closed ---------- *b*. Clog hose group---------- *c*. Insufficient pressure in pressure tank.	Fully open pressure tank valve. Clean hose by using jet of clean water. Replace pressure tank with a fully charged pressure tank (para 4-10).

Section VII. GUN GROUP

4-23. M9 Gun

Organizational maintenance personnel are authorized to replace the M9 gun.

a. Removal.

(1) Purge the air in the pressure system (para 4-10a).

(2) Rotate the ball depressing ring (step C, Fig. 2-2) on the quick-disconnect coupling half until the slot in the ring is in line with the lock pin.

(3) Pull the depressing ring back and remove the hose assembly from the agent delivery coupling.

(4) Remove the coupling cap (step B) from the holder. Install the coupling cap on the agent delivery pipe coupling.

(5) Using a wrench, disconnect the hose assembly coupling (Fig. 1-3) from the M9 gun.

b. Installation.

(1) Apply anti-seize compound of tape on the hose assembly coupling threads (fig 1-3).

(2) Slide the hose assembly coupling over the connector on the M9 gun.

(3) Using a wrench, tighten the coupling to the M9 gun valve section. Do not overtighten.

(4) Remove the coupling cap (step A, fig. 2-2) and stow it on the cap holder.

(5) Connect the quick-disconnect coupling half on the hose assembly to the agent delivery pipe coupling.

(6) Rotate the ball depressing ring until the slot in the ring is not in line with pin.

4-24. M9 Gun Connector, Rubber Tube, Sleeve, Collar, and Setscrews

Organizational maintenance personnel are authorized to replace the M9 gun barrel connector, rubber tube, sleeve, collar, and setscrews.

a. Disassembly and Removal.

(1) Purge the air in the pressure system (para 4-10a).

(2) Rotate the ball depressing ring (step C, Fig. 2-2) on the quick-disconnect coupling half until the slot in the ring is in line with lock pin.

(3) Pull the depressing ring back and remove the hose assembly from the agent delivery coupling.

(4) Remove the coupling cap (step B) from the holder. Install coupling cap on the agent delivery pipe coupling.

(5) Using a wrench, disconnect the hose assembly coupling (Fig. 1-3) from the M9 gun.

(6) Loosen the collar setscrews (step C, fig 4-3).

(7) Remove and retain the collar.

(8) Remove and retain sleeve.

(9) Depress trigger safety and squeeze trigger.

(10) Remove connector with rubber tube.

(11) Loosen locknut completely and disconnect the valve section from barrel section.

b. Assembly and Installation.

(1) Moisten and insert the connector into the rubber tube (step A, Fig. 4-3). The end of the rubber tube should meet the shoulder on the connector.

(2) With the right hand depress the trigger safety and squeeze the trigger (step B).

(3) Slide the rubber tube into the valve section until the connector is seated in the valve body.

(4) With the trigger depressed, pull and stretch the hose to remove the slack in the hose. While the hose is under tension, release the trigger. Release the rubber tube.

(5) Slide the barrel section (step C) on the loose end of the rubber tube. Engage the key on the barrel with the slot in the threaded portion of the valve section.

CAUTION

Do not use a wrench to tighten the locknut.

(6) Handtighten the locknut to the barrel section (step C).

(7) Moisten and install the tapered end of the sleeve into the open end of the rubber tube at the barrel end. The sleeve should wedge the end of the rubber tube against the gun barrel's inner wall.

(8) Slide the collar over the sleeve and end of the gun barrel. Tighten setscrews.

(9) Apply anti-seize compound or tape on the hose assembly coupling threads (Fig. 1-3).

(10) Slide the hose assembly coupling over the connector.

(11) Using a wrench, tighten the coupling to the valve section. Do not overtighten.

4-25. Cover Plate and Safety Catch

Organizational maintenance personnel are authorized to adjust the safety catch and replace the cover plate, safety catch, and attaching screws.

a. Removal and Disassembly.

(1) Purge the air in the pressure system (para 4-1*a*).

(2) Remove the screws and cover plate (fig. 4-7).

(3) Remove the screws and safety catch.

b. Assembly, Installation, and Adjustment.

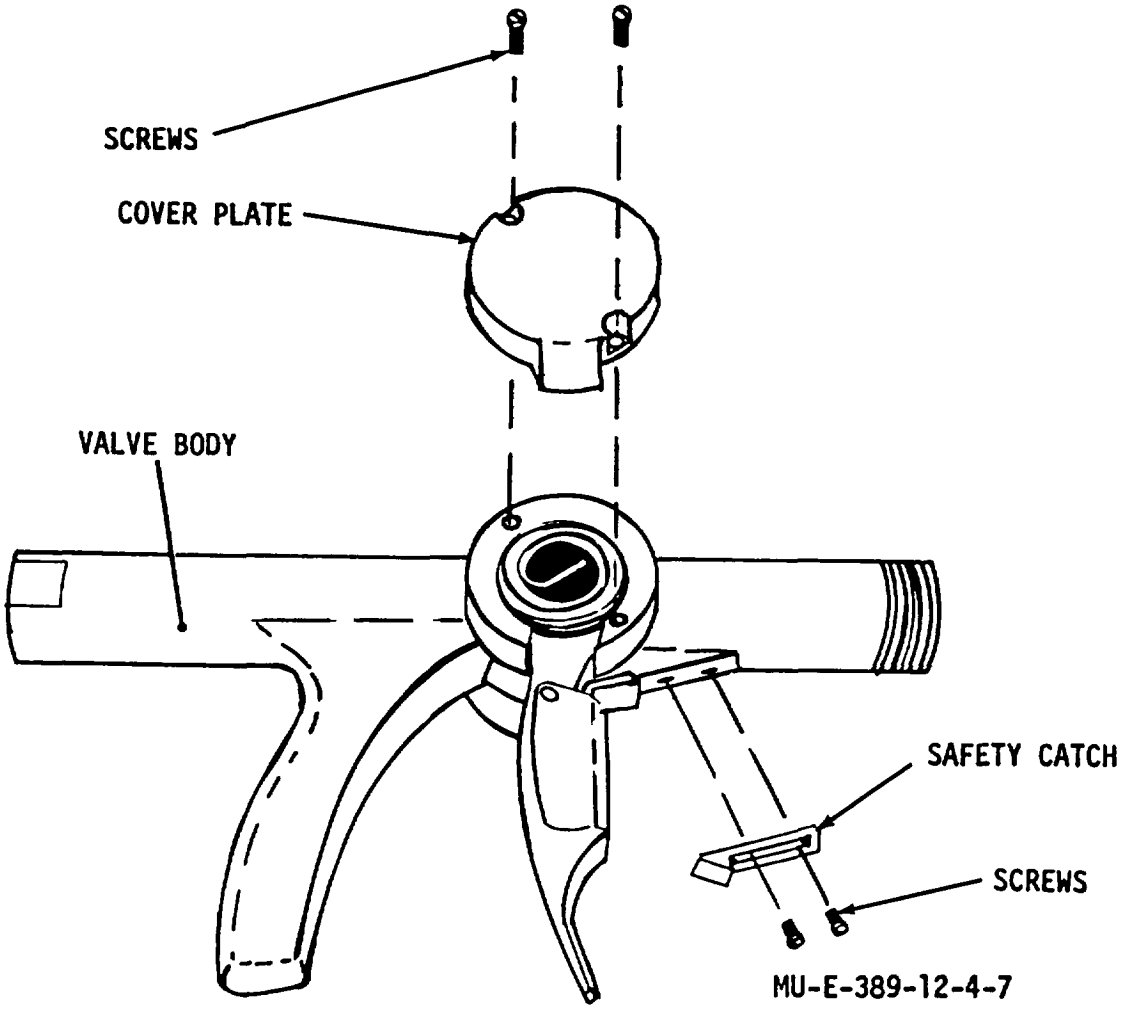
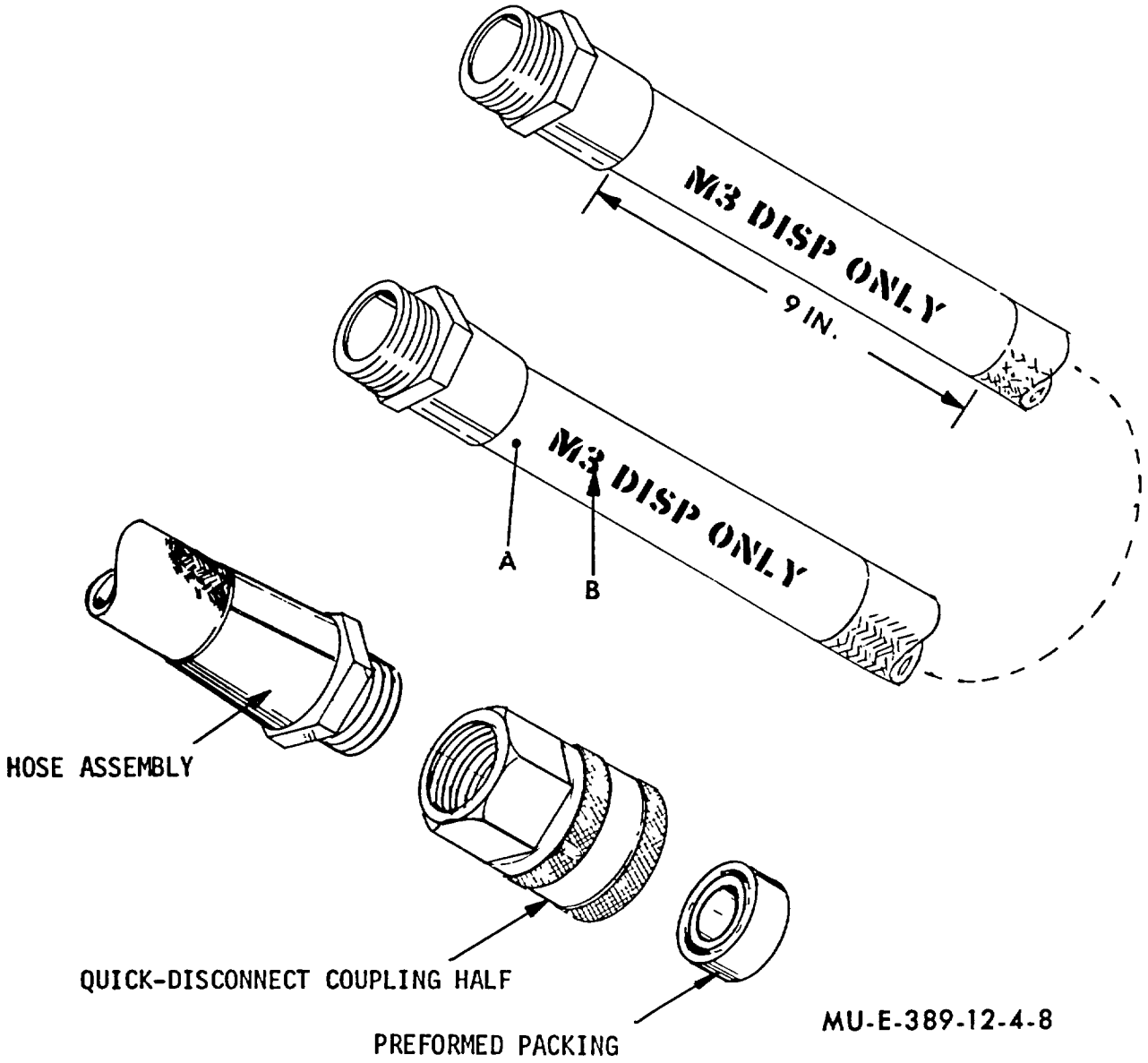


Figure 4-7. Cover plate and safety catch, exploded view.

Figure 4-7. Cover plate and safety catch.



KEY

A. Paint a 9-inch band around each end of the hose. Use aluminum paint (FSN 8010-721-9751).

B. Stencil "M3 DISP ONLY" 1/2-inch letters, at each end, exactly as shown. Use red paint (FSN 8010-141-2952)

Figure 4-8. Quick-disconnect coupling half and rubber gasket.

(1) Align the key on the cover plate with the notch in the valve body. Install the cover and attaching screws.

(2) Install the safety catch on the valve body and install (fingertight) the attaching screws.

(3) Operate the trigger safety and trigger to see that trigger safety engages in the safety catch. Adjust safety catch and tighten screws.

Section VIII. HOSE GROUP

4-26. Hose Assembly

Organizational maintenance personnel are authorized to paint the hose assembly and replace the hose assembly.

a. Inspection.

(1) Check the rubber hose (Fig. 1-3) for damage and deterioration.

(2) Check the coupling on both ends of the hose for damage. Check especially the threads on the coupling.

b. Painting.

(1) Check the painting on the hose assembly (Fig. 4-8).

(2) Repaint the hose if required.

c. Removal.

(1) Rotate the ball depressing ring (step C, Fig. 2-2) on the quick-disconnect coupling half until the slot in the ring is in line with the lock pin.

(2) Pull the depressing ring back and remove the hose assembly from the agent delivery coupling.

(3) Using a wrench, disconnect the hose assembly coupling (Fig. 1-3) from the M9 gun.

d. Installation.

(1) Apply anti-seize compound on the hose assembly coupling threads (Fig. 1-3).

(2) Slide the hose assembly coupling over the connector.

(3) Tighten the coupling to the M9 gun valve section. Do not overtighten.

(4) Rotate the ball depressing ring on the quick-disconnect coupling half until the slot in the ring is in line with the lock pin.

(5) Depress the ball depressing ring and connect the quick-disconnect coupling half to the agent tank coupling.

(6) Rotate the ball depressing ring until the slot in the ring is not in line with the lock pin.

4-27. Quick-Disconnect Coupling Half and Preformed Packing

a. Quick-Disconnect Coupling Half. Organizational maintenance personnel are authorized to replace the quick-disconnect coupling half.

(1) *Removal*.

(a) Rotate the ball depressing ring (step C, Fig. 2-2) on the quick-disconnect coupling half until the slot in the ring is in line with the lock pin.

(b) Pull the depressing ring back and remove the hose assembly from the agent delivery coupling.

(c) Remove the quick-disconnect coupling half from the hose assembly coupling (Fig. 4-8).

(2) *Installation*.

(a) Apply anti-seize compound on the hose assembly coupling threads.

(b) Connect and tighten the quick-disconnect coupling half threads to the hose assembly coupling. Do not overtighten.

b. Preformed Packing. Organizational maintenance personnel are authorized to replace the preformed packing in the quick-disconnect coupling half.

(1) *Removal*.

(a) Remove the preformed packing (fig. 4-8) located on the inside of the quick-disconnect coupling half.

(b) Clean the quick-disconnect inner surface of any rubber particles.

(2) *Installation*.

NOTE

The open end of the preformed packing must face the threads in the quick-disconnect fitting (Fig. 4-8).

Slide the gasket into the quick-disconnect coupling half and seat it properly.

Section IX. TANK GROUP

4-28. Pipe and Cap Assembly, Agent Section

Organizational maintenance personnel are authorized to replace the parts that make up the pipe and cap assembly.

a. Removal.

(1) Purge the air in the pressure system (para 4-10*a*).

(2) Disconnect the quick-disconnect coupling half (2, Fig. 4-6) on the hose assembly from the pipe and cap assembly (1).

(3) Unscrew the pipe and cap assembly (1) from the top of the agent tank.

b. Disassembly.

(1) Unscrew the pipe (8) and pipe cap (9) from the connector (3).

(2) Remove preformed packing (7) from tank cap.

(3) Using ring retaining pliers, remove retaining ring (6) from connector (3).

(4) Remove preformed packing (4) from connector.

(5) Remove the pipe cap (9) from the pipe (8).

c. Cleaning.

(1) Clean the threads on the tank cap (5).

(2) Clean the holes in the pipe cap (9).

(3) Clean the pipe (8) and pipe cap (9) threads.

d. Assembly and Installation.

(1) Screw the pipe cap (9) on the pipe (8) and tighten.

(2) Install a new preformed packing (4) on the connector (3).

(3) Insert the connector (3) through the hole in the tank cap (5). Install the retaining ring (6) on the connector (3).

(4) Screw pipe into connector and tighten.

(5) Install a new preformed packing on the tank cap.

(6) Insert the pipe and cap assembly in the agent tank. Handtighten the tank cap.

4-29. Hose Assemblies, Pressure Section

Organizational maintenance personnel are authorized to replace the hose assemblies.

a. Removal.

(1) Purge the air in the pressure system (para 4-10a).

(2) Unlace one side of the carrier pack.

(3) Disconnect the quick-disconnect coupling half (3, Fig. 4-5) on each hose assembly (2) from the pipe and cap assembly (4).

(4) Disconnect the diffusion tube nut (8) from the safety valve adapter (9) and remove the pressure regulator and attaching parts.

(5) Disconnect the hose assembly (2) from the safety valve adapter (9).

b. Installation.

(1) Connect each hose assembly (2) to the safety valve adapter (9).

(2) Connect the diffusion tube nut (8) to the safety valve adapter (9).

(3) Cross the open ends of both hose assemblies and connect the quick-disconnect coupling halves (3) to opposite pipe and cap assemblies (4).

(4) Lace the carrier pack (8, Fig. 4-10) to the frame (10).

4-30. Pressure Tank and Valve Assembly

Organizational maintenance personnel are authorized to replace the pressure tank and valve assembly.

a. Removal.

(1) Purge the air in the pressure system (para 4-10a).

(2) Remove the pressure tank and valve assembly (Fig. 4-9) (para 4-10b).

b. Installation. Install the pressure tank and valve assembly (para 4-10c).

4-31. Valve Shaft Assembly

Organizational maintenance personnel are authorized to replace the valve shaft assembly.

a. Removal.

(1) Purge the air in the pressure system (para 4-10a).

(2) Remove the pressure tank and valve assembly (para 4-10b).

(3) Secure firmly the pressure tank before removing any parts.

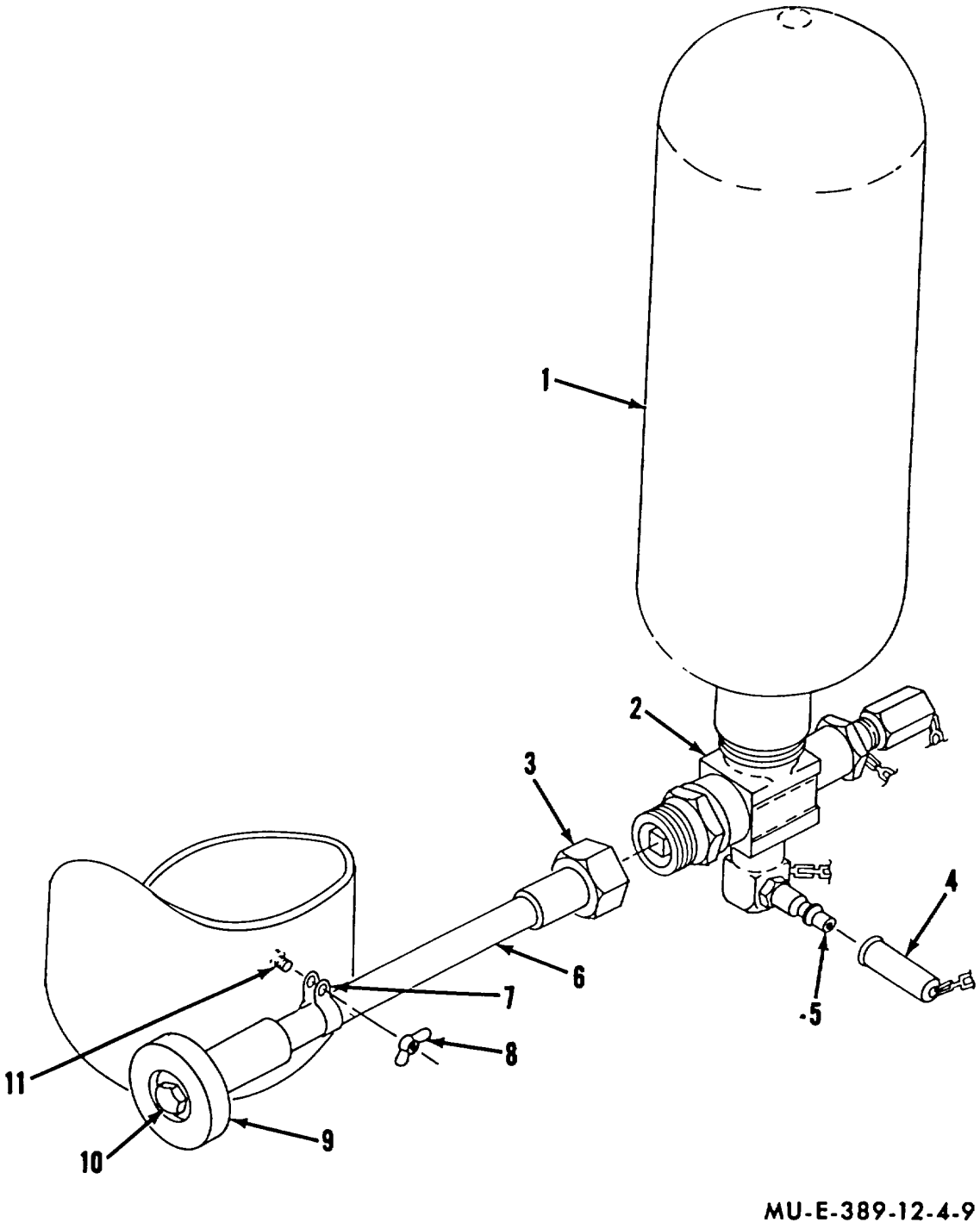


Figure 4-9. Pressure tank and valve assembly.

(4) Disconnect the nuts (3, Fig. 4-9).

(5) Disengage and remove the valve shaft assembly (6).

(6) Remove and retain nut 10), valve handle (9), and clamps (7).

b. Installation.

(1) Connect the open end of the valve shaft assembly (6) to the pressure tank valve (2).

(2) Tighten nut (3) to the pressure tank valve.

(3) Install valve handle (9) and nut (10). Tighten nut.

(4) Slide clamp (7) on valve shaft.

(5) Install pressure tank and valve assembly (para 4-10*c*).

4-32. Pressure Regulator and Safety Valve

Organizational maintenance personnel are authorized to replace the pressure regulator and safety valve.

a. Removal.

(1) Purge the air in the air pressure system (para 4-10*a*).

(2) Remove the pressure tank and valve assembly. (para 4-10*b*).

(3) Unlace one side of the carrier pack (8, Fig. 4-10).

(4) Disconnect the quick-disconnect coupling half (3, Fig. 4-5) from the pipe and cap assembly (4).

NOTE

Hold pressure regulator when performing next step.

(5) Unscrew diffusion tube nut (8) from safety valve adapter (9).

(6) Unscrew safety valve adapter (9) from safety valve (11).

(7) If required, remove the tube assembly (16) from the pressure regulator (18).

(8) If required, remove the quick-disconnect coupling half (f5) from the tube assembly (16).

b. Installation.

(1) Apply anti-seize compound or tape to the tube assembly (16) exterior threads.

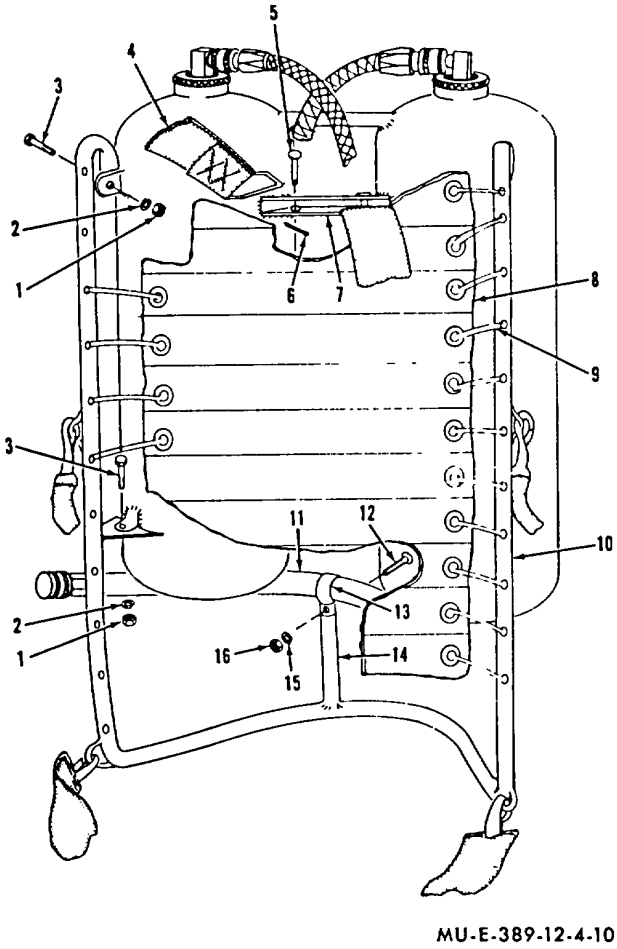
(2) Connect the quick-disconnect coupling half (15) to the tube assembly and tighten.

(3) Install loosely the tube assembly (16) to the inlet adapter (17).

(4) Install lead washer (10) on safety valve (11). Connect safety valve (11) to adapter (9).

(5) Align diffusion tube (5) with safety valve adapter (9). Check to see that quick-disconnect coupling half (15) on tube assembly is centered between both agent tanks.

(6) Tighten nut (8).



1	Nut	9	Cord
2	Washer	10	Frame
3	Screw	11	Agent delivery pipe
4	Upper strap assembly	12	Screw
5	Pin	13	Clamp
6	Cotter pin	14	Support
7	Bracket	15	Washer
8	Carrier pack	16	Nut

Figure 4-10. Carrier Section.

(7) Tighten tube assembly (16) to inlet adapter (17).

(8) Cross the disconnected hose assemblies (2) and connect the quick-disconnect coupling half (3) to opposite pipe and cap assemblies as shown in figure 4-5.

(9) Install the pressure tank and valve assembly (para 4-10c).

4-33. Safety Head

Organizational maintenance personnel are authorized to replace the washer and the safety head.

a. Removal.

(1) Purge the air in the air pressure system (para 4-10*a*)

(2) Remove the safety head (12) and washer.

b. Installation

(1) Check to see that a washer is located on the threaded portion of the safety head (12).

(2) Connect the safety head (12) to the safety valve (11) and tighten.

4-34. Preformed Packing and Setscrews

Organizational maintenance personnel are authorized to replace the safety valve adapter preformed packing and screw.

a. Removal

(1) Purge the air in the pressure system (para 4-10*a*).

(2) Remove the pressure tank and valve assembly (para 4-10*b*).

(3) Remove the screw (7, Fig. 4-5) and preformed packing from the safety valve adapter (9).

b. Installation

(1) Install preformed packing (6) and screw (7).

(2) Install the pressure tank and valve assembly (para 4-10*c*).

4-35. Shutoff Valve, Handle, and Vent Tube

Organizational maintenance personnel are authorized to replace the shutoff valve, handle, and vent tube.

a. Removal.

(1) Purge the air in the pressure system (para 4-10*a*).

(2) Unlace one side of the carrier pack.

(3) Disconnect the quick-disconnect coupling half (3, Fig. 4-5) on each hose assembly (2) from the pipe and cap assembly (4).

(4) Disconnect the diffusion tube nut (8) from the safety valve adapter (9) and remove the pressure regulator and attaching parts.

(5) Remove hose assemblies (2) from the adapter (9).

(6) Remove vent tube (21).

(7) Loosen set screw (23) and unscrew handle (24) from the shutoff valve (22).

b. Assembly.

(1) Screw the handle (2-1) into the body of the shutoff valve (22) and tighten setscrew (23).

(2) Screw the shutoff valve (22) into the adapter (9). Tighten the shutoff valve (22) in the adapter (9) as shown in figure 4-5.

(3) Attach the vent tube (21) to the shutoff valve (22) and tighten the nut.

(4) Connect each hose assembly (2) to the safety valve adapter (9) and tighten.

(5) Connect the diffusion tube nut (8) to the safety valve adapter (9).

(6) Cross the open ends of both hose assemblies (2) and connect the quick-disconnect coupling halves (3) to opposite pipe and cap assemblies (4).

(7) Lace the carrier pack (8, Fig. 4-10) to the frame (10).

4-36. Adjusting Pressure Regulator

a. General. Organizational maintenance personnel are authorized to adjust the pressure regulator. Adjustment is performed upon receipt of an M3 disperser, monthly, and when a pressure regulator has been replaced.

b. Preparation for Adjusting.

(1) Unlace the canvas pack carrier on one side to expose the pressure regulator.

(2) Close the pressure tank valve by turning the valve handle clockwise (Fig. 4-9).

(3) Open the shutoff valve by turning the shutoff valve handle (24, Fig. 4-5) counterclockwise.

(4) Close the shutoff valve by turning the handle (24) clockwise.

(5) Check pressure in pressure tank (para 4-9). The pressure for testing purposes should be a minimum of 2,000 psi.

NOTE

Use T1 talc when checking adjustment of a replaced pressure regulator and also when performing required monthly adjustment of pressure regulator.

(6) Fill the agent tanks with T1 talc.

(7) Obtain a pressure gage from the M27 riot control service kit (TM 3-1040-221-12).

(8) Disconnect the quick-disconnect coupling half (3, Fig. 4-5) from the pipe and cap assembly.

(9) Install the pressure gage between the hose assembly and pipe and cap assembly.

c. Adjusting Procedure.

(1) Perform the operation in b above.

(2) Fingertighten needle valve (1) and needle valve (2) (Fig. 4-5).

NOTE

If there is a needle valve on the side of the pressure regulator, check to see that the needle valve is tight.

NOTE

Needle valve 1 and 2 should not be removed; they are not interchangeable.

(3) Loosen needle valve 1 slowly; four complete turns to allow pressurized air to escape from the dome.

NOTE

Discharge of air is indicated by a hissing sound.

(4) After hissing noise ceases, close needle valve 1.

(5) Open the pressure tank valve slowly. If the gage indicates a rise in pressure, close the pressure tank valve immediately. A rise in pressure indicates that the pressure regulator is defective.

(6) If the pressure regulator is defective, perform the following operations:

(a) Close the pressure tank valve.

(b) Open the shutoff valve to relieve air pressure in the agent section.

(c) Replace the pressure regulator (para 4-32).

(7) If pressure gage indicates no rise in pressure, open needle valve 2 slowly about one half turn. Air will escape at the needle valve.

(8) Open needle 1 very slowly until pressure gage indicates a pressure reading. Immediately close needle valve 1.

(9) Close needle valve 2.

NOTE

The pressure reading on the pressure gage will slowly increase until the pressure in the agent tanks is stabilized.

(10) Check the pressure reading on the pressure gage. It should stabilize between 30 and 50 psi. The pressure regulator setting is 40 ±10 psi.

(11) If pressure gage reading is less than 30 psi, repeat operations (7) to (10) above.

(12) If pressure gage reading is above 50 psi, close the pressure tank valve. Open the shutoff valve to vent pressurized air. Repeat operations (3) to (10) above.

(13) Close the pressure tank valve.

(14) Open the shutoff valve to vent the pressurized air.

(15) Check and test adjustment of pressure regulator (d below).

d. Testing Pressure Regulator After Adjusting.

(1) Close the shutoff valve.

(2) Slowly open the pressure tank valve and check the pressure gage. If the gage indicates a pressure between 30 and 50 psi, the adjustment is correct.

NOTE

If the pressure gage indicates a pressure below 30 psi or above 50 psi, refer to *c* above.

(3) Test fire the disperser. During test firing, the pressure gage reading is acceptable up to 90 psi. If the gage reading exceeds 90 psi, perform the following:

(a) Close the pressure tank valve.
(b) Open the shutoff valve.
(c) Replace the pressure regulator (para 4-32).
(d) Adjust the pressure regulator (*c* above).

4-37. Delivery Pipe Coupling

Organizational maintenance personnel are authorized to replace the delivery pipe coupling.

a. Removal.

(1) Purge the air in the pressure system (para 4-10*a*).

(2) Remove coupling (12, Fig. 4-6) from the delivery pipe (13).

b. Assembly.

(1) Apply anti-seize compound or tape on the delivery pipe threads (12).

(2) Screw the coupling (12) on the delivery pipe threads and tighten.

4-38. Coupling Cap and Cap Holder

Organizational maintenance personnel are authorized to replace the coupling cap and cap holder.

a. Removal.

(1) Remove coupling cap (17, Fig. 4-6) and preformed packing (16).

(2) Remove nut (11) screw (15) and cap holder (14).

b. Installation.

(1) Install cap holder (14) on bracket and attach with screw (15) and nut (11).

(2) Stow coupling cap (17) with preformed packing (16) on cap holder (14).

4-39. Carrier Section

Organizational maintenance personnel are authorized to replace the carrier pack, strap assemblies, and attaching hardware.

a. Upper (Shoulder) Strap Assemblies. Remove and replace shoulder straps (detail A, Fig. 4-10).

b. Carrier Pack. Remove and replace the carrier pack and cotton cords (4, Fig. 4-10). The smooth side of the carrier pack must face the carrier's back.

c. Short and Long strap Assemblies. Remove and replace the short and long strap assemblies (Fig. 4-10).

CHAPTER 5

SHIPMENT, ADMINISTRATIVE STORAGE, AND DESTRUCTION TO PREVENT ENEMY USE

Section I. SHIPMENT AND ADMINISTRATIVE STORAGE

5-1. Shipment

The disperser is shipped and stored in its wood packing chest. Proceed as follows to prepare the disperser for shipment.

a. Make sure that the equipment has been decontaminated (para 4-12 through 4-15).

b. Make sure that all pressure has been relieved. Leave all valves open.

c. Dismantle the equipment into its respective groups.

d. Seal all openings with masking tape.

e. Pack disperser in packing chest.

f. Make sure that the following items are included in the packing chest:

(1) Rubber gloves (two pairs)
(2) Repair parts (Fig. 4-2).
(3) Copy of TM 3-1040-214-12.

g. Secure packing-chest hasps and screws. Strap packing chest with steel strapping, if required.

5-2. Administrative Storage

Store the disperser in the packing chest. Refer to TM 740-90-1 or administrative storage instructions on this equipment.

Section II. DESTRUCTION TO PREVENT ENEMY USE

5-3. General

The M3 disperser must be destroyed or rendered useless when capture by an enemy is imminent. The officer in charge must authorize destruction.

5-4. Destruction

a. Preferred Methods. Explosives and mechanical means, either alone or in combination, are the most effective methods to employ. The vital parts are listed below in order of priority of destruction for each preferred method.

(1) *Explosives*. Tape a one-half pound block of explosive to the top of the pressure regulator. Detonate from a safe distance.

(2) *Mechanical means.*

(a) Bend or crush the gun by using a sledgehammer, rocks, or heavy tools.

(b) Cut the hose by using an ax or an entrenching tool.

(c) Smash the agent tanks and pressure regulator with picks, axes, or heavy rocks.

(d) Smash the carrier frame with heavy tools or rocks.

(e) Cut the carrier pack and the rope lacing.

(f) Remove the pressure tank and dispose of it by burying or submerging it in a stream, pond, or other nearby body of water.

b. Other Methods. If the situation prohibits either of the preferred methods of destruction, use the following methods, either singly or in combination.

(1) *Weapons fire.* Fire on the unit with the heaviest small arms weapons available.

(2) *Scattering or concealment.* Remove all easily accessible parts, such as the pressure tank and valve assembly and the gun group. Scatter them over a wide area, bury them in dirt or sand, or throw them in a stream, pond, or other nearby body of water.

(3) *Burning*. Pack rags, clothing, or canvas between the agent tanks, Saturate with-gasoline, oil, or diesel fuel. Ignite with incendiary grenades. Attach a wire or rope lanyard to the pull ring of the grenade. Trail the lanyard along the ground for a safe distance. Straighten the safety pin on the grenade and fire by pulling the lanyard.

APPENDIX A

REFERENCES

AMCR-385-104	Safety Criteria for Processing, Handling, and Decontamination of Agent CS
SB 3-1040-15	Hose, Fuel, Portable Flame Thrower, M8 Storage Serviceability Standard
TM 3-220	Chemical, Biological, and Radiological (CBR) Decontamination
TM 3-1040-203-12	Operator and Organizational Maintenance: Compressor, Reciprocating, Power-Driven, 7 cfm, M1A1
TM 3-1040-210-12	Operator and Organizational Maintenance Manual: Compressor, Reciprocating, Power-Driven, Flamethrower, 3 1/2 cfm, AN-M4
TM 3-1040-214-20P	Organizational Maintenance Repair Parts and Special Tool Lists: Disperser, Riot Control Agent, Portable, M3
TM 3-1040-221-12	Operator's and Organizational Maintenance Manual: Service Kit, Portable Flame Thrower-Riot Control Agent Disperser, M27
TM 3-1040-224-12	Operator's and Organizational Maintenance Manual: Compressor, Reciprocating, Power-Driven, Flame Thrower, 3 1/2 cfm, AN-M4/B (Stewart-Warner Model 3260101-4)
TM 3-1040-219-12	Operator's and Organizational Maintenance Manual: Service Unit, Flame Thrower Truck-Mounted M4A2(D) and service unit, flame thrower, truck mounted M4A2(IR) (Davey) FSN 1040-740-11-2 (Ingersoll-Rand) FSN 1040-740-1150
TM 3-1040-244-12	Operator's and Organizational Maintenance Manual: Compressor, Reciprocating Power-Driven, Flamethrower, 3 1/2 cfm, AN-M4C
TM 3-1040-263-12	Operator's and Organizational Maintenance Manual: Compressor, Reciprocating, Power-Driven, Flamethrower, 3 1/2 CFM, AN-M4D
TM 3-1040-251-15	Operator's, Organizational, Direct Support, General Support, and Depot Maintenance Manual: Test Set, Flamethrower-Riot Control Agent Disperser, Hydrostatic-and-Volumetric, 6,000 psi, M5
TM 38-750	The Army Maintenance Management System (TAMMS)
TM 740-90-1	Administrative Storage of Equipment

APPENDIX B

BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST

Section I. INTRODUCTION

1. Scope

This appendix lists basic issue items and items troop installed or authorized required by the crew/operator for operation of the M3 disperser.

2. General

This Basic Issue Items and Items Troop Installed or Authorized List is divided into the following sections:

a. Basic Issue Items List-Section II. Not applicable.

b. Items Troop Installed or Authorized List-Section III. A list, in alphabetical sequence, of items which, at the discretion of the unit commander, may accompany the end item, but are not subject to be turned in with the end item.

3. Explanation of Columns

The following provides an explanation of columns found in the tabular listings.

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) *Source code.* Indicates the source for the listed items. Source codes are:

Code	*Explanation*
P----------	Repair parts, special tools, and test equipment supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
P2 --------	Repair parts, special tools, and test equipment which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
P9 --------	Assigned to items which are NSA design controlled: unique repair parts, special tools, test, measuring, and diagnostic equipment, which are stocked and supplied by the Army COMSEC Logistic System and which are not subject to the provisions of AR 380-41.
P10 ------	Assigned to items which are NSA design controlled: special tools, test, measuring, and diagnostic equipment for COMSEC, support, which are accountable under the provisions of AR 380-41, and which are stocked and supplied by the Army COMSEC Logistic System.
M ---------	Repair parts, special tools, and test equipment which are not procured or stocked, as such, in the supply system but are to be manufactured at indicated maintenance levels.
A----------	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.
X----------	Parts and assemblies that are not procured or stocked because the failure rate is normally below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1 --------	Repair parts which are not procured or stocked. The requirement for such items will be filled by the next higher assembly or component.
X2 --------	Repair parts, special tools, and test equipment which are not stocked and have no foreseen mortality. The indicated maintenance category requiring such repair parts will attempt to obtain the parts through cannibalization or salvage. The item may be requisitioned, with exception data, from the end item manager for immediate use.
G ---------	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DS and GS level. These assemblies will not be stocked above the DS and GS level or returned to depot supply level.

NOTE

Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XI and aircraft support items as restricted by AR 700-42.

(2) *Maintenance code.* Indicates the lowest category of maintenance authorized to install the repair part and/or use the special tool or test equipment for each application. Capabilities of higher maintenance categories are considered equal or better. Maintenance codes are:

Code	*Explanation*
C	Crew/operator maintenance
O	Organizational maintenance

(3) *Recoverability code.* Indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are nonrecoverable. Recoverability codes are:

Code	*Explanation*
R	Applied to repair parts, (assemblies and components, special tools, and test equipment which are considered economically reparable at direct and general support maintenance levels. When the item is no longer economically reparable, it is normally disposed of at the GS level. When supply considerations dictate, some of these repair parts may be listed for automatic return to supply for depot level repair as set forth in AR 710-51. When so listed, they will be replaced by supply on an exchange basis.
S	Repair parts, special tools, test equipment, and assemblies which are economically reparable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically reparable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T	Higher dollar value recoverable repair parts, special tools, and test equipment which are subject to special handling and are issued on an exchange basis. Such items will be repaired or overhauled at depot maintenance activities only. No repair may be accomplished at lower levels.
U	Repair parts, special tools, and test equipment specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value, or reusable casings or castings.

b. Federal Stock Number. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. Indicates the Federal item name and a minimum description required to identify the item. The last line indicates reference number followed by the applicable Federal Supply Code for Manufacturer (FSCM) in parentheses. The FSCM is used as an element in item identification to designate manufacturer or distributor or Government agency, etc., and is identified in SB 708-42.

d. Unit of Measure (U/M). Indicates the standard or basic quantity by which the listed item is used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation, e.g., ea, in., pr, etc., and is the basis used to indicate quantities and allowances in subsequent columns. When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

e. Quantity Authorized. Indicates the quantity of the item authorized to be used with the equipment.

4. Abbreviations

Abbreviations	*Explanation*
syn	synthetic

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SMR Code	(2) Federal stock number	(3) Description Reference Number & Mfg Code — Usable On Code	(4) Unit of meas	(5) Qty auth
P-C-	8415-266-8677	GLOVES, RUBBER syn, heavy wt, 14 in. lg, acid and alkali resistant, rolled edge cuff, black, size 10 ZZG381 (81348)	pr	2

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General

The maintenance allocation chart (sec. II) lists the authorized maintenance functions assigned the maintenance categories for maintenance of the M3 disperser. This chart is to be used by all levels of maintenance to insure complete support of the equipment.

C-2. Maintenance Functions

Maintenance functions authorized are limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/ or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean, preserve, drain, paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, module (component or assembly) in a manner to allow the proper functioning of an equipment/system.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module/component/assembly, end item or system.

j. Overhaul. That maintenance effort (service/ action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., DMWR) in pertinent technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment/components.

l. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

C-3. Explanation of Format

Purpose and use of the format are as follows:

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to match components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Functional Group. Column 2 lists the next higher assembly group and the item names 'of components, assemblies, subassemblies, and modules within the group for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the eleven maintenance functions defined in C-2 above. Each maintenance function required for an item shall be specified by the symbol among those listed in d below which indicates the level responsible for the required maintenance. Under this symbol, there shall be listed an appropriate work measurement time value as indicated in *e* below.

d. Use of Symbols. The following symbols are used to prescribe work function responsibility:

Symbol	*Explanation*
C	Operator/crew maintenance
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

e. Column 4, Tools and Equipment. Column 4 lists those peculiar tools and test, measuring, diagnostic, and support equipment used in performing the authorized maintenance functions.

f. Column 5, Remarks. Self-explanatory.

MAINTENANCE ALLOCATION CHART FOR
DISPERSER, RIOT CONTROL AGENT, PORTABLE, M3

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
Group Number	FUNCTIONAL GROUP	Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild	TOOLS AND EQUIPMENT	REMARKS
	M3 DISPERSER													
100	GUN, PORTABLE	C	--	O	O	--	--	--	O	O	--	--		
200	HOSE ASSEMBLY, FUEL	C	--	O	--	--	--	--	O	--	--	--		Painting and marking.
300	TANK ASSEMBLY, AGENT.	C	H	O	--	O	--	--	O	F	H	--		Test IAW AR 700-68.
400	PRESSURE REGULATOR AND SAFETY VALVE.	O	H	--	O	--	--	--	O	F	H	--		
500	HOSE, SHUTOFF VALVE, AND ADAPTER.	C	--	O	--	--	--	--	O	F	--	--		
600	TANK AND VALVE PRESSURE ASSEMBLY.	C	H	O	--	--	--	--	O	H	--	--		Test IAW AR 700-68.
700	FRAME CARRIER ASSEMBLY.	C	--	O	--	--	--	--	H	O	--	--		

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