

TECHNICAL MANUAL
DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND
SPECIAL TOOLS LISTS)
DISPERSER, RIOT CONTROL

AGENT, HELICOPTER OR

VEHICLE MOUNTED, M5

(NSN 1040-00-805-3019)

HEADQUARTERS, DEPARTMENT OF THE ARMY

MAY 1977

WARNINGS

Be sure that the disperser has been emptied and decontaminated before performing any maintenance functions. Check to see that all valves are closed and that agent tank pressure has been relieved.

Handle charged compressed gas cylinders carefully; damage to the cylinders could result in an explosion.

The trigger spring of the M9 gun is under tension. Be very careful when removing or installing the spring. It may fly out of the valve body, causing injury to personnel.

TECHNICAL MANUAL }
No. 3-1040-220-34&P }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 6 May 1977

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

DISPERSER, RIOT CONTROL AGENT, HELICOPTER

OR VEHICLE MOUNTED, M5

(NSN 1040-00-805-3019)

Current as of 7February 1977

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*This manual supersedes TM 3-1040-220-35, :3 June 1963 and TM 3-1040-220-34P, 10 Aug 71, including all changes.

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CHAPTER 1

INTRODUCTION

Section I. General**1-1. Scope**

This manual is published for the use of direct and general support maintenance personnel. It contains instructions for the performance of maintenance services on the M5 helicopter or vehicle mounted riot control agent disperser. This manual is intended to be used in conjunction with TM 3-1040220-12&P. Hereinafter, this equipment will be referred to as disperser.

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. Use DD Form 6 (Report of Packaging and

Handling Deficiencies) to report damage or improper shipment of material.

- c. Refer to TM 740-90-1, Administrative Storage of Equipment, for instructions for storage of the disperser.
- d. Refer to TM 43-0002-31, TM 9-1300-200, and FM 5-25 for instructions for destruction of the disperser.
- e. Refer to TB 43-180, List of Calibration Requirements for the Maintenance of Army Materiel, for information on the gages for the disperser.
- f. Refer to TM 43-0139, Painting instructions for Field Use, for instructions for painting of the disperser

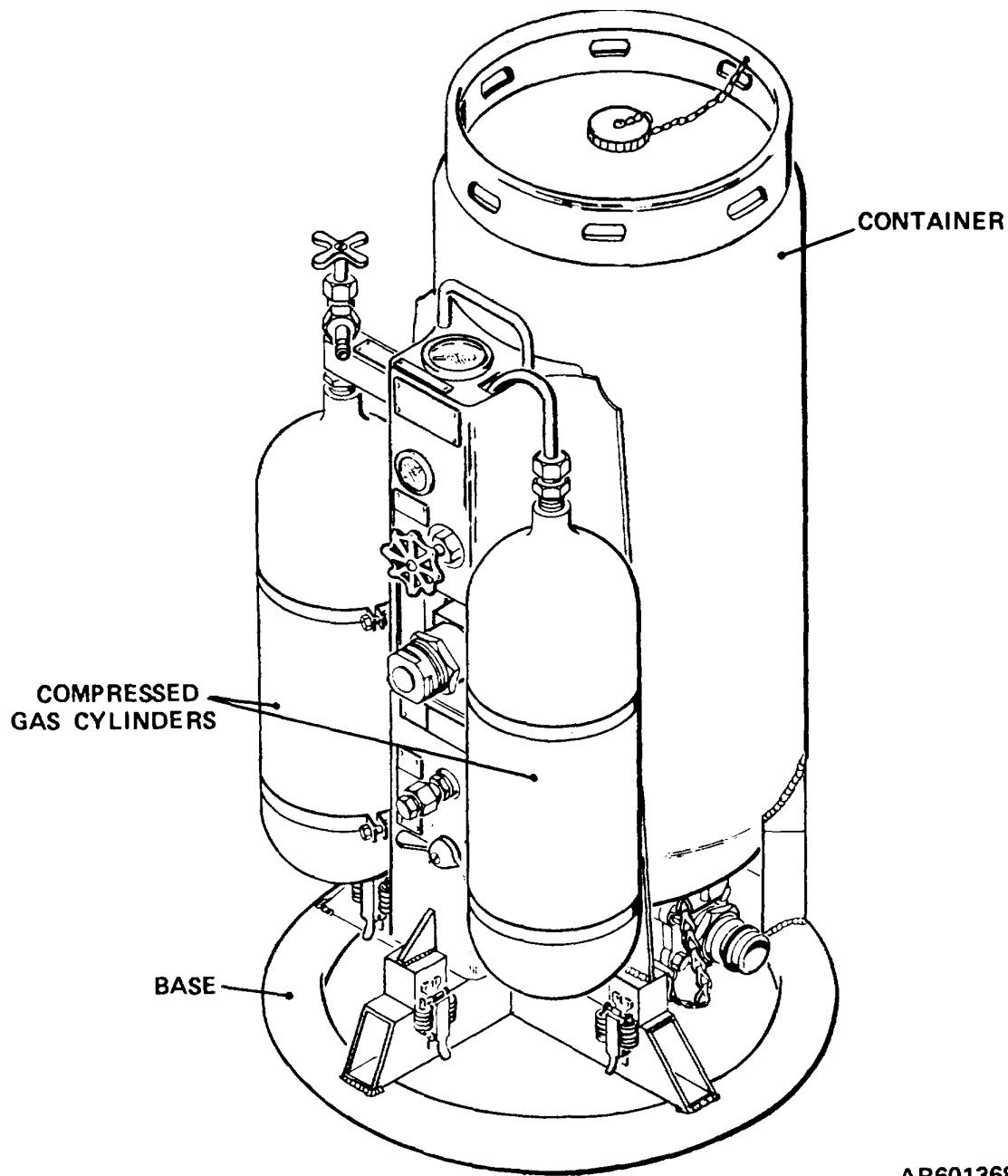
Section II. DESCRIPTION AND DATA**1-3. Description**

- a. The M5 helicopter or vehicle-mounted riot control agent disperser (fig. 1-1) is used to disperse powdered riot control agent into the atmosphere from either a low-flying helicopter or a moving ground vehicle.

- b. Descriptions of the disperser systems and Handling Deficiencies) to report damage or improper shipment of materiel.

their operation are provided in TM 3-1040-22012&P.

- c. Physical descriptions of the major units authorized to be maintained by direct and general support maintenance personnel are contained in this manual.



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Figure 1-1. M5 helicopter or vehicle-mounted riot control agent disperser.

1-4. Tabulated Data

(All data are approximate.)

a. General.

	Crated	Uncrated
Length	2.50 ft	2 ft
Width	2.50 ft	2 ft
Depth	5.00 ft	4 ft
Weight	270 lb	160 lb (empty)
Cube	31.25 cu ft	

b. Operating Pressures

High pressure line	200 to 2,000 psi
Low pressure line	45 to 55 psi

c. Temperature Ranges.

Operating	-25°F. to +115°F. (-31.7°C. to +46°C.)
Storage	-65°F. to +165°F. (-53.9°C. to +73.9°C.)

d. Performance.

Time to empty container (continuous firing)	2 min.
Range in still air, using M9 gun	up to 40 ft
Helicopter minimum disperser elevation	75 to 100 ft

e. Classifications and Ratings.

Pressure regulator:	
Adjustable outlet operating pressure	45 psi to 55 psi
Operating inlet pressure.	200 psi to 2,250 psi
Inlet proof pressure	3,750 psi
Lockout pressure	60 psi max. At 45 psi
Air flow rate	0 to 50 scfm
Block connector (manifold):	
Test pressure	3,750 psi
Safety plug: rupture	2,600 psi to 3,000 psi at 70°F. ±10°F.
disk and fusible plug ruptures as a unit.	
Fusible metal melting point	207°F. to 2200F. (97°C. to 104°C.)
Pressure relief valve:	
Automatic release setting.	80 psi ± 10%
Capacity	30 cfm (free air) at 88 psi
Safety head rupture pressure.	110 psi +20 or -10 psi at 72IF. (22°C.)
Air pressure cylinder (each):	
Working pressure	2,000 psi
Test pressure	3,750 psi
Weight	27 lb
High pressure gage:	
Pressure range of scale.	0 to 3,000 psi
Scale divisions	Every 500 psi
Accuracy, full scale	2 %
Type	Bourdon tube
Low pressure gage:	
Pressure range of scale	0 to 200 psi
Scale divisions	Every 10 psi
Accuracy, full scale	2%
Type	Bourdon tube
High pressure valve:	
Working pressure	2, 000 psi
Test pressure	3, 750 psi
Low pressure valve:	
Test pressure	50 psi
Allowable leakage at test pressure:	
Internal	1 bubble every 4 sec. max.

External	Zero
Charging needle valve:	
Working pressure	0 to 3, 000 psi
Minimum orifice	0 170 in. dia.
Ball valve:	
Working pressure	50 psi
Test pressure	100 psi
Check valve:	
Working pressure	Up to 125 psi max.
Proof pressure	160 psi
Opening pressure	2 psi ± 1 psi
Pressure drop	2 psi max at 50 scfm
Allowable leakage	Zero
Corrugated hose:	
Working pressure	40 psi
Burst pressure	120 psi
f. Capacities.	
Container tank-	
Riot control agent (approx.):	
CS-1	108 lb
Training agent (approx.):	
T1 talc	137 lb
Air cylinders:	
Single cylinder	730 cu in nom
Both cylinders together	1,460 cu in nom

g. Recommended Wrench Torque for Steel Nuts and Bolts.

National fine		National coarse	
Thread size	Torque {pound feet}	Thread size	Torque {pound feet}
8-32	1 to 2	8-32	1 to 2
10-32	1 to 2	10-24	1 to 2
1/4-28	5 to 8	1/4-20	4 to 6
5/16-24	10 to 15	5/16-18	8 to 12
3/8-24	18 to 27	3/8-16	15 to 22
7/16-20	28 to 42	7/16-14	24 to 36
1/2-20	45 to 68	1/2-13	37 to 56
9/16-18	64 to 97	9/16-12	56 to 83
5/9-18	98 to 138	5/8-11	75 to 112
3/4-16	158 to 242	3/4-10	137 to 200
7/8-14	258 to 384	7/8-9	216 to 316
1-14	400 to 600	1-8	316 to 484

1-5. Expendable Supplies and Materials List

Table 1-1 lists expendable supplies and materials you will need to operate and maintain the disperser. These items are authorized in accordance with the provisions of Common Table of Allowances, CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts and Heraldic Items).

Table 1-1. Expendable Supplies and Materials List

Nomenclature	Use	National Stock Number
Enamel, Olive drab, NO. 34087, Fed Spec TT-E-527	External surfaces	8010-00-297-0560
Teflon antiseize tape. Use on pipe threads		
Antiseize compound		8030-00-889-3535
Gloves, Rubber, Mens, Synthetic	To protect hands	8030-00-087-8630'
Talc, Technical, T1	Training purposes	8415-00-266-8677
Talc, Technical, T3	Training purposes	6810-00-543- 7612
		6810-00-142-9849
)5 lbs. per Jeepo)
Detergent, water soluble (MIL-D-16791), 1 gallon container (81349)	Cleaning of parts	7930-00-282-9699
Dry Cleaning Solvent (Stoddard solvent) (P-D-680, type 1) 1 gallon container	To clean parts	6850-00-281-1985
Sealing Compound	To sea] connectors	8030-00-209-8005
Riot Control Agent, CSI	To fill agent container	1365-00-926-1914
General purpose detergent	To decontaminate parts	7930-00-46, -5223
Wetting agent	To decontaminate parts	6850-00-456-1784
Monoethanolamine (MEA) IMIL-E-50011A)	To decontaminate parts	6810-00-270-6207
Graphite		9620-00-233-6712

CHAPTER 2

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. PRESSURE ASSEMBLY

WARNING

Be sure that the disperser has been emptied and decontaminated before performing any maintenance functions. Check to see that all valves are closed and that agent tank pressure has been relieved

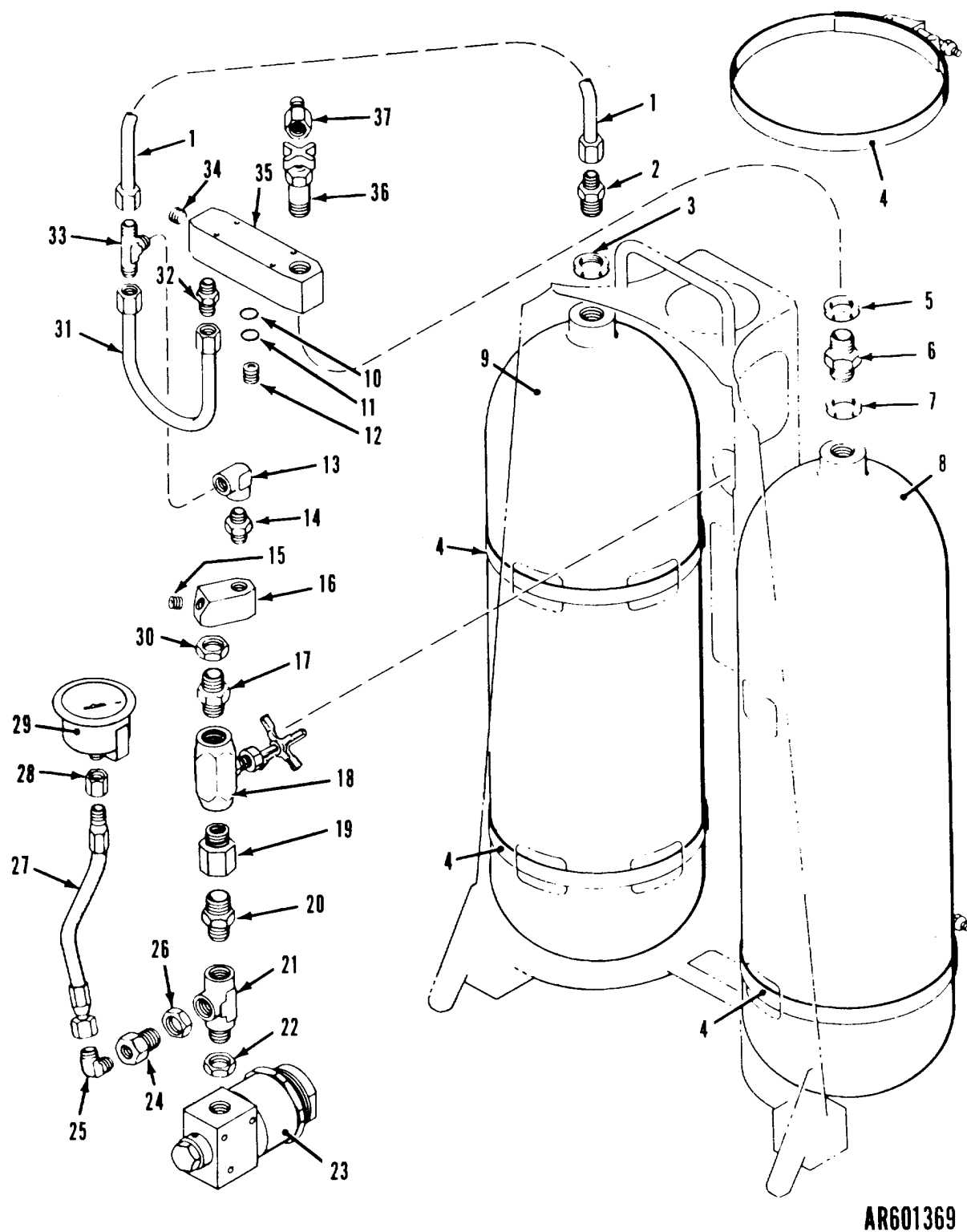
2-1. Plumbing Hardware

a. Description and Function. Standard plumbing hardware is used throughout the disperser to interconnect the various operating components.

b. Maintenance. Direct Support maintenance personnel are authorized to replace defective plumbing hardware.

(1) Removal. In general, following the instructions for the removal of the nearest operating component will result in easy removal of the various items of plumbing hardware.

(2) Installation. To install an item of plumbing hardware, the reverse of the removal procedures should be followed. For ease of installation, refer to the installation procedures for the nearest operating component. When installing threaded fittings, make certain to coat the threads of the part with sealing compound (Table 1-1) before making the connection.



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Figure 2-1. High pressure plumbing components.

Legend for fig. 2-1:

- 1 Metal tube assembly
- 2 Adapter
- 3 Pipe fitting seal (with teflon insert)
- 4 Hose clamp
- 5 Pipe fitting seal (with teflon insert)
- 6 Nipple
- 7 Pipe fitting seal (with teflon insert)
- 8 Compressed gas cylinder
- 9 Compressed gas cylinder
- 10 Dead soft copper gasket
- 11 Rupture disk
- 12 Safety plug
- 13 Elbow
- 14 Nipple
- 15 Pipe plug
- 16 Connector block
- 17 Nipple
- 18 Globe valve (High pressure control)
- 19 Pipe to pipe extension fitting

- 20 Nipple
- 21 Pipe tee
- 22 Pipe fitting seal (with teflon insert)
- 23 Pressure regulator
- 24 Bushing
- 25 Elbow
- 26 Pipe fitting seal (with teflon insert)
- 27 Nonmetallic hose assembly
- 28 Pipe reducer
- 29 Dial indicating pressure gage
- 30 Pipe fitting seal (with teflon insert)
- 31 Metal tube assembly
- 32 Adapter
- 33 Pipe tee
- 34 Pipe plug
- 35 Connector block
- 36. Angle valve (charging valve)
- 37 Quick disconnect coupling half

2-2. Compressed Gas Cylinders

a. Description and Function. The disperser is equipped with two compressed gas cylinders (8 and 9, fig. 2-1), which store and supply pressurized air for the operation of the disperser. Each cylinder is a high-tensile-strength cylindrical steel container mounted on the pressure group support section and secured by two removable band-type hose clamps (4).

b. Maintenance. Direct support maintenance personnel are authorized to replace the compressed gas cylinders.

(1) Removal.

WARNING

Handle charged compressed gas cylinders carefully damage to the cylinders could result in an explosion.

(a) Close the globe valve (18) that is the high pressure control.

(b) Slowly open the angle valve (charging valve) (36) and allow cylinder pressure to bleed off.

(c) After all pressure is relieved, use a wrench to disconnect the metal tube assembly (1) flare nut at the adapter (2) end.

(d) Remove the adapter (2) from the cylinder (9).

(e) Use a screwdriver and remove two hose clamps (4) that fasten the cylinder (9) to the pressure group support section. Remove the cylinder (9).

(f) Disconnect the metal tube assembly (31) flare nut from the adapter (32). Using a wrench, remove the adapter (32) from connector block (35).

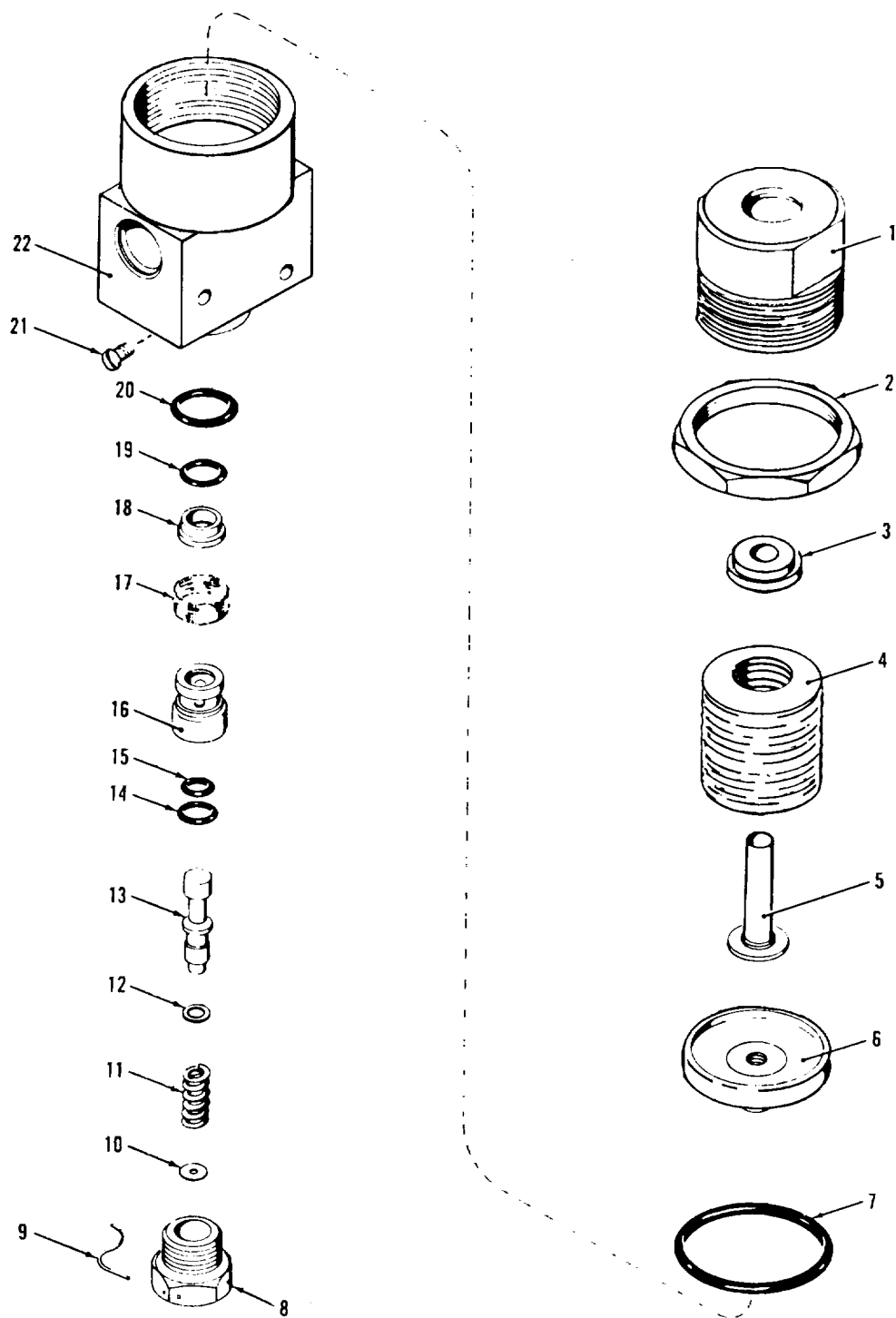
(g) Using a screw driver, remove the hose clamps (4) that fasten the cylinder (8) to the pressure group support section.

(h) Remove the cylinder (8), connector block (35), and angle valve (36) as a unit from the pressure group support section. Remove the connector block (35), angle valve (36), and adapter (6) from the cylinder (8).

(2) Installation.

(a) Coat all threaded connections with pipe sealing compound (table 1-1).

(b) Installation of both cylinders (8 and 9) is the reverse of removal procedure (1) above.



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Figure 2-2. Pressure regulator.

Legend for fig 2-2:

- 1 Adjustment nut
- 2 Lock nut
- 3 Spring guide
- 4 Spring cartridge
- 5 Spring guide
- 6 Coated piston
- 7 Piston preformed packing
- 8 End nut
- 9 Lock wire
- 10 Washer
- 11 Spring

- 12 Washer
- 13 Poppet valve
- 14 Retainer seat preformed packing
- 15 Poppet preformed packing
- 16 Seat retainer
- 17 Retainer screen
- 18 Poppet seat
- 19 Seat preformed packing
- 20 Retainer preformed packing
- 21 Lock wire screw
- 22 Regulator body

2-3. Pressure Regulator

a. Description and Function. The pressure regulator (23, fig. 2-1) is a spring-controlled, piston-type regulating device. The main operating components of the regulator are a spring cartridge (4, fig. 2-2), an adjustment nut (1), a coated piston (6), a poppet valve (13), and a poppet return spring (11). High-pressure air is connected to the inlet of the regulator and the outlet is connected to the low-pressure system in which the air pressure is to be regulated. Low-pressure air in the outlet passes through an internal port to the piston chamber. This pressurized air pushes against the coated piston (6), which in turn presses against the spring cartridge (4). Depending upon the tension placed on the spring cartridge (4) by the adjustment nut (1), the piston will move either against or away from the spring. If the pressure in the outlet is insufficient to overcome the spring tension, the spring cartridge (4) forces the coated piston (6) against the poppet valve (13). The poppet valve (13) then slides along its guide channel and opens a port which connects the inlet to the outlet. High-pressure air then passes through to the low-pressure system and when this pressure builds up to the proper value, the piston (6) is pushed against the spring cartridge (4). As the piston (6) moves, the poppet return spring (11) forces the poppet valve (13) to follow the piston (6).

until the port from the inlet to the outlet is closed and further passage of air is blocked off.

b. Maintenance. Direct support maintenance personnel are authorized to replace the pressure regulator.

(1) Removal.

(a) Open the globe valve (high pressure control) (18, Fig. 2-1).

(b) Slowly open the angle valve (charging valve) (36) and allow pressure in the compressed gas cylinders (8 and 9) to bleed off.

(c) Operate manual lever on safety relief valve (40, fig. 2-3) to relieve low-pressure system pressure.

(d) Open lever plug valve (25) to allow the low pressure plumbing components to bleed back through to the safety relief valve (40).

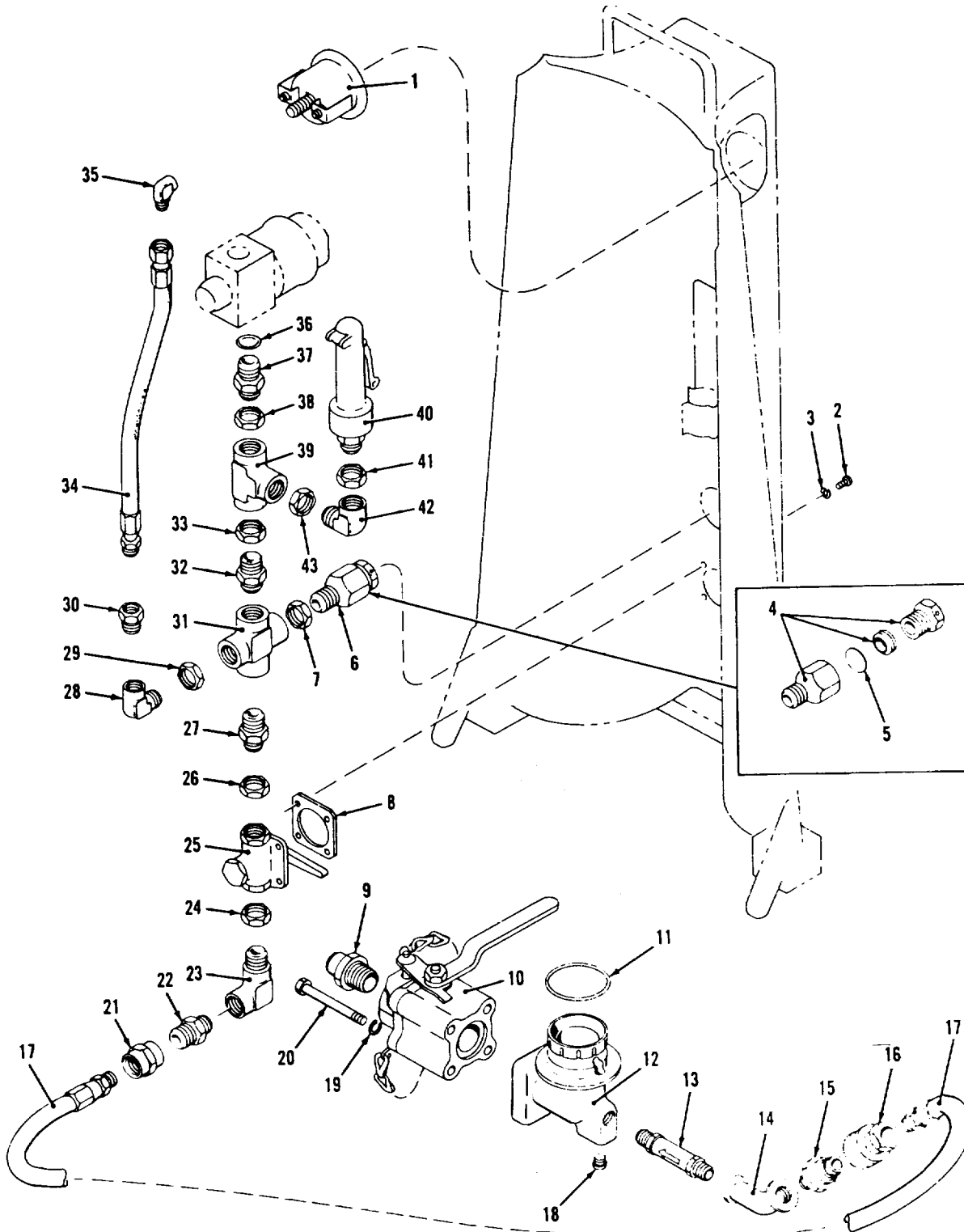
(e) Disconnect the nonmetallic hose assembly (17) and quick-disconnect coupling half (16) from the quick-disconnect coupling half (15).

(f) Release luggage catches from catch strikes that secure pressure group to base group.

Remove pressure group as a unit.

(g) Disconnect flare nuts of two tube assemblies (1 and 31, fig. 2-1) from pipe tee (33) using a wrench.

(h) Using a wrench, disconnect the dial indicating pressure gage (29) and the nonmetallic hose assembly (27 at the swivel connector end of the hose or at elbow (25).



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Figure 2-3. Low pressure plumbing components.

Legend for fig. 2-3:

1 Dial indicating pressure gage
 2 Screw
 3 Lock washer
 4 Screw type safety head
 5 Rupture disk
 6 Safety head assembly
 7 Pipe fitting seal (with teflon insert)
 8 Plate spacer
 9 Quick disconnect coupling half
 10 Ball valve
 11 Preformed packing
 12 Nozzle
 13 Check valve
 14 45° elbow
 15 Quick disconnect coupling half
 16 Quick disconnect coupling half
 17 Nonmetallic hose assembly
 18 Pipe plug
 19 Lock washer
 20 Bolt
 21 Coupling
 22 Reducer

23 Elbow
 24 Pipe fitting seal with teflon insert)
 25 Lever plug valve
 26 Pipe fitting seal (with teflon insert)
 27 Reducer
 28 Elbow
 29 Pipefitting seal (with teflon insert)
 30 Bushing
 31 Cross
 32 Nipple
 33 Pipe fitting seal (with teflon insert)
 34 Nonmetallic hose assembly
 35 Elbow
 36 Preformed packing
 37 Adapter
 38 Pipe fitting seal (with teflon insert)
 39 Pipe tee
 40 Safety relief valve
 41 Pipe fitting seal (with teflon insert)
 42 Elbow
 43 Pipe fitting seal (with teflon insert)

(i) Disconnect the nonmetallic hose assembly (34, fig. 2-3) swivel connector from the elbow (35) using a wrench.

(j) Using a wrench, loosen the flare nut of the metal tube assembly (31, fig. 2-1) at connector block (35).

(k) Swing the metal tube assembly (31) to the rear to allow clearance for removal of plumbing as a unit.

(1) Using a screwdriver, remove screw from the handle of the globe valve (18), and remove handle.

(m) Using a screwdriver, remove screw from handle of the lever plug valve (25, fig. 2-3) and remove handle.

(n) Using a screwdriver, remove four screws (2) and lock washers (3) securing the lever plug valve to the support assembly.

(o) Remove plumbing from support assembly as a unit.

(p) Loosen pipe fitting seal (22, fig. 2-1) on pipe tee (21) of plumbing with a wrench.

(q) Using a wrench, unscrew plumbing from pressure regulator (23).

(r) With a wrench, unscrew and remove pressure regulator (23) from plumbing being careful not to damage preformed packing (36, fig. 2-3) on adapter (37).

(2) Installation.

(a) Coat threads of adapter (37) on plumbing with sealing compound (Table 1-1).

(b) Place preformed packing (36) over adapter (37).

(c) Screw pressure regulator (23, fig. 2-1) outlet port onto plumbing until handtight.

(d) Using wrenches, tighten connection,

being careful to position pressure regulator (23) properly for later installation in the support assembly.

(e) Coat threads of plumbing pipe tee (21) with sealing compound (Table 1-1).

(f) Screw pipe fitting seal (22, fig. 2-1) on pipe tee (21) loosely.

(g) Screw plumbing into pressure regulator (23) inlet port until hand-tight, making certain to position components properly for later installation in support assembly.

(h) Tighten connections using wrenches.

(i) Remove screw securing handle to globe valve (13).

(j) Remove handle from valve.

(k) Install plate spacer (8, fig. 2-3) over valve stem.

(l) Insert assembled plumbing into back of support assembly and properly position.

(m) Install four screws (2) and lockwashers (3) to secure lever plug valve (25) and plumbing to support assembly. Make certain holes in plate spacer (8) are properly aligned.

(n) Install handle on lever plug valve (25) and secure with screw.

(o) Install handle on globe valve (18), fig. 2-1 and secure with screw.

(p) Coat threads of pipe tee (33) with sealing compound (Table 1-1).

(q) Remove metal tube assembly (31, fig. 2-1) from adapter (32) and coat threads with sealing compound (Table 1-1).

(r) Screw metal tube assembly (31, fig. 2-1) back on adapter (32) and position other end of tube for later connection to pipe tee (33). Tighten to fingertightness.

(s) Using a wrench, tighten flare nut of metal tube assembly (31) at adapter (32).

(t) Screw flare nut on pipe tee (33) until fingertight.

(u) Tighten flare nut with wrench.

(v) Screw flare nut of metal tube assembly (1) on pipe tee (33) until fingertight.

(w) Tighten connection with wrench.

(x) Connect nonmetallic hose assembly (17, fig. 2-3) to quick-disconnect coupling half (16).

(y) Reconnect nonmetallic hose assembly (34) swivel connector to elbow (35) and tighten with wrench.

(z) Reconnect nonmetallic hose assembly (27, fig. 2-1) at swivel connector and tighten with wrench.

2-4. Safety Head Assembly

a. Description and Function. The safety head assembly (6, fig. 2-3) is a pressure relieving safety device used to prevent a possible pressure explosion of the disperser. It is mounted in a cross (31) and protrudes through the control panel. In the event of a malfunction of the pressure regulator (23, fig. 2-1) and failure of the safety relief valve (40, fig. 2-3), excessive pressure could build up in the plumbing components. Should this happen, rupture disk (5) located in the safety head assembly (6) will rupture and permits the air to escape to the atmosphere.

b. Maintenance. Direct support maintenance personnel are authorized to replace the safety head assembly (6).

(1) Removal

(a) Close all valve.

(b) Relieve pressure by manually operating the lever of the safety relief valve (40).

(c) Loosen fitting (7) from the front of the control panel using an open end wrench.

(d) Place an open end wrench on safety head assembly (6), and loosen and remove safety head and pipe fitting (7).

(e) Remove pipe fitting seal (7) from safety head assembly (6) with fingers.

(2) Installation.

(a) Coat threads of safety head assembly (6) with sealing compound (Table 1-1).

(b) Screw pipe fitting seal (7) onto safety head assembly (6) loosely.

(c) Screw safety head assembly (6) into cross (31) until fingertight.

(d) Tighten pipe fitting seal (7) with open end wrench.

2-5. Globe Valve

a. Description and Function. The globe valve (18, fig. 2-1) is a needle type valve. This globe valve is used to control the flow of pressurized air

from the compressed gas cylinders (8 and 9) to the dial indicating pressure gage (29) and the pressure regulator (23). Turning the valve handle clockwise closes the valve, and turning the handle counterclockwise opens the valve.

b. Maintenance. Direct support maintenance personnel are authorized to replace the pipe to pipe extension fitting and the dial indicating pressure valve.

(1) Removal.

(a) Follow steps (a) through (o) of removal procedure for the pressure regulator in paragraph 2-3b(l).

(b) Using a wrench, remove nipples (14 and 17, fig. 2-1), connector block (16), elbow (13) pipe tee (33), and pipe fitting seal (30) from the globe valve (18) as a unit.

(c) Using a wrench, remove the globe valve (18) from plumbing at pipe to pipe extension fitting (19).

(d) Reinstall the valve handle on the globe valve and secure it in place with screw, using a screwdriver.

(2) Installation.

(a) Coat threads of nipple (20) with sealing compound (Table 1-1) and screw into pipe extension fitting (19).

(b) Screw globe valve (18, fig. 2-1) on nipple (20) and tighten with wrench. Position valve properly for later installation in support assembly.

(c) Coat threads of nipple (17) with sealing compound (Table 1-1) and screw it into plumbing.

(d) Screw nipple (17) into the globe valve (18) as a unit and tighten with a wrench. Make certain to properly position plumbing for later installation in the support assembly.

(e) Reinstall assembled plumbing in support assembly by following steps (i) through (z) for pressure regulator in paragraph 2-3b(2).

2-6. Lever Plug Valve

a. Description and Function. The lever plug valve (25, fig. 2-3) is a two-way plug type valve mounted on the control panel. The lever plug valve controls the flow of regulated air pressure from the pressure regulator. Turning the valve handle clockwise opens the lever plug valve, and turning the handle counterclockwise closes the lever plug valve.

b. Maintenance. Direct support maintenance personnel are authorized to replace the lever plug valve.

(1) Removal.

(a) Follow steps (a) through (o) of removal procedure for the pressure regulator in paragraph 2-3(1).

(b) Using a wrench, loosen pipe fitting seal

(26) on reducer (27).

(c) Using a wrench, unscrew lever plug valve (25) and plumbing as a unit.

(d) Using a wrench, loosen pipe fitting seal (24) and unscrew lever plug valve (25) from plumbing.

(e) Install handle on lever plug valve (25) and secure handle with screw, using a screwdriver.

(2) Installation.

(a) Coat plumbing elbow (23) threads with sealing compound (Table 1-1).

(b) Screw pipe fitting seal (24, fig. 2-3) on elbow (23) and leave loose.

(c) Screw lever plug valve (25) on elbow (23) until handtight, and position the valve and plumbing for later installation in the support assembly.

(d) Tighten pipe fitting seal (24) with a wrench.

(e) Coat reducer (27) threads with sealing compound (Table 1-1).

(f) Screw pipe fitting seal (26, fig. 2-3) on reducer (27) and leave loose.

(g) Screw lever plug valve (25) and plumbing on reducer (27) until handtight. Position assembled components for later installation in the support assembly.

(h) Tighten pipe fitting seal (26) with a wrench.

(i) Remove the screw securing the handle to the lever plug valve (25), and remove the handle.

(j) Follow steps (i) through (z) of installation procedure for the pressure regulator in paragraph 2-3b(2).

2-7. Angle Valve (Charging Valve)

a. Description and Function. The angle valve (charging valve) (36, fig. 2-1) is an angle-type needle valve mounted in the connector block (35). The valve is used during charging of the compressed gas cylinders (8 and 9) to connect the compressed gas cylinders to an external air compressor. Turning the valve handle counterclockwise opens the valve, and turning the handle clockwise closes the valve.

b. Maintenance. Direct support maintenance personnel are authorized to replace the angle valve.

(1) Removal.

(a) Close the globe valve (18).

(b) Slowly open the angle valve (36) and allow cylinder pressure to bleed off.

(c) Remove the angle valve (36) from the connector block (35).

(d) Remove plug (37) from the angle valve (36).

(e) Replace the angle valve (36) with a new angle valve.

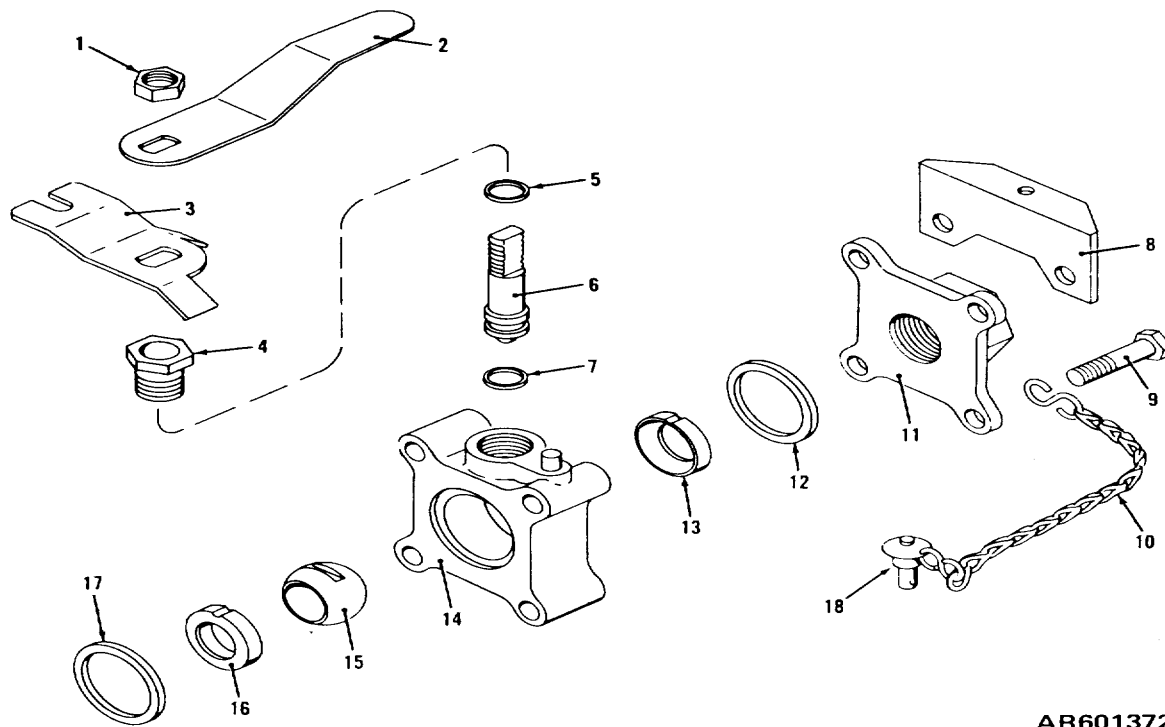
(2) Installation.

(a) Coat both sets of threads on the angle valve (36) with sealing compound (Table 1-1).

(b) Screw the quick disconnect coupling half (37) onto threads of valve, and tighten.

(c) Screw valve (36) into connector block (35) and tighten. Position the valve for proper operating angle.

(d) Close the angle valve.



AR601372

- 1 Nut
- 2 Handle
- 3 Lock stop plate
- 4 Locknut
- 5 Thrust washer
- 6 Valve stem
- 7 Stem seal
- 8 Lock plate
- 9 Bolt

- 10 Chain and Slink
- 11. Flange
- 12 Body seal
- 13 Seat ring
- 14 Valve body
- 15 Ball
- 16 Seat ring
- 17 Body seal
- 18 Quick-release pin

Figure 2-4. Ball valve.

2-8. Ball Valve

a. Description and Function. The ball valve fig. 2-4 is a lever-actuated valve used to control the flow of agent under pressure from the agent tank. The valve is closed when the handle (2) is turned perpendicular to the hose. Turning the handle parallel to the hose opens it. The handle is secured in the closed position by the quick release pin (18), which must be removed before the handle can be operated.

b. Maintenance. Direct support maintenance personnel are authorized to repair the ball valve by replacing the components which are supplied as a repair kit.

(1) Disassembly. The ball valve should be disassembled and cleaned after every mission. To disassemble the ball valve, proceed as follows: (a) Perform decontamination operations described in TM 3-1040-220-12&P.

(b) Remove quick release pin (18, fig. 2-4) and chain and S link (10) from flange (11) and valve body (14) by removing bolt (9).

(c) Remove nut (1) from valve stem (6).

(d) Remove handle (2).

(e) Lift off lock stop plate (3).

(f) Remove locknut (4).

(g) Pull up and remove valve stem (6).

- (h) Remove thrust washer (5) from valve stem.
- (i) Remove stem seal (7).
- UI) Remove remaining bolts (9) which fasten flange (11) to valve body (14). Remove lock plate (8).
- (k) Remove flange (11) and two body seals (12) and 17).

- (1) Force ball (15) from the valve body (14).

This will push out seat ring (16) which forms a seal between the ball and the valve body.

- (m) Push out the second seat ring (13) from the other end of the valve body.

- (2) Cleaning. Thoroughly clean all parts of the ball valve with drycleaning solvent. Wipe the parts dry with a clean, soft cloth.

- (3) Inspection.

- (a) Inspect flange for nicks, scratches, damaged threads, and general condition.

- (b) Check body seals (12 and 17) thrust washer (5) and stem seal (7) for wear or damage.

Replace if damaged.

- (c) Examine seat rings (13 and 6) for wear, nicks, and abrasions. Check the concave face for irregularities. Replace if damaged.

- (d) Inspect ball (15) for roundness, wear, scratches, and abrasions. Check the valve stem (6) for wear and damage.

- (e) Examine valve body (14) for nicks scratches, and general condition. Check the body bore for roundness wear, scratches, and abrasions.

Inspect valve stem (6) and handle (2) for general condition and improper operation. If damaged or worn, report to general support maintenance personnel.

- (f) Inspect lock stop plate (3) and lock nut (4) for general condition. Check chain and S link (10), lock plate (8) and quick release pin (18) for damage. Examine the chain for broken links.

- (4) Assembly. To assemble the ball valve, proceed as follows: (a) Install one seat ring (13) in valve body (14).

- (b) Place ball (15) in the valve body (14), positioning it carefully so that the slot in the ball is under the opening for the valve stem (6). Install seat ring (16).

- (c) Position body seal (12) in the valve body (14), and place flange (11) against valve body.

- (d) Place chain and S link (10) and lock plate (8) in position and install four bolts (9).

- (e) Install stem seal (7).

- (f) Place the assist tool (part of ball valve parts kit) over valve stem (6) until it seats on the valve stem shoulder. Slide thrust washer (5) over the assist tool and into plate on the valve stem.

Remove the assist tool.

- (g) Insert the valve stem in valve body (14) making sure that the stem engages the slot in ball (15).

- (h) Install and tighten locknut (4).

- (i) Place lock stop plate (3) on the valve stem (6).

- (j) Install handle (2).

- (k) Install and tighten nut (1).

2-9. Check Valve

a. Description and Function. The check valve (13, fig. 2-3) permits free flow of air in one direction, while preventing air to flow in the opposite direction. This valve is mounted between the nozzle and the 45° elbow (14). It is installed so that air is permitted to flow into the nozzle (12), but not in the reverse direction of the 45elbow (14). The check valve consists of a body and cap, a poppet and spring, and a rubber seal disk. An arrow stamped on the side of the valve indicates the direction in which the valve will allow free flow of air.

b. Maintenance. Direct support maintenance personnel are authorized to replace the check valve.

- (1) Removal.

- (a) Make certain that decontamination operations have been performed (TM 3-1040-22012&P).

- (b) Using a wrench, remove check valve (13, fig. 2-3) from nozzle (12).

- (c) Using a wrench, remove elbow (14) from the check valve inlet.

- (d) Replace the check valve (13).

- (2) Installation.

- (a) Coat the threads on both ends of check valve (13) with sealing compound (Table 1-1).

- (b) Screw 45-degree elbow (14) into the inlet side of the check valve (13) and tighten with a wrench.

- (c) Screw outlet side of the check valve (13) into the input side of nozzle (12) and tighten with a wrench.

2-10. Nozzle

a. Description and Function. The nozzle (12, fig. 2-3) is connected to a check valve (13) on the inlet side, while the outlet side is connected to the ball valve (10). When the nozzle is mounted on the container, the nozzle is secured to the container by a clamp assembly and is sealed by a preformed packing. Low pressure air enters through the inlet side of the nozzle. At this point, the pressurized air also passes into the agent tank. In addition, the nozzle inlet side is in line with another small hole which passes low pressure air through from the inlet side. This arrangement creates an air jet in the nozzle when the ball valve (10) is open and

carries it out through the delivery system for dispersion into the atmosphere.

b. Maintenance. Direct support maintenance personnel are authorized to replace the nozzle.

(1) Removal.

(a) Make certain that decontamination operations have been performed (TM 3-1040-22012&P).

(b) Remove four bolts (20, fig. 2-3) and lockwashers (19) which fasten ball valve (10) to nozzle (12). Be careful during this operation, as removal of these bolts will allow the ball valve to partially fall apart.

(c) Using a wrench, remove check valve (13) and elbow (14) from nozzle (12) inlet.

(d) Replace the nozzle.

(2) Installation.

(a) Coat threads of check valve (13) with sealing compound (Table 1-1).

(b) Screw check valve (13) and 45° elbow (14) into nozzle (12) until fingertight. Direction of arrow on check valve body should point towards the nozzle.

(c) Tighten connection, using a wrench.

(d) Install ball valve (10), using 4 bolts (20) and lockwashers (19) on nozzle (12).

2-11. Safety Relief Valve

a. Description and Function. The safety relief valve (40, fig. 2-3) is installed in the low pressure plumbing. If the pressure regulator malfunctions excessive pressure could build up in the low pressure plumbing. The safety relief valve operates and exhausts the air pressure to the atmosphere when this pressure increases to approximately 80 pounds per square inch. In addition, the relief valve is equipped with a manual safety lever which can be pulled at any time to relieve the air pressure.

b. Maintenance. Direct support maintenance personnel are authorized to replace the safety relief valve.

(1) Removal.

(a) Close all valves.

(b) Relieve pressure by manually operating safety relief valve (40).

(c) Open lever plug valve (25) and manually operate safety relief valve to allow air pressure in the line between the lever plug valve (25) and check valve (13) to bleed back through the safety relief valve (40).

(d) Disconnect nonmetallic hose assembly (17) from the 45° elbow (14) at quick-disconnect coupling half (15).

(e) Release the three luggage catches securing the support assembly and compressed gas cylinders to the base and remove the support assembly and compressed gas cylinders.

(f) Loosen pipe fitting seal (41), using a wrench.

(g) Using a wrench, loosen the safety relief valve (40) from the elbow (42).

(h) Unscrew and remove the safety relief valve.

(2) Installation.

(a) Coat the threads of the relief valve with sealing compound (Table 1-1).

(b) Screw pipe fitting seal (41) onto safety relief valve (40).

(c) Screw the safety relief valve (40) onto the elbow (42) until fingertight. Position the lever so that it can be manually operated from the front of the support assembly.

(d) Tighten pipe fitting seal (41) with a wrench to hold safety relief valve (40) firmly in place.

(e) Reinstall the support assembly and compressed gas cylinders on the base and engage the three luggage catches.

(f) Reconnect the nonmetallic hose assembly (17) to the 45° elbow (14) at the quick-disconnect coupling half (15).

(g) Reset the safety relief valve (40) by placing the lever in the down position.

(h) Close the lever plug valve (25).

(i) Open the globe valve (18, fig. 2-1) and observe gages for pressure indications.

Section II. GUN ASSEMBLY

2-12. Trigger

a. Description and Functioning. The trigger (fig. 2-5) performs the function of a valve in controlling the dispersal of agent from the gun. The trigger is installed in the valve body. A rubber tube carries the agent under pressure through the gun past the trigger. When the trigger is in the forward position the rubber tube is pinched by the trigger thus preventing flow of the agent. When

the trigger is squeezed, the restriction in the rubber tube is relieved, allowing agent under pressure to be dispersed. The trigger spring applies tension to the trigger, holding it in forward position. Attached to the trigger is a safety which engages the safety catch to lock the trigger in the forward position. The safety has to be depressed and released from safety catch before the trigger can be squeezed. The trigger is retained in the valve body by a cover plate and screws.

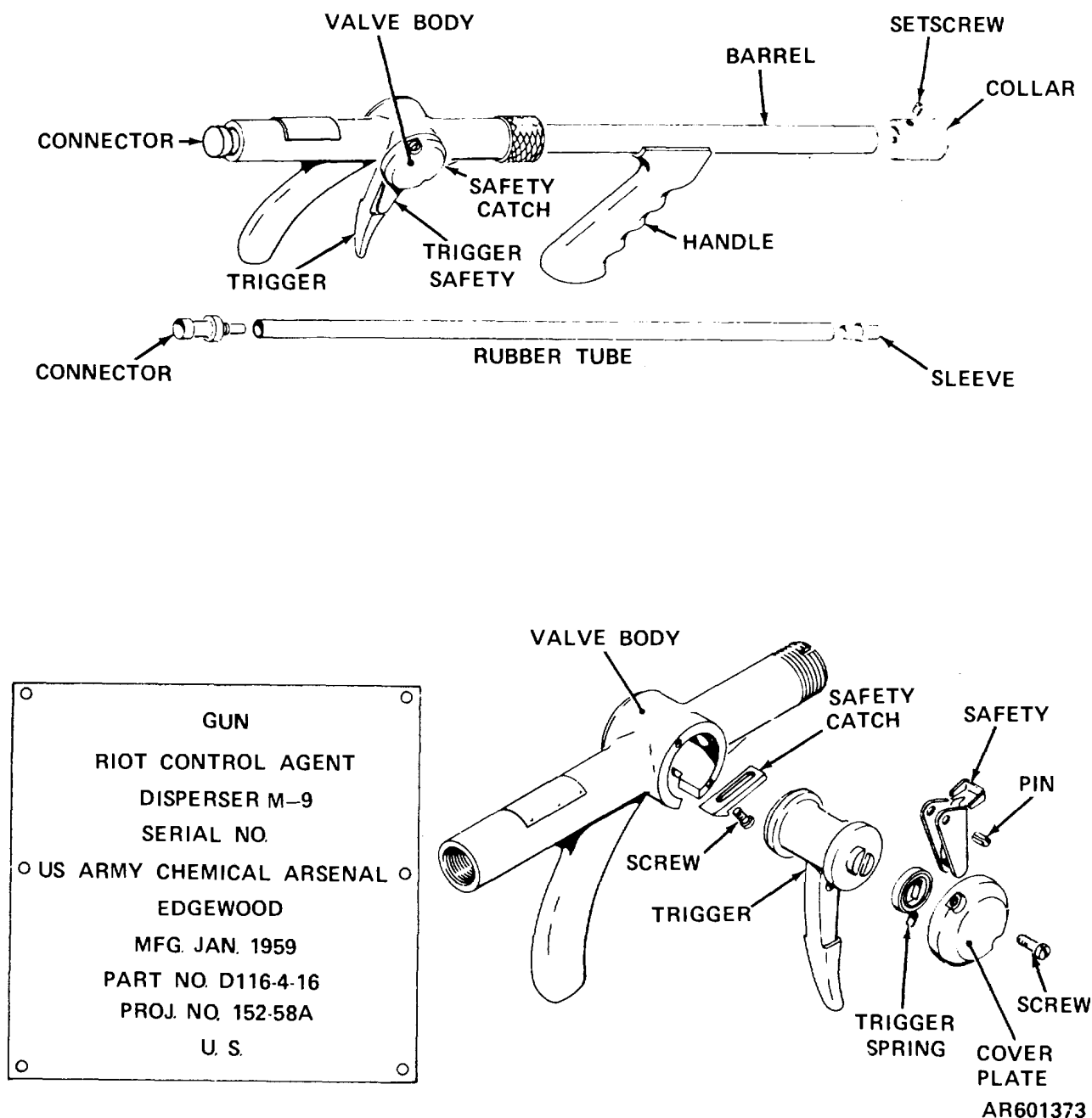


Figure 2-5. M9 showing components.

b. Maintenance.

(1) Removal. To remove the trigger, proceed as follows:

(a) Remove the rubber tube from the gun as indicated below:

1. Remove collar located at the end of the barrel and withdraw sleeve from end of rubber tube.

2. Hold the gun in a vertical position with the nozzle pointing down. Depress trigger safety and squeeze trigger. Withdraw the rubber tube.

(b) Remove two screws from cover plate and remove the cover plate.

WARNING

The trigger is under tension. Be very careful when removing the spring. It may fly out of the valve body, causing injury to personnel.

(c) Remove trigger spring from valve body.

(d) Withdraw the trigger from the valve body.

(2) Disassembly. The only part that can be removed from the trigger is the trigger safety. To remove the trigger safety, remove pin and lift off safety.

(3) Cleaning. Clean the components with drycleaning solvent (Table 1-1).

(4) Inspection. Inspect all components for damage and wear. Replace as required.

(5) Assembly. To install the trigger safety on the trigger proceed as follows:

(a) Position the trigger safety on the trigger and secure it to the trigger with pin.

(b) Install the assembled trigger and trigger safety in the valve body.

(6) Installation. Before installing the trigger, spray trigger with solid film lubricant (colloidal graphite) and allow it to dry. To install the trigger, proceed as follows:

CAUTION

Use only solid film lubricant on the trigger.

(a) Insert trigger into valve body.

(b) Position trigger safety so that it engages safety catch.

(c) Engage trigger spring in the slot in the trigger with the outside end of the spring towards the nozzle end of the valve body.

(d) Grasp the outside end of the trigger spring with an adjustable wrench and carefully rotate the end of the spring counterclockwise until it snaps in place in the slot in the valve body.

WARNING

The trigger spring must be installed as described in (c) and (d) above, to prevent injury to personnel which could be caused by the spring flying out of the slot in the barrel when tension is exerted on it.

(e) Replace cover plate and secure it with two screws.

(f) Replace the rubber tube and fittings as follows:

1. Hold the gun in a vertical position with the barrel end pointing down. Depress the trigger safety and squeeze the trigger and hold it.

2. Insert the rubber tube into the barrel until the connector seats correctly in the valve body. Release the trigger. Turn the gun so that the barrel end is pointing up.

3. Pull out rubber tube and insert the sleeve into the barrel end of the rubber tube.

4. Install the collar on the barrel end and secure it in place with three sockethead setscrews.

2-13. Valve Body

a. Description and Function. The valve body (fig. 2-5) is a one-piece aluminum casting which contains the trigger. One end is threaded externally to receive the barrel locknut; the other end is threaded internally to receive the hose threaded fitting. A safety catch is located on the underside of the valve body. This safety catch engages the safety trigger and holds the trigger in an inoperative position.

b. Maintenance.

(1) Disassembly. To disassemble the valve body, proceed as follows:

(a) Remove the rubber tube.

(b) Unscrew the locknut and remove the barrel.

(c) Remove the trigger.

(2) Cleaning. Clean the valve body with a brush and warm soapy water, rinse in clean water, and air dry.

(3) Inspection. Inspect the valve body for damage paying particular attention to the safety catch and the threaded portions of the body.

Replace the valve body if repair is not possible.

Before using a new valve body, it should be inspected for damage and completeness.

(4) Assembly. To assemble the valve body, proceed as follows:

(a) Install the trigger.

(b) Place the barrel in line with the valve body and engage the key on the barrel in the slot in the threaded portion of the valve body. Screw the locknut onto the threaded end of the valve body.

CAUTION

The locknut is a handtight connection. Do not use a wrench.

(c) Install the rubber tube.

(d) Install the safety catch on the valve body, and secure with two screws fingertight.

Adjust the safety catch so that the lip of the safety catch touches and holds the trigger safety with the trigger fully forward. Tighten the screws and check the adjustment.

CHAPTER 3

GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

3-1. Disperser General Repair

General support maintenance personnel are authorized to disassemble, repair, replace, rebuild, remove, fabricate, or overhaul the disperser as required in order to restore the equipment to a condition comparable to new.

3-2. Disperser Packing Check

a. Visual Inspection. Make a thorough inspection of the disperser to see that all parts are present, that all parts and accessories are properly and in good condition, and that the mounting hardware is tight. Make a thorough inspection and, where necessary, tighten or replace hardware and missing parts.

b. Accessories and Spare Parts. Table 3-1 contains the complete list of accessories and spare parts.

Table 3-1. Accessories and Spare Parts

Quantity	Name
1	Quick disconnect coupling half with sleeve lock
1	Hose assembly
2	Preformed packing (AN6230-10)
2	Preformed packing (MS29513-213)
4	Cargo tie down, Aircraft type A-1A
2 pair	Gloves
5	Rupture disk
1	Disperser hose tie down
1	M9 portable RCA disperser gun
2	M6A2 gas mask hood
1	Hose assembly
1	Cover plate
1	Pipe adapter
1	TM 3-1040-220-12&P
1	Container
1	Clamp
4	Snap hook and ring assembly
1	Equipment log book

Section II. PRESSURE REGULATOR

3-3. Description and Function

Refer to paragraph 2-3 for the description and function of the pressure regulator.

3-4. Maintenance

General support maintenance personnel are authorized to repair the pressure regulator. Repair of the pressure regulator consists of replacing kit provisional parts. In addition, general support maintenance personnel are authorized to adjust the pressure regulator.

a. Removal. Refer to paragraph 2-3b(1) for removal instructions.

b. Disassembly.

(1) Using a wrench, loosen locknut (2, fig. 2-2).

(2) Using an open end wrench, unscrew adjustment nut (1), being careful to not drop parts loosened by removal.

(3) Remove spring guide (5), spring cartridge (4), and spring guide (3).

(4) Cut and remove lockwire (9).

(5) Using a wrench, loosen and remove end nut (8).

(6) Remove flat washer (10), spring (11), flat

washer (12), and retainer seat preformed packing (14).

(7) Remove seat retainer (16) and poppet preformed packing (15).

(8) Remove poppet valve (13).

(9) Remove retainer screen (17).

(10) Remove poppet seat (18) and seat preformed packing.

(11) Remove retainer preformed packing (20).

(12) Working from the end nut (8) end of the regulator body (22), push coated piston (6) out through other end of regulator body (22).

(13) Remove piston preformed packing (7) from groove in regulator body (22) at adjustment nut (1) end.

c. Assembly.

(1) Install piston preformed packing (7) in groove inside regulator body (22) located in adjustment nut (1) end.

(2) Install retainer preformed packing (20) in groove in regulator body (22) located in the end nut (8) end.

(3) Place seat preformed packing (19) in the end nut (8) end of the regulator body (22) and push in until properly seated.

(4) Insert poppet seat (18) into regulator body (22) from the end nut end and push in until seated.

Poppet seat (18) should be inserted so that the small end goes in first.

(5) Insert poppet valve (13) into regulator body (22), large end first, until it is seated against poppet seat (18).

(6) Install poppet preformed packing (15) in internal groove of seat retainer (16).

(7) Install retainer screen (17) over seat retainer (16) and insert the assembly into regulator body (22) until seated against poppet seat (18).

(8) Install retainer seat preformed packing (14) in installed seat retainer (16).

(9) Place flat washer (12) in groove between poppet valve (13) and seat retainer (16).

(10) Install flat washer (10) in end nut (8).

(11) Insert spring (11) in end nut (8).

(12) Screw assembled end nut (8), flat washer (10), and spring (11) into regulator body (22).

Make certain that spring (11) seats properly on flat washer (12) installed in step (9) above.

(13) Tighten end nut (8) with a wrench until nut is firmly seated. Do not overtighten.

(14) Install coated piston (6), small end first, in regulator body (22).

(15) Place spring guide (5) in position in groove coated piston (6).

(16) Slip spring cartridge (4) over spring guide (5), making certain it seats properly on spring guide grooves provided for this purpose.

(17) Slip spring guide (3) over spring guide (5) and position so that spring cartridge (4) is properly in grooves.

(18) Place adjustment nut (1) down over assembled spring cartridge (4) and spring guides (3 and 5). Screw adjustment nut (1) into regulator

body (22). When adjustment nut (1) has been screwed in sufficiently, check that spring guide (3) is seating properly in hole in adjustment nut (1).

Screw adjustment nut (1) into regulator body (22) until tension of spring cartridge (4) is felt against nut.

(19) Screw locknut (2) over adjustment nut (1) until tight against regulator body (22).

(20) Install lockwire (9) in end nut (8). Secure lock wire with lock wire screw (21).

d. Installation. Refer to paragraph 2-3b(2) for installation instructions.

e. Adjustment.

(1) Check that the compressed gas cylinders have been recharged in accordance with procedures described in TM 3-1040-220-12&P.

(2) Check that all valves are closed.

(3) Open the globe valve (18, fig. 2-1).

(4) Observe pressure indication on the dial indicating pressure gage (29, fig. 2-1) and dial indicating pressure gage (1, fig. 2-3). The high pressure indication should be between 2,000 and 2,250 pounds per square inch. The low-pressure indication should be between 45 and 55 pounds per square inch.

(5) If the dial indicating pressure gage (1, fig. 2-3) reading is high, loosen locknut (2, fig. 2-2) and screw adjustment nut (1) counterclockwise into regulator body (22). If the dial indicating pressure gage indication is low, loosen lock nut (2) and turn adjustment nut (1) clockwise out of regulator body (22). After adjustment tighten locknut (2).

(6) Observe the dial indicating pressure gage (1, fig. 2-3). The indication should be between 45 and 55 pounds per square inch. If the gage does not indicate this value, readjust regulator the pressure regulator as described in (5) above.

APPENDIX

REFERENCES

AR 700-68	Compressed Gases and Gas Cylinders
TM 3-1040-220-12&P	Operator and Organization Maintenance Manual (including repair parts and special tools list) Disperser, Riot Control Agent, Helicopter or Vehicle Mounted, M5.
TM 43-0139	Painting Instructions for Field Use.
TM 38-750	The Army Maintenance Management System (TAMMS)
TM 43-0002-31	Destruction of Chemical Weapons and Defense Equipment to Prevent Enemy Use
TM 740-90-1	Administrative Storage of Equipment
TM 9-1300-200	Ammunition, General
TB 43-180	Calibration Requirements for the Maintenance of Army Materials

APPENDIX B

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

REPAIR PARTS AND SPECIAL TOOLS LIST

Section I INTRODUCTION

B-1. Scope

This appendix lists repair parts; and other support equipment required for operation and performance of direct support and general support maintenance of the M5 Helicopter-or-Vehicle-Mounted Riot Control Agent Disperser and authorizes the requisition and issue of items as indicated by the source and maintenance codes.

B-2. General

This Repair Parts and Special Tools List is divided into the following sections:

a. Section II-Repair Parts List. A list of repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence, with the parts in each group listed in figure and item number sequence.

b. Section III-Special Tools List. Not applicable.

c. Section IV-National Stock Number and Part Number Index. A list, in ascending numerical sequence, of all National stock numbers appearing in the listings, followed by a list, in alphabetic sequence, of all part numbers appearing in the listings. National stock number and part numbers are cross-referenced to each illustration figure and item number appearance. This index is followed by a cross-reference list of reference designations to figure and item numbers when applicable.

B-3. Explanation of Columns

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

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration in which the item is shown.

(2) Item Number. The number used to identify each item called out in the illustration.

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

(1) Source Code. Source codes are assigned to support items to indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code**Definition**

PA Item procured and stocked for anticipated or known usage.

PB- Item procured and stocked for insurance purpose because essentially dictates that a minimum quantity be available in the supply systems.

KF- An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.

AO Item to be assembled at organizational level.

XA- Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly XB-1 item is not procured or stocked. If not available through salvage, requisition.

NOTE

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

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code	Application
C-	Crew or operator maintenance performed within organizational maintenance.
O-	Support item is removed, replaced, used at the organizational level.
F-	Support item is removed, replaced, used at the direct support level
H-	Support item is removed, replaced, used at the general support level.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code	Application	Explanation
F-	The lowest maintenance level capable of complete repair of the support item is the direct support level.	
H-	The lowest maintenance level capable of complete repair of the support item is the general support level.	
Z-	Nonreparable.	No repair is authorized.

(3) Recoverability Code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability Codes	Definition
Z.....	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.
H.....	Reparable item. When uneconomically reparable, condemn and dispose at the general support level

c. *National Stock Number.* Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

d. *Part Number.* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements, to identify an item or range of items. NOTE: When a stock numbered item is requisitioned, the repair part received may have a different part number than the part being replaced.

e. *Federal Supply Code for Manufacturer (FSCM).* The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

f. *Description.* Indicates the Federal item name and, if required, a minimum description to identify the item. Items that are included in kits are listed below the name of the kit with the quantity of each item in the kit indicated in the quantity incorporated in unit column.

g. *Unit of Measure (U/M).* Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two character alphabetical abbreviation (e.g., ea, in, pr, etc). 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.

h. *Quantity Furnished with Equipment.* Not applicable.

i. *Quantity Authorized.* Not applicable.

j. *Quantity Incorporated in Unit.* Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable, (e.g., shims, spacers, etc).

B-4. Special Information

a. Detailed assembly instructions for items source coded to be assembled are found in TM 31040-220-12&P. Assembly components are listed immediately following the item to be assembled.

b. Repair parts kits appear as the last entries in the repair parts listing for the figure in which its parts are listed as repair parts.

c. Action change codes indicated in the left-hand margin of the listing page denote the following:

N-Indicates an added item

C-Indicates a change in data

R-Indicates a change in FSN only

B-5. How to Locate Repair Parts

a. *When Federal Stock Number or Part Number Is Unknown:*

(1) First. Using the table of contents, determine the functional group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Fourth. Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. *When National Stock Number or Part Number Is Known.*

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in ascending NSN sequence followed by a list of part numbers in ascending alphameric sequence, cross-referenced to the illustration figure number and item number,

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

B-6. Abbreviations

Abbreviations	Explanation	Abbreviation	Explanation
A/A	any acceptable	nom	nominal
Approx	approximately	NPT	American National Taper Pipe Thread
ANPT	Aeronautical National Taper	NPTF	American Standard Pipe Thread
cres	corrosion resistant steel	o/a	overall
div	division		outside diameter
dev	division	pltd	plated
fig	figure	porm	plus or minus
grad	gradated	p/n	part number
h	high	psi	per square inch
he	hexgon	rh	right hand
hex	hexagon	stl	steel
id	inside diameter	thd	thread(s)(ed)
in	inch	thk	thickness
lb	pound	unf	Unified Fine Thread
min	minimum	u/w	used with
nc	American National Coarse Thread		
NF	American National Fine Thread		

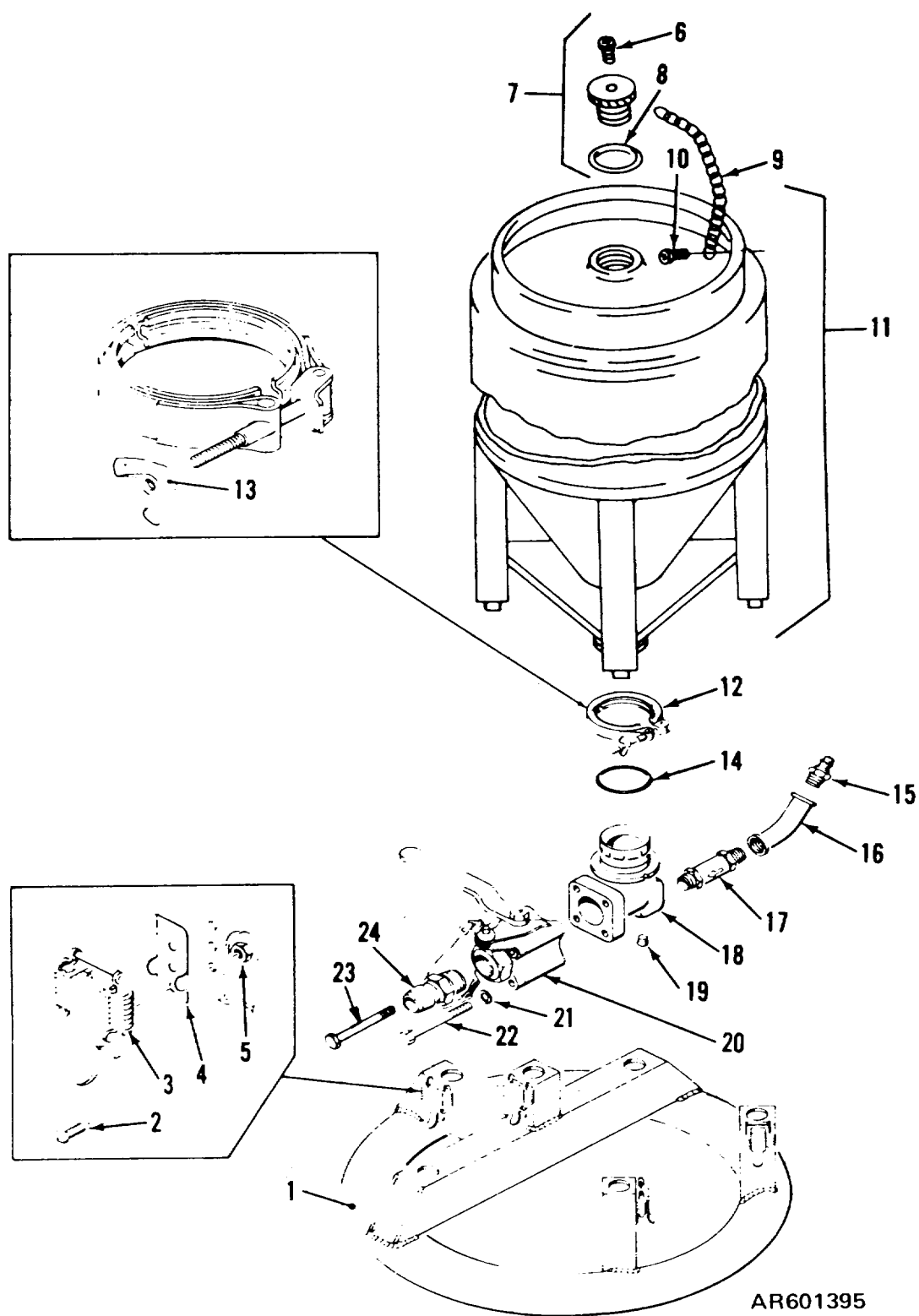
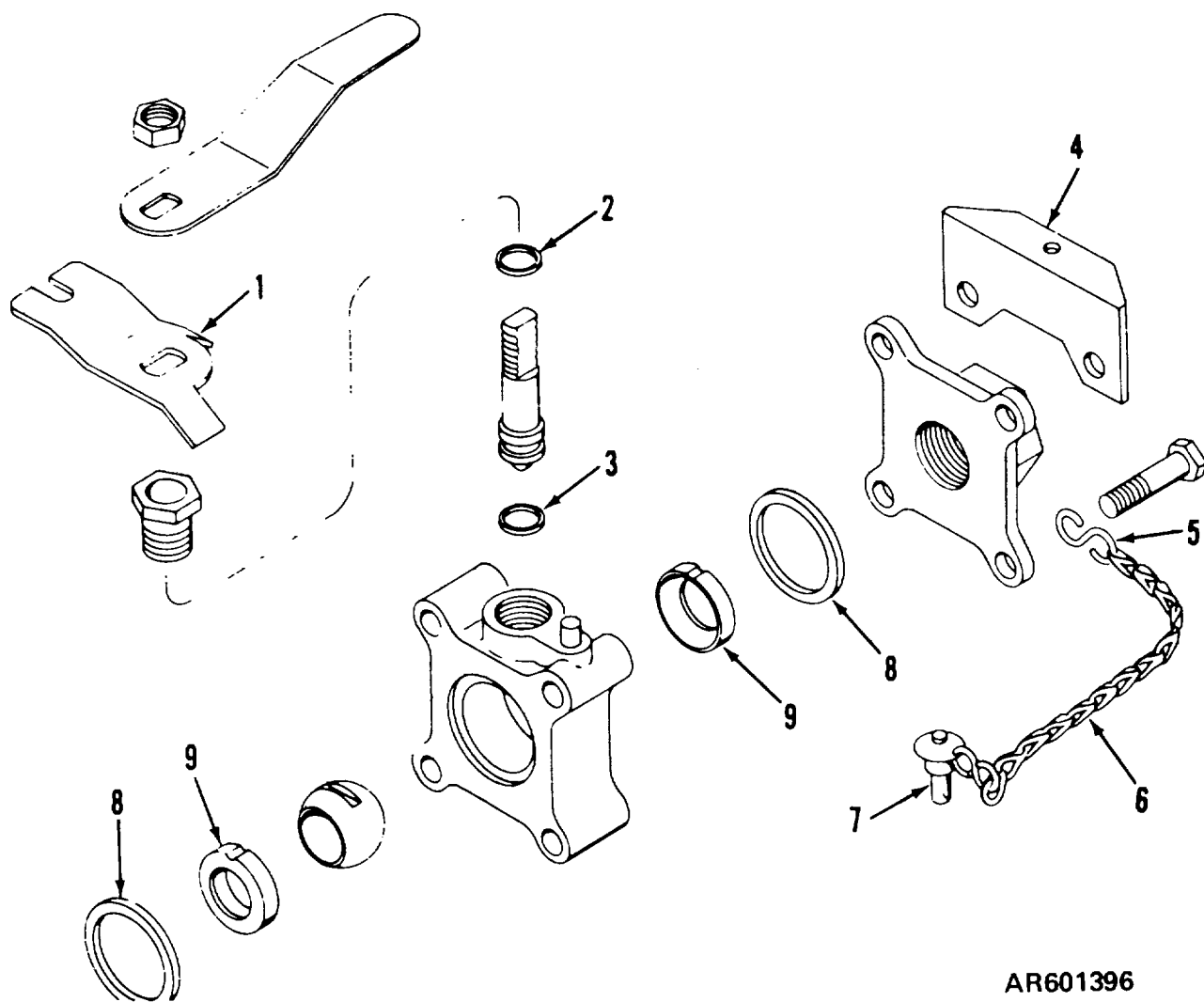


Figure B-1. Base group, container group, and pressure group, dispersion section.

TM 3-1040-220-34&P
SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP: 100-BASE		
B-1	1	XBOFH		D116-6-181	81361	BASE ASSEMBLY	EA	1
B-1	2	PAFZZ	5305-00-059-3660	MS51958-64	96906	SCREW, MACHINE, CRES, PAN HD, #10-32, 5/8 LG	EA	1
B-1	3	PAFZZ	5340-00-543-4091	SC-D-20649	80063	CATCH, LUGGAGE	EA	1
B-1	4	PAFZZ	5820-00-511-5740	SC-B-20651-1	80063	RETAINER, CATCH	EA	1
B-1	5	PAFZZ	5310-00-877-5797	MS21044N3	96906	NUT, SELF-LOCKING, HEXAGON, STL, PLDT, #10-32	EA	1
						GROUP: 200-CONTAINER		
B-1	6	PAOZZ	5305-00-958-4352	MS35207-228	96906	SCREW, MACHINE, STL, PAN HD, #6- 40, 0.375 IN. LG	EA	1
B-1	7	PBOZZ	1040-00-045-3399	D116-6-216	81361	PLUG, FILLING, ASSEMBLY	EA	1
B-1	8	PBOZZ	5330-00-265-1092	MS29513-219	96906	PACKING, PREFORMED, SYN RUB- BER, 1.296 IN. ID, 1.574 IN. OD, 0.139 IN. O/A H	EA	1
B-1	9	PBOZZ	4010-00-228-9949	QQ-C-271	81348	CHAIN, STL, 0.023 NOM THK, APPROX TYPE 2, 10 IN. LG	EA	1
B-1	10	PAOZZ	5305-00-969-6914	MS24617-10	96906	SCREW, TAPPING, THREAD, STL, PLTD, PAN HD, #6-20, 0.375 IN. LG	EA	1
B-1	11	PBOZZ	1040-00-084-8158	E116-6-171	81361	CONTAINER ASSEMBLY	EA	1
B-1	12	PBOZZ	1040-00-085-3414	B116-6-177	81361	CLAMP ASSEMBLY	EA	1
B-1	13	PAOZZ	5310-00-080-8495	MS35425-39	96906	NUT, PLAIN, WING, STL, 1/4-20, 1.082 IN. MIN - 1.092 IN. MAX WING SPREAD	EA	1
B-1	14	PAOZZ	5330-00-194-3720	AN6230-10	88044	PACKING, PREFORMED, SYN RUB- BER, 2.750 IN. ID, 3 IN. OD, 0.125 IN. O/A H	EA	1
						GROUP: 300-PRESSURE DISPERSION SECTION		
B-1	15	PBFZZ	4730-00-062-6068	C150-1-3 CLASS 2 STYLE B	81361	COUPLING HALF, QUICK DISCON- NECT AL, STRAIGHT BODY, 2.440 IN. LG O/A, PUSH-PULL TYPE, MALE, 1-1/2 IN. 11-1/2 NPTF, 375 PSI OPERATING PRESSURE	EA	1
B-1	16	PBFZZ	4730-00-064.0001	ML-F-20672 TABLE 5, FIG 8		ELBOW, PIPE, AL, FIRST END THD FEMALE 1/2-14 NPT, RH, SECOND END IDENTICAL TO FIRST, 45 DEG	EA	1
B-1	17	PBFZZ	4820-00-082-0313	489-1-2D1	86768	VALVE, CHECK, POPPET TYPE, 1/2 EA 1 IN. VALVE SIZE, END CONNECTION MALE THD, 1/2-14 NPT, RH		
B-1	18	XBFZZ		D116-6-163	81361	NOZZLE	EA	1
B-1	19	XBFZZ		AN932D4	88044	PLUG, PIPE, AL, SOLID BODY, MALE THD 3/8-18 ANPT, RH	EA	1
B-1	20	PBFZZ	4820-00-084-7427	C116-6-170	81361	VALVE, BALL	EA	1
B-1	21	PAFZZ	5310-00-637-9541	MS35338-46	96906	WASHER, LOCK, STL, PLTD, 0.688 IN. OD, 3/8 IN. NOM BOLT SIZE, SPLIT HELICAL RING	EA	1
B-1	22	PAFZZ	5306-00-081-8286	AN6DD26A	88044	BOLT, MACHINE, AL, HEX HD, 3/8-24 UNF, 2.187 LG GRIP	EA	1
B-1	23	PAFZZ	5306-00-582-6411	AN6-30A 80044		BOLT, MACHINE, STL, HEX HD, 3/8-24 UNF, THD, 3-5/64 IN. LG	EA	1
B-1	24	PBFZZ	4730-00-951-5652	C150-7-2-B	81361	COUPLING HALF, QUICK DISCON- NECT, AL BODY, STRAIGHT PUSH- PULL TYPE, MALE, FLUID CON- NECTION END THD MALE, U/W 1- 1/2 IN NPS, 1-1/2-11-1/2 NPTF	EA	1



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Figure B-2. Ball valve.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-2	1	PBFZZ	1040-00-956-2523	C116-6-207	81361	GROUP: 300-PRESSURE DISPERSION SECTION (CONT) BALL VALVE		
B-2	2	KFFZZ				PLATE, STOP, LOCK WASHER, THRUST PART OF KIT P/N 1-2-4-3-3T	EA EA	1 1
B-2	3	KFFZZ				STEM SEAL	EA	1
B-2	4	PBFZZ	1040-00-956-2524	C116-6-206	81361	PLATE, LOCK	EA	1
B-2	5	XBOZZ		B81-3-18	81361	"S" HOOK, SAFETY PLUG	EA	1
B-2	6	XBOZZ		RR-C-271	81348	CHAIN, WELDLESS, STL, PLTD, .023 THK, 8 IN. LG APPROX	IN	8
B-2	7	PAOZZ	5340-00-904-5220	NAS1334-AS0 3D		PIN, QUICK RELEASE	EA	1
B-2	8	KFFZZ				BODY, SEAL, PART OF KIT P/N 1-2-4-3- 3T	EA	2
B-2	9	KFFZZ				SEAT, PART OF KIT P/N 1-2-4-3-3T	EA	2
B-2	2	PAFZZ	1040-00-981-8419	1-2-4-3-3T	98991	PARTS KIT, BALL VALVE	EA	1
B-2	3					WASHER	EA	1
B-2	8					STEM, SEAL	EA	1
B-2	9					BODY SEAL	EA	2
B-2						SEAT	EA	2

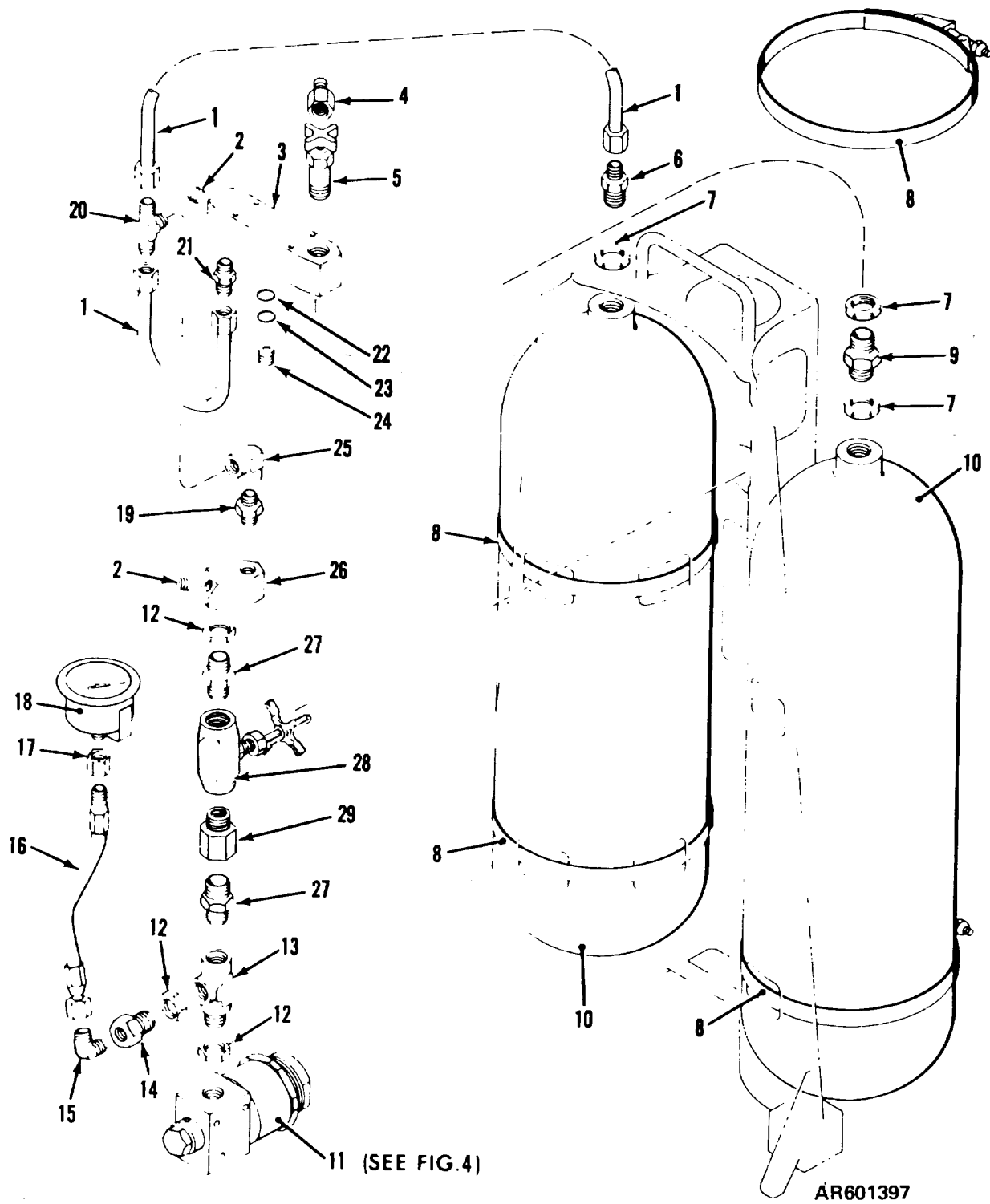


Figure B-3. Pressure group, high-pressure line section.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-3	1	PBFZZ	4710-00-084-7428	C116-6-192	81361	GROUP- 300-PRESSURE (CONT) HIGH PRESSURE LINE SECTION TUBE ASSEMBLY, METAL, STL,, 3/8 IN. OD, 0.035 IN THK WALL	EA	2
B-3	2	XBFZZ		JHII-10	31435	PLUG, PIPE, AL, SOI.ID BODY, MALE THD, 3/8-18 NPT	EA	2
B-3	3	PBFZZ	1040-00-084-8160	C1 16-6-191	81361	BLOCK, CONNECTOR, STI,	EA	1
B-3	4	PAOZZ	1040-00-085-3416	B116-6-179	81361	PLUG, STL, PLTD	EA	1
B-3	5	PAOZZ	4820-00-087-3505	B116-6-174	81361	VALVE, ANGLE	EA	1
B-3	6	PBFZZ	4730-00-640-6008	AN816-6-8	88044	ADAPTER, STRAIGHT, PIPE TO TUBE FIRST END 9/16-18 UNF-3A. RH, 37 DEG SEAT. 0.556 IN. LG, SECOND END, 1/2-14 ANPT, RH, 0 781 IN. LG	EA	1
B-3	7	PAFZZ	1040-00-084-2932	BT116-6-183-3	81361	FITTING, PIPE, SEAL, W/TEFI,O INSERT, 1/2-14 NPT	EA	3
B-3	8	PBOZZ	4730-00-081-7256	MS21920-5	96906	CLAMP, HOSE, CRES BAND, STI BOLT, STL NUT	EA	4
B-3	9	PAFZZ	4730-00-287-0946	AN911-4J	88044	NIPPLE, PIPE, CRES, 1/2-14 ANPT, RH, 1-27/32 IN LG	EA	1
B-3	10	PBFHH	1040-00-081-8297	D116-6-180	81361	CYLINDER, COMPRESSED GAS	EA	2
B-3	11	PAFHH	4820-00-945-1940	C116-6-169	81361	REGULATOR, PRESSURE	EA	1
B-3	12	PAFZZ	1040-00-084-2930	B116-6-183-2	81361	FITTING, PIPE, SEAL, W/TEFLON INSERT, 3/8-18 NPT	EA	3
B-3	13	PBFZZ	4730-00-958-1475	2092-6-65	01276	TEE, PIPE, STL, MALE/FEMALE, 3/ NPT	EA	1
B-3	14	PBFZZ	4730-00-223-7074	AN912-2D		BUSHING, PIPE, AL, 3/8-18 ANPT, RH, FEMALE T)TD	EA	1
B-3	15	PBFZZ	4730-00-186-9963	MS20822-4 4D	96906	ELBOW, PIPE TO TUBE, AI,, FIRST END 7/16-20 UNF, RH, 37 DEG SEAT, 1-1/32 IN. LG, SECOND END, 1/4-18 ANPT, RH, 1-1/16 IN. LG, 90 DEG ANGLE	EA	1
B-3	16	PBFZZ	4720-00-087-6921	C116-6-190-3	81361	HOSE ASSEMBLY, NONMETALLIC, 0.188 ID, OD-A/A, 8.75 IN. I,G, FIRST END FEMAI,E, BRASS 7/16-20 UNF, RH, SECOND END THD MALE, BRASS, 1/8-27 NPTF, RTT	EA	1
B-3	17	PBFZZ	4730-00-260-1483	3304X2	79470	REDUCER, PIPE, BRASS, 1/4 NPT X 1/8 NPT, W/WTRENCH, HEX, MIN WORKING PRESSURE 2000 PSI	EA	1
B-3	18	PBFZZ	6685-00-087-6925	2-1/2 5DFM 1/4 3000 TYPE 5	38508	GAGE, PRESSURE DIAL., IN- DICATING SINGLE BOURDON TUBE TYPE, SCALE 0 TO 3000 PSI, 500 LB FIG INTERVALS, 100 LB SMALLEST GRAD DIV, 2-1/2 IN. DIAL., SINGLE CONNECTION, MALE TYPE 1/4 NPT FLUSH PANEL TYPE	EA	1
B-3	19	PBFZZ	4730-00-186-7784	AN911-2D	88044	NIPPLE, PIPF. AI,, 1/4-18 ANPT, RT1, 1 7/16 IN LG	EA	1
B-3	20	PBFZZ	4730-00-277-5104	MS20825-6	96906	TEE, PIPE TO TUBE, SrL, FIRST END MAI,E, 9/16-18 UNF, RH, 37 DEG SEAT, 1-1/32 IN. LG, SECOND END MALE, 9/16-18 TUNF, RH, 37 DEG SEAT, 1-1/32 IN. L.G, TIIHV END MALE, 1/4-18 ANPI', RH, 1-1/1' IN. LG	EA	1
B-3	21	PBFZZ	4730-00-194-1121	AN816-6	88044	ADAPTER, STRAIGHT. PIPE TO TU STI., PLTD, FIRST END MA E, 9/16- 18 IJNF, RII. 37 DEG SE,AT. 0 556 -. LG. SECOND END MALE, 1/4-18 ANPI-, RH, (0.594 IN LG, 1-1 N'. 0 A I,(-T	EA	1

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-3	22	KFFZZ	4730-00-187-1392	P1222-15C	58553	GROUP 300-PRESSURE (CONT)	EA	1
B-3	23	KFFZZ		P1222-9A	58553	GASKET, DEAD SOFT, COPPER	EA	1
B-3	24	KFFZZ		P1222-7W	58553	DISK, RUPTURE, 4500 PSI	EA	1
B-3	25	PBFZZ		AN916-2D	88044	PLUG, HEXAGON, SOCKET, BRASS	EA	1
B-3	26	PBFZZ	1040-00-084-8159	C116-6-195	81361	ELBOW, PIPE, AL, FIRST END 1/4-18	EA	1
B-3	27	PBFZZ	4730-00-770-0978	B116-6-209	81361	NPT, RH, 57/64 IN. LG, SECOND END	EA	1
B-3	28	PBFZZ	4820-00-087-3506	10063-8	28968	IDENTICAL, 90 DEG ANGLE	EA	1
B-3	29	XBFZZ		2040-6-6S	70709	BLOCK, CONNECTOR, STL,	EA	1
						NIPPLE, PIPE	EA	2
						VALVE, GLOBE	EA	1
						EXTENSION,	EA	1
						PIPE TO PIPE, 3/8-18	EA	1
						NPT MALE, 3/8-18 NPT FEMALE	EA	1
		PAFZZ	1040-00-113-5990	P1222-25W	58553	PARTS KIT, RUPTURE DISK, AS-SEMBLY	EA	1
B-3	22					GASKET, DEAD SOFT, COPPER	EA	1
B-3	23					DISK, RUPTURE	EA	1
B-3	24					PLUG, HEXAGON, SOCKET, BRASS	EA	1

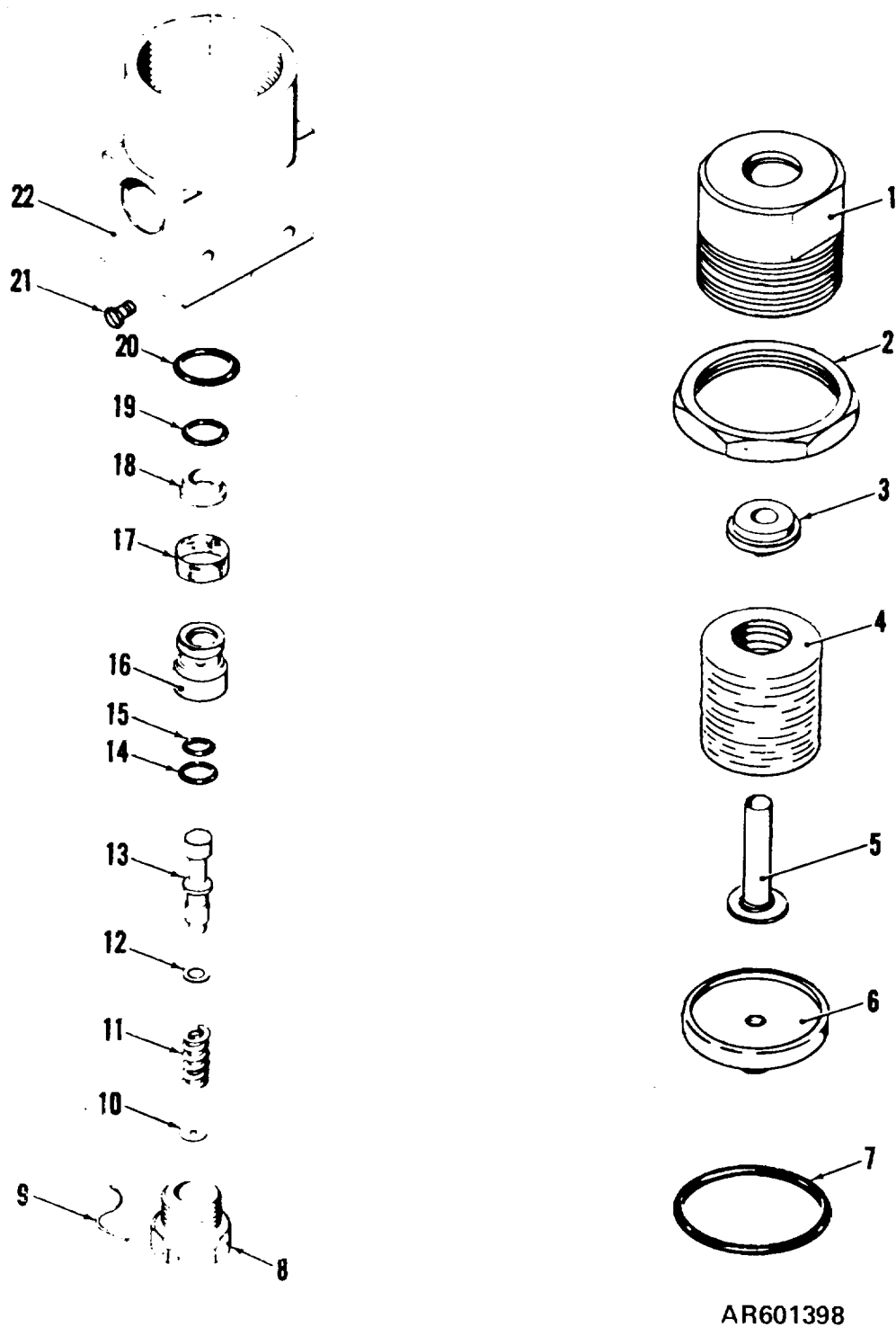
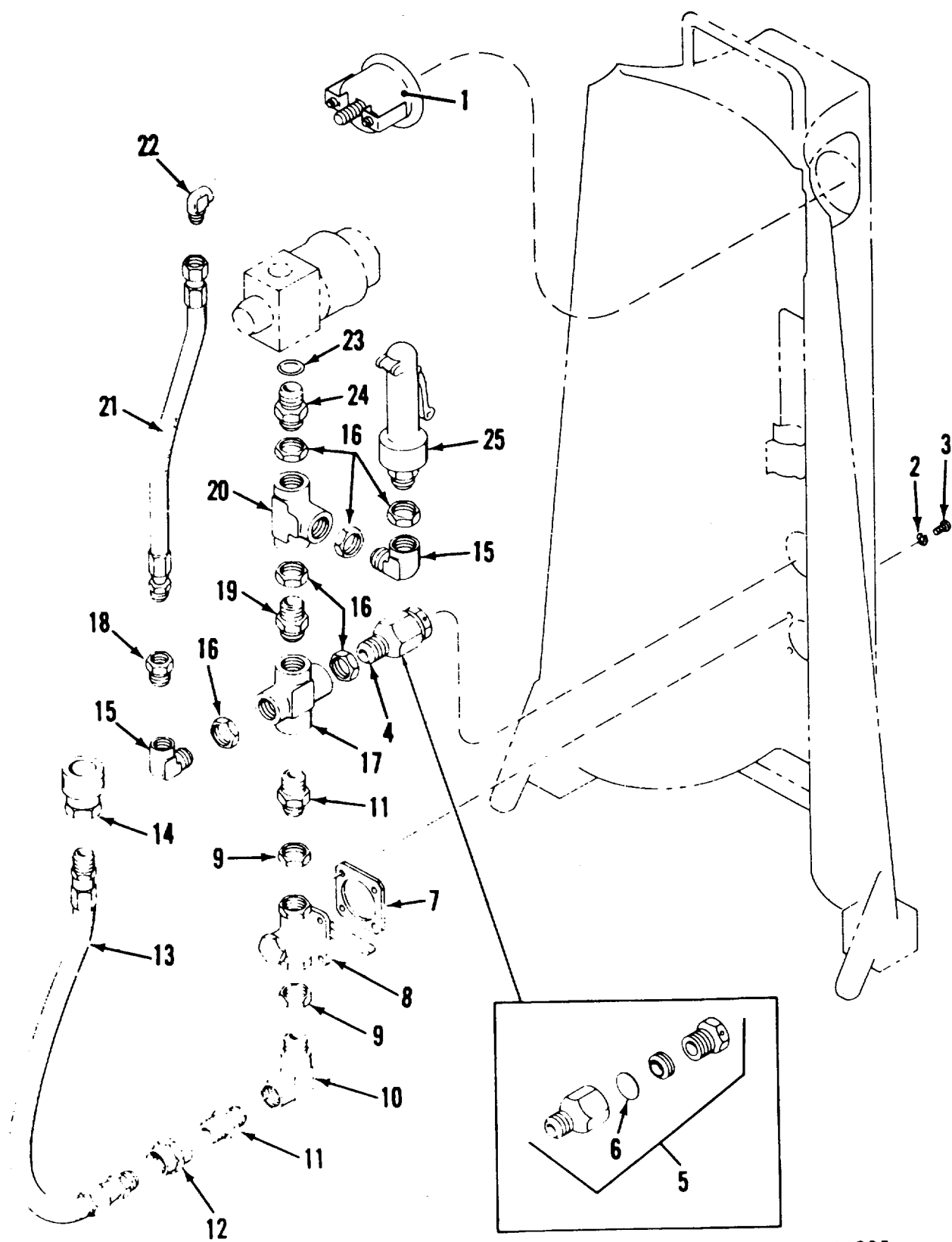


Figure B-4. Pressure regulator.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-4	1	PBHZZ	4820-00-981-8421	146392	99657	GROUP: 300-PRESSURE HIGH PRESSURE LINE SECTION (CONT)	EA	1
B-4	2	PBHZZ	4820-00-981-8423	145382	99657	NUT, ADJUSTMENT	EA	1
B-4	3	PBHZZ	1040-00-981-8422	146352	99657	NUT, LOCK	EA	1
B-4	4	PBHZZ	2910-00-981-6602	4205A7124A	99657	GUIDE, SPRING	EA	1
B-4	5	PBHZZ	1040-00-981-8424	146401	99657	CARTRIDGE, SPRING	EA	1
B-4	6	PBHZZ	2910-00-981-6601	152603	99657	GUIDE, SPRING	EA	1
B-4	7	KFHZZ		J200AB136	99657	PISTON, COATED	EA	1
B-4	8	PBHZZ	4820-00-981-8426	146342	99657	PACKING, PREFORMED, PISTON, PART OF KIT P/N 1040-00-981-6597	EA	1
B-4	9	PBHZZ	9505-00-596-5101	QQ-W-423	81348	NUT, END	EA	1
B-4	10	PBHZZ	4820-00-981-8428	120002104	99657	WIRE (5 lb coil)	FT	AR
B-4	11	PBHZZ	4820-00-563-8573	107381	99657	WASHER, FLAT	EA	1
B-4	12	XBHZZ		120002105	99657	SPRING	EA	1
B-4	13	PBHZZ	4820-00-863-9139	146702	99657	WASHER, FLAT	EA	1
B-4	14	KFHZZ		J200AB-14	99657	VALVE, POPPET	EA	1
B-4	15	KFHZZ		J200AB-12	99657	PACKING, PREFORMED, RETAINER, SEAT PART OF KIT P/N 1040-00-981-6597	EA	1
B-4	16	PBHZZ	1040-00-981-4766	146712	99657	PACKING, PREFORMED, POPPET PART OF KIT P/N 1040-00-981-6597	EA	1
B-4	17	PBHZZ	4730-00-876-1309	147741	99657	RETAINER, SEAT	EA	1
B-4	18	KFHZZ		139812-1	99657	STRAINER, ELEMENT	EA	1
B-4	19	KFHZZ	J200AB15	99657		SEAT, POPPET PART OF KIT P/N 1040- 00-981-6597	EA	1
B-4	20	KFHZZ		J200AB116	99657	PACKING, PREFORMED, SEAT PART OF KIT P/N 1040-00-981-6597	EA	1
B-4	21	PBHZZ	4820-00-981-8420	100691	99657	PACKING, PREFORMED, RETAINER PART OF KIT P/N 1040-00-981-6597	EA	1
B-4	22	XAHZZ			152614	SCREW, LOCKWIRE 100691 (96657)	EA	1
B-4		PBHZZ	1040-00-981-6597	99657		BODY, REGULATOR	EA	1
B-4	7			J200AB	99657	PARTS KIT, PRESSURE	EA	1
B-4	14			135 AND				
B-4	15			U200AB-15				
B-4	18			AND 139812-1				
B-4	19			AND 4200AB-12				
B-4	20			AND 4200AB-14				
B-4				116				
B-4						PACKING, PREFORMED, PISTON	EA	1
B-4						PACKING, PREFORMED	EA	1
B-4						RETAINER SEAT	EA	1
B-4						SEAT, POPPET	EA	1
B-4						PACKING PREFORMED, SEAT	EA	1
B-4						PACKING, PREFORMED, RETAINER	EA	1



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Figure B-5. Pressure group, low-pressure line section.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-5	1	PBFZZ	6685-00-087-4573	21DFMI/4200	38508	GROUP- 300-PRESSURE (CONT) LOW PRESSURE LINE SECTION GAGE, PRESSURE, DIAL INDICATING SINGLE BOURDON TUBE TYPE, 0 TO 200 PSI RANGE, 20 LB INTERVALS, 5 LB SMALLEST GRADUATED DIVISION, 2 IN. DIAL SIZE, BLACK STEEL CASE, 2-5/16 IN. DIA O/A, 13/16 IN. DEEP, SINGLE CON- NECTION, MALE TYPE, 1/4 NPT	EA	1
B-5	2	PAFZZ	5310-00-933-8120	MS35338-138	96906	WASHER, LOCK, SPLIT HELICAL, MAX HOLE DIA, 0.202 IN., MAX OD	EA	4
B-5	3	PAFZZ	5305-00-059-3655	MS51958-59	96906	SCREW, MACHINE, PAN HD, NO. 10-32 UNF-2A, 1/4 IN. LG	EA	4
B-5	4	AOOZZ				HEAD ASSEMBLY	EA	1
B-5	5	PAOZZ	1040-00-084-8161	B116-6-168	81361	HEAD, SAFETY, SCREW TYPE	EA	1
B-5	6	PAOZZ	1040-00-062-0509	B116-6-172	81361	DISC, RUPTURE, (5 per box)	EA	1
B-5	7	PBFZZ	5340-00-081-8291	B116-6-194	81361	SPACER, PLATE, AL, W/4 BOLT HOLES	EA	1
B-5	8	PBFZZ	4820-00-087-0218	309GG3-8D	86768	VALVE, PLUG, LEVER	EA	1
B-5	9	PAFZZ	1040-00-084-2930	B116-6-183-2	81361	FITTING, PIPE, SEAL, STL, PLTD, NUT, 3/8-18 NPT, W/TEFLON INSERT	EA	2
B-5	10	PBFZZ	4730-00-277-2676	AN914-3D	88044	ELBOW, PIPE, AL, 3/8-18 ANPT, RH	EA	1
B-5	11	PBFZZ	4730-00-952-3180	2083-8-65	01276	REDUCER, PIPE, STL, 3/8-18 NPTF TO 1/2-14 NPTF	EA	2
B-5	12	PBFZZ	4730-00-278-2681	AN910-4D	88044	COUPLING, PIPE, AL, PI,TD, 1/4-14 NPT, RH	EA	1
B-5	13	PBOZZ	4720-00-087-6922	C116-6-190-2	81361	HOSE ASSEMBLY, NONMETALLIC, 0.500 IN. ID, 19.00 IN. LG, MALE FITTINGS BRASS 1/2-14 NPTF, RH, 3.750 PSI BURST PRESSURE	EA	1
B-5	14	PBOFF	4730-00-062-4334	D150-1-11-3	81361	COUPLING HALF, QUICK DISCON- CLASS 2NCT AL BODY, PUSH-PULL TYPE, STYLE AFEMALE, FLUID CONNECTION, THD FEMALE, 1/2-14 NPTF	EA	1
B-5	15	PBFZZ	4730-00-187-1387	AN914-4D	88044	ELBOW, PIPE, AL, FIRST END, 1/2-14 ANPT, RH 1-11/64 IN. LG, SECOND END 1/2-14 ANPT, RH, 1-39/64 IN. LG	EA	2
B-5	16	PAFZZ	1040-00-084-2932	B116-6-183-3	81361	FITTING, PIPE, SEAL, STL NUT, EA 6 PLTD, 1/2-14 NPT, W/TEFLON IN- SERT		
B-5	17	PBFZZ	4730-00-256-4203	AN918-4D	88044	CROSS, PIPE, AL, 4 ENDS FEMALE,	EA	1
B-5	18	PBFZZ	4730-00-223-7075	AN912-6D	88044	BUSHING, PIPE, AL, MALE END, 1/2- 14 ANPT, RH, FEMALE END, 1/8-27 ANPT, RH	EA	1
B-5	19	PBFZZ	4730-00-186-7786	AN911-4D	88044	NIPPLE, PIPE, AL, 1/2-14 ANPT, RH, 1- 27/32 IN. LG	EA	1
B-5	20	PBFZZ	4730-00-287-3694	AN917-4D	88044	TEE, PIPE, AL ALLOY, ANODIZED FINISH, FEMALE ENDS THD, 1/2-14 ANPT	EA	1
B-5	21	PBFZZ	4720-00-087-6923	C116-6-190-1	81361	HOSE ASSEMBLY, NONMETALLIC, 1/4 IN. LG, ONE END THD FEMALE, BRASS, 7/16 20 UNF, RH, ONE END THD MALE, BRASS 1/8-27 NPTF, RH, 6500 PSI BURST PRESSURE	EA	1
B-5	22	PBFZZ	4730-00-951-7688	5450X4X4	79470	ELBOW, PIPE TO TUBE, COPPER ALLOY, FEMALE END, 1/4-18 NPT, MALE END 7/16-20 STRAIGHT THD J1C 37 DEG	EA	1

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-5	23	PAFZZ	5330-00-248-3850	MS29513-116	96906	GROUP: 300-PRESSURE (CONT) PACKING, PREFORMED, RUBBER, EA 0.737 ID, 0.943 OD, 0.103 H		
B-5	24	PBFZZ	4730-00-277-2887	2021-8-88	01276	ADAPTER, STRAIGHT, PIPE TO TUBE EA STL, MALE THD 3/4-16 UNF TO 1/2- 14 NPTF, 1-23/32 IN. LG O/A		
B-5	25	PBFZZ	4820-00-079-8887	2-163-1	86768	VALVE, SAFETY, RELIEF, SPRING EA I LOADED, NON-ADJUSTABLE, W/LIFTING LEVER, PRE-SET PRESSURE 80 PORM 8 PSI, SINGLE END THD MALE 3/8-18 NPT, RH 2- 163-1 (86768)		

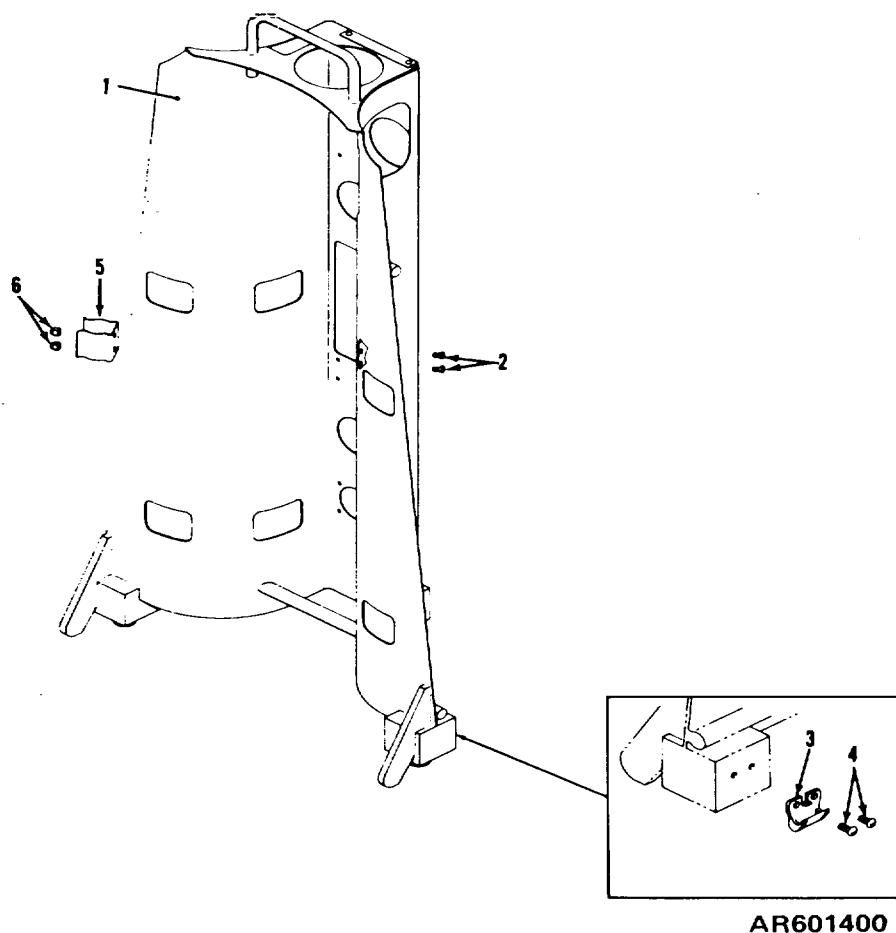
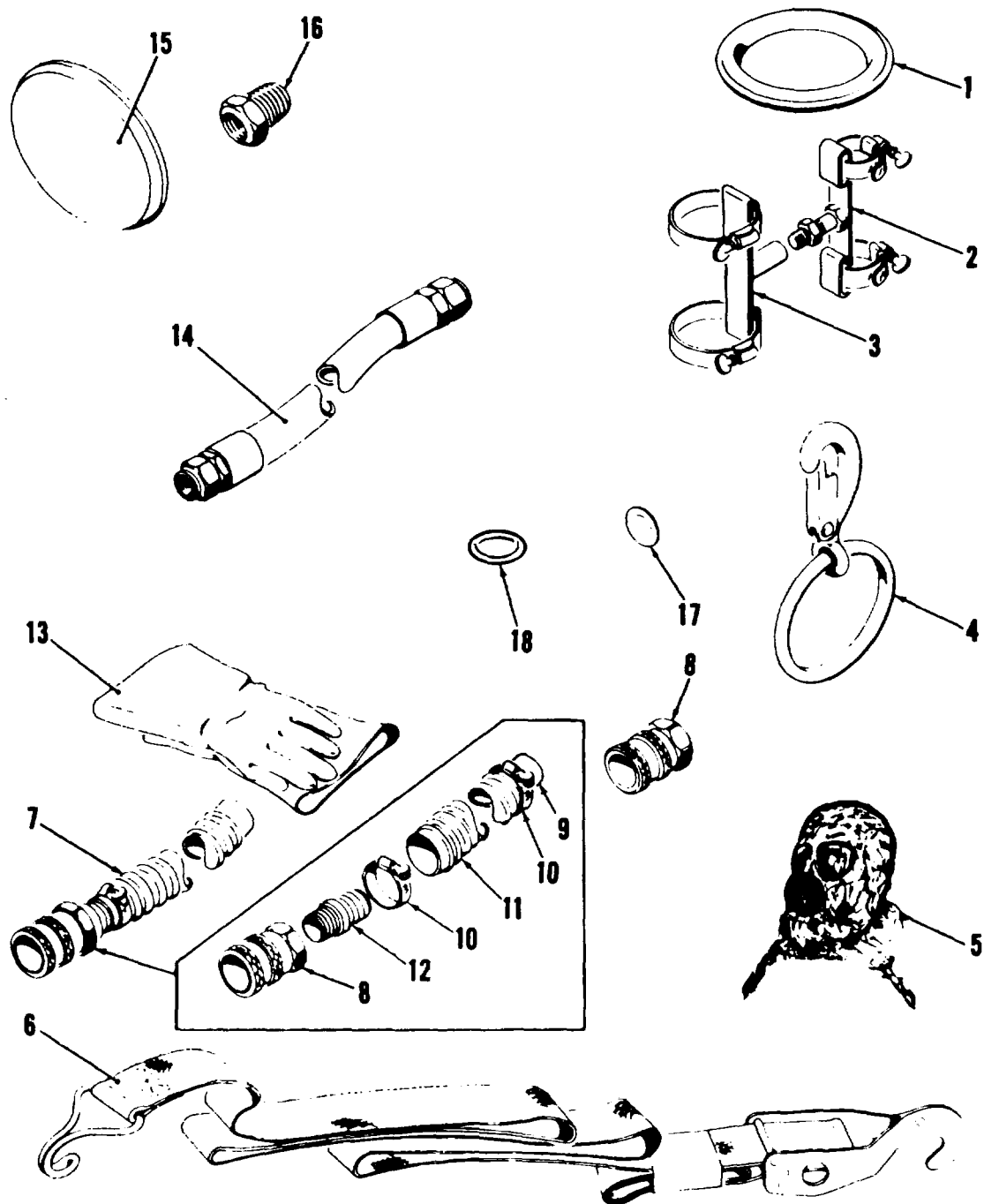


Figure B-6. Pressure group, support section.

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-6	1	XAOFH		E116-6-178	81361	GROUP: 300-PRESSURE (CONT)		
B-6	2	PAOZZ	5305-00-066-7326	MS24693C24	96906	SUPPORT SECTION	EA	1
B-6	3	PAOZZ	5340-00-582-3934	SC-D-20650-25	80063	SUPPORT ASSEMBLY	EA	2
B-6	4	PAOZZ	5305-00-059-3657	MS51958-61	96906	SCREW, MACHINE, CRES, FLAT HD, COUNTERSUNK, 100 DEG, NO. 6-32 NC-2B, 0.250 LG	EA	3
B-6	5	PBOZZ	5340-00-852-5093	100-300-13-2	99378	STRIKE, CATCH, STL, PLTD, 1-1/32 IN. LG, 1 IN. W, 5/64 IN. THK, 2 HOLES	EA	6
B-6	6	PAOZZ	5310-00-905-8451	MS21083N06	96906	SCREW, MACHINE, STL, PAN HD, SLOTTED, NO. 10-32, NF-2A X 3/8 IN. LG 1	EA	1
						CLIP, SPRING TENSION, COPPER, PLTD	EA	2
						NUT, SELF-LOCKING, HEXAGON, STL, NO. 6-32, NC-2B		
						1/2-14 ANPT, -RH, LEG 1-5/16 IN. LG		

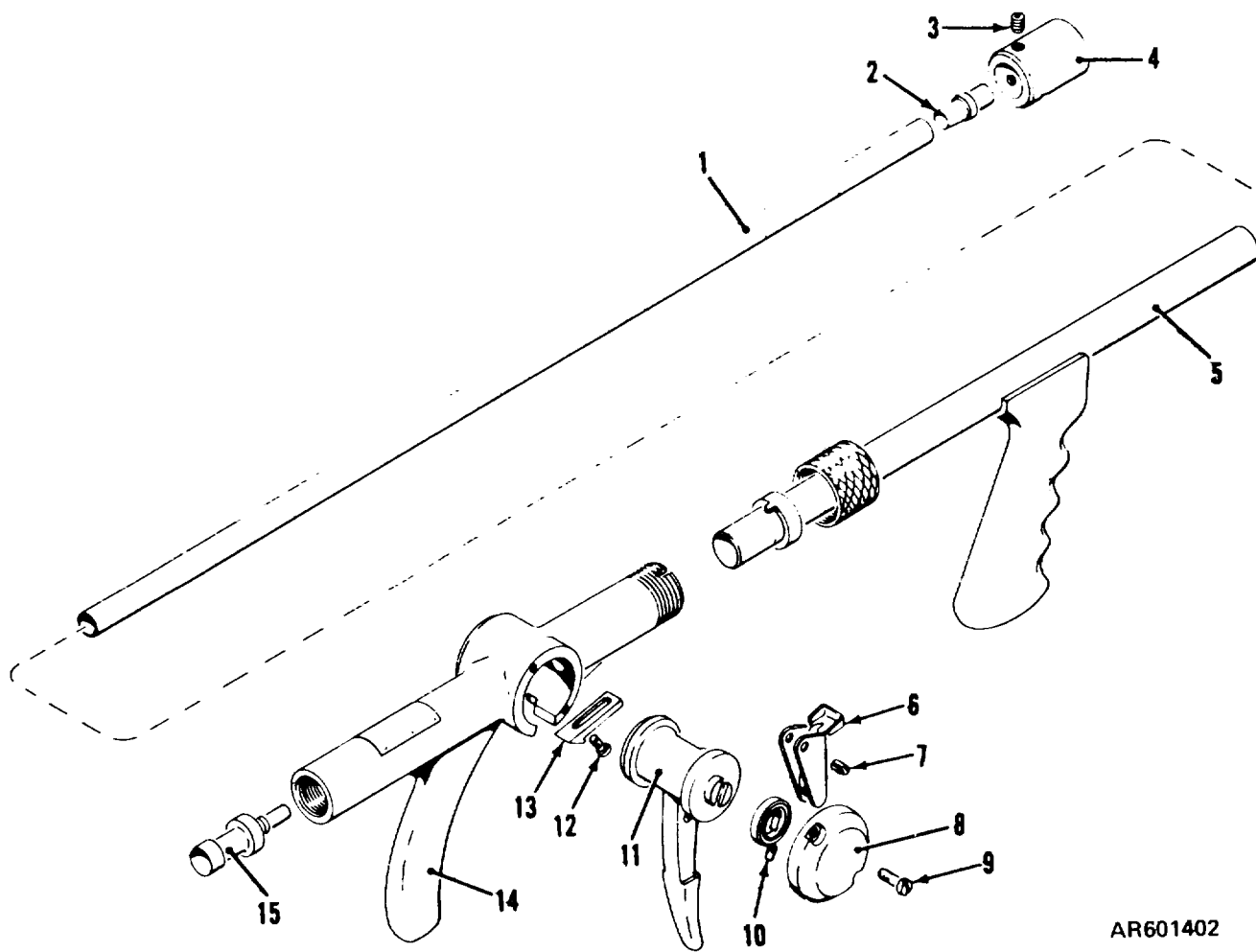


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Figure B-7. Accessories group.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
B-7	1	PAOZZ	533-00-194-3720	AN6230-10	88044	GROUP: 400-ACCESSORIES PACKING PERFORMED, SYNTHETIC RUBBER 2-3/4 IN. ID. 3 IN. OD, 1/8 IN. O/AH	EA	1
B-7	2	PAOZZ	1040-00-790-5562	B116-6-130	81361	TIE DOWN, HOSE	EA	1
B-7	3	PAOZZ	1040-00-789-0490	C116-6-131	81361	TIE DOWN, HELICOPTER FRAM	EA	1
B-7	4	PAOZZ	1040-00-835-3657	C116-6-268	81361	SNAP HOOK AND RING ASSEMBLY	EA	4
B-7	5	PAOZZ	4240-00-999-0420	MIL-H-51291 MU/TYPE M6A2	81349	HOOD, CHEMICAL BIOLOGICAL MASK, M6A2	EA	2
B-7	6	PAOZZ	1670-00-360-0551	MIL-T-7181 TYPE A-1A	81349	TIE DOWN, CARGO, AIRCRAFT COTTON WEBBING, 2400 LB MIN BREAKING STRENGTH. 15 + T. 3 IN. LG., 2 IN. W. W/TIGHTENING DEVICE	EA	4
B-7	7	AOCZZ	C116-6-164		81361	HOSE ASSEMBLY	EA	1
B-7	8	PAOZZ	4730-00-442-9721	D150-1-11-7	81361	COUPLING HALF, QUICK DISCON- NECT AL, PUSH PULL TYPE, FLUID CONNECTION END THD FEMALE, U/W, 1-1/2 IN. OD, TUBE, 1-1/2-11-1/2 NPTF	EA	2
B-7	9	PAOZZ	4710-00-454-7488	WW-T-700-6	81348	TUBE, AL, 12 IN. LG., 1.500 OD. O.O49 IN., NOM WALL TICKNESS	EA	1
B-7	10	PAOZZ	4730-00-909-8627	MS35842-13	96906	CLAMP HOSE	EA	2
B-7	11	PAOZZ	4720-00-084-7429	B116-6-185	81361	ADAPTER, STRAIGHT, PIPE TO HOSE AL, 1-1/2 IN. NOM HOSE SIZE, 3-3/4 IN O/A LG	EA	1
B-7	13	PAOZZ	8415-00-266-8677	ZZ-G-381	81348	GLOVES, RUBBER, SYNTHETIC RUBBER, 14 IN. LG. SIZE 10	PR	2
B-7	14	PAOZZ	4720-00-061-4648	C116-6-190-4	81361	HOSE ASSEMBLY, RUBBER, SYN- THETIC IMPREGNATED, OIL RESISTANT COTTON BRAID, 5/8 IN. ID 2/3-4-14 NPT, 10 FT LG, MALE FITTINGS ON EACH END	EA	1
B-7	15	PAOZZ	1040-00-084-7430	B116-6-204	81361	PLATE, COVER AL	EA	1
B-7	16	PAOZZ	4730-00-541-6236	MIL-F-20872	81349	BUSHING PIPE, AL, 1-1/2-11-1/2 NPT	EA	1
B-7	17	PAOZZ	1040-00-062-0509	B116-6-172	81361	DISC, RUPTURE	EA	1
B-7	18	PAOZZ	5330-00-265-1092	MS29513-219	96906	PACKING, PERFORMED, SYNTHETIC RUBBER 1.296 IN., ID. 1.574 IN. OD, IN. O/AH	EA	2



AR601402

Figure B-8. Accessories group, gun section.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP: 400-ACCESSORIES (CONT) GUN SECTION		
B-8		PAOFF	1040-00-771-4557	D116-4-16	81361	GUN, PORTABLE, RIOT CONTROL	EA	1
B-8	1	PAOZZ	4720-00-812-0205	MIL-R-3065	81349	AGENT, DISPERSER, M9	EA	1
B-8	2	PAOZZ	1040-00-777-2793	B116-4-32	81361	TUBING, RUBBER, BLACK, 0.343 IN. TYPE R, OD, 0.109 IN. WALL THK, 25.314 IN. CLASS RN LG	EA	1
B-8	3	PAOZZ	5305-00-724-5811	MS51964-64	96906	SLEEVE, AL, 0.386 IN. ID, 0.812 IN. OD, 1.343 IN. O/A LG I	EA	3
B-8	4	PAOZZ	1040-00-777-2794	B116-4-33	81361	SETSCREW, STL, #1/4-20, 0.250 IN. LG	EA	1
B-8	5	PAOZZ	1040-00-771-4552	C116-4-26	81361	COLLAR, AL, 1-3/8 IN. DIA, 1-5/8 IN. LG	EA	1
B-8	6	PAFZZ	1040-00-771-4551	B116-4-28	81361	BARREL ASSEMBLY	EA	1
B-8	7	PAFZZ	5315-00-826-3251	MS16562-223	96906	SAFETY, TRIGGER ASSEMBLY	EA	1
B-8	8	PAOZZ	1040-00-771-4553	C116-4-29	81361	PIN, SPRING, STL, 0.625 DIA, 0.028 IN. LG	EA	1
B-8	9	PAOZZ	5305-00-984-6193	MS35206-245	96906	PLATE, COVER	EA	2
B-8	10	PAOZZ	1040-00-771-4554	B116-4-25	81361	SCREWW, MACHINE, STL, #8-32, 0.500 IN. LG	EA	1
B-8	11	PAFZZ	1040-00-439-7985	D116-4-24	81361	SPRING, TRIGGER	EA	1
B-8	12	PAOZZ	5305-00-984-4984	MS35206-227	96906	TRIGGER, RELEASE	EA	2
B-8	13	PAOZZ	1040-00-822-1188	B116-4-35	81361	SCREW, MACHINE, STL, CRES, #6-32, 0.312 IN. LG	EA	1
B-8	14	PAFZZ	1040-00-771-4555	D116-4-17	81361	CATCH, SAFETY	EA	1
B-8	15	PAOZZ	1040-00-771-4558	B116-4-23	81361	BODY, VALVE	EA	1
						CONNECTOR	EA	1
					B-21			

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

<u>National Stock Number</u>	<u>Fig No.</u>	<u>Item No.</u>	<u>National Stock Number</u>	<u>Fig No.</u>	<u>Item No.</u>
1040-00-045-3399	B-1	7	4730-00-260-1483	B-3	17
1040-00-062-0509	B-5	6	4730-00-277-2676	B-5	10
	B-7	17	4730-00-277-2887	B-5	24
1040-00-081-8297	B-3	10	4730-00-277-5104	B-3	20
1040-00-084-2930	B-3	12	4730-00-277-2887	B-5	24
	B-5	9	4730-00-278-2681	B-5	12
1040-00-084-2932	B-3	7	4730-00-287-0946	B-3	9
	B-5	16	4730-00-287-3694	B-5	20
1040-00-084-7430	B-7	15	4730-00-442-9721	B-7	8
1040-00-084-8158	B-1	11	4730-00-541-6236	B-7	16
1040-00-084-8159	B-3	26	4730-00-640-6008	B-3	6
1040-00-084-8160	B-3	3	4730-00-770-0978	B-3	27
1040-00-084-8161	B-5	5	4730-00-876-1309	B-4	17
1040-00-085-3414	B-1	12	4730-00-909-8627	B-7	10
1040-00-085-3416	B-3	4	4730-00-951-5652	B-1	24
1040-00-113-5990	B-3	..	4730-00-951-7688	B-5	22
1040-00-439-7985	B-8	11	4730-00-952-3180	B-5	11
1040-00-771-4551	B-8	6	4730-00-958-1475	B-3	13
1040-00-771-4552	B-8	5	4820-00-079-8887	B-5	25
1040-00-771-4553	B-8	8	4820-00-082-0313	B-1	17
1040-00-771-4554	B-8	10	4820-00-084-7427	B-1	20
1040-00-771-4555	B-8	14	4820-00-087-0218	B-5	8
1040-00-771-4557	B-8	--	4820-00-087-3505	B-3	5
1040-00-771-4558	B-8	15	4820-00-087-3506	B-3	28
1040-00-777-2793	B-8	2	4820-00-563-8573	B-4	11
1040-00-777-2794	B-8	4	4820-00-863-9139	B-4	13
1040-00-789-0490	B-7	3	4820-00-945-1940	B-3	11
1040-00-790-5562	B-7	2	4820-00-981-8420	B-4	21
1040-00-822-1188	B-8	13	4820-00-981-8421	B-4	1
1040-00-835-3657	B-7	4	4820-00-981-8423	B-4	2
1040-00-956-2523	B-2	1	4820-00-981-8426	B-4	8
1040-00-956-2524	B-2	4	4820-00-981-8428	B-4	10
1040-00-981-4766	B-4	16	5305-00-059-3655	B-5	3
1040-00-981-6597	B-4	..	5305-00-059-3657	B-6	4
1040-00-981-8419	B-2	..	5305-00-059-3660	B-1	2
1040-00-981-8422	B-4	3	5305-00-066-7326	B-6	2
1040-00-981-8424	B-4	5	5305-00-724-5811	B-8	3
1670-00-360-0551	B-7	6	5305-00-958-4352	B-1	6
2910-00-981-6601	B-4	6	5305-00-969-6914	B-1	10
2910-00-981-6602	B-4	4	5305-00-984-4984	B-8	12
4010-00-228-9949	B-1	9	5305-00-984-6193	B-8	9
4240-00-999-0420	B-7	5	5306-00-081-8286	B-1	22
4710-00-084-7428	B-3	1	5306-00-582-6411	B-1	23
4710-00-454-7488	B-7	9	5310-00-080-8495	B-1	13
4720-00-061-4648	B-7	14	5310-00-637-9541	B-1	21
4720-00-084-7429	B-7	11	5310-00-877-5797	B-1	5
4720-00-087-6921	B-3	16	5310-00-905-8451	B-6	6
4720-00-087-6922	B-5	13	5310-00-933-8120	B-5	2
4720-00-087-6923	B-5	21	5315-00-826-3251	B-8	7
4720-00-812-0205	B-8	1	5330-00-194-3720	B-1	14
4730-00-062-4334	B-5	14		B-7	1
4730-00-062-6068	B-1	15	5330-00-248-3850	B-5	23
4730-00-064-0001	B-1	16	5330-00-265-1092	B-1	8
4730-00-081-7256	B-3	8		B-7	18
4730-00-087-8732	B-7	12	5340-00-081-8291	B-5	7
4730-00-186-7784	B-3	19	5340-00-543-4091	B-1	3
4730-00-186-7786	B-5	19	5340-00-582-3934	B-6	3
4730-00-186-9963	B-3	15	5340-00-852-5093	B-6	5
4730-00-187-1387	B-5	15	5340-00-904-5220	B-2	7
4730-00-187-1392	B-3	25	5820-00-511-5740	B-1	4
4730-00-194-1121	B-3	21	6685-00-087-4573	B-5	1
4730-00-22317074	B-3	14	6685-00-087-6925	B-3	18
4730-00-223-7075	B-5	18	8415-00-266-8677	B-7	13
4730-00-256-4203	B-5	17	9505-00-596-5101	B-4	9

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

<u>Part Number</u>	<u>FSCM</u>	<u>Fig No.</u>	<u>Item No.</u>	<u>Part Number</u>	<u>FSCM</u>	<u>Fig. No.</u>	<u>Item No.</u>
AN6DD26A	88044	1	22	D116-4-24	81361	8	11
AN6230-10	88044	1	14	D116-163	81361	1	18
		7	1	D116-6-180	81361	3	10
AN6-30A	88044	1	23	D116-6-181	81361	1	1
AN816-6	88044	3	21	D116-6-216	81361	1	7
AN816-6-8	88044	3	6	D150-1-11-3	81361	5	14
AN9104D	88044	5	19	Class 2,			
AN911-2D	88044	3	19	Style A			
AN911-4D	88044	5	19	D150-1-117A2	81361	7	8
AN911-4J	88044	3	9	E116-6-171	81361	1	11
AN912-6D	88044	3	14	E116-6-178	81361	6	1
AN912-6D	88044	5	18	JH11-10	31435	3	2
AN914-3D	88044	5	10	J200AB-16	99657	4	20
AN914-4D	88044	5	15	J200AB-12	99657	4	15
AN916-2D	88044	3	25	J200AB136	99657	4	7
AN917-4D	88044	5	20	J200AB-14	99657	4	14
AN918-4D	88044	5	17	J200AB15	99657	4	14
AN932-D4	88044	1	19	J205A7124A	99657	4	4
AN932-D4 -	81361	1	19	MIL-F-20672	81349	7	16
B116-4-23	81361	8	15	MIL-F-20672,	81349	1	16
B116-4-25	81361	8	10	Table 5, Fig 8			
B116-4-28	81361	8	6				
BI 16-4-32 -	81361	8	2				
B116-4-33	81361	8	4	MIL-H-51291	81349	7	5
B116-4-35	81361	8	13	MIL-R-3065,	81349	8	1
B116-6-130	81361	7	2	Type R,			
B3116-6-168	81361	5	5	Class RN			
B 116-6-172	81361	5	6	MIL-T-7181	81349	7	6
		7	17	Type A-1A			
B116-6-174	81361	3	5	MS16562-223	96906	8	7
B116-6-177	81361	1	12	MS20822-4-4D	96906	3	15
B116-6-179	81361	3	4	MS20825-6	96906	3	20
B116-6-183-2	81361	3	12	MS21044N3	96906	1	5
		5	9	MS21083N06	96906	6	6
B116-6-183-3	81361	3	7	MS21920-57	96906	3	8
		5	16	MS24617-10	96906	1	10
B116-6-185	81361	7	11	MS24693C24	96906	6	2
B116-6-186	81361	7	12	MS29513-116	96906	5	23
B1116-6-194	81361	5	7	MS29513-219	96906	1	8
B13116-6-204	81361	7	15			7	18
B116-6-209	81361	3	27	MS35206-227	96906	8	12
B81-3-18	81361	2	5	MS35206-245	96906	8	9
C116-4-26	81361	8	5	MS35207-228	96906	1	6
C116-4-29	81361	8	8	MS35338-46	96906	1	21
C116-6-131	81361	7	3	MS35338-138	96906	5	2
C116-6-164	81361	7	7	MS35425-39	96906	1	13
C116-6-165	81361	5	4	MS35842-13	96906	7	11
C116-6-169	81361	3	11	MS51958-59	96906	5	3
C116-6-170	81361	1	20	MS51958-61	96906	6	4
C116-6-190-1	81361	5	21	MS51958-64	96906	1	2
C116-6-190-2	81361	5	13	MS51964-64	96906	8	3
C116-6-190-3	81361	3	16	NAS1334-AS03D	81361	2	7
C116-6-190-4	81361	7	14	P12227W	58553	3	24
C116-6-191	81361	3	3	P12229A	58553	3	23
C116-6-192	81361	3	1	P122215C	58553	3	22
C116-6-195	81361	3	26	P1222-25W	58553	3	
C116-6-206	81361	2	4	QQ-W-423	81348	4	9
C116-6-206	81361	2	4	RR-C-271,	81348	2	6
C116-6-207	81361	2	1	Type2,			
C116-6-268	81361	7	4	Class 6			
C150-1-3	81361	1	15	QQ-C-271.	81348	1	9
Class II				Type 2,			
Style B				Class 6			
C150-1-7-2B	81361	1	24	Class 6			
D1116-4-16	81361	8	-	SC-B-20651-1	80063	1	4
D116-4-17	81361	8	14	SC-D-20649	80063	1	3

Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

<u>Part Number</u>	<u>FSCM</u>	<u>Fig No.</u>	<u>Item No.</u>	<u>Part Number</u>	<u>FSCM</u>	<u>Fig. No.</u>	<u>Item No.</u>
SC-D-20650-25	80063	6	3	146712	99657	4	16
WW-T-700-6	81348	7	9	147741	99657	4	17
ZZ-G-381	81348	7	13	152603	99657	4	6
Type 1,				152614	99567	4	226
Class 2				2021-8-8B	01276	5	24
100-300-13-2	99378	6	5	2040-6-6S	70709	3	29
10063-8	28968	3	27	2083-8-65	01276	5	11
100691	99657	4	21	2092-6-65	01276	3	13
107381	99657	4	11	21 DFM 1/4	38508	5	1
120002104	99657	4	10	200			
120002105	99657	4	12	2-1/2 5 DFM	38508	3	18
1-2 4-3-3T	98991	2	2,3 8,9	1/4 3000, Type 5			
1-19-78,9				2-163-1	86768	5	25
139812-1	99657	4	18	309GG3-8D	86768	5	8
146342	99657	4	8	3304X2	79470	3	17
146352	99657	4	3	4205A7124A	99657	4	4
146382	99657	4	2	489-1-2D1	86768	1	17
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