TECHNICAL MANUAL

GS MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

FLOW REGULATING VALVE ASSEMBLY PART NUMBER 38E59-4A

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 OCTOBER 1971

WARNING

PRECAUTIONARY DATA

Personnel performing instructions involving operations, procedures and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings and precautionary information can cause serious injury, death, or an aborted mission.

TOXIC FUMES OF CLEANING SOLVENTS. Due to the toxicity and flammability of the solvent solutions used in cleaning procedures, adequate ventilation must be provided. Avoid prolonged contact with solutions and chemicals. Do not use dry cleaning solvent or flammable cleaners near an open flame or in an area where very high temperatures prevail.

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SECTION I

INTRODUCTION

1-1. General Information

This technical manual contains overhaul instructions for flow regulating valve assembly, part number 38E59-4A (figure 1-1) manufactured by Bendix, Utica, N.Y. Sections I through IV of this technical manual contain instructions for this part number. Overhaul instructions for additional part numbers will be provided in section V by the use of diffenence data sheets.

1-2. Reporting of Improvements.

Report of errors, omissions and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028, Recommended Changes to DA Pubucations, and forwarded direct to: Commanding General, U. S. Army Aviation Systems Command, ATTN: AMSAV-R-M, P.O. Box 209 Main Office, St. Louis, Missouri 63166.

1-3. Quality Control Personnel.

Quality control personnel l - insure complete compliance with quantity program and/or inspection system requirements specified in the contract and this manual.

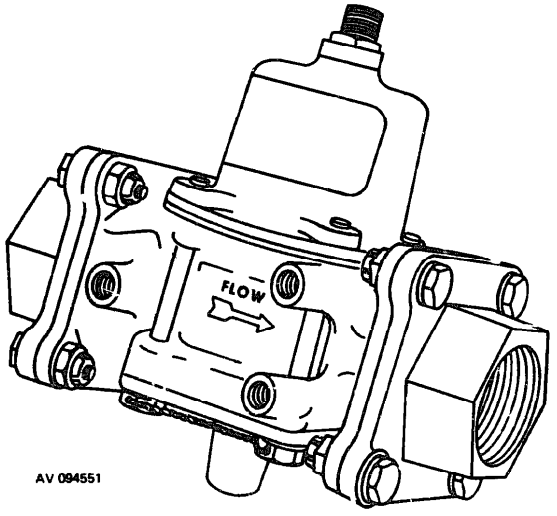


Figure 1-1. Flow Regulating Valve Assembly, *Part Number 38E59-4A.*

1-4. Purpose.

The flow regulating valve assembly is used to regulate incoming bleed air to approximately 16 psi of pressure for the instrument, deicing, and autopilot systems.

1-5. Equipment Records.

The Army Maintenance Management System, established in TM 38-750, applies to this equipment. The applicable forms as required by TM 38-750 shall be used.

1-6. Description.

The flow regulating valve assembly (38E59-4A) is a regulating and relief valve operating on hot air ranging from 100° F (38° C) to 500° F, (260° C) with a maximum pressure differential between the faces of the diaphragm of 30 psi.

1-7. Leading Particulars.

Leading particulars are listed in table 1-1.

Table 1-1. Leading Particulars

Regulatea Pressure	16.5 psi + 1.0
Input Pressure	30-150 psi
Rated Capacity	20 Standard Cubic Feet Per Minute (SCFM)
Air Temperature	-65° F (-53° C) to 550° F (288° C)
Relief Valve Cracking Pressure	22.0 psi + 0.75
Weight	1.65 lbs.

1-8. Painting Requirements

Not applicable.

1-9 preservation, Packing and Marking Requirements.

Preserve, package, pack, and mark flow regulating valve assembly in accordance with figure 1-2.

PRESERVATION, PACKAGING, PACKING AND MARKING REQUIREMENTS

NOMENCLATURE	STOCK NUMBER	PART NUMBER
Valve, Regulating	4810-993-5463	38E59-4A

NET WEIGHT	DIMENSIONS (Item)	GROSS WEIGHT	CUBIC FEET
1.65 lbs	6" x 5.2" x 3"	2 lbs	.2

All specifications and standards applicable to the requirements herein shall be the issue in effect on date of invitation for bids.

PACKAGING

[X] LEVEL A [ ] LEVEL C

[X] PACKAGING SHALL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-110. THE FOLLOWING DETAILED REQUIREMENTS SHALL APPLY

UNIT PKG QTY	METHOD	PRESERVATIVE	WRAP	DUNNAGE	CONTAINER
1	LA-15	NONE	*	PPP-C-843	PPP-B-636

[ ] OTHER * Cap openings with plastic caps. Wrap with ML-P-17667.

[ ] PRESERVATION AND PACKAGING SHALL BE SUCH AS To PREVENT DETERIORATION OR DAMAGE DURING HANDLING AND SHIPMENT TO THE FIRST DESTINATION

PACKING [ ] LEVEL A [X] LEVEL c

[ ] ITEMS SHALL BE PACKED IN CONTAINERS CONFORMING TO SPECIFICATION NO

[ ] PLYWOOD USED SHALL BE STANDARD GRADE WITH EXTERIOR GLUE OF GROUP B OF NN-P 530 THIS PLYWOOD SHALL BE TREATED WITH AVATER REPELLANT CON FORMING TO TT W 572 PLYWOOD CONTAINERS SHALL BE CONSTRUCTED WITH FILLER CLEATS ON ALL PANELS EITHER BE BEVELED OR NOTCHED 1/4 INCH ON THE BOTTOM OF EACH END. OR SHALL BE OF SUCH LENGTH AS TO LEAVE A 1/4 INCH CHANNEL FOR DRAINAGE ON EACH END. PER PPP-S-501,

[X] ITEM SHALL BE PACKED IN A MANNER TO INSURE CARRIER ACCEPTANCE AND SAFE DELIVERY AT DESTINATION. CONTAINERS SHALL BE IN ACCORDANCE WITH UNIFORM FREIGHT CLASSIFICATION RULES OR REGULATIONS OF OTHER CARRIERS APPLICABLE TO THE MODE OF TRANSPORTATION.

[ ] OTHER

MARKING

[X] a MARKING FOR SHIPMENTS (1968 JUN) THE CONTRACTOR SHALL MARK ALL SHIPMENTS UNDER THIS CONTRACT IN ACCORDANCE WITH THE EDITION OF MIL-STD-129. MARKING FOR SHIPMENT AND STORAGE" IN EFFECT AS OF THE DATE OF THIS SOLICITATION (ASPR 7-10468) IN ADDITION, PART NUMBER AND SERIAL NUMBER IA ANY SHALL BE MARKED ON UNIT CONTAINER.

[ ] b ADDITIONAL MARKING REQUIREMENTS. EACH INTERIOR PACKAGE SHALL BE MARKED ON AT LEAST TWO (2) SIDES WITH A SILHOUETTE OF THE DIRCRAFT. (WHERE THE SIZE OF THE UNIT CONTAINER IS TOO SMALL TO PERMIT THE APPLICATION OF TWO (2) LABELS. A SINGLE LABEL SHILL BE APPLIED. IF THE PACKAGE IS TOO SMALL FOR ONE (1) NONE WILL BE REQUIRED) WHEN THE UNIT CONTAINER IS THE SHIPPING CONTAINER AND THE ITEM IS PACKED LEVEL A' EACH CONTAINER SHALL BE MARKED ON TWO (2) SIDES. TOP AND ONE (1) END WITH A SILHOUETTE OF THE AIRCRAFT THE SIZE OF THE SILHOUETTE MAY VARY, BUT WILL BE LARGE ENOUGH TO FACILITATE EASY VISUAL IDENTIFICATION WITHOUT OBSCURING OTHER MARKINGS. THE NOMENCLATURE OF THE MAJOR COMPONENTS SHALL BE EXTENDED TO INDICATE THE END ITEM APPLICATION AND THE POSITION OF THE PART e.g. REAR BOX MAIN FOR (APPLICABLE AIRCRAFT) WING ASSEMBLY RIGHT. FOR (APPLICABLE AIRCRAFT REQUESTS FOR SILHOUETTES SHOULD BE SUBMITTED AT LEAST 20 DAYS PRIOR TO SHIPMENT TO COMMANDING OFFICER, TO BY HANNA ARMY DEPOT ATTN AMXTO-TI TOBYHANNA PA 8466

[X] c. MATERIEL CONDITION MARKING SHALL BE APPLIED IN ACCORDANCE WITH PARAGRAPHS IS OF MIL-STD-129. A MATERIEL CONDITION TAG OF THE APPLICABLE TYPE WILL BE SECURELY. ATTACHED DIRECTLY TO ALL UNINSTALLED OR STORED AERONAUTICAL OR AIR DELIVERY ITEMS. WHEN SUCH ITEMS ARE PLACED OR STORED IN CARTONS, PACKAGES. CRATES OR METAL SHIPPING CONTAINERS A DUPLICATE MATERIEL CONDITION TAG OR LABEL WILL BE SECURELY ATTACHED TO THE EXTERIOR OF THE PACKAGE OR CONTAINER IN SUCH A MANNER THAT WILL AFFORD MAXIMUM PROTECTION FROM HANDLING AND WEATHER TAGS WILL BE COMPLETED EITHER BY TYPEWRITTEN OR PRINTED BLACK LEAD PENCIL ENTRIES ITEMS OF A COMMON OR NONTECHNICAL NATURE (I.e., COMMON HARDWARE, BULK MATERIALS, ETC) THE SERVICEABILITY OF WHICH IS OBVIOUS, AND THE IDENTITY AND INSPECTION REQUIREMENTS ADEQUATELY INDICATED BY COMMERCIAL TAGS LABELS OR MARKINGS MAY BE RECEIVED, STORED, ISSUED OR SHIPPED WITHOUT MATERIEL CONDITION TAGS.

[ ] d. OTHER

Figure 1-2. Preservation, Packing, and Marking Requirements

SECTION II

TEST EQUIPMENT, SPECIAL TOOLS AND MATERIALS

2-1. Test Equipment.

Test equipment required for testing the flow regulating valve assembly is listed in table 2-1.

Table 2-1. Test Equipment Required

EQUIPMENT	QTY	USED FOR
Shop air supplying air pressure to regulator up to 90 psi	AR	Carry air supply
1-inch OD Tubing and fittings		
AN814-12 Plug	1	Sealing inlet port
Pressure	2	Line tap for pressure gage
Standard regulator	1	Air supply regulation
Gate or ball valve	1	Air supply shut-off
Glove valve	1	Throttling flow
3-30 scfm flowmeter	1	Flow reading
2-20 standard cubic feet per hour scfh flowmeter	1	Relief flow reading
0-30 PSI Pressure gage	1	Inlet pressure reading
0-100 PSI Pressure gage	1	Outlet pressure reading

2-2. Special Tools.

None required.

2-3. Fabrication Shop Aid.

A shop aid may be fabricated to serve as a pressure tap in the test setup. See figure 2-1.

a. Cut off the threaded portion of a flared tube union (AN815-4 to fit an AN818-4 nut).

b. Weld the threaded portion of the union onto 1-inch OD tubing.

NOTE

The tubing should be 15 inches or more in length The fitting should be positioned approximately 5 inches from the end.

c. Before drilling, insert a rod into the tube as shown in figure 2-1. Burrs inside the tube will create an undesirable turbulence of the air flow. The rod is used to prevent burrs from forming.

d. Use a l/$-inch drill bit to spot a drill mark, turning the bit with your fingers while applying pressure.

e. Drill a No. 56 (0.46 inch dia.) through the tube into the rod.

f. Remove the rod and remove burrs inside of tube.

2-4. Consumable Materials.

Consumable materials required during overhaul of the flow regulating valve assembly are listed in table 2-2.

Tab& 2-2. Consumable Materials Required

ITEM NO.	MATERIAL	TYPE OR GRADE	COVERNMENT SPECIFICATION
1	Dry cleaning solvent		P-D-680
2	Lockwire		MS20995C20
3	Crocus cloth		P-C-458
4	Lubricating oil		MIL-L-6081
5	Fluid fluorosilicone 1265 (Dow Coming or equivalent)		

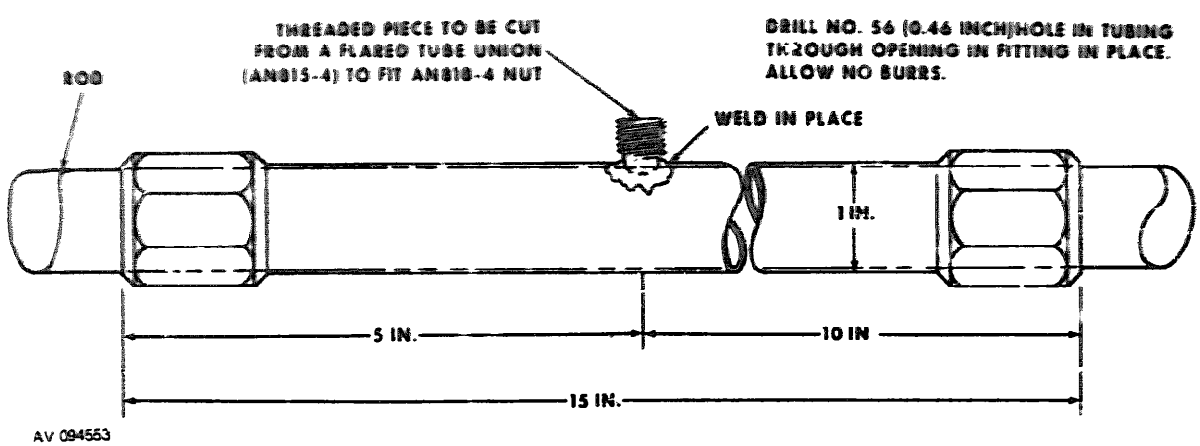


Figure 2-1. Fabrication of Shop Aid-Pressure Tap.

SECTION III

GENERAL SUPPORT MAINTENANCE

3-1. Illustrated Parts Breakdown.

The illustrated parts breakdown incorporates an exploded view illustration (figure 3–1) and a listing of parts in disassembly order, as near as practicable to provide complete identification of all parts comprising the flow regulating valve assembly, part number 38E59–4A.

3-2. Disassembly.

Disassembly of the flow regulating valve assembly is as follows. See figure 3-1.

a. Remove nuts (I), washers (3 j and bolts (2) from housing (24).

b. Remove adapters (4), gaskets (5) from housing (24). Discard gaskets.

c. Disassembly of relief valve cover (10) with items (11) and (12) intact can be accomplished as follows:

CAUTION

Springs (14) and (16) under cover (10) will create no hazard since their load will not be dissipated when bolts (6) are backed out.

(1) Cut lockwire and remove bolts (6) and washers (7) while holding valve cover in hand.

(2) Lift relief valve cover (10) from housing (24). Remove seat (13), spring (14), housing (15), spring (16), and seat (17).

FIGURE & INDEX NO.	PART NUMBER	DESCRIPTION	QTY PER ASSY
3-1	38E59-4A	VALVE ASSEMBLY, Flow Regulating	1
-1	645213B28	. LIGHT HEX, Lock Nut	8
-2	AN104613	. BOLT	8
-3	AN960C10L	. WASHER, Flat	16
-4	2481022	. ADAPTER, Relief Valve	2
-5	2481044	. GASKET, Adapter Valve	2
-6	MS20073-03-22	. BOLT, Hex Head	4
-7	AN960C10L	. WASHER, Flat	4
-8	2481043	. COVER, Regulator Valve	1
-9	2481042	. GASKET, Regulator Valve Cover	1
-10	2481023	. COVER, Relief Valve	1
-11	2481040	. SETSCREW	1
-12	6451067P624	. NUT, Lock Thin	1
-13	2481045	. SEAT, Spring	1
-14	2481037	. SPRING, Air Valve	1
-15	2481039	. HOUSING, Air Valve Spring	1
-16	2481038	. SPRING, Air Valve Relief	1
-17	2481053	. SEAT, Spring	1
-18	MS21043-06	NUT, Extended Washer	1
-19	2481049	. SHAFT, Shouldered	1
-20	2481050	. SEAT, Valve	1
-21	2481629	. SPACER, Relief Valve Cover	1
-22	2481052	. DIAPHRAGM and Plate	1
-23	2481046	. PLATE, Diaphragm and Plate	1
-24	2481062	. HOUSING, Valve	1
-25	MS28775–011	. PACKING, Preformed	1

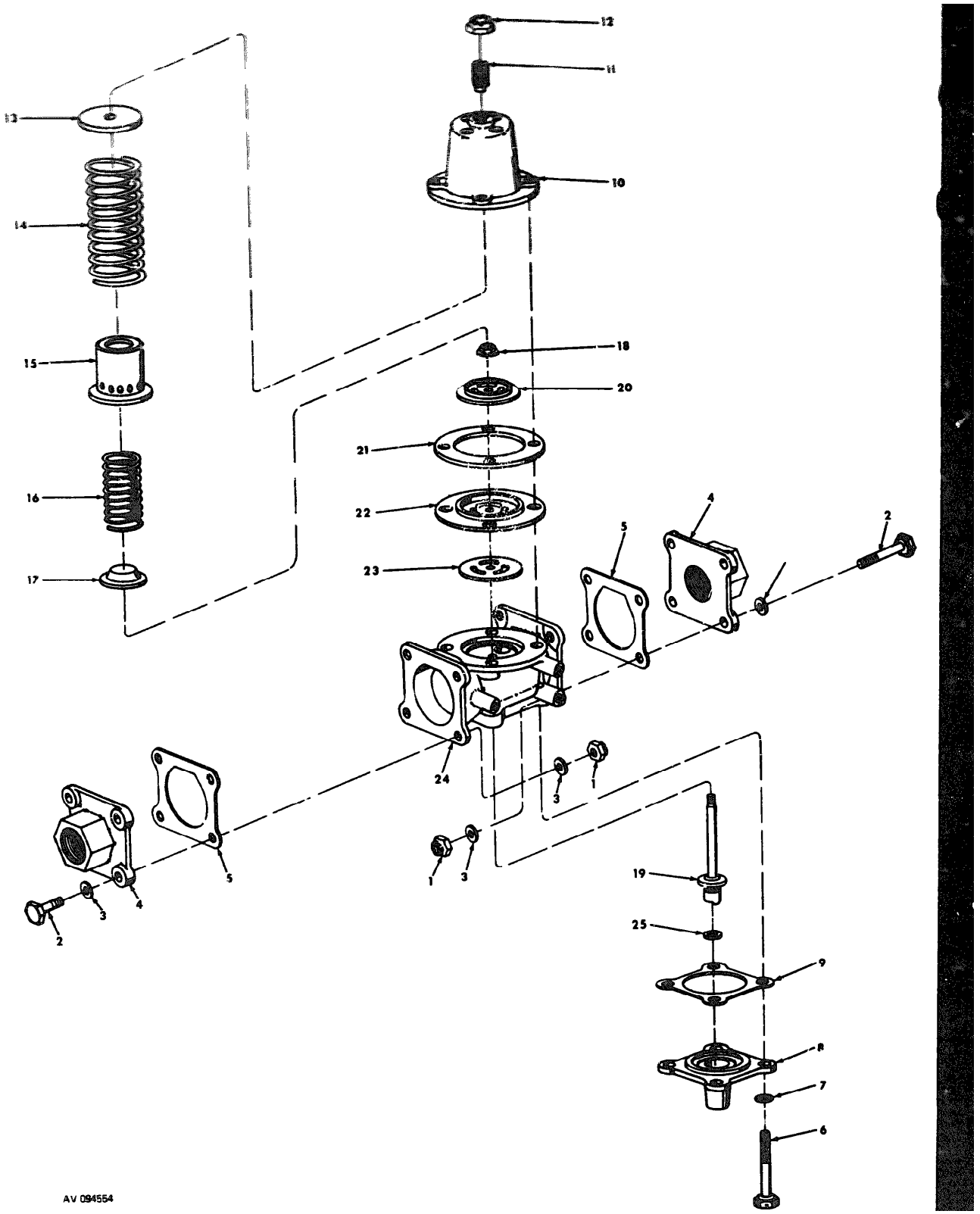


Figure 3-1. Exploded View-Flow Regulating Valve Assembly.

d. Hold unit in an upright position. Remove regulator valve cover (8) and gasket (9).

e. Hold shouldered shaft (19) with an adjustable wrench, being sure not to damage it while removing nut (18).

f. Remove shaft (19), plate (23), diaphragm (22), spacer (21), and seat (26). Discard diaphragm.

g. Remove preformed packing (25) from shaft (19). Discard preformed packing (25).

3-3. Cleaning.

Clean flow regulating valve assembly as follows:

a. Thoroughly wash all parts with solvent (item I, table 2-2).

b. Dry all parts with a clean, dry, filtered air.

3-4. Inspection.

Inspect all components of the flow regulating valve assembly as follows:

a. Arrange parts to permit ready Inspection with reference to other parts which may have been affected by a worn part.

b. Discard or mark for replacement any part found to be unfit for further service.

c Under a strong light and preferably under magnification, inspect all parts for obvious signs of damage or excessive wear.

d. Refer to table 3–1 for classification or defects found in inspection of the disassembled flow regulating valve assembly.

Table 3-1. Classification of Defects

MAJOR DEFECTS
1. Scratches in seating surfaces.
2. Visible wear on any part.
3. Roughness of seating surfaces.
4. Cracks or other visible damage.
5. Stripped threads.
6. Distortion in springs.
7. Metal surfaces for corrosion.
MINOR DEFECTS
8. Scratches, nicks and burrs in uncritical areas that can be smoothed with crocus cloth.

e. Refer to table 3-2 for inspection of various components of the flow regulating valve assembly.

Table 3-2. Detail Inspection Requirements after Cleaning

FIG 3-1 INDEX	NOMENCLATURE	REF NO	MAJOR DEFECTS	METHOD OF INSPECTION	REF NO	MINOR DEFECTS	METHOD OF INSP	REMARKS
4	Relief valve adapter	4	Cracks	Radiographic, penetrant	8	*	Visual	
8	Regulator valve cover	2	Wear, cracks	Radiographic, penetrant	8	*	Visual	If shaft (19) has been worn pay particular notice
10	Relief valve cover	4	Cracks	Radiographic, penetrant	8	*	Visual	
11	Setscrew	2,5	Wear	Visual				
13, 17	Spring seat	1,2,3	Scoring, wear, rough surface	Magnetic particle	8	*	Visual	Seating surface must be free of any marks, grooves or other irregularities
20	Valve seat	1,2,3	Scoring, wear, rough surface	Magnetic particle	8	*	Visual	Seating surface must be free of any marks, grooves and other
23	Diaphragm retainer plate	2,3	Sharp edges, rough surface	Magnetic particle	8	*	Visual	irregularities
24	Valve housing	4	Cracks	Radiographic, penetrant	8	*	Visual	
	All metal surfaces	7	Corrosion	Visual				

*See table 3-1

3-5. Repair and Replacement.

Repair or replace disassembled parts of flow regulating valve assembly as follows:

a. Replace all worn, damaged or corroded parts.

b. Replace diaphragm and plate (22) and shouldered shaft (20).

c. Slight surface defects or corrosion may be corrected by polishing carefully with crocus cloth (item 3, table 2–2) and lubricating oil (item 4, table 2–2).

3-6. Lubrication.

Lubricate new preformed packing (25) with fluid (item 5, table 2-2).

3-7. Modification Criteria.

Not applicable.

3-8. Reassembly.

Reassembly of the flow regulating valve is as follows: (See figures 3-1 and 3-2).

a. Install lubricated preformed packing (25, figure 3-1) on shouldered shaft (19).

CAUTION

When replacing nut (18) on shaft (19) use care when holding shaft to avoid damage while tightening nut (18).

NOTE

Beveled side of plate (23) faces diaphragm and plate (22).

b. Install shaft (19), plate (23), diaphragm and plate (22), and seat (20) in valve housing (23). Align holes and secure with nut (18) and shaft (19).

c. Install cover (8), and spacer (21) on valve housing (25). Align spacer, cover, and diaphragm and plate by inserting washers (7) and bolts (6) at this time.

d. Install seat (17), spring (16), housing (15), spring (14), and spring seat (13).

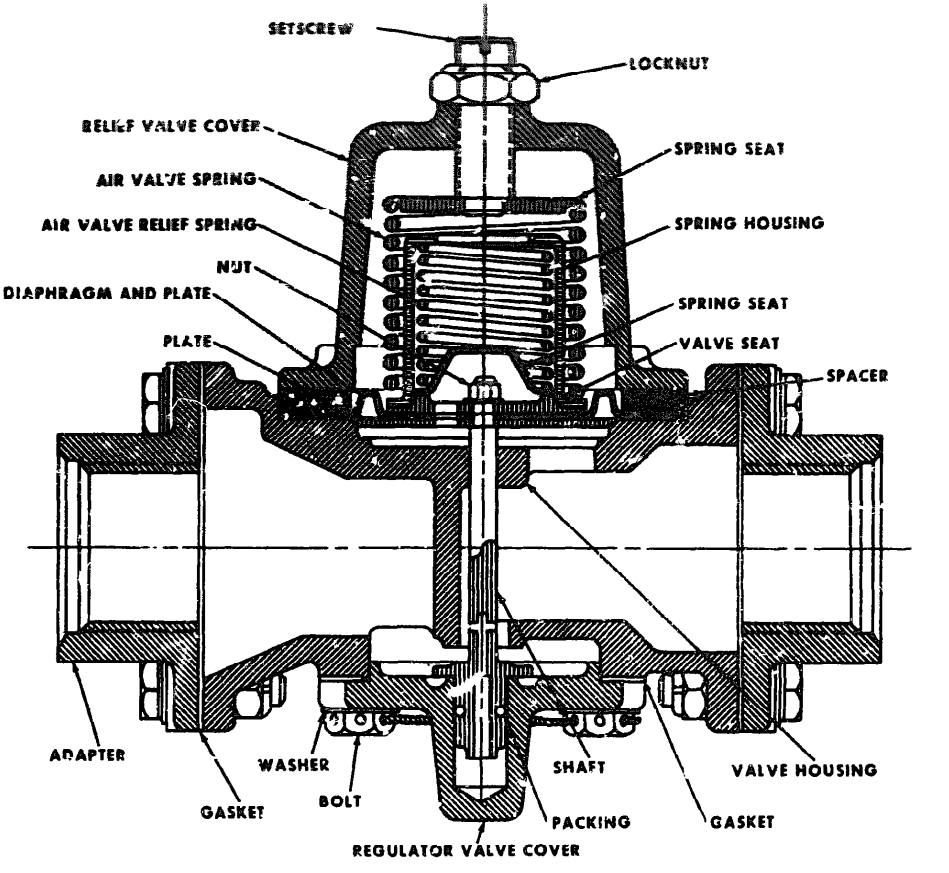
CAUTION

When installing relief valve cover (10), maintain even tension in order to be sure setscrew (11) is lined up properly in spring seat (13) before tightening bolts (6).

e Install relief valve cover (10). Compress cover to valve housing and secure with bolts (6). Safety with lockwire (item 2, table 2-2). Refer to TM 55-1500-204-25/1 for safety information.

f. Install gaskets (5) and adapters (4) on valve housing (24) and secure with washers (3), bolts (2), and nuts (1).

g. Perform calibration and functional test. Refer to Section IV.



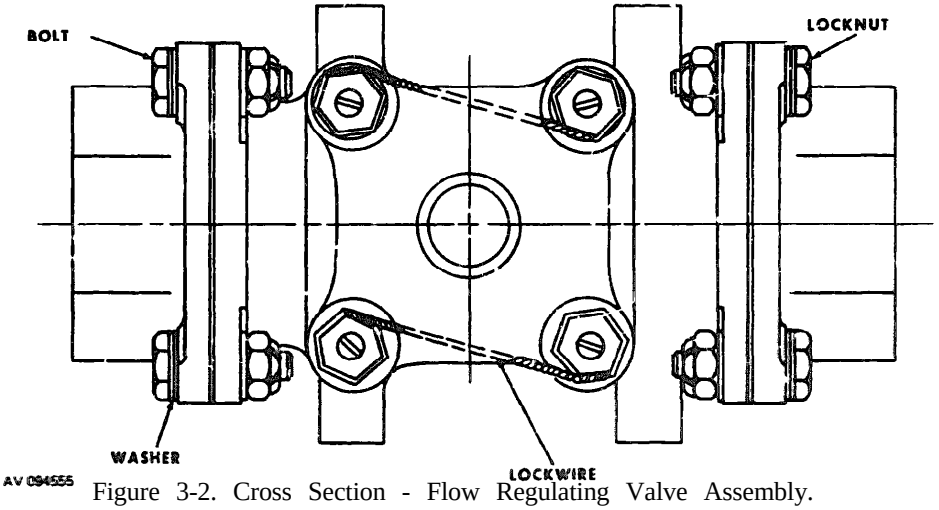


Figure 3-2. Cross Section - Flow Regulating Valve Assembly.

SECTION IV

TEST PROCEDURES

4-1. Initial Calibration.

CAUTION

Install valve in test set-up with flow arrow pointing in direction of flow.

NOTE

The valve setting referred to in step b is for guidance only in making initial setting. Readjustment will be necessary to meet requirements of minimum flow.

NOTE

If test bench is not available, see figure 4-1 for schematic of a fabricated test set-up.

a. Install valve assembly in test setup. Refer to table 2-1 for a list or" test equipment.

b. Adjust the **setscrew (11, figure 3–1),** to maintain 16 ± 0.08 psi regulated or discharged pressure when flowing **20 ± 0.50 scfm at inlet** pressure of 30 ± 1 psi.

4-2. Minimum Flow.

With inlet pressure of 90 ± 1 psi and flow of 5 ± 0.05 scfm, the regulated pressure should be 16.5 ± 0.08 psi.

4-3. Final Calibration.

With inlet pressure of 30 ± 1 psi and an air flow of 5 ± 0.50 scfm, the regulated pressure should be 16.5 ± 0.08 psi.

4-4. Crack and Reseat.

a. Install valve as shown in figure 4-2.

b. Gradually increase the pressure to 22 psi and the relieving flow should he 12 scfh.

c. Decrease the pressure to 18 psi and the leakage flow will not exceed 5 scfh maximum.

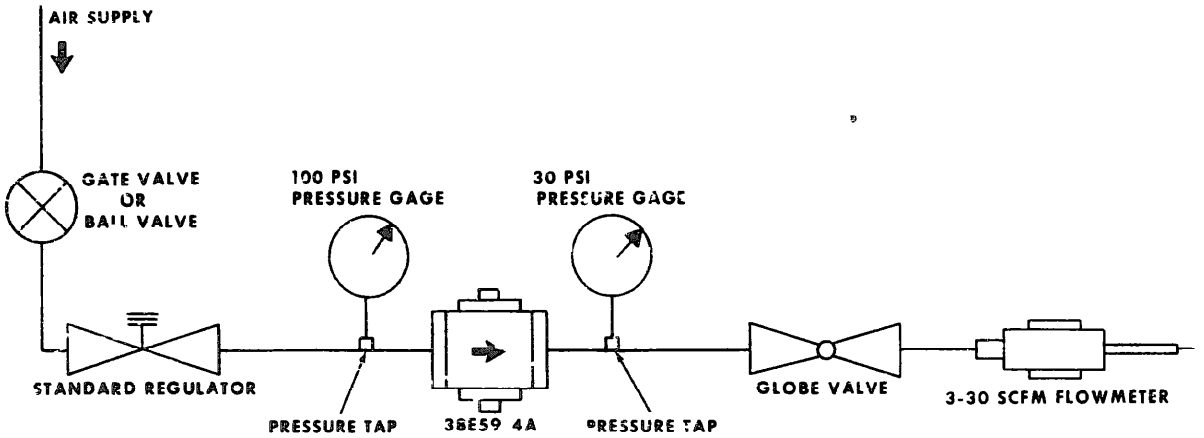


Figure 4-1. Schematic - Setup for Calibration Tests.

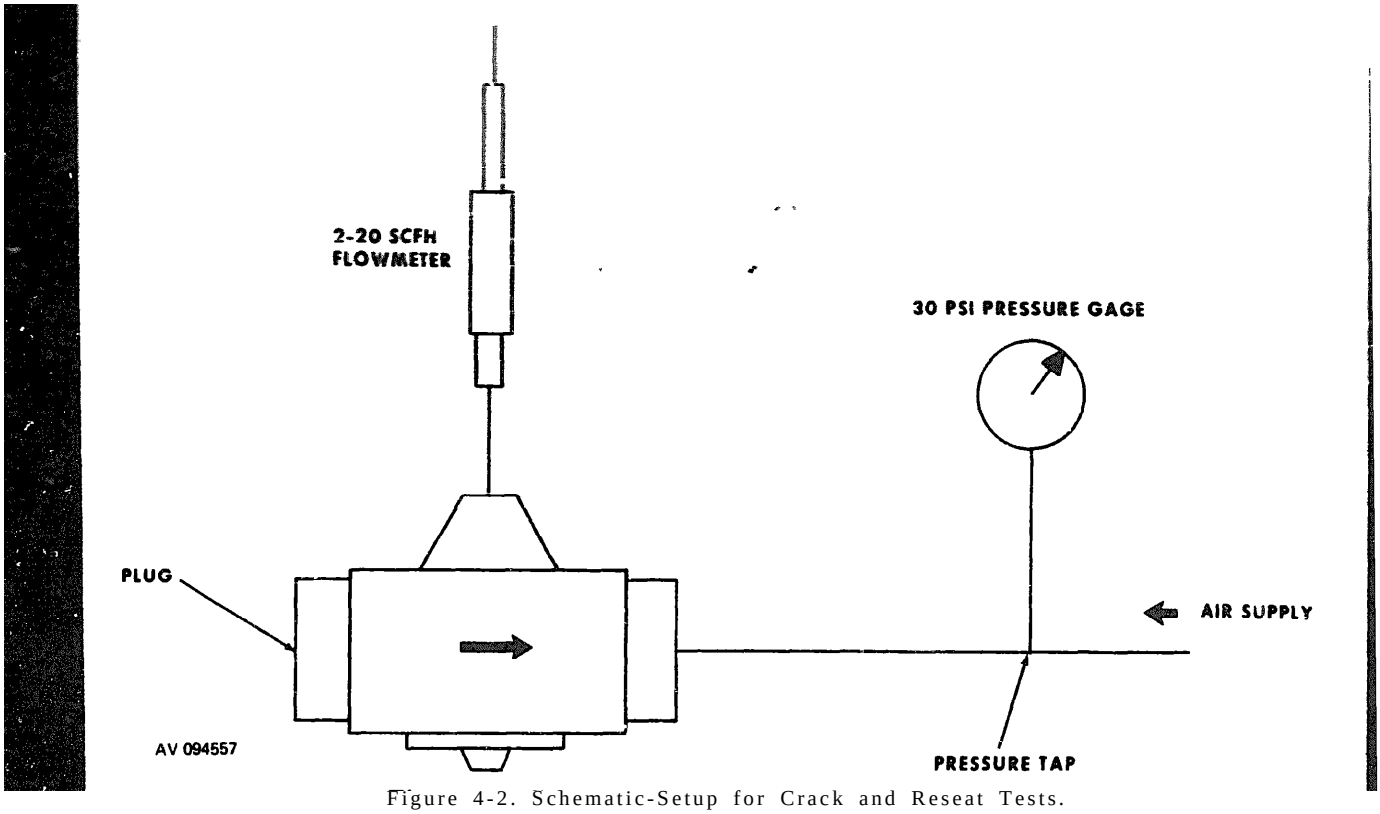


Figure 4-2. Schematic-Setup for Crack and Reseat Tests.

SECTION V

DIFFERENCE DATA SHEETS

Not applicable.

APPENDIX A

REFERENCES

MS33540	Safety wiring general practices
MIL-I-6868	Magnetic particle inspection process
MIL-I-6866	Penetrant method of inspection
TM 38-750	The Army Maintenance Management System
MIL-STD-453	Radiographic inspection
TM 55-1500-204-25/1	General Aircraft Maintenance Manual

APPENDIX B

REPAIR PARTS AND SPECIAL TOOLS LIST

(Current as of 10 Aug 1971)

Section I. INTRODUCTION

B-1. Scope.

This appendix lists repair parts, special tools, test and support equipment, and maintenance supplies required for the performance of general support maintenance of the valve, regulating, fluid pressure.

B-2. General

The Repair Parts and Special Tools Listing is divided into the following sections:

a. Repair Parts—Section II. A list of repair parts authorized for the performance of maintenance at the general support level in figure and item number sequence. Maintenance supplies (MSUP) are listed within the section in ascending Federal stock number sequence.

b. Special Tools, Test and Support Equipment--Section III. Not applicable.

c. Federal Stock Number and Reference Number Index-Section IV. This section IS divided as follows:

(1) A list of Federal stock numbers ix ascending numerical sequence cross-referenced to tie illustration figure number and item number.

(2) A list of reference numbers in ascending alphanumerical sequence cross-referenced to the manufacturer's Federal supply code, illustration figure number and item number.

B-3. Explanation of Columns.

The following provides an explanation of columns in the tabular list in section II:

a. Source Maintenance and Recoverability Codes (SMR), Column 1.

(1) Source code indicates the selection status and source for the listed item. 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.

CODE	EXPLANATION
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 modality. 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. Those assemblies will not be stocked above 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 Xl and aircraft support items as restricted by AR 700-42.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

CODE	EXPLANATION
c	Crew/operator maintenance.
O	Organizational maintenance.
F	Direct support maintenance.
H	General support 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	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 710-50. When so listed, they will be replaced by supply on an exchange basis.
S	Repair parts, special tools and test equipment, and assemblies which are economically reparable at DS and GS 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	High 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

CODE	EXPLANATION
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, Column 2. Indicates the Federal stock number assigned to the item and will be used for requisitioned purposes. Items source coded A, M, X1 or X2 are not assigned a Federal stock number.

c. Description, Column 3. Indicates the Federal item name and any additional description of the item required. There are two subcolumns for column 3, which reflect the reference number and usable on code data:

(1) The part number or other reference number followed by the applicable five-digit Federal supply code for manufacturer (FSCM), will appear in the subcolumn located to the extreme left of the description column. FSCM's are listed and defined in SB 708–42.

(2) The usable on code data applicable to this equipment will appear in the subcolumn to the extreme right of the description column. Not applicable.

d. Unit of Measure (U/M), Column 4. A two-character alphabetical abbreviation indicating the amount or quantity of the item upon which the allowances are based (e.g., FT, EA, PR).

e Quantity Incorporated in Unit, Column 5. This column indicates quantities required for one assembly only, including instances when similar assemblies are broken down together. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers).

f. Thirty-day GS Maintenance Allowance, Column 6.

(1) The allowance column is divided into three subcolumns. Indicated in each subcolumn as the total quantity of items authorized for the number of equipments supported. Items identified with is asterisk in this column will be requisitioned initially on an "as required" basis for the maintenance mission at GS level. Requirements for repair parts stockage and for distribution to supported units will be based on demand and determined in accordance with AR 711-16/AR 710-2.

(2) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths and multiplying the decimal factor by the parts quantity authorized in the 51 100 allowance column. Example: authorized allowance for 51-100 equipments is 40; for 150 equipments, multiply 40 by 1.50, or 60 parts required.

(3) The basis of issue for authorized special tools, test and support equipment is the number of end items of equipment supported.

g. he-year Allowances per 100 Equipments/Contingency Planning Purposes, Column 7. Indicates opposite the first appearance of each item, the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

h. Depot Maintenance Allowance per 100 Equipments, Column 8. Not applicable.

i. Illustration, column 9. Illustrations appear in the narrative portion of this manual. This column is divided as follows:

(1) Figure number, column 9a. Indicates the figure number of the illustration in which the item is shown. Appearances of the letters "MSUP" in this column indicate maintenance supplies located in section HI.

(2) *Item number, column 9b.* Indicates the callout number to reference the item in the illustration.

B–4. Special Information.

(Applicable to revision and/or change only). Action 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 Reference Number is Unknown:

(1) First. Find the exploded view illustration of the assembly or subassembly to which the repair part belongs.

(2) Second. Identify the repair part on the illustration and note the illustration figure and item number of the repair part,

(3) Third. Using the Repair Parts Listing, find the figure and item number listed in the illustration column.

b. When Federal Stock Number or Reference Number is Known:

(1) First.. Using the index of Federal Stock Numbers and Reference Numbers, find the pertinent Federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in ascending alphanumerical sequence, cross-referenced to the illustration figure number and item number.

(2) Second. Using the Repair Parts Listing, find the figure and item number listed in the illustration column referenced in the Index of Federal Stock Numbers and Reference Numbers.

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION — REFERENCE NUMBER & MFR CODE			USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT	(6) 30-DAY GS MAINT ALW (a) 1-20	(b) 21-50	(c) 51-100	(7) 1-YR ALLOWANCE QTY/CY	(8) DEPOT MAINT ALLOWANCE QTY/CY	(9) ILLUSTRATION (a) FIG NO	(b) ITEM NO
	4810-553-5463	38259-4A	(99551)	VALVE,REGULATING,FLUID PRESSURE...		EA	1						1-1	
				SECTION II **REPAIR PARTS** **FLOW REGULATING VALVE**										
P--H--	5310-874-2806	645213R28	(99551)	NUT,SELF-LOCKING.....		EA	8	*	*	*			3-1	1
P--H--	5306-616-5989	AN104613	(88044)	BOLT,MACHINE.....		EA	9	*	*	*			3-1	2
P--H--	5310-167-0812	AN960C10L	(88044)	WASHER,FLAT.....		EA	16	*	*	*			3-1	3
P--H--	1650-855-6107	2481022	(99551)	ADAPTER,RELIEF VALVE.....		EA	2	*	*	*			3-1	4
P--H--	5330-882-7875	2481044	(99551)	GASKET.....		EA	2	*	*	*			3-1	5
P--H--	5306-151-0446	MS20073-03-22	(96906)	BOLT,MACHINE.....		EA	4	*	*	*			3-1	6
P--H--	5310-167-0812	AN960C10L	(88044)	WASHER,FLAT.....		EA	4	*	*	*			3-1	7
P--H--	1650-855-6123	2481043	(99551)	COVER,REGULATOR,VALVE.....		EA	1	*	*	*			3-1	8
P--H--	5330-881-1563	2481042	(99551)	GASKET.....		EA	1	*	*	*			3-1	9
P--H--	1650-855-6105	2481023	(99551)	COVER,RELIEF VALVE.....		EA	1	*	*	*			3-1	10
P--H--	5305-881-1453	2481040	(99551)	SETSCREW.....		EA	1	*	*	*			3-1	11
P--H--	5310-207-9075	64516P624	(99551)	NUT,SELF-LOCKING,HEXAGON.....		EA	1	*	*	*			3-1	12
P--H--	5340-882-0757	2481045	(99551)	SEAT,SPRING.....		EA	1	*	*	*			3-1	13
P--H--	5340-882-0755	2481037	(99551)	SPRING,HELICAL.....		EA	1	*	*	*			3-1	14
P--H--	1650-855-6104	2481039	(99551)	HOUSING,SPRING,VALVE.....		EA	1	*	*	*			3-1	15
P--H--	5340-882-0756	2481038	(99551)	SPRING,HELICAL.....		EA	1	*	*	*			3-1	16
P--H--	5340-882-0759	2481053	(99551)	SEAT,SPRING.....		EA	1	*	*	*			3-1	17
P--H--	53130-878-3291	MS21043-06	(96906)	NUT,EXTENDED WASHER,HEXAGON.....		EA	1	*	*	*			3-1	18
P--H--	1650-879-5989	2481049	(99551)	SHAFT,SHOULDERED.....		EA	1	*	*	*			3-1	19
P--H--	1650-866-6876	2481050	(99551)	SEAT,VALVE.....		EA	1	*	*	*			3-1	20
P--H--	5340-882-0761	2481629	(99551)	SPACER,RING.....		EA	1	*	*	*			3-1	21
P--H--	1650-855-6122	2481052	(99551)	DIAPHRAGM AND PLATE VALVE.....		EA	1	*	*	*			3-1	22
P--H--	1650-855-6124	2481046	(99551)	PLATE,DIAPHRAGM RETAINER.....		EA	1	*	*	*			3-1	23
XZ-H--		2481062	(99551)	HOUSING,VALVE.....		EA	1						3-1	24
P--H--	5330-582-2133	MS28775-011	(96906)	PACKING,PREFORMED.....		EA	1	*	*	*			3-1	25
				MAINTENANCE SUPPLIES										
P--H--	5350-221-0872			CLOTH,ABRASIVE-9 IN.W,11 IN.LG,... FED P-C-458		EA	V	*	*	*			MSUP	
P--O--	6850-264-8038			DRY CLEANING SOLVENT-TYPE 1,..... FED P-D-680,5 GAL DRUM		GL	V	*	*	*			MSUP	
P--H--	9150-248-1734	FS1265	(71984)	LUBRICANT,FLUID FLUOROSILICONE-... 16 OZ CAN		OZ	V	*	*	*			MSUP	
P--H--	9150-273-2388			LUBRICATING OIL-GRADE 1010,..... MIL-L-6081,1 QT CAN		QT	V	*	*	*			MSUP	

(a) MAR CODE	(b) FEDERAL STOCK NUMBER	(c) DESCRIPTION REFERENCE NUMBER & MFR CODE	(d) USABLE ON CODE	(e) UNIT OF MEAS	(f) QTY INC IN UNIT	(g) 30-DAY OS MAINT ALW (a) 1-20	(b) 21-50	(c) 51-100	(h) 1-YR ALWPER 100 EQUIP CATGCY	(i) DEPOT MAINT ALWPER 100 EQUIP	(j) ILLUSTRATION (a) FIG NO	(b) ITEM NO
P--Q--	5505-596-5101	WIRE,STEEL,CORROSION RESISTING-... 0.020 IN.DIA,FED QQ-W-423, 5 LB REEL		FT	V	*	*	*			MSUP	

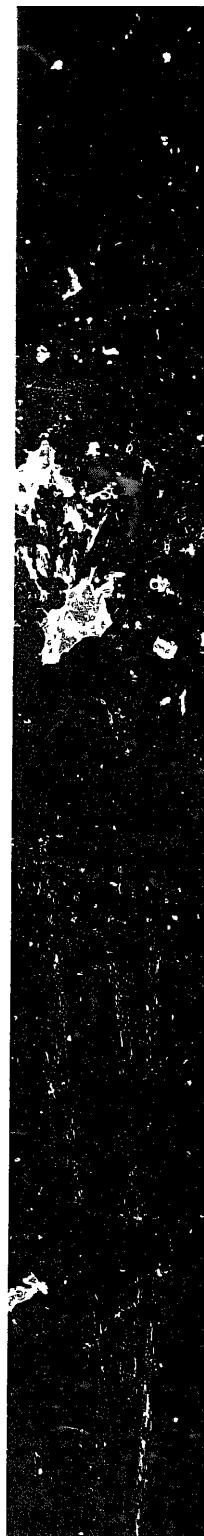
SECTION III
SPECIAL TOOLS, TEST,
AND SUPPORT EQUIPMENT
(NOT APPLICABLE)

SECTION IV

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
1650-855-6104	3-1	15
1650-855-6105	3-1	10
1650-855-6107	3-1	4
1650-855-6122	3-1	22
1650-855-6113	3-1	8
1650-855-6124	3-1	23
1650-866-6876	3-1	20
1650-379-5989	3-1	19
4810-993-5463	1-1	
5305-881-1453	3-1	11
5306-151-0446	3-1	6
5306-616-5989	3-1	2
5310-167-0812	3-1	3
5310-167-0812	3-1	7
5310-207-9075	3-1	12
5310-874-2806	3-1	1
5310-878-3291	3-1	16
5330-582-2133	3-1	25
533-881-1563	3-1	9
5330-882-7875	3-1	5
5340-882-0755	3-1	14
5340-882-0756	3-1	16
5340-882-0757	3-1	13
5340-882-0759	3-1	17
5340-882-0761	3-1	21
5350-221-0072	MSUP	
6850-264-9038	MSUP	
9150-248-1734	MSUP	
9150-273-2388	MSUP	
9505-596-5101	MSUP	

REFERENCE NUMBER	MFG CODE	FIG NUMBER	ITEM NUMBER
AN104613	88044	3-1	2
AK960C10L	88044	3-1	3
AN960C10I	88044	3-1	7
FS1265	71984	MSUP	
MS20073-03-22	96906	3-1	6
MS21043-06	96906	3-1	18
MS28775-011	96906	3-1	25
2481022	99551	3-1	4
2481023	99551	3-1	10
2481037	99551	3-1	14
2481038	99551	3-1	16
2481039	99551	3-1	15
2481040	99551	3-1	11
2481042	99551	3-1	9
2481043	99551	3-1	8
2481044	99551	3-1	17
2481045	99551	3-1	13
2481046	99551	3-1	23
2481049	99551	3-1	9
2481050	99551	3-1	20
2481052	99551	3-1	22
2481053	99551	3-1	17
2481062	99551	3-1	24
2481629	99551	3-1	21
38E59-4A	99551	1-1	
64516P624	99551	3-1	12
645213B28	99551	3-1	1



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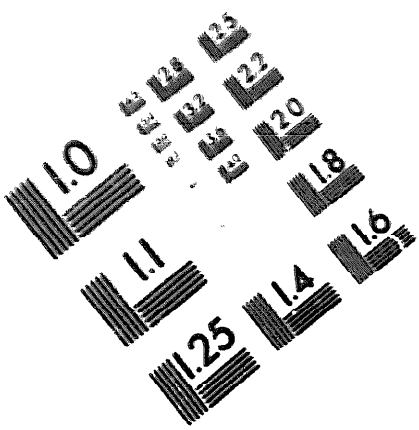

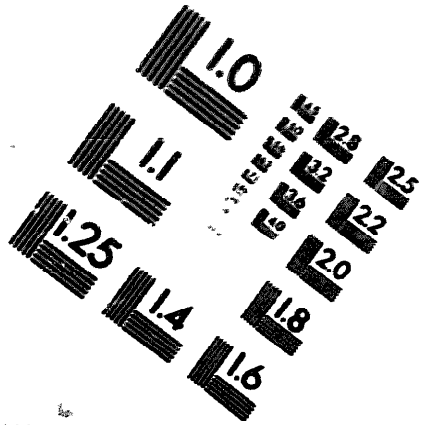

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1234567890$¢£/%#½¼¾—=+×&@*

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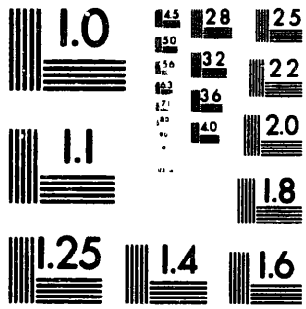

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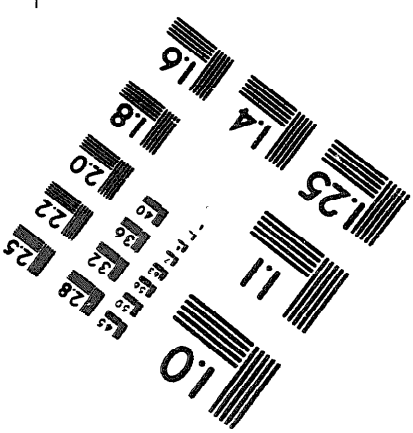

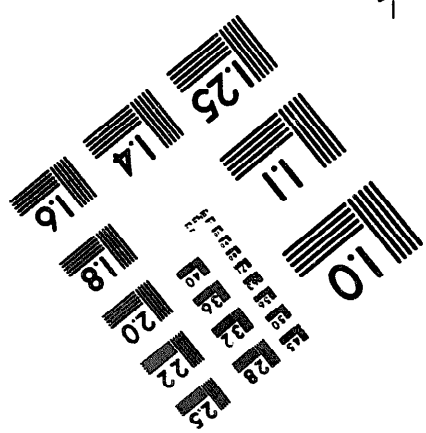

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