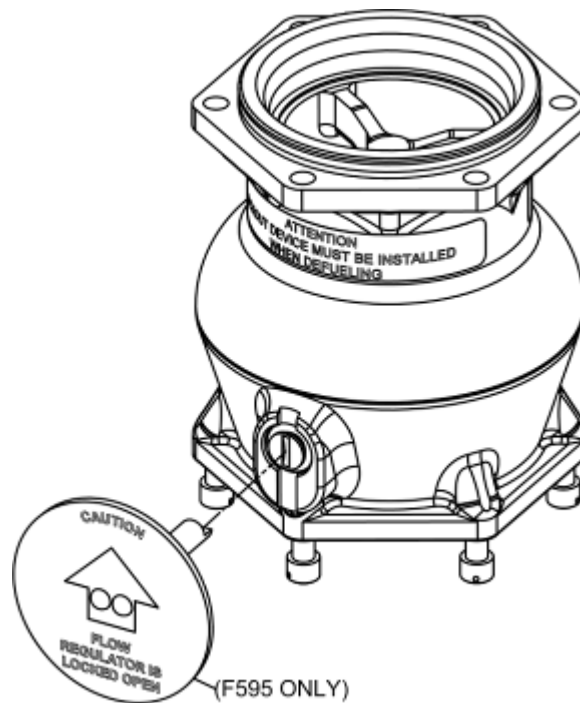


MAINTENANCE MANUAL

Hose End Pressure Control Valve F594/F595 Series

Revision 3.0
May 2016



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Hose End Pressure Control Valve – F594/F595 Series

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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS!

This manual contains important instructions that should be followed during installation and maintenance of the Hose End Pressure Control Valve (valve). The following are general safety precautions that are not related to specific procedures and therefore do not appear elsewhere in this publication. These are recommended precautions that personnel must understand and apply during maintenance.

The valve is a mechanical device and is pressure driven. The valve can be dangerous if not correctly operated or maintained.

Safety Alert Symbols

Safety alert symbols are used in this manual to identify potential or immediate personal injury hazards. The safety alert symbol words are explained below:



- indicates an imminently hazardous situation which, if not avoided, will result in injury or serious injury.



- indicates a potentially hazardous situation which, if not avoided, could result in injury or serious injury.



- indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



- used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

WEAR PROTECTIVE CLOTHING

- Wear protective clothing (gloves, apron, etc.) approved for the materials and tools being used.

USE APPROVED SAFETY EQUIPMENT

- Use only approved equipment and make sure firefighting equipment is readily available.

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GIVE CLEANERS SPECIAL CARE

- When cleaners are being used, read and obey the material safety data sheet (MSDS) instructions for correct handling.

Equipment Safety Information

The following safety information briefly discusses hazards peculiar to the equipment, which are likely to be encountered during maintenance activity.

GENERAL OPERATING LOCATION PRECAUTIONS

- Use only authorized replacement parts or hardware.
- Obey Lock-Out/Tag-Out procedures when working on the valve and make sure that personnel protection equipment such as electrical grounds are installed.
- Avoid hazardous voltage situations that can result from unsafe conditions such as, but not limited, to the following:
 - o Incorrect grounding
 - o Handling electrical leads or devices with wet hands or on wet ground.
 - o Damaged electrical wire insulation.
 - o Incorrect connection of the power terminals.
 - o Short circuits to ground.

OPERATION AND MAINTENANCE OF FUEL SYSTEMS

- Protect all fuel lines from damage or puncture. Do not operate the valve if a fuel leak is detected.
- Do not use flammable solvents for cleaning parts.
- Before operation, make sure there are no tools, rags, or loose parts left in the area.
- Do not remove the valve from the system without first isolating it from the line pressure and venting all of the trapped internal pressure.

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INTRODUCTION

1. General

The information and procedures contained in this manual have been prepared to assist qualified repair personnel in off-aircraft maintenance of the Hose End Pressure Control Valve. The instructions provide information necessary to accomplish maintenance functions. The valve is manufactured by Meggitt (North Hollywood), Inc., 12838 Saticoy Street, North Hollywood, California 91605.

2. Scope

The instructions contained in this manual do not claim to cover all details or variations in equipment. They do not provide for every problem that could occur during installation, operation, or maintenance. If further information is required, contact Meggitt (North Hollywood), Inc., Product Support Department.

3. Standard Shop Practices

Use approved procedures and safety precautions to prevent damage to the equipment and injury to personnel.

4. Weights and Measurements

Weights and measurements in this manual are expressed in both English (U.S. customary) and Metric (SI) units.

5. Revision Service

This manual will be revised, as necessary, to reflect current information.

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DESCRIPTION AND OPERATION

1. Description

The Hose End Pressure Control Valve (see [Figure 1](#)) provides the means of controlling higher flow rates in aircraft refueling operations. The valve inlet is connected to the end of the hose supplying the fuel, ahead of the nozzle. Many valve outlet/outlet flange/adaptor combinations are available to mate with the varying nozzle and hose variations. The major functional components of the valve are the outlet adapter, the poppet and the valve body. The F595 series valve has provisions for a manual lockout assembly used for system setup and checkout. The lockout assembly can be ordered separately.

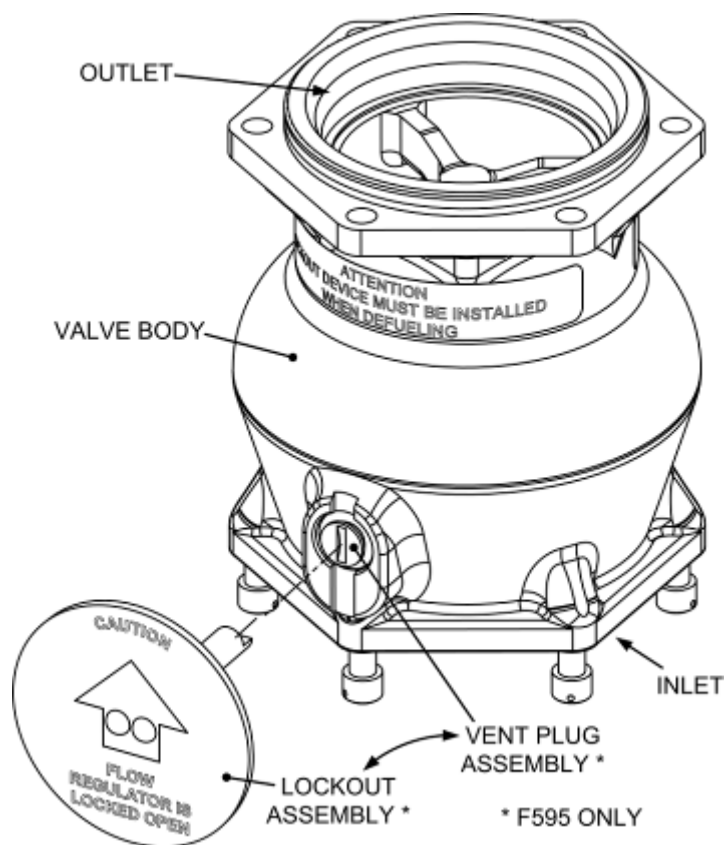


Figure 1. Hose End Pressure Control Valve

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DURING PRESSURE ASSISTED DE-FUELING OPERATIONS, THE HOSE END PRESSURE CONTROL VALVE MUST NOT OPERATE. USE A (F594) HYDRAULIC OR A (F595) MECHANICAL LOCKOUT DEVICE.

2. Operation

The valve (see [Figure 2](#)) contains a large sleeve-type poppet which is normally held in its open position by a spring. When the downstream pressure increases to the control pressure of the valve, the poppet begins to close. This reduces the flow and maintains the control pressure at the nozzle. If there are sudden increases in the downstream pressure, the poppet will close rapidly, and limit the downstream surge pressure to an acceptable level.

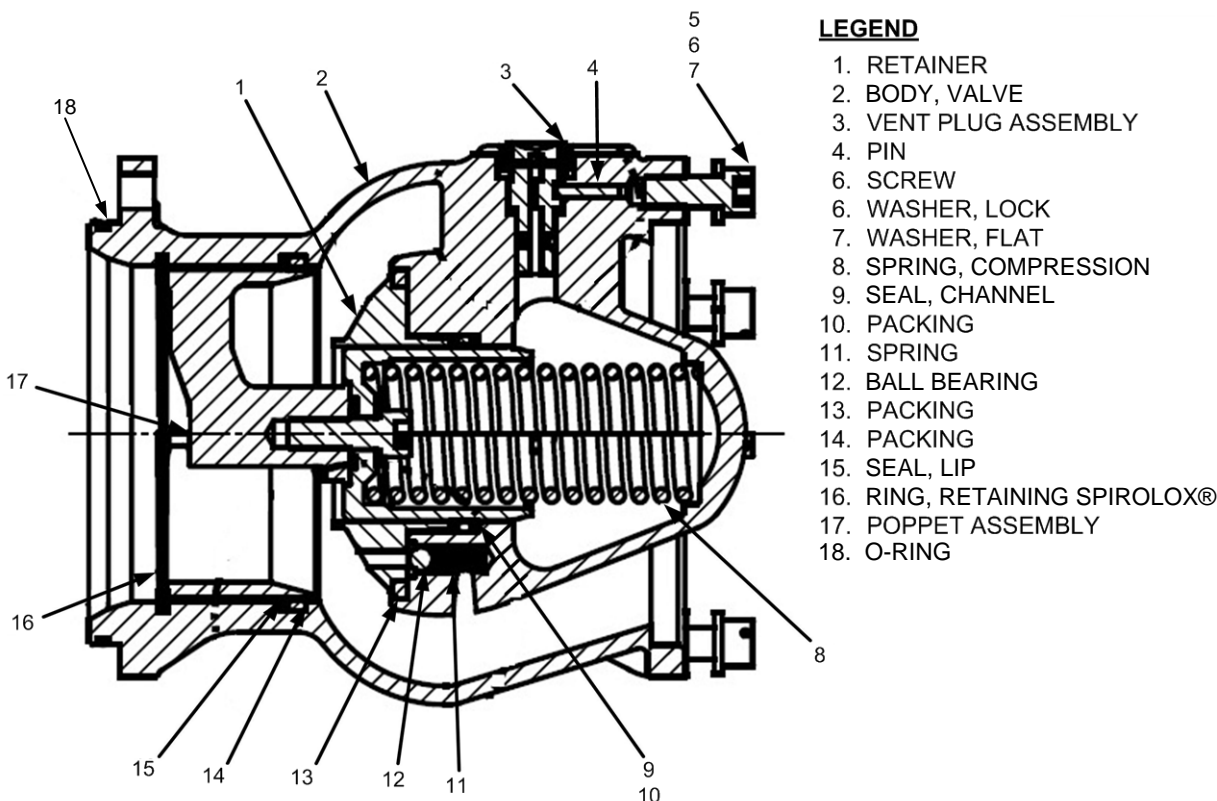


Figure 2. Valve Cross-Section

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3. Leading Particulars

For the leading particulars refer to [Table 1](#).

Table 1. Leading Particulars

Service Fluid	Automotive and Aviation Fuels
Performance:	
Operating Pressure	0 to 200 psi (13,8 bar)
Rated Flow	0 to 600 gpm
Pressure Drop (approximate)	2.8 psi at 300 US gpm (0,2 bar at 1 100 lpm)
Control Pressure (approximate)	
Mod A (basic valve)	45 psi (3,1 bar)
Mod B	35 psi (2,4 bar)
(F594) Mod G (air-set)	Reference air pressure +5 psi
Mod K	50 psi (3,4 bar)
Mod N	55 psi (3,8 bar)
Flow Characteristics	(F594A) See Figure 3 , and (F595A) Figure 4
Temperature:	
Ambient	–40 to 160°F (–54 to 71°C)
Fluid	–40 to 160°F (–54 to 71°C)
Envelope Dimensions	See Figure 5
Weight (approximate)	2.3 pounds (1,05 kg)

4. Model Variations

A. General

The basic F594A/F595A series valve has flanged inlets to mate with F582/F584 series swivels, and outlets to mate with F116/F117/F145 series nozzles. The flanges also mate with the older F100/F115 series nozzles and F577/F577 series swivels. Refer to [Table 2](#) for the available valve variations. Refer to the [ILLUSTRATED PARTS LIST](#) section for additional details.

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B. F595 Supersedes F594

Note: The springs used in the F595 are different in color from the springs used in the F594. Refer to the [ILLUSTRATED PARTS LIST](#) section for the color information.

The F595 series valve has superseded and replaced the F594 series valve. The F595 series valve adds provisions for a manual lockout assembly which replaces its vent plug during system setup and testing. The vent plug is installed during normal operation of the valve.

Table 2. Model Variations

MOD LETTERS		DESCRIPTION
F594	F595	
Baseline F594A	–	Standard hose end pressure control valve, 45 psi spring
–	Baseline F595A	Standard hose end pressure control valve, 45 psi spring, vent plug assembly; lockout assembly (not included)
B		Changes spring to 35 psi version
C		Adds 2.5-inch internal ANPT inlet coupling
D		Adds 2.5-inch internal BSPPL inlet coupling
E		Adds 2.5-inch external APT outlet coupling
F		Adds 2.5-inch external BSPPL outlet coupling
G	–	Air-set pressure control
J		Adds 2-inch external ANPT outlet coupling
K		Changes spring to 50 psi version
L	–	Adds adapter for military D-1 nozzle
M	–	Adds outlet flange for J. C. Carter 60427 nozzle (cannot be used with Mods C, D, E, F, J or L)
N	–	Changes spring to 55 psi version and substitutes yellow-green anodized valve body
–	N	Changes spring to 55
P		Adds military standard MS33786-40 inlet and outlet flange adapters
Z		Basic Manufacturing Sub-assembly

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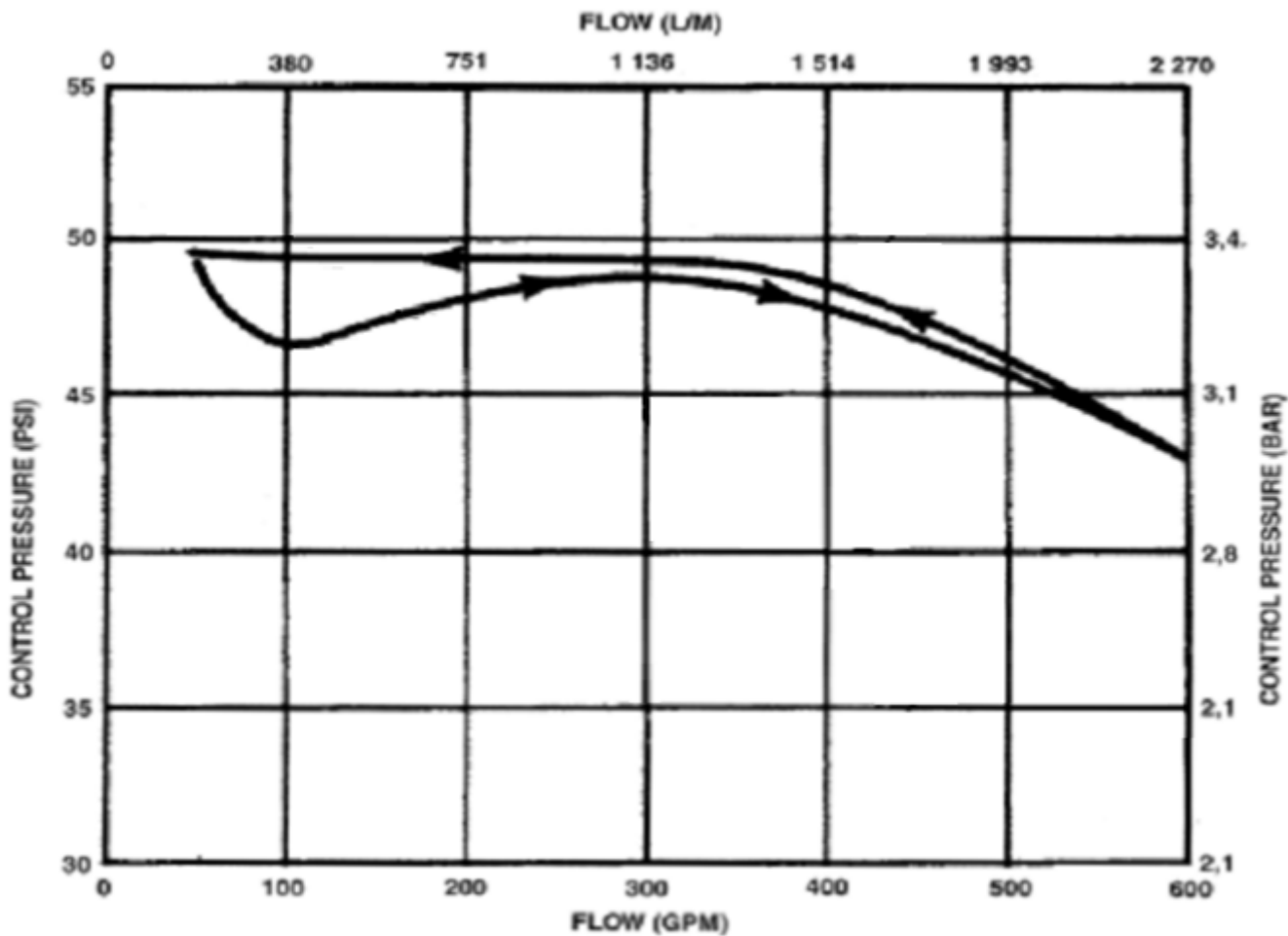


Figure 3. F594A Flow Curves

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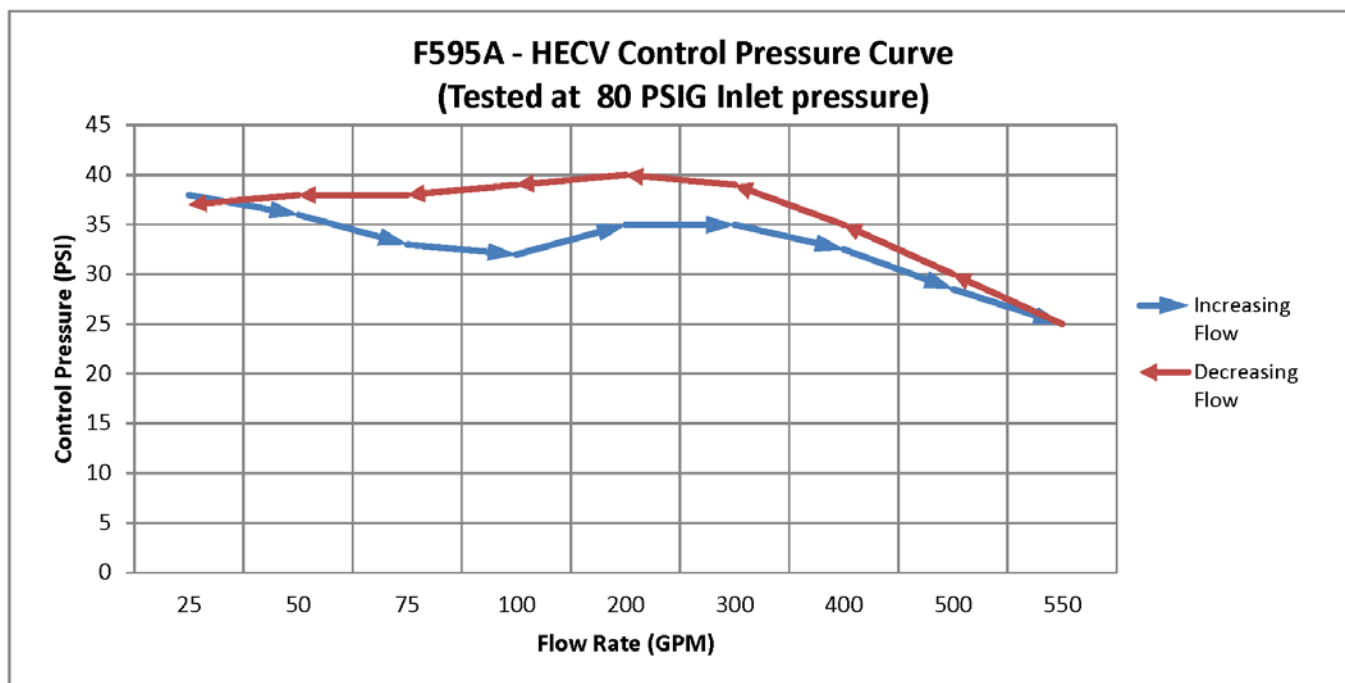


Figure 4. F595A Flow Curves

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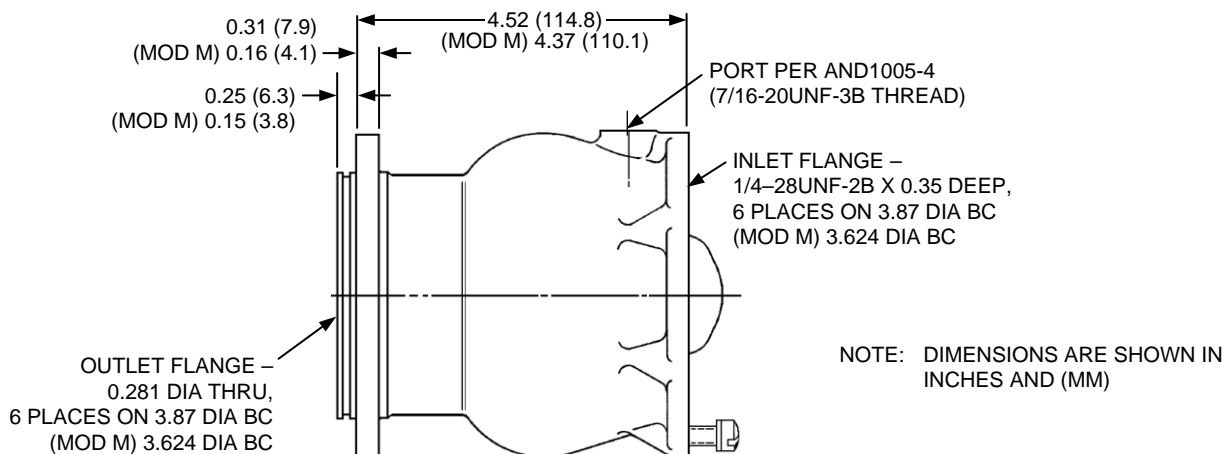
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F594 SERIES



F595 SERIES

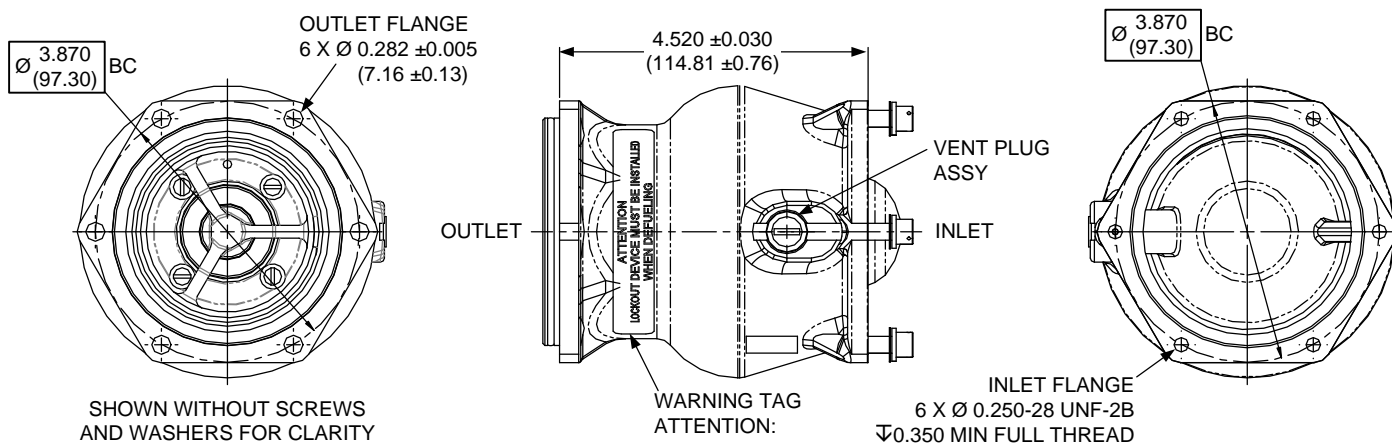


Figure 5. Valve Dimensions

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FAULT ISOLATION

1. General

Refer to [Table 3](#) for fault isolation information. Locate component's suspected fault, possible cause, and take corrective action.

Table 3. Fault Isolation

FAULT	POSSIBLE CAUSE	CORRECTIVE ACTION
External leakage from the vent port	Damaged O-ring (IPL Figure 1 , 11) or seal (10)	Check condition and replace O-ring and seal as necessary.
	Scratches on the smaller diameter of poppet (4, 5)	Check condition and replace the poppet as necessary.
Lockup pressure is excessive	Damaged O-ring (11) or seal (10)	Check condition and replace O-ring and seal as necessary.
	Damage to O-ring groove on poppet (4, 5)	Check condition and replace the poppet as necessary.
Control pressure is erratic	Sticking or binding of poppet (4, 5)	Check condition and replace the poppet, O-ring and seal as necessary.

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DISASSEMBLY

1. Replacement Parts Kits

Refer to the [ILLUSTRATED PARTS LIST](#) section for the Replacement Parts Kit information.

2. Recommended Maintenance Materials

Refer to [Table 4](#) for recommended disassembly materials. Suitable equivalent materials may be substituted for the items listed.

Table 4. Recommended Disassembly Materials

DESCRIPTION	SPECIFICATION	SOURCE
Spirolox, retaining ring removal tool	RT-107	Commercially available

3. Disassembly Procedure (See [IPL Figure 1](#))

Note: This disassembly procedure provides instructions for the basic F594/F595 series valves. Refer to the parts list in the [ILLUSTRATED PARTS LIST](#) for parts added by modifications (Mods).

- A. (F595) Turn lockout assembly (31) or vent plug assembly (27) 1/4-turn counter-clockwise and pull it upward to remove it from body (38).
- B. (F595) Disassembly lockout assembly (31) as follows:
 - 1) Remove and discard O-ring (35).
Note: Do not remove pin (34) or marker (33) unless replacement is necessary.
 - 2) Remove screw (32), pin (34) and marker (33) (as necessary).
- C. (F595) Disassemble vent plug assembly (27) as follows:
 - 1) Remove O-ring (30) and wave spring (29) from plug (28). Discard O-ring (31).
- D. (F594) Remove retaining ring (21), and screen (22) from body (37).
- E. Remove and discard O-ring (2).

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- F. (F594) Remove retaining ring (3), poppet (4) and spring (20) from body (37).
- (F595) Use retaining ring removal tool (p/n RT-107) to remove retaining ring (3), poppet assembly (4A) and spring (20) from body (38).
- G. (F595) Disassemble poppet assembly (4A) as follows:
- 1) Remove screw (9), washer (8), and piston (7) from poppet (5). Remove and discard packing (6).
- H. Remove and discard lip seal (10) and O-ring (11) from body (37, 38).
- I. Remove screws (12) and retainer (13) from body (37, 38). Remove and discard O-ring (17) from the shoulder of retainer (13).
- J. Remove and discard O-ring (18) and seal (19) from body (37, 38).
- K. Remove O-ring (14), ball bearing (15) and spring (16) from body (37, 38). Discard O-ring (14).
- L. Remove screw (23) and washers (24 and 25) from body (37, 38).
- Note: (F595) Do not remove pin (26) from body (38) unless replacement is necessary.

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CLEANING

1. Cleaning Materials

Refer to [Table 5](#) for recommended cleaning materials. Suitable equivalent cleaning materials may be substituted for the items listed.

Table 5. Recommended Cleaning Materials

DESCRIPTION	SPECIFICATION	SOURCE
Bags, Plastic	-	Commercially available
Brush, Bristle, Stiff, Non-metallic	-	Commercially available
Pick, Teflon®	-	Commercially available
Solvent, Dry Cleaning	P-D-680, Type 2	Commercially available
Tissues, Lint-Free	-	Commercially available



DRY CLEANING SOLVENT AND ISOPROPYL ALCOHOL ARE HAZARDOUS MATERIALS. BEFORE USE, READ AND OBEY THE MATERIAL SAFETY DATA SHEET (MSDS) INSTRUCTIONS FOR CORRECT HANDLING. FAILURE TO OBEY THIS WARNING MAY RESULT IN PERSONAL INJURY, LONG TERM HEALTH HAZARDS OR DEATH.

2. Cleaning Procedures

- A. Clean all metal parts by washing thoroughly in dry cleaning solvent. Remove stubborn deposits by scrubbing with a nonmetallic stiff bristle brush. Use a Teflon® pick to remove any blockage from ports, grooves, and passages.

Note: All of the parts must be free of corrosion, dirt, grease, oil, or any other foreign matter.



WEAR EYE PROTECTION WHEN DRYING PARTS WITH COMPRESSED AIR. DO NOT DIRECT AIRSTREAM AT PERSONNEL OR LIGHT METAL PARTS.

- B. Dry parts with clean lint-free tissues or clean, dry compressed air.
- C. Package clean parts in plastic bags.

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INSPECTION

1. General

Under strong light and magnification, look at all parts in accordance with the general criteria specified in paragraph 2.

Repair minor damage in accordance with instructions presented in this section. If damage is major or beyond simple repair, replace the part.

2. Component Checks (Refer to [Table 6](#))

Table 6. Component Checks

DESCRIPTION (IPL Figure 1 Item Number)	INSPECTION CRITERIA
General	Look at the parts for; nicks, cracks, cuts, burrs, corrosion, breaks, scoring, dents, thread damage, serration damage, or other damage. Make sure the ports, passages, recesses, and grooves are clean and are not blocked. Make sure all sealing and seating surfaces are free from damage or corrosion.
Poppet (4, 5)	Sealing Outside Diameters – Check for light scoring. Can be cleaned and polished with 600-grit emery cloth. Replace the poppet if there are any nicks in the knife-edge sealing surface. (Nicks in the knife-edge sealing surface will result in downstream leakage.)
Compression Springs (16 and 20)	Replace if there is any deformation.
Seals (10 and 19)	Replace if there is embedded contamination or mechanical damage.
O-rings (2, 11, 14, 18, 30 and 35)	Replace if there are cuts, swelling, visible wear, deformation or other damage.
Retainer (13)	Packing Shoulder – Check for corrosion and contamination. Can be cleaned and polished with 600-grit emery cloth.
Ball Bearing (15)	Replace if there is any corrosion, scratching or pitting.
Marker (33) and Warning Tag (36)	Make sure the markings and nomenclature can be read.

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Table 6. Component Checks – (continued)

DESCRIPTION (IPL Figure 1 Item Number)	INSPECTION CRITERIA
Body (37, 38)	Packing/Seal Grooves – Check for corrosion and contamination. Can be cleaned and polished with 600-grit emery cloth. (F595) Vent Plug Port – Make sure pin (26) is secure.
(F595) Vent Plug Assy (27)	Replace if the 1/4-turn fastener does not latch securely. Replace plug (28) if damage is found. Remove any burrs where the O-ring (30) grooves are on plug (28).
(F595) Lockout Assy (31)	Replace if the 1/4-turn fastener does not latch securely. Replace pin (34) if damage is found. Remove any burrs where the O-ring (35) grooves are on pin (34).

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ASSEMBLY

1. Replacement Parts Kits

Refer to the [ILLUSTRATED PARTS LIST](#) section for the Replacement Parts Kit information.

2. Recommended Maintenance Materials

Refer to [Table 7](#) for recommended assembly materials. Suitable equivalent materials may be substituted for the items listed.

Table 7. Recommended Assembly Materials

DESCRIPTION	SPECIFICATION	SOURCE
Petroleum Jelly	–	Commercially available

3. Assembly Procedure (See [IPL Figure 1](#))

A. (F594) Put screen (22) in body (37) and secure with retaining ring (21).

Note: Make sure retaining ring (21) is fully seated in its groove.

(F595) If removed, press a new pin (26) into the pin bore of the body (38), to the dimension shown in [Figure 6](#).

B. Apply petroleum jelly to new O-ring (14) and put spring (16), ball bearing (15), and O-ring (14) in body (37, 38).

C. Apply petroleum jelly to new O-ring (18) and new seal (19); then put O-ring (18) on seal (19) and install in body (37, 38).

D. Apply petroleum jelly to new O-ring (17) and put it on the shoulder of retainer (13). Put retainer (13) along with O-ring (17) into body (37, 38); install screws (12) and torque 9 to 11 lb-in. (1 to 1,2 Nm).

E. Apply petroleum jelly to new O-ring (11) and new seal (10); and install in body (37, 38).

F. (F594) Put spring (20), poppet (4) and retaining ring (3) in body (37).

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- G. (F595) Assemble Poppet Assembly (4A) as follows:
- 1) Apply petroleum jelly to new packing (6) and put on poppet (5).
 - 2) Put piston (7) on poppet (5) and install washer (8) and screw (9). Torque screw (9) 9 to 11 lb-in. (1 to 1,2 Nm).
- H. (F595) Put spring (20), poppet assembly (4A) and retaining ring (3) in body (38).

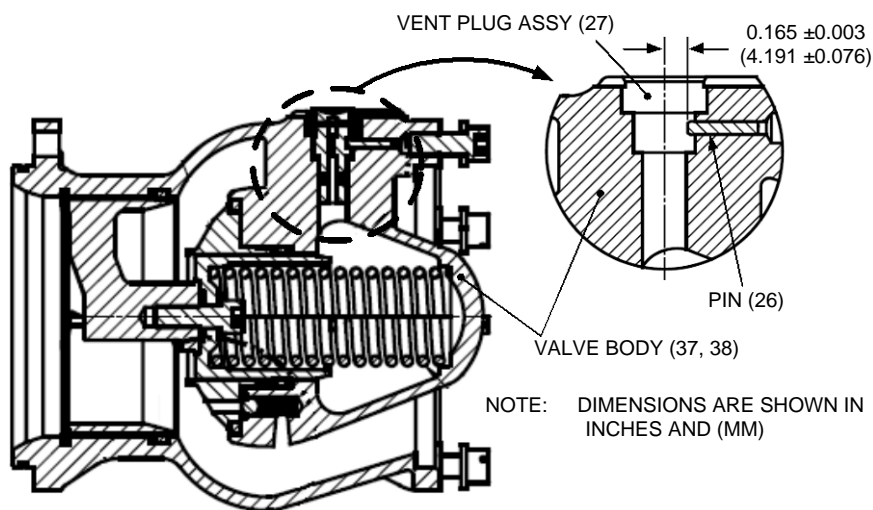


Figure 6. (F595) Pin in Valve Body Detail

- I. (F595) Assemble Vent Plug Assembly (27) as follows:
- 1) Apply petroleum jelly on new O-ring (30) and put wave spring (29) and O-ring (30) on vent plug (38).
- J. (F595) Assemble Lockout Assembly (31) as follows:
- 1) Apply petroleum jelly on new O-ring (35) and put O-ring (35) on the O-ring grooves on lockout assembly (31).
- K. (F595) Put vent plug assembly (27) in body (38).
- L. Package and keep; new O-ring (2), screws (23), washers (24 and 25); and (F595) lockout assembly (31) separately.

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TESTING

1. General

Do all of the tests using Stoddard solvent, jet fuel or equivalent (referred to as solvent herein).
All of the test equipment and fixtures shall be supplied by user.

2. Valve Test – External Leakage

- A. Install a cap with a gage on the valve inlet flange.
- B. Slowly pressurize the outlet to 180 psig (12.4 bar).
- C. There must not be any external leakage. If there is any leakage, continue the pressure for a short time. Then, remove the solvent pressure and repeat the test. If there still is external leakage, refer to the **FAULT ISOLATION** section.
- D. Release the solvent pressure.
- E. Remove the valve from test setup.

3. Valve Test – High Flow

A. Test Setup

- 1) Connect the valve outlet to the inlet of a gaged (0 to 120 psi) F116, F117 or F145 test nozzle.
- 2) Install the connected valve and nozzle in a high flow circuit, with upstream and downstream shutoff valves.

B. Flow Test Procedure

- 1) With the upstream shutoff valve fully open, apply a 75 psi dead head to the valve inlet.
- 2) De-actuate the mechanical servo or vent the air pressure from the air servo.
- 3) Use the downstream shutoff valve for flow control; increase the flow to 20 gpm, 50 gpm, 200 gpm and 300 gpm. Look at the nozzle pressure for each flow rate.
- 4) Decrease the flow from 300 gpm to 200 gpm, 50 gpm, 20 gpm and 0 gpm. Look at the nozzle pressure for each flow rate.

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- 5) The nozzle pressure must be as follows:
- | | |
|-------------------|--------------------------|
| F594A/F595A | 50 psi (3.4 bar) maximum |
| F594B/F595B | 40 psi (2.7 bar) maximum |
| F594K/F595K | 55 psi (3.8 bar) maximum |
| F594N/F595N..... | 60 psi (4.1 bar) maximum |

C. Pressure Lock-Up

- 1) Close the upstream shutoff valve. Open the downstream shutoff valve to release the system pressure. Close the test nozzle.
- 2) Open the upstream shutoff valve and observe the rise of nozzle lock-up pressure for 30 seconds.
- 3) The nozzle lock-up pressure must be as follows:

F594A/F595A	65 psi (4.5 bar) maximum
F594B/F595B	55 psi (3.8 bar) maximum
F594K/F595K	70 psi (4.8 bar) maximum
F594N/F595N	75 psi (5.2 bar) maximum
- 4) Release the solvent pressure.
- 5) Remove the valve from test setup.

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ILLUSTRATED PARTS LIST

1. General

This section lists, describes, and illustrates all detail parts required for maintenance support of the Hose End Pressure Control Valve.

2. Scope of Information

The parts list is arranged in the general order of disassembly. The listing is indented to show the relationship between each part and its next higher assembly. Item numbers used in the parts list are keyed to the corresponding numbers of the accompanying illustration.

A. MODIFICATION CODE

The modification code (see Table 1) indicates the parts usage with respect to the end item. When the MODIFICATION CODE column is blank, the part usage is applicable to all versions unless otherwise specified in the DESCRIPTION column.

B. How to Identify a Part

When the part number is known: Refer to the parts list for the item number, description, modification codes, and quantity. Refer to the illustration to make sure of the physical appearance and location of the part.

When the part number is not known: Examine the illustrations to identify the part by physical appearance and location. Refer to the accompanying parts list to get the part number, nomenclature, modification codes, quantity, etc.

C. Abbreviations

ASSY	Assembly
FIG.	Figure
HECV	Hose End Control Valve
IPL	Illustrated Parts List
MOD	Modification
RF	Reference

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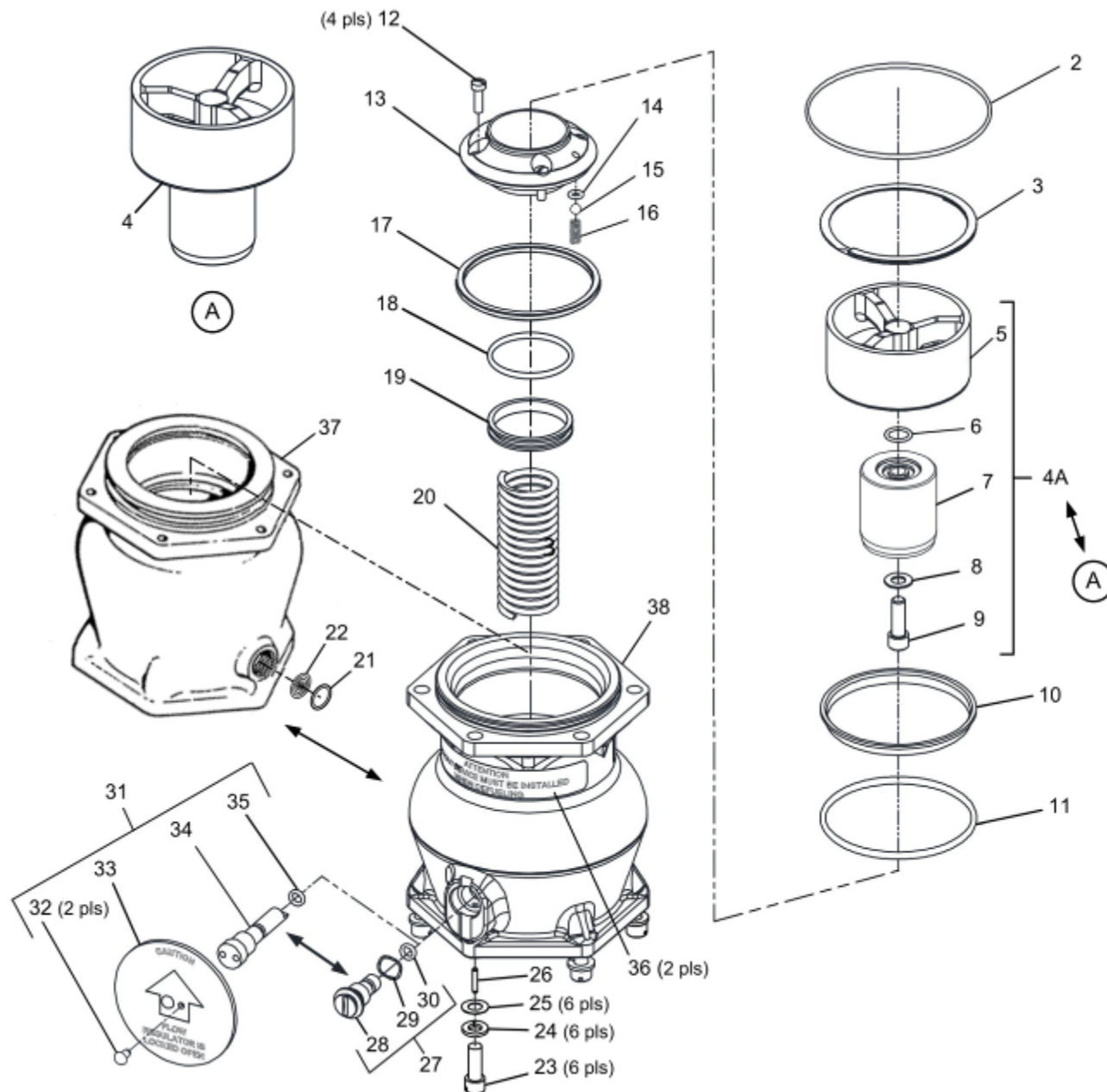
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IPL Figure 1. Hose End Pressure Control Valve

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FIG. ITEM	PART NUMBER	DESCRIPTION	USED	MOD	QTY
			ON CODE		
1 - 1	F594	VALVE, HOSE END, PRESSURE CONTROL..... (SUPERSEDED BY F595)	A		RF
- 1	F595	VALVE, HOSE END, PRESSURE CONTROL..... (SUPERSEDES F594) (SUPERSEDED BY F595-1)	B		RF
- 1	F595-1	VALVE, HOSE END, PRESSURE CONTROL..... (SUPERSEDES F595)	C		RF
2	2661058A042	. O-RING (NOT USED ON F594M)			1
2	2661058A151	. O-RING	A	M	1
3	RR275S	. RING, RETAINING (SUPERSEDED BY F430709) (NOT USED ON F594Z)	A		1
3	F430709	. RING, RETAINING (SUPERSEDES RR275S)	B, C		1
4	2783013-101	. POPPET, MACHINED (NOT USED ON F594Z) ...	A		1
4A	430017	. POPPET ASSY (NOT USED ON F595Z).....	B, C		1
5	430437	. . POPPET	B, C		1
6	MS29513-012	. . PACKING, PREFORMED.....	B, C		1
7	430012	. . PISTON.....	B, C		1
8	AN960C416L	. . WASHER	B, C		1
9	NAS1351N4-12	. . SCREW CAP, SOCKET HD	B, C		1
10	2671765-146	. SEAL, LIP			1
11	2661058BD147	. O-RING			1
12	NK500A8-8M	. SCREW (SUPERSEDED BY 100180-109)	A		4
12	100180-109	. SCREW (SUPERSEDES NK500A8-8M).....	B, C		4
13	2763595-101	. RETAINER, CAST (SUPERSEDED BY F430707)	A, B		1
13	F430707	. RETAINER, MACHINED	C		1
		(SUPERSEDES 2763595-101)			
14	2661058BD007	. O-RING			1
15	2706786-20	. BALL BEARING (ALT MS19060-20 AND..... CMS19060-20)			1
15	MS19060-20	. BALL BEARING (ALT TO 2706786-20).....			RF

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FIG. ITEM	PART NUMBER	DESCRIPTION	USED ON CODE							MOD CODE	QTY
			1	2	3	4	5	6	7		
1	15	CMS19060-20	RF
	16	2671764	.	.	.	.	.	.	.	.	1
	17	7-229N674-70	.	.	.	.	.	.	A	.	1
	17	F430708	.	.	.	.	.	.	B, C	.	1
	18	S12560-126	.	.	.	.	.	.	A	.	1
	18	F430710	.	.	.	.	.	.	B, C	.	1
	19	2661058BD127	.	.	.	.	.	.	.	.	1
	20	2671762	.	.	.	.	.	.	A	.	1
	20	2763651-101	.	.	.	.	.	.	A	B	.
	20	2701514	.	.	.	.	.	.	A	K	1
	20	2763651-101	.	.	.	.	.	.	A	B	1
	20	430018	.	.	.	.	.	.	B, C	.	1
	20	001018-101	.	.	.	.	.	.	B, C	B	1
	20	2671762	.	.	.	.	.	.	B, C	K	1
	20	2775267-101	.	.	.	.	.	.	.	N	1
	21	N5000-37	.	.	.	.	.	.	A	.	1
	22	2671892-2	.	.	.	.	.	.	A	.	1
	23	2706706-04-10	A	.	6
	23	MS16998-42	A	.	RF
	23	971009-102	B, C	.	6
	23	NAS1351C4H10	B, C	.	RF

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FIG. ITEM	PART NUMBER	DESCRIPTION	USED ON CODE							MOD CODE	QTY	
			1	2	3	4	5	6	7			
1 24	2706770-44	. WASHER, LOCK (ALT AN935C416L AND MS35338-44) (NOT USED ON F594Z)								A		6
24	AN935C416L	. WASHER, LOCK (ALT TO 2706770-44) (NOT USED ON F594Z)								A		RF
24	MS35338-44	. WASHER, LOCK (ALT TO 2706770-44) (NOT USED ON F594Z)								A		RF
24	MS35338-139	. WASHER, LOCK (NOT USED ON F595Z)								B, C		6
25	NAS1149C0416R	. WASHER, FLAT (NOT USED ON F595Z)								B, C		6
26	MS16555-620	. PIN								B, C		1
27	941017-101	. VENT PLUG ASSY								B, C		1
28	941036-101	. . PLUG ,VENT.....								B, C		1
29	SSR-0050-S17	. . SPRING ,WAVE.....								B, C		1
30	2661058BD008	. . O-RING								B, C		1
31	941020-101	. LOCKOUT ASSY (NOT USED ON F595Z)								B, C		1
32	CMS21318-27	. . SCREW, DRIVE, ROUND HD								B, C		2
33	941014-101	. . MARKER.....								B, C		1
34	941013-101	. . PIN, LOCKOUT.....								B, C		1
35	2661058BD008	. . O-RING								B, C		1
36	2891023-101	. TAG, WARNING								B, C		2
37	2763614-101	. BODY, MACHINED (NOT USED ON F594M AND F594N)								A		1
37	2773190-101	. BODY, MACHINED.....								A	M	1
37	2763614-103	. BODY, MACHINED.....								A	N	1
38	941033-101	. BODY, MACHINED, VALVE FLOW CONTROL....								B		1
38	941033-104	. BODY, MACHINED, VALVE FLOW CONTROL....								C		1
- 39	2661058A042	. O-RING									C, D, P	1
- 40	2681436-2	. COUPLING, INTERNAL PIPE									C	1
- 40	2681436-4	. COUPLING, INTERNAL PIPE									D	1
- 41	2681470-1	. COUPLING, EXTERNAL PIPE									E	1
- 41	2681470-3	. COUPLING, EXTERNAL PIPE									F	1

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FIG. ITEM	PART NUMBER	DESCRIPTION	USED ON	MOD	QTY
			CODE	CODE	
1 - 41	2681470-4	. COUPLING, EXTERNAL PIPE		J	1
- 42	MS16998-42	. SCREW.....		E, F, J	6
- 43	AN935C416L	. WASHER, LOCK (USED ON F594L)		E, F, J	6
- 44	2661058A232	. PACKING (USED ON F594L).....		P	1
- 45	MS90728-13	. SCREW, HEX CAP (USED ON F594L).....		P	6
- 46	MS35276-280	. SCREW.....		P	6
- 47	MS35338-44	. WASHER, LOCK		P	12
- 48	MS35649-2252	. NUT (USED ON F594L)		P	6
- 49	2722490	. ADAPTER (USED ON F594L).....		P	1
- 50	2803005-101	. COUPLING		P	1
- 51	AN816-4-4D	. ADAPTER, STRAIGHT, PIPE TO TUBE.....	A	G	1
- 52	H3C	. NIPPLE, 1/4 INCH INTERCHANGE	A	G	1
- 53	MS29512-04	. PACKING.....	A	G	1

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REPLACEMENT PARTS KITS AVAILABLE		
KIT PART NUMBER	DESCRIPTION	ITEMS IN KIT (IPL Figure 1)
KITF595-1	Major Seal Kit	2, 10, 11, 14, 17, 18, 19
KITF595-2 (See Note ¹)	Overhaul Kit For Piston	4A, 13
KITF595-3	Complete Overhaul Kit	2, 3, 4A, 10, 11, 13, 14, 15, 16, 17, 28, 19, and 30
KITF595-4	Major Overhaul Kit	2, 3, 10, 11, 14, 15, 16, 17, 28, 19, and 30

Note¹: Order only when overhauling F595 basic configurations.

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