Aerospace
Defense
Energy

Energy products

Maintenance Manual with Spare Parts Catalogue

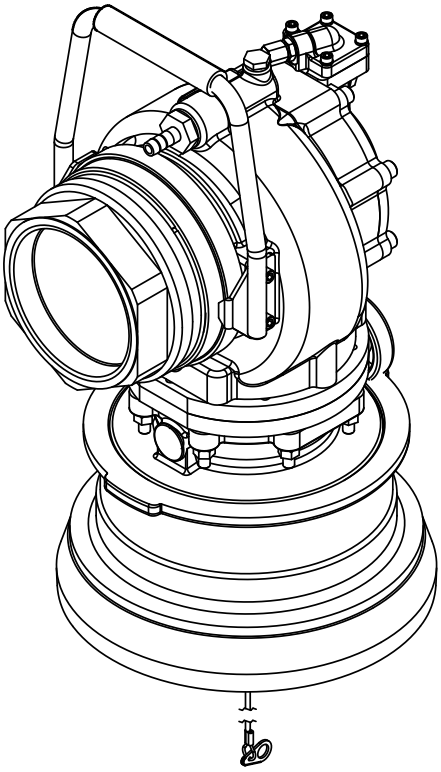
4“ API PRESSURE CONTROL COUPLER

CCMY8500M3 Series

Issue 1

September 2013

CAGE: 79318



Shown with additional coupler modifications

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

REVISION PAGE

Keep this record in the front of the manual. When new issues are received, put the revised pages in the manual. Write the issue number, date and initials on this page.

Issue No.	PAGES AFFECTED	DESCRIPTION OF CHANGE	DATE	APPROVED BY
1	ALL	Initial Release	June 2013	A.BACA

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

TABLE OF CONTENTS

TABLE OF CONTENTS - CONTINUED

LIST OF ILLUSTRATIONS

LIST OF TABLES

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS!

This manual contains important instructions that shall be followed during installation and maintenance of the CCMY8500M3 Series 4 Inch American Petroleum Institute (API) Pressure Control Coupler. 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 API Pressure Control Coupler 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:

⚠ DANGER	- indicates an imminently hazardous situation which, if not avoided, will result in injury or serious injury.
⚠ WARNING	- indicates a potentially hazardous situation which, if not avoided, could result in injury or serious injury.
⚠ CAUTION	- indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	- 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.

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

GIVE CLEANERS SPECIAL CARE

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

EQUIPMENT SAFETY INFORMATION

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

COUPLER INSTALLATION AND OPERATION PRECAUTIONS

- The design of the piping system must provide adequate pressure to prevent exceeding the limits of the coupler.
- Make sure the coupler orientation is correct and install the coupler in-line with the hydrant adapter.
- Make sure the coupler operates correctly after installation.
- Do not exceed the pressure limits of the coupler.

COUPLER MAINTENANCE PRECAUTIONS

- Do not loosen any fasteners or attempt to remove the coupler from the line until all pressure is isolated and released from the system.
- Use only authorized replacement parts or hardware.

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

PRODUCT SAFETY

In the Interest of safety it is strongly recommended by Meggitt (North Hollywood), Inc. the following details receive strict attention.

For the purpose of definition, the word PRODUCT applies to any product sold by Meggitt (North Hollywood), Inc.

- The Product is used only with fluids stated as acceptable by Meggitt (North Hollywood), Inc.
- The Product, whilst in service, must not be subjected to pressures greater than the Maximum Working Pressure or tested to pressures greater than the Test Pressure as specified in the manual.
- The Product must only be coupled/connected to equipment considered acceptable by Meggitt (North Hollywood), Inc.
- The Product must be handled using the lifting handles where fitted, or in accordance with the manual.
- The Product must not be misused or handled in any way liable to cause damage.
- The Product must be inspected for any signs of damage before use, e.g., cracks, damaged seals, seized or tight operating mechanisms.
- The Product must be subjected to a regular maintenance program, either in accordance with the manual or as agreed with Meggitt (North Hollywood), Inc.
- Only technically competent personnel shall repair or maintain the Product and only parts supplied by Meggitt (North Hollywood), Inc. may be used.
- Products covered by warranty shall not be modified without written permission from Meggitt (North Hollywood), Inc.
- Products not in service, must be stored in a clean area, and shall not be subjected to excessive temperature, humidity, sunlight, or strong artificial light. Products shall be protected to prevent damage or the ingress of foreign matter.
- Where applicable, attention shall be drawn to dangers resulting from the generation of static electricity in product flow lines. We strongly recommend account is taken of BS5958 parts 1 and 2 or per API1540.
- This product is not suitable for use with Liquid Petroleum Gas (L.P.G).

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

CHAPTER 1
INTRODUCTION

1.1 GENERAL INFORMATION

1.1.1 The Meggitt (North Hollywood), Inc. Fuelling Product CCMY8500M3 Series EI 1584 3rd Edition Pit Coupler (refer to Table 1.1); is a 4 inch unit designed for use with aviation kerosene and gasoline on airport hydrant systems and can be supplied with selectivity if required. Meggitt Fuelling Products must be consulted for applications with other liquids.

1.1.2 The coupler combines the Meggitt F251A 4-Inch API 3rd edition coupler with the CCMZ7300M3 pressure control elbow. Full details are given in Table 1.1.

Table 1.1 4 Inch API Lever Operated Coupler – Configuration

MOD	DESCRIPTION
BSC	4” API 3rd Edition Coupler with Pressure Control Valve
B	Adds 4” BSP Swivel
N	Adds 4” NPT Swivel
T	Adds Trolley to Coupler

Example: CCMY8500M3B indicates; 4” API Coupler and diaphragm operated pressure control valve with 4” BSP Swivel outlet thread

1.1.3 The coupler incorporates a manually operated poppet valve which is interlocked so that the valve cannot be opened if the coupler is not connected to an API Adapter. Conversely, the coupler cannot be disconnected when the poppet valve is in the open position.

1.1.4 The fitting of the deadman pressure control valve allows a constant delivery pressure to be maintained at varying flow rates. The pressure control valve is of the direct pressure feedback type. The valve works on the balanced diaphragm principle where the valve senses downstream pressure. The fuel pressure on one side of a diaphragm is balanced by air pressure on the other side keeping the valve in the required position. Incorporated within the valve is an emergency "deadman" shut off feature which may be used to start and stop product flow.

1.2 REVISION SERVICE

1.2.1 This manual will be revised as necessary to show the current information.

1.3 WEIGHTS AND MEASUREMENTS

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

CHAPTER 2
DESCRIPTION AND OPERATION

2.1 DESCRIPTION

2.1.1 The API Coupler (coupler) (see Figure 2.1) provides the means of connecting 4-inch hydrants and adapters conforming to API Standard 1584. The various optional configurations permit the use of several thread and hose sizes. The major functional components of the hydrant coupler are the swiveling outlet adapter, the elbow and the coupler body section.

2.2 INSTALLATION/OPERATION

2.2.1 Install Coupler on Hydrant

a. The coupler may be connected to the hydrant adapter by pressing it downward onto the adapter. This actuates the six locking lugs, and releases the shroud. The shroud slides downward and holds the locking lugs in their locked position. If product selection is installed, the shroud will need to be rotated to align the product selection screws with the slots in the shroud.

2.2.2 Operate the Coupler

CAUTION DO NOT OPEN THE COUPLER WITHOUT BEING CONNECTED TO AN ADAPTER. SLEEVE SEAL DAMAGE MAY OCCUR.

a. After installation, to open the coupler, rotate the handle to the OPEN position. To close the coupler, rotate the handle to the CLOSED position.

2.2.3 Remove Coupler from Hydrant

a. With the hydrant closed, the coupling may be disengaged from the hydrant adapter by rotating its operating handle to the CLOSED position and pulling back the shroud to disengage the locking lugs.

2.2.4 Remove Coupler and Elbow from Hose

a. Remove the four screws that secure the carrying handle on the pressure control valve. Pull the safety ring from the groove of the swivel adapter. Slide the swivel sleeve forward toward the hose. The elbow can now be separated from the hose.

2.2.5 Pressure Control Valve (See Figure 2.2)

a. The valve consists of an aluminum alloy body and end plate. The end plate forms an air chamber. The body is divided into an outer chamber for fuel to pass when the main piston is open and an inner fuel chamber where fuel sense cavity is formed by a fuel chamber insert and diaphragm.

b. The inner chamber is sealed off from the main flow and is divided into two sections by the main diaphragm. These are the fuel and air chambers which are connected through internal drillings to external fuel sensing and air pressure reference lines.

c. The piston is attached by a valve stem to the main diaphragm. The stem passes through a seal in the fuel chamber insert. The whole diaphragm/piston assembly is biased to the closed position by two springs fitted between the fuel sense chamber insert and the diaphragm carrier plate. In the event of a diaphragm or operation failure of the deadman valve; this makes sure the piston will always close, stopping flow through the main piston.

d. The one way fuel restrictor valve incorporates a small fixed by-pass orifice, forming the fuel sense line connection. The valve governs the opening time of the piston by allowing a restricted flow from the fuel chamber back through the orifice as downstream pressure falls. The opening time is set at about 10 seconds from closed to maximum flow rate (the time may vary slightly depending upon air reference pressure). When a increase in downstream pressure occurs, the ball valve in the fuel restrictor valve is forced open against the spring pressure, therefore allowing rapid pressure to build up in the fuel chamber and thus causing rapid closure of the main piston to control downstream pressure or stopping flow.

e. When the pressure in the air reference line is released, residual pressure in the air chamber opens the air vent diaphragm, and discharges the residual pressure through the vent port. The rate of closure of the piston upon operation of the deadman valve, is controlled by the size of the orifice in the vent port. The closing time is set between 3 and 5 seconds. The same action occurs when the valve closes upon sensing a downstream pressure surge.

2.2.6 Operation (See Figure 2.3)

a. Operation, of the pressure control valve requires a preset air reference pressure of about 0.82 bar (12 psi) above the required fuel control pressure. The air is applied within the air chamber against the diaphragm to overcome the spring pressures and causes the main piston to open.

b. As the piston moves off the main seal, fuel flow commences and downstream pressure increases. This pressure is sensed at the junction of the fuel sense line at the sense point on the main pipe downstream of the valve, and is fed back into the fuel chamber. The piston continues to open until the fuel pressure and spring force are balanced against the air reference pressure. The spring force and an imbalance of area gives a controlled pressure of 0.82 bar (12 psi) less than the applied air pressure, which is referred to as the bias of the valve.

c. As the downstream pressure increases, the pressure in the fuel chamber increases, overcoming the air reference pressure in the air chamber thus closing the main piston. The pressure at the control point reduces until the diaphragm is balanced. As the downstream pressure drops, the reverse action takes place, where the air reference pressure overcomes the fuel pressure allowing the main piston to open until the diaphragm is balanced.

d. Figure 2.3 shows the valve in the fully closed and fully open positions. In practice, under normal operating conditions, the valve will open to about the mid stroke position and small changes in pressure will be compensated for by small movements of the piston.

e. A pressure equalization valve on the inlet side of the pressure control valve allows upstream pressure to be relieved downstream pass the main piston when the operating handle on the coupler is moved to the closed position.

⚠WARNING **WORK MUST BE CARRIED OUT ONLY BY SUITABLY QUALIFIED PERSONNEL. BEFORE RETURNING TO WORK, MAKE SURE ALL AIRPORT/COMPANY SAFETY PROCEDURES HAVE BEEN FOLLOWED.**

CAUTION DO NOT USE SOLVENTS, CLEANING AGENTS, GREASES OR OTHER MATERIALS ON THE INTERNAL SURFACES OF THE VALVE OR ON THE API ADAPTOR. USE ONLY CLEAN AVIATION GASOLENE OR KEROSENE. PETROLEUM JELLY FOR LUBRICATION OF O-RINGS FOR INSTALLATION IS ALLOWED. APPLY PETROLEUM JELLY SPARINGLY.

2.3 COMMISSIONING

2.3.1 The fuel sense line and air reference line must not exceed 12.2 metres (40 feet) in length. Restrictions in the fuel sense line must be kept to a minimum.

2.3.2 The air reference pressure must be supplied through a precision, relieving type, pressure regulator; a BOSCH No. 0821-302025 –or– NORGREN No. 11-818-110, are suitable. The use of any other regulator shall be cleared In advance by Meggitt (North Hollywood), Inc. Fuelling Products.

Note: Use of insufficiently sized or non-relieving types of pressure regulator will result in high control/shut off pressures.

2.3.3 Before a coupler fitted with a pressure control valve can be used for fuelling, its associated fuel sense line and fuel chamber must be purged of air as follows:

a. Connect the coupler to a re-circulating rig capable of producing a minimum flow of 450 l/min (100 imp gal/min) at a pressure not less than the desired flow control pressure.

b. Set an air reference pressure 0.83 bar (12 psi) higher than the desired flow control pressure. With the poppet valve open on the coupler, activate the deadman valve by applying air pressure to open the main piston.

c. With downstream valves open, open an upstream valve to start flow and set flow to about 450 l/min (100 imp gal/min).

d. Unscrew the bleed screw situated behind the fuel restrictor valve on top of the pressure control valve three complete turns. There is no need to remove fully the bleed screw as it has a cross drilling. Drape a rag over the valve and position a drip tray underneath to prevent fuel splattering.

e. Close the downstream valve to reduce the flow to zero. Open the downstream valve to increase the flow to 450 l/m (100 imp gal/min), and then close the downstream valve to reduce the flow to zero. Air fuel mixture will be expelled from the bleed valve. Continue this procedure until clear product flows from the bleed screw.

f. Tighten the bleed screw and operate the valve. Make sure all air has been expelled from the system; by opening the valve from zero to about 450 l/m (100 imp gal/min) flow. The opening action of the valve shall be smooth and progressive.

Note: If opening is too fast i.e. less than one second, or if instability (hunting) occurs, repeat the bleeding procedure (steps d thru f).

2.4 OPERATION

2.4.1 Fit the coupler to the hydrant valve as follows:

a. Remove the pit cover and hydrant valve dust cap. Remove the coupling dust cap.

b. Keeping the coupler square, place over the API adaptor of the hydrant valve and make sure the coupler sleeve drops into position. The coupler is now firmly latched. Do not drop the coupler on to the pit valve as this increases wear on the coupler body.

c. Open the poppet valve on the coupler by rotating the operating lever counter clockwise to its stop.

   Note: The poppet valve must not be used to start or stop fuel flow.

d. To start fuel flow, apply an air reference pressure about 0.83 bar (12 psi) higher than the required control pressure to the pressure control valve via the deadman control.

e. To stop the fuel flow or isolate flow after fuelling, release the deadman handle and/or pull the hydrant valve release cable. Make sure flow has ceased and close the poppet valve. If a pressure control valve is fitted, some resistance to closing will be felt on the operating lever over two or three seconds, as fuel is expelled from the coupler via the pressure equalization valve.

f. To remove the coupler: Lift the shroud to release the latches and then lift the complete unit off the hydrant valve. Fit coupler dust cap and stow away. Replace the hydrant valve dust cap and pit cover.

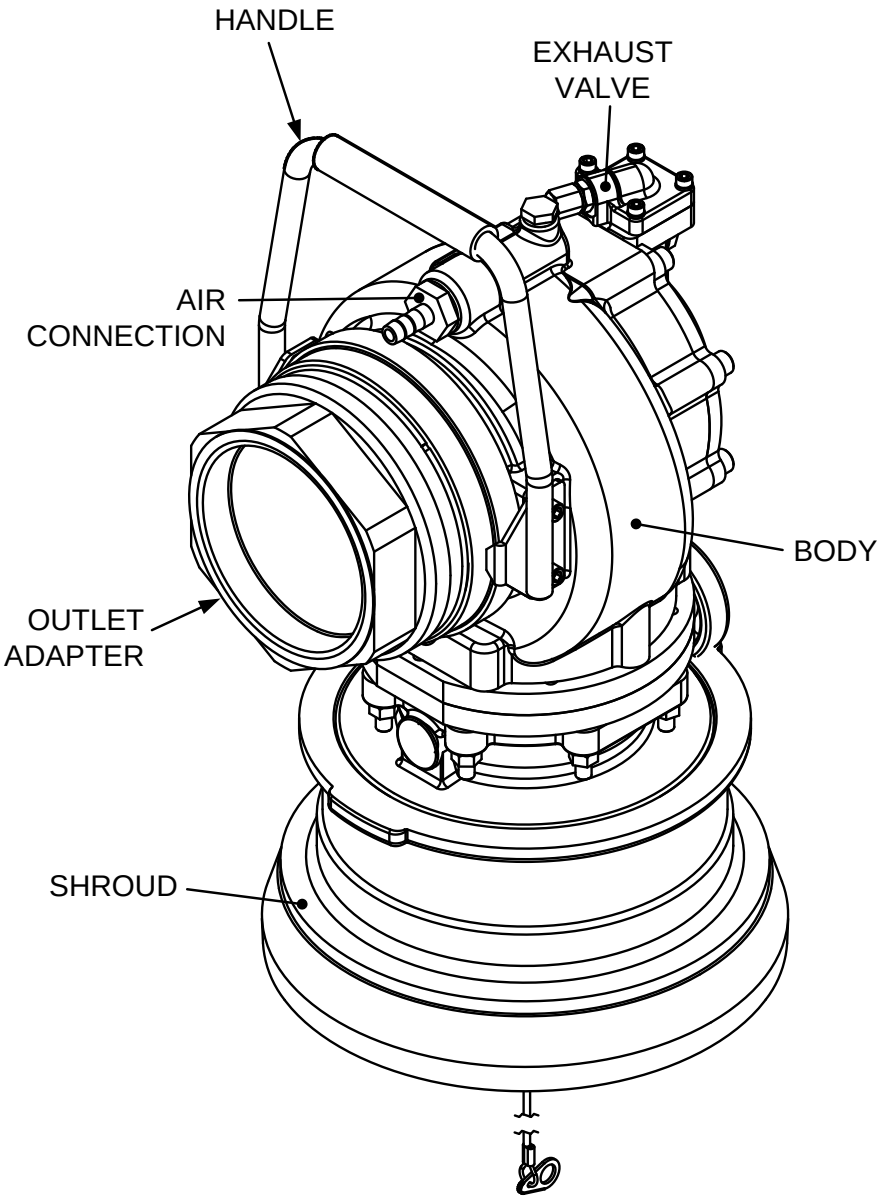


Figure 2.1 4 Inch API Coupler

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

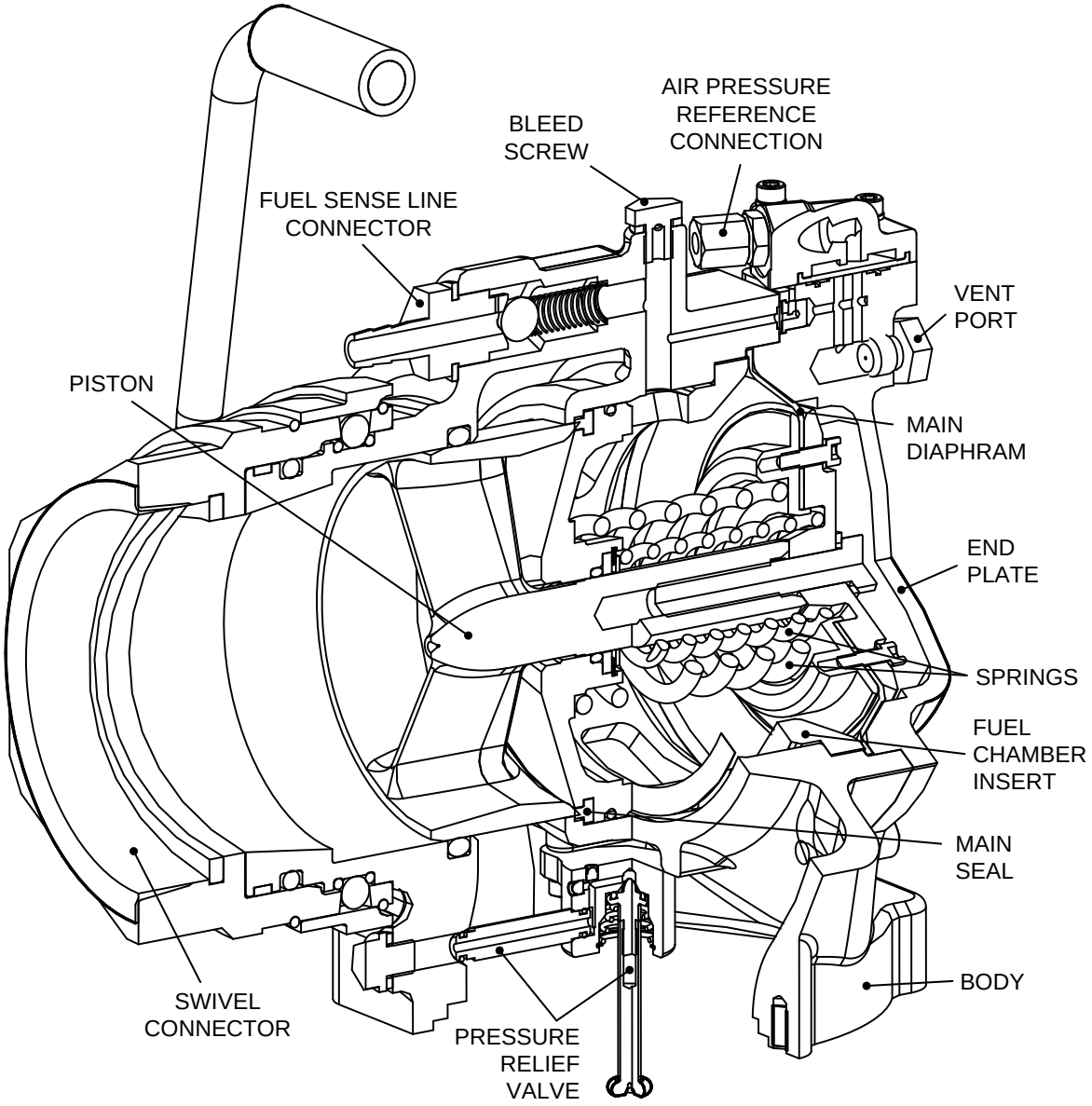


Figure 2.2 Pressure Control Valve

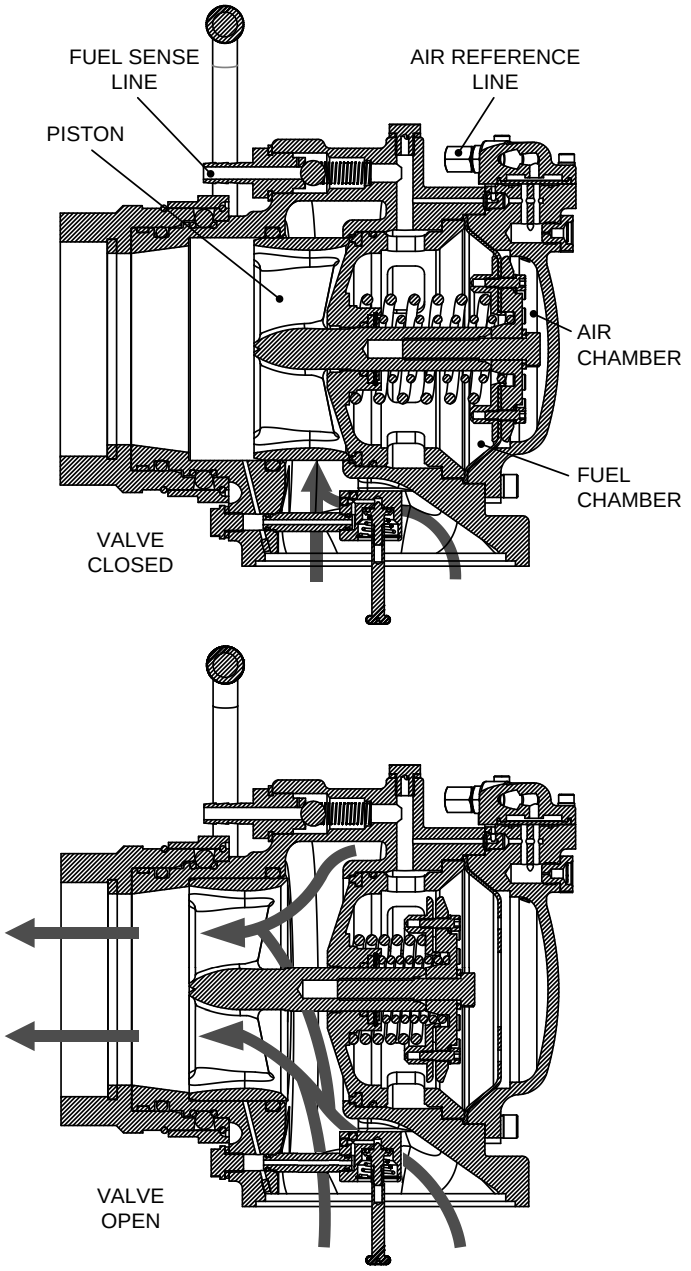


Figure 2.3 Valve Operation

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

CHAPTER 3
SPECIFICATION

WARNING **DO NOT EXCEED PRESSURES AND TEMPERATURES QUOTED OR SERIOUS INJURY AND COMPONENT FAILURE MAY OCCUR.**

3.1 STANDARDS

3.1.1 The coupler with its associated ancillaries complies with EI 1584 3rd edition: 4 INCH HYDRANT SYSTEM COMPONENTS AND ARRANGEMENTS.

3.2 MATERIALS

3.2.1 Components in contact with fuel are manufactured from the following materials:

a. Anodized aluminum alloy
b. Stainless steel
c. Nickel plated steel
d. PTFE (Polytetrafluoroethylene)
e. High nitrile and fluorocarbon rubbers

3.3 OPERATING ENVIRONMENT

3.3.1 The following units and ancillaries are operational under the following conditions:

Test Pressure (Gauge):.....23.0 bar (338 psi)
Maximum Safe Working Pressure (Gauge): .....15 bar (225 psi)
Operating Temperature:.....-20 to 60° C (-4 to 140° F)

3.4 PERFORMANCE

Maximum Flow Rate:..... 4500 l/min (1000 imp gal/min)

Pressure Control: ..... Air reference pressure minus 0.64 to 0.97 bar (10 to 14 psi)

Deadman Control:

Opening Time: ..... 10 seconds (Approx.)

Closure Time: ..... 5 seconds (Approx.)

Overshoot: ..... 191 l/min (42 imp gal/min) (at max flow rate)

3.5 DIMENSIONS

Height (overall):

Straight swivel (max) ..... 11.76 in. (300 mm)

Elbow swivel (max) ..... 19.29 in. (490 mm)

Pressure controller swivel (max) ..... 19.54 in. (497 mm)

Weight:

Coupler with pressure controller swivel .....16.7 kg (36.8lbs)

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

CHAPTER 4
MAINTENANCE

WARNING **WORK MUST BE CARRIED OUT ONLY BY SUITABLY QUALIFIED PERSONNEL. BEFORE RETURNING TO WORK, MAKE SURE ALL AIRPORT/COMPANY SAFETY PROCEDURES HAVE BEEN FOLLOWED.**

CAUTION DO NOT USE SOLVENTS, CLEANING AGENTS, GREASES OR OTHER MATERIALS ON THE INTERNAL SURFACES OF THE VALVE OR ON THE API ADAPTOR. USE ONLY CLEAN AVIATION GASOLENE OR KEROSENE. PETROLEUM JELLY FOR LUBRICATION OF O-RINGS FOR INSTALLATION IS ALLOWED. APPLY PETROLEUM JELLY SPARINGLY.

4.1 GENERAL

4.1.1 Complete disassembly of the coupler is not necessary. Disassemble only to the extent necessary for replacement of the defective parts.

4.1.2 Do not remove the threaded inserts unless replacement is necessary. If replacement is necessary, refer to Replacing the Screw Thread Inserts section for instructions.

4.1.3 Before disassembly, make sure all required materials and spare parts are available.

4.2 ROUTINE MAINTENANCE

4.2.1 The frequencies as recommended below are a minimum. Local company instructions shall be observed.

4.2.2 Daily:

Before use, carefully inspect the unit for signs of damage or leaks. Particular attention shall be given to the area around the pressure control valve vent port, and the catches on the underside, for signs of wear or breakage. Damaged units must be withdrawn from service for maintenance.

4.2.3 Every Six Months:

Do a complete operational check. Refer to **TESTING.**

4.2.4 Every Year:

Replace all dynamic seals, as detailed in in this section.

4.2.5 Every 3 Years

Replace all seals of units in storage, as detailed in this section.

4.3 STORAGE LIFE

4.3.1 Storage life is three years, limited by deterioration of seals and O-rings only.

4.4 REPLACING THE SCREW THREAD INSERTS

4.4.1 The screw thread inserts may be removed if damaged, and replaced with new inserts, as applicable. Apply corrosion inhibiting primer to the tapped holes and install the screw thread insert in accordance with the manufacturer's instructions.

4.5 DISASSEMBLE 4 INCH API PRESSURE CONTROL COUPLER

4.5.1 Removal of Pressure Control Coupler from Fueling Hose (see Figure 7.2) as follows:

a. Remove screws (19) and handle (18) from valve body (68).

b. Locate the circlip (26) closest to the hose; pull circlip (26) from its groove and slide it forward on swivel body (27), but do not remove it from swivel body (27).

c. Slide swivel sleeve (31) forward towards the hose.

d. Remove swivel body (27) along with the hose from valve body (68).

e. Make sure swivel body (27) is free from any damage. Replacement of swivel body (27) will require removal from the hose.

4.5.2 Remove Swivel Body Assembly (27) as follows:

a. Locate the circlip (26) farthest from the hex of the hose connection; pull circlip (26) from its groove and remove it from swivel body (27).

b. Remove swivel sleeve (31) by sliding it off swivel body (27).

c. Remove ball bearings (28) from swivel body (27).

d. Remove and discard sealing ring (30) and from swivel body (27).

4.5.3 Remove Pressure Control Valve (see Figure 7.1, 13) from F251A Hydrant Coupler (5) as follows:

a. Remove nuts (2) and lock washers (3).

b. Remove the assembled pressure control valve (13) from the F251A hydrant coupler (5).

c. Remove and discard packing (4).

4.5.4 Remove Adapter Plates (9 and 11) from Pressure Control Valve (13) as follows:

a. Remove screws (6) from lower half adapter plate (9).

b. Remove lower half adapter plate (9) from upper half adapter plate (11).

c. Remove screws (8) from lower half adapter plate (9).

d. Remove and discard packing (7).

e. Remove screw (8) from lower half adapter plate (9).

f. Remove screw (10) from the upper half adapter plate (11).

g. Remove upper half adapter plate (11) from pressure control valve (13).

h. Remove and discard packing (12).

4.5.5 Disassemble the F251A Hydrant Coupler (5).

a. For disassembly of the F251A hydrant coupler refer to maintenance manual MMF251.

4.5.6 Remove pressure relief valve (see Figure 7.2, 4) as follows:

a. Remove screws (4) and washers (5) and pressure relief valve assembly (6).

1. Disassemble the pressure relief valve (6) as follows:

(a) Remove shaft (8) along with O-ring seals (7 and 9) from PEV body (17).

(b) Remove and discard O-ring seal (7 and 9) from shaft (8).

(c) Remove retainer ring (10), washer (11), and poppet valve assembly (12) from PEV body (17).

(d) Do not disassembly the poppet valve assembly (12). Make sure the packing on the valve is free from damage or wear. If damage or wear is evident, replace the poppet valve assembly (12).

(e) Do not remove plugs (16) from PEV body (17). Make sure the plugs (16) are free from damage or wear. If damage or wear is evident, replace the body (17) along with plugs (16).

4.5.7 Disassemble the pressure control valve (see Figure 7.2) as follows:

a. Make sure the removal of pressure control coupler from fueling hose (see Para. 4.4.1) and remove swivel body assembly (27) (see Para. 4.4.2) has been completed.

b. Make sure remove pressure relief valve (6) (see Para. 4.4.6) has been completed.

c. Place the valve body (68) with the six bolt flange on a flat surface.

d. Remove Slydring® (32), O-ring (33) and circlips (34). Discard O-ring (33).

e. Remove fuel restrictor valve (20), bonded seal (21) and withdraw ball bearing (22), spring (23). Discard bonded seal (21).

f. Remove bleed screw (24) and bonded seal (25). Discard bonded seal (25).

g. Remove coupling (35) from exhaust valve cover (36).

h. Remove screws (37 and 38), washers (39) and exhaust valve cover (36).

i. Carefully pry diaphragm (40) from end plate (47).

j. Remove vent port (43).

k. Remove screws (48), washer (49) and end plate (47).

l. At the end plate (47); remove circlip (44), screen (45), vent (46) and diaphragm (41).

m. Rotate valve body (68) on the end plate connection flange interface on a flat surface. Use a wooden block or a nylon drift and place it against the exposed end of fuel chamber insert (67) from the outlet end of the valve body (68). Carefully press the fuel chamber insert (67) from the valve body (68).

n. Remove the fuel chamber insert (67), piston (64) and assembled diaphragm (55) from the valve body (68).

o. Remove PTFE/O-ring seal (63).

⚠WARNING **USE CARE WHEN SERVICING THE PISTON/FUEL CHAMBER/DIAPHRAGM ASSEMBLY; THE UNIT CONTAINS SPRINGS WHICH MAY CAUSE INJURY.**

p. Prevent the piston (64) from rotating by blocking the fins on the piston. Remove screw (50) and bonded seal (51) from the piston (64). Discard bonded seal (51).

q. Carefully remove piston (64) from fuel chamber insert (67).

r. Remove diaphragm clamp (52), diaphragm (55), diaphragm carrier (56), main spring (57), spring (58) and washer (59) from the fuel chamber insert (67).

s. Remove screws (53), washers (54), diaphragm clamp (52) and diaphragm (55) from the diaphragm carrier (56).

t. Remove the retaining ring (60), washer (61), and PTFE/O-ring seal (62) from the fuel chamber insert (67).

u. Remove and discard main seal (65) and O-ring (66) from the fueling chamber insert (67).

4.6 INSPECTION

4.6.1 Carefully wash all parts in clean aviation fuel and inspect for signs of wear or damage. Defective parts must be changed immediately. Make sure that any abrasion to the body casting has not significantly affected the wall thickness.

4.6.2 Make sure the small orifices in the fuel restrictor valve (20), the vent port (46) and exhaust valve diaphragm (40) are clear from any obstruction in the path way. The diaphragm may be re-used if it is in good condition. Make sure the relief valve drilling in the main body is clear of any debris.

4.6.3 If there are no obvious signs of wear or abrasion the PTFE outer rings of the O-ring seals (62) and (63) the ring seal may be re-used. The ring seals shall be replaced every two years.

4.6.4 Make sure the piston sealing edge and ground outer diameter of the piston are in good condition.

4.6.5 Make sure there are no particles of dust or other foreign matter in the fuel chamber. Before connecting, flush the fuel sense line through with clean aviation fuel. The design of the valve minimizes the likelihood of any such particle impairing valve operation.

4.6.6 Refer to MMF251 for inspection requirements for the F251A coupler.

4.6.7 Make sure the main diaphragm (55) is free from any rips or tears as evident on the surface. Diaphragm (55) may be re-used if it is in good condition.

4.7 ASSEMBLY OF 4” API PRESSURE CONTROL COUPLER

4.7.1 Assembly Tools and Materials

a. Refer to

Table 4.1 for recommended assembly materials. Suitable equivalent materials may be substituted for the items listed.

Table 4.1 Recommended Assembly Tools and Materials

DESCRIPTION	SPECIFICATION	SOURCE
Long nose pliers	- -	Commercially Available
Paraffin wax, soft	BDH29442-4B	Commercially Available
Petroleum Jelly	- -	Commercially Available
Thread Locker	Loctite® 262	Commercially Available

4.7.2 Assemble the pressure control valve (see Figure 7.2) as follows:

a. Carefully distant the PTFE outer part, as shown in Figure 4.1 and position it over the O-ring. Check condition of PTFE/O-ring seal (62), if damaged; discard. Apply a light coat of paraffin wax onto new PTEF/O-ring seal (62) and install into the fuel chamber insert (67).

b. Install washer (61) and retaining ring (60) into the fuel chamber insert (67).

c. Install new main seal (65) on to the OD of the fuel chamber insert (67).

d. Install new O-ring (66) into the grove of the fuel chamber insert (67).

e. Make sure the piston sealing edge and ground outer diameter of the piston are in good condition. Apply a light coat of paraffin wax along the entire surface of the shaft of the piston (64). Carefully insert the piston (64) thru the center of the fuel chamber insert (67) to prevent cutting into the PTFE/O-ring seal (62).

f. Install the washer (59) onto the shaft of the piston (64).

g. Install spring (58) and main spring (57) into the fuel chamber insert (67).

h. Check the condition of diaphragm (55) if there are any rips or tears as evident on the surface of the diaphragm, replace. Place the diaphragm (55) onto the diaphragm carrier (56) as shown in the orientation in Figure 7.2; with the beaded edge on the diaphragm facing the diaphragm carrier (56). Align the screw holes of the diaphragm clamp (52), diaphragm (55) and the diaphragm clamp (52).

i. Install screws (53) and washers (54) onto the diaphragm clamp (52). Tighten the screws (53) in a diametrical sequence for 3 times and torque to 4 ft-lbs (5.42 Nm).

j. Place the diaphragm carrier (56), diaphragm (55) and diaphragm clamp (52) thru the main piston onto the fuel chamber insert (67).

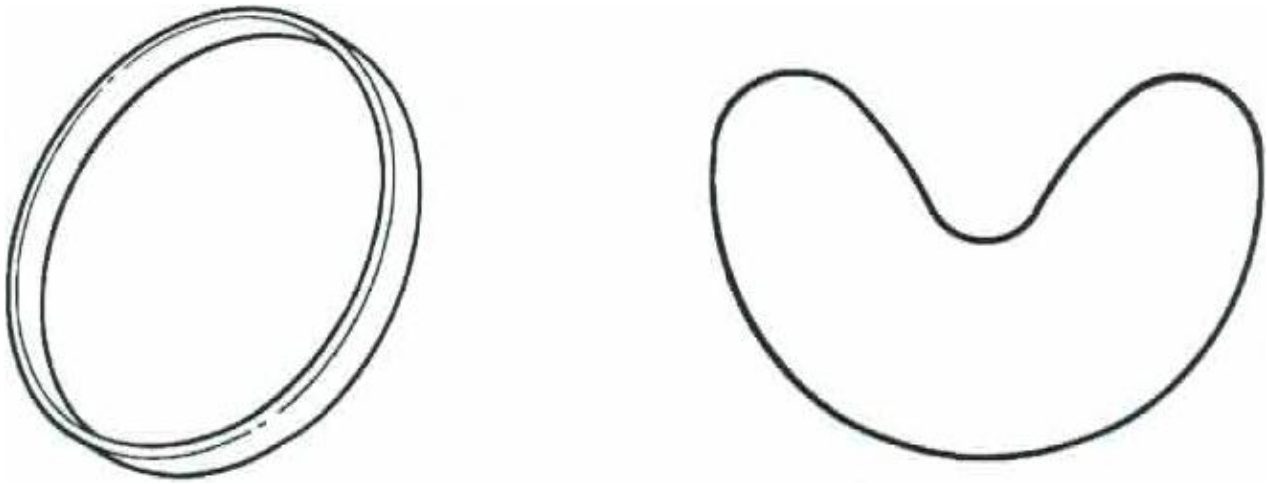


Figure 4.1 PTFE Seal Installation

WARNING **USE CARE WHEN SERVICING THE PISTON/FUEL CHAMBER/DIAPHRAGM ASSEMBLY; THE UNIT CONTAINS SPRINGS WHICH MAY CAUSE INJURY.**

k. Block the fins of the main piston assembly (64) to make sure it does not rotate and install screw (50) and new bonded seal (51) onto the main piston assembly (64) and torque screw to 20 ft-lbs (27 Nm).

l. Check condition of PTFE/O-ring seal (63); if damaged, replace. Apply a light coat of paraffin wax onto the PTFE/O-ring seal (63) and install into the valve body (68).

m. Apply a light coat of paraffin wax onto the surface of the large diameter of the piston (64). Make sure the assembled piston chamber and diaphragm is squared with the valve body (68). Press the piston/diaphragm assembly into the valve body.

n. Make sure the bead on the diaphragm (55) is facing the valve body (68). Carefully work the bead into counter bore the valve body (68). Apply a light coat of paraffin wax on the back side of the diaphragm (55) facing the air side of the valve body (68).

o. Install the diaphragm (41) onto the end plate (47) where insert (42) is fitted.

p. Put end plate (47) onto the valve body (68) and install screws (48) and washers (49). In a diametrical sequence torque screws to 10 ft.-lbs. (13.6 Nm).

q. Check condition of exhaust diaphragm (40); if damaged, replace. Make sure the beaded edge of the exhaust diaphragm (40) is facing the exhaust valve cover (36). Install the exhaust diaphragm (40) onto the exhaust valve cover (36).

r. Put exhaust valve cover (36) onto the valve body (68) and install screws (37 and 38) and washers (39). Torque screws to 12 in-lbs (1.35 Nm).

s. Install coupling (35) onto exhaust valve cover (36).

t. Install vent port assembly (43) onto end plate (47).

u. Install bleed screw (24) and new bonded seal (25).

v. Install spring (23) and ball bearing (22).

w. Install fuel restrictor valve (20) and new bonded seal (21).

x. Install circlips (34) into the proper groove of the valve body (68).

y. Apply a light coat of paraffin wax onto new O-ring (33) and install onto valve body (68).

z. Check condition of Slydring® (32); if damaged, replace. Install Slydring® (32) onto the groove of the valve body (68).

aa. Assemble Pressure Relief Valve Assembly (12) as follows:

1. Make sure the plugs (16) are free from damage or wear. If damage or wear is evident, replace the body (17) along with plugs (16).
2. Make sure the packing on the poppet valve assembly (12) is free from damage or wear. If damage or wear is evident, replace the poppet valve assembly (12).
3. Install poppet valve assembly (12) in to PEV body (17).
4. Install washer (11) over poppet valve assembly (12).
5. Install retainer (10) over poppet valve assembly (12) and into the groove of the PEV body (17).
6. Apply a light coat of paraffin wax onto new O-rings (7 and 9) and install them onto shaft (8).
7. Insert shaft (8) along with O-rings (7 and 9) into PEV body (17).

ab. Put pressure relive valve assembly (6) into valve body (68) and install screws (4) and washer (5). Torque screws (4) to 12 in-lbs (1.35 Nm).

4.7.3 Install Adapter Plates (Figure 7.1, 9 and 11) to Pressure Control Valve (13) as follows:

a. Apply a light coat of paraffin wax onto new packing (12) and install into pressure control valve (13).

b. Put upper half adapter plate (11) onto pressure control valve (13) and install screws (10). Torque screws (10) to 75 in-lbs (8.47 Nm).

Note: Make sure the flat edge of the upper half adapter plate (11) is facing the outlet of the pressure control valve (13).

c. Put screws (8) into the lower half adapter plate (9).

d. Apply a light coat of paraffin wax onto new packing (7) and install onto lower half adapter plate (9).

e. Put lower half adapter plate (9) onto upper half adapter plate (11) and install screws (6). Torque screws (6) to 75 in-lbs (8.47 Nm).

f. Apply a light coat of paraffin wax onto new packing (4) and install onto lower half adapter plate (9).

4.7.4 Install Swivel Body Assembly (Figure 7.2, 27) as follows:

a. Apply a light coat of paraffin wax onto the holes of swivel body (27) and install ball bearing (28).

b. Slide swivel sleeve (31) as shown in the orientation in Figure 7.2 onto swivel body (27).

c. Install new sealing ring (30) into the BSPP version of the swivel body (27).

d. Install the first circlip (26) onto the groove farthest from the hex on swivel body (27).

e. Install swivel body (27) onto the outlet of valve body (68).

f. Install the second circlip (26) onto the groove closest to the hex on swivel body (27).

g. Put handle (18) onto valve body (68) and install screws (19). Torque screws (19) to 44 in-lbs (4.97 Nm).

4.7.5 Assemble the F251A Hydrant Coupler (see Figure 7.1, 5).

a. For assembly of the F251A hydrant coupler (5) refer to maintenance manual MMF251.

4.7.6 Assembly of F251A Hydrant Coupler with Control Valve (see Figure 7.1)

a. Orient the F251A hydrant coupler (5) so its operating handle is facing towards the back of the pressure control valve (13).

b. Install the pressure control valve (13) onto the F251A hydrant coupler (5).

c. Use a long screw driver to move the pressure relief valve (Figure 7.2, 6) on the pressure control valve (Figure 7.1, 13) to make sure it sits flush with the F251A hydrant coupler (5).

d. Make sure the F251A coupler (5); dust cover assembly’s lanyard eyelet is attached to one of the screw (8). Install nuts (2) and washers (3) onto screws (8) to secure the pressure control valve (13) to the F251A hydrant coupler. Torque nuts (2) to 120 in-lbs (13.55 Nm).

4.7.7 After assembly make sure to complete the tests details in **TESTING.**

CHAPTER 5
TESTING

WARNING

DO NOT EXCEED PRESSURES AND TEMPERATURES QUOTED OR SERIOUS INJURY AND COMPONENT FAILURE MAY OCCUR. NEVER USE THE NOZZLE OPERATING LEVER TO START OR STOP FUEL FLOW.

WARNING

WORK MUST BE CARRIED OUT ONLY BY SUITABLY QUALIFIED PERSONNEL. BEFORE RETURNING TO WORK, MAKE SURE ALL AIRPORT/COMPANY SAFETY PROCEDURES HAVE BEEN FOLLOWED.

5.1 GENERAL

5.1.1 The following tests are to be carried out on completion of maintenance of any component. These tests are to be carried out only by suitably qualified personnel. Tests 1 and 2 apply to all builds of coupler; tests 3 and 4 apply to couplers fitted with a pressure control valve. Test Equipment requirements are listed in Table 5.1.

Table 5.1 Test Equipment Required

ITEM	DESCRIPTION	REMARKS
1	Fuel supply pressure source, with gauge, to provide a minimum 23 bar (338 psi).	Tests 1 to 4
2	Meggitt CC8000 tank unit or similar, suitably blanked off with a 1” steel flange and incorporating a pressure tapping.	Tests 1 to 4
3	Suitable 4” BSP or NPT threaded plug, incorporating a bleed valve and pressure tapping to blank off swivel connector.	Tests 1 to 4
4	Compressed air source, about 5.5 bar (80 psi), with 3 way valve.	Tests 1 to 4
5	1/8” BSP connector, bleed valve and bleed tube.	Test 4
6	Fuel container (approx. 10 liter cap).	Test 4

5.2 TEST 1 – STATIC PRESSURE TEST, COUPLER POPPET CLOSED

5.2.1 With the unit in the horizontal position as shown and the poppet valve closed fill the unit with fuel through the swivel connector. If a pressure control valve is fitted apply about 5.5 bar (80 psi) air reference pressure to open the piston valve. Check that no air pressure builds up in the fuel chamber (block fuel restrictor connector with thumb for about 20 seconds when piston is fully open).

5.2.2 Screw the threaded plug (Item 3) into the swivel connection, Connect the pressure source (Item 1) to the pressure tapping on the plug and open the bleed valve. Expel any air in the unit and close the bleed valve.

5.2.3 Slowly increase the fuel pressure in the unit to 23 bar (338 psi) and hold for one minute.

5.2.4 No leaks shall be apparent, no more than 0.34 bar (5 psi) decrease in pressure is permissible.

5.2.5 Decay the pressure through the bleed valve and remove the plug. Proceed to Test 2.

5.3 TEST 2 – STATIC PRESSURE TEST, COUPLER POPPET OPEN

5.3.1 Connect the CC8000 tank unit and flange (Item 2) with the pressure tapping plugged and open the poppet valve.

5.3.2 Fill the unit with fuel through the swivel connector. If a pressure control valve is fitted apply about 5.5 bar (80 psi) air reference pressure to open the piston.

5.3.3 Screw the threaded plug (Item 3) into the swivel connection, Connect the pressure source (Item 1) to the pressure tapping on the plug and open the bleed valve. Expel any air in the unit and close the bleed valve.

5.3.4 Slowly increase the fuel pressure in the unit to 23 bar (338 psi) and hold for one minute,

5.3.5 No leaks shall be apparent, no more than 0.34 bar (5 psi) decrease in pressure is permissible.

5.3.6 Reduce the test pressure to 5 psi. and hold for two minutes. Inspect the area of the poppet seal looking for signs of constant leakage which is unacceptable. A wetness in the adjacent area is acceptable as long as no constant flow Is visible.

5.3.7 Decay the pressure through the bleed valve. Do Test 3 if a Pressure Control Valve is fitted.

5.4 TEST 3 – MAIN SEAL AND RELIEF VALVE TEST

5.4.1 Connect the pressure source (Item 1) to the CC8000 tank unit flange (Item 2) pressure tapping, fit blanking plug to the pressure tapping on the threaded plug (Item 3). Fill the unit with fuel expelling air through bleed valve.

5.4.2 Set the bleed valve on the threaded plug open, the main piston closed (no air reference pressure applied) and the poppet valve open.

5.4.3 Slowly increase the fuel pressure in the unit to 15 bar (225 psi) and hold for one minute.

5.4.4 No leaks shall be apparent, no more than 0.34 bar (5 psi) decrease in pressure is permissible.

5.4.5 Decay any pressure in the unit and close the poppet valve, fuel will be expelled from the bleed valve. If the valve will not close with reasonable force applied to the handle the pressure relief valve may be damaged. The pressure relief valve may require disassembly to check for wear.

5.4.6 Remove the CC8000 tank unit and do Test 4.

5.5 TEST 4 – FUEL CHAMBER TEST

5.5.1 Remove exhaust valve cover (see Figure 5.2), rotate it through 90° and replace it. Make sure the bleed valve on the threaded plug is open.

5.5.2 Remove the bleed screw and fit the connector, bleed tube and bleed valve (Item 5) in its place. Make sure the bleed tube end is immersed in fuel in container (Item 6). Fill the fuel chamber with fuel through the fuel restrictor valve until all air is expelled through the bleed tube.

5.5.3 Apply air pressure to the valve and release two or three times to make sure any remaining air is expelled from the fuel chamber.

5.5.4 With the bleed valve open apply approximately 4 bar (60 psi) reference air pressure to open the piston.

5.5.5 Close the bleed valve and through the fuel restrictor slowly apply 6.9 bar (100 psi) pressure to the fuel chamber and hold for one minute.

5.5.6 No leaks shall be apparent, no more than 0.34 bar (5 psi) decrease in pressure is permissible.

5.5.7 Reduce pressure in the fuel chamber to 4 bar (60 psi).

5.5.8 Place a finger over the secondary air vent, release the air reference pressure using the three way air valve. Little or no air shall be expelled through this vent.

5.5.9 Release the pressure in the fuel chamber and re-apply air pressure.

5.5.10 Release the air pressure again; air shall be expelled forcibly from the secondary air vent.

5.5.11 Drain the unit thoroughly, including the fuel chamber. Replace the bleed screw and reposition the exhaust valve cover correctly.

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4" API Pressure Control Coupler – CCMY8500M3 SERIES

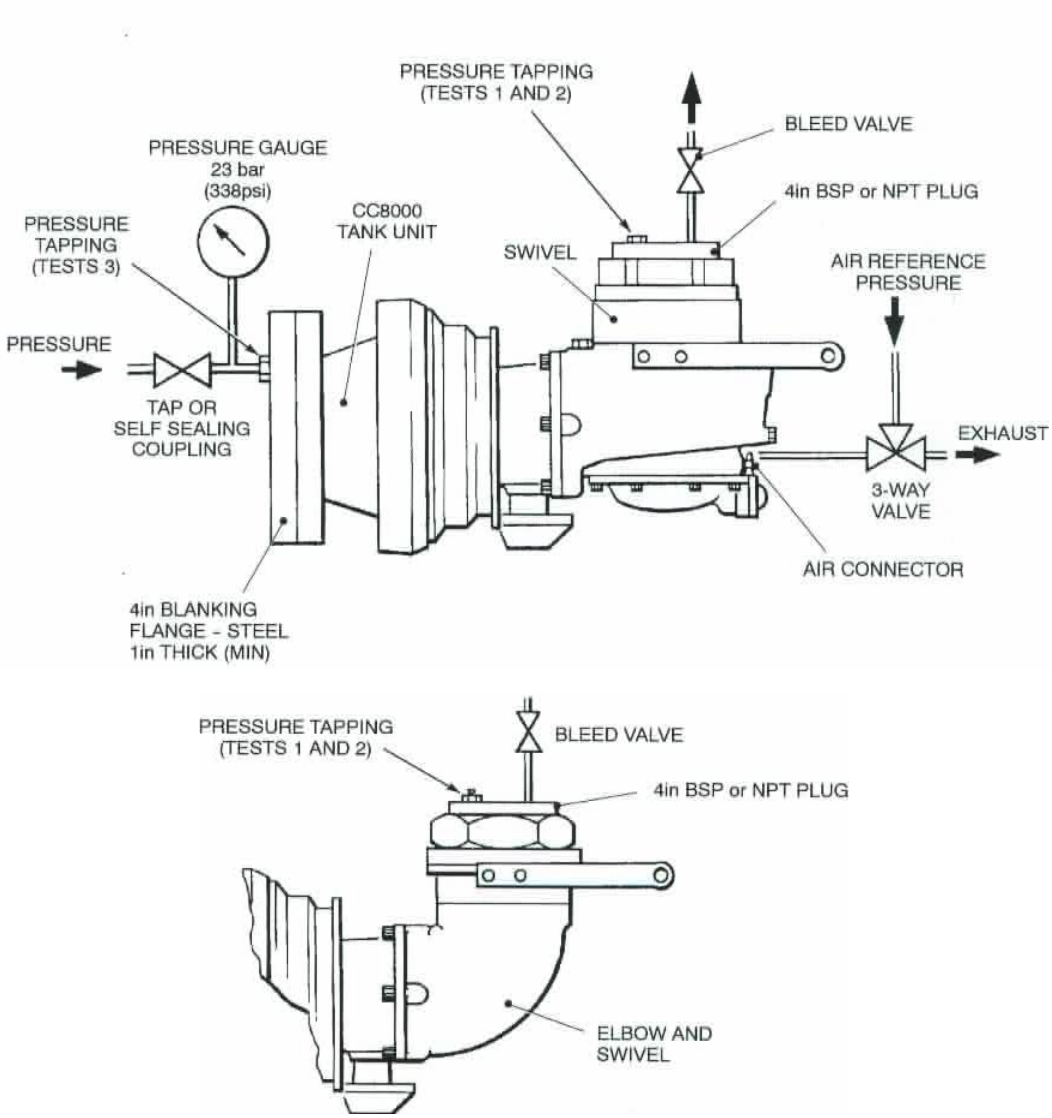


Figure 5.1 Test Rig Configuration – Tests 1, 2 and 3

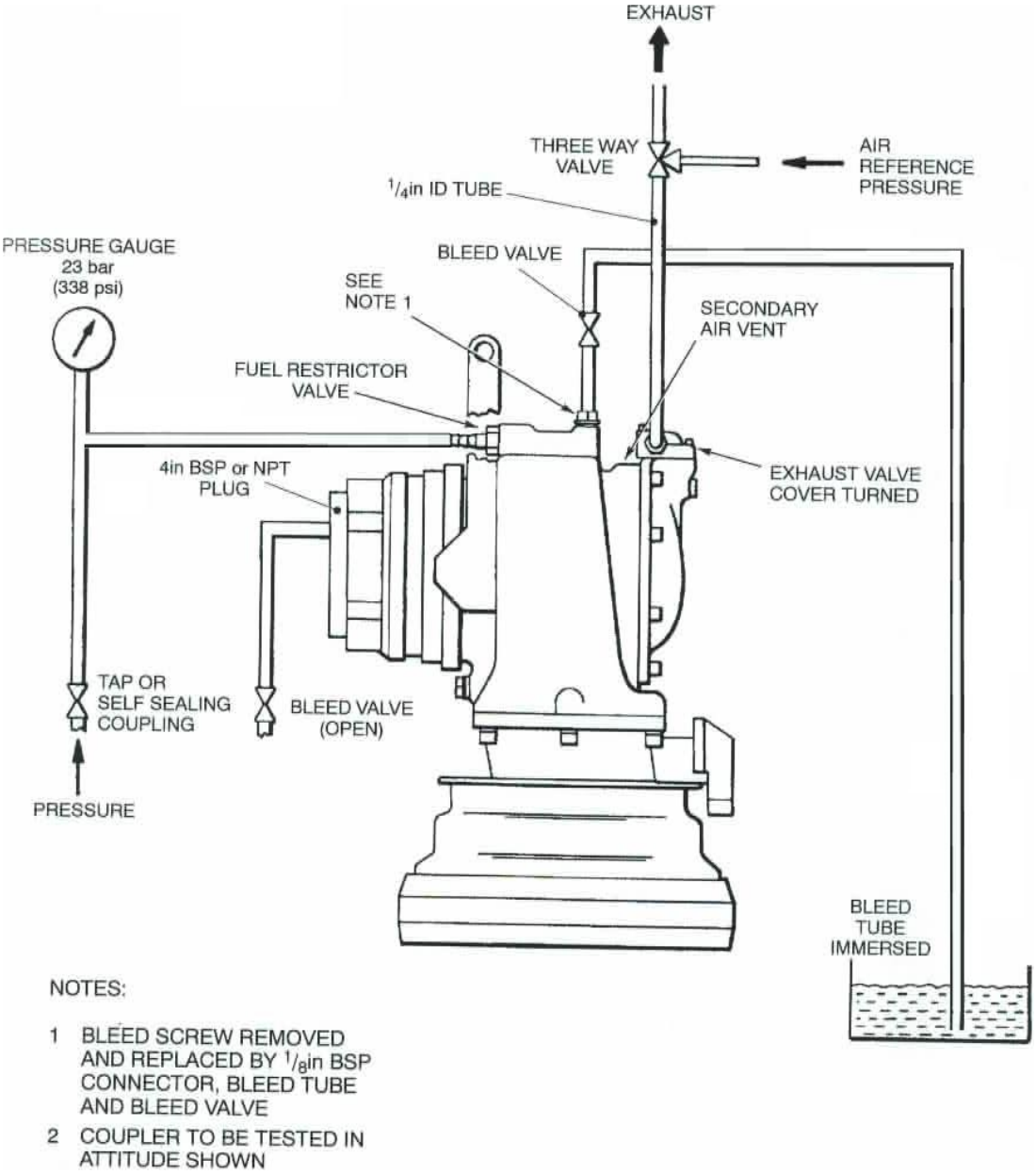


Figure 5.2 Test Rig Configuration – Tests 4

CHAPTER 6
FAULT ISOLATION

6.1 GENERAL

6.1.1 Faults to the coupler will in many cases be easily identified as mechanical failure due to damage, leakage of seals or jamming of moving parts. On a coupler fitted with a pressure control valve, some faults may be more difficult to diagnose. Table 6-1 lists faults that may occur, the possible cause(s) and remedy.

6.1.2 Table 6-1 is a guide only and may not cover all possible faults. Operation and maintenance procedures correctly carried out shall keep faults to a minimum. If the fault cannot be traced and rectified, consult Meggitt (North Hollywood), Inc. Fuelling Products for advice.

Table 6.1 Fault Isolation

FAULT	POSSIBLE CAUSE(S)	REMEDY
Valve fails to open or is very slow to open	Restrictor valve orifice blocked	Check condition and clean restrictor as necessary.
	Sense line blocked	Check condition and remove blockage as necessary.
	Air supply fault	Check condition of air supply.
	Locked in pressure higher than applied air reference pressure	Depressurize the system.
	Piston jammed by foreign matter	Remove the valve, clean and inspect for damage.
	Diaphragm defective	Refer to MAINTENANCE and replace the diaphragm.
Valve fails to close	Piston jammed open by foreign matter	Remove the valve, clean and inspect for damage
	Piston sealing edge or main seal damage	Check for damage and renew if necessary (refer to MAINTENANCE)

Table 6.1 Fault Isolation – (cont.)

FAULT	POSSIBLE CAUSE(S)	REMEDY
Valve fails to close – *(cont.)*	Air pressure not fully released	Check deadman air valve
	Blockage in sense line causing an hydraulic lock	Remove blockage
	Negative head on valve discharge	This may occur on some dispenser test rigs with underground tanks but will not occur during normal fuelling.
Valve unstable ("Hunting")	Air in fuel chamber and/or fuel sense line	Purge system or air (refer to Operation and Maintenance)
Valve opens too quickly	Air in fuel chamber and/or fuel sense line	Purge system of air (refer to Operation and Maintenance)
	Opening orifice too large	Exchange the restrictor valve for one with a smaller orifice
	Diaphragm perished or ruptured	Inspect diaphragm and renew if necessary
	Restrictor valve ball not seating correctly	Clean and inspect the restrictor valve seat renew if necessary
Valve response too slow to deadman shutdown	Restriction in air supply line	Remove restriction
	Restriction in fuel sense line	Remove restriction
	Vent port orifice too small	Exchange the vent port assembly for one with a larger orifice
	Piston partially jammed by foreign matter	Clean and inspect for damage
	Air passages blocked	Remove blockage
	Small diaphragm distorted	Dismantle and renew the diaphragm (refer to MAINTENANCE)

Table 6.1 Fault Isolation – (cont.)

FAULT	POSSIBLE CAUSE(S)	REMEDY
Valve responds too quickly to deadman shutdown	Small diaphragm distorted	Refer to MAINTENANCE and replace the diaphragm
	Vent port orifice too large	Exchange the vent port assembly for one with a smaller orifice
Valve responds too slowly to pressure surges	Restriction in fuel sense line	Remove restriction
	Sense line too long or too small in diameter	Reduce length of line or increase diameter
	Air in fuel chamber and/or fuel sense line	Refer to MAINTENANCE and purge system of air
	Air reference pressure set too high	Adjust air pressure to give 6-8 psi bias over required control pressure
Fuel leaking from the vent port assembly **Note:** The design of the valve is such that no fuel shall leak from the vent port. If leaks do occur they must be rectified immediately	Main diaphragm ruptured or incorrectly fitted	Dismantle inspect and refit or replace as required (refer to MAINTENANCE)
	Wet air in supply line	Check air supply
	Small diaphragm ruptured	Dismantle and renew (refer to MAINTENANCE)

CHAPTER 7
ILLUSTRATED PARTS LIST

7.1 INTRODUCTION

7.1.1 This section lists, describes, and illustrates all detail parts required for maintenance support of the 4 Inch API Pressure Control Coupler.

7.1.2 When Ordering spare parts please quote the following information:

- Model number and serial number of equipment
- Publication number and issue
- Figure number
- Item number
- Part number
- Description

7.2 SCOPE OF INFORMATION

7.2.1 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.

7.2.2 How to Identify a Part:

a. **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.

b. **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.

7.3 EXPLANATION OF COLUMNS

7.3.1 Fig. Item (Column 1).

Indicates the figure number and item number used to identify items called out on the illustration.

– indicates the item is not illustrated.

7.3.2 Part Number (Column 2).

Indicates the primary number used by the manufacturer which controls the design and characteristics of the item by means of its engineering data to identify an item.

7.3.3 Description (Column 3).

Provides the item number name (noun) and when required, a description to identify the item.

Indentation. Parts listed are indented to indicate item relationship or Next Higher Assembly (NHA). Nomenclature of each assembly is followed in the list (except for attaching parts) by nomenclature of its component indented one column to the right. This indentation indicates relationship of component to assembly. To determine NHA of a part or assembly, note column in which the first word of nomenclature appears. First item directly above, which appears one column to the left (except for attaching parts), is NHA.

DESCRIPTION
1 2 3 4 5 6 7
END ITEM, COMPONENT, MAJOR ASSEMBLY
. DETAIL PARTS FOR END ITEM,
COMPONENT, MAJOR ASSEMBLY
. Assembly
. Attaching Parts for Assembly (AP)
. . Detail Parts for Assembly
. . Subassemblies
. . Attaching Parts for Subassemblies (AP)
. . . Detail Parts for Subassemblies

7.3.4 Used On Code (Column 4).

Represents the applicable configuration in which an item is used. When an item is used on all configurations or when only one configuration is covered the UOCs shall not be shown.

7.3.5 Qty (Column 5).

Indicates the quantity of the item used in the breakout shown on the illustration.

7.3.6 Abbreviations

(AP)	Attaching Part
API	American Petroleum Institute
ASSY	Assembly
C	Celsius
F	Fahrenheit
FIG.	Figure
IN.	Inch
IPL	Illustrated Parts List
NHA	Next Higher Assembly
MOD	Modification
REF	Item is for reference purposes only and is not available as a spare

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

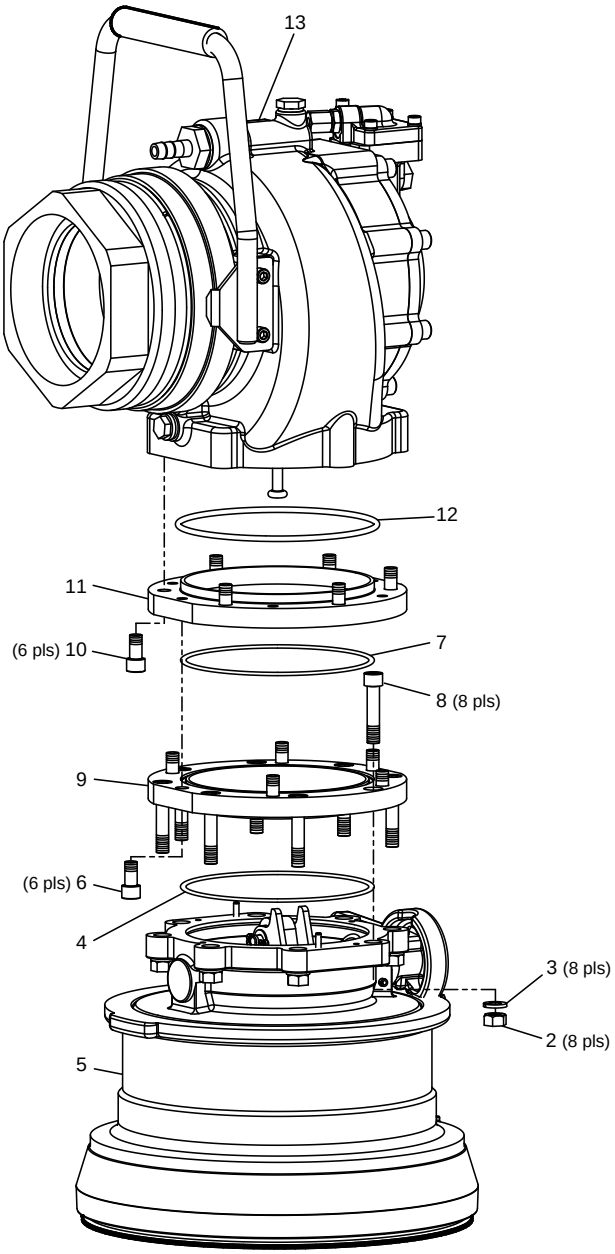


Figure 7.1 Coupler Assembly, Pressure Control, 4 Inch

FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	USED ON CODE	QTY
7.1				
- 1	CCMY8500M3	COUPLER ASSY-PRESSURE CONTROL, 4 IN.		RF
2	CMS51971-2	. NUT, PLAIN, HEXAGON, 5/16 IN.		8
3	MS35338-140	. WASHER, LOCK		8
4	2661058BD157	. PACKING		1
5	F251A	. HYDRANT COUPLER (SEE MMF251 FOR DETAILS)		1
6	430421	. SCREW, CAP, SOCKET HEAD, HEX		6
7	2661058BD157	. PACKING		1
8	430422	. SCREW, CAP, SOCKET HEAD, HEX		8
9	430071	. PLATE, ADAPTER, LOWER HALF		1
10	430421	. SCREW, CAP, SOCKET HEAD, HEX		6
11	430070	. PLATE, ADAPTER UPPER HALF		1
12	ZO32E249139A	. PACKING		1
13	CCMZ7300M3-1	. VALVE ASSY, PRESSURE CONTROL, 4 IN. INTAKE (For Details See Fig. 7.2)		1

- ITEM NOT ILLUSTRATED

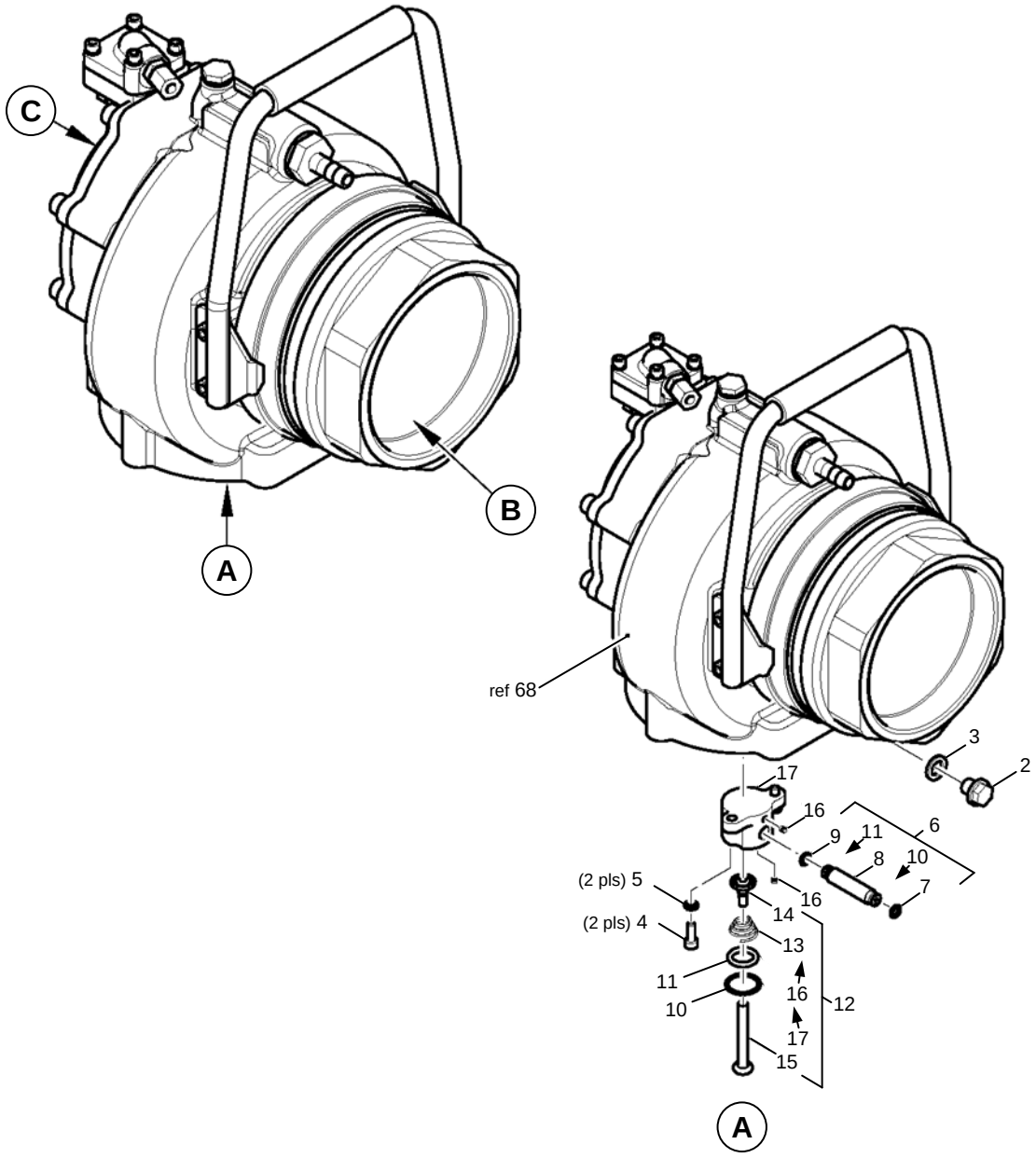


Figure 7.2 Valve Assembly, Pressure Control, 4 Inch Intake
(Sheet 1 of 3)

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

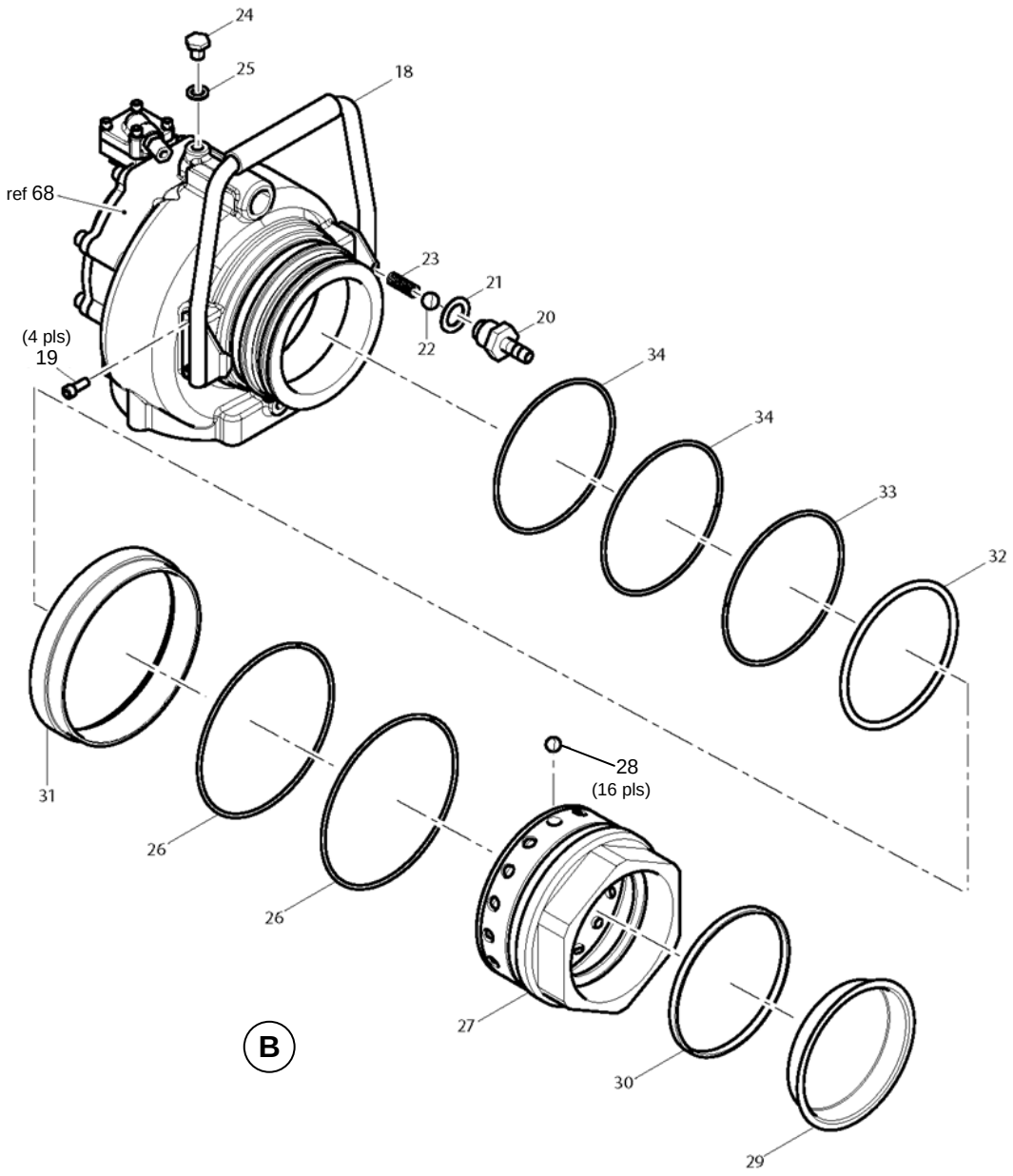


Figure 7.2 Valve Assembly, Pressure Control, 4 Inch Intake
(Sheet 2)

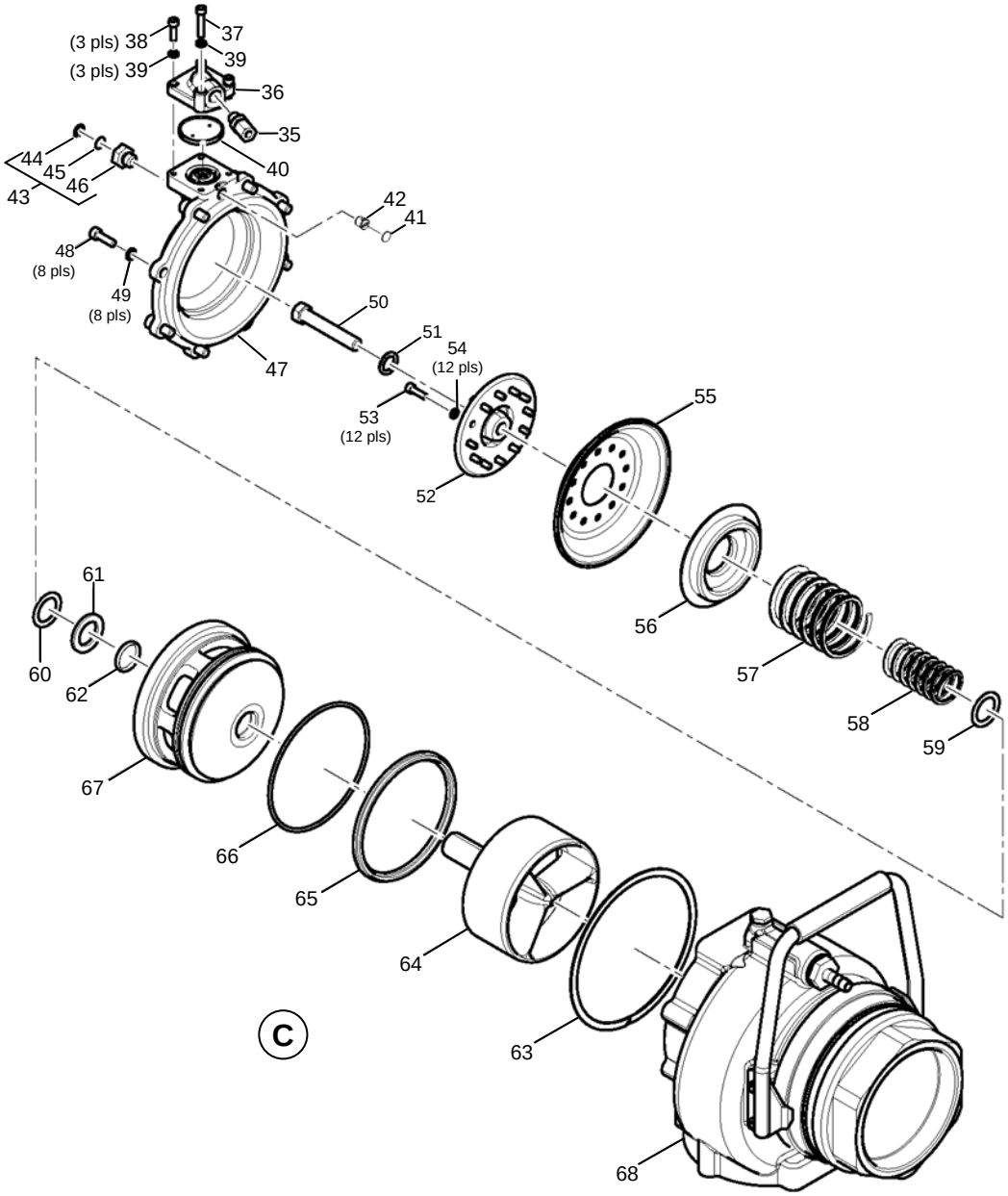


Figure 7.2 Valve Assembly, Pressure Control, 4 Inch Intake
(Sheet 3)

Meggitt (North Hollywood), Inc. Fuelling Products

Maintenance Manual

4” API Pressure Control Coupler – CCMY8500M3 SERIES

FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	USED ON CODE	QTY
7.2				
- 1	CCMZ7300M3-1	VALVE ASSY, PRESSURE CONTROL, 4 IN. INTAKE, BSPP (For NHA See Fig. 7.1)	A	RF
- 1	CCMZ7300M3-2	VALVE ASSY, PRESSURE CONTROL, 4 IN. INTAKE, NPT	B	RF
2	ZACZ0017-1	. PLUG		1
3	ZMMZ0135-4	. SEAL, BONDED, 1/8 BSP		1
4	ZS4025D0608A	. SCREW, 10-24 UNC X 1/2 IN. LG		2
5	ZW8207G06A	. WASHER		2
6	430429-3	. VALVE ASSY, PRESSURE RELIEF		1
7	ZO22M005116A	. . O-RING, SEAL		1
8	430020-2	. . SHAFT		1
9	ZO22M005116A	. . O-RING, SEAL		1
10	RRN-81	. . RETAINER		1
11	100168-606	. . WASHER		1
12	2880002-104	. . VALVE ASSY, POPPET		1
13	2763524-101	. . . SPRING		1
14	2881028-201	. . . POPPET ASSEMBLY		1
15	001001-101	. . . STEM		1
16	204000-187	. . PLUG		2
17	430019-2	. . BODY, MFP PEV 2		1
18	CCMZ7411	. HANDLE		1
19	ZS3225D0810A	. SCREW, 1/4 IN. UNC X 5/8 IN. LG (AP)		4
20	CCCZ7346	. VALVE, FUEL RESTRICTOR		1
21	ZMMZ0135-7	. SEAL, BONDED		1
22	ZASZ0068-11	. BEARINGS, BALL		1
23	CCSZ7336	. SPRING, (FUEL SENSE VALVE)		1
24	CCSZ7347	. SCREW, BLEED		1

- NOT ILLUSTRATED

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	USED ON CODE	QTY
7.2				
25	ZMMZ0135-4	. SEAL, BONDED, 1/8 IN. BSP		1
26	CCSZ7337	. CIRCLIP, SWIVEL SLEEVE STOP		2
27	CCAZ7323	. BODY, SWIVEL (B.S.P VERSION)	A	1
27	CCAZ7324	. BODY, SWIVEL (NPT VERSION)	B	1
28	ZASZ0068-10	. BEARINGS, BALL		16
29	ZAPZ0084-20	. CAP, TAPER PLUG/ REDCAP SP45101		1
30	CCRZ7271	. RING, SEALING		1
31	CCAZ7325	. SLEEVE, SWIVEL		1
32	ZARZ0097-10	. SLYDRING®		1
33	ZO32M114357A	. O–RING		1
34	CCSZ7338	. CIRCLIP		2
35	ZACZ0103-2	. COUPLING, TAPERED, MALE, THREADED 1/4 IN. BSP		1
36	CCAZ7317	. COVER, EXHAUST VALVE, MACHINED		1
37	ZS3225D0616A	. SCREW, 10-24 UNC X 1 IN. LG (AP)		1
38	ZS3225D0610A	. SCREW, 10-24 UNC X 5/8 IN. LG (AP)		3
39	ZW8207G06A	. WASHER		4
40	CCRZ7344	. DIAPHRAGM, EXHAUST VALVE		1
41	CCRZ7377	. DIAPHGRAM		1
42	CCCZ7378	. INSERT		1
- 43	CCMZ7352A	. VENT PORT ASSEMBLY		1
44	ZASZ0058/8	. . CIRCLIP		1
45	HUSZ3521	. . SCREEN, VENT PORT		1
46	CCAZ7353A	. . VENT PORT 0.8 MM DIA		1
47	CCAZ7315	. END PLATE, MACHINED		1
48	ZS3225D1012A	. SCREW, 5/16 IN. UNC X 3/4 IN. LG (AP)		8
49	ZW8207G10A	. WASHER, SPRING, 5/16 IN. ID, S/COIL (AP)		8
50	ZS3228D1440A	. SCREW, 7/16 IN. UNC X 2 1/2 IN. LG, HEX. HD		1
51	ZMMZ0135-8	. SEAL, BONDED		1

- NOT ILLUSTRATED

Meggitt (North Hollywood), Inc. Fuelling Products
Maintenance Manual
4” API Pressure Control Coupler – CCMY8500M3 SERIES

FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	USED ON CODE	QTY
7.2				
52	CCAZ7400	. CLAMP, DIAPHRAGM		1
53	ZS3225D0610A	. SCREW, 10-24 UNC X 5/8 IN. LG (AP)		12
54	ZW8207G06A	. WASHER (AP)		12
55	CCRZ7342	. DIAPHRAGM		1
56	CCAZ7401	. CARRIER, DIAPHRAGM		1
57	CCSZ7404	. SPRING, MAIN		1
58	CCSZ7403	. SPRING, SUPPLEMENTARY		1
59	CCSZ7402	. WASHER		1
60	ZASZ0038-14	. RING, RETAINING		1
61	CCSZ7339	. WASHER		1
62	ZARZ0097-9	. O–RING, PTFE SEAL		1
63	ZARZ0097-8	. O–RING, PTFE SEAL		1
64	CCAZ7369	. PISTON		1
65	CCRZ7343	. SEAL, MAIN		1
66	ZO32M114530A	. O–RING		1
67	CCAZ7321	. INSERT, FUEL CHAMBER		1
68	CCMZ7313	. BODY, PRESSURE CONTROL VALVE		1

- NOT ILLUSTRATED