Aerospace
Defense
Energy

Energy products

Maintenance Manual

Air and Fuel Sense Socket

F571 Series

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

LIST OF EFFECTIVE PAGES

On a revised page, the portion of text or illustrations affected by the change is indicated by a vertical line in the outer margin of the page. When a revision is issued, the entire document is reissued with the current revision number and date shown on all pages. For major revisions, the basic number is incremented. For minor revisions, the number following the decimal is incremented. Dates of issue for original and subsequent revisions are as follows:

Original 1.0 02/01/2008

The total number of pages in this technical document is 11 consisting of the following:

Title, 2 – 11

TABLE OF CONTENTS

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

INTRODUCTION

1. General

This manual provides component maintenance shop instructions for the Air and Fuel Sense Socket.

2. Revision Service

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

3. Weights and Measurements

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

DESCRIPTION AND OPERATION

1. Description

The Air and Fuel Sense Socket (socket) 1) transmits both air and fuel pressure from a hydrant servicing vehicle to a hydrant pit valve. It mates with the sense plug on Hydrant Valves and the F554 Air/Fuel Sense Plug.

2. Installation

A. Connect the air and fuel lines from the hydrant servicing vehicle to the ports as marked on the socket body.

B. Once connected, both the air and fuel lines must be thoroughly bled. This will eliminate "hunting" in the control valve system due to air in the fuel line or fuel in the air line.

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

3. Model Variations

A. A major modification was made to the socket body in 1977 to reduce seal and seal groove damage. The inside diameter of the socket was enlarged to accommodate removable spacers to retain the seals. Should excessive leakage occur due to seal groove damage after overhaul, replace the F571 as it is not practical to replace the socket body.

B. Refer to Table 1 for the available F570 series socket variations. Refer to the **ILLUSTRATED PARTS LIST** section for additional details.

Table 1. Model Variations

MOD LETTER	DESCRIPTION
(Basic)	No product selection.
A	Adds product selection A.
B	Adds product selection B.
C	Adds product selection C.
F	Adds product selection F.
G	Adds product selection G.
?	Changes ANPT threads to 3/8-inch BSP threads. (For Mods A, B, C, F and G.)

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

DISASSEMBLY

1. Disassembling the Air and Fuel Sense Socket (Refer to IPL Figure 1)

CAUTION: When using sharp instruments to remove O-ring packings, be careful not to scratch the packing seat.

A. Remove the four crews (Items 16 or 16A).

B. Pull apart the socket body (1), the end (14) and the bumper (2). Be careful not to lose any of the internal parts.

C. Remove the seals (11, 12 and 13) and the spacers (18).

D. Using a sharp instrument such as a steel scriber, remove the retainer (10). Be careful not to lose the spring (9).

E. Remove the retainer (17), the seat (8) and the stem assembly (6 and 19) by pushing on the stem assembly from its opposite end.

F. Remove the screw (7). A small hook made out of a paper clip can be used to remove the packing (5).

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

CLEANING

1. Cleaning Materials

Refer to Table 2 for recommended cleaning materials. Suitable equivalent cleaning materials may be substituted for the items listed.

Table 2. Recommended Cleaning Materials

DESCRIPTION	SPECIFICATION	SOURCE
Brush, Bristle, stiff, nonmetallic	– –	Commercially available
Cleaning Solvent	– –	Commercially available
Tissues, lint-free	– –	Commercially available

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 obstructions from ports, grooves and passages.

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

WARNING: 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.

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

INSPECTION

1. General

A. Under strong light and magnification, visually check all parts in accordance with the general criteria specified in paragraph 2 below.

B. Repair minor damage in accordance with instructions presented in the **REPAIR** section. If damage is major or beyond simple repair, replace the part rather than attempt extensive repairs.

2. Component Checks (Refer to Table 3)

Table 3. Component Checks

DESCRIPTION	CHECK CRITERIA
General	Visually check all parts as applicable for nicks, cracks, cuts, burrs, corrosion, breaks, scoring, deformation, dents, thread damage, or any other obvious defects. Make sure that the ports, passages, recesses and sealing grooves are clean and unobstructed. Check all sealing and seating surfaces for damage or corrosion which would affect sealing.

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

REPAIR

1. General

Repairs normally will consist of replacing damaged or malfunctioning parts with new parts, however, this section outlines minor repair procedures permissible for component parts, and specifies mandatory replacement parts.

2. Repair Materials

Refer to Table 4 for recommended repair materials. Suitable equivalent repair materials may be substituted for the items listed.

Table 4. Recommended Repair Materials

DESCRIPTION	SPECIFICATION	SOURCE
Cloth, Abrasive, Crocus, 600-grit	P-C-458	Commercially available

3. Repair or Replacement

A. Replace all parts which are obviously cracked, worn, deformed, damaged beyond repair, or which do not meet check requirements and cannot be restored to serviceable condition by allowable repair.

B. Polish out minor corrosion and surface damage on stainless steel parts with crocus abrasive cloth.

C. After polishing, re-clean parts as specified in the **CLEANING** section.

D. Clear minor thread damage with a thread restoring tool; replace all threaded components having crossed or stripped threads.

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

ASSEMBLY

1. Overhaul Replacement Parts

Refer to the **ILLUSTRATED PARTS LIST** section for recommended replacements parts kit information.

2. Assembly Materials

Refer to Table 5 for recommended assembly materials. Suitable equivalent materials may be substituted for the items listed.

Table 5. Recommended Assembly Materials

DESCRIPTION	SPECIFICATION	SOURCE
Petrolatum	–	Commercially available
Tape, Thread, Teflon (white) (1/4-inch wide x 0.004-inch thick)	–	Commercially available

3. Assembling the Air and Fuel Sense Socket (Refer to IPL Figure 1)

A. Prior to assembly, lightly lubricate all of the packings with petrolatum.

B. Install the packing (5) in the bottom of the base, using a blunt instrument to make sure that it is not cocked.

C. Wrap small amount of Teflon thread tape around the threads of the setscrew (7). Start the setscrew into threads of the socket body (1 or 1A).

CAUTION: IMPROPER INSTALLATION OF THE PACKING (5) CAN CAUSE LEAKAGE. IF TOO MUCH SQUEEZE IS APPLIED, LEAKAGE WILL OCCUR AT THE SEAT (8) UPON DISCONNECT.

D. Install the packing (5) in the socket body (1 or 1A). (Refer to Figure 1, and use the adjustment tool (P/N F80-0-1304) to make sure that the make sure that the packing squeeze and sealing is correct.

E. Install the retainer (19) on the stem (6), making sure that it is pushed up fully to its shoulder.

F. Insert the stem assembly (6 and 19) into the socket body (1 or 1A).

G. Install the seat (8), the retainer (17), and the spring (9) in the socket body (1 or 1A). Install a new strainer (10) in the fuel port of the socket body (1 or 1A) and press it into place.

H. Using a blunt instrument, actuate the stem (6) from its opposite end, to verify proper adjustment of the setscrew (7).

SPECIAL TOOLS

1. General

Special tools recommended for maintenance of the socket are listed in Table 6.

Table 6. Special Tools

PART NUMBER	DESCRIPTION	APPLICATION
F80-0-1304	Adjusting Tool	To install the packing (5, IPL Figure 1) in the socket body (1 or 1A)

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

ILLUSTRATED PARTS LIST

1. General

This section lists, describes, and illustrates all detail parts required for maintenance support of the Air and Fuel Sense Socket.

2. Scope of Information

A. 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.

B. MODIFICATION CODE

The modification code 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.

C. How to Identify a Part

1) 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 verify the physical appearance and location of the part.

2) When the part number is not known: Review the illustrations to identify the part by physical appearance and location. Refer to the accompanying parts list to obtain the part number, description, modification codes, and quantity.

D. Abbreviations

ASSY	Assembly.
FIG.	Figure.
IPL	Illustrated Parts List.
K	Available in parts kit.
MOD	Modification.

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	MOD CODES	UNITS PER ASSY
1	F571	SOCKET, AIR AND FUEL SENSE		REF
1	2672330-1	· BODY, SOCKET		1
1:00 AM	2672330-2	· BODY, SOCKET	H	1
2	2803200-101	· BUMPER		1
3	2672326	· PIN		1
4	CNAS561C3-12	· PIN		1
5	2661058BD005	· PACKING, PREFORMED		1
6	2823009-101	· STEM K		1
7	2672397	· SCREW		1
8	2681827	· SEAT		1
9	LC-032E-10MW	· SPRING, COMPRESSION		1
10	5005-43H	· RETAINER		1
11	568-112	· RING, Q		1
12	2661058K112	· PACKING, PREFORMED		2
13	2661058K027	· PACKING, PREFORMED		1
14	2672339-11	· END	Basic	1
14 A	2672339-1	· END	A	1
14 B	2672339-2	· END	B	1
14 C	2672339-3	· END	C	1
14 D	2672339-5	· END	F	1
14 E	2672339-6	· END	G	1
15	2672328	· PLUG ASSEMBLY, DUST		1
16	LP1351-4-20	· SCREW	Basic ,A	1
16 A	LP1351-4-16M	· SCREW	BCFG	1
17	2713531	· RETAINER		1
18	2841003-101	· SPACER		2
19	5105-9H	· RETAINER K		1
20	CMS16625-4118	· RING, RETAINING		1

Meggitt Fuelling Products
Maintenance Manual
Air and Fuel Sense Socket – F571 Series

SOCKET PARTS KIT AVAILABLE		
KIT PART NUMBER	**DESCRIPTION**	**ITEMS IN KIT (IPL Figure 3)**
KITF571-102	Stem and Retainer	6 and 19