



Energy products

Maintenance Manual

Servo Assembly

2681095 Series

Meggitt Control Systems

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Meggitt Fuelling Products
 Maintenance Manual
 Servo Assembly – 2681095 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:

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INTRODUCTION

1. General

This manual provides component maintenance shop instructions for the Servo Assembly (servo).

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 selected Metric (SI) units.

DESCRIPTION

1. Description

The Servo Assembly (servo) provides the means of safely controlling a fuel valve. The assembly instructions include preliminary settings. The final settings and adjustments are dependent on the installation and are given in the applicable manuals for the valves that the servo is used on.

2. Model Variations

Table 1. Servo Assembly Variations	
SERVO MOD LETTERS	DESCRIPTION
Basic	Air-set regulation, control pressure bias of 25 psi (170 kPa), aluminum body
A	Changes control pressure bias to 16 psi
B	Changes servo body to Ductliron/CRES.
C	Modified for use with an F540-2 flow control (not furnished)
D	Adds closing time adjustment (not used with Mod F) WARNING: On Mod D servos, surge control becomes ineffective.

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Table 1. Servo Assembly Variations (continued)

SERVO MOD LETTERS	DESCRIPTION
X	Spring set regulation (70 to 110 psi).
P/N Example: 2681095BCE = Ductliron/CRES servo body, modified for use with F540-2 flow control, with spring set regulation and air set deadman	

DISASSEMBLY

1. Replacement Parts Kits

Refer to the IPL section for information on the replacement parts kits.

2. Disassembling the Servo Assembly

Refer to IPL Figure 1 as a guide to disassembly. No special instructions are required.

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
Dry Cleaning Solvent	P-D-680, Type 2	Commercially available
Tissues, lint-free	--	Commercially available

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2. Cleaning Procedures

WARNING: DRY CLEANING SOLVENT IS FLAMMABLE AND TOXIC TO EYES, SKIN, AND RESPIRATORY TRACT. SKIN/EYE PROTECTION REQUIRED. AVOID REPEATED/PROLONGED CONTACT. USE ONLY IN WELL VENTILATED AREAS. GOOD GENERAL VENTILATION IS NORMALLY ADEQUATE. KEEP AWAY FROM OPEN FLAMES OR OTHER IGNITION SOURCES.

A. Clean all metal parts by washing thoroughly in dry cleaning solvent. Remove stubborn deposits by scrubbing with a nonmetallic stiff bristle brush.

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.

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 local standard procedures. If damage is major or beyond simple repair, replace the part rather than attempt any extensive repairs.

2. Component Checks (Refer to Table 3)

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Table 3. Component Checks

DESCRIPTION (IPL Figure 1 Item No.)	CHECK CRITERIA
General	1) Visually check all parts as applicable for nicks, cracks, cuts, burrs, corrosion, breaks, scoring, deformation, dents, thread damage, or any other obvious defects. 2) Make sure that the ports, passages, recesses and sealing grooves are clean and unobstructed. 3) Check all sealing and seating surfaces for damage or corrosion which would affect sealing.

ASSEMBLY

1. Replacement Parts

Refer to the IPL section for information on the available parts kits.

2. Assembly Materials

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

Table 4. Recommended Assembly Materials

DESCRIPTION	SPECIFICATION	SOURCE
Grease	O-Lube	Parker Hannifin Corp. O-Ring Division 2360 Palumbo Drive PO Box 11751 Lexington, KY 40512
Adhesive, Epoxy	–	Commercially available
Tape, Masking	–	Commercially available
Petrolatum	–	Commercially available

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3. Assembling the Air-Set Servo Assembly (Refer to IPL Figure 1)

NOTE: Final settings and adjustments depend on the application for the servo, and are covered in the applicable manual on the valve on which the servo is used. Initial settings as required are included herein.

- A. Prior to assembly, lubricate all of the packings with grease (O-Lube).
- B. Reassemble the Servo as shown in the illustrated parts list.
- C. Use all new packings (supplied in Kit Number 2691129-2).
- D. Lubricate all of the packings with grease (O-Lube) or equivalent.
- E. With the poppet (44) pushed fully in (seated), and with the retainer (42) touching but not compressing the spring (43), turn the setscrew (39) inward eight additional turns. On the basic servo, turn the setscrew in, from the contact position, an additional five turns.
- F. When installing the screw (2), leave a gap between its head and the washer (3 and 4) of 0.002 to 0.006 inch, so that the washers can be freely rotated.
- G. If the servo is to be shipped or stored, coat the packings (8) with petrolatum or grease (O-lube), and tape them in place.

ILLUSTRATED PARTS LIST

1. General

This section lists, describes, and illustrates all detail parts required for maintenance support of the Servo Assembly.

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.

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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.
REF	Reference item.

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FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	MOD CODES	UNITS PER ASSY
1	2681095 (Basic)	SERVO ASSEMBLY		REF
1	2661058BA230	· PACKING, PREFORMED		1
2	LP66B02J11	· SCREW		1
3	CAN960-10L	· WASHER, FLAT		1
4	2706580-107	· WASHER		1
5	2672478	· PISTON		1
6	2661058BD227	· PACKING, PREFORMED		1
7	4631062-227	· SEAL		1
8	2661058A210	· PACKING, PREFORMED		2
9	2681096	· SCREEN		1
10	CAN4-3A	· BOLT, MACHINE	Basic, ABCD	3
11	2706580-102	· WASHER	Basic, ABCD	3
12	CAN4-3A	· BOLT, MACHINE	Basic, ABCD	1
13	2706580-109	· WASHER	Basic, ABCD	1
14	CAN6-5A	· BOLT, MACHINE		1
15	2706580-113	· WASHER		1
16	2672481	· SEAT, NEEDLE		1
17	CAN932-3	· PLUG	Basic, ABD	1
20	2706580-113	· WASHER	D	1
21	CAN565F624H16	· SETSCREW	D	1
22	CMS16625-4231	· RING, RETAINING		1
23	2672475-1	· CAP (Aluminum alloy)	Basic, AC	1
	2672475-2	· CAP (Ductliron)	B	1
	2691128-1	· CAP	D	1
24	2661058A141	· PACKING, PREFORMED		1
27	2672474	· PISTON	Basic, ABCD	1
28	2672484	· SPRING, COMPRESSION	Basic, BCD	1
	2672483	· SPRING, COMPRESSION	A	1

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FIG. ITEM	PART NUMBER	DESCRIPTION 1 2 3 4 5 6 7	MOD CODES	UNITS PER ASSY
33	Q4227-366Y	· RING, QUAD		1
34	CMS16627-4075	· RING, RETAINING		1
35	2672476	· RETAINER		1
36	2661058A021	· PACKING, PREFORMED		1
37	CAN6-5A	· BOLT, MACHINE	Basic, ABCD	1
38	2706580-113	· WASHER	Basic, ABCD	1
39	CAN565F624H16	· SETSCREW	Basic, ABCD	1
40	CMS16625-4231	· RING, RETAINING	Basic, ABCD	1
41	2672480-1	· CAP	Basic, ABCD	1
42	2672477	· RETAINER, SPRING	Basic, ABCD	1
43	2672482	· SPRING, COMPRESSION	Basic, ABCD	1
44	2672479	· POPPET	Basic, ABCD	1
57	2661058A141	· PACKING, PREFORMED		1
58	Q4227-366Y	· RING, QUAD		1
59	CMS16627-4075	· RING, RETAINING		1
1 60	2672476	· RETAINER		1
61	2661058BD014	· PACKING, PREFORMED		1
62	2682351-1	· DISK	C	1
63	2672473-1	· BODY, SERVO (Aluminum alloy)	Basic, ACD	1
	2672473-2	· BODY, SERVO (Ductliron)	B	1
64	CMS35266-107	· SCREW, MACHINE	D	1

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SERVO PARTS KIT AVAILABLE		
KIT PART NUMBER	DESCRIPTION	ITEMS IN KIT (IPL Figure 1)
2691129-2	Overhaul	1, 4, 6, 7, 8, 11, 13, 20, 24, 33, 34, 35, 36, 38, 57, 58, 59, 60 and 61

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