

Chapter 4

ELECTRO-HYDRAULIC VALVE, TYPE FAC

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LEADING PARTICULARS

Type	Stores Ref.	Voltage (d.c.)	Coil current (amp.)	Weight
FAC/A/218	27V/2020	24	0.5	2 lb. 2 oz.
FAC/A/316	27V/2695	24	0.5	2 lb. 5½ oz.
FAC/A/230	27V/	12	1.0	2 lb. 2 oz.
FAC/A/319	27V/	12	1.0	2 lb. 5½ oz.

DESCRIPTION

1. The electro-hydraulic valve, Type FAC, is designed as a main valve gear or as a pilot valve for the remote control of hydraulic jacks. Details of the complete range of these valves are given under Leading Particulars.

2. The valve consists of a solenoid and a valve assembly. Types FAC/A/316 and /319 are fitted with a valve body as an integral part of the valve (fig. 1), but in Types FAC/A/218 and /230 the valve body is not supplied (fig. 2). Electrical connection is made by means of a 2-pin Breeze plug, Type CZ1064/2. The working hydraulic pressure is 2,000 lb. per sq. in., and the test pressure 3,000 lb. per sq. in.

3. The solenoid windings surround an armature tunnel in which the armature operates. The armature is pinned to a double-ended valve rod, with conical ends forming the valve heads; the upper valve head mates with a low-pressure valve seat and the lower valve head with a high-pressure valve seat. The valve rod is spring-loaded to remain normally in the lower position, with the high-pressure valve closed, and the low-pressure valve open. When the solenoid is energized the armature lifts the valve rod to its upper position, closing the low-pressure valve and opening the high-pressure valve.

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4. The valve body (when fitted) incorporates a high-pressure inlet communicating with the lower valve seat, and a service line connection communicating with the space between the two valve seats. Thus the operation of the solenoid valve is as follows :—

(1) Solenoid energized.—High-pressure valve opens to permit a flow from high-pressure inlet to service line. Low-pressure valve closed.

(2) Solenoid de-energized.—Low-pressure valve opens to permit a flow from service line to low-pressure outlet. High-pressure valve closed.

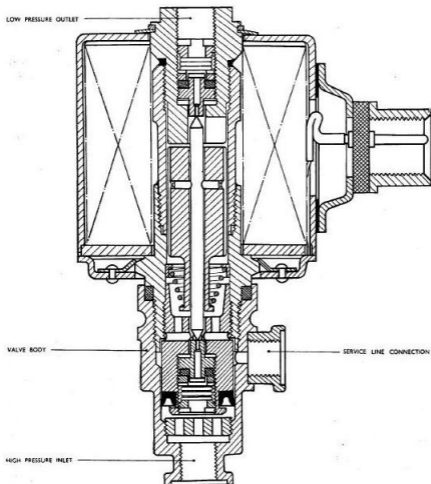


Fig. 1. Valve, Type FAC, with valve body

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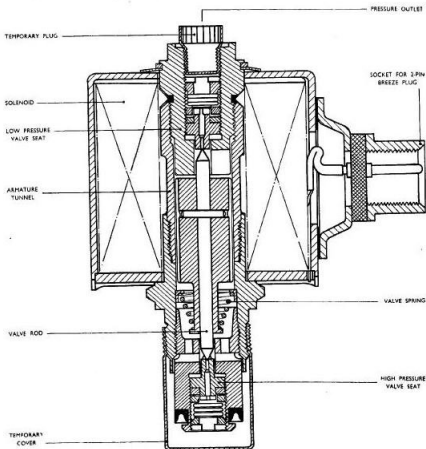


Fig. 2. Valve, Type FAC, without valve body

5. The service line is connected either direct to a hydraulic jack, or, for larger installations, to the servo-operating gear.

SERVICING

5. The joint between the valve body and the armature tunnel should be inspected for tightness, and the electrical plug and socket tested for continuity. No other servicing is permitted.

7. A plug is provided to close the low-pressure outlet connection during transit. A cover is also provided to enclose the high-pressure valve where no valve body is supplied. The plug and (where necessary) the cover should always be used when a valve is packed for transit. If the plug and cover are not available, protection should be improvised from materials such as cork and adhesive tape.

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