Chapter 5

ELECTRO-PNEUMATIC VALVE, TYPE ES

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Type ES/A/82	Stores Ref. 27V/2135
Voltage	12 d.c.
Current consumption	0·17 amp.
Weight	1 lb. 8 oz.
Type ES/A/69	Stores Ref. 27V/2177
Type ES/A/83	Stores Ref. 27V/2136
Type ES/A/98	Stores Ref. 27V/2137
Type ES/A/110	Stores Ref. 27V/2138
Type ES/A/167	Stores Ref. 27V/2739
Voltage	24 d.c.
Current consumption	0·3 amp.
Weight	1 lb. 8 oz.

DESCRIPTION

1. The electro-pneumatic valve, Type ES (*fig.* 1) is designed to control the flow of air to and from a single-acting, spring-return, pneumatic jack. It is particularly suitable for the remote control of one or more jacks, either by a manual switch, thermostat, pressure switch, or other automatic means. Details of the complete range of these valves are given under Leading Particulars; the differences between the types lie primarily in the operating voltage and the size of the screwed connections.

2. The valve body carries the inlet and outlet connections, and is bolted to the coil body which, in turn, houses the coil and armature. The armature carries the inlet valve at its lower end and the outlet valve at its upper end, both valves being made of synthetic rubber. The coil body incorporates a bracket for mounting the unit.

3. The maximum working air pressure is 350 lb. per sq. in. The electrical connections are brought out from the coil to two terminals on a terminal block. A terminal block cover, secured with two screws, also serves as a cable clamp.

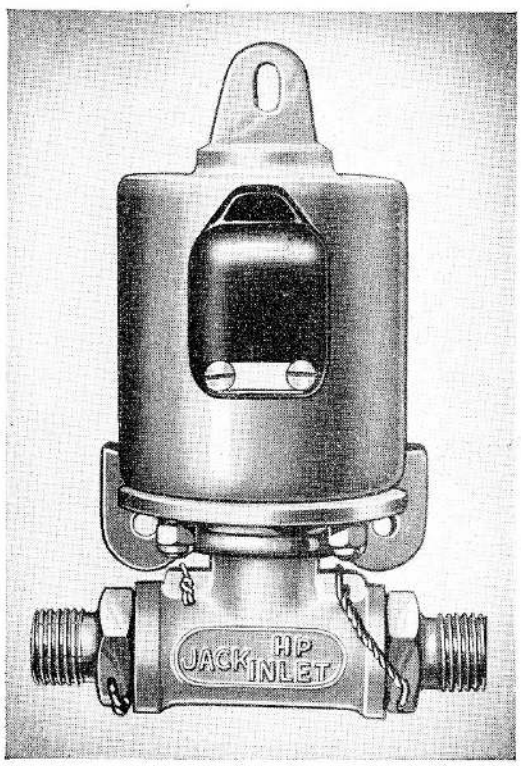

Fig. 1. Electro-pneumatic valve, Type ES

4. When the coil is not energized, the valve spring (*fig.* 2) keeps the armature in its lower position; the inlet valve is closed and the outlet valve open. Exhaust air from the pneumatic jack can thus pass through the outlet connection, up the vertical passage to the coil tube, through the annular space between the armature and the coil tube, through the outlet valve and to atmosphere.

Note . . .

The top cover of the valve, Type ES/A/167, is fitted with a pipe connection enabling methanol impregnated exhaust air to be piped outside the aircraft.

5. When the coil is energized, the armature moves upwards, closing the outlet valve and opening the inlet valve. Compressed air can thus pass through the inlet connection, up the central passage leading to the open inlet valve, down the vertical passage to the outlet connection and so to the pneumatic jack.

SERVICING

6. The bracket mounting bolts should be examined for security, and the electrical connections to the terminal block examined, and tested, if necessary, for continuity. No other servicing is permitted.

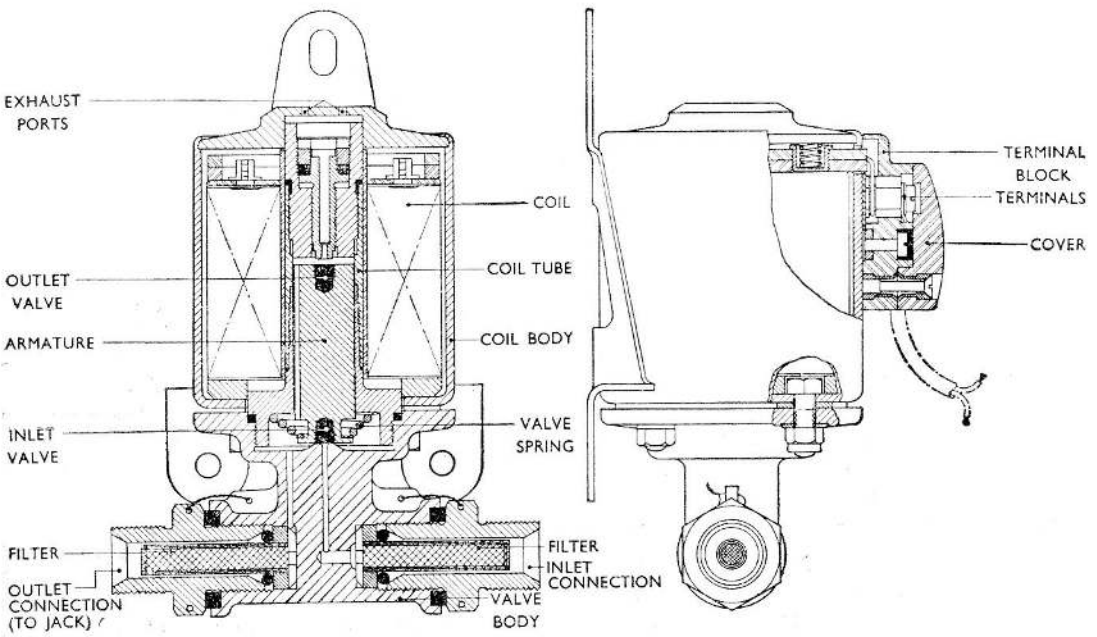

Fig. 2. Sectional view of electro-pneumatic valve, Type ES