Chapter 38

SWITCH, MAGNETIC RELAY, ROTAX D0213

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Stores Ref.	5CW/1572
Voltage	24V, d.c.
Pull-in voltage	18V, d.c.
Current rating	300 amp.
Operating coil resistance at 20 deg. C.	4·94—5·46 ohms
Time rating	30 secs.
Overall length	3·5 in.
Height	3·5 in.
Weight	1 lb. 6 oz.

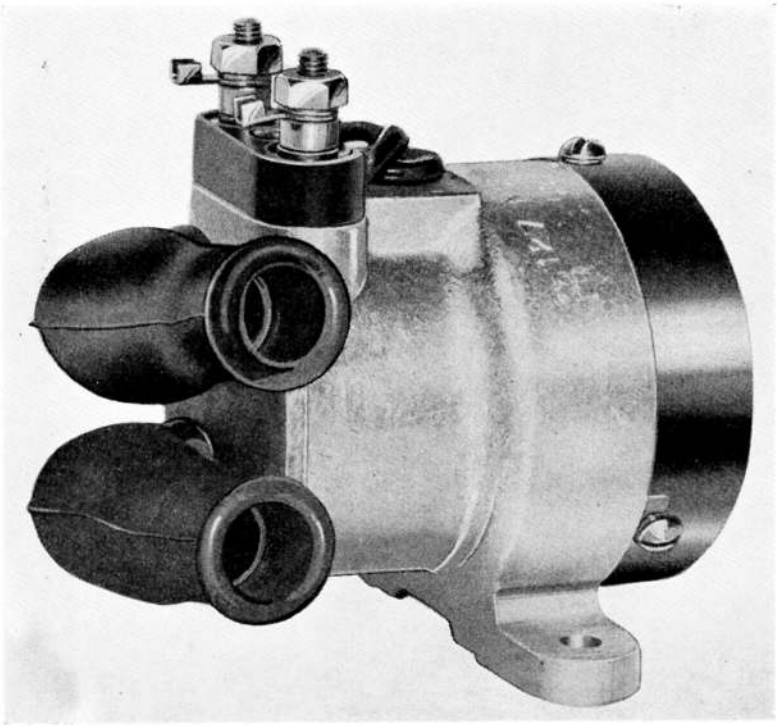

Fig. 1. Switch, magnetic relay, Rotax D0213

Introduction

1. This switch is designed to meet the requirements of heavy duty single pole switching, up to a maximum of 300 amp. at 24V, d.c.

DESCRIPTION

2. A general view of the switch is shown in fig. 1, whilst fig. 2 shows a sectional drawing to which reference should be made when reading the following descriptive paragraphs.

3. The main housing is an aluminium alloy casting closed at one end. At this end carried in an insulating ring are two fixed contacts with $\frac{5}{16}$ in. B.S.F. terminal ends. The moving contact plate is carried on an insulating collar. This assembly is a free fit on the armature spindle, and is normally held away from the fixed contacts by a helical return spring located between them.

4. The two leads to the coil pass through a grommet in the main housing and connect to 3 B.A. terminals.

5. The open end of the main housing is enclosed by a sheet metal cover plate.

Note . . .

The fixing screws for this cover also position the coil assembly. They must not therefore be removed unless dismantling the switch as described in A.P.4343C, Vol. 6, Sect. 3, Chap. 38.

INSTALLATION

6. This switch is suitable for mounting in any position, but wherever possible it is advisable to mount it with the main terminals uppermost.

OPERATION

7. When the coil is energized, the armature is drawn inwards thereby loading the return spring, and placing the contact plate across the fixed contacts. Further movement of the armature loads the conical spring; thus ensuring good, and even contact.

8. On breaking the supply the armature begins to move back, but due to the loaded conical spring the contact plate remains in the closed position. By the time the conical nut on the end of the armature strikes the contact plate the armature is moving at a speed great enough to ensure a rapid and clean break.

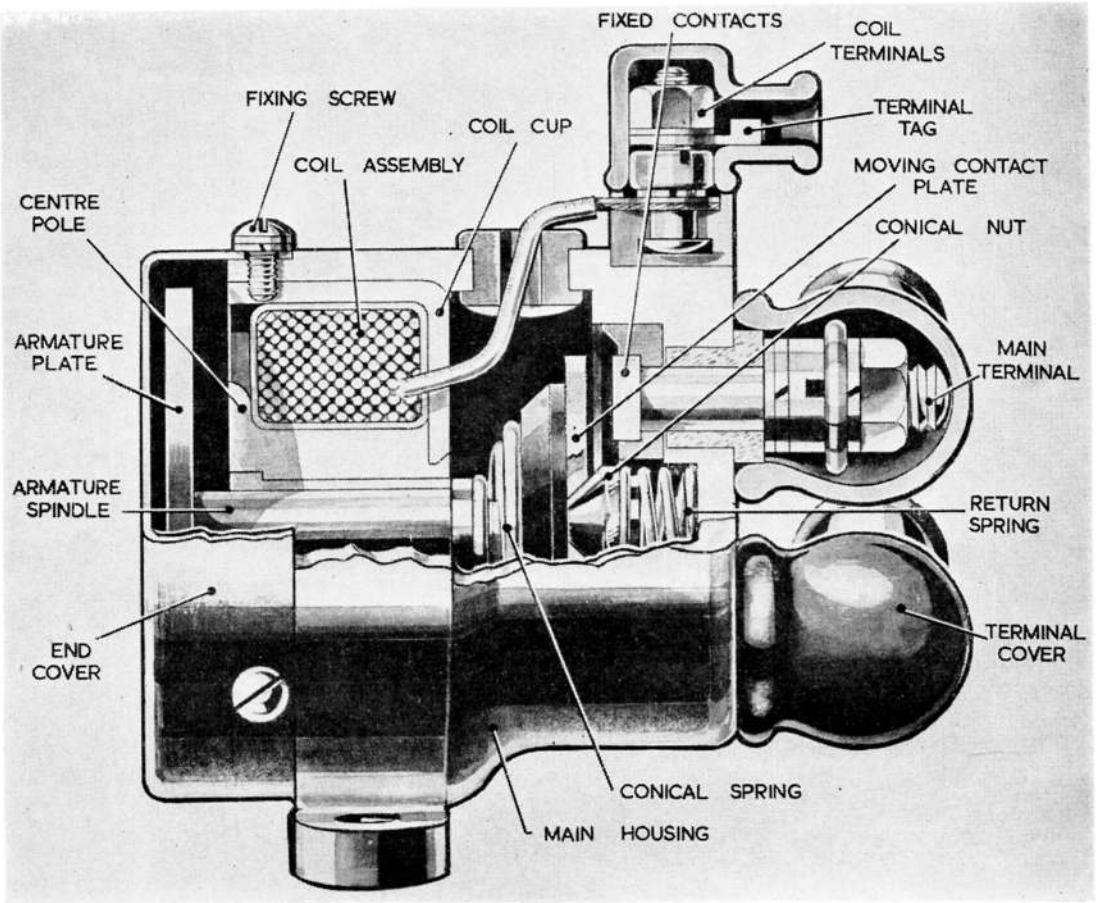

Fig. 2. Sectional view of switch

SERVICING

9. Very little servicing other than that detailed in para. 10 and 11 is required, and provided that the switch controls its associated apparatus satisfactorily, then it can be assumed fit for further service.

Insulation resistance testing

10. Disconnect the main current leads and, with the coil energized, measure the insulation resistance between the main contacts and the main housing. Insulation resistance should be not less than 20 megohms at 250V, d.c.

11. Disconnect the coil leads from their terminals and measure the insulation resistance between either terminal tag and the main housing. This should be not less than 2 megohms at 250V, d.c.

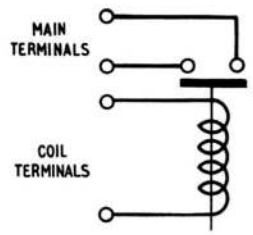

Fig. 3. Circuit diagram

P24901 546592/3572 9/55 2125 C & P Gp. 1