

## Chapter 43

### RELAY, B.T.H. TYPE LAA, 10-A4

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#### Introduction

1. This chapter gives the relevant data and test limits of the 112-volt Type LAA.10-A4 relay which is included in the B.T.H. Type LA range. The description, operation, and servicing of relays of this range is covered in A.P.4343, Vol. 1, Sect. 11, Chap. 15 to which reference should be made as required.

#### DESCRIPTION

2. The relay is fitted with one case unit and two operating coils, the internal connections being shown in fig. 1. The coil leads are not coloured for identification, but on a new coil assembly, the leads for connection to terminals No. 1 and No. 2 on the case unit are provided with red and black markers respectively. Since these markers are cut off on assembly, it will be necessary to identify the leads by suitable tags if dismantling is contemplated. The other coil has free leads which are connected directly into the associated circuit.

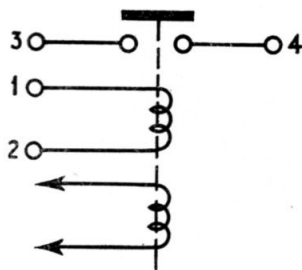


Fig. 1. Internal connections

3. The magnetized armature has its south pole at the end fitted with the small armature peg.

#### SETTING AND TESTING VALUES

##### Coil resistances

4. The resistance of the coil connected between terminals No. 1 and No. 2 should be checked to ensure that it lies between 117 and 143 ohms. The resistance of the coil with free leads should lie between 980 and 1,200 ohms.

##### Settings

5. The pick-up and drop-off values are to be checked by energizing the free coil leads. Connect the lead which is nearest the end of the coil through a 1,500-ohm ( $\pm 2$  per cent) series resistor to the positive of a suitable d.c. supply, and the centre lead to the supply negative. Connect the voltmeter to include the volt drop across the resistor. Ensure that:—

(1) The pick-up voltage is within the limits 50–60 volts.

(2) The drop-off voltage is greater than 6 volts.

6. Connect a separate supply of 1.9 volts across terminals No. 1 and No. 2 (terminal No. 2 positive) and again measure the pick-up voltage as described in para. 5. Under these conditions ensure that the pick-up voltage has been increased to approximately 80 volts.

(A.L.20, May 55)

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