Chapter 16

DIMMER SWITCH, TYPE R

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LIST OF ILLUSTRATIONS

Introduction

1. Dimmer switches are used in aircraft for controlling the lighting in the cockpit and crew stations. Since a light that can easily be seen from outside the aircraft is a source of potential danger at night, most internal lamps are connected to switches which incorporate a variable resistance, so that they may be dimmed to give the least amount of illumination compatible with adequate visibility. The dimmer switch, Type R, described in this chapter has several advantages over the types of dimmer switch previously used in the Service: it has an increased dimming capacity, and additional angular movement allows for accurate dimming.

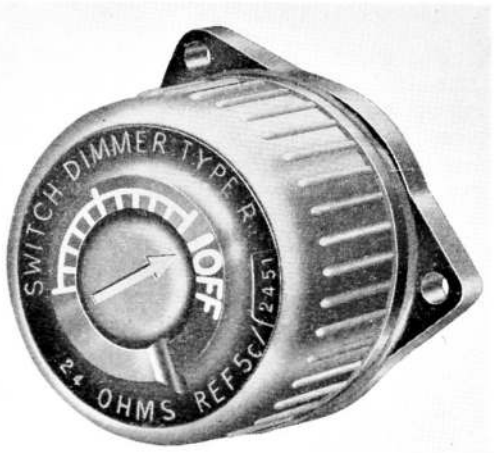

Fig. 1. Dimmer switch, Type R

DESCRIPTION

2. The Type R dimmer switch has been developed in the following range, providing for resistances varying from 4·5 ohms to 275 ohms.

Nominal resistance in ohms		Stores Ref.	Maximum current (amp.)	Weight (oz.)
4·5	± 10 per cent tolerance	5CW/2448	2·4	3
13		5CW/2525		
22		5CW/2451		
50		5CW/2449		
75		5CW/2530		
115		5CW/2531		
135	+15 per cent −10 per cent tolerance	5CW/2452	1·0	3
275		5CW/2453	0·63	3

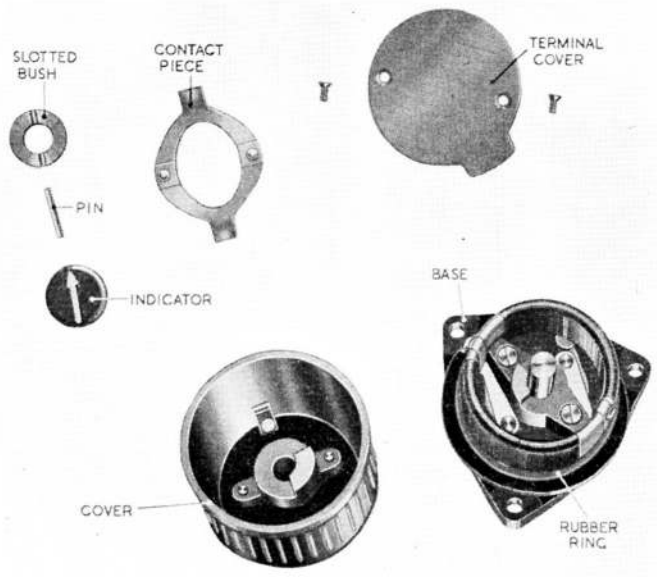

Fig. 2. Dismantled components

3. The switch is shown in fig. 1, and its dismantled components in fig. 2. The resistance consists of two half-windings on a ceramic former. The phosphor-bronze double-contact piece is spigoted to the plastic switch cover, so that the resistance inserted in the lamp circuit is controlled by the rotation of the cover itself. The cover rotates about the central brass spindle moulded into the base, secured by a pin running through a slotted bush and a hole in the spindle.

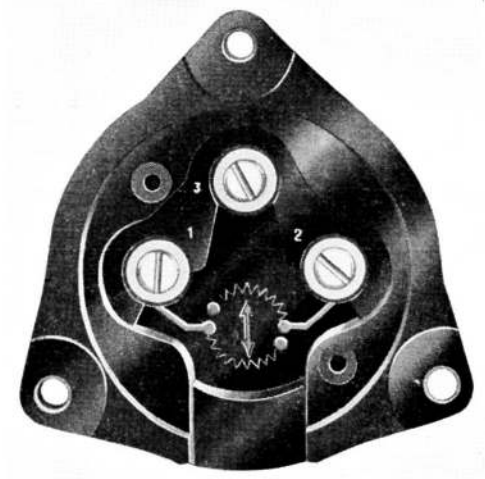

Fig. 3. Terminal connections

4. The extent of the switch-travel is controlled by two stops, one moulded integral with the switch-cover, and the other forming part of the base. The switch is weatherproofed by a compressible rubber ring which fits between the cover and base mouldings. This also provides friction on the cover.

5. Particular care is necessary in handling this type of switch. The unusually large gripping area of the rotary cover unfortunately makes it easy to exert excessive pressure in switching on or off, and the plastic stops are not sufficiently robust to stand rough treatment.

INSTALLATION

6. The terminals are at the base of the switch, the terminal cover being held in place by two small screws. Fig. 3, giving the correct terminal connections for wiring up, shows that the Type R is interchangeable with previous types of dimmer switches, the base being of the same triangular form with identical fixing centres. When a new switch is installed, P.I.C. No. 2 should be pressed round the cable entry, as a weatherproofing measure.

SERVICING

7. No servicing is required on Type R dimmer switches. A faulty switch should be replaced by a new one.

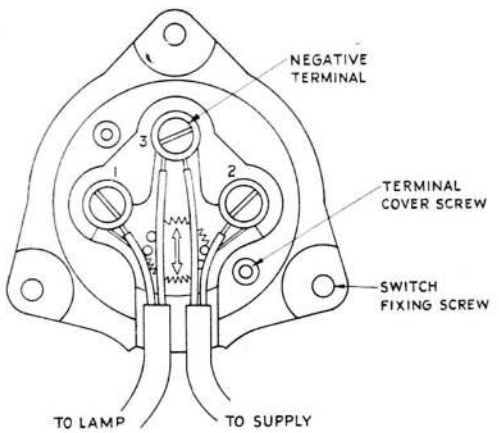

Fig. 4. Terminals with cables connected