Chapter 28

WARNING LAMPS, ROTAX, H4500, H4600 AND H4700 SERIES

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LIST OF ILLUSTRATIONS

LIST OF TABLES

LEADING PARTICULARS

Voltage	*28V d.c.*
Bulb, 2·4 watt	*Ref. No. 5L/9959213*
Electrical connections	*6 B.A. screw and washer*
Operational ceiling	*60,000 ft.*
Operational temperature range	
Glass type knob	*—50 deg. C. to +70 deg. C.*
Plastic type knob	*—50 deg. C. to +50 deg. C.*
Diameter	*0·968 in.*
Weight:	
Body	*1·5 oz.*
Knob assembly	*0·18 oz.*

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Body, knob and colour combinations

Body	Knob assembly	Colour	Code No. of previous lamp assemblies	Ref. No.
H4501 or 3	H4601/1	Mist	H3411/1	—
H4501 or 3	H4601/2	Ruby red	H3412/1	—
H4501 or 3	H4601/3	Green	H3413/1	—
H4501 or 3	H4601/4	Blue	H3414/1	—
H4501 or 3	H4601/5	Amber	H3415/1	—
H4501 or 3	H4601/6	Purple	H3416/1	—
H4501 or 3	H4602/1	Colourless	H3401/1	—
H4501 or 3	H4602/2	Red	H3402/1	5CX/5213
H4501 or 3	H4602/3	Green	H3403/1	—
H4501 or 3	H4602/4	Blue	H3404/1	—
H4501 or 3	H4602/5	Amber	H3405/1	—
H4501 or 3	H4602/6	Ultra-violet	H3406/1	—
H4501 or 3	H4603/1	Colourless	—	—
H4501 or 3	H4603/2	Red	—	—
H4501 or 3	H4603/3	Green	—	—
H4501 or 3	H4603/4	Blue	—	—
H4501 or 3	H4603/5	Amber	—	—
H4501 or 3	H4603/6	Ultra-violet	—	—
H4502 or 4	H4701/1	Colourless	H3501/1	—
H4502 or 4	H4701/2	Red	H3502/1	—
H4502 or 4	H4701/3	Green	H3503/1	—
H4502 or 4	H4701/4	Blue	H3504/1	—
H4502 or 4	H4701/5	Amber	H3505/1	—
H4502 or 4	H4701/6*	Red	—	—
H4502 or 4	H4701/7	Ultra-violet	H3506/1	—
H4502 or 4	H4702/1	Colourless	—	—
H4502 or 4	H4702/2	Red	—	—
H4502 or 4	H4702/3	Green	—	—
H4502 or 4	H4702/4	Blue	—	—
H4502 or 4	H4702/5	Amber	—	—
H4502 or 4	H4703/1	Mist	H3511/1	—
H4502 or 4	H4703/2	Ruby red	H3512/1	—
H4502 or 4	H4703/3	Green	H3513/1	—
H4502 or 4	H4703/4	Blue	H3514/1	—
H4502 or 4	H4703/5	Amber	H3515/1	—
H4502 or 4	H4703/6	Purple	H3516/1	—

* Coloured window is marked with the letter " F."

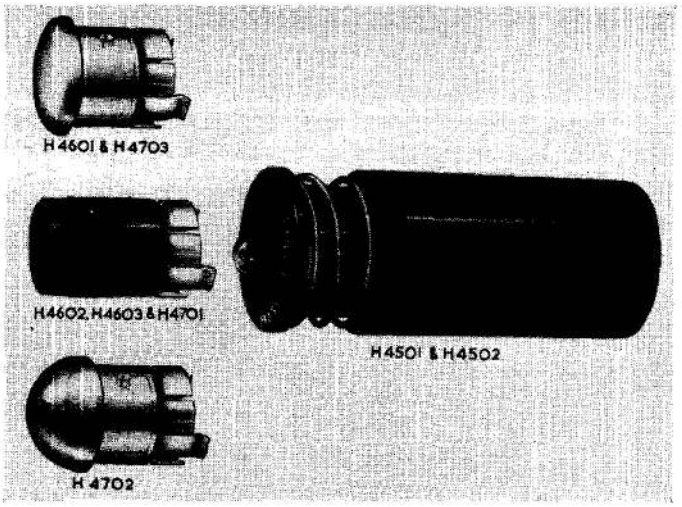

Fig. 1. Typical lamp bodies and knob assemblies

Introduction

1. These units are designed for use as warning lamps in general applications, e.g., power indication, and are intended to supersede the lamp assemblies formerly obtained under the code number H.3400 and H.3500 series. All are " tropicalized."

DESCRIPTION

General

2. Each lamp comprises a body (H.4501, 2, 3 or 4) and a matching knob assembly (H.4600 or H.4700 series). Of the former types H.4501 and 3 are related to the H.4600 series; types H.4502 and 4 with the H.4700 series. The lamps are equipped with 24 volt, 2·4 watt bulbs. When it is necessary to renew them, replacements should be ordered under Ref. No. 5L/9959213. The front rim of all bodies is engraved as shown in fig. 1 and 2, H.4502 differs however in the manner shown in fig. 2.

3. The type of body and matching knob assemblies are summarised in Table 1, which should be read in conjunction with fig. 1 and 2.

Knob assemblies H.4600 series

4. This series of knob assemblies comprising types H.4601, H.4602 and H. 4603, are each fitted with an iris dimmer. Rotation of the lamp bezel, to open or close the dimmer, provides the adjustment of light required for all conditions of day or night flying.

5. Type H.4603 differs from the H.4602 in the finish of the iris dimmer, i.e., the beryllium copper strips forming the iris dimmer, are black oxidised to further reduce the amount of light required for specific flying conditions.

6. The suffix after the code number indicates the colour of the head of the knob assembly, e.g., /1 is mist or colourless, /2 is red, etc., as shown in Table 1.

Knob assemblies H.4700 series

7. This series of knob assemblies comprising types H.4701, H.4702 and H.4703 are similar to the H.4600 series but without the iris dimmer. They are matched to the H.4502 lamp body and are available in a range of shapes and colours as for the H.4600 series.

Lamp bodies H.4501 and 2

8. The only difference between these two types is that the H.4501 body is engraved with the letters " D—N " on the rim of the bezel (*fig.* 2), to correspond with the knob assembly fitted with an iris dimmer. The engraving serves to indicate the direction of adjustment from " DAY " to " NIGHT " positions.

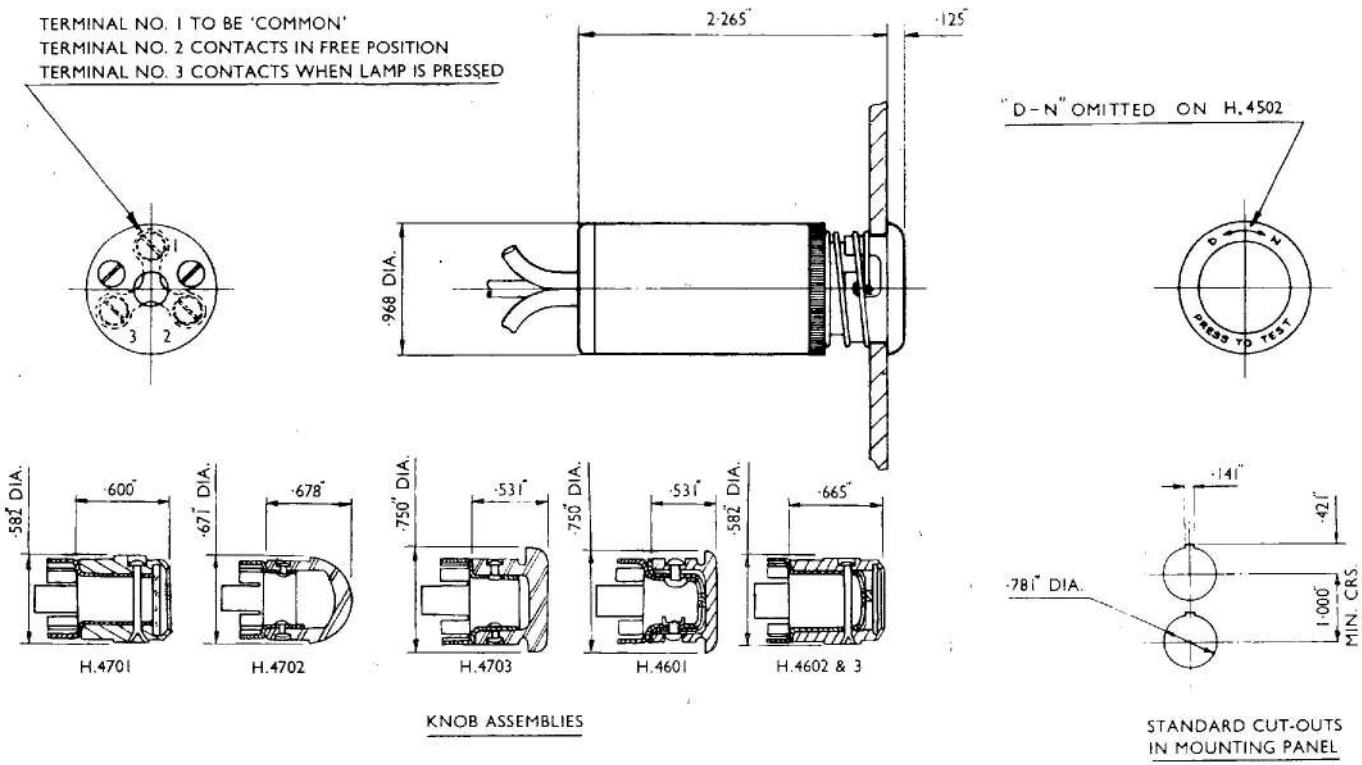

Fig. 2. General and installation details

Lamp bodies H4503 and 4

9. These lamp bodies correspond with H4501 and 2, but provision is made to allow for the side entry of crimped A-MP terminal tags 318–7–8.

Operation

10. Terminal 1 is the bulb negative terminal; terminal 2 is the bulb positive and is intended to receive a 28V d.c. signal when a warning device is operated. Terminal 3 is connected to a 28V d.c. positive supply for bulb testing.

11. The bulb is normally connected across terminals 2 and 1 and therefore lights when the warning device signal is applied. When the window cap is pressed in, the bulb is connected across terminals 3 and 1 and lights, if serviceable.

INSTALLATION

12. When these lamps are mounted in banks, the minimum distance between centres is 1·000 in. See fig. 2 for panel cut-out details.

SERVICING

13. Examine the lamp to ensure that it is in good condition and that it is secure on its mounting. Press the window cap and ensure that the bulb lights with full brightness. Check also that the bulb holder operates smoothly when depressed.

Note . . .

To change the bulb, pull out the window cap and extract the bulb with the finger and thumb. Insert the new bulb ensuring that the side contacts are in the correct attitude (top and bottom), and refit the window cap.

Insulation resistance test

14. With the bulb removed, measure the insulation resistance between the terminals and between all terminals and frame using a 250V insulation resistance tester. A reading of not less than 0·5 megohm (for R.N.) or 5 megohms (for R.A.F.) should be obtained in each test.

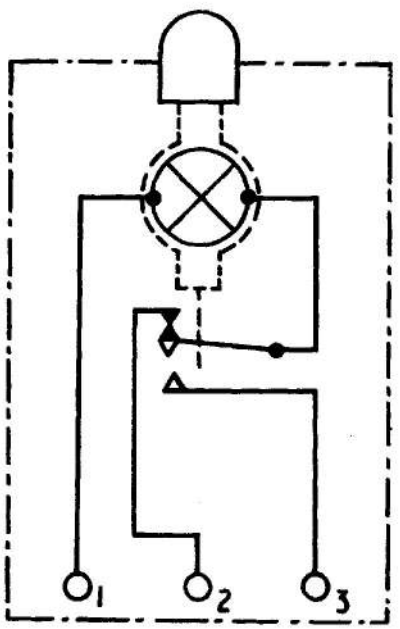

Fig. 3. Diagram of internal connections

(81603) Gp. 375/1 D. 4544/Wt. 64534/164007/L.P.S. 2625/1/62.