

Chapter 13

WARNING LAMPS, ROTAX, H3500 SERIES

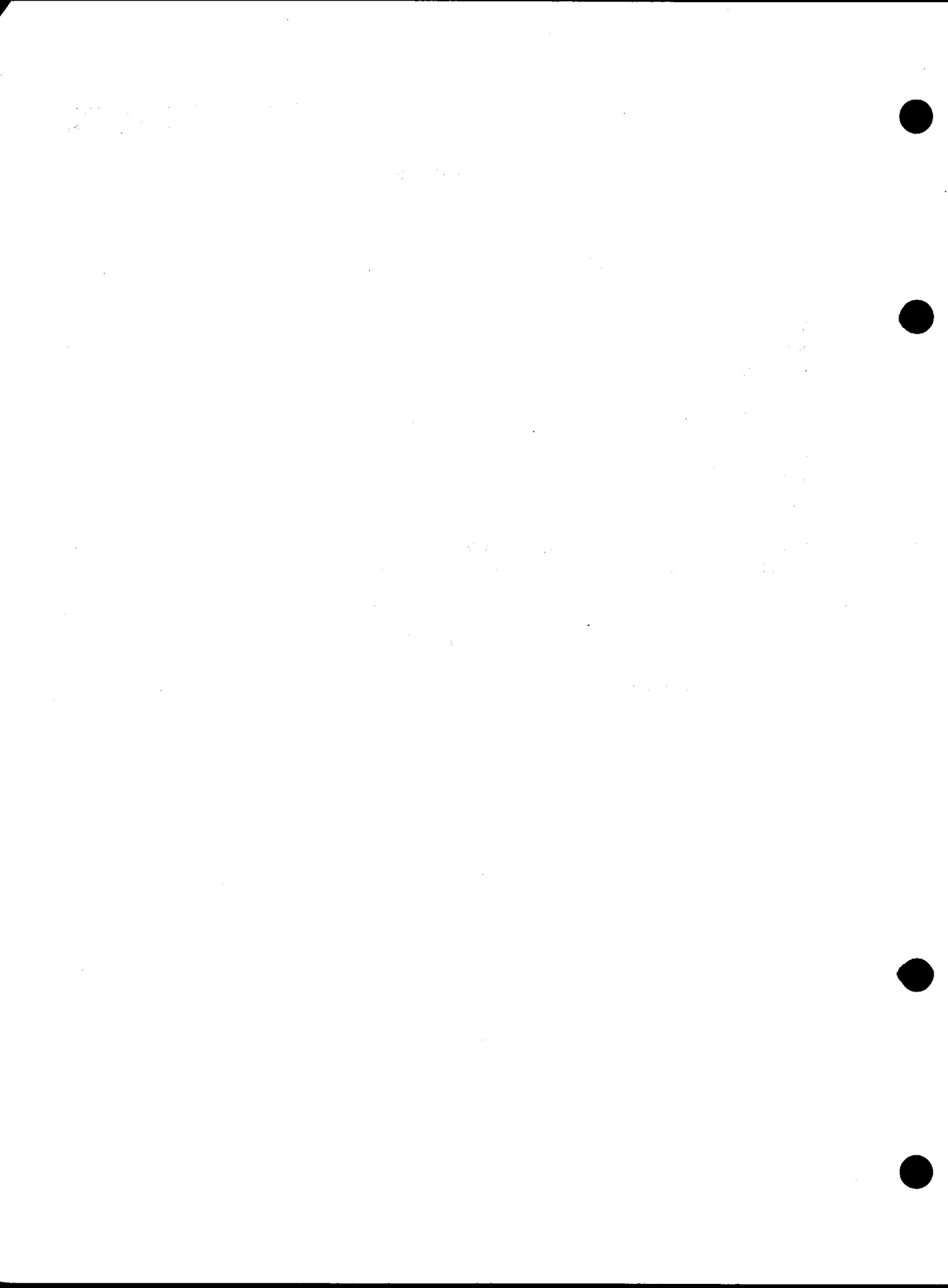
1. Warning lamps in the H3500 series are generally similar to lamp assemblies, in which the component parts have been given separate code numbers in the H4500 and H4700 series, as described in Chap. 28 of this section. Table 1 of that chapter lists various lamps in the H3500 series, together with the corresponding lamp bodies (H4502, and the later H4504 which makes provision for the connection of A-MP terminal tags), and the knob assemblies (H4701, H4702 or H4703) which supersede them. Of those

listed in that table, corresponding lamps in the two series are exact equivalents in all respects. A "press-to-test" facility is available, but the knob assembly has no iris dimmer fitted.

2. Two exceptions are Types H3507/1 and H3508/1; these have no "press-to-test" facility, but depressing the knob energizes the auxiliary circuit via terminal 3. Full details will be found in Appendix 1 to this chapter.

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Appendix 1

WARNING LAMPS, ROTAX, TYPES H3507/1 AND H3508/1

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LEADING PARTICULARS

Warning lamp, Type H3507/1	<i>Ref. No. 5CX/4776</i>
Warning lamp, Type H3508/1	<i>Ref. No. 5CX/4617</i>
<i>Voltage</i>	28V d.c.
<i>Bulb, 2.4 watt</i>	<i>Ref. No. 5L/9959213</i>
<i>Operational ceiling</i>	60,000 ft.
<i>Operational temperature range</i>	— 65 deg. C. + 70 deg. C.
<i>Length</i>	2.858 in.
<i>Diameter</i>	0.968 in.
<i>Weight</i>	1.5 oz.

RESTRICTED

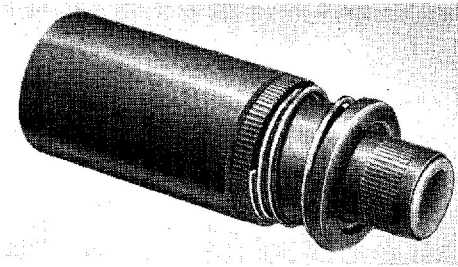


Fig. 1. Type H3507/1 or H3508/1 warning lamp

Introduction

1. The fire warning lamps Types H3507/1 and H3508/1 have a switch incorporated primarily so that, when the bulb is illuminated, the bulb supply (28V d.c.) can be connected into an auxiliary circuit (e.g. in order to set off a fire extinguisher) by pushing in the window knob. The lamps will operate satisfactorily at altitudes up to 60,000 ft. and at temperatures ranging from -65 deg. C. to $+70$ deg. C.

H3507/1 lamp

2. This lamp has a plain red window glass.

H3508/1 lamp

3. This lamp is identical to the H3507/1 lamp except that the red glass window bears a letter "F" in white.

DESCRIPTION

4. The lamp is housed within a moulded cylindrical body. Sliding within the body is a bulb holder, with a lamp window cap clipped to it, which contains a "side-contact" type bulb. The bulb holder is maintained in its outermost position by a helical return spring in compression and is moved to its inner position by pushing on the window cap. The window glass is described in paras. 2 and 3.

5. There are three terminal posts set in the rear end of the body, and the terminal screws are enclosed by a moulded cover. Supply is connected to the bulb by two contacts bearing on the side contact pieces of the bulb. Connection to terminal 1 is a permanently made sliding contact, whilst a pin on the opposite side of the bulb holder connects normally to terminal 2 and connects to terminal 3 when the window knob is pressed

in. Leaf contacts maintain the connection between the pin and terminal 2 when the bulb holder is in the "in" position.

6. A metal nut is screwed into the end of the body, retaining an insulating washer which locks the terminals and bulb holder in the body. The nut also forms the bearing shoulder for the helical securing spring. This spring is retained by a bezel having a "bayonet" type fitting to the nut.

Operation

7. Terminal 1 is the bulb negative terminal; terminal 2 is the bulb positive terminal and is intended to receive a 28V d.c. signal when a warning device operates. Terminal 3 is for connection to the auxiliary circuit to be energised by depressing the window cap.

8. When the warning device operates, the bulb lights and the warning signal is connected to the auxiliary circuit by depressing the window cap. The bulb remains alight when the window cap is depressed. The lamp is safe in that it is impossible to energize the auxiliary circuit unless a fire warning signal is applied to the lamp.

INSTALLATION

9. The unit requires a hole in the mounting panel 0.781 in. in diameter with a 0.141 in. wide keyway in the top vertical position extending 0.421 in. from the centre of the cut-out.

10. For mounting, remove the bezel and insert the unit in its cut-out from behind the panel, compressing the securing spring. Refit the bezel from the front of the panel.

11. The three terminals are 6 B.A. screw and washer terminations. There is a single cable entry at the centre of the moulded cover.

SERVICING

12. It is necessary to remove the cover and disconnect the leads from terminals 2 and 3 before servicing the lamp. Examine the lamp to ensure that it is in good condition and that it is secure on its mounting. Check the smooth operation of the bulb holder by depressing the window cap.

RESTRICTED

13. Connect a 28V d.c. supply to terminal 2 and ensure that the bulb lights with full brightness. 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.

Millivolt drop test

14. With the window cap depressed, and 1 ampere flowing between terminals 2 and 3, the millivolt drop across these terminals should not exceed 80 millivolts.

Insulation resistance test

15. Measure the insulation resistance between terminal 2 and terminal 3 and between the terminal 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.

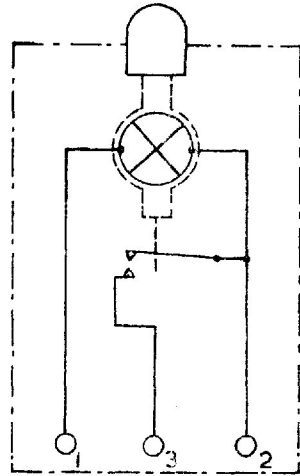
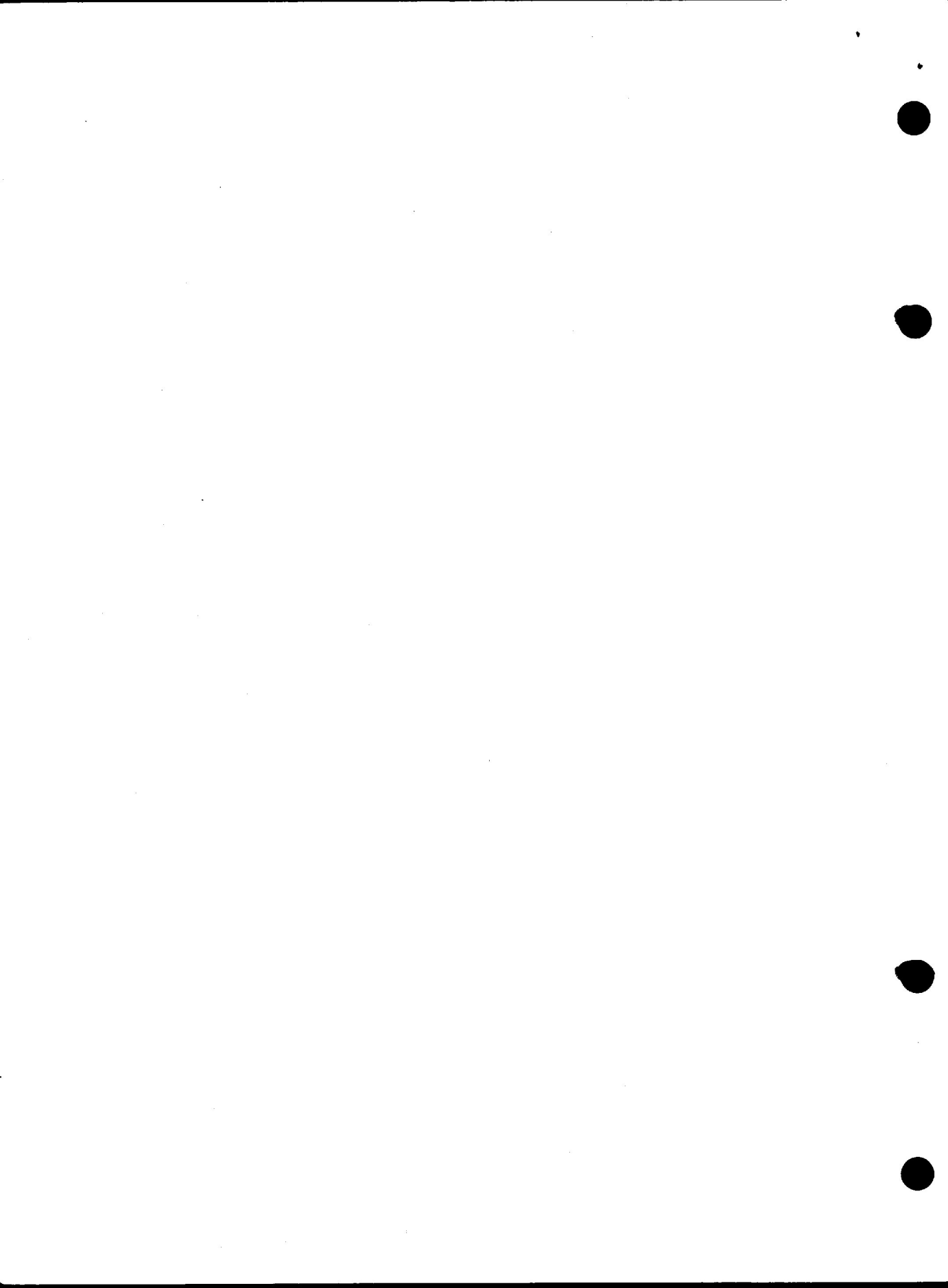


Fig. 2. Diagram of internal connections



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