GROUP D — FLYING INSTRUMENTS

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Introduction

1. The information in this group covers only the electrical supply for the instruments concerned. Further information relating to the flying instruments is contained in Chapter 2, Group B of this Section. The relay used in the turn and slip indicator supply is described in the following specialist Air Publication.

Equipment	Air Publication
Relay, Type Q3	4343C, Vol. 1, Sect. 3, Chap. 6

TURN AND SLIP INDICATOR

Description

2. The d.c. supply to this instrument is duplicated so that, in the event of the main fuse failing, the instrument will still function being automatically supplied from a stand-by fuse.

3. A relay is energised immediatly the d.c. power of the aircraft is switched on, the supply to the instrument being drawn through the same fuse, the main fuse, as that in the relay coil circuit. If this fuse should blow, the relay will de-energise, opening its contacts 5-6 and closing contacts 3-4. The stand-by fuse will then feed the instrument. The instrument is described in Chapter 2, Group B of this Section.

Servicing

4. Periodically, the main fuse (fuse 23 in J.B.1) should be removed to ensure that the stand-by circuit is serviceable. Servicing information on the relay is contained in the Air Publication listed in para. 1.

FLAP POSITION INDICATOR

5. The desynn transmitter of this instrument system is supplied with d.c. The system is described in Chapter 2, Group B of this Section.

GM4F COMPASS AND ARTIFICIAL HORIZON

6. These two instrument systems are supplied with a.c., the compass having in addition, a d.c. supply. Both systems are described in Chapter 2, Group B of this Section.

PRESSURE HEAD HEATER

Description

7. The pressure head, fitted to the top leading edge of the port tail fin, incorporates an electrical heater element to obviate icing, and consequent obstruction of the pressure and static slots.

8. The heater is controlled by a single pole toggle-switch fitted to the instrument panel. This circuit must *not* be left switched on while the aircraft is on the ground, or the heater element will burn out.

Servicing

9. The pipe line connections to the pressure head, which serve the capsule type instruments, are described, together with the pressure head, in Chapter 2, Group A of this Section.

10. The pressure head heater should be periodically tested as follows:—

(1) Switch the heater on; allow the pressure head to heat up until it is too warm to hold with the naked hand. Switch off and, while the pressure head is still hot, measure the insulation resistance of the heater leads to earth. The reading should not be below 0·5 megohm.

(2) When the pressure head has cooled down, again measure the insulation resistance to earth; the reading should be not less than 3 megohms. In each case a standard 250-volt insulation resistance tester should be used.

11. The continuity resistance of the heater element should be approximately 6·0 ohms.

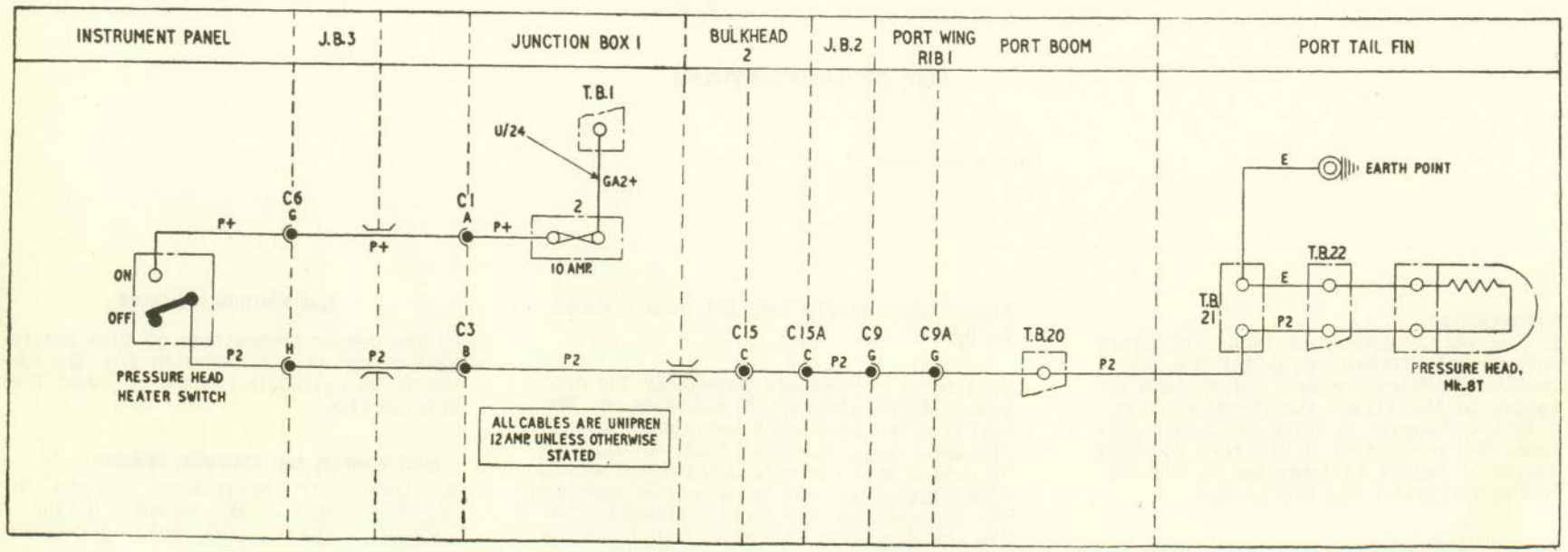

Fig. 1. Pressure head heater—P