

Group F FLIGHT INSTRUMENTS

List of Contents

	Para.
INTRODUCTION	1

TURN AND SLIP INDICATOR SUPPLY
(FB)

OPERATION	2
SERVICING	4

GM4F COMPASS SUPPLY (FC)

OPERATION	5
------------------	---

ARTIFICIAL HORIZON SUPPLY (FH)

OPERATION	7
------------------	---

PRESSURE HEAD HEATER (FP)

OPERATION	8
SERVICING	
Insulation resistance	9
Continuity and resistance	10

List of Illustrations

	Fig.
Turn and slip indicator supply	1
GM4F compass supply	2
Artificial horizon supply	3
Pressure head heater supply	4

RESTRICTED

21-0501F-1/2

INTRODUCTION

1. This group contains information relating to the flight instrument supplies. The instruments are described in Chap. 2. Details of the individual items of equipment are given in the appropriate specialist Air Publication referred to in Chap. 2; other items are listed below.

Equipment	Air Publication
Relay, Type S	A. P. 4343C, Vol. 1, Sect. 3
Pressure head heater Mk. 8Q	A. P. 1275B, Vol. 1, Sect. 1 (at a later date)

TURN AND SLIP INDICATOR SUPPLY
(FB)

OPERATION

2. The supply to this gyroscopic instrument at 24-volts d.c. is fed through contacts 1-1a of a relay Type S. The instrument is energized immediately the aircraft battery isolation switch is switched on. Under normal operating conditions, the supply is made from the aircraft bus-bar through fuse FBA. If this normal supply fuse fails under running conditions, the supply will be immediately restored through the alternative contacts 2 and 2a of the relay, and fuse F.B.B.

3. An emergency change-over switch is positioned on the instrument panel; with this switch at the normal position, the turn and slip indicator operates from the aircraft supply. Under emergency conditions of a complete electrical failure, the change-over switch is moved to EMERGENCY. In this position, the turn and slip indicator is supplied direct from the emergency 24-volt battery. This battery also supplies the two emergency cabin lamps, by way of the cabin emergency lamps switch (Group L, fig. 2).

SERVICING

4. Correct functioning of the circuit may be checked by removing fuse FBA from the fuseblock F in fusebox C and ensuring that the instrument continues to operate through fuse F.B.B.

GM4F COMPASS SUPPLY (FC)

OPERATION

5. The GM4F gyro compass requires an a.c. and a d.c. power supply. The a.c. supply at 115-volts 3-phase, 400 c.p.s. is provided by a main inverter, Type 100A. A stand-by inverter of the same type is arranged to automatically provide an alternative supply. Details of the a.c. supplies to the gyro compass installation are controlled by the flight instrument master switch on the lower instrument panel. There is no special switch for the compass installation.

6. The d.c. supply is required by the GM4F compass for compensation in respect of compass deviation. This supply is fed into the corrector control box positioned in the cabin. The complete installation is described in Chap. 2, Group F.

ARTIFICIAL HORIZON SUPPLY
(FH)

OPERATION

7. The supply to this gyroscopic instrument is 115-volts, a.c. 3-phase, 400 c.p.s., and is supplied by the main inverter, Type 100A. The supply to this instrument is controlled by the flight instrument master switch on the lower instrument panel. There is no special control switch for this instrument. An alternative a.c. supply is available from the stand-by inverter. Details of the a.c. supplies are given in Group X.

PRESSURE HEAD HEATER (FP)

OPERATION

8. The supply to the electrically-heated element of the pressure head is controlled by a switch on the lower instrument panel. Details of the pressure head system and associated pipe lines are given in Chap. 2.

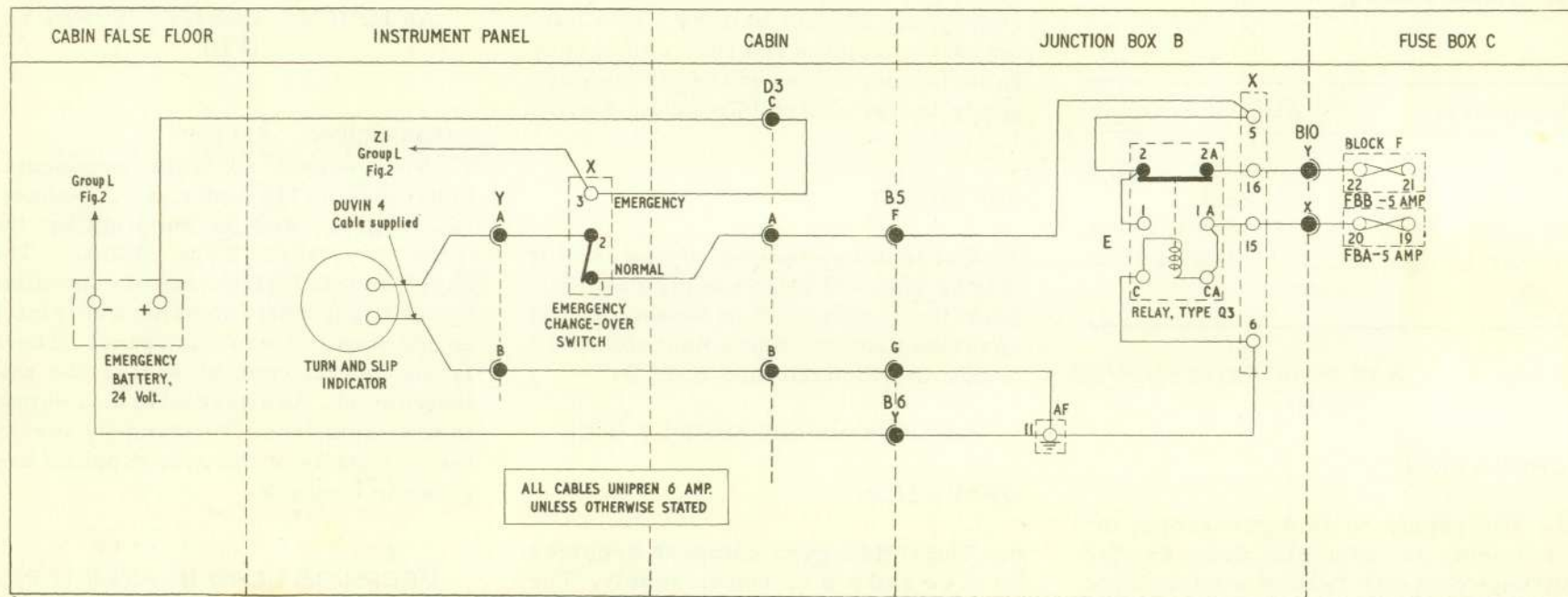


Fig. I. Turn and slip indicator supply—F B

21-0501F-3/2

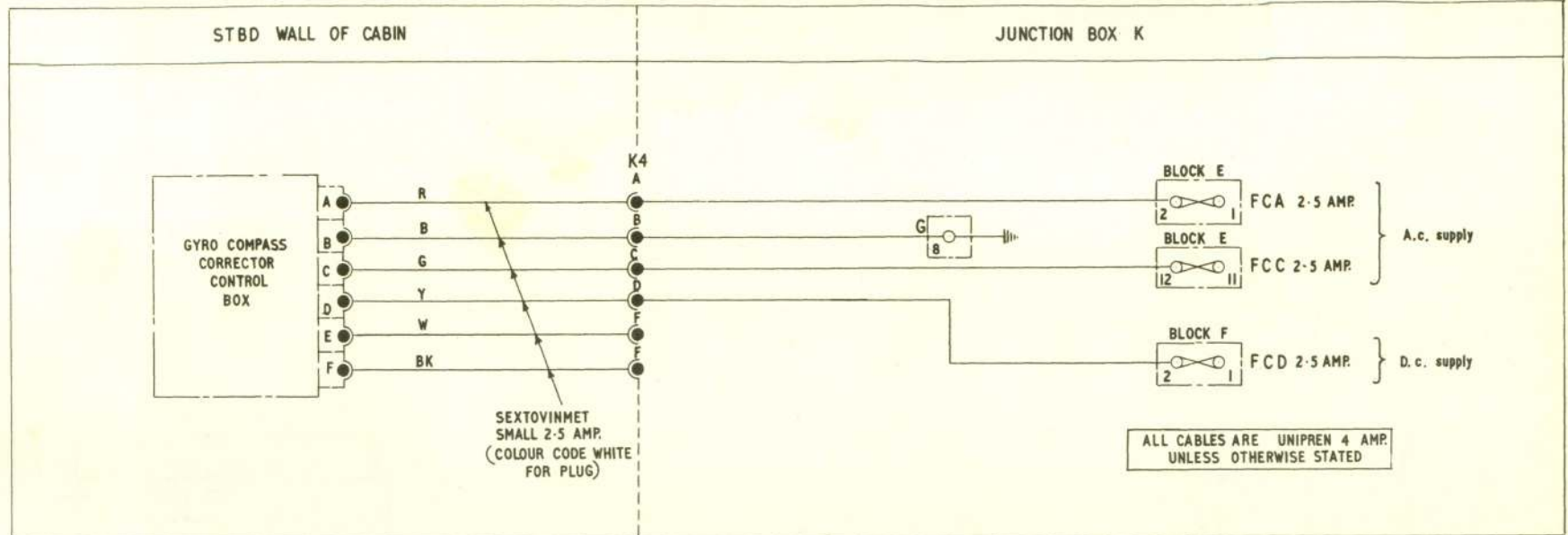


Fig. 2. GM4F compass supply-FG

21-0501F-4/2

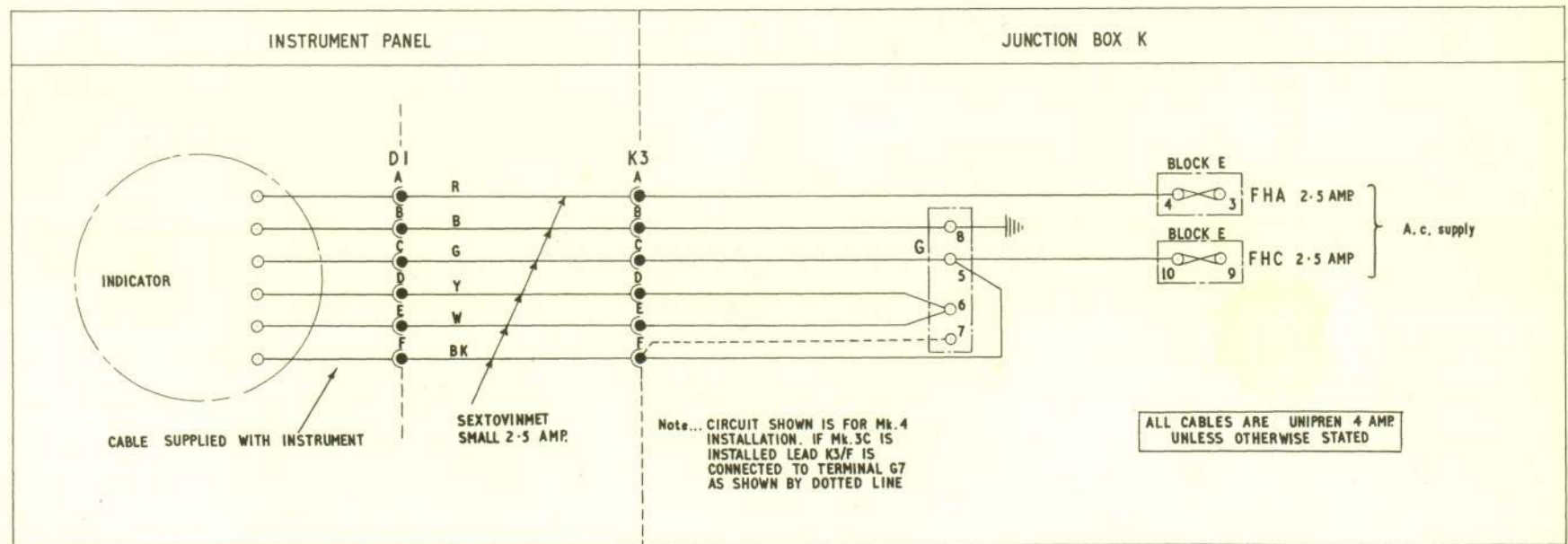


Fig. 3. Artificial horizon supply-FA

SERVICING

Insulation resistance

9. A test of the heater element should be made by connecting a supply to the heater element and allowed to remain on until the pressure head is too hot to hold with the bare hand. Then switch off, and measure the insulation resistance of the head while hot. This should not be less than $\frac{1}{2}$ megohm, measured with a 250-volt insulation resistance tester. After allowing the head to cool, measure the insulation resistance value again; this should not be less than 3 megohms.

Continuity and resistance

10. Measure the resistance of the heater element across the leads with a testmeter. The resistance should be approximately 6 ohms.

21-0501F-6/2

This file was downloaded
from the RTFM Library.

Link: www.scottbouch.com/rtfm

Please see site for usage terms,
and more aircraft documents.

