Group W WARNING AND EMERGENCY

List of Contents

List of Illustrations

21-0501W-1/2

INTRODUCTION

1. This group contains information relating to the observer's oxygen demand indicator and the fire warning system and fire extinguisher circuit. For details of individual items of equipment, refer to the appropriate specialist Air Publication listed below.

Equipment	Air publication
Pressure demand oxygen regulator, Mk. 17	A.P.1275G, Vol.1,
Indicator, mag-	
Indicator, magnetic Type A	A.P.4343E, Vol.1, Sect.18.
Fire detector switches Mk. 4	A.P.4343E, Vol.1, Sect.14
Fire extinguisher bottles (Stores Ref. 27N/109)	A.P.957C, Vol.1, Part 1, Sect.3
Cartridge firing units (on fire bottles) (Stores Ref. 27N/103)	A.P.957C, Vol.1, Part 1, Sect.3

OXYGEN DEMAND INDICATOR (WB)

DESCRIPTION

2. An indication of the satisfactory functioning of the observer's oxygen regulator Mk.17 is given by a magnetic indicator positioned on the accelerometer panel to the right of the instrument panel. This separate indicator is necessitated by the location of the observer's oxygen demand regulator. The normal blinker indicator on the face of the regulator is not easily visible to the observer. Failure of the observer's oxygen supply will be indicated by a white segment showing on the indicator.

3. The pilot's oxygen indicator is on the end of panel V easily visible to the pilot.

SERVICING

4. Servicing of the oxygen system is covered in Sect. 3, Chap. 10.

FIRE WARNING AND EXTINGUISHER (WE, WF)

DESCRIPTION

5. There is a fire warning lamp fitted to give warning to the pilot of fire conditions in the engine bay or rear cone. The lamp is contained in a combined warning lamp and extinguisher switch mounted to the right of the pilot's instrument panel. The lamp is controlled by the operation of any one of twelve resetting type fire detector switches, Mk. 4, of which eight are arranged within the area of the rear cone and four on the engine bearers. The fire extinguisher bottles are mounted one in each wing root, on the outboard side of rib 1 and can only be discharged by the operation of the fire extinguisher push switch.

6. A test of the warning lamp filament for correct functioning can be made by operating the separate test push-

21-0501W-2/2

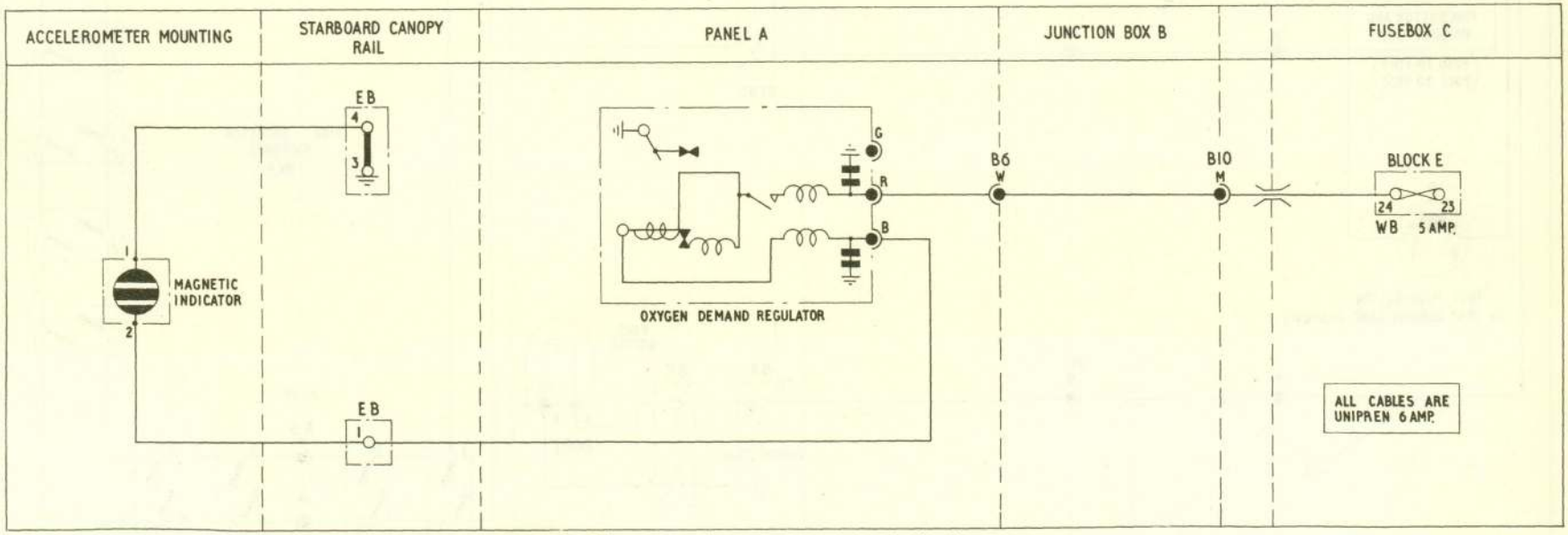

Fig.1 Observer's oxygen supply indicator

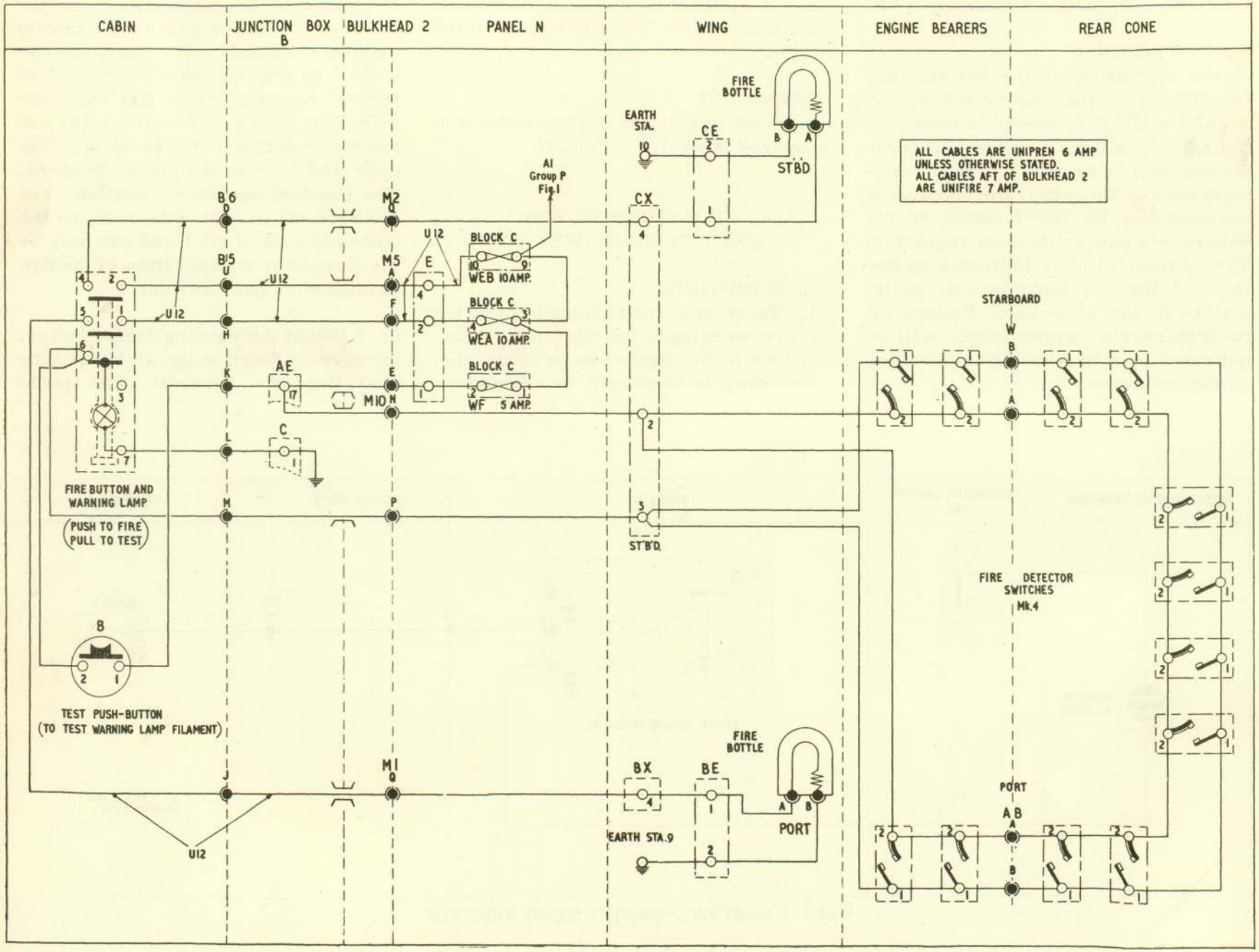

Fig.2. Fire warning and extinguisher – WEA, WEB, WF

switch, adjacent to the extinguisher push-switch. The switch is spring-loaded to its normal off position. The supply for this test circuit is taken through fuse WF in fuseblock C on panel N. This is also the supply fuse to the fire warning circuit.

OPERATION

7. The fire detector switches are all wired in parallel, so that operation of any one of these switches will complete the circuit to the fire warning lamps. The fire detector switch contacts close at a temperature of 300 ± 30 deg. C.

SERVICING

8. As operation of the battery isolating switch will NOT isolate the fire extinguisher circuit, the system must be rendered safe by removing the circuit fuses before commencing any servicing operations.

Testing fire warning circuit

9. To test the fire warning lamp filament, operate the test switch as described in para. 6. The switch is spring-loaded to its normal off position. The twelve resetting fire detector switches which operate the fire warning lamp should be tested in situ, by using a close fitting shroud type heater coil (Stores Ref.5G/566). The heater should be placed over the barrel of each switch in turn and its temperature raised to 300/330 deg. C. The warning lamp should then light to indicate satisfactory operation. The temperature adjuster of the fire detector switches is locked and sealed during manufacture and no attempt should be made to interfere with its setting. Apart from the servicing described in this paragraph together with the standard bench tests of components as described in the appropriate Air Publications, no further servicing should be necessary.

Testing fire extinguisher circuit

10. To test the continuity of the fire extinguisher circuit, disconnect the sockets from each bottle and insert a suitable test lamp in each socket. Operation of the fire extinguisher push switch will light both test lamps. To test the continuity of the fuse in the cartridge of the fire bottle it is preferable to remove the cartridge from the extinguisher. As an additional safeguard it is recommended that the cartridge be mounted on a suitable fixture with the charge end shielded but unrestricted in case of accidental firing. Using a safety ohmmeter, (Stores Ref. 5Q/2844) check resistance of fuze between poles; the resistance should be between 7 and 11 ohms. Using a suitable test meter check the insulation resistance between each pole and earth; the reading should be at least 20 megohms.

Note...

The cartridge fuzes in the extinguisher head are very sensitive and all checks should be made with care. If the extinguisher is accidentally discharged during any of the above mentioned tests, DO NOT INHALE THE GAS.