

Chapter I ELECTRICAL SYSTEM

(Completely revised)

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Introduction

1. This appendix contains a description of the electrical system giving details of operation of each circuit, servicing information and the method of removing the circuit components from the aircraft. When a description of a component, together with

servicing information, appears in a specialist Air Publication, reference is made to that Publication. A list of such references is given, where applicable, in the introduction to each group.

2. Related circuits are set out in groups, as listed above. Each group bears an arbitrary code letter, the circuits in these groups having their own circuit coding in the form of one or two letters. This coding appears after the circuit title in the List of Illustrations in each group.

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GENERAL INFORMATION

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Power supplies

1. All the electrical services in the aircraft are supplied, when the engine is running, from a single Type O2 generator, the output of which is regulated between 27 and 28.5 volts d.c., and having a power output of

3,000 watts. Two 12-volt, 40 ampere/hour, lead-acid batteries, connected in series, are charged by the generator, whilst one of two Type 100A inverters, each having a three-phase output of 115 volts, 400 c.p.s. and a

power rating of 162 watts, is excited by the generator to supply the a.c. instruments. Only one inverter can operate at a time. These systems are dealt with in Group A.

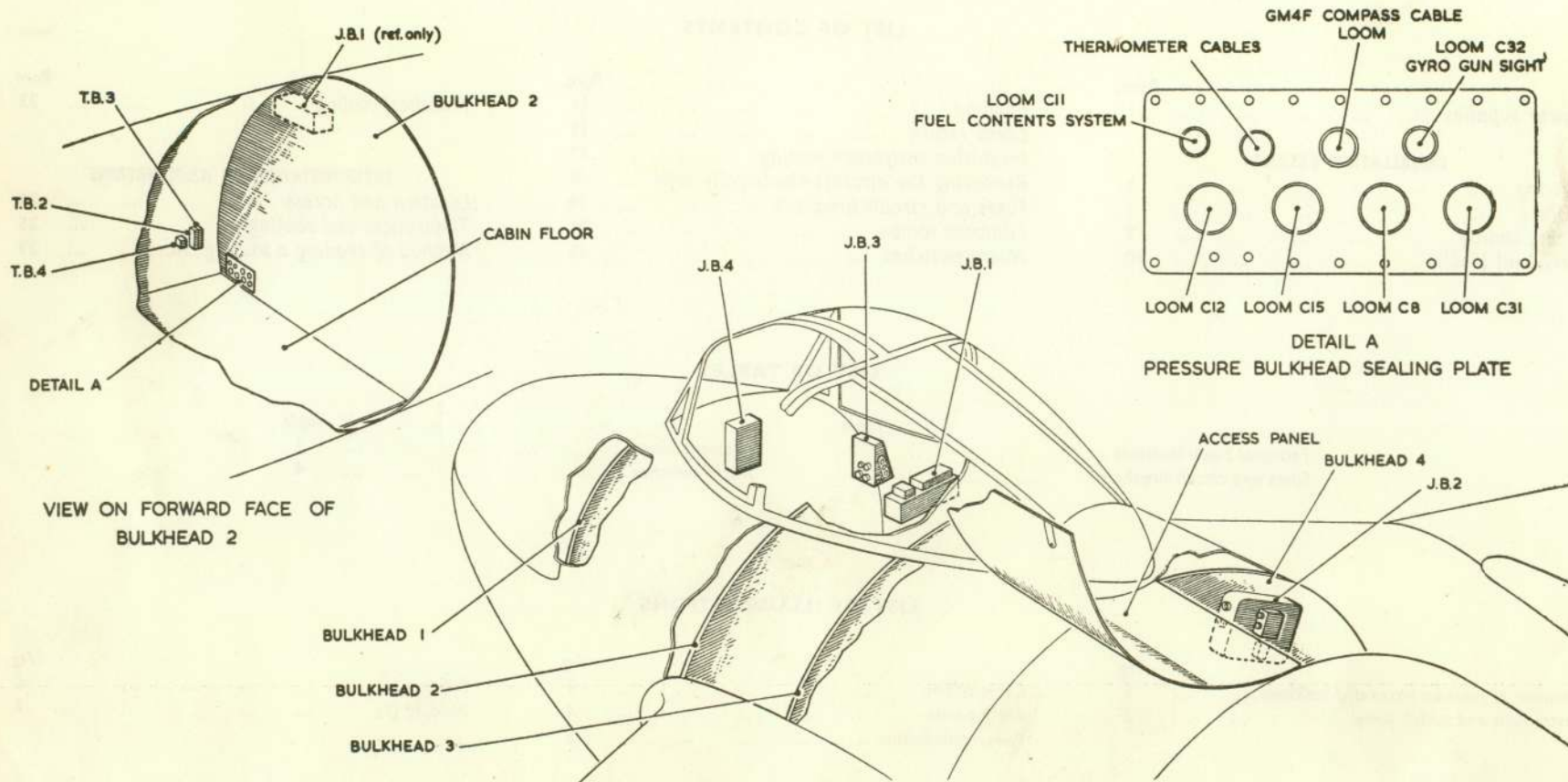
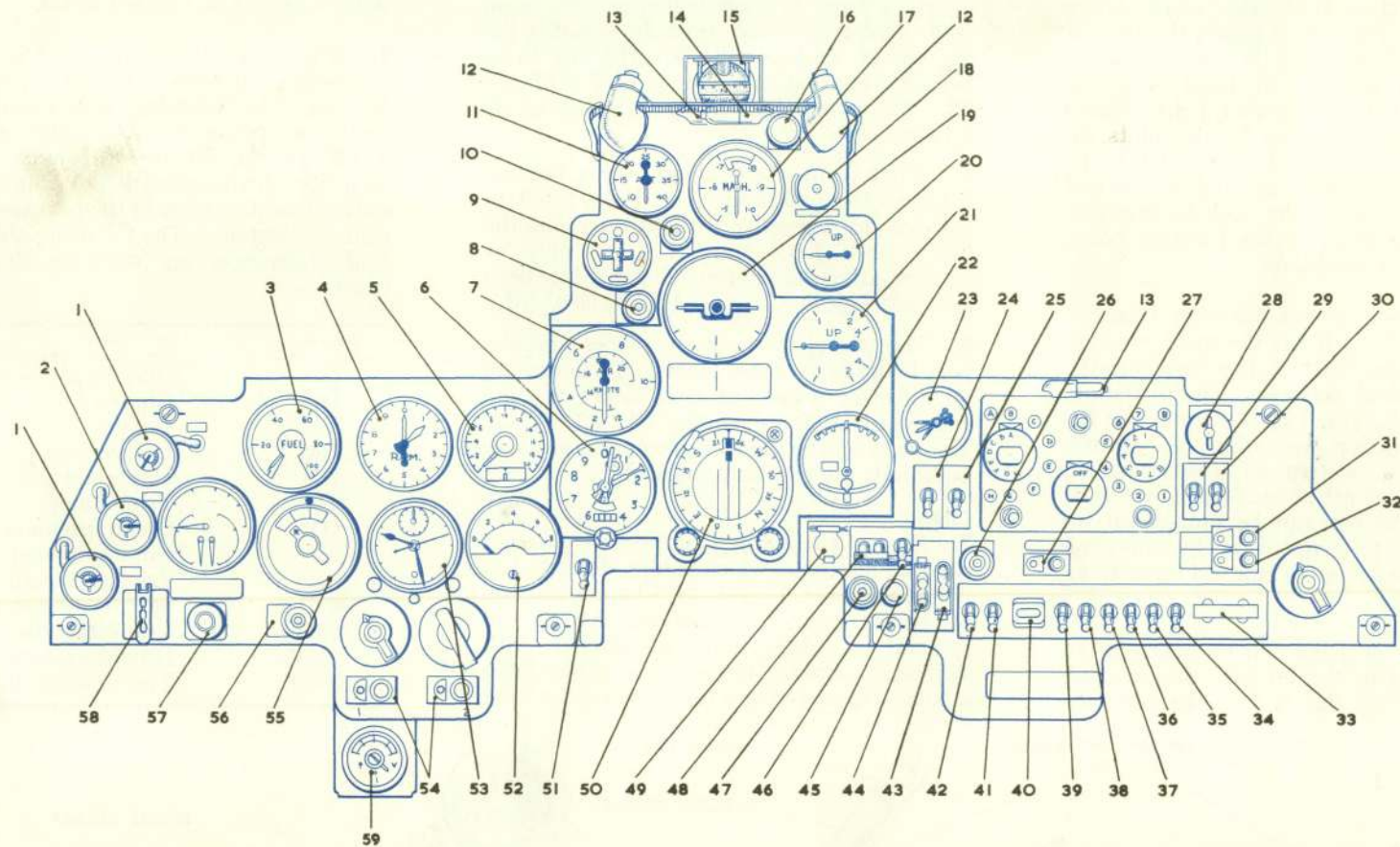


Fig. 1. Location of junction boxes and bulkheads



- | | | | |
|------------------------------------|--|-------------------------------------|------------------------------------|
| 1 CABIN RED LAMPS DIMMER SWITCH | 15 STAND-BY COMPASS | 30 CAMERA SUNNY/CLOUDY SWITCH | 45 No.1 INVERTER RESET SWITCH |
| 2 ULTRA-VIOLET LAMPS DIMMER SWITCH | 16 FIRE WARNING LAMP TEST SWITCH | 31 CGS. RETRACTION UNIT C.B. (PORT) | 46 FLIGHT INSTRUMENT SWITCH |
| 3 FUEL CONTENTS GAUGE | 17 MACHMETER | 32 CGS. RETRACTION UNIT C.B. (STBD) | 47 No.1 INVERTER FAILURE INDICATOR |
| 4 TACHOMETER INDICATOR | 18 FIRE WARNING LAMP AND EXTINGUISHER SWITCH | 33 CAMERA TEST SWITCHES | 48 STARTER MASTER SWITCH |
| 5 RANGE AND HEADING METER | 19 ARTIFICIAL HORIZON | 34 BOMBS, DIST/SINGLE SALVO SWITCH | 49 STARTER PUSH SWITCH |
| 6 ALTIMETER | 20 FLAP POSITION INDICATOR | 35 BOMBS, STBD SELECTOR SWITCH | 50 COMPASS GYRO UNIT |
| 7 AIR SPEED INDICATOR | 21 RATE OF CLIMB INDICATOR | 36 BOMBS, PORT SELECTOR SWITCH | 51 V.H.F. MUTING SWITCH |
| 8 ALIGHTING GEAR WARNING LAMP | 22 TURN AND SLIP INDICATOR | 37 BOMBS, TRAIL FUZING SWITCH | 52 EXHAUST GAS TEMPERATURE GAUGE |
| 9 ALIGHTING GEAR INDICATOR | 23 ACCELEROMETER | 38 BOMBS, NOSE FUZING SWITCH | 53 CLOCK |
| 10 CABIN PRESSURE WARNING LAMP | 24 DOWNWARD IDENTIFICATION LAMP SWITCH | 39 R.P. PAIRS/SALVO SWITCH | 54 No.1 AND No.2 INVERTER C.B's. |
| 11 CABIN ALTIMETER | 25 EMERGENCY LAMP SWITCH | 40 BOMBS/R.P. SELECTOR SWITCH | 55 G.G.S. CONTROL UNIT |
| 12 ULTRA-VIOLET LAMP | 26 GENERATOR FAILURE WARNING LAMP | 41 NAVIGATION LIGHTS SWITCH | 56 FUEL PRESSURE WARNING LAMP |
| 13 CABIN RED LAMP | 27 STARTER CIRCUIT BREAKER | 42 PRESSURE HEAD SWITCH | 57 CANOPY HATCH OPENER SWITCH |
| 14 CABIN EMERGENCY LAMP | 28 CAMERA MASTER SWITCH | 43 FUEL PUMP ISOLATION SWITCH | 58 ALIGHTING GEAR OVERRIDE SWITCH |
| | 29 LANDING LAMP SWITCH | 44 FUEL BOOSTER PUMP SWITCH | 59 VOLTMETER |

Fig. 2. Instrument and switch panel

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INSTALLATION DETAILS

Wiring

2. The wiring system is of the single-pole negatively-earthed type, the earth cables being grouped at common points throughout the aircraft. The wiring in the fuselage is based on the use of four junction boxes, called J.B.1, J.B.2, J.B.3 and J.B.4. These light-alloy boxes serve as break points for polyvinyl-covered cable looms. The looms contain loose pren cables secured at each end to multi-pin sockets, the sockets engaging with multi-pin plugs on the junction boxes and at pressure bulkheads.

3. The location of the junction boxes is shown on fig. 1. J.B.1 is the main junction box, and houses most of the fuses for the aircraft electrical services. The fuses are contained in four fuse blocks mounted on the top of the junction box, which is, in turn, covered by a waterproof rubber shield secured by a fastener at each end of the box. The top of the box can be unfastened, to provide access to components, by removing seven bolts, two at either end and three along the front.

4. The cover of J.B.2 can be removed, to provide access to the internal components, by disconnecting the R.P. resistance-and-

relay box, disconnecting T.B.65, and loosening four Dzus fasteners which secure the lid to the box. J.B.3 is a sealed box, being, in effect, a large bracket bolted to the cabin wall. Removal of the two bolts securing the aft side of the box will allow the box to be turned, affording accessibility to T.B.17 and 62. The box is located by two pegs at its forward side.

5. J.B.4 is, in effect, again only a bracket fitted to the bulkhead. The T.B.'s fitted to this box are accessible without removing the box. Both J.B.3 and J.B.4 can only be reached after the instrument panel has been lowered (Sect. 5, Chap. 2, App. 1, Gen. Inf.).

6. The wiring in the main planes and the port boom is by cable looms. All looms are identified by a label at each socket or loom end, marked, for example, C1, C2, or C3. The plugs on the junction boxes and pressure bulkheads are similarly marked.

Cables

7. Most of the wiring is in pren or prenet cable. Pren cable, which is fully described in A.P.4343B, Vol. 1, Sect. 24, Chap. 4 consists of tinned copper conductors having an insulant of glass braiding covered with synthetic rubber. Most unipren cables have a blue outer covering with the current rating

printed in yellow at intervals along the length of the cable. The prenet range is similar to the pren, with the addition of an outer covering of braided metal.

8. Multi-core cables, such as tripren, have the individual cores coloured to aid identification. The following cable ratings in the pren and prenet cable range are used: 6, 12, 18, 24, 50 and 135 amp. A small quantity of vinmetsmall 2.5 amp. and unipren radio 31 cable is used in the compass and fuel contents systems. The following abbreviated cable references are used on the routing charts:—

| Reference | Cable |
|-----------|-------------------|
| U | Unipren |
| D | Dupren |
| T | Tripren |
| UM | Uniprenmet |
| DM | Duprenmet |
| TM | Triprenmet |
| QM | Quadruprenmet |
| 5M | Quintoprenmet |
| 3MVS | Trimetvinsmall |
| 6MVS | Sextometvinsmall |
| 12MVS | Twelvemetvinsmall |
| 2MVS | Duvinmetsmall |
| 3VMS | Trivinmetsmall |

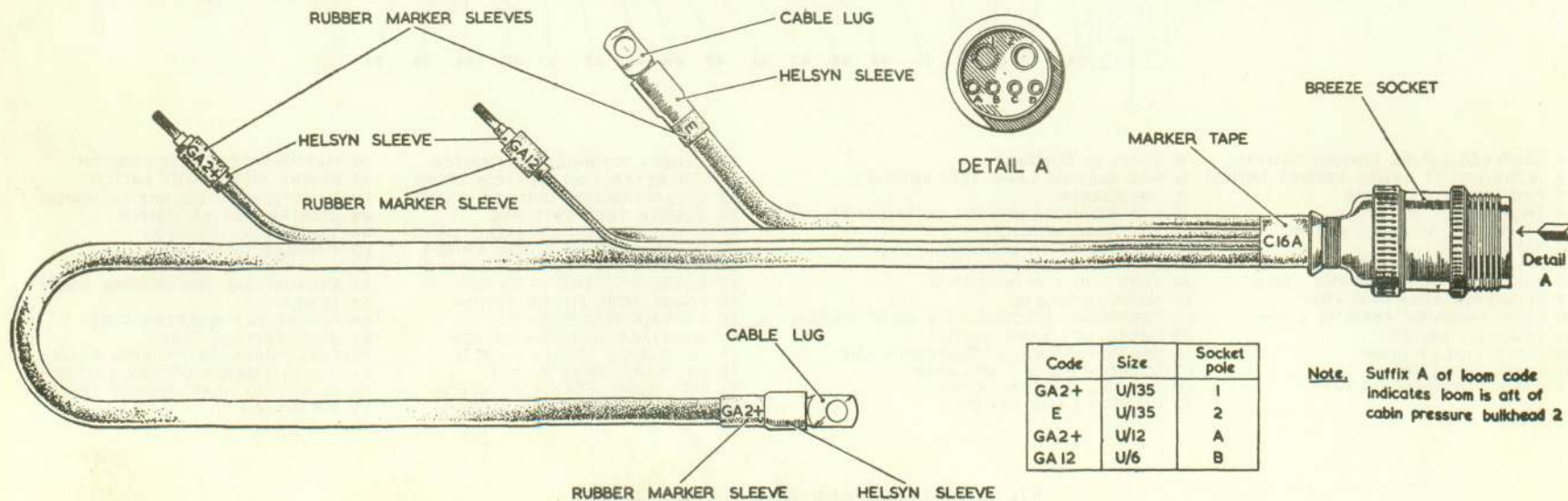


Fig. 3. Cable coding
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Cable coding

9. An example of cable coding is given on fig. 3, which illustrates cable loom C16A. As can be seen, the socket end of the loom has a marker tape bearing the loom identification, the suffix A denoting that the loom is installed aft of bulkhead 2 which forms the aft wall of the pressurised cabin. The opposite ends of the loom flair out to their

respective component or T.B. connections, their ends being made up to suit the particular connection required. At these ends, the cable coding is marked in indian ink on yellow sleeves. The table on the illustration gives the socket pole reference for each individual cable, and the cable type and size. This latter information is included adjacent

to every cable in the respective routing diagrams.

Terminal blocks

10. The T.B.'s are not numbered on the aircraft but are arbitrarily numbered on the various diagrams as a means of cross-reference. Table I lists all the T.B.'s and describes their position on the aircraft.

TABLE I
Terminal block locations

| T.B. | Location | T.B. | Location |
|------|---|------|--|
| 1 | Inside J.B.1 | 37 | In starboard wheel bay |
| 2 | On starboard cabin fuselage wall, below GM4F torque switch junction box | 38 | |
| 3 | | 39 | |
| 4 | | 40 | |
| 5 | Inside nose bay | 41 | In port wheel bay |
| 6 | On J.B.1 | 42 | Nose bay, adjacent to batteries |
| 7 | Inside J.B.2 | 43 | Engine bay, starboard wing rib 1 |
| 8 | | 44 | Starboard top engine bearer |
| 9 | | 45 | Starboard cabin wall, aft of fuel gauge power unit |
| 10 | Top aft face of bulkhead 4 | 46 | Inside J.B.4 |
| 11 | | 47 | Inside retraction unit relay panel |
| 12 | | 48 | On starboard G.G.S. retraction unit |
| 13 | 49 | | |
| 14 | 50 | | |
| 15 | Beneath port throttle quadrant | 51 | On port G.G.S. retraction unit |
| 16 | On fuel tank bay roofing | 52 | |
| 17 | Inside J.B.1 | 53 | |
| 18 | On J.B.3 | 54 | Inside armament services relay panel |
| 19 | Inside J.B.3 | 55 | |
| 20 | Inside J.B.4 | 56 | |
| 21 | On port top engine bearer | 57 | Inside armament services junction box |
| 22 | In port tail boom, aft of stub boom joint | 58 | |
| 23 | In port tail boom, at base of fin | 59 | |
| 24 | In port tail fin, aft of pressure head | 60 | On armament services junction box |
| 25 | On port top engine bearer | 61 | On false floor, cabin, nose wheel tunnel |
| 26 | In port main plane at landing lamp location | 62 | Inside J.B.3 |
| 27 | Starboard wing tip | 63 | On cannon bay roofing |
| 28 | Port wing tip | 64 | |
| 29 | Port side of main instrument panel | 65 | |
| 30 | Fuel tank bay, starboard | 66 | On J.B.2 |
| 31 | On cabin false floor, central, aft of control columns | 67 | Rib 2, starboard wing, centre |
| 32 | Inside J.B.4 | 68 | Rib 2, port wing, centre |
| 33 | | 69 | Centre throttle box |
| 34 | | 70 | Aft face of bulkhead 2 |
| 35 | Top of nose wheel | 71 | Inside J.B.4 |
| 36 | | 72 | Inside J.B.3 |
| | | 73 | |

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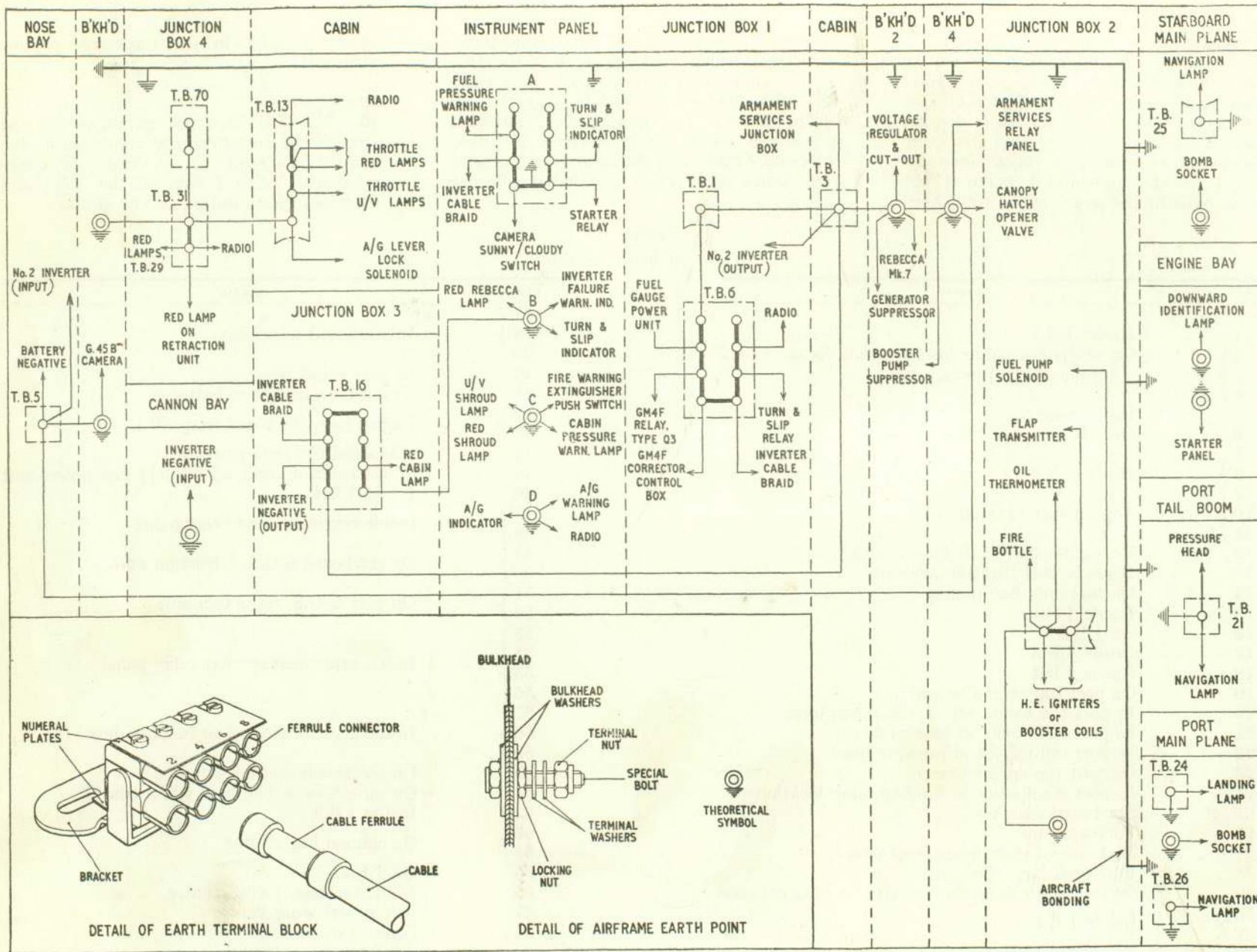


Fig. 4. Earth points

Bonding

11. The main planes, booms and engine nacelle of the aircraft are made of metal, while the fuselage is of wood. All metal components in the fuselage are therefore bonded together to form an electrically continuous system of low and unvarying resistance, and also to provide a large and constant capacity for the radio earth. Bonding in this form also reduces to a minimum the risk of fire, in that the difference of potential between metallic components is eliminated.

12. Bonding of the movable control surfaces is not necessary as the points of connection between these surfaces and the fixed structure of the aircraft are in themselves an adequate bond. Four main strips are used as a basis for bonding in the fuselage, individual bonds being made with small strips of copper or with copper flex. The main planes are bonded to the fuselage, the whole aircraft being earthed, when standing on the ground, through the conductive nose wheel hub and tyre.

13. Where flexible bonding is used, the length should not exceed six inches, and care should be taken to prevent intermittent contact with metallic parts. When making a bonding connection, the contacting faces must be scraped clean; also, when soldering connections, the flux used must be acid free, and all traces of flux should be removed after soldering.

14. The resistance between any selected point on the aircraft and the main earth terminals must not exceed 0.05 ohm. The electrical conductivity of the nose wheel tyre should be periodically checked with a 250-volt insulation resistance tester; its resistance should not exceed 10 megohms.

Earth return

15. The negative side of the aircraft wiring is earthed, the locations of the earth points being shown in routing diagram form on fig. 4. All components in the electrical system are earthed either directly to the airframe or to common earth terminal blocks, these

terminal blocks being interconnected and eventually earthed to the airframe.

16. Three main earth points are used, one at bulkhead 1 for the batteries, one at bulkhead 2 for the generator and the third at bulkhead 4 for the general services. All earth connections to the airframe must be thoroughly clean, and blue oil-base paint to D.T.D. spec. 827 must be applied to these points after the connections have been made.

Insulation resistance testing

17. The wiring in the aircraft should be regularly examined, visually, and by use of a 250-volt insulation resistance tester, for deterioration of insulation. When using a tester, all earth connections should be disconnected and the individual cables isolated. All closed circuits should be isolated and all suppressor and capacitor circuits open-circuited, the connecting cables between components being individually checked.

Rendering the aircraft electrically safe

18. The aircraft may be rendered electrically safe by moving the ground/flight switch

operating knob, situated centrally below the instrument panel, to its OUT position, and ensuring that no external supply is connected to the external supply socket. This must be done *before* any servicing on the electrical system is attempted.

Fuses and circuit breakers

19. The general services fuses are located in junction box 1, whilst the armament services fuses are located in the armament services junction box. Two fuses for the fire warning and extinguisher circuits are in a fuse block mounted on the starboard side of the cockpit floor just aft of No. 1 bulkhead.

20. The generator line main fuse is fitted in the regulator and cut-out unit, Type B, while the batteries line main fuse is fitted in the nose compartment, these two fuses being of 120 amp. rating. Four circuit breakers are fitted to the instrument panel, serving the starter motor, flight instruments and port and starboard gyro gun sight retraction unit circuits. Table 2 lists these fuses and circuit breakers, giving their respective circuit, rating and location data.

TABLE 2
Fuses and circuit breakers

| Circuit | Circuit code | Fuse rating (amp.) | Fuse | Location |
|------------------------------|--------------|--------------------|------|-------------------------------|
| FUSES | | | | |
| Batteries | GA10 | 120 | | In nose compartment |
| Fire warning | FA, 2- | 5 | | Starboard front of |
| Fire extinguisher | FA - | 20 | | cockpit floor / NOSE B.A.T. |
| Generator | GA+ | 120 | | In volt. reg. unit |
| Fuel pressure warning | PA+ | 5 | 1 | } 6-way fuse box in J.B.1 |
| Pressure head | P+ | 10 | 2 | |
| Oil thermometer | OA+ | 5 | 3 | |
| Identification lamp | J+ | 10 | 4 | |
| Landing lamp motor | LL+ | 5 | 5 | |
| Navigation lamps | N+ | 5 | 6 | |
| A/G lever lock solenoid | UL+ | 5 | 7 | |
| V.H.F. radio | QG3+ | 5 | 8 | |
| Ultra-violet lamps | UV+ | 5 | 9 | |
| Cabin red lamps | T+ | 5 | 10 | |
| Starter ignition units | SA3+ | 20 | 11 | } 12-way fuse box in J.B.1 |
| Cabin pressure warning | PW+ | 5 | 12 | |
| A/G indicator | U+ | 5 | 13 | |
| Spare | | | 14 | |
| Flap position indicator | F+ | 5 | 15 | |
| Fuel contents system | S+ | 5 | 16 | |
| Fuel pump isolating solenoid | SV+ | 5 | 17 | |
| Fuel booster pump | BP+ | 10 | 18 | |

| Circuit | Circuit code | Fuse rating (amp.) | Fuse | Location |
|--|--------------|--------------------|-------|---|
| FUSES | | | | |
| Generator failure warning lamp | GA3+ | 5 | 19 | } 12-way fuse box in J.B.1 |
| G.G.S. retraction unit, port | GS52+ | 5 | 20 | |
| G.G.S. retraction unit, starboard | GS53+ | 5 | 21 | |
| Generator-operated relay, No. 1 inverter | GC22 | 5 | 22 | |
| Turn and slip indicator, main | TB+ | 2.5 | 23 | |
| Turn and slip indicator, stand-by | TB2+ | 2.5 | 24 | |
| No. 2 inverter relay | GC3+ | 10 | 25 | |
| No. 1 inverter relay | GC6+ | 10 | 26 | |
| No. 1 inverter failure indicator | GC5+ | 5 | 27 | |
| Generator failure warning lamp | GA5+ | 5 | 28 | |
| Voltmeter | VM - | 5 | 29 | |
| Spare | | | 30 | |
| V.H.F. radio, set 1 | QG+ | 20 | 31 | } 6-way fuse box in J.B.1 |
| V.H.F. radio, set 2 | QG2+ | 20 | 32 | |
| I.F.F. Mk. 3 radar | QG4+ | 20 | 33 | |
| Landing lamp filament | LL2+ | 20 | 34 | |
| Spare | FA+ | 20 | 35 | |
| Electro-pneumatic hatch opener | CP+ | 5 | 36 | |
| Volts test socket | GA2 | 5 | 45 | } 2-way fuse box on aft face bulkhead 2 |
| Amp. test socket | GA3 | 5 | 46 | |
| GM4F compass a.c., phase A | GC3+AC | 2.5 | AC.1 | } 6-way fuse box in J.B.K. |
| Artificial horizon a.c., phase A | GC4+AC | 2.5 | AC.3 | |
| Spare | | | AC.5 | |
| Spare | | | AC.7 | |
| Artificial horizon a.c., phase C | GC6+AC | 2.5 | AC.9 | |
| GM4F compass a.c., phase C | GC5+AC | 2.5 | AC.11 | |
| GM4F compass d.c. | GC4+ | 2.5 | DC.1 | } 3-way fuse box in J.B.K. |
| Spare | | | DC.3 | |
| Spare | | | DC.5 | |
| Gyro gun sight | GS16 | 5 | AS.1 | } 12-way fuse box in armament services junction box |
| Gyro gun sight | GS17 | 5 | AS.2 | |
| G.G.S. retraction units | GS+ | 10 | AS.3 | |
| Starboard outer cannon | GF6+ | 10 | AS.4 | |
| Port inner cannon | GF2+ | 10 | AS.5 | |
| Starboard inner cannon | GF3+ | 10 | AS.6 | |
| Port outer cannon | GF7+ | 10 | AS.7 | |
| Armament safety micro switch | GF9+ | 10 | AS.8 | |
| G.45B camera | CG+ | 10 | AS.9 | |
| Bombs and R.P's | B+ | 10 | AS.10 | |
| Bomb fuzing | B2+ | 5 | AS.11 | |
| Wander lamp | WL+ | 2.5 | AS.12 | |

TABLE 2—continued

| Circuit | Circuit code | Fuses rating (amp) | Fuse | Location |
|-----------------------------------|--------------|--------------------|------|------------------------------|
| CIRCUIT BREAKERS | | | | |
| Starter motor | SA2+ | 10 | 1 | } Fitted to instrument panel |
| No. 1 inverter | GC+ | 15 | 2 | |
| G.G.S. retraction unit, port | GS50+ | 10 | 3 | |
| G.G.S. retraction unit, starboard | GS51+ | 10 | 4 | |
| Rebecca Mk. 8 radar | QG6+ | 10 | 5 | Aft face bulkhead 2 |
| No. 2 inverter | GC2+ | 15 | 6 | Fitted to instrument panel |

Filament lamps

21. Table 3 lists the filament lamps used,

together with their Stores References, voltage and wattage.

TABLE 3. Filament lamps

| Lamps | Stores Ref. | Voltage | Wattage |
|--|-------------|---------|---------|
| EXTERNAL | | | |
| Tail navigation | 5L/X 952276 | 24 | 10 |
| Port and starboard wing-tip navigation | 5L/X 952431 | 28 | 24 |
| Downward identification | 5L/X 952604 | 24 | 80 |
| Landing | 5L/X 954717 | 26 | 240 |
| INTERNAL | | | |
| Emergency cabin | 5L/X 951130 | 2.5 | 0.75 |
| Generator failure warning | 5L/X 951110 | 6 | 0.24 |
| Fuel pressure warning | 5L/X 951110 | 6 | 0.24 |
| Ultra-violet (4) | 5L/X 952261 | 12 | 7 |
| Gyro gun sight (2 in use: 2 spare) | 5L/X 951260 | 22 | 12 |
| Cabin red (8) | 5L/X 951263 | 24 | 2.8 |
| Cannon bay inspection | 5L/X 952254 | 24 | 6 |
| Alighting gear warning | 5L/X 951273 | 28 | 3.5 |
| Alighting gear position indicator (9) | 5L/X 951273 | 28 | 3.5 |
| Fire warning | 5L/X 951273 | 28 | 3.5 |
| Cabin pressure warning | 5L/X 951273 | 28 | 3.5 |

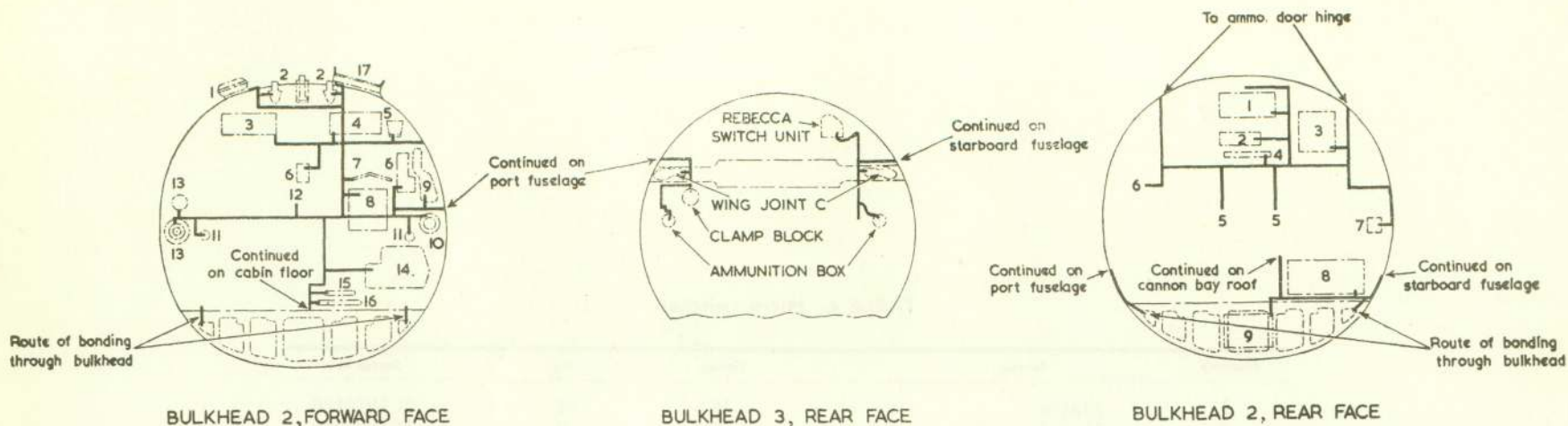
Micro switches

22. The micro switches used in the aircraft are listed in Table 4, together with a reference to the routing chart on which they appear, and their Stores Reference. The switches

have been arbitrarily numbered in the Table and on the routing charts. The method of adjustment appears in the text relating to the circuit in which the switches are used.

TABLE 4. Micro switches

| Number | Service | Group | Fig. | Stores Ref. |
|--------|-------------------------|-------|------|-------------|
| 1 | Starter | B | 2 | 5CW/2126 |
| 2 | Nose leg lock | F | 2 | 5CW/4098 |
| 3 | Nose door lock | F | 2 | 5CW/4098 |
| 4 | Nose up lock | F | 2 | 5CW/4098 |
| 5 | Nose down lock | F | 2 | 5CW/4098 |
| 6 | Starboard down lock | F | 2 | 5CW/4638 |
| 7 | Starboard door lock | F | 2 | 5CW/4638 |
| 8 | Starboard leg lock | F | 2 | 5CW/4638 |
| 9 | Starboard up lock | F | 2 | 5CW/4638 |
| 10 | Port down lock | F | 2 | 5CW/4638 |
| 11 | Port door lock | F | 2 | 5CW/4638 |
| 12 | Port up lock | F | 2 | 5CW/4638 |
| 13 | Port leg lock | F | 2 | 5CW/4638 |
| 14 | Alighting gear warning | F | 2 | 5CW/2126 |
| 15 | Alighting gear selector | F | 4 | 5CW/1618 |
| 16 | Port oleo leg | F | 4 | 5CW/4638 |
| 17 | Armament safety | G | 2 | 5CW/4098 |

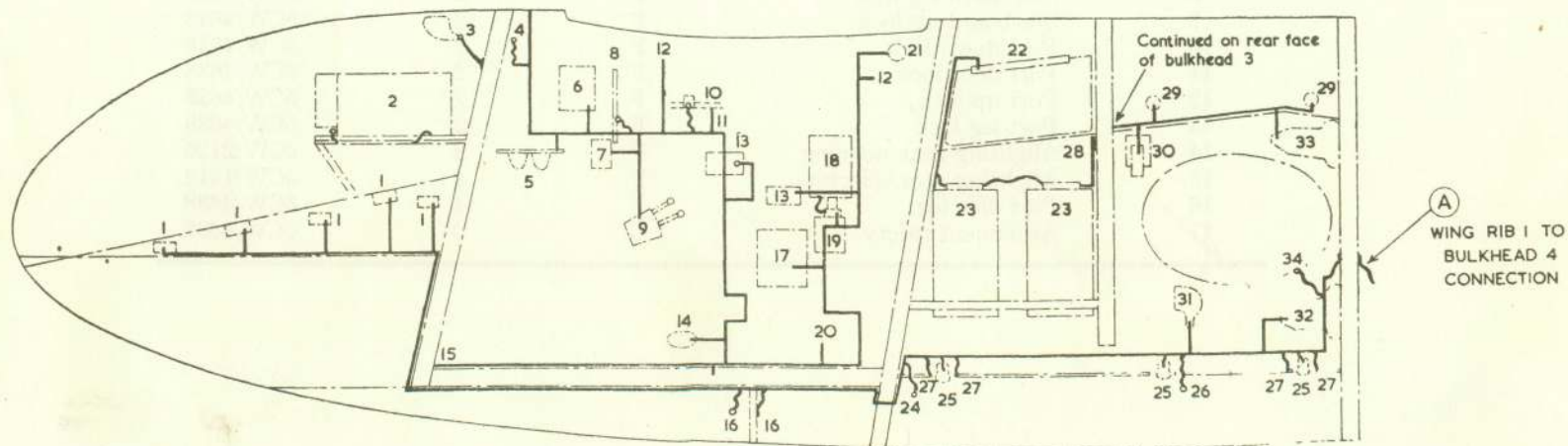


BULKHEAD 2, FORWARD FACE

BULKHEAD 3, REAR FACE

BULKHEAD 2, REAR FACE

VIEWS ON BULKHEADS



(A) See fig.7. Detail A

VIEW ON STARBOARD FUSELAGE

Fig. 6. Bonding (I)

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KEY TO FIG. 6—BONDING (I)

VIEW ON STARBOARD FUSELAGE

- 1 ATTACHMENT FITTING
- 2 RADIO (V.H.F.)
- 3 NOSE TO BULKHEAD 1 BOND
- 4 G.G.S. RETRACTABLE MOUNTING
- 5 RUDDER PEDAL BRACKET
- 6 JUNCTION BOX 3
- 7 OXYGEN REGULATOR
- 8 INSTRUMENT PANEL
- 9 ALIGHTING GEAR AND FLAP CONTROLS
- 10 AIR PIPE
- 11 LADDER ANCHORAGE
- 12 CANOPY ATTACHMENT
- 13 I.F.F. CONTROL
- 14 SEAT PIVOT BRACKET
- 15 BULKHEAD 1 BOND TERMINAL
- 16 CANNON MOUNTING
- 17 MAP CASE
- 18 FUEL CONTENTS SYSTEM POWER UNIT
- 19 TORQUE SWITCH J.B.
- 20 'P' CLIP (ELECTRICAL CABLE)
- 21 SEAT SUPPORT BAR
- 22 AMMUNITION HATCH HINGE
- 23 AMMUNITION BOX
- 24 RUBBER RETAINING ANGLE
- 25 CANNON STIRRUP
- 26 CANNON HEATER PIPE
- 27 CANNON BAY ROOF
- 28 WING JOINT C
- 29 GENERATOR CABLE
- 30 FUEL TANK STRAP
- 31 PULLEY BRACKET
- 32 WING JOINT B
- 33 WING JOINT A
- 34 AIR INTAKE

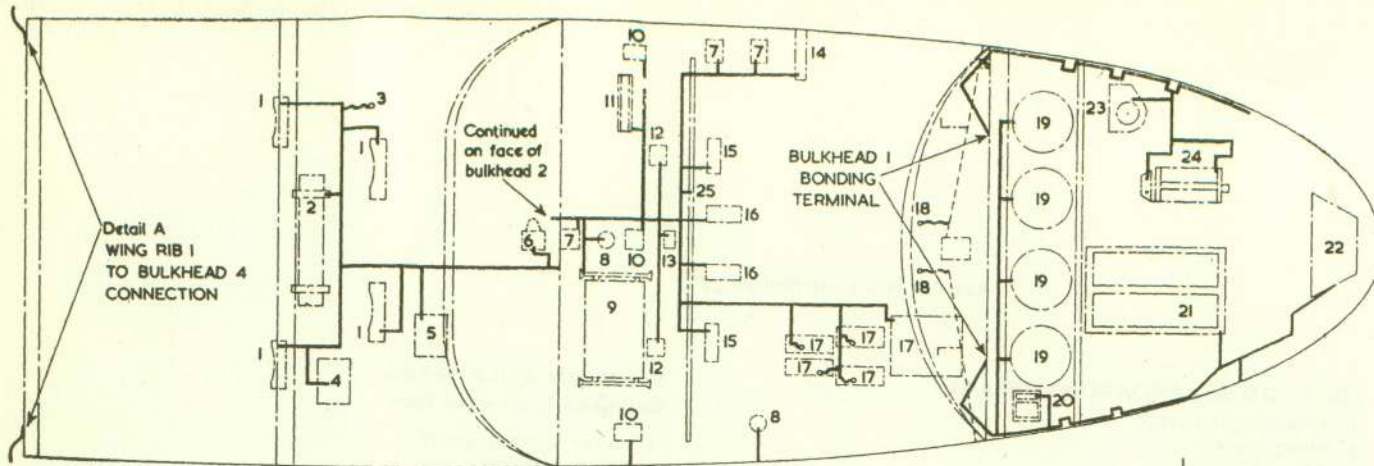
VIEW ON BULKHEADS

Bulkhead 2, forward face

- 1 4-WAY AUTO-SELECTOR
- 2 CANOPY BRACKET
- 3 JUNCTION BOX 1
- 4 ARMAMENT SERVICES J.B.
- 5 EMERGENCY BATTERY BRACKET
- 6 CONTROL BRACKET
- 7 GM4F AMPLIFIER SHIELD
- 8 GM4F AMPLIFIER MOUNTING
- 9 CONTROL SEAL
- 10 AIR PIPE JUNCTION CAP
- 11 GM4F COMPASS CABLES
- 12 MIC/TEL CABLES
- 13 PLUG SEALING PLATE
- 14 CONTROL CABLE SEAL
- 15 OXYGEN ECONOMISER
- 16 PIPE SEALING PLATE
- 17 FIRST AID KIT STOWAGE

Bulkhead 2, rear face

- 1 GENERATOR TEST SOCKETS
- 2 GENERATOR SUPPRESSOR
- 3 VOLTAGE REGULATOR
- 4 REBECCA MOUNTING
- 5 AMMUNITION BOX
- 6 FORWARD CONTROL BRACKET GUARD
- 7 PULLEY BRACKET
- 8 PLUG SEALING PLATE
- 9 PNEUMATIC PANEL

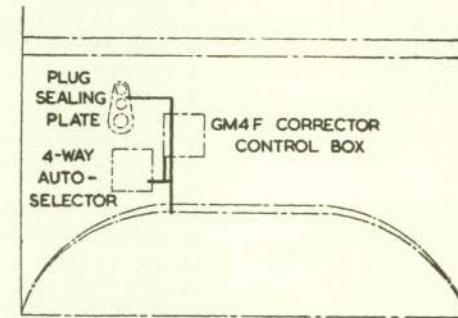


VIEW ON TOP OF FUSELAGE

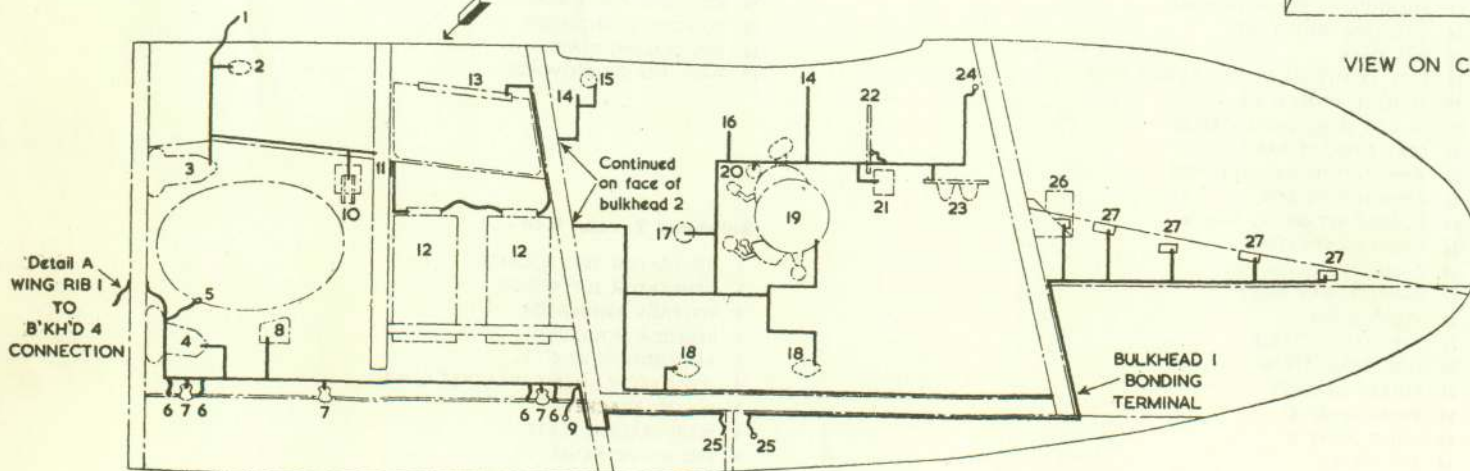


DETAIL A
BONDING ATTACHMENT
AT BULKHEAD 4

Note. See separate view
on canopy decking



VIEW ON CANOPY DECKING



VIEW ON PORT FUSELAGE

Fig. 7. Bonding (2)

RESTRICTED

KEY TO FIG. 7—BONDING (2)

VIEW ON TOP FUSELAGE

- 1 CANNON STIRRUPS
- 2 HYDRAULIC ACCUMULATOR
- 3 HYDRAULIC VALVE
- 4 FUEL PUMP SUPPRESSOR
- 5 FUEL GAUGE RECTIFIER
- 6 CANOPY HATCH OPENER VALVE
- 7 PULLEY BRACKET
- 8 OXYGEN PIPE CLIP
- 9 I.F.F. MOUNTING
- 10 SEAT PIVOT BRACKET
- 11 OXYGEN ECONOMISER
- 12 SEAT BRACKET
- 13 TANK JETTISON BRACKET
- 14 LADDER ANCHORAGE
- 15 PEDESTAL
- 16 CONTROL COLUMN BRACKET
- 17 G.G.S. RELAY PANEL
- 18 G.G.S. RETRACTABLE MOUNTING
- 19 OXYGEN BOTTLE CLAMP
- 20 EARTH POINT, BULKHEAD 1
- 21 BATTERIES TRAY
- 22 CAMERA MOUNTING
- 23 TANK FILLER PLATE
- 24 BALLAST WEIGHT CARRIER
- 25 FALSE FLOOR SUPPORT

VIEW ON PORT FUSELAGE

- 1 TANK FILLER CAP
- 2 CLAMP BLOCK
- 3 WING JOINT A
- 4 WING JOINT B
- 5 AIR INTAKE
- 6 FUEL TANK BAY
- 7 CANNON STIRRUP
- 8 PULLEY BRACKET
- 9 RUBBER RETAINING ANGLE
- 10 FUEL TANK STRAP
- 11 WING JOINT C
- 12 AMMUNITION BOX
- 13 AMMUNITION HATCH HINGE
- 14 CANOPY ATTACHMENT
- 15 SEAT SUPPORT BAR
- 16 LADDER ANCHORAGE
- 17 CABLE CLIP
- 18 SEAT PIVOT BRACKET
- 19 THROTTLE QUADRANT
- 20 CHAIN GUARD
- 21 OXYGEN REGULATOR
- 22 INSTRUMENT PANEL
- 23 RUDDER PEDAL BRACKET
- 24 G.G.S. RETRACTABLE MOUNTING
- 25 CANNON MOUNTING
- 26 G.G.S. AMPLIFIER
- 27 ATTACHMENT FITTING

RESTRICTED

Weatherproofing

23. Corrosion can result either from condensation or penetration of moisture in aircraft electrical equipment, especially in components installed in parts of the aircraft which at times are open to atmosphere, e.g., wheel bays. Various weatherproofing applications have therefore been devised to obviate this defect in the equipment, these applications being described in A.P.4343, Vol. 1, Sect. 12, Chap. 2.

INTERPRETATION OF ILLUSTRATIONS

Location and access

24. A location and access illustration appears at the beginning of each group, giving the physical location of, and method of access to, each component used in the circuits covered in that particular group. Information on the method of access is confined to illustration of the relevant access panels. The diagrams should be read in conjunction with the circuit routing charts.

Theoretical and routing

25. Each circuit is shown, individually, on a combined theoretical and routing chart. In some cases, where the circuit routing is complicated and the way in which the circuit operates is not readily apparent, a separate theoretical diagram is included.

26. Each routing chart is divided vertically by dotted lines, the columns thus formed representing actual aircraft locations. These columns are headed with the particular

location. The plug and socket references are given, together with individual pole references; if a rubber grommet is fitted, this is indicated on the routing chart.

27. Every circuit is shown as it would be with the aircraft standing on the ground, alighting gear locked down, all switches OFF and no external supply connected.

28. Cable codings are given adjacent to each cable, while the cable rating is shown by the use of arrowed annotations. The cable rating abbreviations used are listed in para. 8. It will be noted that the majority of the cable ratings are referred to in a block note on the individual routing charts, while any cross-reference to another circuit is annotated numerically, the key to the numbers being contained in one of the lower corners of the drawing.

Method of reading a routing chart

29. An example of the manner in which a routing chart should be read is given in the following description of the canopy hatch opener circuit (*Group F, fig. 6*). The d.c. supply originates from the fuse bus-bar, which is supplied from the main d.c. supply terminal block, T.B.1. This interconnecting cable is coded GA2+ and is of unipren 24 amp. rating. The circuit fuse, located in J.B.1, is identified by its number 36 and is rated at 5 amp. From the fuse, unipren 6 amp. cable, coded CP+, is connected to pole J of plug C1.

30. Socket C1, pole J, connects the cable to plug C6, pole J, inside J.B.3, passing into that J.B. via a rubber grommet. Socket C6, pole J, then connects the cable, still bearing the coding CP+ and being unipren of 6 amp. rating, to one terminal of the canopy hatch opener push-switch fitted to the instrument panel.

31. The remaining push-switch terminal is connected by unipren 6 amp. cable, coded CP2, to pole K of socket C6, this in turn connecting to pole K of plug C6 fitted to J.B.3. Socket C1, pole K, is connected to plug C6, by unipren 6 amp. cable, passing out of J.B.3 via a rubber grommet.

32. Pole K of plug C1 in J.B.1 is connected to pole D of bulkhead plug C12 by unipren 6 amp. cable coded CP2, passing out of J.B.1 via a rubber grommet. Aft of bulkhead 2 the cable is connected to one terminal of the electro-pneumatic valve fitted in the cannon bay. The remaining valve terminal is earthed at bulkhead 4 by unipren 6 amp. cable, coded E.

33. It will be noted that, as the majority of cables are unipren 6 amp., the cable rating is given in a block note. The rating of cable GA2+ is separately annotated, as this is unipren 24 amp.



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