

SECTION 6

ELECTRICAL AND RADIO SERVICING

CHAPTER 1: GENERAL SERVICES
ELECTRICAL INSTALLATION

CHAPTER 2: RADIO EQUIPMENT

SECTION 6 — CHAPTER I

GENERAL SERVICES ELECTRICAL INSTALLATION

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General Services Electrical Installation

Introduction

186. This Section contains diagrams giving the location of the various electrical components, and wiring of the various services; notes on circuit functioning, and access to components.

A Junction Box System of wiring is used in this aircraft, and inter-connections between junction boxes, and between junction boxes and bulkheads, are contained in poly-vinyl conduits with Breeze plugs or sockets at each end. The installation also includes cable loom assemblies, consisting of Breeze sockets with loose "cel" covered P.V.C. cables attached, these being connected directly or through convenient terminal blocks to adjacent equipment.

The Generator, Accumulator, and Positive and Negative Feeder wiring diagram for this aircraft is shown on figs. 59 and 60. All other General Services circuits are shown on figs. 61 to 74 inclusive, and figs. 77 and 77A.

A Location Diagram giving the location of the general services Junction Boxes, Terminal Blocks, and equipment is shown on fig. 57.

Junction Boxes—General

187. The junction boxes are referenced numerically, i.e., J.B.1, J.B.2; except where they appertain to specific services; i.e. R.P. and Bombs Junction Box, Gyro Compass Junction Box (Post Vampire Mod. 143—D.H. Aust. Mod. V.202 only).

Multi-pin plugs on junction boxes are denoted by a label showing plug number, the number being prefixed by the letter "C," which indicates that a P.V.C. conduit of the same number connects to that plug; i.e. Conduit C11 connects to Plug C11.

Junction Box 1

(Wiring Diagram shown on Fig. 77)

187A. This junction box is the main electrical switch panel, and is fitted on the starboard side of the cockpit next to the pilot's seat.

All the general services circuit breakers are mounted in the box, together with Starter Circuit Safety, Ignition Isolating, Generator

Field, Identification Lights, Navigation Lights Dim/Bright, and Landing Light control switches, and push-button switches to operate the following services:—Starter, Identification Light Signalling, Fire Extinguisher, and Ammeter Testing.

Also mounted on the box are the Emergency Fuel Pump Warning Light, a Fuel Pump Ammeter Test Socket, a Resistance Unit for the Fuel Pressure Warning Light, a Resistance and Rectifier Unit for the Generator Warning Light, a main positive and negative feeder terminal block, inter-connecting terminal blocks for various services, and wiring plugs.

All those circuit breakers which are protected by metal guard rails on the inboard face of the junction box are intended to be switched "ON" (down) and left in this position indefinitely.

Junction Box 2

(Wiring Diagram shown on Fig. 77A)

187B. This junction box is mounted at the top of the rear face of the fireproof bulkhead, and contains two Generator Warning Light circuit breakers, a negative feeder terminal block, four inter-connecting terminal blocks for various services, and wiring plugs. Affixed to the inside face of the lid is a wiring diagram of the box.

The two Generator Warning Light circuit breakers are intended to be switched "ON" (down) and left in this position indefinitely.

R.P. and Bombs Junction Box

(Wiring Diagram shown on Fig. 77A)

187C. This junction box is mounted on the starboard side of the cockpit floor immediately below junction box 1, and is the main armament services switch panel containing R.P. and Bomb circuit breakers, together with R.P. Selection, Bomb Distributor, Bomb Selection and Bomb Fuzing control switches. It is fitted only on Vampire Mk. 31 aircraft.

Also mounted on the box are four relays for R.P. and Bomb firing and G.G.S. caging, a main feeder terminal block, one other terminal block for firing button supply, and wiring plugs.

The two circuit breakers are intended to

be switched "ON" (inboard) and left in this position indefinitely.

Gyro Compass Junction Box

(Post Vampire Mod. 143-D.H. Aust. Mod. V.202 only) (Wiring Diagram shown on Fig. 77A)

187D. This junction box is mounted on the starboard side of the cockpit floor adjacent to the pilot's seat and immediately aft of the R.P. and Bombs junction box and contains Torque Switch, Relays, Condenser Unit, Fuzes, one interconnecting terminal block, and one wiring plug.

Three-phase A.C. power is fed to the Gyro-Compass circuit from this junction box, which also provides facilities for visual indication of an A.C. power supply failure from the Type 100A inverter. The Power Failure Warning Light is located on the blind-flying instrument panel.

Starter Panel

(See Fig. 61)

188. The Rotax Starter Panel Type U.0618 (or U.0803) is mounted in the port flap shroud, and contains the equipment necessary for starting the engine, viz.: Time Switch, Overspeed Relay, Starter Relays, and Resistance Units. (See para. 199 for operation.)

Circuit Breakers

189. Apart from the circuit breakers already referred to in Junction Boxes 1 and 2, and in the R.P. and Bombs Junction Box, there are two other circuit breakers fitted in the aircraft, one being the Battery Main circuit breaker mounted on the port No. 1 rib and the other the Emergency Starting circuit breaker (Post Vampire Mod. 183—D.H. Aust. Mod. V.214 only) mounted on the port flap shroud No. 1 rib.

It is intended that both these circuit breakers be switched "ON" and left in this position indefinitely.

Fuses

190. There are only four fuse boxes fitted in this aircraft: these are the Generator Main Fuse box located on the voltage regulator panel in the starboard flap shroud, the Turn and Slip Indicator Fuse Box (Post Vampire Mod. 175—D.H. Aust. Mod. V.191 only) located on the lower portion of the left-hand instrument panel, and the two Gyro

Compass fuse boxes located on bulkhead No. 2 (Pre Vampire Mod. 143—D.H. Aust. Mod. V.202 only) or in the Gyro Compass junction box (Post Vampire Mod. 143).

Ground/Flight Switch

191. This switch is mounted on the port No. 1 rib and is operated by a Teleflex cable connected to a lever on the port cockpit wall, aft of the throttle box. It enables the general services to be tested with external accumulators.

Under normal operating circumstances the switch must be placed in the FLIGHT position before starting the engine. However, on aircraft which have had Vampire Mod. 183 (D.H. Aust. Mod. V.214) embodied, the engine may be started with this switch at GROUND. (Refer to Starter Circuit, para. 199 for details of this emergency starting facility.)

The prime functions of the Ground/Flight Switch are for ground testing and starting from an external supply source.

Terminal Blocks

192. Terminal blocks are provided at convenient points throughout the aircraft. They are not numbered in themselves, but their position is shown on the location diagram, and indicated on circuit wiring diagrams.

Bulkhead Plugs

193. The plugs are double-ended and are used to take wiring through metal panels as at firewalls and bulkheads. Any plug attached to either of the pressure bulkheads (Nos. 1 and 2) is of the fixed-pin type, so as to ensure effective pressure cabin sealing.

Bonding

194. Metal fittings, pipes, metal-braided cables, fuel and oil tanks are bonded together and to the main structure. When re-fitting bonding clips, ensure that the surfaces to be bonded together are free from oil, grease or rust. Any point which has had protective treatment removed for bonding purposes must be treated with paint to suit surrounding colour after connection has been made.

Normally, hinged joints are considered as effective links for bonding purposes on control surfaces. Vampire Mod. 64, however, introduced bonding of ailerons, elevators and rudders on Vampire aircraft.

Circuits

195. The service performed by each circuit is indicated by letter or letters; e.g., UV — Ultra-Violet Lighting, G.S. — Gyro Gunsight.

Generally the circuit wires are identified by numbers starting from the positive side of the system, and changing progressively only when the wiring passes through any unit of equipment (excluding terminal blocks, plugs, and sockets). All coding is carried out by using these numbers as suffixes to the service letters. The circuit wires which connect directly to negative or earth potential points (negative side of system) are all identified with letter code "E."

Interpretation of Circuit Diagrams

196. These diagrams have been simplified and straightened out as much as possible, and include all detail for fault location. All circuit diagrams should be read in conjunction with the Positive and Negative Feeder System Diagram and/or the Location Diagram. Functional interpretation of circuits is self-evident owing to the straight-line system of drawing employed. All General Service circuit and Feeder diagrams show Positive at the top of the sheet and Negative at the bottom.

Circuit Functioning

197. The following paragraphs are intended to explain the various features of interest about the functioning of the various General Service circuits. Notes on maintenance and adjustment of standard equipment are given in AP.1095 and/or AP.4343.

CIRCUIT DIAGRAMS

Positive and Negative Feeders, Generator and Accumulator Circuit: "GA" and "E"

(See Figs. 59 and 60)

198. The maintenance details for the 2,300-watt D.C. Type "KX-B" Generator, Type "F" Voltage Regulator, Type "D" Cut-out, and Type "C" Accumulators are given in AP.1095 and/or AP.4343.

The generator (which must be of the 8,000 r.p.m. type) is mounted at the top forward end of the engine and is driven by an auxiliary gear-box. It is connected via a shielded cable containing four 50A cables (two positive and two negative) and one 7A cable to a Type "W" No. 2 Suppressor mounted on the voltage regulator panel in the starboard flap shroud. Also mounted on

this panel are the voltage regulator, cut-out, and the generator main fuse.

A power failure warning light is mounted on the top centre instrument panel, and glows in the event of power failure—i.e., generator failing to excite, cut-out not closing, etc.

A generator field switch is mounted on the top of the main electrical panel and is normally wire-locked "ON" with light tie-wire.

A voltmeter test socket is mounted on the voltage regulator panel and is connected across the "G+" and "G—" terminals of the voltage regulator. When a voltmeter is connected it will read generated line volts.

A test socket is fitted in the port flap shroud, this socket being used for normal ground testing purposes. When this socket is being used the ground/flight switch must be in the GROUND position.

Two 12-volt Type "C" accumulators, connected in series, are located forward of bulkhead No. 4 in the gun bay, and receive regulated charge from the generator. The accumulators are accessible through the gun bay doors.

Positive supply passes from the generator and/or accumulators to the load circuit breakers in the main electrical panel via a system of positive feeders.

Negative sections of the general services system are either interconnected by the negative feeders which are "grounded" to the aircraft structure at various earthing terminals throughout the aircraft, or are directly connected to convenient earthing points.

Starter Circuit: "SA"

(See Fig. 61)

199. An electric starter motor is fitted and is controlled by an automatic system which is operated by a push-button on the main electrical panel.

A micro switch located on the engine bulkhead is operated when the throttle is closed and is connected in series with the starter push-button, which ensures that the engine cannot be started unless the throttle is fully closed.

When the starter push-button on Junction Box 1 is pressed it sets the Time Switch mechanism in operation and closes a set of contacts.

The closing of these contacts supplies current to the Overspeed Relay which in turn allows the coil of the No. 1 Starter Relay to be energised, thus supplying reduced voltage to the starter through the Resistance Unit. The closing of these contacts in the Time Switch also operates the Contactor Relay Switch mounted on the port No. 1 rib, thus energising both Boost Coils (Pre Vampire Mod. 151—D.H. Aust. Mod. V.189 only) or both High Energy Ignition Units (Post Vampire Mod. 151—D.H. Aust. Mod. V.189 only), both Igniter Fuel Valves (Pre Vampire Mod. 151—D.H. Aust. Mod. V.189 only), and the Priming Pump (Pre Vampire Mod. 151—D.H. Aust. Mod. V.189 only) on the engine. After a period of 1.0 to 3.5 seconds has elapsed, a second set of contacts in the Time Switch is automatically closed, and this operates the No. 2 Starter Relay, thereby shorting the Resistance Unit, and thus supplying full voltage to the Starter Motor. After a period of approximately 30 seconds has elapsed, a third set of contacts in the Time Switch automatically opens, thus cutting the supply to the starting equipment. If the trip speed is attained before 30 seconds has elapsed, the Overspeed Relay contact is opened, thus de-energising the Starter Relays and the Contactor Relay, and therefore removing the starting equipment from the circuit.

A booster pump is also fitted and is controlled by an interlinked S.C. SAFETY switch on the main electrical panel. The circuit is protected by a circuit breaker on the inboard face of the main electrical panel. The pump is of the submerged type and is located in the fuselage fuel tank.

A Fuel Pressure Warning Switch is fitted on the engine and causes the warning light on the top centre instrument panel to glow when the fuel delivery pressure falls below $3\frac{1}{4} \pm \frac{1}{4}$ lb./sq. in. The switch is fed by a circuit breaker on the main electrical panel.

An ignition isolating switch is provided on Junction Box 1 to enable "false" starts to be made to check the functioning of engine components without actually igniting the fuel.

Upon the introduction of Vampire Mod. 151 (D.H. Aust. Mod. V.189), the re-light push-button switch on the top of the main electrical panel is deleted and replaced by a "Venner" Time Switch located on the port canopy rail, the operation of which, in the event of a "flame-out" during flight, automatically provides ignition for re-lighting for a period of 30 seconds.

Vampire Mod. 183 (D.H. Aust. Mod.

V.214) makes provision for starting an aircraft in which the batteries may not be in a fully charged condition. This is accomplished by the addition of a circuit breaker and push-button switch in the port flap shroud connected in series in a link wire between the positive terminal of the starter socket and the positive terminal of the test socket, thereby providing a positive supply from the ground battery to the aircraft electrical system when the push-button is pressed.

In the event of the aircraft batteries not being in a fully charged condition, if Vampire Mod. 183 (D.H. Aust. Mod. V.214) has been embodied, the following emergency starting procedure can be adopted:—

- (1) Select Ground/Flight Switch to "GROUND."
- (2) Press "EMERGENCY STARTING BUTTON" in the port flap shroud. (Button must be kept pressed for complete duration of starting cycle).
- (3) Carry out normal starting routine.
- (4) After engine is running, select Ground/Flight Switch to "FLIGHT."

Turn and Slip Indicator Circuit: "TS"

(See Fig. 62)

200. This circuit is introduced by Vampire Mod. 175 (D.H. Aust. Mod. V.191) and is fed from a fuse box located on the lower portion of the left-hand instrument panel. Two d.c. positive supply leads connect to the indicator via a "Q" type Relay located adjacent to the fuse box, and are connected in such a manner that should a fault cause one fuse to "blow" the circuit is automatically connected to the second d.c. supply.

G3F Gyro Magnetic Compass, Gyro Horizon Circuits: "GC"

(See Figs. 63 and 63A)

201. Vampire Mods. 62 and 76 (D.H. Aust. Mods. V.102 and V.159) introduced the G3F gyro magnetic compass (in lieu of the Magnesyn Compass) and the Mk. 3 gyro horizon and these will be retrospectively installed in all aircraft. These circuits are fed from a circuit breaker on the top of the main electrical panel.

Upon the introduction of Vampire Mod. 143 (D.H. Aust. Mod. V.202) facilities are provided for the detection and indication of a failure of a.c. power supply from the Type 100A Inverter to the Gyro Compass and Gyro Horizon circuits.

Magnesyn Compass Circuit: "DR"

(See Fig. 71)

202. This equipment is replaced by the G3F Gyro Compass on the introduction of Vampire Mod. 62 (D.H. Aust. Mod. V.102) (refer para. 201). The circuit is fed from a circuit breaker on the top of the main electrical panel.

G.S.A.P. Camera Circuit: "CG"

(See Fig. 63A)

203. D.H. Aust. Mod. V.227 introduces the AN-N6 G.S.A.P. Gun Camera (in lieu of the G45B Camera) and will be retrospectively installed in all aircraft. The circuit is fed from a circuit breaker on the top of the main electrical panel. The G.S.A.P. Camera is mounted on the nose.

Camera Gun Circuit: "CG"

(See Fig. 71)

204. The G45 Camera Gun is replaced by the AN-N6 G.S.A.P. Gun Camera on the introduction of D.H. Aust. Mod. V.227 (refer para. 203). This circuit is fed from a circuit breaker on the top of the main electrical panel. The Camera Gun is mounted in the nose and provision for fitment of a footage indicator is made on the right-hand instrument panel, and a stowage is provided on the forward end of the main electrical panel for the footage indicator cable. The footage indicator wedge plate will be deleted on the introduction of Vampire Mod. 143 (D.H. Aust. Mod. V.202).

Flap Position Indicator Circuit: "F"

(See Fig. 64)

205. This circuit is fed from a circuit breaker located on the inboard face of the main electrical panel.

Oil Thermometer Circuit: "OA"

(See Fig. 64)

206. This circuit is fed from a circuit breaker located on the inboard face of the main electrical panel. The oil thermometer is located on the port side of the engine wheel-case, and records the oil inlet temperature, which must not exceed 80°C.

Downward Identification Light Circuit: "J"

(See Fig. 65)

207. This circuit is fed from a circuit breaker located on the inboard face of the

main electrical panel. There are three Downward Identification Lights, located in the engine rear cone cowl, and colored Red, Green, and Amber. To gain access to the filaments, remove the screws securing the perspex window and unscrew lamp glass.

Landing Light Circuit: "LL"

(See Fig. 65)

208. This circuit is fed from two circuit breakers located on the inboard face of the main electrical panel, one being in the landing light filament circuit and the other in the control circuit. The lamp selector switch is on the top of the same panel.

Adjustments can be carried out by slackening the screws holding the lamp panel. For instructions on making adjustments and for other servicing notes, refer to AP.4343E, Vol. 1, Sect. 7, Chapter 3.

Cabin Pressure Warning Circuit: "PW"

(See Fig. 65)

209. This circuit consists of a cabin pressure control valve and a warning light, and is controlled by a circuit breaker on the main electrical panel.

When the cabin pressure is more than $\frac{1}{2}$ lb./sq. in. below the normal controlled cabin pressure, the warning light will glow. The control valve is mounted in the nose and the warning light on the right-hand instrument panel.

Gun Firing Circuit: "GF"

(See Figs. 66 and 66A)

210. Fig. 66 is applicable to Mk. 30 aircraft only (no provision for R.P. and Bomb Firing) and Fig. 66A is applicable to Mk. 31 aircraft only (provision for R.P. and Bomb Firing). This circuit is fed from three circuit breakers on the inboard face of the main electrical panel, two of which provide positive supply to the operating relay/s for the guns; the third being the control circuit breaker which provides positive supply to the firing switch which is an integral part of the control column.

The G45B or G.S.A.P. Camera and/or the Gyro Gunsight Camera Recorder function simultaneously with the guns when the firing button is pressed.

A micro-switch mounted in the nose and actuated by the nosewheel mechanism, prevents inadvertent operation of the guns while the nosewheel is in the down position.

Undercarriage Lever Lock Circuit: "UL"

(See Fig. 66)

211. This circuit is fed from a circuit breaker on the inboard face of the main electrical panel, and consists of a solenoid-operated plunger on the engine control box connected in series with a micro-switch on the engine control box and a micro-switch on the port undercarriage compression leg (contacts closed only when weight of aircraft is not on the wheels).

Prime function of this circuit is to prevent accidental "UP" selection of the undercarriage while the aircraft is on the ground. A switch labelled "U/C EMERGENCY RETRACTION" on the port cockpit wall permits the undercarriage to be retracted on the ground, in case of emergency, by overriding the micro-switch on the compression leg.

Undercarriage Position Indicator Circuit: "U"

(See Fig. 67)

212. This circuit is fed from a circuit breaker on the inboard face of the main electrical panel. In the event of trouble in this circuit, check the micro-switch connections; renew a micro-switch if the plungers or contacts have become corroded. The only servicing required for the indicator will be replacement of the filament lamps.

Vampire Mod. 173 (D.H. Aust. Mod. V.210) introduces a flashing undercarriage warning light instead of the steady warning light and warning horn, and will be installed in all aircraft retrospectively.

Fuel Gauges Circuit: "S"

(See Fig. 68)

213. This circuit is fed from a circuit breaker on the inboard face of the main electrical panel. The tank transmitter units operate on a 5-wire system and are fitted through the base of the tank, access to wing tank units being through an inspection hole in the tank door. Access to the fuselage tank unit is via the gun bay doors.

When a fuel tank has been changed, ensure that the wire securing the float arm has been removed. (See also para 35.)

Pyrometer Circuit: "XT"

(See Fig. 69)

214. This circuit is fed from a circuit breaker on the inboard face of the main

electrical panel. It is a means of measuring the jet pipe temperature. For complete details of installation, maintenance, and testing, refer to AP.1275A.

Oil Pressure Indicator Circuit: "OA"

(See Fig. 69)

215. This circuit is fed from a circuit breaker on the inboard face of the main electrical panel. The oil pressure gauge is mounted on the left-hand instrument panel, and indicates the main oil pump pressure.

Cockpit Red Lighting and U/V Lighting Circuit: "T" and "UV"

(See Figs. 67 and 70)

216. These circuits are fed from two circuit breakers on the inboard face of the main electrical panel.

The Dual System of cockpit lighting is used, and consists of four red lights and four ultra-violet lights, the lights being controlled by three dimmer switches mounted on the port cockpit wall just below the canopy rail and forward of the pilot. A cockpit-type lamp is fitted under the ammunition compartment floor for illuminating the gun bay.

SCR-695-A Radio Detonator Supply, Fire Extinguisher and Warning Light Circuits: "Q" and "FA"

(See Fig. 70)

217. These circuits are fed from two "Klixon" circuit breakers mounted inside the main electrical panel, one supplying the SCR-695-A Radio Detonator and Fire Extinguisher Bottle, and the other supplying the Fire Warning Light.

The "Klixon" circuit breakers are of the automatic reset type.

Subsequent modification action (D.H. Aust. Mod. V.219) deletes the SCR-695-A Radio wiring and this equipment will eventually be removed from all aircraft.

In the event of fire, the Flame Switches (mounted around the engine) are automatically operated and cause the Fire Warning Light on the top centre instrument panel to glow.

A micro-switch is connected in series with the fire extinguisher bottle, the switch being actuated by the Cabin Air Control Unit (contacts closed when air control unit lever is in "OFF" position). Cabin Air Con-

trol **MUST BE "OFF"** before pressing fire extinguisher button on top of main electrical panel.

Gyro Gunsight and Recorder Circuit: "GS"

(See Figs. 72, 72A and 75)

218. This circuit consists of a Mk.4B or 4E Gunsight, Mk2D Camera Recorder, Type 22 Voltage Regulator, and a Type "P" No. 1 and Type "F" No. 2 Suppressor, and is fed from a circuit breaker on the top of the main electrical panel.

For further details of functioning and maintenance of standard equipment, refer to AP.1095 and/or AP.4343, AP.1275E (Gunsight), AP.1355D (Recorder).

Emergency Fuel Pump Circuit: "PE"

(See Fig. 72)

219. This circuit is fed from a circuit breaker on the top of the main electrical panel, and consists of a solenoid-operated valve on the engine connected in parallel with the emergency fuel pump warning light on the top of the main electrical panel, so that the lamp glows when the solenoid is operating.

Navigation Lights Circuit: "N"

(See Fig. 73)

220. This circuit is fed from a circuit breaker on the top of the main electrical panel.

The lamps are mounted in the port and starboard wing tips, and are easily accessible through the access panel on the under-surface of the mainplane. The tail lamp is withdrawn by releasing the screws securing the lamp to the port tail boom so that the screws securing the lamp housing to the mounting are revealed. Release these screws and withdraw lamp and holder from the mounting.

Vampire Mod. 152 (D.H. Aust. Mod. V.198) introduces a dimmer switch and resistance unit to enable the navigation lights to be dimmed as a safety precaution during close formation flying and this modification is being retrospectively embodied in all aircraft.

R.P.M. Indicator Circuit: "RA"

221. For wiring diagram of this circuit, see Fig. 73.

Pitot Head Circuit: "P"

(See Fig. 73)

222. This circuit is fed from a circuit breaker on the top of the main electrical panel. It is essential that this service should be switched "OFF" when not required.

Emergency Cockpit Lighting Circuit: "EM"

(See Fig. 73)

223. This circuit consists of a 2.4 V.—1.2 AH. accumulator, a Type "B" general purpose switch, and a cockpit floodlight.

The accumulator is mounted on the port side of the cockpit, forward of the instrument panel; the light is fitted to the gyro-gunsight bracket, and the switch is located on the port cockpit wall, directly under the three cockpit light dimmer switches.

The life of the accumulator is dependent upon the care taken, and good servicing will ensure long and trouble-free life.

For maintenance details, see AP.4343 Vol. 1, Sect. 3, Chapter 3.

R.P. and Bomb Firing Circuit: "RP" and "B"

(See Fig. 74)

224. This circuit is only applicable to Mk.31 aircraft and is fed from two circuit breakers on the R.P. and Bombs Junction Box.

D.H. Aust. Mod. V.221 makes provision for firing the rockets singly as well as in pairs and salvo and this modification is being retrospectively embodied in all aircraft.

Access to Components

225. The position of the main components can be ascertained from the Location Diagrams (Figs. 57 and 58). The table below gives the means of access to components where such means are not readily apparent.

Component	Access
STARTER CIRCUIT:	
Boost Coils (when fitted) ..	Top of port and starboard rib No. 1. (Remove top engine cowl.)
High Energy Units (when fitted)	Top of engine starboard side. (Remove top engine cowl.)
Starter Panel	Bottom of engine port side. (Remove bottom engine cowl.)
	Port Flap Shroud. (Flaps must be DOWN.)

External Starter Socket ..	Port Flap Shroud. (Flaps must be DOWN.)
Emergency Starting Button ..	Port Flap Shroud. (Flaps must be DOWN.)
Throttle Safety Switch ..	On lower rear face of Fireproof Bulkhead. (Remove bottom engine cowl.)
GENERATOR CIRCUIT:	
Voltage Regulator Panel ..	Starboard Flap Shroud. (Flaps must be DOWN.)
G3F COMPASS CIRCUIT: (Post Vampire Mod. 62):—	
Detector Unit	In starboard wing between ribs Nos. 10 and 11, accessible through access door in undersurface of wing.
Inverter Unit	At rear of nosewheel housing accessible through cover plate.
Control Panel	On starboard side of cockpit floor forward of instrument panel.
Supply Suppressor	Adjacent to control panel.
MAGNESYN COMPASS CIRCUIT: (Pre Vampire Mod. 62):—	
Master Compass	Same as G3F Compass Detector Unit.
Inverter, Suppressor and Distribution Box	On panel on cockpit floor forward of instrument panel.
Junction Box	On front spar of starboard wing, accessible through access door on undersurface of wing.
FLAP POSITION INDICATOR CIRCUIT:	
Flap Transmitter	Starboard wing inner stub boom rib. (Flaps must be DOWN.)
GUN FIRING CIRCUIT:	
Gun Firing Relays	On underside of ammunition box floor, accessible through gun bay doors.
Gun Safety Switch	On underside of the mudguard in the nose.
UNDERCARRIAGE POSITION INDICATOR CIRCUIT:	
Throttle Micro Switch	On lower rear face of Fireproof Bulkhead. (Remove bottom engine cowl.)
Uplock Switches	One on wheel door (port and starboard). Two on underside of mudguard in nose.
Downlock Switches	One in wheel well (port and starboard). One on each diaphragm (port and starboard). One on underside of mudguard in nose.
Leg Lock Switches	One on U/C Radius Rod (port, starboard, nose).
Flashing U/C Warning Light Relay. (Post Vampire Mod. 173 — D.H. Aust. Mod. V.210 only)	On starboard side of cockpit floor forward of instrument panel adjacent to bulkhead No. 1.
PYROMETER CIRCUIT:	
Voltage Compensator	On starboard side of cockpit floor forward of instrument panel.
Cold Junction Compensator	On voltage regulator panel in starboard flap shroud. (Flaps must be DOWN.)
EMERGENCY FUEL PUMP CIRCUIT:	
Pump Valve Solenoid	At front of engine on starboard side.
NAVIGATION LIGHTS CIRCUITS:	
Resistance Units (Post Vampire Mod. 152 — D.H. Aust. Mod. V.198 only)	Port cockpit wall forward of instrument panel just below rudder pedal support structure.
R.P.M. INDICATOR CIRCUIT:	
R.P.M. Generator	At front of engine on starboard side of wheel-case.
R.P. AND BOMBS FIRING CIRCUIT:	
Relay and Resistance Unit ..	On lower rear face of fireproof bulkhead. (Remove bottom engine cowl.)
R.P. Single Firing Relay (Post D.H. Aust. Mod. V.221 only)	Adjacent to Relay and Resistance Unit on fireproof bulkhead.
R.P. Cables Safety Break Bomb Distributor	Wheel well (port and starboard). On port side of cockpit floor adjacent to bulkhead No. 2.
GYRO GUNSIGHT AND RECORDER CIRCUIT:	
Recorder	On top of Mk. 4B Gyro Gunsight in cockpit.
Recorder Suppressor	On cockpit floor, under pilot's seat.
Voltage Regulator Panel ..	On forward face of bulkhead No. 2.

SECTION 6 — CHAPTER 2

RADIO INSTALLATION

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(Fitted Pre D.H. Mod. V.219 only)	

RADIO INSTALLATION

General

226. The following Radio sets are fitted:
V.H.F. Communications Equipment—
TR1936.

A.D.F. Radio Compass—Lear ADF14
(Post Vampire Mod. 226—D.H.
Aust. Mod. V.154 only).

I.F.F. Equipment—SCR-695-A (Pre
D.H. Aust. Mod. V.219 only).

This chapter contains notes covering the location and details of mountings for all sets.

V.H.F. Communications Equipment— TR1936

(See Figs. 64 and 75)

227. This equipment is fed from a circuit breaker on the inboard face of the main electrical panel and consists of a Transmitter/Receiver located in the ammunition compartment, a Type 295 Controller mounted on the left-hand instrument panel, a press-to-transmit switch on the throttle twist grip, and an Aerial Type 226/1 mounted on the underside of the port wing tip.

The Transmitter/Receiver is accessible through a door on the port side of the fuselage. To facilitate its removal, the mounting tray support may be withdrawn by releasing the plunger on the forward side.

A.D.F. Radio Compass—Lear ADF14
(Post Vampire Mod. 226—D.H. Aust. Mod.
V.154 only)

(See Figs. 76 and 109)

228. This equipment is fed from a cir-

cuit breaker on the top face of the main electrical panel and consists of an Amplifier Unit located on the inside of the port ammunition compartment access door, a Tuner Unit mounted on the port side of the cockpit floor adjacent to the pilot's seat, an Automatic Loop located in the nose of the aircraft, an Indicator mounted on the top of the right-hand instrument panel, a Sense Antenna mounted on the rear metal fairing of the sliding hood, and a Tuner Dial Lamp Dimmer Switch mounted on the starboard canopy rail adjacent to the VHF/ADF Telephone Selector Switch.

The spring contacts on the sliding hood for the Sense Antenna lead-in must be kept clean and free from corrosion.

I.F.F. Equipment—SCR-695-A

(See Figs. 65 and 75)

229. This equipment will be deleted retrospectively from all aircraft on the introduction of D.H. Aust. Mod. V.219.

If fitted, this equipment is fed from a circuit breaker on the inboard face of the main electrical panel and consists of a Receiver located in the nose of the aircraft, two Control Units mounted on the R.H. instrument panel, "G" Band Manual and Automatic switches on the L.H. instrument panel, and an Aerial Type 90 or 93 mounted on the underside of the starboard wing. (NOTE: The I.F.F. Aerial is to be mounted with the rounded edge to the rear.)

The mounting for the SCR-695-A Receiver in the nose is of the standard type.

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