

Chapter 3

EMERGENCY CONTROLS, EQUIPMENT AND EXIT

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General

1. This chapter describes the emergency controls and equipment in the cabin and indicates the method of operation wherever this is not obvious. Some emergency equipment is associated with the main systems and where these occur reference to the appropriate section is made in the following paragraphs. The location of controls and equipment is shown in fig. 1 and 2.

Fuel system (Sect. 4, Chap. 2)

2. The high-pressure fuel cock may be used as an emergency fuel shut-off in the case of engine failure. *In the event of fire, the low-pressure fuel cock must also be closed.* Additional equipment relating to the fuel system are the fuel pressure warning lamp, the wing tip tank fuel jettison switch, the wing tip tanks fuel transfer warning indicators and the fuel pump emergency switch.

Relighting the engine in flight

3. A relight switch is incorporated in the handle of the high-pressure fuel cock lever and is used in conjunction with this lever, as detailed in A.P.4320B, Vol. 1, for relighting the engine in flight.

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Fire protection (Sect. 4, Chap. 5)

4. Two fire bottles are positioned in the engine bay, and are controlled by the fire warning and extinguisher switch when the temperature in the vicinity of any of the flame switches rises above 300 deg. C. *The system is not automatic except that the lamp lights to denote the increase in temperature, and the extinguisher switch must be pressed to discharge the contents of the bottles.* The flame switches are the re-setting type, so that once the fire has been extinguished the warning lamp will not illuminate.

Hydraulic system (Sect. 3, Chap. 6)

5. In the event of failure of the engine or engine-driven pumps (when both flow failure warning lamps will light), there will be sufficient hydraulic pressure to lower the alighting gear and flaps *once only*, and for restricted use of the wheel brakes on the landing run. There will also be sufficient pressure to lower the arresting hook. In addition, the hand pump will operate the alighting gear, flaps, wheel brakes and arresting hook. For ground use only, the hand pump can be used to operate the dive brakes and wing folding. Should the hydraulic pressure in the aileron circuit fall to a pre-set figure (or the aileron

selector valve be selected to MANUAL), the aileron power warning ◀lamp▶ will light giving the pilot forewarning of powered aileron failure. Should pressure continue to fall, the ailerons will automatically revert to MANUAL if this condition has not already been selected.

Alighting gear (Sect. 3, Chap. 5)

6. The procedure for operating the alighting gear in the event of failure of the engine-driven hydraulic pump is described in para. 5. In addition, a warning lamp and emergency retraction switch are fitted, the former lighting up when the alighting gear is in the retracted position with the throttle less than $\frac{1}{4}$ open, and the latter to disengage the solenoid lock plunger, when the weight of the aircraft is on the alighting gear, and to allow the alighting gear to be quickly retracted. It is essential to note that the selector lever must still be used in the normal way, after pushing forward the emergency retraction switch, since the switch does *not* retract the alighting gear.

Emergency exit

7. The canopy hatch must be jettisoned before abandoning the aircraft by parachute,

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and this is effected by pulling up the handle, after releasing its safety strap, on the nose wheel well. On early aircraft only, should this method fail, the hatch may be mechanically jettisoned by first pulling the ring handle on bulkhead No. 2 and then unlocking the hatch in the normal way by pulling the hatch internal handle down and forward.

Ejection Seats (later aircraft)

8. After the canopy hatch has been jettisoned, as described in para. 7 above, the pilot and observer may eject themselves in their respective seats by pulling the red-coloured firing handle above the headrest or on the front edge of the seat pan. The con-

nections to the radio and main oxygen systems automatically disengage at the quick-release points on ejection. Accidental ejection of either seat, while the aircraft is on the ground, is prevented by the safety pins. For full details of the seats refer to A.P. 4288N, Vol. 1.

Key to Fig. 1 (Emergency Controls and Equipment—Early Aircraft)

- | | | |
|--|--|---|
| 1 FIRE EXTINGUISHER WARNING LAMP AND PUSH SWITCH | 9 EMERGENCY HYDRAULIC HAND PUMP HANDLE
Allows manual operation of flaps, alighting gear and arresting hook in flight, or only the dive brakes and wing-fold mechanism on the ground | 16 TURN AND SLIP INDICATOR EMERGENCY BATTERY SWITCH |
| 2 HYDRAULIC FLOW FAILURE WARNING LAMP (STARBOARD)
Indicates pump failure | 10 PORT AILERON TAB CUT-OUT SWITCH | 17 ALIGHTING GEAR WARNING LAMP
Lights when alighting gear is UP but throttle less than $\frac{1}{4}$ open |
| 3 EMERGENCY LAMP SWITCH | 11 PORT AILERON TAB SELECTOR SWITCH | 18 HYDRAULIC FLOW FAILURE WARNING LAMP (PORT)
Indicates pump failure |
| 4 FUEL PUMP EMERGENCY SWITCH
Operates only when a Ghost Mk. 105 power unit is fitted | 12 TIP TANKS FUEL JETTISON SWITCH | 19 HATCH JETTISON MANUAL RING HANDLE
Pull straight forward if normal jettison has failed |
| 5 CABIN PRESSURE WARNING LAMP
Indicates when pressure drops $\frac{1}{2}$ p.s.i. below normal | 13 PORT AILERON NEUTRAL WARNING LAMP
Lights when port aileron trim is out of neutral | 20 GENERATOR FAILURE WARNING LAMPS (PILOT)
Light up when the generators are not supplying the aircraft electrical system |
| 6 GENERATOR FAILURE WARNING LAMPS
Light up when the generators are not supplying the aircraft electrical system | 14 ALIGHTING GEAR EMERGENCY RETRACTION SWITCH
Push forward and select alighting gear selector lever UP to raise alighting gear | 21 G.G.S. EMERGENCY RETRACTION CONTROL |
| 7 MAIN INVERTER FAILURE INDICATOR | 15 AILERON POWER WARNING ◀LAMP▶
Lights when hydraulic pressure falls below 1400 p.s.i. | |

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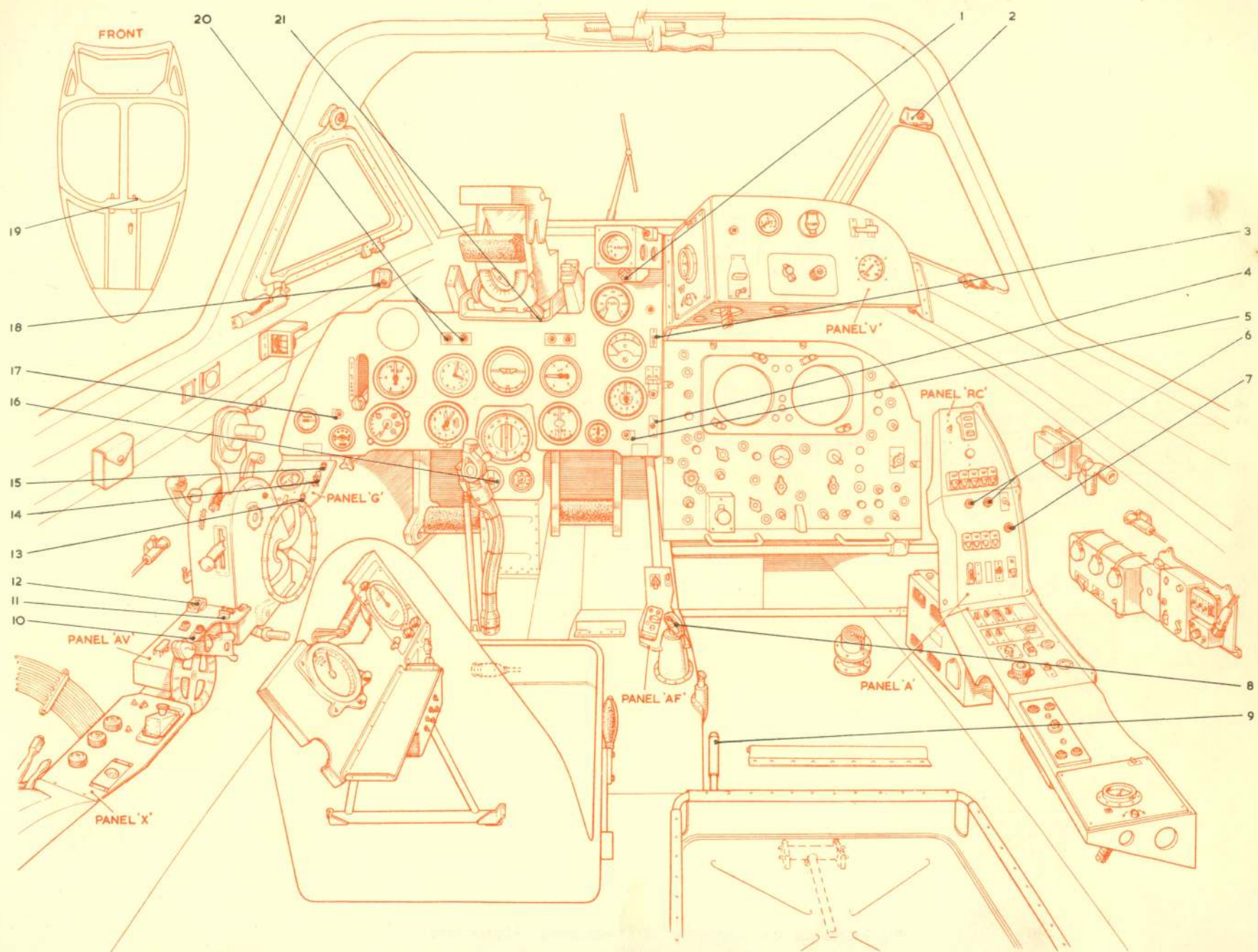


Fig.1 Emergency controls and equipment (early aircraft)

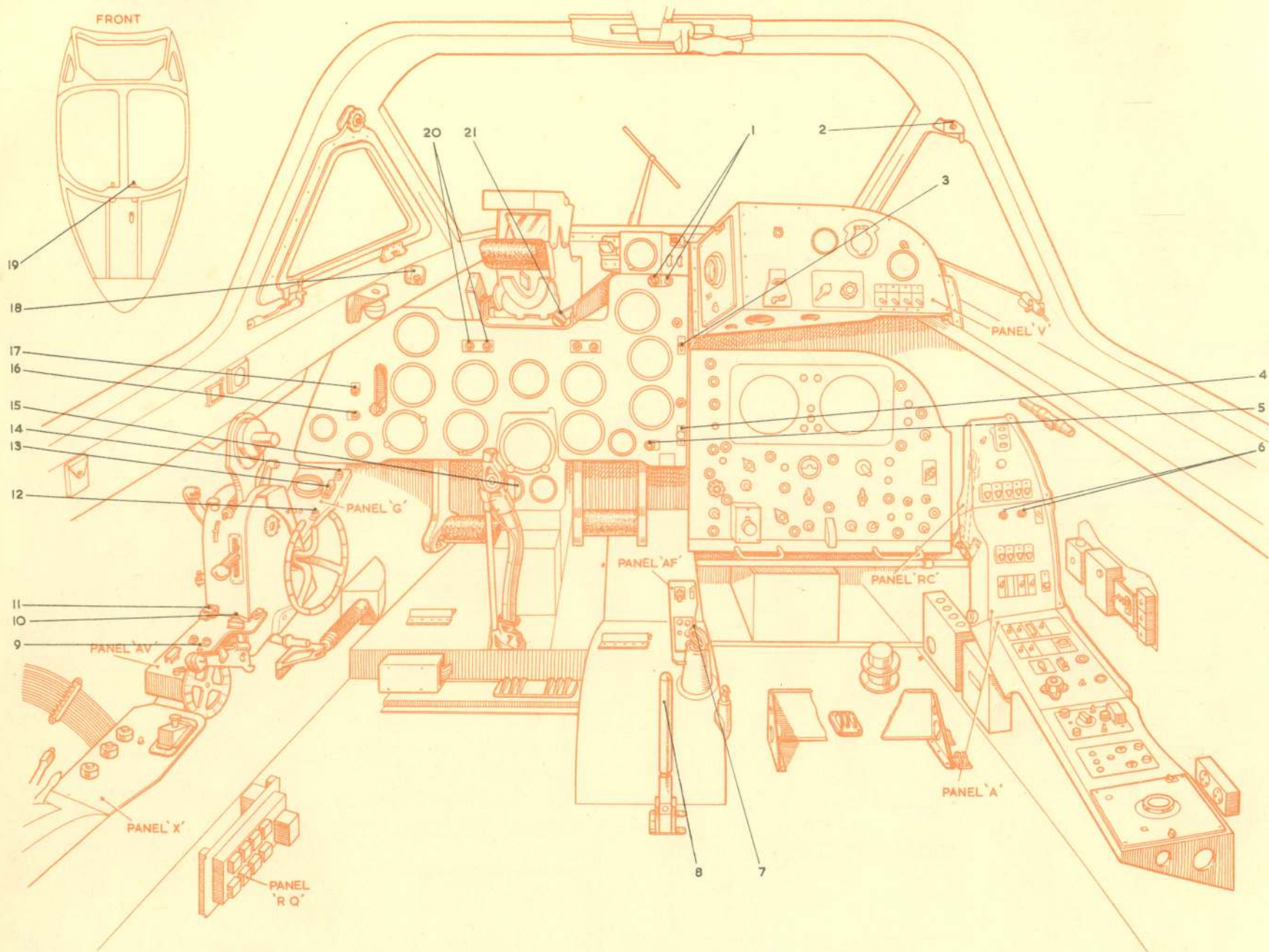


Fig.2 Emergency controls and equipment (later aircraft)

KEY TO FIG. 2 (EMERGENCY CONTROLS AND EQUIPMENT—LATER AIRCRAFT)

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| <p>1 FIRE WARNING LAMP AND EXTINGUISHER PUSH SWITCH</p> <p>2 HYDRAULIC FLOW FAILURE WARNING LAMP (STARBOARD)
Indicates pump failure</p> <p>3 EMERGENCY LAMPS SWITCH</p> <p>4 FUEL PUMP EMERGENCY SWITCH
Isolates fuel pumps from servo mechanism. Switch ON at take-off. For details of operation see A.P.4320A, Vol. 1 (operates only when a Ghost Mk. 105 power unit is fitted)</p> <p>5 CABIN PRESSURE WARNING LAMP
Indicates when pressure drops $\frac{1}{2}$ lb. per sq. in. below normal</p> <p>6 GENERATOR FAILURE WARNING LAMPS
Light up when the generators are not supplying the aircraft electrical system</p> <p>7 CANOPY HATCH JETTISON HANDLE</p> <p>8 EMERGENCY HYDRAULIC HAND PUMP HANDLE
Allows manual operation of flaps, alighting gear and arresting hook in flight, or only the dive brakes and wing-fold mechanism on the ground</p> <p>9 PORT AILERON TAB CUT-OUT SWITCH</p> <p>10 PORT AILERON TAB SELECTOR SWITCH</p> | <p>11 TIP TANKS FUEL JETTISON SWITCH</p> <p>12 PORT AILERON NEUTRAL WARNING LAMP
Lights when port aileron trim is out of neutral</p> <p>13 ALIGHTING GEAR EMERGENCY RETRACTION SWITCH
Push switch forward and select alighting gear lever UP</p> <p>14 AILERON POWER FAILURE WARNING INDICATOR
Lights when hydraulic pressure falls below 1,400 lb. per sq. in.</p> <p>15 TURN AND SLIP INDICATOR EMERGENCY BATTERY SWITCH</p> <p>16 ALIGHTING GEAR WARNING LAMP
Lights when alighting gear is UP with the throttle less than $\frac{1}{4}$ open</p> <p>17 MAIN INVERTER FAILURE INDICATOR</p> <p>18 HYDRAULIC FLOW FAILURE WARNING LAMP (PORT)
Indicates pump failure</p> <p>19 HATCH JETTISON MANUAL RING HANDLE
For ground servicing only</p> <p>20 GENERATOR FAILURE WARNING LAMPS (PILOT)
Light up when the generators are not supplying the aircraft electrical system</p> <p>21 G.G.S. EMERGENCY RETRACTION CONTROL</p> |
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