

**SECTION I**

**CONTROLS AND EXITS**

**LIST OF CHAPTERS OVERLEAF**

**RESTRICTED**

SECTION 1

# CONTROLS AND EXITS

## LIST OF CHAPTERS

*Note. – A list of contents appears at the beginning of each chapter*

- 1 Pilot's controls and equipment
- ◀ 2 Crew's controls and equipment (pre Mod.5466)
- 2A Crew's controls and equipment (post Mod.5466) ▶
- 3 Emergency controls, equipment and exits – method of operation

## Chapter I PILOT'S CONTROLS AND EQUIPMENT

## LIST OF CONTENTS

	<i>Para.</i>
<i>Entry to cabin ... ..</i>	<i>1</i>
<i>Pilot's seat... ..</i>	<i>2</i>
<i>Instrument and control panels ... ..</i>	<i>3</i>
◀▶	
<i>Curtains ... ..</i>	<i>4</i>
<i>Lighting ... ..</i>	<i>5</i>
<i>Stowages ... ..</i>	<i>6</i>

## LIST OF ILLUSTRATIONS

	<i>Fig.</i>		<i>Fig.</i>
<i>Flying controls and instruments ...</i>	<i>1</i>	<i>Operational equipment ... ..</i>	<i>3</i>
<i>Engine controls and instruments ...</i>	<i>2</i>	<i>Miscellaneous equipment... ..</i>	<i>4</i>

**WARNING**

The relevant safety precautions detailed on the LETHAL WARNING marker card must always be observed before entering the cabin or performing any operations upon the aircraft.

**Entry to cabin**

1. The normal entry to the cabin is through a door, hinged at its upper edge, in the starboard side of the fuselage aft of the nose radome. The door is opened by pressing the red-painted knob adjacent to the latching handle and turning the handle in a counter-clockwise direction from the outside, clockwise from the inside. The door is supported in the open position by a hinged strut which is attached to

the door structure and locates in a socket in the door aperture framing.

**Pilot's seat**

2. A Martin Baker Type 2CA.1 Mk.2 ejection seat with single-lever ejection facilities is installed. The seat is described in A.P. 109B-0107-1. The rudder pedals can be adjusted for leg-reach by rotating a starwheel located in the centre of the rudder bar.

**Instrument and control panels**

3. The pilot's instrument panel is divided into four sections; the take-off panel, the instrument flying panel, the engine instrument panel and the miscellaneous instruments panel. The take-off panel is situated on the port wall

of the station; the switches on it must be selected to the UP position prior to flight. The three instrument panels are located in front of the pilot. A controls console is fitted at the port side below the take-off panel, and an inclined panel forward of the controls console, has fitted to it, controls for the flaps and alighting-gear mechanisms. A panel containing the engine-starting controls is located immediately below the instrument flying panel. Radio controls are fitted to the starboard coaming and miscellaneous instruments panel.

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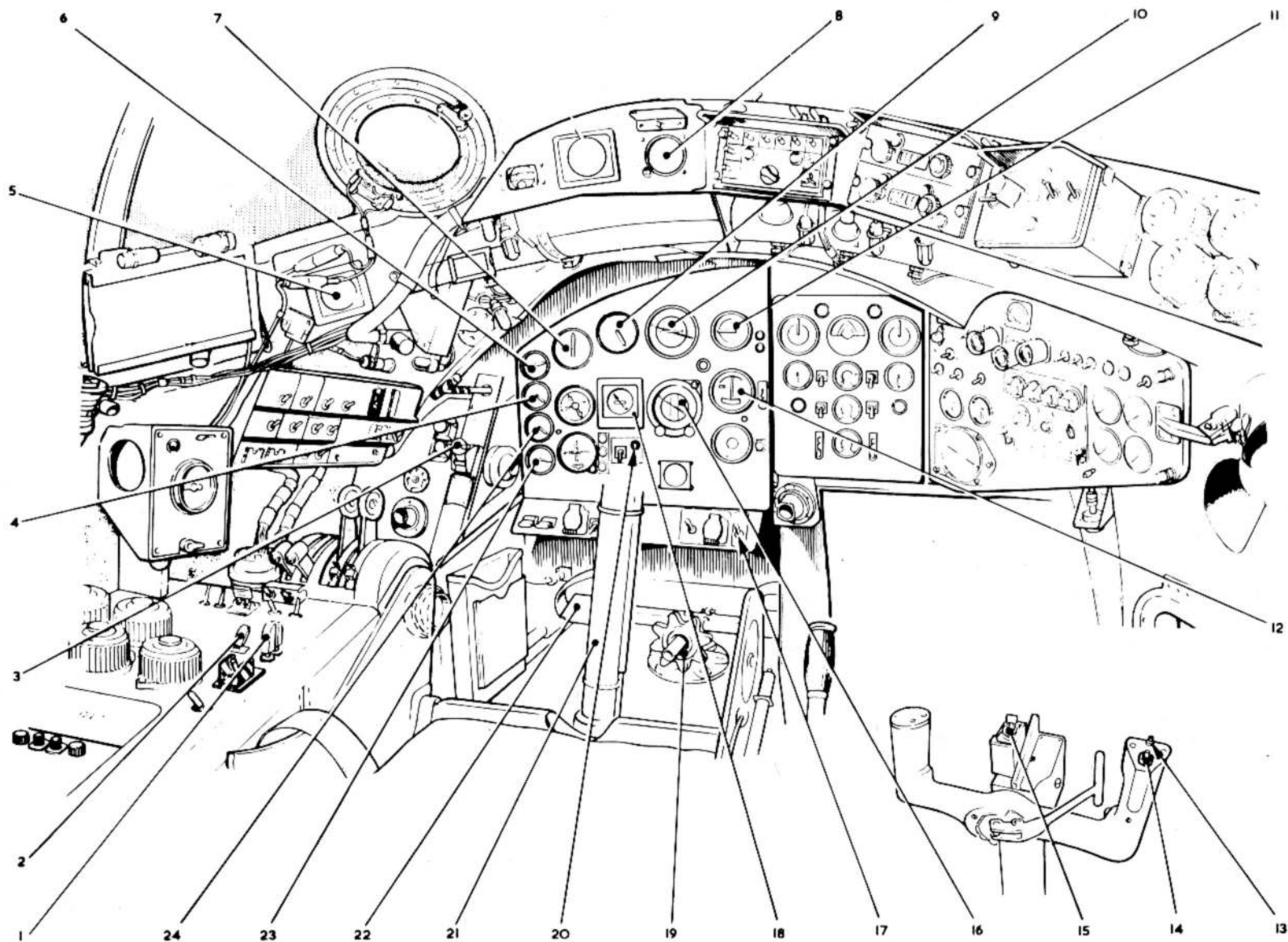


FIG. 1. FLYING CONTROLS AND INSTRUMENTS

MOD. 4865, 5060 EMBODIED

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**KEY TO FIG.1 (FLYING CONTROLS AND INSTRUMENTS)**

- 1 Rudder trim switch
- 2 Aileron trim switch
- 3 Flaps selector
- 4 Rudder trim indicator
- 5 Compass correction card
- 6 Tail trim indicator
- 7 Machmeter
- 8 Accelerometer
- 9 Air-speed indicator
- 10 Artificial horizon
- 11 Vertical speed (rate-of-climb) indicator
- 12 Turn-and-slip indicator
- 13 Tail trim cut-in switch
- 14 Tail trim control switch
- 15 Air-brakes control switch
- 16 Gyro-magnetic compass indicator
- 17 Compass-directional gyro switch
- 18 Altimeter
- 19 Rudder pedals adjuster
- 20 Instrument a.c. supplies selector switch
- 21 Control column
- 22 Port rudder pedal
- 23 Flaps position indicator
- 24 Aileron trim indicator

**Curtains**

4. A curtain, fitted to the canopy coaming cross-tube, when lowered, blacks-out and divides the pilot's station from the crew station.

**Lighting**

5. Dimmer switches located on the port console, control the card-holder lamps and the red and U/V lamps, which provide illumination for all instruments and controls situated in the port half of the cabin. Dimmer switches located on the starboard coaming panel, control the starboard red and U/V lamps, the intercommunication box lighting, and the radio control units lighting. Two red emergency lamps situated above the pilot's instrument panel, are controlled by a switch fitted to the coaming panel. The cabin lighting is described in Sect.6, Chap.8.

**Stowages**

6. The flap selector lock pin is stowed in a small bag attached to the floor structure facing the entrance door. A divided container situated at the forward end of the console on the inboard side provides stowage for the pilot's maps and notes. A stowage block (Mod. 4925) for the pilot's ejection seat safety pins is installed on the cabin starboard wall above the entrance door. A stowage is provided on the coaming panel to accommodate a set of basic ejection drill cards (Sect.1, Chap.3, fig.1). The undercarriage and control surface locks are stowed within a container located on the inside of the battery compartment hatch.

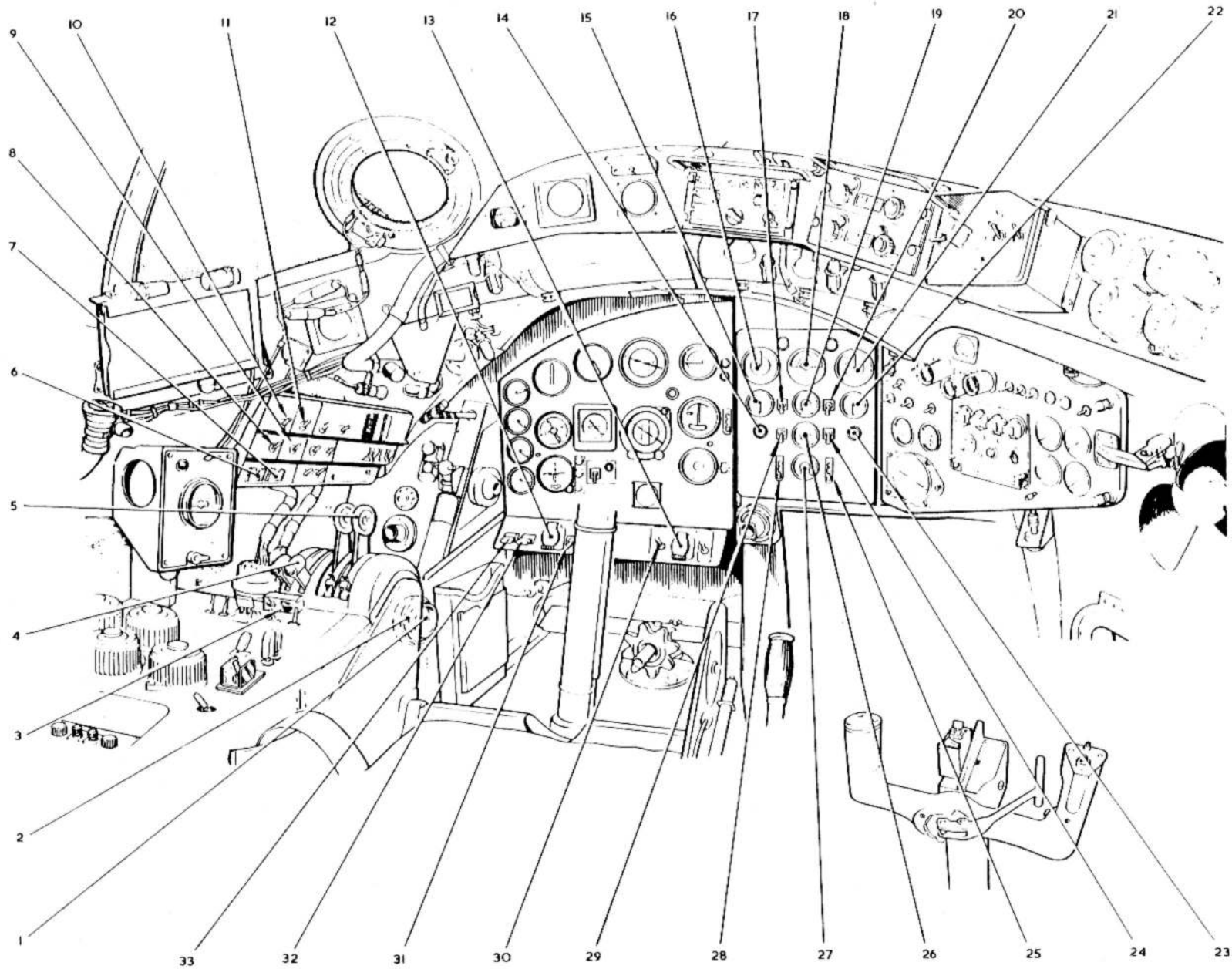


FIG. 2. ENGINE CONTROLS AND INSTRUMENTS

## KEY TO FIG 2 (ENGINE CONTROLS AND INSTRUMENTS)

## FUEL COCK SWITCHES

- 6 NO.3 TANK TO NO.1 ENGINE
- 7 NO.3 TANK TO NO.2 ENGINE
- 8 NO.2 TANK TO NO.1 ENGINE
- 9 NO.2 TANK TO NO.2 ENGINE
- 10 NO.1 TANK TO NO.1 ENGINE
- 11 NO.1 TANK TO NO.2 ENGINE

## FUEL PUMP SWITCHES

- 3 ISOLATION (2 OFF) ENGINE
- 17 NO.1 TANK TO NO.1 ENGINE
- 20 NO.1 TANK TO NO.2 ENGINE
- 29 NO.2 TANK TO NO.1 ENGINE
- 24 NO.2 TANK TO NO.2 ENGINE
- 28 NO.3 TANK TO NO.1 ENGINE
- 25 NO.3 TANK TO NO.2 ENGINE

## GAUGES

- 18 JET-PIPE TEMPERATURE
- 15 NO.1 ENGINE OIL PRESSURE
- 22 NO.2 ENGINE OIL PRESSURE

GAUGES - *continued*

- 19 NO.1 TANK FUEL CONTENTS
- 26 NO.2 TANK FUEL CONTENTS
- 27 NO.3 TANK FUEL CONTENTS

## MISCELLANEOUS

- 1 FRICTION DAMPER, H.P. FUEL SHUT-OFF COCK LEVERS
- 2 FRICTION DAMPER, THROTTLE CONTROL LEVERS
- 4 H.P. COCK LEVERS AND ENGINE RELIGHT BUTTONS
- 5 THROTTLE CONTROL LEVERS
- 12 NO.1 ENGINE STARTER BUTTON
- 13 NO.2 ENGINE STARTER BUTTON
- 14 NO.1 ENGINE FUEL PRESSURE WARNING LIGHT
- 16 NO.1 ENGINE REV/MIN INDICATOR
- 21 NO.2 ENGINE REV/MIN INDICATOR
- 23 NO.2 ENGINE FUEL PRESSURE WARNING LIGHT
- 30 NO.2 ENGINE IGNITION SWITCH
- 31 NO.1 ENGINE IGNITION SWITCH
- 32 NO.2 ENGINE MASTER STARTING SWITCH
- 33 NO.1 ENGINE MASTER STARTING SWITCH

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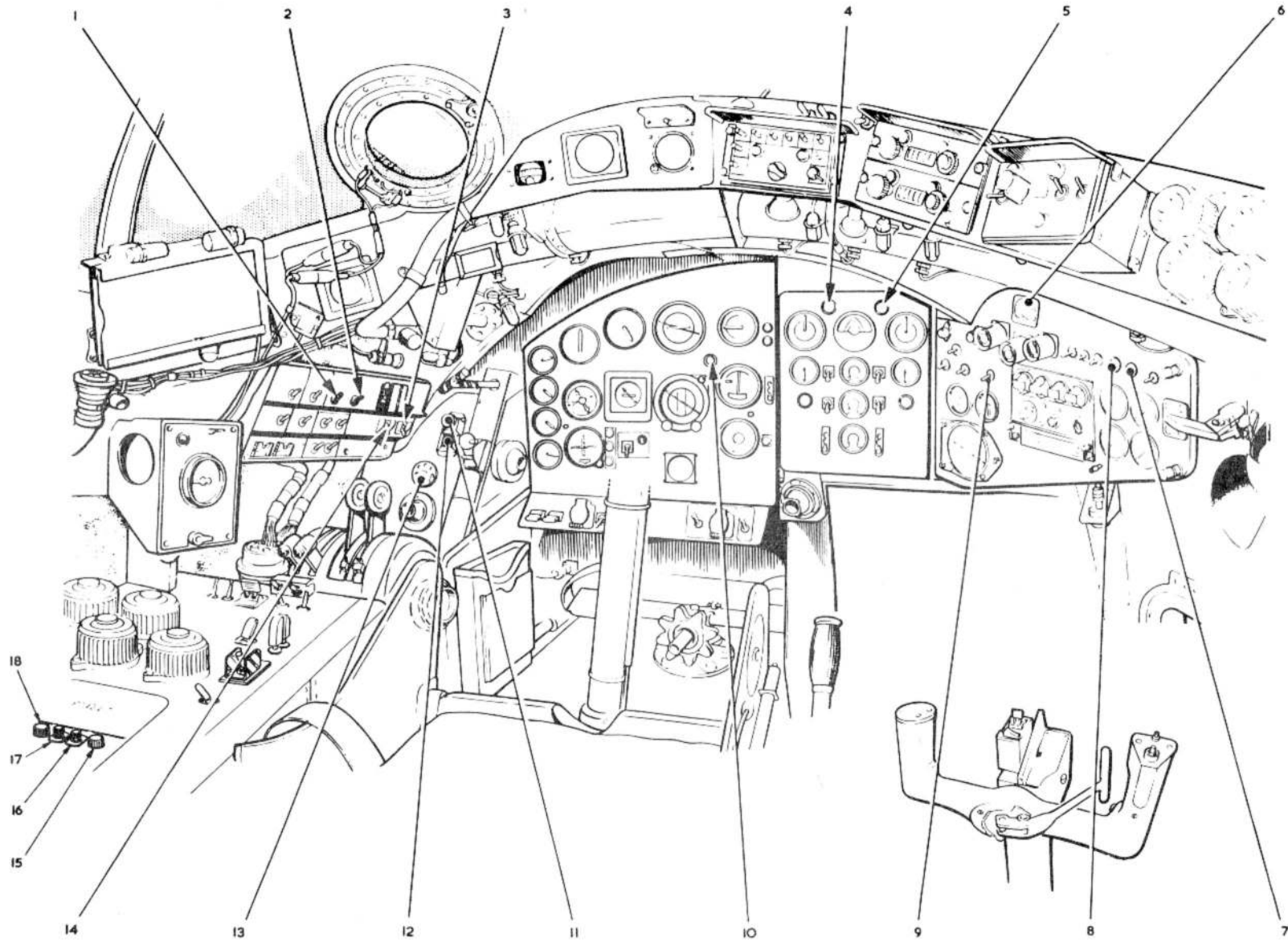


FIG. 3. OPERATIONAL EQUIPMENT

◀ MOD. 4865,5060 EMBODIED ▶

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## KEY TO FIG. 3 (OPERATIONAL EQUIPMENT)

- 1 ALIGHTING-GEAR MASTER SWITCH
- 2 BATTERY SWITCH
- 3 NO.2 D.C. GENERATOR SWITCH
- 4 NO.1 D.C. GENERATOR FAILURE WARNING LIGHT
- 5 NO.2 D.C. GENERATOR FAILURE WARNING LIGHT
- 6 D.C. VOLTMETER
- 7 A.E.O'S REMOTE OXYGEN INDICATOR
- 8 NAVIGATOR'S REMOTE OXYGEN INDICATOR
- 9 CABIN PRESSURE WARNING HORN AND TEST SWITCH
- 10 PILOT'S OXYGEN INDICATOR
- 11 ALIGHTING-GEAR UP SELECTOR BUTTON
- 12 ALIGHTING-GEAR DOWN SELECTOR BUTTON
- 13 ALIGHTING-GEAR POSITION INDICATOR
- 14 NO.1 D.C. GENERATOR SWITCH
- 15 CANOPY JETTISON RELAY TEST FUSE
- 16 CANOPY JETTISON RELAY PRESS-TO-TEST INDICATOR LAMP
- 17 HATCH JETTISON RELAY PRESS-TO-TEST INDICATOR LAMP
- 18 HATCH JETTISON RELAY TEST FUSE

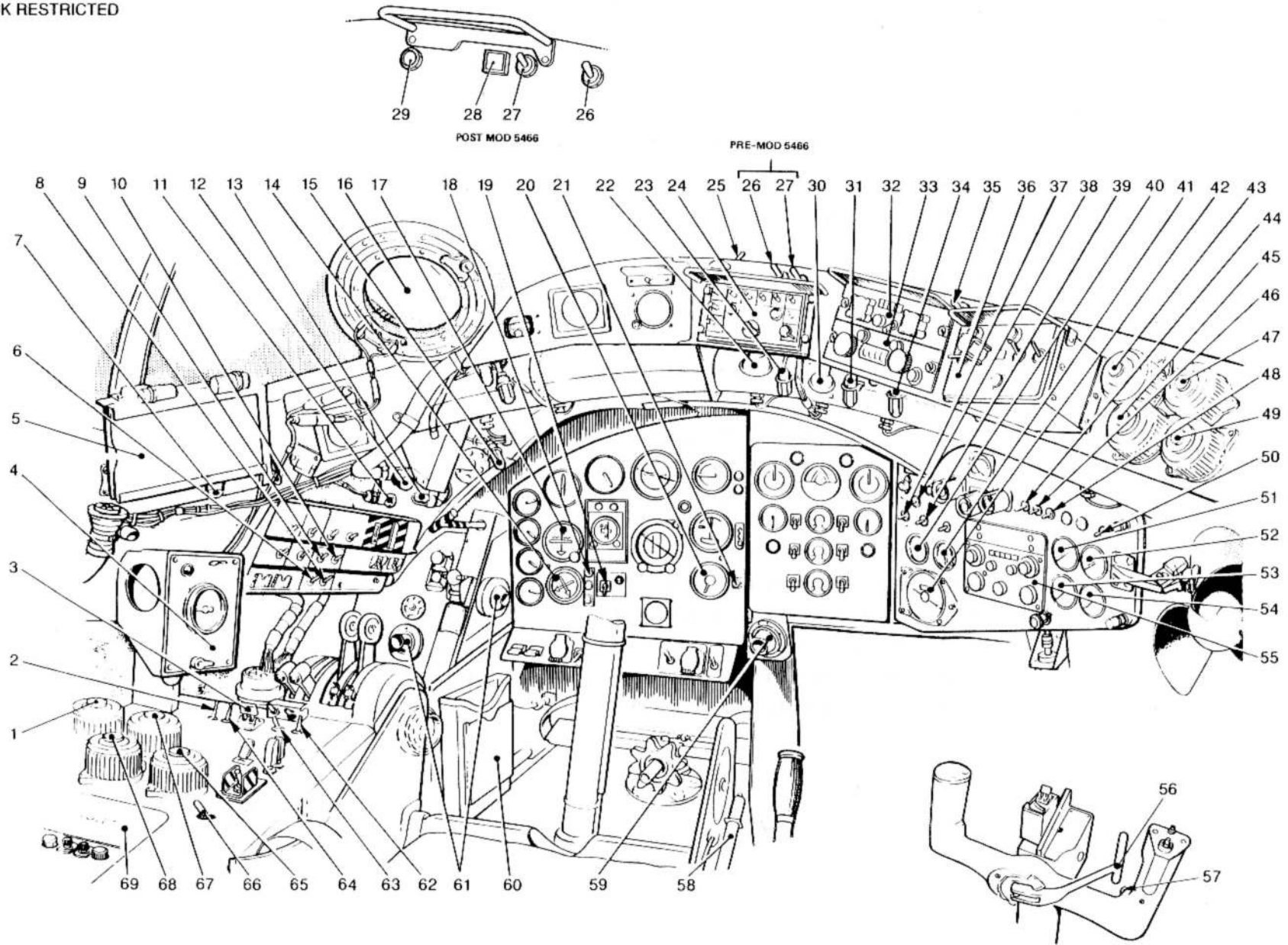


FIG. 4 MISCELLANEOUS EQUIPMENT

◀ MOD. 5466 INCORPORATED ▶

## KEY TO FIG. 4 (MISCELLANEOUS EQUIPMENT)

1	CARD-HOLDER LAMPS DIMMER SWITCH	24	INTERCOM. STATION BOX	46	U.H.F. TONE SWITCH
2	NAVIGATION LIGHTS SWITCH	25	EMERGENCY LIGHTS SWITCH AND INDICATOR	47	INTERCOM. BOX LIGHTING DIMMER SWITCH
3	LANDING LAMPS SWITCH	26	GROUND CREW INTERCOM. AMPLIFIER SWITCH	48	U.H.F. AERIAL CHANGE-OVER SWITCH
4	PILOT'S OXYGEN REGULATOR	27	INTERCOM. GROUND/FLIGHT SWITCH	49	STARBOARD RED LAMPS DIMMER SWITCH
5	RADIO FREQUENCY CARDS HOLDER	28	INTERCOM. OVERRIDE SWITCH	50	FAN SWITCH
6	CANOPY DEMIST BLOWER SWITCH	29	'COMMUNICATIONS LINK SELECTED' INDICATOR	51	OXYGEN CONTENTS GAUGE
7	FLOODLAMP	30	U/V LAMP	52	OXYGEN CONTENTS GAUGE
8	VENT VALVE HEATER SWITCH (INOPERATIVE)	31	FLOODLAMP	53	WHEEL-BRAKES PRESSURE GAUGE
9	PRESSURE-HEAD HEATER SWITCH	32	V.H.F. CONTROL UNIT	54	MAIN HYDRAULIC PRESSURE GAUGE
10	D.V. WINDOW HEATER SWITCH	33	V.O.R./I.L.S. CONTROL UNIT	55	U.H.F. CONTROL UNIT
11	U/V LAMP	34	FLOODLAMP	56	WHEEL-BRAKES CONTROL LEVER
12	CANOPY INTERNAL DE-MISTER CONTROL	35	I.L.S. MARKER ON/OFF SWITCH	57	PRESS-TO-TRANSMIT SWITCH
13	FLOODLAMP	36	RADIO ALTIMETER CONTROL UNIT	58	SEAT-RAISING CONTROL LEVER
14	RADIO MAGNETIC INDICATOR	37	NO.1 ENGINE AIR-TO-CABIN VALVE SWITCH	59	VENTILATION LOUVRE
15	FLOODLAMP	38	CABIN-AIR TEMPERATURE CONTROL SWITCH	60	MAPS AND NOTES STOWAGE
16	D.V. WINDOW	39	NO.2 ENGINE AIR-TO-CABIN VALVE SWITCH	61	VENTILATION LOUVRES
17	OMNI-BEARING SELECTOR AND I.L.S. INDICATOR	40	CABIN-AIR PRESSURIZATION MIXING VALVE POSITION INDICATOR	62	EXTERNAL LIGHTS MASTER SWITCH
18	I.L.S. MARKER LIGHTS (3 OFF)	41	CABIN ALTIMETER	63	IDENTIFICATION LIGHTS SWITCH
19	I.L.S. SENSITIVITY SWITCH	42	TACAN INDICATOR	64	TAXYING LIGHTS SWITCH
20	RADIO ALTIMETER INDICATOR	43	RADIO CONTROL UNITS LIGHTING DIMMER SWITCH	65	PORT RED LAMPS DIMMER SWITCH
21	RADIO ALTIMETER LIMIT LIGHT	44	U.H.F. MUTING SWITCH	66	ANTI-COLLISION LIGHTS SWITCH
22	U/V LAMP	45	STARBOARD U/V LAMPS DIMMER SWITCH	67	PORT U/V LAMPS DIMMER SWITCH
23	FLOODLAMP			68	CONSOLE RED LAMPS DIMMER SWITCH
				69	FUSE PANEL

◀ Chapter 2 CREW'S CONTROLS AND EQUIPMENT (PRE MOD.5466) ▶

LIST OF CONTENTS

DESCRIPTION	<i>Para.</i>
<i>Seating .....</i>	<i>1</i>
<i>Entrance to stations .....</i>	<i>2</i>
<i>Navigator's station .....</i>	<i>3</i>
<i>Navigator's station lighting .....</i>	<i>4</i>
<i>A.E.O.'s station .....</i>	<i>5</i>
<i>A.E.O.'s station lighting .....</i>	<i>6</i>
<i>Electrical control panel .....</i>	<i>7</i>
<i>Stowages .....</i>	<i>8</i>

LIST OF ILLUSTRATIONS

	<i>Fig.</i>
<i>Navigator's station (front and port side) .....</i>	<i>1</i>
<i>A.E.O.'s station .....</i>	<i>2</i>

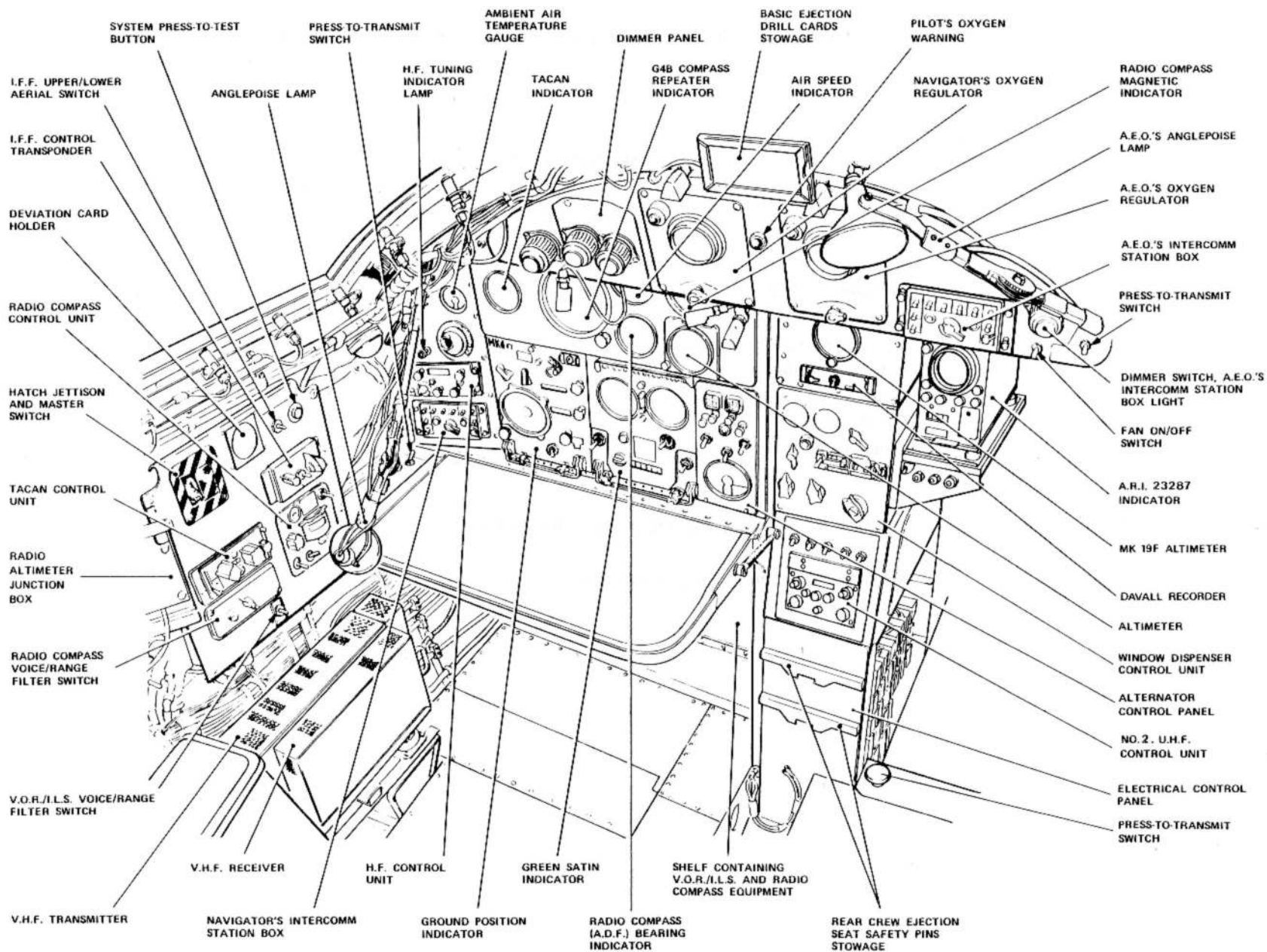


FIG.1. NAVIGATOR'S STATION (FRONT AND PORT SIDE)

**DESCRIPTION****WARNING**

The relevant safety precautions detailed on the LETHAL WARNING marker card must be observed before entering the cabin or performing any operations upon the aircraft.

**Seating**

1. Two Martin Baker Type 2CA.2 Mk.4 ejection seats are installed in the rear of the cabin which are provided for the navigator and air electronics operator (A.E.O.). The seats are described in A.P.109B-0107-1.

**Entrance to stations**

2. Entry to the stations is through the door in the starboard side of the fuselage aft of the nose radome (*Chap.1*).

**Navigator's station (*fig.1*)**

3. The navigator's seat is at the rear of the cabin on the port side. A chart table is positioned forward of the seat, and a panel carrying the navigation instruments is located forward and above the chart table. Various controls are conveniently located around the station. The top of the chart table is hinged along its forward edge allowing it to be raised to a vertical position and held there by a retaining catch.

**Navigator's station lighting**

4. General lighting of this station is provided by a dome type lamp located on a bracket, above the table, at the port side. Two adjustable lamps are also used, one above the instrument panel and the other on a bracket above the A.E.O.'s equipment, both controlled by dimmer switches adjacent to them. The latter anglepoise lamp can be swung to illuminate the A.E.O.'s equipment located on the starboard side of the navigator's table. In addition, six floodlamps are fitted to illuminate the instruments and control units. These lamps together with the I.F.F./S.S.R. control unit lamps are operated by a dimmer switch labelled PANEL LIGHTING on the port coaming panel. The remaining two dimmer switches control the integral lamps on the navigator's station box and the Tacan and H.F. control units. These switches are labelled UA60 STN. BOX LIGHTS and TACAN CONTROL UNITS respectively.

**A.E.O.'s station (*fig.2*)**

5. The A.E.O.'s seat is at the rear of the cabin on the starboard side, the floor level here being higher than at the navigator's position. A panel on the starboard wall carries various instruments and controls, conveniently placed for the A.E.O.'s right hand. Other controls normally operated by the A.E.O. are situated at the right-hand side of the navigator's table. A foot operated press-to-transmit switch is provided to supplement the existing switch (*fig.1*).

**A.E.O.'s station lighting**

6. The lamps integral with the A.E.O.'s station box and the No.2 U.H.F. control unit above the E.C.P. are controlled by a dimmer switch labelled A.E. OPERATORS UA60 STN. BOX LIGHTS, which is mounted adjacent to the box. Illumination of the special equipment control panels and the frequency meter pillar lamps on the starboard wall is controlled by four dimmer switches fitted on a control panel located on the cabin floor at the starboard side of the A.E.O.'s seat.

**Electrical control panel (E.C.P.) (*fig.1*)**

7. The E.C.P. is a box type structure located at the starboard side of the navigator's table. It contains fuses and relays associated with the aircraft's electrical system, on its rear face are the ejection seat safety pin stowages and the No.2 U.H.F. control unit.

**Stowages**

8.

The navigator's valise is stowed and secured by straps in a recess between the two floor levels aft of the electrical control panel. An inspection lamp stowage bag is fitted to the cabin starboard wall forward of the A.E.O.'s instrument panel. A stowage bag for the lamp's extension lead is fitted to the inboard side of the box structure on which the A.E.O.'s lighting dimmer switches are mounted. A stowage clip for the urine container is fitted to the navigator's instrument panel structure underneath the chart table. Two stowage blocks are installed on the rear face of the electrical control panel, to accommodate the rear crew member's ejection seat safety pins, one block for each set of pins. A stowage is provided on the coaming panel to accommodate a set of basic ejection drill cards.

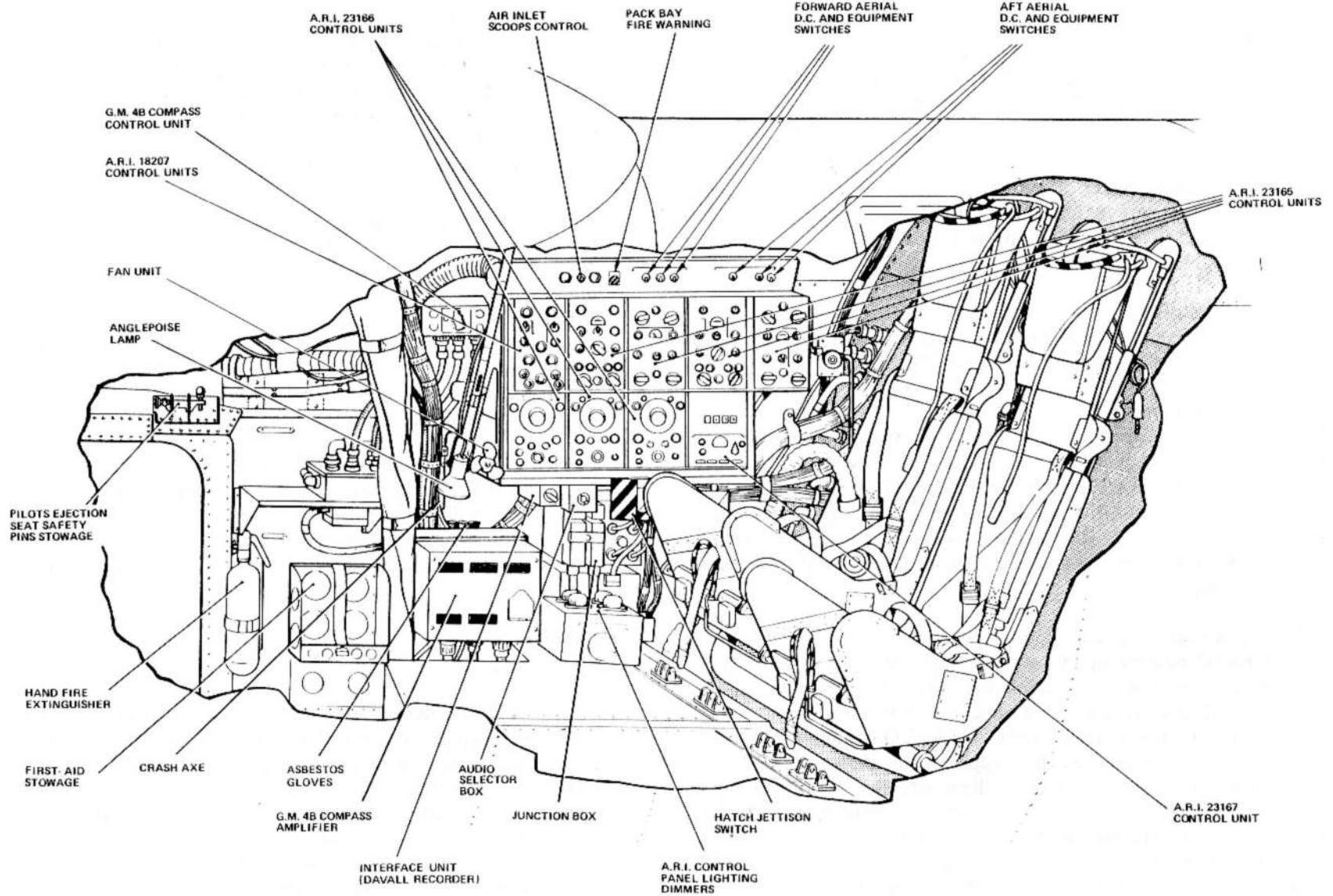


FIG. 2. A.E.O.'s STATION

◀ MOD 5506 EMBODIED ▶

## Chapter 2A CREW'S CONTROLS AND EQUIPMENT (POST MOD.5466)

## LIST OF CONTENTS

DESCRIPTION	<i>Para.</i>
<i>Seating</i> .....	<i>1</i>
<i>Entrance to stations</i> .....	<i>2</i>
<i>Navigator's station</i> .....	<i>3</i>
<i>Navigator's station lighting</i> .....	<i>4</i>
<i>A.E.O.'s station</i> .....	<i>5</i>
<i>A.E.O.'s station lighting</i> .....	<i>6</i>
<i>Electrical control panel</i> .....	<i>7</i>
<i>Stowages</i> .....	<i>8</i>

## LIST OF ILLUSTRATIONS

	<i>Fig.</i>
<i>Navigator's station (front and port side)</i> .....	<i>1</i>
<i>A.E.O.'s station</i> .....	<i>2</i>



## DESCRIPTION

## WARNING

The relevant safety precautions detailed on the LETHAL WARNING marker card must be observed before entering the cabin or performing any operations upon the aircraft.

## Seating

1. Two Martin Baker Type 2CA.2 Mk.4 ejection seats are installed in the rear of the cabin which are provided for the navigator and air electronics operator (A.E.O.). The seats are described in A.P.109B-0107-1.

## Entrance to stations

2. Entry to the stations is through the door in the starboard side of the fuselage aft of the nose radome (*Chap. 1*).

Navigator's station (*fig. 1*)

3. The navigator's seat is at the rear of the cabin on the port side. A chart table is positioned forward of the seat, and a panel carrying the navigation instruments is located forward and above the chart table. Various controls are conveniently located around the station. The top of the chart table is hinged along its forward edge allowing it to be raised to a vertical position and held there by a retaining catch.

## Navigator's station lighting

4. General lighting of this station is provided by a dome type lamp located on a bracket, above the table, at the port side. Two adjustable lamps are also used, one above the instrument panel and the other on a bracket above the A.E.O.'s equipment, both controlled by dimmer switches adjacent to them. The latter anglepoise lamp can be swung to illuminate the A.E.O.'s equipment located on the starboard side of the navigator's table. In addition, six floodlamps are fitted to illuminate the instruments and control units. These lamps together with the I.F.F./S.S.R. control unit lamps are operated by a dimmer switch labelled PANEL LIGHTING on the port coaming panel. The remaining two dimmer switches control the integral lamps on the navigator's station box and the Tacan and H.F. control units. These switches are labelled UA60 STN. BOX LIGHTS and TACAN CONTROL UNITS respectively.

A.E.O.'s station (*fig. 2*)

5. The A.E.O.'s seat is at the rear of the cabin on the starboard side, the floor level here being higher than at the navigator's position. A panel on the starboard wall carries various instruments and controls, conveniently placed for the A.E.O.'s right hand. Other controls normally operated by the A.E.O. are situated at the right-hand side of the navigator's table. A foot operated press-to-transmit switch is provided to supplement the existing switch (*fig. 1*).

## A.E.O.'s station lighting

6. The lamps integral with the A.E.O.'s station box and the No.2 U.H.F. control unit above the E.C.P. are controlled by a dimmer switch labelled A.E. OPERATORS UA60 STN. BOX LIGHTS, which is mounted adjacent to the box.

Electrical control panel (E.C.P.) (*fig. 1*)

7. The E.C.P. is a box type structure located at the starboard side of the navigator's table. It contains fuses and relays associated with the aircraft's electrical system. On its rear face are the ejection seat safety pin stowages and the No.2 U.H.F. control unit.

## Stowages

8. A hand-operated fire extinguisher is stowed in a recess between the two floor levels aft of the electrical control panel. An inspection lamp stowage bag is fitted to the cabin starboard wall forward of the A.E.O.'s instrument panel. A stowage bag for the lamp's extension lead is fitted to the inboard side of the box structure on which the A.E.O.'s lighting dimmer switches are mounted. A stowage clip for the urine container is fitted to the navigator's instrument panel structure underneath the chart table. Two stowage blocks are installed on the rear face of the electrical control panel, to accommodate the rear crew member's ejection seat safety pins, one block for each set of pins. A stowage is provided on the coaming panel to accommodate a set of basic ejection drill cards.

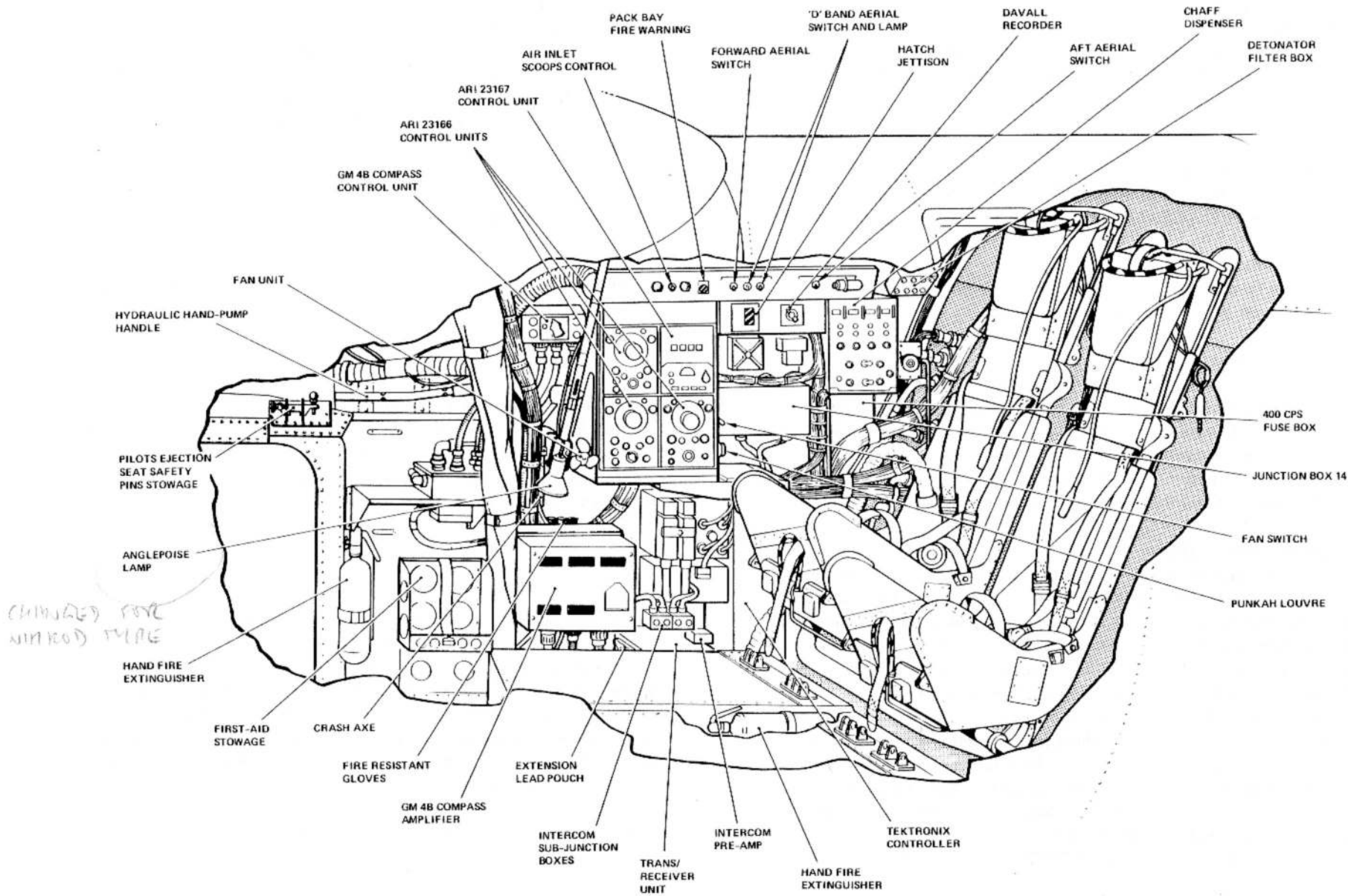


FIG. 2 AEO's STATION

◀ POST MOD 5466 ▶

## Chapter 3 EMERGENCY CONTROLS, EQUIPMENT AND EXITS — METHOD OF OPERATION

## LIST OF CONTENTS

	<i>Para.</i>		<i>Para.</i>
<i>Introduction</i> . . . . .	1	<i>Pack bay fire warning lamp/ extinguisher buttons</i> . . . . .	11
		<i>Engine bay extinguishers</i> . . . . .	13
<b>EMERGENCY CONTROLS</b>		<i>Fuel bay/pack bay extinguishers</i> . . . . .	14
<i>Alighting gear</i>		<i>Hand fire extinguishers</i> . . . . .	15
<i>Lowering</i> . . . . .	2	◀ <i>Crash axe and fire resistant gloves</i> . . . . .	16 ▶
<i>Raising</i> . . . . .	3	<i>Emergency compass</i> . . . . .	17
<i>Master safety switch</i> . . . . .	4	<i>Turn-and-slip indicator</i> . . . . .	18
<i>Wing-tip pod jettison</i> . . . . .	5	<i>Emergency batteries</i> . . . . .	19
<i>Emergency lighting (pilot's station)</i> . . . . .	6	<i>First aid</i> . . . . .	20
		<i>Survival packs</i> . . . . .	21
<b>EMERGENCY EQUIPMENT</b>		<i>Sonar locator beacon</i> . . . . .	21A
<i>Ejection seats</i> . . . . .	7	<i>Emergency oxygen</i> . . . . .	22
<i>Leg-restraining straps</i> . . . . .	8	<i>Inertia crash switches</i> . . . . .	23
<i>Hydraulic hand pump</i> . . . . .	9	<b>EMERGENCY EXITS</b>	
<i>Fire warning and extinguishers</i>		<i>Entrance door jettisoning</i> . . . . .	24
<i>Engine fire warning lamp/extinguisher     buttons</i> . . . . .	10	<i>Pilot's canopy jettisoning</i> . . . . .	25
		<i>Pilot's single-lever ejection</i> . . . . .	27
		<i>Crew escape hatch jettisoning</i> . . . . .	28
		<i>Crew members single-lever ejection</i> . . . . .	30

## LIST OF ILLUSTRATIONS

<i>Emergency controls, equipment and exits</i> . . . . .	<i>Fig.</i> 1
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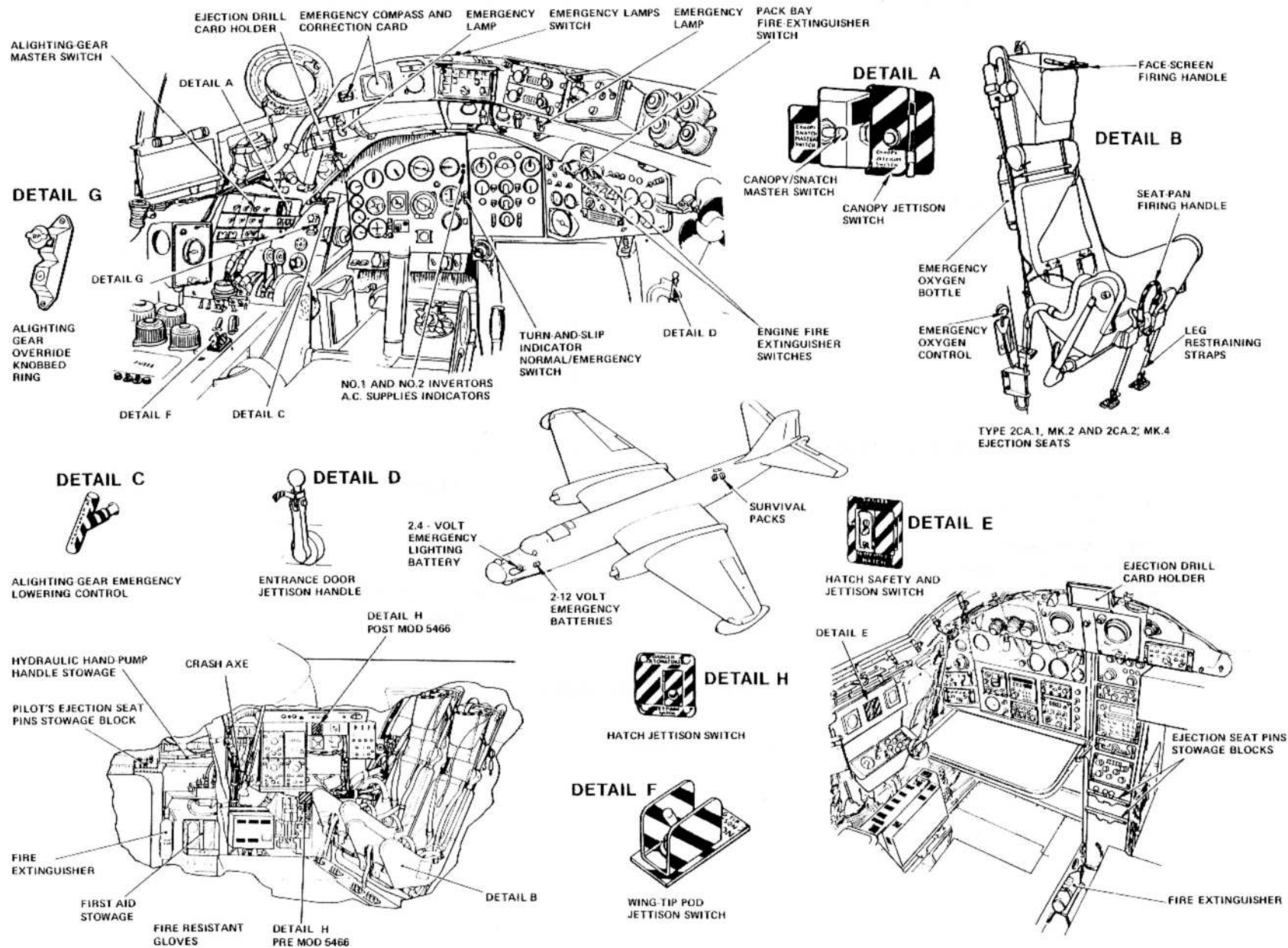


FIG. 1. EMERGENCY CONTROLS, EQUIPMENT AND EXITS

◀ MOD 5466 INCORPORATED ▶

**WARNING**

The relevant safety precautions detailed on the LETHAL WARNING marker card must always be observed before entering the cabin or performing any operations upon the aircraft.

**Introduction**

1. This chapter describes the location of the emergency controls, equipment and exits, and indicates methods of operation where this is not obvious. A full description of the systems employed, and the servicing procedure, is given in Sect.3, Chap.11.

**EMERGENCY CONTROLS****Alighting gear***Lowering*

2. A mechanical selector for lowering the alighting gear is situated immediately above the alighting-gear panel to port of the instrument-flying panel. It is normally secured in the unoperated position by a sealed aluminium wire loop. The T-shaped handle is identified by black and yellow stripes and labelled U/C EMERGENCY. To operate it, the handle is pulled to its full extent, and is retained in that position by a spring lock incorporated in the handle. This control is used in the event of an electrical fault rendering the normal alighting-gear control inoperative and functions irrespective of the position of that control.

*Raising*

3. The UP mechanical lock can be overridden in an emergency, or if required during servicing, by turning the knobbed ring which encircles the UP button clockwise through 60 deg (or 90 deg according to type) and then depressing the UP button in the normal manner. If an UP selection is made in this way the mechanical lock will remain inoperative

until reset. To reset, lightly depress the DOWN selector button and insert into the hole in the face of the UP selector button a Dowty resetting tool Part No.ST.1567 or 18 s.w.g. stiff wire, exert sufficient pressure on the tool or wire to overcome internal spring tension until the knobbed ring rotates counter-clockwise to its normal position (the knobs horizontal to the switch body) under internal spring pressure.

**WARNING**

Under no circumstances should the knobbed ring be turned past the 60 deg or 90 deg stop as such action will damage the switch and may result in inadvertent retraction of the alighting gear, similarly the switch must only be reset as detailed in the main para.

*Master safety switch*

4. A master switch marked U/C MASTER LIVE-SAFE is situated on the take-off panel above the pilot's console. The switch prevents inadvertent retraction of the alighting gear on the ground by isolating the electrical circuits to the actuators. When the aircraft is on the ground, the switch must be at SAFE except when retraction tests are being made with the aircraft jacked and trestled.

**Wing-tip pod jettison**

5. The wing-tip pods or tanks can be jettisoned by operating a guarded switch located on the pilot's console, marked WING-TIP JETTISON and identified by black and yellow diagonal stripes. This action detonates a charge in the attachment bolts thereby severing them and releasing the pods from the wing tips.

**Emergency lighting (pilot's station)**

6. Two red floodlamps, one at each side of the instrument panels are con-

trolled by an EMERG. LIGHTS switch mounted on the coaming panel and supplied with power from the emergency battery. A luminous identification mark on the switch mounting plate reveals its position in the dark.

**EMERGENCY EQUIPMENT****Ejection seats**

7. A Martin Baker Type ejection seat is installed at each of the three stations, the pilot's seat being a Type 2CA.1, Mk.2 and the rear crew members seats being Type 2CA.2 Mk.4. A description of the seats and controls is given in A.P.109B-0107-1.

*Leg-restraining straps*

8. To prevent leg injury to crew members during ejection, leg-restraining straps are provided on each seat. These are anchored to brackets on the cabin floor, the straps then pass through snubbing units on the front of the seat pan and are connected to the safety harness straps. During ejection, the restraining straps are pulled down through the snubbing units to move the occupants legs close to the seat pan. At a predetermined force, the rivets anchoring the straps to the brackets secured to the cabin floor, shear, freeing the straps from the brackets.

**Hydraulic hand pump**

9. The hydraulic hand pump is situated at the starboard side of the pilot's seat, its detachable handle being stowed on the starboard wall of the fuselage, aft of the entrance door. In the event of a failure of the engine-driven pumps, or the associated supply circuit the hand pump will, after the appropriate selection has been made, operate the alighting gear and the pack-bay air-intake shutters, and provide pressure for the wheel brakes. Before resorting

to use of the hand pump for lowering the alighting gear operate the emergency control (para.2). If the fault is electrical, this will operate the system and render recourse to the hand pump unnecessary.

**Fire warning and extinguishers**

*Engine fire warning lamp/extinguisher buttons*

10. Warning of an engine fire is given by two fire warning lamp/extinguisher buttons - one for each engine - situated on the miscellaneous instruments panel and identified by black and yellow diagonal stripes.

*Pack bay fire warning lamp/extinguisher buttons*

11. Warning of a fire in the pack bay is given by two fire warning lamp/extinguisher buttons marked PACK-BAY-FIRE and identified by black and yellow diagonal stripes; one is situated on the miscellaneous instruments panel between No.1 and No.2 engine buttons, and the other adjacent to the aerial switches on the A.E.O. starboard wall instrument panel.

12. The pack bay Firewall is routed into the fuel bay at frames 12 and 27 to enable a fire warning in the vicinity of No.1 and No.3 fuel tanks to be given at the PACK-BAY-FIRE buttons.

*Engine bay extinguishers*

13. One fire extinguisher is situated in each engine bay (No.1 and No.2) and will discharge its contents on pressing the appropriate button located at the

miscellaneous instruments panel; or on the inertia switches being tripped (para.23). The pilot must ensure that the respective ENGINE AIR-TO-CABIN switch - adjacent to the extinguisher buttons - is set to OFF before pressing the button.

*Fuel bay/pack bay extinguishers*

14. One fire extinguisher is situated in the fuel bay at frame 27A, and two in the pack bay, one at frame 13, the other at frame 30. All three extinguishers are operated simultaneously by pressing either PACK-BAY-FIRE button; they are also brought into operation when the inertia switches are tripped (para.23).

**Note...**

*The flame detector switches for the fire warning system are self-resetting, and lamps cease to be illuminated when the fire is extinguished.*

*Hand fire extinguishers*

15. Two Type 34H. BCF hand fire extinguishers (A.P.107E-0400-1A) are secured to retaining brackets situated in the cabin. One is located adjacent to, and aft of the cabin door aperture; the other is located on the floor between the ejection seats.

◀ **Crash axe and fire resistant gloves**

16. A crash axe is stowed in a clip on the starboard side of the fuselage immediately forward of the A.E.O. instrument panel. Fire resistant gloves are stowed behind a strap ▶ forward of the axe.

**Emergency compass**

17. The E2B emergency compass is situated on the port coaming panel above the instrument flying panel, and is marked EMERGENCY COMPASS on its hinged covering flap.

**Turn-and-slip indicator**

18. A switch on the starboard side of the turn-and-slip indicator is marked NORMAL/EMERGENCY, and when set to EMERGENCY, will supply power from the emergency batteries to maintain the function of that instrument.

**Emergency batteries**

19. Two 12-volt batteries, situated below the pilot's console, provide emergency power for the operation of the detonator circuits, the turn-and-slip indicator and the pilot's instrument panel emergency lighting.

**First aid**

20. A first-aid outfit is stowed in a fire-resistant stowage on the starboard side of the cabin aft of the entrance door.

**Survival packs**

21. Survival packs, one for each crew member, are located in stowage crates secured to the roof of the rear fuselage, between frames 31 and 36. The position of the stowages is suitably marked on the outer surface of the fuselage.

**Sonar locator beacon**

21A. The sonar locator beacon Type 17638 is specifically designed to withstand and operate after the impact of an aircraft crashing into the sea. When submerged the SLB is

automatically switched on, transmitting acoustic signals continuously for at least 240 hours which can be received by shipborne and airborne search equipment. The SLB derives its power from a 2-cell lithium sulphur-dioxide battery pack. The beacon can be functionally tested by manually operating the switch via the raised area of the diaphragm on the end cap and listening for the clear acoustic pulses. The exterior of the SLB is covered with a tough epoxy paint which is signal red in colour.

#### Emergency oxygen

22. Each member of the crew has an emergency supply of oxygen for use when abandoning the aircraft by the ejection seats. The bottles are fitted at the starboard side of the seat structure, they are connected to the main supply tubes at the quick-release sockets, and are operated on ejection by cables attached to the aircraft structure. This emergency supply may be made available to the crew member in the event of a failure of the main oxygen system, by pulling up on the knobbed control cable at the starboard side of the seat.

#### Inertia crash switches

23. Two inertia crash switches are fitted, one in both the port and starboard equipment compartments. In a crash landing the switches are automatically operated, this results in the operation of the engine, fuel and pack bay fire extinguishers, and the isolation of all electrical services except those to the detonator circuits of the canopy, elevator controls and crew hatch.

### EMERGENCY EXITS

#### Entrance door jettisoning

24. The entrance door may be jettisoned by turning the cranked handle - situated in the coaming above the entrance door - in a clockwise direction as far as possible, and striking the top of the door. The handle, marked DOOR EMERGENCY RELEASE, is protected by a strap to avoid accidental operation. It is not necessary to operate the normal door-locking mechanism when preparing to jettison it.

#### Pilot's canopy jettisoning

25. To abandon the aircraft when ditching or during a crash landing, the canopy is freed by the fracturing of 32 attachment bolts which contain explosive detonators. The system is controlled by a CANOPY/SNATCH MASTER switch, and a CANOPY JETTISON switch, both mounted on the take-off panel. The CANOPY JETTISON switch is enclosed by a hinged flap and is identified by black and yellow diagonal stripes. ▶

26. The CANOPY/SNATCH MASTER switch must be switched ON before the commencement of flight; the canopy is then jettisonable by operating the CANOPY JETTISON switch. The CANOPY/SNATCH MASTER switch also controls the electrical supply to the pilot's single lever ejection (*para. 27*).

#### Pilot's single-lever ejection

27. To abandon the aircraft during flight the pilot ejects through the canopy by pulling the face-screen or seat-pan firing handle on his ejection seat.

This initially fires a cartridge in the time-release and breech unit fitted to the top of the ejection seat guide rail, from which the resultant explosive gases are arranged to operate the switch and snatch unit (*Sect. 3, Chap. 11*) to fracture the elevator control tube and move it towards the instrument panel, clear of the pilot's knees. Approximately one second later the main ejection gun is fired and ejects the pilot in his seat through the canopy.

#### Crew escape hatch jettisoning

28. The navigator and A.E.O. escape hatch is secured to the fuselage in a manner similar to the pilot's canopy. Jettison controls, identified by black-and-yellow diagonal stripes, are situated at both crew members stations, the navigator's being mounted on the port control panel and marked DANGER DETONATORS, SAFETY JETTISON HATCH and the A.E.O.'s being mounted on the starboard wall instrument panel and marked DANGER DETONATORS, JETTISON-HATCH.

29. The navigator's SAFETY switch controls the electrical supply to both crew members JETTISON switches, and must be switched ON before the commencement of flight; either the navigator or A.E.O. may then jettison the hatch by selecting their respective JETTISON HATCH switch to ON.

#### Crew members single-lever ejection

30. To abandon the aircraft during flight, either the navigator or A.E.O. can, by pulling either firing handle on his seat, jettison the hatch. When the

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hatch is freed from the fuselage a cable attached to it initiates the firing of the ejection gun of the seat on which the handle was operated. The remaining crew member may then eject by pulling either firing handle of his seat.

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