Chapter I PILOT'S CONTROLS AND EQUIPMENT

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LIST OF ILLUSTRATIONS

WARNING

AN AIRCREW EJECTION SEAT IS FITTED TO THIS AIRCRAFT.

This equipment is a source of potential danger to personnel and of damage to the aircraft. If the firing mechanism is operated while the aircraft is on the ground, the seat will be ejected, damage will be done to the aircraft and injury may be caused to any person in, or leaning into, the cabin.

Before any individual is allowed to enter the cabin, therefore, the N.C.O. i/c airframe servicing is to ensure that the safety strap is in position over the firing handle of the ejection seat and secured with the safety pin, or that the safety pin is fitted in the hole in the sear.

Introduction

1. This chapter gives the location of the controls and instruments used by the pilot, the items being grouped as indicated in the illustrations. It will be found that certain items are not referenced as they are regarded as standard features in all aircraft. Where the operation of a control or any feature of an instrument is not obvious, the necessary information is given in the key to the illustration. For more detailed information of the operation of certain controls, reference should be made to A.P.4347D, Pilot's Notes.

Emergency controls

2. The function and operation of the emergency controls and instruments indicated in the illustrations are described in detail in Sect. 1, Chap. 3 of this volume.

Sliding hood

Operation from inside

3. The sliding hood is normally operated by an electric actuator, but provision is also made for manual operation. The actuator is controlled by a three-position switch marked OPEN, OFF and SHUT, which is contained in a combined hood and clutch control box mounted in the cabin on the port side above the throttle lever. The clutch lever moves in a gate marked FREE and LOCKED; when in the FREE position, the actuator clutch is disengaged by a Bowden cable interconnection and the hood control switch is moved to the OFF position by a mechanical linkage within the control box. With the actuator de-clutched, the hood may be moved in the required direction by the handgrips, and as the control switch is in the OFF position the actuator cannot be operated under no-load conditions.

WARNING

When the aircraft is ready for take-off, a check must always be made to ensure that the hood rail lock indicators, which are located two on each side of the cabin and marked LOCKED *are pointing to the centres of the lock pins, thus indicating that the hood rail locks are correctly set to lock the rails and hood to the airframe.*

Operation from outside

4. Before leaving the cabin, the actuator clutch lever should be placed in the FREE position, thus leaving the hood free to slide. The hood may then be pushed open or closed from the outside as desired. For details of the emergency operation of the hood, reference should be made to Sect. 1, Chap. 3 of this volume.

Note . . .

The hood must NOT *be opened or closed by pushing on the transparent plastic.*

Operation by external control switch

5. A three-position, centre-off switch located at the bottom of the forward face of the first fuselage frame inside the fuselage nose piece, is provided for external operation of the hood during cabin pressurization checks. This switch is normally OFF and disconnected from the electrical system. To use the switch it is first necessary to disconnect the control from the plug and socket break in the cabin on the port shelf, remove the external control switch socket from its stowage above the shelf and connect it to the plug on the shelf. The actuator clutch should then be placed in the LOCKED position and the fuselage nose piece removed, as described in Sect. 3, Chap. 1, to gain access to the external switch.

WARNING

Before using the switch, ensure that the hood is clear, and after use re-connect the cabin switch to the plug on the shelf and return the external switch socket to its stowage.

KEY TO FIG. 1 (FLYING CONTROLS AND INSTRUMENTS)

1 UNDERCARRIAGE INDICATOR
Light sequence:—
GREEN Undercarriage locked down
RED Undercarriage in process of retraction or extension
ALL OFF Undercarriage locked up

2 UNDERCARRIAGE WARNING LIGHT
Lights when throttle is approximately one-third open and undercarriage locked down

3 UNDERCARRIAGE CONTROL
Interlocking push-buttons. Top for *UP*, bottom for *DOWN*
Note.—Clockwise rotation of outer ring of UP button overrides safety lock

4 FLAP CONTROL

5 AILERON POWER ASSISTANCE INDICATOR
Indicates power off

6 ELEVATOR POWER ASSISTANCE INDICATOR
Indicates power off

7 AILERON POWER ASSISTANCE SWITCH
Use to disengage power

8 ELEVATOR POWER ASSISTANCE SWITCH
Use to disengage power

9 MACH METER

10 TAIL PLANE POSITION INDICATOR

11 AIRSPEED INDICATOR

12 ARTIFICIAL HORIZON

13 RATE OF CLIMB INDICATOR

14 TURN AND SLIP INDICATOR

15 STANDBY COMPASS

16 DE-ICING PUMP SWITCH

17 CLOCK

18 ACCELEROMETER

◀19 HYDRAULIC PRESSURE AUDIO WARNING SWITCH ▶
Use to cut-out audio warning

20 CABIN PRESSURE WARNING LIGHT

21 CABIN ALTIMETER

22 H.P. OXYGEN CONTENTS GAUGE

23 OXYGEN DEMAND REGULATOR

24 COMPASS CONTROL UNIT
Ground use only. Light indicates installation operative

25 TEST BUTTON ON ANTI-G SUIT VALVE
Depress to test installation

26 ANTI-G PRESSURE GAUGE

27 ANTI-G SUIT CONTROL

28 TAIL PLANE INCIDENCE CONTROL (NORMAL)
Move up to increase tailplane incidence and down to decrease

29 HYDRAULIC BRAKE CONTROL

30 BRAKE PARKING LOCK
For temporary parking

31 PRESSURE HEAD HEATER SWITCH

32 RUDDER BAR CONTROL
For adjustment of rudder bar

33 GYRO COMPASS

34 ALTIMETER

35 FLAP POSITION INDICATOR

36 AIR BRAKE INDICATOR
Indicates flaps out

37 TAIL PLANE STANDBY CONTROL

38 AIR BRAKE CONTROL

39 AILERON AND RUDDER TAB POSITION INDICATORS

40 AILERON AND RUDDER TRIM TAB CONTROL SWITCH
Operation in natural sense (i.e. the aircraft responds to the attitude of the silhouette on the switch knob)

41 TRIM SWITCH LOCK
Engage when flying with ailerons power operated

42 CABIN TEMPERATURE SELECTOR

43 CABIN TEMPERATURE CONTROL

44 CABIN PRESSURE SWITCH

45 CABIN PRESSURE WARNING TEST
Ground use only

46 TAIL PLANE MOTOR CIRCUIT BREAKER

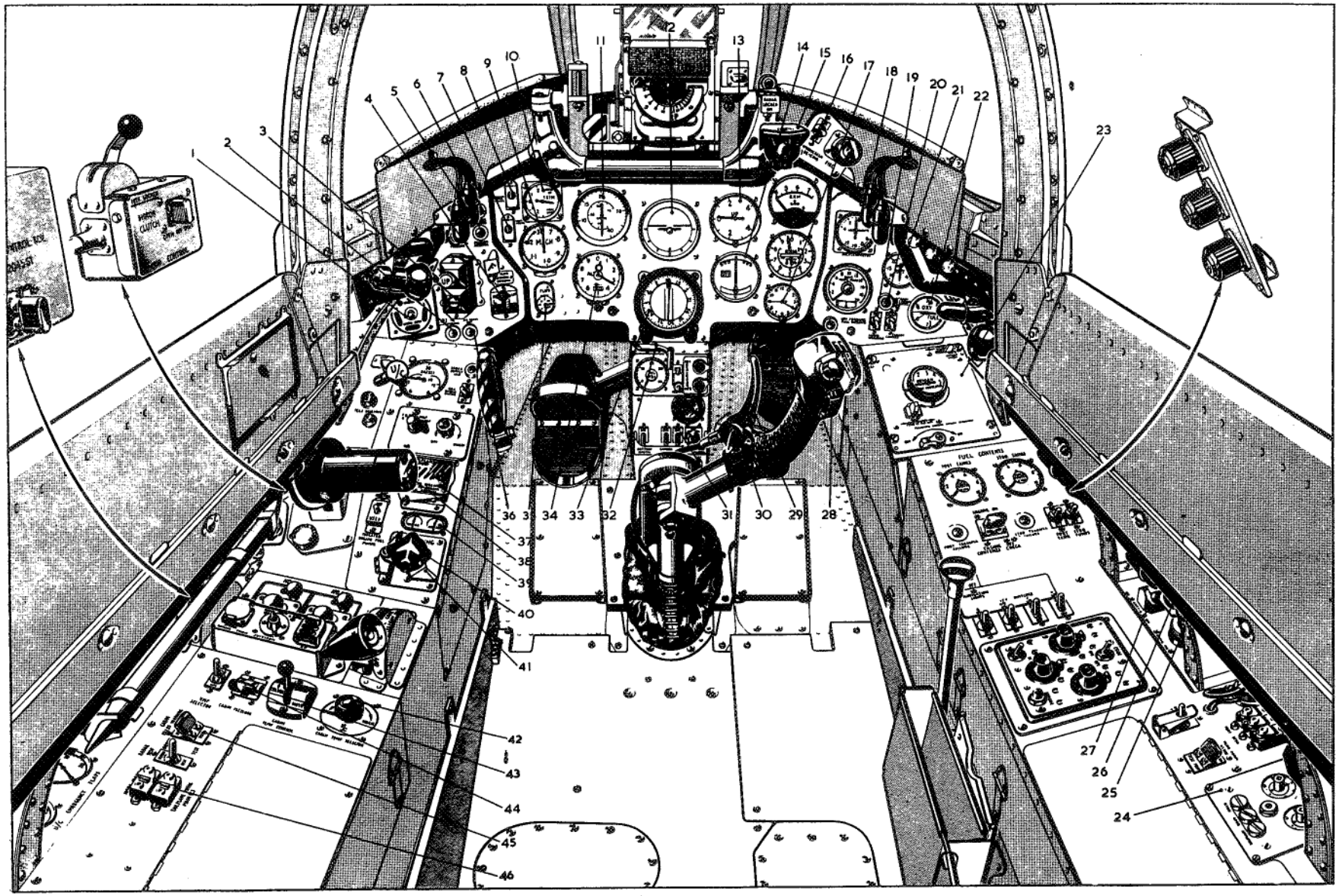

Fig. 1. Flying controls and instruments

KEY TO FIG. 2 (ENGINE CONTROLS AND INSTRUMENTS)

1 HIGH PRESSURE FUEL COCK CONTROL
Moved forward from *OFF* to *ON*

2 LOW PRESSURE FUEL COCK CONTROL
Moved forward from *OFF* to *ON*

3 RELIGHT SWITCH
Press with ignition switch (item 9) on for relight

4 THROTTLE DAMPER

5 THROTTLE
Aft for idling, forward for full throttle

6 EMERGENCY ENGINE FUEL PUMP ISOLATING SWITCH
(Inoperative pending introduction of modified engine fuel pump)

7 EMERGENCY ENGINE FUEL PUMP ISOLATED WARNING LIGHT

8 OIL PRESSURE GAUGE

9 IGNITION SWITCH
When off, isolates igniter units

10 ENGINE MASTER SWITCH
Controls flight instruments, tank pumps, fuel pressure and emergency fuel pump circuits

11 STARTER PUSH-BUTTON
Actuates engine starting cycle

12 EXHAUST GAS THERMOMETER

13 TACHOMETER

14 FUEL PRESSURE WARNING INDICATOR
Indicates fuel pressure is low at engine inlet

15 ENGINE ANTI-ICING SWITCH AND INDICATOR

16 FUEL GAUGE—PORT TANKS

17 FUEL GAUGE—STARBOARD TANKS

18 FUEL TRANSFER FAILURE INDICATOR—PORT

19 ENGINE OFF—CONTENTS CHECK
Used to check total fuel content when engine is not running

20 FUEL TRANSFER FAILURE INDICATOR—STARBOARD

21 FUEL TANK BOOSTER PUMP SWITCH—PORT
Used for manual balancing of fuel contents.

22 FUEL TANK BOOSTER PUMP SWITCH—STARBOARD
Used for manual balancing of fuel contents

23 AMMETER TEST SOCKET
Used for test prior to flight

24 CIRCUIT BREAKER, BOOSTER PUMP—PORT

25 CIRCUIT BREAKER, BOOSTER PUMP—STARBOARD

26 TANK PUMPS TEST SWITCH
Used for test prior to flight

27 CIRCUIT BREAKER, STARTER

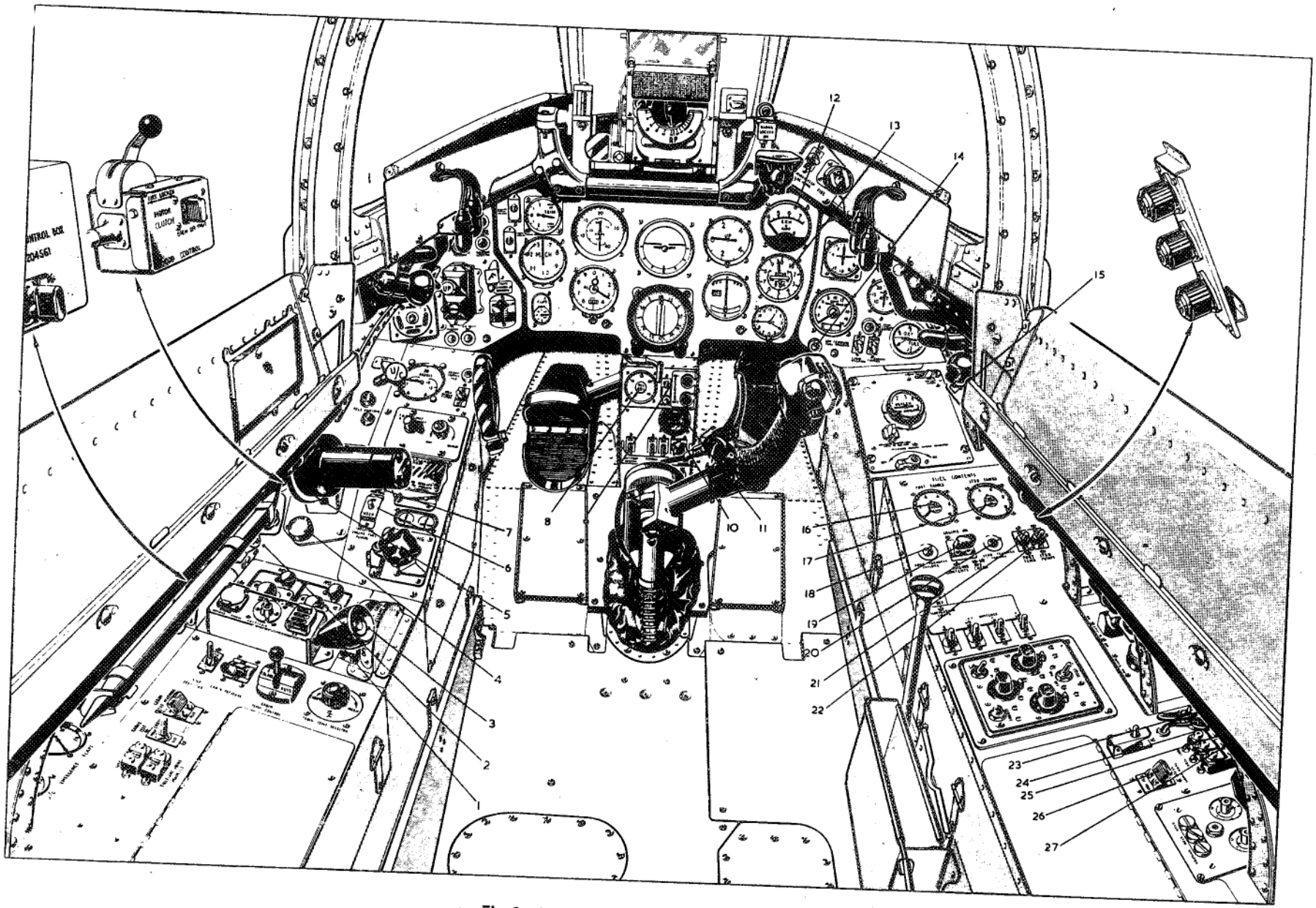

Fig. 2. Engine controls and instruments

(KEY TO FIG. 3 ARMAMENT, NAVIGATION, SIGNALLING, RADIO AND MISCELLANEOUS)

1 CROWBAR

2 AIRBRAKE RELAY BOX AND TEST SWITCH

3 HOOD RAIL LOCK INDICATORS—Port and Starboard

4 HOOD CONTROL AND CLUTCH LEVER
When clutch lever is in FREE position to de-clutch motor, hood control switch is moved to the *OFF* position automatically

5 MULTI-CHANNEL CARD HOLDER

6 TELE-BRIEFING PUSH SWITCH

7 TELE-BRIEFING LIGHT

8 EMERGENCY UNDERCARRIAGE CONTROL
Grasp the control between the fingers, press the centre button with thumb and pull control to operate

9 TRIPLE PRESSURE GAUGE
Brakes and main hydraulic system pressure

10 TARGET REJECTION SWITCH

11 HYDRAULIC FAILURE WARNING LIGHT

12 HOOD JETTISON CONTROL
Refer to Sect. 1, Chap. 3

13 EMERGENCY FLAPS CONTROL
Grasp the control between the fingers, press the centre button with thumb and pull control to operate

14 EMERGENCY GYRO GUN SIGHT MANUAL RETRACTION CONTROL

15 RETRACTABLE GYRO GUN SIGHT MOUNTING

16 GYRO GUN SIGHT

17 GYRO GUN SIGHT AND MOUNTING CONTROL SWITCH

18 RADAR LOCKED ON INDICATOR LIGHT

19 FIRE WARNING LIGHT AND EXTINGUISHER PUSH SWITCH
Pull knob to test bulb before take-off. Light indicates when temperature in engine bay and accessories bay exceeds 300 ± 30 deg. C. Pushing the knob will operate the fire extinguisher. The flame switches are of the re-setting type and indicate temporary surges of excessive heat, thus, flickering of the light in flight and during an engine run on the ground may occur. Refer to Sect. 4, Chap. 5

20 D.M.E. INDICATOR

21 RED INSTRUMENT LIGHTS—Port and Starboard

22 RED INSTRUMENT STANDBY LIGHTS—Port and Starboard

23 CAMERA EXPOSURE SWITCH

24 SPARE BULB HOLDER

25 RED INSTRUMENT LIGHTS—Port and Starboard

26 RED STANDBY LIGHT SWITCH

27 ULTRA VIOLET INSTRUMENT LIGHTS—Port and Starboard

28 ULTRA VIOLET INSTRUMENT LIGHTS, DIMMER SWITCH

29 RED INSTRUMENT LIGHTS, DIMMER SWITCH

30 RED SHELF LIGHTS, DIMMER SWITCH

31 GYRO GUN SIGHT RECORDER STOWAGE

32 MAP AND NOTE CASE

33 ACCUMULATOR, EMERGENCY COCKPIT LIGHTS

34 BUTT TEST SWITCH

35 D.M.E. CONTROL UNIT

36 I.F.F. SWITCHES

37 AFT RED SHELF LIGHTS—Port and Starboard

38 NAVIGATION LIGHTS SWITCH

39 EMERGENCY OXYGEN RELEASE

40 FORWARD RED SHELF LIGHTS—Port and Starboard

41 CAMERA GUN PUSH SWITCH

42 GUN FIRING TRIGGER

43 GENERATOR WARNING LIGHTS

44 GYRO GUN SIGHT CIRCUIT BREAKER

45 CAMERA MASTER SWITCH

46 BATTERY MASTER SWITCH
On for flight, switch off to isolate all electrical services except fire extinguisher

47 RADAR SUPPLY INDICATOR

48 GYRO GUN SIGHT MANUAL AUTOMATIC SWITCH

49 GYRO GUN SIGHT CONTROL UNIT

50 PRESS TO TRANSMIT SWITCH

51 GYRO GUN SIGHT RANGE CONTROL

52 V.H.F. RADIO CONTROL UNITS

53 BOMB/R.P. CONTROL PANEL

54 V.H.F. SELECTOR SWITCH

55 BRAKE ACCUMULATOR PRESSURE GUAGE

56 RADAR TEST SWITCH

57 HOOD CIRCUIT BREAKER

58 EMERGENCY AIR GAUGE, FLAPS

59 EMERGENCY AIR GAUGE, UNDERCARRIAGE

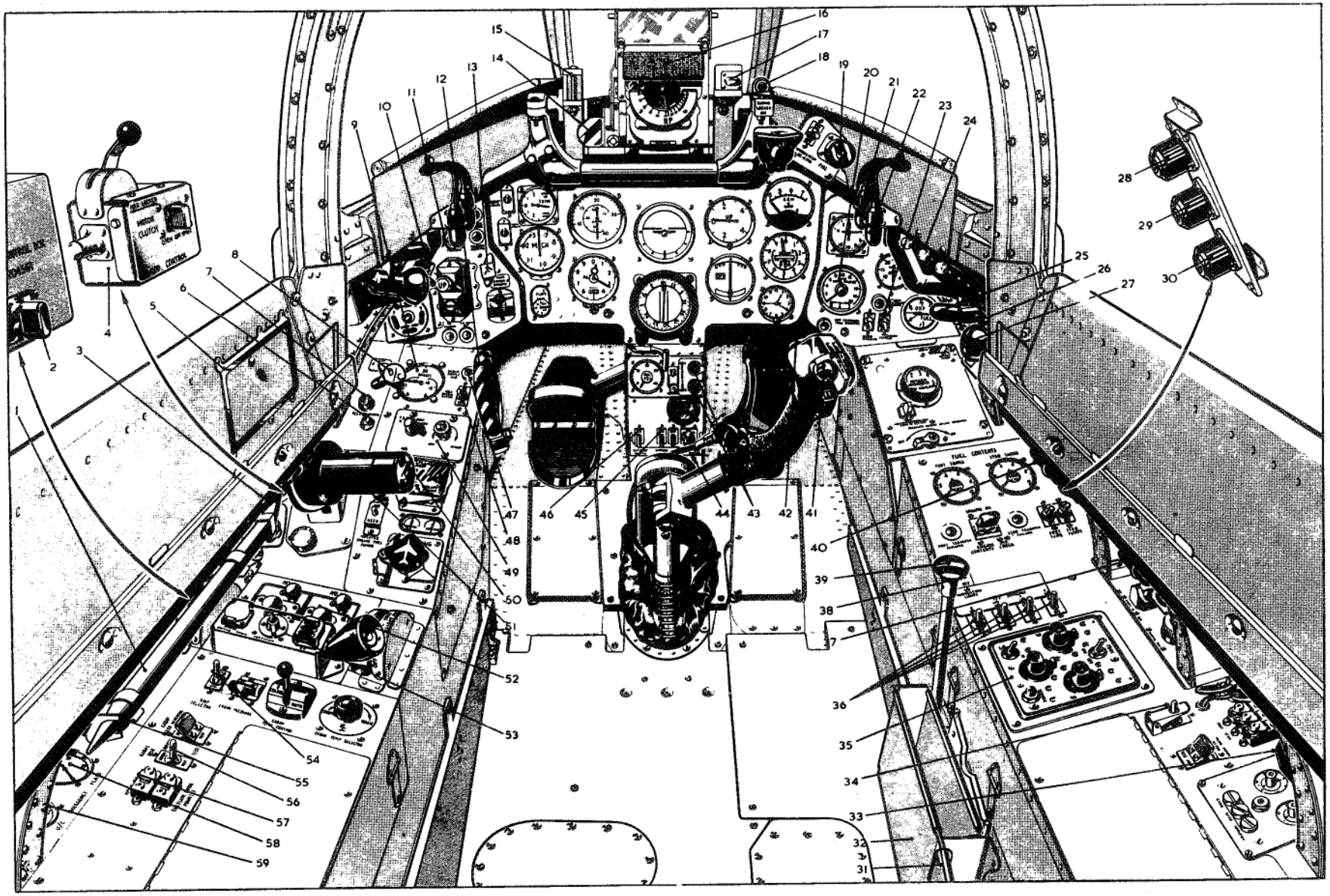

Fig. 3. Armament, navigation, signalling, radio and miscellaneous