14.1 INHIBITING ENGINE BEFORE STORAGE

Engine internal preservation - General

This procedure covers the injection of a vapour phase inhibitor powder (V.P.I.260) into the engine through the air intake as a basic method of internal protection. It will provide protection for an uninstalled e.c.u. for up to 12 months, or for up to three months for an installed e c.u. If the engine is removed and/or is to be despatched additional protection is provided by bags of silica gel desiccant distributed within the engine.

Installed e.c.u's

Using a flock spray gun fitted with an extended nozzle and supplied with dry compressed air spray 50 c c's of V.P.I.260 into the engine air intake. Do this as soon as possible after normal engine "shut down" and not later than 48 hours afterwards. Fit the aircraft air intake and jet pipe nozzle blanks.

E.C.U's removed from aircraft

NOTE: The following preservation procedure does not apply if the e c.u. is subsequently to be stored in an m.v.p. bag.

Check whether the engine has already been protected with V.P.I.260 before removal; if it has not proceed as follows :-

Turn the l.p. compressor slowly by means of the hand turning extension and spray 50 c.c's of V.P.I.260 into the engine air intake.

Secure 30 half-pound bags of activated silica gel desiccant to the vanes of the engine air intake by means of adhesive tape then secure the engine air intake blank.

Secure 30 half-pound bags of activated silica gel desiccant to the vanes of the turbine exhaust annulus by means of adhesive tape, then secure the exhaust outer cone blank and seal its abutment face with adhesive tape.

14.2 INHIBITING FUEL SYSTEM BEFORE STORAGE

NOTES 1: When inhibiting these engines, it is necessary to divide the procedure into two parts.

2: The diagram TP.3730/A details the inhibiting rig requirements.

The fuel system bleed points are as follows:-

(1) Drain valve on fuel filter casing.

(2) Bleed valve on fuel filter casing.

(3) L.P. fuel pump governor (valve located on L.P. rate reset valve housing).

(4) L.P. fuel pump rate reset valve.

(5) H.P. fuel pump governor (valve located on H.P. rate reset valve housing).

(6) H.P. fuel pump rate reset valve.

Engine Pumps and L.P. System

(1) Remove the transport blanks from the engine drains system.

(2) Support a 10 gallon tank of inhibiting oil (ZX.17 until D.T.D.874 is available) as high as possible to obtain a gravity head. Interpose a shut-off valve in the delivery line.

(3) Fit an adaptor to the engine main fuel inlet then connect the inhibiting rig to it by means of a 1 in. (or larger) bore flexible pipe.

(4) Unscrew the bleed valves in the L.P. fuel filter casing and pump governors.

(5) Remove the blank from the inhibiting connection of the C.M.F.S.

NOTE: The blank is located in the centre of the pump delivery gallery.

(6) If not already fitted, fit a union body to the inhibiting connection location.

NOTE: This is a unified thread and the correct union body (Bristol Part No. UB.118801 7/16 in. U.N.F. x 1/4 in. B.S.P.) must be used.

(7) Ensure that the hand turning gear is unblanked and that suitable spanners are

available for .....

available for turning the engine.

(8) Set the throttle to the shut off position.

(9) Open the delivery cock on the inhibiting rig and governor bleed valves. As soon as inhibiting oil issues from each valve, close the valve.

(10) Using the engine hand turning gear, turn both the H.P. and L.P. pumps until inhibiting oil flows from the chassis mounted fuel system inhibiting connection.

(11) Close the delivery cock and disconnect the supply pipe from the inhibiting rig.

H.P. System

(1) Arrange the pipe connected to the main fuel inlet to drain into a suitable container (or the rig Tank) with the minimum of restriction.

(2) Connect the inhibiting rig to the inhibiting connection on the C.M.F.S.

(3) Connect a pressure gauge (0-1,000 lb/in^2) to the primary burner pressure tapping or the burners. Alternatively, the gauge may be connected to an inhibiting connection on the flow distributor if this is incorporated.

(4) Open the throttle fully and lock in that position.

(5) Unscrew the bleed valves on the governors one complete turn and allow the fuel to drain.

(6) Adjust the rig pressure control to minimum.

(7) Start the rig and open the delivery cock.

(8) Watching the primary burner gauge, adjust the pressure control until 300 to 400 lb/in^2 is indicated.

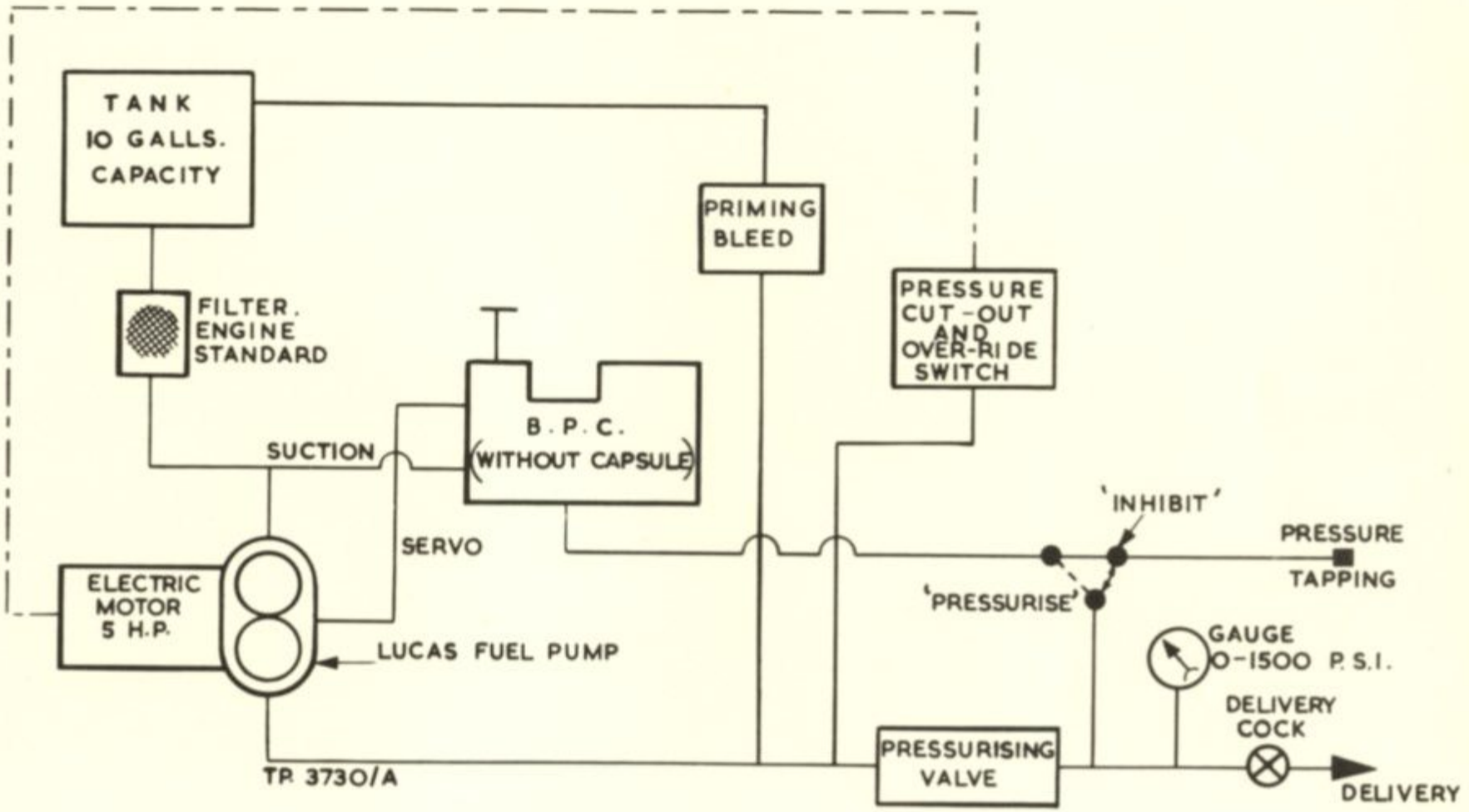
NOTE 1: The rig delivery pressure will vary, depending on the pipes used, but it should be between 500 and 800 lb/in^2.

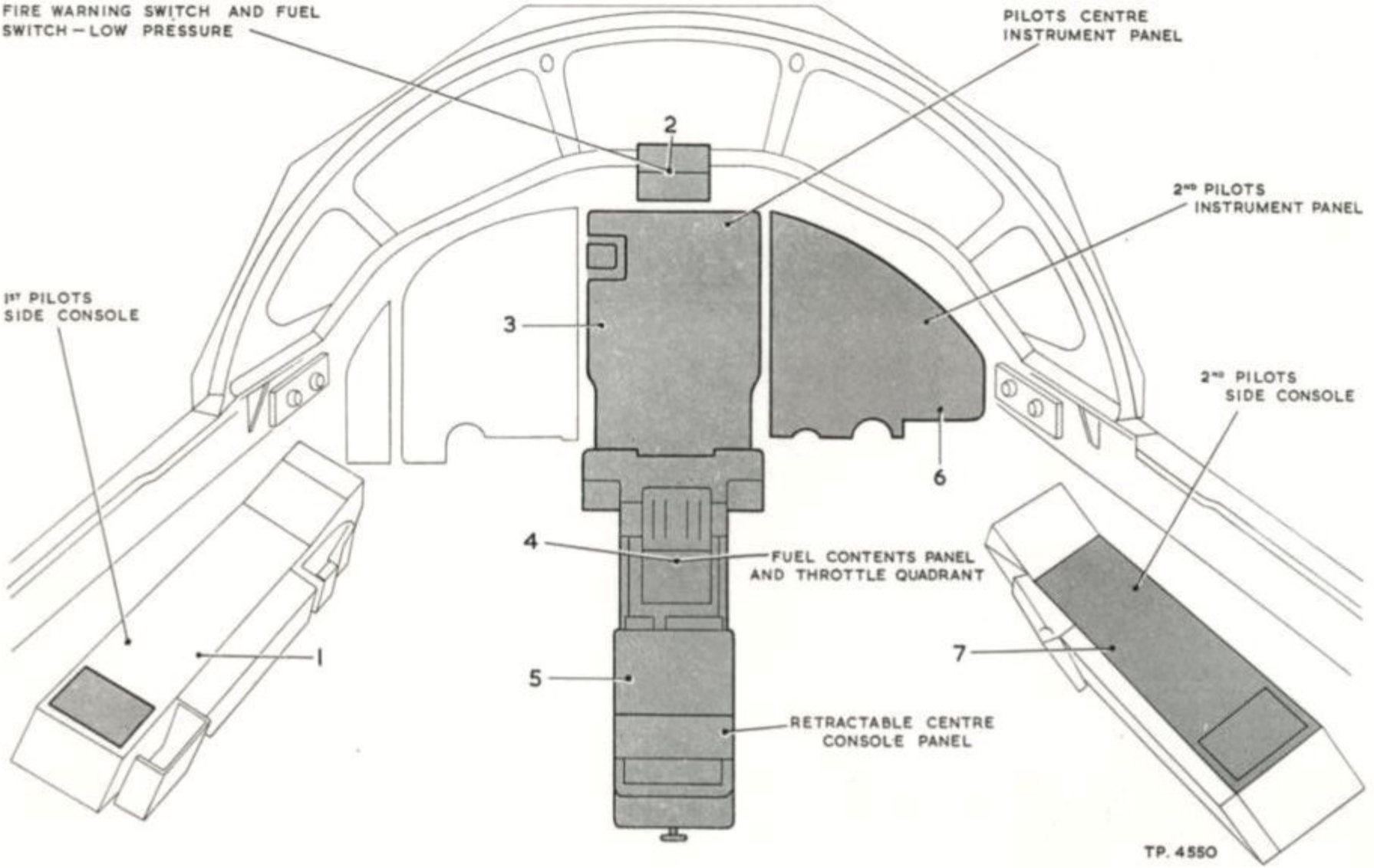
NOTE 2: Inhibiting oil will run from the pipe connected to the L.P. fuel inlet; allow this to continue unrestricted.

Maintain the pressure until the inhibiting oil drains from both governor air bleed valves and the turbine drain, then tighten the

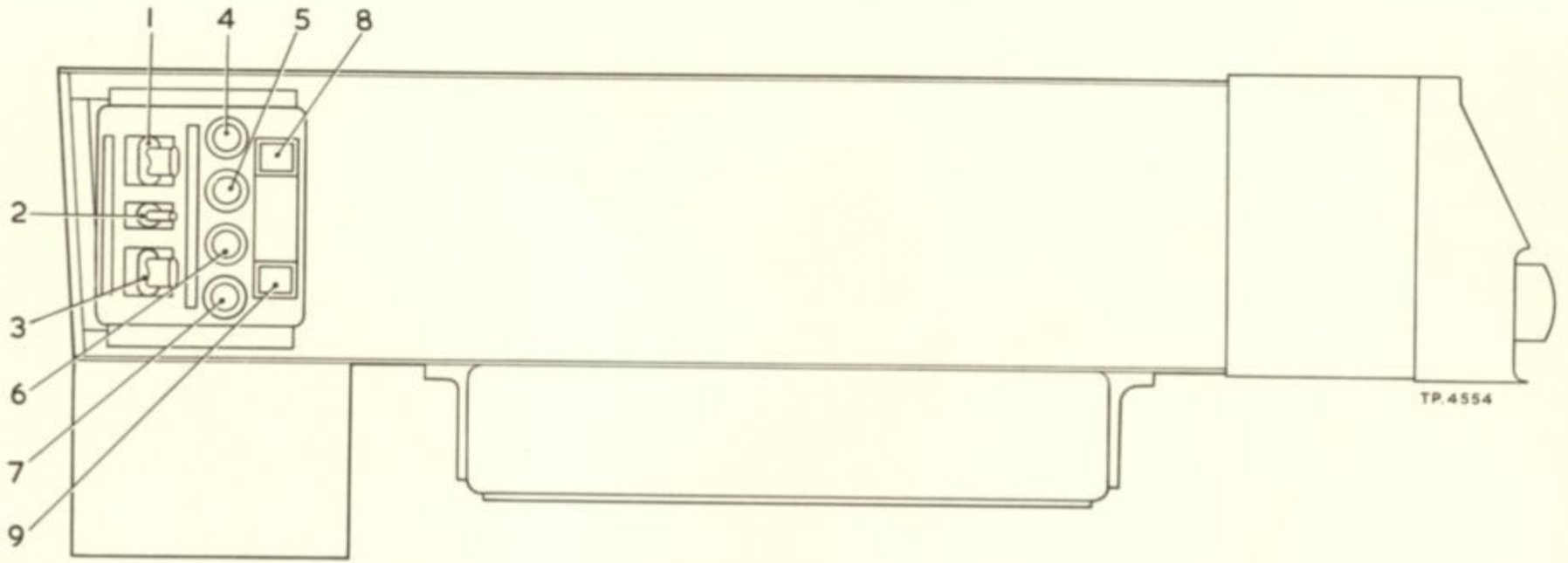
governor air.....

Governor air bleeds. Stop the rig, close the delivery cock, remove all the inhibiting pipes and refit the blanks. Unlock and close the engine throttle.


TANK
10 GALLS.
CAPACITY
PRIMING
BLEED
PRESSURE
CUT-OUT
AND
OVER-RIDE
SWITCH
FILTER.
ENGINE
STANDARD
B.P.C.
(WITHOUT CAPSULE)
SUCTION
SERVO
'INHIBIT'
PRESSURE
TAPPING
'PRESSURISE'
ELECTRIC
MOTOR
5 H.P.
LUCAS FUEL PUMP
GAUGE
0-1500 P.S.I.
DELIVERY
COCK
PRESSURISING
VALVE
DELIVERY
TP 3730/A



BLOCK DIAGRAM OF COCKPIT



1 AIR SELECTOR
2 IGNITION
3 MAIN
4 STARTER
5 STARTER
6 STARTER
7 STARTER
8 AIRCRAFT AUXILIARY P.P. BLEED VALVE
9 AIR CROSS FEED

} SWITCHES

FIG. 1
PORT CONSOLE

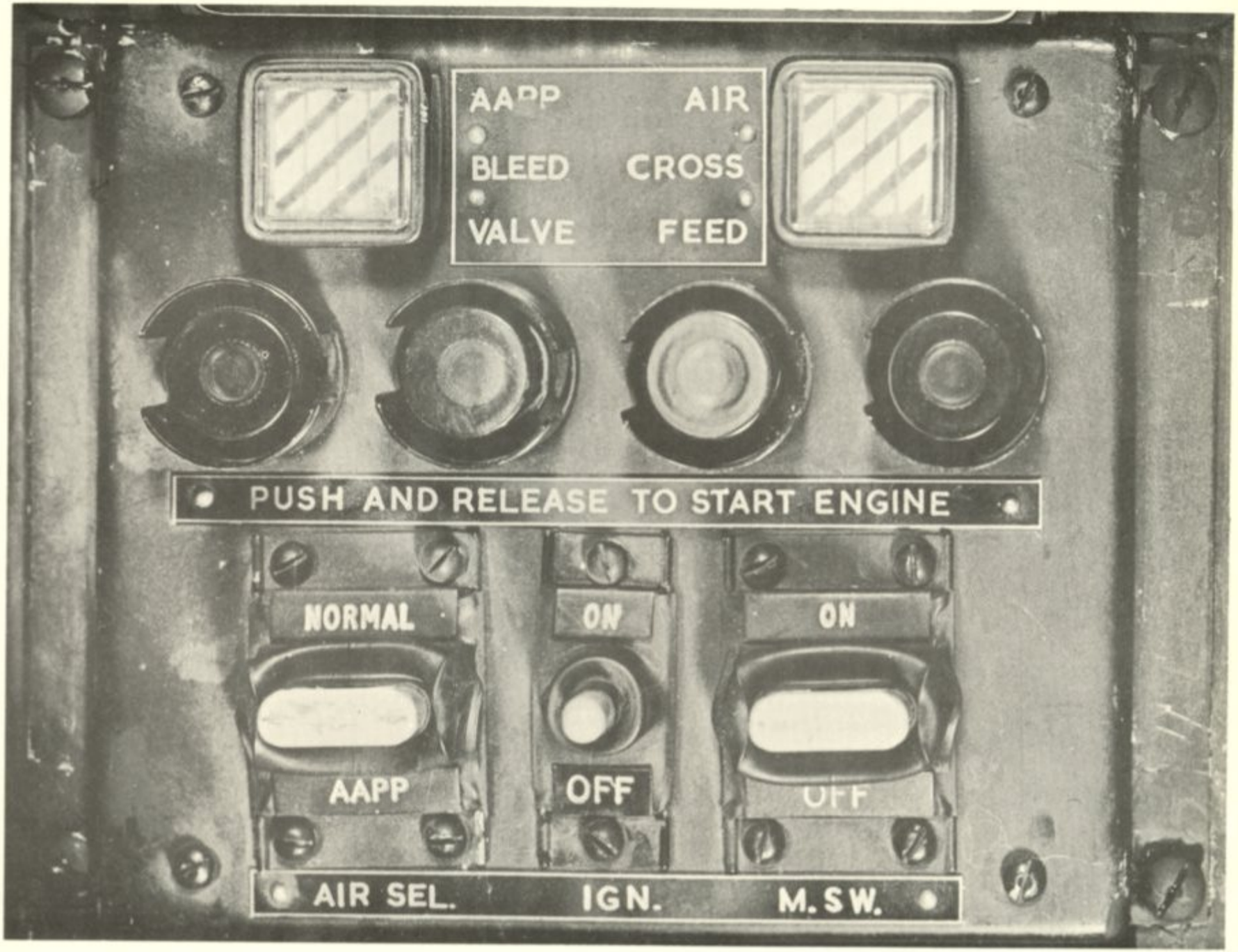


Figure 1, Port Console.

A.E.S.514

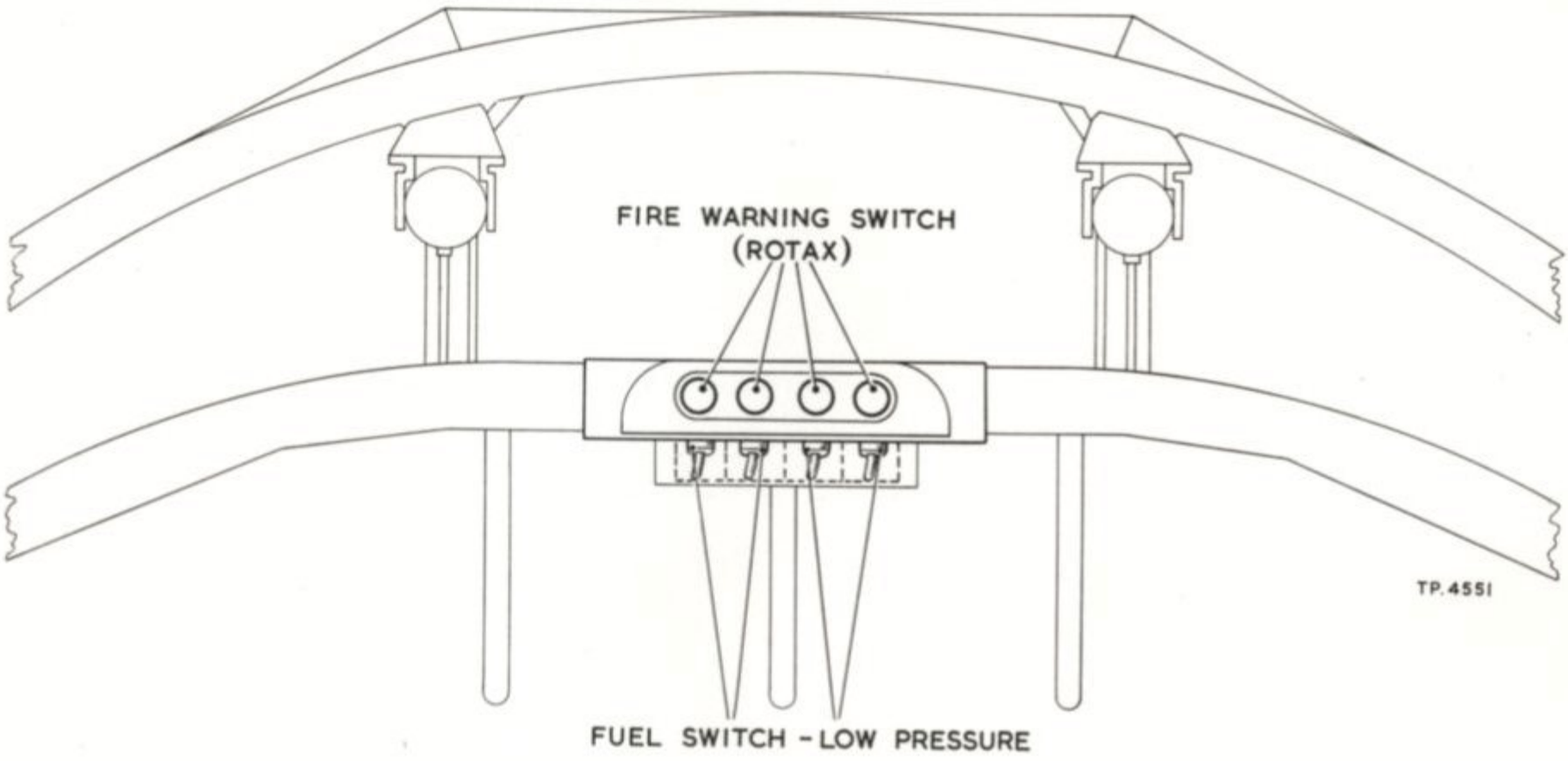
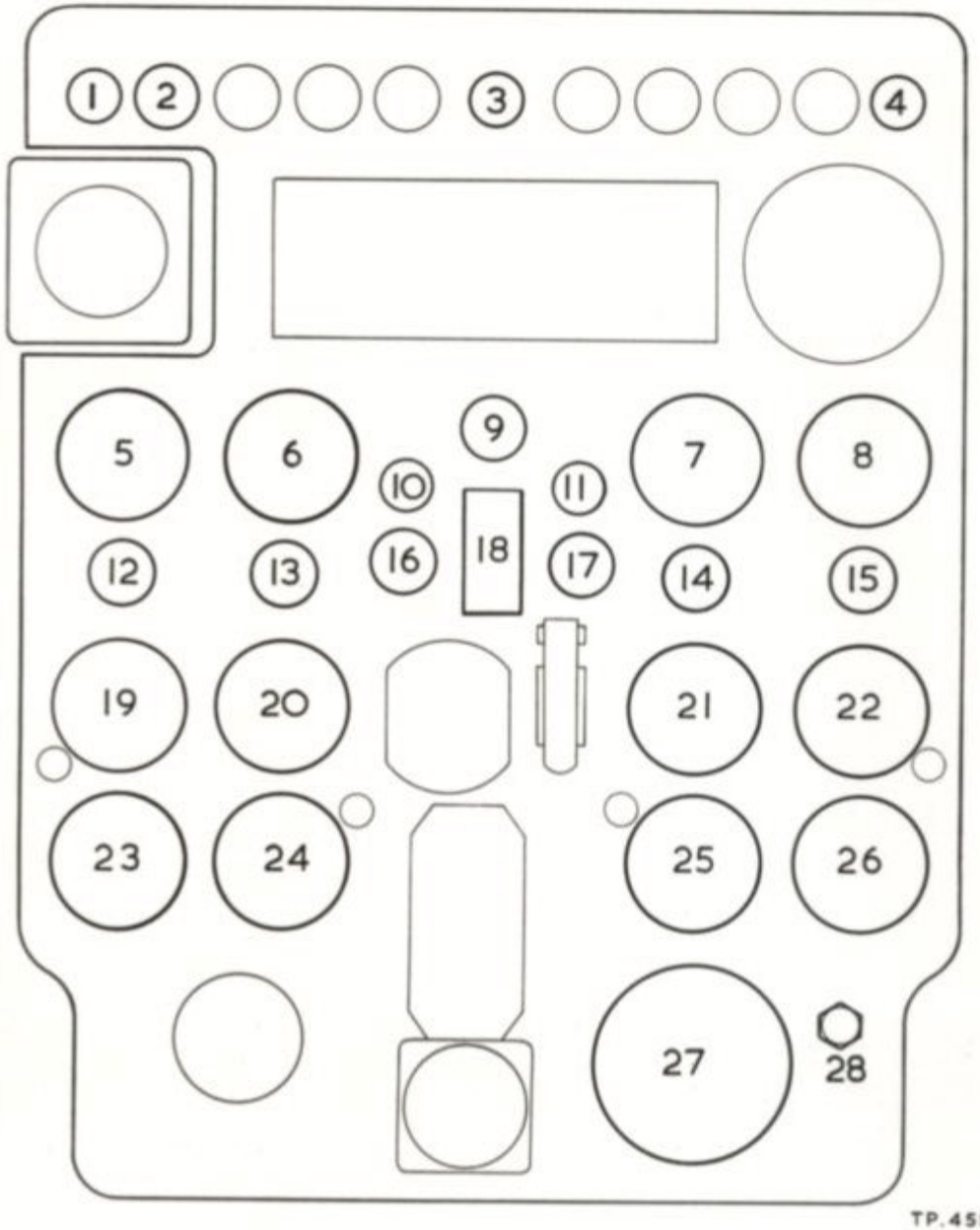


FIG. 2

Figure 2, Fire Warning Switches.

A.E.S.515



1 MAIN WARNING.
2 P.F.C. UNITS.
3 ALTERNATOR FAIL.
4 MAIN WARNING.
5-8 ENGINE TEMP.
9 ENGINE CONTROL.
10&11 PRESS TO TEST INDICATORS.
12-15 FUEL PRESSURE M/I.
16&17 MAGNETIC INDICATORS.
18 ROCKET ASSISTED TAKE OFF GEAR JETTISON.
19-22 TACHOMETER INDICATORS.
23-26 OIL PRESSURE INDICATORS.
27 FUEL CENTRE OF GRAVITY.
28 CENTRE OF GRAVITY CHECK.

FIG. 3.
PILOT'S CENTRE INSTRUMENT PANEL

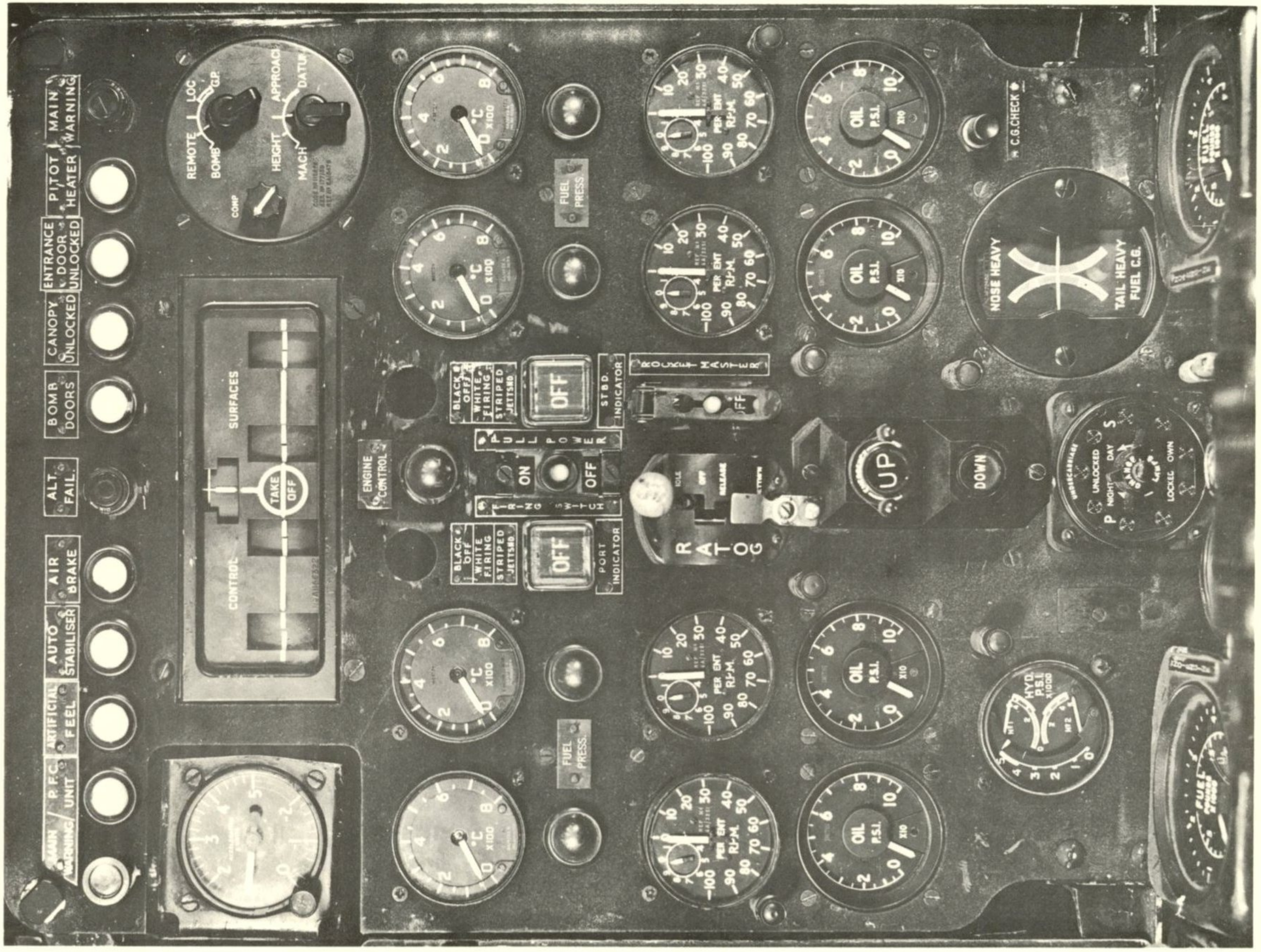


Figure 3, Pilot's Centre Instrument Panel.

A.E.S.516

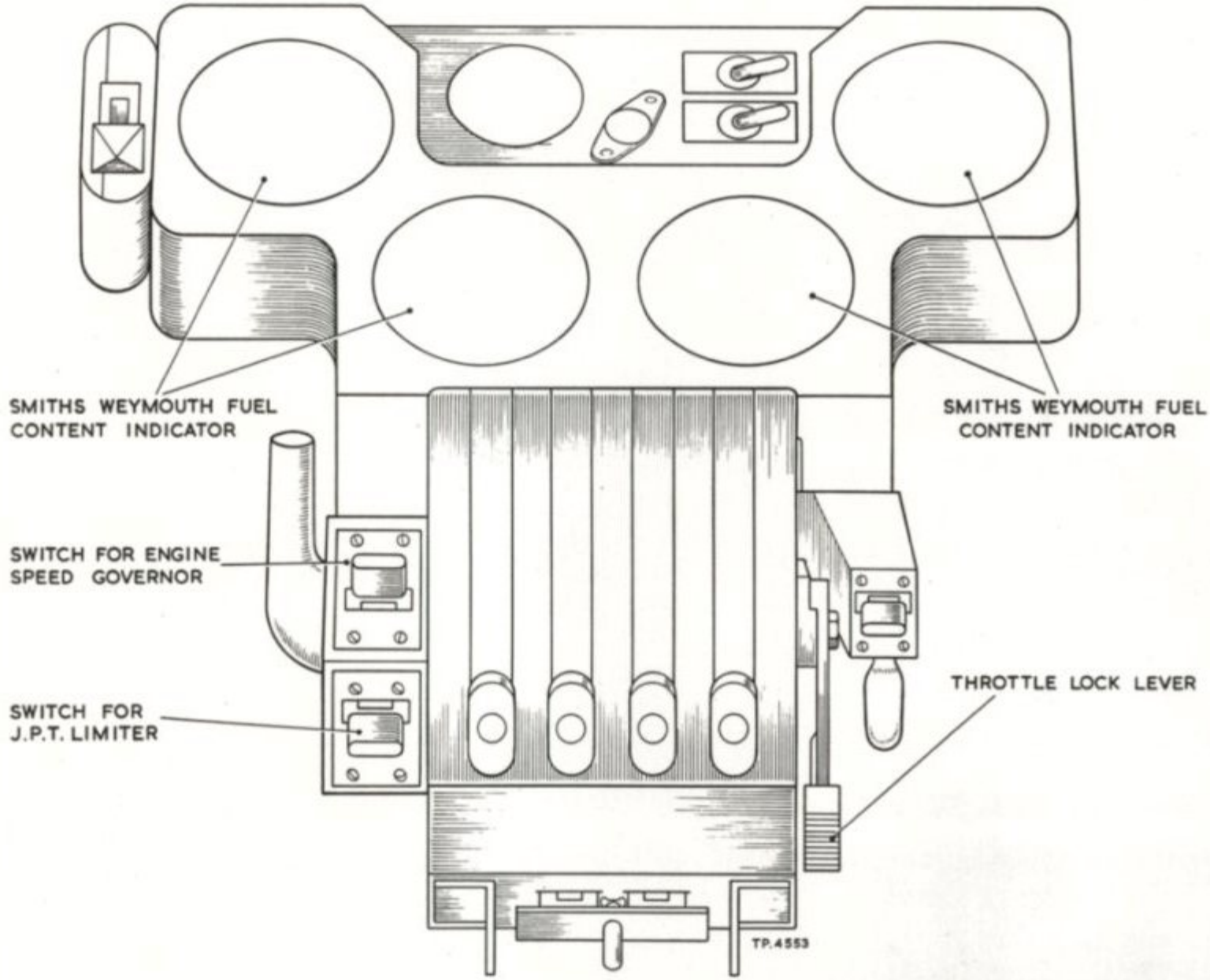
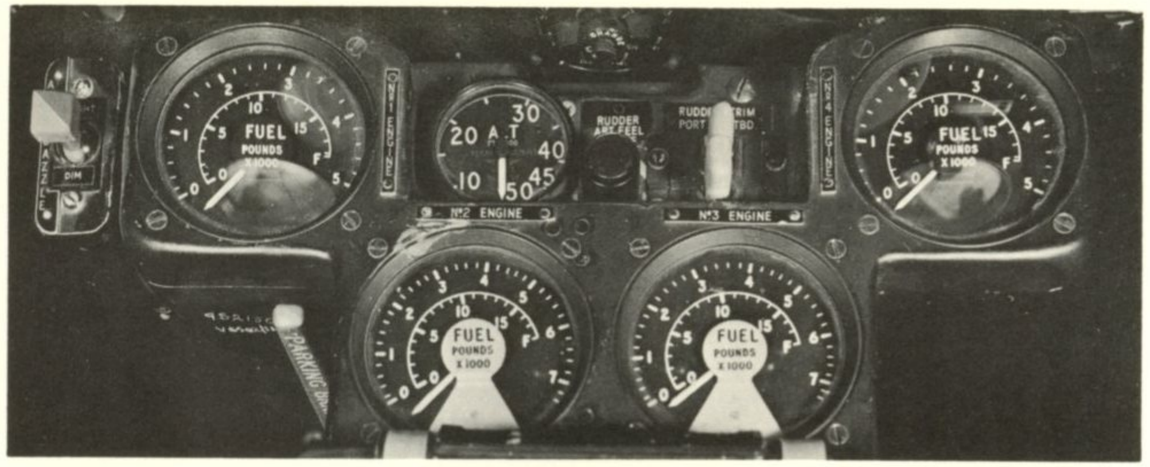


FIG. 4
FUEL CONTENTS PANEL AND THROTTLE QUADRANT



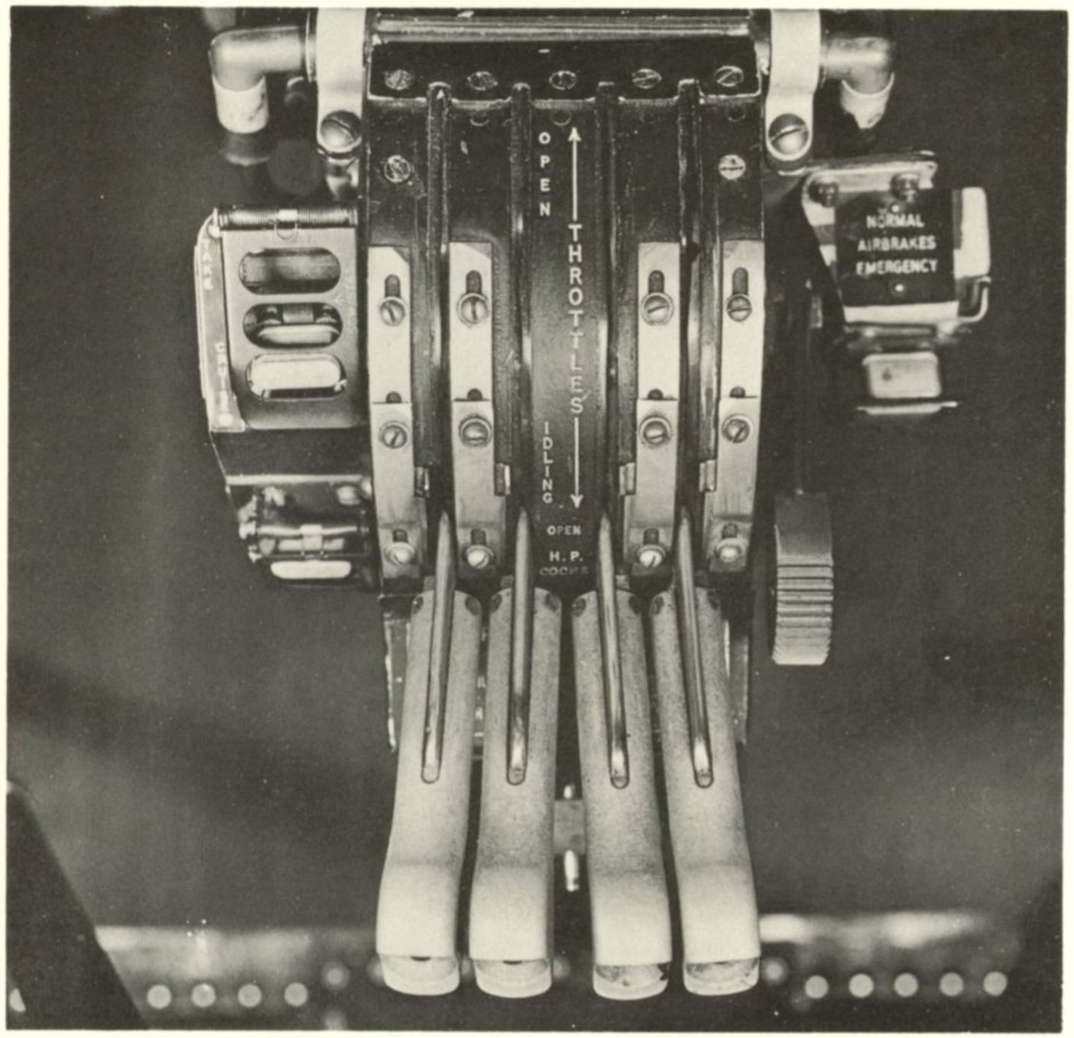


Figure 4, Fuel Contents Panel and Throttle Quadrant.

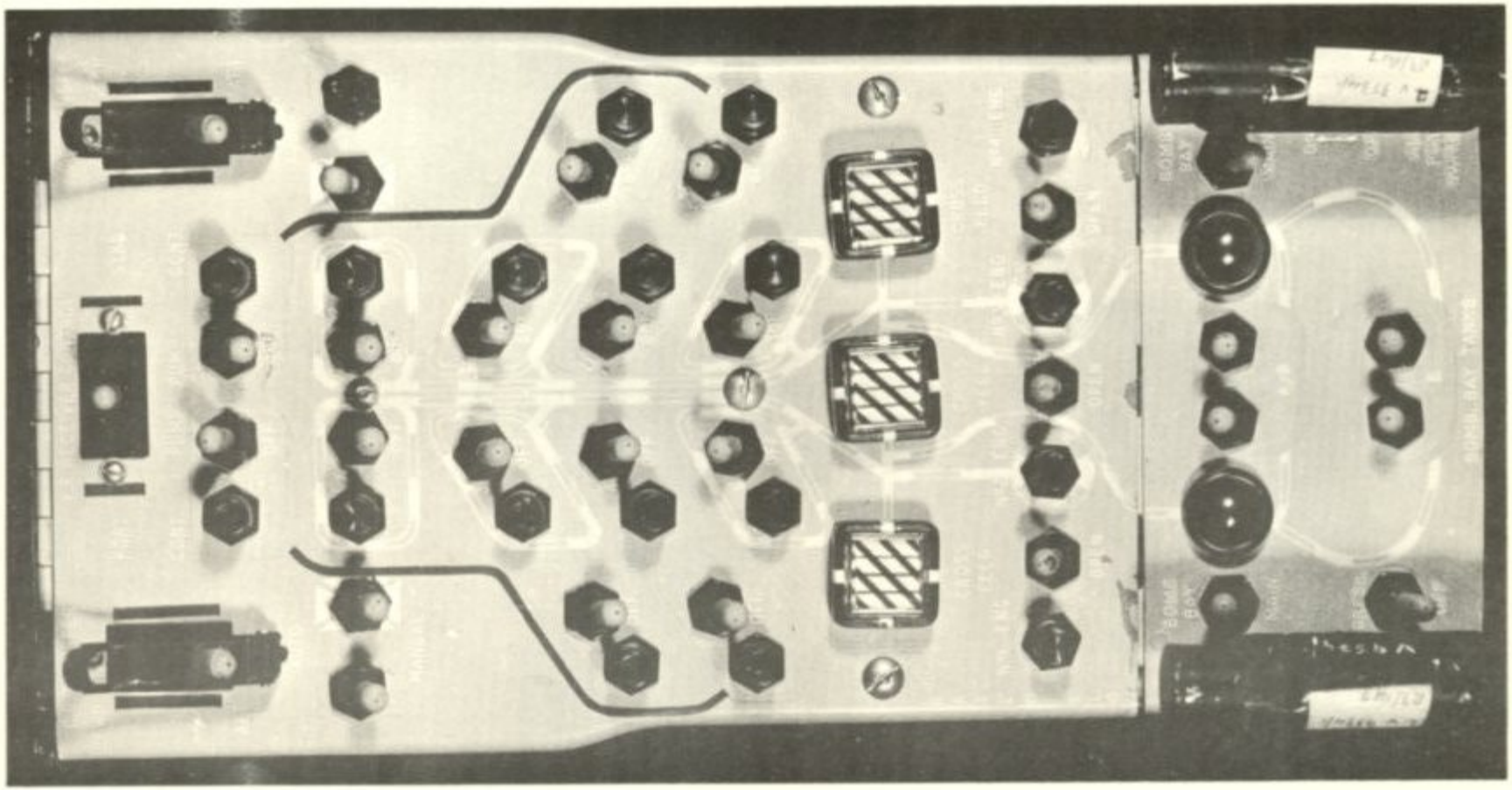


Figure 5, Fuel Panel.

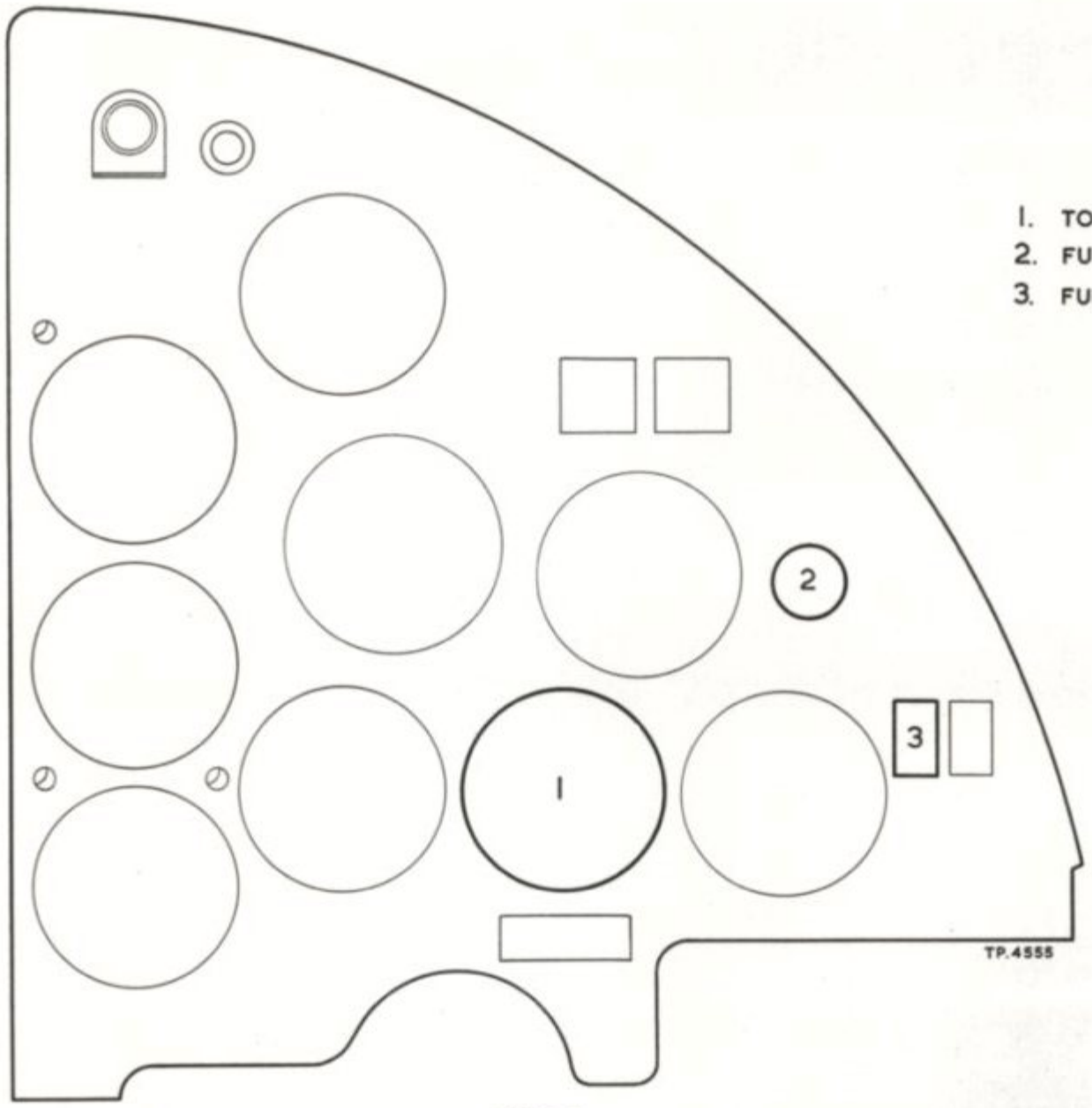


FIG. 6
SECOND PILOT'S INSTRUMENT PANEL

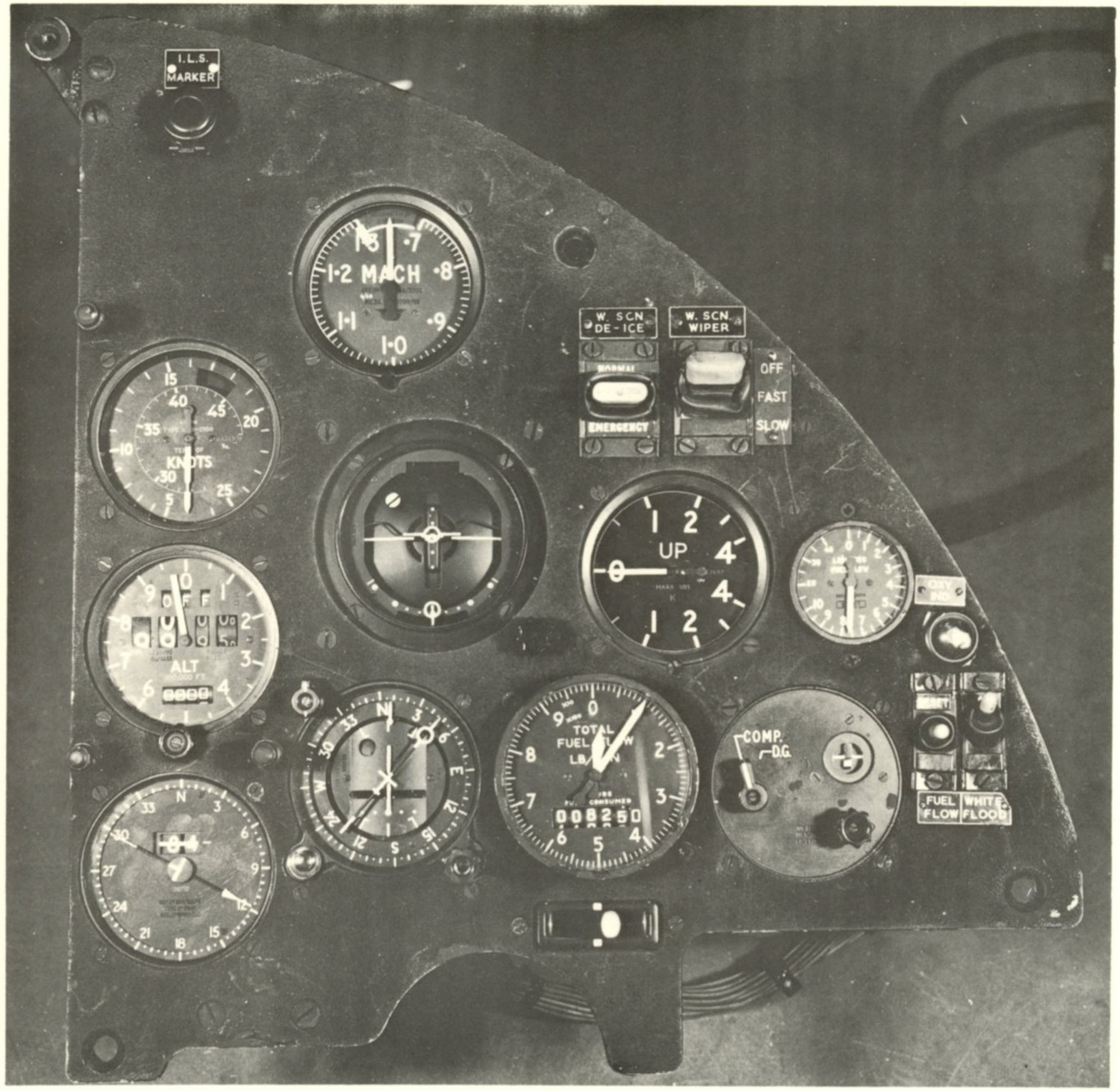
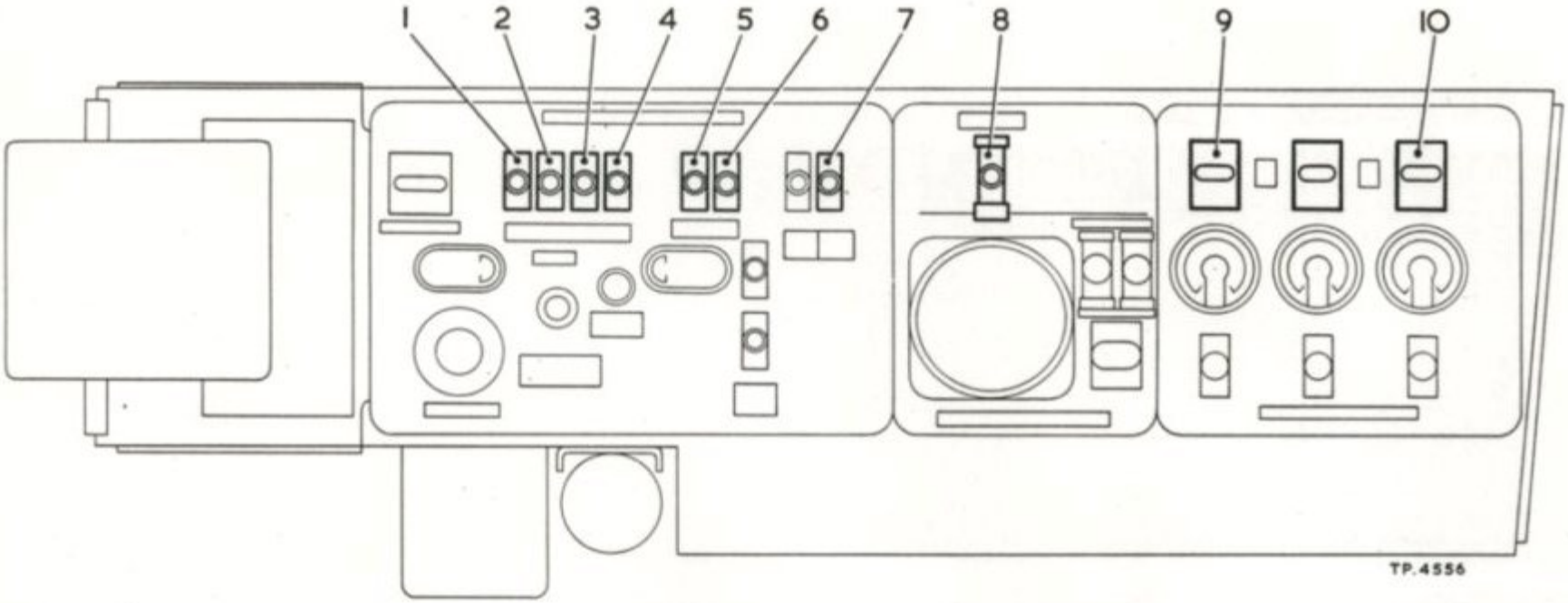


Figure 6, Second Pilot's Instrument Panel.

A.E.S.519



1	ENGINE AIR No. 1	SWITCHES
2	ENGINE AIR No. 2	
3	ENGINE AIR No. 3	
4	ENGINE AIR No. 4	
5	CABIN AIR — PORT	
6	CABIN AIR — STARBOARD	
7	AIRCRAFT AUXILIARY P.P. BLEED	
8	TANK PRESSURISATION	
9	ANTI-ICING.- PORT WING & ENGINE	
10	ANTI-ICING.- STBD. WING & ENGINE	

FIG. 7
STARBOARD CONSOLE

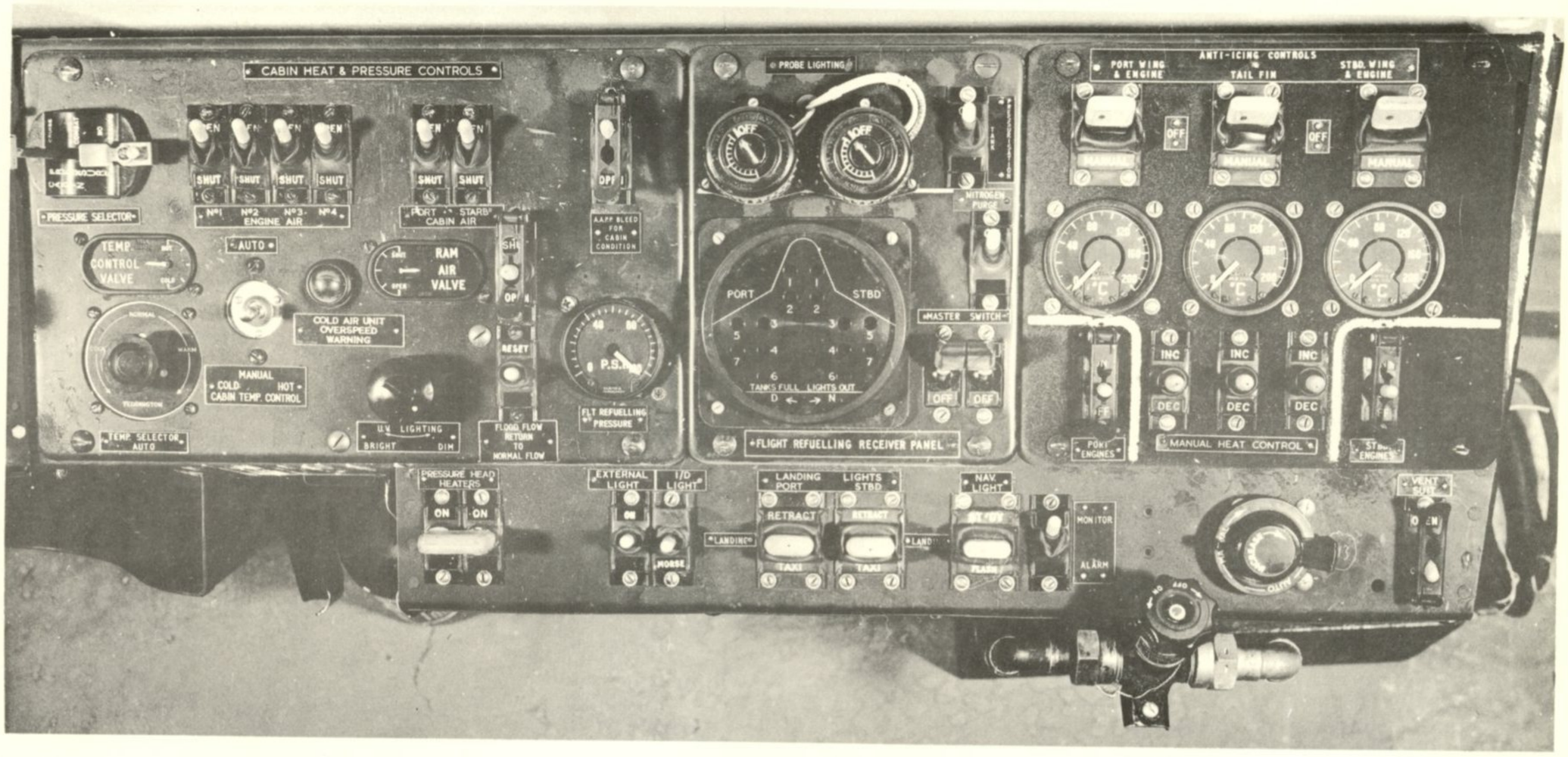


Figure 7, Starboard Console.

A.E.S.520

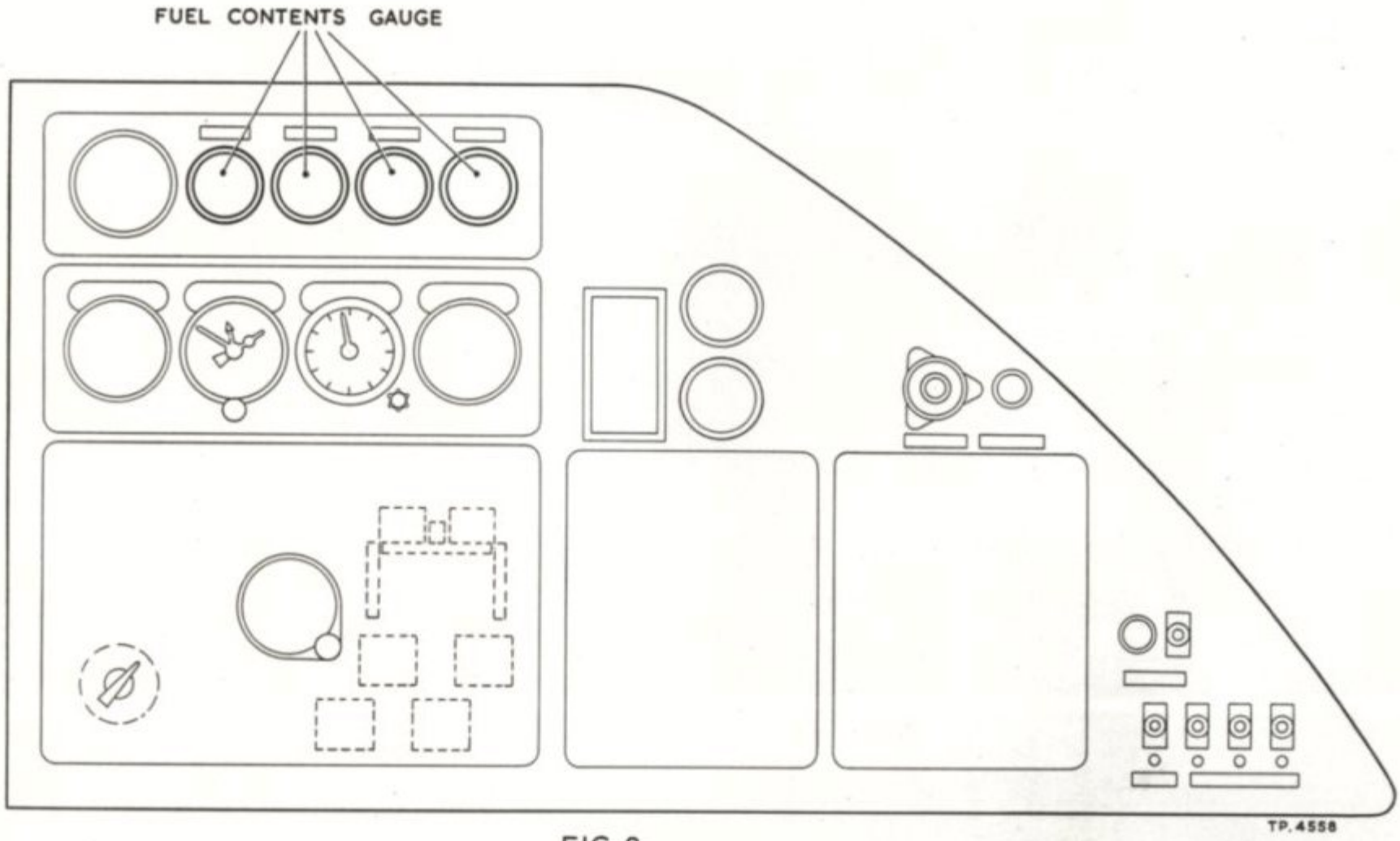


FIG. 8
LAYOUT OF A.E.O. SLOPING PANEL

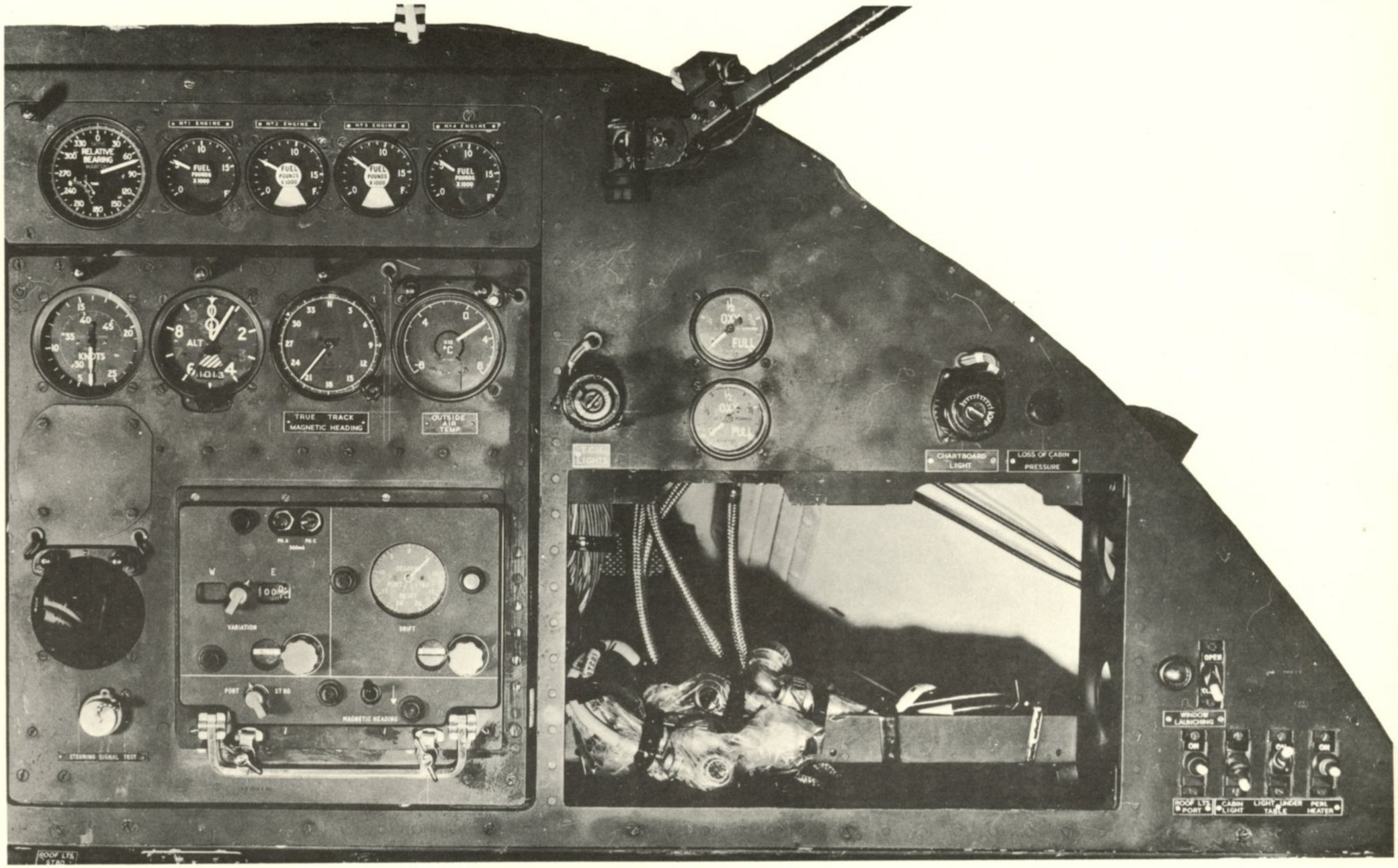
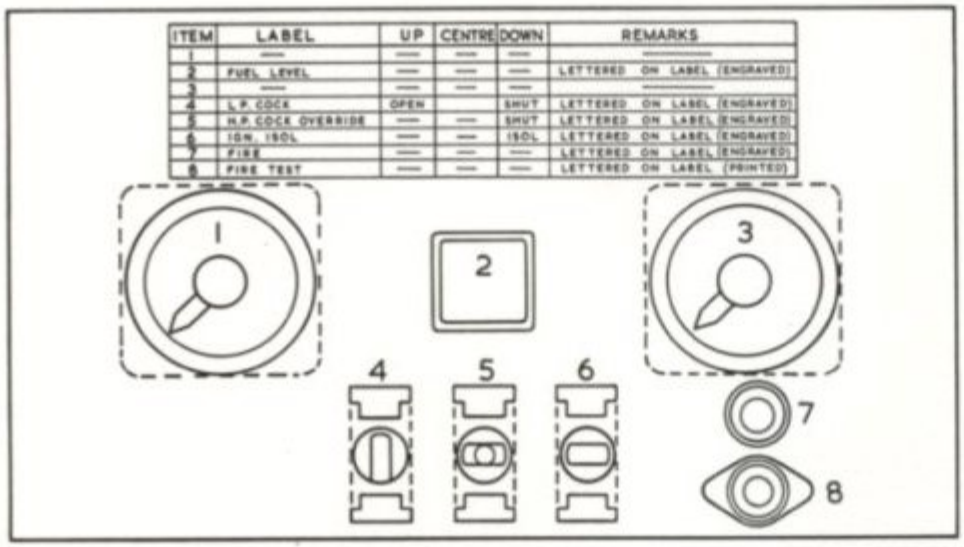
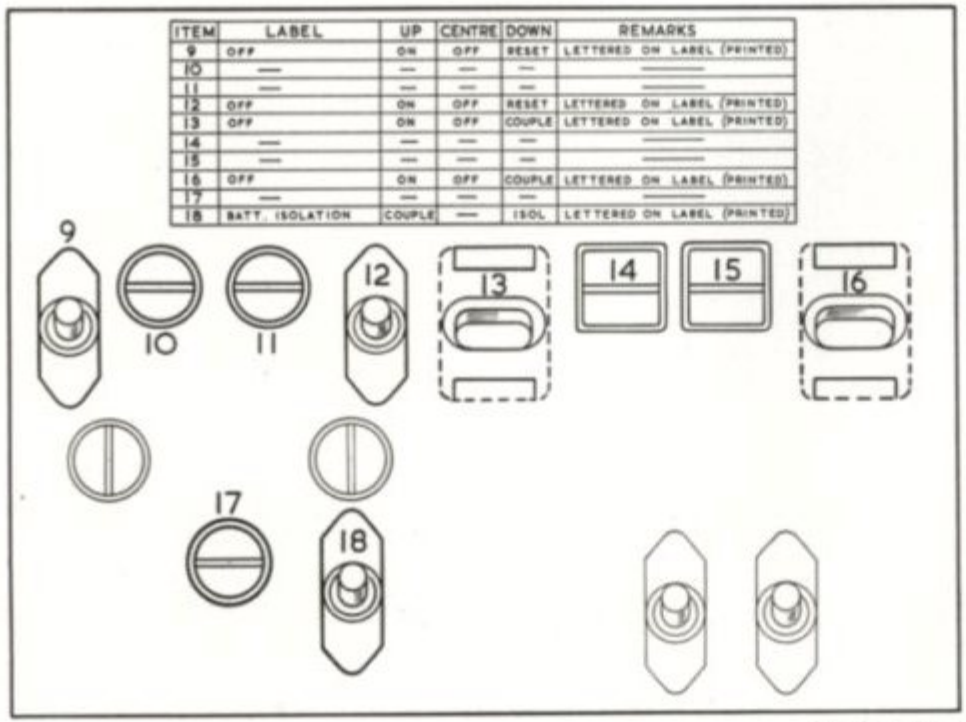


Figure 8, A.E.O. Sloping Panel.

A.E.S.521





TP.4584

1 OIL PRESSURE INDICATOR
2 FUEL LEVEL INDICATOR
3 JET PIPE TEMPERATURE GAUGE
4 LOW PRESSURE COCK SWITCH
5 HIGH PRESSURE COCK OVERRIDE SWITCH
6 IGNITION ISOLATION SWITCH
7 PUSH BUTTON SWITCH FOR FIRE
8 PUSH SWITCH FOR FIRE TEST
9 28-VOLT D.C. SUPPLY SWITCH
10 28-VOLT D.C. SUPPLY INDICATOR
11 28-VOLT D.C. SUPPLY INDICATOR
12 28-VOLT D.C. SUPPLY SWITCH
13 115-VOLT A.C. SUPPLY SWITCH
14 115-VOLT A.C. SUPPLY INDICATOR
15 115-VOLT A.C. SUPPLY INDICATOR
16 115-VOLT A.C. SUPPLY SWITCH
17 BATTERY ISOLATION INDICATOR
18 BATTERY ISOLATION SWITCH

FIG. 9
AUXILIARY AIRBORNE POWER PLANT PANELS

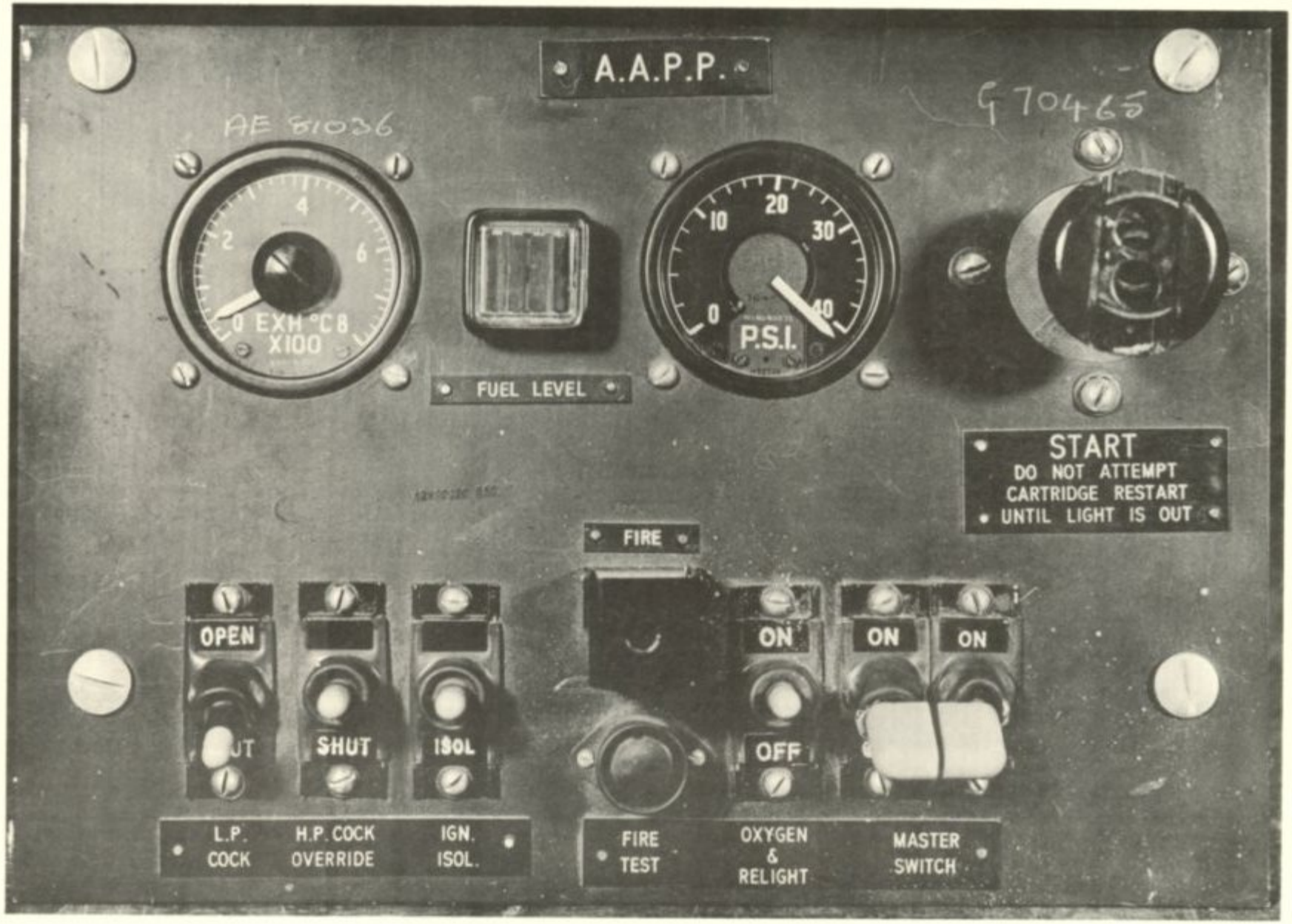
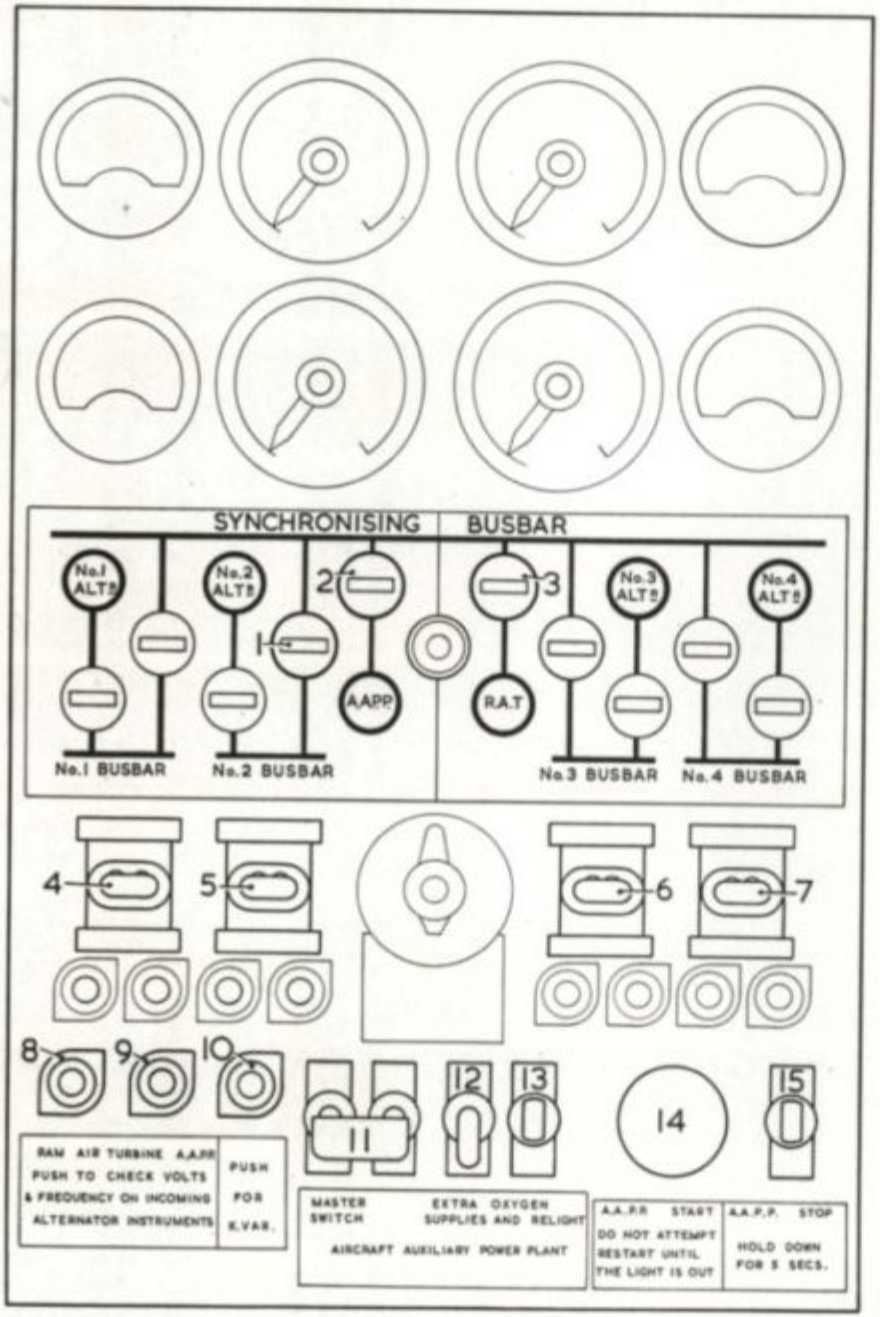


Figure 9, Auxiliary Airborne Power Plant Panel.

A.E.S.522



SWITCHES

1 Nº 2 BUS BAR M/I.
2 AIRCRAFT AUXILIARY P.P. M/I.
3 RAM AIR TURBINE M/I
4 Nº 1 ALTERNATOR
5 Nº 2 ALTERNATOR
6 Nº 3 ALTERNATOR
7 Nº 4 ALTERNATOR
8 RAM AIR TURBINE VOLTS CHECK PUSH
9 AIRCRAFT AUXILIARY P.P. VOLTS CHECK PUSH
10 K. VAR. PUSH
11 AIRCRAFT AUXILIARY P.P. MASTER
12 A.A.P.P. EXTRA OXYGEN SUPPLIES
13 A.A.P.P. EXTRA OXYGEN RELIGHT
14 A.A.P.P. START
15 A.A.P.P. STOP

TP. 4559

FIG. 10
ALTERNATOR CONTROL SWITCH PANEL

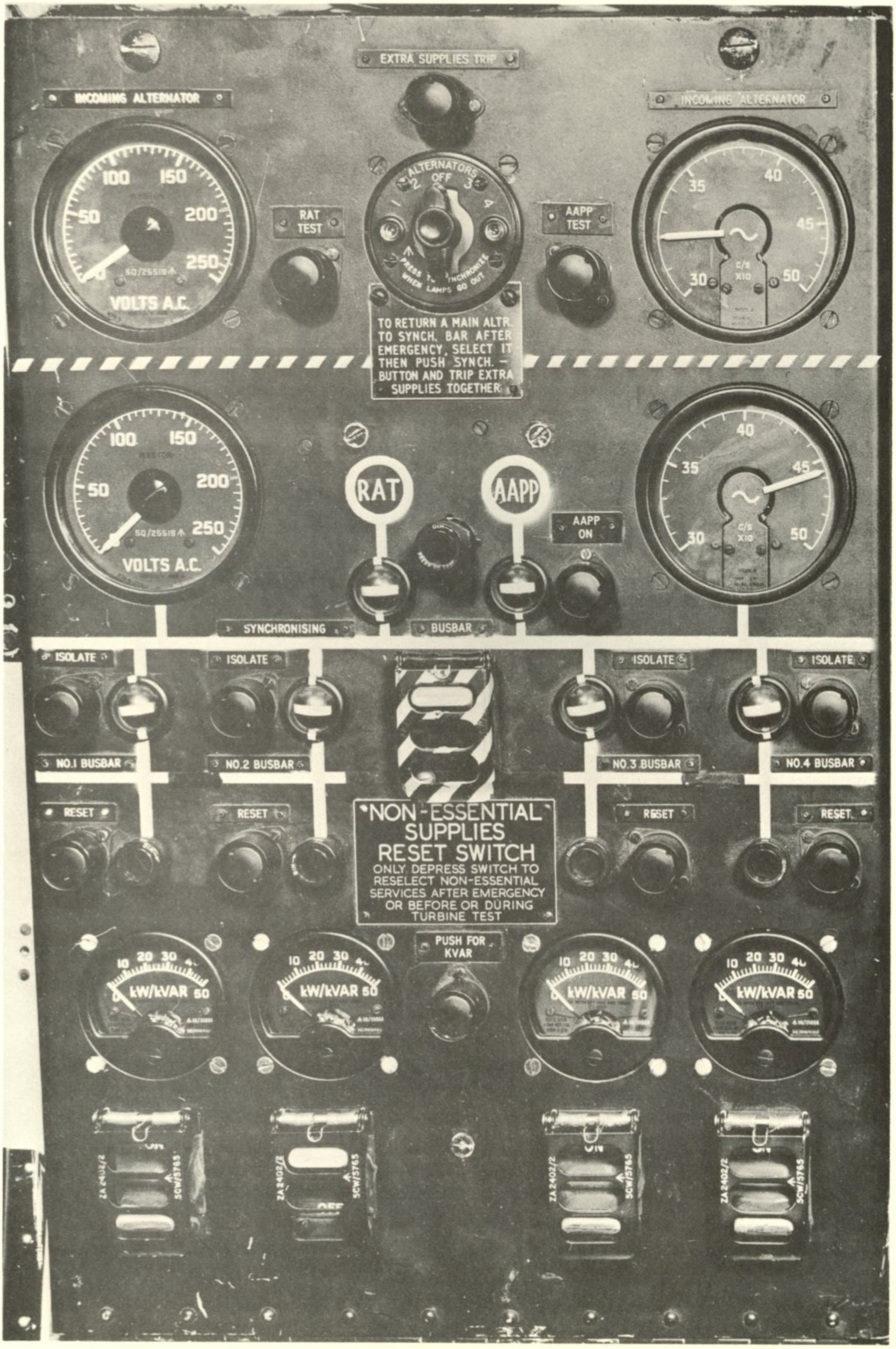


Figure 10, Alternator Control Switch Panel.

A.E.S.523

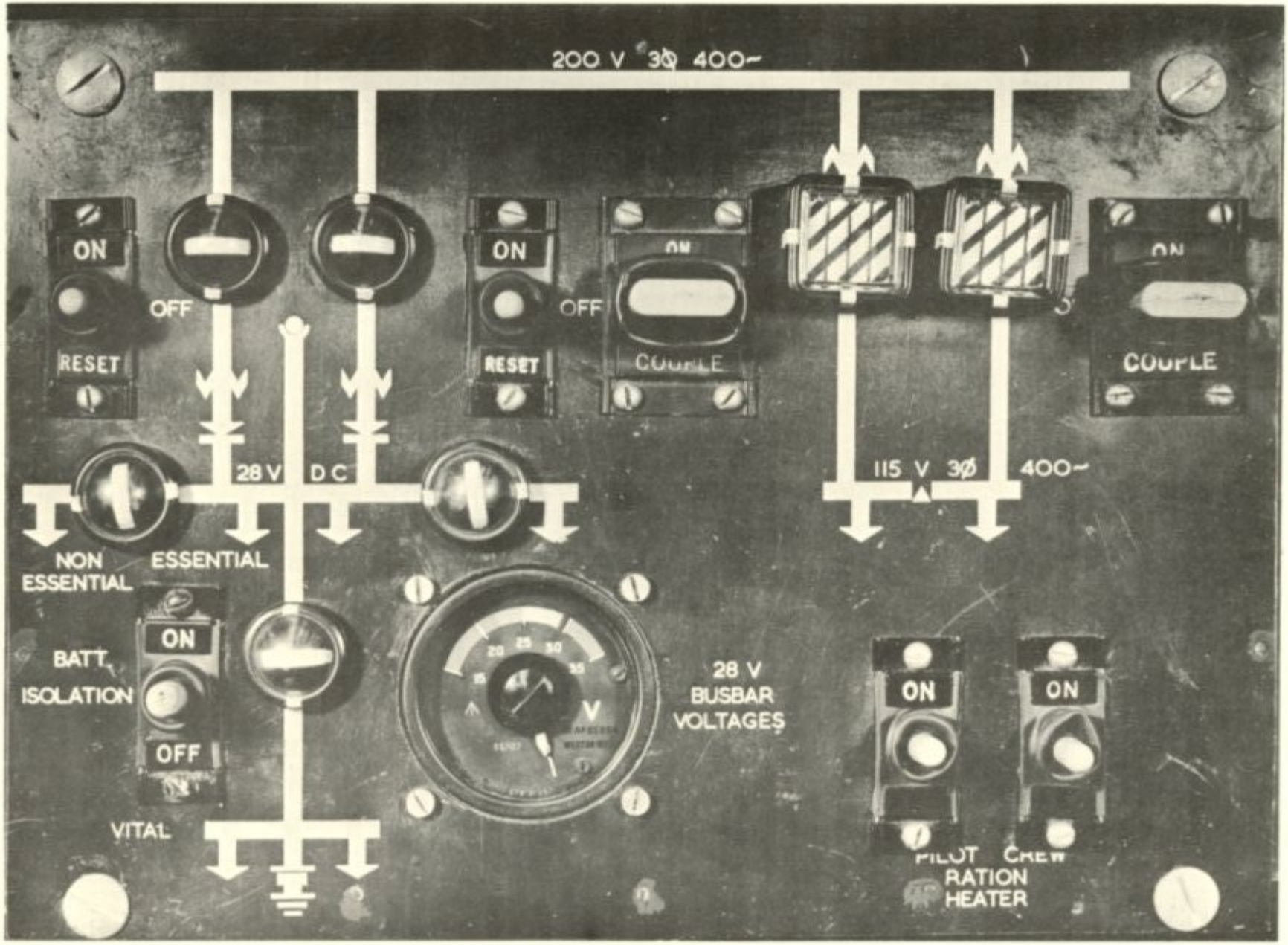


Figure 11, Secondary Supplies Panel.

A.E.S.524