

OLYMPUS  
SECTION 22  
FLIGHT REFUELLINGIntroduction

Flight refuelling is utilized when there is a requirement for the maximum bomb load together with the maximum fuel load. The aircraft is fully loaded on the ground at the expense of fuel. When operational height is attained flight refuelling is carried out. It is essential that maximum fuel load is now carried and therefore there will be no necessity to provide for a proportioning system. The float switch in each tank is allowed to close the refuelling valves.

Equipment

The probe consists of an outer tube through which passes a fuel pipe to a nozzle at the forward end. A pipe passes between these two tubes, which supplies nitrogen to the front of the probe. As the supply of fuel has to pass through the pressure cabin, strengthened pipes, non return valves and other safety precautions are observed to prevent fire risks. The system is controlled from the Flight Refuelling Control Panel next to the Co-Pilot.

Operation

1. Operate the Flight Refuelling Master Switch which will automatically:-
  - (a) Energise all refuelling valves open. (All lights on)
  - (b) Switch off tank pressurisation. (Dolls eyes white)
  - (c) Energise the C of G indicator.
  - (d) Alter the operation of the C of G transfer switches so that they now control the refuelling valves in either 1 and 2 or 6 and 7 tanks.
  - (e) Brings into operation the Flight Refuelling lateral control switch.
2. Contact with the drogue may now be made.
3. All tanks are refuelled at the same time, a float switch closing the refuelling valve and extinguishing the tank indicator.
4. Rate of flow is 500 gallons per minute. When all tank indicators are out, return the Master switch to OFF.
5. During refuelling correction for C of G changes is accomplished by the three switches on the top of the fuel control panel. Centre switch Port and Starboard side only. Transfer switches satisfy for nose or tail heavy conditions.
6. To clear the probe of fuel. Operate the Nitrogen Purge switch. This allows nitroge to flow into the probe and push the fuel into both No. 2 tanks, the refuelling valve being reenergised by the switch.



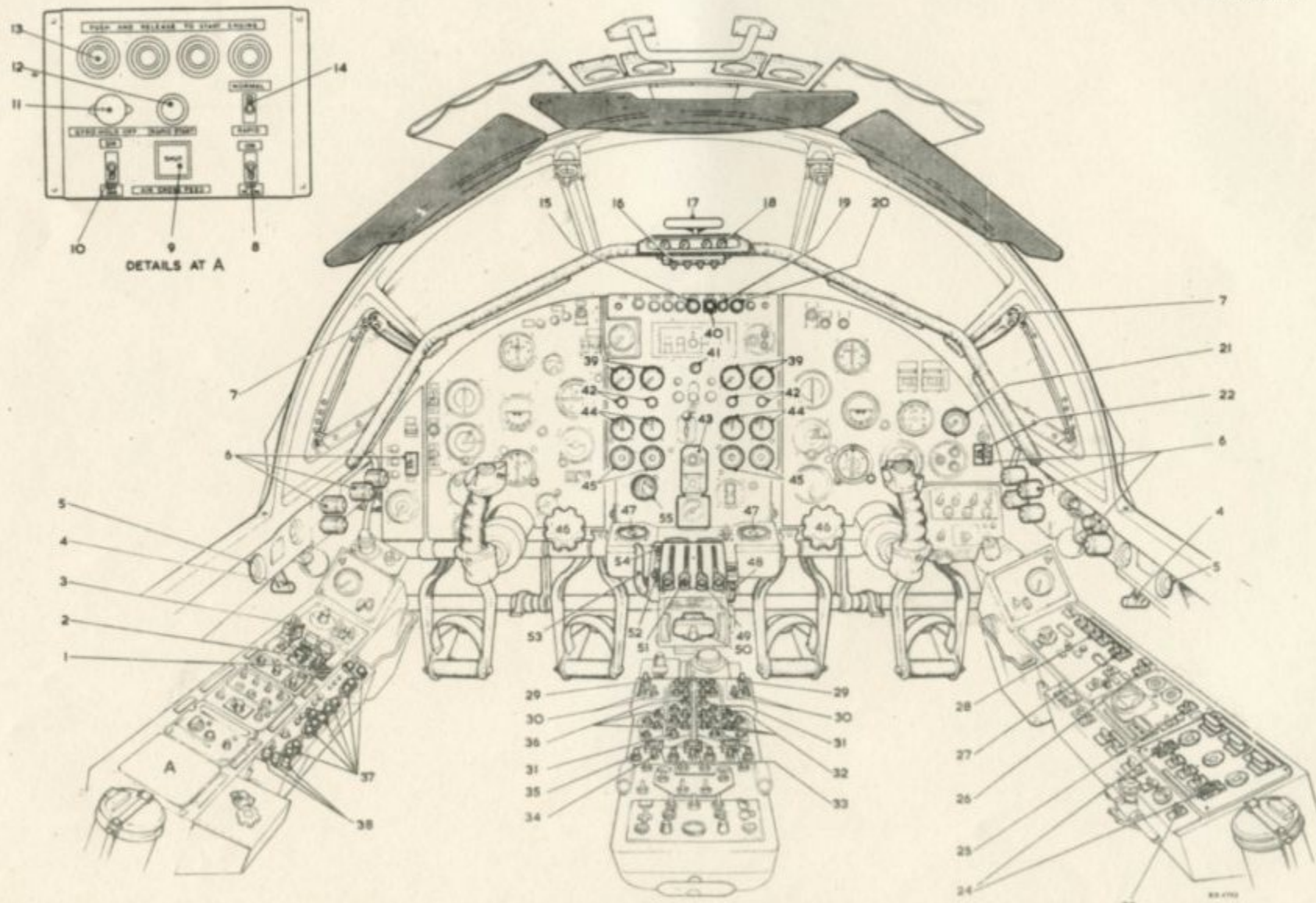
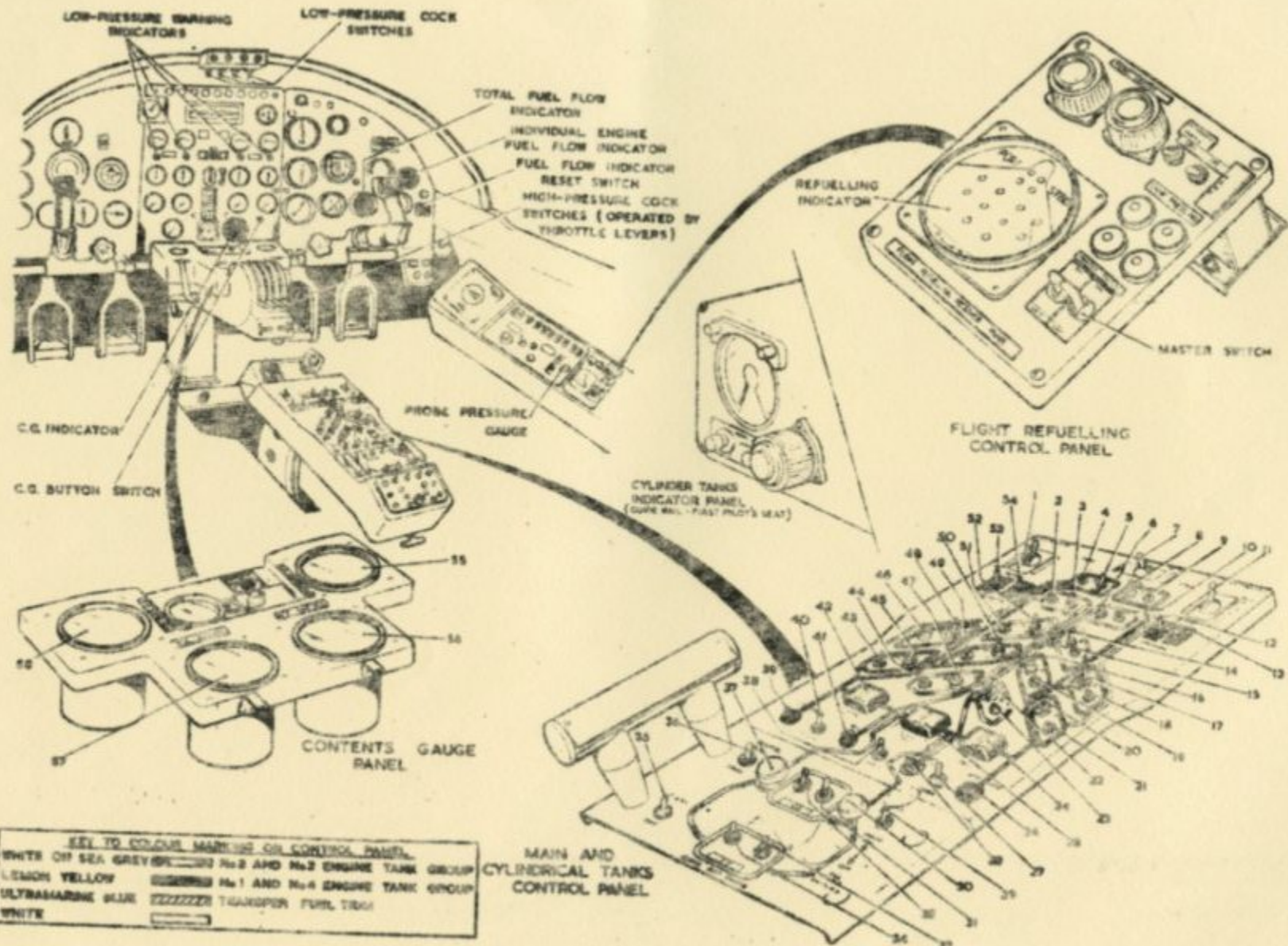


Fig. 2.

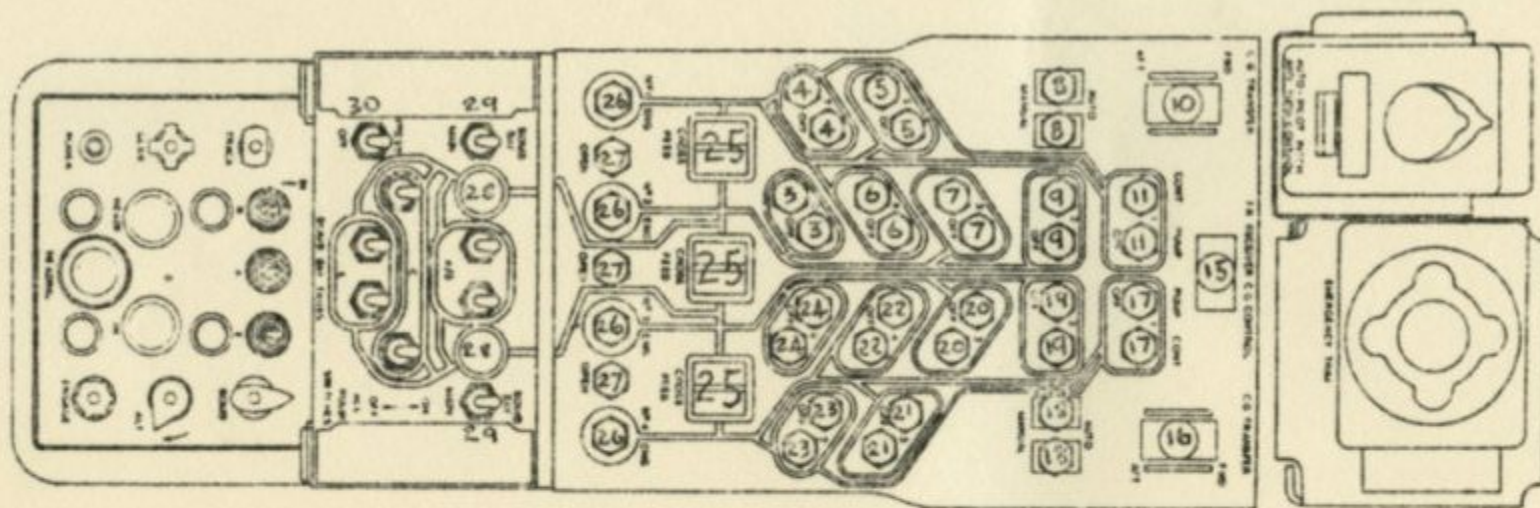
Fig. 2. Engine running - associated controls and instruments

Fig. 2.

R E S T R I C T E D



FUEL PANELS IN THE CABIN



KEY TO FIG 4

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|--|--|
| 1 Auto-pilot controller                                  | 15 Flight refuelling CG control switch                   |
| 2 Bomb bay fuel tanks controls and indicators            | 16 Stbd fuel CG transfer switch                          |
| 3 No. 6 tank (port) pump switch and contents pushbutton  | 17 No. 1 tank (stbd) pump switch and contents pushbutton |
| 4 No. 7 tank (port) pump switch and contents pushbutton  | 18 Stbd auto manual switches (two)                       |
| 5 No. 5 tank (port) pump switch and contents pushbutton  | 19 No. 2 tank (stbd) pump switch and contents pushbutton |
| 6 No. 4 tank (port) pump switch and contents pushbutton  | 20 No. 3 tank (stbd) pump switch and contents pushbutton |
| 7 No. 3 tank (port) pump switch and contents pushbutton  | 21 No. 5 tank (stbd) pump switch and contents pushbutton |
| 8 Port auto manual switches (two)                        | 22 No. 4 tank (stbd) pump switch and contents pushbutton |
| 9 No. 2 tank (port) pump switch and contents pushbutton  | 23 No. 7 tank (stbd) pump switch and contents pushbutton |
| 10 Port fuel CG transfer switch                          | 24 No. 6 tank (stbd) pump switch and contents pushbutton |
| 11 No. 1 tank (port) pump switch and contents pushbutton | 25 Cross-feed cock position indicators (three)           |
| 12 Auto-pilot turn control                               | 26 Fuel flow engine selector buttons (four)              |
| 13 Auto-pilot pitch control                              | 27 Cross-feed cock switches (three)                      |
| 14 Emergency trim control                                | 28 BOMB BAY TANK, FULL PRESSURE WARNING DOLLS EYES       |
|  | 29 BOMB BAY/MAIN PUMP SELECTOR S/W.                      |
|  | 30 BOMB BAY TANKS PRESSURISATION S/W.                    |

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