Group D.8

ALIGHTING GEAR INDICATOR (CODE U)

◀ (Including Mods.375, 521 and 1279) ▶

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Introduction

1. The major components employed in the alighting gear indicator circuit are quoted in Table 1 below, together with the appropriate A.P. to which reference should be made for a detailed description and the necessary servicing required to maintain them in an efficient condition.

DESCRIPTION

Alighting gear indicator

2. The alighting gear position indicator is controlled by the alighting gear leg and wheel door microswitches. The instrument is mounted on the port instrument panel and indicates the position of each undercarriage unit as follows:–

All units locked down ... Three green lamps
All intermediate positions ... ... Three red lamps
All units retracted and wheel doors locked up ... All lamps out

There is a change-over switch in the centre of the indicator to bring into circuit a spare set of green lamps and an anti-dazzle screen is also provided. To remind the pilot to lower the alighting gear, a red warning lamp is also mounted on the port instrument panel. This lamp is automatically illuminated, via a microswitch in the throttle box, if the throttle is moved to less than approximately one-third open when the alighting gear is not locked down.

TABLE 1

Equipment type and Air Publication reference

Equipment Type	Air Publication
Position indicator, Type D	A.P.4343E, Vol.1, Sect.18
Warning lamp, iris type	A.P.4343E, Vol.1, Sect.18
Microswitches, Type 1A and 4A Microswitches, Pye Type 401/S *(Mod.521)* Microswitches, Dowty Type 1322Z Mk.2 *(Mod.1279)*	A.P.4343C, Vol.1, Book 1, Sect.2, Chap.1.

Operation

3. The theoretical circuit diagram (figs.1 shows conditions when the aircraft is standing on its alighting gear with the throttle closed. The green indicator lamps are all illuminated as both the main undercarriage legs and the nose wheel leg down microswitches are making contacts A–E to supply these lamps. The throttle microswitch is making contacts A–B, but the alighting gear warning lamp is not illuminated as the supply is broken at contacts C of the down microswitches. The wheel door and the main wheel leg up microswitches are all making contacts A–D, while the nose wheel leg up microswitch is making contacts A–B, preparatory to illuminating the red indicator lamps when the circuit is completed by the down microswitches when in the "between locks" position.

4. When the alighting gear is between locks, the down microswitches are making contacts A–B–C to supply the up and wheel door microswitches, via contacts B, thus illuminating the red indicator lamps. Under this condition a supply is also made to the throttle microswitch, via contacts C of the down microswitches, thus the alighting gear warning lamp will illuminate if the throttle is closed *(para.5)*.

5. With the alighting gear retracted and all wheel doors locked up, the down microswitches are in the same position as when between locks, but the leg up and wheel door microswitches are making contacts A–B–C, thus breaking the supply to the red indicator lamps. As the down microswitches are in the same position as when between locks, the supply to the throttle microswitch is maintained to illuminate the alighting gear warning lamp should the throttle be closed while the alighting gear is still retracted.

SERVICING

General

6. For general servicing of the electrical system as a whole, reference should be made to Group A of this chapter. Apart from keeping all the components clean and carrying out the standard routeing security and serviceability tests of the microswitches and indicator, as described in the appropriate Air Publications quoted in Table 1. of this group, no further servicing should be necessary. The method of adjusting the microswitches to ensure the correct function of the position indicator is fully described in the alighting gear adjustment procedure contained in Section 3, Chapter 5 of this volume.

REMOVAL AND ASSEMBLY

General

7. Once access has been obtained, the removal and assembly of the components forming the alighting gear position indicator and warning lamp circuit should present no unusual difficulties. The location and access to all the components is indicated in Group A of this chapter.

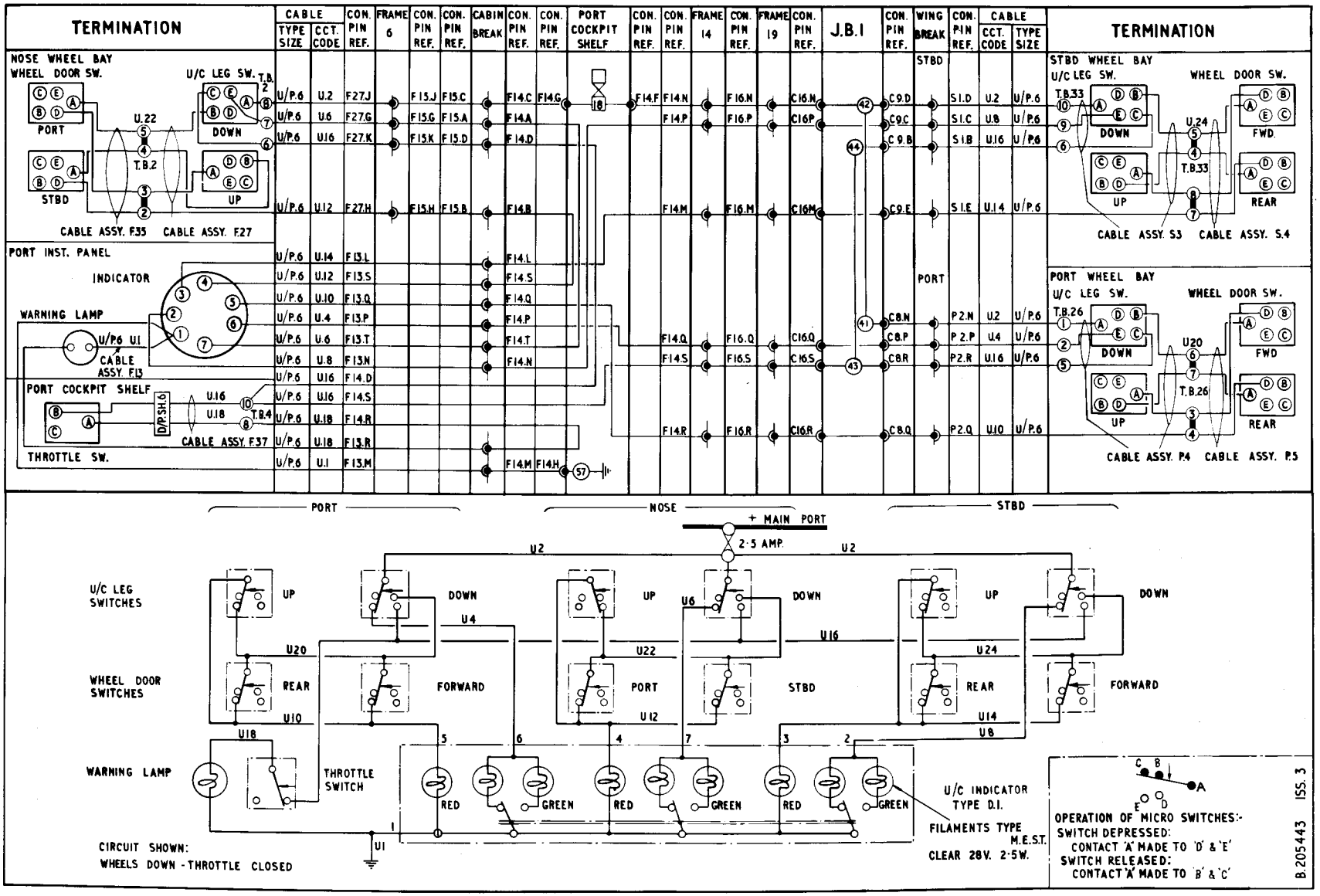

Fig.1 Alighting gear indicator – Mod. 375

◀ Minor amendment ▶