GROUP D.8 ALIGHTING GEAR INDICATOR

(CODE U)

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Equipment employed

1. The major components employed in the alighting gear control circuit are listed below, together with the relevant Air Publications to which reference should be made for a detailed description and the necessary servicing required to maintain them in an efficient condition.

U/C indicator, Type D.1 (*Dowty, Type C1224 Y, Mk.5*) Warning lamp	*A.P.4343E, Vol. 1, Sect.18*
Micro-switch, Type 4A (*main wheels*) Micro-switch, Type 1A (*in throttle control box*) Micro-switch, Type 401S (*nose wheel door*)	*A.P.4343C, Vol. 1, Book 1, Sect. 2*

DESCRIPTION

Alighting gear indicator

2. The alighting gear position indicator is controlled by the alighting gear leg and wheel door micro-switches. 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 micro-switch in the throttle box, if the throttle is moved to less than approximately one-third open when the alighting gear is not locked down. The nose wheel door micro-switches are of the Pye 401/S type.

Operation

3. The theoretical circuit diagram *(fig. 1)* shows conditions when the aircraft is standing

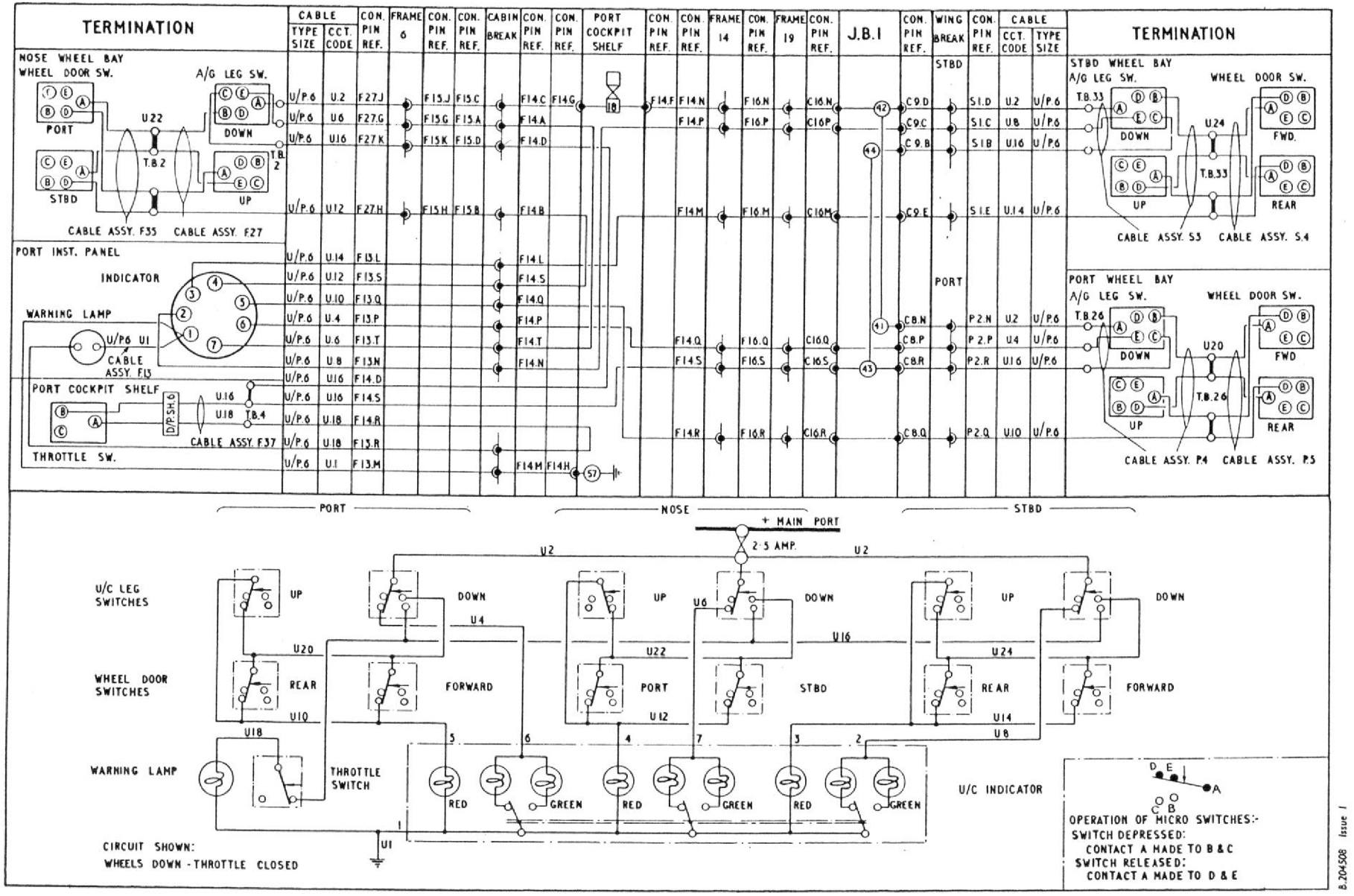

Fig. 1. Alighting gear indicator (routing and theoretical)

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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 micro-switches are making contacts A-E to supply these lamps. The throttle micro-switch 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 micro-switches. The wheel door and the main wheel leg up micro-switches are all making contacts A-D, while the nose wheel leg up micro-switch is making contacts A-B, preparatory to illuminating the red indicator lamps when the circuit is completed by the down micro-switches when in the 'between locks' position.

4. When the alighting gear is 'between locks,' the down micro-switches are making contacts A-B-C to supply the up and wheel door micro-switches, via contacts B, thus illuminating the red indicator lamps. Under this condition a supply is also made to the throttle micro-switch, via contacts C of the down micro-switches, 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 micro-switches are in the same position as when between locks, but the leg up and wheel door micro-switches are making contacts A-B-C, thus breaking the supply to the red indicator lamps. As the down micro-switches are in the same position as when between locks, the supply to the throttle micro-switch 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.1. Apart from keeping all the components clean and carrying out the standard routing security and serviceability tests of the micro-switches and indicator, as described in the relevant Air Publications *(listed in para. 1)*, no further servicing should be necessary. The method of adjusting the micro-switches to ensure the correct function of the position indicator is fully described in the alighting gear adjustment procedure contained in Sect. 3, Chap. 5.

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 difficulties. The location and access to all the components is indicated in Group A.3.

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