GROUP D8 ALIGHTING GEAR INDICATOR (CODE U)

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ILLUSTRATION

Introduction

1. The electrical circuit of the alighting gear position indicator and warning lamp is described in this group, together with the method of operation and the necessary servicing information required to maintain the components in an efficient condition. A routing and theoretical diagram of the circuit is also included. For detailed information on the standard components used, reference should be made to the appropriate volumes of A.P.4343 series, while a description of the electrical system of the aircraft as a whole, including system wiring details, referencing of components and general servicing will be found in Group A1 of this chapter. The removal of the major electrical equipment is given in Group A2 and the location, including the means of access in Group A3, also of this chapter.

DESCRIPTION

ALIGHTING GEAR INDICATOR

2. The alighting gear position indicator, Type D, 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 on

All intermediate positions ... ... three red lamps on

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 iris type 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.

Operation

3. The theoretical conception of the circuit (*fig.* 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 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 leg up and wheel door micro switches are all making

contacts A–D 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

6. For general servicing of the electrical system as a whole, reference should be made to Group A1 of this chapter. Apart from keeping all the components clean and carrying out the standard routine security and serviceability tests of the micro switches and indicator, as described in A.P.4343 series, no further servicing should be necessary. The method of adjusting the micro switches is described in Sect. 3, Chap. 5.

REMOVAL AND ASSEMBLY

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 A3 of this chapter.

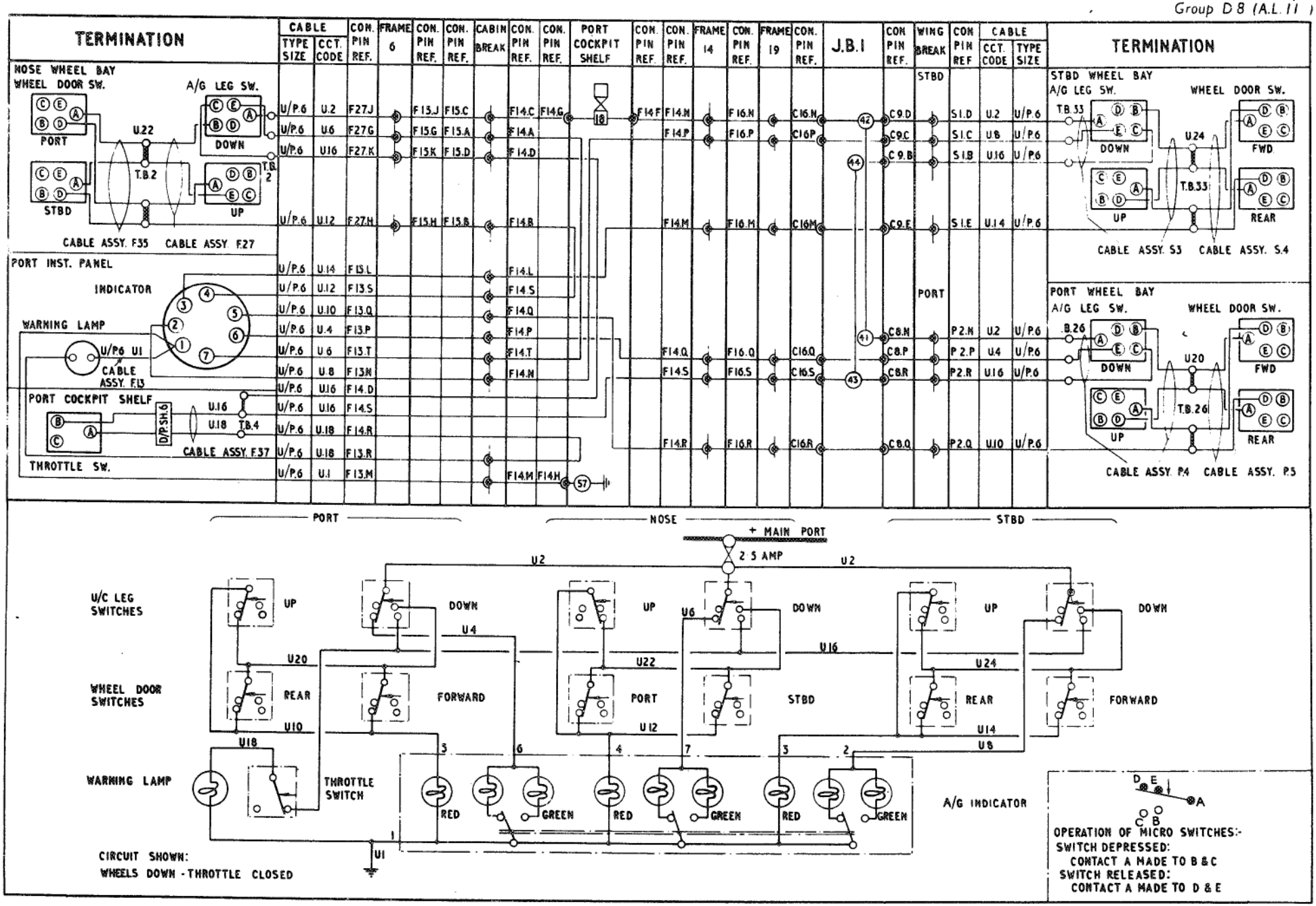

FIG. 1. ALIGHTING GEAR INDICATOR

(A.L. 11, Nov., 54)

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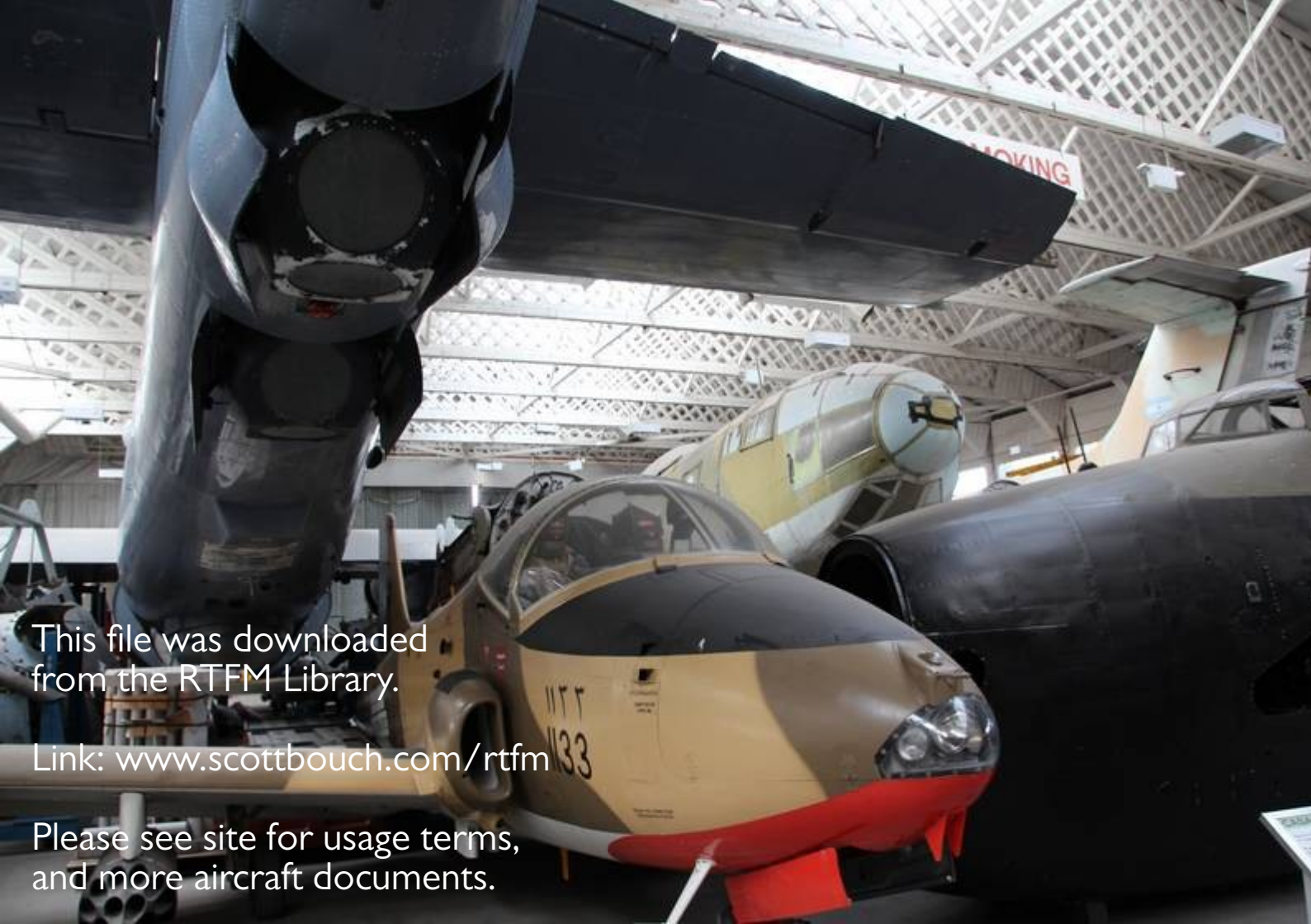

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