Chapter 8 LIGHTING

(completely revised)

LIST OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

DESCRIPTION

General

1. This chapter has been revised to include the following modifications:-

Mod.2147 To reposition and illuminate refuelling switch.

Mod.4240 To complete provision for and introduce brushless A.C. alternator Type AE 2071 and brushless d.c. generator Type 2519 Mk.2 in lieu of existing system.

Mod.4359 Instrument lighting - to introduce cap retainer 01-0383 in lieu of 02-0289.

Mod.4499 Radar I.F.F./S.S.R. To incorporate the requirements of S.R.I.M.3339.

The internal lighting installation comprises several normal and emergency circuits which provide for the illumination of the cockpit controls and instruments. Two external lighting circuits are associated with the navigation and taxying lamps. The entire lighting installation is supplied from the d.c. distribution system.

INTERNAL LIGHTING

Panel and console lighting

2. All forward instrument panels are normally illuminated by red pillar lamps, fitted as single units or in bridged pairs, and the associated circuit is controlled by the MAIN PANEL LIGHTS switch on the starboard console. This fully-variable dimmer switch also con-

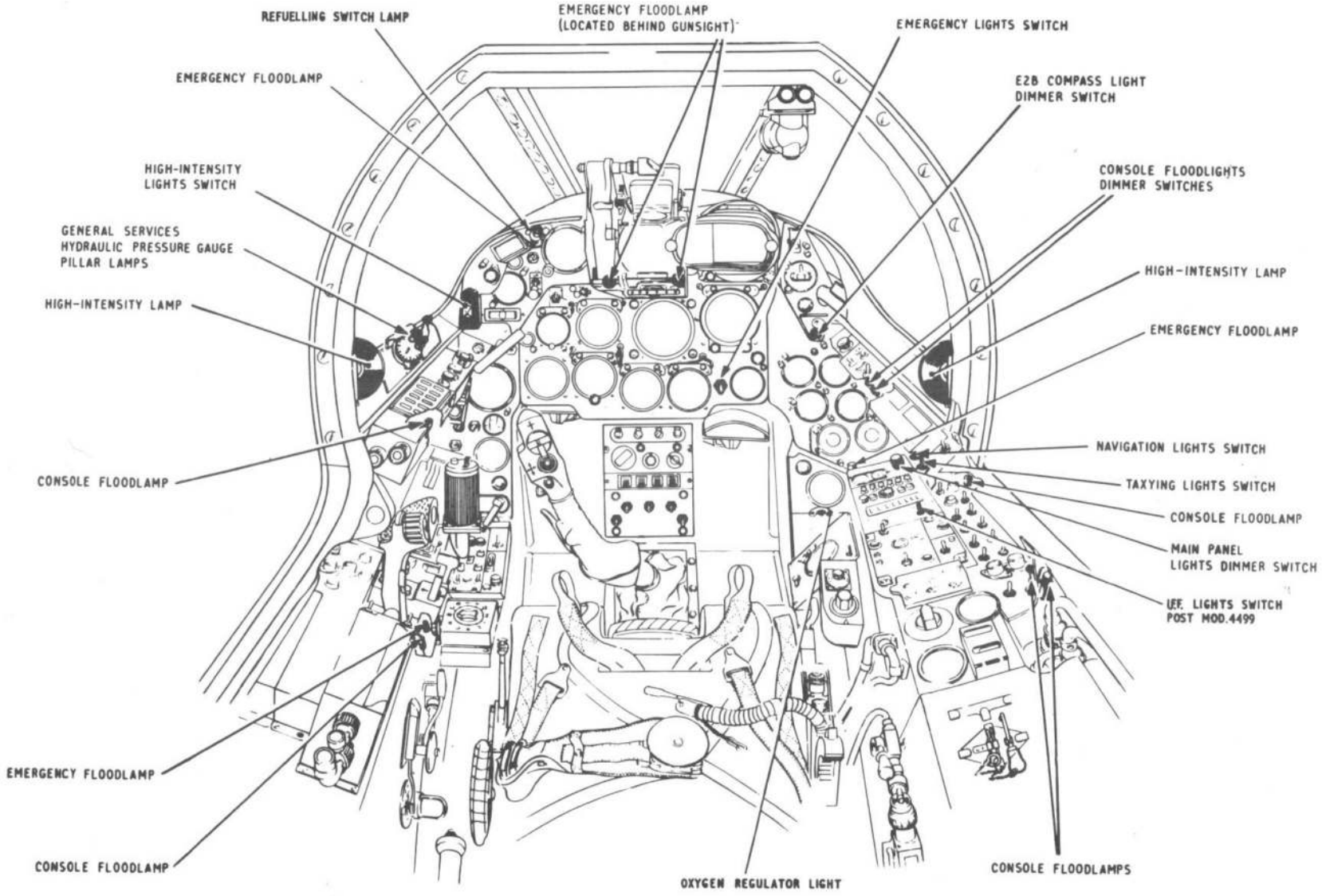

FIG.I. COCKPIT LIGHTING DETAILS

◀ MOD. 4499 EMBODIED ▶

A25021

trols the Plasteck panel lamps incorporated in the armament switch panel, the U.H.F. switch panel, and the U.H.F. control unit. An additional function of the switch is to reduce automatically the brilliance of the attention and cancel switch lamps *(Chap.12)* by connecting a 150-ohm voltage-dropping resistor in series with them whenever the instrument panel lighting is switched on. Three red floodlamps on the starboard side of the cockpit, and two on the port side, provide general illumination of the consoles, and this is supplemented by Plasteck panel lighting and red pillar lamps on many of the panels and control units attached to the consoles. All console lighting circuits are controlled by PORT and STARBOARD LIGHTING dimmer switches fitted on a bracket below the armament switch panel. These switches are of the rotary type, and dimming is effected by a chain of voltage-dropping resistors connected to the switch contacts. The resistors are fitted in two small boxes attached to the side of the starboard console. Owing to extensive paralleling of the lamp circuits, taper pin connectors are used at most junction points. These are located on, or near, the relevant panels and control units.

High-intensity floodlamps

3. Two high-intensity floodlamps, attached to the windscreen arch, are controlled by a three-position switch, labelled BRIGHT-OFF-DIM, fitted on the port shroud. If the pilot's vision should be temporarily impaired by the flash of an explosion, the lamps may be used to intensify the illumination of the essential instruments.

E2B compass lamp

4. The integral lamp of the E2B compass is normally supplied from the d.c. distribution system, but it may also receive a supply from the emergency lighting circuit *(para.5)*. A dimmer switch in series with the lamp is located above the console lighting switches.

Emergency floodlamps

5. In the event of failure of the normal cockpit lighting, the instrument panels and consoles may be illuminated by amber floodlamps. The supply to the lamps is provided by the 24-volt emergency battery, and controlled by the EMERGENCY LIGHTS switch on the main instrument panel. When the lamps are switched on, the circuit to the E2B compass lamp is transferred from the normal distribution system to the emergency battery supply.

I.F.F./S.S.R. (post Mod.4499)

6. Illumination of the I.F.F./S.S.R. control unit is provided by two Plasteck panel lamps, controlled by a switch labelled I.F.F. LIGHTS BRIGHT-OFF-DIM, located adjacent to the control unit.

EXTERNAL LIGHTING

Navigation lamps

7. Navigation lamps are fitted in the leading edge of each wing tip, and on each side of the rear fuselage. The NAV. LIGHTS control switch, on the starboard console, has three positions; STEADY-OFF-FLASH. The circuit includes a Type A flasher unit which is mounted on the transverse beam forward of the instrument flying panel. The unit is connected in series with the lamps whenever FLASH is selected.

Taxying lamps

8. Two Type A taxying lamps on the port and starboard undercarriage fixed fairings are controlled by a switch, labelled TAXI LTS., situated near the navigation lights switch.

SERVICING

WARNING

The relevant safety precautions detailed on the LETHAL WARNING marker card must always be observed before entering the cockpit or performing any operations upon the aircraft.

General

9. Servicing of the lighting equipment is normally confined to the cleaning of fittings and the renewal of unserviceable lamps or components. Lamp filament ratings and reference numbers are listed in Table 1. Information relating to the various internal and external lamp units is given in A.P.4343, Vol.1, Sect.7, A.P.113F-0227-1 and A.P.113F-0229-1. Details of the flasher unit are contained in A.P.113F-0618-1.

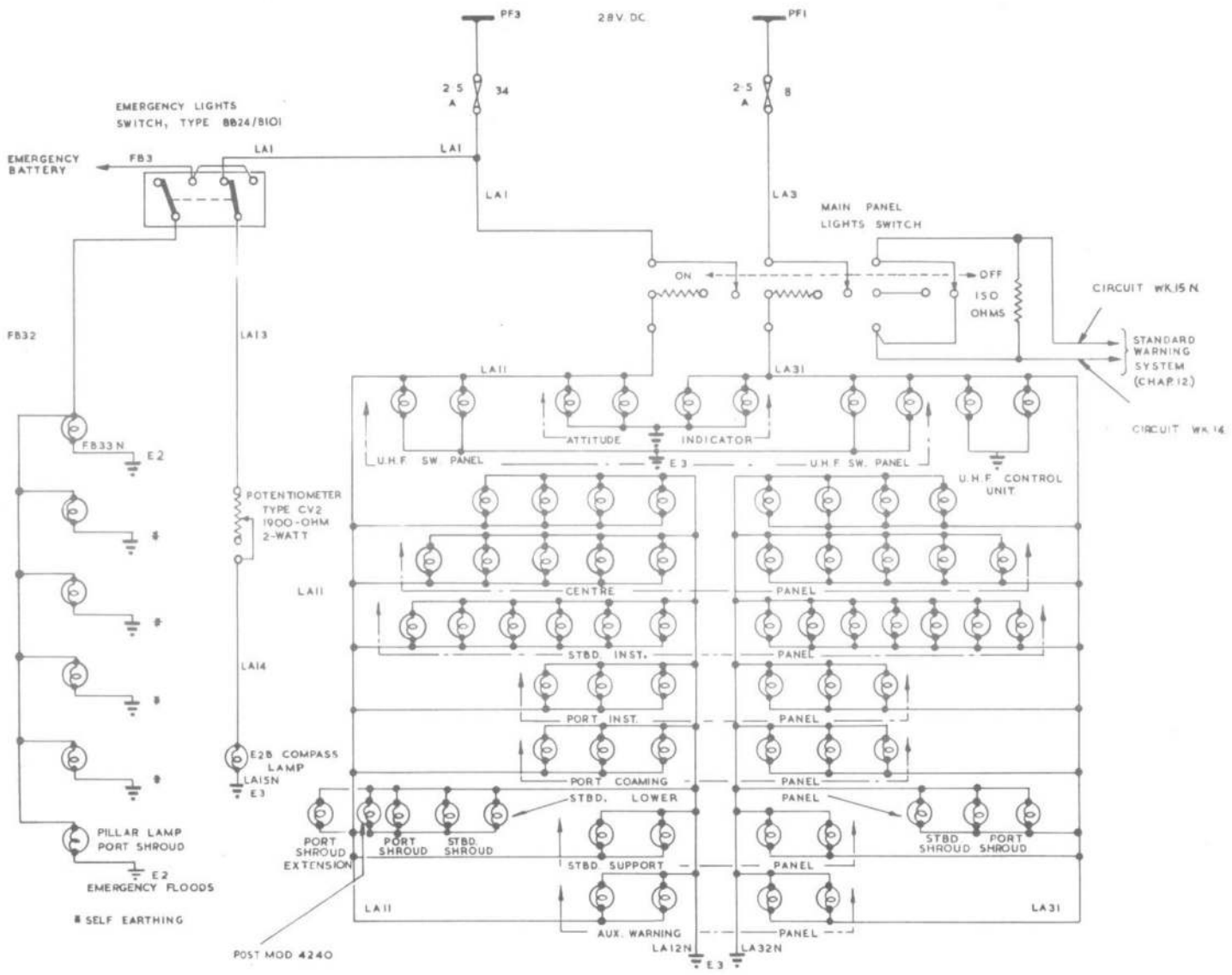

FIG. 2. INTERNAL LIGHTING

◀ MOD 4240 EMBODIED ▶

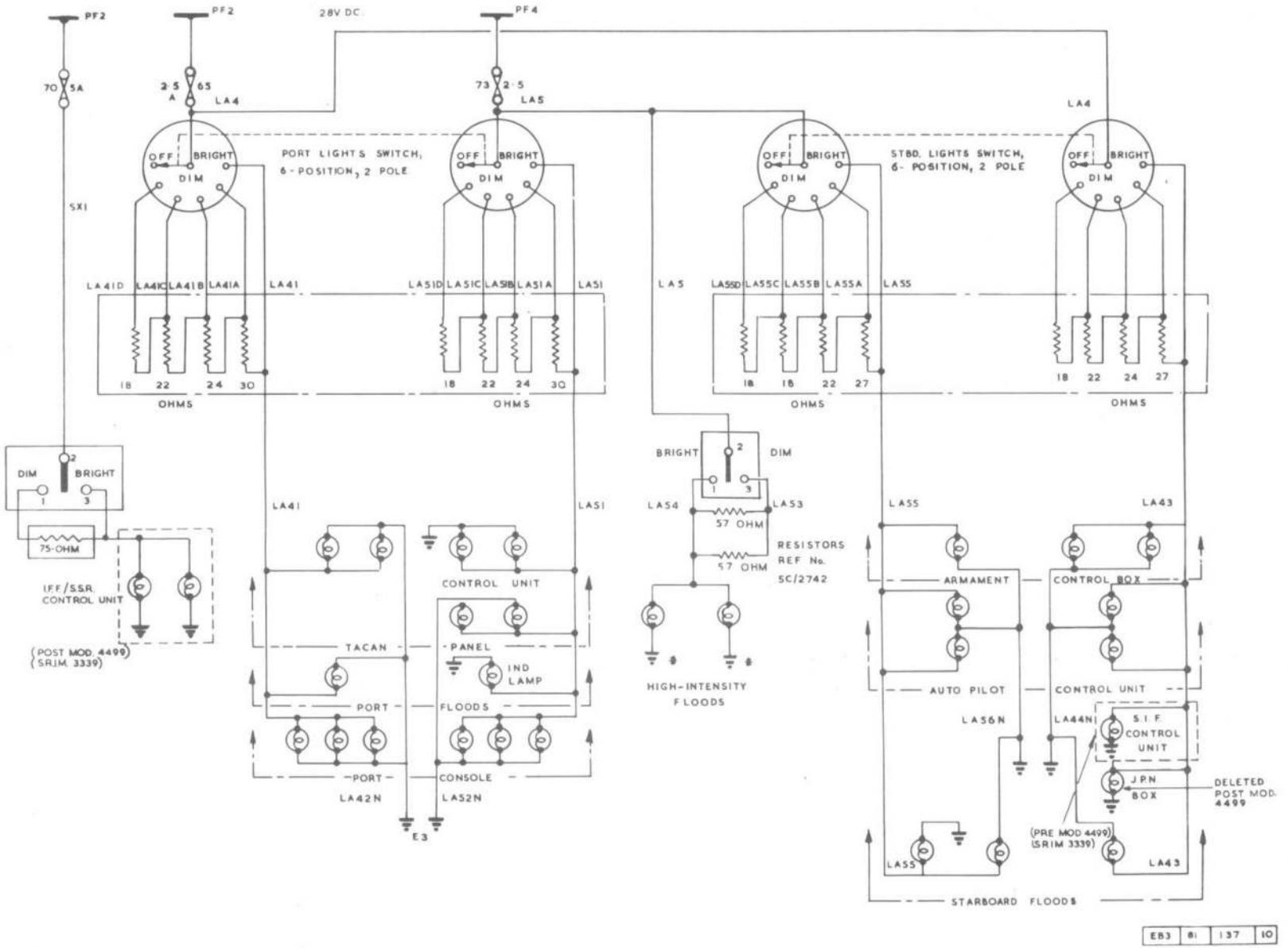

FIG. 2A. INTERNAL LIGHTING

◄ MOD. 4499 EMBODIED ►

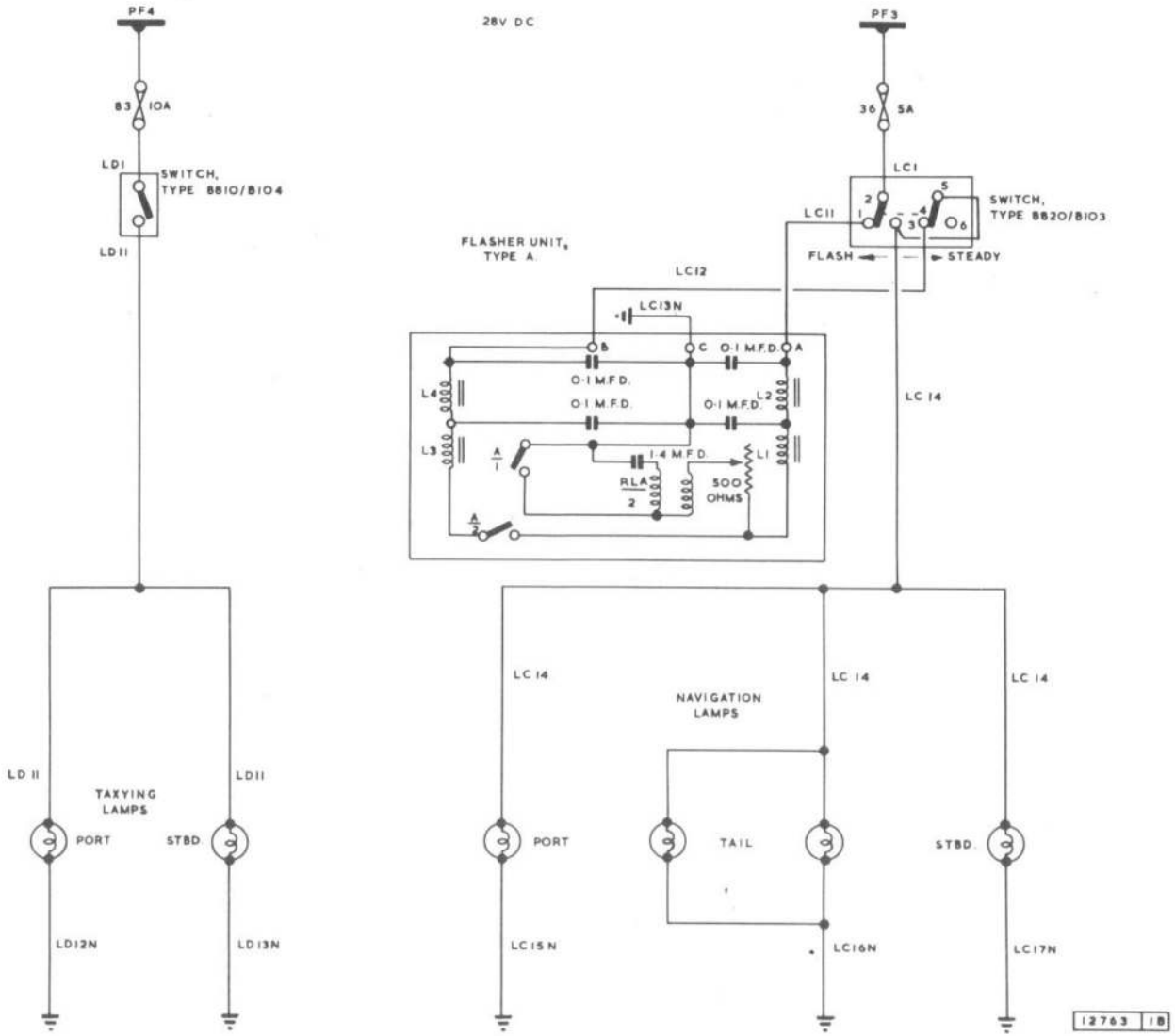

FIG.3. EXTERNAL LIGHTING

◀ MINOR AMENDMENTS ▶

TABLE 1

Details of lamp units and filaments

LAMP UNIT		FILAMENT		UTILIZATION
Location	Ref.	Rating	Ref.	
Below windscreen longerons — Fr.13, stbd.	Type C	28V, 3W	5L/9951283	Console floodlighting
Below windscreen longerons — Fr.13, stbd.	Type C	28V, 3W	5L/9951283	
Below windscreen longerons — Fr.11, stbd.	Type D	28V, 3W	5L/9951271	
Below windscreen longerons — Fr.11-12, port	Type C	28V, 3W	5L/9951283	
Port console side	80/10/0064 (Holder) 80/10/0069 (Cap)	28V, 0.04A	5L/9959118	
Gunsight support beam (port and stbd.)	80/10/0064 (Holder) 80/10/0069 (Cap)	28V, 0.04A	5L/9959118	Emergency floodlighting
Port console side	80/10/0064 (Holder) 80/10/0069 (Cap)			
Port shroud	80/10/1067			
J.P.T. indicator panel	80/10/1067			
Windscreen arch (port and stbd.)	5CX/5128	28V, 12W	5L/X951282	High-intensity floodlighting
E2B compass		28V, 0.04A	5L/9951921	Compass light
Undercarriage fixed fairing (port and stbd.)	Type A	28V, 60W	5L/9952511	Taxying lights
Wing tip (port and stbd.)	5CX/5438 (Holder)	28V, 24W	5L/9952431	Navigation lights
Tail (port and stbd.)	5CX/2783 (Holder)	28V, 10W	5L/9952276	
Instrument and control panels	Pillar, bridge, and Plasteck panel lamps	28V, 0.04A	5L/9959118	Panel lighting
Port shroud extension	80/10/0855	28V, 0.04A	5L/9959118	Flight refuelling switch lighting

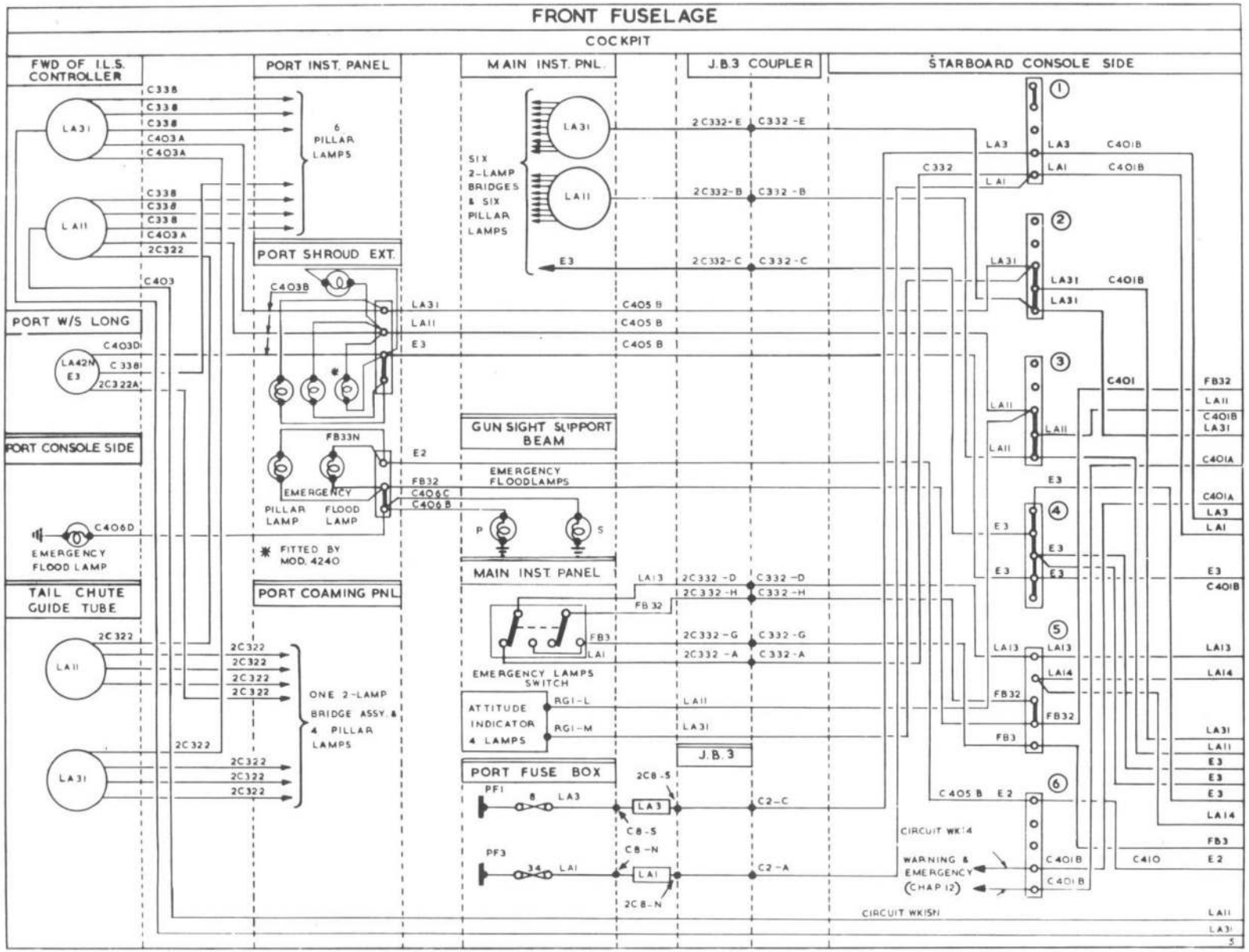

FIG. 4. INTERNAL LIGHTING

◀MOD 2147 & 4240 EMBODIED▶

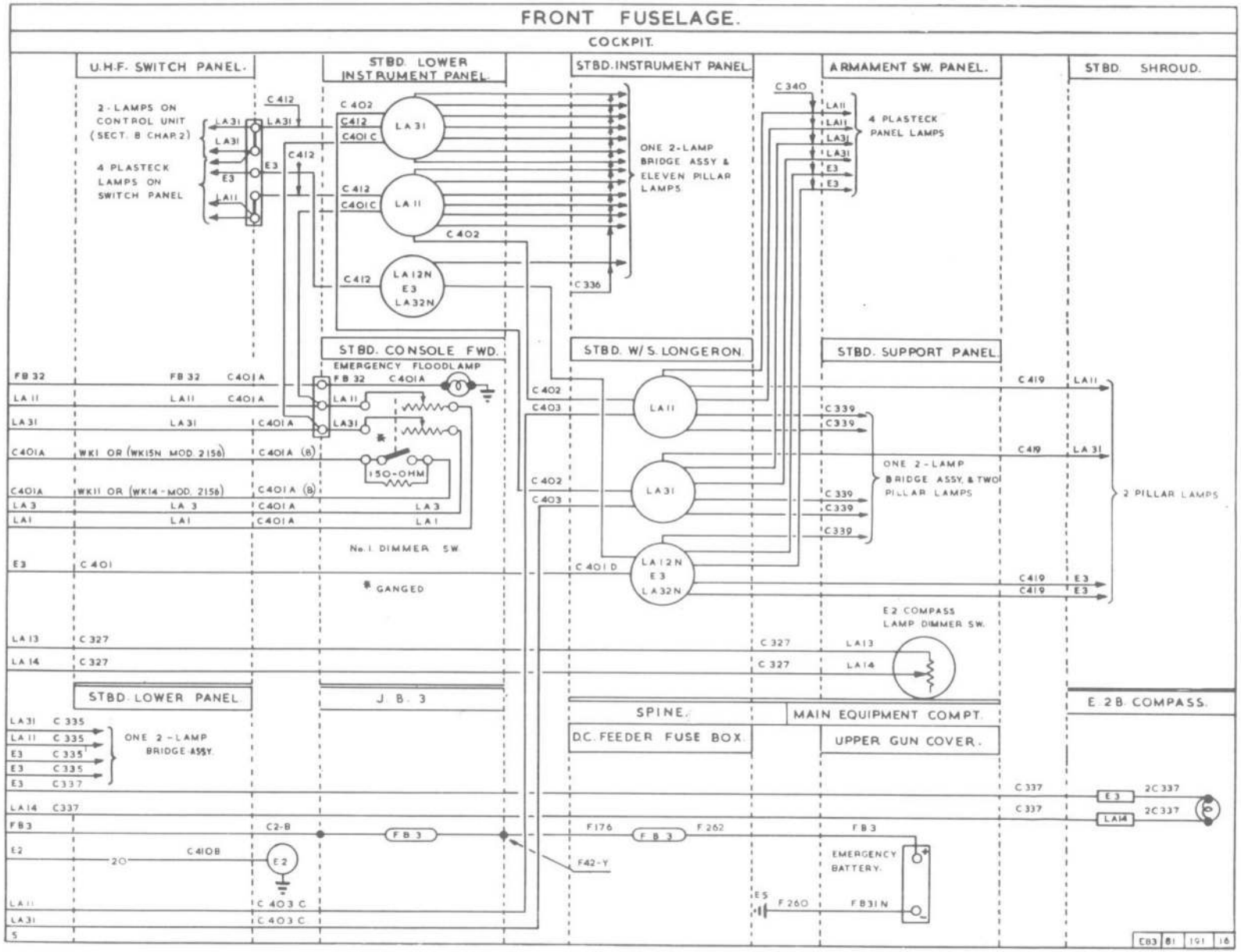

FIG. 4A. INTERNAL LIGHTING

◄ MINOR AMENDMENTS ►

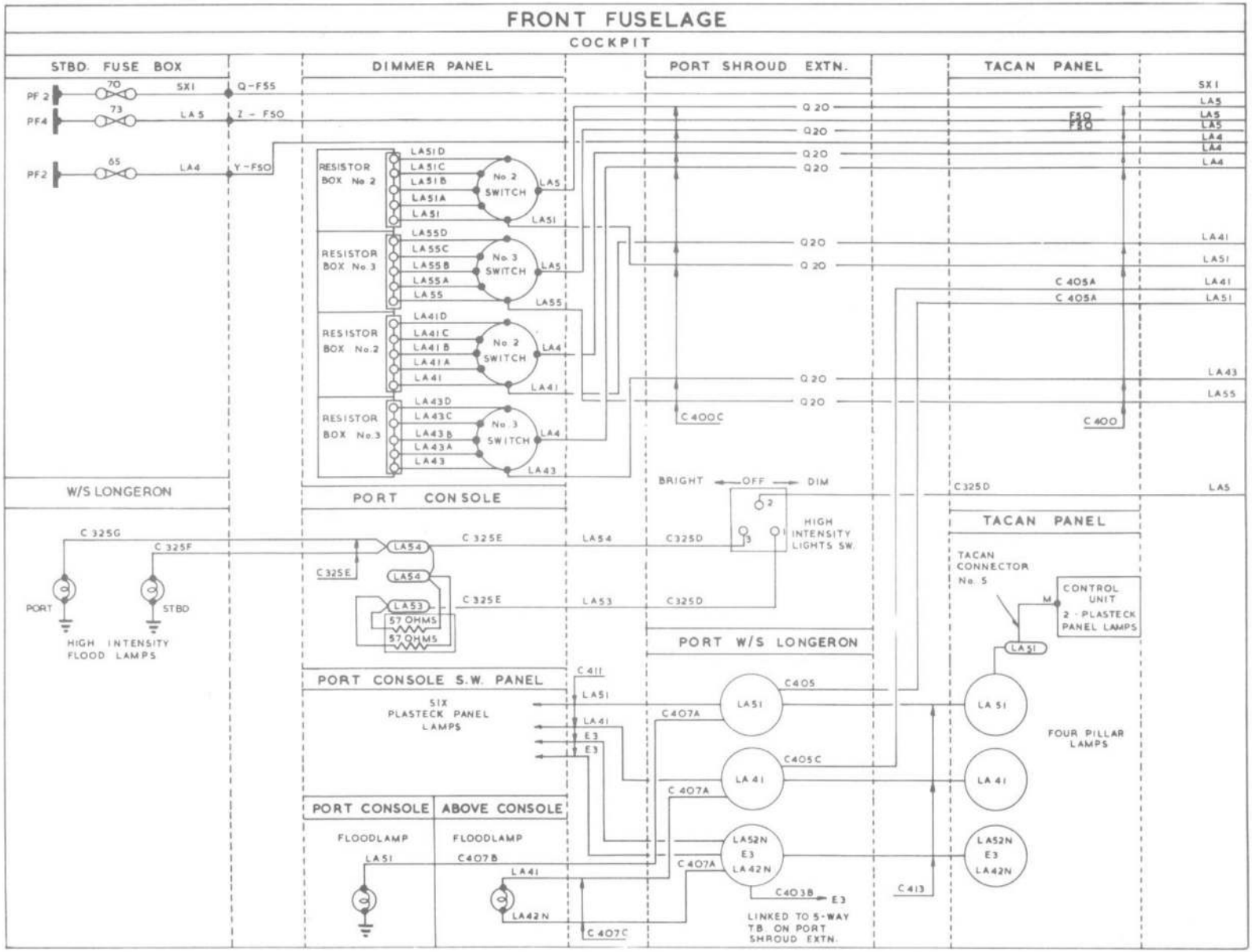

FIG. 5. INTERNAL LIGHTING

◄ MOD 4499 EMBODIED ►

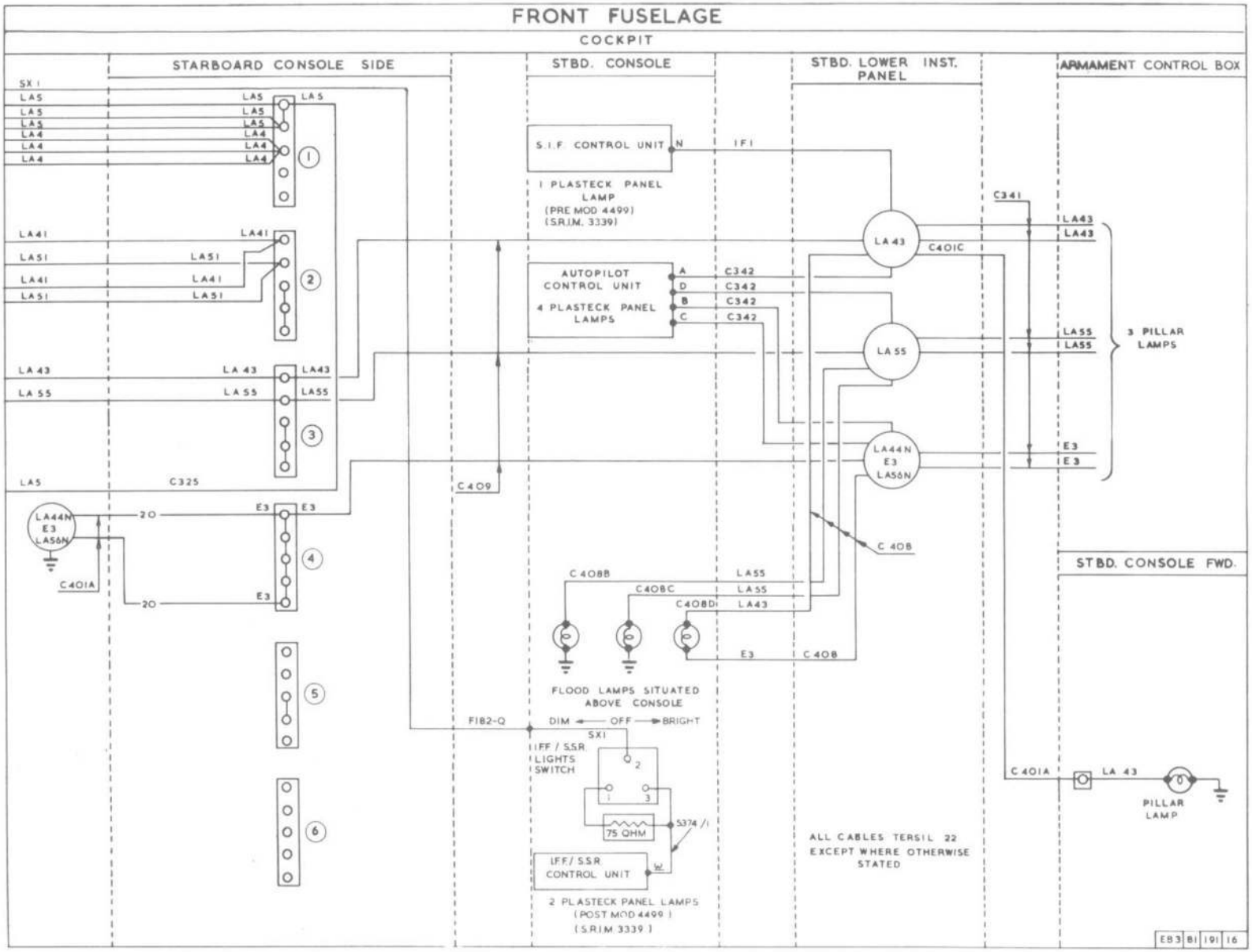

FIG. 5A. INTERNAL LIGHTING

◄ MOD.4499 EMBODIED ►

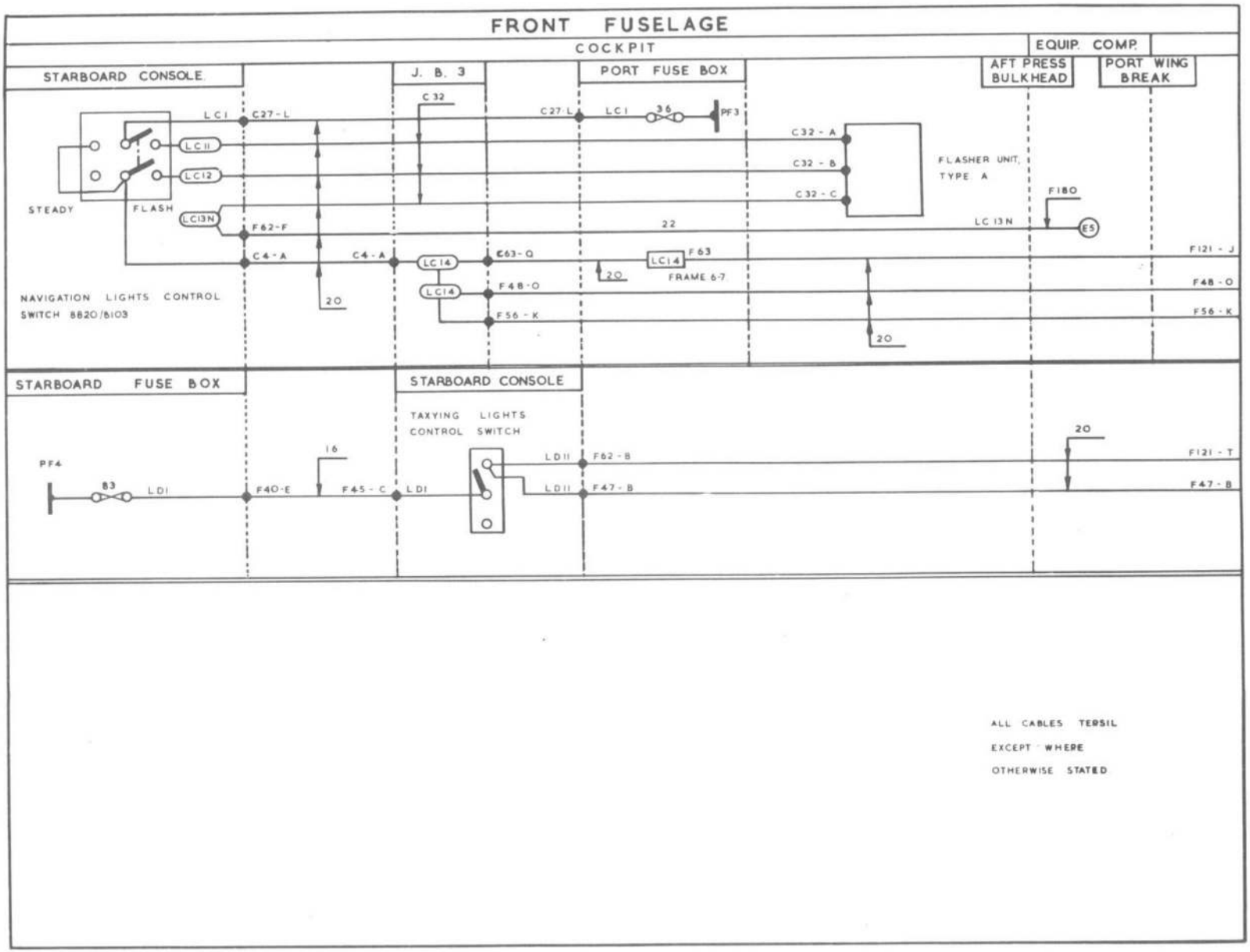

FIG.6. EXTERNAL LIGHTING

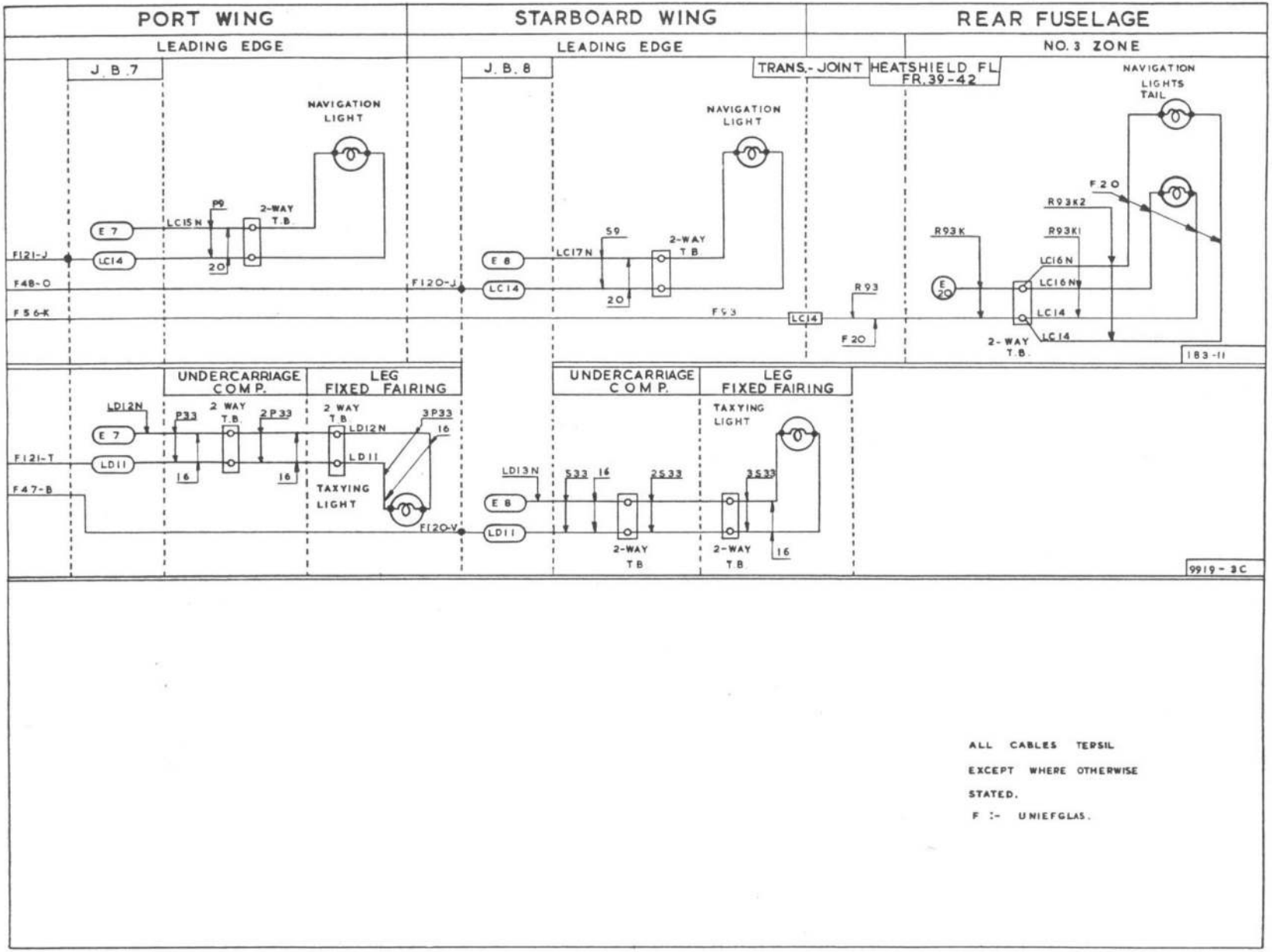

FIG. 6A. EXTERNAL LIGHTING