

## GROUP F.2

◀ Revised to include Mod.1380 ▶

## NAVIGATION AND ANTI-COLLISION LAMPS

(CODE N)

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## Introduction

1. This Group contains the description and operation of the navigation and anti-collision lamps supply and control circuits together with information on the servicing required to maintain them in an efficient condition. Theoretical and routeing circuit diagrams are included. The aircraft electrical system is described in Groups A.1, A.2 and A.3 and detailed information on the standard items of equipment used in the circuits will be found in the A.P.s listed in Table 1.

## DESCRIPTION

## Navigation lamps

2. Three navigation lamps, fitted in housings covered with transparent plastic are provided, one in the tip of each outer wing and the other in the tip of the anti-buffet fairing at the tail end. The wing tip lamps are carried in standard lamp holders and the tail lamp in a standard small bayonet batten type holder in a H.S.A. designed lamp housing. The lamps are controlled by a double-pole, three-position switch on the centre

instrument panel which is marked FLASH/OFF/STEADY and the circuit includes a flasher unit mounted on frame 7 in the cabin.

## Anti-collision lamps

3. Two Grimes anti-collision lamps are fitted to the fuselage skin, the upper lamp to a mounting plate on the spine fairing panel between frames 26-33 and the lower lamp to the outer skin of the engine access door between frames 34-37. Control of the two lamps supply is by a two-position two-pole switch identified ANTI-

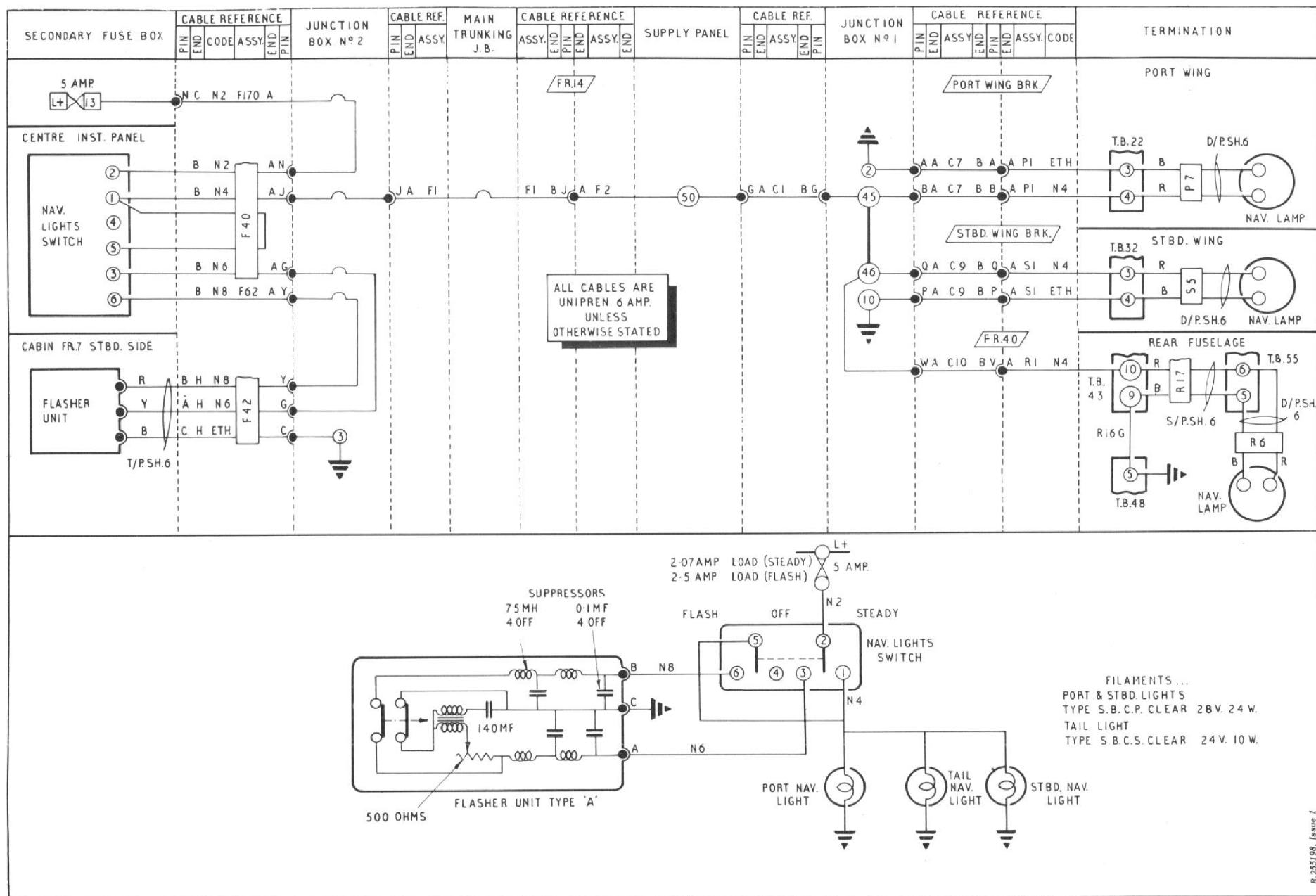


Fig. 1 Navigation lamps (theoretical and routing)

COLL LIGHTS, on the oxygen regulator panel. The 28V d.c. supply is via the engine master switch and two 5 amp. fuses in the main fuse box.

## OPERATION

### Navigation lamps

4. With supply available and the NAV. LAMPS switch selected to STEADY, 28V d.c. is supplied across terminals 2-1 of the switch to give continuous illumination of the navigation lamps. When selected to FLASH, supply is across contacts 2-3 of the switch, through the flasher unit and across contacts 6-5 of the switch to the lamps. Intermittent illumination of the lamps is then dependent on the on/off switching rate of the flasher unit mechanism.

### Anti-collision lamps

5. Provided the ENGINE MASTER switch is ON, selecting the ANTI-COLL switch to ON

complete a separate circuit to each of the anti-collision lamps. The upper lamp circuit is from fuse 4 in the main fuse box across switch terminals 2-1 to the two 40W filaments in the upper lamp and, via the noise filter, to the d.c. motor to operate the lamp reflector oscillating mechanism. As a result the lamp commences to sweep through 182 deg. in the horizontal plane at a rate of 40 to 45 times per minute. This movement gives the effect of 80-90 flashes per minute when the beam is viewed from any direction. The noise filter prevents interference with communications circuits. The supply circuit to the lower lamp is from fuse 5 in the main fuse box across switch contacts 5-4 to the filaments and motor of the lamp. The operation of the lower lamp is then identical to the upper.

## SERVICING

### General

6. For general servicing of the electrical sys-

tem as a whole reference should be made to Group A.1 which also includes a table giving details of the lamps used in the navigation and anti-collision lamps circuits. Apart from keeping all components clean and carrying out the routine tests for security and serviceability, no further servicing should be necessary.

## REMOVAL AND ASSEMBLY

### General

7. Once access has been obtained the removal and assembly of components forming the navigation and anti-collision lamps circuits should present no unusual difficulties. Should it be necessary to remove the spine fairing panel on which the upper anti-collision lamp is mounted, it is first necessary to remove the spine panel immediately forward of it. This is because of the interlocking of the panels. The location and access to all components of the installation is indicated in Group A.3.

TABLE 1

Equipment Type and Air Publication reference

Equipment type	Air Publication
Lamp holders port and starboard Type B ... ..	A.P.113F-0227-1
Lamp holders tail ... ..	H.S.A. Design
Switch, Control	
Navigation lamps C.W.C. Type XD.784 No.4 ... ..	A.P.113D-1100 series
Anti-collision lamps, Honeywell, Type 2-TL1-2 ... ..	A.P.113D-1201-1
Lamps, anti-collision, Grimes, Type G9950-1 ... ..	A.P.113F-0208-1
Flasher unit, Specto, Type A ... ..	A.P.113F-0618-1

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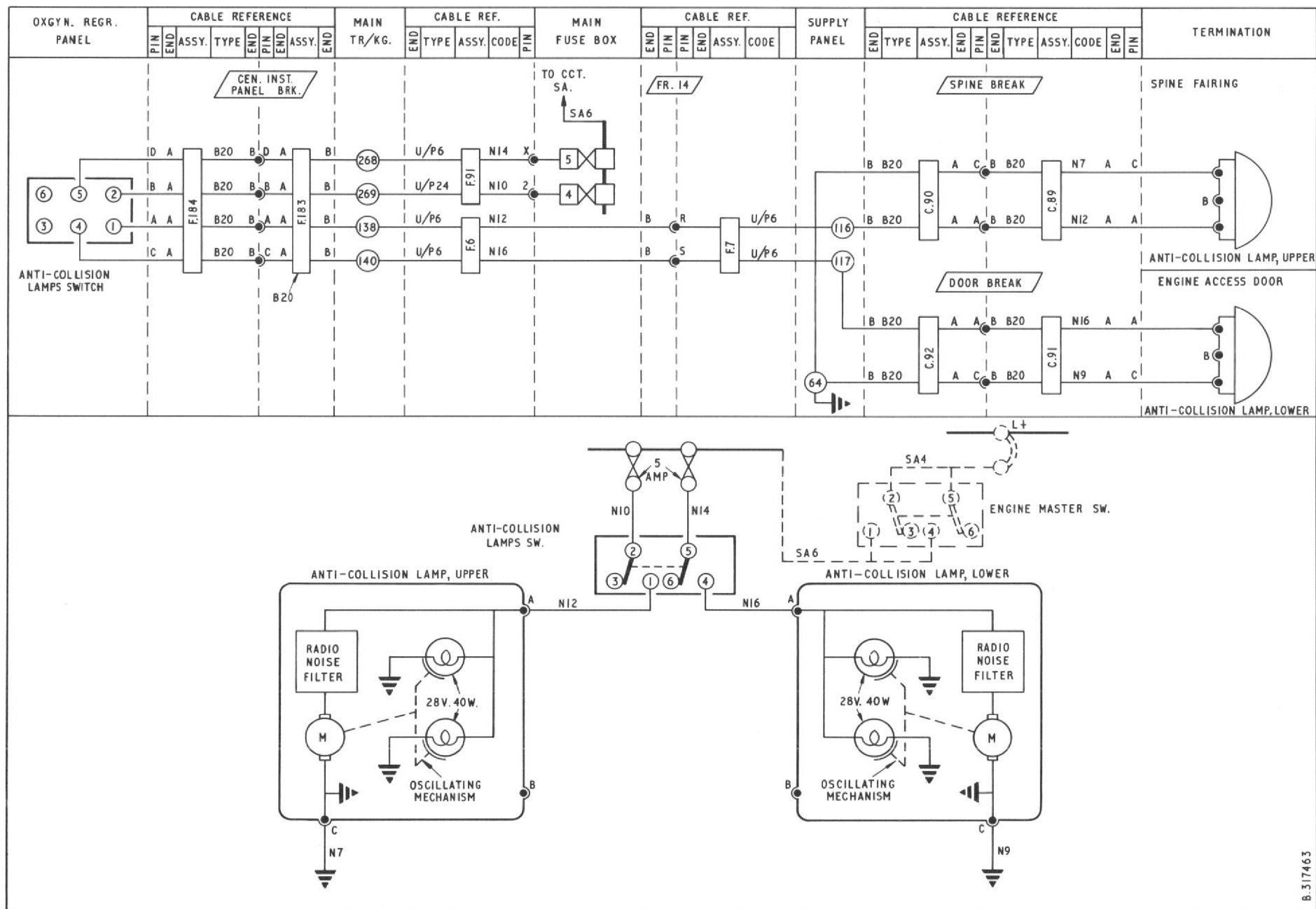


Fig. 2 Anti-collision lamps (theoretical and routing)

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