Chapter 51

INSPECTION AND COCKPIT LAMP, THORN, TYPE 80/10/1200

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Lamp, Thorn, Type 80/10/1200	**Ref. No. 5CX/5495**
Lamp, Filament 28V, 3.5W	*Ref. No.* 5L/9951271

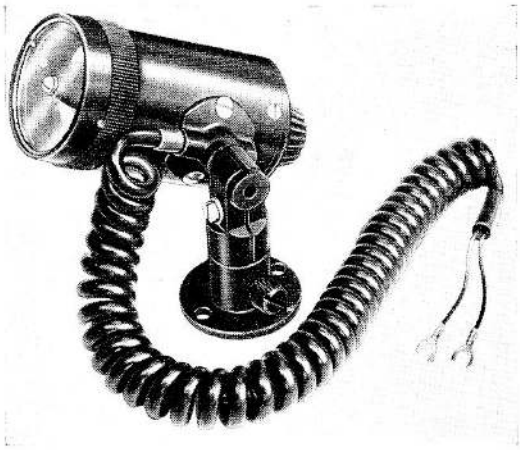

Fig. 1. Lamp, Thorn, Type 80/10/1200

Introduction

1. The lamp, an external view of which is shown in Fig. 1, can be used as an adjustable cockpit floodlamp, or as an inspection hand lamp. In both of the above uses a red or white light with spot facility is made available by rotating the bezel at the front of the lamp body. A resistance unit at the rear of the lamp body, controls the brightness of the lamp and gives an "OFF" position. By pressing the switch, at any position of the dimmer, the lamp will operate at full brightness.

DESCRIPTION

Reflector

2. The reflector shown in fig. 2 fits into the lamp body and is positioned by two ball bearings set 180° apart, both of which locate in the focusing groove. A groove cut on the inside of the bezel forms the outside housing of the two bearings. Two guide screws set opposite each other in the bezel engage in corresponding slots in the reflector. A sectional drawing in Fig. 3 shows the assembly of the above items. Rotation of the bezel ring turns the reflector, which at the same time is thereby given a lateral movement. The amount of movement and direction depending upon the relative position of the focusing groove with that of the ball bearings.

Filter

3. The plastic filter, cemented to the metal

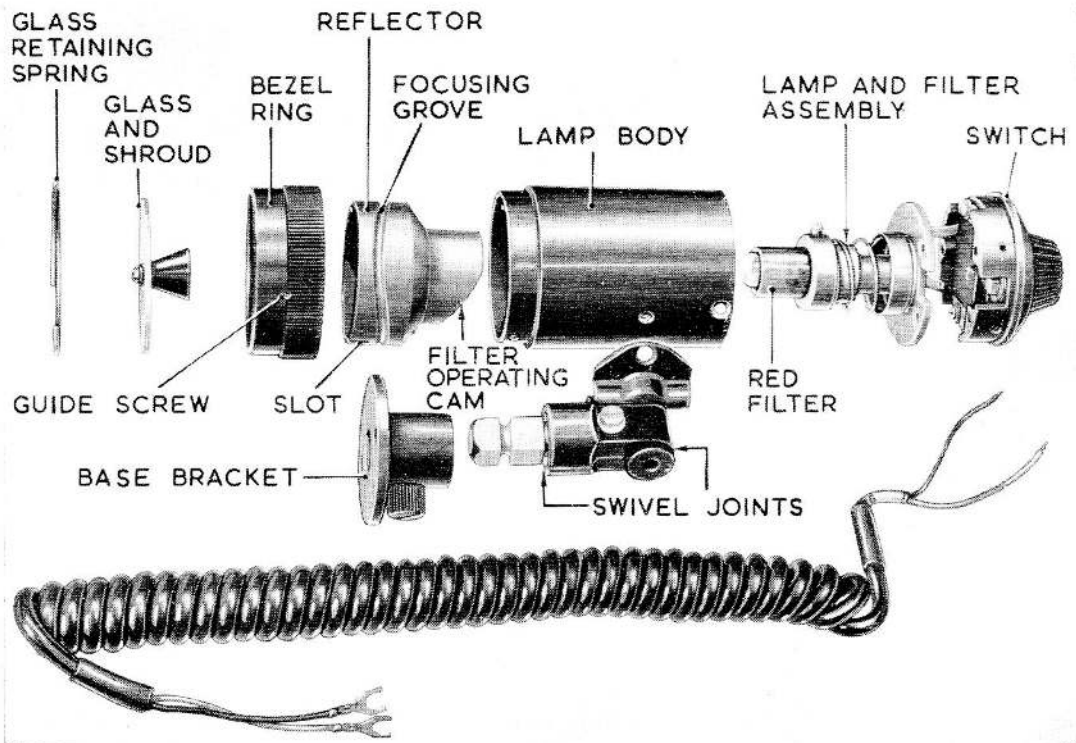

Fig. 2. Exploded view

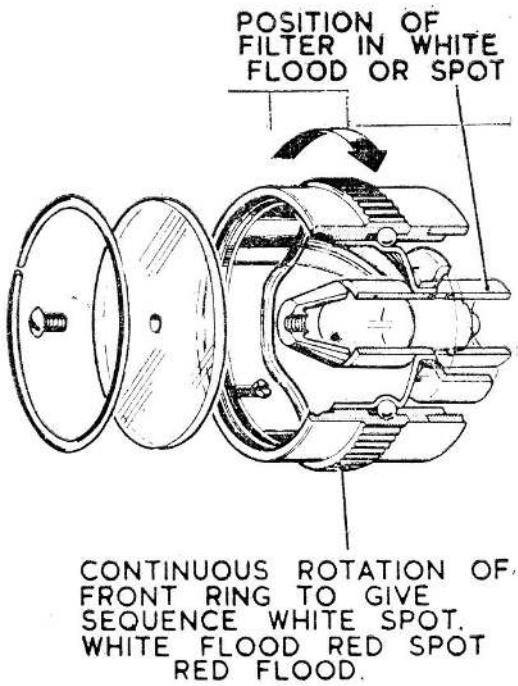

Fig. 3. Sectional drawing of reflector and front ring

bush, fits over the lamp filament. This metal bush slides up and down the stem of the lampholder and operates in the slot provided. A phosphor bronze bearing washer, free to move and secured to the bush, engages on the filter operating cam. Pressure from the tapered coil spring behind the bush allows the bearing washer to follow the contour of the cam when it is rotated, resulting in the filter travelling over the filament lamp. The metal lampholder and spring retaining cup is riveted to the insulated base. Two soldering lugs, one to the insulated centre contact and the other to the metal lampholder housing, complete this assembly.

Dimmer switch

4. The dimmer switch consists of a flat former wound resistance unit and a control switch fitted into a bakelite moulding and forming the rear part of the lamp. A wiper arm moved by the control switch varies the resistance in series with the filament lamp. Pressure applied to the top of switch knob, at any position makes a contact which shorts out the resistance and puts full positive on to the filament lamp. The filter and lamp assembly are secured to the switch assembly by three 6 B.A. screws and the whole secured into the lamp body by three raised head countersunk screws.

Mounting Assembly

5. The mounting assembly consists of a base fixing bracket and an arm containing two swivel joints. These swivel joints allow the lamp to be moved to any desired position. A spring-loaded plunger in the fixing bracket forms a quick-release joint between the arm and the fixing bracket. Being of square section, the arm is prevented from turning within the joint. The mounting assembly is secured to the lamp body by the two 4 B.A. raised head countersunk screws.

6. A groove is provided in the mounting assembly to clamp the cable when the latter is connected to the lamp to prevent any strain being imposed on the connection when the lamp is being used as an inspection lamp.

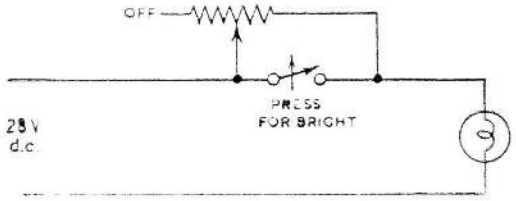

Fig. 4. Circuit Diagram

OPERATION

7. The lamp is switched on by turning the control knob. Further turning of the knob controls the brightness. Pressure on the knob and in any position gives full brilliance. By rotating the bezel (*fig.* 3) the following lighting conditions are obtained in sequence: white spot white flood, red spot and red flood.

SERVICING

8. At specified periods the lamp should be inspected for damage, condition of the lead and for security of attachment. A functional test should be made to check correct operation of the lamp. The filament lamp should be renewed if blackening is observed.