Chapter 34

ADJUSTABLE READING LAMP, THORN TYPE 80/10/0240

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LIST OF ILLUSTRATIONS

LEADING PARTICULARS

Adjustable reading lamp, Thorn, Type 80/10/0240	**Ref. No. 5CX/5441**
Clamp ring, Thorn Part No. 80/10/0243	*Ref No. 5CX/*
Filament lamp 28V 18 watt S.C.C.	*Ref. No. 5L/9953273*
Maximum diameter of lamp	3·125 *in.*
Length of lamp	3·72–4 *in.*
Weight	5·45 *oz.*

Introduction

1. The adjustable reading lamp, Thorn, Type 80/10/0240, is normally used in transport aircraft as a passenger individual lamp, which may be incorporated in a facility panel or mounted in the airframe structure. The lamp is of eyeball-type construction with a spherical inner body turning within an outer shell. The maximum adjustment afforded to the passenger is 10 degrees fore and aft, and 5 degrees abeam.

2. The lamp, which is shown in fig. 1, is housed in a suitable 2·4 in. diameter flanged hole, a dished clamp ring (not shown) is then fitted over the rear of the lamp unit and secured to the airframe or panel by two 2B.A. bolts. The clamp ring has three leaf springs which bear on to the outer shell, and ensure that the unit is secure and free from vibration when clamped between the clamp ring and the mounting panel. The fixed position of the lamp is determined before the clamp screws are secured, the adjustment being limited by the flange of the outer shells to a maximum of 15 degrees off-centre in any direction.

DESCRIPTION

3. The reading lamp, shown in an explode l view in fig. 2, consists of two assemblies, the inner body and the outer shells. The inne body has two hemispherical sections, the front section which carries the lens, and the rear section which seats into the front section on three dimples. The two sections of the

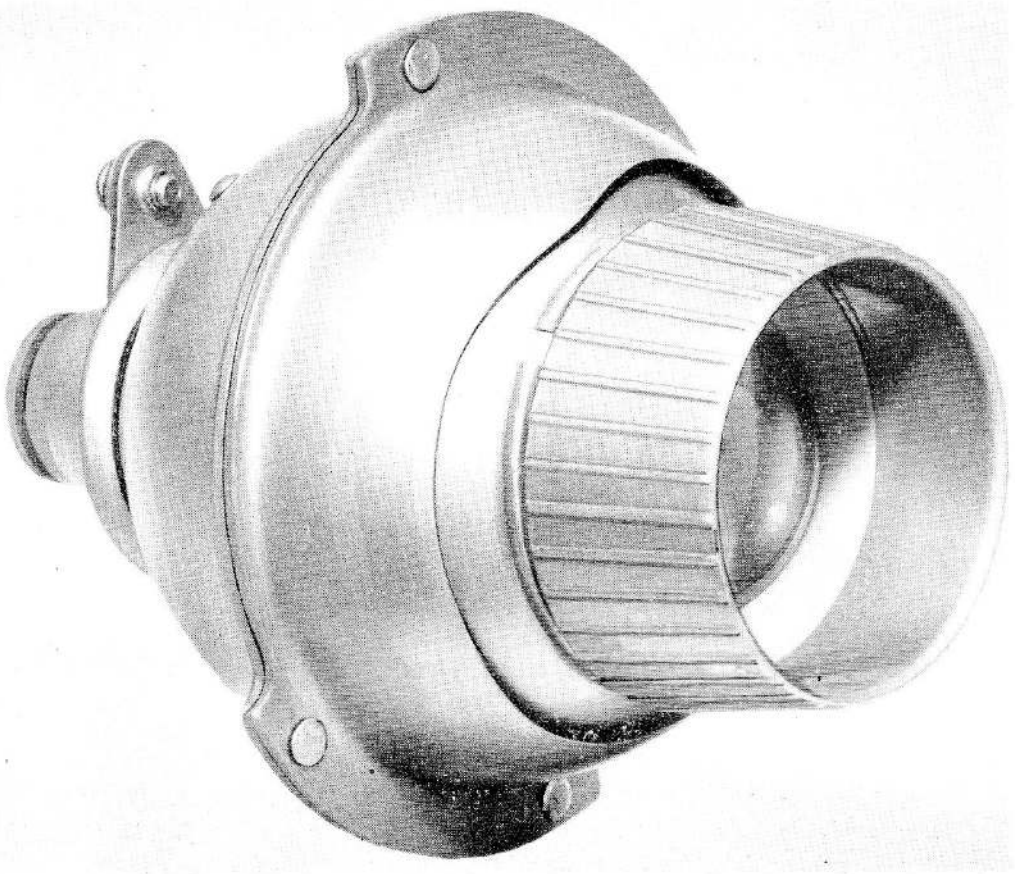

Fig. 1. Adjustable reading lamp, Thorn Type 80/10/0240

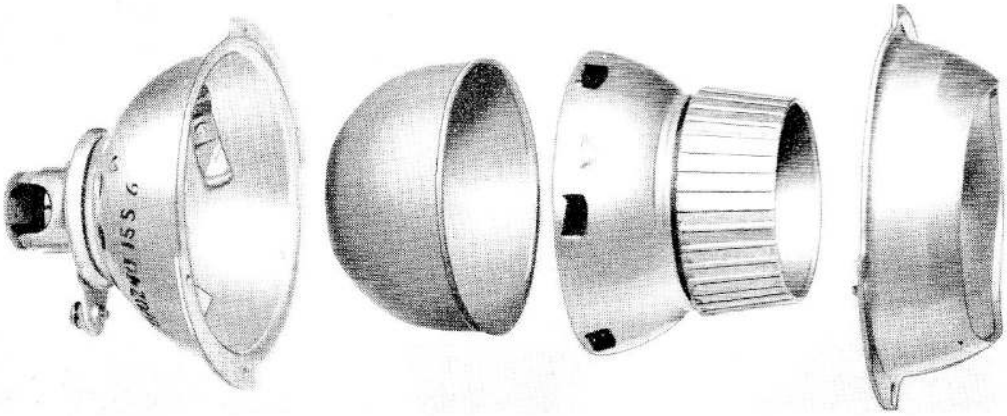

Fig. 2. Exploded view of reading lamp

inner body thus form a sphere, or eyeball, inside the outer shell. The lens is mounted in a tube which is screwed into a ribbed mounting and is held in the front section by an inner cap. Felt pads secured to the inner body prevent scuffing and ensure free rotation of the body in the outer shell. The rear section of the body has a 1½ in. diameter hole through which the filament lamp is inserted, the over-size hole allowing for the movement of the body independently of the outer shell and the filament lamp.

4. The outer shell also consists of two hemispherical sections which are riveted together, the front shell has an elliptical slot through which the lens and front of the body protrude, and the rear shell accommodates the lampholder. Three "U"-shaped spring clips riveted inside the rear shell press the inner body into the cup of the front shell ensuring that the body bears on to the felt pads. The single contact lampholder is mounted in a tube to which is secured a claw-type spring, the spring engages with the rim of the rear shell and holds the lamp holder in the lamp unit. The light source of the reading lamp is a 28 volt, 19 watt, Thorn VC21F (or 28 volt, 18 watt, Ref. No. 5L/9953273) and provides a narrow beam of light with a divergence of 35 degrees.

SERVICING

5. Servicing will normally be restricted to the inspection of the reading lamp and the renewal of defective filaments or whole assemblies. Access to the interior of the lamp may only be gained by drilling out the four rivets securing the outer shells and is not normally practicable.