Chapter 28 TELESCOPIC STRUT (BOMB DOORS)

Type No. 101006.001

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Introduction

1. This strut is essentially a telescopic tube comprising a piston operating within a cylinder. The extending and closing operation of the piston is purely mechanical.

Description

2. The piston rod, threaded at one end to receive a piston head locked by a split pin, is slotted and tapped at the opposite end for a tongued spanner grip and for an eye-bolt with a lock nut respectively. Two piston rings are fitted to the piston head and a skirt of the head accommodates six holes.

3. The cylinder has an external flange at a mid-length position and a trunnion for the airframe attachment joints is located over the cylinder and retained against the flange by a screwed locking ring. One end of the cylinder is closed by a cap secured by a wire clip and screw assembly. At the other end of the cylinder is an end fitting having a boss into which is screwed a blanking plug. The end fitting is locked by a right-angled plate, which engages with serrations on the cylinder and is secured with a wire clip.

Principle of operation

4. The strut is connected to the bomb doors and is actuated by their operation. When the piston bottoms on the stop the bomb doors are restricted from further movement. When selection is made for the reverse operation of the doors, the strut telescopes automatically until closure is complete.

SERVICING

TABLE 1

Special tools

Part No.	Description
ST. 872	'C' spanner for spring housing
ST.1214	Vice clamp for piston rod
ST.1215	Vice clamp for cylinder
ST.1953	'C' spanner for piston head
ST.2124	'C' spanner for end fitting
ST.2428	'C' spanner for locking ring

Dismantling

5. (1) Slacken the lock-nut and remove the eye-bolt and the spanner grip.

(2) Remove the wire clip and locking plate, then with the aid of the relevant service tool unscrew the end fitting.

(3) Remove the circlip and unscrew the housing from the end fitting, remove the wiper ring from the housing. Remove the distance ring and piston stop from the end fitting.

(4) Unscrew the retaining clip and remove the end cap.

(5) Push the piston rod out of the cylinder and extract the split pin retaining the piston head.

(6) Unscrew the piston head from the piston rod and remove the piston rings.

(7) Remove the locking ring and trunnion.

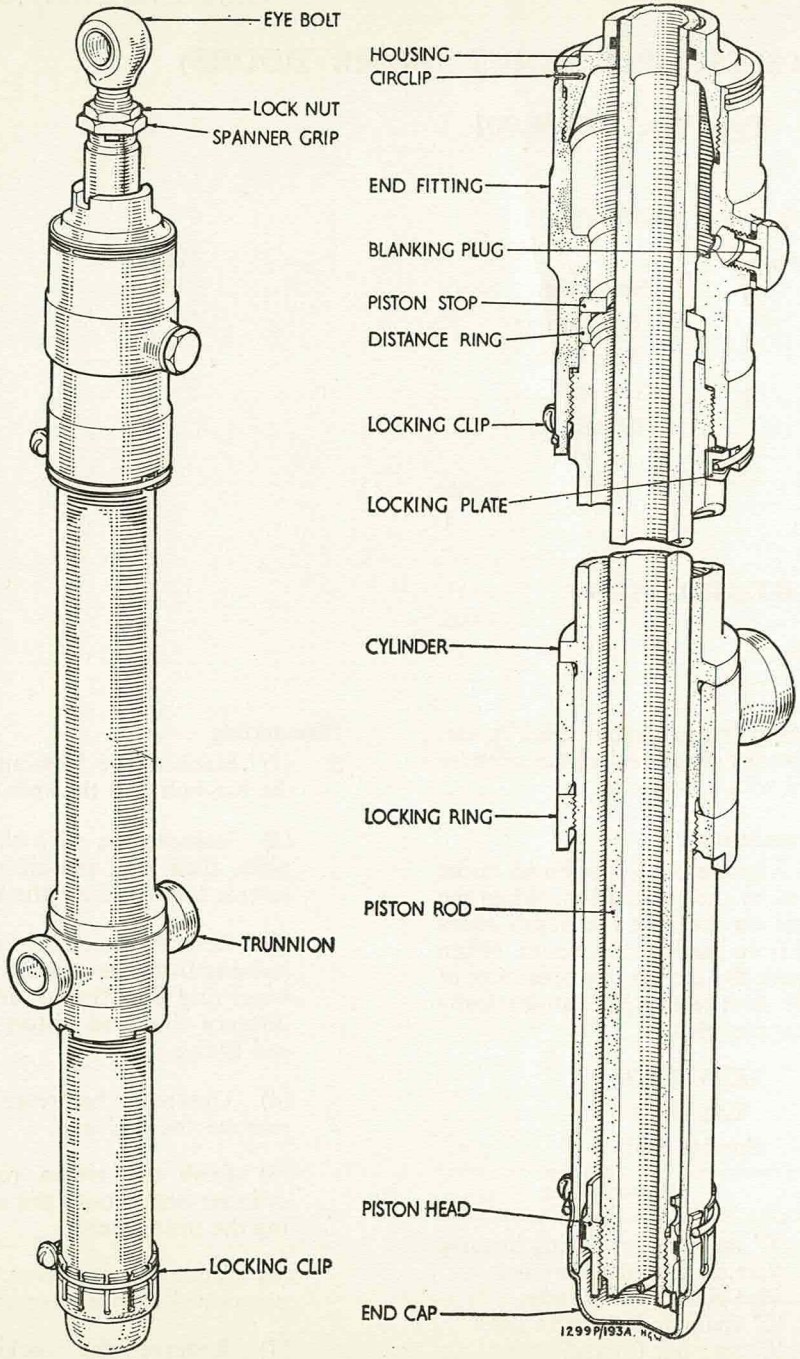

Fig. 1. Telescopic strut

Assembling

6. (1) Fit the piston rings to the piston-head, screw the head on to the rod and lock with the split pin.

(2) Slide the trunnion over the cylinder and screw on the locking ring to retain the trunnion against the flange.

(3) Fit the cap to the cylinder and secure it with the clip.

(4) Insert the piston into the cylinder.

(5) Position the piston stop and distance ring in the end fitting and screw the end fitting tightly over the cylinder to clamp the piston stop and distance ring. Fit the right-angled locking plate to engage the serrations of the cylinder and secure the plate with the wire clip.

(6) Fit the wiper ring to the housing and screw the housing tightly home into the end fitting. Turn the housing back to the nearest locking position and fit the circlip.

(7) Engage the spanner grip with the slots in the end of the piston rod. The eye-bolt will be finally adjusted on installation in the aircraft testing.

Testing

7. Ensure that the strut extends and retracts freely in the cylinder by holding the cylinder securely and moving the piston rod.

Installation

8. When the strut is installed the eye-bolt is to be adjusted to suit the airframe pick-up points. It should not be necessary to adjust the pin centre dimensions of the strut outside the limits of 33·24 and 33·74 in. This dimension being measured between the centres of the trunnion drilling and the eye-bolt. After testing wire-lock the trunnion locking ring to the cylinder and the eye-bolt and lock nut to the spanner grip.

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