

Chapter 27**MAIN UNDERCARRIAGE DOOR LOCK JACK ASSEMBLY 1.01076.001**

(includes Jack 5268, Mk. 2)

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Introduction

1. This assembly consists of the basic unit, main undercarriage door lock jack 5268, Mk. 2 together with two banjo connections (fig. 1); each connection is secured to its respective port by a banjo bolt, which is sealed by washers. The jack locks the main undercarriage doors in the closed position

when the undercarriage is 'UP' and unlocks the doors preparatory to the lowering operation.

Description (fig. 2)

2. One end of the cylindrical body of this jack is closed and formed with a lug which receives an attachment pin. The other end

of the body contains an abutment ring, a gland carrier, and a scraper ring, all secured by a screwed nut. Fluid connections, one at each end of the body, are provided by tapped bosses.

3. The piston is sealed on the piston rod by a single rubber seal, and in the bore of

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the body by a triple seal. A shoulder on the piston rod, provides a location for the piston; between the shoulder and the piston is interposed a shim washer. Alternative shims are provided so that the lateral position of the piston may be adjusted to give a stroke within the required limits. A washer is also interposed between the piston and its securing nut which is locked by a split pin. An eye-end fitting screws into the outer end of the piston rod and is locked by a lock-nut and tabwasher.

4. The gland carrier, located between the abutment ring and the scraper ring, is sealed in the body by a single rubber ring and seals the piston rod with a double seal.

Functioning

5. With the system pressure applied at Y (fig. 2) the jack is fully retracted. Simultaneous application of system pressure at X extends the jack as a result of the difference in effective areas between the full and the annular faces of the piston. Retraction of the jack is effected by releasing the pressure at X.

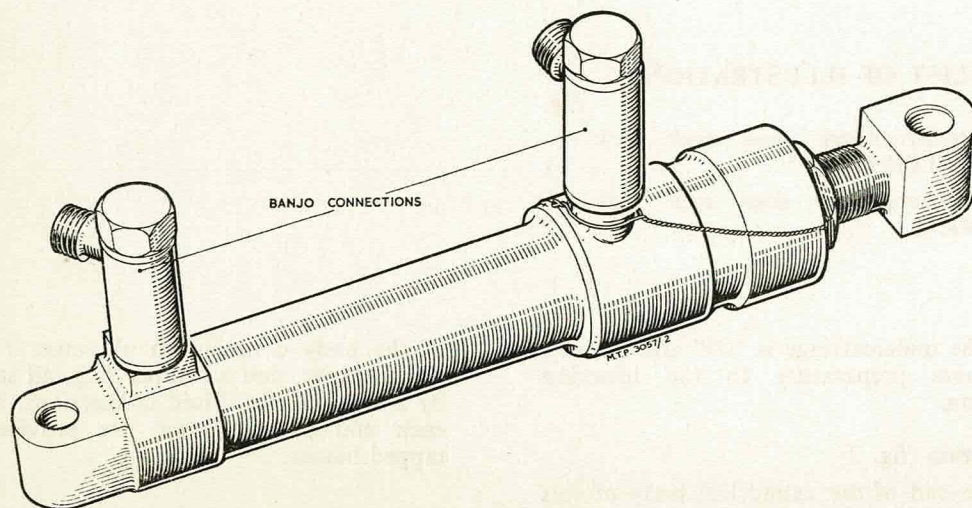


Fig. 1. Main undercarriage door lock jack assembly 1.01076.001

TABLE 1
Special tools

Part No.	Description
MT.1025	Bench clamp for M.T.1026
MT.1026/18	Holding blocks for body
MT.1026/19	Holding blocks for piston rod
MT.1414	Peg spanner for end nut in body

SERVICING

Leakage

6. Leakage at bonded seals may be rectified by ensuring that the banjo bolts are tightened normally. If this is ineffective the joint faces must be examined and the faulty seal renewed. Internal leakage past the piston sealing ring will be shown by sluggish action of the jack in service or loss of pressure during test. Defective gland carrier sealing rings are indicated by leakage along the piston rod or around the end nut; in each case examine the surfaces and renew the sealing rings.

Dismantling

7. (1) With the jack in the extended position, remove the grubscrew locking the end nut; then unscrew the nut.
- (2) Unscrew the banjo bolts and remove the two banjo connections and the bonded washers from the ports.
- (3) Withdraw the piston rod; the piston will bring with it the abutment ring, gland carrier and scraper ring.
- (4) Slacken the lock nut, and unscrew the eye-end fitting; then withdraw the end nut, scraper ring, gland carrier, and abutment ring from the piston rod.
- (5) Remove the split pin, then unscrew the nut securing the piston and withdraw the piston together with the washer and the shim washer from the rod. The nut, piston and washers must be identified with the unit.
- (6) Remove all sealing rings.

Assembling

8. During assembly, lubricate the rubber seals with grease XG-315, and all other parts with clean oil OM-15.

- (1) Fit new sealing rings throughout, do not overstretch the rings. Ensure that the piston triple seal and the gland carrier double seal are assembled in their correct order (fig. 2).
- (2) Locate the shim washer (bore chamfer leading) on to the piston rod, followed by the piston (internal seal leading), and the second washer (bore chamfer outwards); secure these parts with the retaining nut and lock the nut with a new split pin. Refer to Vol. 6 if a new split pin hole is required.
- (3) Insert the piston rod into the body and fit the abutment ring (larger bore leading), the gland carrier (double seal leading), and the scraper ring (recessed face leading).
- (4) Slide the end nut over the piston rod and screw it into the body, align the grubscrew hole and fit a new grubscrew. Wirelock the grubscrew as shown in (fig. 2).

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(5) Position a tab-washer on the eye-end fitting, then screw the end fitting into the piston rod until the inspection hole is no longer visible, locate the tab-washer tab in the slot in the piston rod, and screw up the lock nut fingertight.

(6) If new parts affecting the length of the stroke have been fitted, the stroke must be checked and, if necessary, the existing shim washer replaced by one of its alternatives to give a stroke length of 3.00 ± 0.012 in. prior to testing.

(7) Carry out the tests which follow.

(8) Position the banjo connections in turn on the ports with a bonded washer interposed between the connection and the jack, and a bonded washer under the bolt head, screw the banjo bolt into the jack and tighten.

TESTING

9. All tests should be carried out with inhibiting fluid ZX-19; if not available, oil OM-15 may be used in lieu.

Proof tests

10. (1) With the jack extended, apply a pressure of 5400 lb/in^2 at port X for two minutes. There must not be any leakage.

(2) With the jack in the closed position, apply a pressure of 5400 lb/in^2 at port Y for two minutes. There must not be any leakage. Complete the assembly as laid down in para. 8 (8).

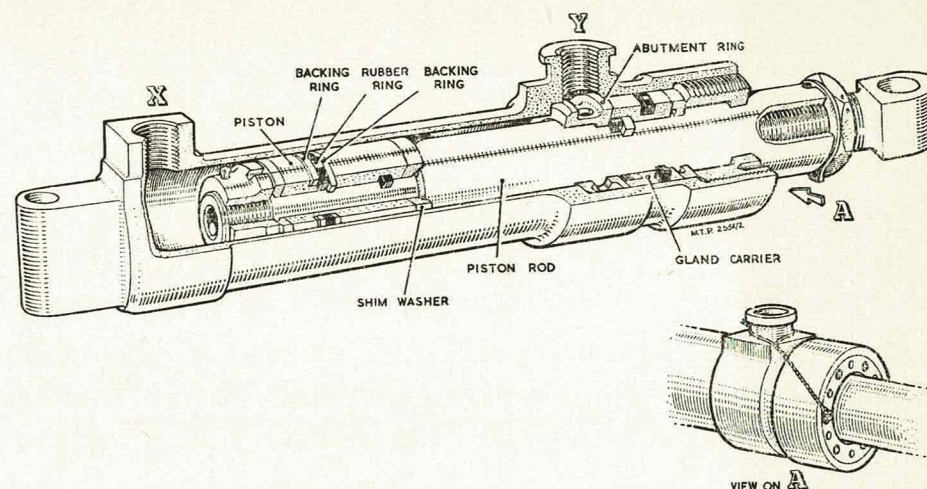


Fig. 2. Main undercarriage door lock jack 5268, Mk. 2

Functioning and leakage tests

11. (1) Apply sufficient pressure at connections X and Y alternately to extend and close the jack five times against no load. Movement must be smooth and regular. At the end of each stroke, hold the pressure at 100 lb/in^2 for one minute; there must be no leakage. Increase the pressure to 4000 lb/in^2 and hold it for a further minute; there must be no leakage.

Check to ensure that the stroke of the jack is 3.0 ± 0.012 in.

(2) Apply pressure at connections X and Y alternately to extend and close the jack five times against no load. The

operating pressures during each operation must not exceed the following values:—

- (a) Pressure at X during free travel, extending 60 lb/in^2 .
- (b) Pressure at Y during free travel, closing 130 lb/in^2 .

INSTALLATION

12. This assembly must be installed as directed in the aircraft handbook. After the jack centres have been adjusted, the safety hole in the eye-end fitting must not be visible after finally tightening the lock nut, which must then be wire-locked to the tab-washer.

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