AP 105B-0988-12
August 1980
(Superseding AP105B-0988-16C)

MAIN UNDERCARRIAGE JACK DOWTY ROTOL PART NUMBERS

7965Y Mk. A (Port)	7965Y Mk. B (St'b'd)
07965PA03 (Port)	07965SA03 (St'b'd)
103665001 (Port)	103665002 (St'b'd)

GENERAL AND TECHNICAL INFORMATION GENERAL ORDERS AND MODIFICATIONS

BY COMMAND OF THE DEFENCE COUNCIL

Frank Cooper.

Ministry of Defence

Sponsored for use in the
ROYAL NAVY by DGA (N)
ROYAL AIR FORCE by D AIR ENG (RAF)

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Publications authority: ATP/MOD(PE)

Service users should send their comments through the channel prescribed for the purpose in:
Naval Aircraft Maintenance Manual (RN)
AP 100B-01, Order 0504 (RAF)

CONTENTS

GENERAL

CONTENTS

Leading particulars

1 Refer to appropriate annex.

Modification state

2 Refer to appropriate annex.

Description

3 These jacks incorporate an internal mechanical lock which secures the piston in the extended position and which must be hydraulically released before the piston can move to the closed position. Provision is also made for a lock indicator microswitch. The jacks are handed for Port and Starboard installation by the connections and the switch mounting plate. The port side unit is illustrated. A basic type is described in the general text and variants are given in the annexes.

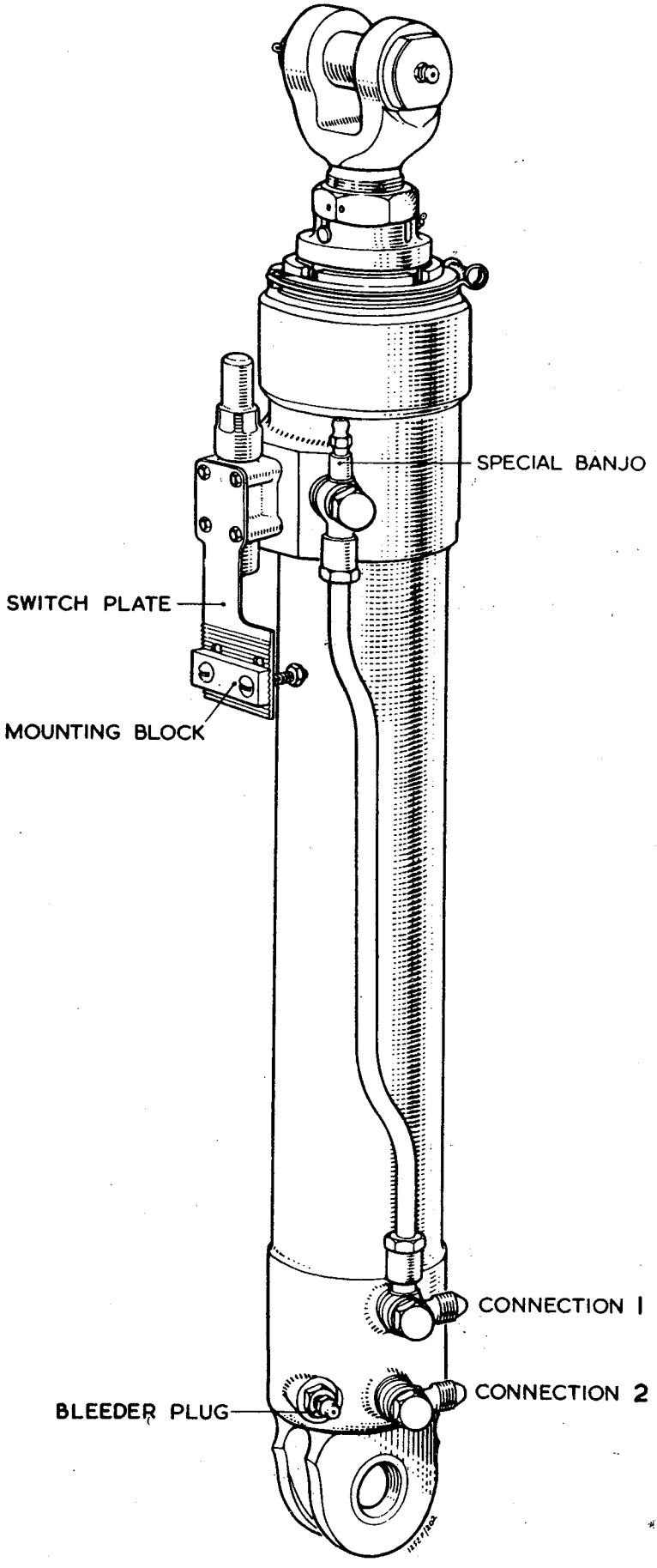

Fig. 1 Main undercarriage jack

4 Fluid supply lines are led to the closed installation attachment end of the cylinder and are coupled to banjo unions. One of these connects directly into the cylinder but the other is a transfer connection from which a pipe leads to a bleeder-fitted banjo connection at the other end of the cylinder. A separate bleeder plug is fitted at the closed end. A gland assembly, consisting of a gland nut grooved for a wiper ring and recessed for a sealing ring and a gland ring and spacer, provides a seal and a guide for the piston rod. This assembly is screwed into the open end of the cylinder and retains a flexible claw locking ring secured with a right-angled plate locking key and retained by a wire clip.

5 The switch operating lever assembly is located in an aperture in the cylinder wall, adjacent to the internal lock and bolted in position. The assembly consists of a body, spigoted to engage the cylinder, and a cover screwed together to house a spring-loaded plunger. The plunger is engaged by a lever and projects from the body to oppose a microswitch which is secured to a mounting block and a serrated plate by screws and self-locking nuts. The lever is pinned in the spigot of the body and protrudes into the cylinder to contact the locking sleeve on the piston head when the piston approaches the fully extended position. The final movement of the sleeve to the locked position trips the lever to operate the plunger and actuate the microswitch, thus giving visual indication in the cockpit of the locked condition of the jacks.

6 The piston head, grooved for a sealing ring, is screwed into the piston rod and retains the tapered locking collar and a plain collar against a shoulder of the rod. The locking sleeve carries a sealing ring with supporting piston rings and, assembled over the piston head, is held against the tapered collar by a spring-loaded housing. This housing and its spring are retained inside the piston head by a spring retainer and a circlip. Two horns on the housing project through slots in the piston head to engage with the locking sleeve.

7 At the outer end, the piston rod has slots which are engaged by a locking bush. The rod is tapped for a fork-end bolt fitted with a locknut and supplied with a jack attachment pin. A lubrication nipple is screwed into the attachment pin which is retained by a washer, a slotted nut and a split pin. The locking bush and the fork-end bolt are locked together by a pin and a split pin.

Principle of operation

8 The jack extends when fluid is applied through connection 2 and on approaching the fully extended position, the claws of the locking ring are spread outwards by the taper of the locking collar. This results in the claws contracting the locking sleeve and holding it stationary while the piston continues its extending movement. The continued movement is made possible by the slots in the piston head, which allow the head to slide past the sleeve and the spring housing, compressing the spring in the housing. Such a condition prevails until the claws of the ring override the peak of the taper and spring inwards behind it. The claws no longer retard the locking sleeve and the spring in the housing extends to force the sleeve over the claws and hold them behind the tapered collar. Simultaneously, the operating lever of the switch assembly is tripped to actuate the microswitch.

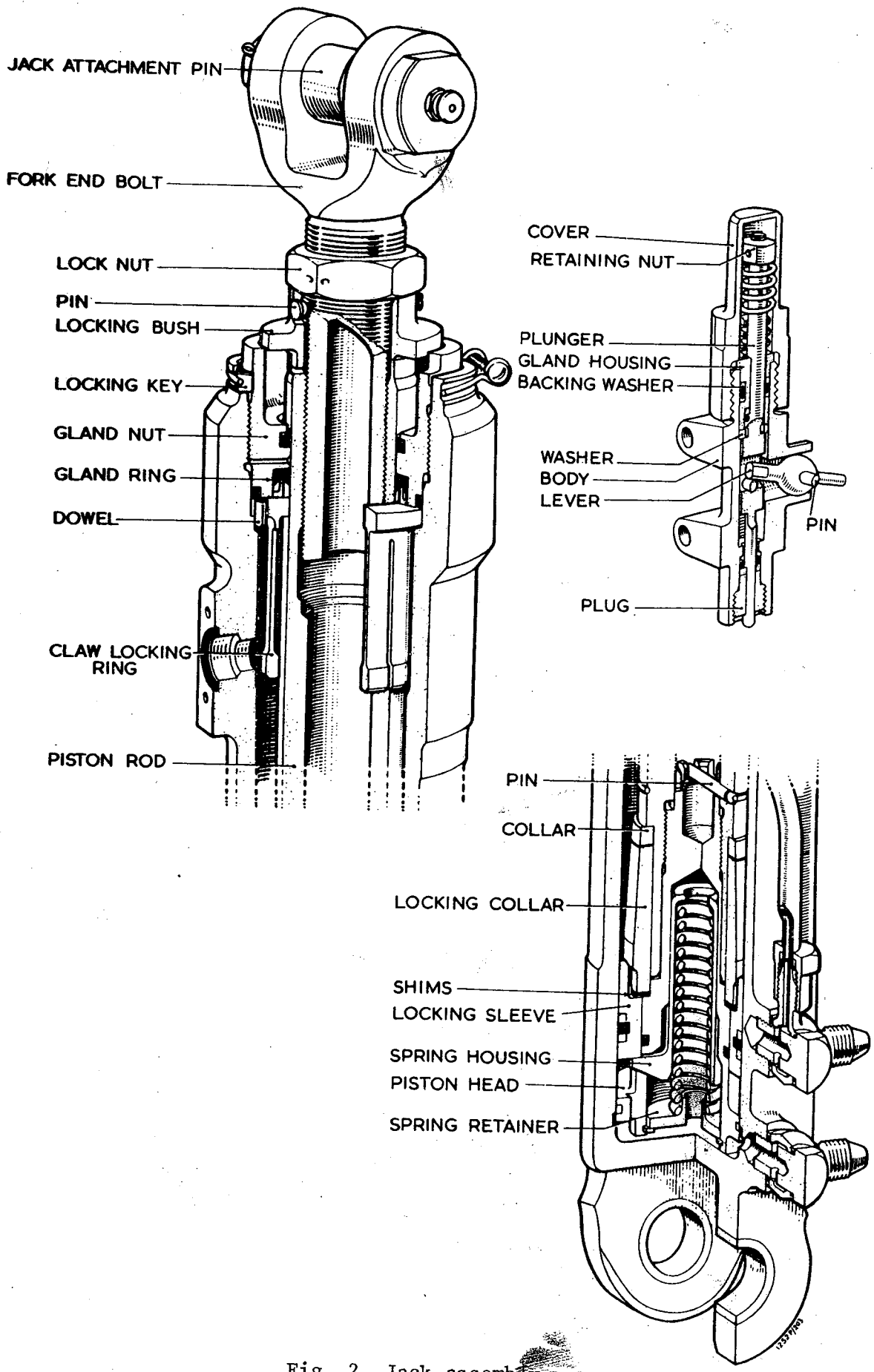

Fig. 2 Jack assembly

9 To close the jack, fluid is applied through connection 1, the pipe and the special banjo union. The lock prevents closure until the pressure on the locking sleeve has overcome the spring in the spring housing. The sleeve slides from the locking claws, the pressure on the switch operating lever is removed and the spring-loaded plunger breaks contact with the microswitch. The claws of the locking ring then flex outwards over the tapered collar as the piston moves towards the closed position.

MAINTENANCE

Special tools and equipment

10 The following special tools, equipment and materials will be required to carry out the maintenance procedures detailed.

Part No.	Description	Application
ST947A	Circlip pliers	Fit and remove circlip
ST777	C-spanner	Fit and remove gland nut
ST1181	C-spanner	Fit and remove piston head
ST1215	Vice clamp	Hold collet
ST1215/2	Collet	Hold piston rod
ST1557	C-spanner	Fit and remove bush
ST1922	Sleeve	Assemble piston assembly
ST2156	Assembly post	Fit gland housing ring
ST2157	Tube spanner	Fit and remove plug
ST2711	Lock checking fixture	Checking lock
ST2712	Drift	Use with ST2711
ST2714	Assembly post	Fit gland housing
-	Trichloroethane	Cleaning
-	White spirit (BS245)	Cleaning
-	Grease XG-315	Lubricant
-	Locking wire (DTD189A)	Secure locking of parts

Safety and servicing notes

11 Safety and servicing notes or other general safety/servicing requirements, appropriate to the equipment or the main equipment are to be complied with, where relevant throughout the work detailed in this publication.

ROUTINE BAY SERVICING

Dismantling

12 Before dismantling, close the jack to ensure that the internal lock is disengaged.

12.1 Remove the connection 1 and the upper connection together with the pipe assembly. The pipe may be separated from the unions.

12.2 Remove the connection 2 and the bleeder plug.

12.3 Remove the setbolts securing the microswitch assembly and withdraw the assembly complete from the cylinder. The switch assembly should only be dismantled for the renewal of component parts.

12.4 Remove the clip and the locking key, unscrew the gland nut from the cylinder and withdraw the piston and gland assembly.

12.5 Unscrew the slotted nut and washer from the jack attachment pin and remove the pin from the fork-end.

12.6 Slacken the locknut. Remove the pin from the locking bush and unscrew the fork-end from the piston rod. Remove the locking bush.

12.7 Slide the gland nut from the piston rod and remove the wiper ring, the sealing ring, the gland ring and the spacer. Withdraw the claw locking ring from the piston rod.

12.8 Remove the circlip to release the spring retainer, the spring and the spring housing.

12.9 Remove the circlip and the pin and unscrew the piston head from the piston rod. Remove the locking sleeve, the locking collar and the collar. Remove the sealing rings and the piston rings from the sleeve and head.

Cleaning

13

WARNING ...

CLEANING AGENT SHOULD BE USED IN A WELL VENTED AREA, AWAY FROM NAKED FLAMES. CARE SHOULD BE TAKEN NOT TO BREATHE THE FUMES OR ALLOW UNDUE CONTACT WITH THE SKIN.

CAUTION ...

Chlorinated solvents can combine with minute amounts of water found in operating hydraulic systems to form hydrochloric acid which will corrode internal metallic surfaces. It is imperative that all internal surfaces are dry and free from any traces of residual solvent prior to assembly and installation. For those applications where it is difficult to remove all traces of solvent, clean unused white spirit is recommended.

13.1 To enable all items to be visually examined for damage and wear, each part must be thoroughly cleaned using the appropriate approved cleaning agents and methods. When cleaning is completed, parts must be dried using compressed air, clean lint-free cloth or tissues and all subsequent handling must be with clean PVC or polythene gloves. If delays occur before assembly, parts must be suitably protected against corrosion.

Examination and checking

14 Visually examine all parts for damage and corrosion. Check parts for permissible wear in accordance with fits, clearances and repair tolerances - table 1. Superficial damage in the form of external isolated scores, smooth dents and abrasions free from cracks are to be regarded as negligible provided that internal dimensions are not affected and the damage is within the following limits:-

14.1 Not exceeding 0·500 in long.

14.2 Not exceeding 0·010 in deep.

14.3 Not less than 0·250 in from any hole or bearing surface.

Note ...

Burrs are to be removed and sharp edges blended out. Minor scores and abrasions in non-sealing bores may be ignored provided that proud portions of the abrasion are removed.

TABLE 1
FITS, CLEARANCES AND REPAIR TOLERANCES

Ref. No. on Fig. 3	Parts and Description	Dimension New	Permissible Worn Dimension		Permissible Clearance	
			Interchangeable Assembly	Selective Assembly	New	Worn
1	SEALING RING ON LOCKING SLEEVE IN CYLINDER					
	Cylinder - bore	$\frac{2\cdot505}{2\cdot500}$	2·508	2·508	$\frac{-0\cdot007}{-0\cdot023}$	−0·004
	Sealing ring on locking sleeve o/d	$\frac{2\cdot523}{2\cdot512}$	–	–		
		Tufnol rings: Fitted gap on assembly to be 0·009/0·012 in. After gapping remove sharp edges on flat faces only to 0·015 in. max.				
2	PISTON ROD IN GLAND NUT					
	Gland nut - bore	$\frac{1\cdot7535}{1\cdot7495}$	1·7545	1·7545	$\frac{0\cdot0065}{0\cdot0005}$	0·0075
	Piston rod o/d	$\frac{1\cdot7490}{1\cdot7470}$	–	–		

Fits and clearances

15 Refer to table 1.

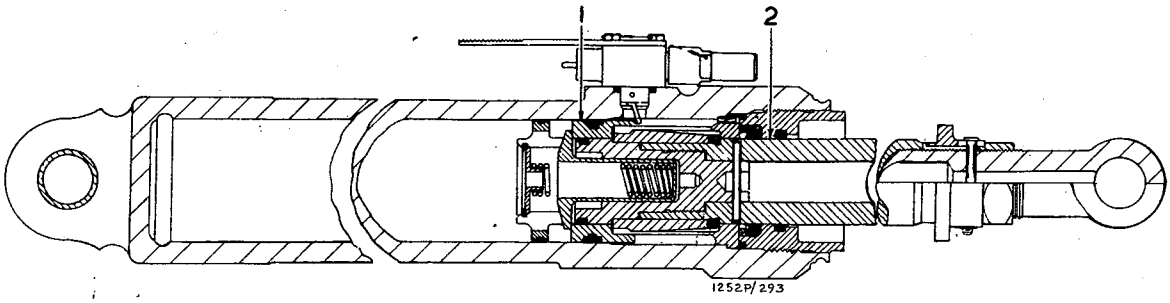

Fig. 3 Fits and clearances - locations

Assembling

16 All sealing rings are to be lightly coated with grease XG-315 before being assembled in the unit.

16.1 Slide the collar and locking collar over the end of the piston rod.

16.2 Slide the sleeve, the two thick shims and the six thin shims over the piston head. Do not fit the sealing rings and piston rings to the sleeve and the piston head at this stage of assembly.

16.3 Screw the piston head tightly into the piston rod to secure the shims, locking collar and collar.

16.4 Fit the locking pin. If the pin cannot be inserted screw back the piston head to allow the pin to be fitted. There are six slots in the end of the head and the shank is threaded with 20 threads per inch. (0·008 in., approx. for slackening by one slot).

16.5 Unscrew the head from the piston rod and fit shims between the locking collar and the collar to ensure that there is no play in the sub-assembly when the pin is inserted.

16.6 Secure the claw locking ring in the special tool ST.2711.

16.7 Slide the special tool assembly over the piston rod and engage the claw locking ring over the locking collar.

16.8 Slide the locking sleeve up over the claws. Access to the sleeve may be obtained through the slots in the special tool.

16.9 Hold the complete assembly in a vice.

16.10 Check backlash (end-play) between the claw locking ring and the locking collar. A dial test indicator reading off the face of the piston head is recommended. The maximum permissible backlash is 0·003 in.

16.11 If the backlash is in excess of 0·003 in., remove the assembly from the vice. Slide the sleeve from the claw locking ring, fit the drift ST.2712 to the piston rod and, with the assembly held vertically on the bench and the piston rod uppermost, give the drift a sharp tap to drive the piston down and disengage the claw locking ring from the locking collar.

16.12 Remove the piston from the special tool, remove the locking pin and unscrew the piston head from the piston rod.

16.13 Remove shims from the shim pack between the piston head and the locking collar, equal in thickness to the backlash in excess of 0·003 in. Fit these shims between the locking collar and the collar. One thick shim is to be located against the shoulder of the piston head on final assembly.

16.14 Screw the piston head tightly into the piston rod and fit the locking pin.

16.15 Slide the special tool assembly complete with claw locking ring over the piston rod and engage the claws over the locking collar.

16.16 Check the backlash again, and, if necessary, adjust the shim pack as in sub-para. 16.13.

16.17 Remove the piston assembly and the claw locking ring from the special tool.

16.18 Fit the sealing rings and the piston rings to the locking sleeve and the piston head. If new piston rings are fitted they are to be gapped 0·009 to 0·012 in. on assembly and the sharp edges at the gap, on the flat faces only, are to be removed up to 0·015 in. maximum radius.

16.19 Fit the circlip to retain the locking pin.

16.20 Insert the spring housing in the piston head followed by the spring and the spring retainer. Fit the circlip.

16.21 Insert the piston assembly in the cylinder and position the claw locking ring. Locate the ring with the dowel.

16.22 Fit the sealing ring, the wiper ring, the gland ring and spacer to the gland nut. Slide the nut carefully over the piston rod and screw it tightly into the cylinder and hard against the claw locking ring.

16.23 Position the locking key and secure it tightly with the clip and screw assembly.

16.24 Secure the banjo unions of connection 1 and the upper connection to the ends of the pipe, fit a bonded seal on each side of the banjo unions and secure them to their respective bosses with the banjo bolts.

16.25 Fit a bonded seal on each side of the banjo union for connection 2 and secure it to its respective boss with the banjo bolt.

16.26 Fit a bonded seal to the bleeder plug and screw it into its boss.

16.27 If the microswitch assembly has been dismantled for renewal of component parts, assemble it as follows:-

16.27.1 Slide the washer over the plunger.

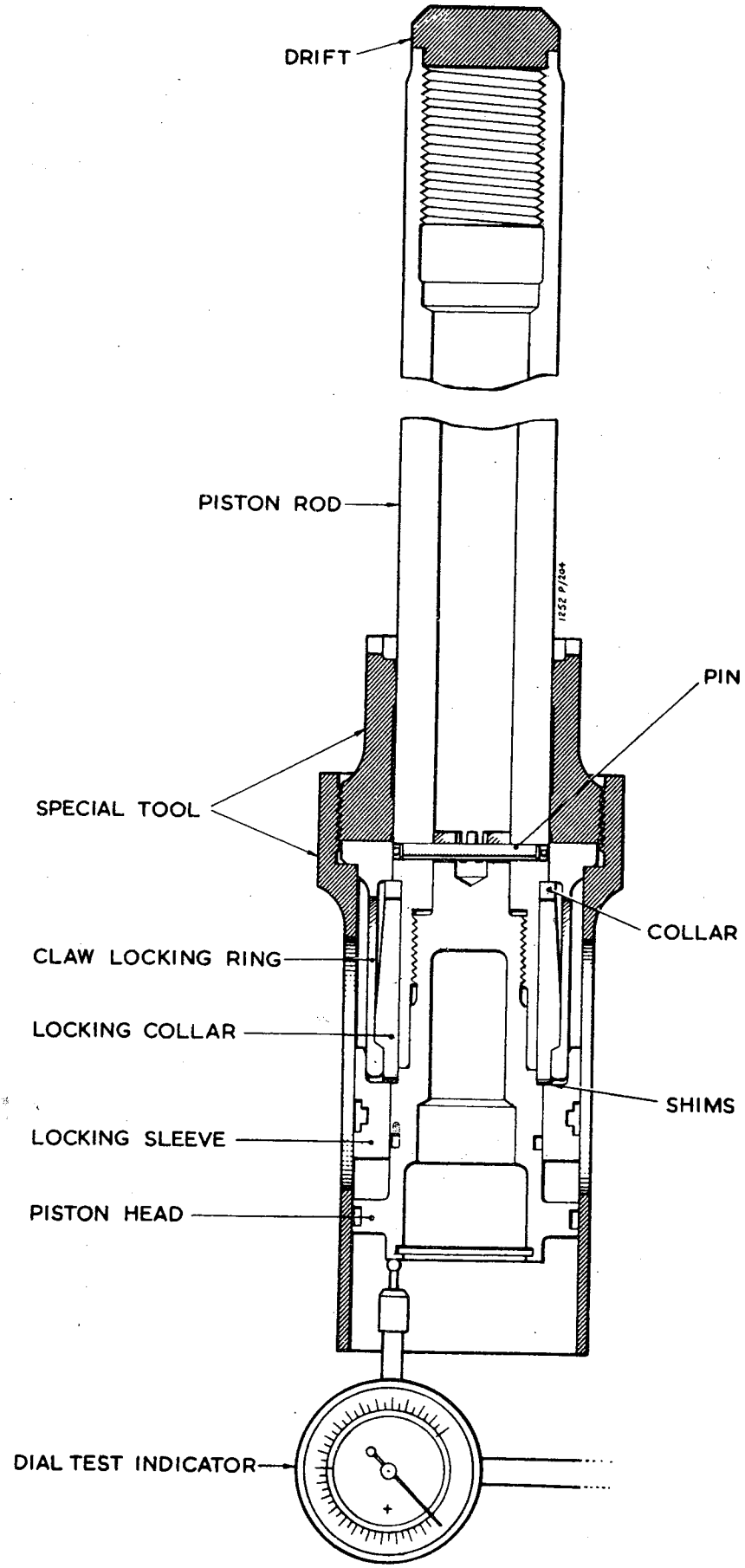

Fig. 4 Lock adjustment

MINISTRY OF DEFENCE

AP 105B-0988-12

May 1982

MAIN UNDERCARRIAGE JACK
GENERAL AND TECHNICAL INFORMATION (-1)
GENERAL ORDERS AND MODIFICATIONS (-2)

ADVANCE INFORMATION LEAFLET No.1/82

Insert this leaflet to face Topic 1, Page 11

Insert the following CAUTION to precede para.16.28

CAUTION ...

Prior to fitting the microswitch indicator assembly, view through the mounting aperture in the cylinder wall and check that the 0·150 inch wide slot of the claw locking ring is centrally disposed below the hole to ensure correct engagement of the indicator operating lever on fitment.

Notes ...

(1) The information contained in this leaflet will be incorporated by normal amendment action in due course.

(2) If, after receipt of this leaflet, an amendment with a prior date and conflicting information is received, the information in this leaflet is to take precedent.

16.27.2 Fit a backing washer and a sealing ring in the recess of the gland housing; fit a backing washer and a sealing ring in the same relative positions in the groove of the housing.

16.27.3 Locate the gland housing over the plunger, fit the spring and screw on the retaining nut. Lock the nut with the pin and lightly peen the ends of the pin.

16.27.4 Insert the plunger and gland housing assembly in the body.

16.27.5 Depress the plunger and position the operating lever in the body to engage the squared end of the lever in the plunger slot. Secure the lever in the spigot of the body with the pin.

16.27.6 Fit the sealing ring and the backing washer over the protruding end of the spindle and bed them together in the bore of the body.

16.27.7 Screw in the plug and lock the plug by centre punching.

16.27.8 Screw the cover tightly over the body and against the gland housing.

16.28 Ensure that the piston of the jack is in the fully closed position, fit a sealing ring over the spigot of the microswitch mounting body and locate the spigot in the aperture in the cylinder wall. The cover of the switch assembly is to be towards the gland nut.

16.29 Fit the microswitch plate with the serrations of the plate outermost and secure the switch assembly with the four setbolts. Operate the plunger to ensure that the microswitch is actuated correctly.

16.30 Temporarily attach the mounting block to the switch plate in preparation for fitting the microswitch.

16.31 Screw the locknut on the fork-end and fit the locking bush to the end of the piston rod. Screw the fork-end into the piston rod. Temporarily lock the fork-end and the bush with the pin, a washer and a split pin. The fork-end will be finally adjusted on installation of the jack in the aircraft.

16.32 Insert the attachment pin in the fork-end and temporarily secure it with the washer, slotted nut and split pin.

16.33 After final assembly and test, the following items are to be wire-locked together.

16.33.1 Banjo bolt of connection 1 to adjacent pipe coupling.

16.33.2 Banjo bolt of connection 2 to the bleeder plug and bleeder screw.

16.33.3 The bleeder screw of the upper connection to the banjo bolt and then to the pipe coupling.

16.33.4 The cover to the body of the switch lever assembly.

16.33.5 The four securing setbolts of the switch lever assembly.

TESTING

Special tools and test equipment

17 The following special tools and test equipment will be required to carry out the testing procedures detailed.

Part No.	Description	Application
03260TA01	Lock loading rig	Check lock operation
03261TA01	Piston rod fitting adapter	Use with 03260TA01
03262TA01	Fork end adapter	
03263TA01	Cylinder end fitting adapter	
-	Hand pump and hydraulic test rig	Apply hydraulic pressure
-	Oil OM-15	Test medium

Testing the main undercarriage jack

18 A combined static hydraulic test rig and a power pump rig fitted with a pump capable of delivering 3·45 gal./min. is required. All pipes between the rig and the jack are to be $\frac{3}{8}$ in outside diameter for metal pipes or $\frac{3}{8}$ in nominal for flexible hose. Before testing, operate the jack hydraulically at least six times in each direction to expel all air.

18.1 Connect the supply line of the static hydraulic test rig to connection 2 and apply pressure to extend the jack and engage the lock. Gradually increase the pressure to 4950 lbf/in^2. Leakage is not permissible. Release the pressure and disconnect the supply line.

18.2 Connect the supply line to connection 1 and apply pressure to disengage the lock and close the jack. Gradually increase the pressure to 4950 lbf/in^2. Leakage is not permissible. Release the pressure and disconnect the supply line.

18.3 Connect the supply line of the power pump rig to connection 2 and apply pressure to extend the jack. The pressure required to extend the jack, prior to engaging the lock, must not exceed 75 lbf/in^2 and the time required for extension must not exceed 16 seconds.

18.4 Increase the pressure to engage the lock. The pressure must not exceed 95 lbf/in^2.

18.5 Connect the supply line to connection 1 and apply pressure to disengage the lock. This pressure must not exceed 200 lbf/in^2.

18.6 Continue to apply pressure to fully close the jack. The pressure required must not exceed 110 lbf/in^2 and the time required must not exceed 19 seconds. Release the pressure and disconnect the supply line.

18.7 Locate the jack in the lock-loading rig to give an end-load of 1000 lbf when the lock is engaged.

Note ...

Operation of the lock-loading rig Type No. 03260TA01 is detailed in AP 105T-0101-1.

18.8 Connect the supply line to connection 1 and operate the rig to disengage the lock.

18.9 Connect the supply line to connection 2 and operate the rig to engage the lock. Note the pressure at which the lock engages and set the by-pass valve of the test rig to this pressure plus 100 lbf/in^2.

18.10 With the lock engaged, close the supply valve of the rig and reverse the position of the control valve. The lock must not disengage until the power supply valve is opened. Repeat this operation twice.

18.11 Operate the lock for 240 cycles.

18.12 Repeat operation 18.10.

18.13 Disconnect the test rig supply line and remove the jack from the lock-loading rig.

Annex A

MAIN UNDERCARRIAGE JACK
DOWTY ROTOL PART NUMBERS
7965YMkA (Port) and 7965YMkB (St'b'd)

Leading particulars

1 Leading particulars are as follows:

1.1 Reference number

1.1.1 Main undercarriage jack 7965YMkA (Port) ... 27Q/1371

1.1.2 Main undercarriage jack 7965YMkB (St'b'd)... 27Q/1372

Modification state

2 This annex is technically up to date in respect of the modifications listed below:

2.1 AC 3190, AC 3895, AC 3862.

Description

3 These units are identical to the type described and illustrated in the general text.

Annex B

MAIN UNDERCARRIAGE JACK DOWTY ROTOL PART NUMBERS 07965PA03 (Port) AND 07965SA03 (St'b'd)

Leading particulars

1 Leading particulars are as follows:

1.1 Reference number

1.1.1 Main undercarriage jack 07965PA03 (Port) ... 27Q/1877.

1.1.2 Main undercarriage jack 07965SA03 (St'b'd)... 27Q/1878

Modification state

2 This annex is technically up to date in respect of the modifications listed below:

2.1 AC 3907.

Description

3 These units are similar to the type described and illustrated in the general text, but differ in the heat treatment process applied to the cylinder during manufacture.

Annex C

MAIN UNDERCARRIAGE JACK DOWTY ROTOL PART NUMBERS 103665001 (Port) AND 103665002 (St'b'd)

Leading particulars

1 Leading particulars are as follows:

1.1 Reference number

1.1.1 Main undercarriage jack 103665001 (Port) ... 27Q/1448750.

1.1.2 Main undercarriage jack 103665002 (St'b'd)... 27Q/1448752.

Modification state

2 This annex is technically up to date in respect of the modifications listed below:

2.1 AC 7500.

Description

3 These units are similar to the type described and illustrated in the general text but differ in cylinder material specification.

GENERAL ORDERS AND MODIFICATIONS (-2)

PREFACE

1 Material issued for inclusion in this Topic 2 should be filed in the following order:

1.1 Preface (this page).

1.2 General orders. These leaflets are identified by the letters 'GO' and should be filed in numerical order.

1.3 Equipment modification list. This list shows all MOD-approved modifications affecting the subject of this Topic 2, including those for which leaflets will not be issued. The list will be reissued periodically. As modification leaflets are inserted, suitable entries should be recorded in the applicable columns of this list.

1.4 Modification leaflets. Leaflets bear numbers allotted in sequence as the leaflets are sent to press and should be filed in numerical order.

2 When a complete leaflet or individual leaf is reissued in amended form the alterations are indicated by the triangles thus ▶ ◀ to show where text has been changed.

MAIN UNDERCARRIAGE JACKS(Port) Part No 103665001 (Ref No 27QM/ 1620-99-1448750) and (Starboard), Part No 103665002 (Ref No 27QM/1620-99-1448752). PART 'A' - PORT - Introduction of cylinder sub-assembly Part No 103665210 in place of cylinder sub-assembly, Part No 103665200 (Ref No 27Q/1680-99-1448898) - Unit becomes, Part No 103665003. PART 'B' - STARBOARD - Introduction of cylinder sub-assembly, Part No 103665211 in place of cylinder sub-assembly, Part No 103665201 (Ref No 27Q/1680-99-1448899) - Unit becomes Part No 103665004 - (HUNTER Aircraft Mks, F6, F6A, T7, T7A, T8B, T8C, T8M, FCA9, GA11 and PR11).

(Mod No DOWTY ROTOL AC/9203)

(Class: C/3)

(Group 'AB')

(D/ADSM 25/10/23/718)
(ADP No XAC 92030)

1. INTRODUCTION

Two cases have occurred in flight of a Post-Mod AC/7500 cylinder cracking at the intersection between main bore and hole for indicator assembly and splitting along the forging flash line. Investigation has shown this to be due to stress corrosion. SI/Hunter 131 was issued to check all cylinders and a further seven cases have been confirmed.

This modification introduces cylinders made in material MAT207 (equivalent to L161) which has better stress corrosion resistance than material DTD5094 in which the cylinders were manufactured after Mod AC/7500. The use of bar material will also remove the flash line weakness which gave the secondary failure condition.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any other modification, Naval Service Modification, Service Engineered Modification, SRIM or Special Instruction (Technical).

(2) The cover airframe modification to this modification is Hunter Mod No 1432 (Alighting Gear - Main undercarriage jack - Part 'A' - Port - To introduce Jack, Part No 13665003 in place and by conversion of Jack, Part No 13665001 (Ref No 27QM/1620-99-1448750). Part 'B' - Starboard - To introduce Jack, Part No 13665004 in place and by conversion of Jack, Part No 13665002 (Ref No 27QM/1620-99-1448752).

2. EMBODIMENT

RAF: This modification is to be embodied as directed by Command Headquarters.

RN: This modification is to be embodied in accordance with the procedure for Class 3 modifications laid down in NAMM AP 100N-0140, Chapter 10.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 6½ man hours.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification Kit which consists of the following items supplied by the contractor will be held by No 16 Maintenance Unit under Reference No 27Q/80559 Pt A and 27Q/80560 Pt B.

Ref No	Part No	Nomenclature	Qty Per Unit	Class of Equipment
Part 'A'				
27Q/NIV	103665210	Cylinder(Port)	1	B
27Q/5330-99-4118137	4521Y48	Sealing ring	1	C
27Q/5330-99-4322878	750060308	Sealing ring	1	C
28F/5330-99-9428452	AGS1186-A	Bonded Seal	1	C
28F/5330-99-9428453	AGS1186-B	Bonded Seal	6	C
27Q/5330-99-4118135	SP584-159	Sealing Ring	1	C
27Q/1650-99-4117980	SP836-6	Piston Ring	3	C

Ref No	Part No	Nomenclature	Qty Per Unit	Class of Equipment
Part 'B'				
27Q/NIV	103665211	Cylinder(Starboard)	1	B
27Q/5330-99-4118137	4521Y48	Sealing Ring	1	C
27QA/5330-99-4322878	750060308	Sealing Ring	1	C
28F/5330-99-9428452	AGS1186-A	Bonded Seal	1	C
28F/5330-99-9428453	AGS1186-B	Bonded Seal	6	C
27Q/5330-99-4118135	SP584-159	Sealing Ring	1	C
27Q/1650-99-4117980	SP836-6	Piston Ring	3	C

RAF Units and all other users are to demand separately their requirements of kits direct on 16MU/CMCS RAF Stafford as an when required.

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the parts required to modify them:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
27QM/1620-99-1448750	103665001	Jack (Port)	-	
Parts Required				
		as listed in para 5a(1) - Part 'A'		
27QM/1620-99-1448752	103665002	Jack(Starboard)	-	
		as listed in para 5a(1) - Part 'B'		

Spare Jacks will be modified as directed by SM 33(RAF).

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

OLD			NEW	
Ref No Part 'A'	Part/Assy No.	Nomenclature	Ref No	Part/Assy No.
27QM/1620-99-1448750	103665001	Jack, main under-carriage, port	27QM/1620-99-1491736	103665003
Part 'B'				
27QM/1620-99-1448752	103665002	Jack, main under-carriage, starboard	27QM/1620-99-1491737	103665004

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:

NOTE: Before any electrical circuit is disturbed or disconnected, all electrical power supplies in, to or from the aircraft are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the aircraft safe for reconnection.

Part 'A'

(1) Refer to AP 105B-0988-16C, Para 9 and disassemble the Main Undercarriage Jack, Part No 103665001, (Port) sufficiently to remove the Cylinder Sub-assembly, Part No 103665200.

(2) Re-assemble the jack in accordance with AP 105B-0988-16C, Para 10 using new Cylinder Sub-assembly, Part No 103665211 together with following replacement parts:

(a)	750060308	'O' Ring	Qty 1
(b)	4521Y48	'O' Ring	Qty 1
(c)	SP584-159	Ground Ring	Qty 1
(d)	SP836-6	Piston Ring	Qty 3
(e)	AGS1186-A	Bonded Seal	Qty 1
(f)	AGS1186-B	Bonded Seal	Qty 6

(3) Complete assembly and testing in accordance with AP 105B-0988-16C as necessary.

(4) Re-identify the jack by change of unit and issue number as follows:

Old Part No	New Part No	Issue No
103665001 Part 'B'	103665003	+ 31

(1) Refer to AP 105B-0988-16C, Para 9 and disassemble the Main Undercarriage Jack, Part No 103665002 (Starboard) sufficiently to remove the Cylinder Sub-assembly, Part No 103665201.

(2) Re-assemble the jack in accordance with AP 105B-0988-16C, Para 10 using new Cylinder Sub-assembly, Part No 103665210 together with following replacement parts:

(a)	750060308	'O' Ring	Qty 1
(b)	4521Y48	'O' Ring	Qty 1
(c)	SP584-159	Ground Ring	Qty 1
(d)	SP836-6	Piston Ring	Qty 3
(e)	AGS1186-A	Bonded Seal	Qty 1
(f)	AGS1186-B	Bonded Seal	Qty 6

(3) Complete assembly and testing in accordance with AP 105B-0988-16C as necessary.

(4) Re-identify the jack by change of unit and issue number as follows:

Old Part No	New Part No	Issue No
103665002	103665004	+ 31

9. SPECIAL TESTS AFTER EMBODIMENT

(1) No special testing is required after the embodiment of this modification but any other appropriate and associated testing is to be carried out.

10. RECORDING ACTION

When this modification has been embodied and inspected in, accordance with current authorised procedure, the relevant entries are to be made in the appropriate aircraft equipment records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of as scrap.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
27Q/1650-99-1448898	103665200	Cylinder port	1	B
27Q/1650-99-1448899	103665201	Cylinder starboard	1	B

12. EFFECT ON MASS AND MOMENT

This modification has no effect on mass.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operation or handling of the aircraft or equipment.

14. EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

(1) This modification has no effect on ground support equipment but has the following effect on servicing: Requirements of SI/Hunter/131 are no longer necessary (See Leaflet for Hunter Mod No 1432).

(2) All relevant AP's will require amendment action to take account of changes introduced by this modification.

MOD Mod. No.	Contractor Mod. No.	Mod. plate strike No.	Modification title	Class	Leaflet No.
AC/9203	Dowty/Rotol		Main Undercarriage Locks improved	C/3	1