TO: ALL HOLDERS OF MAIN LANDING GEAR SIDE BRACE LOCK ACTUATOR ASSEMBLY
COMPONENT MAINTENANCE MANUAL 32-32-10

REVISION NO. 11 DATED JUL 01/04

HIGHLIGHTS

All data that was in 767 CMM 32-32-11 is now included in this CMM 32-32-10. Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
301-302 701-702 901	Changed adapter part number.
701-702	Added clarifications and updated callouts.

BOEING

COMPONENT
MAINTENANCE MANUAL

MAIN LANDING GEAR SIDE BRACE LOCK ACTUATOR ASSEMBLY

PART NUMBERS 273T6200-2,-4,-6,-9
273T6201-1 THRU -4

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

T21899

BOEING
COMPONENT
MAINTENANCE MANUAL

REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY

T21893

BOEING
COMPONENT
MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
32-52		PRR B11387	JUL 10/87
		PRR B11624	JAN 10/87
32-0180		PRR B12900-156	MAR 01/00

PAGE	DATE	CODE
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2	BLANK	
REVISION RECORD		
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TR & SB RECORD		
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REPAIR 5-1		
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602	BLANK	
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601	MAR 01/00	01.1
602	BLANK	

* = REVISED, ADDED OR DELETED

* = REVISED, ADDED OR DELETED

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*[1] Special instructions are not required. Use standard industry practices and the instructions in SOPM 20-30-03.

INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions ranging from simple checks and replacement to complete shop-type repair.

This manual is divided into separate sections:

1. Title Page
2. Record of Revisions
3. Temporary Revision & Service Bulletin Record
4. List of Effective Pages
5. Table of Contents
6. Introduction
7. Procedures & IPL Sections

Refer to the Table of Contents for the page location of applicable sections. An asterisked flagnote *[ ] in place of the page number indicates that no special instructions are provided since the function can be performed using standard industry practices.

Throughout the manual IPL item number references include alpha-variants, unless otherwise stated.

The beginning of the REPAIR section includes a list of the separate repairs, a list of applicable standard Boeing practices, and an explanation of the True Position Dimensioning symbols used.

An explanation of the use of the Illustrated Parts List is provided in the Introduction to that section.

All weights and measurements used in the manual are in English units, unless otherwise stated. When metric equivalents are given they will be in parentheses following the English units.

Verification:

Testing/Trouble Shooting -- Jun 10/82
Disassembly -- Jun 10/82
Assembly -- Jun 10/82

MAIN LANDING GEAR SIDE BRACE LOCK ACTUATOR ASSEMBLY

DESCRIPTION AND OPERATION

1. The side brace lock actuator assembly is a piston-type actuator with a cylinder, piston and piston rod. The actuator extends when hydraulic pressure is applied and moves the jury strut into overcenter position when the main landing gear is extended. On some of these actuators, when the gear is down and locked, the piston floats to decrease jury strut loads.

2. Leading Particulars (Approximate)

   A. Length (between centers of bearings) -- 29 inches (extended)
      -- 20 inches (retracted)

   B. Diameter -- 2 inches

   C. Weight -- 9 pounds (dry)
      -- 10 pounds (wet)

   D. Operating Medium -- BMS 3-11 Hydraulic Fluid

   E. Operating Pressure -- 2950-3050 psi

   F. Proof Pressure -- 5350-5450 psi

   G. Stroke -- 8.64 inches

TESTING/TROUBLE SHOOTING

1. Test Equipment

NOTE: Equivalent substitutes can be used.

A. Hydraulic test stand to supply BMS 3-11 hydraulic fluid at variable controlled pressures of 0-5400 psi. Fluid must be filtered through 15 microns absolute and fluid temperature must be 80-120°F.

B. Test Fixture -- A32063-1

C. Fittings --To fit MS33649-4 and -6

2. Preparation for Test

A. Install hydraulic fittings. Install the unit in the test fixture and connect it to the stand.

B. Make sure that the flow restrictors (135, 145, IPL Fig. 1) are installed with the flow direction as shown in IPL Fig. 1.

C. Fill the unit with hydraulic fluid and bleed all air from the unit.

3. Test

WARNING: DO NOT APPLY AIR PRESSURE TO PORTS AT ANY TIME.

CAUTION: DO NOT CYCLE UNIT AT PROOF PRESSURE (5400 PSI).

A. Operate the unit for 25 complete strokes at a rate of approximately 3 cycles per minute with inlet pressure of 2900-3100 psi and return pressure of 45-100 psi. Make sure the leakage at the rod seal is not more than 1 drop.

B. With the piston fully extended, apply 3000 psi pressure to the EXTEND port. Leakage at the RETRACT port must not be more than 2 cc per minute. Do this test again at 50 psi and make sure the leakage is not more than 2 cc per minute.

C. With the piston fully retracted, apply 3000 psi pressure to the RETRACT port. Leakage at the EXTEND port must not be more than 2 cc per minute. Do this test again at 50 psi and make sure the leakage is not more than 2 cc per minute.

CAUTION: DO NOT EXTEND OR RETRACT PISTON AT PROOF PRESSURE (5400 PSI).

D. Slowly apply 5350-5450 psi hydraulic pressure to the EXTEND port with the RETRACT port open, and hold this pressure for 3 minutes. Make sure there is no external leakage or permanent set.

E. Hold the actuator extended at a length of 20.5-21.5 inches, and do the test of step D. with the same pressure applied to the RETRACT port with the EXTEND port open. Make sure there is no external leakage or permanent set.

F. After the test, fill the unit with hydraulic fluid and put caps or plugs on the ports. Lockwire nut (35) to cylinder (115) by the double-twist method.

TROUBLE	PROBABLE CAUSE	CORRECTION
Too much leakage at the rod end.	Defective seal (50).	Disassemble and replace parts per par. 4.A., 4.B.
Too much leakage at the EXTEND or RETRACT port.	Defective packing (85).	Disassemble and replace parts per par. 4.A., 4.C.
Actuator does not operate smoothly.	Defective piston (95), gland (70), rod end (30) or cylinder (115).	Disassemble and replace parts per par. 4.A., 4.D.
	Dirt or unwanted matter in cylinder.	Disassemble and clean parts.

Trouble Shooting Chart
Figure 101

4. Corrective Procedures

A. Drain the hydraulic fluid from the unit.

B. Replacement of seal (50).

(1) Completely disassemble the unit per DISASSEMBLY.

(2) Replace defective parts.

(3) Assemble the parts per ASSEMBLY and do the test again per par. 3.

C. Replacement of packing (85).

(1) Remove nut (35) and rod end (30) with attached parts from cylinder (115).

(2) Replace packing (85) if defective.

(3) Assemble parts per ASSEMBLY and do the test again per par. 3.

D. Replacement of piston (95), gland (70), rod end (30) and cylinder (115).

(1) Completely disassemble the unit per DISASSEMBLY and replace defective part(s).

(2) Assemble the parts per ASSEMBLY.

(3) Do the test again per par. 3.

DISASSEMBLY

NOTE: Refer to TESTING AND TROUBLE SHOOTING to find the condition or possible cause of malfunctions and to find how much disassembly or repair is necessary.

1. Equipment

   NOTE: Equivalent substitutes can be used.

   A. Torque adapter -- A32078-3

   B. Spanner wrench -- A32045-40

2. Parts Replacement

   NOTE: These parts are recommended for replacement. Unless shown differently, replacement of other parts can be by in-service experience.

   A. Lockwire

   B. Cup lockwasher (105)

   C. Packings (29, 55), seal (45, 50, 80, 85)

   D. Backup rings (50), scraper (40)

3. Disassembly (IPL, Fig. 1)

   CAUTION: BEARING (15, 20) HALVES ARE A MATCHED SET. BE SURE TO KEEP THEM TOGETHER.

   A. Remove bearing (15, 20) from rod end (30) and cylinder (115).

   B. Hold the bearing end of cylinder (115) upright in a vise and remove lockwire.

   C. Unscrew nut (35) with spanner wrench A32045-40, until piston rod (30) with attached parts (40 thru 110) can be slid out of cylinder (115).

D. Pull piston rod (30) with applicable attached parts (40 thru 110) out of cylinder (115).

E. On actuators 273T6201-1, -2, -3, hold the bearing end of piston rod (30) upright in a vise. Straighten flange breaks on cup lockwasher (105) and remove nut (110), with torque adapter A32078-3. Actuator 273T6201-4 does not have these parts.

NOTE: Hat seal (50) has two ring-shaped parts. Make a note of the direction of the seal as you remove it, to help during assembly.

F. As applicable, remove cup lockwasher (105), piston retainer (100), piston (95), gland (70), hat seal (50), seal retainer (45), scraper (40) and nut (35) from piston rod (30).

G. Remove seals (80, 85) from piston (95). Remove packing (55) and backup rings (60) from gland (70).

H. Remove lockwire and plug (26) and packing (29) from cylinder (115).

CHECK

1. Examine all parts for defects by standard industry practices. Refer to FITS AND CLEARANCES for design dimensions and wear limits.

2. Magnetic particle check (SOPM 20-20-01) -- Rod end (30), piston (95), cylinder (130), nuts (35, 110), steel retainer (100).

3. Penetrant check (SOPM 20-20-02) -- Retainer (45), gland (70), aluminum nickel bronze retainer (100).

REPAIR - GENERAL

1. Content

A. Repair, refinish and replacement procedures are included in separate repair sections as follows:

P/N	NAME	REPAIR
273T6204	ROD END	1-1
273T6205	NUT	2-1
273T6208	PISTON	3-1
273T6202	CYLINDER	4-1, 4-2
273T6201	ACTUATOR	5-1
BAC27THY8	NAMEPLATE	6-1
--	MISCELLANEOUS PARTS REFINISH	7-1

2. Standard Practices

A. Refer to the following standard practices, as applicable, for details of procedures in individual repairs.

20-00-00 Introduction
20-10-04 Grinding of Chrome Plated Parts
20-30-02 Stripping of Protective Finishes
20-30-03 Cleaning Procedures
20-41-01 Decoding Table for Boeing Finish Codes
20-41-02 Application of Chemical and Solvent Resistant Finishes
20-42-03 Hard Chrome Plating
20-50-04 Installation of Permanent Pins and Plugs in Drilled Passages
20-50-08 Application of Solid Film Lubricant
20-50-12 Application of Adhesives
20-50-21 How to Install Nameplate Straps and Seals
20-60-02 Finishing Materials
20-60-03 Lubricants

3. Materials

NOTE: Equivalent substitutes can be used.

A. Lubricant -- BMS 3-8 (SOPM 20-60-03)

B. Adhesive -- Type 54, Grade 1 (SOPM 20-50-12)

C. Primer -- BMS 10-11 type 1 (SOPM 20-60-02)

D. Enamel -- BMS 10-60, gray gloss color 707 (SOPM 20-60-02)

4. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in applicable repair procedures are shown in SOPM 20-00-00.

ROD END - REPAIR 1-1

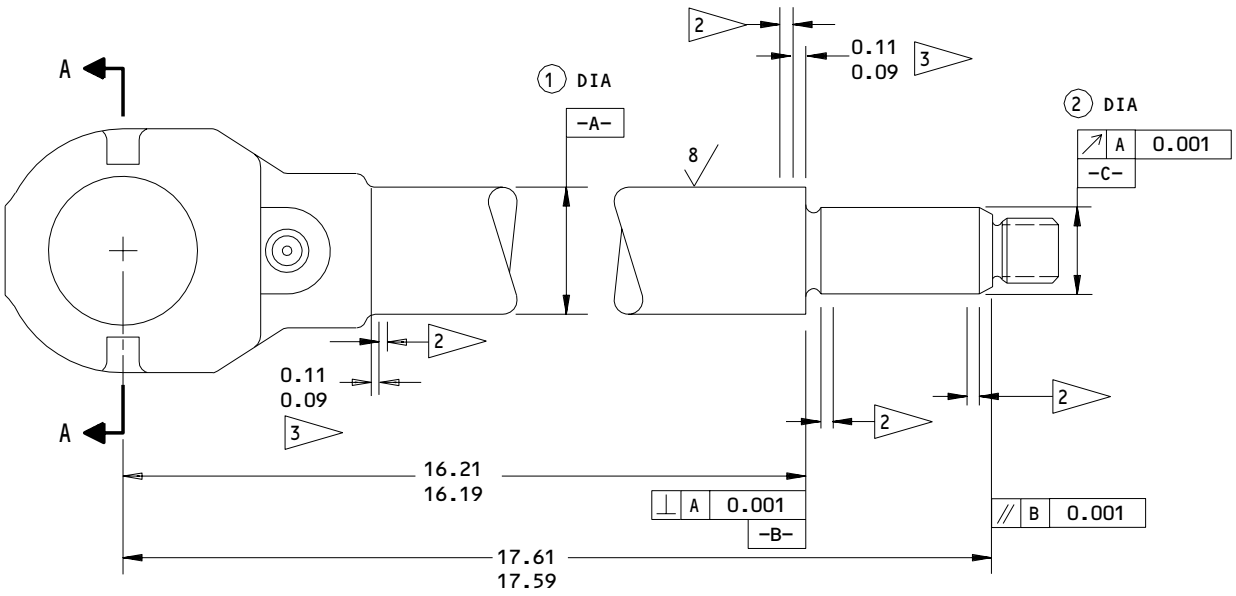
273T6204-1, -3

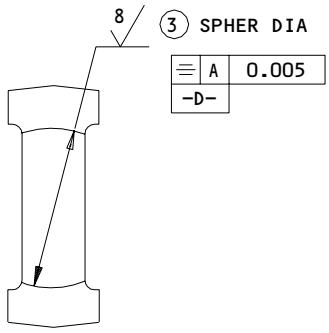
NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601, 602.

1. Plating Repair (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen. Build up with chrome plate. Grind the chrome plate to design dimensions and finish.





A-A

	1	2	3
DESIGN DIM	0.873 0.871	0.560 0.558	1.1910 1.1895
REPAIR LIMIT	0.851 1	0.538 1	———

REFINISH

CHROME PLATE (F-15.03) DIAS -A-, -C-
CHROME PLATE (F-15.03) DIA -D-,
0.0007-0.0010 THICK.
PUT PLATING RUNOUTS PER 2. DO NOT
PLATE AREAS SHOWN BY 3

1 LIMIT FOR BUILDUP WITH CHROME PLATE AND GRIND TO DESIGN DIMENSIONS AND FINISH

2 CHROME PLATE RUNOUT 0.08 MAX

3 NO CHROME PLATE

REPAIR

REF 1

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

SHOT PEEN: 0.016-0.033 SHOT SIZE
0.010 A2 INTENSITY

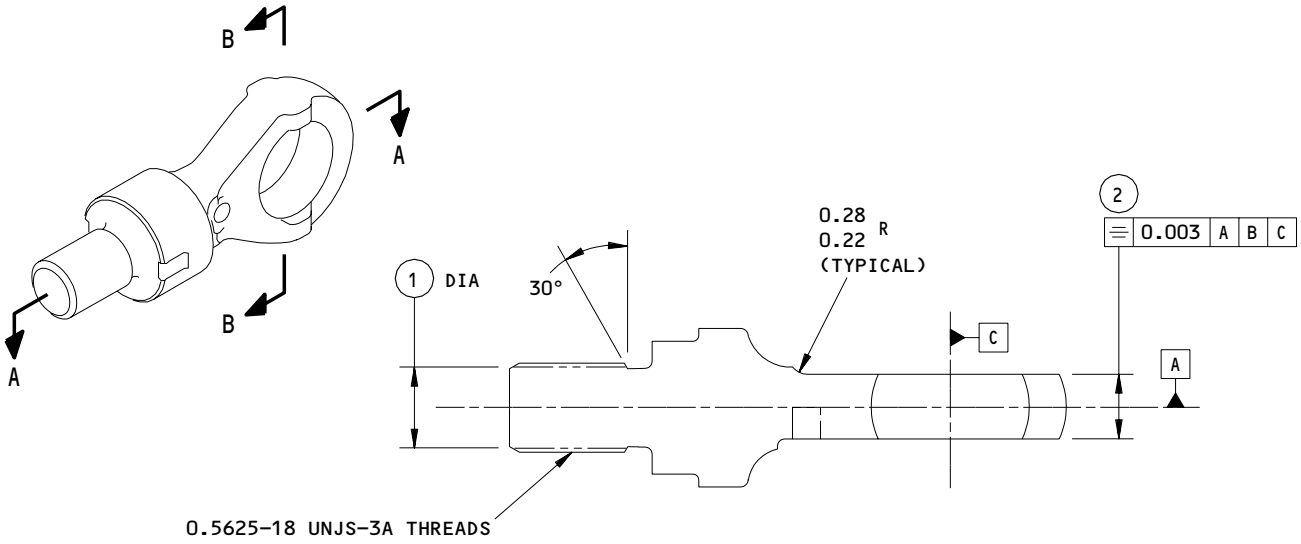
MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

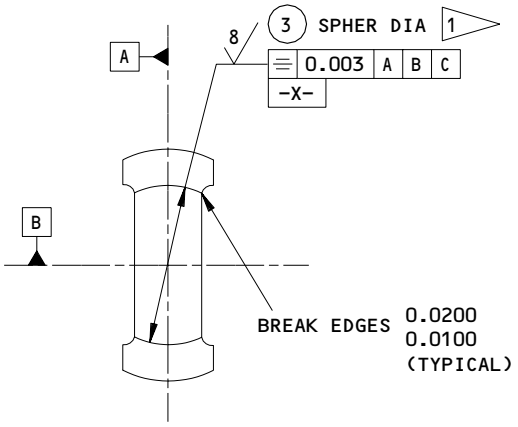
273T6204-1

Rod End Repair and Refinish
Figure 601

T21894



A-A



B-B

	1	2	3
DESIGN DIM	0.482 0.475	0.485 0.480	1.1910 1.1895
REPAIR LIMIT	—	—	—

REFINISH

PASSIVATE (F-17.25) ALL OVER.
CHROME PLATE (F-15.03) DIA -X- 0.0007-0.0010 THICK.
APPLY SOLID FILM LUBRICANT TO SURFACES SHOWN BY 1

1 APPLY BMS 3-8 SOLID FILM LUBRICANT (F-19.10) TO THESE SURFACES.

REPAIR

(SAME AS REFINISH)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

SHOT PEEN (SOPM 20-10-03) DIA -X-
0.016-0.033 SHOT SIZE
0.010 A2 ITENSITY

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

273T6204-3
Rod End Repair and Refinish
Figure 602

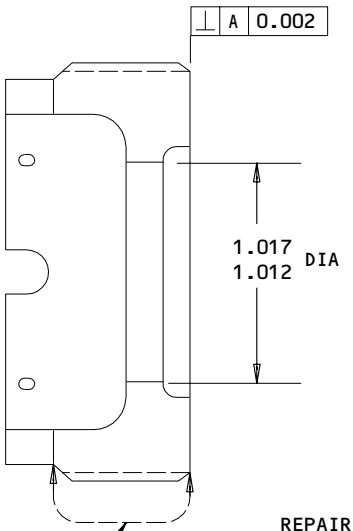
K99509

NUT - REPAIR 2-1

273T6205-1

1. Coating Repair

A. Repair is only replacement of the original finish. Refer to Refinish instructions, Fig. 601. Refer to REPAIR - GENERAL for a list of applicable standard practices.



REFINISH

PASSIVATE (F-17.25, WHICH REPLACES F-17.09)
APPLY SOLID FILM LUBRICANT TO SURFACES SHOWN BY 1

1 APPLY SOLID FILM LUBRICANT (F-19.10 OR F-19.81)

REPAIR

(SAME AS REFINISH)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

273T6205-1

Nut Refinish
Figure 601

T21896

PISTON - REPAIR 3-1

273T6208-1, -2, -3

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601, 602.

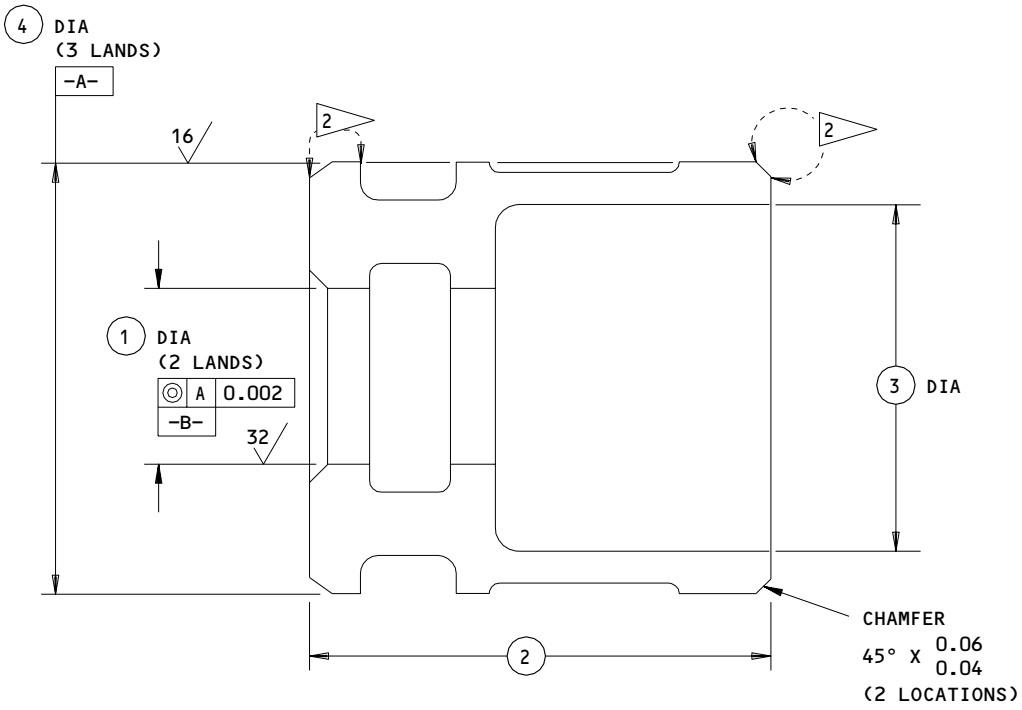
1. Pistons 273T6208-1,-2 (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen. Build up with chrome or nickel plate as indicated. Grind the chrome plate, and machine the nickel plate, to design dimensions and finish.

2. Piston 273T6208-3 (Fig. 602)

   A. Repair is only replacement of the original finish. Refer to Refinish for details.



(273T6208-1 SHOWN)

	1	2	3	4
DESIGN DIM	0.563 0.562	1.51 1.49	1.168 1.158	1.426 1.425
REPAIR LIMIT	0.583 4	—	—	1.402 1 3

REFINISH

NO FINISH 3

1 LIMIT FOR BUILDUP WITH NICKEL PLATE AND MACHINING TO DESIGN DIMENSION AND FINISH WITH PLATING RUNOUT AS SHOWN BY 2

2 PLATING RUNOUT

3 THIS REMOVES ORIGINAL CHROME PLATE OF DIA -A-. THE CHROME PLATED CONFIGURATION IS NOT RECOMMENDED

4 LIMIT FOR BUILDUP WITH CHROME PLATE AND GRIND TO DESIGN DIMENSION AND FINISH

REPAIR

REF 1 3 4

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

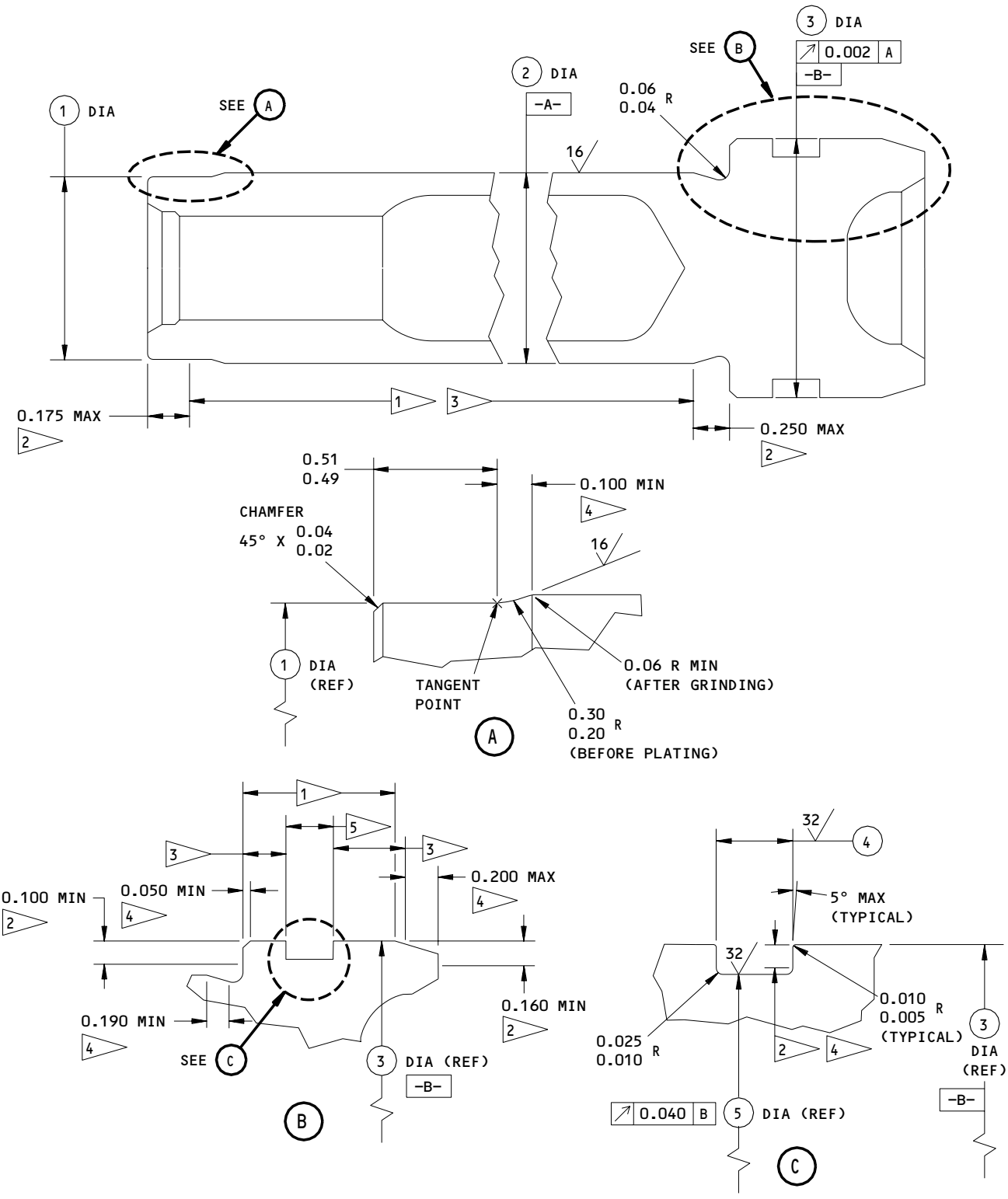
SHOT PEEN: 0.016-0.033 SHOT SIZE
0.010 A2 INTENSITY

MATERIAL: 4330M STEEL, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

273T6208-1,-2
Piston Repair and Refinish
Figure 601

T21897



273T6208-3
Piston Repair and Refinish
Figure 602 (Sheet 1)

K99792

	(1)	(2)	(3)	(4)	(5)
DESIGN DIM	0.832 0.812	0.873 0.871	1.4260 1.4250	0.314 0.304	1.185 1.183

REFINISH

CHROME PLATE SURFACES SHOWN BY 3
PASIVATE (F-17.25) OTHER SURFACES

1 SHOT PEEN THIS AREA

2 SHOT PEEN RUN OUT

3 CHROME PLATE (F-15.34) 0.003-0.005 THICK, WITH RUNOUT AS SHOWN BY 4

4 CHROME PLATE RUNOUT AREA

5 NO CHROME PLATE

REPAIR

(SAME AS REFINISH)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

SHOT PEEN (SOPM 20-10-03) AREAS SHOWN BY 1 WITH RUNOUT SHOWN BY 2. DO NOT SHOT PEEN SEAL GROOVE OR INTERNAL ARES
0.017-0.046 SHOT SIZE
0.005-0.010 A2 ITENSITY

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

273T6208-3
Piston Repair and Refinish
Figure 602 (Sheet 2)

CYLINDER ASSEMBLY - REPAIR 4-1

273T6202-2

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. If you find defects on cylinder surfaces, refer to REPAIR 4-2 for repair instructions.

1. Pin and Plug Replacement (Fig. 602)

A. Remove the old pin (125) and plug (120) from cylinder (130).

B. Install replacements per SOPM 20-50-04.

CYLINDER - REPAIR 4-2

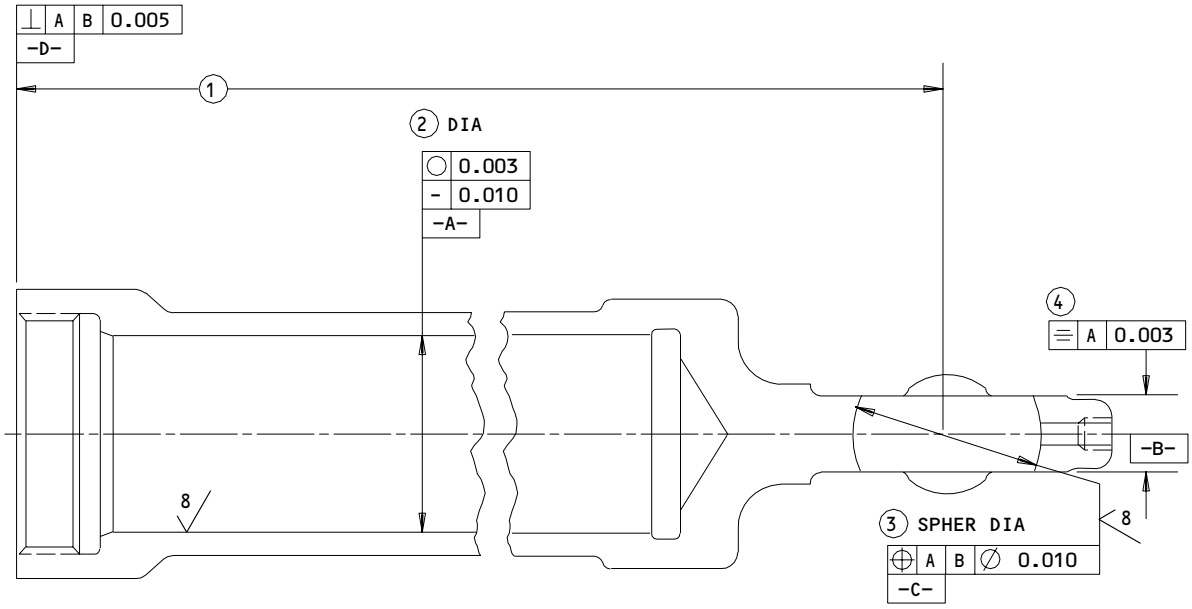
273T6202-2

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Plating Repair (Fig. 601)

   A. Machine as required, within repair limits, to remove defects.

   B. Shot peen. Build up with chrome plate. Grind the chrome plate to design and dimensions and finish.



	1	2	3	4
DESIGN DIM	14.20 14.00	1.430 1.428	1.3785 1.3770	0.570 0.565
REPAIR LIMIT	---	1.450 1	---	---

REFINISH

CHROME PLATE (F-15.34) DIA -A- 2
CHROME PLATE (F-15.03) DIA -C-,
0.0007-0.0010 THICK
PASSIVATE (F-17.09) ALL OTHER SURFACES

1 LIMIT FOR BUILDUP WITH CHROME PLATE AND GRINDING TO DESIGN DIM & FINISH

2 THIS CHANGES ORIGINAL PASSIVATED SURFACE OF DIA -A- TO CHROME PLATE. THE PASSIVATED CONFIGURATION IS NOT RECOMMENDED

REPAIR

REF 1 2

125 MACHINE FINISH EXCEPT AS NOTED

SHOT PEEN: 0.017-0.046 SHOT SIZE
0.006 A2 INTENSITY

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

273T6202-2
Cylinder Repair and Refinish
Figure 601

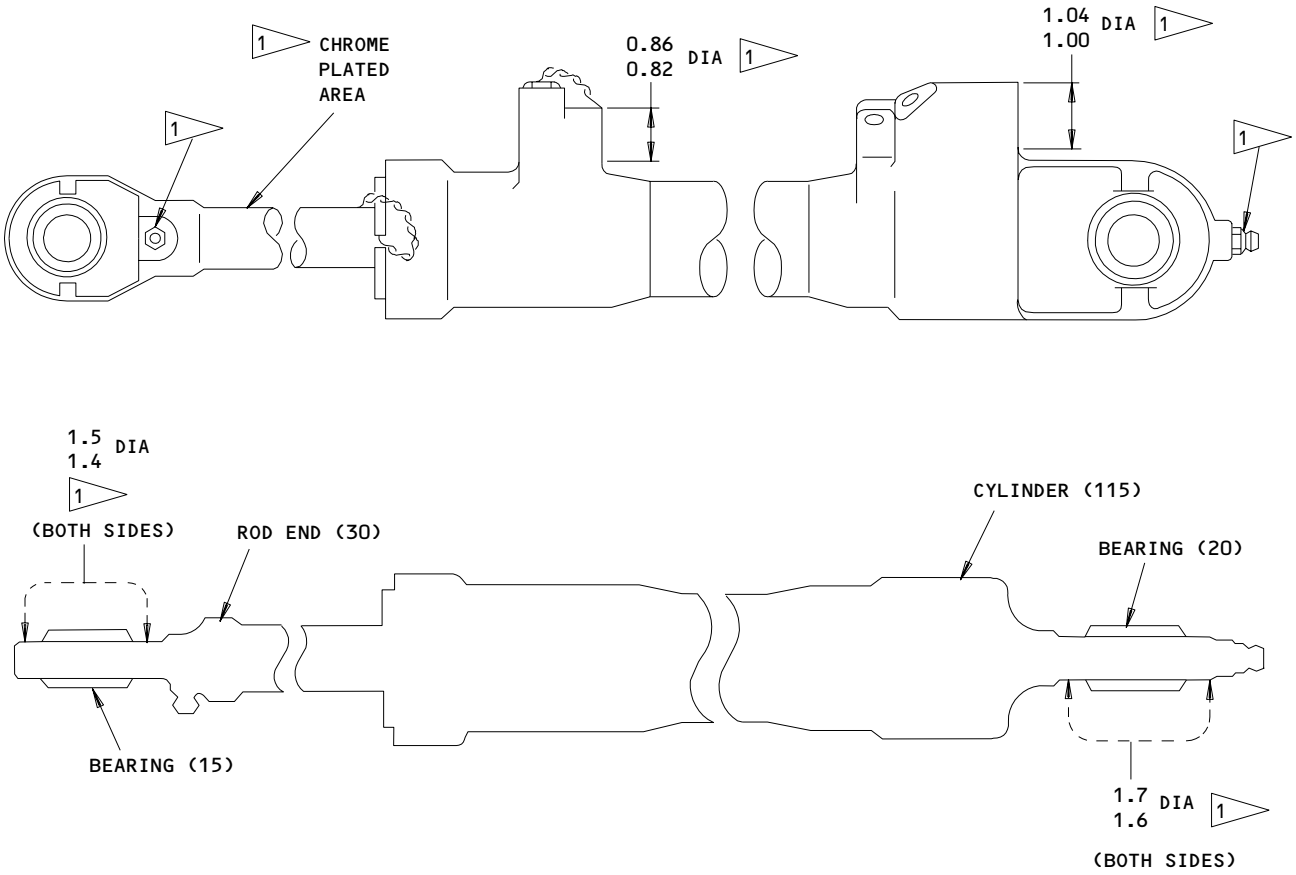
T21898

ACTUATOR - REPAIR 5-1

273T6201-Series

1. Topcoat Repair

A. Repair is only replacement of the original finish. Refer to Refinish instructions, Fig. 601. Refer to REPAIR - GENERAL for a list of applicable standard practices.



REFINISH

APPLY PRIMER BMS 10-11, TYPE 1 (F-20.02) AND ENAMEL BMS 10-60 (SRF-14.9813) ALL OVER UNLESS SHOWN BY 1

1 NO PRIMER OR ENAMEL

ALL DIMENSIONS ARE IN INCHES

273T6201-Series

Actuator Refinish
Figure 601

8364

NAMEPLATE - REPAIR 6-1

BAC27THY8

1. Nameplate Replacement

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices.

A. Steel stamp the serial number and assembly number on the replacement nameplate (5, IPL Fig. 1).

B. Bend the nameplate to match curvature of cylinder (115).

C. With a new strap (10), bond nameplate (5) to cylinder at approximately 7.24 inches from the centerline of the bearing bore in the cylinder with Type 54 grade 1 adhesive per SOPM 20-50-12 and per SOPM 20-50-21.

MISCELLANEOUS PARTS REFINISH - REPAIR 7-1

1. Repair of these parts is only replacement of the original finish. Refer to REPAIR - GENERAL for a list of applicable standard practices.

IPL FIG. 1 ITEM	MATERIAL	FINISH
Bearings (15,20),	Be-Cu	No finish.
Retainer (45, 100 thru 100B), Gland (70)	Al-Ni-Bronze per 4640	No finish.
Retainer (100C)	15-5PH CRES, 150-170 ksi	Passivate (F-17.25, which replaces F-17.09).
Nut (110)	4340 steel, 180-200 ksi	No finish.

Refinish Details
Figure 601

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes can be used.

A. Grease -- BMS 3-33 or MIL-G-23827 (SOPM 20-60-03)

B. Grease -- Batco 8401 (SOPM 20-60-03)

C. Lubricant -- BMS 3-11 Hydraulic Fluid (MCS 352 Assembly Lube optional) (SOPM 20-60-03)

D. Dry Film Lubricant -- MIL-L-46010 (SOPM 20-50-08)

E. Lockwire -- MC20995NC32 (MS20995N32 optional) (SOPM 20-60-04)

2. Equipment

NOTE: Equivalent substitutes can be used.

A. Spanner Wrench -- A32045-40

B. Torque Adapter -- A32078-3

3. Lubrication (IPL Fig. 1)

A. Lightly lubricate the threads of nut (110), packings (29, 55, 80, 85), backup rings (60), and seal (50) with hydraulic fluid or assembly lube at assembly.

B. Apply a good layer of BMS 3-33 or MIL-G-23827 grease to the ID of bearing bore on rod end (30) and cylinder (115) and OD of bearings (15, 20) at installation.

C. Apply solid film lubricant to the threads of plug (26) per SOPM 20-50-08.

4. Assembly (IPL Fig. 1) (Fig. 701)

CAUTION: IN SOME CONFIGURATIONS, THE CYLINDER ID IS NOT PLATED, AND THE MATING PISTON OD IS CHROME PLATED. IN OTHER CONFIGURATIONS, THE CYLINDER ID IS CHROME PLATED AND THE MATING PISTON OD IS NOT PLATED. A CHROME PLATED CYLINDER MUST NOT BE USED WITH A CHROME PLATED PISTON. FOR REPAIRED CONFIGURATIONS, A NICKEL PLATED PISTON CAN BE USED WITH A CHROME PLATED CYLINDER.

A. Install packing (29) and plug (26) on cylinder (115). Tighten the plug to 41-43 pound-inches.

B. Install applicable packings (80, 85) on piston (95). Install packing (55) and backup rings (60) on gland (70).

C. On actuators 273T6201-1, -2, -3 (Fig. 701):

(1) Hold the bearing end of rod end (30) in a vise. Slide nut (35), scraper (40), seal retainer (45), seal (50) (as noted at disassembly), and gland (70) on rod end (30).

CAUTION: MAKE SURE RETAINER (100) IS CORRECTLY INSTALLED ON ROD END (30). A REVERSED RETAINER WILL NOT LET NUT (110) BE COMPLETELY INSTALLED ON ROD END (30).

(2) Put piston (95) onto rod end, followed by retainer (100), larger ID first, as shown.

(3) Install cup lockwasher (105) and nut (110). Tighten the nut to 200-210 pound-inches with torque adapter A32078-3.

(4) After you tighten the nut, make sure rod end (30) threads are out at least 0.024 inch from the face of nut (110). If they are not, remove nut (110), cup lockwasher (105), and make sure retainer (100) is installed with the larger ID against chamfered OD of rod end (30), as shown.

(5) Completely break the flange of cup lockwasher (105) into the wrench-flat area of nut (110) with a square punch.

(6) Hold the bearing end of cylinder (115) in a vise. Slide rod end (30) with attached parts into cylinder (115).

D. On actuators 273T6201-4:

(1) Slide gland (70), seal (50), seal retainer (45), scraper (40) and nut (35) on piston (95).

(2) Apply Batco 8401 grease to the external threads. Install cup lockwasher (105) and rod end (30) on the end of the piston. Make sure the keys of the lock washer are in the slot of the piston. Turn the rod end into the piston until it comes to the bottom. Then tighten the rod end to 450-500 pound-inches above running torque.

(3) Completely break the flange of lockwasher (105) into the wrench-flat area of the rod end, with a square punch.

(4) Hold the bearing end of cylinder (115) in a vise. Slide piston (95) with attached parts into the cylinder.

E. Install nut (35) on cylinder (115). With spanner wrench A32045-40, tighten the nut to 150-180 pound-inches.

CAUTION: HALVES OF BEARINGS (15, 20) ARE A MATCHED SET. MAKE SURE THE BEARING HALVES ARE ASSEMBLED WITH THE INDEX MARKS ALIGNED.

F. Align the index marks on the bearing halves, then install bearing (15) on rod end (30) and bearing (20) on cylinder (115) with BMS 3-33 or MIL-G-23827 grease.

G. Do the test (ref TESTING AND TROUBLE SHOOTING).

H. After the test, lockwire nut (35) and plug (26) to cylinder (115) by the double-twist method.

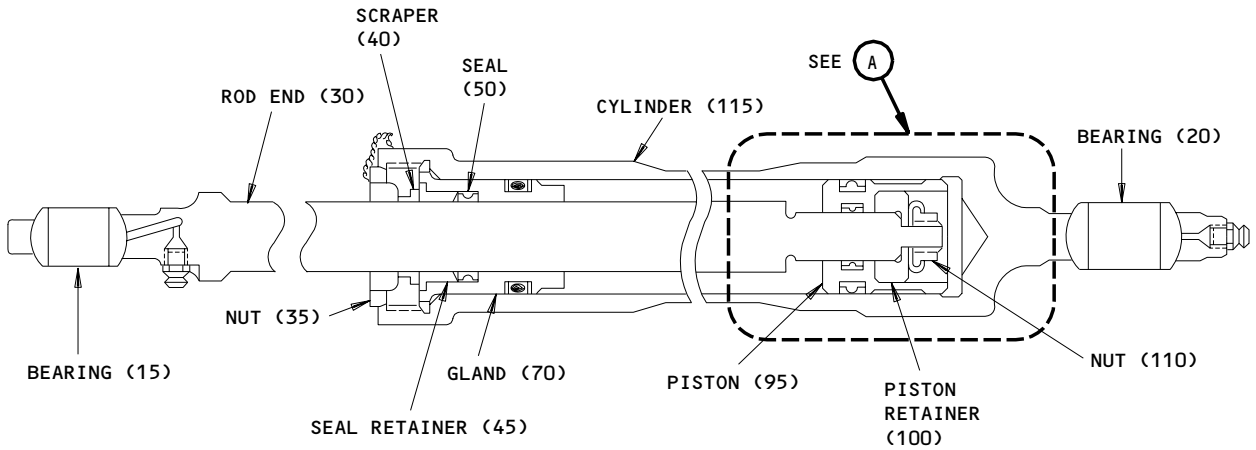
I. Refer to REPAIR 5-1 for actuator refinish.

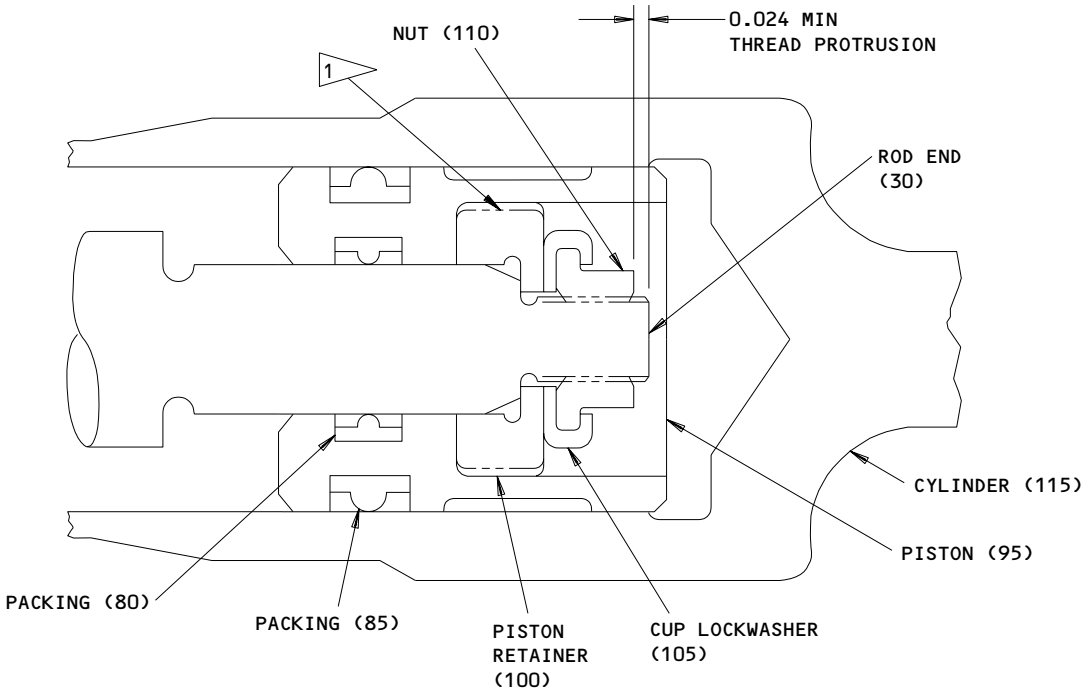
5. Storage Instructions

A. Fill the unit with BMS 3-11 hydraulic fluid.

B. Seal the ports with hydraulic fluid resistant plugs or caps.

C. Give protection to the unit and put it away by standard industry practices and the instructions in SOPM 20-44-02.





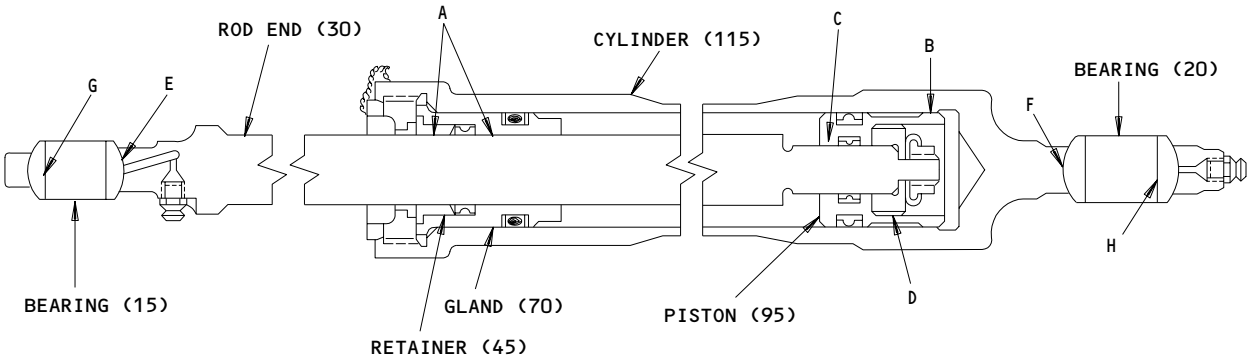
1 CONTOUR OF RETAINER 273T6209-3,-4

ITEM NUMBERS REFER TO IPL FIG. 1

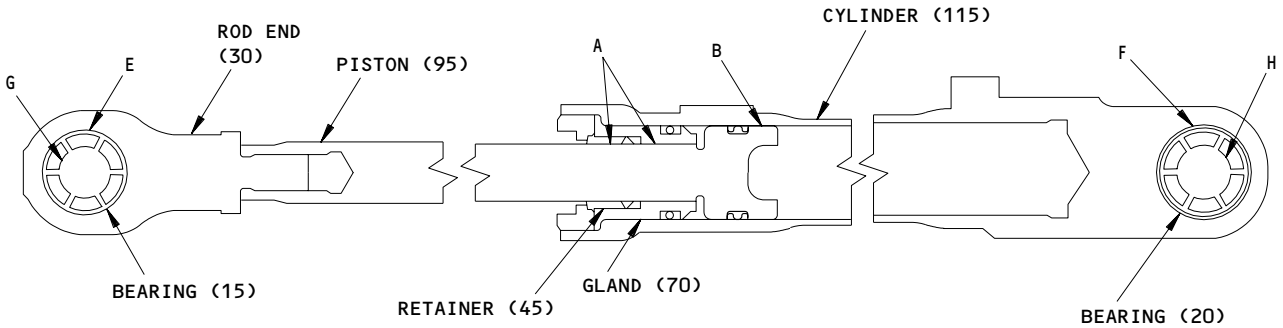
ALL DIMENSIONS ARE IN INCHES

273T6201-1,-2,-3
Assembly Details
Figure 701

FITS AND CLEARANCES



273T6201-1,-2,-3



273T6201-4

Fits and Clearances
Figure 801 (Sheet 1)

T21902

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
			DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
A	ID	45,70	0.875	0.876	0.002	0.005		0.880	0.009
	OD	30	0.871	0.873			0.864		
B	ID	115	1.428	1.430	0.002	0.005		1.4340	0.008
	OD	95	1.425	1.426			1.4210		
C [2] [3]	ID	95	0.562	0.563	0.002	0.005		0.568	0.008
	OD	30	0.558	0.560			0.554		
D [2]	ID	95	1.158	1.168	0.002	0.014			
	OD	100	1.154	1.156					
D [3]	ID	95	1.158	1.168	0.358	0.468			
	OD	100	0.700	0.800					
E	ID	30 [1]	1.1895	1.1910	0.0020	0.0040		1.1912	0.005
	OD	15 [1]	1.1870	1.1875			1.1862		
F	ID	115 [1]	1.3770	1.3785	0.0020	0.0040		1.3788	0.005
	OD	20 [1]	1.3745	1.3750			1.3738		
G	ID	15	0.7495	0.7500					
H	ID	20	0.8745	0.8750					

* ALL DIMENSIONS ARE IN INCHES

[1] SPHRICAL DIAMETER
[2] 273T6201-1,-2
[3] 273T6201-3

Fits and Clearances
Figure 801 (Sheet 2)

L00141

REF IPL	NAME	TORQUE*	
ITEM NO. IPL FIG. 1		POUND-INCHES	POUND-FEET
26	PLUG	41-43	
30A	ROD END	450-500 1	
35	NUT	150-180	
110	NUT	200-210	

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

1 ABOVE RUNNING TORQUE

Torque Table
Figure 802

8368

SPECIAL TOOLS, FIXTURES AND EQUIPMENT

NOTE: Equivalent substitutes can be used.

1. A32063-1 -- Test fixture

2. A32045-40 -- Spanner wrench

3. A32078-3 -- Torque adapter

ILLUSTRATED PARTS LIST

1. This section lists and illustrates replaceable or repairable component parts. The Illustrated Parts Catalog contains a complete explanation of the Boeing part numbering system.

2. Indentures show parts relationships as follows:

    Assembly
      Detail Parts for Assembly
      Subassembly
      Attaching Parts for Subassembly
        Detail Parts for Subassembly

    Detail Installation Parts (Included only if installation parts may be returned to shop as part of assembly)

3. One use code letter (A, B, C, etc.) is assigned in the EFF CODE column for each variation of top assembly. All listed parts are used on all top assemblies except when limitations are shown by use code letter opposite individual part entries.

4. Letter suffixes (alpha-variants) are added to item numbers for optional parts, Service Bulletin modification parts, configuration differences (except left- and right-hand parts), product improvement parts, and parts added between two sequential item numbers. The alpha-variant is not shown on illustrations when appearance and location of all variants of the part is the same.

5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.

    A. When a new top assembly part number is assigned by Service Bulletin, the notations appear at the top assembly level only. The configuration differences at detail part level are then shown by use code letter.

    B. When the top assembly part number is not changed by the Service Bulletin, the notations appear at the detail part level.

6. Parts Interchangeability

Optional (OPT)	The parts are optional to and interchangeable with other parts having the same item number.
Supersedes, Superseded By (SUPSDS, SUPSD BY)	The part supersedes and is not interchangeable with the original part.
Replaces, Replaced By (REPLS, REPLD BY)	The part replaces and is interchangeable with, or is an alternate to, the original part.

VENDORS

02107 SPARTA MANUFACTURING COMPANY
PO BOX 449 5200 NORTH WOOSTER ROAD
DOVER, OHIO 44622

07128 TETRAFLUOR INC
2051 EAST MAPLE AVENUE
EL SEGUNDO, CALIFORNIA 90245

26303 OHIO AIRCRAFT SUPPLIES INC
717 HINDRY AVENUE
INGLEWOOD, CALIFORNIA 90301

26879 CORONADO PLASTICS INCORPORATED
11069 PENROSE AVENUE
SUN VALLEY, CALIFORNIA 91352

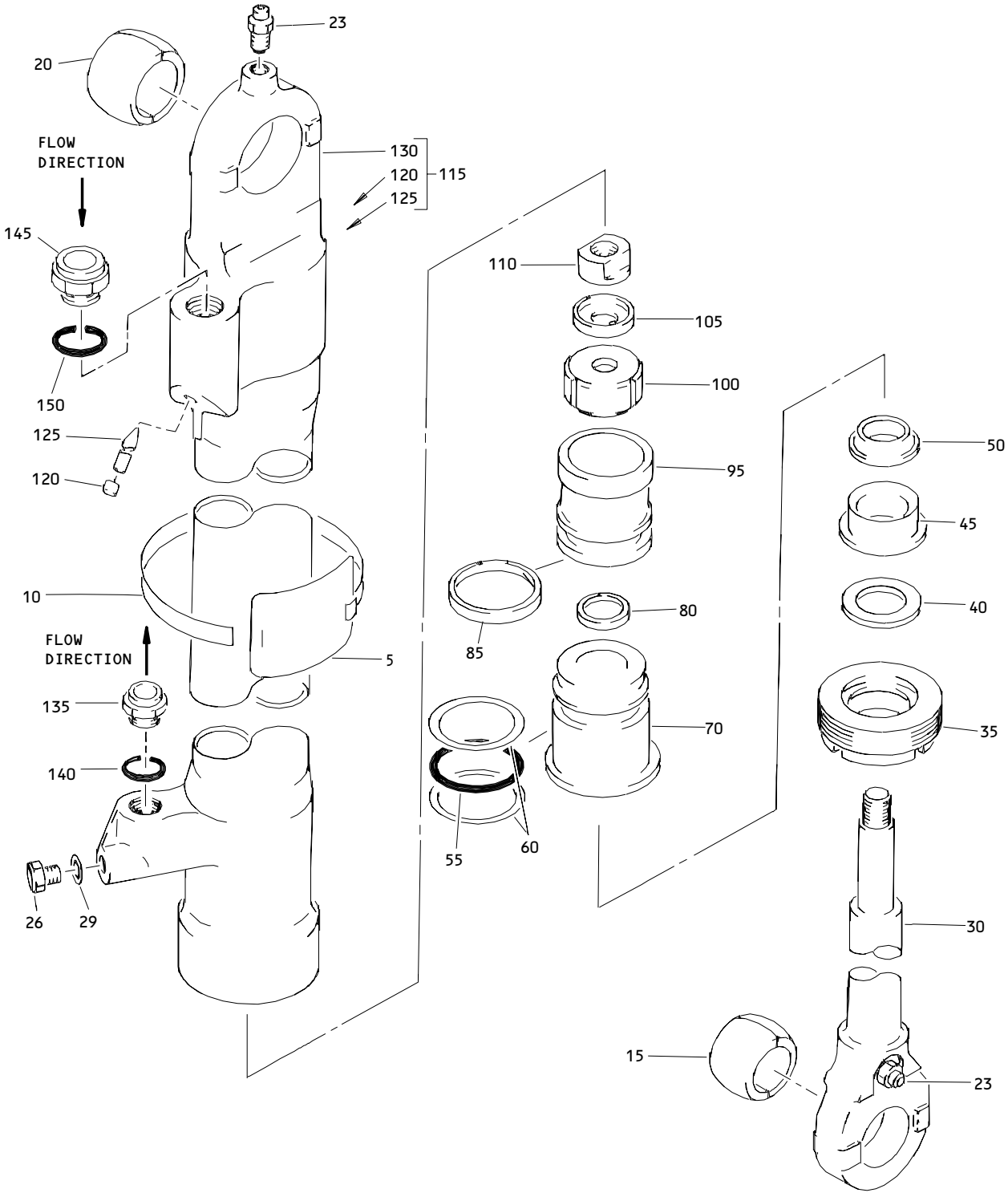
72902 GREENE TWEED AND CO INC
320 ELM AVENUE
NORTH WALES, PENNSYLVANIA 19454

92555 LEE COMPANY
2 PETTIPAUG ROAD
WESTBROOK, CONNECTICUT 06498

94878 RAYBESTOS-MANHATTAN INC PACIFIC COAST DIV
1400 E. ORANGETHROPE
FULLERTON, CALIFORNIA 92631

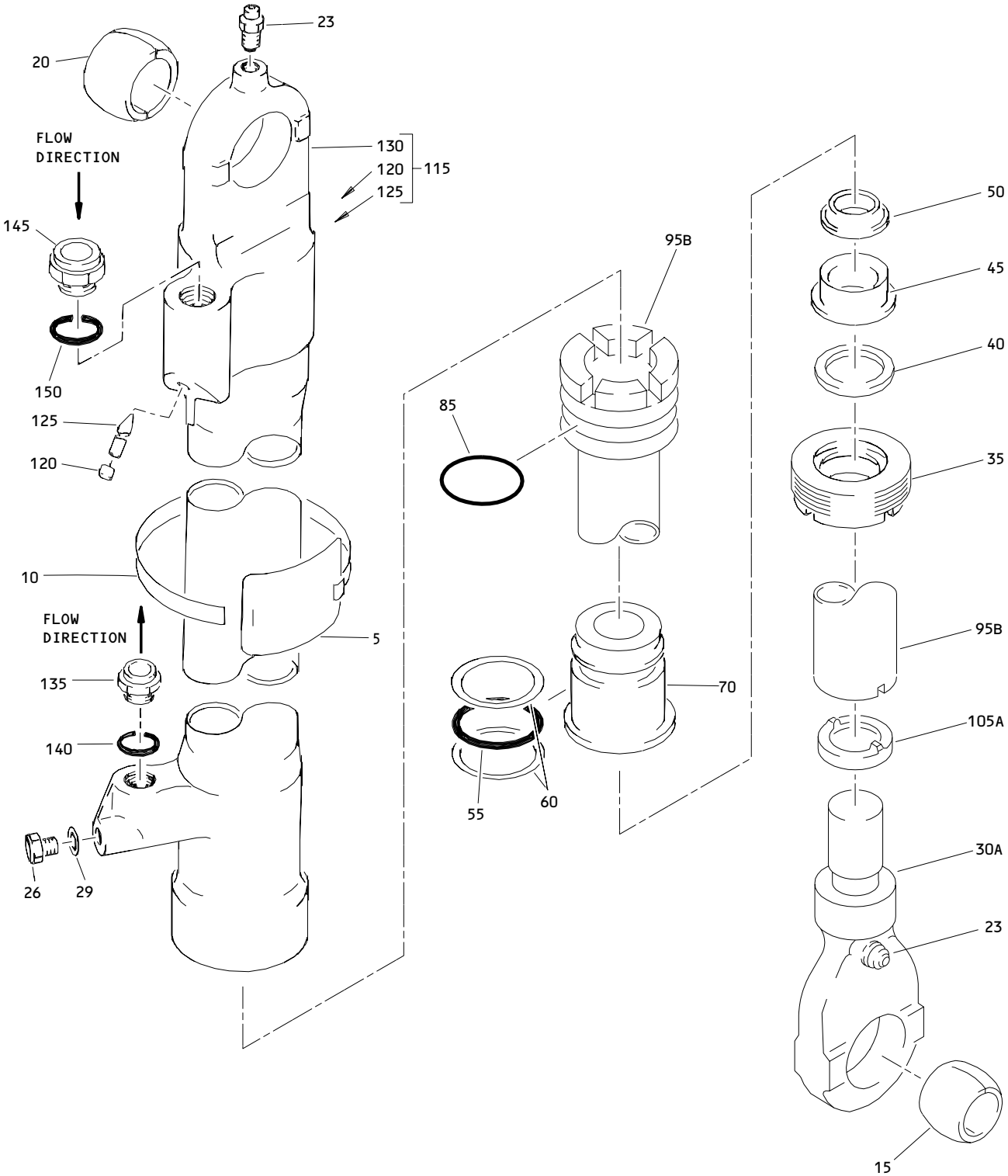
97820 SHAMBAN W S AND CO
711 MITCHELL ROAD
NEWBURY PARK, CALIFORNIA 91320

99240 CRISSAIR INC
122 ARENA STREET
EL SEGUNDO, CALIFORNIA 90245



237T6201-1,-2,-3
Main Landing Gear Side Brace Lock Actuator Assembly
Figure 1 (Sheet 1)

T87071



237T6201-4

Main Landing Gear Side Brace Lock Actuator Assembly
Figure 1 (Sheet 2)

L00254

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	273T6201-1		DELETED		
-1A	273T6200-2		ACTUATOR ASSY-MLG SIDE BRACE LOCK	A	RF
-1B	273T6200-4		ACTUATOR ASSY-MLG SIDE BRACE LOCK	B	RF
-1C	273T6200-6		ACTUATOR ASSY-MLG SIDE BRACE LOCK	C	RF
-1D	273T6200-9		ACTUATOR ASSY-MLG SIDE BRACE LOCK	D	RF
-3	273T6201-1		.ACTUATOR ASSY (PRE SB 32-52, 32-0180)	A	1
-3A	273T6201-2		.ACTUATOR ASSY (PRE SB 32-52, 32-0180)	B	1
-3B	273T6201-3		.ACTUATOR ASSY (POST SB 32-52) (PRE SB 32-0180)	AB	1
-3C	273T6201-3		.ACTUATOR ASSY (PRE SB 32-0180)	C	1
-3D	273T6201-4		.ACTUATOR ASSY (POST SB 32-0180)	ABC	1
-3E	273T6201-4		.ACTUATOR ASSY	D	1
5	BAC27THY8		..NAMEPLATE		1
10	69B80300-18		..STRAP		1
15	270T0002-12		..BEARING		1
20	270T0002-14		..BEARING		1
23	MS15004-1		..FITTING-LUBE		2
26	MS9902-01		..PLUG		1
29	NAS1611-008		..PACKING (USED ON ITEMS 3-3C)		1
-29A	NAS1611-008A		..PACKING (USED ON ITEMS 3D,3E)		1
30	273T6204-1		..ROD END (USED ON ITEMS 3-3C)		1
-30A	273T6204-3		..ROD END (USED ON ITEMS 3D,3E)		1
35	273T6205-1		..NUT-GLAND RETAINER		1
40	BACS34A7A		..SCRAPER		1
45	273T6206-1		..RETAINER-SEAL		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
50	S33555-212H99		..SEAL-HAT (V97820)		1
-50A	S33121-212-5		..SEAL (V97820) (OPT TO ITEM 50) (USED ON ITEMS 3-3C)		1
-52	NAS1611-212		..PACKING (USED WITH ITEM 50A)		1
55	NAS1611-217		..PACKING (USED ON ITEMS 3-3C)		1
-55A	NAS1611-217A		..PACKING (USED ON ITEMS 3D,3D)		1
60	BACR12BM217		..RING-BACKUP		2
70	273T6207-1		..GLAND		1
80	7113FT952T		..SEAL ASSY (V72902) (USED ON ITEMS 3-3C)		1
85	7217MT952-5708		..SEAL ASSY (V72902)		1
95	273T6208-1		..PISTON (USED ON ITEM 3)		1
95A	273T6208-2		..PISTON (USED ON ITEMS 3A,3B,3C)		1
-95B	273T6208-3		..PISTON (USED ON ITEMS 3D,3E)		1
100	273T6209-1		..RETAINER-PISTON (USED ON ITEM 3)		1
100A	273T6209-2		..RETAINER-PISTON (USED ON ITEM 3A)		1
100B	273T6209-3		..RETAINER-PISTON (OPT TO ITEM 100C) (USED ON ITEMS 3B,3C)		1
100C	273T6209-4		..RETAINER-PISTON (OPT TO ITEM 100B) (USED ON ITEMS 3B,3C)		1
105	273T6210-1		..LOCKWASHER-CUP (USED ON ITEMS 3-3C)		1
-105A	273T6210-2		..LOCKWASHER (USED ON ITEMS 3D,3E)		1
110	273T6307-2		..NUT-RETAINER (USED ON ITEMS 3-3C)		1
115	273T6202-1		..CYLINDER ASSY		1
120	BACP20AX18		...PLUG		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
125	BACP20AX18P		...PIN		1
130	273T6202-2		...CYLINDER		1
135	9R3208		.RESTRICTOR-FLOW (V99240) (OPT ITEM 135A)		1
-135A	JEHC187565OL		.RESTRICTOR (V92555) (OPT ITEM 135)		1
140	NAS1612-4		.PACKING	ABC	1
-140A	NAS1612-4A		.PACKING	D	1
145	9R3210		.RESTRICTOR-FLOW (V99240)		1
150	NAS1612-6		.PACKING	ABC	1
-150A	NAS1612-6A		.PACKING	D	1