COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

NOSE LANDING GEAR LOCK ACTUATOR ASSEMBLY

PART NUMBER 273A1201–1, –2

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COMPONENT MAINTENANCE MANUAL

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To: All holders of NOSE LANDING GEAR LOCK ACTUATOR ASSEMBLY 32-33-22.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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Location of Change	Description of Change
32-33-22	
REPAIR-GENERAL	Added clarifications and updated callouts.
REPAIR 5-1	Changed the material and refinish for gland nut 273A1205-1.
ILLUSTRATED PARTS LIST	Changed the data in the NUMERICAL INDEX list.
	Added optional backup ring S33157-213-29C.

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A = Added, R = Revised, D = Deleted, O = Overflow

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
32-1394		PRR 38275-101	JUL 01/07

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Revision		Filed		Revision		Filed	
Number	Date	Date	Initials	Number	Date	Date	Initials

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Temporary Revision		Inserted		Removed	
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Temporary Revision		Inserted		Removed	
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INTRODUCTION

1. General

A. The instructions in this manual supply the data necessary to do the maintenance functions together with the test, fault isolation, repair, and replacement of the defective parts.

B. This manual is divided into different parts:

(1) Title Page

(2) Transmittal Letter

(3) Highlights

(4) List of Effective Pages

(5) Table of Contents

(6) Temporary Revision & Service Bulletin Record

(7) Record of Revisions

(8) Record of Temporary Revisions

(9) Introduction

(10) Procedures & IPL Sections

C. Components that can be repaired have a different repair number for each specified repair. To find the repair number location of a component, look in the Repair-General procedure at the beginning of the REPAIR section. The Repair-General procedure also has an explanation of the True Position Dimension symbols used.

D. All dimensions, measures, quantities and weights included are in English units. When metric equivalents are given they will be in the parentheses that follow the English units.

E. The introduction to the Illustrated Parts List (IPL) shows how the IPL data is used.

F. Design changes, optional parts, configuration differences and Service Bulletin modifications may cause different part numbers. These part numbers are identified in the IPL with an alphabetical letter which is added to the end of the basic item number. This new item number is referred to as an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless shown differently.

G. The tool reference numbers found in the individual procedures and in the Special Tools, Fixtures, and Equipment section are used to identify if a tool is a standard tool (STD-XXXX), a commercial tool (COM-XXXX), or a Special Tool (SPL-XXXX). This reference number is also used to distinguish between tools with similar names in the same procedure. These reference numbers are for use in the documentation only. They are not to be used for ordering tools.

NOSE LANDING GEAR LOCK ACTUATOR ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The nose landing gear lock actuator assembly is a hydraulic piston type, which consists of a CRES piston, a CRES swivel pin, a CRES barrel assembly and a CRES rod end.

2. Operation

A. Two actuators are attached by the trunnion assembly between the top and the bottom steering plates on the nose gear outer cylinder. The actuator rod ends are attached to the steering collar of the torque links. Mechanical movement is transmitted through the torque links to the inner cylinder of the nose landing gear.

B. The lock actuator is attached to the drag-strut lock-link assembly. Hydraulic pressure extends the lock actuator to make the drag-strut lock-link assembly straight. This locks the nose landing gear in the down position. When the nose landing gear is fully retracted, the lock actuator locks the nose landing gear in the up position.

3. Leading Particulars (Approximate)

A. Length (retracted) – 10.47 inches

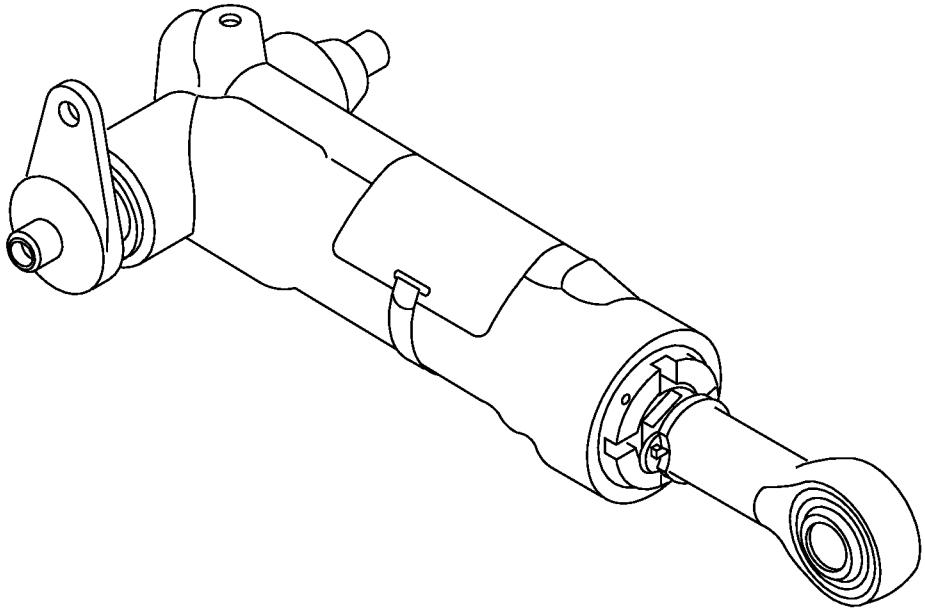
B. Diameter – 1.5 inches

C. Weight – 5 pounds

D. Pressure (proof) – 4500 psi

E. Pressure (operation) – 3000 psi

F. Fluid (operation) – BMS 3-11, Type 4 hydraulic fluid, D00153



Lock Actuator Assembly - Nose Landing Gear
Figure 1

TESTING AND FAULT ISOLATION

1. General

A. This procedure tells how to do a test of the nose gear lock actuator assembly after an overhaul or for fault isolation. There are three parts:

(1) Nose Gear Lock Actuator Assembly Test

(a) External leakage

(b) Internal leakage

(c) Seal friction

(d) Proof pressure

(2) Fault Isolation

(3) Fault Correction

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Lock Actuator Assembly Test

A. Special Tools and Equipment

NOTE: Equivalent substitutes can be used.

(1) Nose gear clamp stand, SPL-9794.

(2) A hydraulic test stand with these requirements:

(a) Can operate with hydraulic fluid, D00153.

(b) Can operate in a range of 0-4600 psi.

(c) The fluid must be continuously filtered by a filter no larger than 15 micron absolute.

(d) Can keep the fluid temperature between 60-120°F.

3. Preparation for Test

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-9794	Clamp Stand (Included With the C32036-46) (Part #: C32036-5, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)

C. Test Set Up

(1) Install the actuator in clamp stand, SPL-9794.

(2) Attach the hydraulic test stand lines to the ports.

(3) Fill the actuator with hydraulic fluid, D00153.

NOTE: The actuator must be full of hydraulic fluid, D00153 for each test.

(4) Remove all of the air from the actuator.

4. Functional Test

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-9794	Clamp Stand (Included With the C32036-46) (Part #: C32036-5, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)
G50347	Lockwire - Nickel-copper, 0.032 inch diameter	NASM20995N˜C32

C. References

Reference	Title
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES

D. Procedure

WARNING: DO NOT APPLY AIR PRESSURE TO THE PORTS. THIS CAN CAUSE DAMAGE TO THE UNIT OR INJURY TO YOU.

(1) Do an external leakage test:

(a) Clean the area around gland nut (70) near gland seal (80) to permit leak detection.

(b) Operate the actuator for 25 full cycles:

1) Fully retract the actuator.

2) Apply the minimum hydraulic pressure to the extend port that is necessary to move the piston rod.

3) Increase the pressure to 3000-3200 psi when the actuator stops at the end of the piston rod travel and maintain the pressure for 0.5 to 2 seconds.

4) Remove the pressure from the extend port.

5) Change the direction of hydraulic fluid, D00153.

NOTE: The actuator is in the fully extended position.

6) Apply the minimum hydraulic pressure to the retract port that is necessary to move the piston rod.

7) Increase the pressure to 3000-3200 psi when the actuator stops at the end of the piston rod travel and maintain the pressure for 0.5 to 2 seconds.

8) Remove the pressure from the retract port.

9) Do the steps in TESTING AND FAULT ISOLATION, Paragraph 4.D.(1)(b)1) thru TESTING AND FAULT ISOLATION, Paragraph 4.D.(1)(b)8) for 25 full cycles.

(c) After 25 cycles, do a visual check for leakage around gland seal (80):

1) The recommended leakage is zero.

2) The leakage limit for gland seal (80) is 3 drops.

3) The leakage limit for rings (85) and packing (90) is zero.

(d) Do a visual check for static external leakage:

1) Extend the actuator completely.

2) Clean the areas of the actuator that are wet, if necessary.

3) Apply 2-10 psi of hydraulic pressure to the extend and retract ports for 2 minutes.

4) Make sure there is no sign of external leakage. There can be no drops at gland seal (80).

(2) Do an internal leakage test:

(a) Fully extend the piston rod.

(b) Remove the hydraulic line from the retract port.

(c) Apply 2900-3100 psi to the extend port for a minimum of 1 minute.

(d) Do a visual check for leakage from the open retract port:

1) The recommended leakage is zero.

2) The leakage limit is 10 cubic centimeters (cc) per minute.

(e) Remove the pressure from the extend port.

(f) Attach the hydraulic line to the retract port.

(g) Fully retract the piston rod.

(h) Remove the hydraulic line from the extend port.

(i) Apply 2900-3100 psi to the retract port for a minimum of 1 minute.

(j) Do a visual check for leakage from the open extend port:

1) The recommended leakage is zero.

2) The leakage limit is 10 cc per minute.

(k) Remove the pressure from the retract port.

(l) Attach the hydraulic line to the extend port.

(3) Do a seal friction test:

(a) Retract the piston rod fully.

(b) Apply no pressure to the retract port.

(c) With no load applied to the piston rod, slowly increase the pressure to a maximum of 50 psi at the extend port. The piston rod must fully extend with a smooth and continuous movement.

(d) Remove the pressure applied to the extend port.

(e) Make sure the piston rod is fully extended.

(f) Apply no pressure to the extend port.

(g) With no load applied to the piston rod, slowly increase the pressure to a maximum of 50 psi at the retract port. The piston rod must fully retract with a smooth and continuous movement.

(h) Remove the pressure applied to the retract port.

(4) Do a proof pressure test:

CAUTION: DO NOT EXTEND OR RETRACT THE PISTON AT PROOF PRESSURE (4400-4600 PSI).

(a) Retract the piston rod fully.

(b) Apply 4400-4600 psi of pressure to the retract port for a minimum of 60 seconds.

(c) Make sure there is no sign of external leakage or permanent damage to the actuator.

(d) Remove the pressure from the retract port.

(e) Extend the piston rod fully.

(f) Apply 4400-4600 psi of pressure to the extend port for a minimum of 60 seconds.

(g) Make sure there is no sign of external leakage or permanent damage to the actuator.

(h) Remove the pressure from the extend port.

(5) Make sure that the retracted length is 9.075-9.105 inches, measured from the centerline of the retract port to the centerline of bearing (60). Adjust rod end assembly (55) to obtain the retracted length, if necessary. The stroke is 2.725-2.805 inches.

(6) Remove the actuator from clamp stand, SPL-9794.

(7) Apply lockwire, G50347 to gland nut (70), washer (50) and nut (45) and safety them to barrel (40) by the double-twist method (SOPM 20-50-02).

(8) Fill the unit with hydraulic fluid, D00153 and install the shipping caps.

5. Fault Isolation

A. Refer to TESTING AND FAULT ISOLATION, Table 101 for probable cause and the corrective procedure for any test failure.

Table 101: Fault Isolation Chart

TROUBLE	PROBABLE CAUSE	CORRECTIONS
Leakage near the rod end assembly.	Defective scraper (75), gland seal (80), packing (90), or rings (85).	Disassemble and replace the parts as shown in TESTING AND FAULT ISOLATION, Paragraph 6.B.(1).
Movement of the piston rod is not smooth.	Defective piston rod (110), gland (95), or barrel (40).	Disassemble and replace the parts as shown in TESTING AND FAULT ISOLATION, Paragraph 6.B.(3).
	Dirt or foreign material in the cylinder.	Disassemble and clean the parts (DISASSEMBLY).

6. Fault Correction

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)

B. Procedure

(1) Replacement of scraper (75), gland seal (80), packing (90) and rings (85):

(a) Drain hydraulic fluid, D00153 from the unit.

(b) Remove rod end (65) from piston rod (110). Remove nut (45) and washer (50) from piston rod (110).

(c) Remove gland nut (70) and gland (95) from barrel (40).

(d) Remove scraper (75), gland seal (80), packing (90) and rings (85) from gland (95).

(e) Replace the parts as necessary.

(f) Install gland (95), with rings (85), gland seal (80), packing (90) and scraper (75), on piston rod (110). Push these parts back into barrel (40).

(g) Install gland nut (70) in barrel (40). Install nut (45), washer (50) and rod end (65) on piston rod (110) as specified in ASSEMBLY. Do the test again to see if the problem was corrected.

(2) Replacement of piston seal (105):

(a) Drain hydraulic fluid, D00153 from the unit.

(b) Remove rod end (65) from piston rod (110). Remove nut (45) and washer (50) from piston rod (110).

(c) Remove gland nut (70) and gland (95) from barrel (40).

(d) Remove piston rod (110) from barrel (40).

(e) Replace defective seal (105).

(f) Install piston rod (110) in barrel (40).

(g) Install gland nut (70) and gland (95) in barrel (40). Install nut (45), washer (50) and rod end (65) on piston rod (110) as specified in ASSEMBLY. Do the test again to see if the problem was corrected.

(3) Replacement of piston rod (110) or barrel (40):

(a) Drain hydraulic fluid, D00153 from the actuator.

(b) Disassemble the actuator (DISASSEMBLY).

(c) Replace the defective parts.

(d) Assemble the actuator (ASSEMBLY).

(e) Test as specified in TESTING AND FAULT ISOLATION, Paragraph 4.

DISASSEMBLY

1. General

A. This procedure has the data necessary to disassemble the nose gear steering actuator assembly.

B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. Special Tools

NOTE: Equivalent substitutes can be used.

(1) C32036-5 – Clamp Stand

(2) C32036-9 – Small Spanner Wrench

(3) C32036-29 – O-ring picks (2 necessary)

(4) Stanley-Proto 4924 – Small Crowfoot Wrench (included in C32036-2 kit)

B. Part Replacement

NOTE: These parts which follow are recommended for replacement. Unless a procedure tells you to replace a part, replacement is optional.

(1) Packings, O-rings and seals (15, 80, 90, 105)

(2) Scraper (75)

(3) Backup rings (85, 100)

NOTE: Do not remove pin (25) and plug (30) unless necessary to stop a leak or to clean the area.

C. Procedure

(1) Install the actuator in the clamp stand.

(2) Remove the lockwire from the nut (45), the washer (50), the gland nut (70) and the barrel (40).

(3) Use the small spanner wrench to loosen the gland nut (70). Then remove it from the barrel (40).

(4) Remove the piston rod (110) and the attached items from the barrel (40).

(5) Remove the bearing (109A), the seal (105) and the backup rings (100) from the barrel (40).

(6) Hold the piston rod (110) and use the small crowfoot wrench to loosen the nut (45) to release the rod end (65).

(7) Loosen the rod end (65) on the piston rod (110).

(8) Turn the rod end (65) to remove it from the piston rod (110).

(9) Remove the lockwasher (50) from the piston rod (110).

(10) Remove the piston rod (110) from the gland (95) and gland nut (70).

(11) Remove the scraper (75), the seal (80), the packing (90) and the backup rings (85) from the gland (95).

(12) Remove the pin (10) from the barrel assembly (20).

(13) Use the O-ring picks and remove the seals (15) from the barrel (20).

CLEANING

1. General

A. This procedure has the data necessary to clean the nose gear steering actuator assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Cleaning

A. References

Reference	Title
SOPM 20-30-01	CLEANING AND RELUBRICATING BEARINGS
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

(1) Clean the bearings (60) as specified in SOPM 20-30-01.

(2) Clean the other parts by standard industry procedures and the instructions in SOPM 20-30-03.

CHECK

1. General

A. This procedure has the data necessary to find defects in the material of the specified parts.

B. Refer to FITS AND CLEARANCES for the design dimension and wear limits.

C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

D. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

(1) Use standard industry procedures to do a visual check of all the parts for defects.

(2) Do a magnetic particle check (SOPM 20-20-01) of these parts:

(a) Swivel Pin (10)

(b) Piston (110)

(c) Rod end (65)

(d) Barrel (40)

(3) Do a penetrant check (SOPM 20-20-02) of these parts:

(a) Gland (95)

(b) Nut (70)

REPAIR

1. General

A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

Table 601:

PART NUMBER	NAME	REPAIR
—	REFINISH OF OTHER PARTS	1-1
273A1202	BARREL	2-1,2-2
273A1203	PISTON ROD	3-1
273A1204	DELETED	4-1
273A1205	GLAND NUT	5-1
273A1206	ROD END ASSY	6-1,6-2
273A1207	SWIVEL PIN	7-1
273A2508	NAMEPLATE	8-1

2. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in REPAIR-GENERAL, Figure 601.

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
⌯	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
↗↗	TOTAL RUNOUT
⌴	COUNTERBORE OR SPOTFACE
∨	COUNTERSINK
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
S ∅	SPHERICAL DIAMETER
R	RADIUS
SR	SPHERICAL RADIUS
()	REFERENCE
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE. FROM THIS FEATURE PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓛ	LEAST MATERIAL CONDITION (LMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE
FIM	FULL INDICATOR MOVEMENT

EXAMPLES

— | 0.002	STRAIGHT WITHIN 0.002
⊥ | 0.002 | B	PERPENDICULAR TO DATUM B WITHIN 0.002
// | 0.002 | A	PARALLEL TO DATUM A WITHIN 0.002
○ | 0.002	ROUND WITHIN 0.002
⌭ | 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
⌒ | 0.006 | A	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM A
⌓ | 0.020 | A	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
◎ | ∅ 0.0005 | C	CONCENTRIC TO DATUM C WITHIN 0.0005 DIAMETER
⌯ | 0.010 | A	SYMMETRICAL WITH DATUM A WITHIN 0.010
∠ | 0.005 | A	ANGULAR TOLERANCE 0.005 WITH DATUM A
⌖ | ∅ 0.002 Ⓢ | B	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
⊥ | ∅ 0.010 Ⓜ | A 0.510 Ⓟ	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010 INCH DIAMETER, PERPENDICULAR TO DATUM A, AND EXTENDING 0.510 INCH ABOVE DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	THEORETICALLY EXACT DIMENSION IS 2.000

True Position Dimensioning Symbols
Figure 601

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Refinish of other parts

A. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure

NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01.

(1) Instructions for the repair of the parts listed in REPAIR 1-1, Table 601 is for repair of the initial finish.

Table 601: Refinish Details

IPL FIG. & ITEM		MATERIAL	FINISH
IPL Fig. 1			
Washer (50)	CRES		Passivate (F-17.25).

BARREL ASSEMBLY - REPAIR 2-1

273A1202–1

1. General

A. This procedure has the data necessary to repair and refinish the barrel (40).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659, 180-200 KSI

2. Bushing Replacement

A. Procedure (REPAIR 2-1, Figure 601)

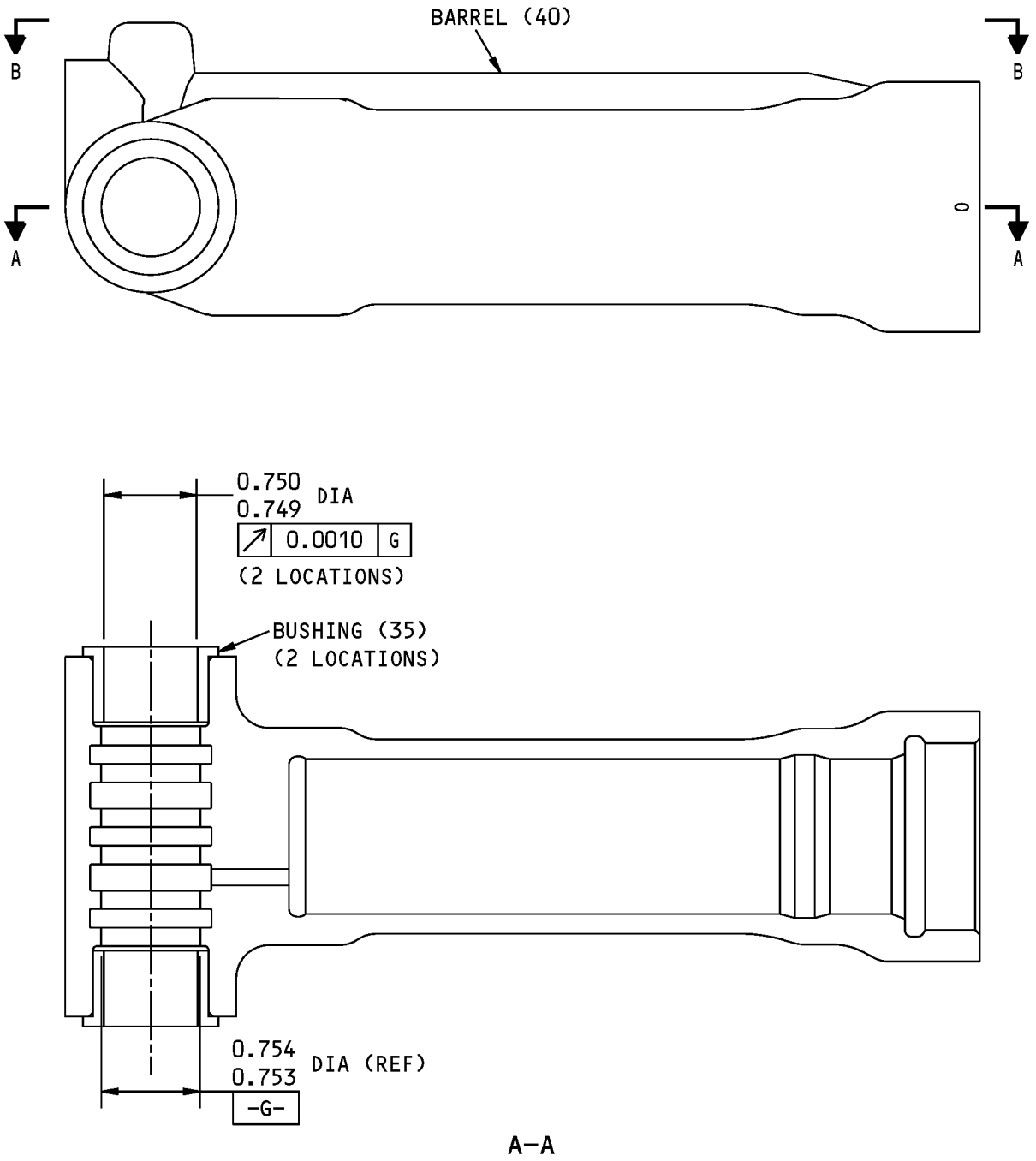
(1) Replace the bushings (35) in the barrel (40):

(a) Remove the bushings (35).

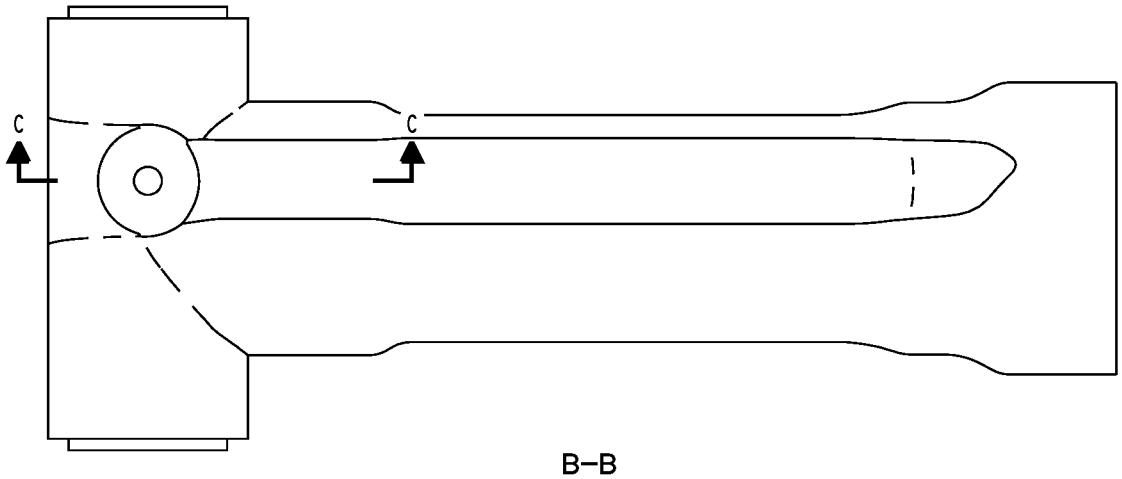
(b) Use the shrink-fit method to install replacement bushings (35).

(c) Machine the I.D. of the bushings to the dimensions shown.

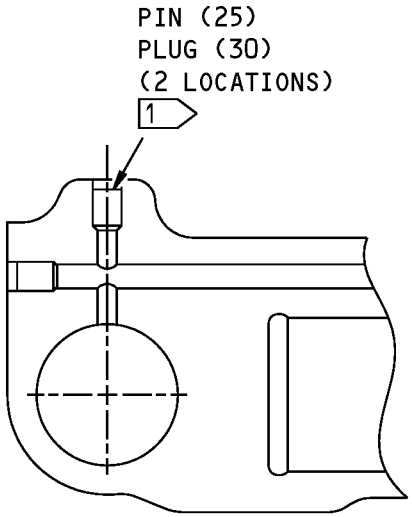
(d) Obey the flatnotes in REPAIR 2-1, Figure 601 .



273A1202-1 Barrel Assembly Repair
Figure 601 (Sheet 1 of 2)



B–B



C–C

1 FILL THE CAVITY, OVER THE PLUG AND PIN, WITH BMS 5-26 SEALING COMPOUND.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1202-1 Barrel Assembly Repair
Figure 601 (Sheet 2 of 2)

BARREL REPAIR 2-2

273A1202–2

1. General

A. This procedure has the data necessary to repair and refinish the barrel (40).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659, 180-200 KSI

(2) Shot Peen: All surfaces, unless shown differently

(a) Intensity 0.006-0.011A2

(b) Overspray is permitted

2. Barrel Repair

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

B. Barrel Repair (REPAIR 2-2, Figure 601)

(1) Repair the barrel (40):

(a) Machine as required, within the repair limits to remove any defects.

(b) Obey the flagnotes in REPAIR 2-2, Figure 601 .

(c) Do a magnetic particle check (SOPM 20-20-01) .

(d) Shot peen the barrel (40).

1) Obey the flagnotes in REPAIR 2-2, Figure 601 .

(e) Apply nickel plate, if necessary.

1) Obey the flagnotes in REPAIR 2-2, Figure 601.

(f) Apply a layer of chrome plate to a maximum finish chrome thickness of 0.01 inch and grind to the dimensions shown.

1) Obey the flagnotes in REPAIR 2-2, Figure 601.

(g) Do a magnetic particle check (SOPM 20-20-01) .

3. Barrel Refinish

A. References

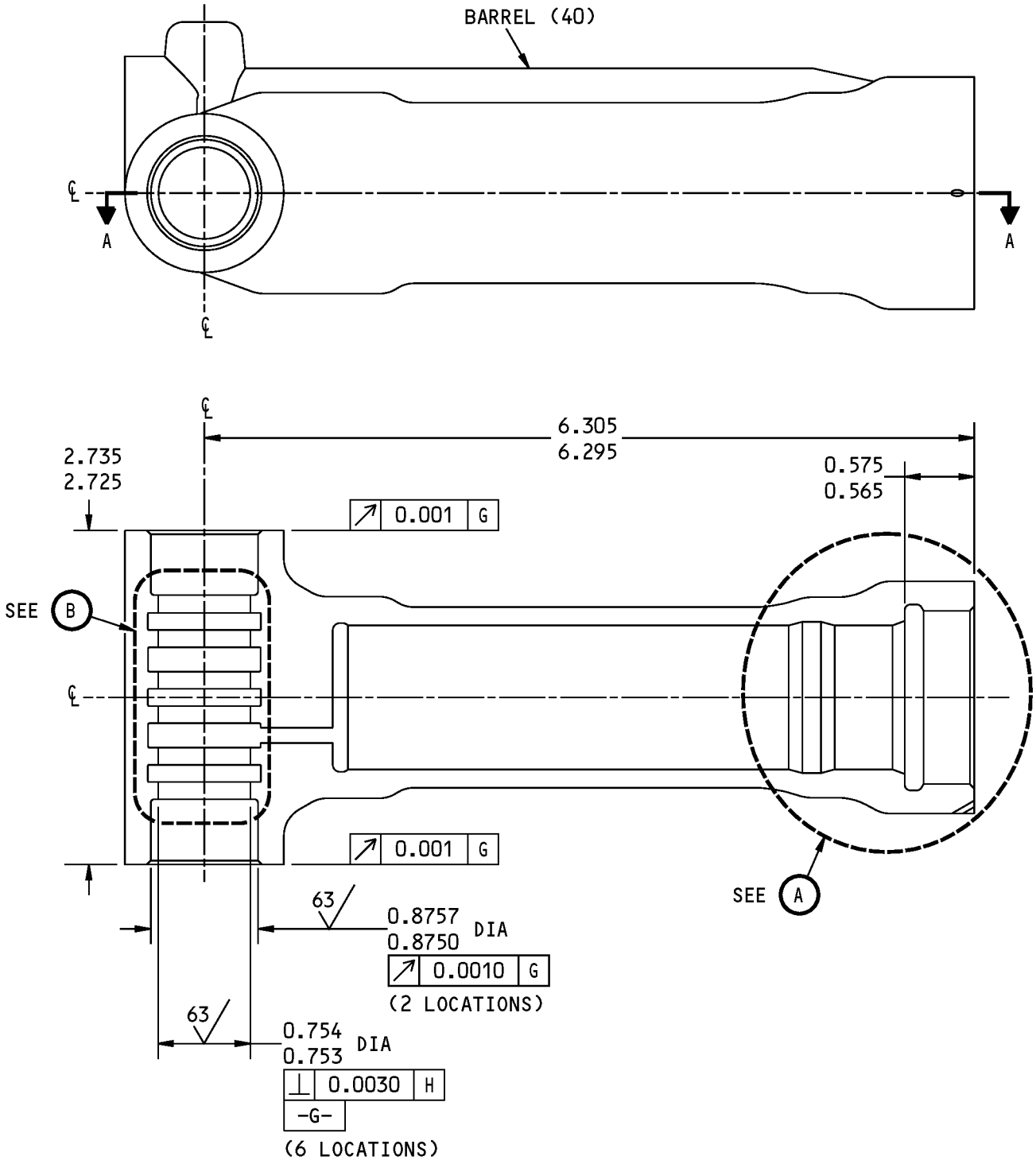
Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 2-2, Figure 601)

NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01.

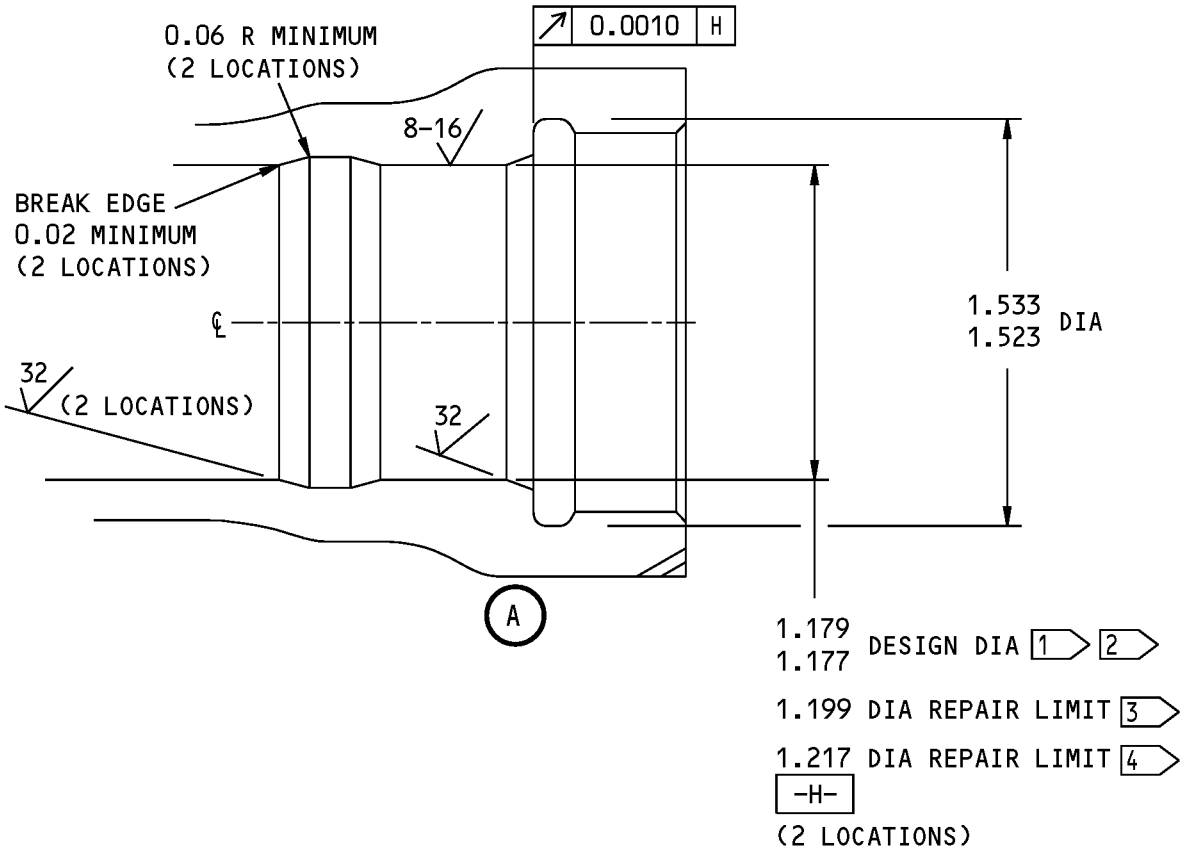
(1) Chrome plate (F-15.34) the area shown, if it was not repaired.

(2) Passivate (F-17.25) other surfaces.

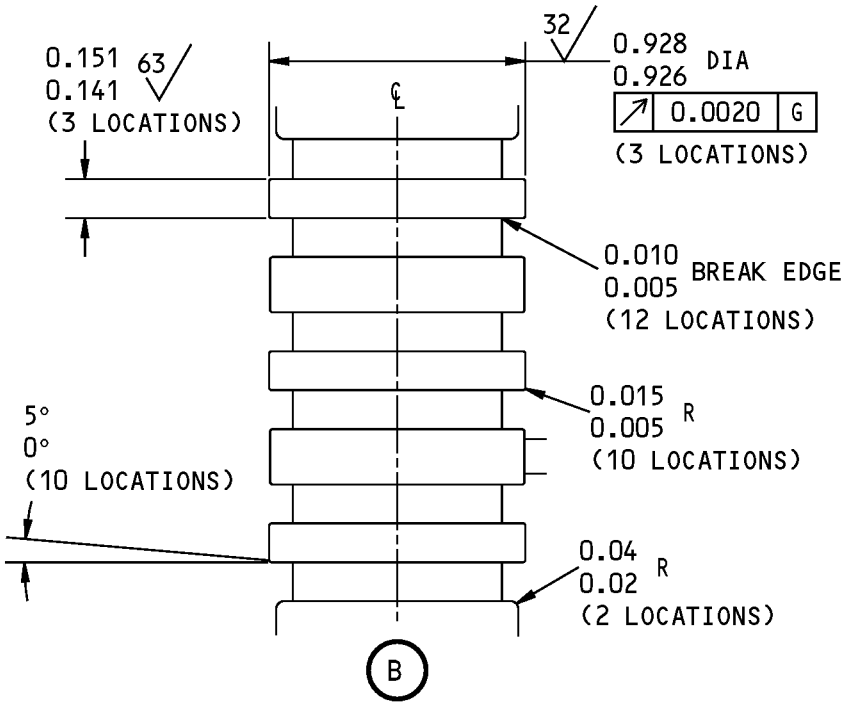


A–A

273A1202-2 Barrel Repair
Figure 601 (Sheet 1 of 3)



273A1202-2 Barrel Repair
Figure 601 (Sheet 2 of 3)



1. CHROME PLATE THIS AREA (F-15.34)
2. BREAK THE EDGES BEFORE YOU DO THE SHOT PEENING
3. LIMIT FOR CHROME PLATE BUILDUP, 0.01 MAXIMUM THICKNESS
4. LIMIT FOR NICKEL PLATE BUILDUP AND THEN 0.01 THICK CHROME PLATE BUILDUP

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1202-2 Barrel Repair
Figure 601 (Sheet 3 of 3)

PISTON ROD - REPAIR 3-1

273A1203–1

1. General

A. This procedure has the data necessary to repair and refinish the piston (90).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659, 180-200 ksi

(2) Shot peen: Surfaces as shown

(a) Intensity 0.014-0.019A2 (1.125 dia)

(b) 0.005-0.010A2 (0.583 dia)

(c) Overspray is permitted

2. Piston Repair

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

B. Procedure (REPAIR 3-1, Figure 601)

(1) Repair the piston rod (110):

(a) Machine as required, within the repair limits to remove any defects.

(b) Obey the flagnotes in REPAIR 3-1, Figure 601.

(c) Do a magnetic particle check (SOPM 20-20-01).

(d) Shot peen the piston rod (110).

1) Radius the edges of the piston rod (110) before the shot peening.

2) Obey the flagnotes in REPAIR 3-1, Figure 601.

(e) Apply nickel plate, if necessary.

1) Obey the flagnotes in REPAIR 3-1, Figure 601.

(f) Chrome plate to a maximum finish chrome thickness of 0.01 inch and grind to the dimensions shown.

1) Obey the flagnotes in REPAIR 3-1, Figure 601.

(g) Do a magnetic particle check (SOPM 20-20-01).

3. Piston Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS

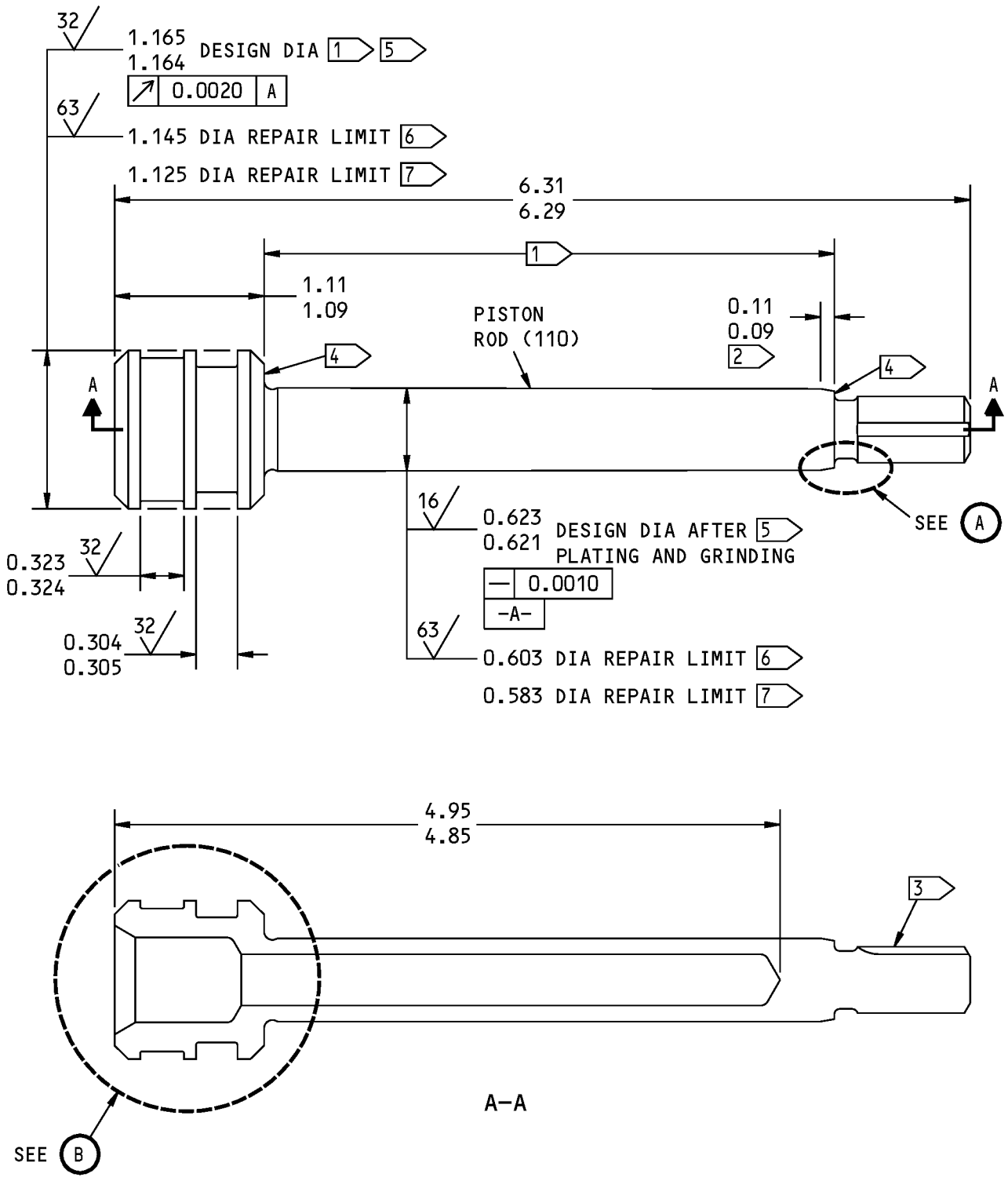
C. Procedure (REPAIR 3-1, Figure 601)

NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01

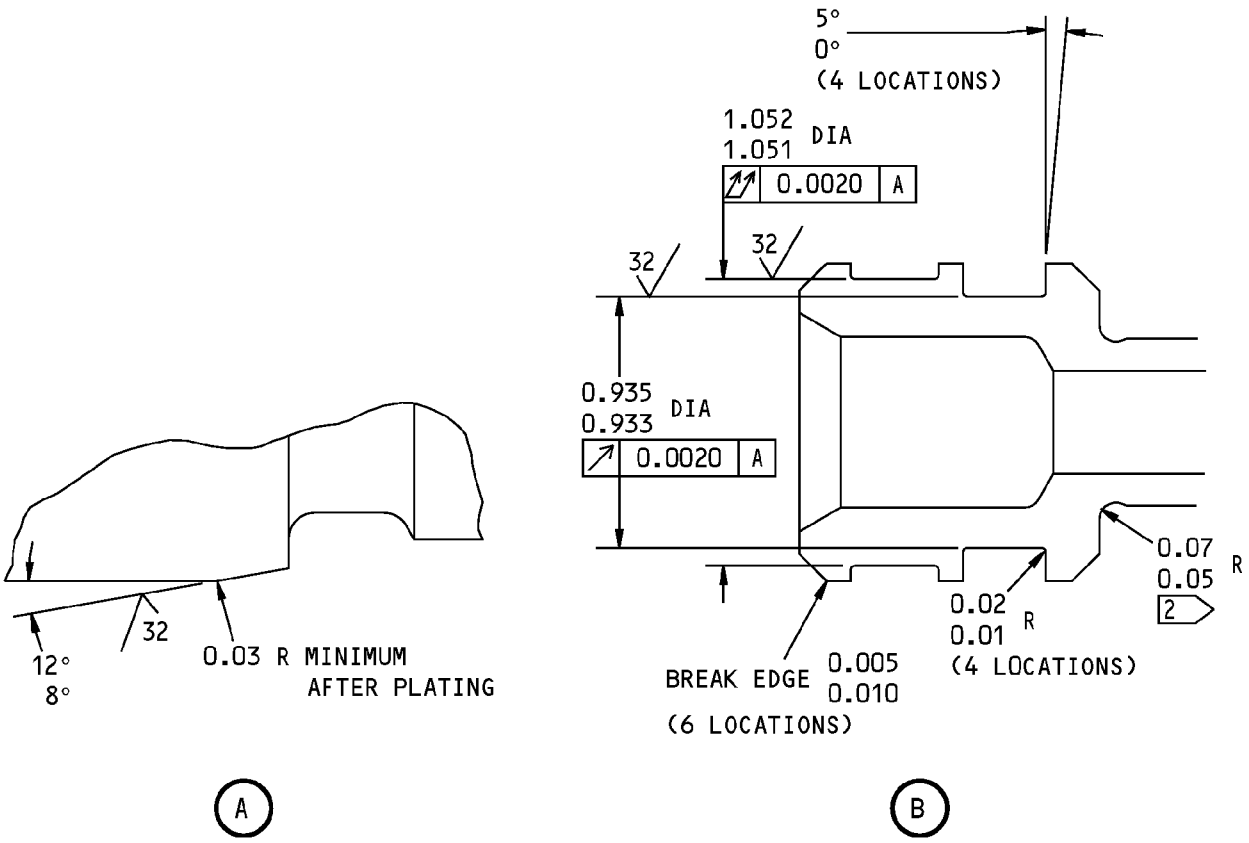
(1) Put a finish on the piston rod (110):

(a) Passivate (F-17.25).

(b) Apply lubricant, D00113 as shown by flagnote 3 (SOPM 20-50-08).



273A1203-1 Piston Rod Repair
Figure 601 (Sheet 1 of 2)



1 SHOT PEEN THIS AREA

2 CHROME PLATE RUNOUT AREA

3 APPLY BMS 3-8 SOLID FILM LUBRICANT, (F-19.10) OR MIL-L-46101 TYPES 1, 2 OR 3 SOLID FILM LUBRICANT TO THE THREADS (SOPM 20-50-08 TYPE 8 OR TYPE 6 CLASS 1,3 OR 4)

4 NO CHROME PLATE OR NICKEL PLATE IN THIS AREA

5 AFTER SHOT PEENING, CHROME PLATE NOTED SURFACES (F-15.34) UNLESS REPAIRED PER 6 7. AFTER ALL THE FINISHING OPERATIONS, THE MINIMUM CHROME PLATE THICKNESS IS 0.001

6 LIMIT FOR CHROME PLATE BUILDUP, 0.01 MAXIMUM THICKNESS

7 LIMIT FOR NICKEL PLATE BUILDUP AND THEN 0.01 THICK CHROME PLATE BUILDUP

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1203-1 Piston Rod Repair
Figure 601 (Sheet 2 of 2)

GLAND SEAL - REPAIR 4-1

273A1204–1

1. **Deleted**

   A.

2. **Deleted**

   A.

GLAND NUT - REPAIR 5-1

273A1205–1

1. General

A. Use this procedure to repair gland nut (70).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 for the Standard True Positioning Symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: Al-Ni-Bronze (AMS 4640)

(2) Shot peen: Not necessary

2. Repair

A. Procedure

(1) Repair is only replacement of the original finish. Refer to REPAIR 5-1, Paragraph 3.

(2) If you think there are defects on important surfaces, see REPAIR 5-1, Figure 601 for dimension details.

3. Refinish

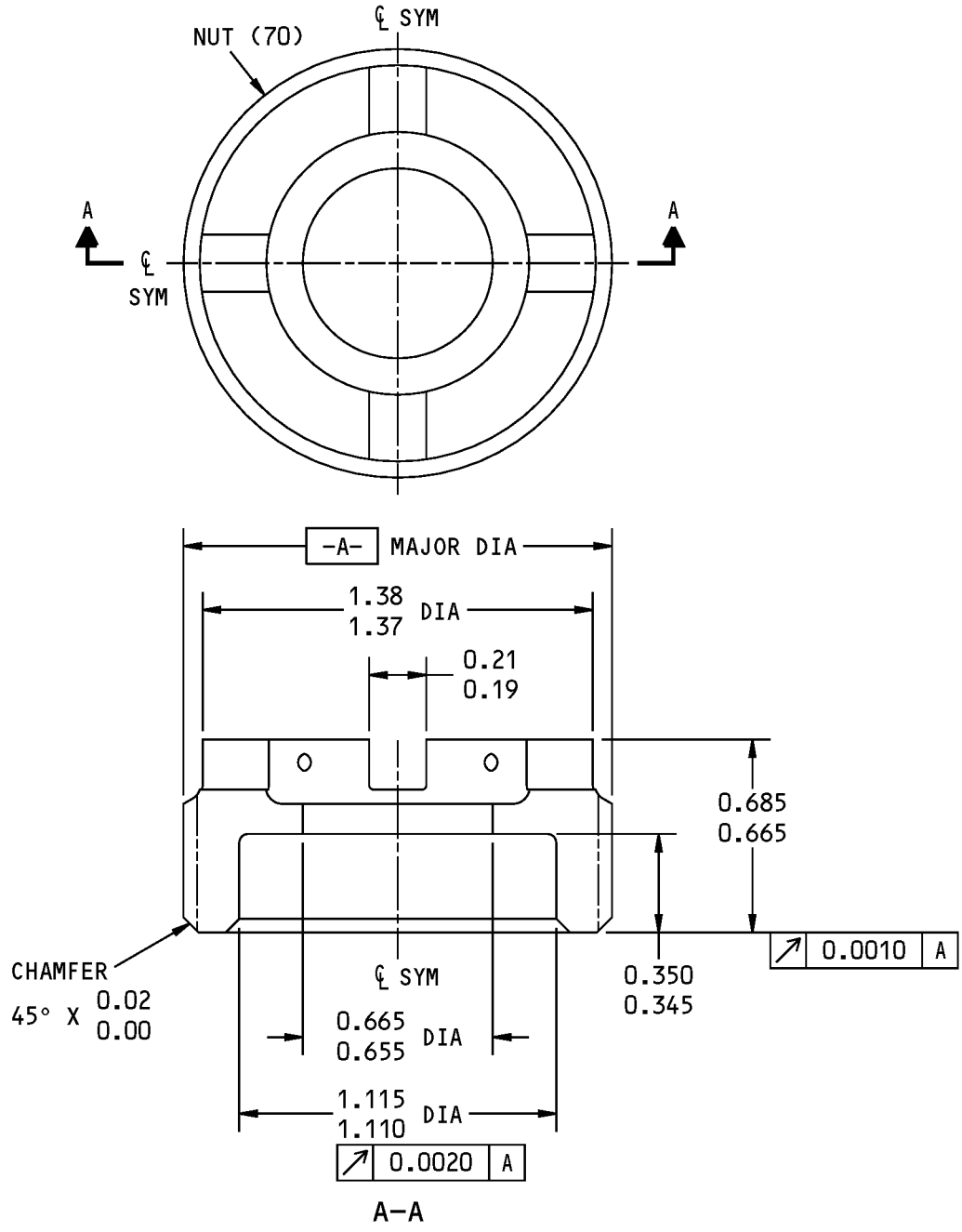
A. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure

NOTE: For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

(1) No finish (F-25.01).



273A1205-1 Gland Nut Repair
Figure 601

ROD END ASSEMBLY - REPAIR 6-1

273A1206–1

1. General

A. This procedure has the data necessary to replace the bearing on the rod end assembly (55).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00015	Grease - Aircraft Bearing (Use BMS 3-24 until existing stocks are depleted, BMS 3-33 supersedes BMS 3-24)	BMS3-24 (Superseded by BMS 3-33)

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

C. Procedure

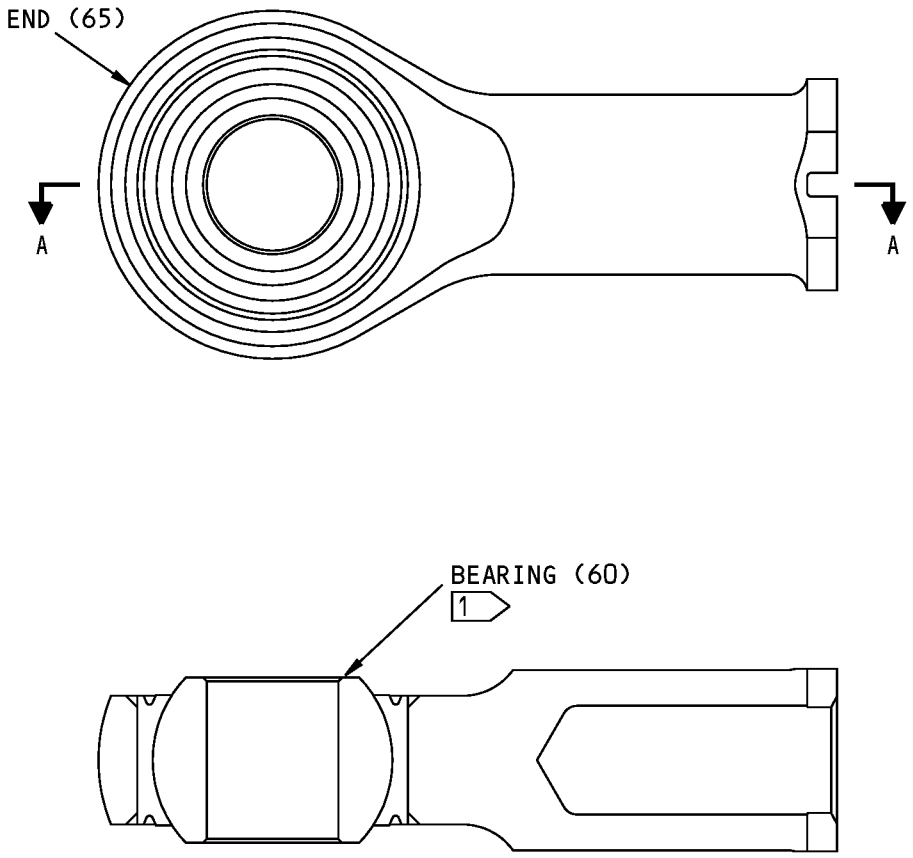
(1) Replace the bearing (60):

(a) Remove the bearing (60) from the rod end (65).

(b) Install the bearing with grease, D00015 on the rod end (65) inner diameter and the bearing (60) outer diameter.

(c) Roller swage (SOPM 20-50-03) the bearing on the two sides.

1) Obey the flagnote 1 in REPAIR 6-1, Figure 601.



1 ROLLER SWAGE THE BEARING (SOPM 20-50-03).

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1206-1 Rod End Assembly Bearing Replacement
Figure 601

ROD END - REPAIR 6-2

273A1206–2

1. General

A. This procedure has the data necessary to repair and refinish the rod end (65).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659, 180-200 ksi

(2) Shot peen :Surfaces as shown

(a) Intensity 0.006-0011A2

(b) Overspray is permitted

2. Rod End Repa

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

B. Procedure (REPAIR 6-2, Figure 601)

(1) Repair the rod end (65):

(a) Machine as required, within the repair limits to remove any defects.

(b) Obey the flagnotes in REPAIR 6-2, Figure 601.

(c) Do a magnetic particle check (SOPM 20-20-01).

(d) Shot peen the ID of the rod end (65).

1) Radius the edges of the rod end (65) before the shot peening.

(e) Apply nickel plate, if necessary.

1) Obey the flagnotes in REPAIR 6-2, Figure 601.

(f) Chrome plate to a maximum finish chrome thickness of 0.01 inch.

1) Obey the flagnotes in REPAIR 6-2, Figure 601.

(g) Do a magnetic particle check (SOPM 20-20-01).

3. Rod End Refinish

A. References

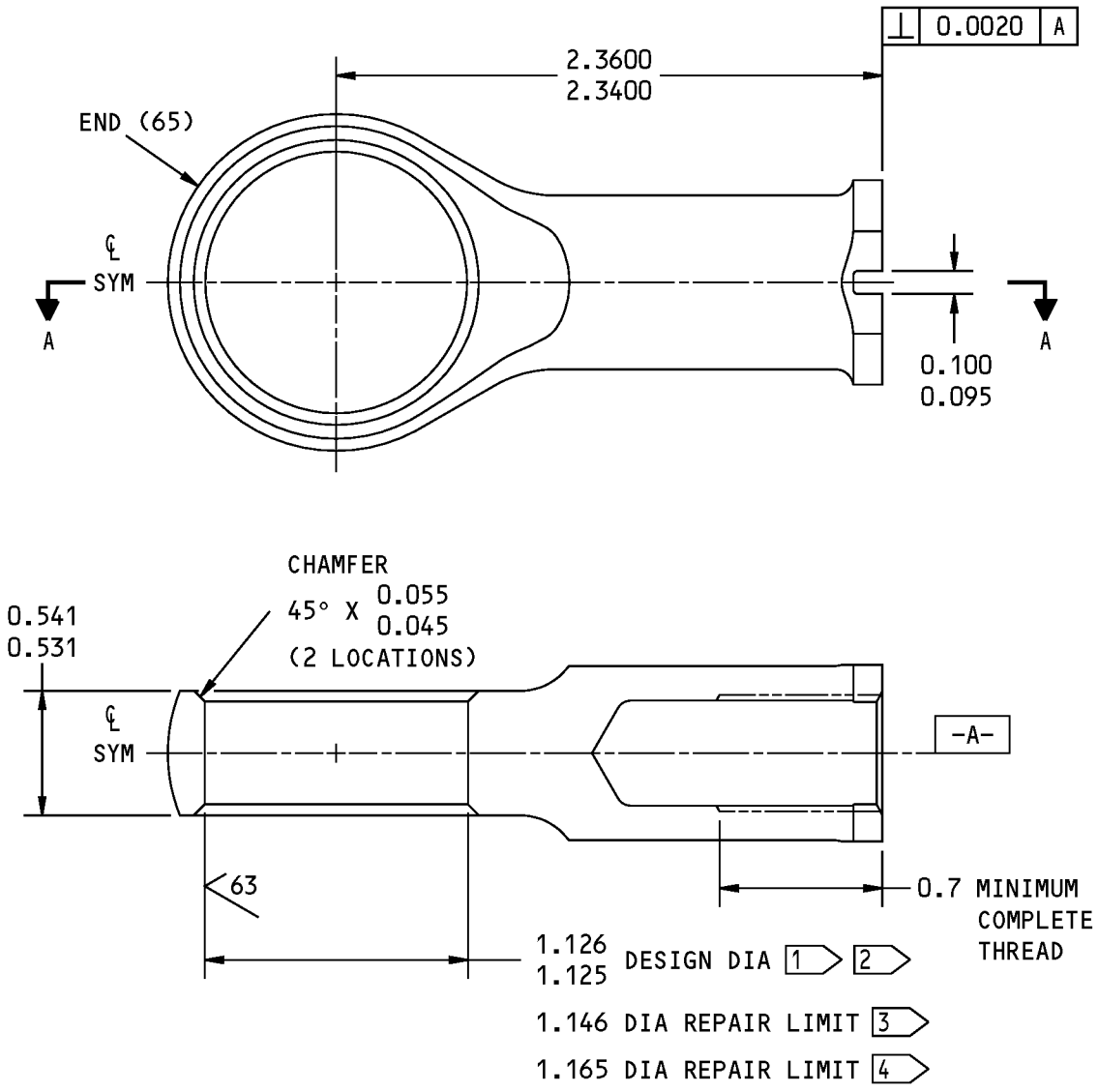
Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 6-2, Figure 601)

NOTE: For decoding table for boeing finish codes, refer to SOPM 20-41-01

(1) Put a finish on the rod end (65):

(a) Passivate (F-17.09).



A–A

1 SHOT PEEN THIS AREA

2 THE MINIMUM CHROME PLATE THICKNESS IS 0.001 AFTER CHROME PLATE AND GRIND

3 LIMIT FOR CHROME PLATE BUILDUP, 0.01 MAXIMUM THICKNESS

4 LIMIT FOR NICKEL PLATE BUILDUP AND THEN 0.01 THICK CHROME PLATE BUILDUP

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1206-2 Rod End Repair
Figure 601

SWIVEL PIN - REPAIR 7-1

273A1207–1

1. General

A. This procedure has the data necessary to repair and refinish the swivel pin (10).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Figure 601 shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES, AMS 5659, 180-200 ksi

(2) Shot peen: Surfaces as shown

(a) Intensity 0.014-0.019A2

(b) Overspray is permitted

2. Swivel Pin Repair

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

B. Procedure (REPAIR 7-1, Figure 601)

(1) Repair the swivel pin (10):

(a) Machine, as required, within the repair limits to remove any defects.

(b) Obey the flagnotes in REPAIR 7-1, Figure 601.

(c) Do a magnetic particle check (SOPM 20-20-01).

(d) Shot peen the swivel pin (10).

1) Radius the edges of the swivel pin (10) before the shot peening.

2) Obey the flagnotes in REPAIR 7-1, Figure 601.

(e) Apply nickel plate, if necessary.

1) Obey the flagnotes in REPAIR 7-1, Figure 601.

(f) Chrome plate to a maximum finish chrome thickness of 0.01 inch and grind as shown.

1) Obey the flagnotes in REPAIR 7-1, Figure 601.

(g) Do a magnetic particle check (SOPM 20-20-01).

3. Swivel Pin Refinish

A. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

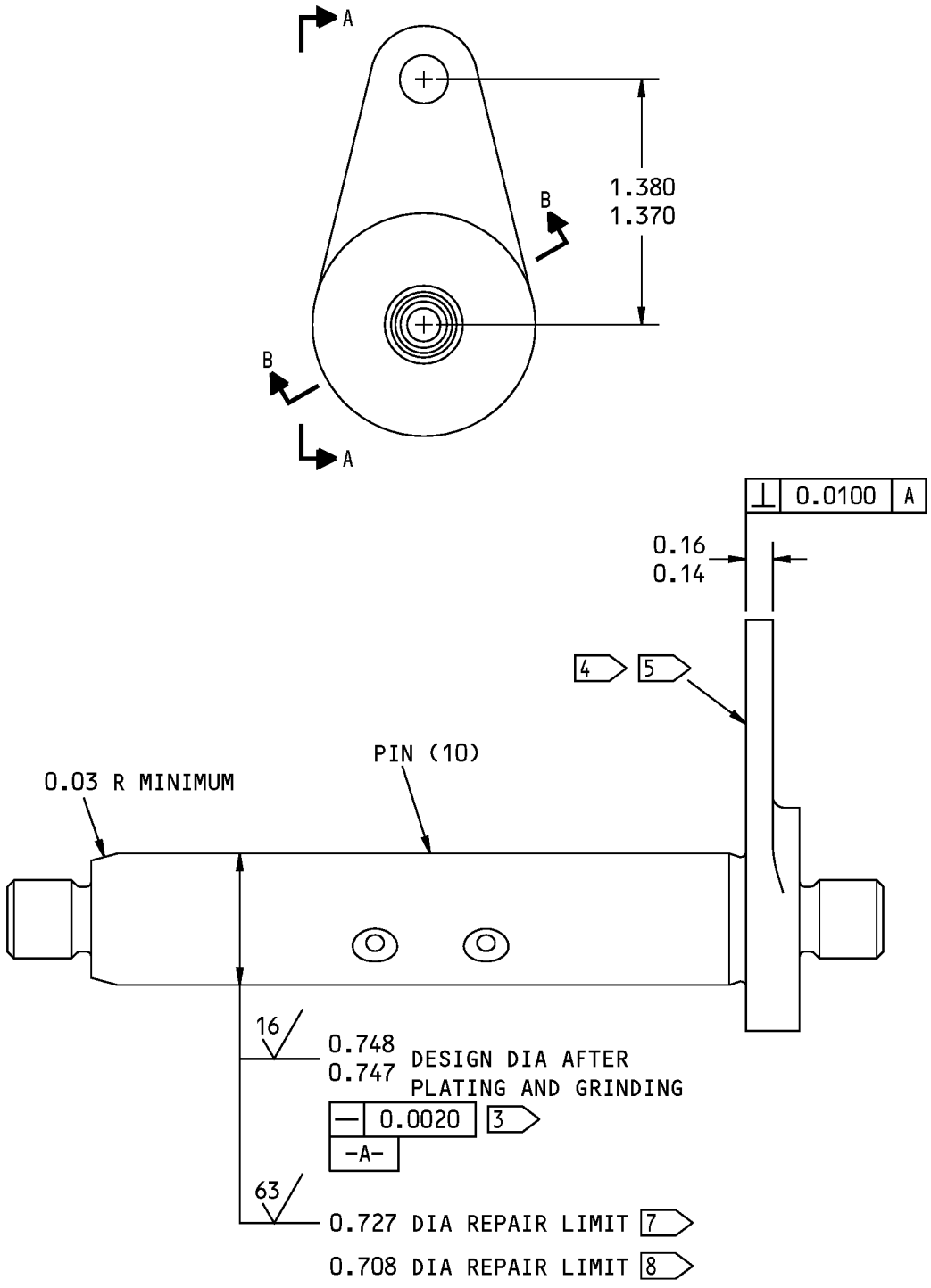
B. Procedure (REPAIR 7-1, Figure 601)

NOTE: For decoding table of Boeing Finish Codes, refer to SOPM 20-41-01

(1) Put a finish on the swivel pin (10):

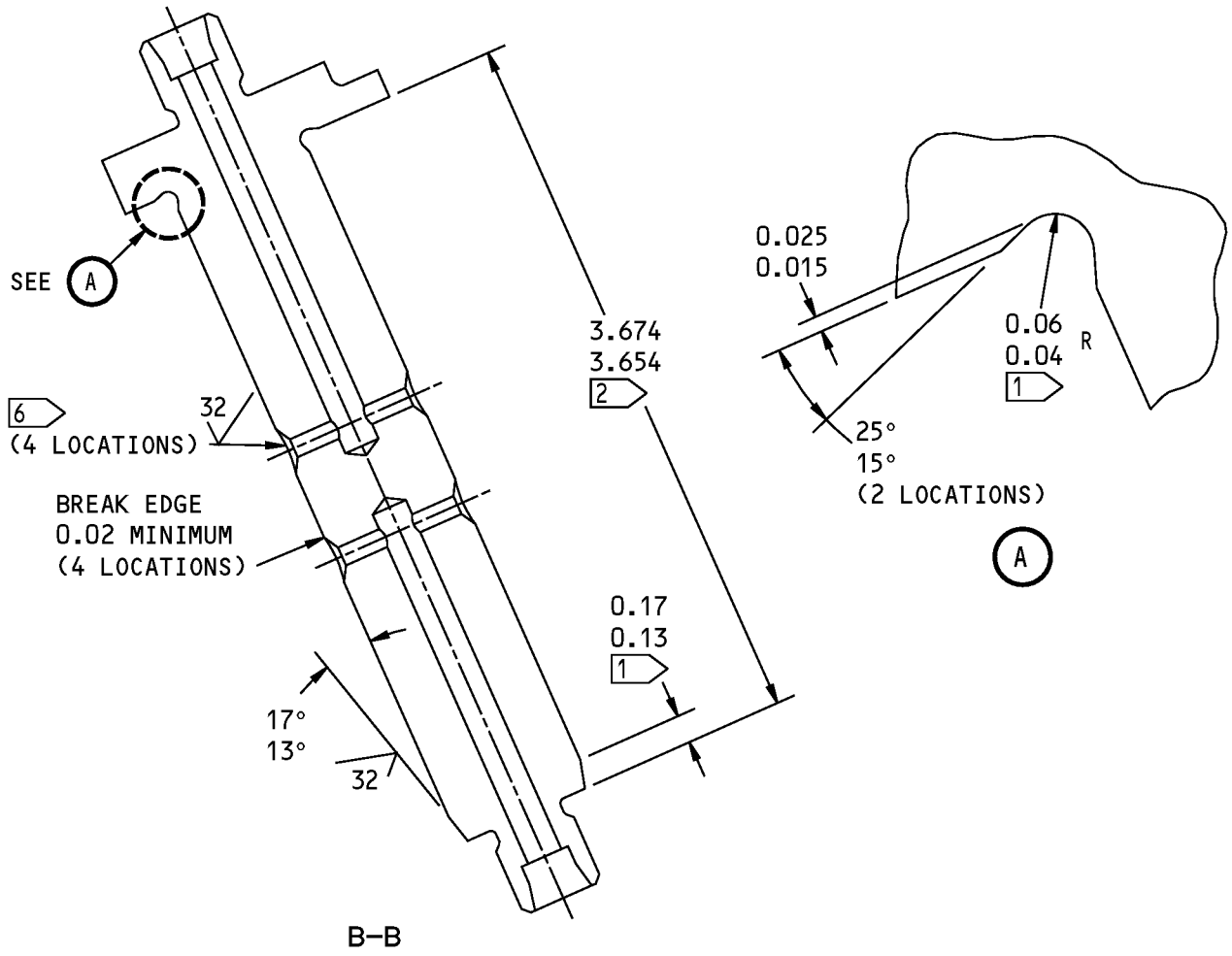
(a) Cadmium plate (F-16.06) and apply primer (F-20.02) to surfaces shown.

(b) Passivate (F-17.25) other surfaces.



A–A

273A1207-1 Swivel Pin Repair
Figure 601 (Sheet 1 of 2)



1 CHROME PLATE RUNOUT

2 SHOT PEEN THIS AREA

3 THE MINIMUM CHROME PLATE THICKNESS IS 0.001 AFTER CHROME PLATE AND GRIND

4 NO CHROME PLATE ON THIS FACE

5 CADMIUM PLATE (F-16.06) AND APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02)

6 NO CHROME PLATE IN THE HOLES

7 LIMIT FOR CHROME PLATE BUILDUP, 0.01 MAXIMUM THICKNESS

8 LIMIT FOR NICKEL PLATE BUILDUP AND THEN 0.01 THICK CHROME PLATE BUILDUP

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A1207-1 Swivel Pin Repair
Figure 601 (Sheet 2 of 2)

NAMEPLATE INSTALLATION - REPAIR 8-1

273A2508–3

1. General

A. This repair has instructions for the replacement of the nameplate (115).

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.

C. Refer to IPL Figure 1 for item numbers.

2. Nameplate Replacement (REPAIR 8-1, Figure 601)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00551	Sealant - Fuel Tank	BAC5010, Type 44 (BMS5-44, BMS5-45)

B. References

Reference	Title
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For miscellaneous materials, refer to SOPM 20-60-04

(1) Use the strap (5) only one time.

(2) Prepare the nameplate (115).

NOTE: Make sure the serial number and the part number are steel stamped on the nameplate.

(a) Bend the nameplate in a curve smaller than the barrel radius.

(b) Make a small bend in the nameplate corners to the mounting surface.

(3) Attach the nameplate to the barrel:

(a) Apply sealant, A00551 behind the nameplate and the strap.

(b) Hold the nameplate on the barrel.

(c) Install the strap through the slot of the nameplate.

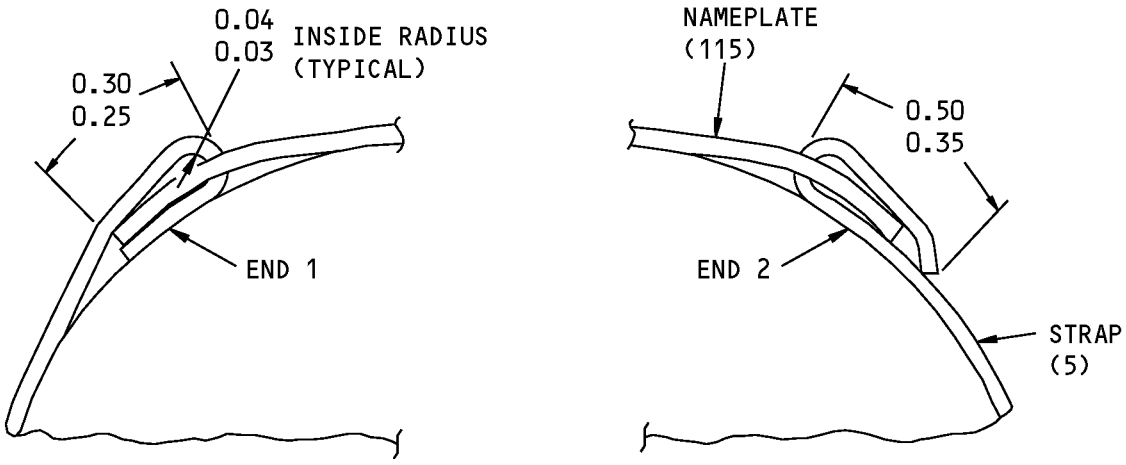
(d) Pull the strap tight. Make sure the strap and the nameplate are tight against the barrel.

(e) Bend the strap down around the end of the nameplate. Keep the strap tight.

(f) Cut the strap 0.35-0.50 inch from the nameplate slot.

(g) Bend the strap end down with a soft-nosed hammer.

(4) Seal the edges of the nameplate and strap with sealant, A00551 (SOPM 20-60-04).



125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A2508-3 Nameplate Repair
Figure 601

ASSEMBLY

1. General

A. Use this procedure to assemble the nose landing gear lock actuator assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)

B. References

Reference	Title
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Special Tools and Equipment

NOTE: Equivalent substitutes can be used.

(1) C32036-5 – Clamp Stand

(2) C32036-9 – Small Spanner Wrench

(3) C32036-29 – O-ring Picks (2 necessary)

(4) Stanley-Proto 4924 – Small Crowfoot Wrench (included in C32036-1, 46 kit)

(5) Trunnion seal installation tool – Locally made. Refer to SB 32-1394 for details.

D. Consumable Materials

NOTE: Equivalent material can be used.

(1) D00298 Lube, Assembly – MCS 352

(2) G01912 Lockwire – MS20995NC32

(3) D00633 Grease – BMS 3-33

E. Procedure

NOTE: For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Use standard industry practices and these steps.

(2) Install the barrel assembly (20) in the clamp stand.

  (a) Lubricate the seal (15) rubber ring and plastic backup rings with fluid, D00153 or assembly lube.

  (b) Install the seals (15) in the slots in the barrel (40) as shown in ASSEMBLY, Figure 701. Refer to SB 32-1394 for details and a tool to help install these seals.

(3) Install the piston seal (105), bearing (109A) and backup rings (100) on the piston rod (110):

  (a) Lubricate the piston seal (105) with fluid, D00153.

  (b) Install the piston seal (105), bearing (109A) and backup rings (100) on the piston rod (110).

(4) Install the scraper (75), gland seal (80), rings (85) and packing (90) in the gland (95).

  (a) Lubricate the seal (80) with fluid, D00153.

  (b) Install the seal (80) in the gland (95).

  (c) Lubricate the packing (90) with fluid, D00153.

  (d) Install the rings (85) and the packing (90) on the gland (95).

  (e) Lubricate the scraper (75) with fluid, D00153.

  (f) Install the scraper (75) in the gland (95).

(5) Install the piston rod (110) in the gland (95).

(6) Install the piston rod (110) and the gland (95) in the barrel (40).

(7) Apply a thin layer of MCS 352B fluid, D00054 or MCS 352 assembly lube to the threads of the gland nut (70) and the threads of the piston rod (110).

(8) Install the gland nut (70) in the barrel (40).

(9) With the small spanner wrench , tighten the gland nut (70) to 650-700 pound-inches.

(10) Move the piston rod in and out by hand to make sure it moves freely.

(11) Install the nut (45) and the washer (50) on the piston rod (110).

(12) Install the rod end (65) on the piston rod (110).

(13) Adjust the rod end (65) to the retracted length as shown in ASSEMBLY, Figure 701.

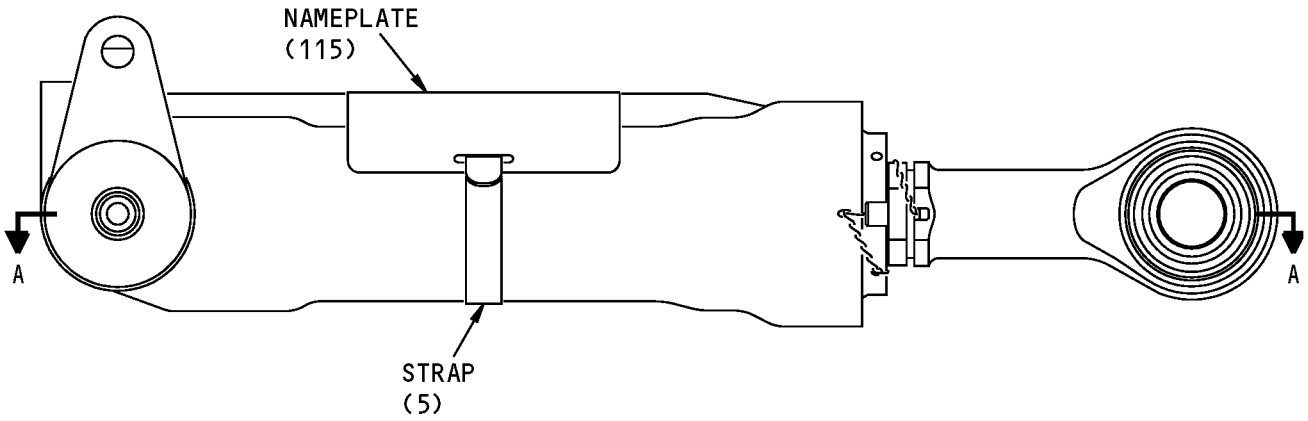
(14) Hold the piston rod and use the small crowfoot wrench to tighten the nut (45) to 300-350 pound-inches.

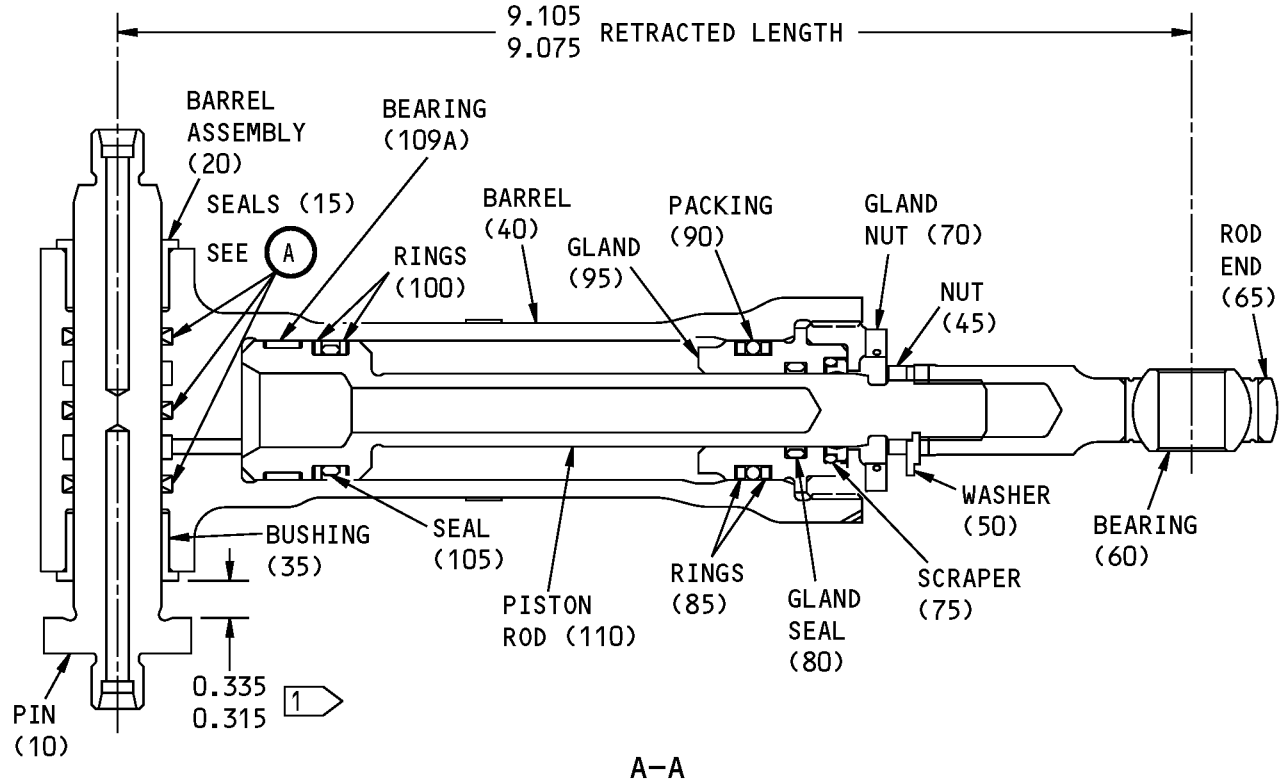
(15) Install the pin (10) in the barrel assembly (20).

(16) Attach the pin (10) on the barrel assembly (20) with a temporary strap.

(17) Install the nameplate (115) (REPAIR 8-1) if it is necessary.

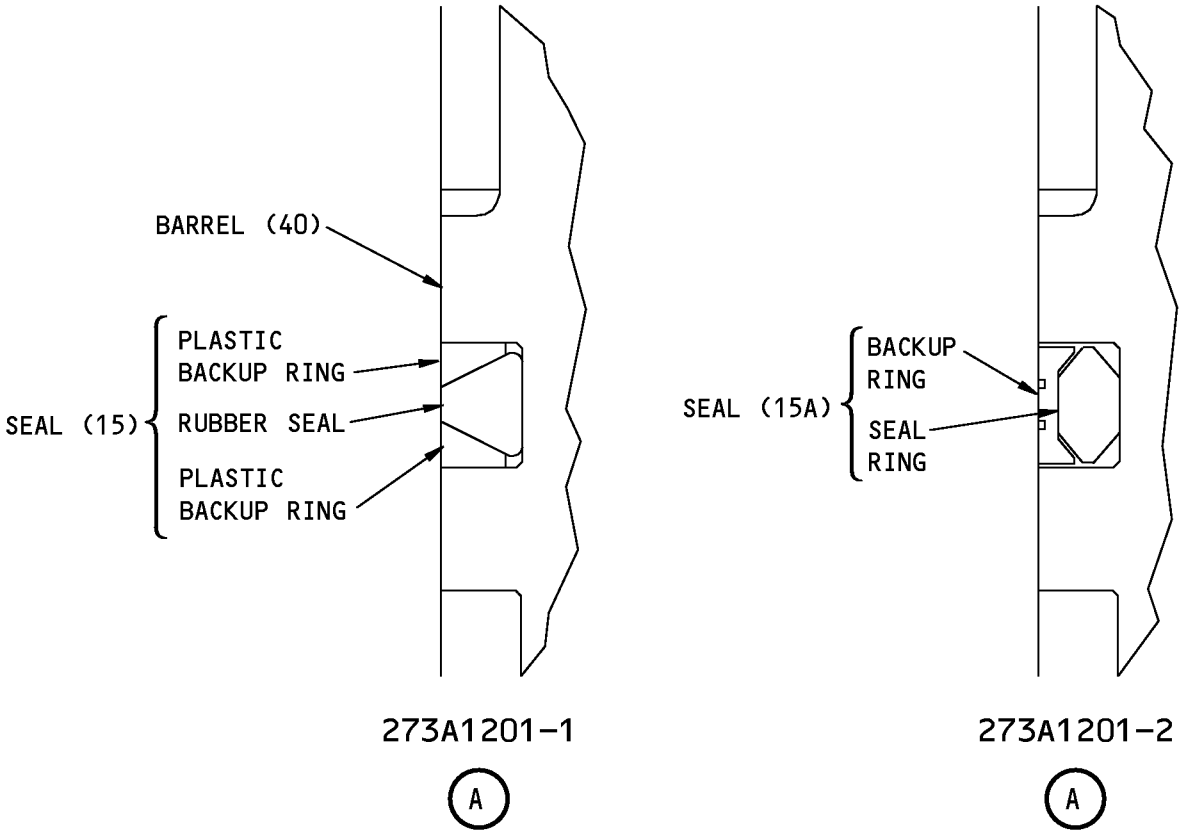
(18) Do the test of the actuator (TESTING AND FAULT ISOLATION).





A–A

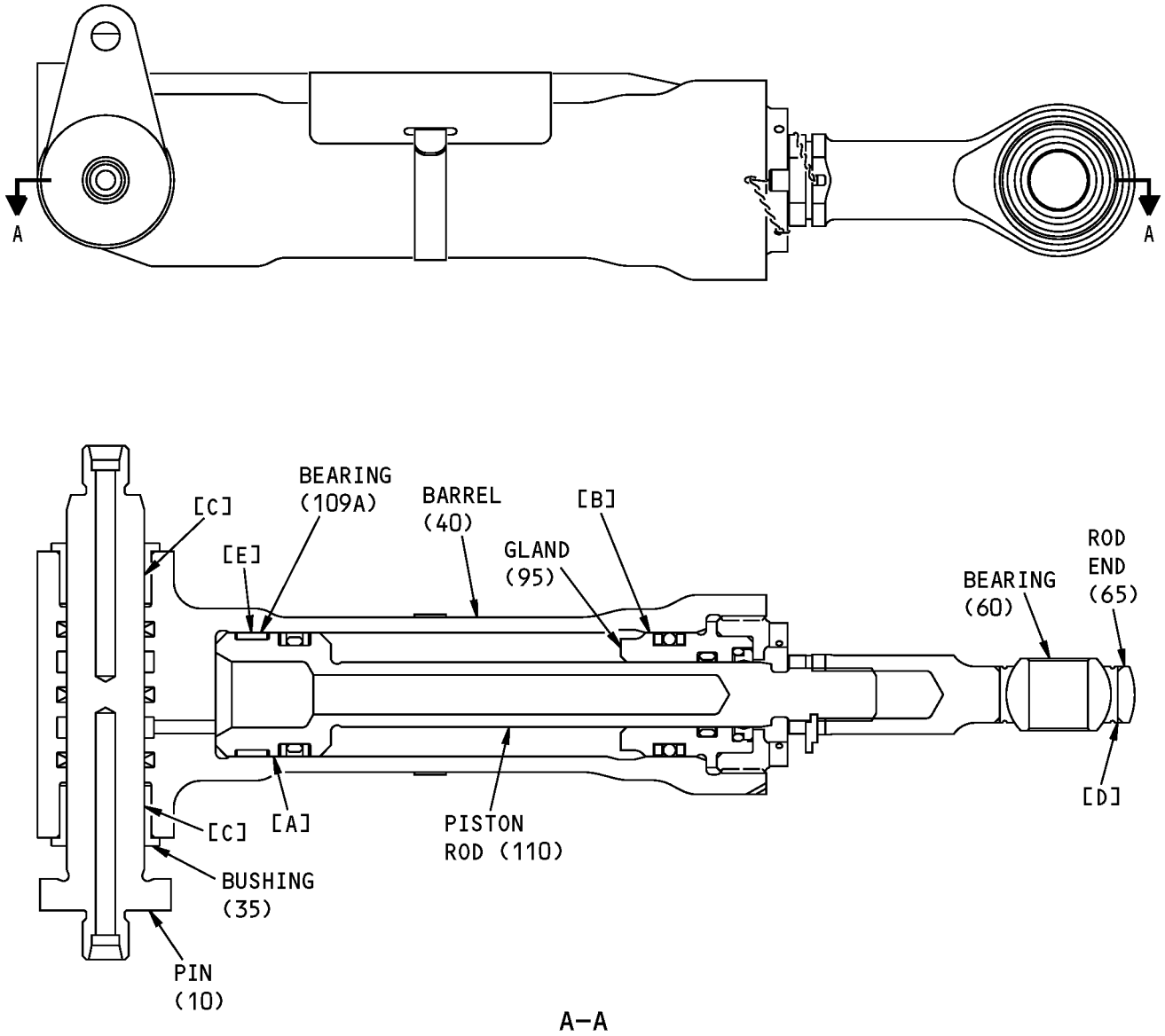
Assembly Details
Figure 701 (Sheet 1 of 2)



1 KEEP THIS DIMENSION DURING THE ACTUATOR TEST.

ITEM NUMBERS REFER TO IPL FIG. 1

Assembly Details
Figure 701 (Sheet 2 of 2)



ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 801 (Sheet 1 of 2)

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 20	1.177	1.179	0.012	0.015		1.181	0.016
	OD 110	1.164	1.165			1.162		
[B]	ID 95	0.625	0.626	0.002	0.005		0.630	0.007
	OD 110	0.621	0.623			0.619		
[C]	ID 35	0.749	0.750	0.001	0.003		0.751	0.004
	OD 10	0.747	0.748			0.746		
[D]	ID 65	1.1250	1.1260	0.0000	0.0015		1.130	0.0015
	OD 60	1.1245	1.1250			1.1245		
[E]	Thickness 109A	0.061	0.062	0.001	0.006	0.059	---	0.005

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 2 of 2)

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

1. General

A. This section lists the special tools, fixtures, and equipment necessary for maintenance.

NOTE: Equivalent substitutes may be used.

Special Tools

Reference	Description	Part Number	Supplier
SPL-9794	Clamp Stand (Included With the C32036-46)	C32036-5	81205

Tool Supplier Information

CAGE Code	Supplier Name	Supplier Address
81205	THE BOEING COMPANY	17930 INTERNATIONAL BLVD. SOUTH SEATAC, WA 98188-4321 Telephone: 206-662-6650 Facsimile: 206-662-7145

ILLUSTRATED PARTS LIST

1. Introduction

A. The Illustrated Parts List (IPL) contains an illustration and a list of component parts you can repair or replace. The Illustrated Parts Catalog (IPC) shows how to use the Boeing part number system.

B. This shows how parts are related: The relation of each item to its next higher assembly (NHA) is shown in the NOMENCLATURE column. Use the indenture system that follows:

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

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

C. Each top assembly is given one use code letter (A, B, C, etc.) in the USAGE CODE column. All subsequent component parts in the list can have one or more of the use code letters to show effectivity to top assemblies. A component part without a use code applies to all top assemblies.

D. An alphabetical letter is added after the item number for optional parts, parts changed by a Service Bulletin, configuration differences (except left-handed and right-handed parts), last engineering releases, and parts added between item numbers in a sequence. The alphabetical letter will not be shown on the illustration for equivalent parts of the same part number.

E. Color-coded parts are identified with a single digit alpha following the dash number or with ''SP'' suffix. If the ''SP'' suffix is used, it represents consolidation of all color codes applicable for a given usage which are not separately listed. Orders for color-coded parts should include the registry number of the airplane for which the parts are ordered.

F. If a part number is 15 characters long but will not fit in the part number column, the part number will be displayed with a ''~'' at the end of the line and will be continued on the next line. The ''~'' denotes that the part number continues on the next line.

G. Parts changed by a Service Bulletin are shown by PRE SB XXXX and POST SB XXXX added to the NOMENCLATURE column.

(1) When a new top assembly is added by a Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the top assembly level only. The configuration differences at the detail part level are shown by use code letters.

(2) When the top assembly part number is not changed by the Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the detail level.

H. Interchangeable Parts

Optional (OPT)	The part is optional to and interchangeable with other parts that have the same item number.
Replaces, Replaced by and not interchangeable with (REPLACES, REPLACED BY AND NOT INTCHG/W)	The part replaces and is not interchangeable with the initial part.
Replaces, Replaced by (REPLACES, REPLACED BY)	The part replaces and is interchangeable with, or is an alternative to, the initial part.

VENDOR CODES

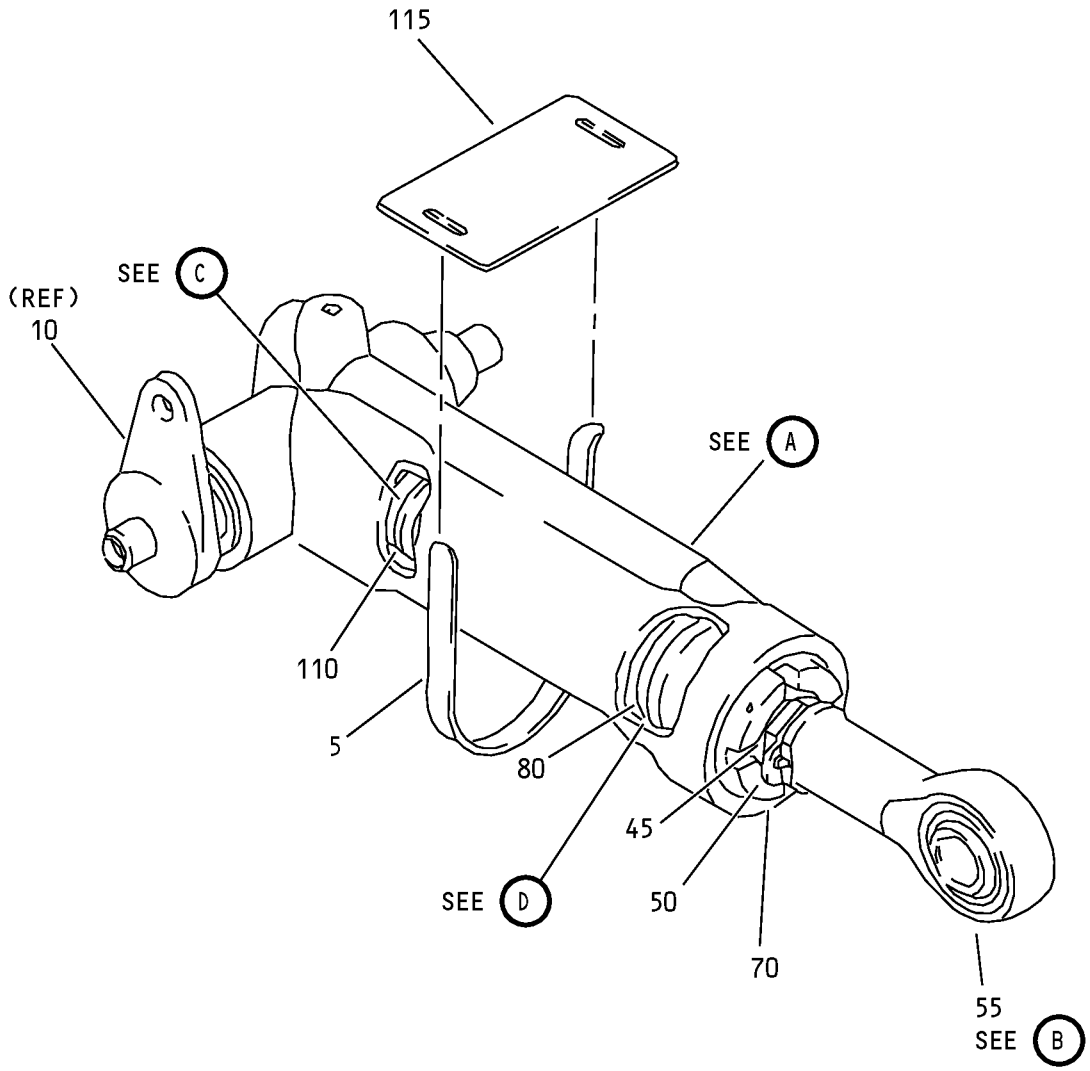
Code	Name
02107	FLOUROCARBON CO OHIO DIV DOVER, OHIO 44622 CANCELLED NO REPLACEMENT FORMERLY SPARTA MANUFACTURING CO
07128	TETRAFLUOR INC 2051 EAST MAPLE AVENUE EL SEGUNDO, CALIFORNIA 90245-5009 FORMERLY ROYAL IND TETRAFLUOR DIV V0667B ENGLEWOOD CALIF
09257	BUSAK AND SHAMBAN INC SEALS DIV 2531 BREMER DR PO BOX 176 FORT WAYNE, INDIANA 46801 FORMERLY SHAMBAN, W S AND CO
26303	GREENE TWEED IND INC ADVANTEC DIV 7101 PATTERSON DRIVE PO BOX 5037 GARDEN GROVE, CALIFORNIA 92645-5037 FORMERLY OHIO AIRCRAFT SUPPLIES INC IN INGLEWOOD, CALIFORNIA FORMERLY ADVANTEC DIV OF IFP INC, LOS ANGELES, CA V5P801
26879	CORONADO MFG INC 11069 PENROSE AVENUE SUN VALLEY, CALIFORNIA 90352-2722 FORMERLY CORONADO PLASTICS INC IN BURBANK, CALIFORNIA
50632	KAMATICS CORP SUB OF KAMAN CORP 1335 BLUE HILLS ROAD BLOOMFIELD, CONNECTICUT 06002-1304

Code	Name
92555	LEE COMPANY 2 PETTIPAUG ROAD PO BOX 424 WESTBROOK, CONNECTICUT 06498-1543
94878	RAYBESTOS-MANHATTAN INC PACIFIC COAST DIV FULLERTON, CALIFORNIA 92631 BUSINESS DISCONTINUED
97820	BUSAK AND SHAMBAN INC BEARING DIV 711 MITCHELL ROAD PO BOX 665 NEWBURY PARK, CALIFORNIA 91320-2214 FORMERLY IN CULVER CITY, CALIF; FORMERLY SHAMBAN W S & CO

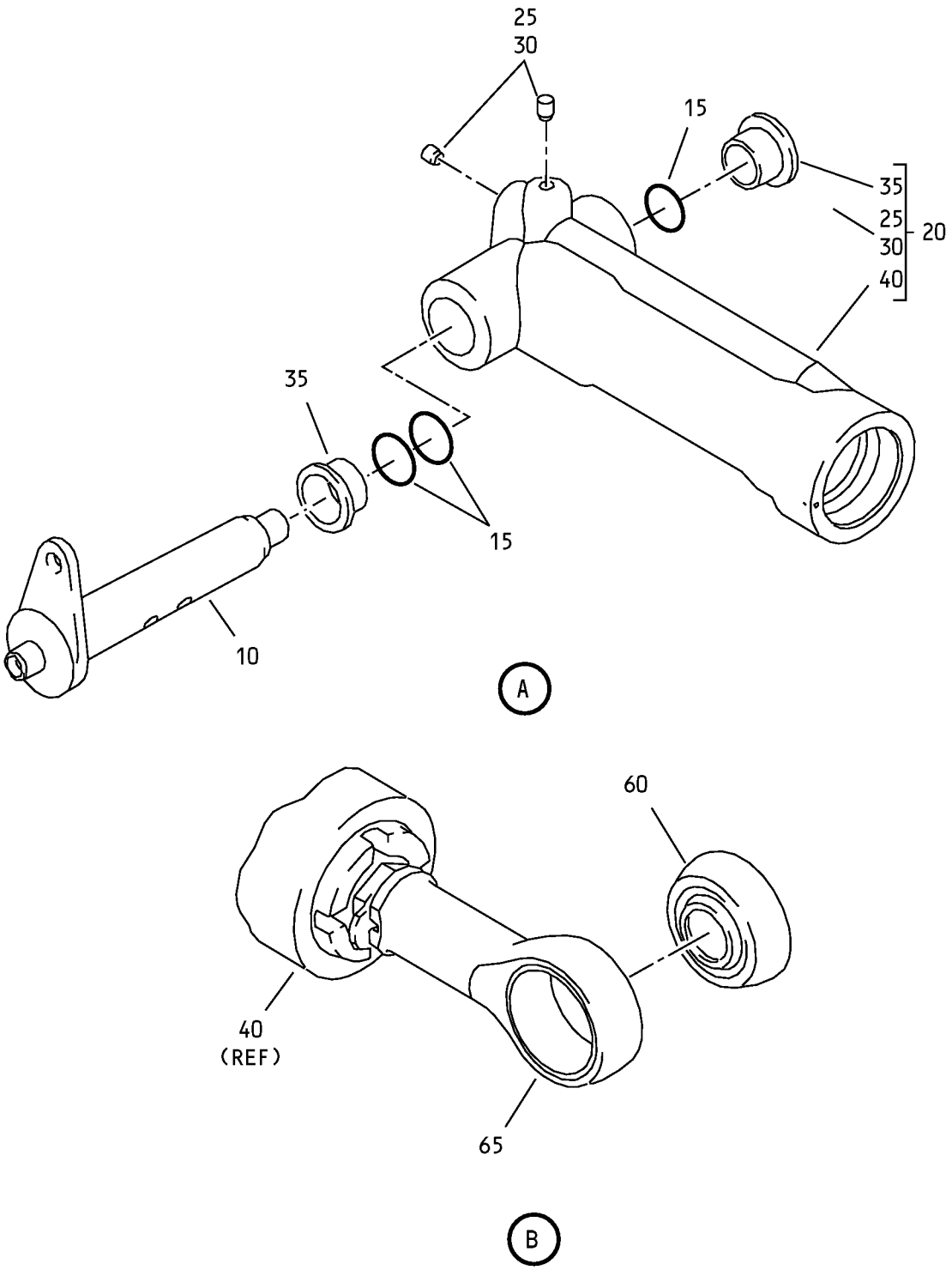
NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
2100-213		1	85	2
273A1201-1		1	1A	RF
273A1201-2		1	1B	RF
273A1202-1		1	20	1
273A1202-2		1	40	1
273A1203-1		1	110	1
273A1204-1		1	95	1
273A1205-1		1	70	1
273A1206-1		1	55	1
273A1206-2		1	65	1
273A1207-1		1	10	1
273A1208-1		1	109A	2
273A2508-3		1	115	1
273T0050-7		1	5	1
BACB28AZ12A050B		1	35	2
BACP20AX15		1	30	2
BACP20AX15P		1	25	2
BACR12BM213		1	85	2
C11236-213B		1	85	2
KSC274009V		1	60	1
MS14198K8P		1	50	1
NAS1423-8		1	45	1
NAS1611-213		1	90	1
PLGA1876020		1	25	2
PLGA1877020		1	30	2
RMR12BM213		1	85	2
S30294-213-1		1	85	2
S30855-116H19N		1	15A	3
S32925-3H99		1	75	1
S33157-213-29		1	100	2
S33157-213-29C		1	100A	2
S34711-114H99		1	80	1
S34760-213H99N		1	105	1
S34770-116H29		1	15	3

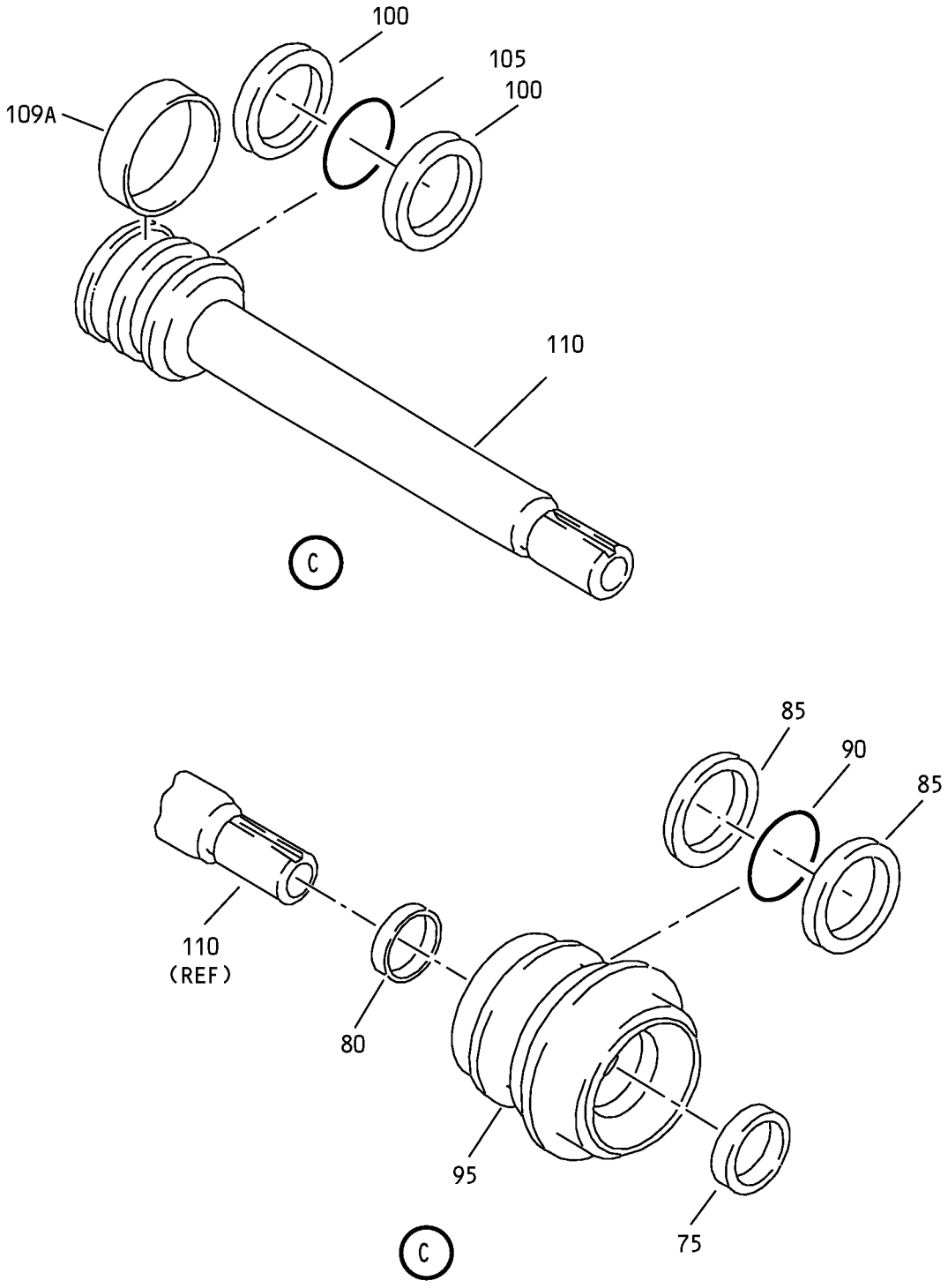
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
STF800-213		1	85	2
TF450-213A		1	85	2



Lock Actuator Assembly - Nose Landing Gear
IPL Figure 1 (Sheet 1 of 3)



Lock Actuator Assembly - Nose Landing Gear
IPL Figure 1 (Sheet 2 of 3)



Lock Actuator Assembly - Nose Landing Gear
IPL Figure 1 (Sheet 3 of 3)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	273A1201-1		ACTUATOR ASSY-NOSE GEAR LOCK (PRE SB 32-1394)	A	RF
–1B	273A1201-2		ACTUATOR ASSY-NOSE GEAR LOCK (POST SB 32-1394)	B	RF
5	273T0050-7		. STRAP		1
10	273A1207-1		. PIN		1
15	S34770-116H29		. SEAL-TRUNNION (V09257)	A	3
–15A	S30855-116H19N		. SEAL-TRUNNION (V09257)	B	3
20	273A1202-1		. BARREL ASSY		1
25	PLGA1876020		. . PLUG (V92555) (SPEC BACP20AX15P)		2
30	PLGA1877020		. . PLUG (V92555) (SPEC BACP20AX15)		2
35	BACB28AZ12A050B		. . BUSHING		2
40	273A1202-2		. . BARREL		1
45	NAS1423-8		. NUT		1
50	MS14198K8P		. WASHER		1
55	273A1206-1		. END ASSY-ROD		1
60	KSC274009V		. . BEARING (V50632)		1
65	273A1206-2		. . END		1
70	273A1205-1		. NUT-GLAND		1
75	S32925-3H99		. SCRAPER (V09257)		1
80	S34711-114H99		. SEAL-GLAND (V09257)		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
85	C11236-213B		. RING (V26879) (SPEC BACR12BM213) (OPT RMR12BM213 (V94878)) (OPT STF800-213 (V02107)) (OPT S30294-213-1 (V97820)) (OPT TF450-213A (V07128)) (OPT 2100-213 (V26303))		2
90	NAS1611-213		. PACKING		1
95	273A1204-1		. SEAL-GLAND		1
100	S33157-213-29		. RING (V09257)		2
–100A	S33157-213-29C		. RING (V09257) (OPT)		2
105	S34760-213H99N		. SEAL-PISTON (V09257)		1
109	S34546-3043		DELETED		
109A	273A1208-1		. BEARING-RING		2
110	273A1203-1		. ROD-PISTON		1
115	273A2508-3		. NAMEPLATE		1

–Item not Illustrated