



COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

MAIN LANDING GEAR COMPONENT ASSEMBLY

PART NUMBER

**161A1100-10, -13, -14, -15, -16, -19, -20, -23, -24,
-27, -28, -31, -32, -35, -36, -39, -40, -41, -42, -45,
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COMPONENT MAINTENANCE MANUAL

Revision No. 24
Jul 01/2009

To: All holders of MAIN LANDING GEAR COMPONENT ASSEMBLY 32-11-12.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

The COMPONENT MAINTENANCE MANUAL is furnished either as a printed manual, on microfilm, or digital products, or any combination of the three. This revision replaces all previous microfilm cartridges or digital products. All microfilm and digital products are reissued with all obsolete data deleted and all updated pages added.

For printed manuals, changes are indicated on the List of Effective Pages (LEP). The pages which are revised will be identified on the LEP by an R (Revised), A (Added), O (Overflow, i.e. changes to the document structure and/or page layout), or D (Deleted). Each page in the LEP is identified by Chapter-Section-Subject number, page number and page date.

Pages replaced or made obsolete by this revision should be removed and destroyed.

ATTENTION

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**COMPONENT MAINTENANCE MANUAL****Location of Change****Description of Change**

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FRONTMATTER

Changed the data in the TEMPORARY REVISION AND SERVICE BULLETIN RECORD list.

Moved the SB 32-1312 Rev. 3 entry to its related PRR.

REPAIR 4-1

Added details for the installation of the brake sleeve.

REPAIR 4-5

Added clarifications and updated callouts.

Changed the data in the Consumable Materials list.

ILLUSTRATED PARTS LIST

Added View B indicator, which was missing.

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HIGHLIGHTS

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		PRR 38259	MAR 01/99
		PRR 35385-2	MAR 01/99
		PRR 38290-2	MAR 01/99
32-1312		PRR 38275-6R	MAR 01/00
32-1312, REV.3		PRR 38275-7	MAR 01/00
		PRR 38901	MAR 01/01
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TR AND SB RECORD

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COMPONENT MAINTENANCE MANUAL

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.

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INTRODUCTION

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COMPONENT MAINTENANCE MANUAL

DESCRIPTION AND OPERATION

1. Description

A. The main landing gear component assembly includes the primary components of the shock strut: outer and inner cylinders, and torsion links. The outer and inner cylinders are assembled with static and dynamic rings. The unit is filled with hydraulic fluid, BMS 3-32, fluid, D00467. The torsion links keep the radial alignment of the shock strut inner and outer cylinders. The component assembly is attached to the main landing gear truck assembly and it hangs under the wing.

2. Operation

A. The component assembly holds up the airplane on the ground, and absorbs landing and taxiing shocks and vibrations.

3. Leading Particulars (Approximate)

- A. Length – 32 inches
- B. Height – 70 inches
- C. Width – 41 inches
- D. Weight – 450 pounds

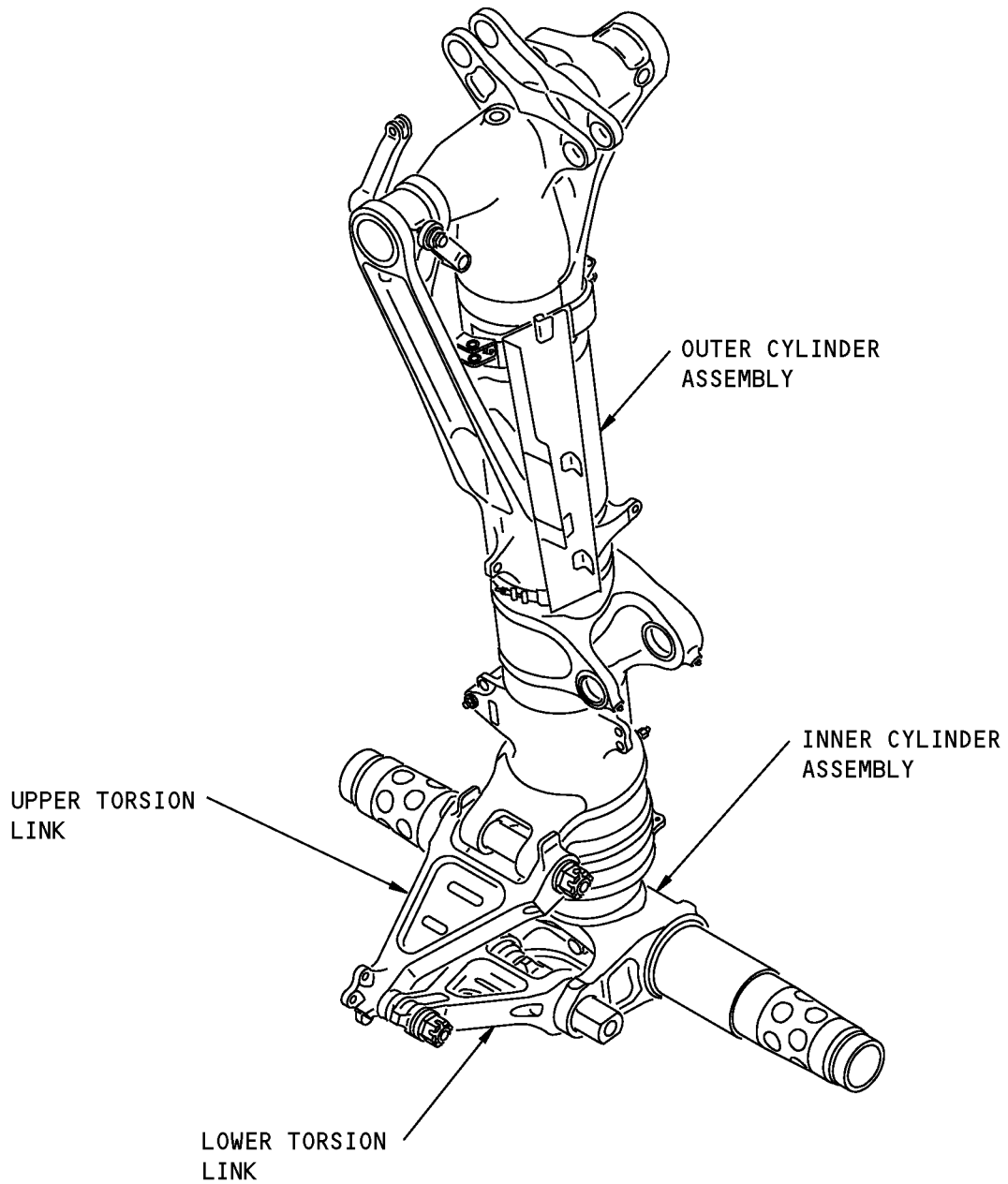
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DESCRIPTION AND OPERATION

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Main Landing Gear Component Assembly
Figure 1



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TESTING AND FAULT ISOLATION

1. General

- A. This procedure does a test of the unit after an overhaul or for fault isolation.
- 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. Testing and Fault Isolation

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-9432	Holding Fixture - MLG (Part #: C32037-1, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32, Type I
G00018	Nitrogen - Gaseous, Pressurizing, 99.5 Percent Pure	A-A-59503, Type I, Grade B
G02314	Air - Compressed, Breathing	BB-A-1034

C. References

Reference	Title
SOPM 20-60-03	LUBRICANTS

D. Procedure

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

- (1) Install the unit vertically in holding fixture, SPL-9432.
- (2) Make sure that the shock strut is fully compressed.
- (3) Fill the unit with 869.7 cubic inches (3.76 gallons or 14.25 liters) minimum of fluid, D50022 until the hydraulic fluid flows out of the port.
- (4) Operate the unit a minimum of ten cycles to bleed the air out. Make sure the unit operates smoothly and does not catch. Make sure nothing rubs the inner cylinder chrome plate. Local polished areas are acceptable if they do not have depth.
- (5) Measure and record Dimension X, between the lower surface of the outer cylinder and the upper surface of the inner cylinder (TESTING AND FAULT ISOLATION, Figure 101). Make sure Dimension X is within these limits
Fully compressed: 0.81-1.11 inches
Fully extended: 16.81-17.11 inches.

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TESTING AND FAULT ISOLATION

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- (6) Fully compress the shock strut. Disconnect the hydraulic return line. Install valve (955). Connect a source of nitrogen, G00018 or dry compressed air, G02314 to the valve. Then, with minimum nitrogen or air pressure, fully extend the shock strut.

WARNING: DO NOT PRESSURIZE THE SHOCK STRUT FOR THE TEST UNLESS THE INNER CYLINDER IS FULLY EXTENDED. DAMAGE TO THE UNIT OR PERSONAL INJURY CAN OCCUR.

- (7) Pressurize the shock strut with nitrogen, G00018 or dry compressed air, G02314 to 270-280 psig.
- (8) Let the shock strut pressure become stable for a minimum of 30 minutes. Then record the pressure (P1).
- (9) Close valve (955). Let the shock strut hold pressure for 60 minutes. Do not remove or loosen the pressure gage.
- (10) Open valve (955). Record the pressure (P2). There must be no sign of change between P1 and P2. Pressure changes because of ambient temperature changes must be within plus or minus 10 psi.
- (11) Visually examine the area around check valve (965) and gland nut (555). There must be no sign of leakage. Signs of hydraulic fluid which do not make a drop are acceptable.
- (12) There must be no sign of bubbles around valve (955).
- (13) Gradually loosen the swivel nut of valve (955) one or two turns counterclockwise, to slowly release the air pressure. Then tighten the swivel nut of valve (955) to 5-7 pound-feet.

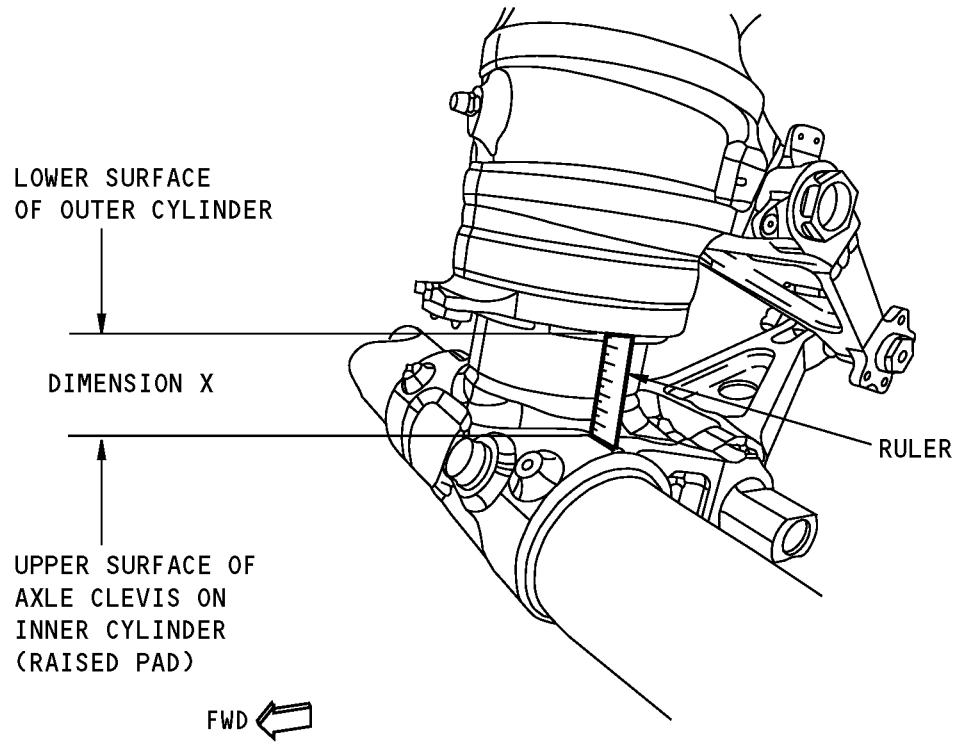
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TESTING AND FAULT ISOLATION

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Main Landing Gear Shock Strut Dimension X
Figure 101

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TESTING AND FAULT ISOLATION

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COMPONENT MAINTENANCE MANUAL

DISASSEMBLY

1. General

- A. This procedure tells how to disassemble the main landing gear component assembly.
- B. Disassemble this component only sufficiently to isolate defects, do the necessary repairs, and put the component back to a serviceable condition.
- C. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-1864	Equipment - Puller, MLG Axle Sleeve Assembly (Part #: C32032-57, Supplier: 81205)
SPL-9505	Equipment - Removal/Installation, MLG Orifice Tube and Metering Pin (Part #: C32042-61, Supplier: 81205)
SPL-9507	Replacement Equipment - Lower Bearing Seals, MLG (Part #: C32017-43, Supplier: 81205) (Opt Part #: C32017-1, Supplier: 81205)
SPL-10997	Adapter Assy - Wrench, Hook Spanner - 737-600/700/800/900 (Part #: F80033-8, Supplier: 81205)

B. References

Reference	Title
CMM 32-11-16	MAIN GEAR CUSTOMER END ITEM

C. Part Replacement

NOTE: These parts are recommended for replacement. Replacement of other parts can be by in-service experience.

- (1) Cotter pins (10, 270, 305, 307, 425, 655A, 996)
- (2) Washers (35, 45, 125, 130, 320, 322, 540, 665, 750)
- (3) Rings (560, 570, 575, 580, 585, 790, 800)
- (4) Packings (590, 960)

D. Procedure

- (1) Use standard industry procedures and these steps.
- (2) Make sure the pressure is released from the main landing gear component assembly.
 - (a) Open air valve (955) to release the air pressure.
 - (b) Remove cap (970) and open the check valve (965) to drain the hydraulic fluid.
- (3) Remove torsion links (375, 490).
 - (a) If the shimmy damper is installed, refer to CMM 32-11-16 for removal details.
 - (b) Remove cotter pin (305), bolts (310, 315), washer (320) and nut (325).

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- (c) Remove pin (360), washer (365), and nut (370).
- (d) Remove cotter pin (425), cross bolt (430), washer (435), and nut (440).
- (e) Remove pin assembly (475) and spacer assembly (445).
- (4) Remove gland nut (555).
 - (a) Remove lock plate (550), bolts (535), washer (540) and nuts (545).
 - (b) Use landing gear gland nut hook spanner, SPL-10997 to remove gland nut (555).
- (5) Remove inner cylinder assembly (650). Use puller equipment, SPL-1864 as necessary to remove the axle and sleeves from the inner cylinder.
- (6) Remove upper bearing carrier (635).
- (7) Remove recoil valve (620).
- (8) Remove packing (590), pins (595A), seal retainer (600) and spacer tube (615).
- (9) Remove scraper (560) and lower bearing carrier (605). Use replacement equipment, SPL-9507 to remove lower bearing carrier (605).

NOTE: As a result of maintenance on the flight line, there could be a split scraper, but this is only a special temporary part to be replaced at overhaul with a standard scraper.
- (10) With removal/installation equipment, SPL-9505, remove metering pin (825) and retainer nut assembly (810).
- (11) Remove orifice support tube (795).
- (12) Disassemble lower bearing carrier (605) with replacement equipment, SPL-9507. Remove excluder (565), static rings (570), spare dynamic rings (575), spare AGT rings (580) and dynamic ring (585).
- (13) Disassemble orifice support tube (795).
 - (a) Remove bolt (745), washer (750), and nut (755).
 - (b) Remove ring (740) and retainer nut (760).
 - (c) Remove orifice plate (765).
 - (d) Remove the retainer nut assembly (770) and the retainer ring (785). Use removal/installation equipment, SPL-9505 to remove retainer nut assembly (770).
- (14) Disassemble upper bearing carrier (635).
 - (a) Remove piston ring (625).
 - (b) Remove upper bearings (630).
 - (c) Remove carrier halves (640, 645).

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CLEANING

(NOT APPLICABLE)

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CLEANING
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CHECK

1. General

- A. Use this procedure to find defects in the specified parts.
- 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. Check

A. References

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

B. Procedure

- (1) Examine all parts by standard industry practices. Refer to FITS AND CLEARANCES for design dimensions and wear limits.
- (2) If you find cracks in system support trays (260, 265), refer to Service Letter 737-SL-32-116 for advice and repair instructions.
- (3) Do a magnetic particle check (SOPM 20-20-01) of these parts:
 - (a) Pins (15, 330, 360, 430, 485, 595, 660, 680)
 - (b) Washers (20, 280, 350, 365, 435)
 - (c) Roller pin (275)
 - (d) Roller (300)
 - (e) Spacer (335)
 - (f) Apex nut (355)
 - (g) Lock key (550)
 - (h) Gland nut (555)
 - (i) Brake sleeve (670)
 - (j) Wheel sleeve (685)
 - (k) Axle (695)
 - (l) Inner cylinder (735)
 - (m) Piston ring (740)
 - (n) Orifice plate (765)
 - (o) Retainer nut (780, 820)
 - (p) Retainer ring (785, 805)
 - (q) Outer cylinder (945, 950)
- (4) Do a penetrant check (SOPM 20-20-02) of these parts:
 - (a) Bracket (105A, 110A)
 - (b) Fitting (215)

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CHECK

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- (c) Upper torsion link (420)
- (d) Spacer (470)
- (e) Lower torsion link (520)
- (f) Seal retainer (600)
- (g) Spacer tube (615)
- (h) Recoil valve (620)
- (i) Piston ring (625)
- (j) Retainer nut (760)
- (k) Orifice support tube (795)
- (l) Metering pin (825)

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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
161A1110	OUTER CYLINDER ASSEMBLY	3-1, 3-2
161A1116	OUTER CYLINDER ASSEMBLY	3-1, 3-2
161A1118	OUTER CYLINDER ASSEMBLY	3-1, 3-2
161A1120	COMPLETE INNER CYLINDER ASSEMBLY	4-1
161A1121-1	INNER CYLINDER ASSEMBLY	4-2, 4-3
161A1126-1	INNER CYLINDER ASSEMBLY	4-2, 4-3
161A1129-1	INNER CYLINDER ASSEMBLY	4-2, 4-3
161A1128	PIN	4-4
161A1130	AXLE ASSEMBLY	4-5, 4-6
161A1131	AXLE SLEEVE	4-7
161A1127	BRAKE SLEEVE	4-8
161A1140	UPPER TORSION LINK ASSEMBLY	5-1, 5-2
161A1142	LOWER TORSION LINK ASSEMBLY	6-1, 6-2
161A1145	APEX PIN	7-1
161A1146	TORSION LINK PIN	8-1
161A1147	TORSION PIN LINK ASSEMBLY	9-1, 9-2
161A1150	METERING PIN	10-1
161A1152	ORIFICE SUPPORT TUBE	11-1
161A1169	RETAINER NUT ASSEMBLY	12-1
161A1170	RETAINER NUT ASSEMBLY	12-1
161A1167	BEARING CARRIER	13-1
161A1168	BEARING CARRIER	13-1
161A1181	ROLLER ASSEMBLY	14-1, 14-2
161A1182	ROLLER PIN	15-1
161A1190	CROSSBOLT PIN	16-1
161A1196	SPLINED WASHER ASSEMBLY	17-1, 17-2
161A1200	BRACKET ASSEMBLY	18-1, 18-2
161A1212	SPACER ASSEMBLY	19-1, 19-2
161A1221	CROSSBOLT	20-1

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PART NUMBER	NAME	REPAIR
161A1315	COMPLETE TRAY ASSEMBLY	21-1, 21-2
161A1214	APEX PIN	22-1
161A1219	SLEEVE	23-1
161A1220	SLEEVE	24-1
161A1154	GLAND NUT	25-1
161A1320	FITTING ASSEMBLY	26-1, 26-2

2. Dimensioning Symbols

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

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

EXAMPLES

— 0.002	STRAIGHT WITHIN 0.002	◎ ∅ 0.0005 C	CONCENTRIC TO DATUM C WITHIN 0.0005 DIAMETER
⊥ 0.002 B	PERPENDICULAR TO DATUM B WITHIN 0.002	≡ 0.010 A	SYMMETRICAL WITH DATUM A WITHIN 0.010
// 0.002 A	PARALLEL TO DATUM A WITHIN 0.002	∠ 0.005 A	ANGULAR TOLERANCE 0.005 WITH DATUM A
○ 0.002	ROUND WITHIN 0.002	⊕ ∅ 0.002 Ⓢ B	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
⊘ 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER	⊥ ∅ 0.010 Ⓜ A	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
⌒ 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	0.510 Ⓟ	
⌒ 0.020 A	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE	2.000	THEORETICALLY EXACT DIMENSION IS 2.000
		OR	
		2.000	
		BSC	

True Position Dimensioning Symbols
Figure 601

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REPAIR - GENERAL

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REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

- A. This procedure tells how to refinish the parts which are not refinished in the other 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. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50075	Coating - Exterior Protective Enamel, Gray	BMS10-60, Type II, BAC707 Gray

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Instructions for the repair of the parts in REPAIR 1-1, Table 601 are for replacement of the original finish.

Table 601: Refinish Details

IPL FIG. AND ITEM NUMBER	MATERIAL	FINISH
IPL Fig. 1		
Washer (20)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-16.06).
Bracket (155)	2024-T3 Aluminum Alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31), apply primer, C00175 (F-19.47) and enamel coating, C50075 (F-19.39-707).
Bracket (227)	Aluminum Alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31), apply primer, C00175 (F-19.47) and enamel coating, C50075 (F-19.39-707).

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Table 601: Refinish Details (Continued)

IPL FIG. AND ITEM NUMBER	MATERIAL	FINISH
Washers (280, 435)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
Spacer (335)	15-5PH CRES	Passivate (F-17.25) and do the flagnotes in REPAIR 1-1, Figure 601.
Spacer (335A)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
Apex Nut (355)	4340M Steel	Chrome plate (F-15.34) the bottom surface, 0.0015-0.0020 inch thick. Do not grind. On other surfaces, cadmium-titanium plate (F-15.01), apply primer, C00175 (F-19-47) and enamel coating, C50075 (19-39-707).
Washer (365)	4330M Steel	Cadmium-titanium plate (F-15.32), apply primer, C00175 (F-19.47), enamel coating, C50075 (F-19.39-707) and the flagnotes in REPAIR 1-1, Figure 603.
Nut (370)	4330M Steel	Cadmium-titanium plate (F-15.01), apply primer, C00175 (F-19.47), enamel coating, C50075 (F-19.39-707) and the flagnotes in REPAIR 1-1, Figure 602.
Lock key (550)	4330M Steel	Cadmium plate (F-15.06), apply primer, C00175 (F-19.47) and enamel coating, C50075 (F-19.39-707).
Pin (595A)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
Bearings (610, 630)	DU, bronze backed	No finish (F-25.01).
Spacer Tube (615)	7075 Aluminum Alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35).
Recoil Valve (620)	7075 Aluminum Alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31).
Ring (625)	Al-Ni-Brz, AMS 4880	No finish (F-25.01).
Ring (740)	Cast Iron, AMS 7310	No finish (F-25.01).
Retainer Nut (760)	7050 Aluminum Alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31).
Orifice Plate (765)	4330M Steel, 220-240 ksi	No finish (F-25.01).
Rings (785, 805)	4330M Steel, 180-200 ksi	No finish (F-25.01).

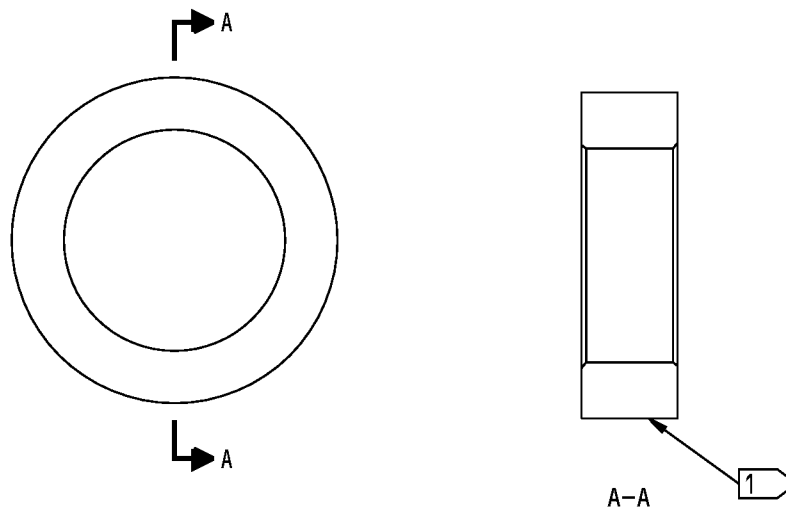
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1 APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 GLOSS ENAMEL (F-19.39-707).

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1195-1 Spacer Refinish
Figure 601

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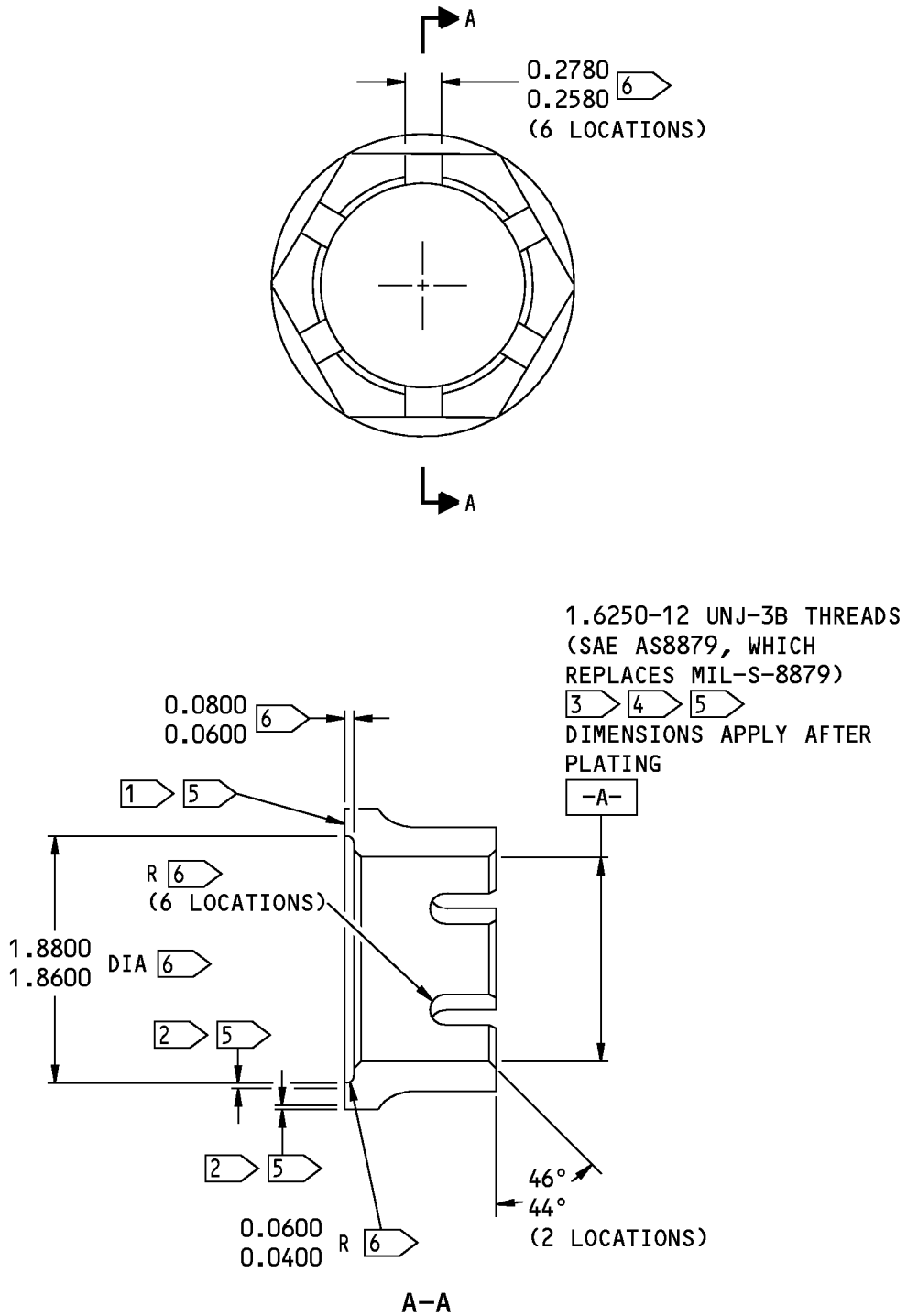
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F90226 S0004996789_V4

161A1210-1 Nut Refinish
Figure 602 (Sheet 1 of 2)

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- 1 CHROME PLATE 0.0015-0.0020 THICK (F-15.34), DO NOT GRIND.
- 2 CHROME PLATE RUNOUT AREA.
- 3 DO NOT SHOT PEEN THIS SURFACE.
- 4 CADMIUM-TITANIUM PLATE (F-15.32)
- 5 WIPE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451).
- 6 CADMIUM-TITANIUM PLATE (F-15.32). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66).

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.03 R UNLESS NOTED

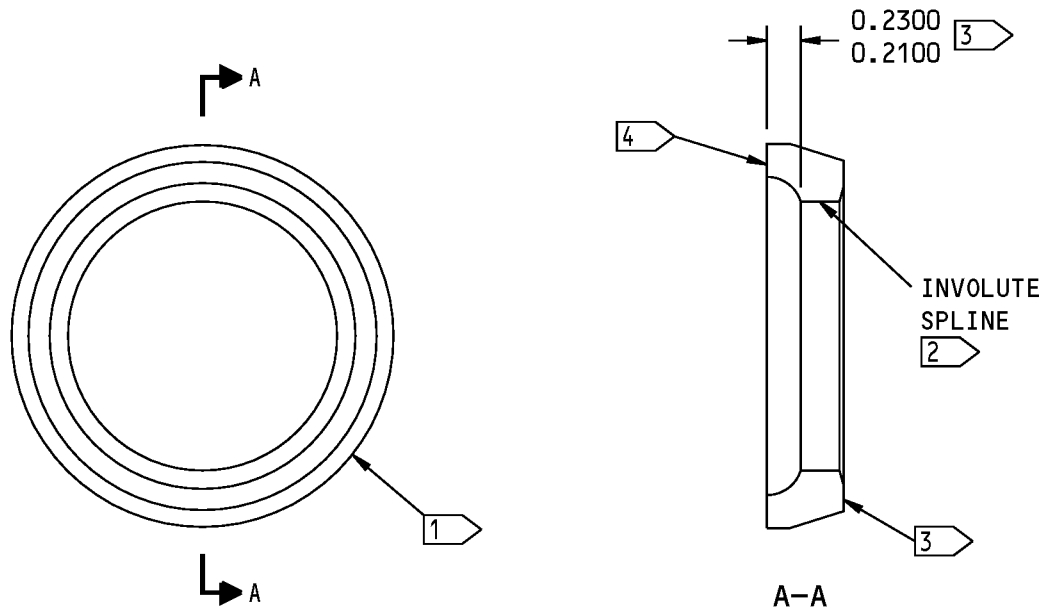
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1210-1 Nut Refinish
Figure 602 (Sheet 2 of 2)

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REPAIR 1-1
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- 1 PART NUMBER AND SERIAL NUMBER
- 2 CADMIUM-TITANIUM PLATE (F-15.32). WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451).
- 3 CADMIUM-TITANIUM PLATE (F-15.32). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66).
- 4 THIN DENSE CHROME PLATE (F-15.43, WHICH REPLACES F-14.892).

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.03 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1216-1 Washer Refinish
Figure 603

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OUTER CYLINDER ASSEMBLY - REPAIR 3-1

161A1110-1, -2, -5, -6, -9, -10, -13, -14, 161A1116-1, -2, -5, -6, -9, -10, -13, -14, 161A1118-1, -2, -5, -6, -9, -10, -13, -14, -17, -18

1. General

- A. This procedure tells how to repair and refinish outer cylinder assembly (830, 835).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for the item numbers.

2. Bushing Replacement (REPAIR 3-1, Figure 601)

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
G50136	Paste - Corrosion Inhibiting, Non-drying	BMS 3-38

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-60-04	MISCELLANEOUS MATERIALS

- C. Procedure

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old bushings from outer cylinder assembly (830, 835).
- (2) Use the shrink-fit procedure to install the replacement bushings as specified by flagnotes 2, 12 and 13.

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

- (a) Install the bushings with corrosion inhibiting non-drying paste, G50136. After installation and before the paste dries, remove unwanted paste from the gap, where applicable, between the bushings. Do the fillet seal instructions that follow.

NOTE: BMS 3-27 compound, C00913 and BMS 5-95 sealant, A00247 are optional to BMS 3-38 corrosion inhibiting non-drying paste, G50136 for outer cylinder assemblies 161A1110-1, -2, -5, -6, -9, -10, 161A1116-1, -2, -5, -6, -9, -10, 161A1118-1, -2, -5, -6, -9 and -10.

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(b) Machine the bushings to the dimensions shown in REPAIR 3-1, Figure 601.

3. Lube Fitting and Insert Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Paste - Corrosion Inhibiting, Non-drying	BMS 3-38

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old lube fittings and inserts from outer cylinder assembly (830, 835).
- (2) Use the shrink-fit procedure to install the replacement inserts.

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

- (a) Install the inserts with corrosion inhibiting non-drying paste, G50136 as specified by flagnote 4.

NOTE: BMS 3-27 compound, C00913 and BMS 5-95 sealant, A00247 are optional to BMS 3-38 corrosion inhibiting non-drying paste, G50136 for outer cylinder assemblies 161A1110-1, -2, -5, -6, -9, -10, 161A1116-1, -2, -5, -6, -9, -10, 161A1118-1, -2, -5, -6, -9 and -10.

- (b) Install the inserts with compound, C00913 as specified by flagnote 15.
- (3) Install the replacement lube fittings and tighten them to 25-30 pound-inches (flagnotes 5 and 6).
- (4) After bushing installation and before sealant, A00247 dries:
 - (a) Apply grease, D00633 or grease, D00013 to the lube fittings shown with flagnote 3 until the grease, D00633 or grease, D00013 appears at the bushing inner diameter.

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- (b) Apply compound, C00913 to the lube fittings shown with flagnote 14 until the compound, C00913 appears at the bushing inner diameter.

4. Fillet Seal Instructions (REPAIR 3-1, Figure 601)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02. For miscellaneous materials, refer to SOPM 20-60-04.

NOTE: Apply sealant, A00247 before you apply the enamel coating, C00033.

- (1) Clean the area with solvent as specified in SOPM 20-30-03. Make sure to clean a minimum of 0.38 inches from the outer diameter of the bushing flange and the flange edge.
- (2) Apply sealant, A00247 around the bushing flange as specified by the 69B13372 procedure in SOPM 20-50-19. Do not apply sealant, A00247 to the bushing faces.
- (3) Apply enamel coating, C00033 (F-19.39-707) over sealant, A00247 and the area around sealant, A00247.

5. Outer Cylinder Assembly Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II

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COMPONENT MAINTENANCE MANUAL

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

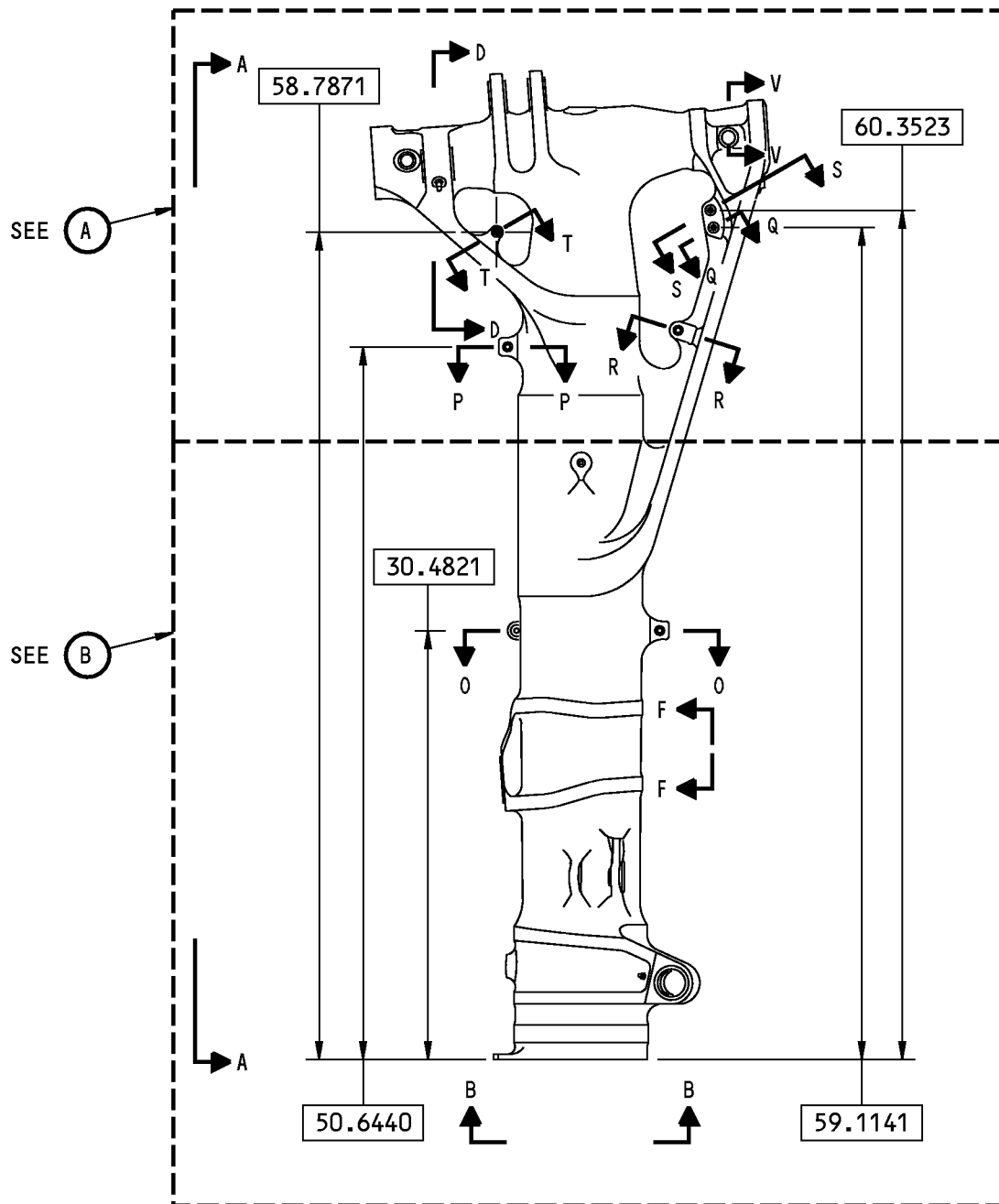
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Apply enamel coating, C00033 (F-20.56-707) all over, unless noted. Do not paint the bushing faces, bores or lube fittings.
- (2) Apply stencils as shown in REPAIR 3-2, Figure 601.

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161A1110-1 SHOWN
 161A1110-5,-9,-13; 161A1116-(ODD); 161A1118-(ODD) SIMILAR
 161A1110-2,-6,-10,-14; 161A1116-(EVEN); 161A1118-(EVEN) OPPOSITE

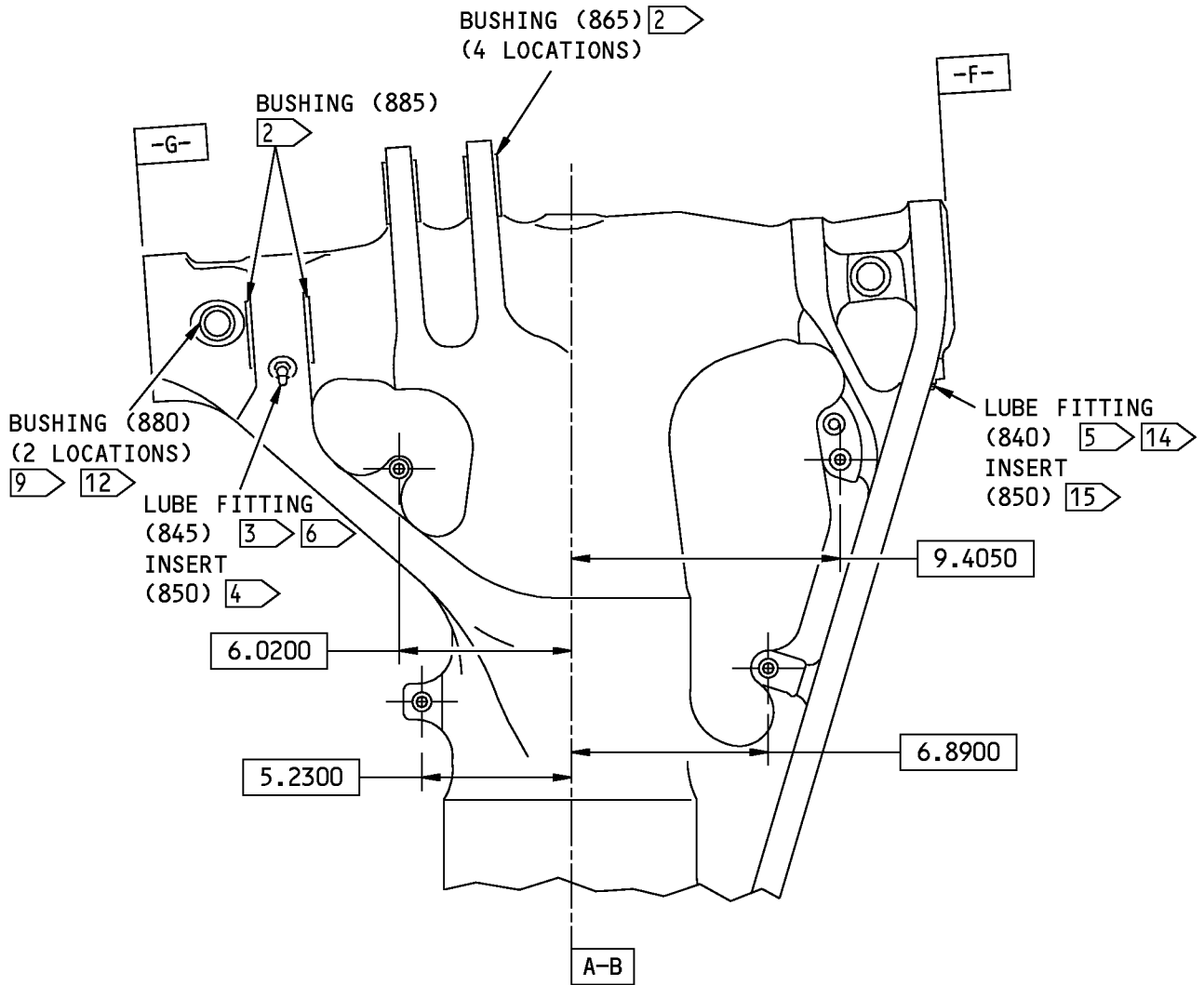
F89583 S0004996793_V3

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
 Figure 601 (Sheet 1 of 26)

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161A1110-1,-2; 161A1116-1,-2, 161A1118-1,-2

(A)

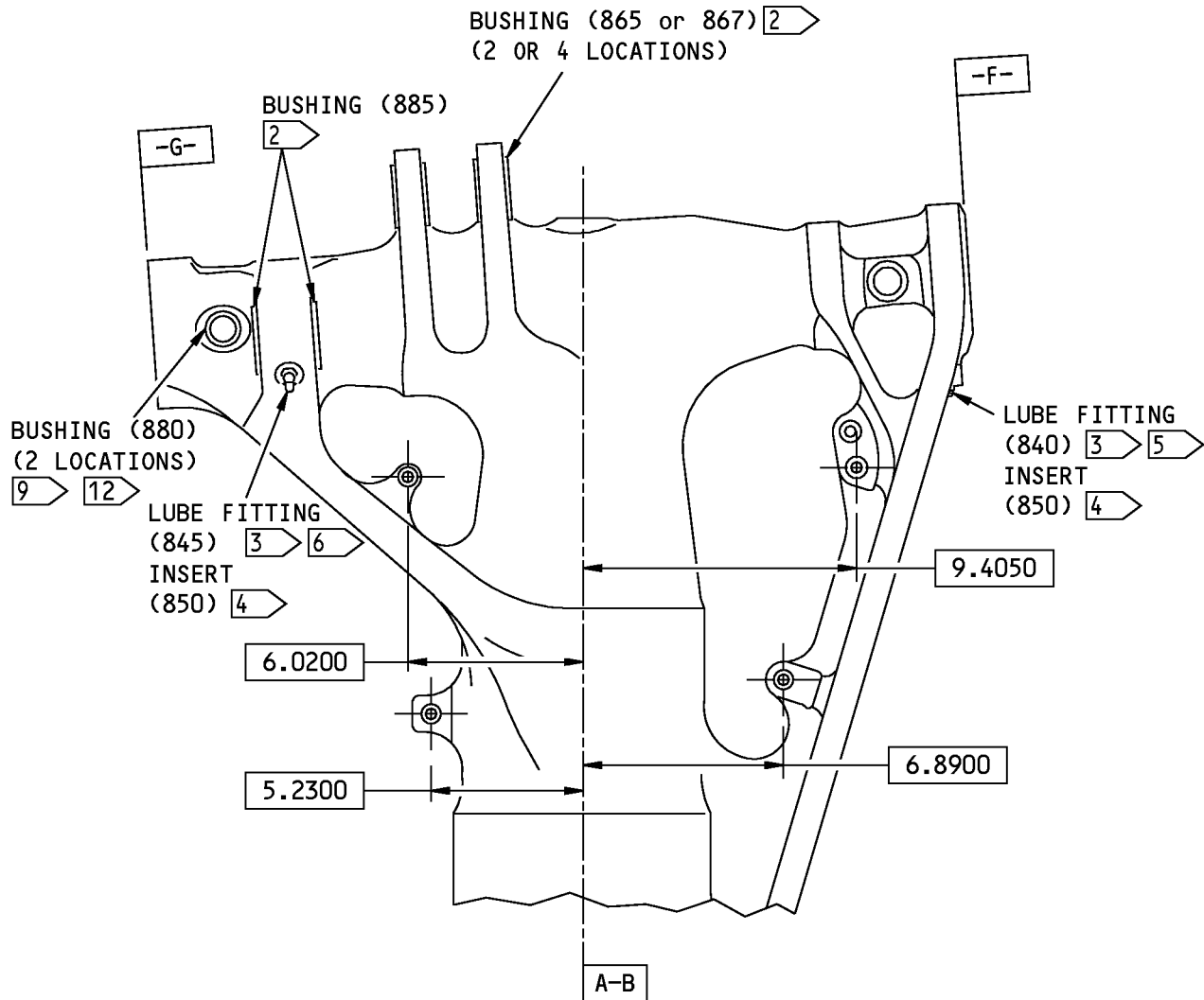
F89921 S0004996794_V3

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Figure 601 (Sheet 2 of 26)

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161A1110-5,-6,-9,-10,-13,-14;
 161A1116-5,-6,-9,-10,-13,-14;
 161A1118-5,-6,-9,-10,-13,-14,-17,-18

(A)

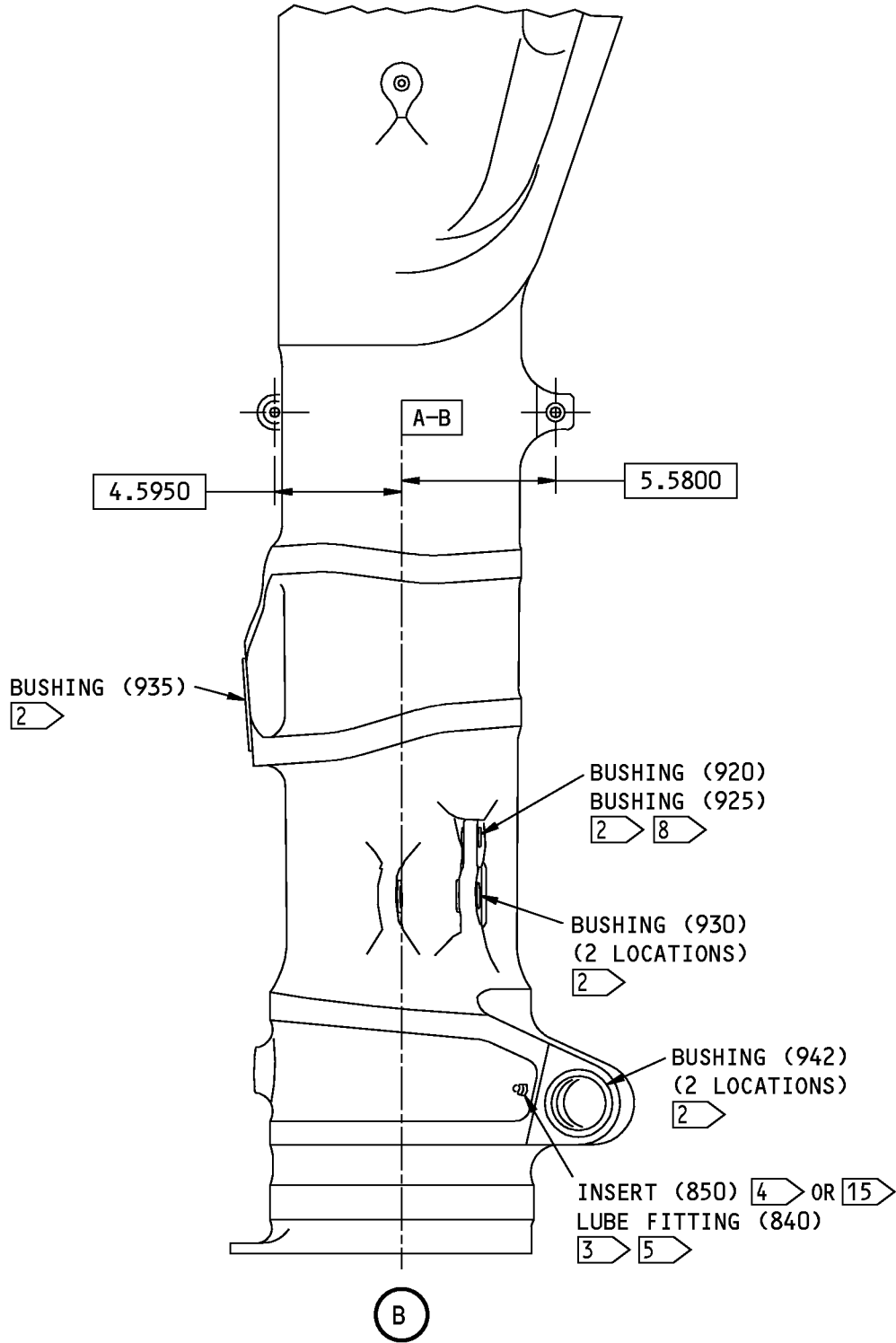
1507896 S0000274847_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
 Figure 601 (Sheet 3 of 26)

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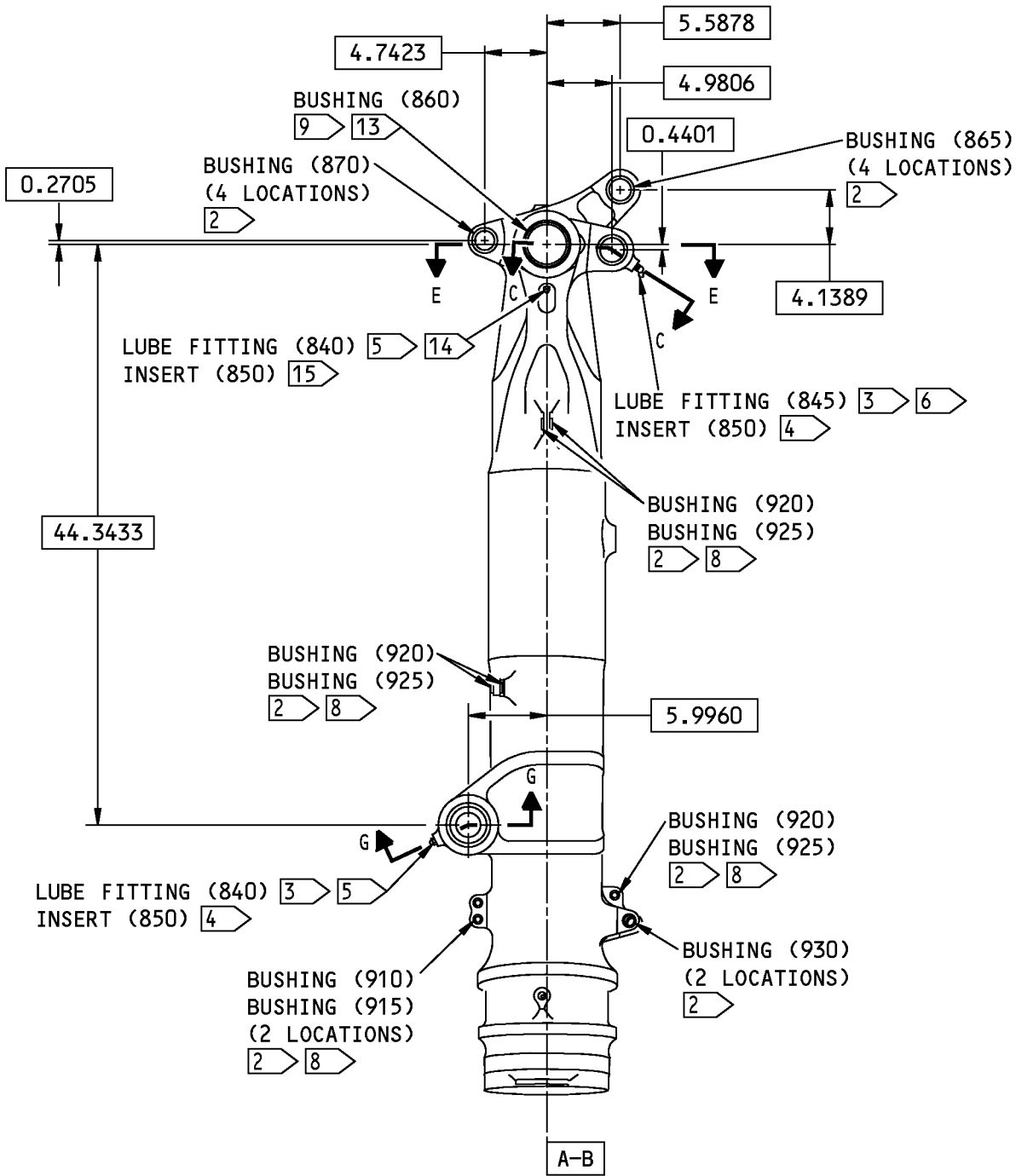


161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 4 of 26)

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1161A1110-1,-2; 161A1116-1,-2
A-A

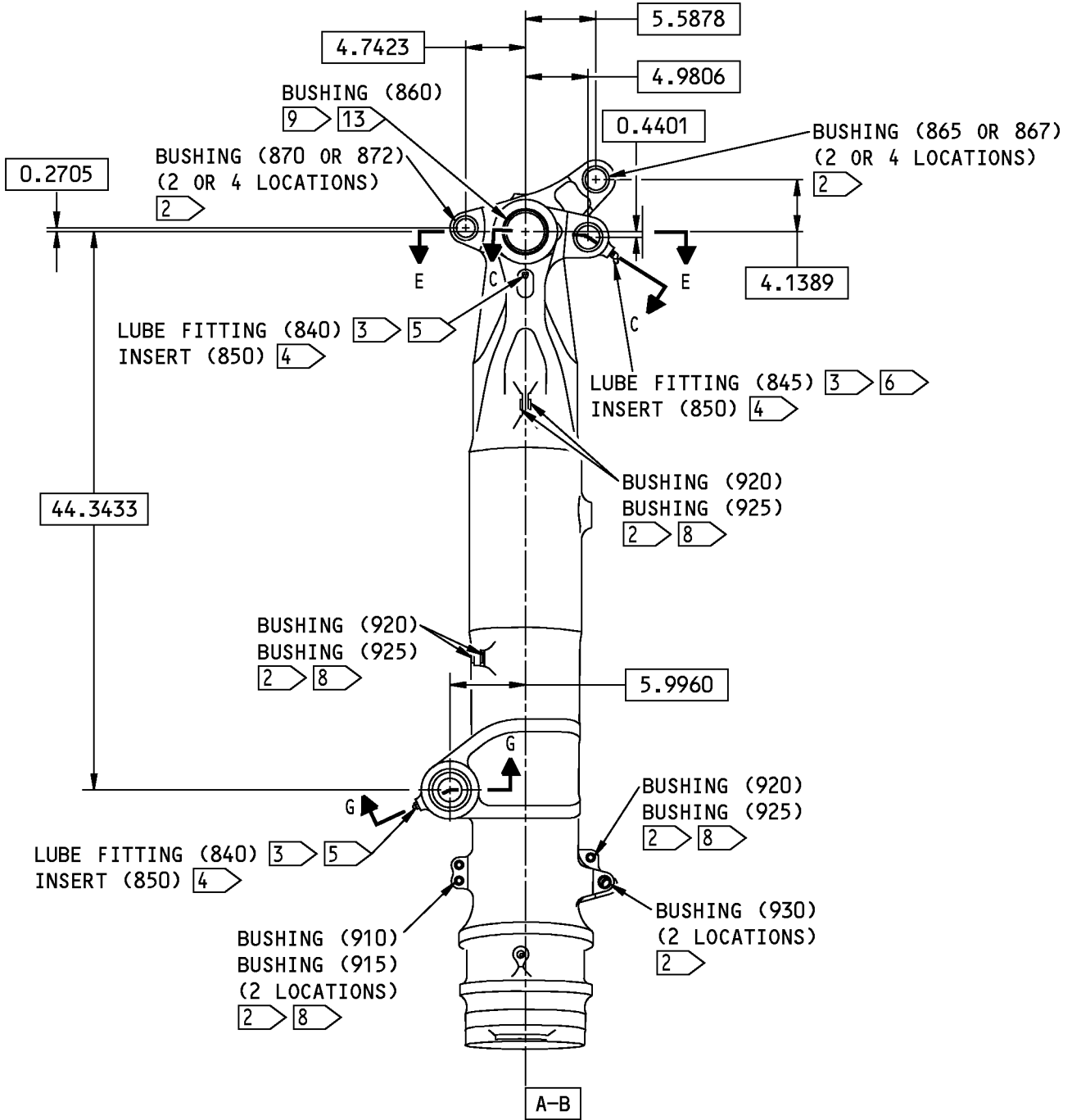
F90222 S0004996796_V3

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 5 of 26)

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161A1110-5,-6,-9,-10,-13,-14;
 161A1116-5,-6,-9,-10,-13,-14;
 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18

A-A

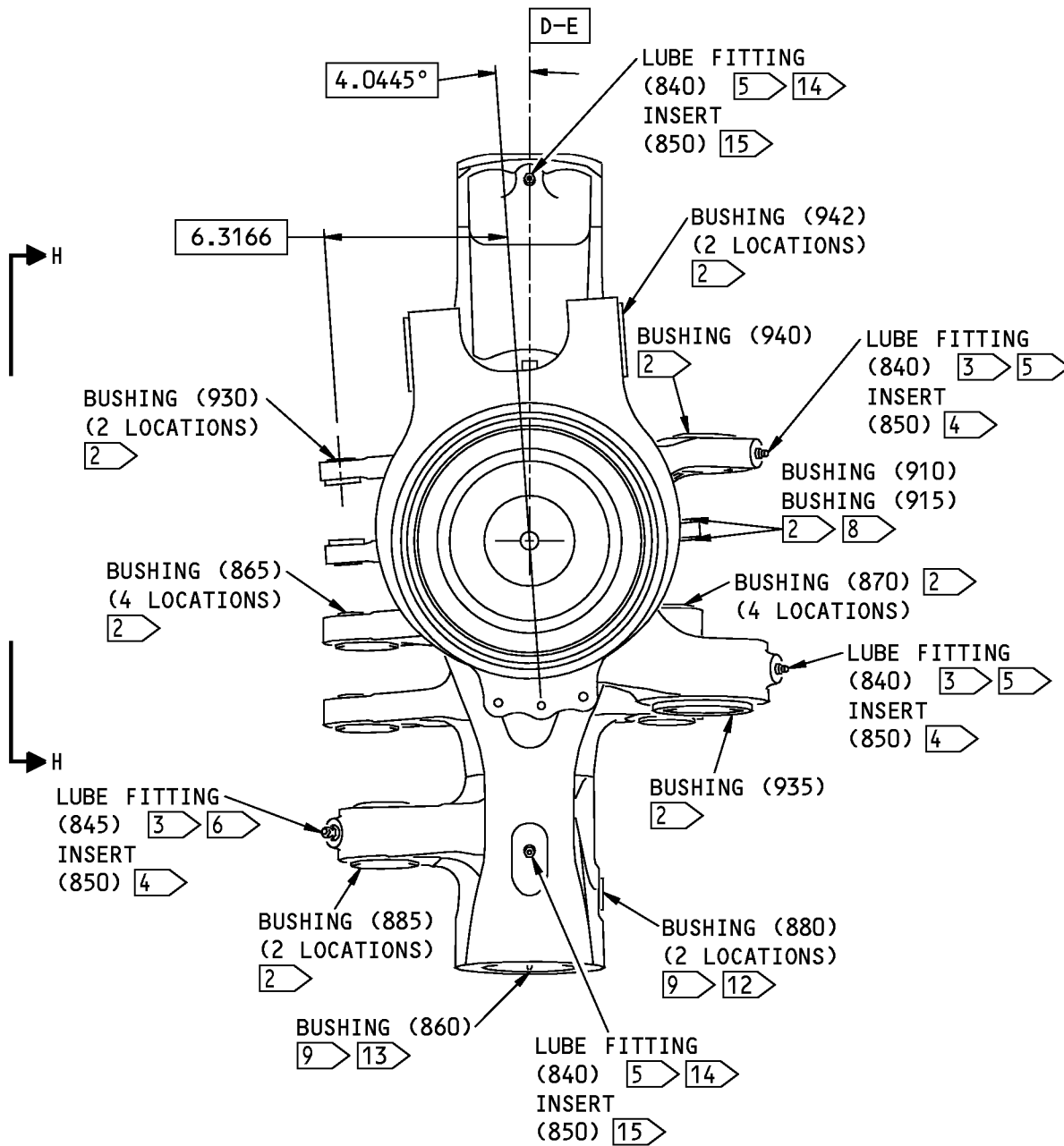
1507931 S0000274849_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair Figure 601 (Sheet 6 of 26)

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161A1110-1,-2; 161A1116-1,-2; 161A1118-1,-2
B-B

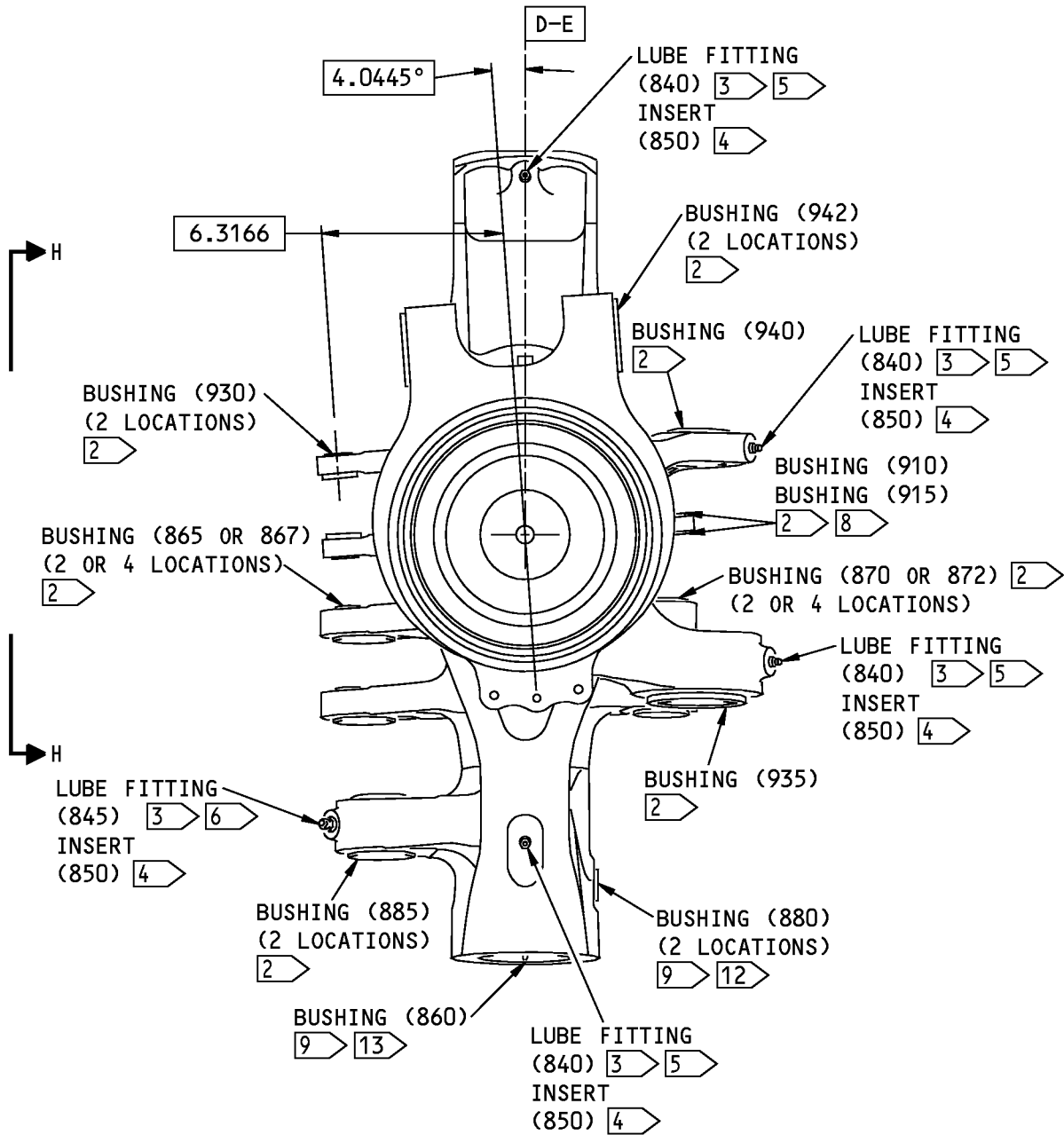
F90223 S0004996797_V4

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 7 of 26)

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161A1110-5,-6,-9,-10,-13,-14;
 161A1116-5,-6,-9,-10,-13,-14;
 161A1118-5,-6,-9,-10,-13,-14,-17,-18
 B-B

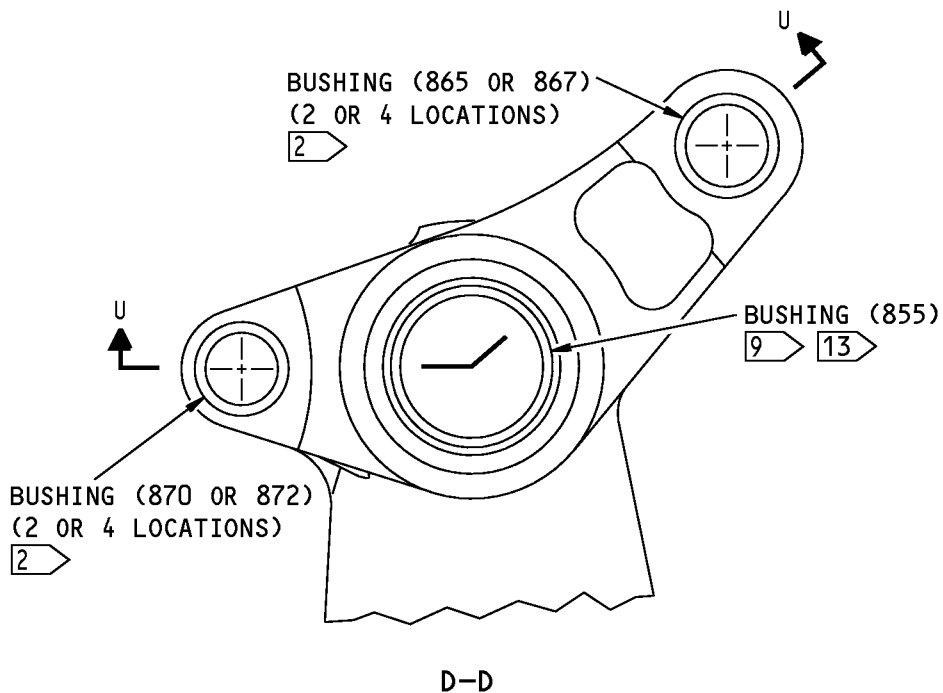
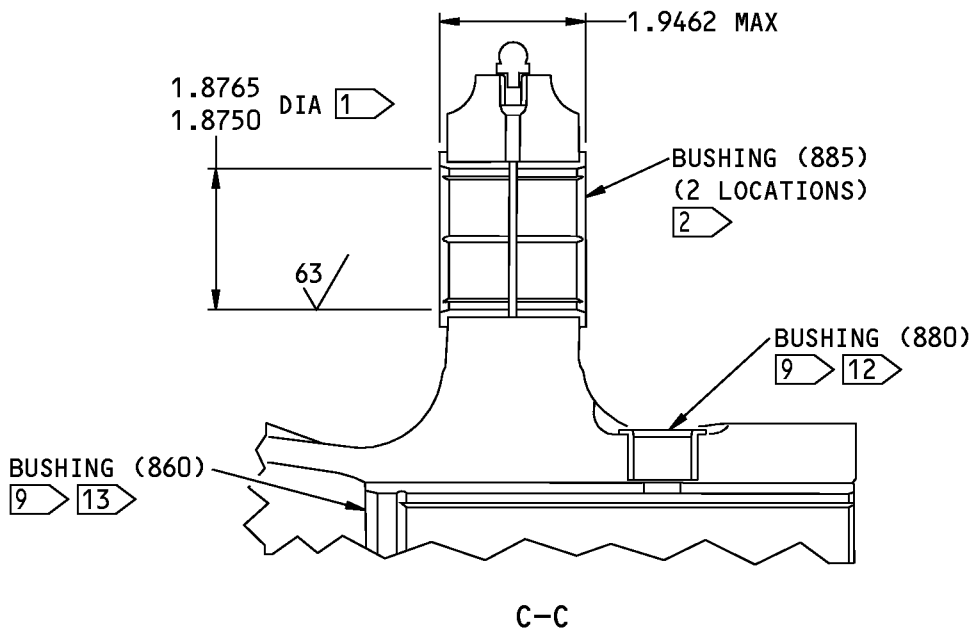
1508127 S0000274850_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
 Figure 601 (Sheet 8 of 26)

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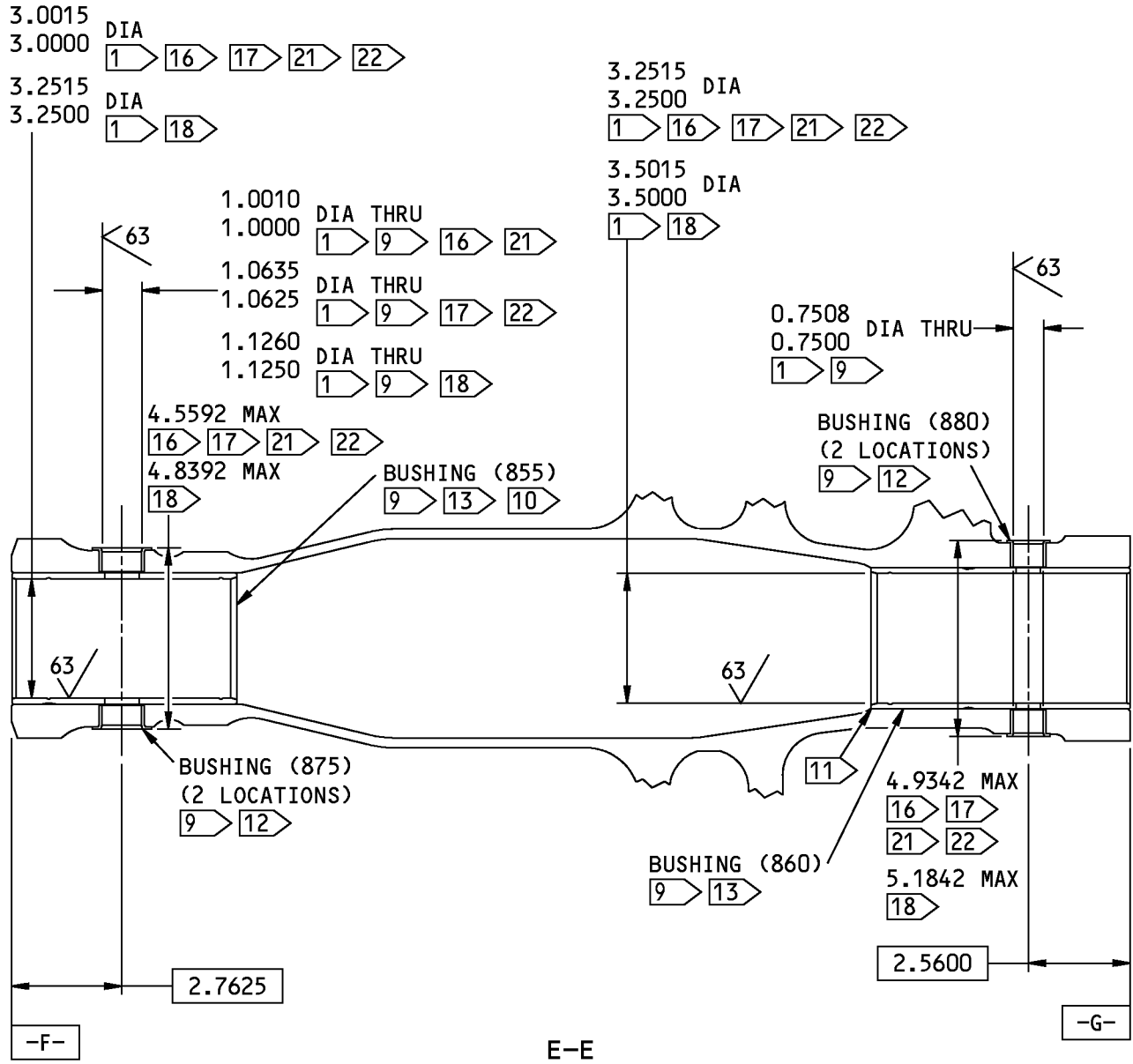
F90225 S0004996798_V3

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Figure 601 (Sheet 9 of 26)

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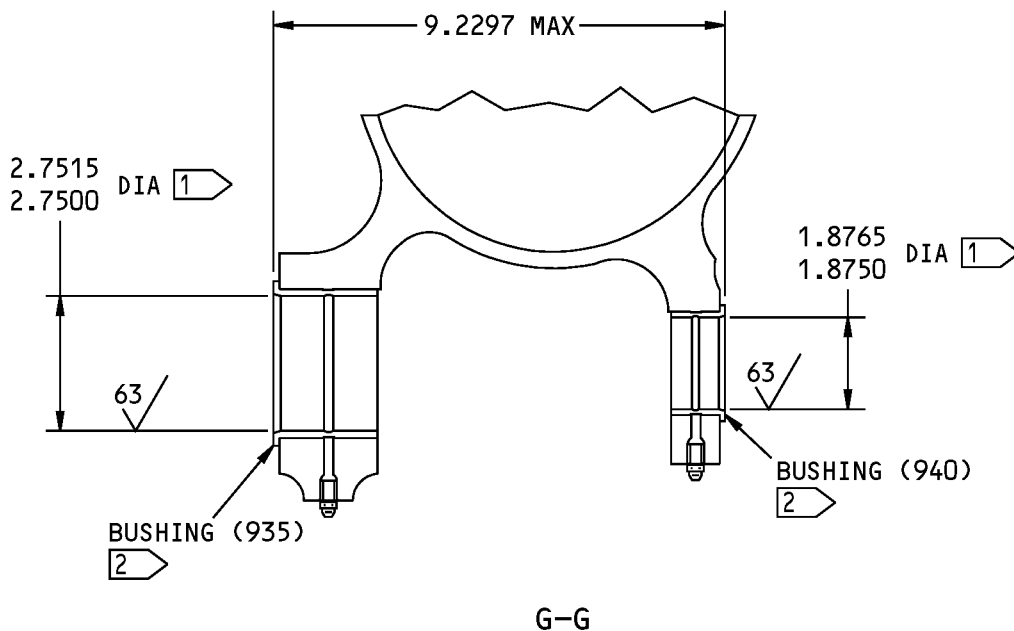
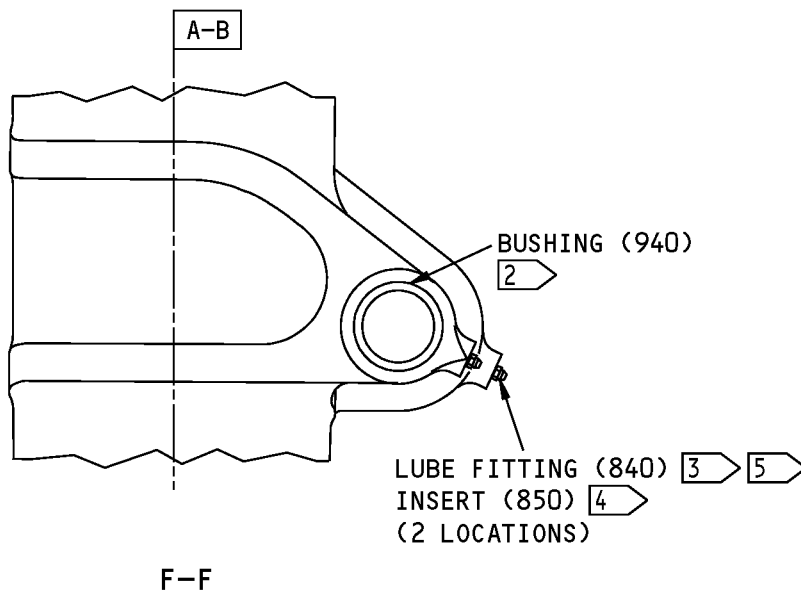
F90228 S0004996799_V5

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair Figure 601 (Sheet 10 of 26)

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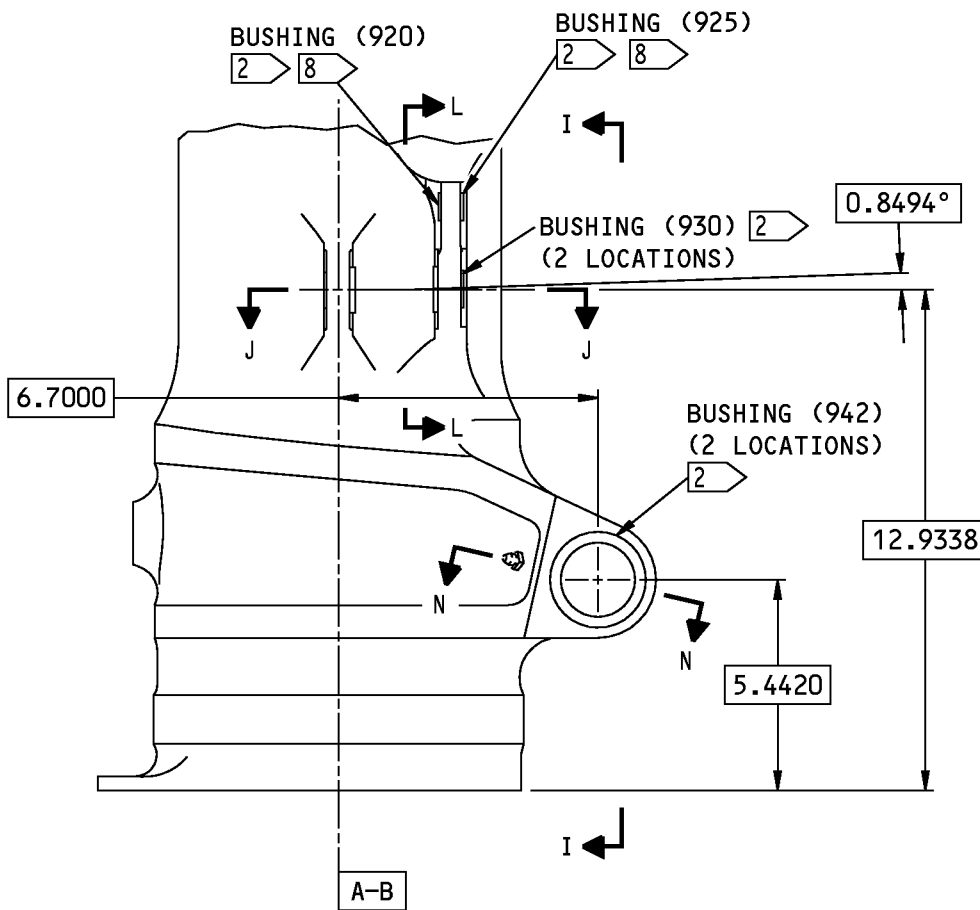


161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 11 of 26)

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ROTATED 4.0445° CLOCKWISE
H-H

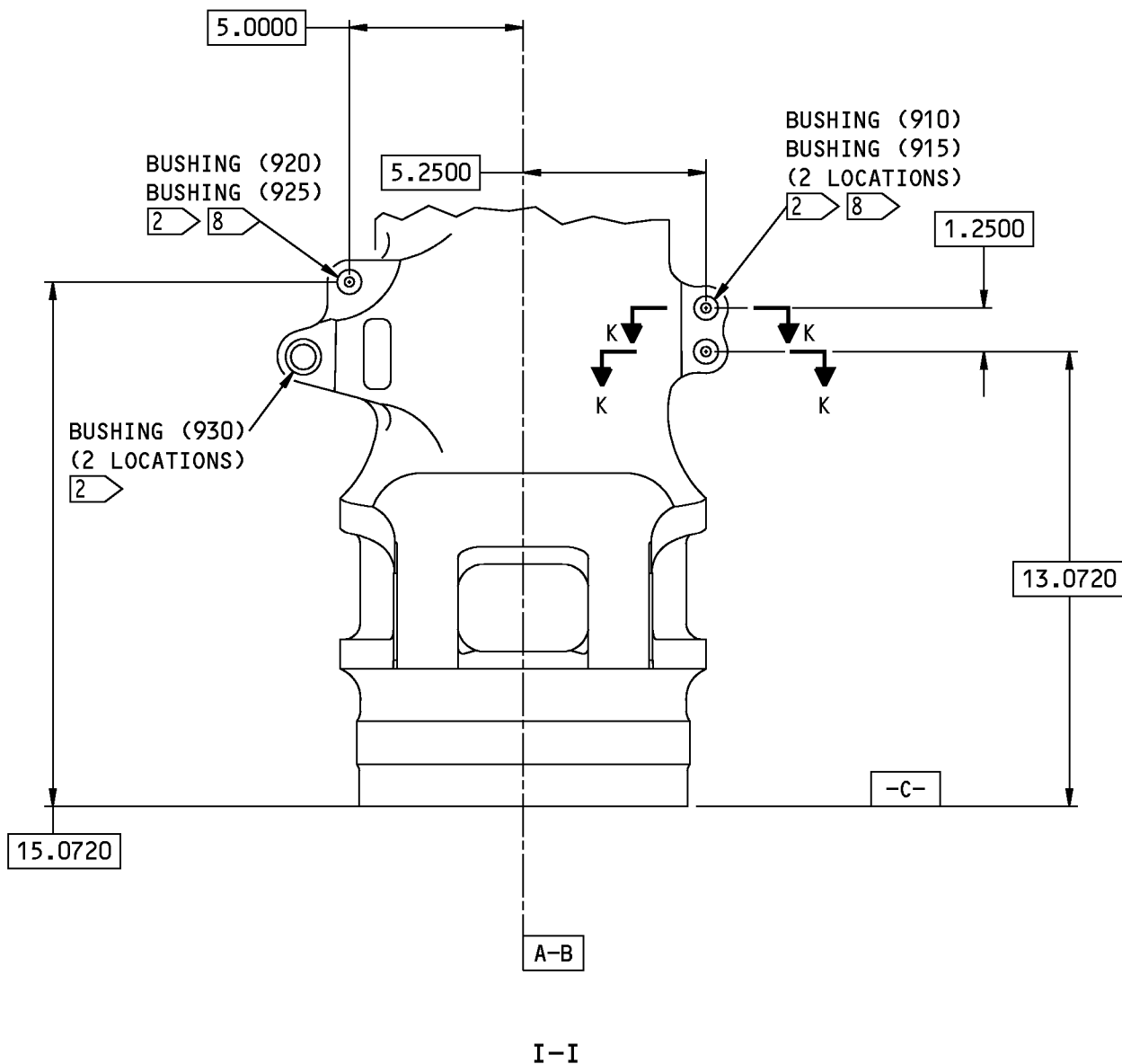
F90629 S0004996801_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 12 of 26)

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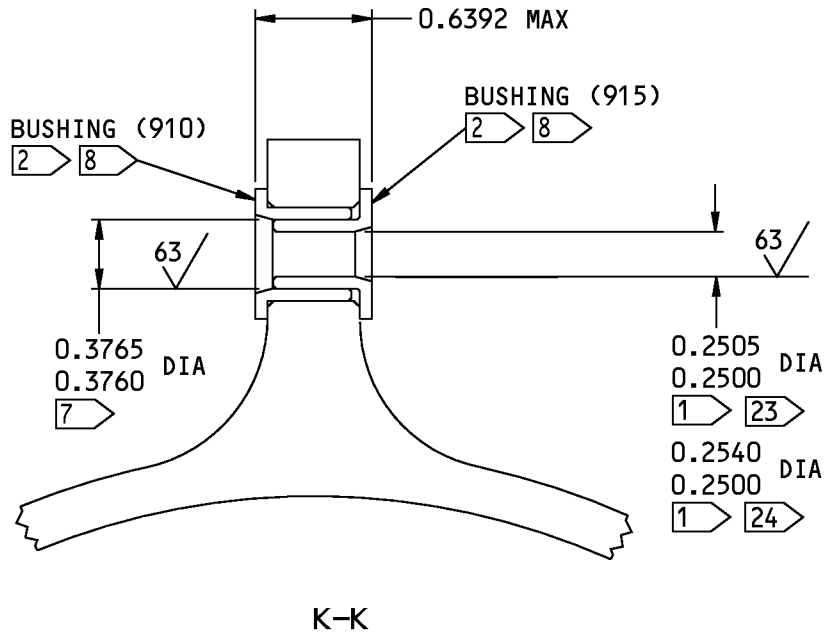
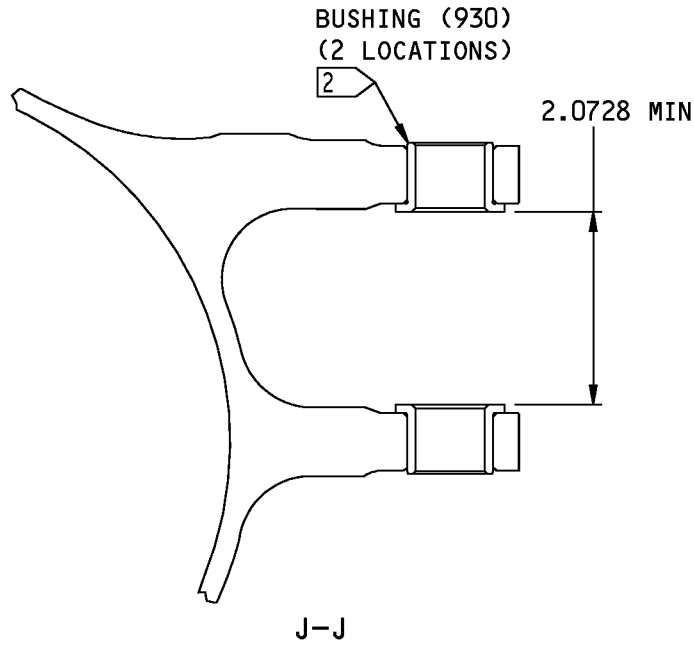
F91188 S0004996802_V2

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17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 13 of 26)

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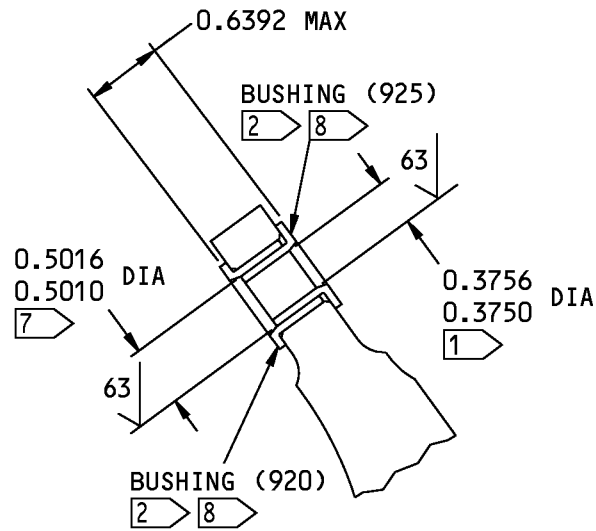
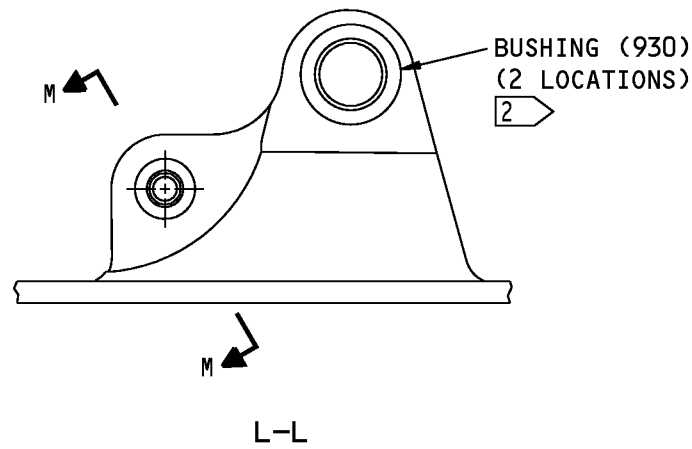
F91513 S0004996803_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 14 of 26)

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161A1110-1,-2,-5,-6;
 161A1116-1,-2,-5,-6,-9,-10,-13,-14;
 161A1118-1,-2,-5,-6
 M-M

F91716 S0004996804_V2

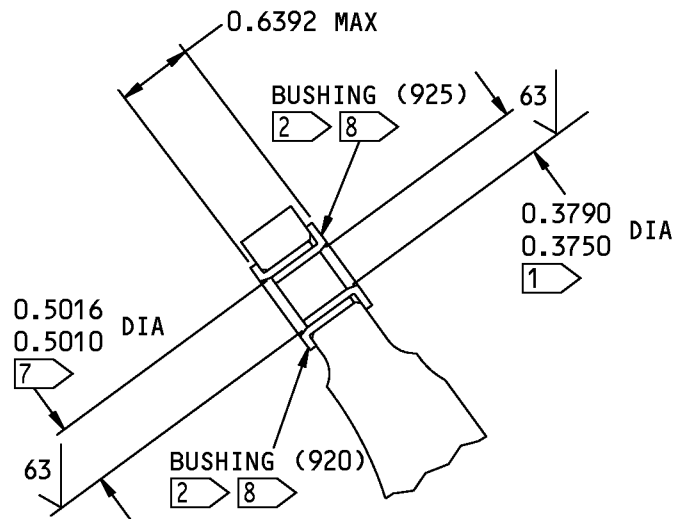
161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
 Figure 601 (Sheet 15 of 26)

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161A1110-9,-10,-13,-14;
 161A1118-9,-10,-13,-14,-17,-18
 M-M

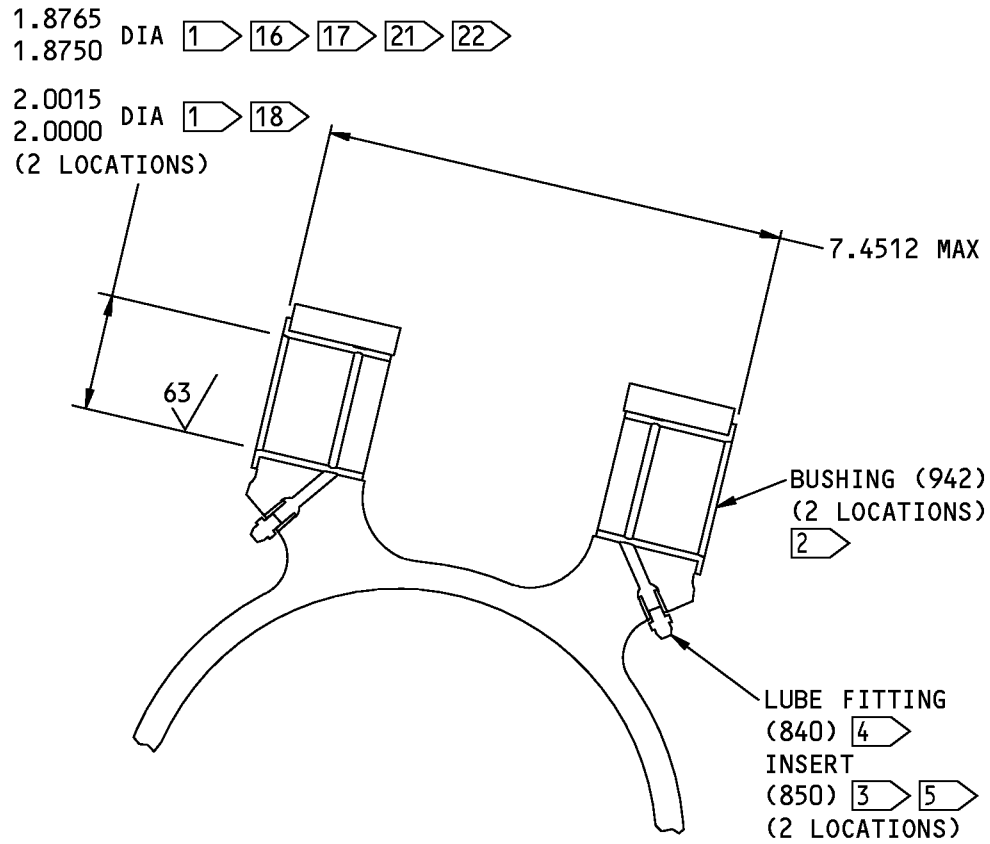
1508210 S0000274853_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-
 17,-18 Outer Cylinder Assembly Repair
 Figure 601 (Sheet 16 of 26)

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N-N

F91731 S0004996805_V3

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-
17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 17 of 26)

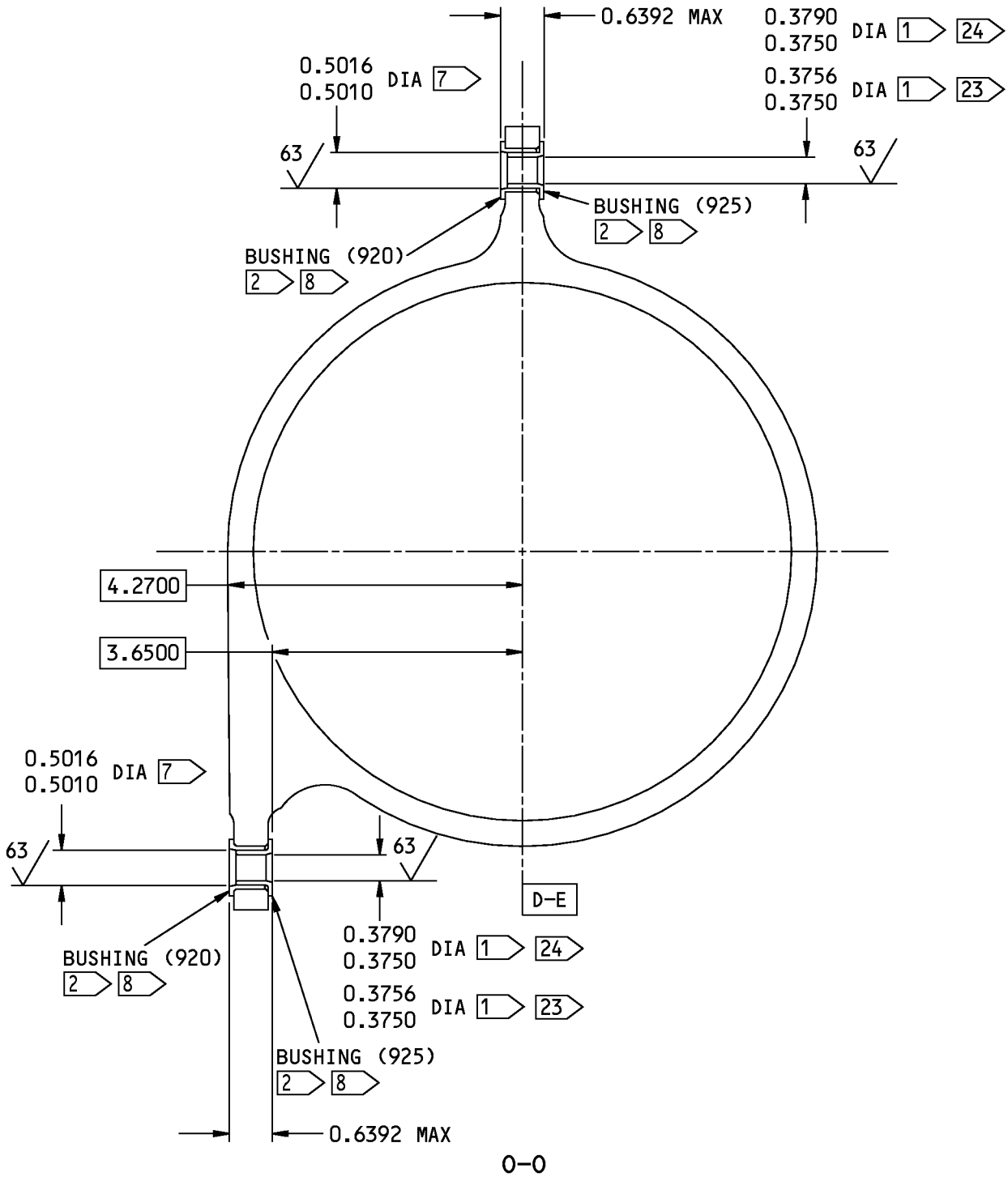
32-11-12

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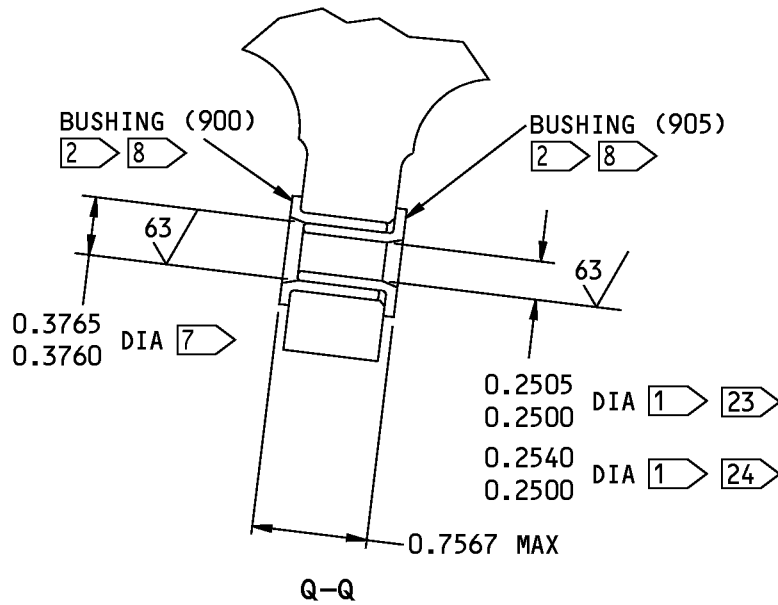
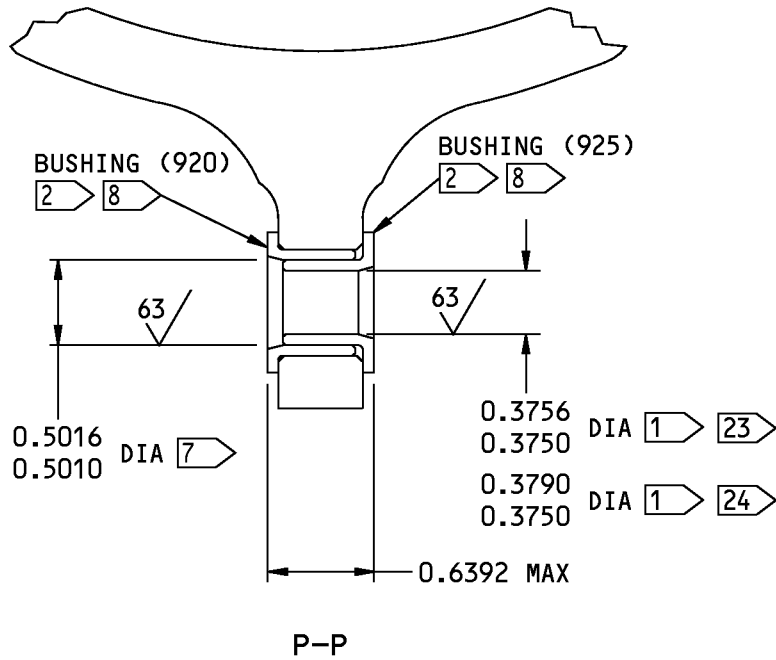
F91794 S0004996806_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair Figure 601 (Sheet 18 of 26)

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F91948 S0004996807_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 19 of 26)

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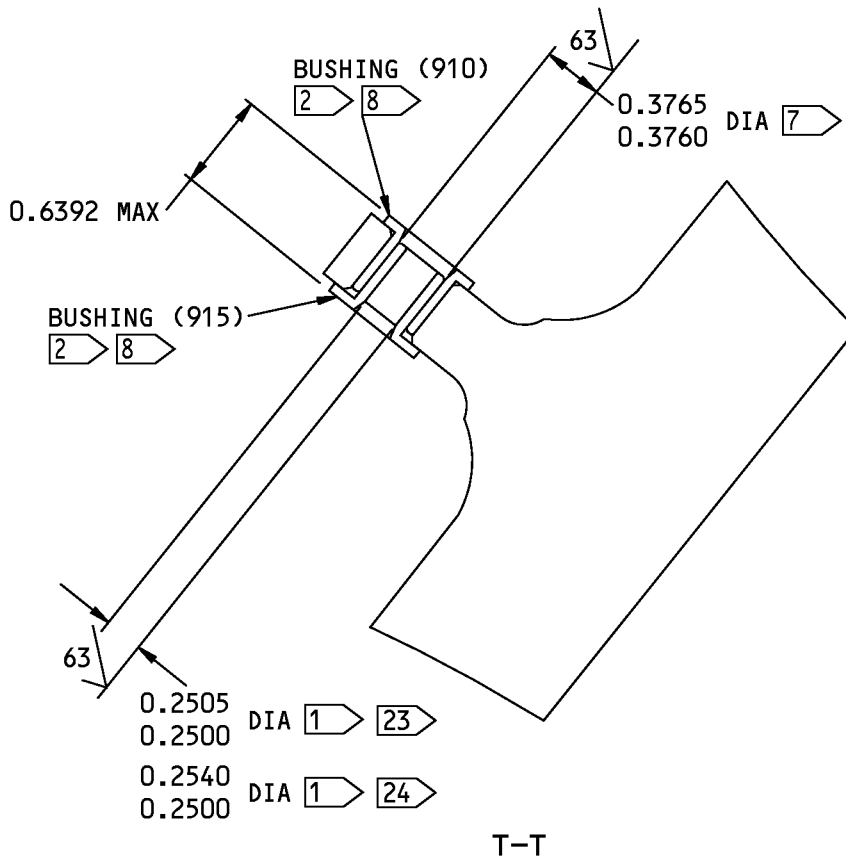
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F91953 S0004996809_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 21 of 26)

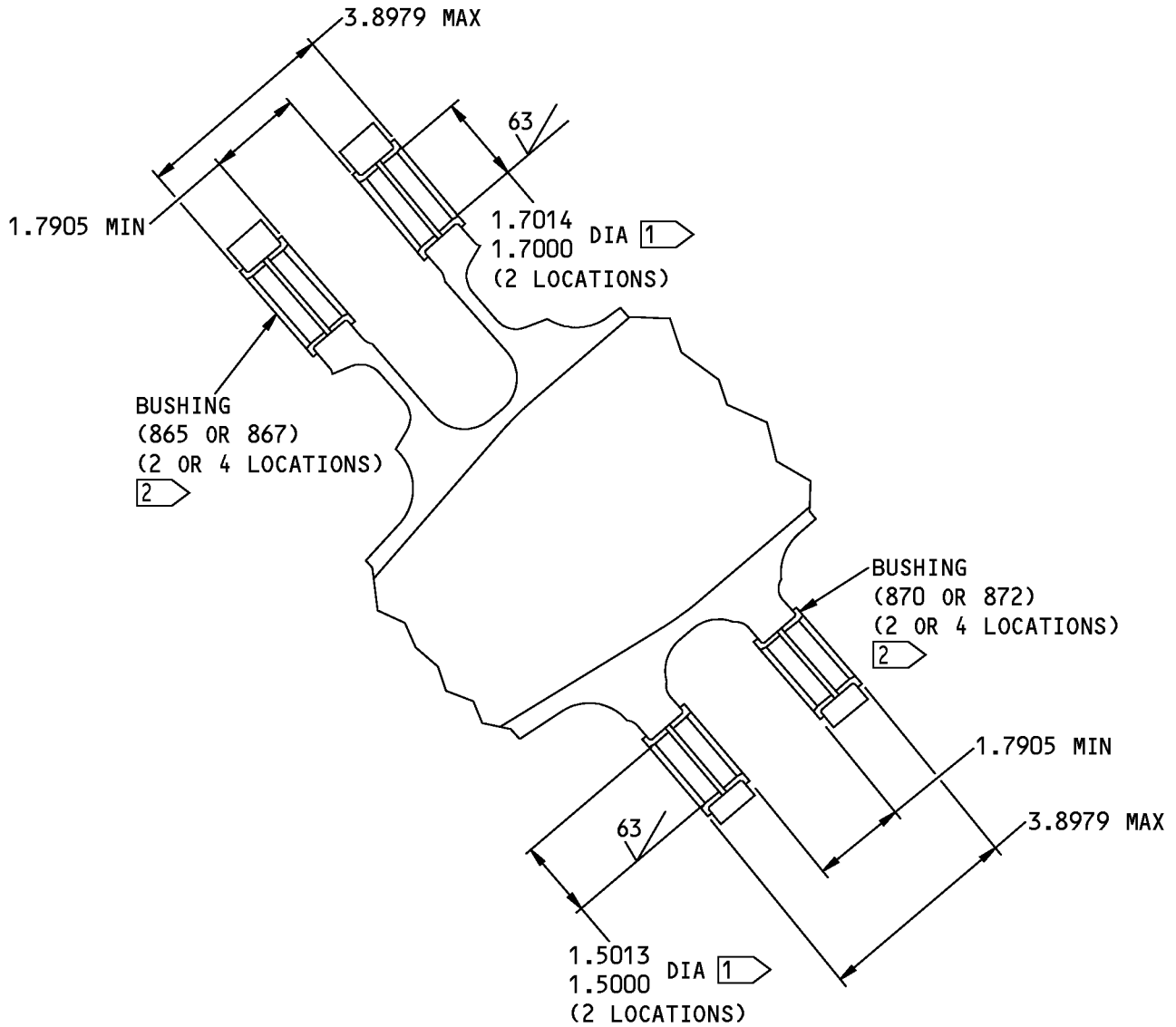
32-11-12

REPAIR 3-1

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161A1110-1,-2,-5,-6,-9,-10,-13,-14;
 161A1116-1,-2,-5,-6,-9,-10;
 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18
 U-U

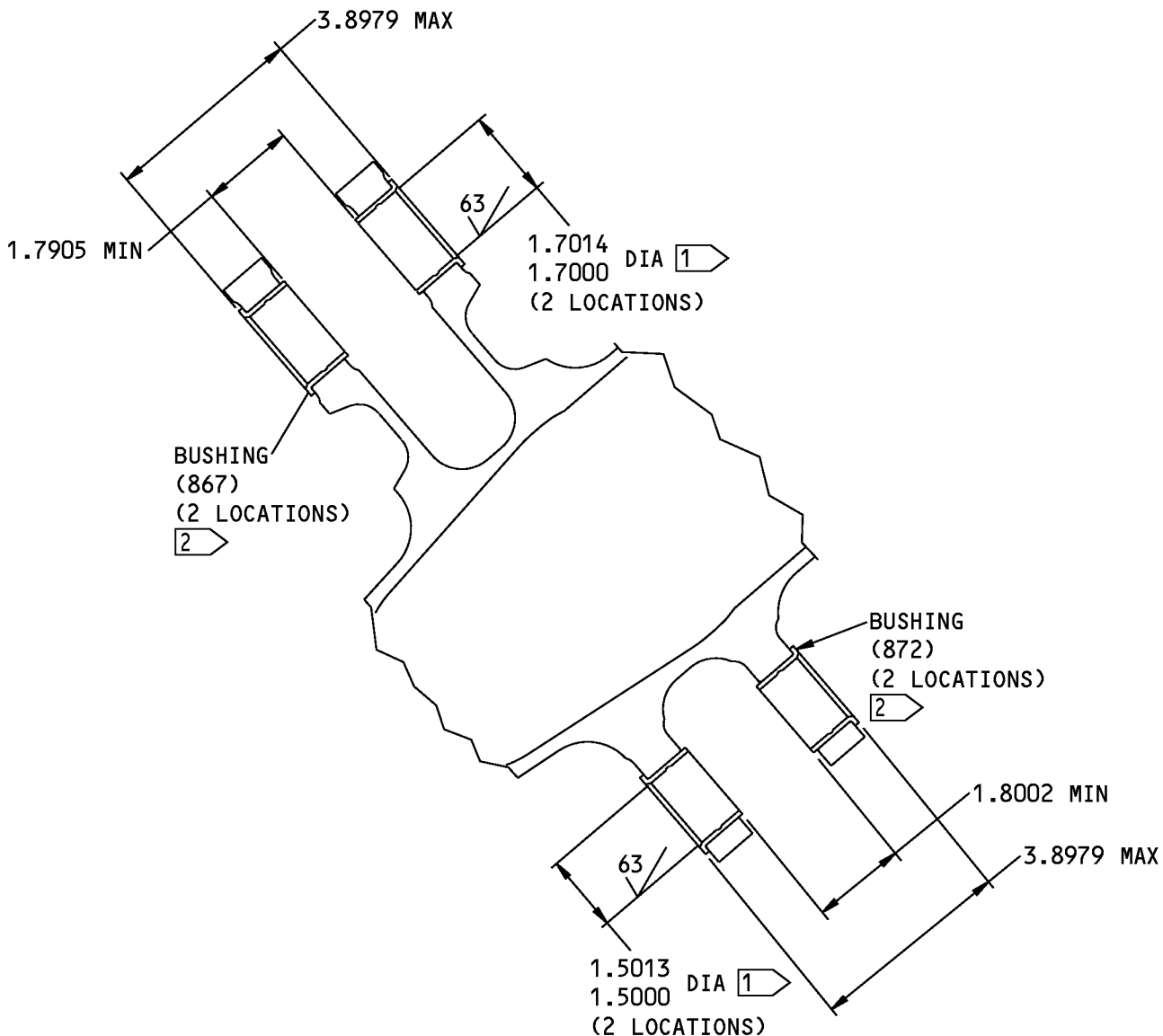
F91952 S0004996810_V2

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair Figure 601 (Sheet 22 of 26)

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161A1116-13,-14 AND CONFIGS POST SB 32-1393
U-U

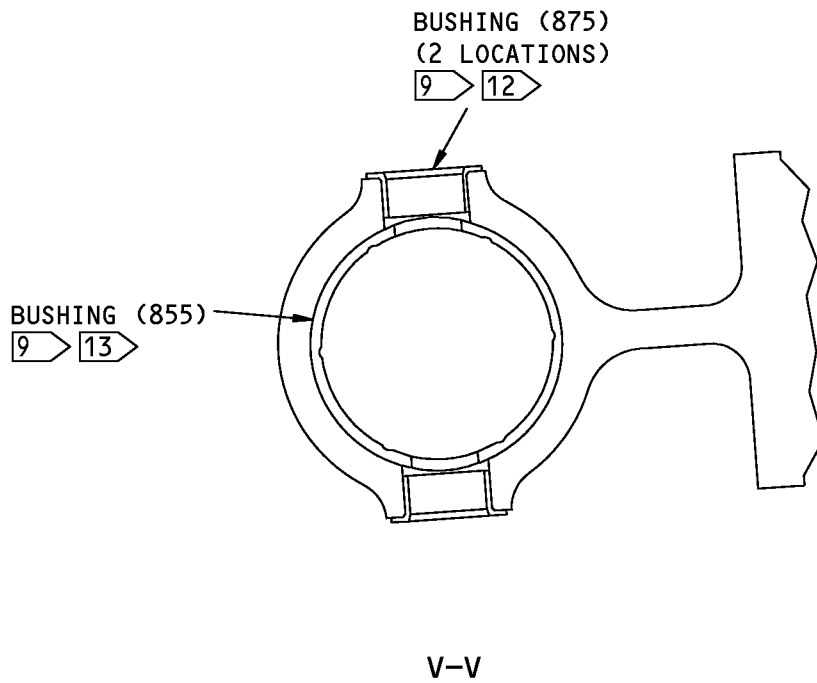
1508464 S0000274860_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-
17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 23 of 26)

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161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
Figure 601 (Sheet 24 of 26)

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- 1 > INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY
- 2 > INSTALL THE BUSHINGS WITH THE SHRINK-FIT PROCEDURE WITH BMS 3-38 COMPOUND (BMS 3-27 COMPOUND AND BMS 5-95 SEALANT ARE OPTIONAL TO BMS 3-38 COMPOUND FOR 16 > AND 17 >). AFTER BUSHING INSTALLATION AND BEFORE THE SEALANT DRIES, REMOVE UNWANTED SEALANT FROM THE GAP (WHERE APPLICABLE) BETWEEN THE BUSHINGS
- 3 > AFTER BUSHING INSTALLATION AND BEFORE THE SEALANT DRIES, APPLY GREASE TO THE LUBE FITTING UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER
- 4 > USE THE SHRINK-FIT PROCEDURE TO INSTALL THE THREADED INSERT WITH BMS 3-38 COMPOUND (BMS 3-27 COMPOUND AND BMS 5-95 SEALANT ARE OPTIONAL TO BMS 3-38 COMPOUND FOR 16 > AND 17 >). INSTALL THE INSERT FLUSH WITH THE PART SURFACE WITHIN ± 0.0200
- 5 > TIGHTEN TO 25-30 POUND-INCHES
- 6 > TIGHTEN TO 25-30 POUND-INCHES. LOOSEN TO FITTING POSITION SHOWN
- 7 > INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY BEFORE YOU INSTALL THE INSIDE BUSHING
- 8 > THE DIRECTION OF THE OVERLAPPING BUSHINGS IS OPTIONAL
- 9 > AFTER BUSHING INSTALLATION, ADJUST THE CROSS HOLE IN THE TRUNNION PIN BUSHING TO ALIGN WITH THE BORES OF THE TRUNNION CROSS PIN BUSHING. KEEP A 63 MICROINCH SURFACE FINISH
- 10 > USE BMS 5-95 SEALANT TO FILLET SEAL BOTH ENDS OF THE BUSHINGS. COVER THE ENDS OF THE BUSHINGS WITH THE SEALANT, BUT NOT THE 6 LUBE GROOVES AT THE FORWARD END OF THE TRUNNION
- 11 > USE BMS 5-95 SEALANT TO FILLET SEAL BOTH ENDS OF THE BUSHINGS. COVER THE ENDS OF THE BUSHINGS WITH THE SEALANT, BUT NOT THE 6 LUBE GROOVES AT THE AFT END OF THE TRUNNION
- 12 > USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHINGS WITH BMS 3-38 COMPOUND (BMS 3-27 COMPOUND IS OPTIONAL TO BMS 3-38 COMPOUND FOR 16 > AND 17 >). MAKE SURE THE GAP BETWEEN THE BUSHINGS IS FILLED WITH THE COMPOUND. REMOVE THE UNWANTED COMPOUND AROUND THE BUSHING FLANGE. SOLVENT CLEAN THE FLANGE (SOPM 20-30-03). FILLET SEAL BY THE 69B13372 METHOD IN SOPM 20-50-19
- 13 > USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHING WITH BMS 3-38 COMPOUND (BMS 3-27 COMPOUND IS OPTIONAL TO BMS 3-38 COMPOUND FOR 16 > AND 17 >). MAKE SURE THE CROSS BOLT HOLE IN THE BUSHING ALIGNS WITH THE CROSS BOLT HOLE IN THE OUTER CYLINDER. REMOVE UNWANTED BMS 3-38 COMPOUND. SOLVENT CLEAN (SOPM 20-30-03). FILLET SEAL BY THE 69B13372 METHOD IN SOPM 20-50-19
- 14 > AFTER BUSHING INSTALLATION, APPLY BMS 3-27 COMPOUND AT THE LUBE FITTING UNTIL THE COMPOUND APPEARS AT THE BUSHING INNER DIAMETER

F86623 S0004996812_V4

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
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15 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE INSERT WITH BMS 3-27 COMPOUND. MAKE SURE THE INSERT IS FLUSH WITH THE PART SURFACE WITHIN ± 0.0200

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

16 161A1110-1,-2,-5,-6,-9,-10;
161A1116-1,-2,-5,-6,-9,-10

17 161A1118-1,-2,-5,-6,-9,-10

18 161A1118-13,-14

19 161A1118-1,-2,-5,-6

20 161A1118-9,-10

21 161A1110-13,-14;
161A1116-13,-14

22 161A1118-17,-18

23 161A1110-1,-2,-5,-6;
161A1116-1,-2,-5,-6;
161A1118-1,-2,-5,-6

24 161A1110-9,-10,-13,-14;
161A1116-9,-10,-13,-14;
161A1118-9,-10,-13,-14,-17,-18

1508359 S0000274856_V1

161A1110-1,-2,-5,-6,-9,-10,-13,-14; 161A1116-1,-2,-5,-6,-9,-10,-13,-14; 161A1118-1,-2,-5,-6,-9,-10,-13,-14,-17,-18 Outer Cylinder Assembly Repair
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OUTER CYLINDER - REPAIR 3-2

161A1110-3, -4, -7, -8, -11, -12, -15, -16, 161A1116-3, -4, -7, -8, -11, -12, -15, -16, 161A1118-3, -4, -7, -8, -11, -12, -15, -16, -19, -20

1. General

- A. Use this procedure to repair and refinish outer cylinder (945, 950).
- 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 Position Dimensioning Symbols shown in the repair figures.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: 4340M steel, 275-300 ksi
 - (2) Shot peen: All surfaces, but not in the lube holes
 - (a) Hard Shot Rc55-65
 - (b) Shot Size 0.016-0.033
 - (c) Intensity 0.014-0.018A2

2. Repair

A. References

Reference	Title
CMM 32-00-05	REPAIR OF HIGH-STRENGTH STEEL LANDING GEAR PARTS
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-42-10	LOW HYDROGEN EMBRITTLEMENT STYLUS CADMIUM PLATING
SOPM 20-60-02	FINISHING MATERIALS

B. Procedure (REPAIR 3-2, Figure 601)

NOTE: For machining of high strength steel, refer to SOPM 20-10-02 and CMM 32-00-05. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Barrel Surfaces

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Shot peen (SOPM 20-10-03) as indicated.

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- (c) Build up with chrome plate (SOPM 20-42-03) and grind (SOPM 20-10-04) to design dimensions and finish.
- (2) Lug Faces and Holes
- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Shot peen (SOPM 20-10-03) as indicated.
- (c) Make oversize bushings (REPAIR 3-2, Figure 602 and on), as necessary, to adjust for the material removed.
- NOTE:** Oversize equivalents of bushings (895, 905, 915, 925) are not necessary because the bore of the mating bushing is machined to design dimensions. Thus, standard bushings (see IPL) can be installed.
- (d) Install the bushings as specified in REPAIR 3-1.
- (3) Nitrogen Fill Valve Boss
- (a) Blend out defects from the boss face if they are outside the area shown by flagnote 25. Do not go deeper than 0.010 inch. Do not blend inside the area shown by flagnote 25.
- (b) Shot peen or flap peen the blended area (SOPM 20-10-03).
- (c) Stylus cadmium plate (SOPM 20-42-10) the blended surfaces. Then apply primer and enamel as specified in the Refinish instructions that follow and in REPAIR 3-1.
- (4) Gland Nut Threads
- (a) Blend out defects in the threads if the defects are not on more than 50% of the thread bearing surface, and if the blends will be on no more than 50% of the threads in any 3-inch segment circumferentially. You can do this blend repair on original or oversize threads.
- (b) For repair of defects more than the blend limits, cut the threads to the next larger size, as shown in Table B.
- 1) Get a gland nut with oversize threads to agree with the oversize threads on the outer cylinder.
 - 2) Keep this gland nut with this outer cylinder and identify them as a non-interchangeable matched set.

3. Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A50193	Sealant - Pressure And Environmental-Chromate (For Spray Application As A Primer)	BMS 5-95 Type I, Class F
B00571	Coating - Clear Hydraulic Fluid Resistant Topcoat	BAC5710, Type 41
C00032	Coating - Exterior Protective Enamel, General Use	BMS10-60, Type I
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II

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Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I
G50346	Compound - Corrosion Preventive	BMS 3-26 Type 2

B. Procedure

- (1) Unless shown differently, cadmium-titanium plate (F-15.01). Apply primer, C00175, Compound, G50346 or compound, C50001, enamel coating, C00032, enamel coating, C00033, clear coating, B00571 and sealant, A50193 as indicated.

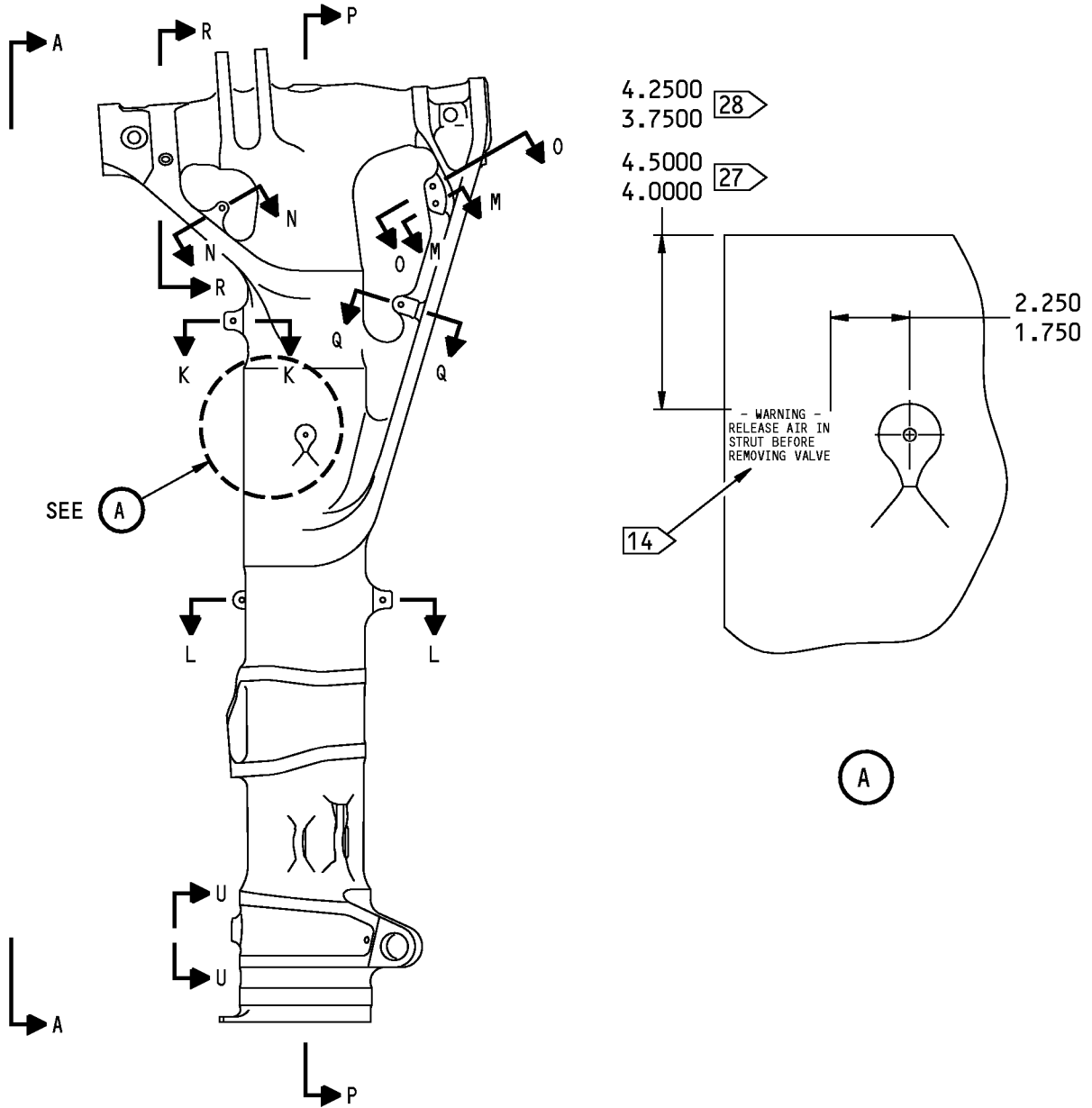
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161A1110-3 SHOWN

161A1110-7,-11,-15; 161A1116-(ODD); 161A1118-(ODD) SIMILAR

161A1110-4,-8,-12,-16; 161A1116-(EVEN); 161A1118-(EVEN) OPPOSITE

F91956 S0004996816_V4

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 1 of 23)

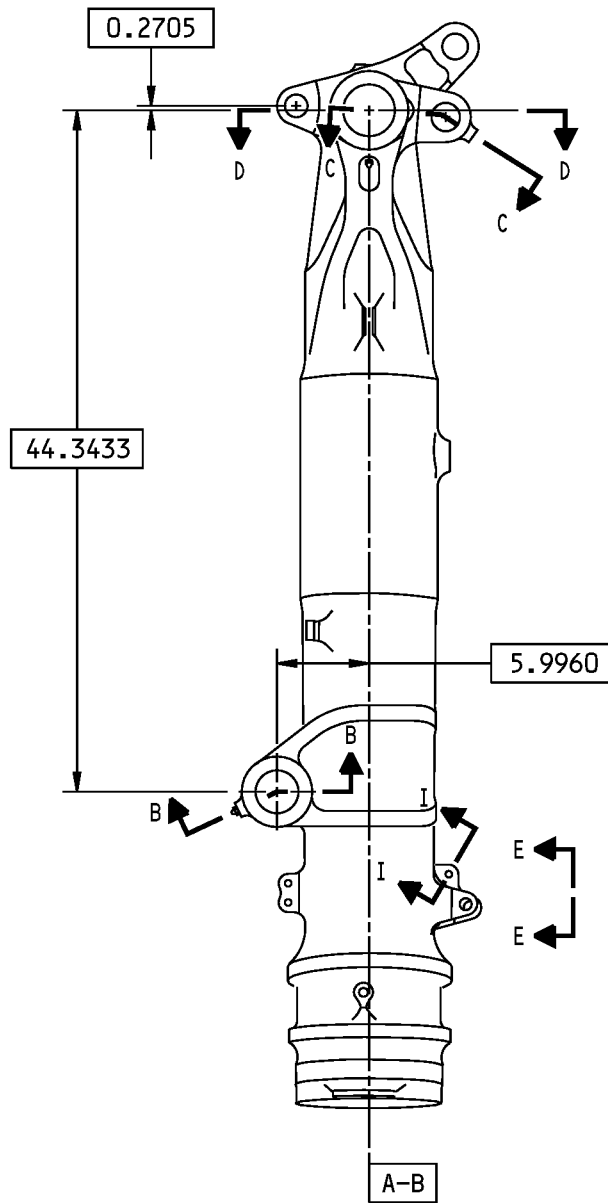
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A-A

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 2 of 23)

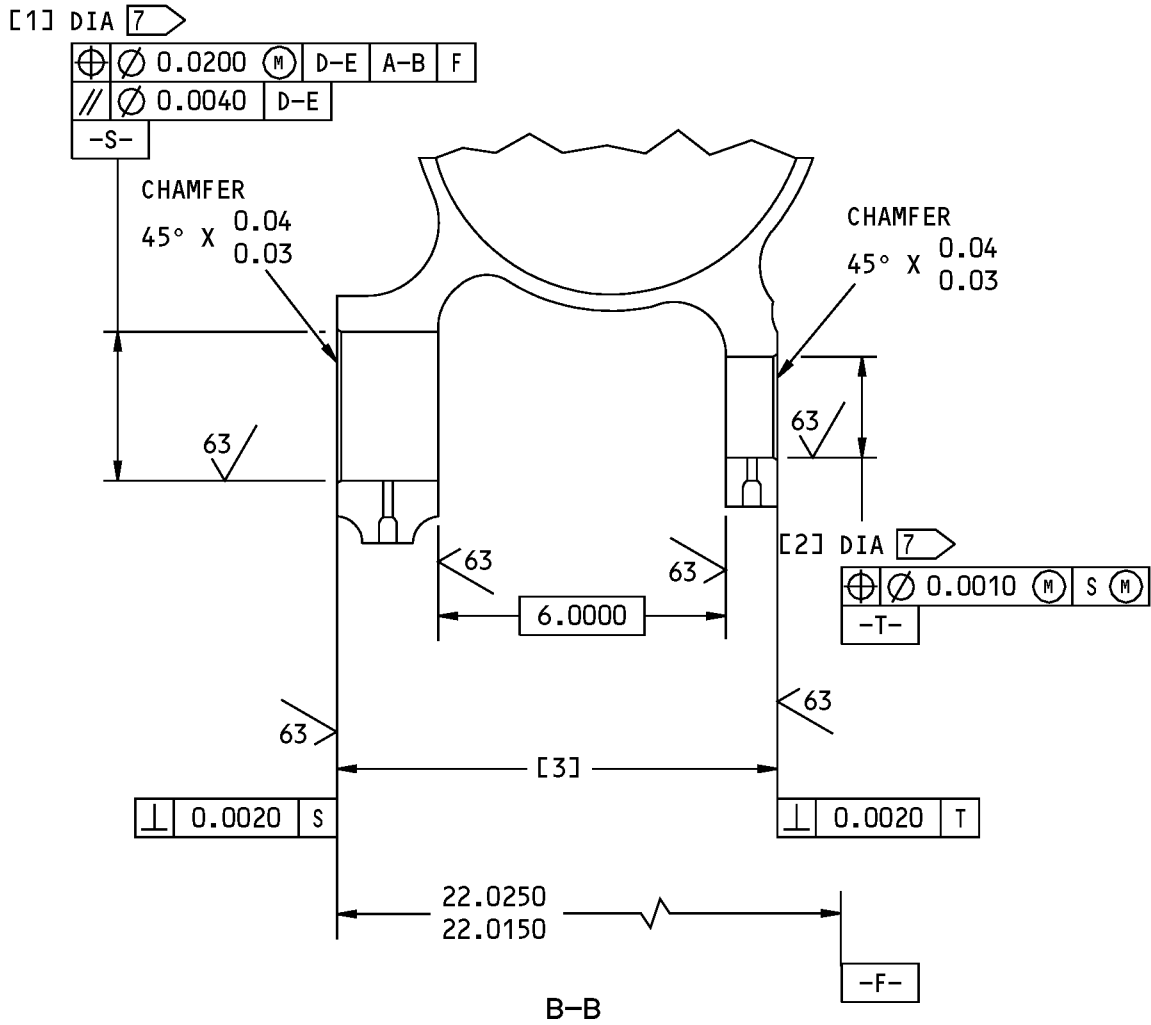
32-11-12

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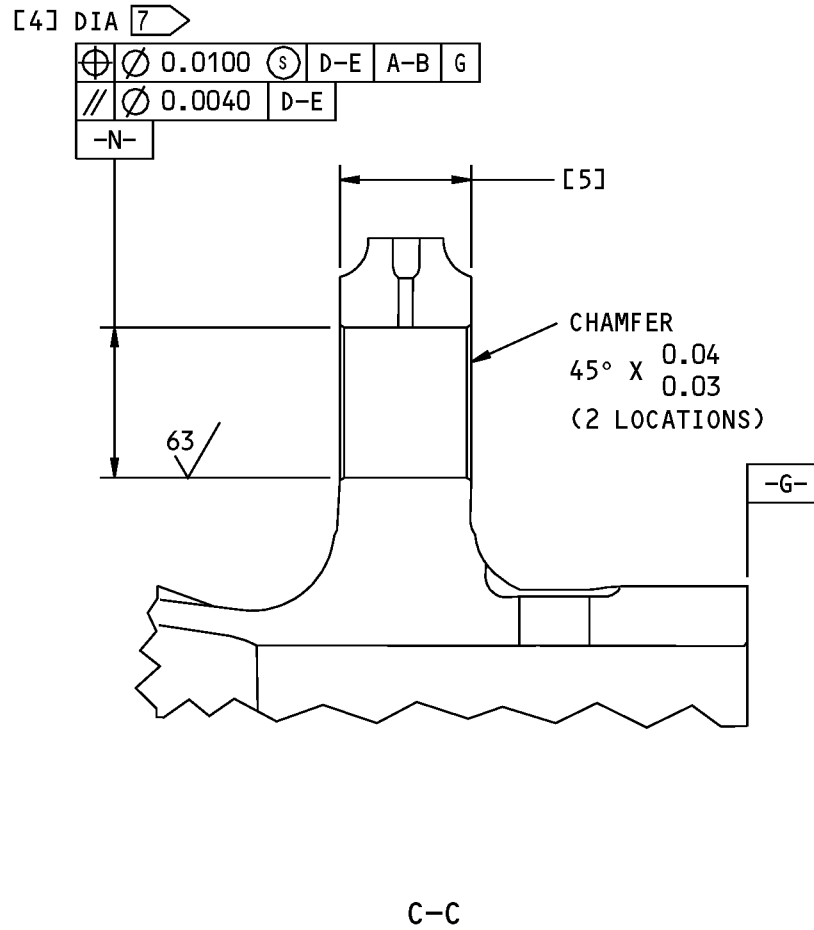


161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 3 of 23)

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161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 4 of 23)

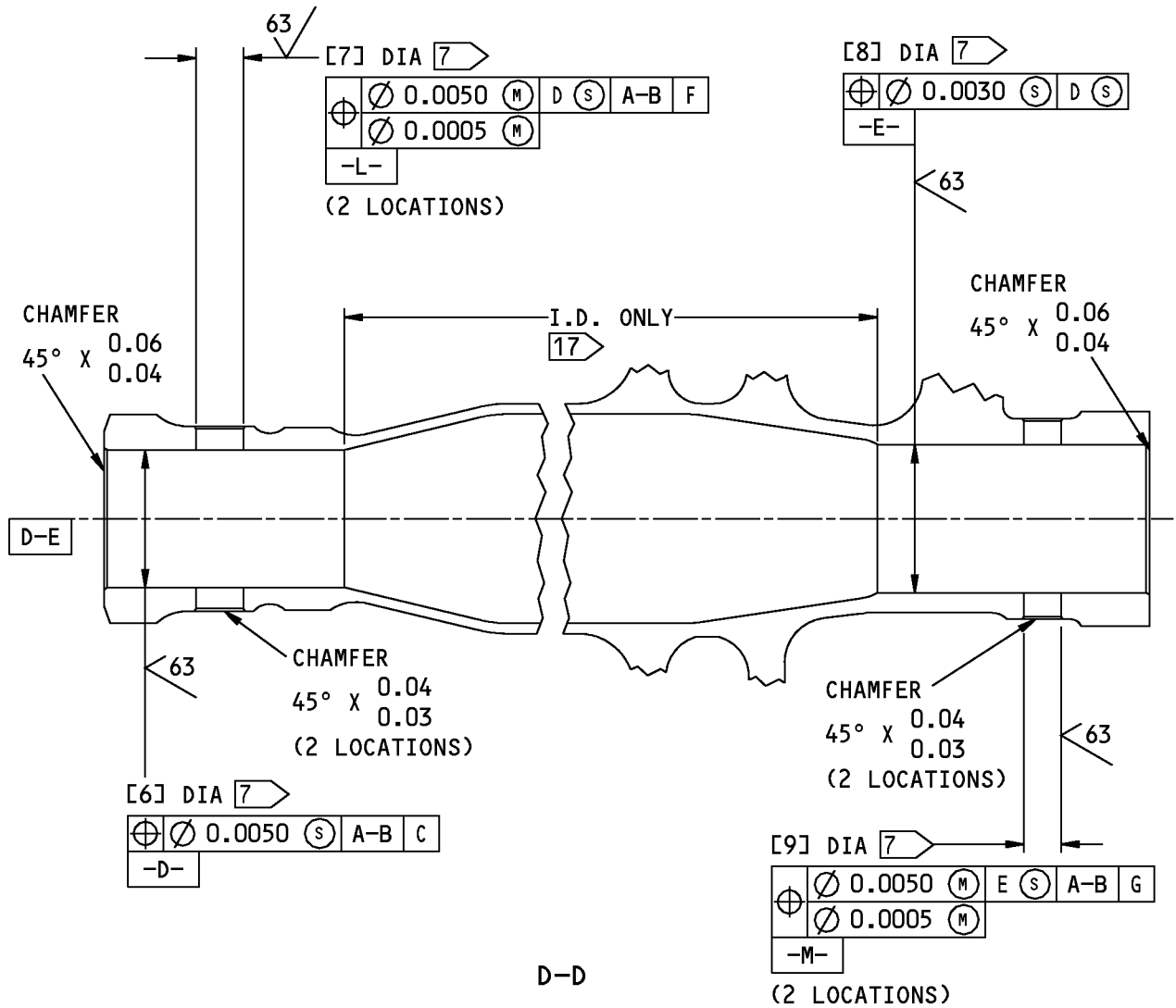
32-11-12

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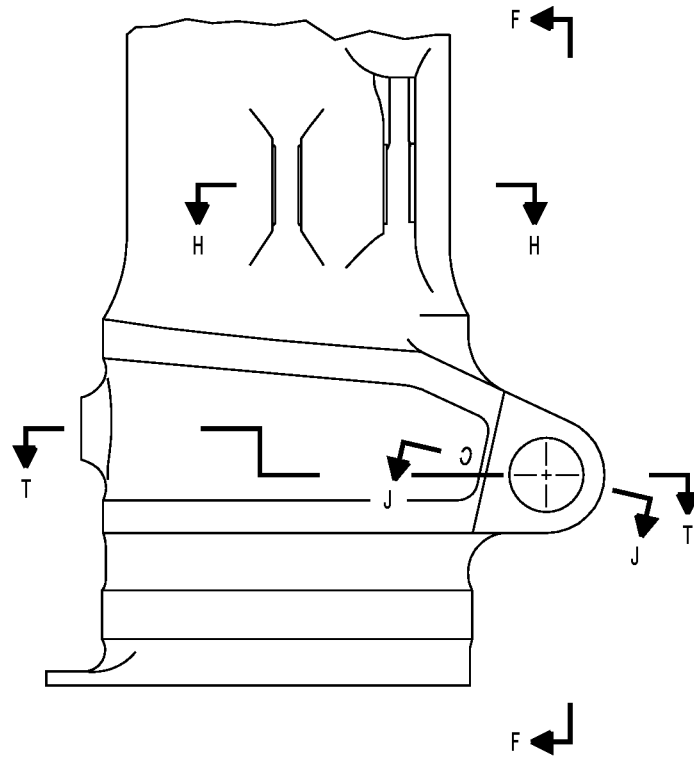
F93818 S0004996820_V2

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Figure 601 (Sheet 5 of 23)

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E-E

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 6 of 23)

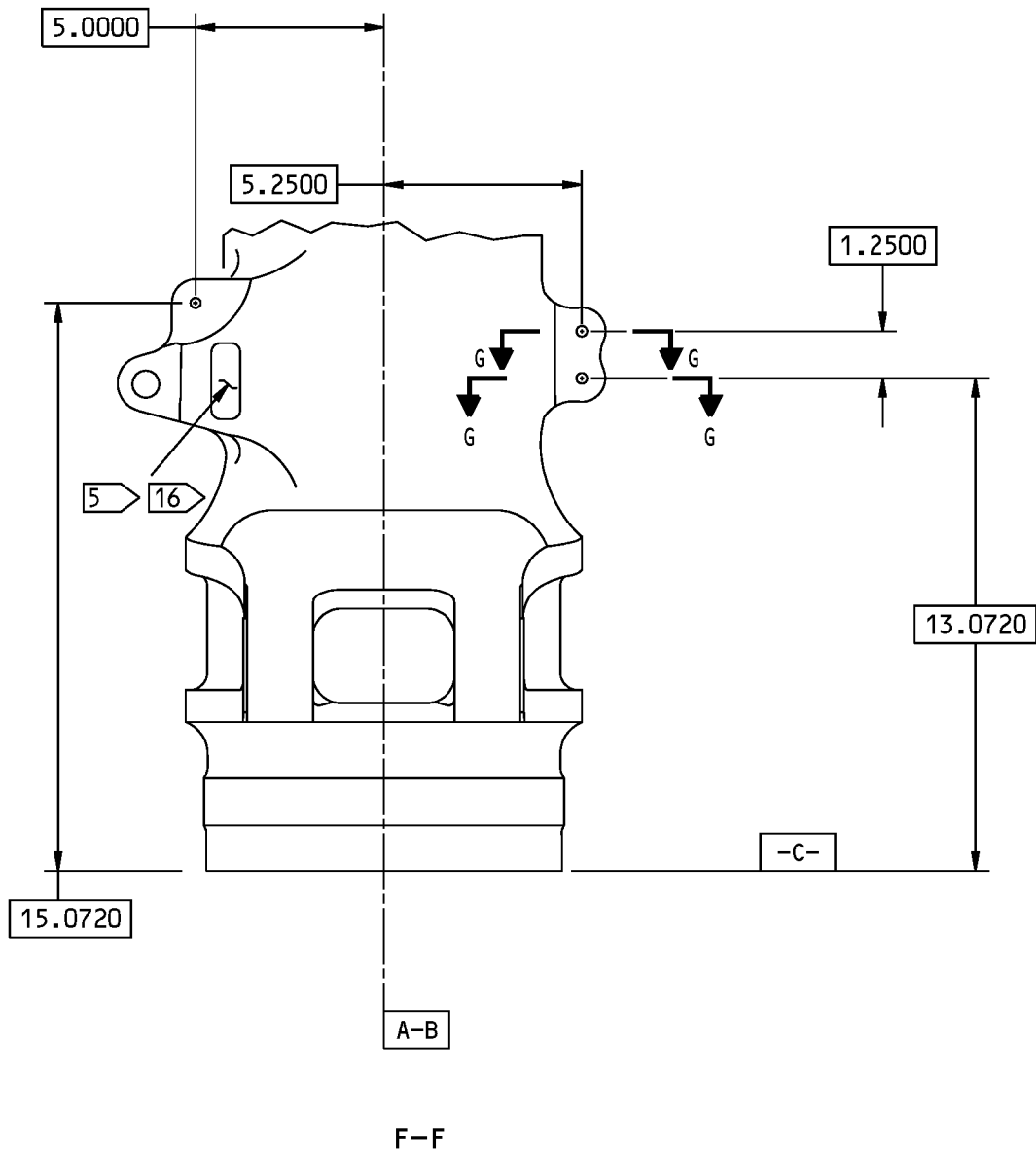
32-11-12

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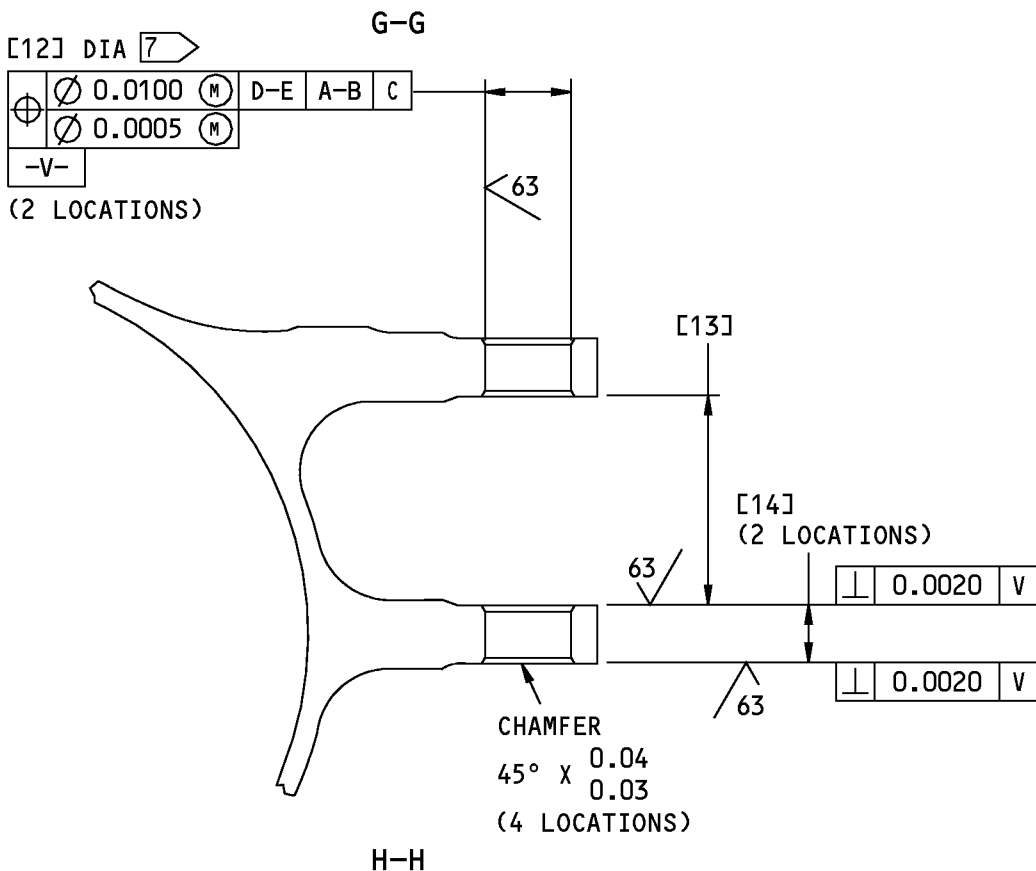
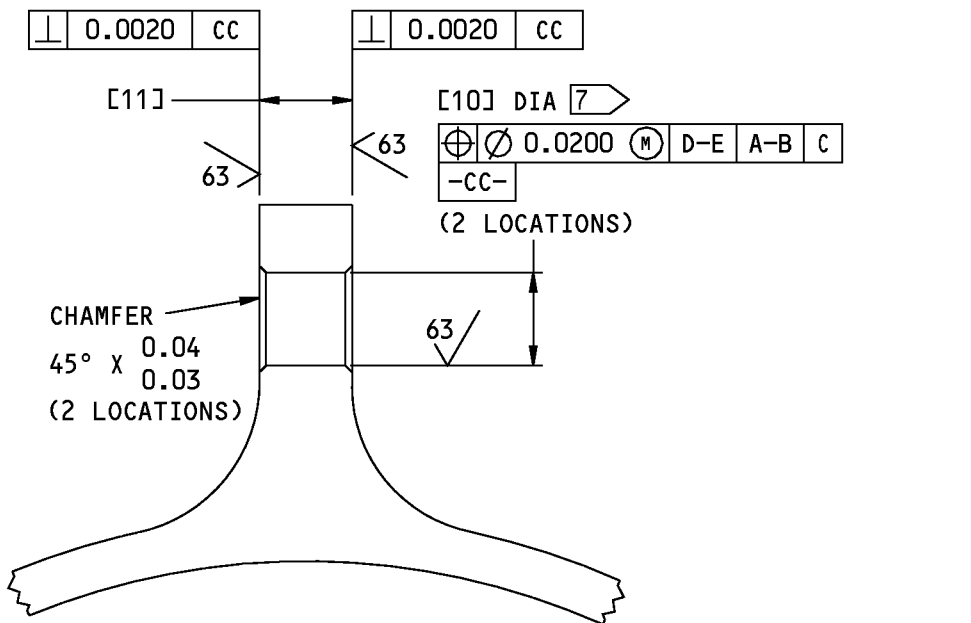
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Figure 601 (Sheet 7 of 23)

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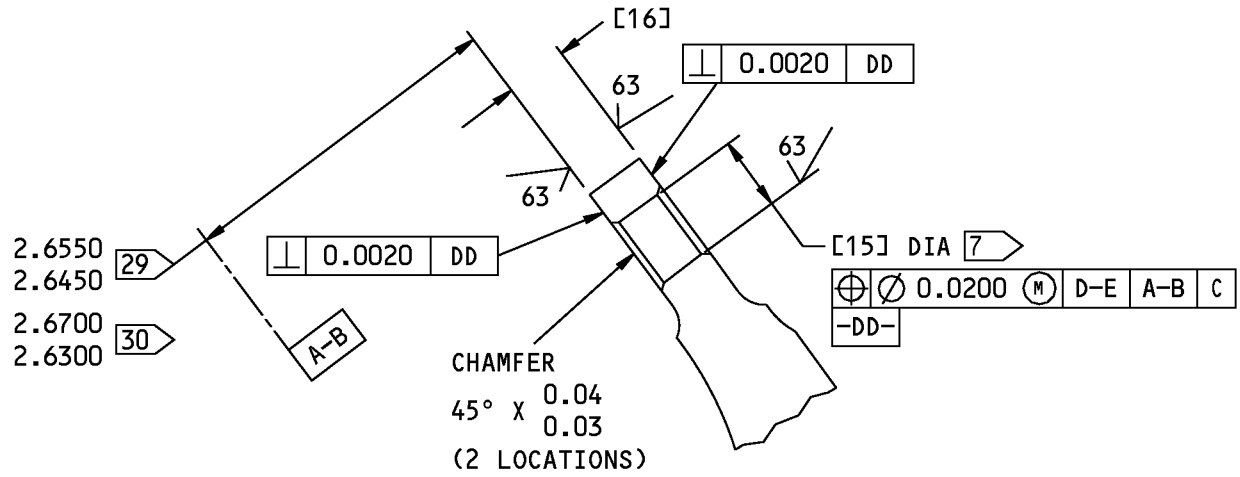
F94197 S0004996823_V2

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Figure 601 (Sheet 8 of 23)

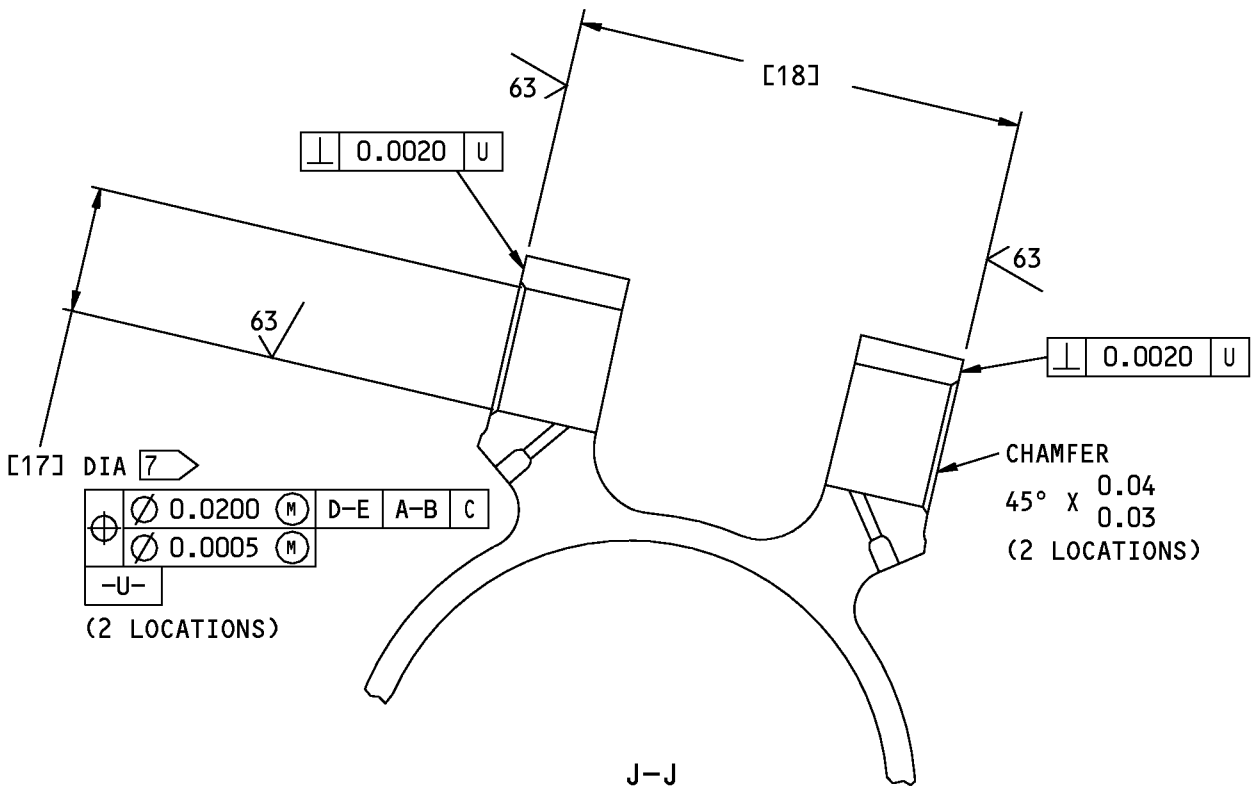
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I-I



J-J

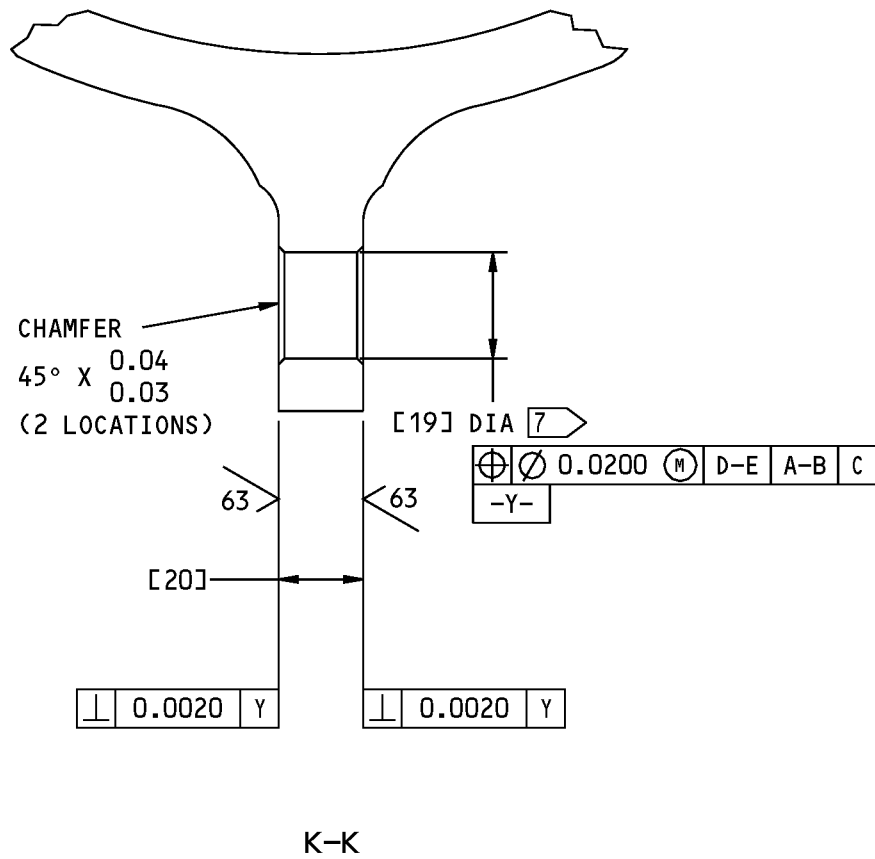
F94222 S0004996824_V3

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Figure 601 (Sheet 9 of 23)

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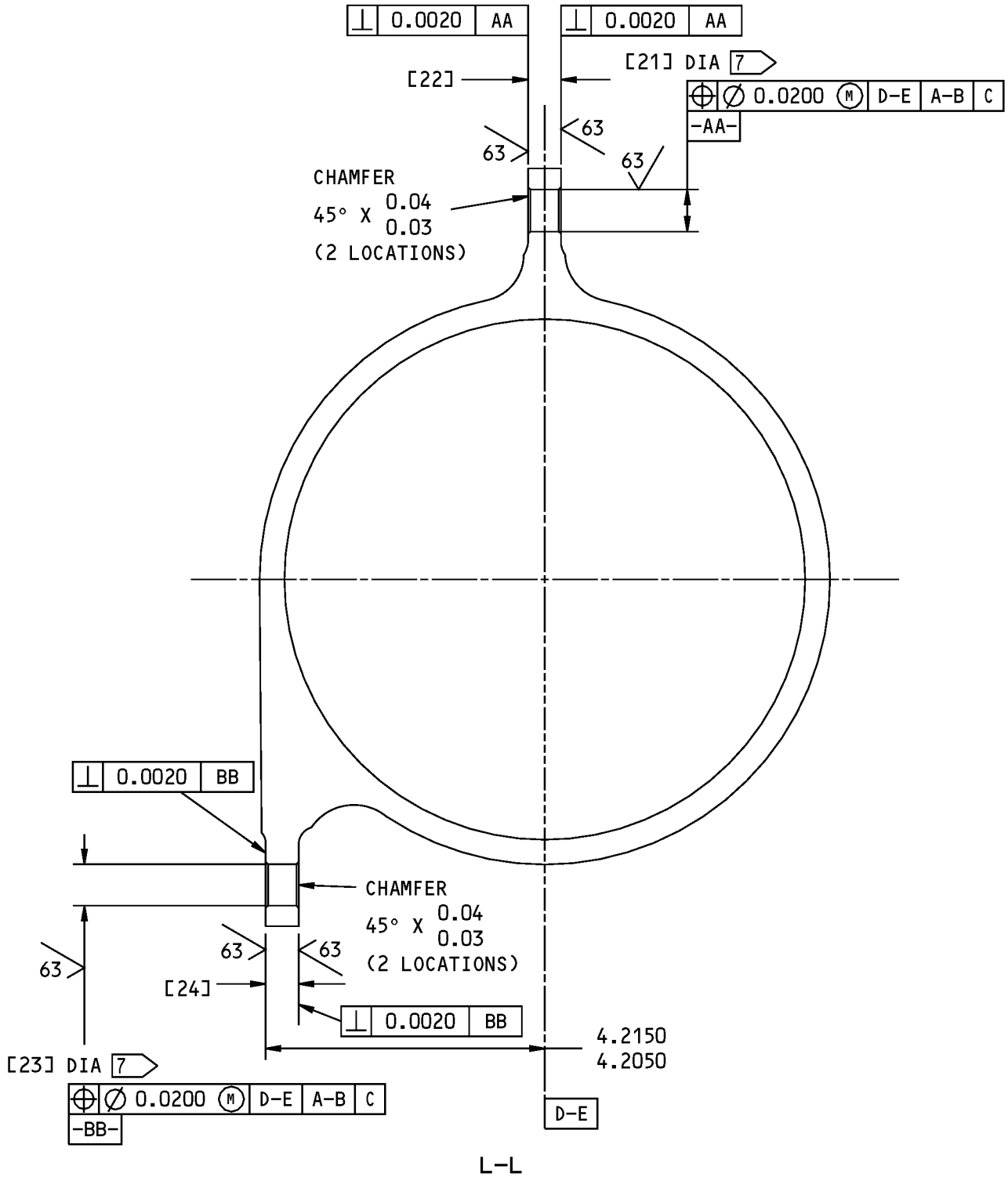


161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 10 of 23)

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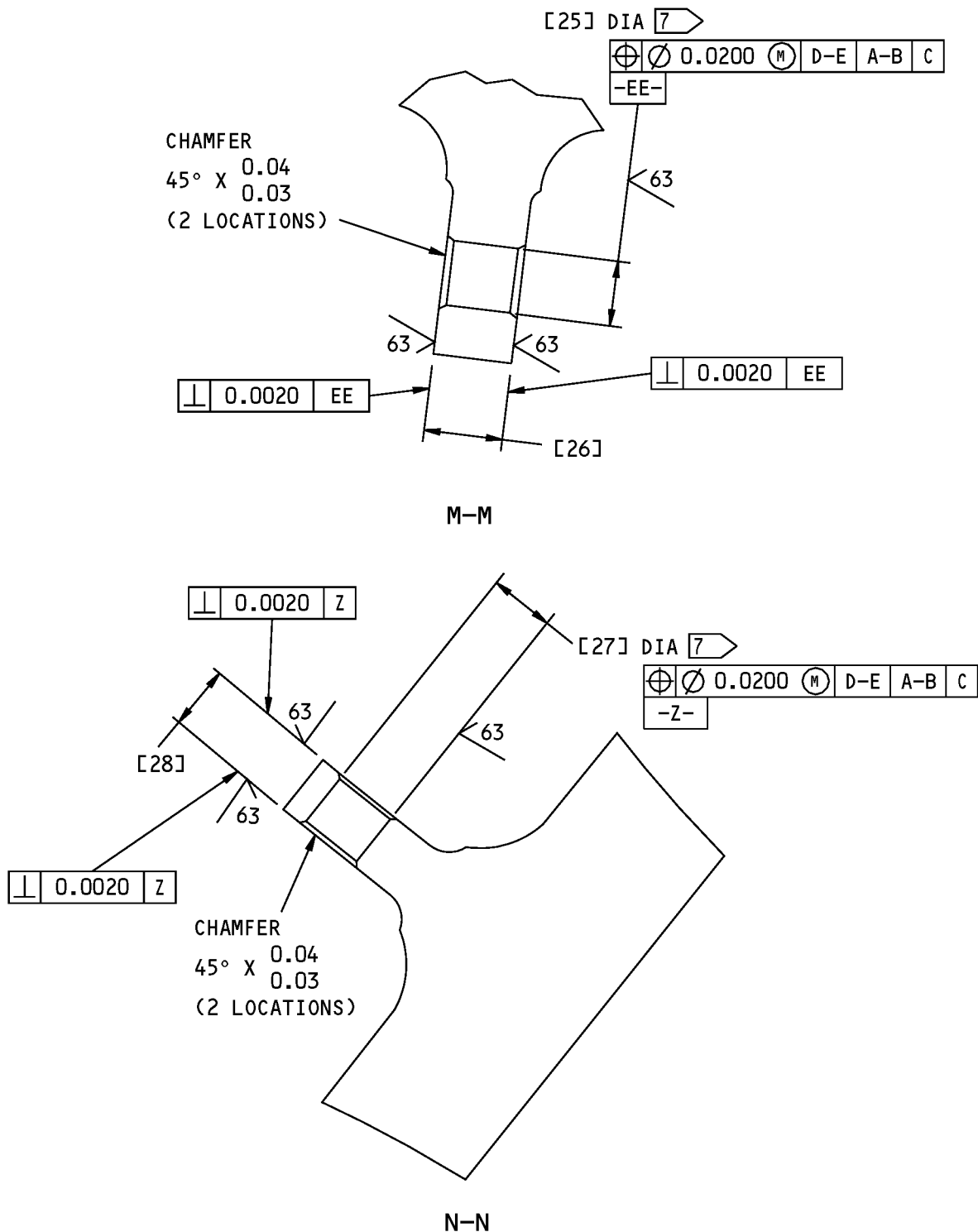


161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair Figure 601 (Sheet 11 of 23)

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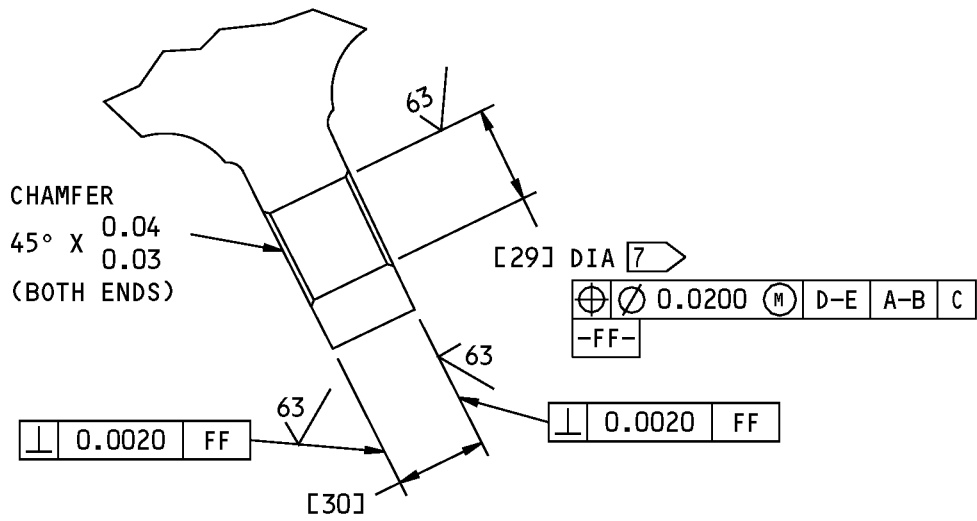
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Figure 601 (Sheet 12 of 23)

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0-0

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 13 of 23)

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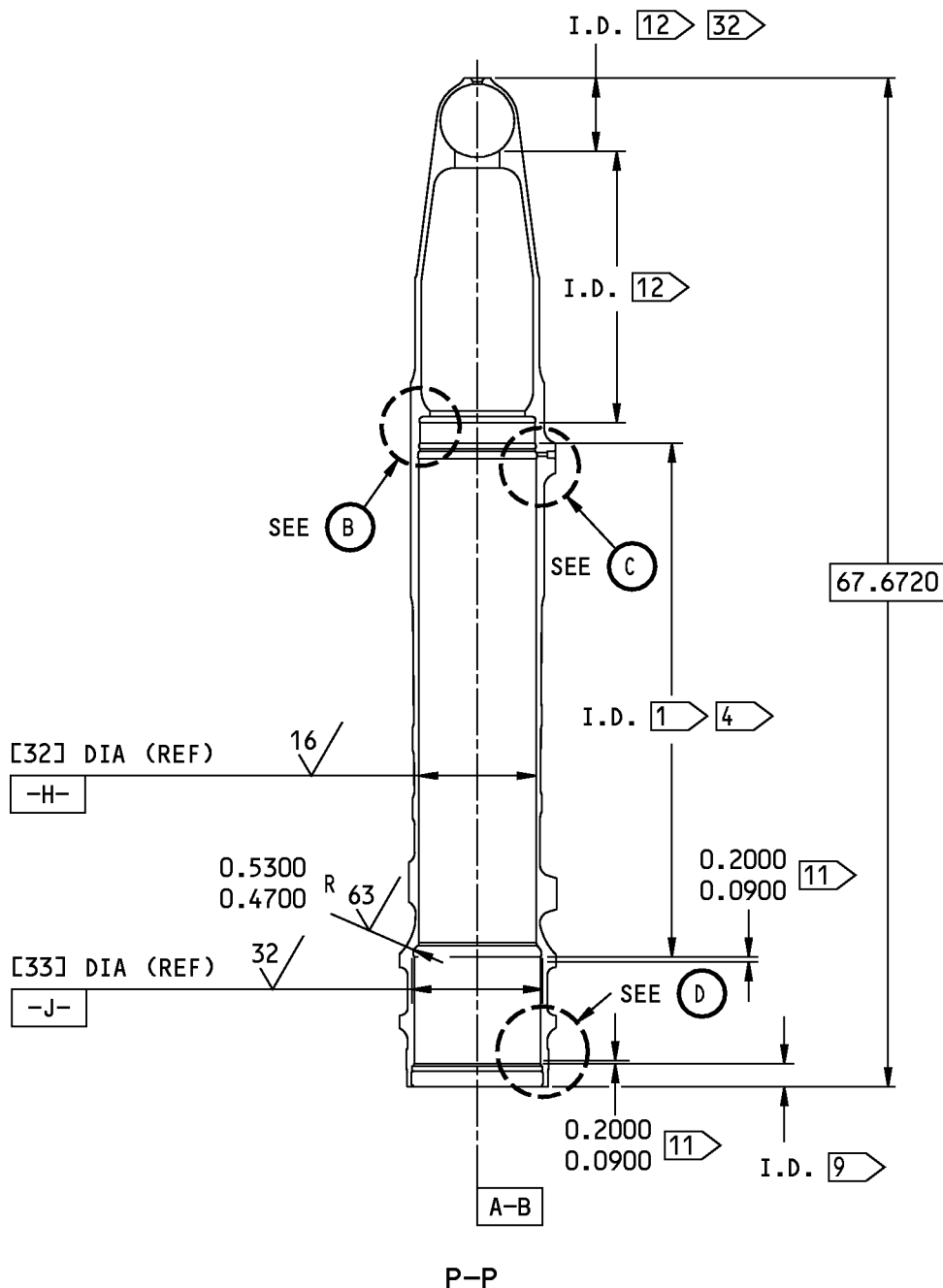
REPAIR 3-2

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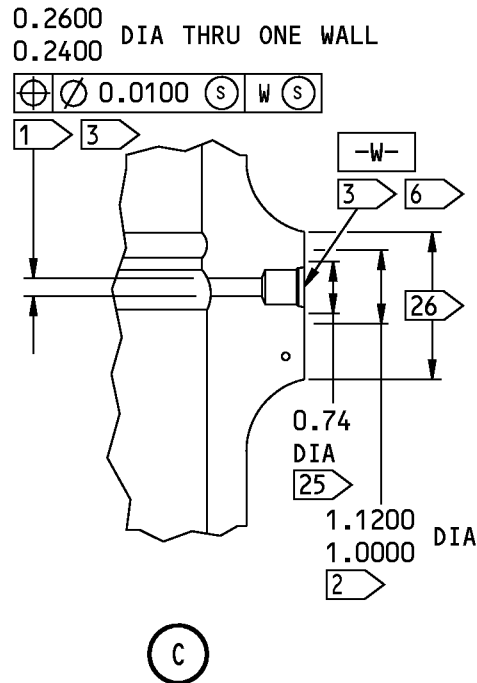
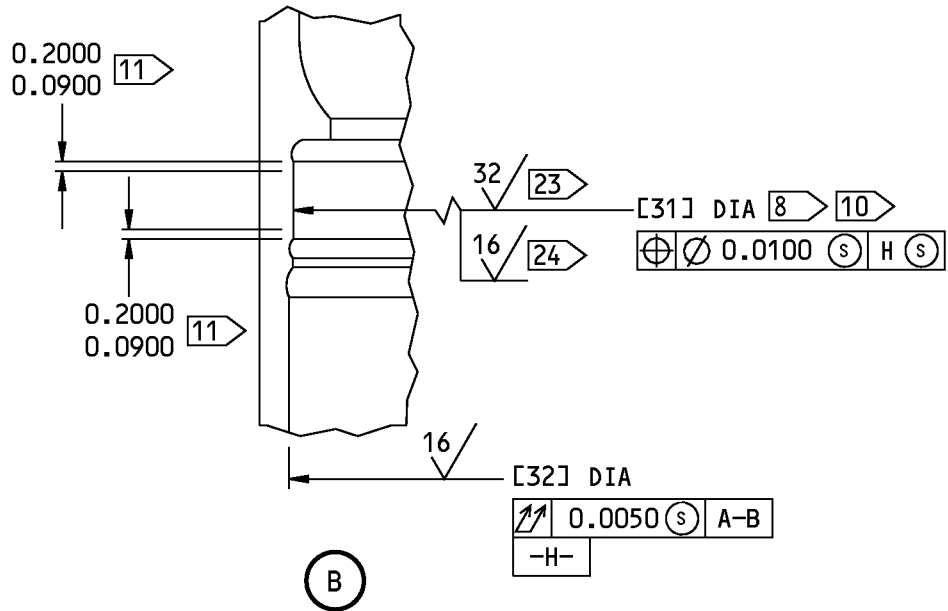
F94654 S0004996829_V4

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 14 of 23)

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F94701 S0004996830_V6

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 15 of 23)

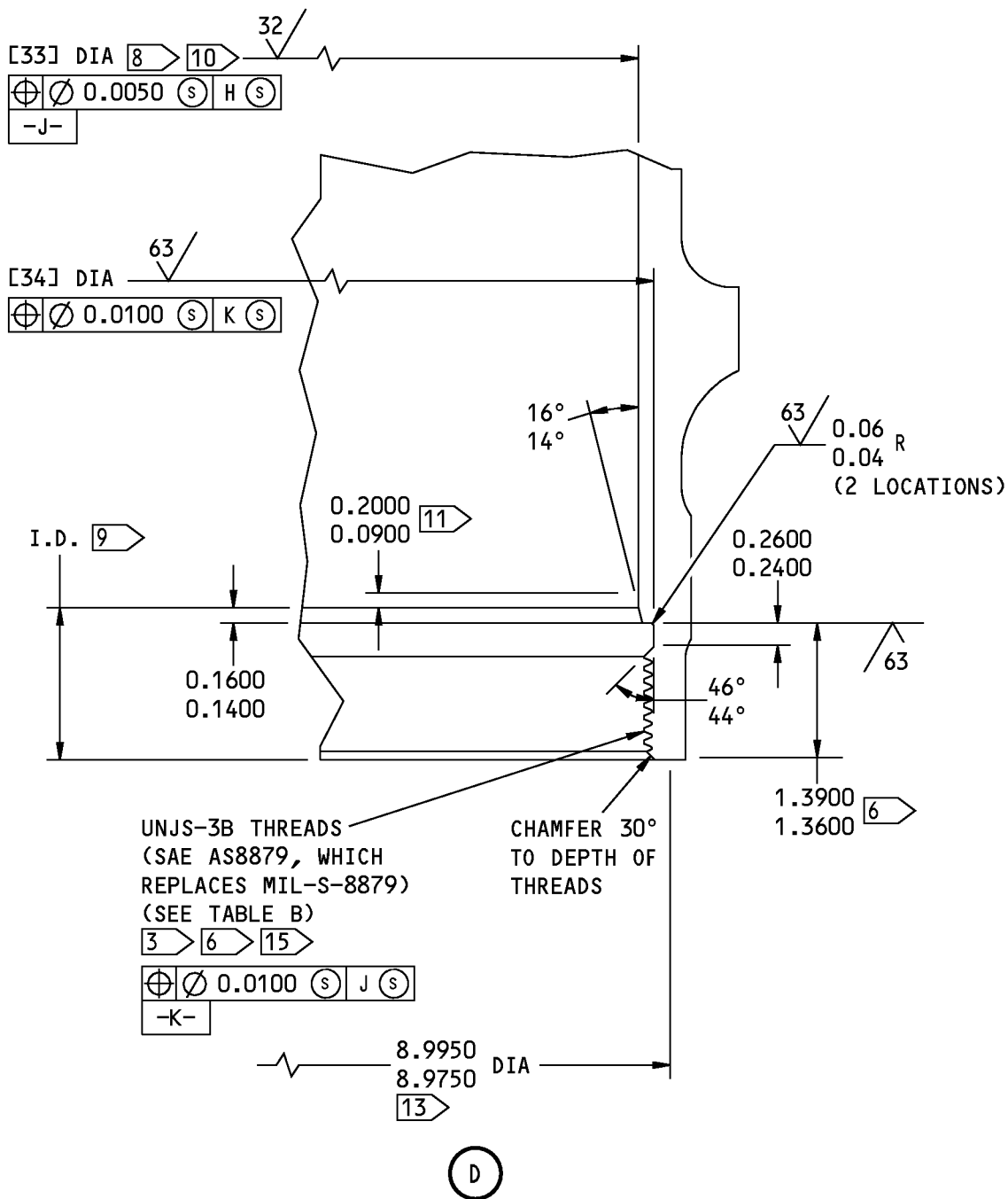
32-11-12

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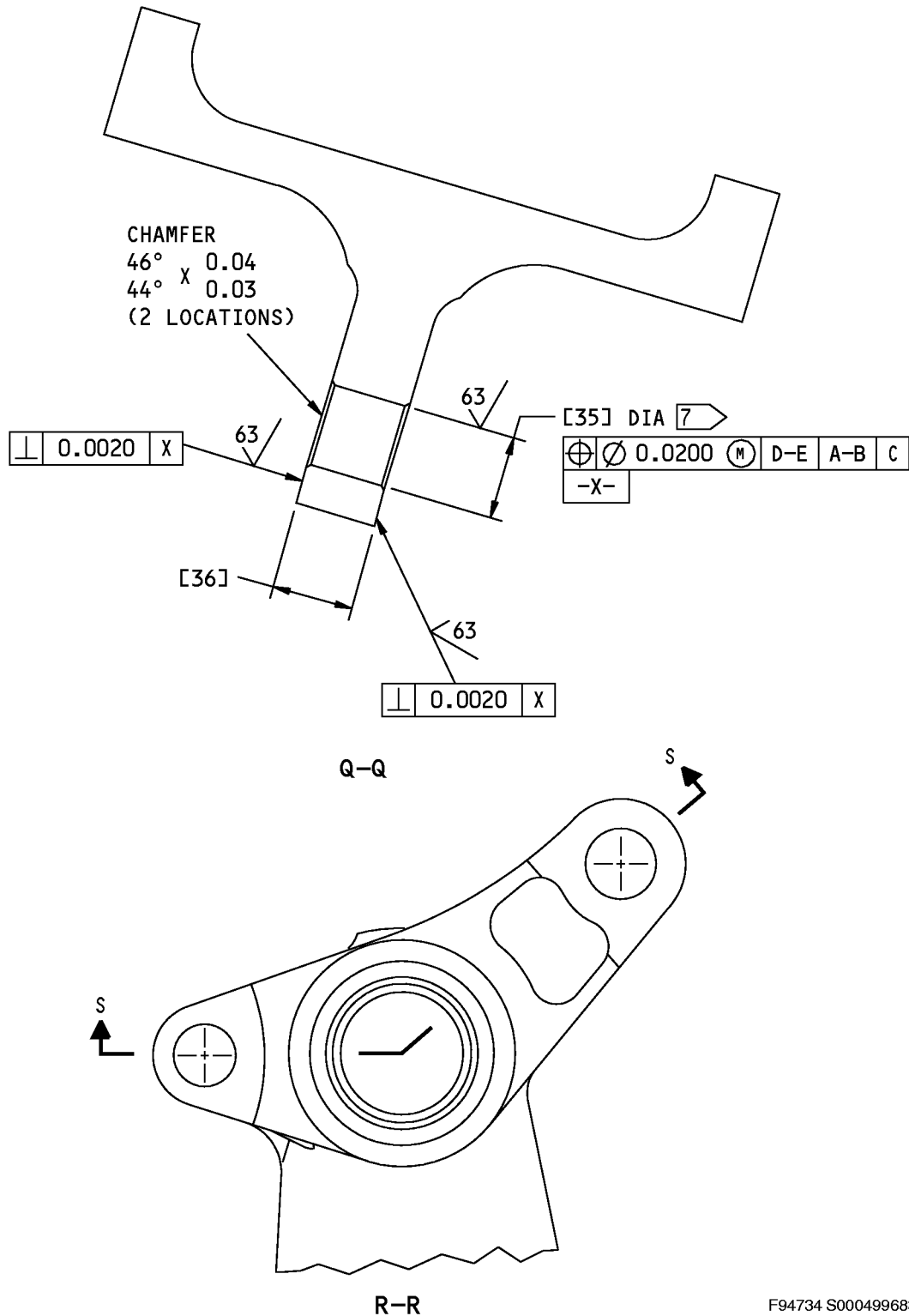
1652828 S0000296784_V1

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 16 of 23)

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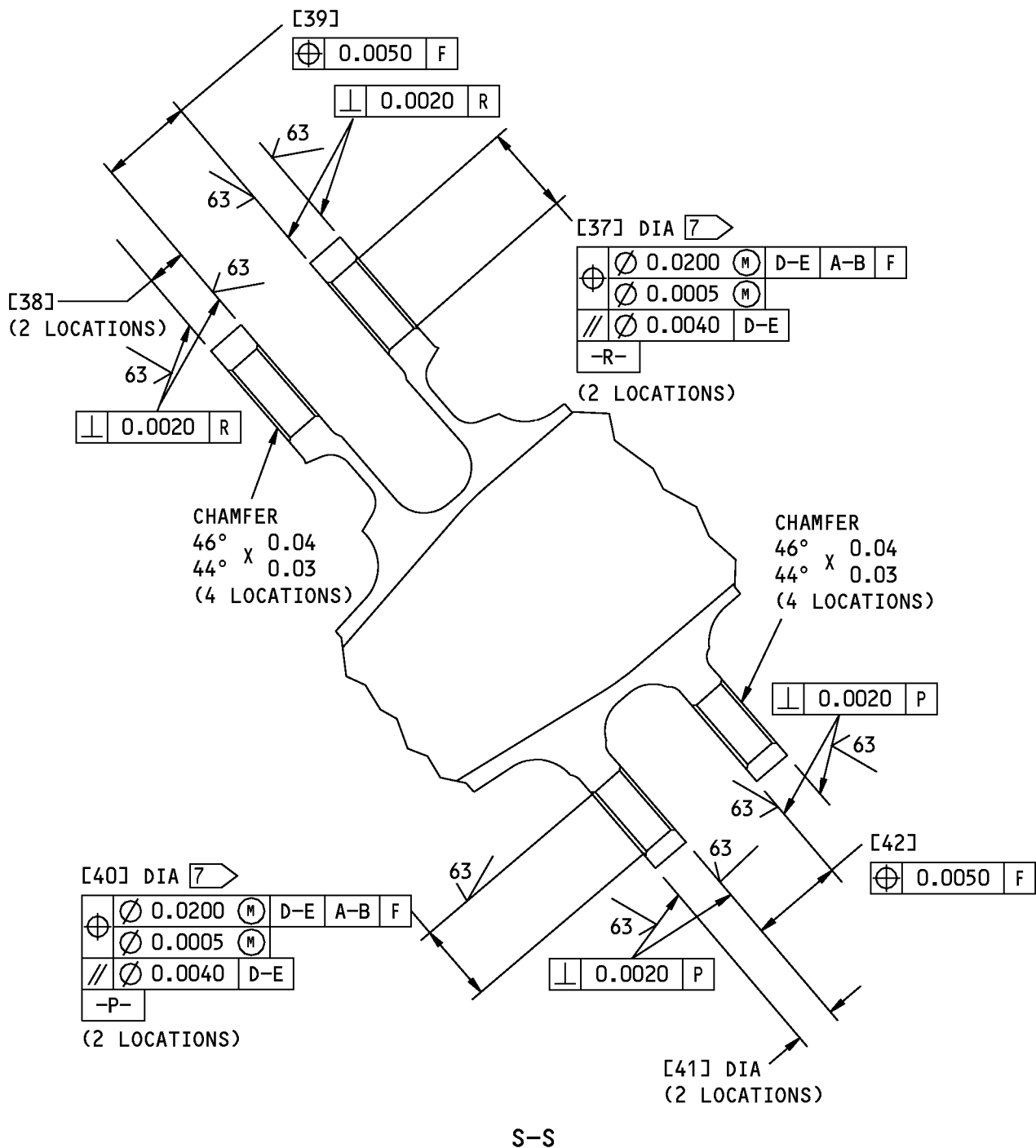
F94734 S0004996831_V2

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 Figure 601 (Sheet 17 of 23)

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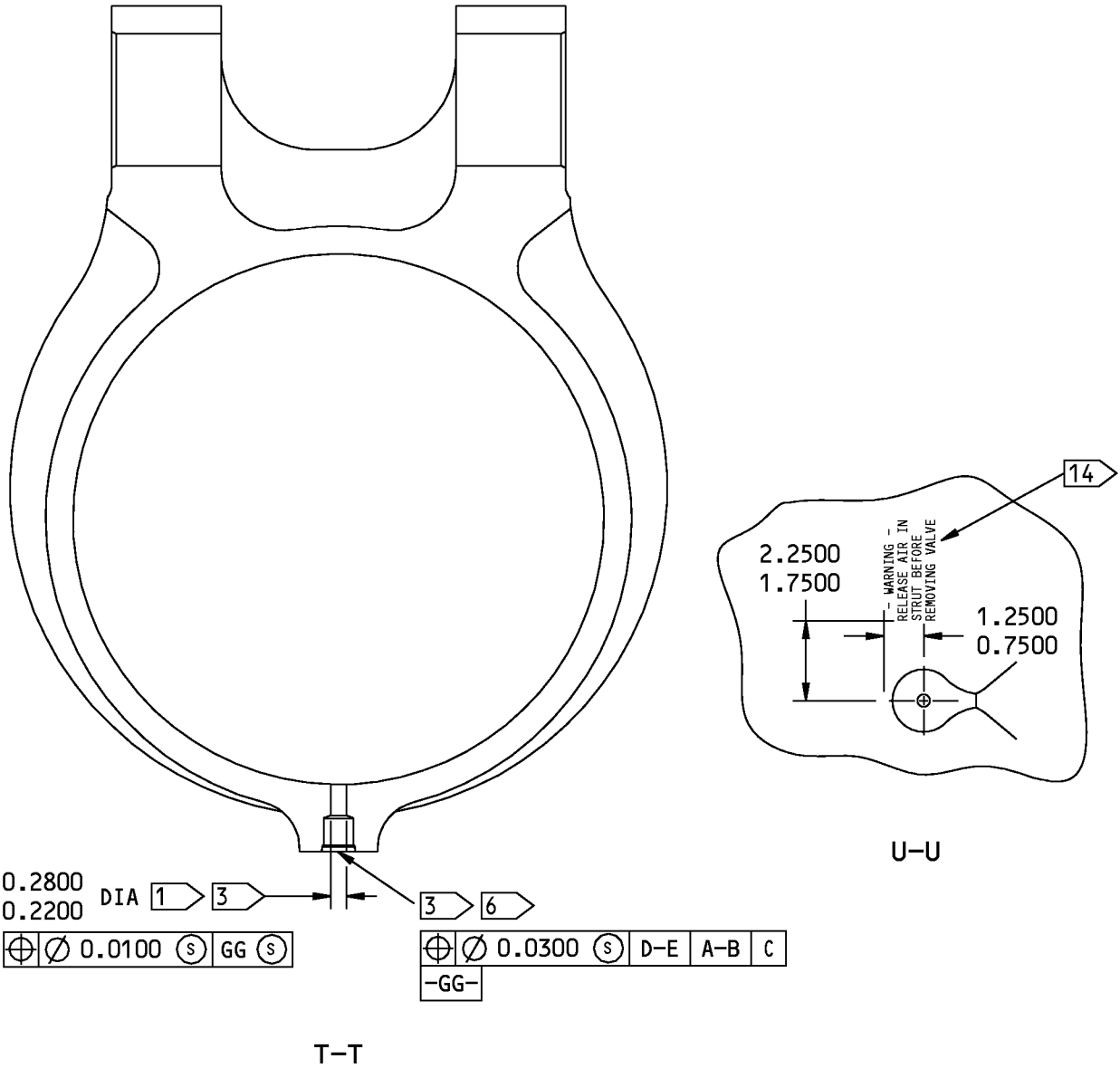
F94801 S0004996832_V2

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Figure 601 (Sheet 18 of 23)

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F94926 S0004996833_V3

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 19 of 23)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6] 21>22>	[6] 20>	[7] 21>	[7] 22>
DESIGN DIMENSION	3.0415 3.0400	2.1045 2.1030	9.0025 8.9975	2.0645 2.0630	1.7500 1.7450	3.2915 3.2900	3.5415 3.5400	1.1270 1.1260	1.1895 1.1885
REPAIR LIMIT	3.1015 19>	2.1645 19>	8.9375 19>	2.1245 19>	1.6850 19>	3.3515 19>	3.6015 19>	1.1870 19>	1.2495 19>

REFERENCE NUMBER	[7] 20>	[8] 21>22>	[8] 20>	[9]	[10]	[11]	[12]	[13]	[14]
DESIGN DIMENSION	1.2520 1.2510	3.5415 3.5400	3.7915 3.7900	0.8768 0.8760	0.5026 0.5020	0.5050 0.4950	0.9381 0.9375	2.2750 2.2650	0.6300 0.6200
REPAIR LIMIT	1.3120 19>	3.6015 19>	3.8515 19>	0.9368 19>	0.5626 19>	0.4350 19>	-----	-----	-----

REFERENCE NUMBER	[15]	[16]	[17] 21>22>	[17] 20>	[18]	[19]	[20]	[21]	[22]
DESIGN DIMENSION	0.6277 0.6270	0.5050 0.4950	2.1045 2.1030	2.2295 2.2280	7.2540 7.2490	0.6277 0.6270	0.5050 0.4950	0.6277 0.6270	0.5050 0.4950
REPAIR LIMIT	0.6877 19>	0.4350 19>	2.1645 19>	2.2895 19>	7.1890 19>	0.6877 19>	0.4350 19>	0.6877 19>	0.4350 19>

REFERENCE NUMBER	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]
DESIGN DIMENSION	0.6277 0.6270	0.5050 0.4950	0.5026 0.5020	0.6225 0.6175	0.5026 0.5020	0.5050 0.4950	0.6277 0.6270	0.6225 0.6175	7.7270 7.7240 15>
REPAIR LIMIT	0.6877 19>	0.4350 19>	0.5626 19>	0.5575 19>	0.5626 19>	0.4350 19>	0.6877 19>	0.5575 19>	7.7470 18>

TABLE A

F86684 S0004996834_V5

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 20 of 23)

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REFERENCE NUMBER	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]
DESIGN DIMENSION	7.8775 7.8725	8.4770 8.4740	8.7950 8.7850	0.6277 0.6270	0.6225 0.6175	1.8894 1.8880	0.8550 0.8450	1.9917 1.9867
REPAIR LIMIT	7.8975 18	8.4970 18	SEE TABLE B	0.6877 19	0.5575 19	1.9494 19	0.7850 19	2.0517 19

REFERENCE NUMBER	[40]	[41]	[42]
DESIGN DIMENSION	1.6893 1.6880	0.8550 0.8450	1.9917 1.9867
REPAIR LIMIT	1.7493 19	0.7850 19	2.0517 19

TABLE A

UNJS-3B THREAD SIZE	8.7500-8 (DESIGN REF)	8.8750-8 (1/8 OVERSIZE)	9.0000-8 (1/4 OVERSIZE)
BASIC MAJOR DIA	8.7500	8.8750	9.0000
PITCH DIA	8.6769 8.6688	8.8019 8.7938	8.9269 8.9188
MINOR DIA	8.6433 8.6283	8.7683 8.7533	8.8933 8.8783
RELIEF DESIGN DIA [34]	8.7950 8.7850	8.9200 8.9100	9.0450 9.0350
RELIEF MAX REPAIR DIA [34] 33	9.0450	9.0450	---
GLAND NUT PART NO.	161A1154-1	161A1154-2	161A1154-3

TABLE B

F86643 S0004996835_V4

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 21 of 23)

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- | | |
|---|---|
| <p>1 DO NOT APPLY ANY FINISH ON THIS SURFACE (F-25.01)</p> <p>2 DO NOT APPLY F-20.56-707 ENAMEL IN THIS AREA</p> <p>3 DO NOT SHOT PEEN</p> <p>4 SURFACE FINISH APPLIES AFTER SHOT PEEN</p> <p>5 PART NUMBER AND SERIAL NUMBER</p> <p>6 WIPE THE THREADS AND THREAD RELIEF WITH BMS 10-79, TYPE 3 PRIMER (F-19.451). DO NOT APPLY ENAMEL TO THE THREADS OR THREAD RELIEF</p> <p>7 CADMIUM-TITANIUM PLATE (F-15.01) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) TO ALL AREAS OF THE HOLE</p> <p>8 CHROME PLATE (F-15.34), 0.0025-0.0070 THICKNESS AFTER GRINDING, UNLESS SHOWN DIFFERENTLY</p> <p>9 CADMIUM-TITANIUM PLATE (F-15.32) (0.0005 MINIMUM THICKNESS) UNLESS SHOWN DIFFERENTLY</p> <p>10 WIPE THE CHROME PLATE WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)</p> <p>11 CHROME PLATE RUNOUT AREA</p> <p>12 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66) AND BMS 3-26, TYPE 2 CORROSION INHIBITING COMPOUND (F-19.73) TO THE INSIDE SURFACE. (MIL-C-11796, CLASS 1 COMPOUND IS OPTIONAL TO BMS 3-26, TYPE 2 COMPOUND FOR 31 AND 32)</p> <p>13 IT IS OPTIONAL TO SHOT PEEN THE END FACE AND ADJACENT CHAMFER IN THIS AREA</p> | <p>14 STENCIL (SOPM 20-50-10) IN 0.25-HIGH LETTERS WITH RED BMS 10-60 ENAMEL (F-14.9815-101)</p> <p>15 DIMENSION AFTER PLATING</p> <p>16 DO NOT APPLY F-20.56-707 ENAMEL HERE. MASK THE PAD SURFACE AS NECESSARY. APPLY F-19.39-707 GRAY ENAMEL TO THE AREA. WHEN THE AREA IS DRY, APPLY F-19.39-701 BLACK ENAMEL TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34). FILL TO THE SAME THICKNESS AS THE ADJACENT ENAMEL</p> <p>17 CADMIUM-TITANIUM PLATE (F-15.01), THEN APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47). APPLY BMS 5-95 SPRAYABLE SEALANT (F-19.55), 0.006-0.010 THICK. WHEN THE SEALANT DRIES, APPLY ANOTHER LAYER OF BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 3-26, TYPE 2 CORROSION INHIBITING COMPOUND (F-19.73). (MIL-C-11796, CLASS 1 COMPOUND IS OPTIONAL TO BMS 3-26, TYPE 2 COMPOUND FOR 31 AND 32)</p> <p>18 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH</p> <p>19 LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS</p> <p>20 161A1118-15,-16</p> <p>21 161A1110-3,-4,-7,-8,-11,-12,-15,-16;
161A1116-3,-4,-7,-8,-11,-12,-15,-16</p> <p>22 161A1118-3,-4,-7,-8,-11,-12,-19,-20</p> <p>23 161A1110-3,-4;
161A1116-3,-4;
161A1118-3,-4</p> |
|---|---|

M47181 S0004996836_V6

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 22 of 23)

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- 24 > 161A1110-7 AND ON;
161A1116-7 AND ON;
161A1118-7 AND ON
- 25 > NO BLENDS PERMITTED IN THIS AREA
- 26 > 0.010 MAXIMUM DEPTH BLENDS IN THIS AREA, OUTSIDE OF THE AREA SHOWN BY 25 >
- 27 > 161A1110-3 AND ON;
161A1118-3 AND ON
- 28 > 161A1116-3 AND ON
- 29 > 161A1110-3,-4,-7,-8;
161A1116-3,-4,-7,-8;
161A1118-3,-4,-7,-8
- 30 > 161A1110-11,-12,-15,-16;
161A1116-11,-12,-15,-16;
161A1118-11,-12,-15,-16,-19,-20
- 31 > 161A1110-3,-4,-7,-8,-11,-12;
161A1116-3,-4,-7,-8,-11,-12
- 32 > 161A1118-3,-4,-7,-8,-11,-12
- 33 > RESTORATION TO DESIGN DIMENSIONS NOT NECESSARY

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

DIMENSIONS APPLY BEFORE PLATING UNLESS NOTED

SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING UNLESS NOTED

1505291 S0000274892_V2

161A1110-3,-4,-7,-8,-11,-12,-15,-16; 161A1116-3,-4,-7,-8,-11,-12,-15,-16; 161A1118-3,-4,-7,-8,-11,-12,-15,-16,-19,-20 Outer Cylinder Repair
Figure 601 (Sheet 23 of 23)

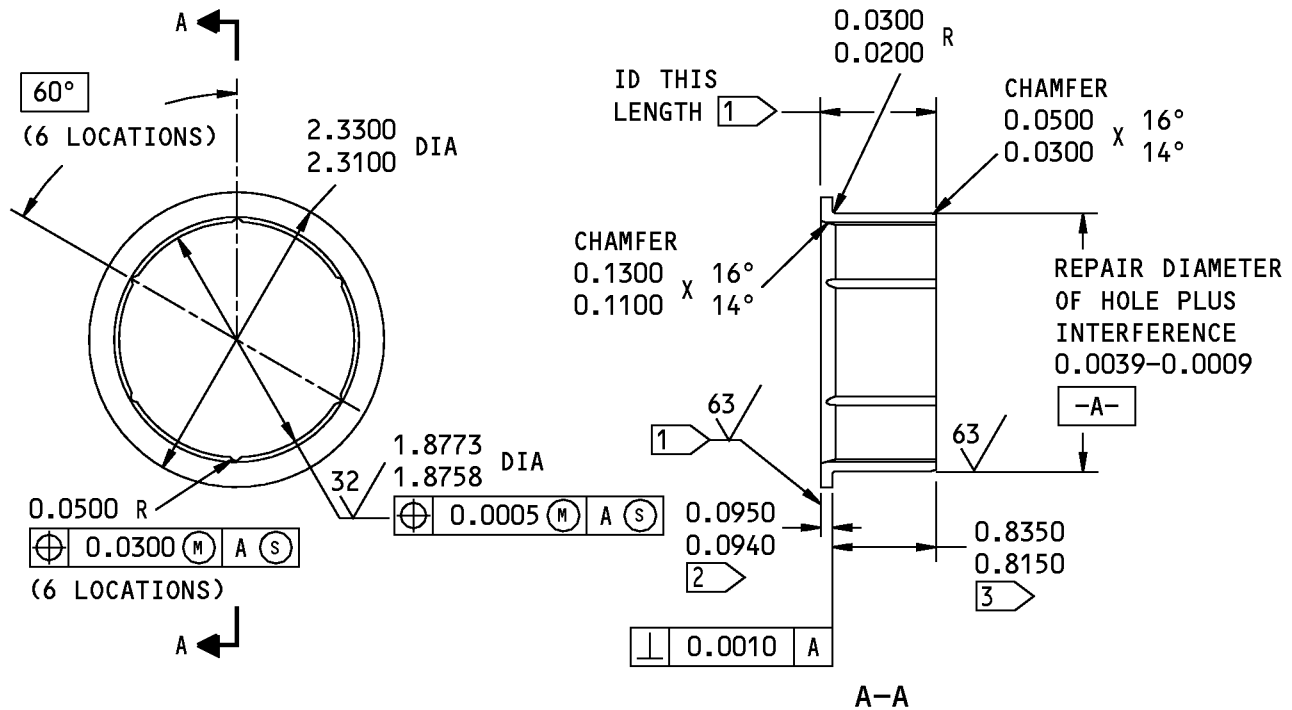
32-11-12

REPAIR 3-2

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COMPONENT MAINTENANCE MANUAL



HOLE LOCATION [4] FIG. 601 - REPLACES BUSHING (885)
161A1114-1

- 1 NO FINISH
- 2 PLUS THE AMOUNT REMOVED FROM THE LUG FACE
- 3 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: COPPER BERYLLIUM (AMS 4533 OR AMS 4535)
(REFER TO SOPM 20-10-09)

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY 1

ITEM NUMBERS REFER TO IPL FIG. 1

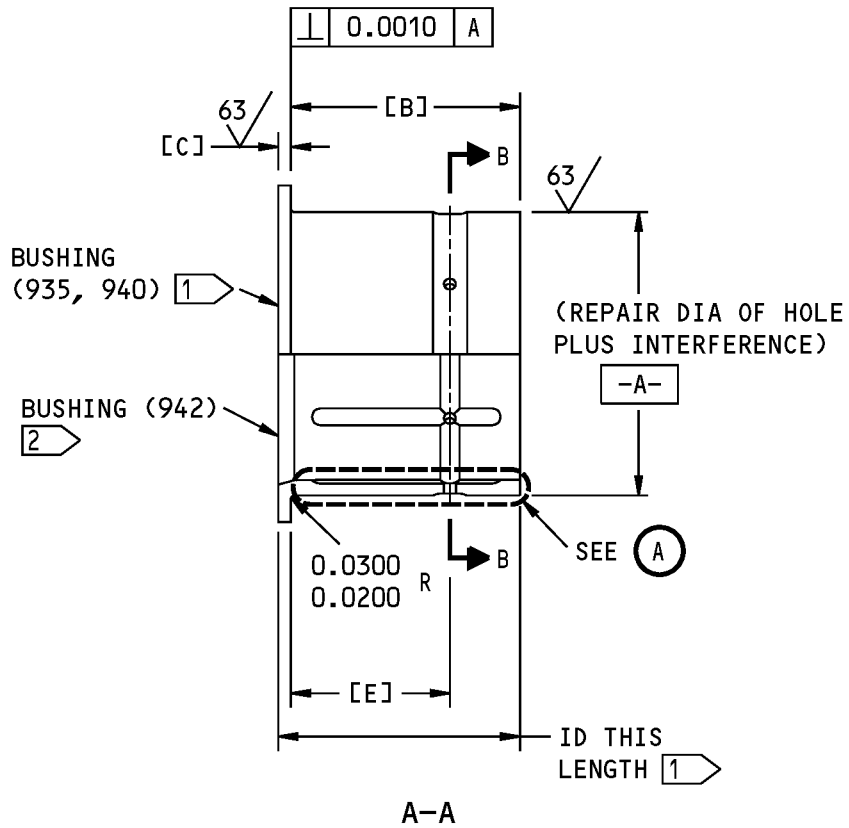
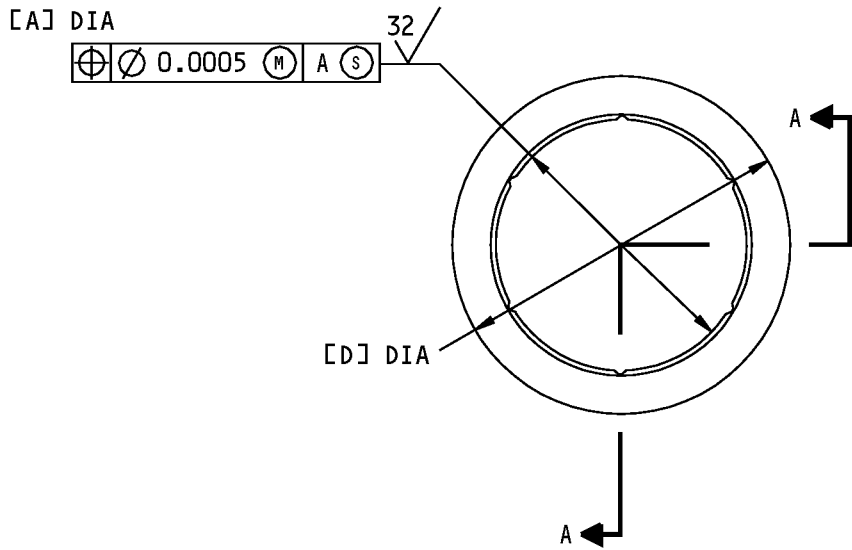
ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATING

Oversize Bushing Details
Figure 602

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COMPONENT MAINTENANCE MANUAL



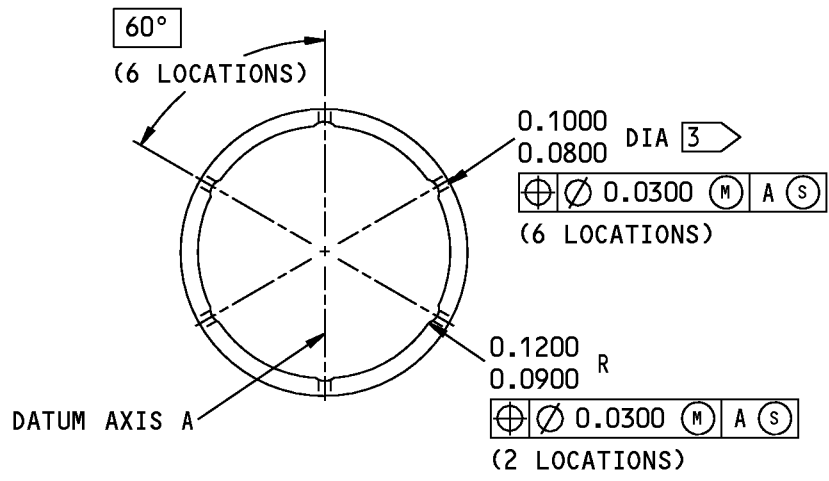
Oversize Bushing Details
Figure 603 (Sheet 1 of 3)

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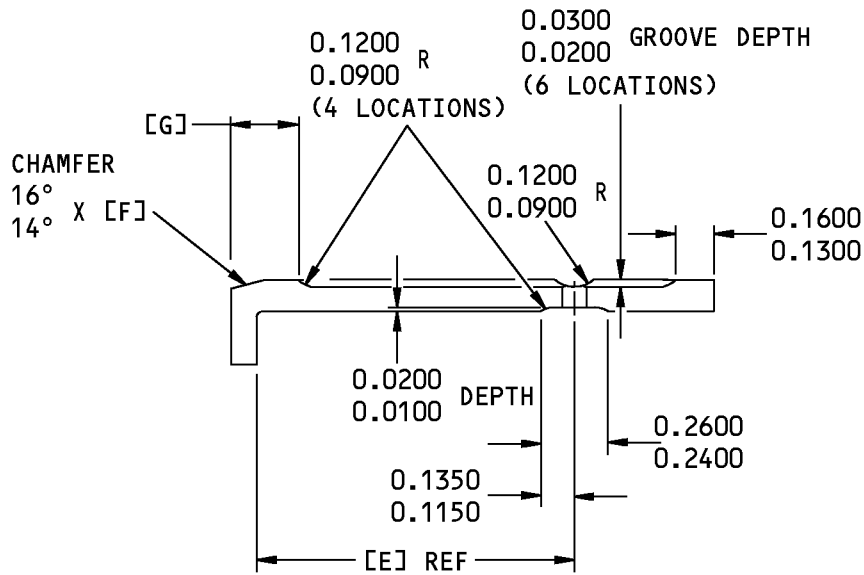
REPAIR 3-2
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COMPONENT MAINTENANCE MANUAL



B-B



A

F83337 S0004996839_V2

Oversize Bushing Details
Figure 603 (Sheet 2 of 3)

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REPAIR 3-2

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HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]	[G]	INTERFERENCE
[1]	161A1113-1 (935)	2.7525 2.7510	2.0100 1.9900	0.1260 0.1250	3.3700 3.3500	1.0100 0.9900	0.1600 0.1400	0.2950 0.2650	0.0042 0.0012
[2]	161A1113-2 (940)	1.8773 1.8758	1.0100 0.9900	0.0950 0.0940	2.3700 2.3500	0.5100 0.4900	0.1300 0.1100	0.2650 0.2350	0.0039 0.0009
[17]	161A1113-3 (942)	1.8773 1.8758	1.7100 1.6900	0.0950 0.0940	2.4900 2.5100	1.1900 1.1700	0.1300 0.1100	0.2650 0.2350	0.0039 0.0009
[17]	161A1113-4 (942A)	2.0015 2.0000	1.8600 1.8400	0.0950 0.0940	2.6400 2.6200	1.1900 1.1700	0.1300 0.1100	0.2650 0.2350	0.0040 0.0010

- 1 NO FINISH
- 2 CHROME PLATE (F-15.43, WHICH REPLACES F-14.892)
- 3 INTERSECTING LUBE GROOVE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRZ (AMS 4640)
 BREAK ALL SHARP EDGES 0.01-0.02 R
 FINISH: CADMIUM PLATE (F-15.36)
 UNLESS SHOWN BY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

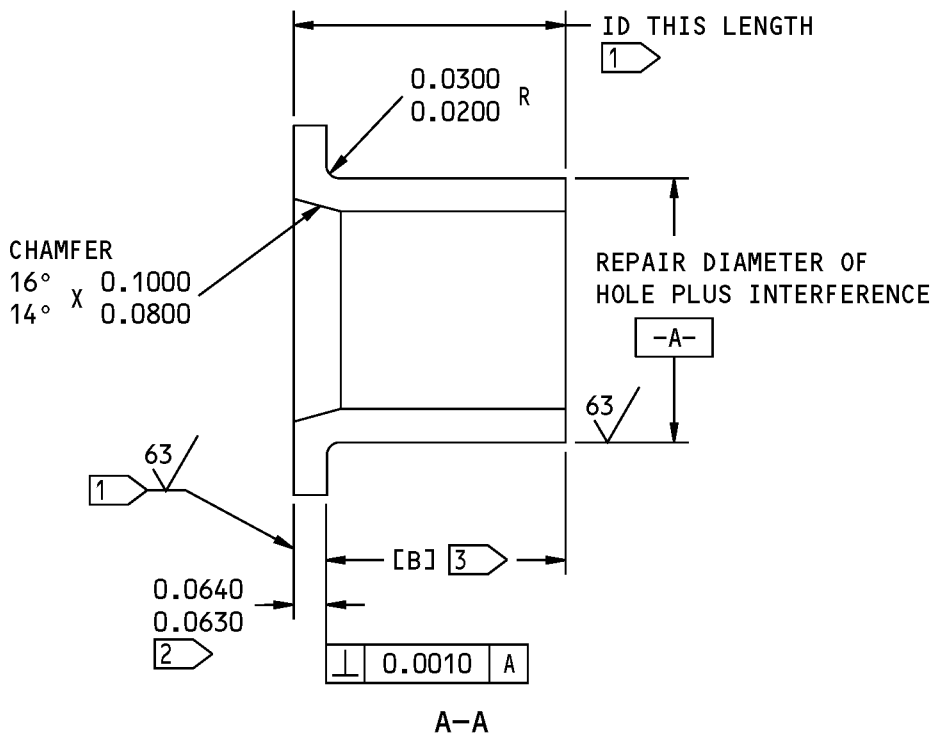
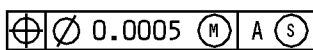
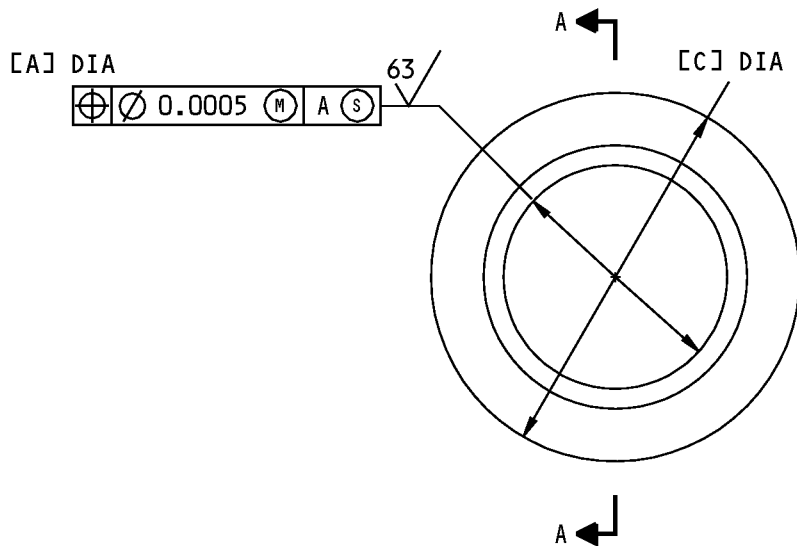
ALL DIMENSIONS APPLY BEFORE PLATING

Oversize Bushing Details
 Figure 603 (Sheet 3 of 3)

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COMPONENT MAINTENANCE MANUAL




Oversize Bushing Details
Figure 604 (Sheet 1 of 2)


32-11-12


REPAIR 3-2
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


COMPONENT MAINTENANCE MANUAL

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B] 	[C]	INTERFERENCE
[10],[27]	161A1119-1 (910)	0.3769 0.3763	0.4650 0.4450	0.7150 0.6950	0.0015 0.0004
[29],[35]	161A1119-3 (890)	0.5020 0.5014	0.5850 0.5650	0.8370 0.8170	0.0017 0.0004
[15],[19], [21],[23]	161A1119-5 (920)	0.5020 0.5014	0.4650 0.4450	0.8370 0.8170	0.0017 0.0004
[25]	161A1119-7 (900)	0.3769 0.3763	0.5850 0.5650	0.7150 0.6950	0.0015 0.0004

 NO FINISH


 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRONZE (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY 

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATING

F83598 S0004996842_V3

Oversize Bushing Details
Figure 604 (Sheet 2 of 2)

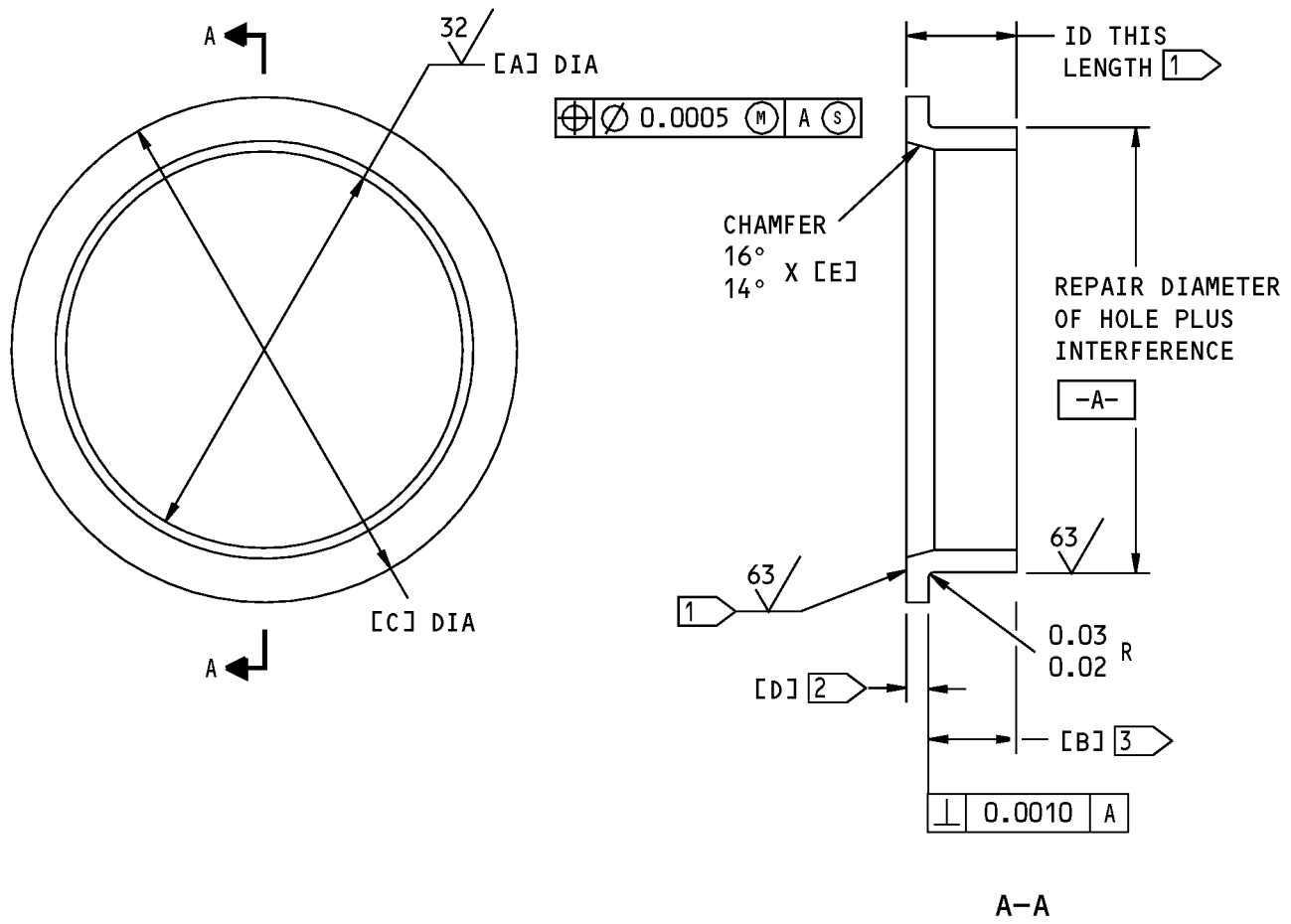
32-11-12

REPAIR 3-2

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Oversize Bushing Details
Figure 605 (Sheet 1 of 2)

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COMPONENT MAINTENANCE MANUAL

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B] 3	[C]	[D] 2	[E]	INTERFERENCE	MATERIAL
[37]	161A1115-1 (865)	1.7022 1.7008	0.3850 0.3650	2.1600 2.1400	0.0950 0.0940	0.1300 0.1100	0.0037 0.0009	4
[40]	161A1115-2 (870)	1.5020 1.5007	0.3850 0.3650	1.9500 1.9300	0.0950 0.0940	0.1300 0.1100	0.0034 0.0008	4
[7]	161A1115-3 (875)	1.0015 1.0005	0.5350 0.5150	1.5100 1.4900	0.0640 0.0630	0.1000 0.0800	0.0025 0.0006	4
[7]	161A1117-1 (875A)	1.0641 1.0630	0.5350 0.5150	1.5725 1.5525	0.0640 0.0630	0.1000 0.0800	0.0026 0.0006	5
[7]	161A1117-2 (875B)	1.1251 1.1250	0.5500 0.5300	1.6350 1.6150	0.0640 0.0630	0.1000 0.0800	0.0037 0.0017	5
[9]	161A1115-4 (880)	0.7513 0.7505	0.6100 0.5900	1.0900 1.0700	0.0640 0.0630	0.1000 0.0800	0.0021 0.0006	4

1 NO FINISH

2 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

3 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

4 AL-NI-BRONZE (AMS 4640)

5 CU-BE (AMS 4533 OR 4535)

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AS NOTED

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATING

F83850 S0004996844_V5

Oversize Bushing Details
Figure 605 (Sheet 2 of 2)

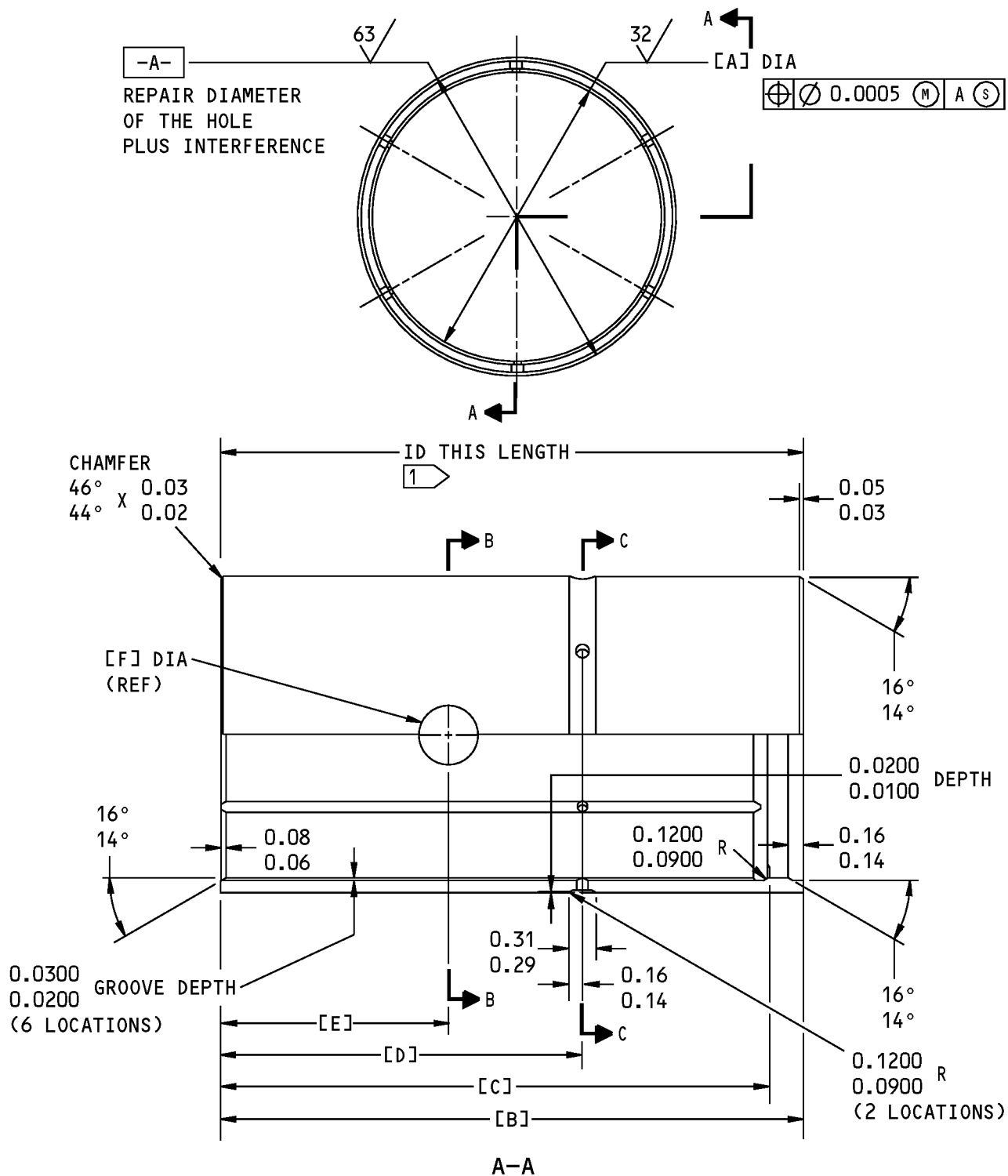
32-11-12

REPAIR 3-2

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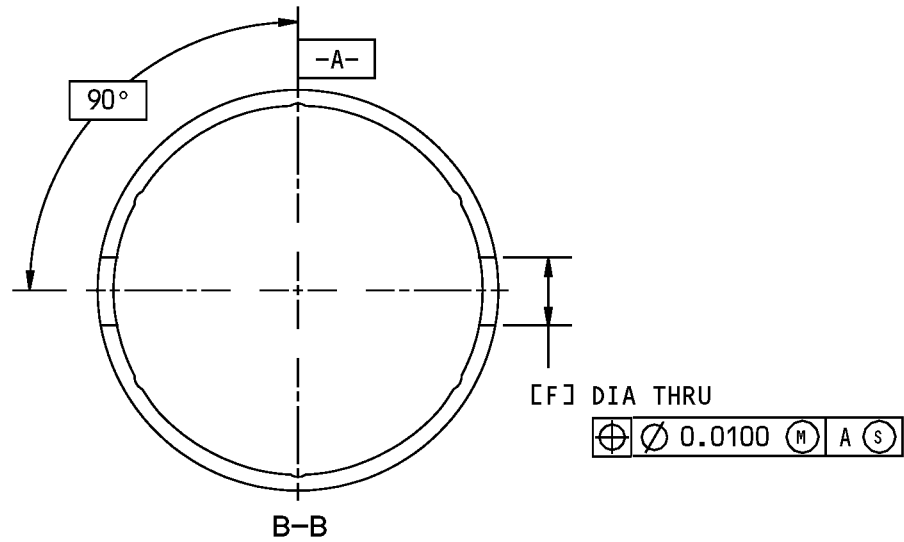
COMPONENT MAINTENANCE MANUAL



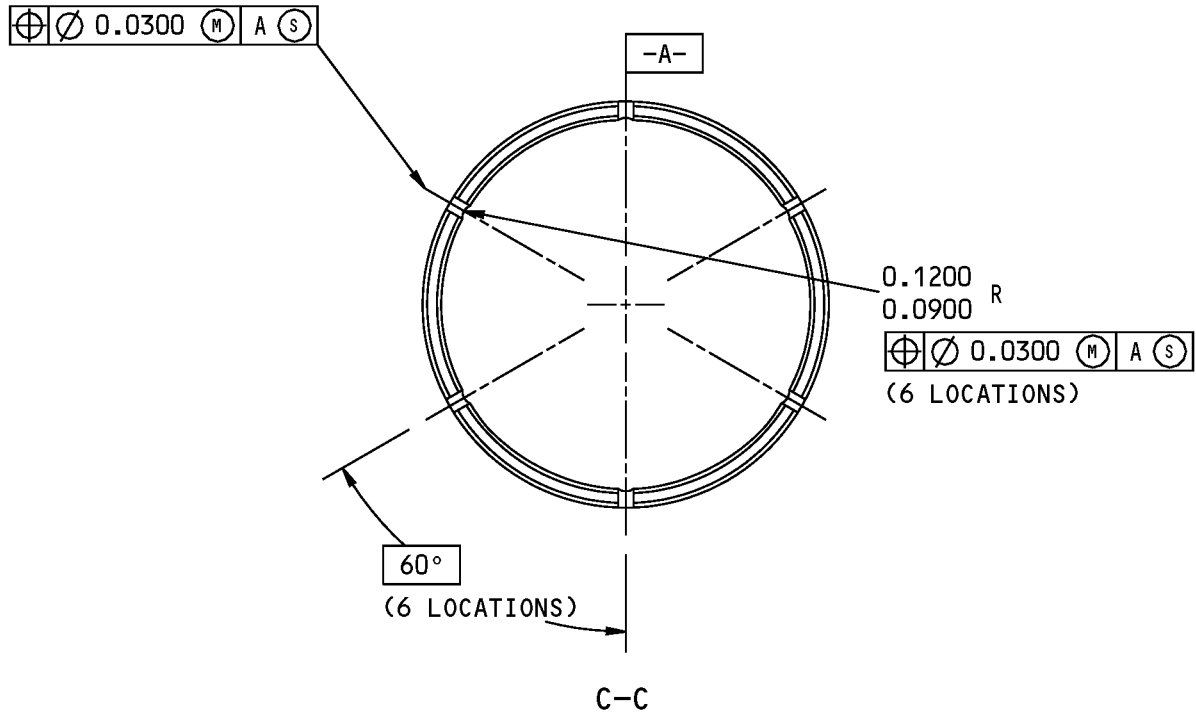
Oversize Bushing Details
Figure 606 (Sheet 1 of 3)

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COMPONENT MAINTENANCE MANUAL



0.135
0.115 DIA THRU THE HOLE LUBE GROOVE



Oversize Bushing Details
Figure 606 (Sheet 2 of 3)


32-11-12

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
HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]	INTERFERENCE
[6]	161A1112-1 (855)	3.0026 3.0011	5.6400 5.6200	5.3450 5.3250	0.9250 0.9050	2.7525 2.7325	0.9050 0.8450	0.0043 0.0013
[8]	161A1112-2 (860)	3.2527 3.2512	6.4900 6.4700	6.1250 6.1050	4.0450 4.0250	2.5500 2.5300	0.6550 0.5950	0.0044 0.0014
[6]	161A1112-3 (855A)	3.2527 3.2512	5.6400 5.6200	5.3450 5.3250	0.9250 0.9050	2.7525 2.7325	0.9050 0.8450	0.0044 0.0014
[8]	161A1112-4 (860A)	3.5026 3.5012	6.4900 6.4700	6.1250 6.1050	4.0450 4.0250	2.5500 2.5300	0.6550 0.5950	0.0045 0.0014

 NO FINISH

 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRONZE (AMS 4640 OR AMS 4880)

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY 

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATING

Oversize Bushing Details
Figure 606 (Sheet 3 of 3)

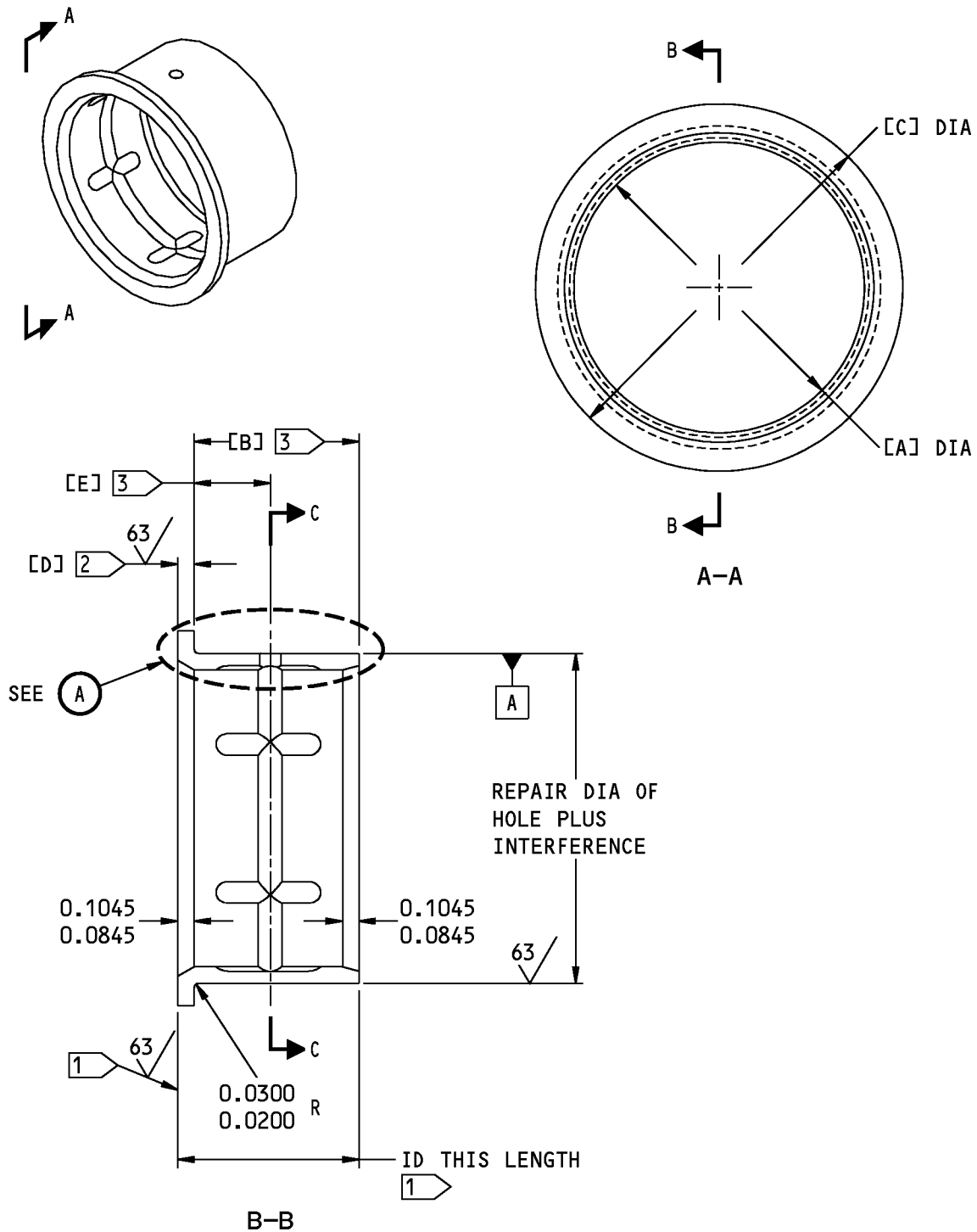
32-11-12

REPAIR 3-2

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COMPONENT MAINTENANCE MANUAL



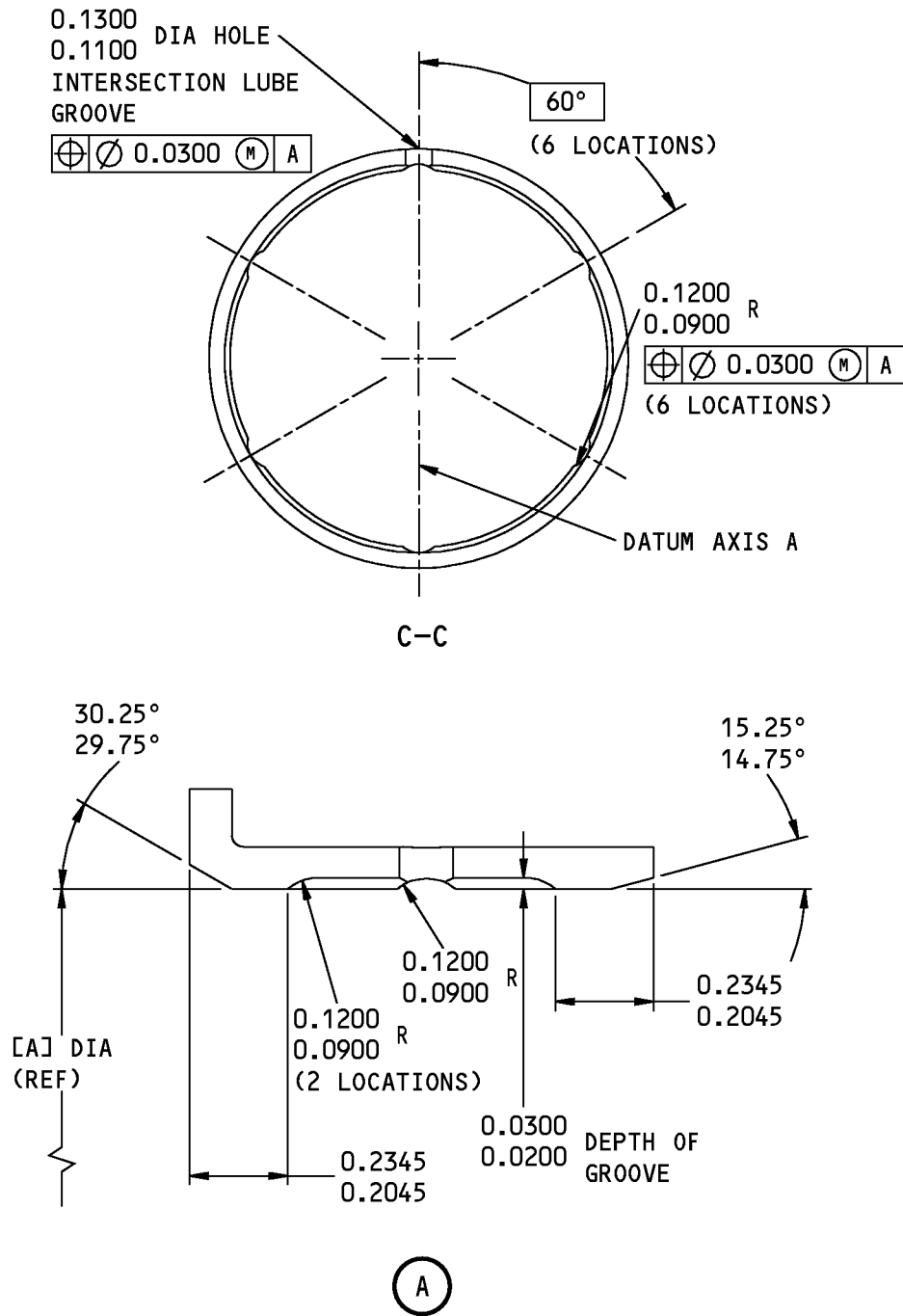
1499756 S0000271800_V1

Oversize Bushing Details
Figure 607 (Sheet 1 of 3)

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1499796 S0000271801_V1

Oversize Bushing Details
Figure 607 (Sheet 2 of 3)

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COMPONENT MAINTENANCE MANUAL

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B] 3	[C]	[D] 2	[E] 3	INTERFERENCE	MATERIAL
[37]	161A1115-5 (867)	1.7022 1.7008	0.9545 0.9345	2.1600 2.1400	0.0950 0.0940	0.4455 0.4255	0.0037 0.0009	4
[40]	161A1115-6 (872)	1.5020 1.5007	0.9545 0.9345	1.9500 1.9300	0.0950 0.0940	0.4455 0.4255	0.0034 0.0008	4

- 1 NO FINISH
- 2 PLUS THE AMOUNT REMOVED FROM THE LUG FACE
- 3 MINUS THE AMOUNT REMOVED FROM THE LUG FACE
- 4 AL-NI-BRONZE (AMS 4640)

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AS NOTED

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY 1

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATING

1499549 S0000271802_V1

Oversize Bushing Details
Figure 607 (Sheet 3 of 3)

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REPAIR 3-2

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COMPONENT MAINTENANCE MANUAL

COMPLETE INNER CYLINDER ASSEMBLY - REPAIR 4-1

161A1120-1, -2, -3, -4

1. General

- A. Use this procedure to assemble complete inner cylinder assembly (650).
- 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. References

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

B. Procedure (REPAIR 4-1, Figure 601)

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

NOTE: Keep dirt and unwanted matter from all parts during assembly.

WARNING: MASTINOX (BMS 3-27) CORROSION INHIBITING COMPOUND IS A DANGEROUS MATERIAL. MASTINOX CONTAINS ASBESTOS, STRONTIUM CHROMATE, AND BARIUM CHROMATE. USE PROTECTIVE GLOVES WHEN YOU APPLY THE MASTINOX.

- (1) Use standard industry practices and these steps.
- (2) Assemble the complete inner cylinder assembly.
 - (a) Install axle assembly (675) in inner cylinder assembly (700).
 - (b) Install sleeves (670) as follows:
 - 1) Heat the sleeves to 350-400°F.
 - 2) Quickly install the sleeves on the axle, and be sure to install the sleeves with the tooling holes horizontal, as shown.
 - (c) Install pin (660), washer (665) and nut (667) in the direction shown.
 - (d) Hand tighten nut (667) and temporarily install cotter pin (665A). These parts will be removed later.

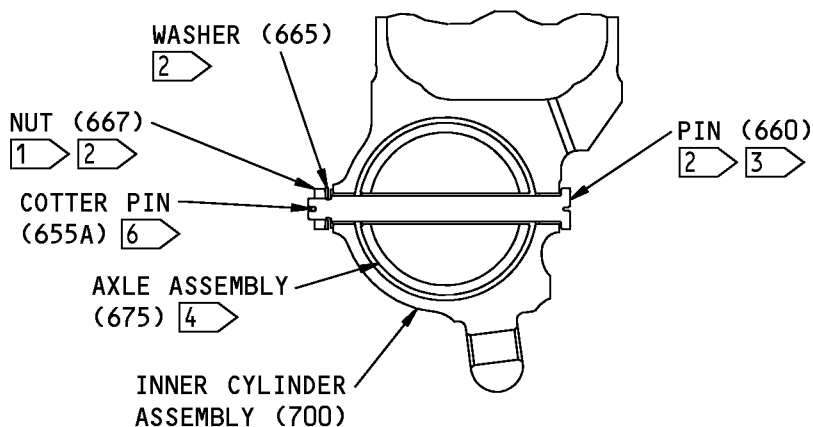
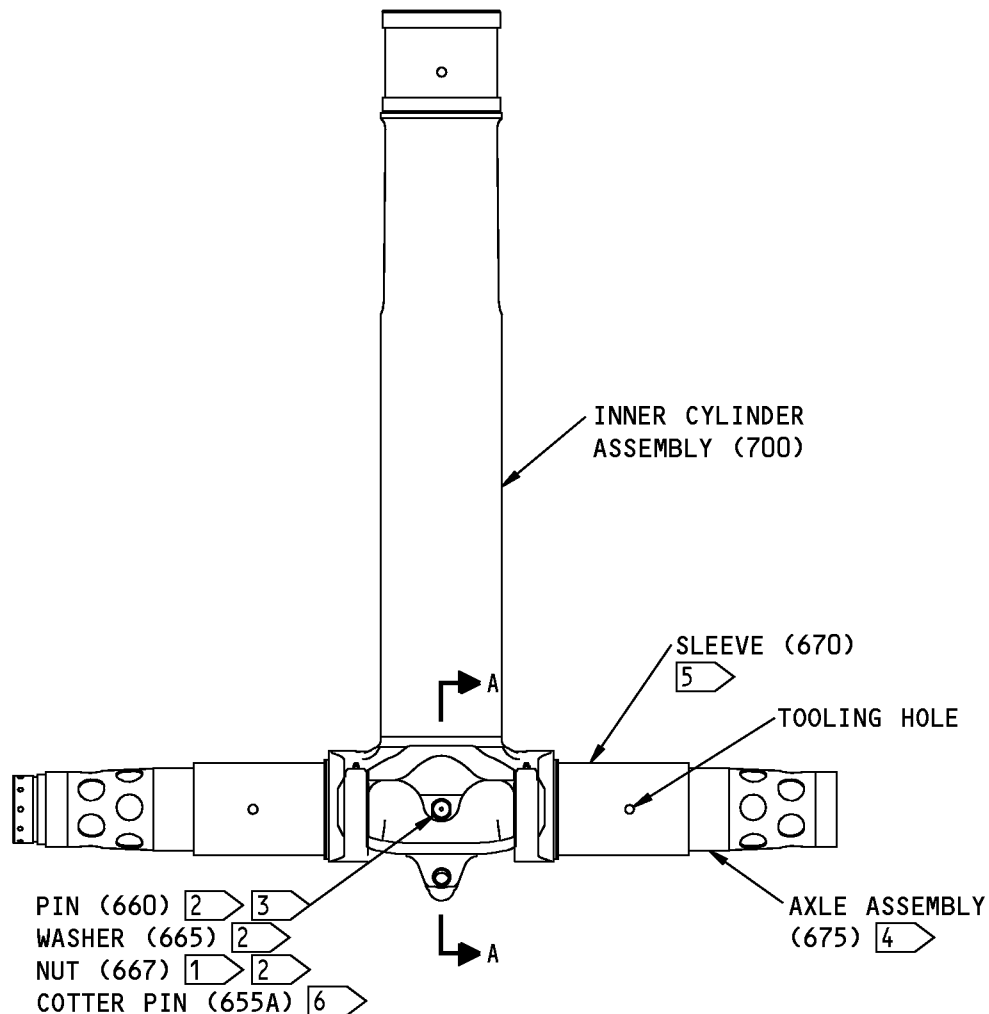
32-11-12

REPAIR 4-1

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A-A

F90224 S0004996849_V3

161A1120-1, -2, -3, -4 Complete Inner Cylinder Assembly Details
Figure 601 (Sheet 1 of 2)

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REPAIR 4-1

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- 1 TIGHTEN THE NUT BY HAND FOR TEMPORARY ASSEMBLY
- 2 APPLY A THIN LAYER OF BMS 3-27 CORROSION PREVENTIVE COMPOUND (F-19.71) TO THE BOLT HEAD, THREAD RELIEF, THREADS AND WASHERS BEFORE ASSEMBLY. WIPE OFF UNWANTED COMPOUND
- 3 LUBRICATE THE CHROME PLATED SURFACES OF THE BOLT WITH BMS 3-33 OR MIL-G-23827 GREASE BEFORE ASSEMBLY
- 4 APPLY A THIN LAYER OF BMS 3-33 OR MIL-G-23827 GREASE TO THE INNER CYLINDER BUSHING BORES AND INSTALL THE AXLE (A SLIP FIT)
- 5 APPLY BMS 3-33 OR MIL-G-23827 GREASE TO THE INNER DIAMETER OF THE BRAKE SLEEVE BEFORE INSTALLATION. DO NOT USE TOO MUCH GREASE
- 6 BEND THE COTTER PIN ENDS APART TO HOLD THE PIN FOR TEMPORARY ASSEMBLY

INSTALL THE BOLTS AND NUTS WITH THE HEAD DIRECTION AS SHOWN

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F86706 S0004996850_V3

161A1120-1, -2, -3, -4 Complete Inner Cylinder Assembly Details
Figure 601 (Sheet 2 of 2)

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REPAIR 4-1

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COMPONENT MAINTENANCE MANUAL

INNER CYLINDER ASSEMBLY - REPAIR 4-2

161A1121-1, 161A1126-1, -3, 161A1129-1

1. General

- A. This procedure tells how to repair and refinish the inner cylinder assembly (700).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for item numbers.

2. Bushing Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

- C. Procedure (REPAIR 4-2, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old bushings (715, 720, 725, 730) from the inner cylinder assembly (700).
- (2) Use the shrink-fit procedure to install replacement bushings (715, 720, 725, 730) with sealant, A00247 as shown in REPAIR 4-2, Figure 601.
- (3) Fillet seal the bushings with sealant, A00247 by the 69B13372 procedure in SOPM 20-50-19.
- (4) Ream the bushings to the dimensions shown in REPAIR 4-2, Figure 601.

3. Lube Fitting Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure (REPAIR 4-2, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove old lube fittings (705) and inserts (710) from inner cylinder assembly (700).
- (2) Use the shrink-fit procedure to install replacement inserts (710) with wet sealant, A00247. Install and tighten the lube fittings to 25-30 pound-inches as indicated by flagnote 5.
- (3) After bushing installation and before sealant, A00247 dries, apply grease, D00013 to the fitting until grease, D00013 appears at the bushing inner diameter (flagnote 3).

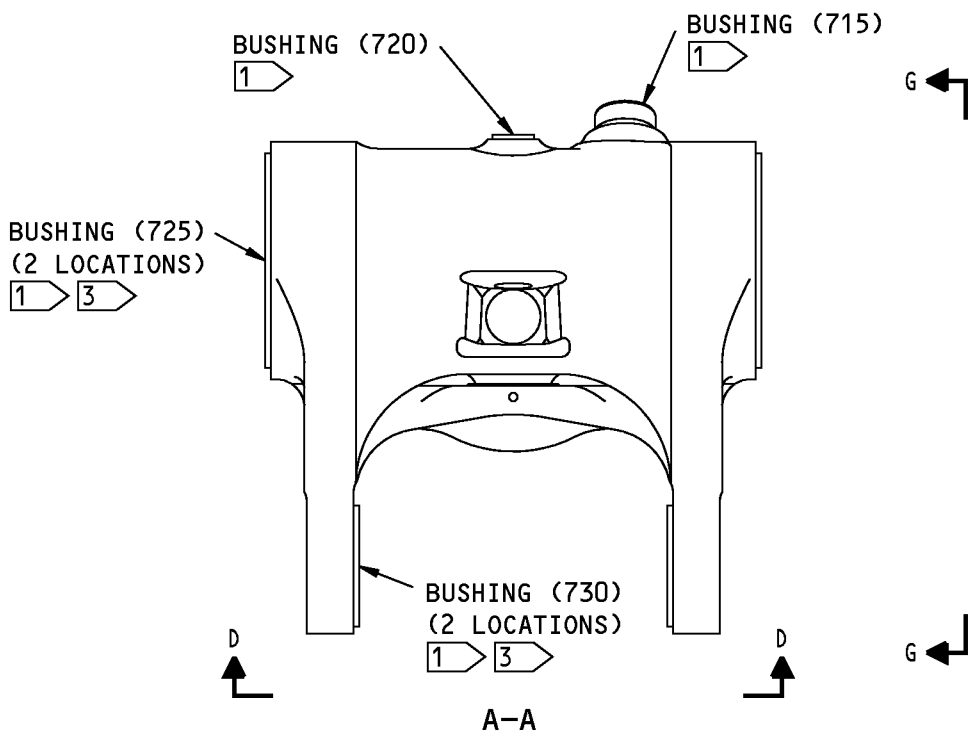
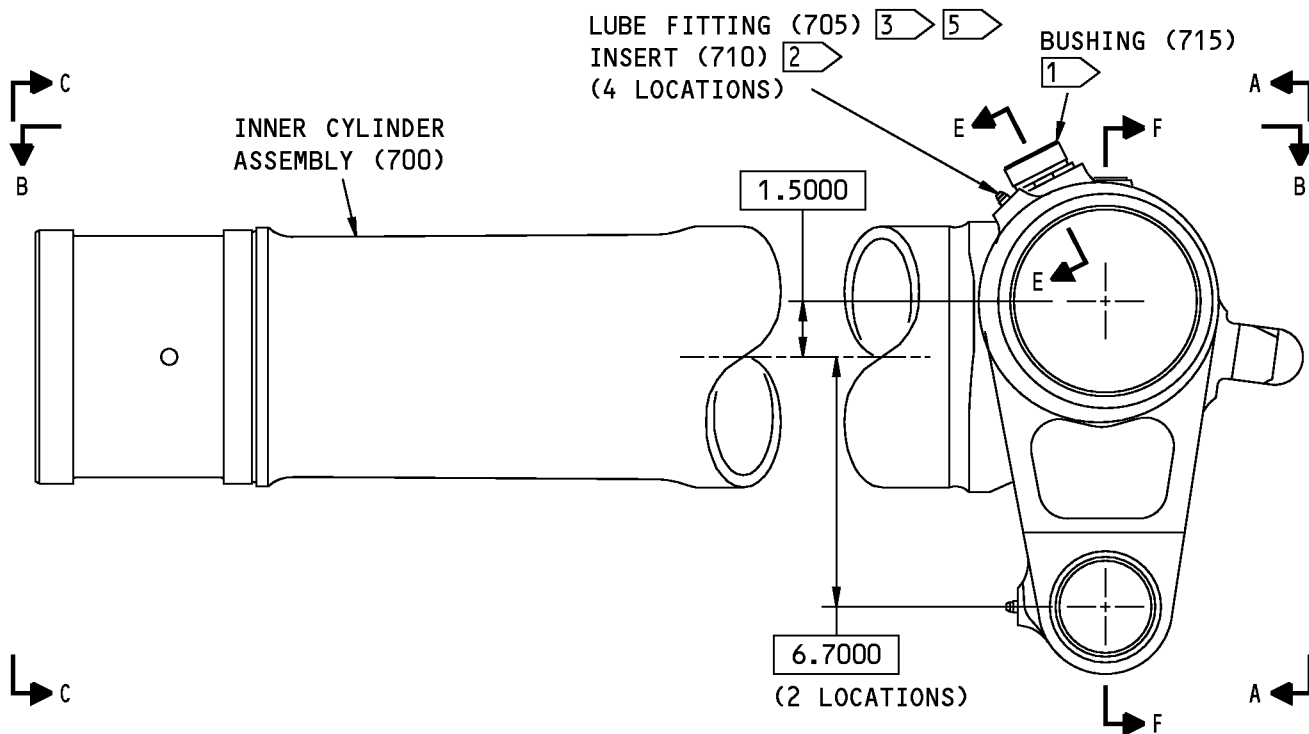
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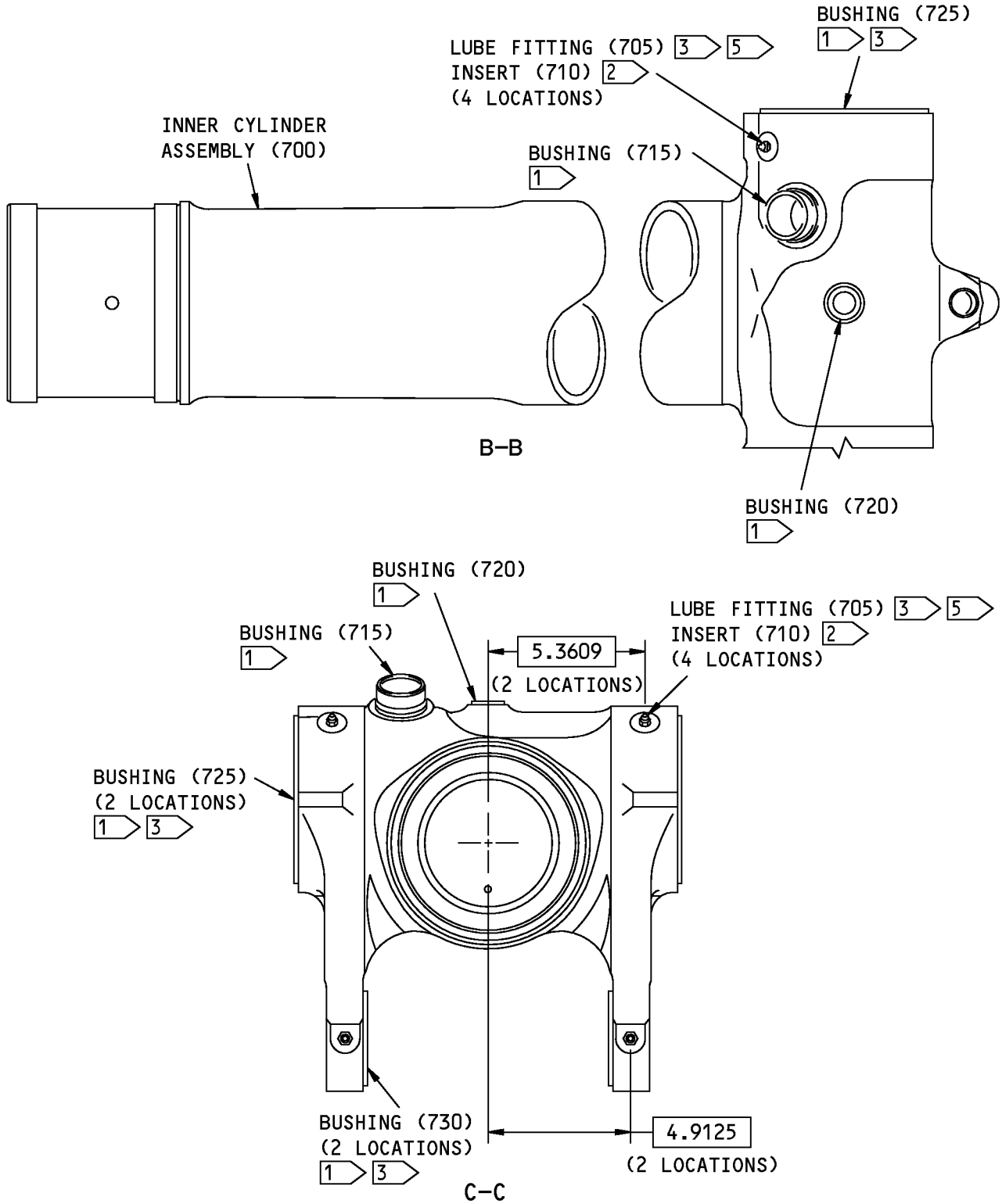


161A1121-1, 161A1126-1,-3, 161A1129-1 Inner Cylinder Assembly Parts Replacement
Figure 601 (Sheet 1 of 4)

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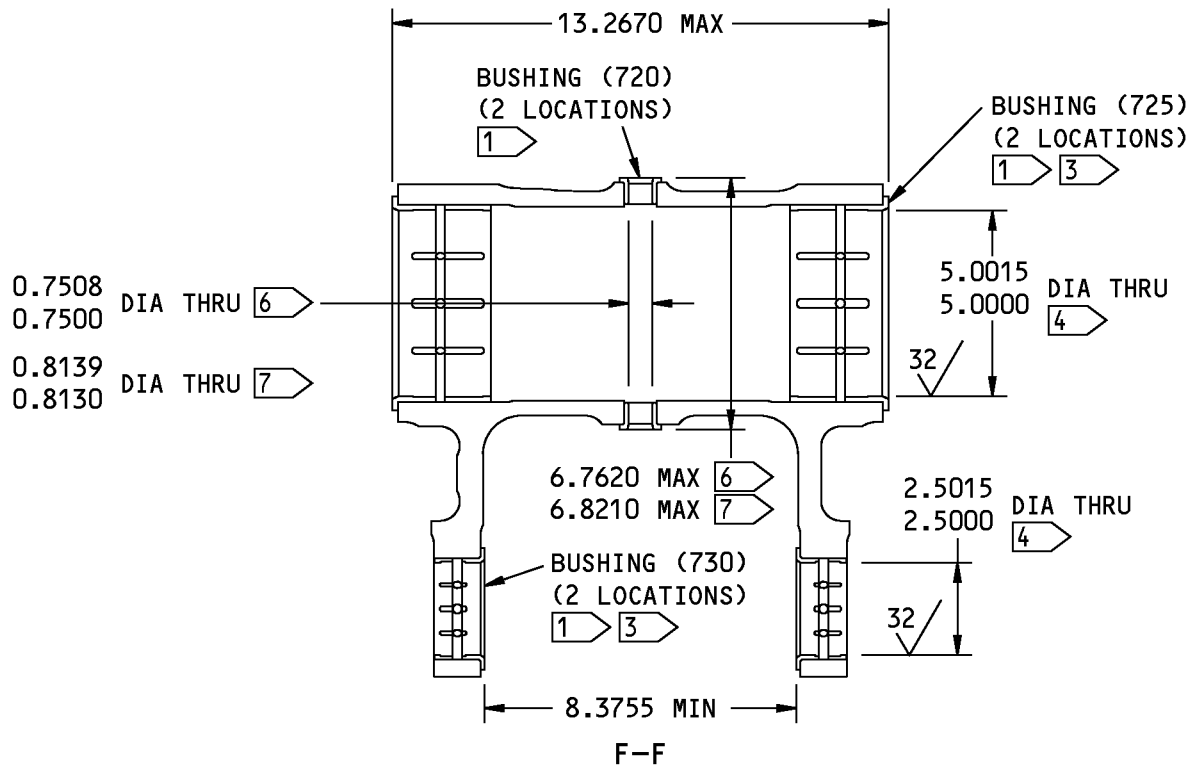
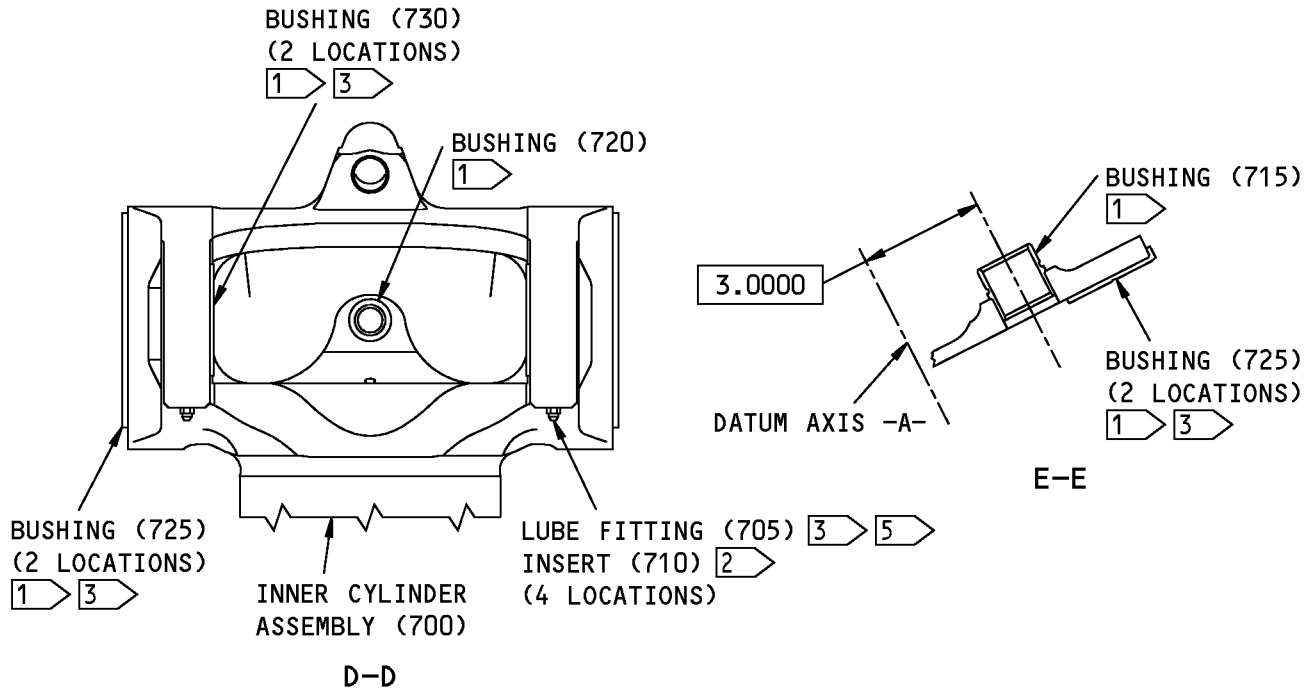


161A1121-1, 161A1126-1,-3, 161A1129-1 Inner Cylinder Assembly Parts Replacement
Figure 601 (Sheet 2 of 4)

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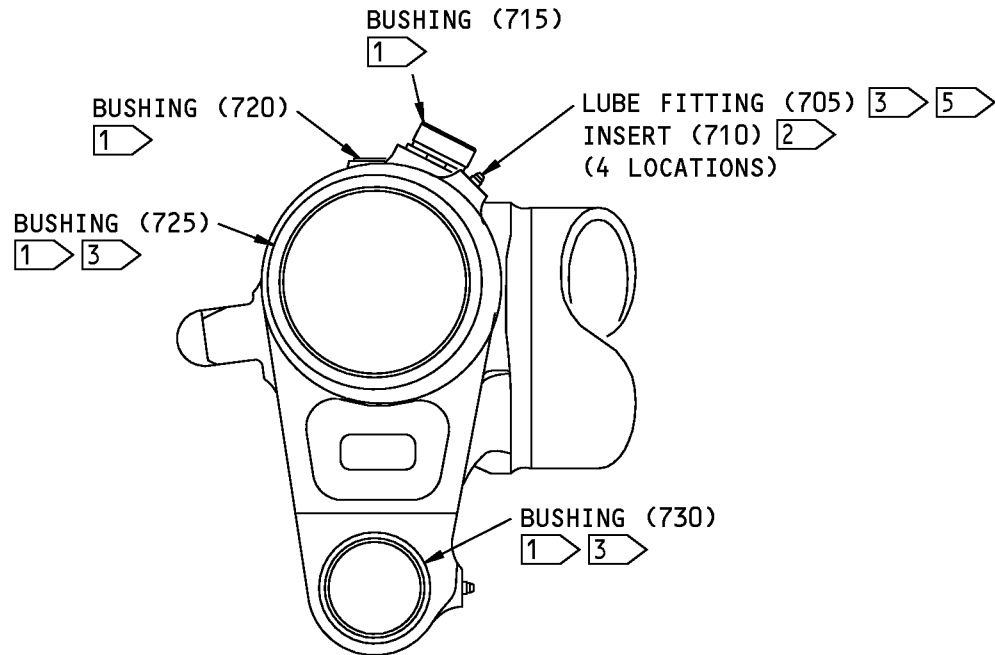
161A1121-1, 161A1126-1,-3, 161A1129-1 Inner Cylinder Assembly Parts Replacement
Figure 601 (Sheet 3 of 4)

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G-G

- | | |
|---|--|
| <p>1 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHING WITH BMS 3-38 COMPOUND OR BMS 5-95 SEALANT. REMOVE UNWANTED SEALANT OR COMPOUND FROM THE GAP BETWEEN THE BUSHINGS (WHEN APPLICABLE)</p> <p>2 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE INSERT WITH BMS 3-38 COMPOUND OR BMS 5-95 SEALANT. PUT THE INSERT FLUSH WITH THE MACHINED PART WITHIN ± 0.02</p> | <p>3 AFTER BUSHING INSTALLATION AND BEFORE THE SEALANT DRIES, APPLY GREASE AT THE LUBE FITTING UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER</p> <p>4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY.</p> <p>5 TIGHTEN TO 25-30 POUND-INCHES</p> <p>6 161A1121-1, 161A1126-1, 161A1129-1</p> <p>7 161A1126-3</p> |
|---|--|

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1121-1, 161A1126-1,-3, 161A1129-1 Inner Cylinder Assembly Parts Replacement
Figure 601 (Sheet 4 of 4)

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INNER CYLINDER - REPAIR 4-3

161A1121-2, 161A1126-2, -4, 161A1129-2

1. General

- A. This procedure tells how to repair and refinish the inner cylinder (735).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for the item numbers.
- E. General repair details:
 - (1) Material: 4340M Steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces
 - (a) Intensity, 0.014-0.019A2
 - (b) Coverage 2.0
 - (c) Hard Shot Rc 55-65

2. Inner Cylinder Repair

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 4-3, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Barrel Surfaces
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Build up with chrome plate and grind to design dimensions and finish.
- (2) Lug Faces and Holes
 - (a) Machine as necessary, within repair limits, to remove defects.

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REPAIR 4-3

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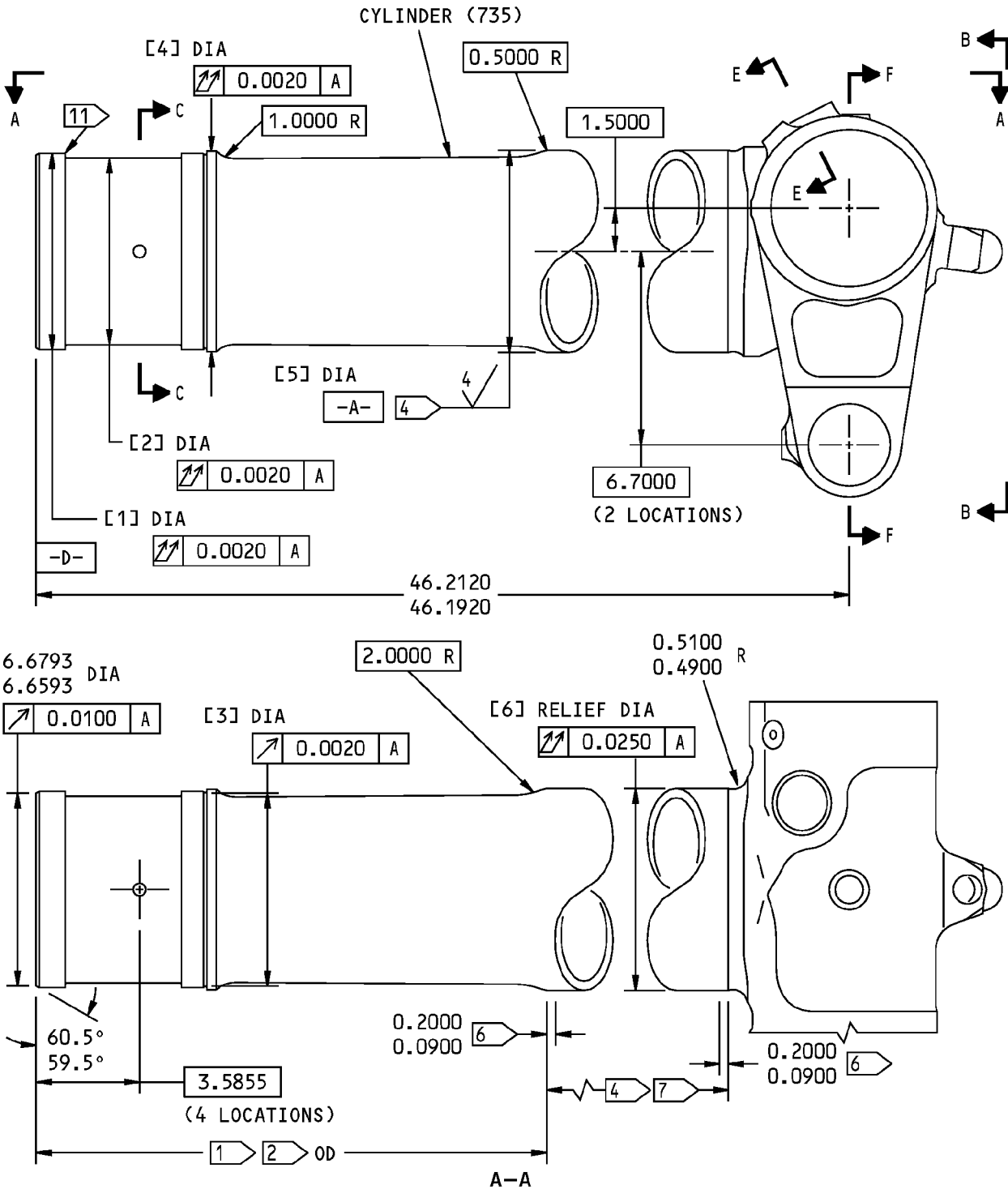
- (b) Make oversize bushings (REPAIR 4-3, Figure 602 and on), as necessary, to adjust for the material removed.
 - (c) Install the bushings as specified in REPAIR 4-2.
- (3) Refinish the cylinder.
- (a) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.47) unless shown differently.

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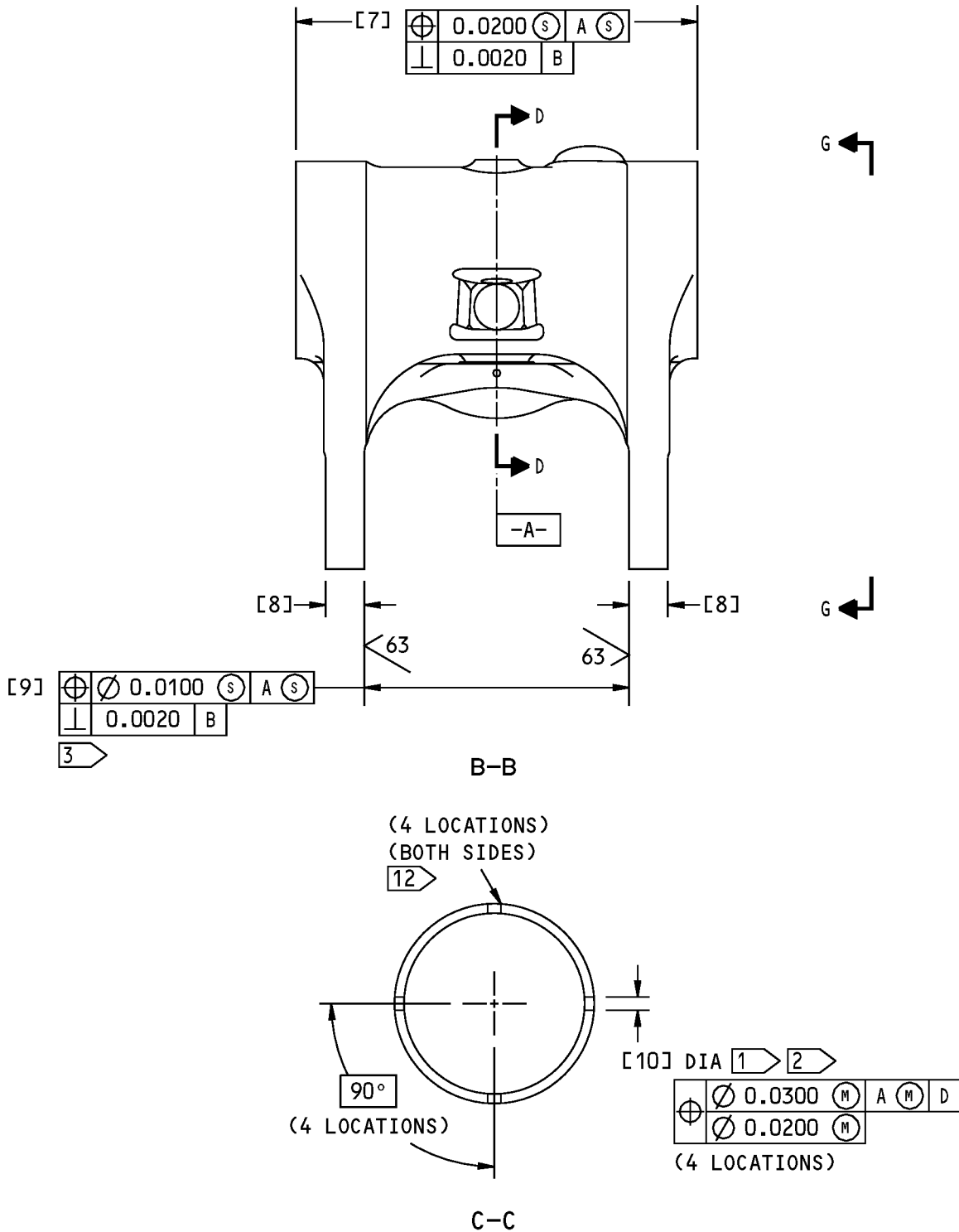


161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 1 of 9)

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REPAIR 4-3
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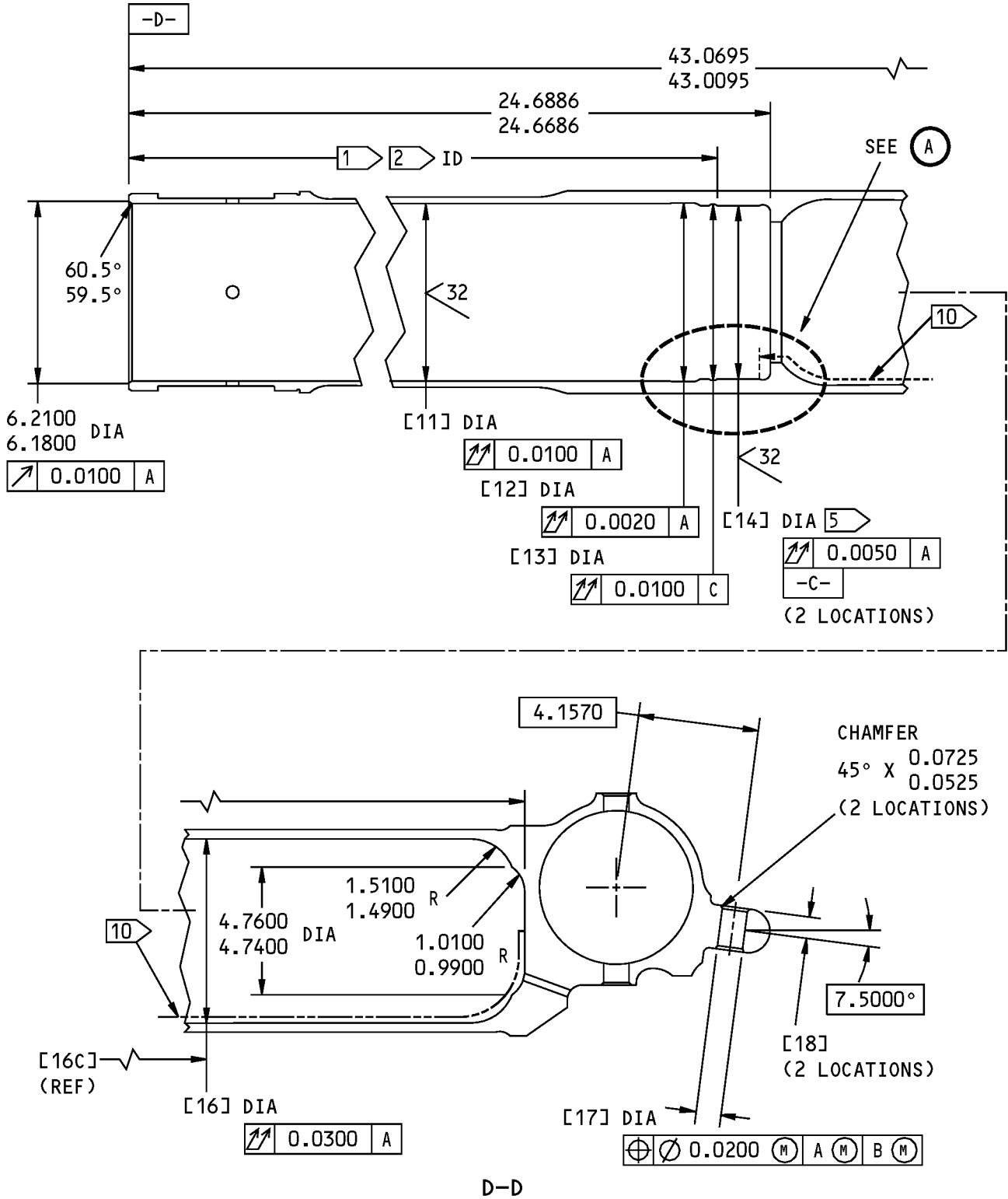


161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 2 of 9)

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REPAIR 4-3
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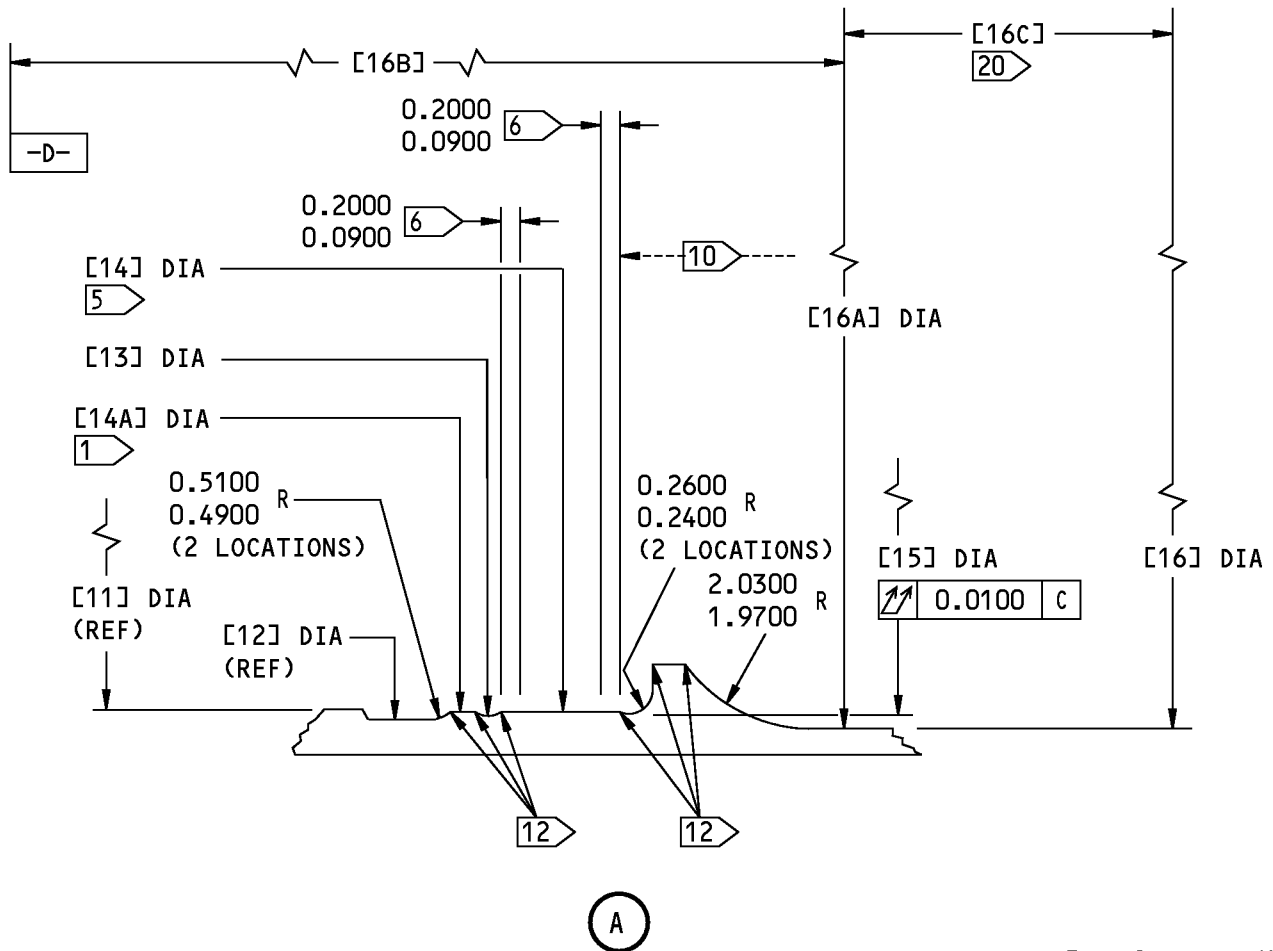
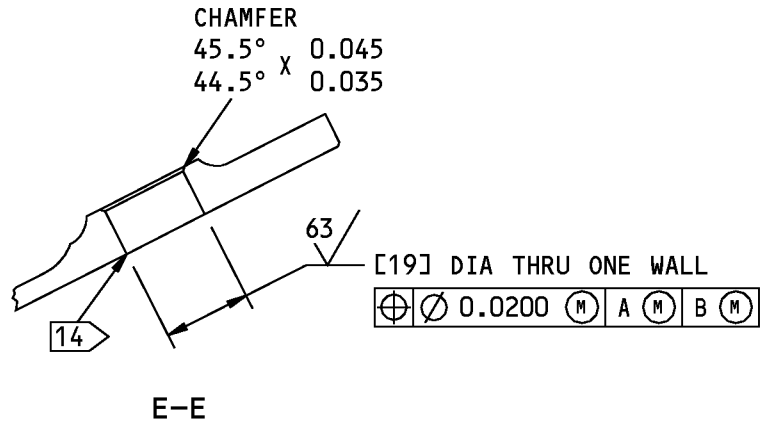


161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 3 of 9)

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REPAIR 4-3
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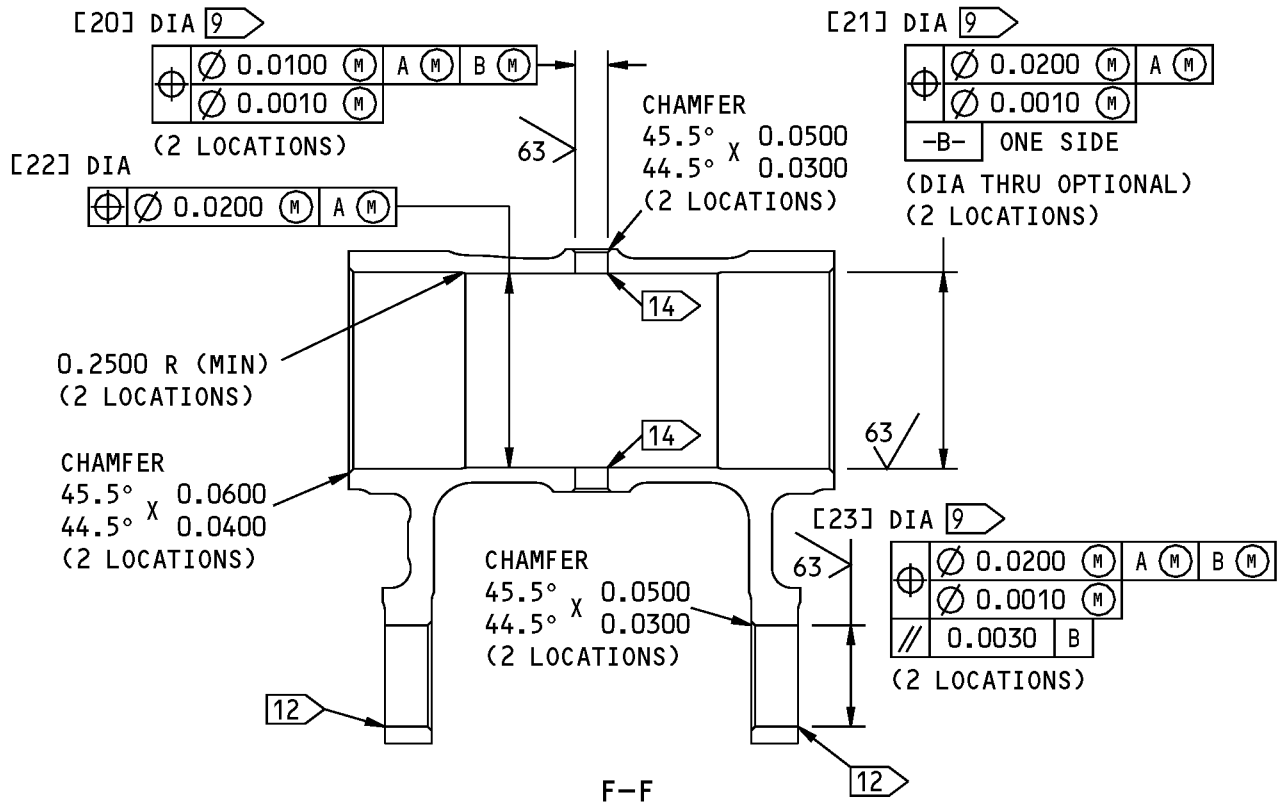
F90180 S0004996862_V4

161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
 Figure 601 (Sheet 4 of 9)

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REPAIR 4-3
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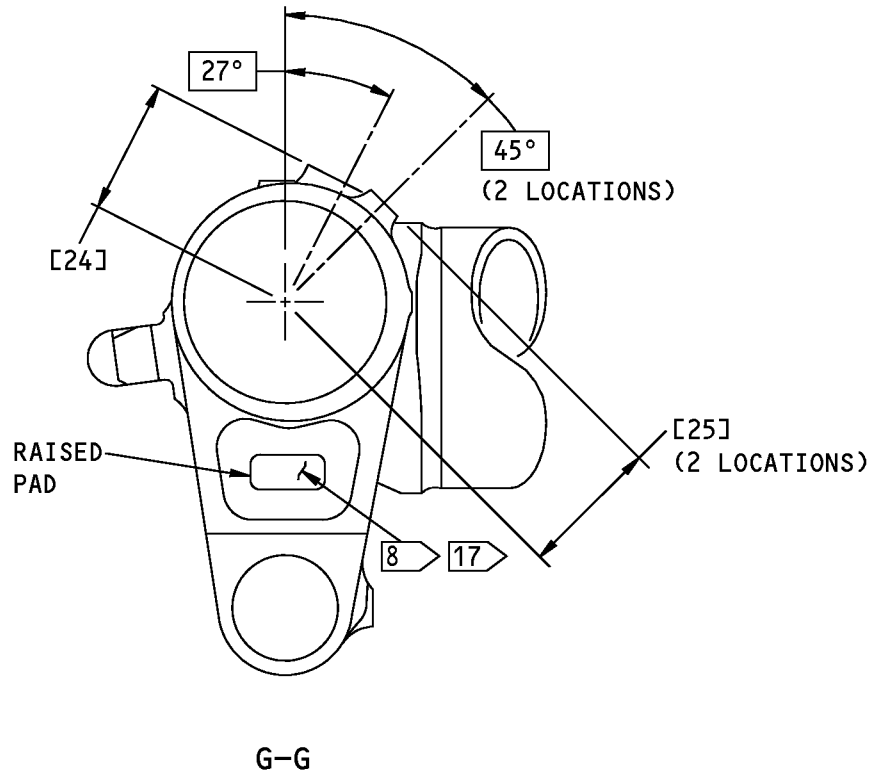


161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
 Figure 601 (Sheet 5 of 9)

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REPAIR 4-3
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W55382 S0004996864_V2

161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 6 of 9)

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REPAIR 4-3

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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
DESIGN DIMENSION	6.7946 6.7906	6.4870 6.4830	6.6976 6.6876	6.9500 6.9400	6.9970 6.9940	3	6.9498 6.9298	13.0060 12.9940	1.2600 1.2400
REPAIR LIMIT	---	---	---	---	6.9670 19	---	---	12.9340 18	1.1800 18

REFERENCE NUMBER	[9]	[10]	[11]	[12]	[13]	[14]	[14A]	[15]		
DESIGN DIMENSION	8.5765 8.5735	0.4420 0.4320	6.1275 6.1225	6.1700 6.1600	6.0850 6.0650	5.9770 5.9730	3	5.9870 5.9810	1	6.0400 6.0200
REPAIR LIMIT	8.6365 18	---	---	---	---	---	---	---	---	---

REFERENCE NUMBER	[16] 21	[16] 22	[16] 23	[16] 24	[16A] 21	[16A] 22	[16A] 23	[16A] 24	[16B]
DESIGN DIMENSION	6.3550 6.3350	6.2460 6.2260	6.2920 6.2720	6.1700 6.1500	6.4220 6.4020	6.3600 6.3400	6.4800 6.4600	6.2700 6.2500	26.7800 26.7200
REPAIR LIMIT	---	---	---	---	---	---	---	---	---

REFERENCE NUMBER	[16C]	[17]	[18]	[19]	[20] 21 22 23	[20] 24	[21]	[22]
DESIGN DIMENSION	6.8721 6.8321	0.8850 0.8650	0.7600 0.7400	1.5635 1.5620	0.8768 0.8760	0.9399 0.9390	5.2915 5.2900	5.2500 5.1900
REPAIR LIMIT	---	---	---	---	0.9368 18	0.9999 18	5.3515 18	---

W55383 S0004996865_V5

161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 7 of 9)

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REFERENCE NUMBER	[23]	[24] 21 > 22 > 23	[24] 24 >	[25] 21 > 22 > 23	[25] 24 >
DESIGN DIMENSION	2.7295 2.7280	3.5828 3.5428	3.6628 3.6228	3.7450 3.7050	3.8250 3.7850
REPAIR LIMIT	2.7895 18 >	---	---	---	---

1563370 S0000289683_V1

161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 8 of 9)

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REPAIR 4-3
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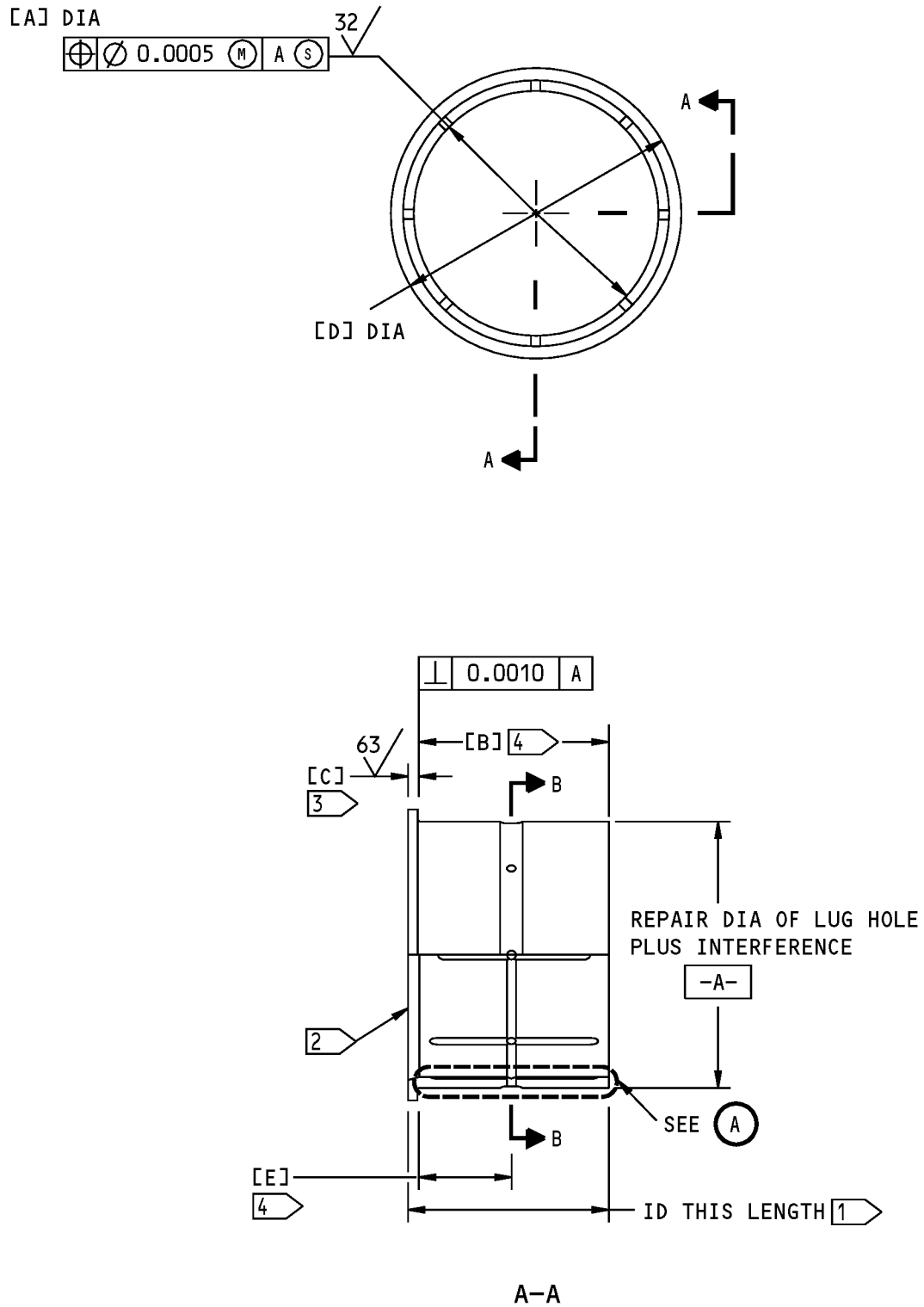
- | | |
|---|--|
| <p>1 DO NOT APPLY FINISH TO THIS SURFACE</p> <p>2 DO NOT APPLY PRIMER OR ENAMEL TO THIS SURFACE</p> <p>3 AFTER PLATING</p> <p>4 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK</p> <p>5 CHROME PLATE (F-15.04), 0.003 MINIMUM THICK</p> <p>6 CHROME PLATE RUNOUT AREA</p> <p>7 WIPE CHROME PLATE WITH PRIMER (F-19.451)</p> <p>8 PART NUMBER AND SERIAL NUMBER LOCATION</p> <p>9 APPLY BMS 10-11, TYPE 1 PRIMER (SRF-14.06) TO THIS SURFACE.</p> <p>10 CADMIUM-TITANIUM PLATE (F-15.01) APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66) AND MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03)</p> <p>11 BREAK SHARP EDGES 0.005-0.010</p> <p>12 BREAK SHARP EDGES TO 0.020-0.030 RADIUS</p> <p>13 BLEND THE TRANSITION OF RADIUS 1.0000 TO TAPER SMOOTHLY</p> <p>14 BREAK SHARP EDGES 0.060-0.090 RADIUS</p> <p>15 0.5000 RADIUS RUNOUT TANGENT TO 1.0000 RADIUS</p> <p>16 BLEND SMOOTHLY THE EDGE RADIUS FROM 0.090-0.012 RADIUS TO 0.020-0.090 RADIUS</p> | <p>17 DO NOT APPLY ENAMEL (F-20.56-707) HERE. MASK THE PAD SURFACE AS REQUIRED. APPLY ENAMEL (F-19.39-707) TO THE AREA. WHEN THE ENAMEL IS DRY, APPLY BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. THEN APPLY TYPE 41 CLEAR COATING (F-21.34) TO ALL OF THE SURFACE. FILL TO THE SAME THICKNESS AS THE ADJACENT ENAMEL</p> <p>18 LIMIT FOR OVERSIZE BUSHING INSTALLATION</p> <p>19 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH</p> <p>20 STRAIGHT TAPERED BORE THIS LENGTH</p> <p>21 161A1121-2</p> <p>22 161A1126-2</p> <p>23 161A1129-2</p> <p>24 161A1126-4</p> <p>125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY</p> <p>ALL DIMENSIONS AND SURFACE FINISHES APPLY BEFORE SHOT PEENING AND PLATING UNLESS SHOWN DIFFERENTLY.</p> <p>BREAK ALL SHARP EDGES</p> <p>ITEM NUMBERS REFER TO IPL FIG. 1</p> <p>ALL DIMENSIONS ARE IN INCHES</p> |
|---|--|

161A1121-2, 161A1126-2,-4, 161A1129-2 Inner Cylinder Repair and Refinish
Figure 601 (Sheet 9 of 9)

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REPAIR 4-3
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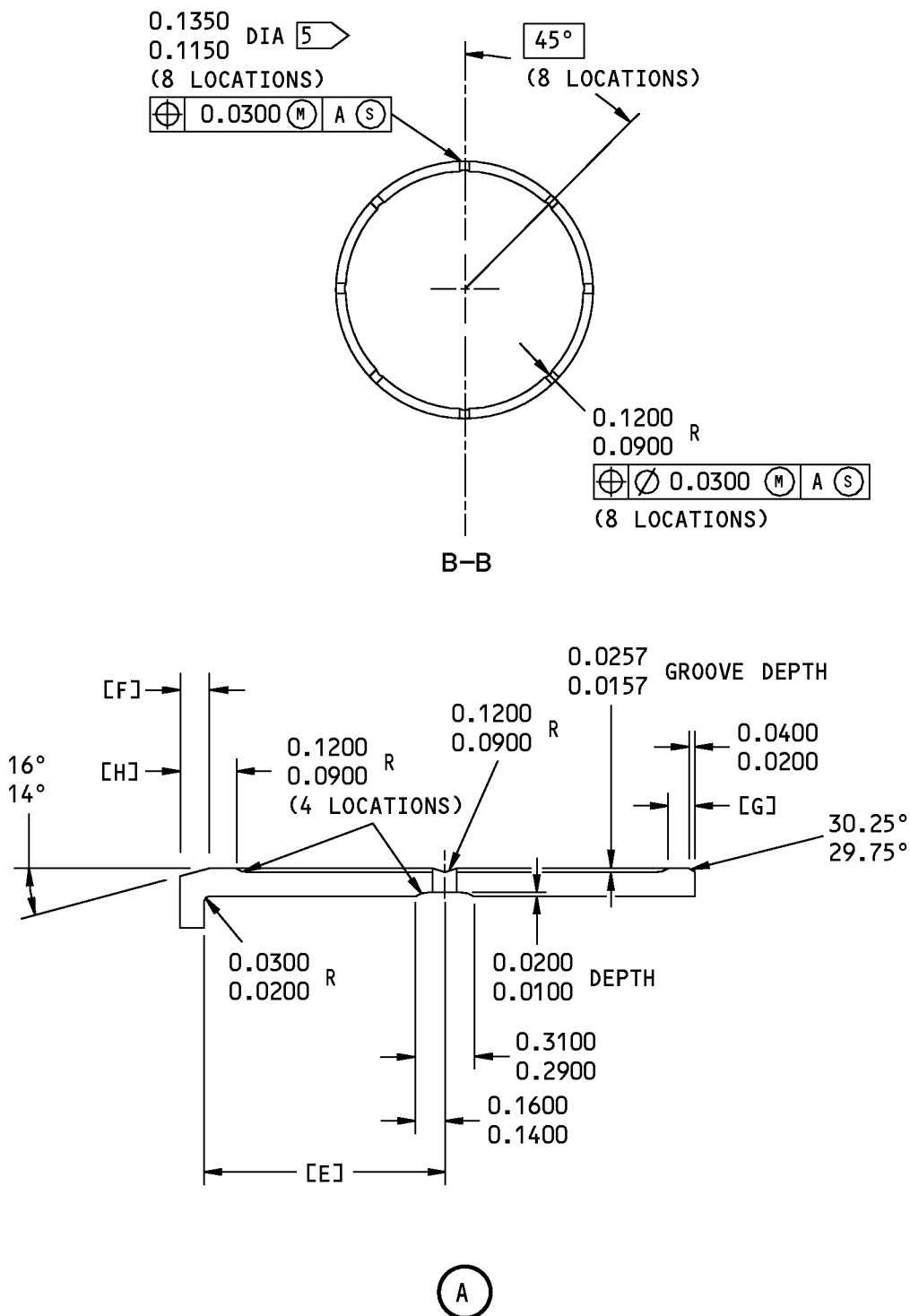
A-A
Oversize Bushing Details
Figure 602 (Sheet 1 of 3)

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REPAIR 4-3
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Oversize Bushing Details
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HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]
[21]	(725) 161A1125-1	5.0031 5.0016	2.5100 2.4900	0.1260 0.1250	5.7600 5.7400	1.1480 1.1280	0.1600 0.1400
[23]	(730) 161A1125-2	2.5024 2.5009	1.2500 1.2300	0.0945 0.0935	3.2600 3.2400	0.6350 0.6150	0.1300 0.1100

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[G]	[H]	INTERFERENCE
[21]	(725) 161A1125-1	0.2100 0.1800	0.5100 0.4800	0.0050 0.0019
[23]	(730) 161A1125-2	0.1600 0.1300	0.5100 0.4800	0.0041 0.0011

- 1 NO FINISH ON THIS SURFACE
- 2 CHROME PLATE (F-15.43, WHICH REPLACES F-14.892) 0.0003-0.0005 THICK
- 3 PLUS AMOUNT REMOVED FROM THE LUG FACE
- 4 MINUS AMOUNT REMOVED FROM THE LUG FACE
- 5 HOLE THAT GOES THRU LUBE GROOVE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.010-0.010 R

MATERIAL: AL-NI-BRONZE (AMS 4640), ANNEALED

FINISH: CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1 2

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 3 of 3)

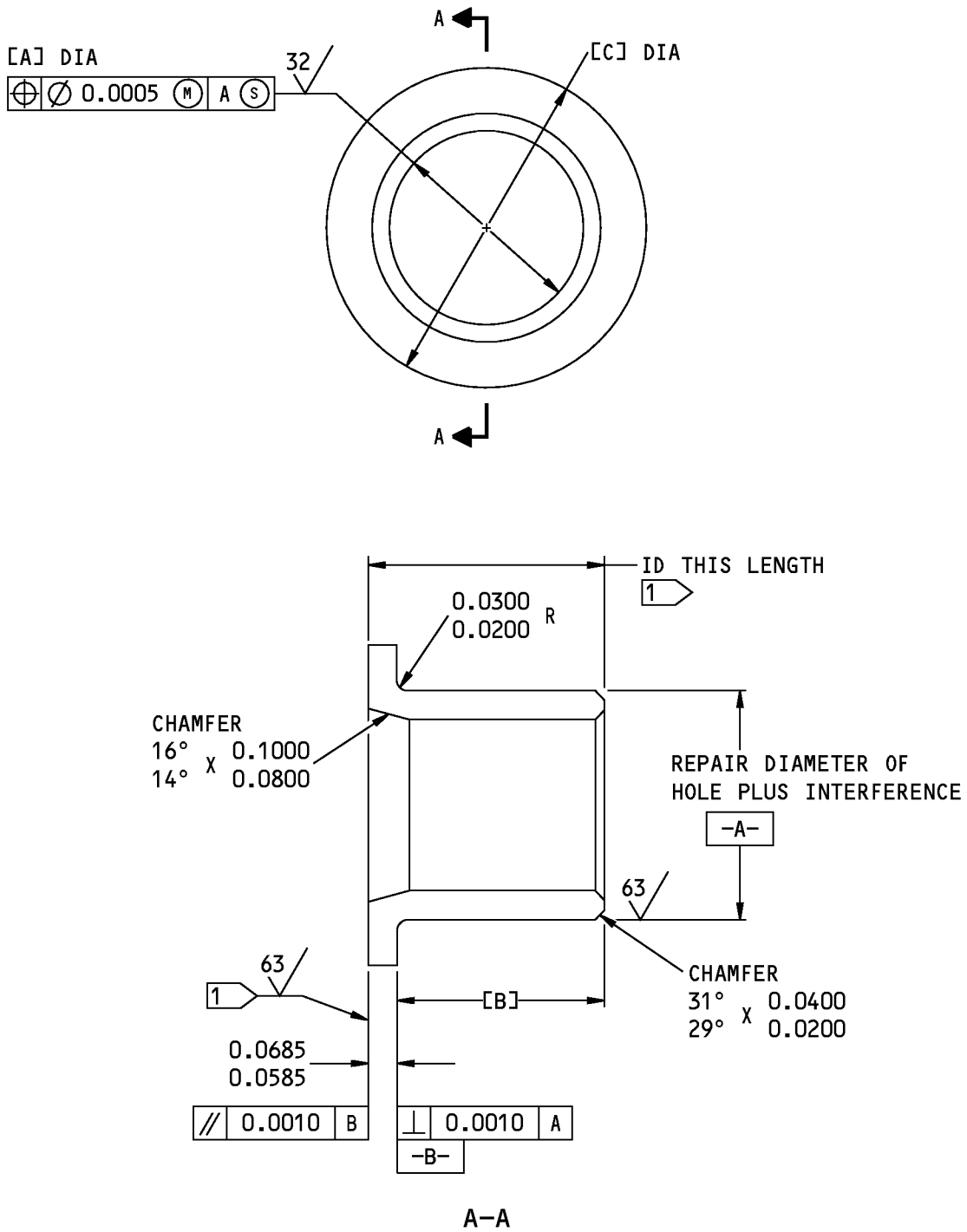
32-11-12

REPAIR 4-3

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1502805 S0000272771_V1

Oversize Bushing Details
Figure 603 (Sheet 1 of 2)

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REPAIR 4-3
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HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	INTERFERENCE
[20]	161A1124-1 (720)	0.7513 0.7505	0.6000 0.5800	1.1350 1.1150	0.0021 0.0006
[20]	161A1124-2 (720A)	0.8143 0.8133	0.6300 0.6100	1.2000 1.1800	0.0022 0.0005

NO FINISH (F-25.01)

ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRONZE (AMS 4640), ANNEALED

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

1502830 S0000272772_V1

Oversize Bushing Details
Figure 603 (Sheet 2 of 2)

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REPAIR 4-3

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PIN - REPAIR 4-4

161A1128-1, -2, -3

1. General

- A. This procedure tells how to repair and refinish pin (660).
- 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 Position Dimensioning Symbols shown in the repair figures.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: 4340M steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces
 - (a) Intensity, 0.014-0.018A2
 - (b) Coverage 2.0
 - (c) Hard Shot Rc 55-65
 - (d) Shot Size 0.016-0.033

2. Pin Repair

A. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

B. Procedure (REPAIR 4-4, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Machine as required, within repair limits, to remove defects.
- (2) Unless shown differently, build up with chrome plate (SOPM 20-42-03) to the after plating dimensions.

3. Pin Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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REPAIR 4-4

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Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 4-4, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.66) on all surfaces that do not have chrome plate.

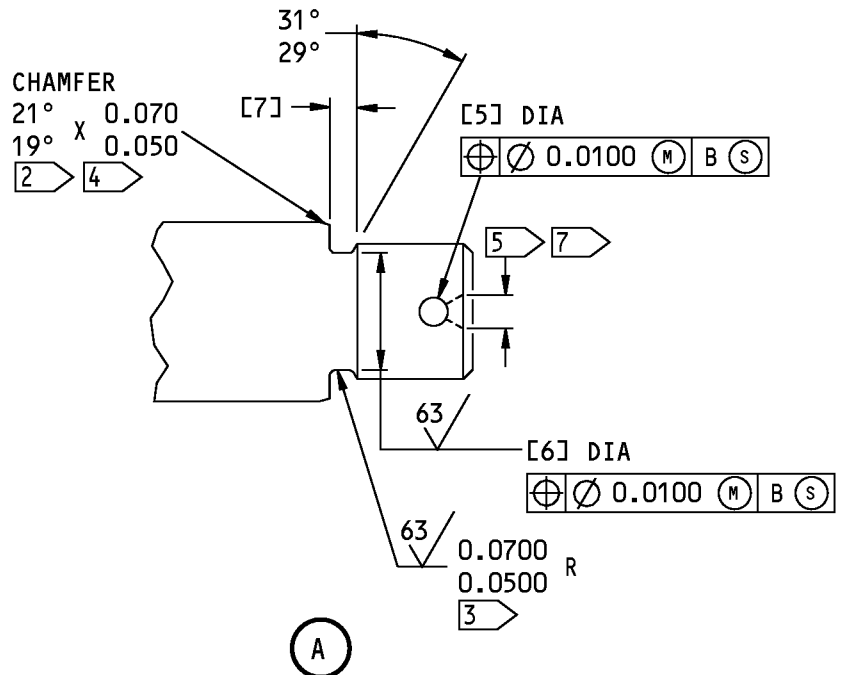
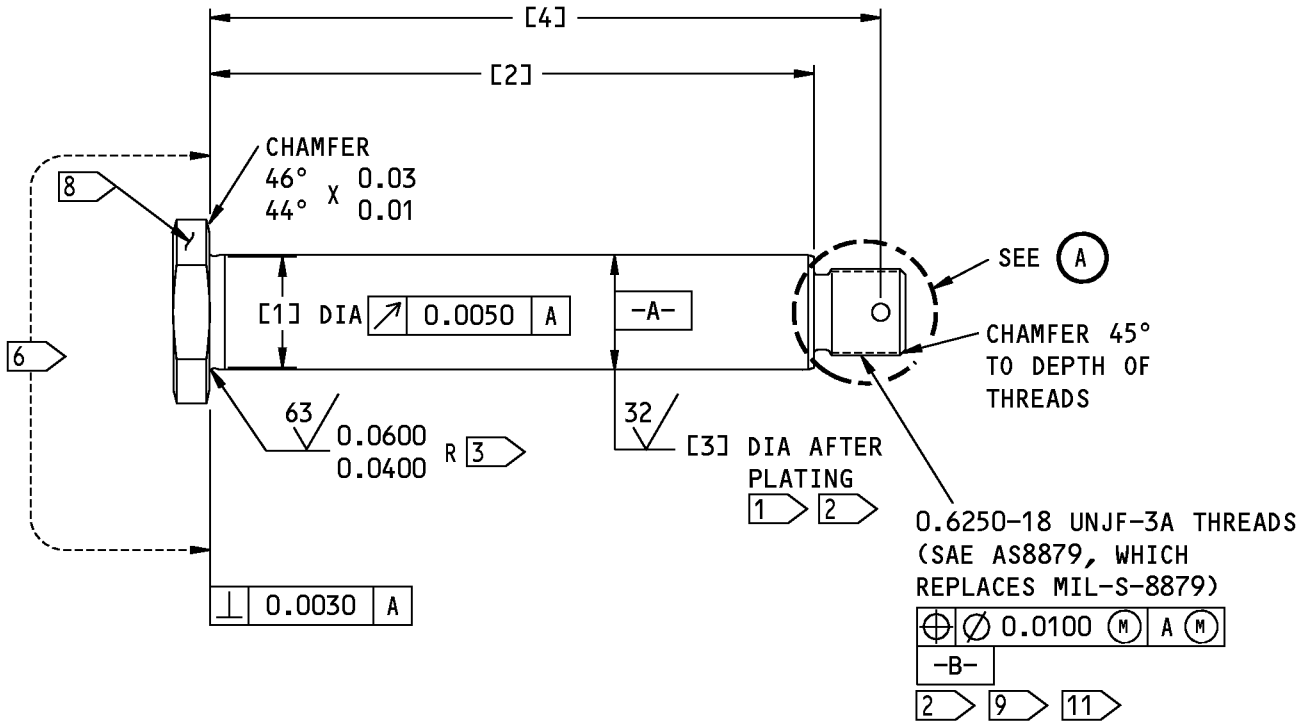
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REPAIR 4-4

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F84366 S0004996872_V3

161A1128-1, -2, -3 Pin Repair
Figure 601 (Sheet 1 of 3)

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PART NUMBER	REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
161A1128-1	DESIGN DIMENSION	0.7050 0.6950	6.6700 6.6500	0.7497 0.7493	7.1200 7.1100	0.1500 0.1430	0.5440 0.5370	0.1550 0.1250
	REPAIR LIMIT	0.6850 	---	0.7197	---	0.1800 	0.5100 	---

PART NUMBER	REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
161A1128-2	DESIGN DIMENSION	0.7050 0.6950	6.6700 6.6500	0.7497 0.7493	7.1800 7.1700	0.1500 0.1430	0.5440 0.5370	0.1550 0.1250
	REPAIR LIMIT	0.6850 	---	0.7197	---	0.1800 	0.5100 	---

PART NUMBER	REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
161A1128-3	DESIGN DIMENSION	0.7680 0.7580	6.7300 6.7100	0.8125 0.8121	7.2400 7.2300	0.1500 0.1430	0.5440 0.5370	0.1550 0.1250
	REPAIR LIMIT	---	---	0.7825	---	0.1800 	---	---

F84531 S0004996873_V3

161A1128-1, -2, -3 Pin Repair
Figure 601 (Sheet 2 of 3)

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- 1 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- 2 WIPE WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 3 SHOT PEEN OVERSPRAY IS PERMITTED IN THE FILLET RADIUS
- 4 CHROME PLATE RUNOUT AREA
- 5 PLATING IS NOT NECESSARY IN THIS HOLE. APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47)
- 6 CADMIUM-TITANIUM PLATE (F-15.01) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 ENAMEL (F-20.56-707)
- 7 SHOT PEEN IS OPTIONAL
- 8 PART NUMBER AND SERIAL NUMBER
- 9 CADMIUM-TITANIUM PLATE (F-15.32)
- 10 AFTER PLATING
- 11 DO NOT SHOT PEEN
- 12 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 13 RESTORATION TO DESIGN DIMENSIONS NOT NECESSARY

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.06 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F84391 S0004996874_V3

161A1128-1, -2, -3 Pin Repair
Figure 601 (Sheet 3 of 3)

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REPAIR 4-4

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COMPONENT MAINTENANCE MANUAL

AXLE ASSEMBLY - REPAIR 4-5

161A1130-1, -3, -5, -7

1. General

- A. Use this procedure to replace the parts of axle assembly (675).
- 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. Parts Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
C50056	Compound - Nondrying Resin Mix Corrosion Inhibiting Material	BMS 3-27
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)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Paste - Corrosion Inhibiting, Non-drying	BMS 3-38

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the bushing (690) from the axle assembly (675).
- (2) Remove the pin (680) from the axle assembly (675).
- (3) With C32032-57 equipment, remove the sleeve (685) from the axle assembly (675).
- (4) If you find defects on the axle or the sleeve, refer to REPAIR 4-6 or REPAIR 4-7 for repair instructions.
- (5) Install a replacement bushing (690).
 - (a) Use the shrink-fit procedure to install the bushing with sealant, A00247.

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REPAIR 4-5

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- (b) Anvil swage both ends of the bushing (SOPM 20-50-03). Make sure the bushing face is flush with or below the axle outer surface.
 - (c) Machine the bushing to the dimensions shown in REPAIR 4-5, Figure 601.
- (6) Install a replacement sleeve (685).
- (a) Apply a thick layer of grease, D00633 or grease, D00015 or to the surfaces noted by flagnote 2.
 - (b) Use the shrink-fit procedure to install the sleeve (685). Heat the sleeve to 350-400°F. Quickly install the sleeve on the axle, and be sure to align the hole in the sleeve with the hole in the axle to let you install the pin.
- (7) Install the pin (680).
- (a) Apply sealant, A00247 or compound, C50056 or corrosion inhibiting non-drying paste, G50136 to the axle hole.
 - (b) While the sealant or compound is wet, lightly press or tap the pin (680) to be flush with or below the axle surface.
 - (c) Apply grease, D00633 or grease, D00015 over the pin to fill the gap between the pin head and the sleeve surface.

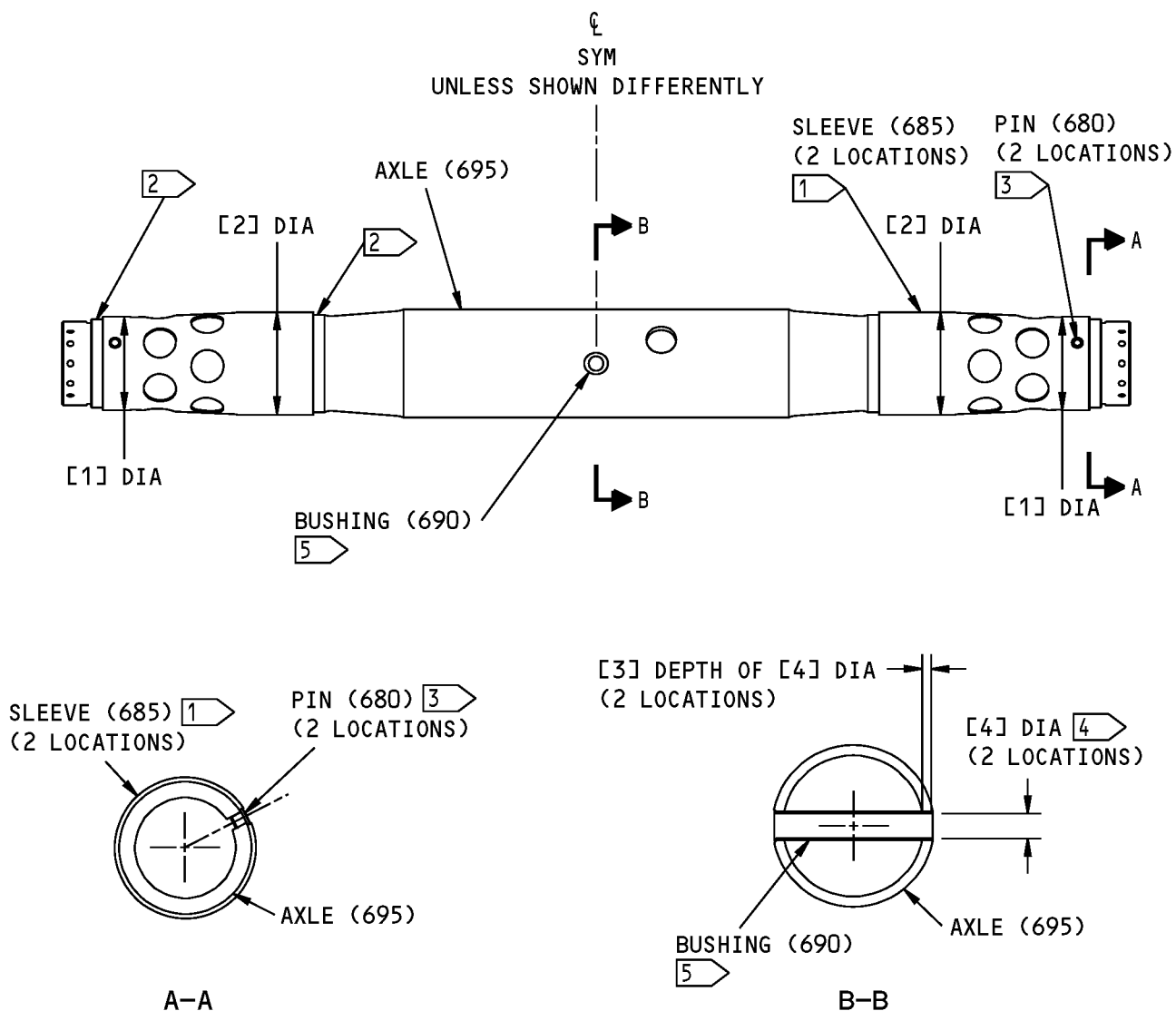
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REFERENCE NUMBER	[1] 9	[2] 9	[3] 6	[3] 10	[3] 7	[3] 8	[4] 6	[4] 7	[4] 8	[4] 10
DESIGN DIMENSION	4.3293 4.3266	4.7491 4.7466	0.230 0.210	0.265 0.245	0.2384 0.2184	0.7650 0.7635				0.8280 0.8265

161A1130-1,-3,-5,-7 Axle Assembly Repair
Figure 601 (Sheet 1 of 2)

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- ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES
- 1 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE SLEEVE. BE SURE TO QUICKLY ALIGN THE HOLES IN THE SLEEVE WITH THE HOLES IN THE AXLE TO LET THE RETAINER PIN BE INSTALLED
 - 2 BEFORE SLEEVE INSTALLATION, APPLY A THICK LAYER OF BMS 3-33 OR BMS 3-24 GREASE TO THESE SURFACES. REMOVE UNWANTED GREASE FROM THE HOLES IN THE INSTALLED SLEEVE
 - 3 APPLY BMS 3-27 OR BMS 3-38 COMPOUND OR BMS 5-95 SEALANT TO THE AXLE HOLE. INSTALL THE RETAINER PIN WHILE THE SEALANT IS WET. LIGHTLY PRESS OR TAP THE PIN HEAD UNTIL IT IS FLUSH WITH OR BELOW THE SLEEVE SURFACE. APPLY BMS 3-33 OR BMS 3-24 GREASE OVER THE PIN TO FILL THE GAP FLUSH WITH THE SLEEVE SURFACE
 - 4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY
 - 5 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHING WITH BMS 3-27 OR BMS 3-38 COMPOUND OR BMS 5-95 SEALANT. ANVIL SWAGE BOTH ENDS TO HOLD THE BUSHING IN POSITION. MAKE SURE THE BUSHING IS FLUSH WITH OR BELOW THE AXLE SURFACE
 - 6 161A1130-1
 - 7 161A1130-3
 - 8 161A1130-5
 - 9 INTERFACE DIMENSION. DO NOT ADJUST
 - 10 161A1130-7

161A1130-1,-3,-5,-7 Axle Assembly Repair
Figure 601 (Sheet 2 of 2)

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COMPONENT MAINTENANCE MANUAL

AXLE - REPAIR 4-6

161A1130-2, -4, -6, -8

1. General

- A. This procedure tells how to repair and refinish the axle (695).
- 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.
- D. General repair details:
 - (1) Material: 4340M Steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces
 - (a) Intensity 0.014-0.018A2
 - (b) Hard Shot RC55-65
 - (c) Shot Size 0.016-0.033

2. Axle Repair and Refinish

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 4-6, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Repair the axle (695).
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Chrome plate the machined surfaces to return them to design dimensions.
 - (c) If you grind the chrome plate after the axle was cadmium-plated and primed, apply stylus cadmium plating to the bare steel surfaces and then apply primer, C00259 (F-20.02).
- (2) Refinish the axle.
 - (a) Apply plating and primer to surfaces as shown.

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- (b) Apply BMS 10-60, Type 2 enamel (F-19.39-707) to exterior and the 3.123-3.125-inch end bores, unless shown.

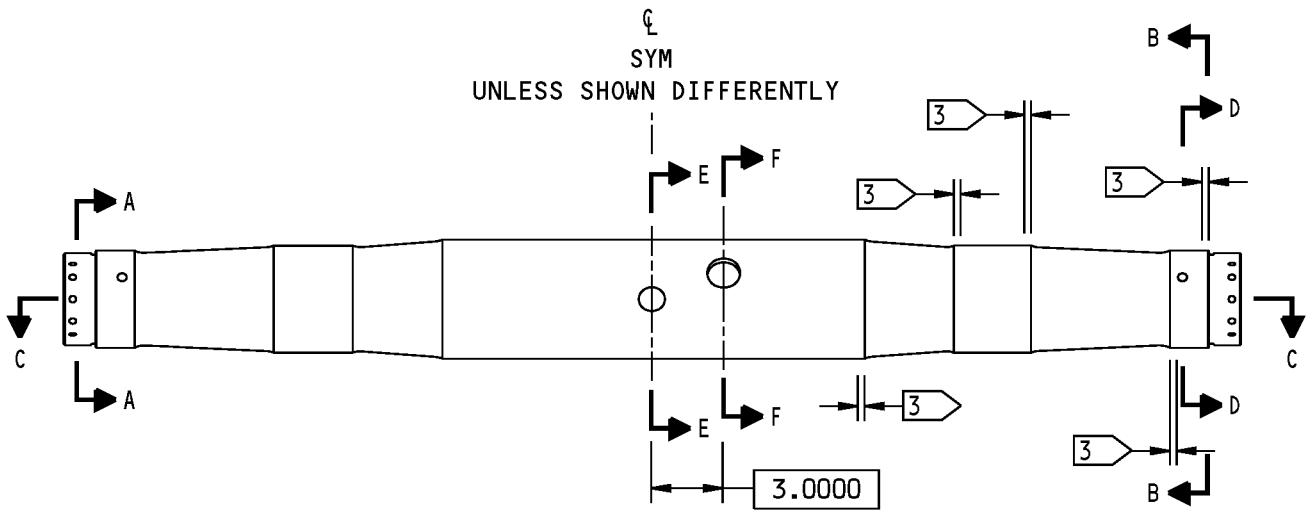
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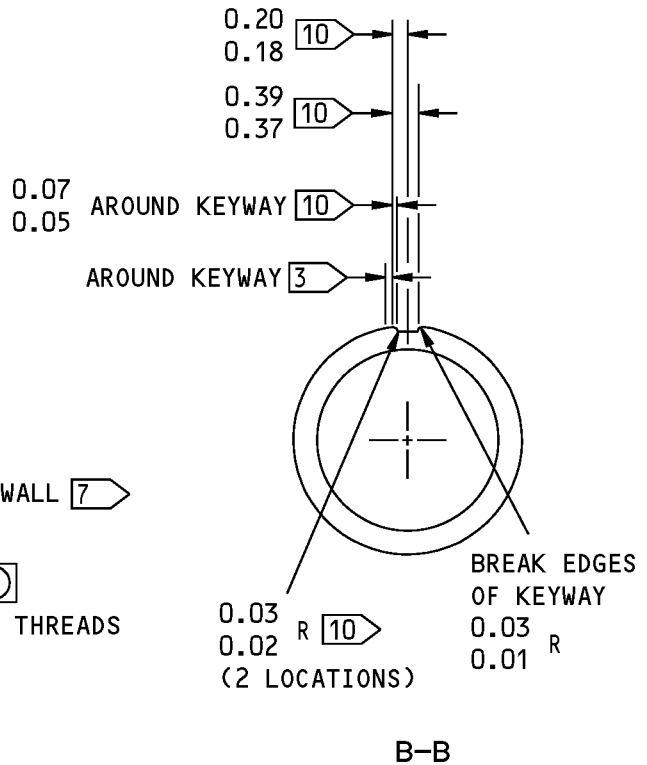
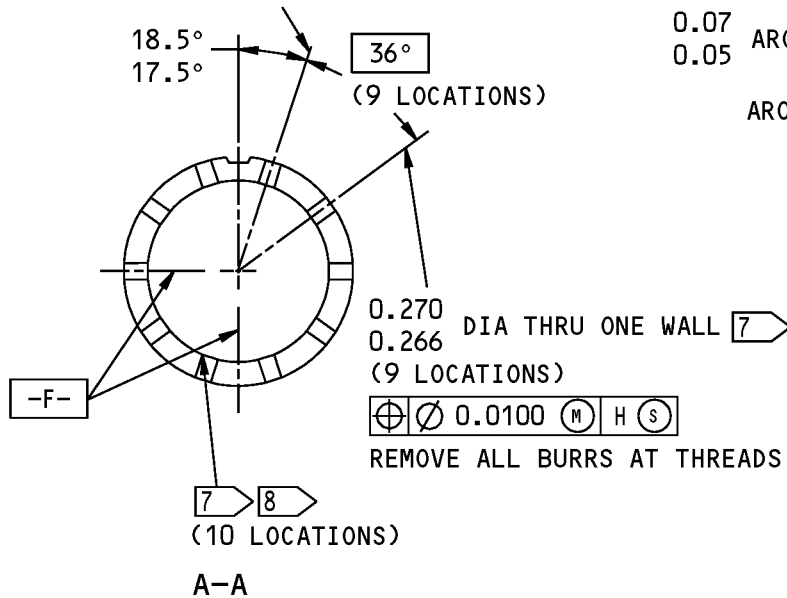
COMPONENT MAINTENANCE MANUAL



0.270
0.266 DIA HOLE THRU ONE WALL 7

┴ 0.0050 F
-H-

REMOVE ALL BURRS AT THREADS

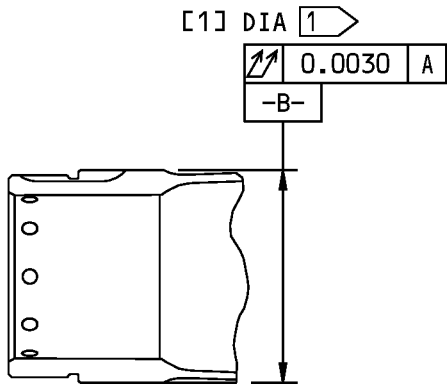
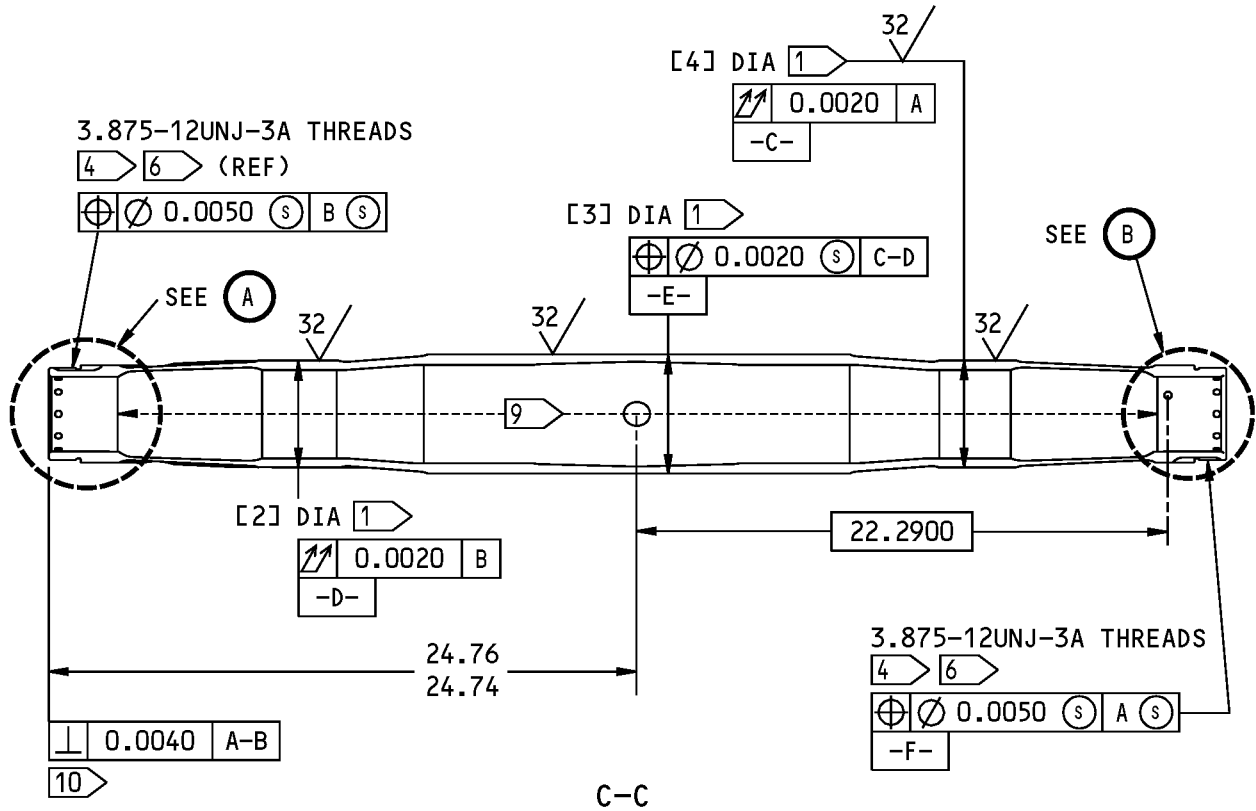


161A1130-2,-4,-6,-8 Axle Repair
Figure 601 (Sheet 1 of 5)

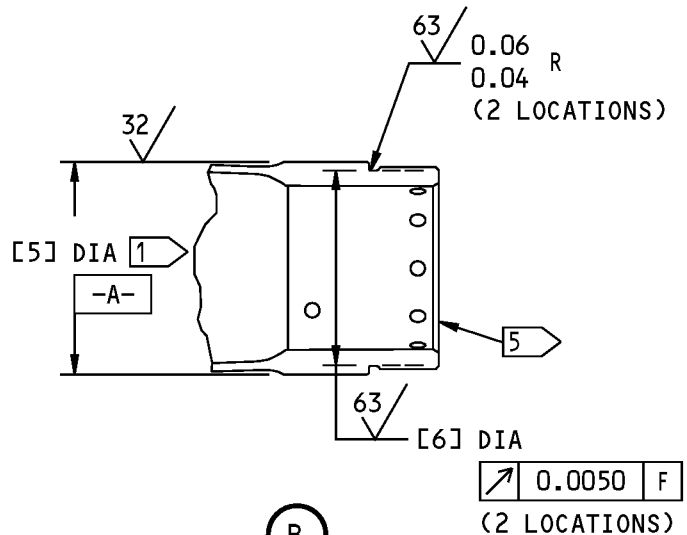
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(A)

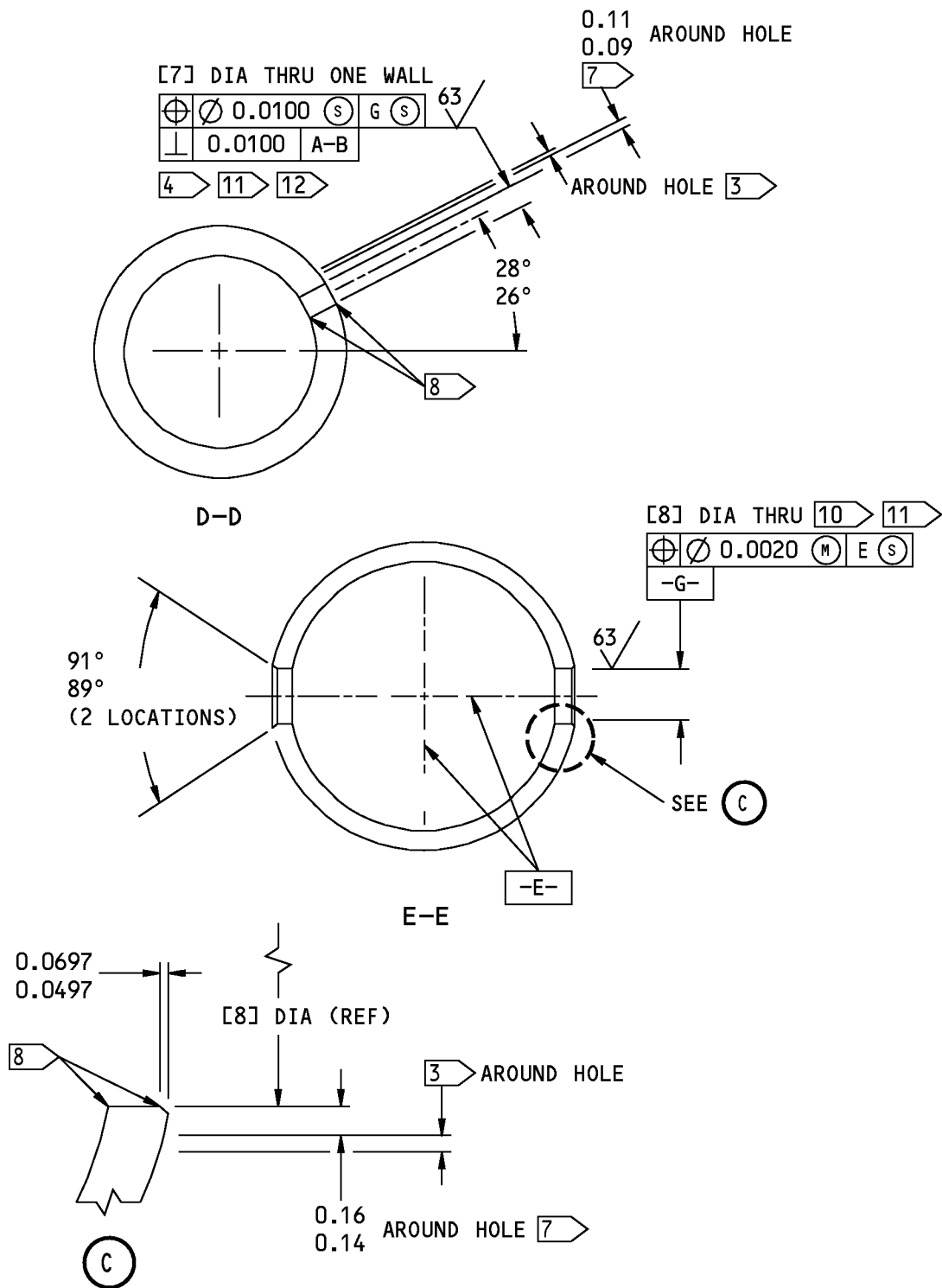


(B)

161A1130-2,-4,-6,-8 Axle Repair
 Figure 601 (Sheet 2 of 5)

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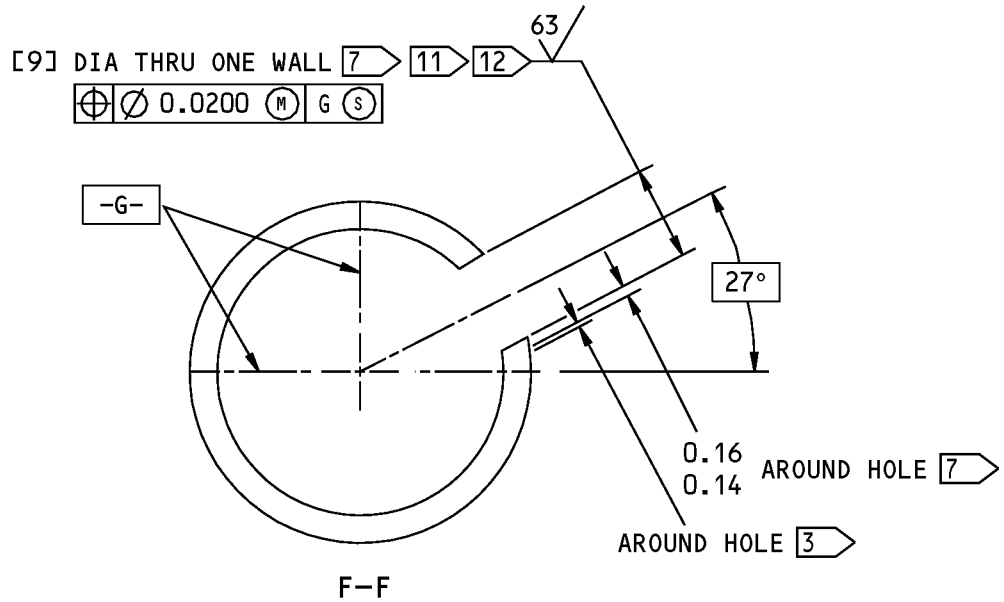
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161A1130-2,-4,-6,-8 Axle Repair
Figure 601 (Sheet 3 of 5)

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REFERENCE NUMBER	[1] [2]	[2] [2]	[3] [2]	[4] [2]	[5] [2]	[6]	[7]	[8] [13]	[8] [14]	[9]
DESIGN DIMENSION	4.0810 4.0800	4.4990 4.4980	4.9990 4.9980	4.4990 4.4980	4.0810 4.0800	3.7550 3.7450	0.376 0.375	0.8904 0.8895	0.9535 0.9527	1.390 1.370
REPAIR LIMIT	4.0500 [15]	4.4680 [15]	4.9680 [15]	4.4680 [15]	4.0500 [15]	---	---	---	---	---

161A1130-2,-4,-6,-8 Axle Repair
Figure 601 (Sheet 4 of 5)

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REPAIR 4-6
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- 1 CHROME PLATE (F-15.34). FINAL CHROME PLATE THICKNESS TO BE 0.003-0.006. WIPE THE CHROME PLATE WITH PRIMER (F-19.451)
- 2 DIMENSION AFTER PLATING
- 3 CHROME PLATE RUNOUT AREA
- 4 CADMIUM-TITANIUM PLATE (F-15.32). NO PRIMER OR ENAMEL
- 5 THE PART NUMBER AND THE SERIAL NUMBER ARE LOCATED HERE
- 6 DO NOT SHOT PEEN
- 7 CADMIUM-TITANIUM PLATE (F-15.32) AND BMS 10-79, TYPE 3 PRIMER (F-19.66). NO ENAMEL
- 8 BREAK SHARP EDGES FROM THIS END OF THE HOLE TO 0.02-0.03 R AND A 63 MICROINCH FINISH
- 9 APPLY CADMIUM-TITANIUM PLATE (F-15.01) AND BMS 10-79, TYPE 3 PRIMER (F-19.66). NO ENAMEL
- 10 CADMIUM-TITANIUM PLATE (F-15.01) (0.0005-0.0010 THICK). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47). NO ENAMEL
- 11 SHOT PEEN IS OPTIONAL
- 12 BREAK SHARP EDGES TO 0.06-0.09 R AROUND THE HOLE AND A 63 MICROINCH FINISH
- 13 161A1130-2,-4,-6
- 14 161A1130-8
- 15 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.09-0.15 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING, UNLESS NOTED

161A1130-2,-4,-6,-8 Axle Repair
Figure 601 (Sheet 5 of 5)

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REPAIR 4-6
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AXLE SLEEVE - REPAIR 4-7

161A1131-1

1. General

- A. This procedure tells how to repair and refinish the axle sleeve (685).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi
 - (2) Shot peen: Not necessary

2. Axle Sleeve Repair and Refinish

- A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

- B. Procedure (REPAIR 4-7, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

- (1) Repair
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Build up the machined surfaces with chrome plate to return them to design dimensions.
- (2) Refinish
 - (a) Chrome plate areas shown by flagnote 1, as limited by flagnotes 2, 3.
 - (b) Passivate (F-17.25) other areas.

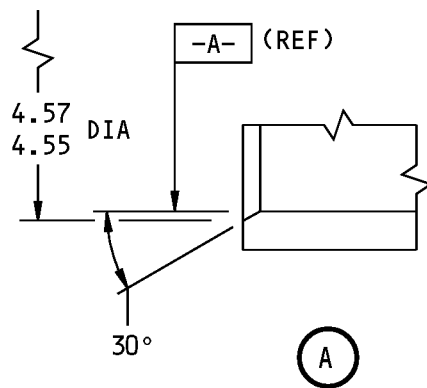
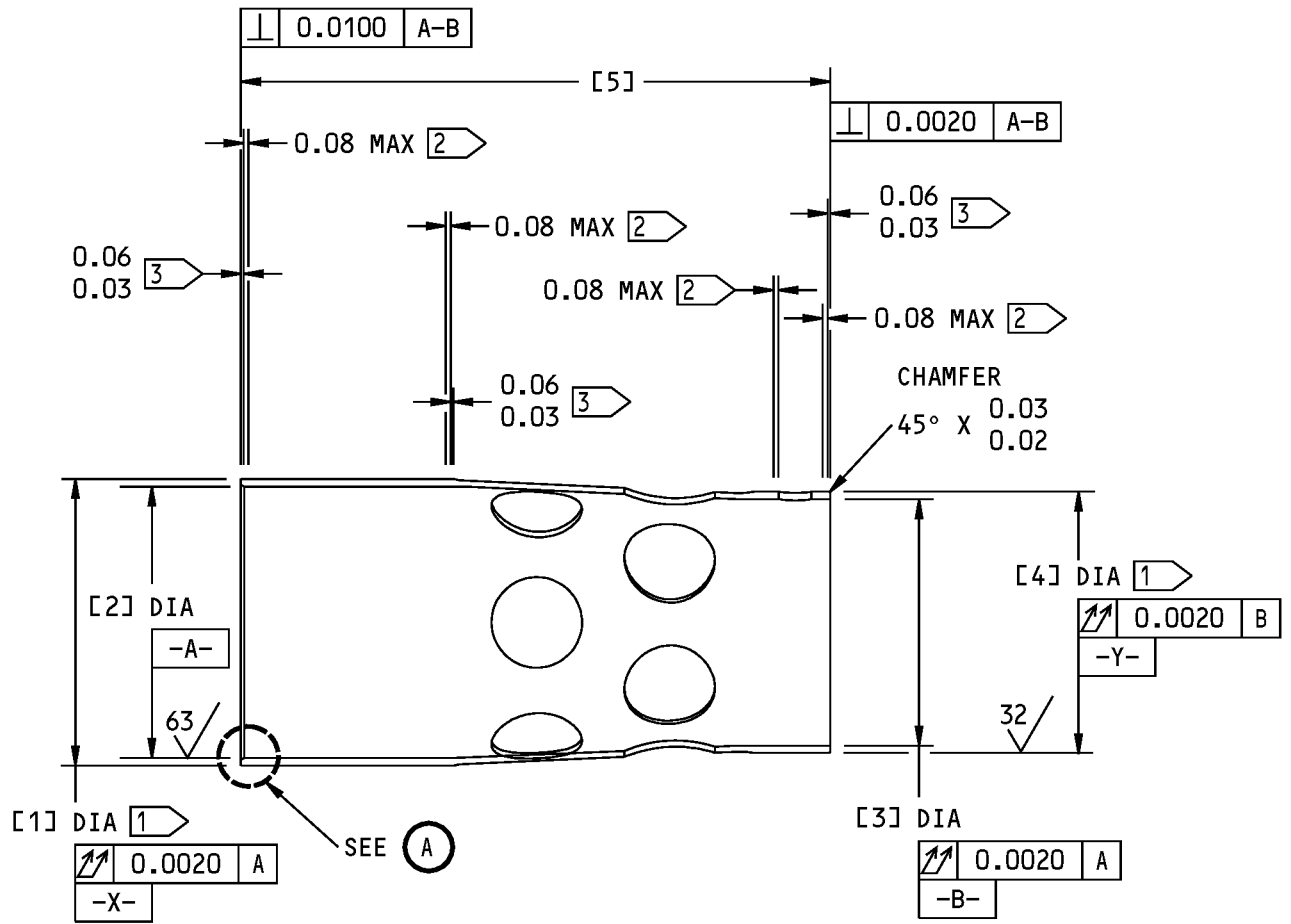
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161A1131-1 Axle Sleeve Repair and Refinish
Figure 601 (Sheet 1 of 2)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]
DESIGN DIMENSION	4.7460 4.7450	4.4960 4.4950	4.0780 4.0770	4.3260 4.3250	9.770 9.750
REPAIR LIMIT	4.7150 	-----	-----	4.2950 	-----

CHROME PLATE (F-15.43, WHICH REPLACES F-14.892)

CHROME PLATE RUNOUT AREA

NO CHROME PLATE

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

ALL DIMENSIONS ARE IN INCHES

161A1131-1 Axle Sleeve Repair and Refinish
Figure 601 (Sheet 2 of 2)

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BRAKE SLEEVE - REPAIR 4-8

161A1127-1

1. General

- A. This procedure tells how to repair and refinish the brake sleeve (670).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi
 - (2) Shot peen: All surfaces, but not in holes
 - (a) Intensity 0.006-0.011A2
 - (b) Hard Shot Rc 55-65
 - (c) Shot Size 0.016-0.033

2. Brake Sleeve Repair and Refinish

- A. Procedure (REPAIR 4-8, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

- (1) Repair
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Build up the machined surfaces with chrome plate to return them to design dimensions.
- (2) Refinish
 - (a) Chrome plate areas shown by flagnotes 1 thru 7.
 - (b) Passivate (F-17.25) other areas.

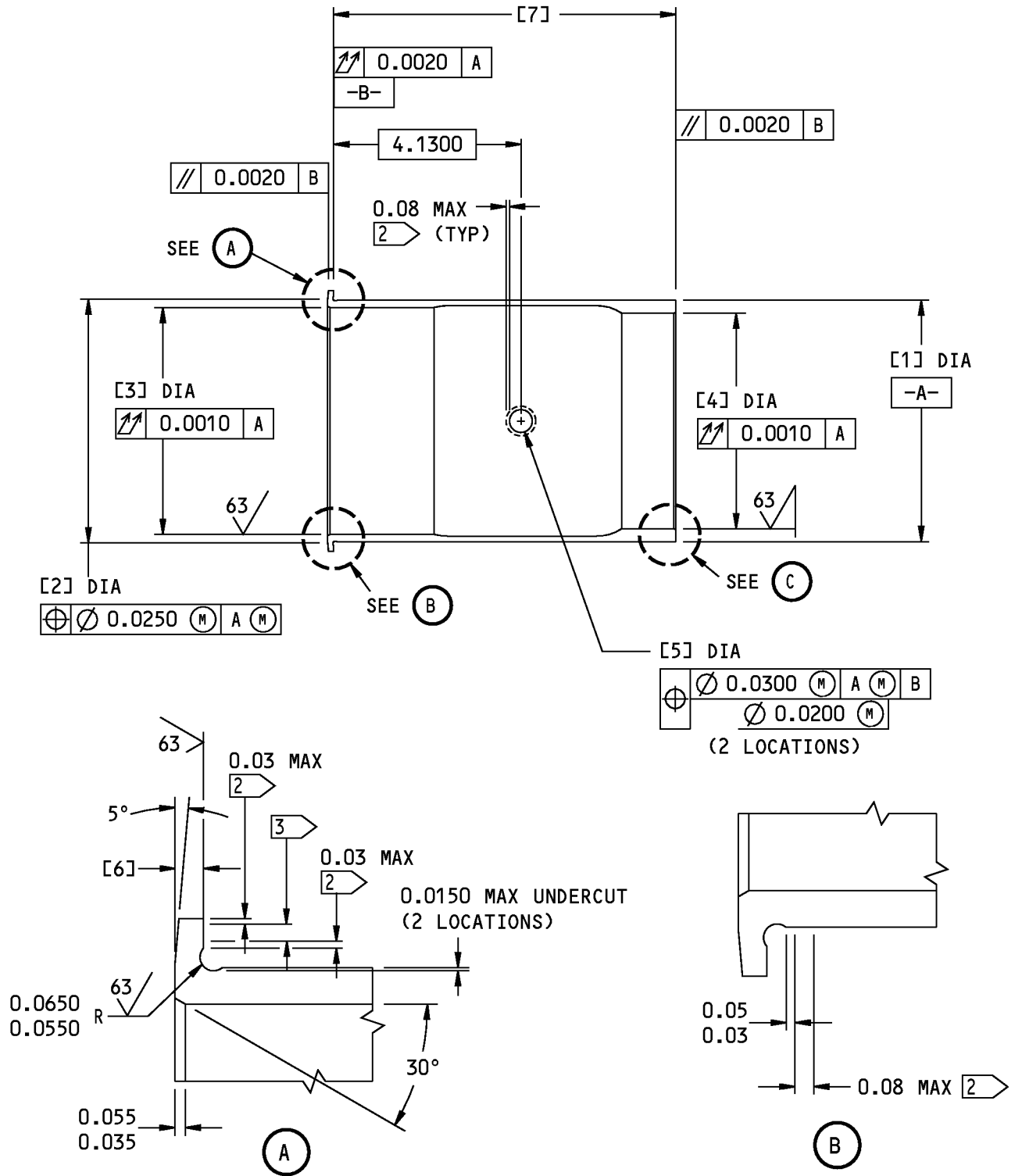
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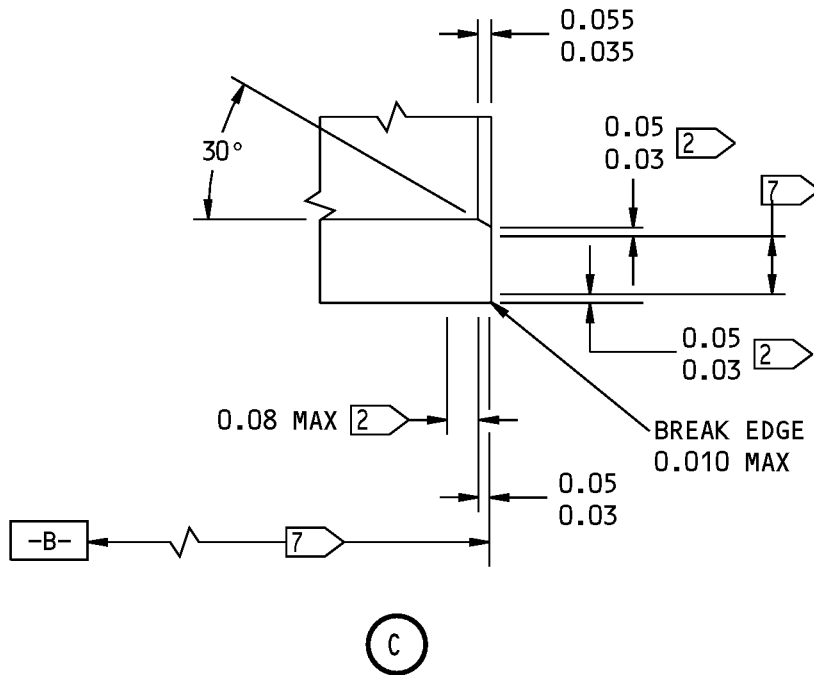
161A1127-1 Brake Sleeve Repair and Refinish
Figure 601 (Sheet 1 of 2)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	5.3125 [4]	5.3700	4.9965	4.7473	0.510	0.1270	7.5500
	5.3095 [4]	5.3500	4.9955	4.7463	0.490	0.1230	7.5400
REPAIR LIMIT	5.3195 [5]						
	5.3185 [5]						7.5250 [6] [7]

- [1] CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- [2] CHROME PLATE RUNOUT AREA
- [3] CHROME PLATE (F-15.34), 0.0015-0.0020 THICK. DO NOT GRIND
- [4] BEFORE PLATING 63 MICROINCH
- [5] AFTER PLATING 32 MICROINCH

- [6] LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
 - [7] CHROME PLATE BUILDUP TO BE APPLIED TO THIS FACE ONLY
- ALL DIMENSIONS ARE IN INCHES

161A1127-1 Brake Sleeve Repair and Refinish
Figure 601 (Sheet 2 of 2)

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COMPONENT MAINTENANCE MANUAL

UPPER TORSION LINK ASSEMBLY - REPAIR 5-1

161A1140-1, -3, -5

1. General

- A. This procedure tells how to replace the bushings and lube fittings in the upper torsion link assembly (375).
- 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. Bushing Replacement

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

B. Procedure (REPAIR 5-1, Figure 601 or REPAIR 5-1, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Remove the old bushings (390, 395, 400, 405, 410, 415) from the upper torsion link assembly (375).
- (2) If you find defects on the link surfaces, refer to REPAIR 5-2 for repair instructions.
- (3) Install replacement bushings by the shrink-fit method (SOPM 20-50-03).
- (4) Machine the bushings to design dimensions and finish.

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-03	LUBRICANTS

C. Procedure (REPAIR 5-1, Figure 601 or REPAIR 5-1, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03.

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REPAIR 5-1
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- (1) Remove the old lube fittings and inserts from the upper torsion link assembly (375).
- (2) Install replacement inserts by the shrink-fit method (SOPM 20-50-03), but with no installation finish.
- (3) Install replacement lube fittings and tighten them as shown. After bushing installation, apply grease, D00013 or grease, D00633 at the lube fittings until the grease comes out at the bushing inner diameter.

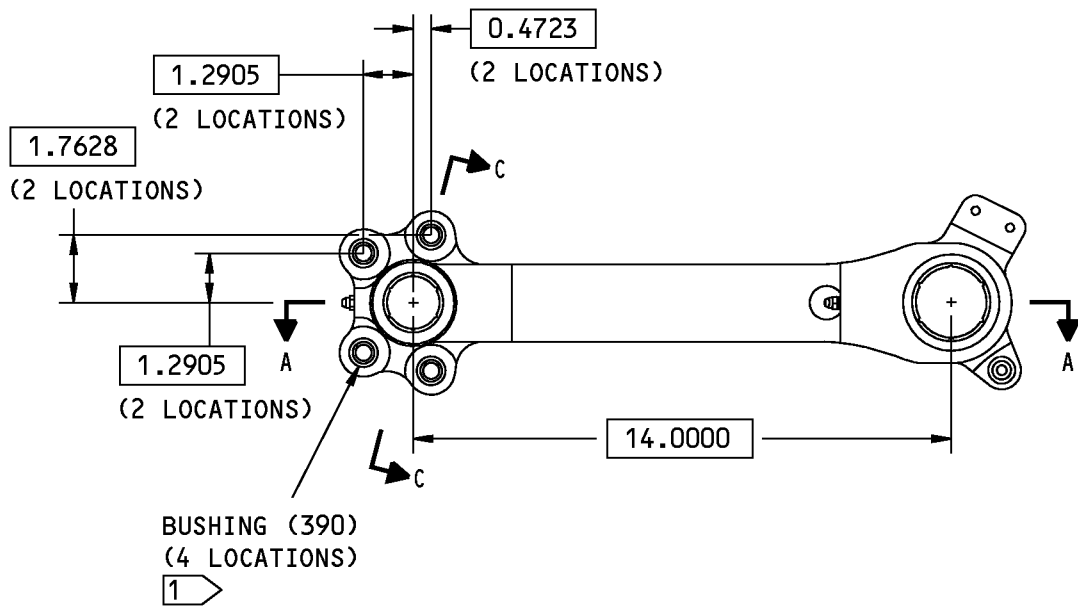
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REPAIR 5-1

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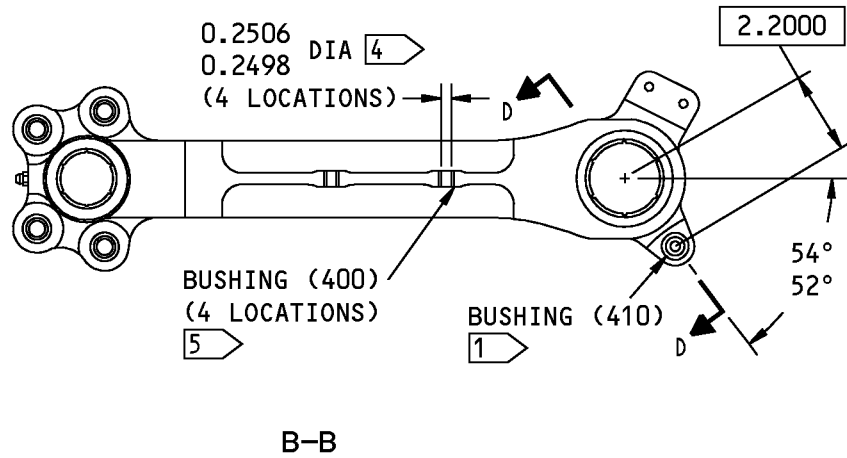
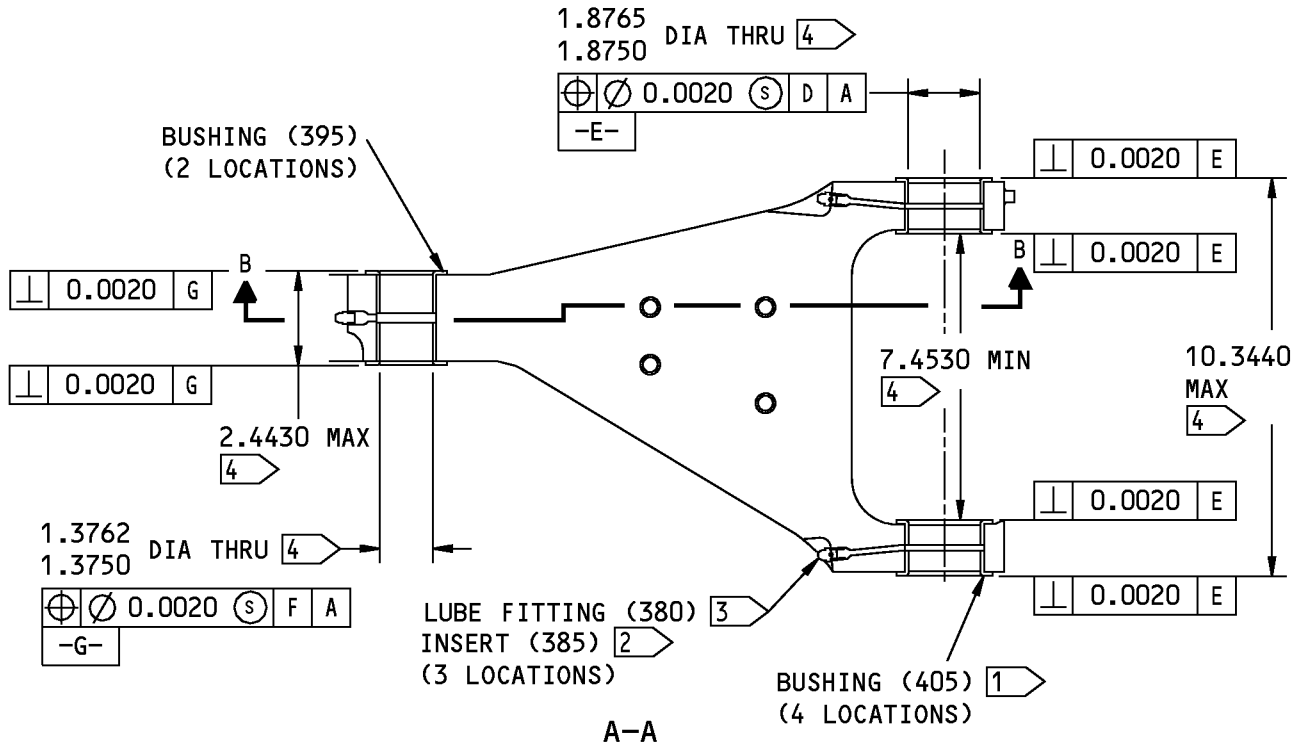
161A1140-1 SHOWN
116A1140-3 SIMILAR

161A1140-1,-3 Upper Torsion Link Assembly Repair
Figure 601 (Sheet 1 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL

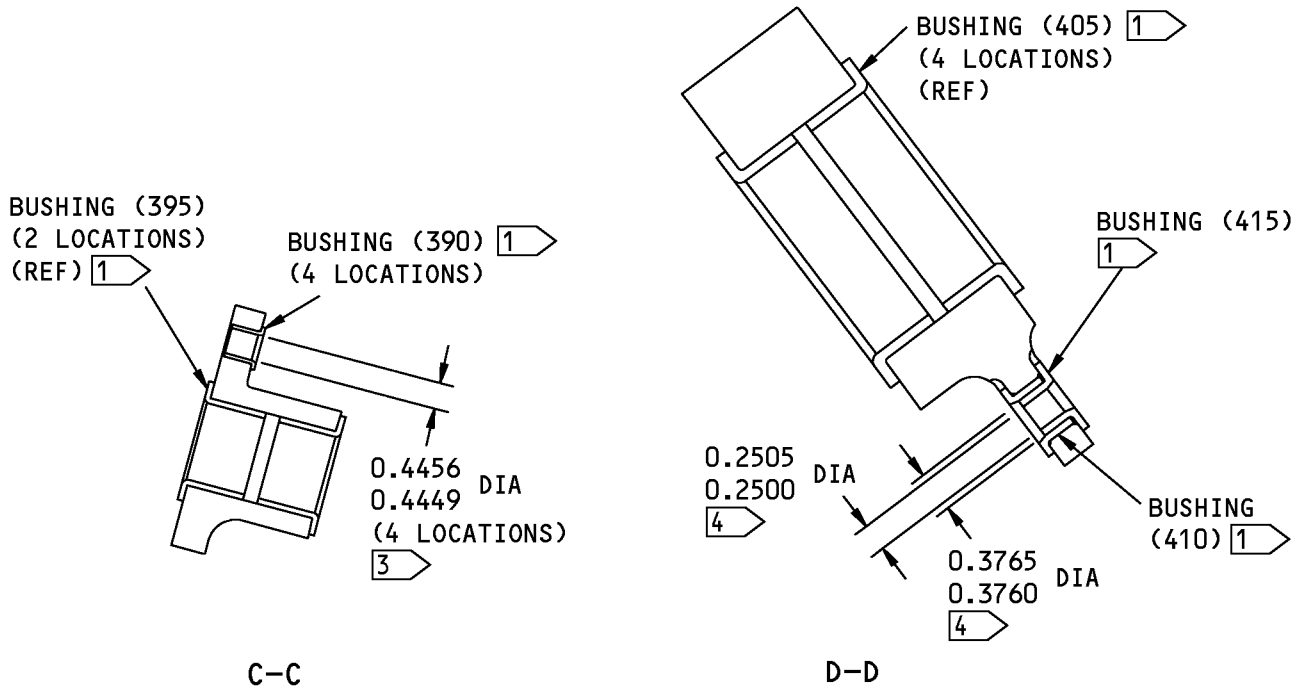


161A1140-1,-3 Upper Torsion Link Assembly Repair
Figure 601 (Sheet 2 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL



- 1 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHING WITH BMS 3-33 OR MIL-G-23827 GREASE
- 2 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE INSERT DRY. MAKE SURE THE INSERT IS FLUSH WITH THE TORSION LINK SURFACE WITHIN ± 0.0200
- 3 INSTALL THE LUBE FITTING AND TIGHTEN IT TO 25-30 POUND-INCHES. APPLY BMS 3-33 OR MIL-G-23827 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER
- 4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY. KEEP A 32 MICROINCH FINISH
- 5 FLUSH WITH, TO 0.015 MAXIMUM BELOW THE SURFACE, ON EACH SIDE

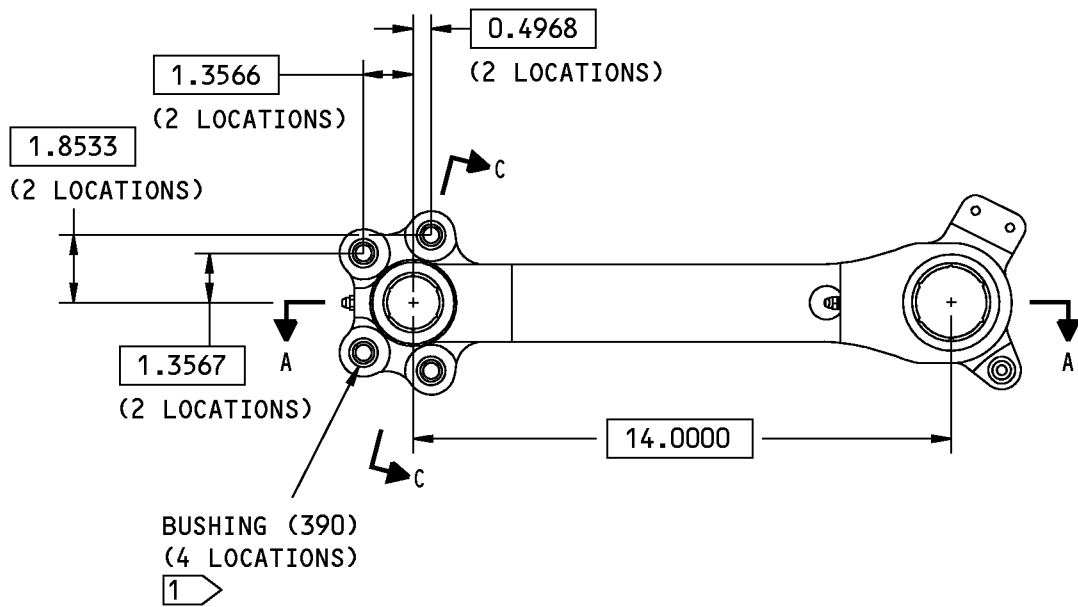
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1140-1,-3 Upper Torsion Link Assembly Repair
Figure 601 (Sheet 3 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL

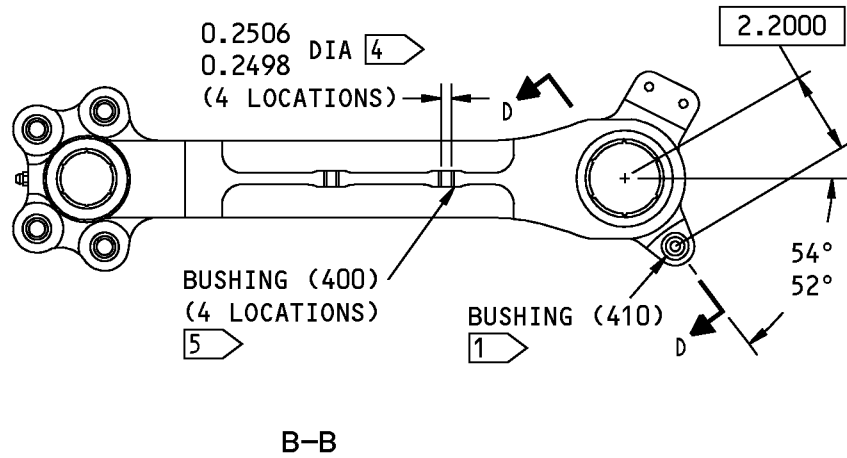
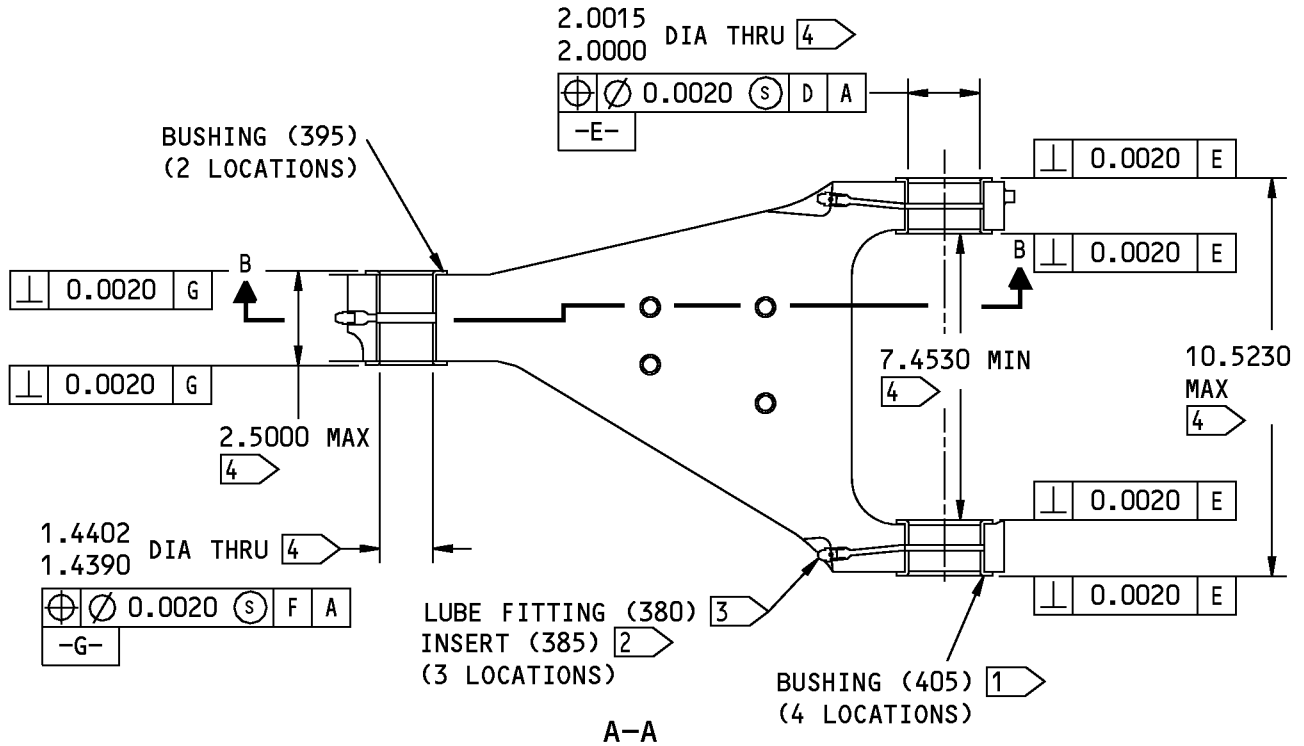


161A1140-5 Upper Torsion Link Assembly Repair
Figure 602 (Sheet 1 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL

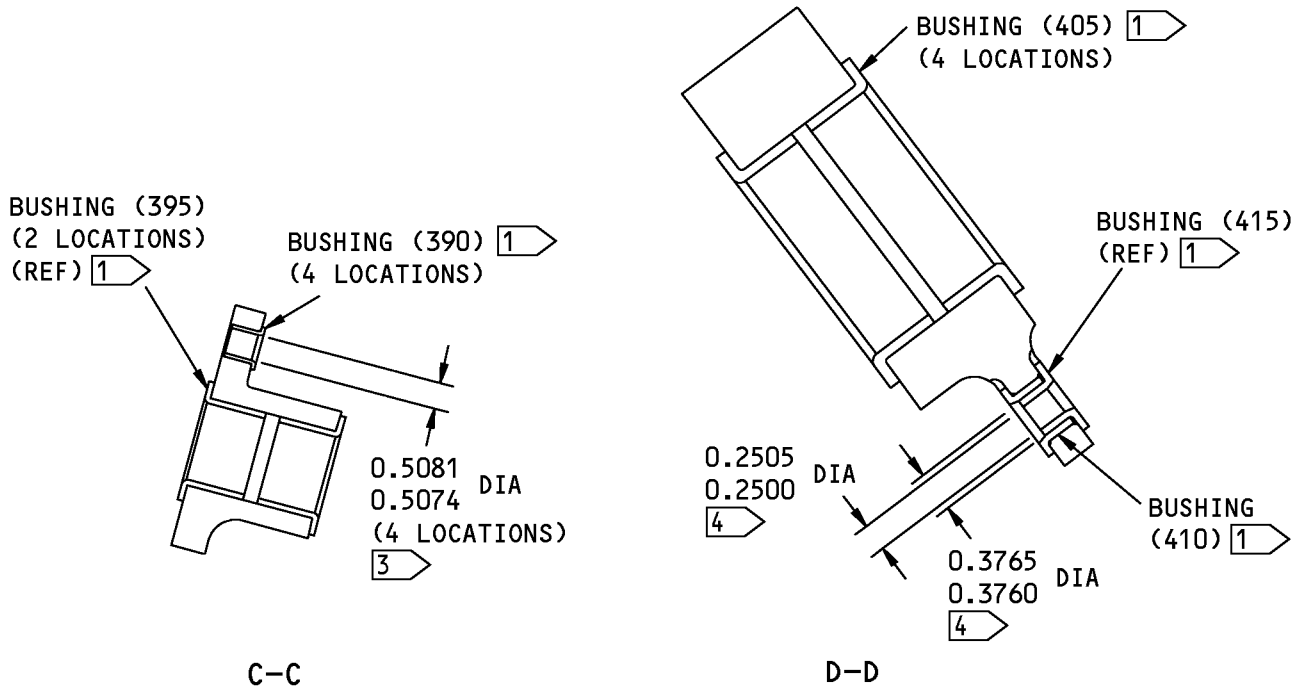


161A1140-5 Upper Torsion Link Assembly Repair
Figure 602 (Sheet 2 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL



- 1 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE BUSHING WITH BMS 3-33 GREASE
- 2 USE THE SHRINK-FIT PROCEDURE TO INSTALL THE INSERT DRY. MAKE SURE THE INSERT IS FLUSH WITH THE TORSION LINK SURFACE WITHIN ± 0.0200
- 3 INSTALL THE LUBE FITTING AND TIGHTEN IT TO 25-30 POUND-INCHES. APPLY BMS 3-33 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER
- 4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY. KEEP A 32 MICROINCH FINISH
- 5 FLUSH WITH, TO 0.015 MAXIMUM BELOW THE SURFACE, ON EACH SIDE

ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1140-5 Upper Torsion Link Assembly Repair
Figure 602 (Sheet 3 of 3)

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REPAIR 5-1
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COMPONENT MAINTENANCE MANUAL

UPPER TORSION LINK - REPAIR 5-2

161A1140-2, -4, -6

1. General

- A. This procedure tells how to repair the upper torsion link (420).
- 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.
- D. General repair details:
 - (1) Material: Titanium Alloy
 - (2) Shot peen: All surfaces, but optional in holes
 - (a) Intensity 0.014A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted
 - (d) Hard Shot Rc55-65
 - (e) Shot Size 0.023-0.046

2. Torque Link Repair

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure (REPAIR 5-2, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Machine as required, within repair limits, to remove defects.
- (2) Shot peen as indicated.
- (3) Make oversize bushings (REPAIR 5-2, Figure 603 and on), as required, to adjust for the material removed,
- (4) Install the bushings as shown in REPAIR 5-1.

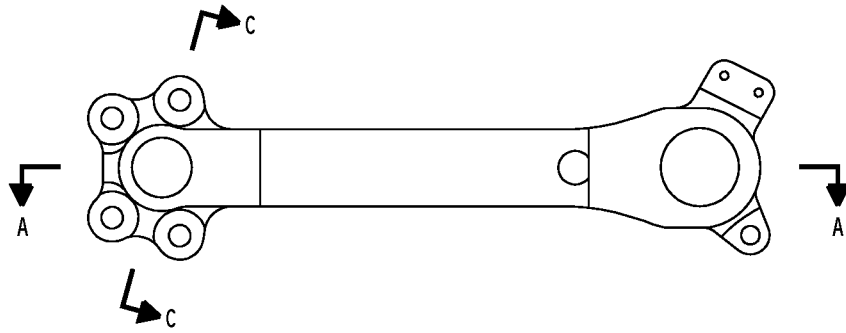
32-11-12

REPAIR 5-2

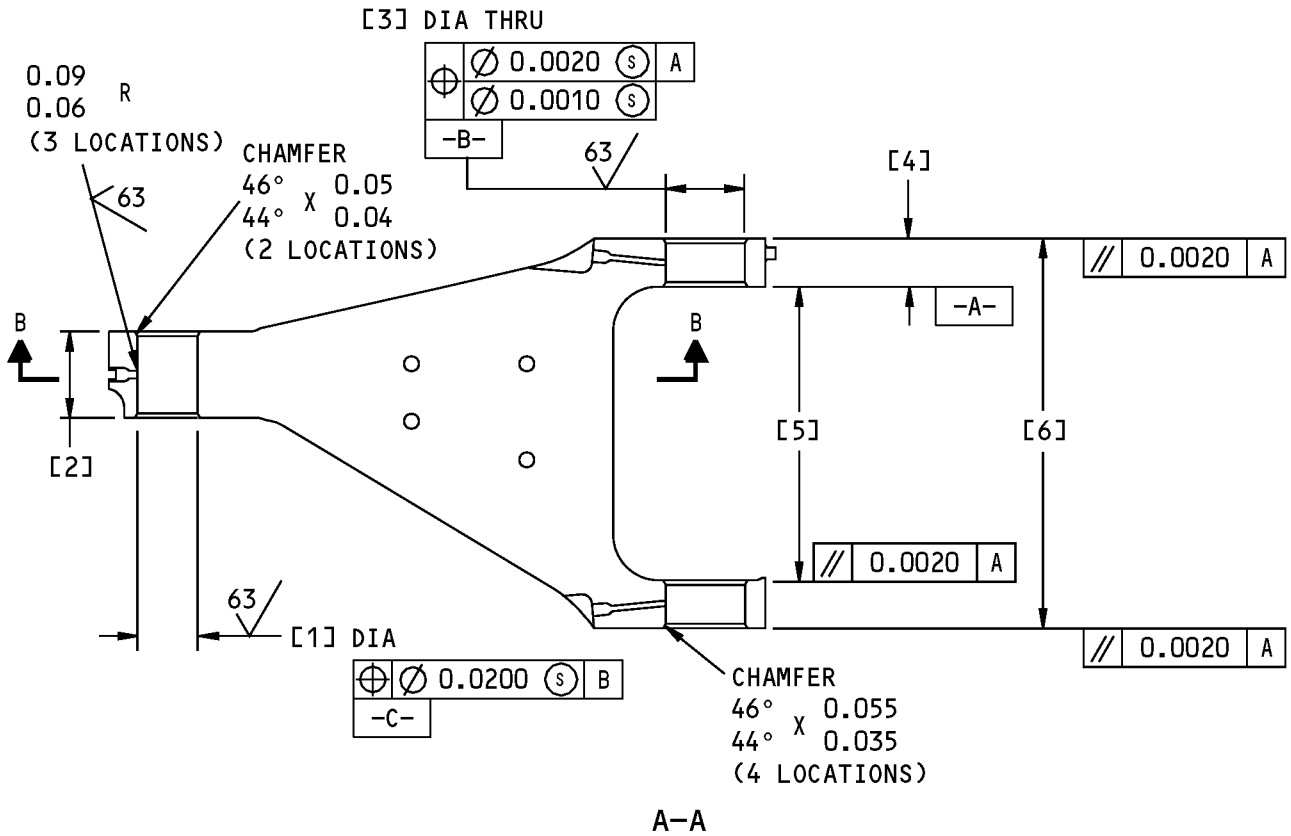
Page 601

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COMPONENT MAINTENANCE MANUAL



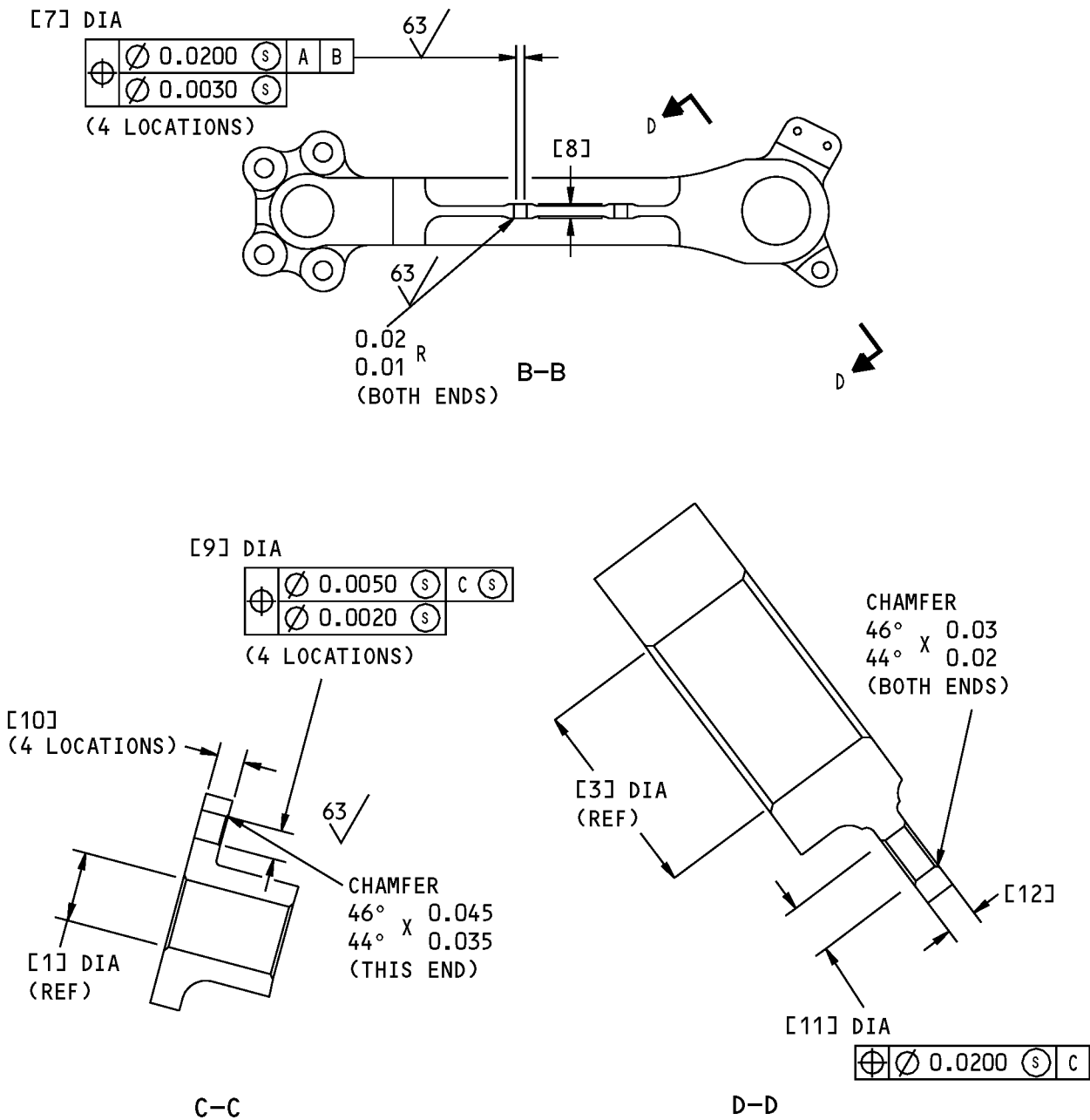
161A1140-2 SHOWN
161A1140-4 SIMILAR



161A1140-2,4 Torsion Link Repair
Figure 601 (Sheet 1 of 3)

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COMPONENT MAINTENANCE MANUAL



161A1140-2,-4 Torsion Link Repair
Figure 601 (Sheet 2 of 3)

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REPAIR 5-2
Page 603
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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	1.5642	2.2525	2.0645	1.2600	7.6490	10.1490	0.3754
	1.5630	2.2475	2.0630	1.2400	7.6450	10.1450	0.3748
REPAIR LIMIT	1.6242	2.1875	2.1245	1.1800	7.7090	10.0850	0.4354

REFERENCE NUMBER	[8]	[9]	[10]	[11]	[12]
DESIGN DIMENSION	0.4460	0.5717	0.5600	0.5026	0.3300
	0.4060	0.5710	0.5200	0.5020	0.2900
REPAIR LIMIT	---	0.6317	0.4900	0.5626	---

PART NUMBER AND SERIAL NUMBER LOCATION

LIMIT FOR OVERSIZE BUSHING INSTALLATION

ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

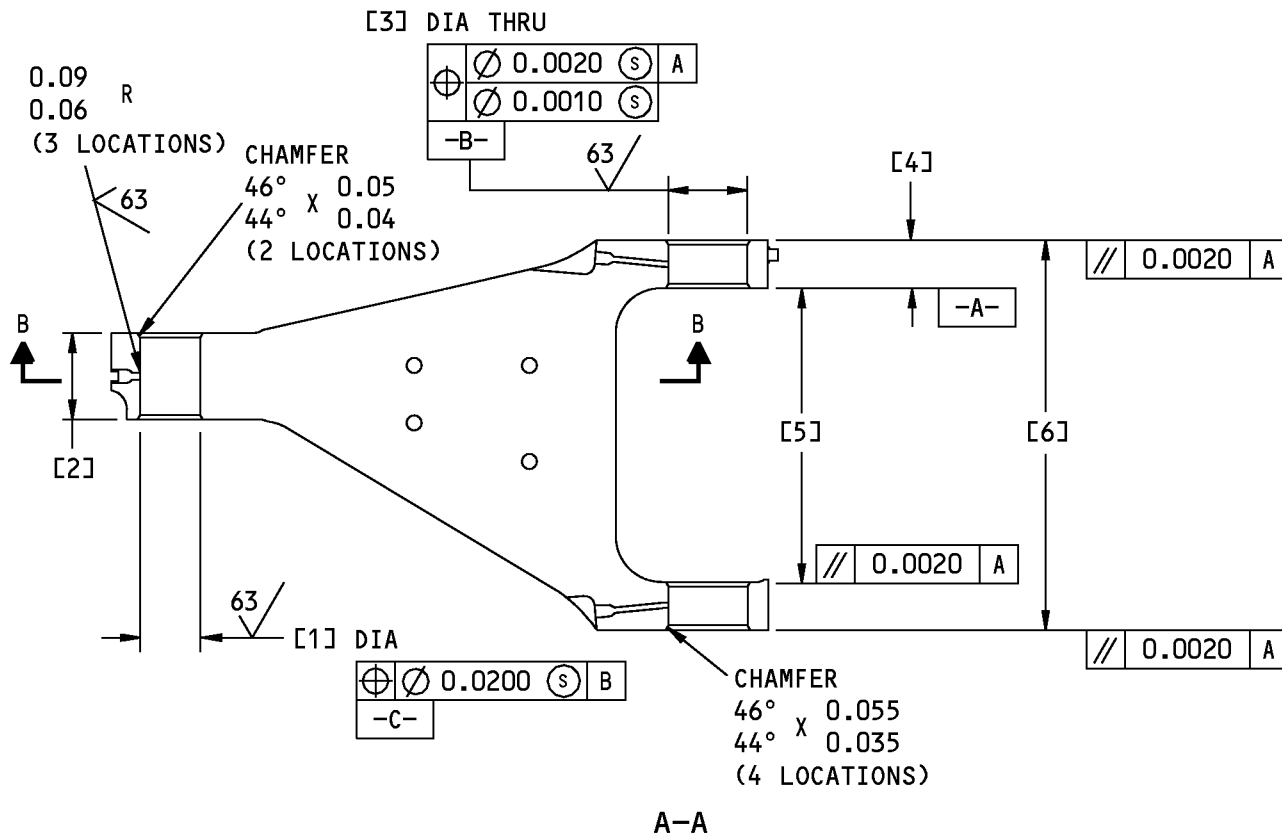
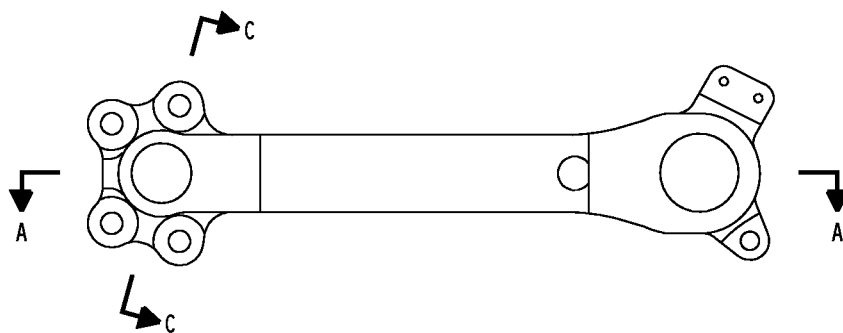
ALL DIMENSIONS ARE IN INCHES

161A1140-2,-4 Torsion Link Repair
Figure 601 (Sheet 3 of 3)

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REPAIR 5-2
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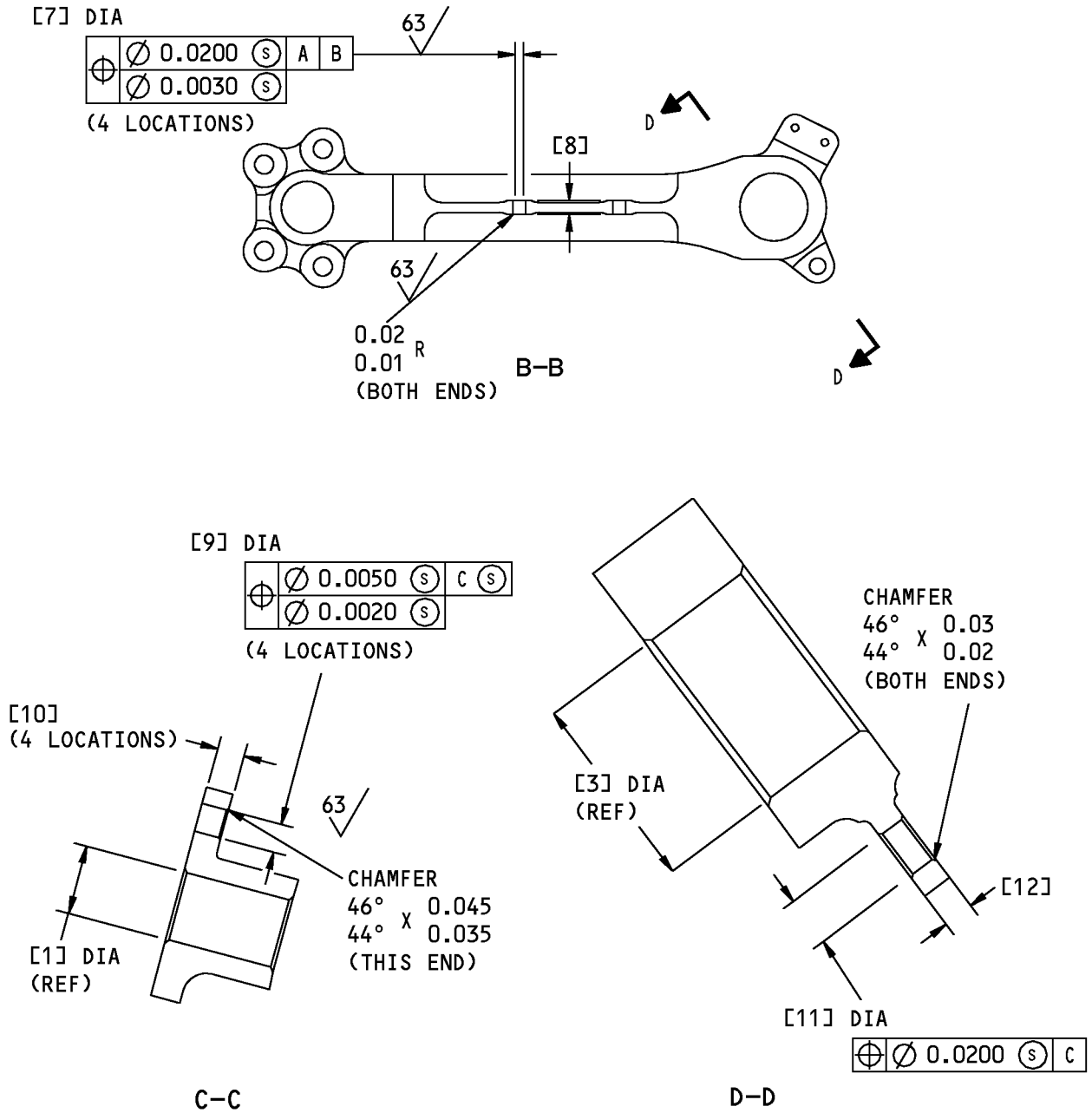
COMPONENT MAINTENANCE MANUAL



161A1140-6 Torsion Link Repair
Figure 602 (Sheet 1 of 3)

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COMPONENT MAINTENANCE MANUAL



161A1140-6 Torsion Link Repair
Figure 602 (Sheet 2 of 3)

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REPAIR 5-2
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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	1.6272	2.3125	2.1895	1.3500	7.6490	10.3290	0.3754
	1.6260	2.3075	2.1880	1.3300	7.6450	10.3250	0.3748
REPAIR LIMIT	1.6872	2.2475	2.2495	1.2700	7.7090	10.2650	0.4354

REFERENCE NUMBER	[8]	[9]	[10]	[11]	[12]
DESIGN DIMENSION	0.4460	0.6342	0.5600	0.5026	0.3300
	0.4060	0.6335	0.5200	0.5020	0.2900
REPAIR LIMIT	---	0.6942	0.4900	0.5626	---

PART NUMBER AND SERIAL NUMBER LOCATION

LIMIT FOR OVERSIZE BUSHING INSTALLATION

ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1140-6 Torsion Link Repair
Figure 602 (Sheet 3 of 3)

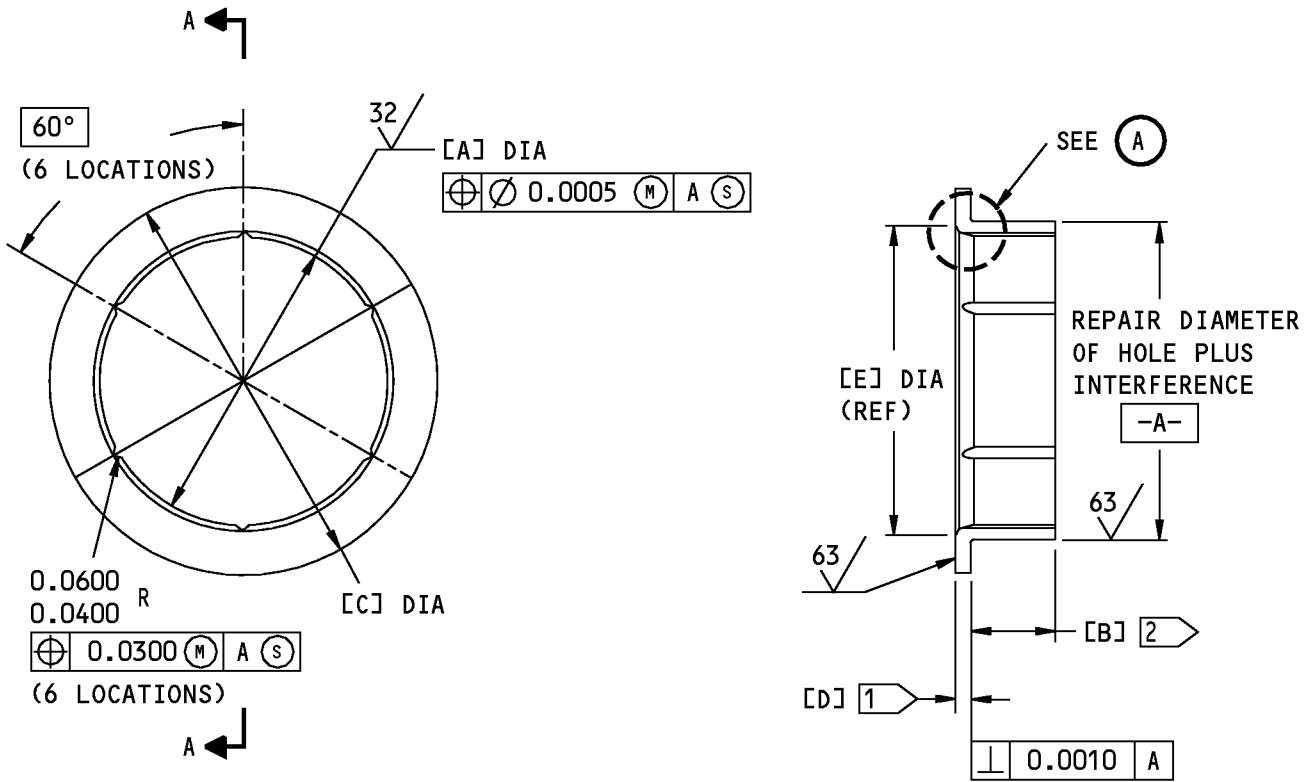
32-11-12

REPAIR 5-2

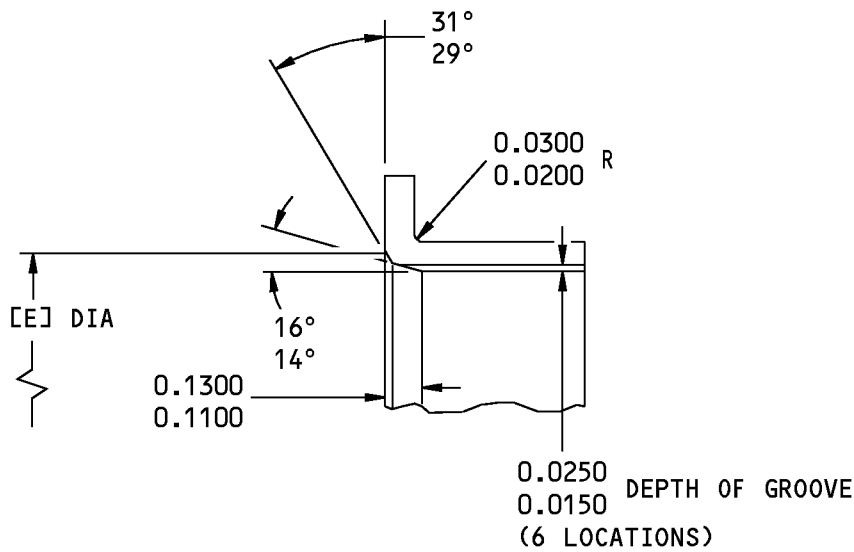
Page 607

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COMPONENT MAINTENANCE MANUAL



A-A



(A)

F84684 S0004996902_V2

Oversize Bushing Details
Figure 603 (Sheet 1 of 2)

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REPAIR 5-2
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COMPONENT MAINTENANCE MANUAL

HOLE LOCATION (FIG. 602)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	INTERFERENCE
[1]	161A1144-3 (395)	1.3772 1.3760	1.0100 0.9900	2.1300 2.1100	0.0950 0.0940	1.5200 1.5000	0.0038 0.0014
[1]	161A1144-6 (395A)	1.4404 1.4394	1.0400 1.0200	2.2300 2.2100	0.0950 0.0940	1.5830 1.5630	0.0038 0.0014
[3]	161A1144-1 (405)	1.8779 1.8764	0.5600 0.5400	2.5100 2.4900	0.0970 0.0960	2.0200 2.0100	0.0048 0.0017
[3]	161A1144-5 (405A)	2.0030 2.0020	0.6050 0.5850	2.6400 2.6200	0.0975 0.0955	2.1450 2.1350	0.0048 0.0018

1 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

2 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

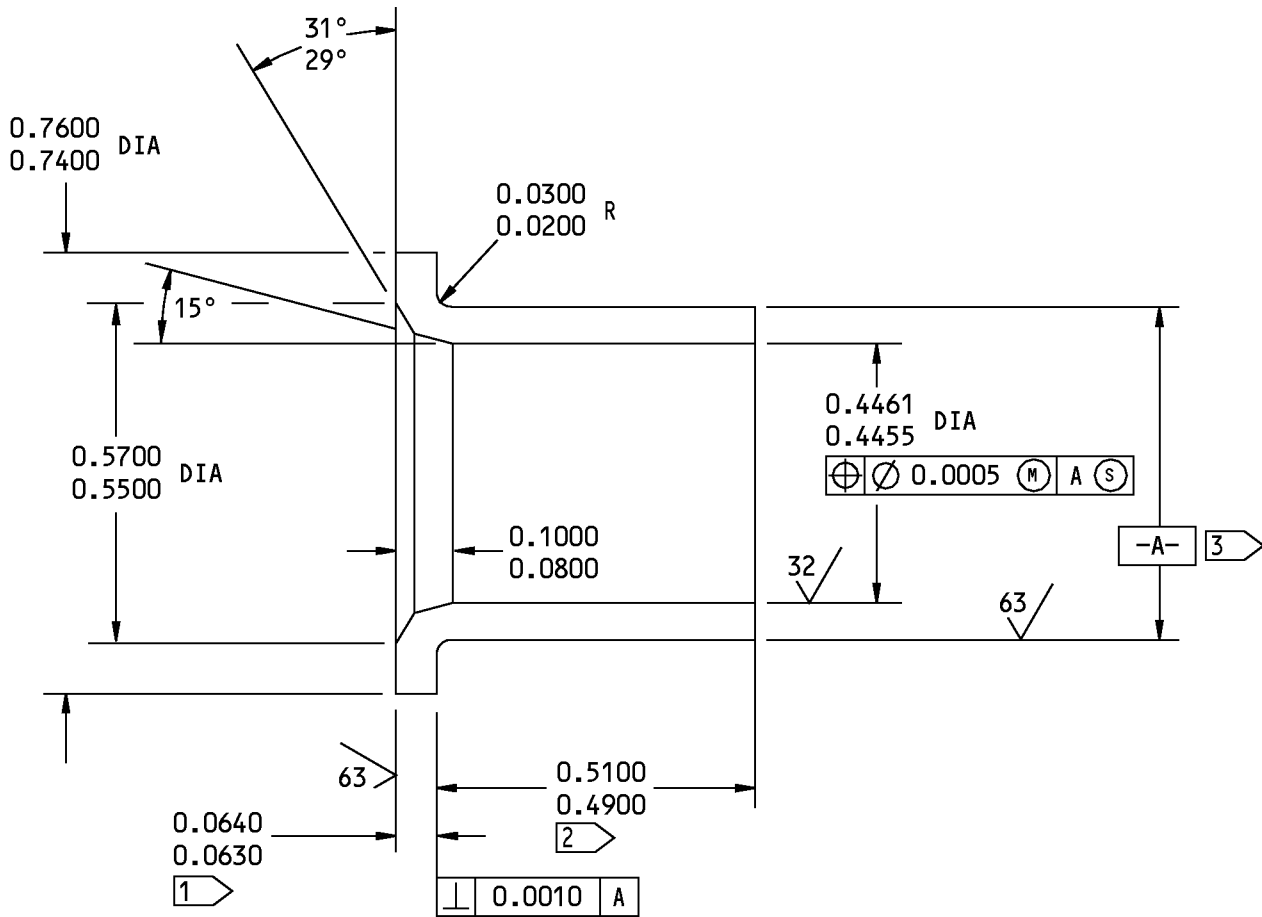
BREAK ALL SHARP EDGES 0.01-0.02 R
 MATERIAL: AL-NI-BRONZE (AMS 4640)
 FINISH: NO FINISH
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
 Figure 603 (Sheet 2 of 2)

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REPAIR 5-2
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COMPONENT MAINTENANCE MANUAL



1 ➤ PLUS THE AMOUNT REMOVED FROM THE LUG FACE

2 ➤ MINUS THE AMOUNT REMOVED FROM THE LUG FACE

3 ➤ REPAIR DIAMETER OF HOLE PLUS 0.0006-0.0016 INTERFERENCE

125/ ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

MATERIAL: AL-NI-BRONZE (AMS 4640)

FINISH: NO FINISH

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [9] FIG. 601 -- REPLACES BUSHING (IPL FIG. 1; 390) 161A1197-1

Oversize Bushing Details
Figure 604

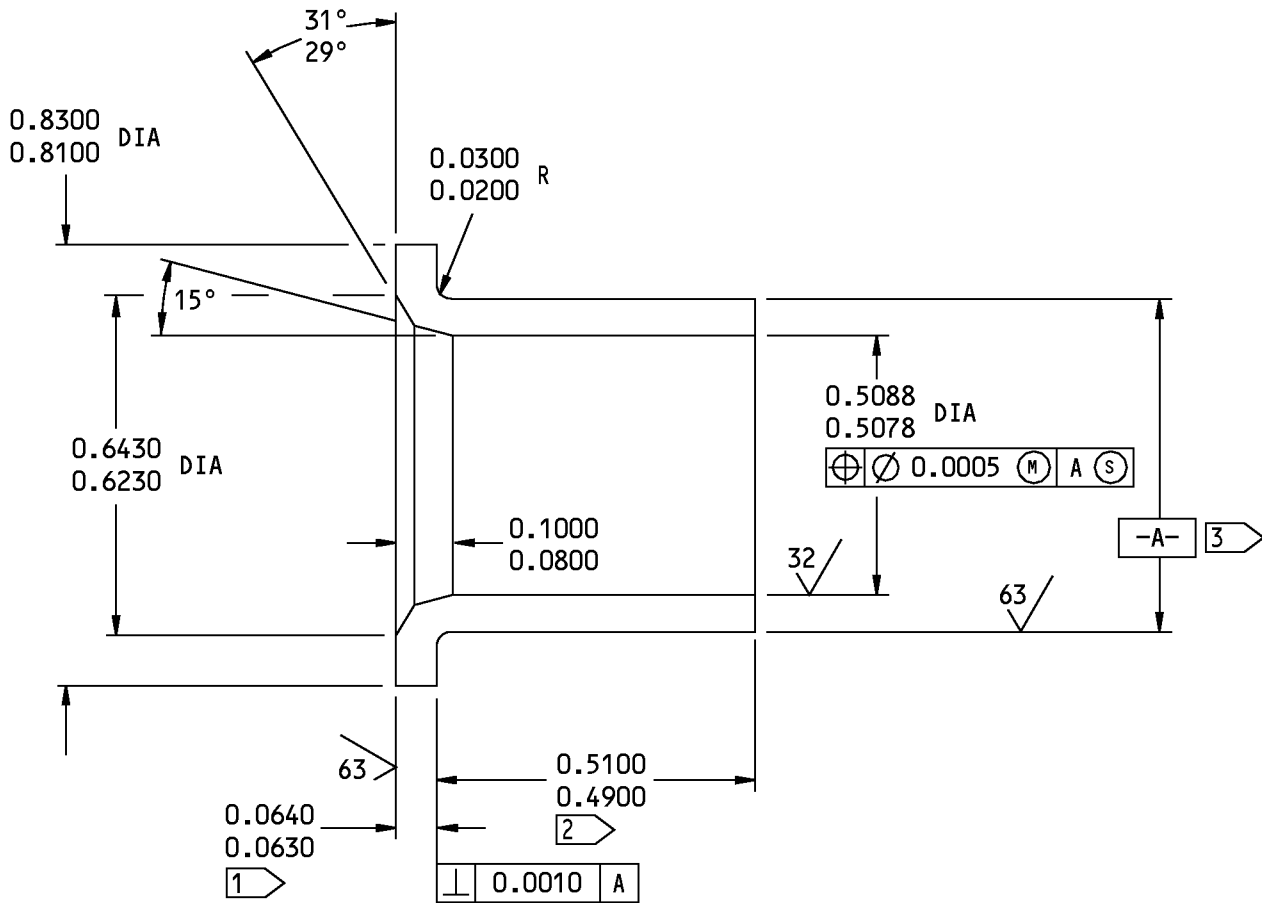
32-11-12

REPAIR 5-2

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COMPONENT MAINTENANCE MANUAL



- 1 ➤ PLUS THE AMOUNT REMOVED FROM THE LUG FACE
- 2 ➤ MINUS THE AMOUNT REMOVED FROM THE LUG FACE
- 3 ➤ REPAIR DIAMETER OF HOLE PLUS 0.0007-0.0018 INTERFERENCE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
 BREAK SHARP EDGES 0.01-0.02 R
 MATERIAL: AL-NI-BRONZE (AMS 4640)
 FINISH: NO FINISH
 ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [9] FIG. 602 -- REPLACES BUSHING
 (IPL FIG. 1; 390A) 161A1197-4

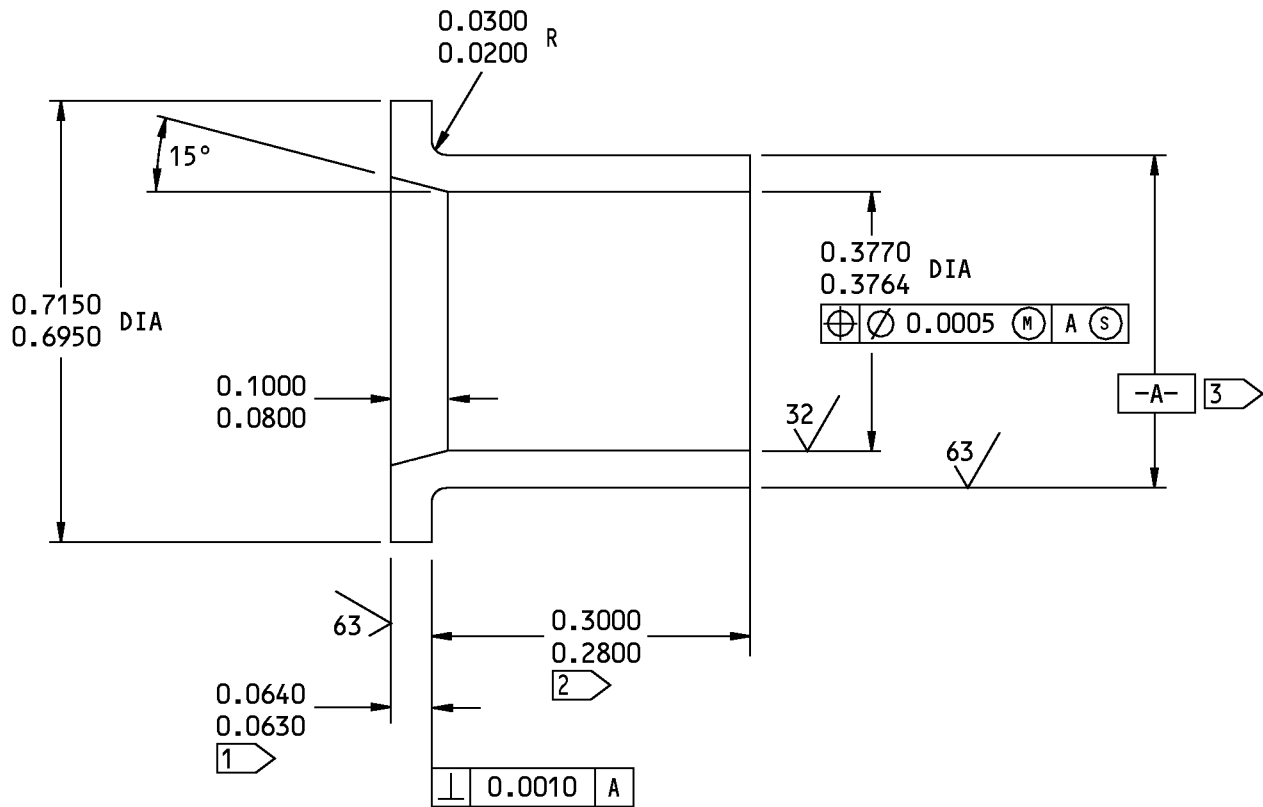
1337434 S0000236337_V2

Oversize Bushing Details
 Figure 605

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REPAIR 5-2
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COMPONENT MAINTENANCE MANUAL



1 ➤ PLUS THE AMOUNT REMOVED FROM THE LUG FACE

2 ➤ MINUS THE AMOUNT REMOVED FROM THE LUG FACE

3 ➤ REPAIR DIAMETER OF HOLE PLUS 0.0005-0.0015 INTERFERENCE

125/➤ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

MATERIAL: AL-NI-BRONZE (AMS 4640)

FINISH: NO FINISH

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [11] FIG. 601 OR 602 -- REPLACES BUSHING
(IPL FIG. 1; 410) 161A1197-2

M47427 S0004996905_V3

Oversize Bushing Details
Figure 606

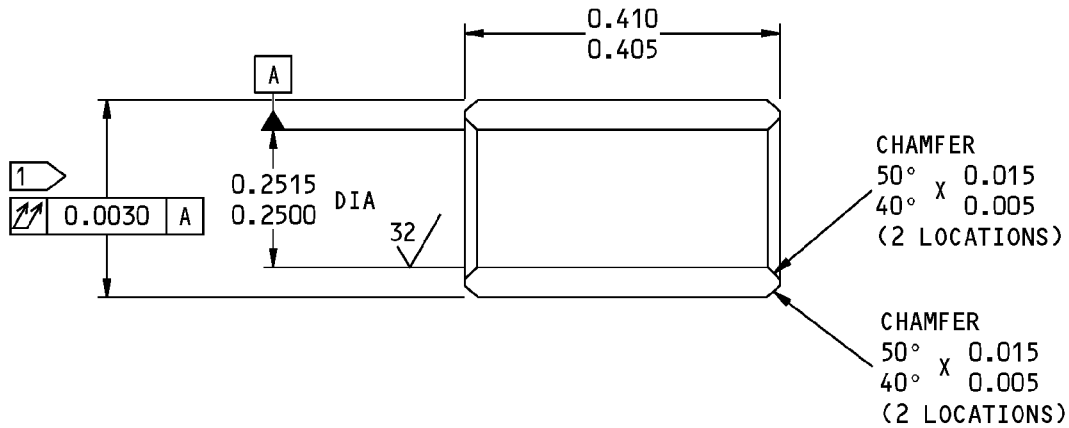
32-11-12

REPAIR 5-2

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1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0002-0.0013

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
 BREAK ALL SHARP EDGES
 MATERIAL: AL-NI-BRONZE (AMS 4640)
 FINISH: NO FINISH
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [7] FIG. 601 - REPLACES BUSHING (400)
 BACB28Y4F041

Oversize Bushing Details
 Figure 607

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REPAIR 5-2
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COMPONENT MAINTENANCE MANUAL

LOWER TORSION LINK ASSEMBLY - REPAIR 6-1

161A1142-1, -3, -5

1. General

- A. This procedure tells how to replace the bushings and lube fittings in lower torsion link assembly (490).
- 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. Bushing Replacement

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

B. Procedure (REPAIR 6-1, Figure 601 or REPAIR 6-1, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Remove the old bushings (505, 510, 515) from the lower torsion link assembly (490).
- (2) If you find defects on the link surfaces, refer to REPAIR 6-2 for repair instructions.
- (3) Install replacement bushings (505, 510, 515) by the shrink-fit method (SOPM 20-50-03).
- (4) Machine the bushings to design dimensions and finish.

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-03	LUBRICANTS

C. Procedure (REPAIR 6-1, Figure 601 or REPAIR 6-1, Figure 602)

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

- (1) Remove old inserts (500) and lube fittings (495) from lower torsion link assembly (490).

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REPAIR 6-1
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- (2) Install replacement inserts by the shrink-fit procedure (SOPM 20-50-03), but with no installation finish.
- (3) Install replacement lube fittings and tighten them as shown. After bushing installation, apply grease, D00013 or grease, D00633 at the lube fitting until the grease appears at the bushing inner diameter.

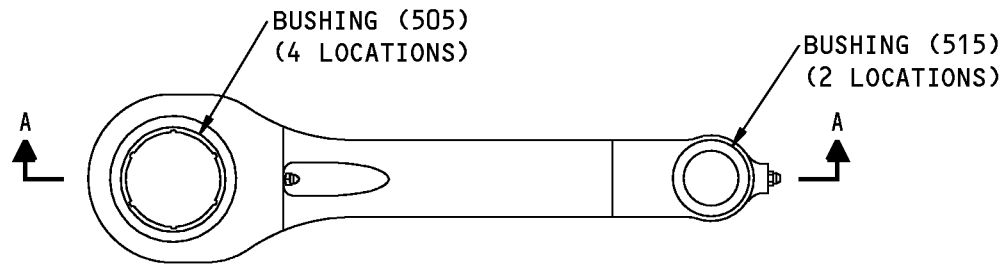
32-11-12

REPAIR 6-1

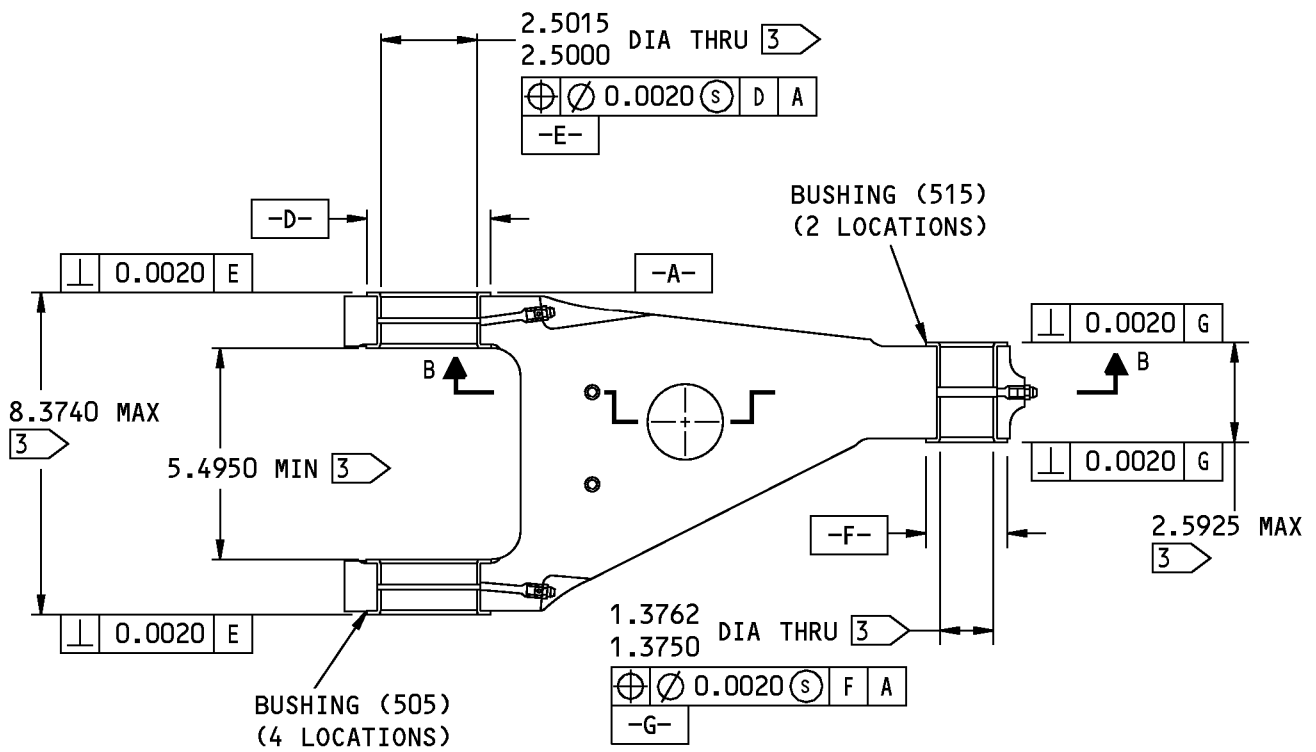
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COMPONENT MAINTENANCE MANUAL



161A1142-1 SHOWN
161A1142-3 SIMILAR



A-A

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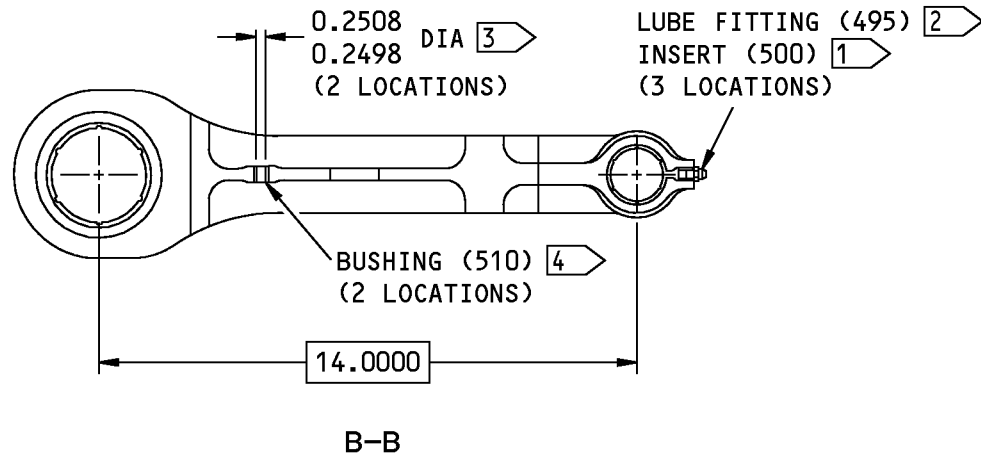
161A1142-1, -3 Lower Torsion Link Assembly Repair
Figure 601 (Sheet 1 of 2)

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REPAIR 6-1
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COMPONENT MAINTENANCE MANUAL



1 INSTALL THE INSERT FLUSH WITH THE MACHINED PART SURFACE WITHIN ± 0.0200 .

2 INSTALL THE LUBE FITTING AND TIGHTEN IT TO 25-30 POUND-INCHES. APPLY BMS 3-33 OR MIL-G-23827 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER

3 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY. KEEP A 63 MICROINCH FINISH

4 FLUSH WITH, TO 0.0300 MAXIMUM BELOW THE SURFACE, ON EACH SIDE

ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

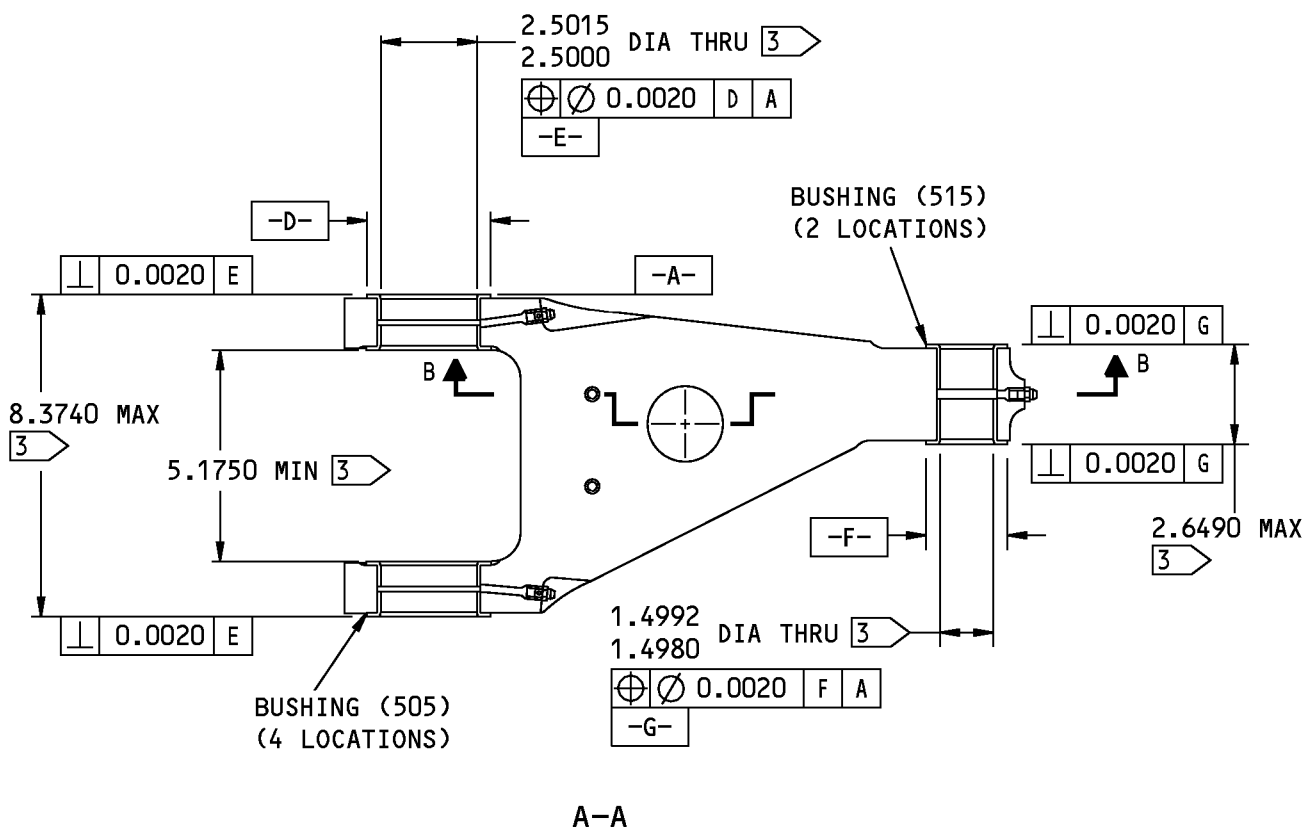
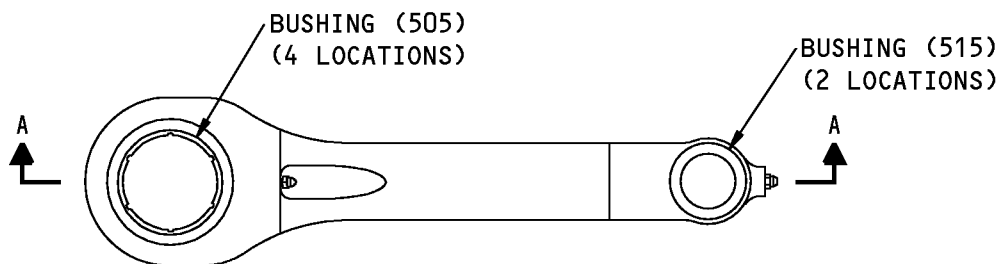
F87717 S0004996909_V3

161A1142-1, -3 Lower Torsion Link Assembly Repair
Figure 601 (Sheet 2 of 2)

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REPAIR 6-1
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1337612 S0000236481_V2

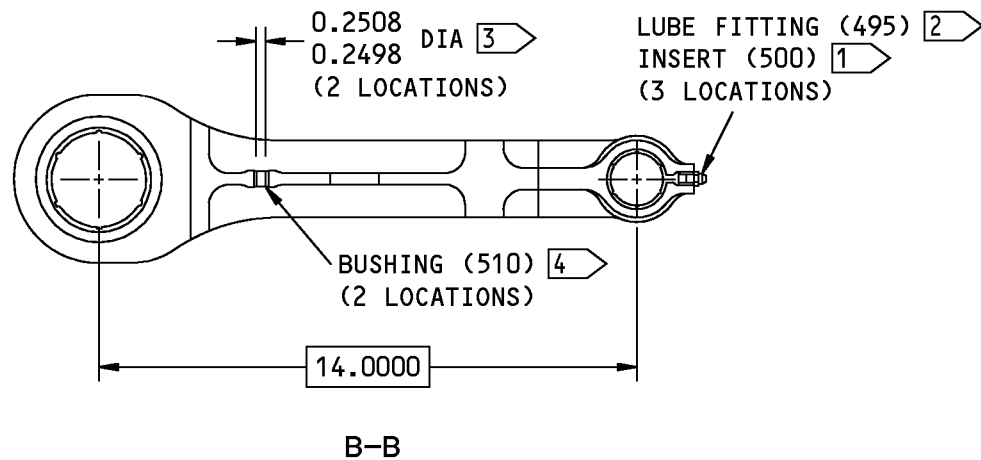
161A1142-5 Lower Torsion Link Assembly Repair
Figure 602 (Sheet 1 of 2)

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REPAIR 6-1
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COMPONENT MAINTENANCE MANUAL



1 INSTALL THE INSERT FLUSH WITH THE MACHINED PART SURFACE WITHIN ± 0.0200 .

2 INSTALL THE LUBE FITTING AND TIGHTEN IT TO 25-30 POUND-INCHES. APPLY BMS 3-33 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE APPEARS AT THE BUSHING INNER DIAMETER.

3 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY. KEEP A 63 MICROINCH FINISH

4 FLUSH WITH, TO 0.0300 MAXIMUM BELOW THE SURFACE, ON EACH SIDE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1142-5 Lower Torsion Link Assembly Repair
Figure 602 (Sheet 2 of 2)

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REPAIR 6-1
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COMPONENT MAINTENANCE MANUAL

LOWER TORSION LINK - REPAIR 6-2

161A1142-2, -4, -6

1. General

- A. This procedure tells how to repair the lower torsion link (520).
- 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.
- D. General repair details:
 - (1) Material: Titanium Alloy
 - (2) Shot peen: All surfaces, but optional in holes
 - (a) Intensity 0.014A2
 - (b) Coverage 2.0
 - (c) Hard Shot Rc 55-65
 - (d) Shot Size 0.023-0.046

2. Lower Torsion Link Repair

- A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

- B. Procedure (REPAIR 6-2, Figure 601 or REPAIR 6-2, Figure 602, (Sheet 1))

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Machine as necessary, within repair limits, to remove defects.
- (2) Shot peen as indicated.
- (3) Make oversize bushings (REPAIR 6-2, Figure 603 and on), as necessary, to adjust for the material removed.
- (4) Install the bushings as shown in REPAIR 6-1.

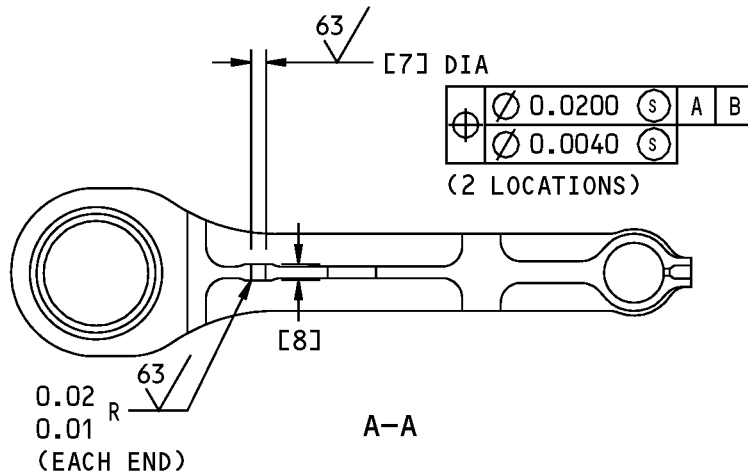
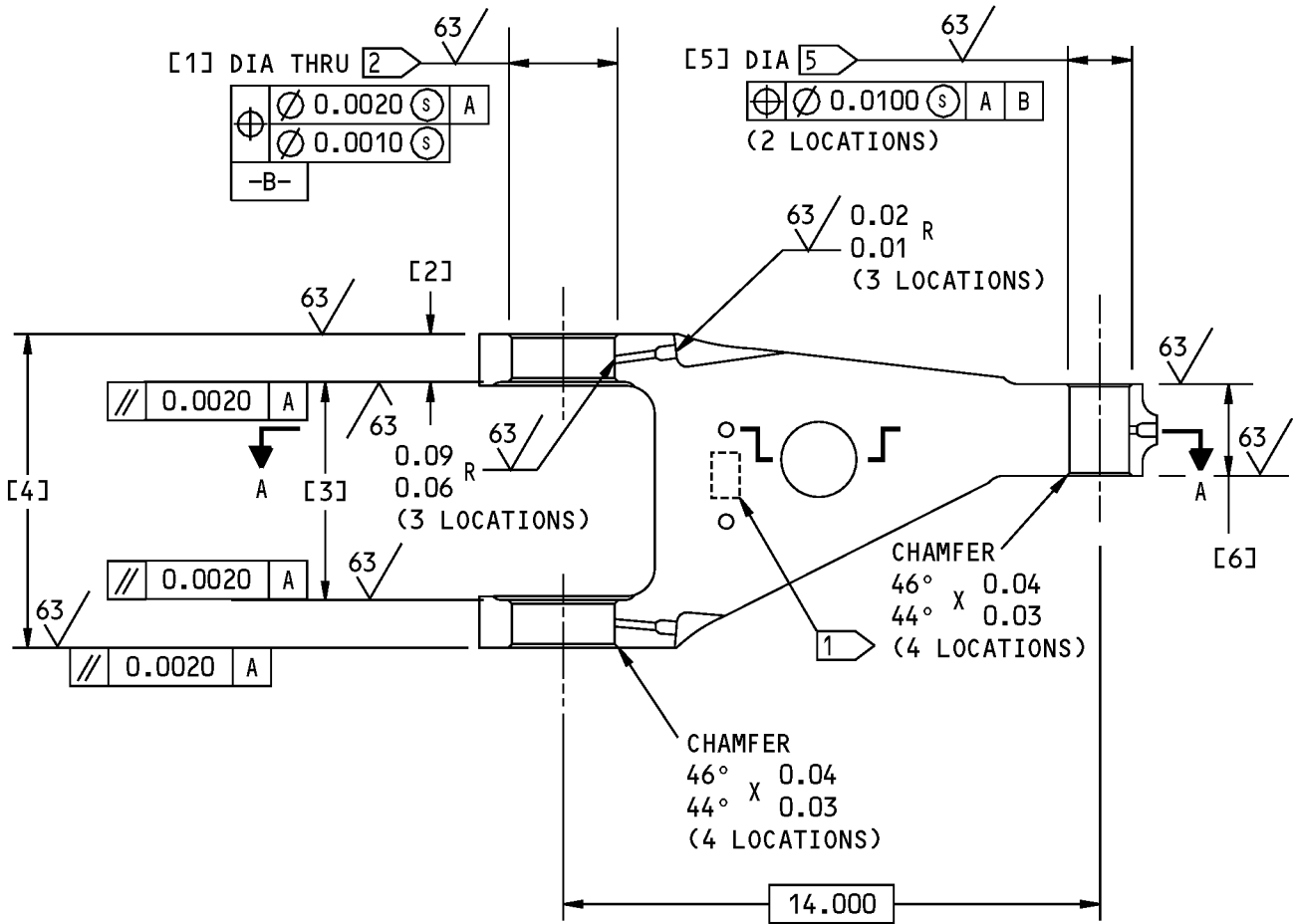
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REPAIR 6-2

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


161A1142-2,-4 Torsion Link Repair
Figure 601 (Sheet 1 of 2)


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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	2.6895	1.2530	5.6910	8.1910	1.5642	2.4025	0.3754	0.4460
	2.6880	1.2470	5.6870	8.1870	1.5630	2.3975	0.3748	0.4060
REPAIR LIMIT 	2.7495	1.1870	5.7510	8.1270	1.6242	2.3375	0.4354	---

 PART NUMBER AND SERIAL NUMBER LOCATION

 LIMIT FOR OVERSIZE BUSHING INSTALLATION

 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1142-2,-4 Torsion Link Repair
Figure 601 (Sheet 2 of 2)

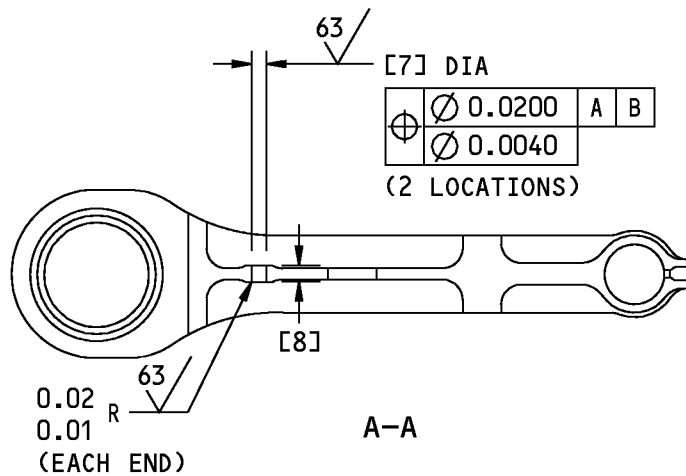
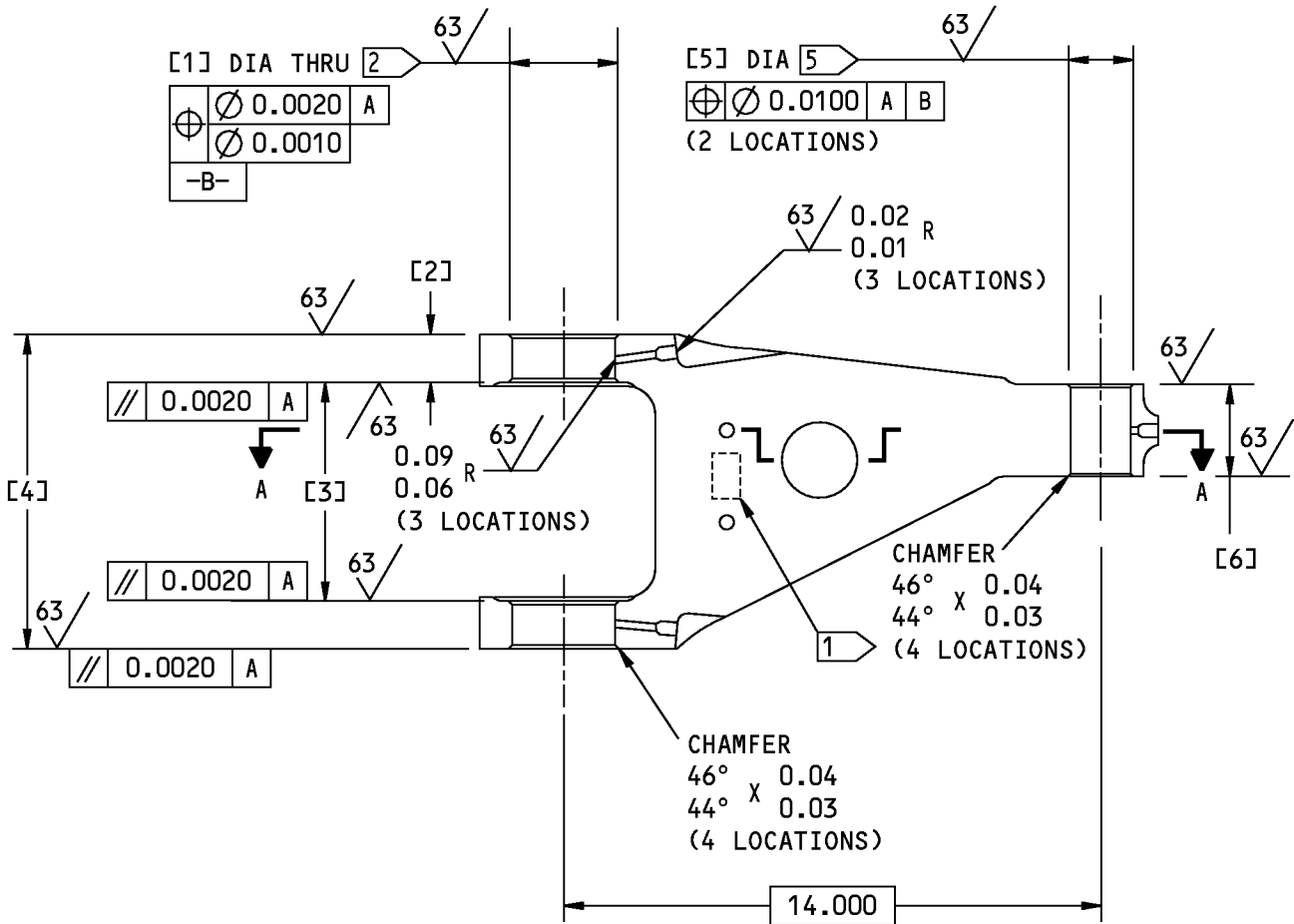
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161A1142-6 Torsion Link Repair
Figure 602 (Sheet 1 of 2)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	2.6895	1.4120	5.3710	8.1910	1.6872	2.4625	0.3754	0.4460
	2.6880	1.4080	5.3670	8.1870	1.6860	2.4575	0.3748	0.4060
REPAIR LIMIT	2.7495	1.3480	5.4310	8.1270	1.7472	2.3975	0.4354	----
								

 PART NUMBER AND SERIAL NUMBER LOCATION

 LIMIT FOR OVERSIZE BUSHING INSTALLATION

 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1142-6 Torsion Link Repair
Figure 602 (Sheet 2 of 2)

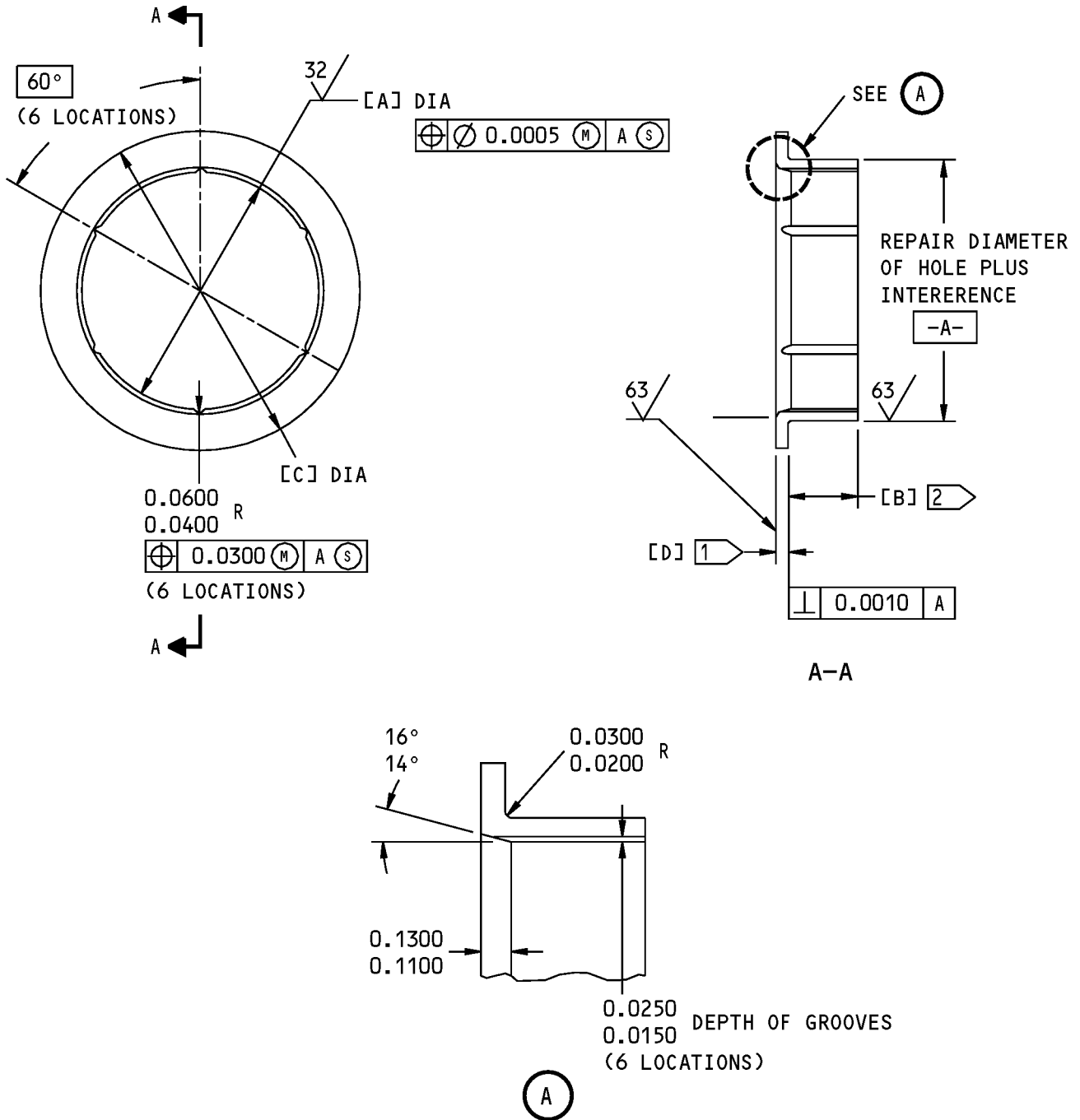
32-11-12

REPAIR 6-2

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COMPONENT MAINTENANCE MANUAL



Oversize Bushing Details
Figure 603 (Sheet 1 of 2)

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REPAIR 6-2
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COMPONENT MAINTENANCE MANUAL

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	INTERFERENCE
[1]	161A1144-2 (505)	2.5033 2.5018	0.5600 0.5400	3.2600 3.2200	0.0970 0.0960	0.0052 0.0022
[1]	161A1144-7 (505A)	2.5032 2.5022	0.6400 0.6200	3.2600 3.2400	0.0970 0.0960	0.0052 0.0022
[5]	161A1144-4 (515)	1.3772 1.3760	1.0850 1.0650	2.1300 2.1100	0.0950 0.0940	0.0038 0.0014
[5]	161A1144-8 (515A)	1.5005 1.4995	1.1150 1.0950	2.2300 2.2100	0.0950 0.0940	0.0040 0.0016

1 ➤ PLUS THE AMOUNT REMOVED FROM THE LUG FACE

2 ➤ MINUS THE AMOUNT REMOVED FROM THE LUG FACE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.01-0.02 R
MATERIAL: AL-NI-BRONZE (AMS 4640)

FINISH: NO FINISH

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 603 (Sheet 2 of 2)

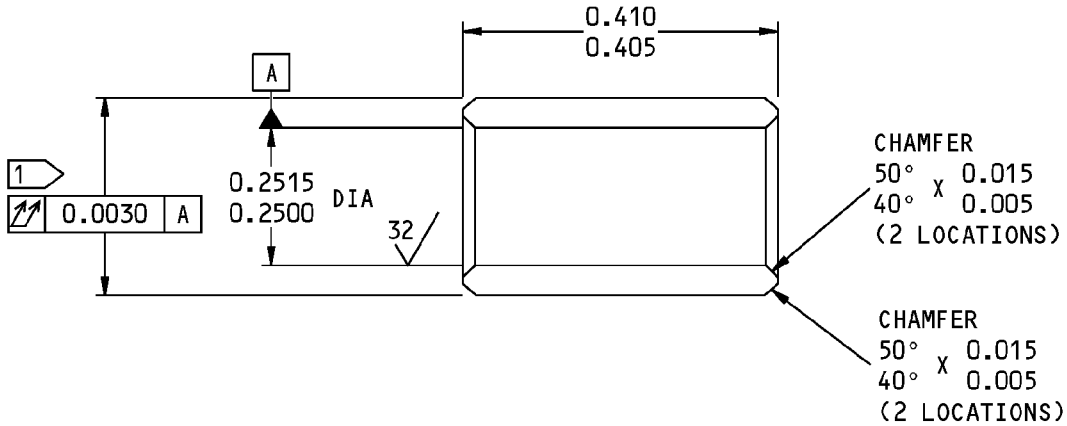
32-11-12

REPAIR 6-2

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1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0002-0.0013

63/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
 BREAK ALL SHARP EDGES
 MATERIAL: AL-NI-BRONZE (AMS 4640)
 FINISH: NO FINISH
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [7] FIG. 601 - REPLACES BUSHING (510)
 BACB28Y4F041

Oversize Bushing Details
 Figure 604

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REPAIR 6-2
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COMPONENT MAINTENANCE MANUAL

APEX PIN - REPAIR 7-1

161A1145-1

1. General

- A. This procedure tells how to repair and refinish the pin (330).
- 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.
- D. General repair details:
 - (1) Material: 4340M Steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces, unless shown differently.
 - (a) Intensity 0.014-0.018A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted
 - (d) Hard Shot Rc55-65
 - (e) Shot Size 0.016-0.033

2. Pin Repair and Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

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

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Shank Repair

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REPAIR 7-1

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- (a) Machine as required, within repair limits, to remove defects.
 - (b) Shot peen as indicated.
 - (c) Build up with chrome plate.
 - (d) Grind the chrome plate to design dimensions and finish.
- (2) Refinish
- (a) Cadmium-titanium plate and apply primer, C00175, coating, C00033 and compound, C50001 as shown.

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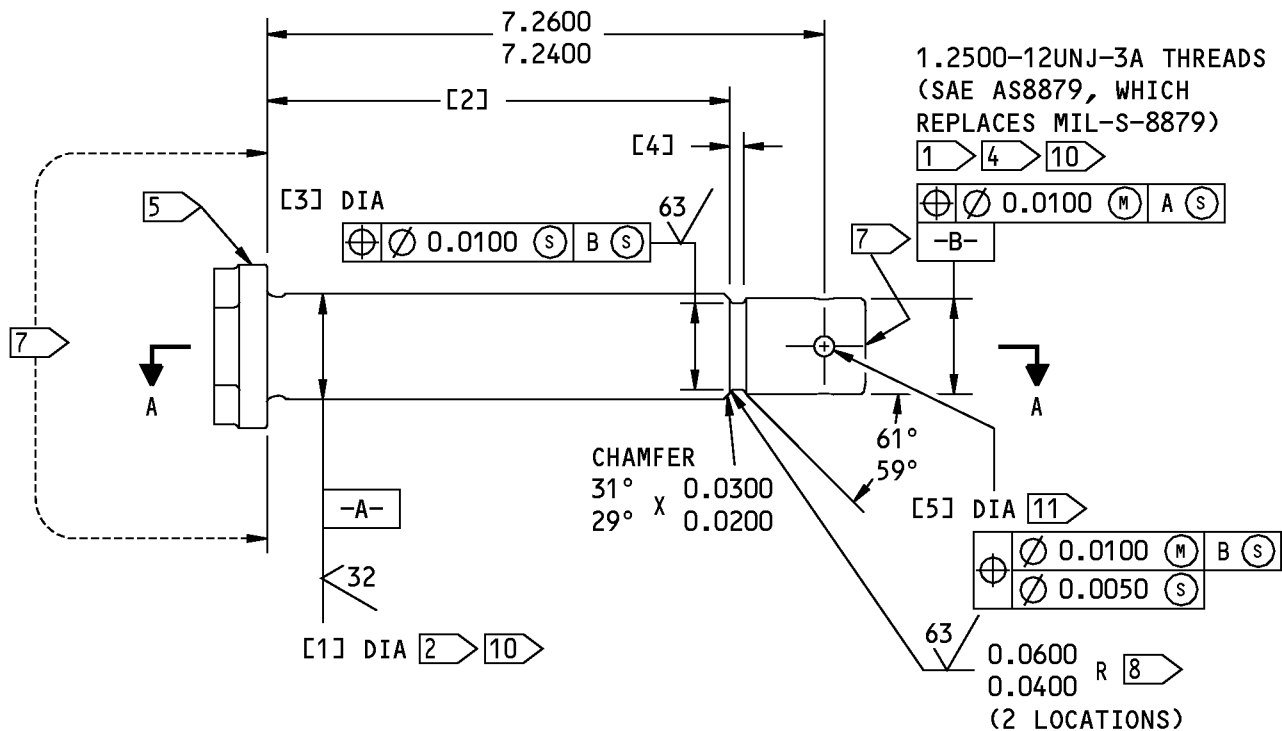
REPAIR 7-1

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COMPONENT MAINTENANCE MANUAL

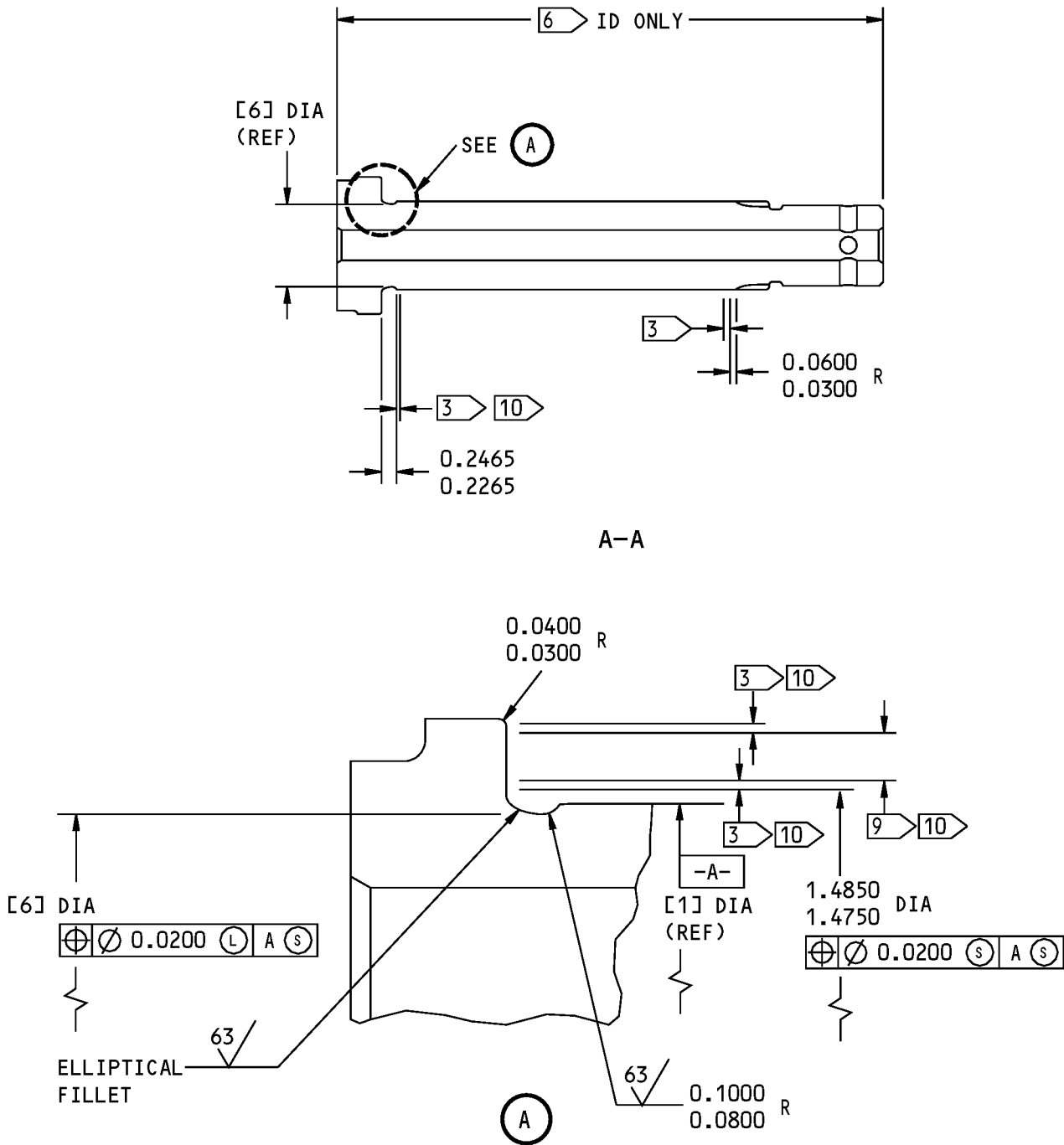


161A1145-1 Apex Pin Repair and Refinish
Figure 601 (Sheet 1 of 3)

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REPAIR 7-1
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161A1145-1 Apex Pin Repair and Refinish
Figure 601 (Sheet 2 of 3)

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REPAIR 7-1
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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]
DESIGN DIMENSION	1.3740 1.3725 12	6.0300 6.0100	1.1300 1.1200	0.1900 0.1700	0.2700 0.2660	1.2900 1.2700
REPAIR LIMIT	1.3450 13	---	---	---	---	---

- 1 DO NOT SHOT PEEN THIS SURFACE
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- 3 CHROME PLATE RUNOUT AREA
- 4 CADMIUM-TITANIUM PLATE (F-15.32)
- 5 PART NUMBER AND SERIAL NUMBER LOCATION
- 6 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66) AND MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03)
- 7 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 ENAMEL (F-19.39-707)
- 8 BE SURE TO SHOT PEEN THIS SURFACE
- 9 CHROME PLATE (F-15.34), 0.0015-0.0020 THICK. DO NOT GRIND
- 10 WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 11 SHOT PEEN OPTIONAL
- 12 AFTER PLATING
- 13 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.03-0.06 R

ALL DIMENSIONS AND SURFACE ROUGHNESS APPLY BEFORE SHOT PEEN UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A1145-1 Apex Pin Repair and Refinish
Figure 601 (Sheet 3 of 3)

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REPAIR 7-1
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COMPONENT MAINTENANCE MANUAL

TORSION LINK PIN - REPAIR 8-1

161A1146-1, -2, -3, -4

1. General

- A. This procedure tells how to repair and refinish torsion link pin (360).
- 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.
- D. General repair details:
 - (1) Material: 4340M steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces, unless shown differently.
 - (a) Intensity 0.014-0.018A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted.
 - (d) Hard Shot Rc 55-65
 - (e) Shot Size 0.016-0.033

2. Torsion Link Pin Repair and Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I
C50075	Coating - Exterior Protective Enamel, Gray	BMS10-60, Type II, BAC707 Gray
G50346	Compound - Corrosion Preventive	BMS 3-26 Type 2

B. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING

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REPAIR 8-1
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COMPONENT MAINTENANCE MANUAL

Reference	Title
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 8-1, Figure 601 or REPAIR 8-1, Figure 602)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Shank Repair

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Shot peen as indicated (SOPM 20-10-03).
- (c) Build up with chrome plate (SOPM 20-42-03).
- (d) Grind the chrome plate to design dimensions and finish (SOPM 20-10-04).

(2) Thread Relief

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Refinish as indicated.

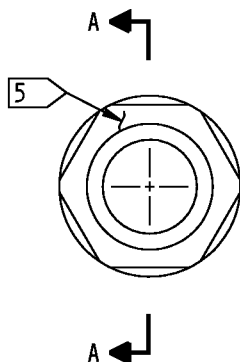
(3) Refinish

- (a) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.66), unless shown differently.
- (b) Apply enamel coating, C50075 (F-19.39-707) and corrosion preventive compound, C50001 (F-19.03) or corrosion inhibiting Compound, G50346 (F-19.73), as shown.

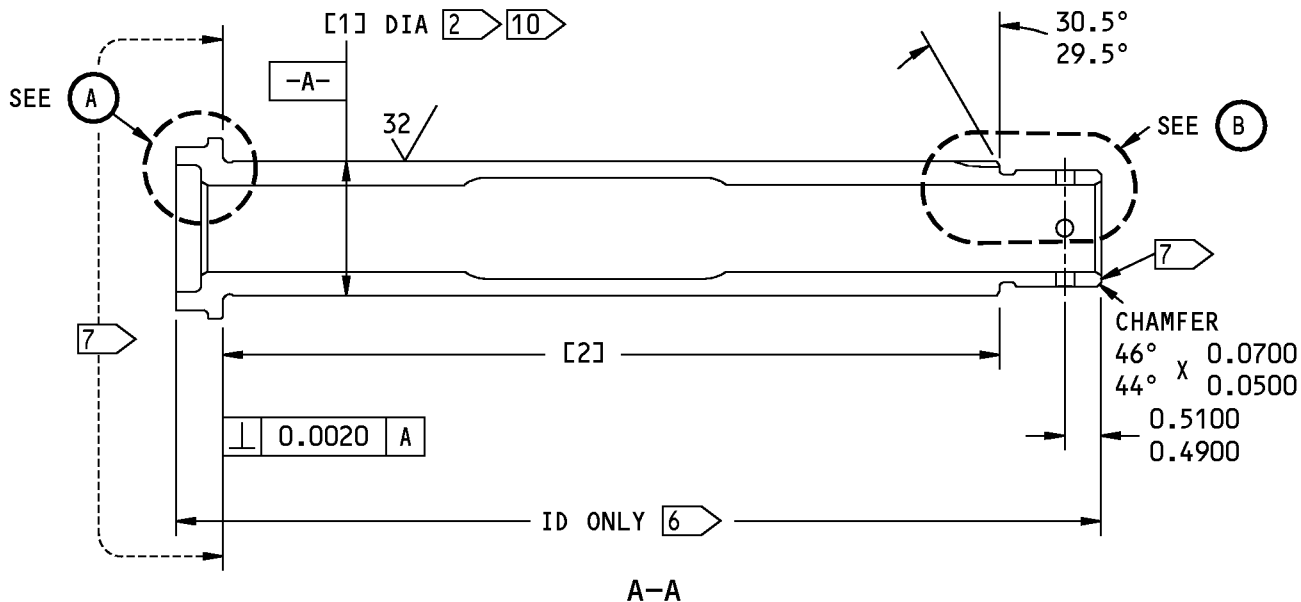
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REPAIR 8-1
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161A1146-1 SHOWN
 161A1146-2,-3 SIMILIAR

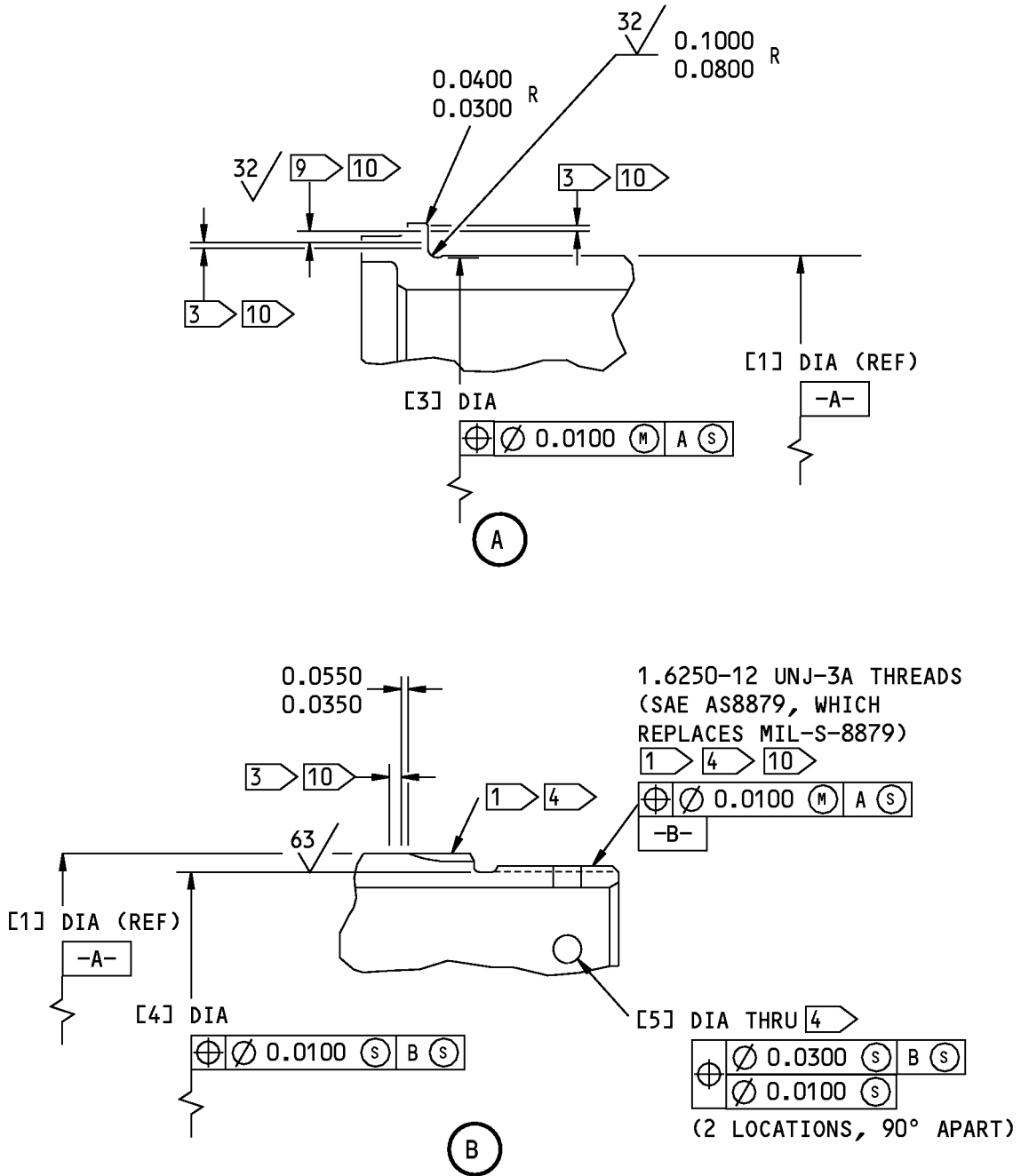


161A1146-1, -2, -3 Torsion Link Pin Repair and Refinish
 Figure 601 (Sheet 1 of 3)

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REPAIR 8-1
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161A1146-1, -2, -3 Torsion Link Pin Repair and Refinish
Figure 601 (Sheet 2 of 3)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]
DESIGN DIMENSION	1.8740	10.7900	1.8400	1.5150	0.2700
	1.8730 11	10.7700	1.8200	1.4950	0.2660
REPAIR LIMIT	1.8430 12	---	---	1.4650 13	---

1 DO NOT SHOT PEEN

2 CHROME PLATE (F-15.34), 0.003
MINIMUM THICK AFTER GRINDING

3 CHROME PLATE RUNOUT AREA

4 CADMIUM-TITANIUM PLATE (F-15.32)

5 PART NUMBER AND SERIAL NUMBER
LOCATION

6 CADMIUM-TITANIUM PLATE (F-15.01).
APPLY BMS 10-79, TYPE 3 PRIMER
(F-19.66) AND MIL-C-11796,
CLASS 1 CORROSION PREVENTIVE
COMPOUND (F-19.03)

7 CADMIUM-TITANIUM PLATE (F-15.01).
APPLY BMS 10-79, TYPE 3 PRIMER
(F-19.47) AND BMS 10-60, TYPE 2
ENAMEL (F-19.39-707)

8 BE SURE TO SHOT PEEN THIS SURFACE

9 CHROME PLATE (F-15.34),
0.0015-0.0020 THICK. DO NOT GRIND

10 WIPE THE PLATING WITH BMS 10-79,
TYPE 3 PRIMER (F-19.451)

11 AFTER PLATING

12 LIMIT FOR CHROME PLATE BUILDUP
AND GRIND TO DESIGN DIMENSIONS
AND FINISH

13 RESTORATION TO DESIGN DIMENSION
NOT REQUIRED

125 ✓ ALL MACHINED SURFACES UNLESS
SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.03-0.06 R
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS AND SURFACE ROUGHNESS
APPLY BEFORE SHOT PEEN UNLESS SHOWN
DIFFERENTLY

F91949 S0004996926_V3

161A1146-1, -2, -3 Torsion Link Pin Repair and Refinish
Figure 601 (Sheet 3 of 3)

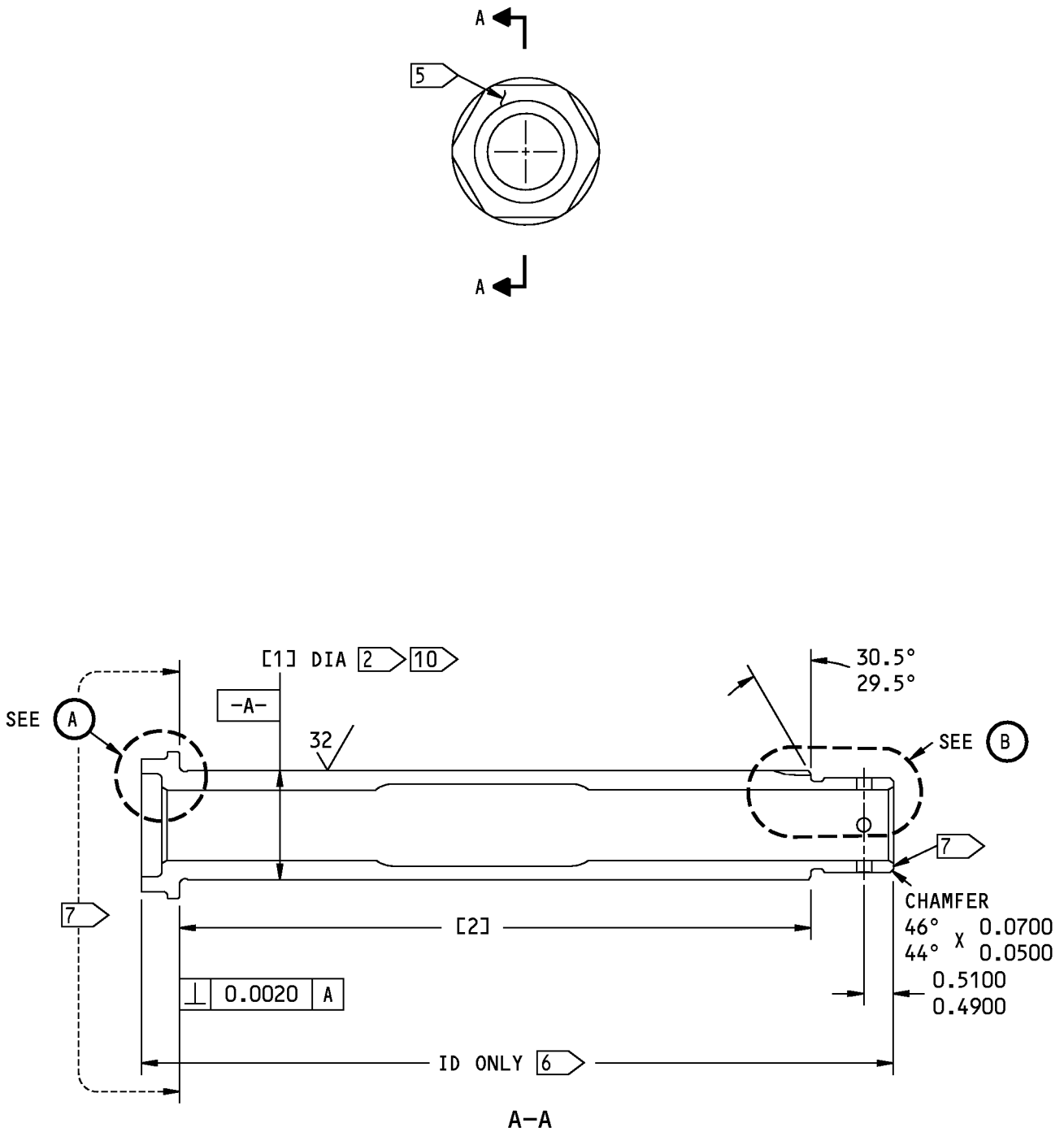
32-11-12

REPAIR 8-1

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COMPONENT MAINTENANCE MANUAL



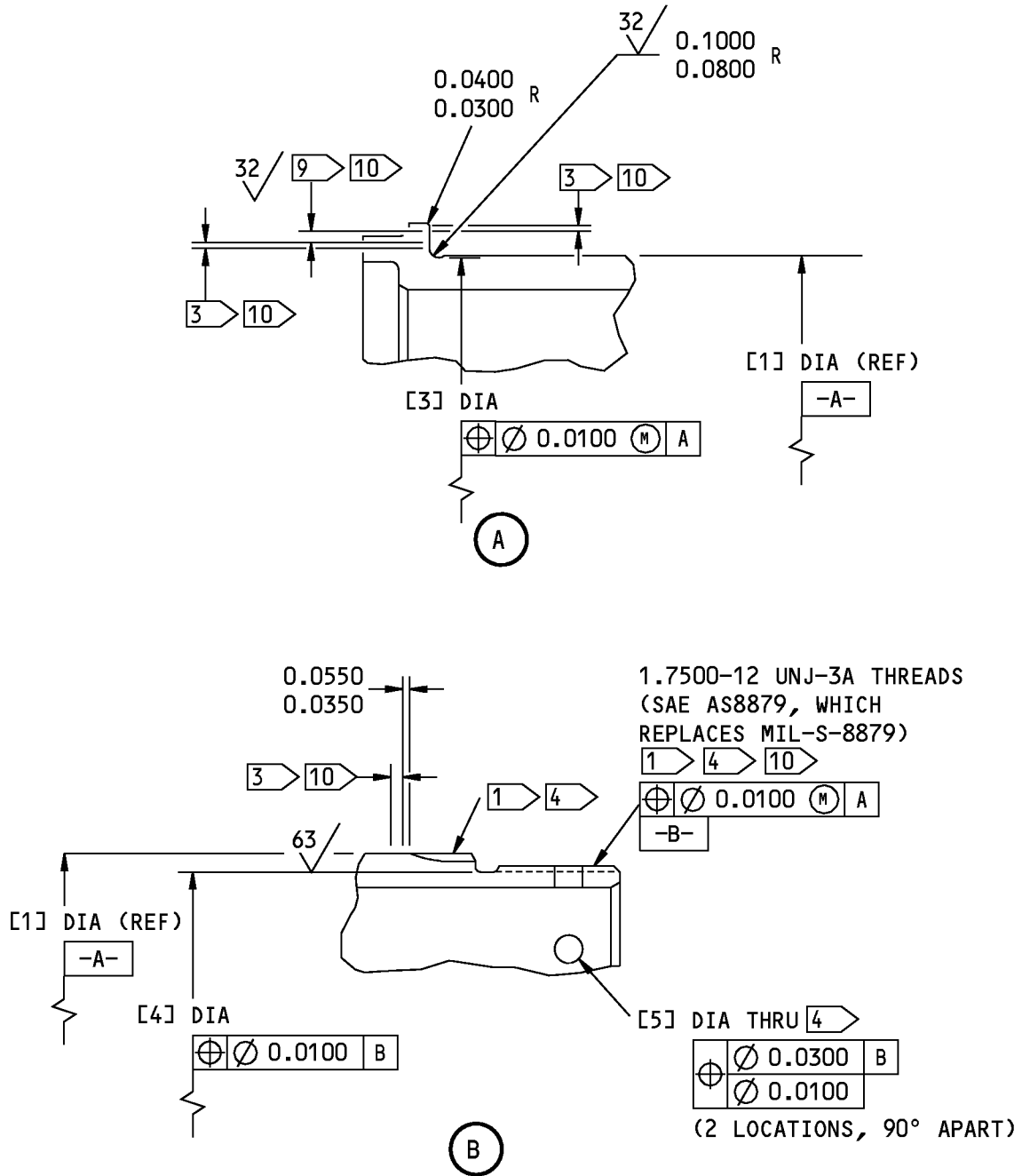
161A1146-4 Torsion Link Pin Repair and Refinish
Figure 602 (Sheet 1 of 3)

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REPAIR 8-1
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161A1146-4 Torsion Link Pin Repair and Refinish
Figure 602 (Sheet 2 of 3)

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REPAIR 8-1
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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]
DESIGN DIMENSION	1.9990	10.9700	1.9650	1.6400	0.2700
	1.9980 11	10.9500	1.9450	1.6200	0.2660
REPAIR LIMIT	1.9680 12	---	---	---	---

- 1 DO NOT SHOT PEEN.
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- 3 CHROME PLATE RUNOUT AREA
- 4 CADMIUM-TITANIUM PLATE (F-15.32)
- 5 PART NUMBER AND SERIAL NUMBER LOCATION
- 6 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66) AND BMS 3-26, TYPE 2 CORROSION INHIBITING COMPOUND (F-19.73)
- 7 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 ENAMEL (F-19.39-707)
- 8 BE SURE TO SHOT PEEN THIS SURFACE
- 9 CHROME PLATE (F-15.34), 0.0015-0.0020 THICK. DO NOT GRIND
- 10 WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 11 AFTER PLATING
- 12 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.03-0.06 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS AND SURFACE ROUGHNESS APPLY BEFORE SHOT PEEN UNLESS SHOWN DIFFERENTLY

1337748 S0000236353_V2

161A1146-4 Torsion Link Pin Repair and Refinish
Figure 602 (Sheet 3 of 3)

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REPAIR 8-1
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TORSION LINK PIN ASSEMBLY - REPAIR 9-1

161A1147-1, -3, -5, -7, -9

1. General

- A. This procedure tells how to replace the bushing (480) in the torsion link pin assembly (475).
- 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. Bushing Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

- C. Procedure (REPAIR 9-1, Figure 601 or REPAIR 9-1, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old bushing (480) from the torsion link pin (485).
- (2) If you find defects on the pin surfaces, refer to REPAIR 9-2 for repair instructions.
- (3) Install a replacement bushing with sealant, A00247 by the shrink-fit procedure (SOPM 20-50-03). Then anvil swage the ends (SOPM 20-50-03). Make sure the ends are flush with or below the pin outer diameter surface.
- (4) Machine the bushing to design dimensions and finish.

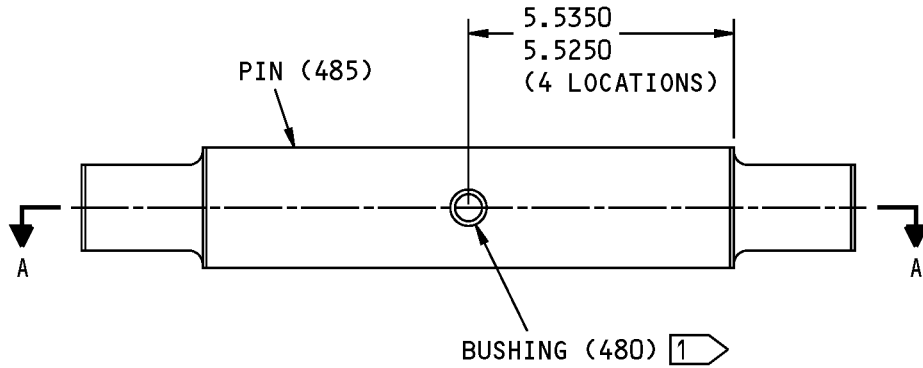
32-11-12

REPAIR 9-1

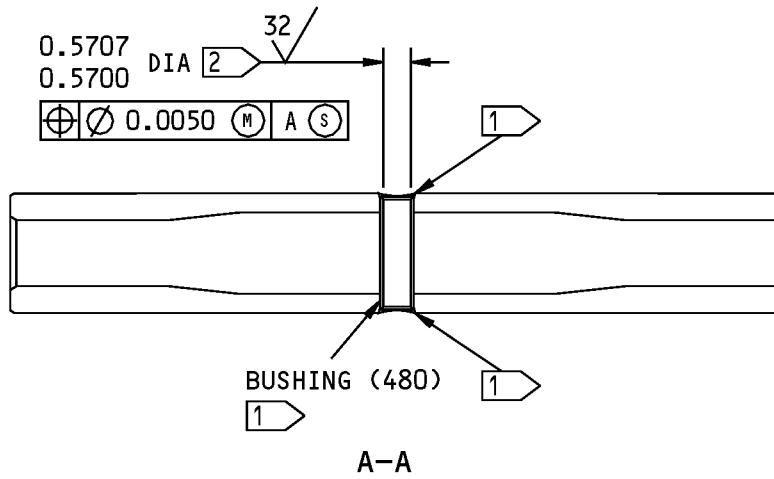
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161A1147-1 SHOWN
 161A1147-3,-5,-7 SIMILAR



1 AFTER YOU ANVIL SWAGE THE ENDS,
 MAKE SURE THE ENDS ARE FLUSH WITH
 OR BELOW THE PIN OUTER DIAMETER
 SURFACE

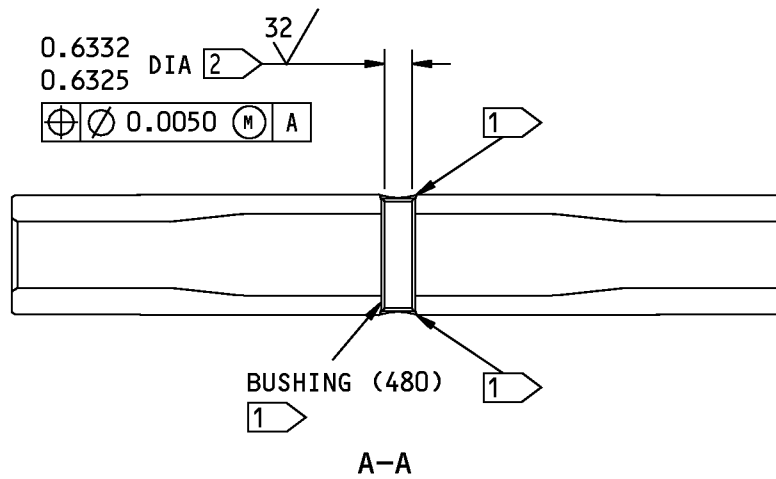
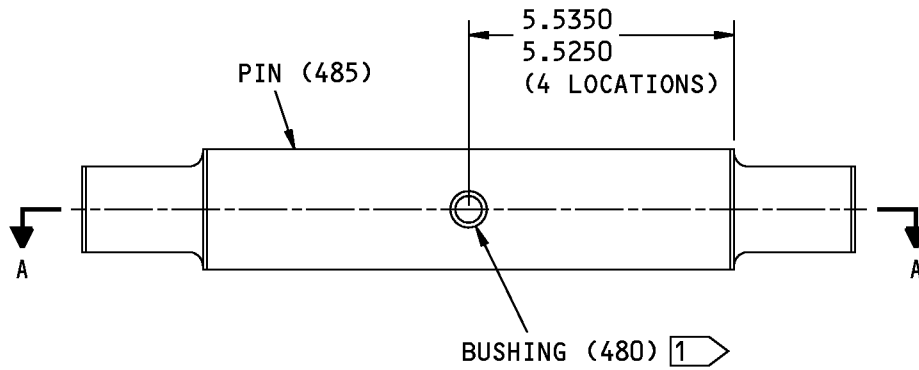
2 ADJUST TO THIS DIMENSION, IF
 NECESSARY

ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

161A1147-1,-3,-5,-7 Pin Assembly Bushing Replacement
 Figure 601

32-11-12

COMPONENT MAINTENANCE MANUAL



1 AFTER YOU ANVIL SWAGE THE ENDS, MAKE SURE THE ENDS ARE FLUSH WITH OR BELOW THE PIN OUTER DIAMETER SURFACE

2 ADJUST TO THIS DIMENSION, IF NECESSARY

ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1147-9 Pin Assembly Bushing Replacement
Figure 602

32-11-12



COMPONENT MAINTENANCE MANUAL

PIN - REPAIR 9-2

161A1147-2, -4, -6, -8, -10

1. General

- A. This procedure tells how to repair and refinish the pin (485).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi
 - (2) Shot peen: All surfaces
 - (a) Intensity 0.012-0.017A2
 - (b) Coverage 2.0
 - (c) Hard Shot Rc 55-65

2. Pin Repair

A. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 9-2, Figure 601 or REPAIR 9-2, Figure 602)

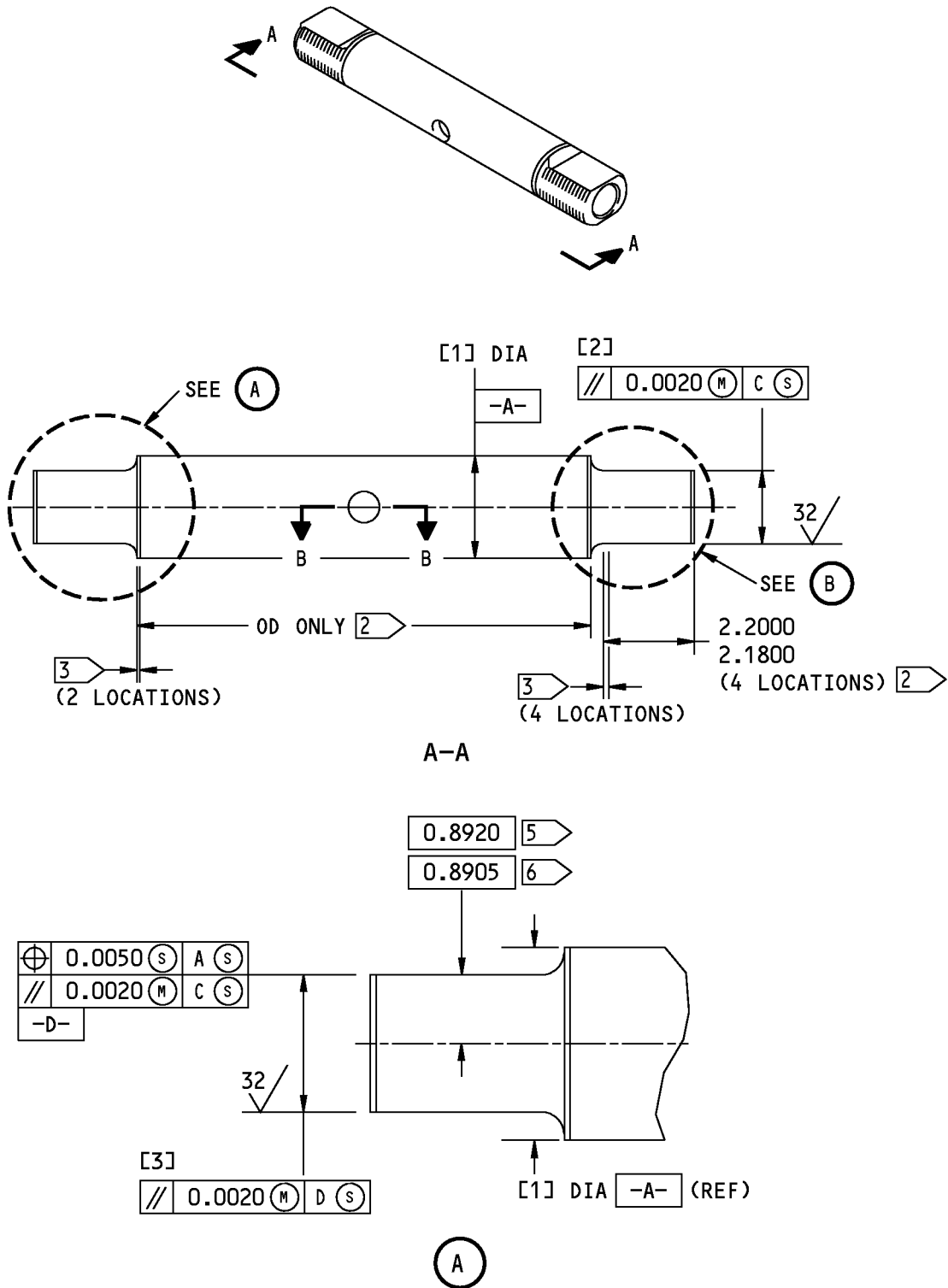
NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

- (1) Shank Diameters
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Shot peen, chrome plate and grind to design dimensions and finish (SOPM 20-10-03).
- (2) Refinish
 - (a) Passivate (F-17.25).

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REPAIR 9-2
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COMPONENT MAINTENANCE MANUAL

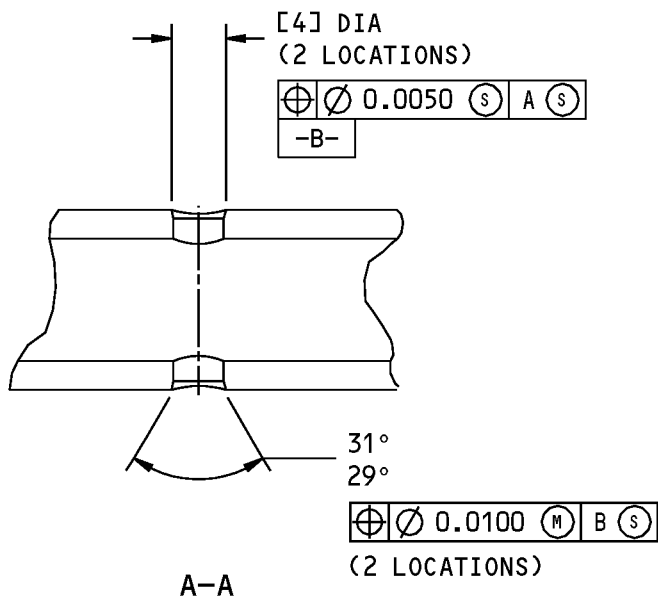
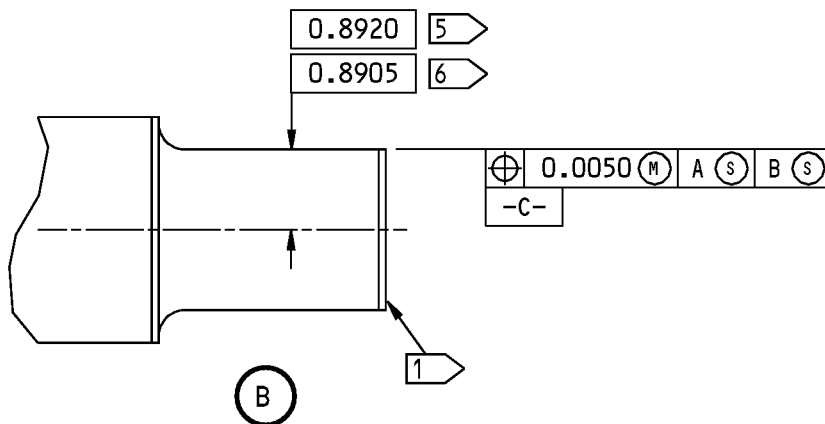


161A1147-2,-4,-6,-8 Pin Repair and Refinish
Figure 601 (Sheet 1 of 3)

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COMPONENT MAINTENANCE MANUAL



161A1147-2,-4,-6,-8 Pin Repair and Refinish
Figure 601 (Sheet 2 of 3)

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REPAIR 9-2
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REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	2.4990	1.7820	1.7820	0.6967
	2.4975	1.7800	1.7800	0.6960
REPAIR LIMIT	2.4685 4	1.7510 4	1.7510 4	--

- 1 PART NUMBER AND SERIAL NUMBER LOCATION
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRIND
- 3 CHROME PLATE RUNOUT AREA
- 4 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 5 AFTER PLATING, 161A1147-2
- 6 AFTER PLATING, 161A1147-4,-6,-8

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO R 0.02-0.03

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS AND SURFACE FINISH ARE BEFORE SHOT PEENING

161A1147-2,-4,-6,-8 Pin Repair and Refinish
Figure 601 (Sheet 3 of 3)

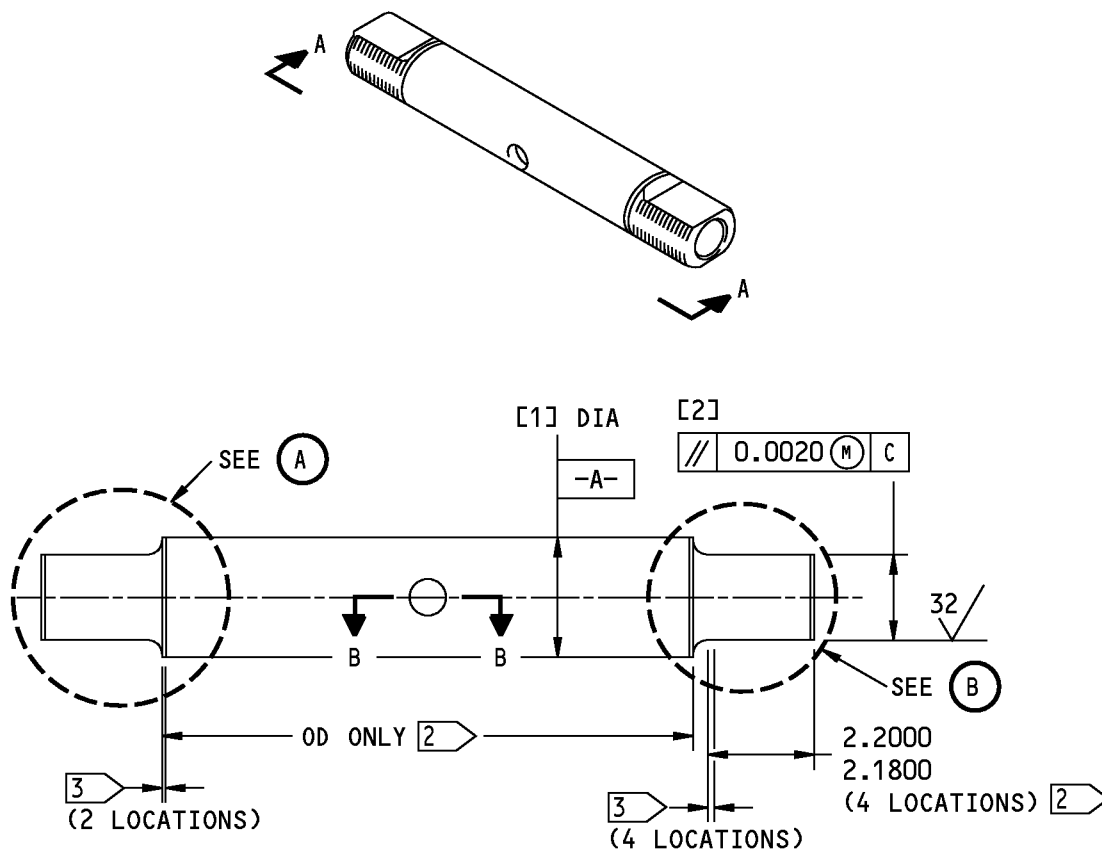
32-11-12

REPAIR 9-2

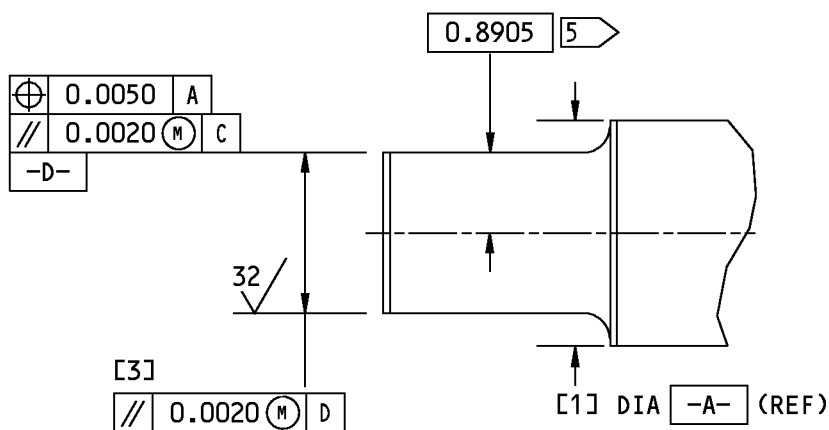
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COMPONENT MAINTENANCE MANUAL



A-A



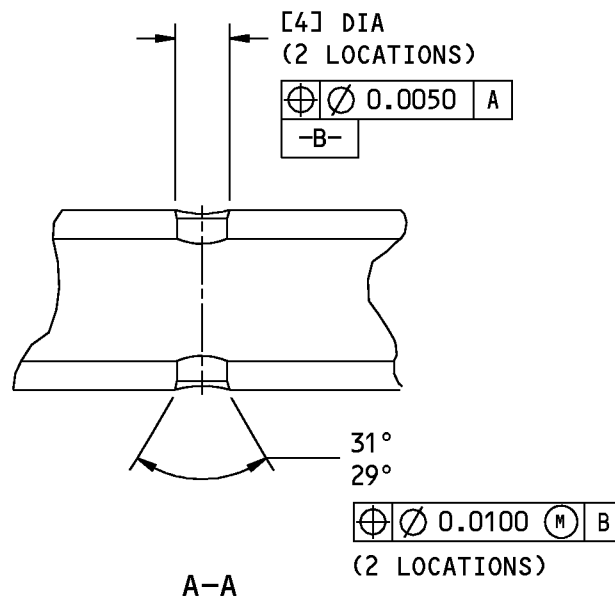
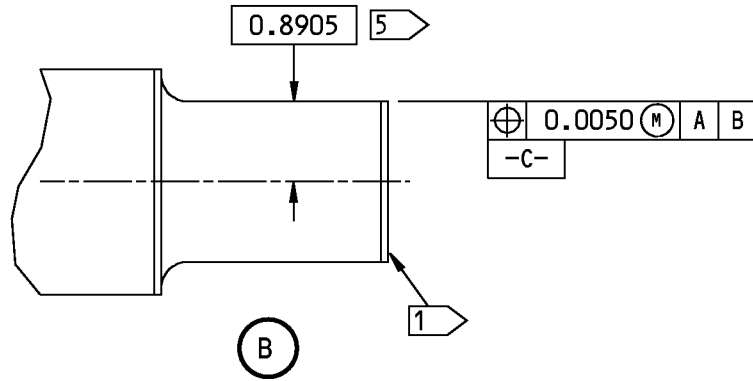
(A)

161A1147-10 Pin Repair and Refinish
Figure 602 (Sheet 1 of 3)

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COMPONENT MAINTENANCE MANUAL



161A1147-10 Pin Repair and Refinish
Figure 602 (Sheet 2 of 3)

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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	2.4990 2.4975	1.7820 1.7800	1.7820 1.7800	0.7593 0.7585
REPAIR LIMIT	2.4685 4	1.7510 4	1.7510 4	—

- 1 PART NUMBER AND SERIAL NUMBER LOCATION
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRIND
- 3 CHROME PLATE RUNOUT AREA
- 4 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 5 AFTER PLATING

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.02-0.03 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS AND SURFACE FINISH ARE BEFORE SHOT PEENING

161A1147-10 Pin Repair and Refinish
Figure 602 (Sheet 3 of 3)

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REPAIR 9-2

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COMPONENT MAINTENANCE MANUAL

METERING PIN - REPAIR 10-1

161A1150-1

1. General

- A. This procedure tells how to refinish the metering pin (825).
- 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.
- D. General repair details:
 - (1) Material: Aluminum Alloy
 - (2) Shot peen: All surfaces noted by flagnote 4
 - (a) Intensity 0.014A2
 - (b) Coverage 2.0

2. Metering Pin Refinish

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 10-1, Figure 601)

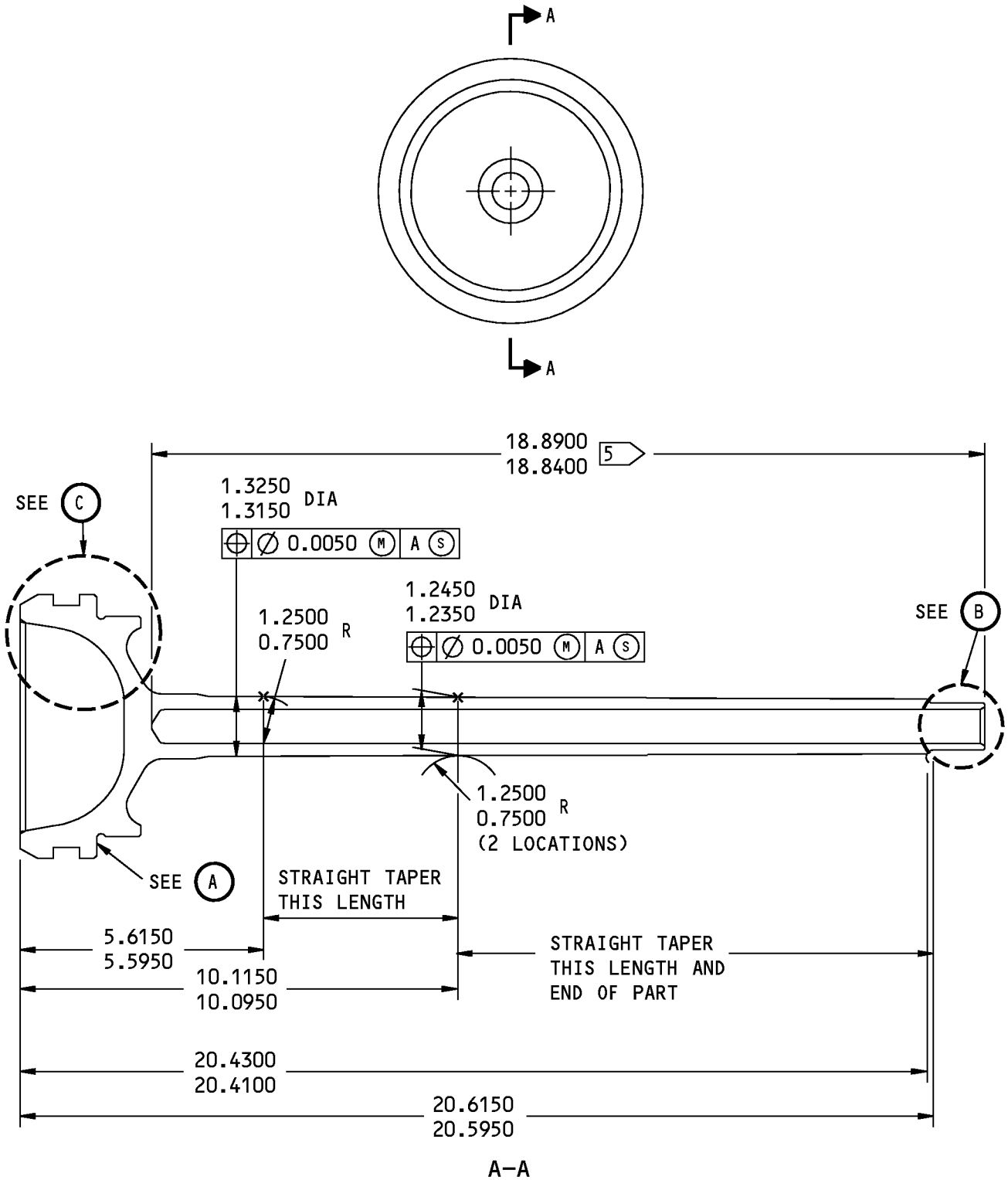
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Boric acid-sulfuric acid anodize all over (F-17.31), and chemical treat the internal surfaces as shown.
- (2) Apply BMS 10-79, Type 3 primer, C00175 and MIL-C-11796, Class 1 corrosion preventive compound, C50001 as shown.

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REPAIR 10-1
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COMPONENT MAINTENANCE MANUAL

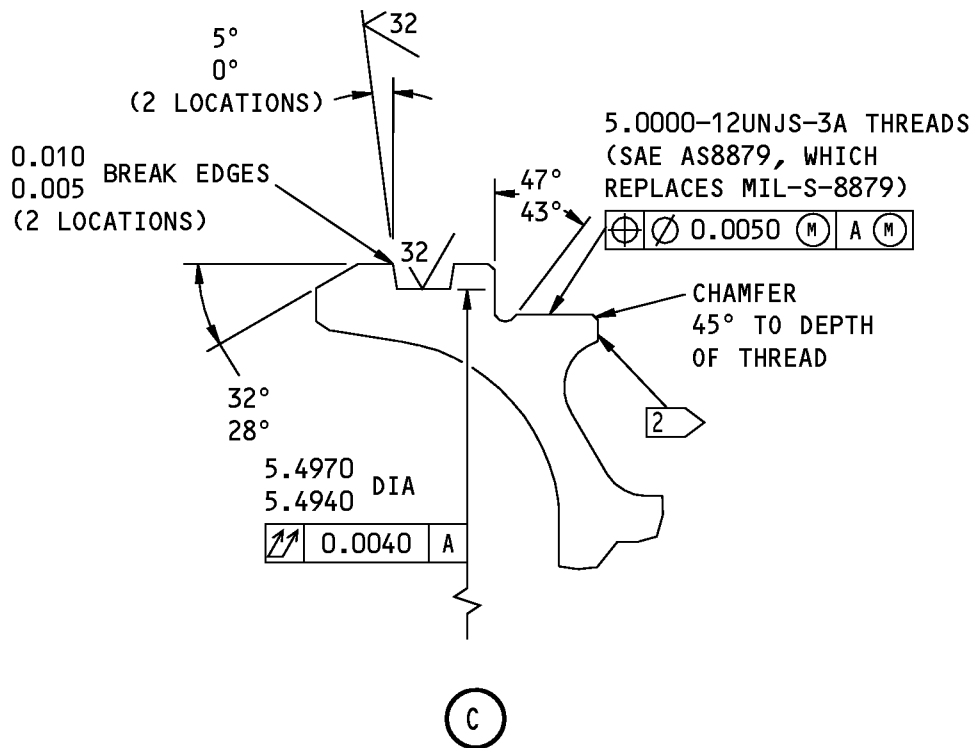
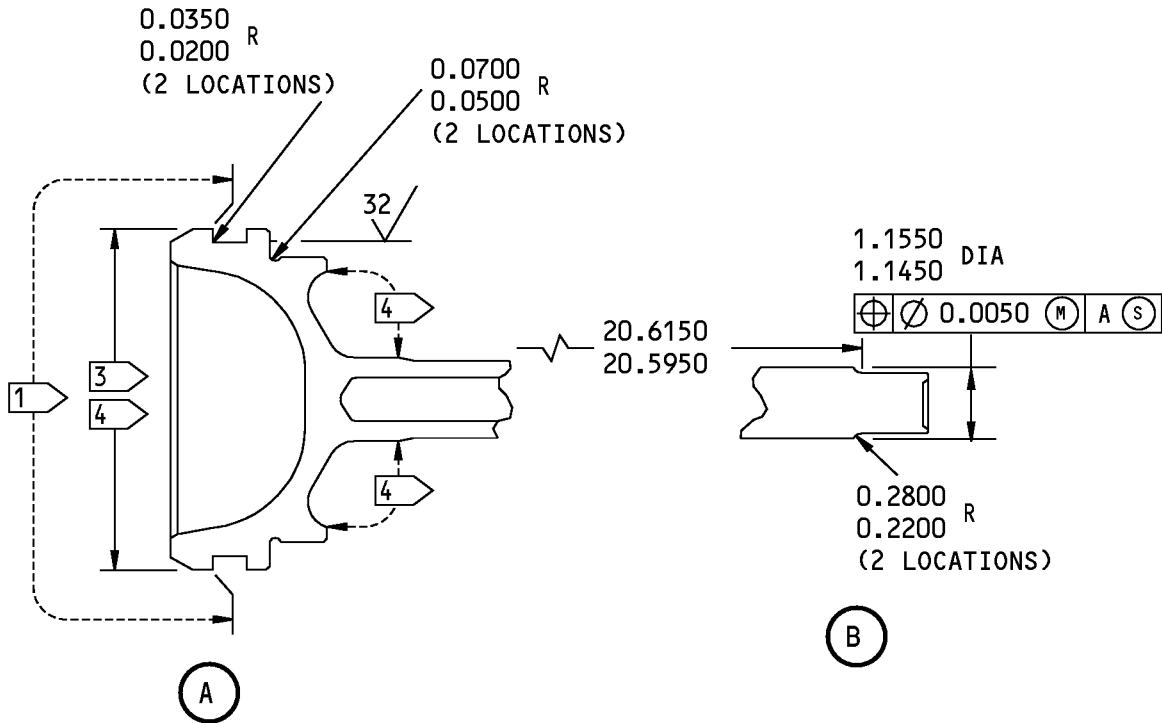


161A1150-1 Metering Pin Repair
Figure 601 (Sheet 1 of 3)

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REPAIR 10-1
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COMPONENT MAINTENANCE MANUAL



161A1150-1 Metering Pin Repair
Figure 601 (Sheet 2 of 3)

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REPAIR 10-1
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COMPONENT MAINTENANCE MANUAL

- 1 APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47).
- 2 PART NUMBER AND SERIAL NUMBER
- 3 APPLY MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03).
- 4 SHOT PEEN ALL THE SURFACES IN THIS AREA.
- 5 CHEMICAL TREAT (F-17.07) OR BORIC ACID-SULFURIC ACID ANODIZE (F-17.31) ON INTERIOR SURFACES THIS LENGTH ONLY.

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.02-0.03 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1150-1 Metering Pin Repair
Figure 601 (Sheet 3 of 3)

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REPAIR 10-1
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COMPONENT MAINTENANCE MANUAL

ORIFICE SUPPORT TUBE - REPAIR 11-1

161A1152-1, -2

1. General

- A. This procedure tells how to refinish the orifice support tube (795, 795A).
- 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: Aluminum Alloy
 - (2) Shot peen: All surfaces noted by flagnote 3
 - (a) Intensity 0.014A2
 - (b) Coverage 2.0

2. Orifice Support Tube Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 11-1, Figure 601)

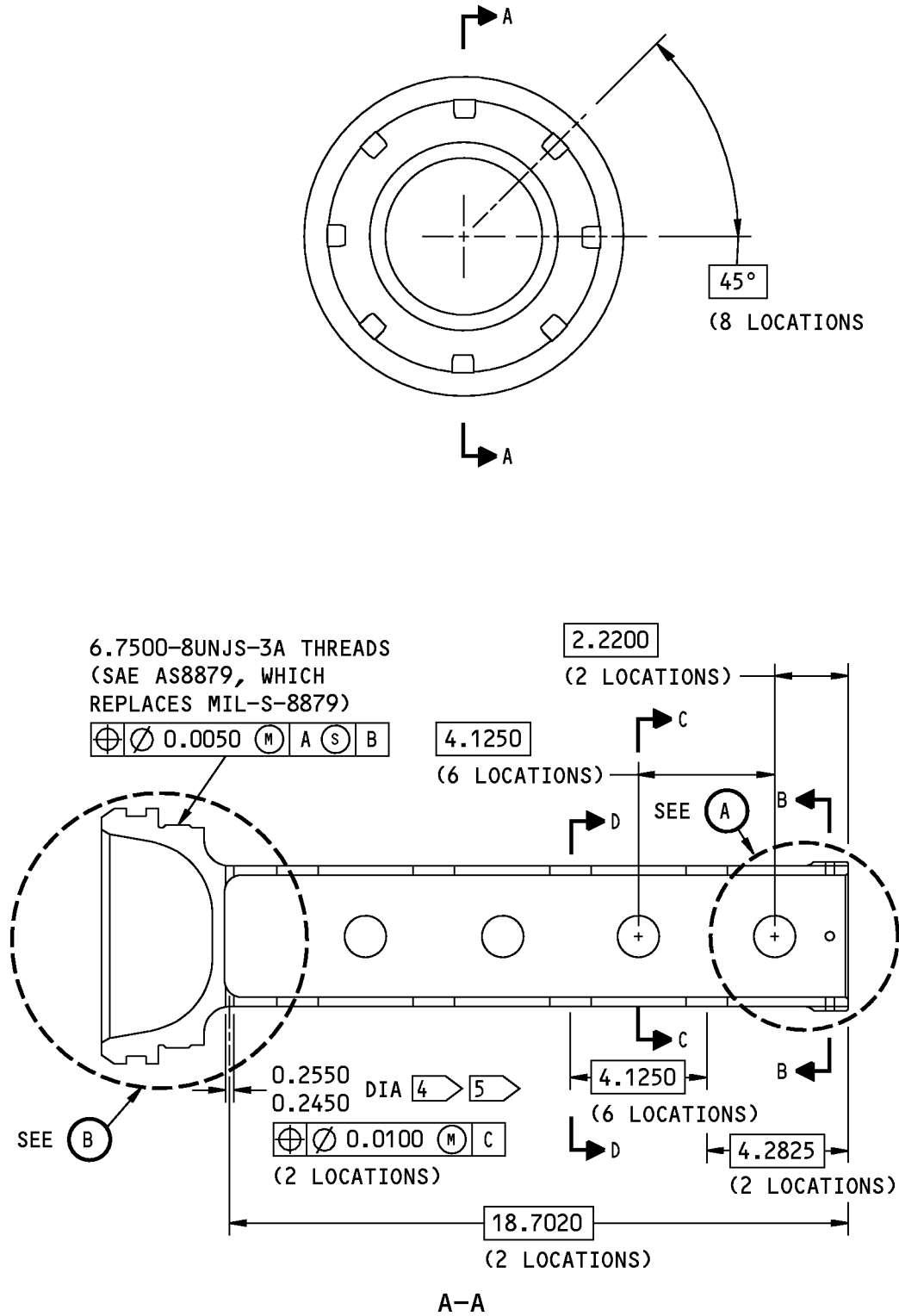
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35).
- (2) Apply primer, C00259 (F-20.02) to surfaces noted by flagnote 1.
- (3) Apply compound, C50001 to surfaces noted by flagnote 6.

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REPAIR 11-1
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COMPONENT MAINTENANCE MANUAL



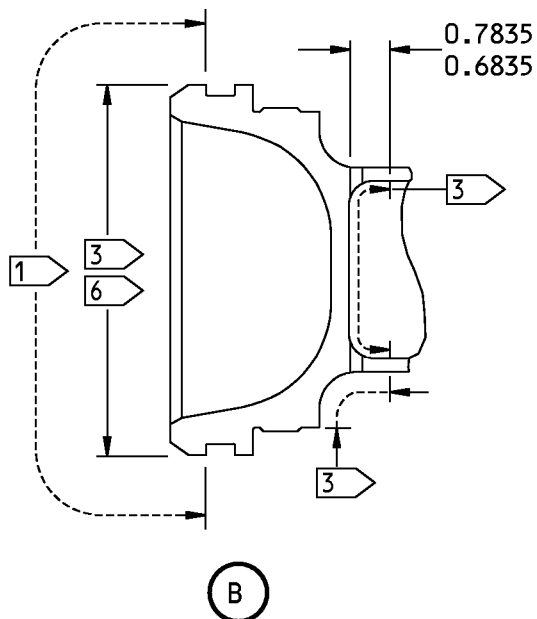
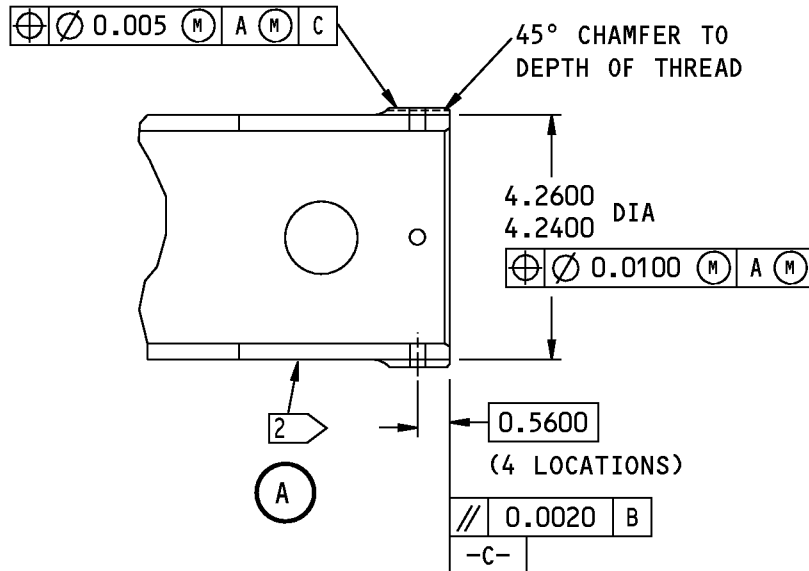
161A1152-1,-2 Orifice Support Tube Repair
Figure 601 (Sheet 1 of 4)

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COMPONENT MAINTENANCE MANUAL

4.500-12UNJS-3A THREADS
 (SAE AS8879, WHICH
 REPLACES MIL-S-8879)



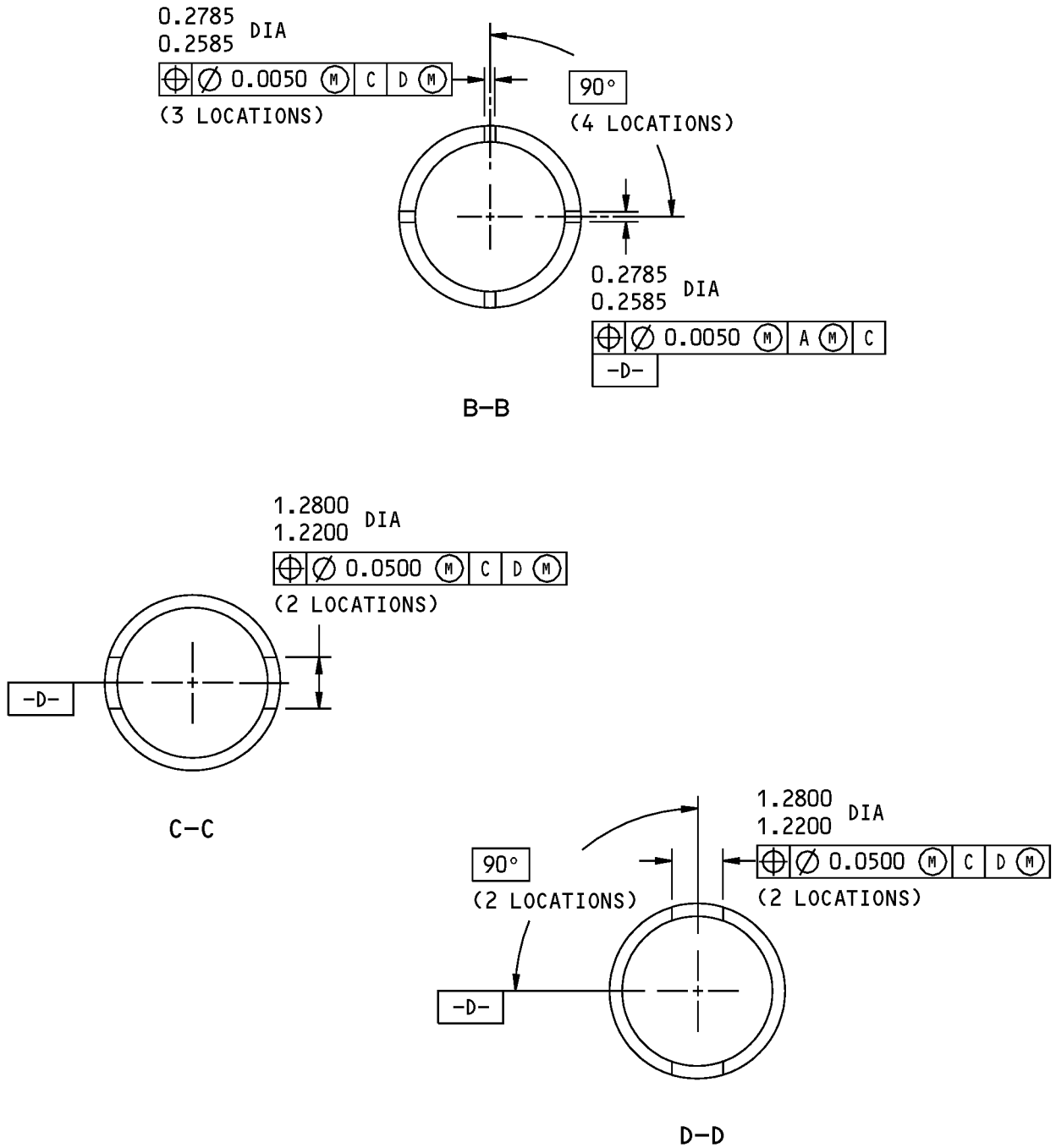
F86818 S0004996942_V3

161A1152-1,-2 Orifice Support Tube Repair
 Figure 601 (Sheet 2 of 4)

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161A1152-1,-2 Orifice Support Tube Repair
Figure 601 (Sheet 3 of 4)

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- 1 APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) TO ALL SURFACES IN THIS AREA.
- 2 PART NUMBER AND THE SERIAL NUMBER
- 3 SHOT PEEN ALL SURFACES IN THIS AREA.
- 4 DO NOT SHOT PEEN THIS SURFACE.
- 5 BREAK SHARP EDGES OF THE HOLE 0.060-0.090.
- 6 APPLY MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO ALL SURFACES IN THIS AREA.

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.02-0.03
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1152-1,-2 Orifice Support Tube Repair
Figure 601 (Sheet 4 of 4)

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REPAIR 11-1
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COMPONENT MAINTENANCE MANUAL

RETAINER NUT ASSEMBLY - REPAIR 12-1

161A1169-1, 161A1170-1

1. General

- A. This procedure tells how to replace the plug in the retainer nut assembly (770, 810).
- 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. Plug Replacement

- 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 20-50-12	APPLICATION OF ADHESIVES

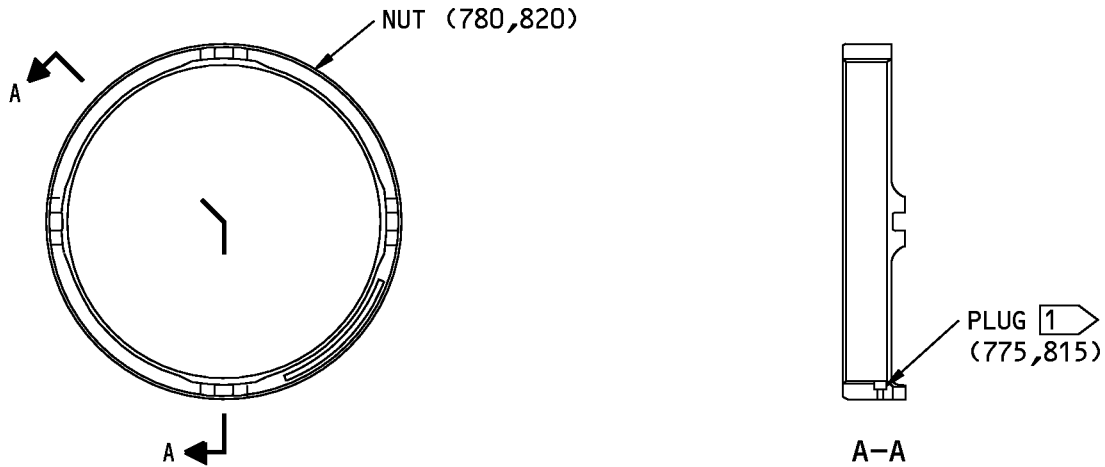
- C. Procedure (REPAIR 12-1, Figure 601)

- (1) Remove the old plug (775, 815) from the retainer nut (780, 820).
- (2) Bond a replacement plug (775, 815) into the retainer nut (780, 820) with sealant, A00551(SOPM 20-50-12).

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REPAIR 12-1
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116A1170-1 SHOWN
 161A1169-1 SIMILAR

1 BOND THE PLUG IN THE NUT WITH
 TYPE 44 ADHESIVE (SOPM 20-50-12)

ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

161A1169-1 161A1170-1 Retainer Nut Assembly Repair
 Figure 601

32-11-12

REPAIR 12-1
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COMPONENT MAINTENANCE MANUAL

BEARING CARRIER - REPAIR 13-1

161A1167-1, -4, -7, 161A1168-1

1. General

- A. Use this procedure to repair and refinish upper bearing carrier (635) and lower bearing carrier (605).
- 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.
- D. General repair details:
 - (1) Material
 - (a) 161A1167-1, -4: Ti alloy
 - (b) 161A1167-7: Al alloy
 - (c) 161A1168-1: Ti alloy
 - (2) Shot peen.
 - (a) Titanium parts: Not necessary
 - (b) Aluminum parts: 0.010A2 intensity
 - (3) Each 161A1167-series carrier assembly is a set of matched halves (See REPAIR 13-1, Figure 601). Keep the halves of a set together. Do not mix halves from different sets.

2. Bearing Carrier Repair

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

Reference	Title
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT

C. Procedure

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) 161A1167-series (REPAIR 13-1, Figure 601)
 - (a) Face repairs
 - 1) Machine the full upper or lower surface, or the two surfaces, or make spotfaces as shown, as necessary to remove defects.
 - 2) Restore the chamfers as shown.
 - 3) Refinish as indicated (REPAIR 13-1, Paragraph 3.).

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REPAIR 13-1
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- (b) Repair of the other surfaces is only replacement of the original finish. Refer to REPAIR 13-1, Paragraph 3. below for details
- (2) 161A1168-1 (REPAIR 13-1, Figure 602)
 - (a) Seal land surface
 - 1) Machine the seal land as necessary, within repair limits, to remove defects.
 - 2) Machine the upper end face of the carrier (at the same end as the seal land) to get the 1.2125-1.2175 inch dimension from the seal land.
 - 3) Restore the chamfer and break the edge as shown.
 - 4) Machine three new flat areas into the OD for the retainer pins, 15 degrees from the old locations.
 - 5) Drill three new holes for the retainer pins on the new flat surfaces. Use the same dimensions as the old holes, and the same distance from the new edge as the old holes were from the old edge before it was machined.
 - 6) Countersink the old holes as shown, at the inner diameter surface.
 - 7) Penetrant examine all machined surfaces.
 - 8) Send the carrier to Tiodize Co., Inc. (V34568) for refinish (REPAIR 13-1, Paragraph 3.).
 - 9) Install Monel rivets in the old holes, from the inside of the carrier. You can use MS20427M8-8, BACR15CE8M8 or NAS1200M8-8 rivets. Peen the tail ends of these rivets against the OD. Machine the rivet heads flush with the carrier ID surface.
 - (b) Scraper land surface and carrier length
 - 1) Remove material from the lower end face as necessary, within repair limits, to remove defects.
 - 2) Machine the scraper land to get back to the design depth.
 - 3) Restore the hole countersinks (3 locations).
 - 4) Penetrant examine (SOPM 20-20-02)
 - 5) Send the carrier to Tiodize Co., Inc. (V34568) for refinish (REPAIR 13-1, Paragraph 3.).
 - (c) Scraper gland diameter
 - 1) Machine the bore at the scraper land to the repair range shown. Machine the scraper land as necessary, within repair limits, to remove defects. Be sure to keep the corner radius and gland depth within the design limits shown.
 - 2) Penetrant examine (SOPM 20-20-02).
 - 3) Make a repair sleeve (REPAIR 13-1, Figure 603).
 - 4) Send the carrier to Tiodize Co., Inc. (V34568) for refinish (REPAIR 13-1, Paragraph 3.), unless shown differently.
 - 5) Install the repair sleeve by the shrink fit method (SOPM 20-50-03) with grease, D00633.
 - a) Make sure the repair sleeve does not extend across the lower end face of the carrier.

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REPAIR 13-1
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3. Bearing Carrier 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) Titanium parts: Send the parts to Tiodize Co., Inc. (V34568) to apply Tiodize coating (F-30.015).
- (2) Aluminum parts: Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35).

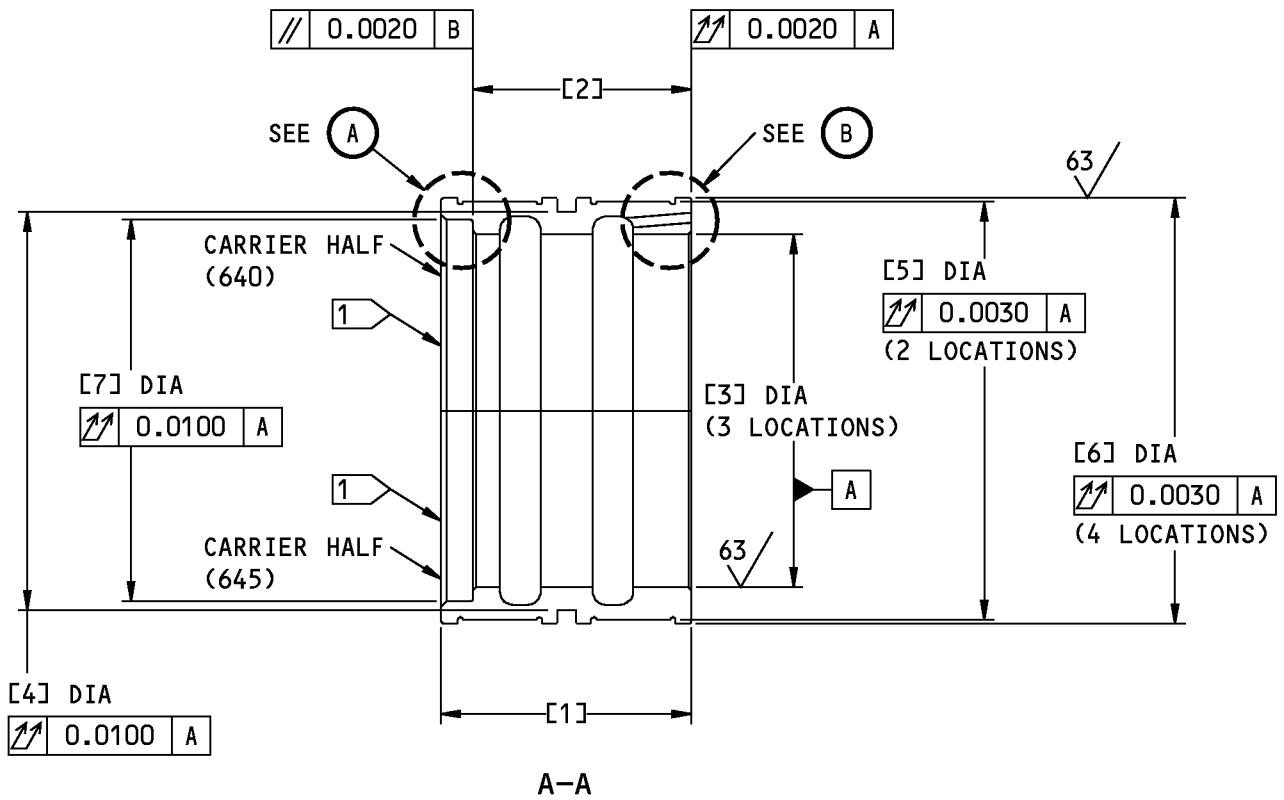
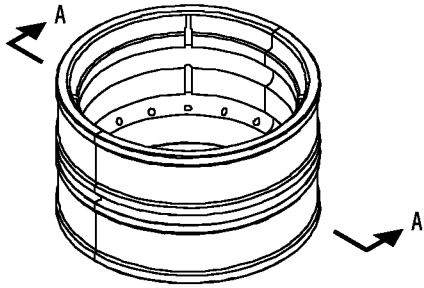
32-11-12

REPAIR 13-1

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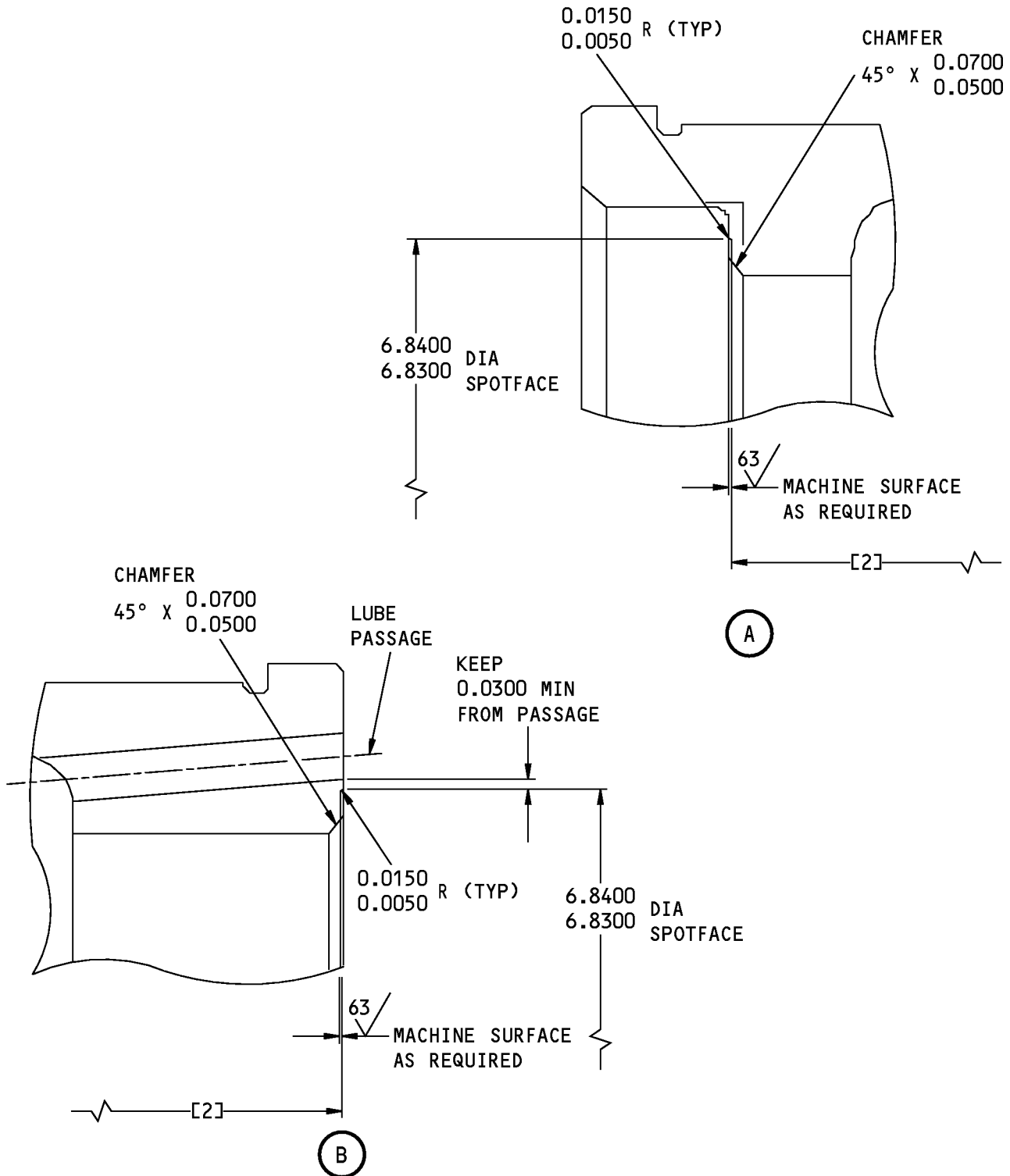
F86845 S0004996948_V2

161A1167-1, -4, -7 Carrier Assembly Repair
Figure 601 (Sheet 1 of 3)

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1499847 S0000272591_V1

161A1167-1, -4, -7 Carrier Assembly Repair
Figure 601 (Sheet 2 of 3)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	4.6100 4.5900	4.0215 4.0165	6.4920 6.4870	7.3100 7.3000	7.6860 7.6840	7.8250 7.8150	7.0200 7.0000
REPAIR LIMIT	4.5460 ①	3.9725 ②	---	---	---	---	---

CAUTION:

EACH ASSEMBLY IS A MATCHED SET OF CARRIER HALVES. DO NOT MIX THE HALVES WITH HALVES FROM OTHER SETS.

- ① PART NUMBER AND SERIAL NUMBER
- ② LIMIT FOR MATERIAL REMOVAL FROM THE FULL SURFACE OR FOR SPOTFACES AS SHOWN

125/ ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

DIMENSIONS AND SURFACE TEXTURES ARE BEFORE ALL FINISHES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

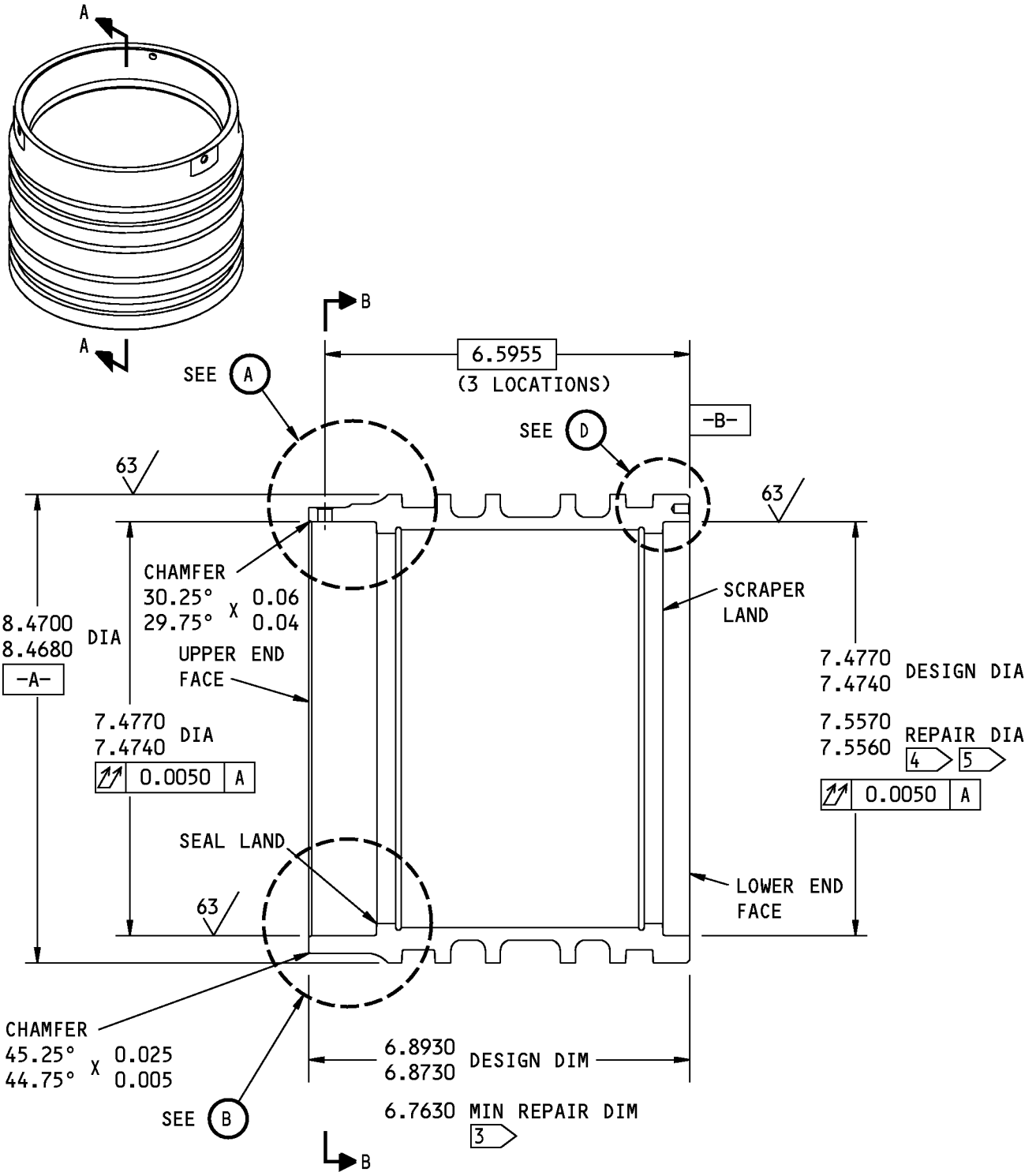
1499473 S0000272592_V1

161A1167-1, -4, -7 Carrier Assembly Repair
Figure 601 (Sheet 3 of 3)

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A-A

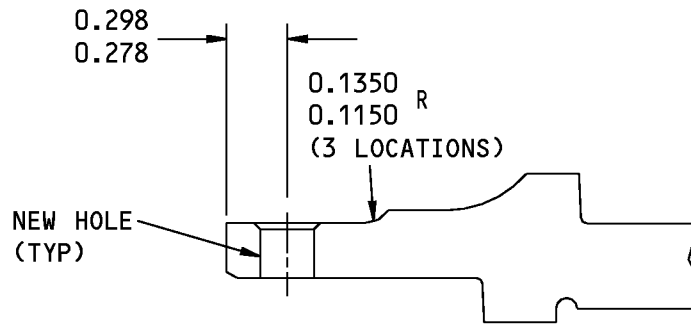
D81789 S0004996949_V2

161A1168-1 Carrier Repair
Figure 602 (Sheet 1 of 6)

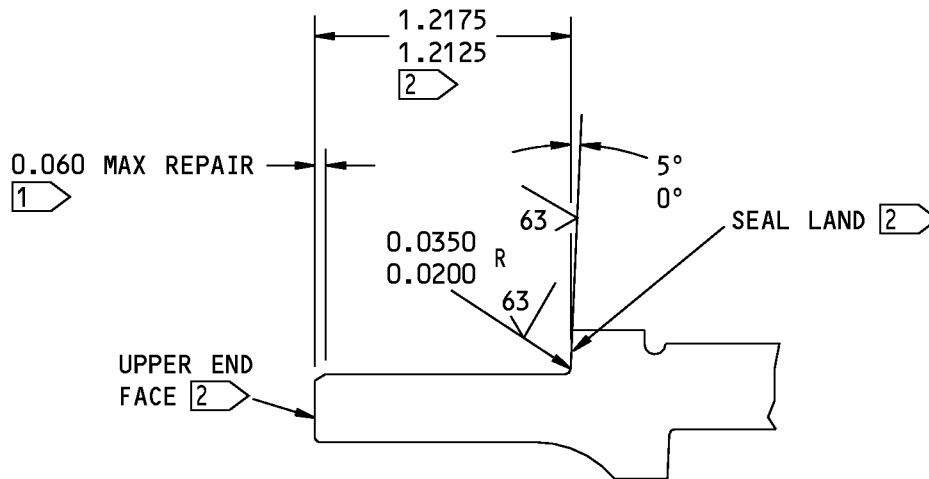
32-11-12

REPAIR 13-1
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A



B

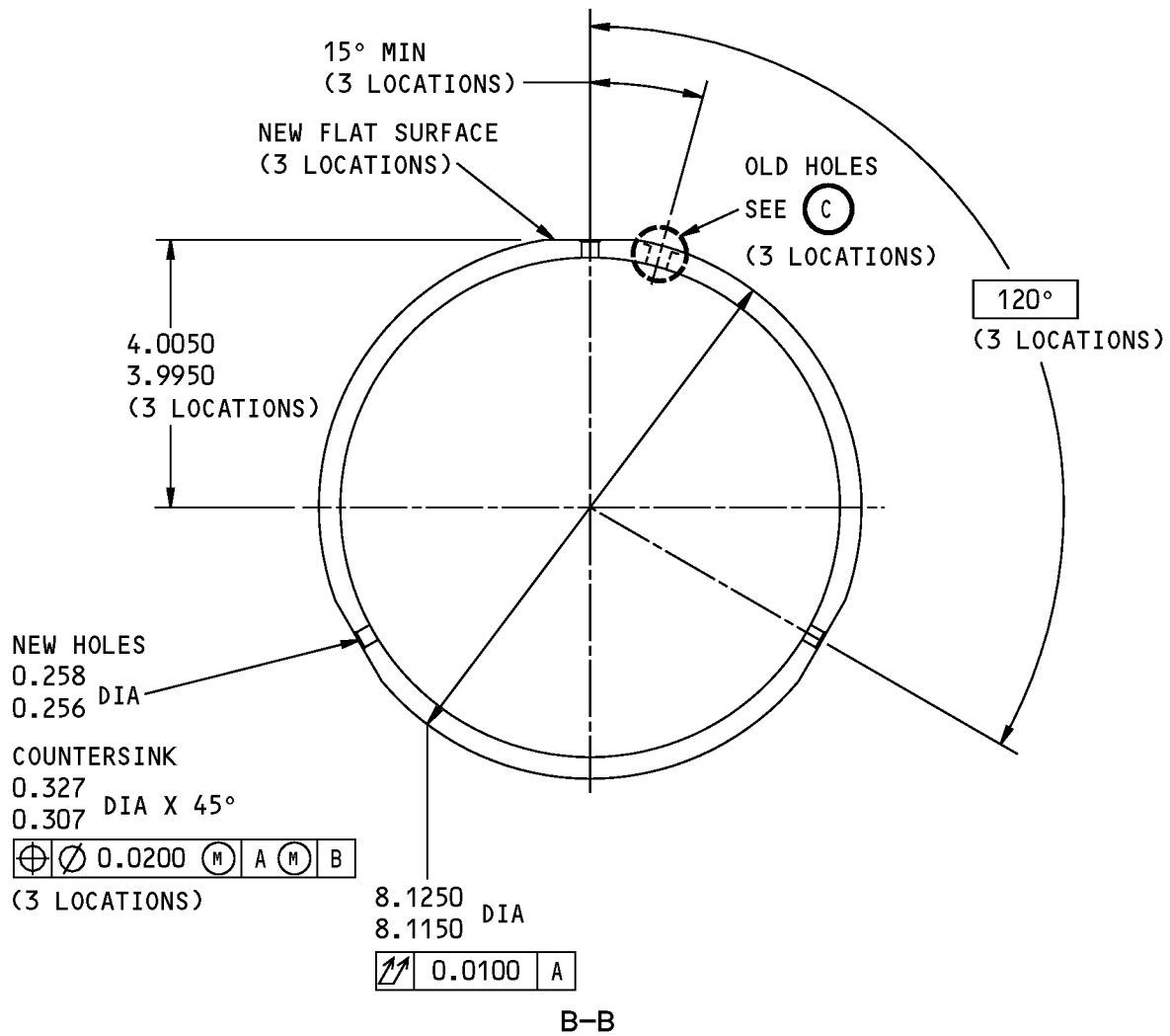
D81793 S0004996950_V2

161A1168-1 Carrier Repair
Figure 602 (Sheet 2 of 6)

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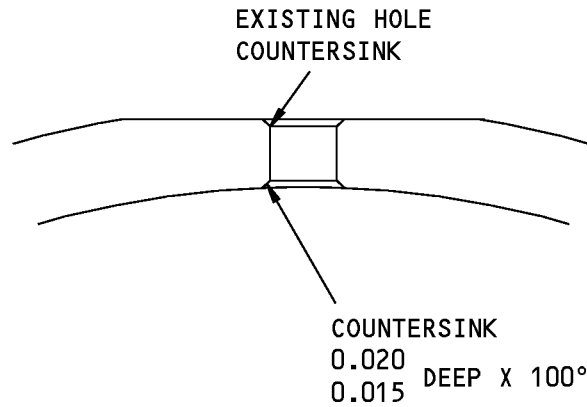
161A1168-1 Carrier Repair
Figure 602 (Sheet 3 of 6)

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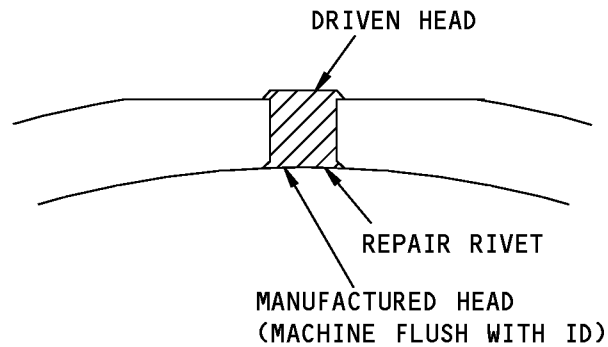
REPAIR 13-1
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COMPONENT MAINTENANCE MANUAL



PREPARATION OF OLD HOLES



RIVET INSTALLATION COMPLETE



D81883 S0004996952_V2

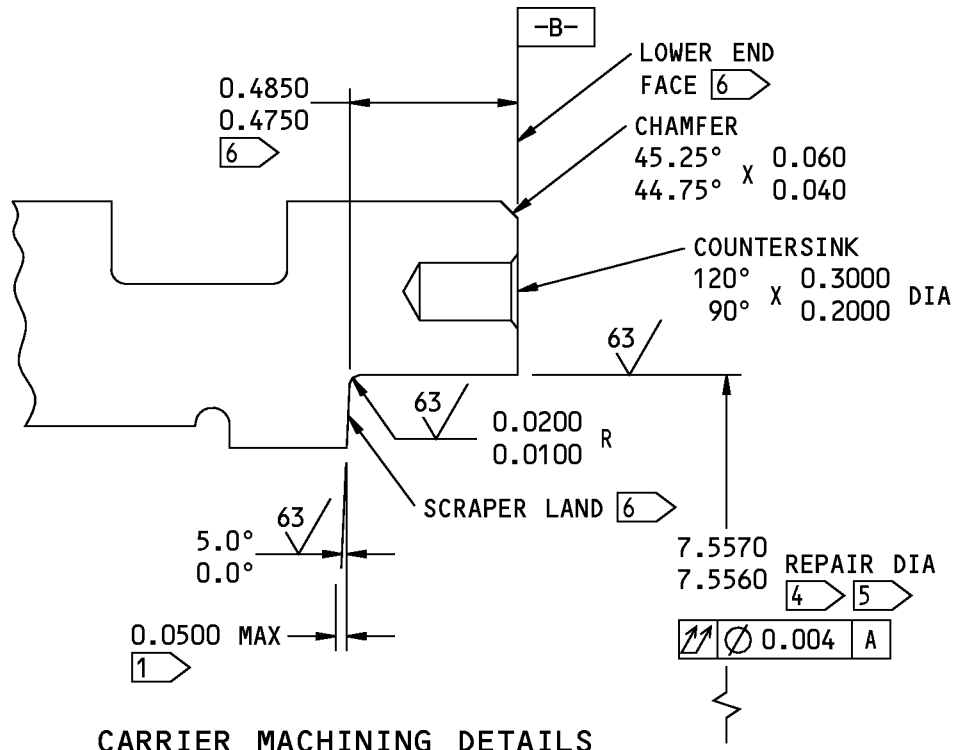
161A1168-1 Carrier Repair
Figure 602 (Sheet 4 of 6)

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REPAIR 13-1
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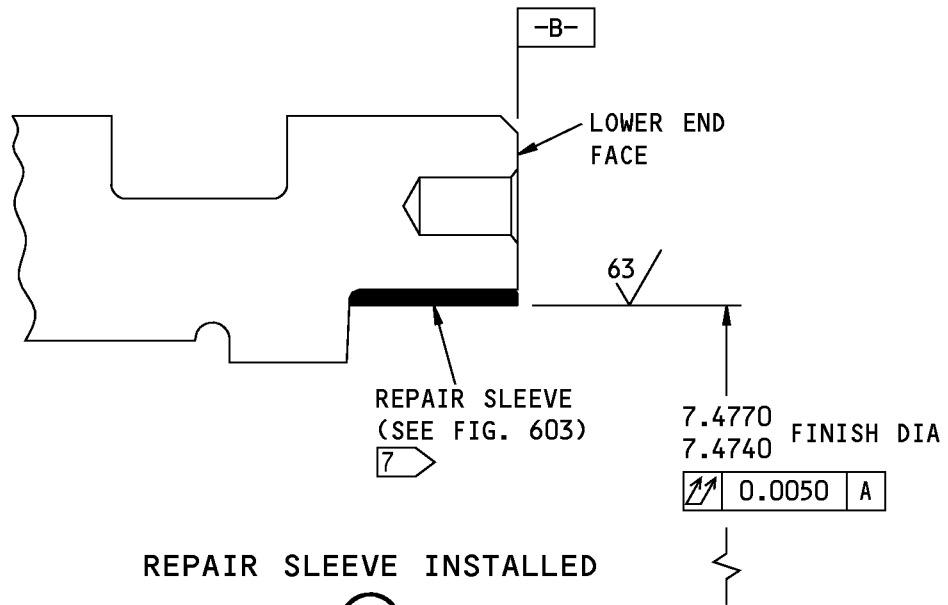


COMPONENT MAINTENANCE MANUAL



CARRIER MACHINING DETAILS

(D)



REPAIR SLEEVE INSTALLED

(D)

1614157 S0000295684_V1

161A1168-1 Carrier Repair
Figure 602 (Sheet 5 of 6)

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REPAIR 13-1
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COMPONENT MAINTENANCE MANUAL

- 1 LIMIT FOR MATERIAL REMOVAL
- 2 REMOVE THE SAME AMOUNT FROM THE UPPER END FACE AS YOU REMOVED FROM THE SEAL LAND, TO KEEP THE LENGTH DIMENSION WITHIN THE LIMITS SHOWN
- 3 MINIMUM REPAIR LENGTH FOR MATERIAL REMOVAL FROM END FACES
- 4 RANGE FOR INSTALLATION OF REPAIR SLEEVE
- 5 THE TIODIZE COATING IS OPTIONAL ON THIS DIAMETER WHEN MACHINED OVERSIZE
- 6 REMOVE THE SAME AMOUNT FROM THE SCRAPER LAND AS YOU REMOVED FROM THE LOWER END FACE, TO KEEP THE LENGTH DIMENSION WITHIN THE LIMITS SHOWN
- 7 THE REPAIR SLEEVE MUST NOT EXTEND ACROSS THE LOWER END FACE OF THE CARRIER

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.010-0.020 R UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

1614210 S0000295685_V1

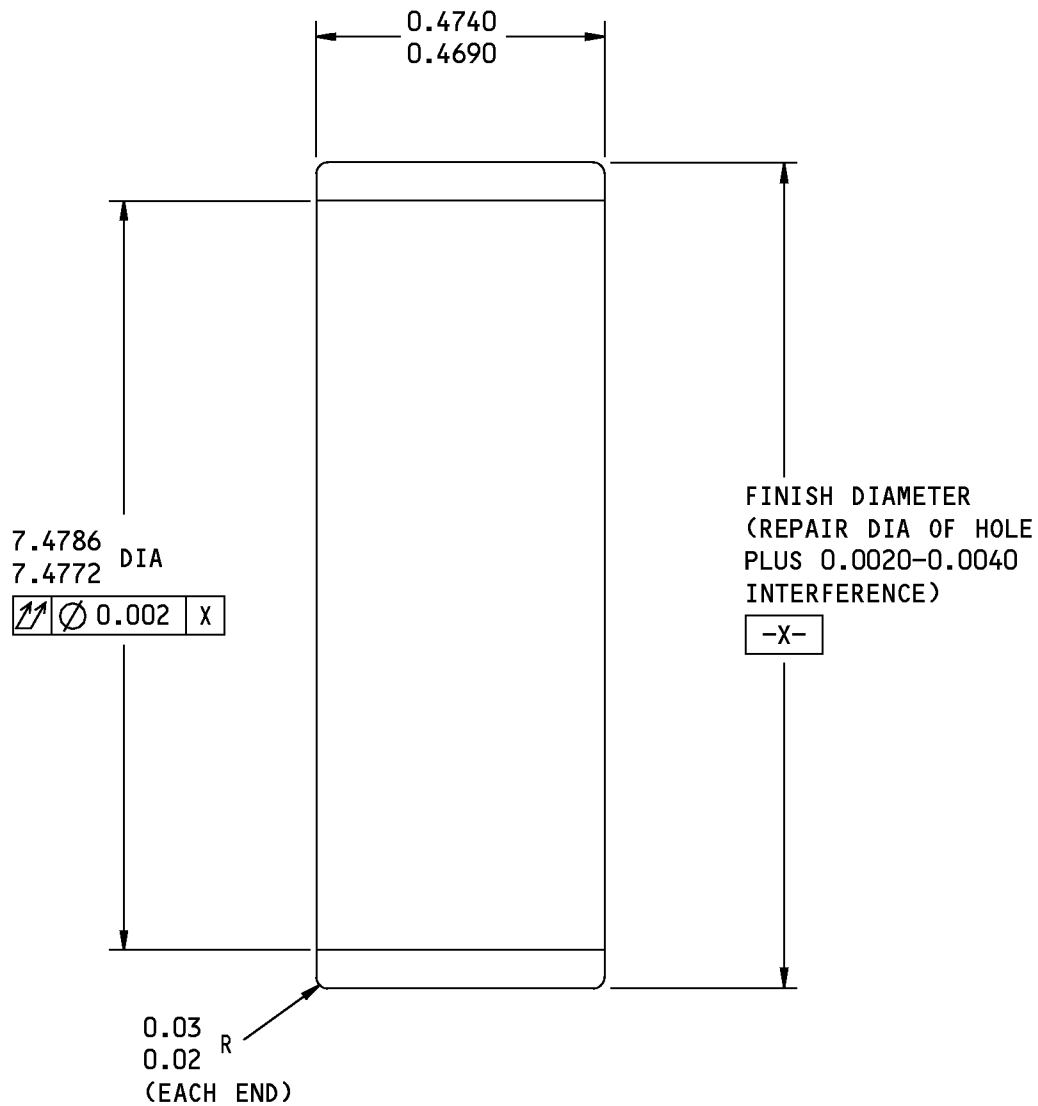
161A1168-1 Carrier Repair
Figure 602 (Sheet 6 of 6)

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REPAIR 13-1
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FINISH

NO FINISH

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.005-0.010 R UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRONZE (AMS 4880)

ALL DIMENSIONS ARE IN INCHES

1616241 S0000295687_V1

Repair Sleeve Details
Figure 603

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REPAIR 13-1

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ROLLER ASSEMBLY - REPAIR 14-1

161A1181-1

1. General

- A. This procedure tells how to replace the bushings in the roller assembly (290).
- 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. Bushing Replacement

- A. Procedure (REPAIR 14-1, Figure 601)
 - (1) Remove the old bushings (295) from the roller assembly (300).
 - (2) If you find defects on roller surfaces, refer to REPAIR 14-2 for repair instructions.
 - (3) Install replacement bushings (295) by the shrink-fit procedure.

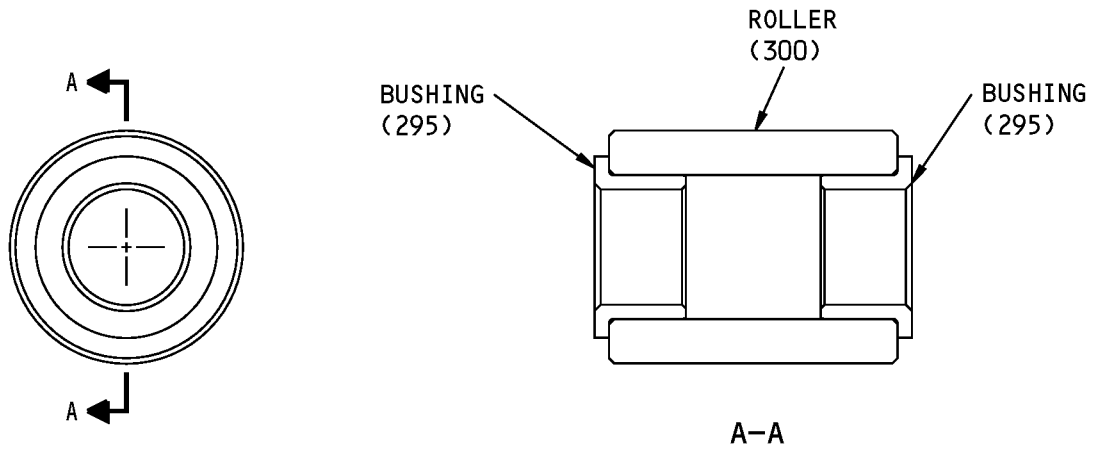
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REPAIR 14-1

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ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1181-1 Roller Assembly Repair
Figure 601

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REPAIR 14-1
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ROLLER - REPAIR 14-2

161A1181-2

1. General

- A. This procedure tells how to refinish the roller (300).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES, 180-200 ksi
 - (2) Shot peen: All surfaces
 - (a) Intensity, 0.014-0.019A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted

2. Roller Refinish

A. References

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

B. Procedure (REPAIR 14-2, Figure 601)

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

- (1) Passivate (F-17.25).

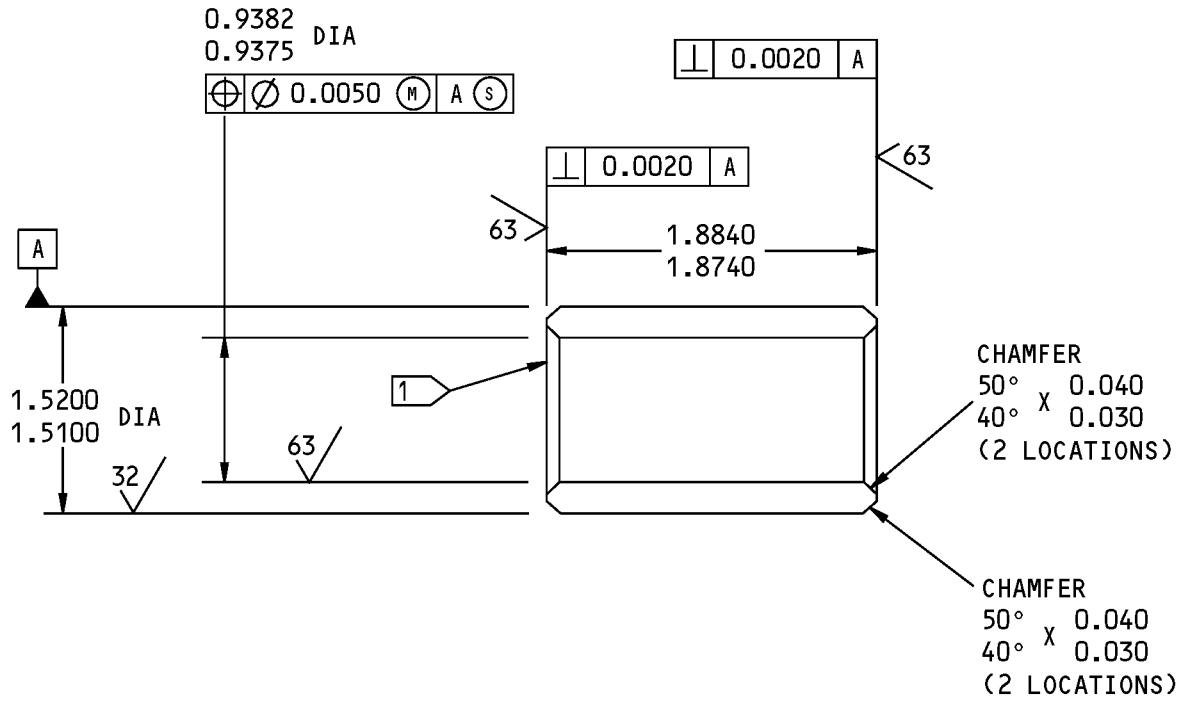
32-11-12

REPAIR 14-2

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PART NUMBER LOCATION

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1181-2 Roller Repair
Figure 601

32-11-12

REPAIR 14-2

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ROLLER PIN - REPAIR 15-1

161A1182-1

1. General

- A. This procedure tells how to repair and refinish the roller pin (275).
- 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, 180-200 ksi
 - (2) Shot peen: All exterior surfaces, but not threads
 - (a) Intensity 0.0100-0.015A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted

2. Roller Pin Repair and Refinish

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 15-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

- (1) Repair
 - (a) Machine as necessary, within repair limits to remove defects.
 - (b) Build up the machined surfaces with chrome plate. Grind to design dimensions and finish.
- (2) Refinish
 - (a) Chrome plate (F-15.34) the shank.
 - (b) Passivate (F-17.25) other surfaces.

32-11-12

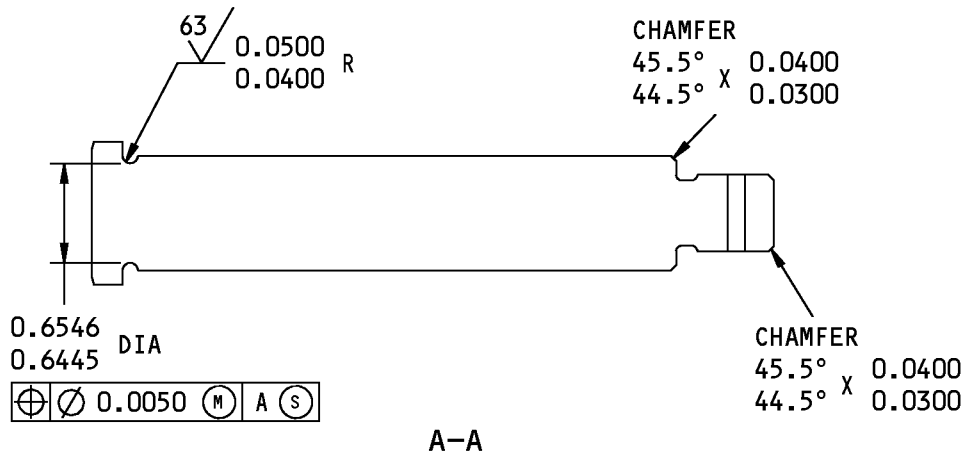
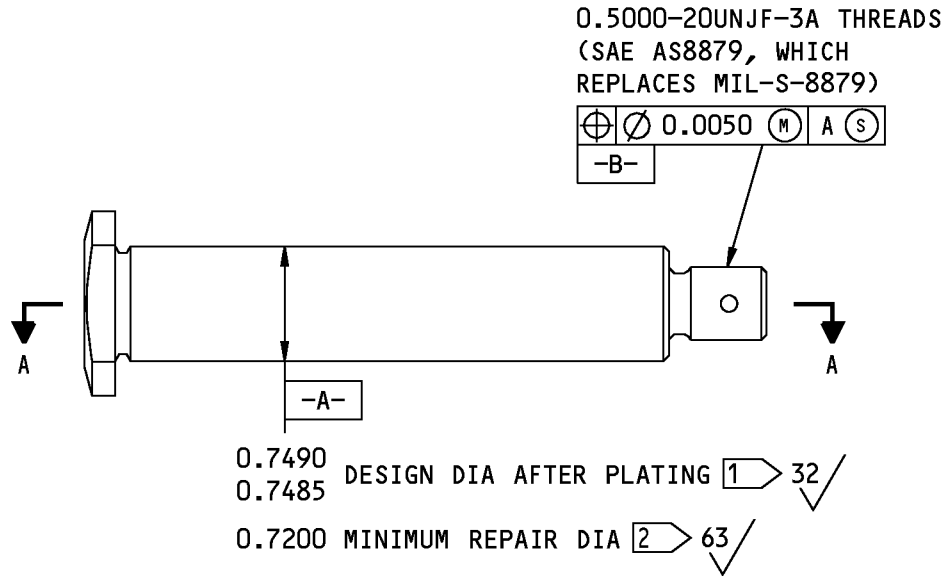
REPAIR 15-1

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161A1182-1 Roller Pin Repair and Refinish
Figure 601 (Sheet 1 of 2)

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REPAIR 15-1
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1 CHROME PLATE (F-15.34), 0.003
MINIMUM THICK

2 LIMIT FOR CHROME PLATE BUILDUP
AND GRIND TO DESIGN DIMENSIONS
AND FINISH

125 ✓ ALL MACHINED SURFACES UNLESS
SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.02-0.04 R
UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1182-1 Roller Pin Repair and Refinish
Figure 601 (Sheet 2 of 2)

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REPAIR 15-1

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COMPONENT MAINTENANCE MANUAL

CROSSBOLT PIN - REPAIR 16-1

161A1190-1, -2, -3

1. General

- A. Use this procedure to repair and refinish crossbolt pin (15).
- 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 Position Dimensioning Symbols shown in the repair figures.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: 4340M steel, 275-300 ksi
 - (2) Shot peen: All surfaces unless noted
 - (a) Shot Size 0.016-0.033
 - (b) Intensity 0.014-0.018A2
 - (c) Hard Shot Rc 55-65
 - (d) Coverage 2.0

2. Crossbolt Pin Repair and Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

B. References

Reference	Title
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 16-1, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Repair

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REPAIR 16-1

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- (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Unless shown differently, build up with chrome plate (SOPM 20-42-03) and grind (SOPM 20-10-04) to design dimensions and finish.
- (2) Refinish
- (a) Chrome plate, cadmium-titanium plate, and apply primer, C00175 and enamel coating, C00033 as shown.

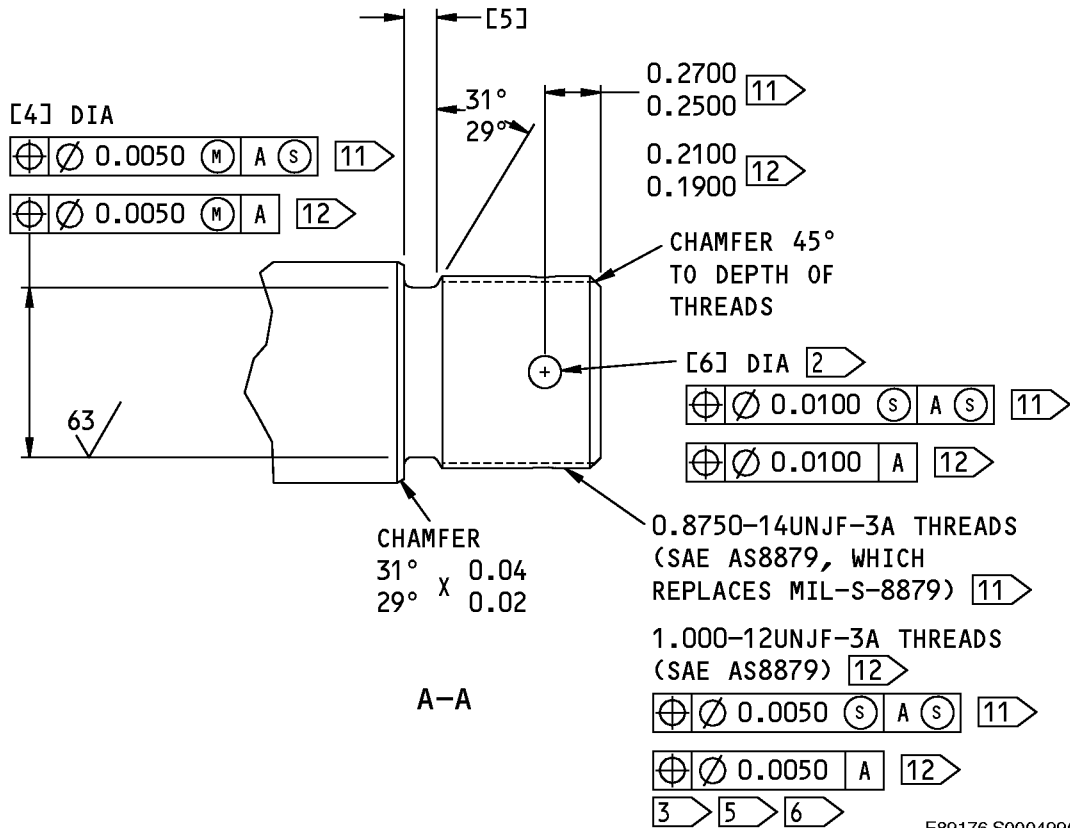
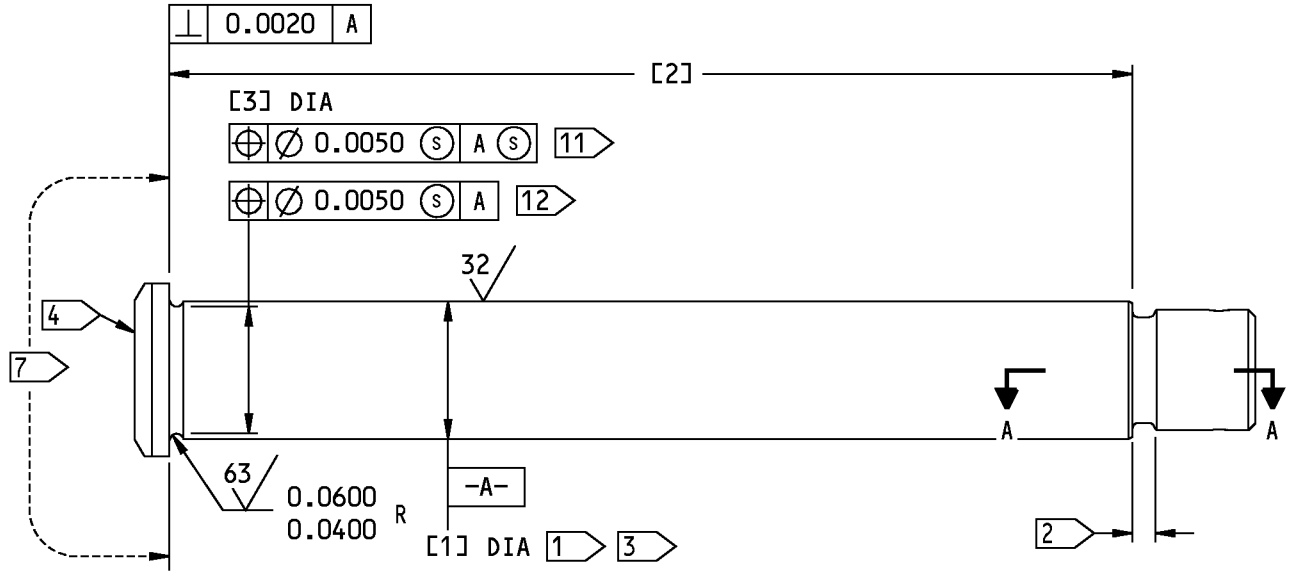
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F89176 S0004996964_V5

161A1190-1, -2, -3 Crossbolt Pin Repair and Refinish
Figure 601 (Sheet 1 of 3)

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PART NUMBER	REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]
161A1190-1	DESIGN DIMENSION	0.9990 0.9980 8	6.9660 6.9560	0.9235 0.9135	0.7670 0.7570	0.1530 0.1330	0.1510 0.1410
	REPAIR LIMIT	0.9690 9	---	---	---	---	0.1810 10
161A1190-2	DESIGN DIMENSION	1.0610 1.0600 8	6.9660 6.9560	0.9860 0.9760	0.7670 0.7570	0.1530 0.1330	0.1510 0.1410
	REPAIR LIMIT	1.0300 9	---	---	---	---	0.1810 10
161A1190-3	DESIGN DIMENSION	1.1240 1.1230 8	7.2480 7.2380	1.0490 1.0390	0.8875 0.8865	0.1530 0.1330	0.1510 0.1410
	REPAIR LIMIT	1.0930 9	---	---	---	---	0.1810 10

F89187 S0004996965_V3

161A1190-1, -2, -3 Crossbolt Pin Repair and Refinish
Figure 601 (Sheet 2 of 3)

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REPAIR 16-1
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- 1 CHROME PLATE (F-15.34). 0.003 MINIMUM THICK AFTER GRINDING.
- 2 SHOT PEEN IS NOT NECESSARY HERE. OVERSPRAY IS PERMITTED
- 3 WIPE WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 4 PART NUMBER AND SERIAL NUMBER
- 5 COVER THE THREADS BEFORE SHOT PEENING
- 6 CADMIUM-TITANIUM PLATE (F-15.32)
- 7 CADMIUM-TITANIUM PLATE (F-15.01), THEN APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 GLOSS ENAMEL (F-19.39-707)
- 8 AFTER PLATING
- 9 LIMIT FOR CHROME PLATE BUILDUP (SOPM 20-42-03) AND GRIND TO DESIGN DIMENSIONS AND FINISH (SOPM 20-10-04)
- 10 RESTORATION TO DESIGN DIMENSIONS NOT NECESSARY
- 11 161A1190-1,-2
- 12 161A1190-3

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.04

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS APPLY BEFORE PLATING UNLESS SHOWN BY 8

SURFACE FINISH AND DIMENSIONS APPLY BEFORE SHOT PEENING.

ALL DIMENSIONS ARE IN INCHES

F86883 S0004996966_V4

161A1190-1, -2, -3 Crossbolt Pin Repair and Refinish
Figure 601 (Sheet 3 of 3)

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REPAIR 16-1

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COMPONENT MAINTENANCE MANUAL

SPLINED WASHER ASSEMBLY - REPAIR 17-1

161A1196-1

1. General

- A. This procedure tells how to replace the bushing in the splined washer assembly (340).
- 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. Bushing Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95

- B. References

Reference	Title
SOPM 20-60-04	MISCELLANEOUS MATERIALS

- C. Procedure (REPAIR 17-1, Figure 601)

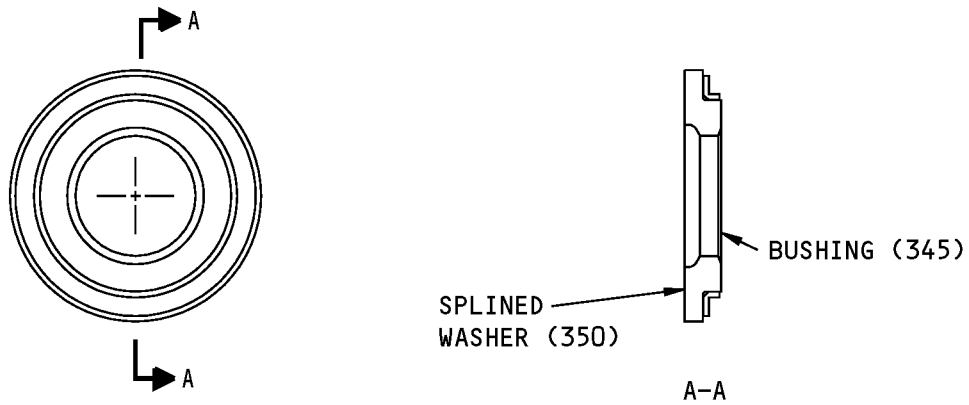
NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old bushing (345) from the splined washer assembly (340).
- (2) If you find defects on the washer surfaces, refer to REPAIR 17-2 for repair instructions.
- (3) Use the shrink-fit procedure to install a replacement bushing (345) with wet sealant, A00247.

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ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1196-1 Splined Washer Assembly Repair
Figure 601

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REPAIR 17-1
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COMPONENT MAINTENANCE MANUAL

SPLINED WASHER - REPAIR 17-2

161A1196-2

1. General

- A. This procedure tells how to refinish the splined washer (350).
- B. Refer to the Standard Overhaul Practice 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: 4330M Steel, 180-200 ksi

2. Splined Washer Refinish

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 17-2, Figure 601)

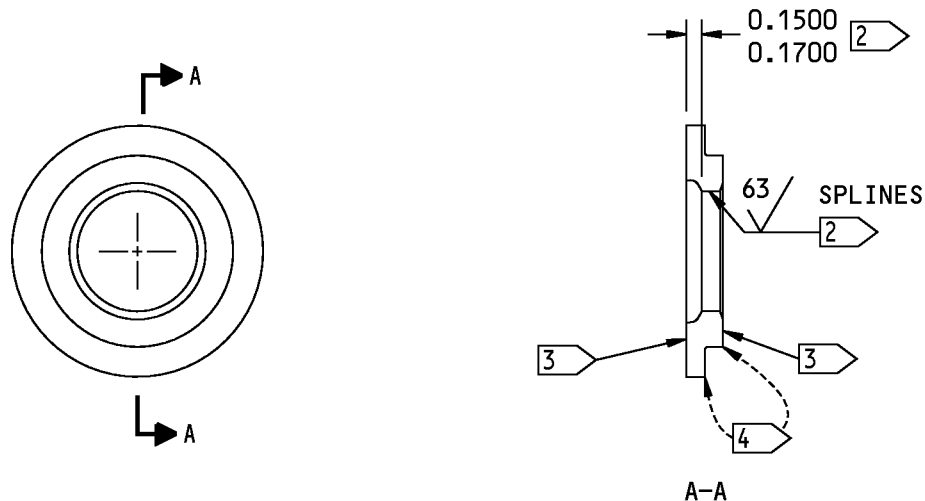
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Chrome plate as shown.
- (2) On other surfaces, cadmium-titanium plate (F15.36) and apply primer, C00175 (F-19.47) and enamel coating, C00033 (F-19.39-707) unless shown differently.

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- 1 PART NUMBER AND SERIAL NUMBER
- 2 CADMIUM-TITANIUM PLATE (F-15.32). WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 3 APPLY THIN DENSE CHROME PLATING (F-15.43, WHICH REPLACES F-14.892). DO NOT GRIND. WIPE CHROME PLATE WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 4 NO ENAMEL

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.03 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1196-2 Washer Refinish
Figure 601

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REPAIR 17-2

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BRACKET ASSEMBLY - REPAIR 18-1

161A1200-5, -6, -9, -10, -13, -14

1. General

- A. This procedure tells how to replace the bushings in the bracket 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. Bushing Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

- C. Procedure (REPAIR 18-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For miscellaneous materials, refer to SOPM 20-60-04.

- (1) Remove the old bushings and washer (90) from the brackets.
- (2) If you find defects on the bracket surfaces, refer to REPAIR 18-2 for repair instructions.
- (3) Use the shrink-fit procedure (SOPM 20-50-03) and sealant, A00247 to install and fillet seal replacements for the bushings noted by flagnote 5.
- (4) Use the shrink-fit procedure (SOPM 20-50-03) and sealant, A00247 to install and fillet seal bushing (85) noted by flagnote 6. Lightly apply sealant, A00247 to all areas of the washer that touches the swaged lip of the bushing and the bracket. Put washer (90) over the tail end of the installed bushing (85), with the chamfered side away from the bracket. Lightly squeeze out the sealant, A00247. Anvil swage or roller swage (SOPM 20-50-03) the bushing over the washer, as shown.
- (5) If you see cracks around the swaged lip, remove the bushing and try again. (Use 10X magnification for a visual check.) If the washer can turn after swaging, remove the washer and the bushing and try again.
- (6) Apply a fillet of sealant, A00247 around the swaged lip of the bushings as noted by flagnote 8.
- (7) Machine the bushing bores to the design dimensions.
- (8) Apply BMS 10-60, Type 2 enamel (F-19.39.707) but not on bushing bores or flange faces.

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3. Bracket Assembly Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

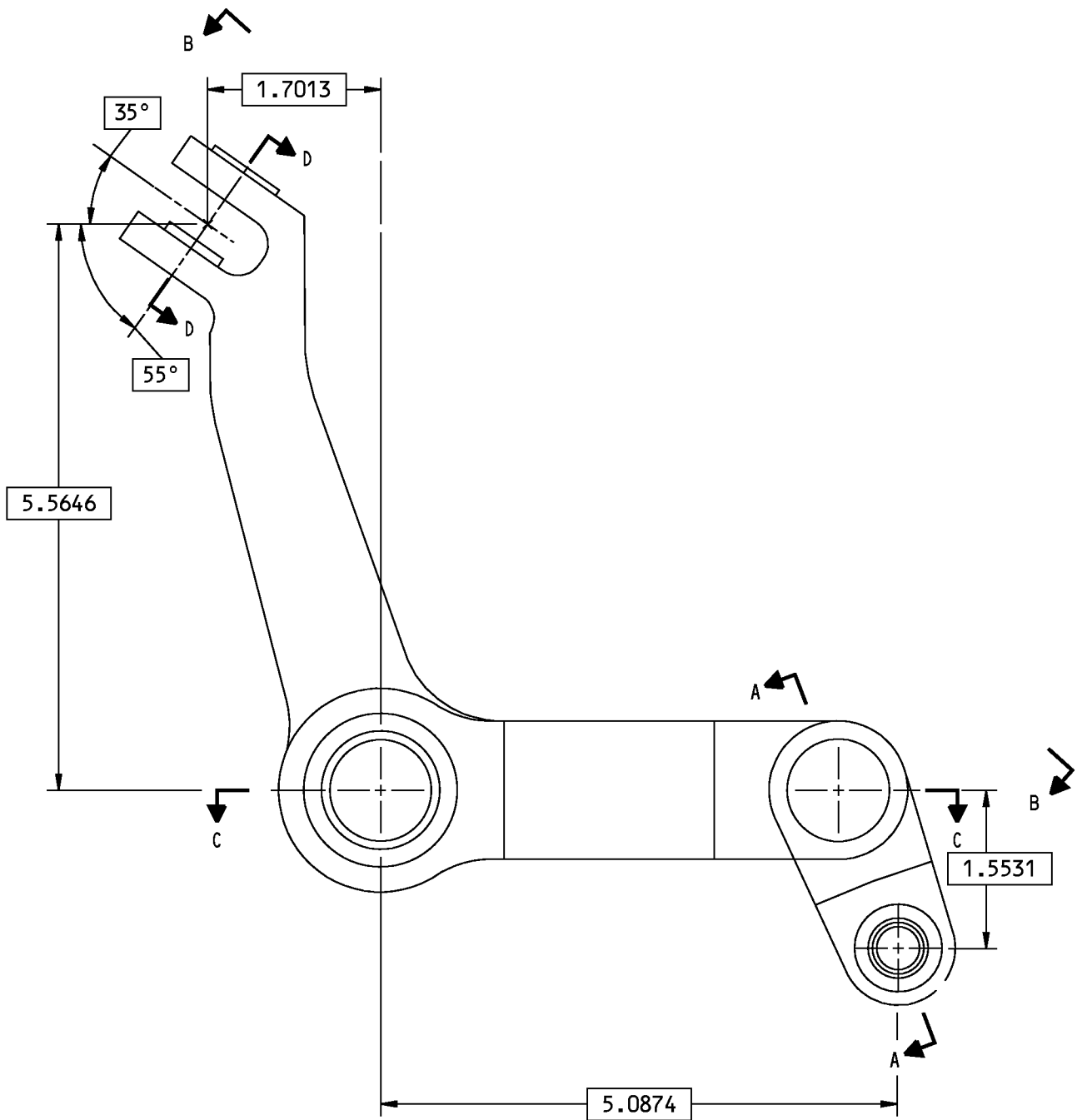
NOTE: For stripping of protective finishing, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Apply enamel coating, C00033 (F-19.39-707) all over but not on bushing bores or flange faces.

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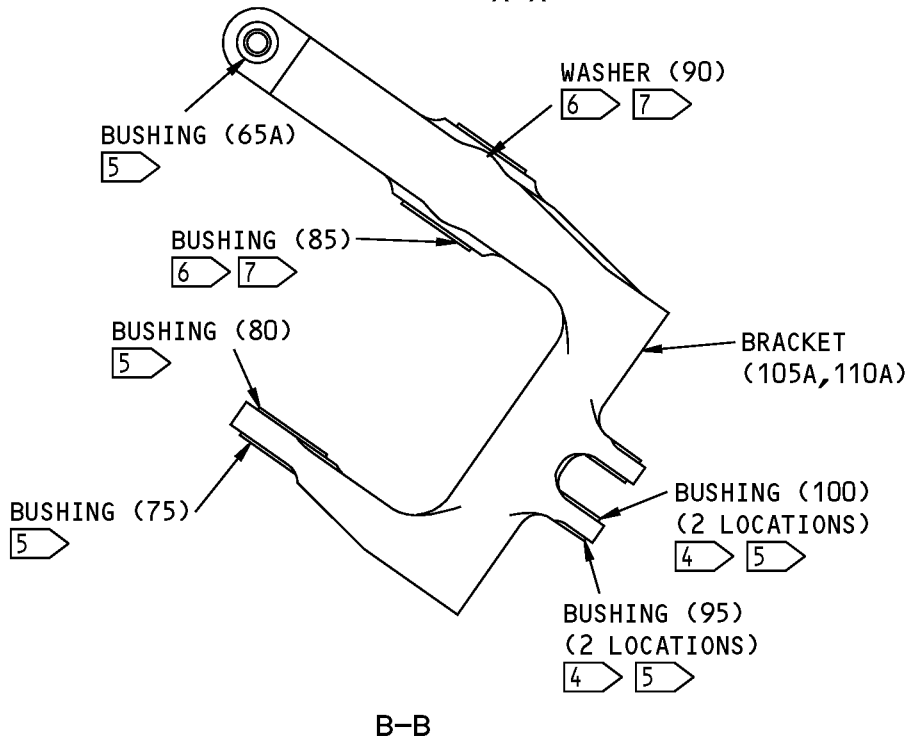
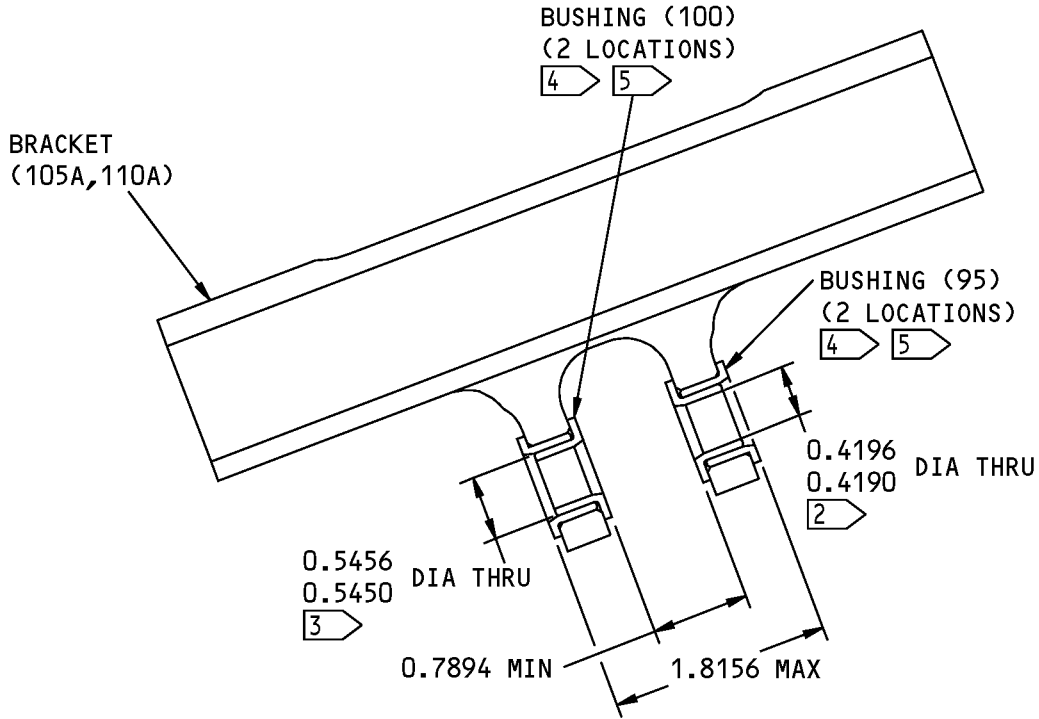
161A1200-5,-9,-13 SHOWN
 161A1200-6,-10,-14 OPPOSITE

161A1200-5,-6,-9,-10,-13,-14 Bracket Assembly Repair
 Figure 601 (Sheet 1 of 4)

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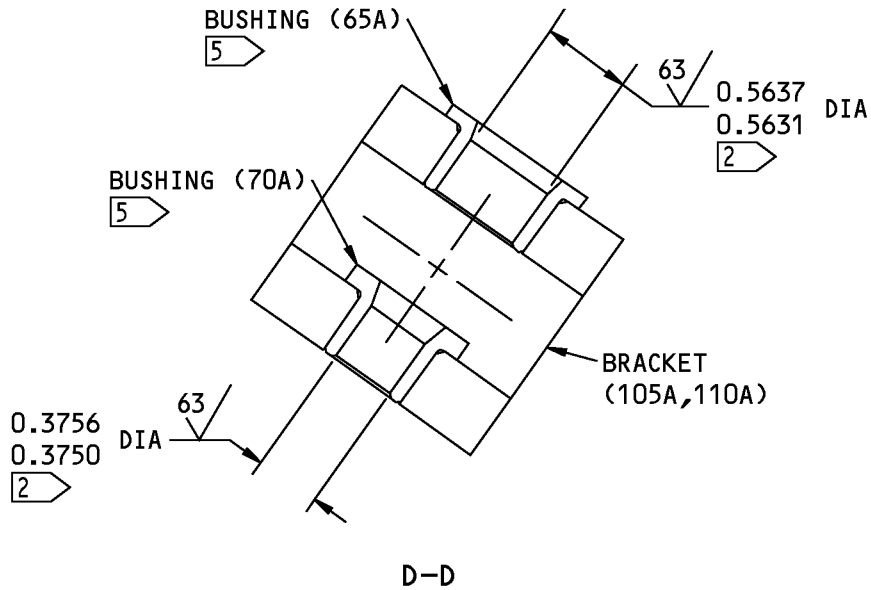
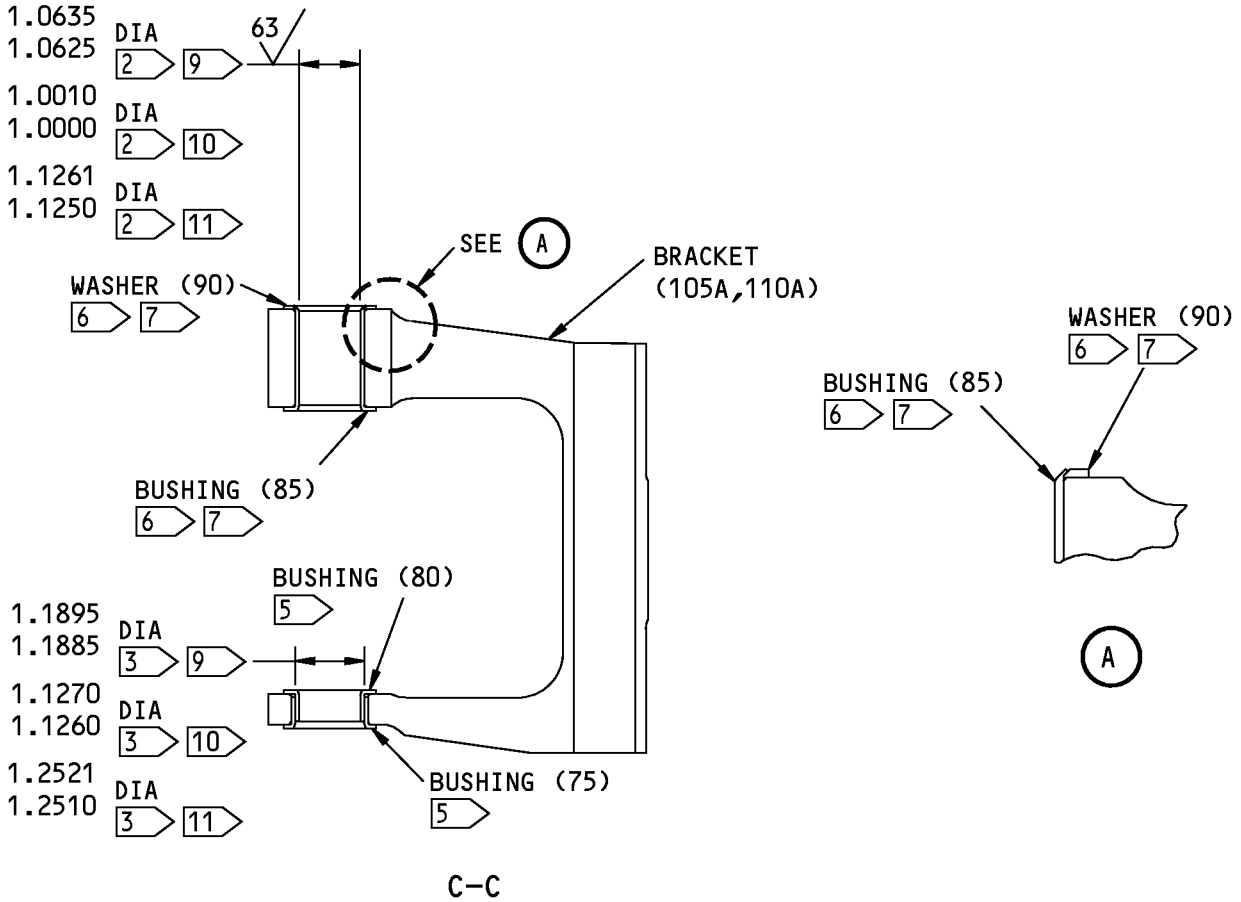
COMPONENT MAINTENANCE MANUAL



161A1200-5,-6,-9,-10,-13,-14 Bracket Assembly Repair
Figure 601 (Sheet 2 of 4)

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161A1200-5,-6,-9,-10,-13,-14 Bracket Assembly Repair
Figure 601 (Sheet 3 of 4)

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- ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES
- 1 THE PART NUMBER IS LOCATED HERE
 - 2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY.
 - 3 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY BEFORE YOU INSTALL THE SECOND BUSHING
 - 4 THE DIRECTION OF THE OVERLAPPING BUSHINGS IS OPTIONAL
 - 5 INSTALL AND APPLY BMS 5-95 FILLET SEALANT TO THE BUSHINGS
 - 6 INSTALL AND APPLY BMS 5-95 FILLET SEALANT TO THE BUSHINGS. BEFORE YOU SWAGE THE BUSHINGS, APPLY BMS 5-95 SEALANT LIGHTLY TO ALL AREAS OF THE WASHER THAT TOUCHES THE SWAGED LIP OF THE BUSHING AND THE BRACKET. LIGHTLY SQUEEZE OUT THE SEALANT. ANVIL SWAGE OR ROLLER SWAGE THE BUSHINGS
 - 7 A PUSH-OUT LOAD APPLICATION TO CHECK THE BUSHING RETENTION IS NOT NECESSARY. VISUALLY EXAMINE THE SWAGED LIP FOR CRACKS (WITH APPROXIMATELY 10X MAGNIFICATION). REPLACE THE BUSHING IF YOU SEE CRACKS. REPLACE THE BUSHING AND THE WASHER IF THE WASHER CAN TURN AFTER THE SWAGE
 - 8 APPLY BMS 5-95 FILLET SEALANT ALL AROUND THE SWAGED LIP OF THE BUSHING
 - 9 161A1200-5,-6
 - 10 161A1200-9,-10
 - 11 161A1200-13,-14

161A1200-5,-6,-9,-10,-13,-14 Bracket Assembly Repair
Figure 601 (Sheet 4 of 4)

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REPAIR 18-1
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COMPONENT MAINTENANCE MANUAL

BRACKET - REPAIR 18-2

161A1200-7, -8, -11, -12, -15, -16

1. General

- A. This procedure tells how to repair and refinish the bracket (105A, 105B, 110A, 110B).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: Aluminum alloy
 - (2) Shot peen: All surfaces
 - (a) Intensity 0.008-0.013A2
 - (b) Coverage 1.0 Automatic, 2.0 Manual

2. Bracket Repair

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure (REPAIR 18-2, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Machine as necessary, within repair limits to remove defects.
- (2) Refinish as indicated.
- (3) Make oversize bushings (REPAIR 18-2, Figure 602), as necessary, to adjust for the material removed.
- (4) Install the bushings as shown in REPAIR 18-1.

3. Bracket Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

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C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Brackets (105A, 110A) – Boric acid-sulfuric acid anodize (F-17.31) and apply primer, C00175 (F-19.47) all over.

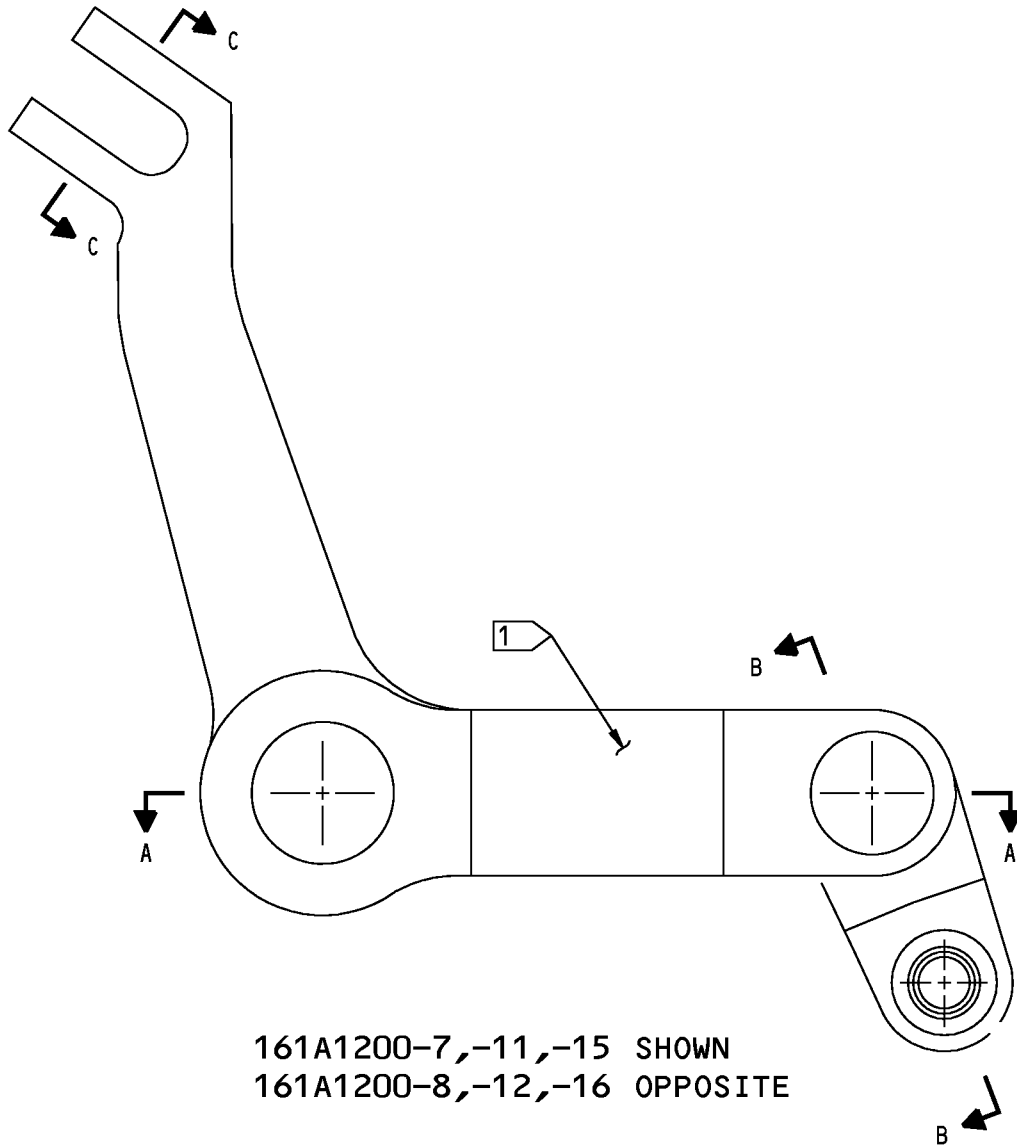
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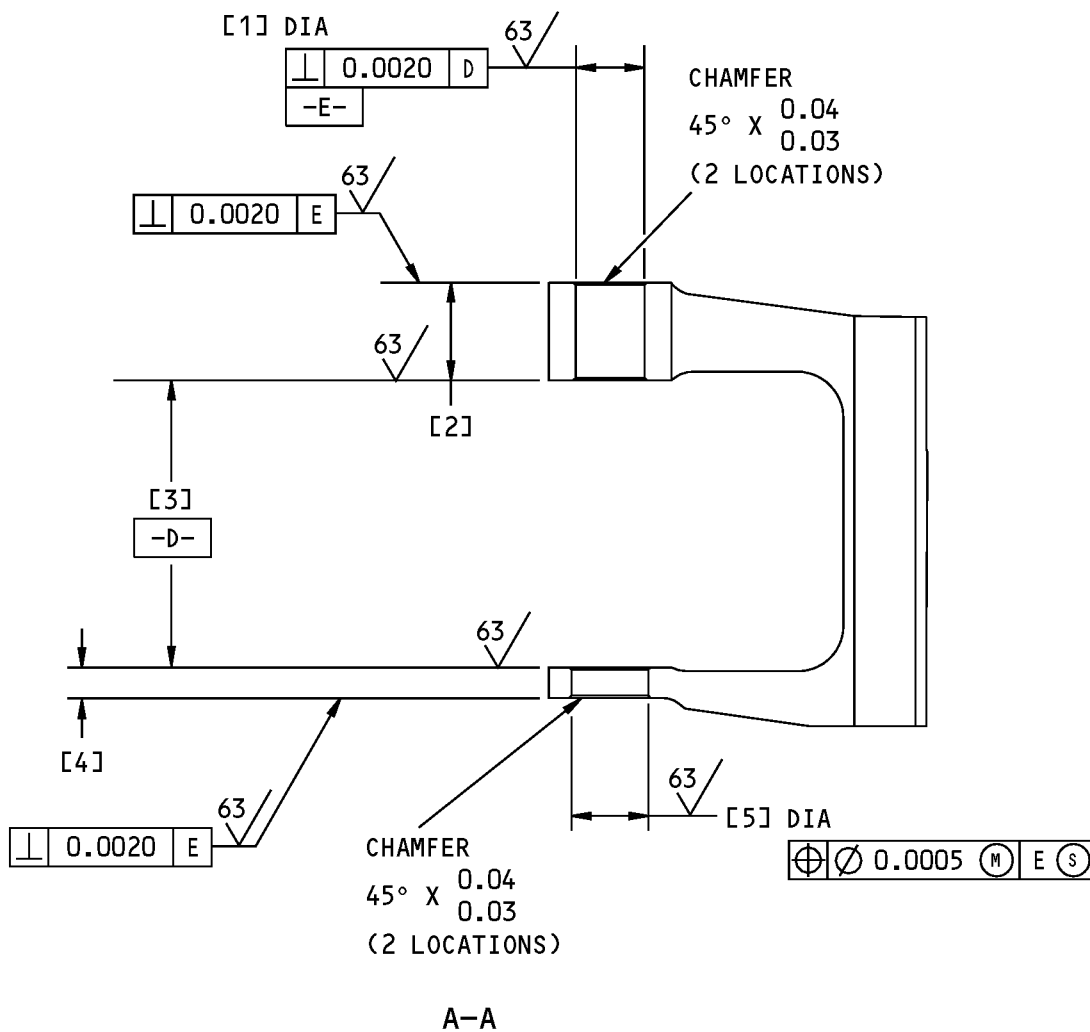


161A1200-7,-8,-11,-12,-15,-16 Bracket Repair
Figure 601 (Sheet 1 of 5)

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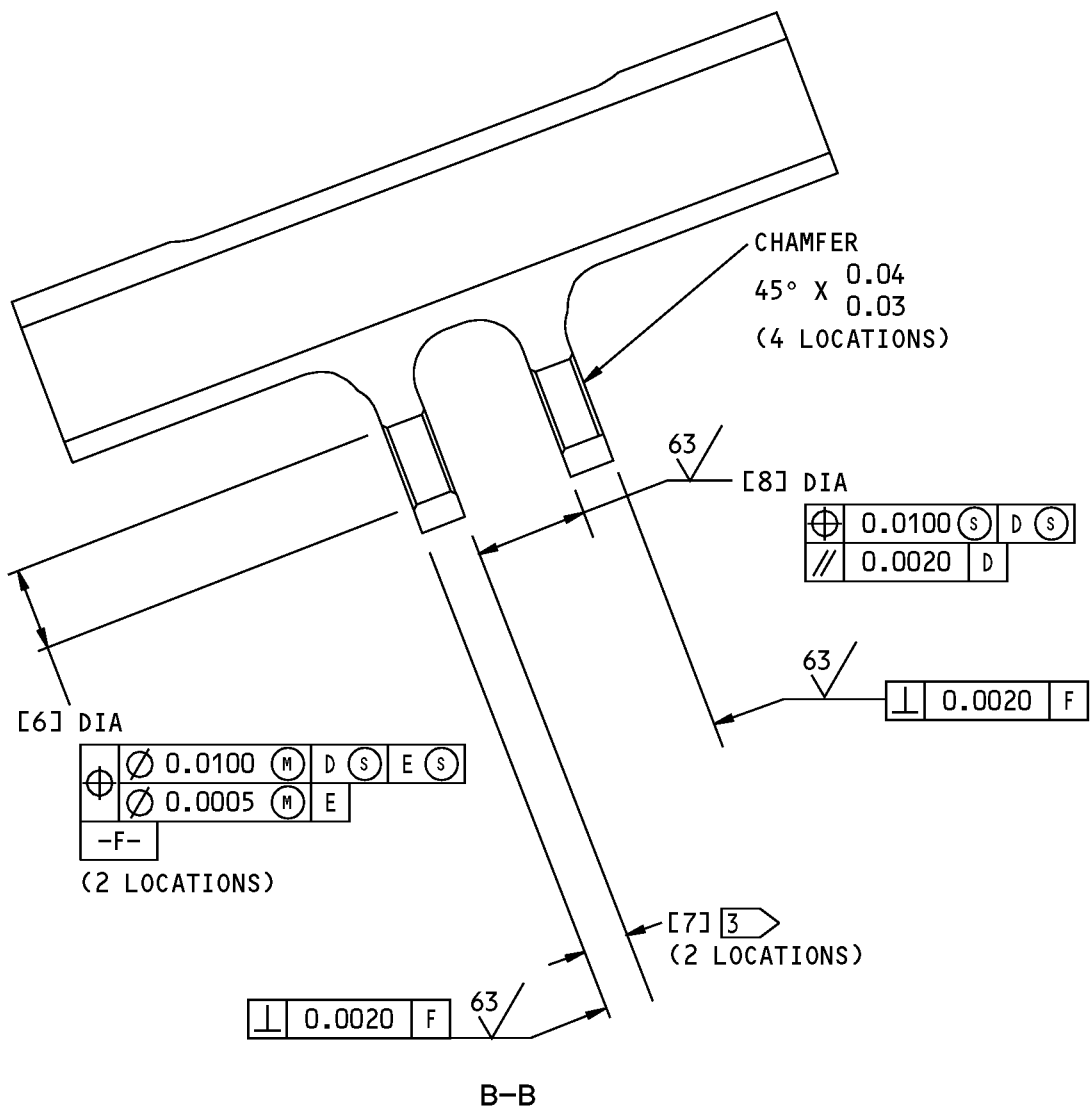
161A1200-7,-8,-11,-12,-15,-16 Bracket Repair
Figure 601 (Sheet 2 of 5)

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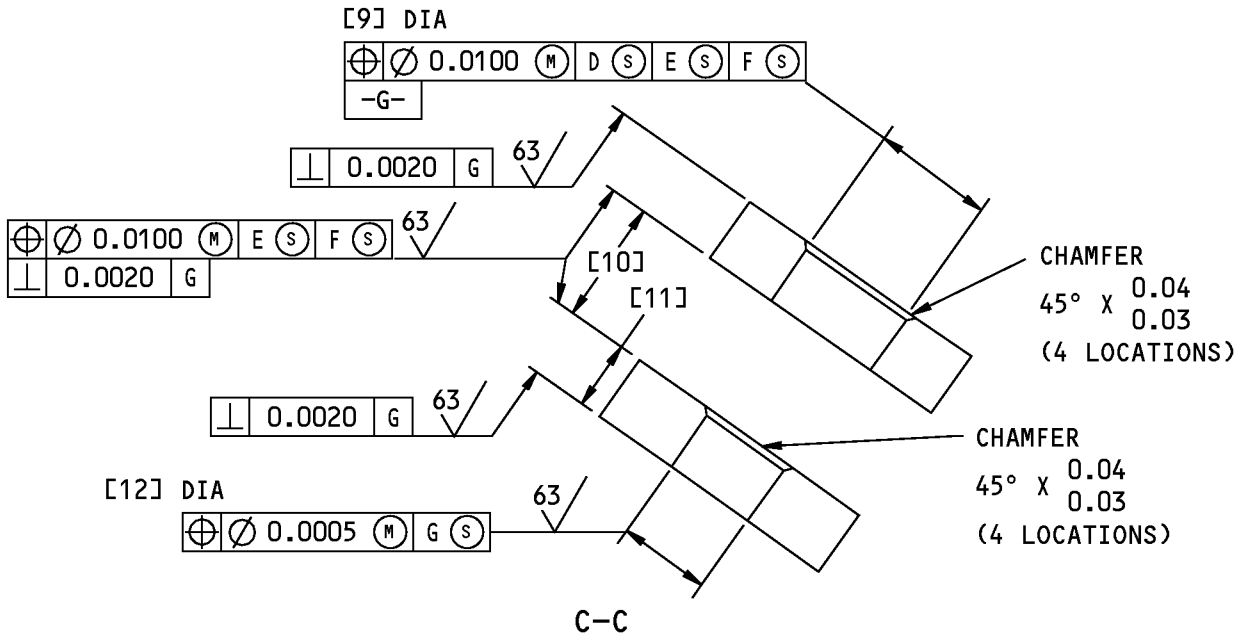
161A1200-7,-8,-11,-12,-15,-16 Bracket Repair
Figure 601 (Sheet 3 of 5)

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REFERENCE NUMBER	[1] 3	[1] 4	[1] 5	[2]	[3] 3	[3] 4	[3] 5	[4]	[5] 3	[5] 4
DESIGN DIMENSION	1.1895 1.1885	1.1270 1.1260	1.2521 1.2510	1.6050 1.5950	4.7000 4.6950	4.9800 4.9750	0.5050 0.4950	1.3156 1.3145	1.2531 1.2520	
REPAIR LIMIT [2]	---	---	---	1.5350	4.7600	5.0400	0.4350	1.3756	1.3131	

REFERENCE NUMBER	[5] 5	[6]	[7]	[8]	[9]	[10]	[11]	[12]
DESIGN DIMENSION	1.3781 1.3770	0.6717 0.6710	0.3850 0.3650	0.9250 0.9200	0.6897 0.6891	0.5800 0.5750	0.3350 0.3150	0.5016 0.5010
REPAIR LIMIT [2]	1.4381	0.7317	0.3050	0.8600	0.7497	0.6400	0.2550	0.5616

F87038 S0004996981_V3

161A1200-7,-8,-11,-12,-15,-16 Bracket Repair
 Figure 601 (Sheet 4 of 5)

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1 PART NUMBER AND SERIAL NUMBER

2 LIMIT FOR INSTALLATION OF
OVERSIZE BUSHINGS

3 161A1200-7,-8

4 161A1200-11,-12

5 161A1200-15,-16

125/ ALL MACHINED SURFACES UNLESS
SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES OF HOLES
0.02-0.04 R

BREAK SHARP CORNERS 0.06-0.09 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

1563482 S0000289757_V1

161A1200-7,-8,-11,-12,-15,-16 Bracket Repair
Figure 601 (Sheet 5 of 5)

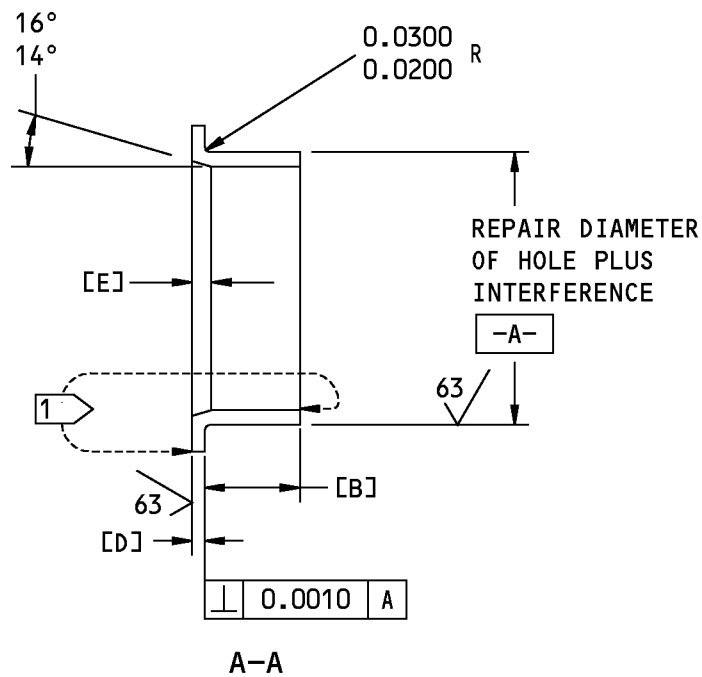
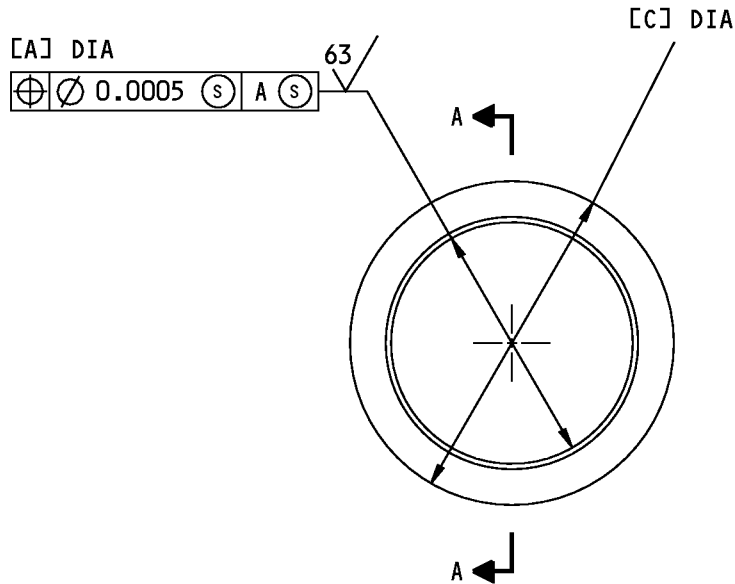
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Oversize Bushing Details
Figure 602 (Sheet 1 of 2)

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HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	INTER-FERENCE
[5]	161A1202-1 (75)	1.1279 1.1268	0.4600 0.4400	1.5100 1.4900	0.0640 0.0630	0.1000 0.0800	0.0031 0.0010
[5]	161A1202-7 (75A)	1.1904 1.1893	0.4600 0.4400	1.5725 1.5525	0.0640 0.0630	0.1000 0.0800	0.0032 0.0012
[5]	161A1202-11 (75B)	1.2521 1.2511	0.4600 0.4400	1.6360 1.6160	0.0640 0.0630	0.1000 0.0800	0.0034 0.0009
[6]	161A1202-3 (95)	0.5461 0.5454	0.3650 0.3450 ②	0.8800 0.8600	0.0640 0.0630 ③	0.1000 0.0800	0.0018 0.0007
[9]	161A1202-9 (65A)	0.5642 0.5632	0.3350 0.3150 ②	0.8990 0.8790	0.0640 0.0630 ③	0.1000 0.0800	0.0018 0.0008
[12]	161A1202-10 (70A)	0.3759 0.3753	0.3350 0.3150 ②	0.7110 0.6910	0.0950 0.0940 ③	0.1300 0.1100	0.0015 0.0006

① DO NOT PLATE

② MINUS THE AMOUNT REMOVED FROM THE LUG FACE

③ PLUS THE AMOUNT REMOVED FROM THE LUG FACE

125/ ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRZ (AMS 4640)

CADMIUM PLATE (F-15.36) ALL OVER UNLESS SHOWN BY ①

BREAK ALL SHARP EDGES 0.01-0.02 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2 of 2)

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REPAIR 18-2

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COMPONENT MAINTENANCE MANUAL

SPACER ASSEMBLY - REPAIR 19-1

161A1212-1, -3

1. General

- A. This procedure tells how to replace the bushings (460, 465) and the lube fittings (450) in the spacer assembly (445).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for item numbers.

2. Bushing 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)
D00633	Grease - Aircraft General Purpose	BMS3-33

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-03	LUBRICANTS

- C. Procedure (REPAIR 19-1, Figure 601 or REPAIR 19-1, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03.

- (1) Remove the old bushings (460, 465) from the spacer assembly (445).
- (2) Install replacement bushings by the shrink-fit procedure (SOPM 20-50-03) with grease, D00633 or grease, D00015 as the installation finish.
- (3) Machine the bushings to design dimensions.

3. Lube Fitting Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

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COMPONENT MAINTENANCE MANUAL

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-03	LUBRICANTS

C. Procedure (REPAIR 19-1, Figure 601 or REPAIR 19-1, Figure 602)

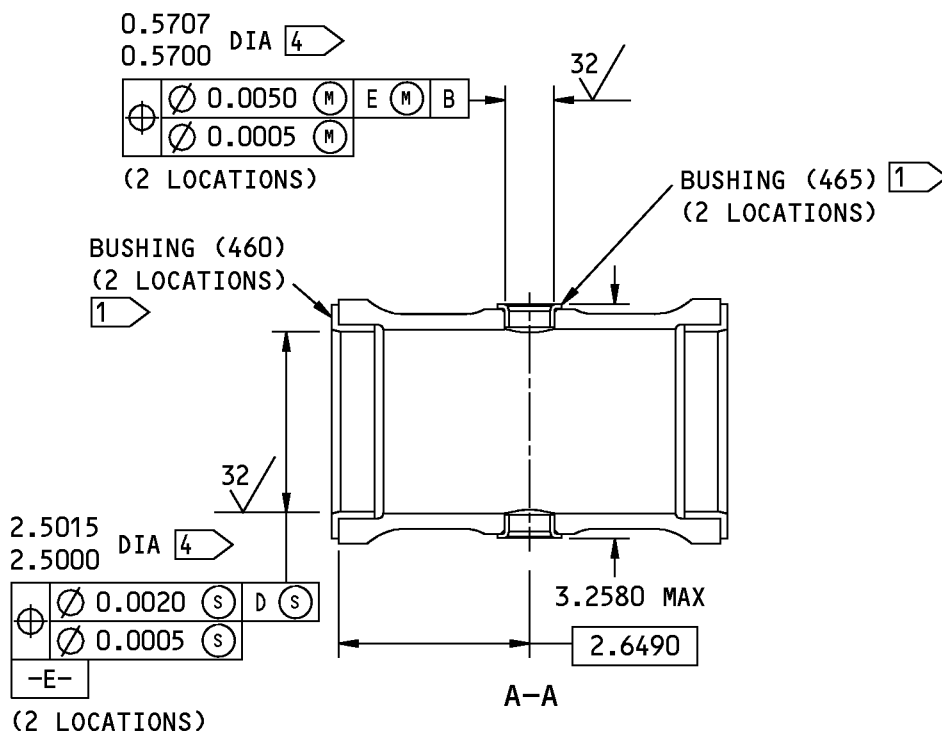
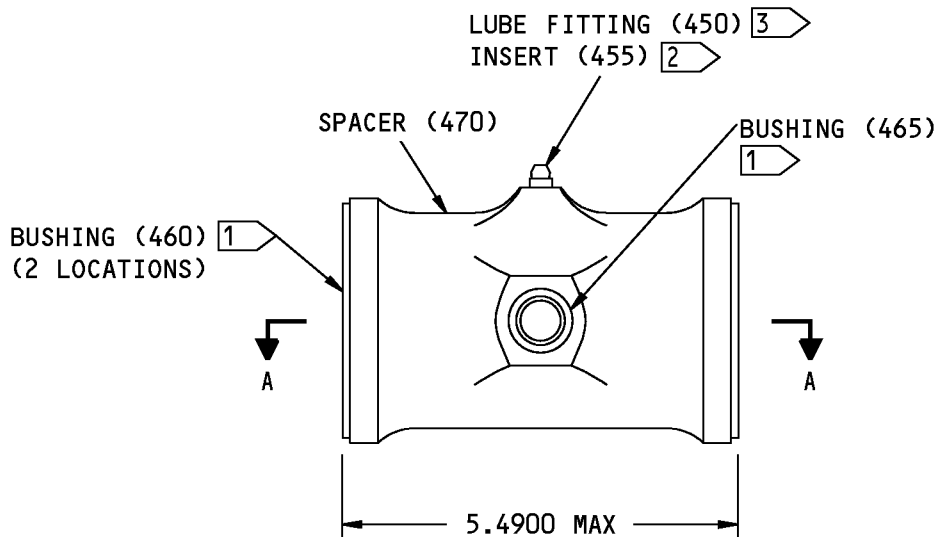
NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For lubricants, refer to SOPM 20-60-03.

- (1) Remove the old insert (455) and lube fitting (450) from the spacer assembly (445).
- (2) Use the shrink-fit procedure (SOPM 20-50-03) to install a replacement insert (455). Make sure the insert is flush with the spacer outer surface within ± 0.0200 inch.
- (3) Install a replacement lube fitting (450) and tighten it to 25-30 pound-inches. After bushing installation, apply grease, D00633 at the lube fitting (450) until the grease, D00633 comes out at the bushing inner diameter.

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161A1212-1 Spacer Assembly Repair
Figure 601 (Sheet 1 of 2)

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REPAIR 19-1
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COMPONENT MAINTENANCE MANUAL

- 1 INSTALL THE BUSHING WITH BMS 3-33 OR BMS 3-24 GREASE.
- 2 MAKE SURE THE INSERT IS INSTALLED FLUSH WITH THE SPACER OUTER SURFACE WITHIN ± 0.0200 .
- 3 TIGHTEN THE LUBE FITTING TO 25-30 LB-IN. APPLY BMS 3-33 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE COMES OUT AT THE BUSHING INNER DIAMETER.
- 4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

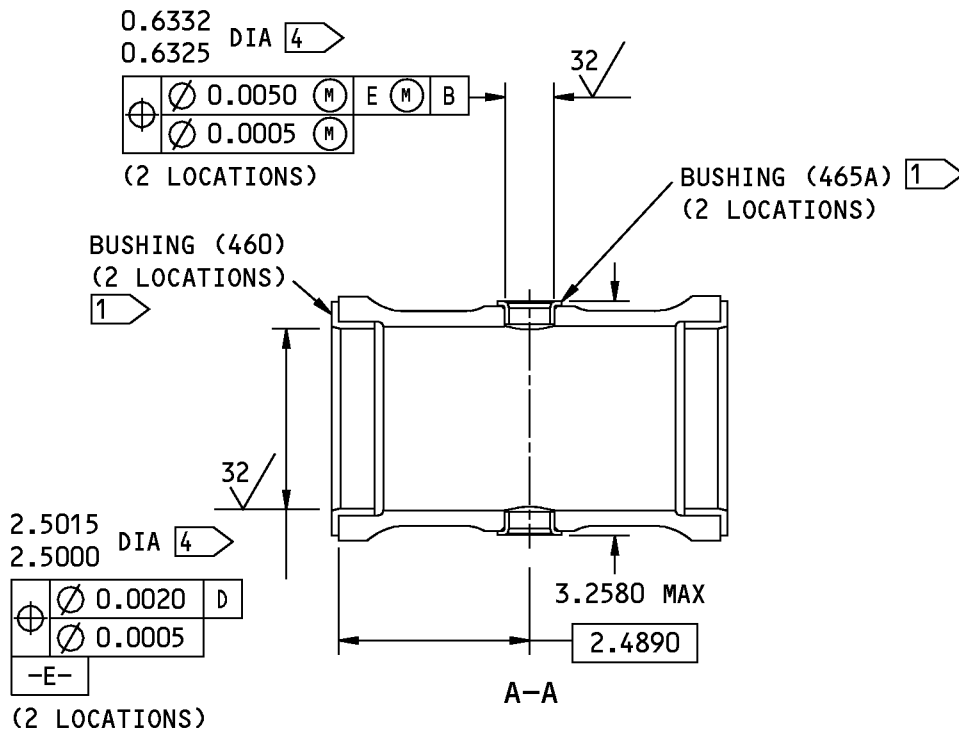
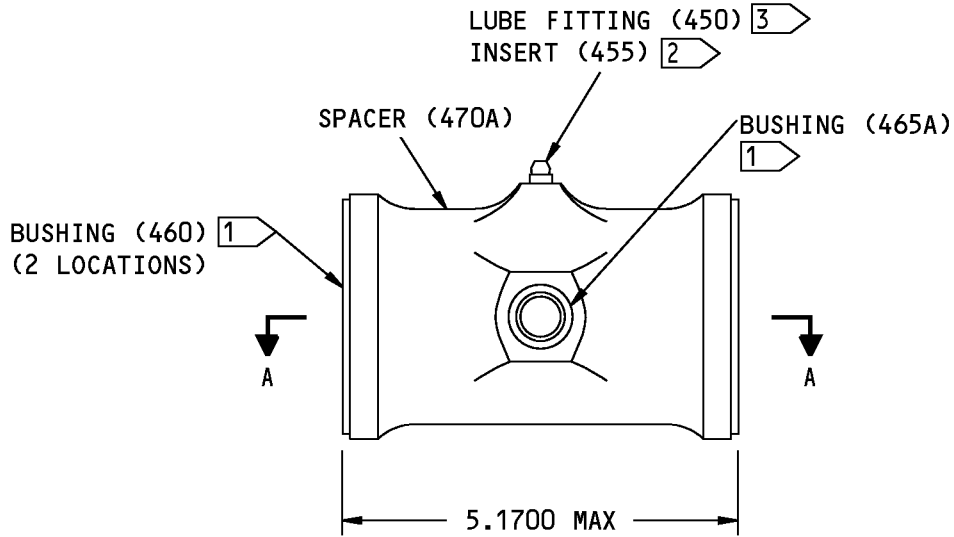
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1212-1 Spacer Assembly Repair
Figure 601 (Sheet 2 of 2)

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REPAIR 19-1
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COMPONENT MAINTENANCE MANUAL



161A1212-3 Spacer Assembly Repair
Figure 602 (Sheet 1 of 2)

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COMPONENT MAINTENANCE MANUAL

- 1 INSTALL THE BUSHING WITH BMS 3-33 OR BMS 3-24 GREASE.
- 2 MAKE SURE THE INSERT IS INSTALLED FLUSH WITH THE SPACER OUTER SURFACE WITHIN ± 0.0200 .
- 3 TIGHTEN THE LUBE FITTING TO 25-30 LB-IN. APPLY BMS 3-33 GREASE AT THE LUBE FITTING (AFTER BUSHING INSTALLATION) UNTIL THE GREASE COMES OUT AT THE BUSHING INNER DIAMETER.
- 4 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161A1212-3 Spacer Assembly Repair
Figure 602 (Sheet 2 of 2)

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REPAIR 19-1
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COMPONENT MAINTENANCE MANUAL

SPACER - REPAIR 19-2

161A1212-2, -4

1. General

- A. This procedure tells how to repair the spacer (470).
- 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 Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Figure 1 for item numbers.
- E. General repair details:
 - (1) Material: Titanium alloy
 - (2) Shot peen: All surfaces unless shown differently
 - (a) Hard Shot Rc 55-65
 - (b) Coverage 2.0
 - (c) Overspray is permitted
 - (d) Intensity 0.014A2
 - (e) Shot Size 0.023-0.046

2. Spacer Repair

A. References

Reference	Title
SOPM 20-10-07	MACHINING OF TITANIUM
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure (REPAIR 19-2, Figure 601 and REPAIR 19-2, Figure 602)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For machining of titanium, refer to SOPM 20-10-07.

- (1) Machine as necessary, within repair limits, to remove defects.

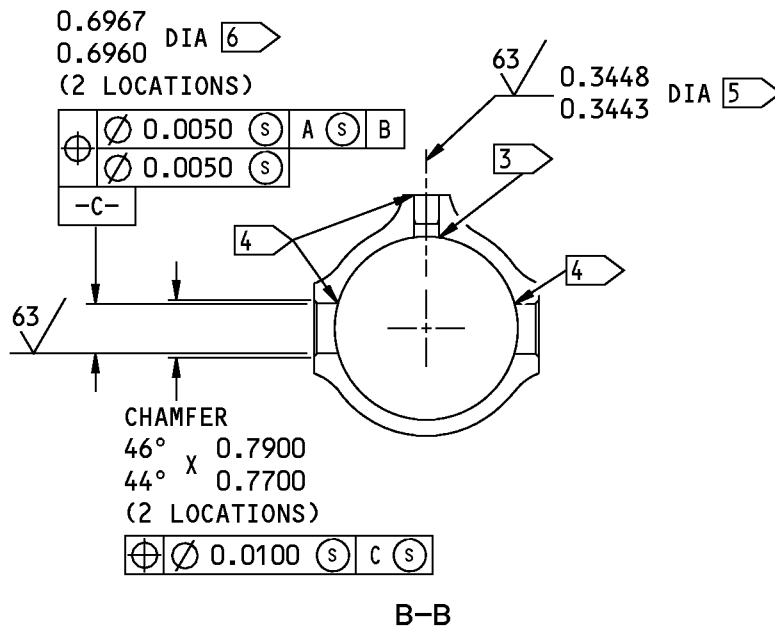
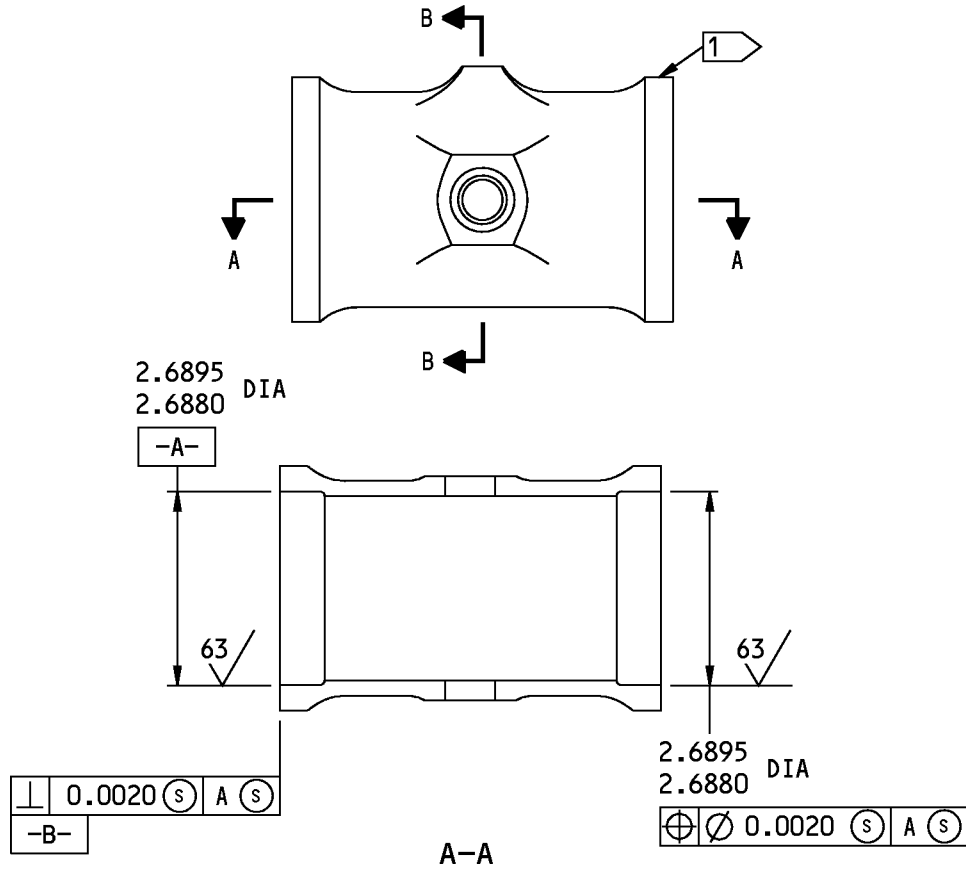
32-11-12

REPAIR 19-2

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COMPONENT MAINTENANCE MANUAL



F91052 S0004996989_V3

161A1212-2 Spacer Repair
Figure 601 (Sheet 1 of 2)

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REPAIR 19-2
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COMPONENT MAINTENANCE MANUAL

- 1 PART NUMBER AND SERIAL NUMBER
- 2 DELETED
- 3 REMOVE SHARP EDGES FROM THIS END OF THE HOLE TO 0.06-0.09 R AND A 63 MICROINCH FINISH
- 4 REMOVE SHARP EDGES FROM THIS END OF THE HOLE TO 0.03-0.06 R AND A 63 MICROINCH FINISH
- 5 SHOT PEEN IS NOT NECESSARY HERE
- 6 SHOT PEEN IS OPTIONAL

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.03-0.06 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1212-2 Spacer Repair
Figure 601 (Sheet 2 of 2)

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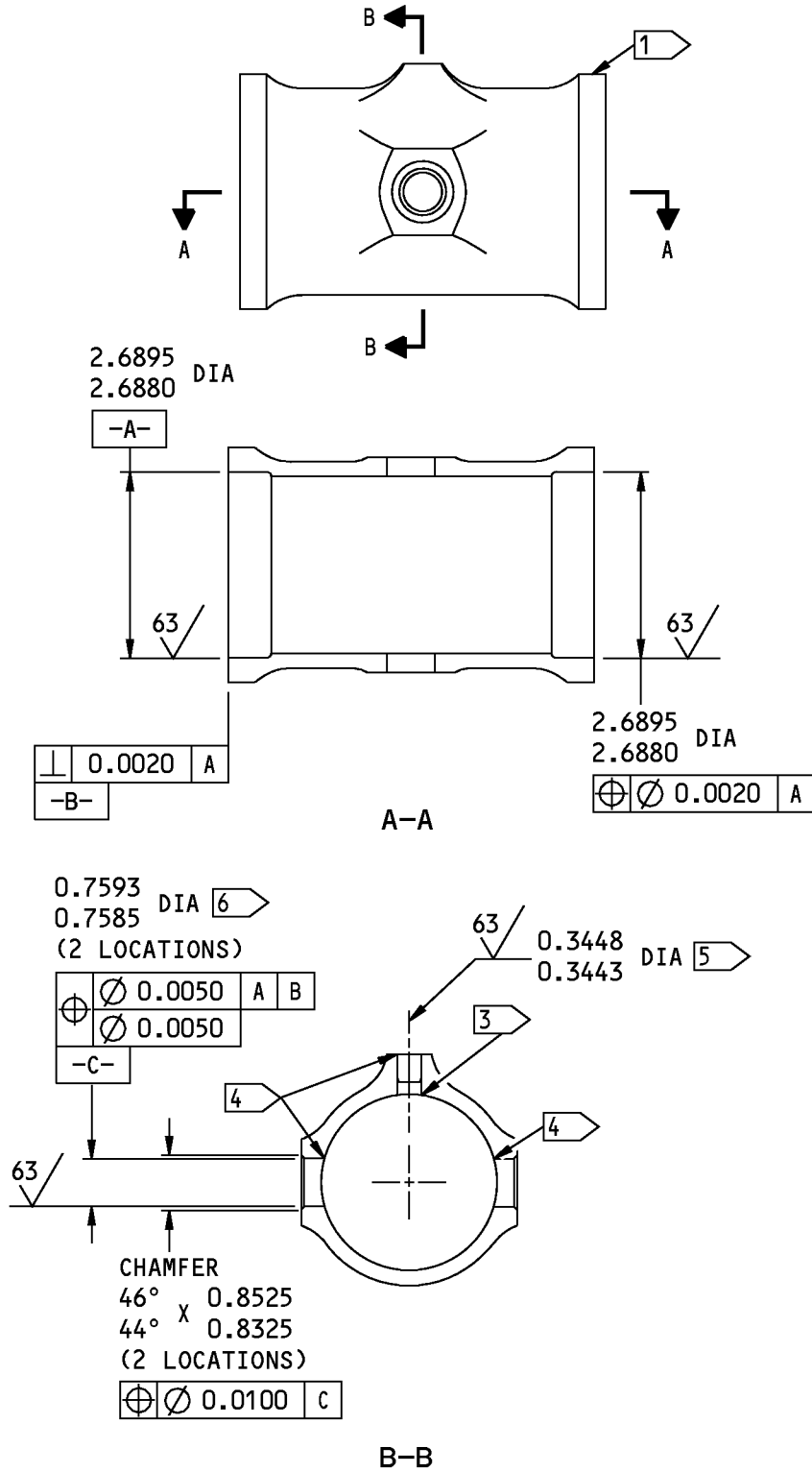
REPAIR 19-2

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1339215 S0000236114_V2

161A1212-4 Spacer Repair
Figure 602 (Sheet 1 of 2)

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REPAIR 19-2
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COMPONENT MAINTENANCE MANUAL

- 1 PART NUMBER AND SERIAL NUMBER
- 2 DELETED
- 3 REMOVE SHARP EDGES FROM THIS END OF THE HOLE TO 0.06-0.09 R AND A 63 MICROINCH FINISH
- 4 REMOVE SHARP EDGES FROM THIS END OF THE HOLE TO 0.03-0.06 R AND A 63 MICROINCH FINISH
- 5 SHOT PEEN IS NOT NECESSARY HERE
- 6 SHOT PEEN IS OPTIONAL

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.03-0.06 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1212-4 Spacer Repair
Figure 602 (Sheet 2 of 2)

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COMPONENT MAINTENANCE MANUAL

CROSSBOLT - REPAIR 20-1

161A1221-1, -2

1. General

- A. This procedure tells how to refinish the crossbolt pin (430).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi
 - (2) Shot peen: All surfaces, but not in holes
 - (a) Intensity 0.008-0.013A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted

2. Refinish

- A. References

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

- B. Procedure (REPAIR 20-1, Figure 601 or REPAIR 20-1, Figure 602)

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

- (1) Passivate (F-17.25).

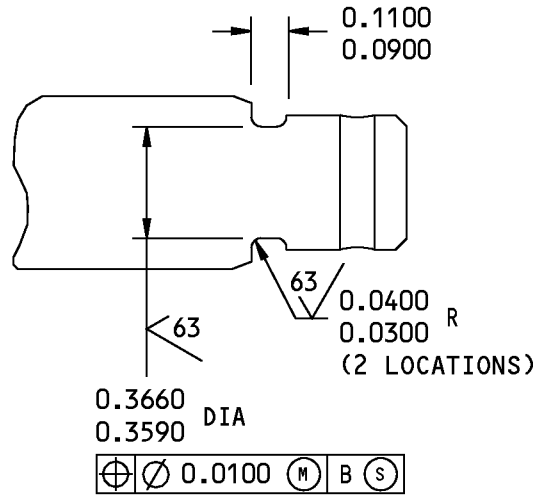
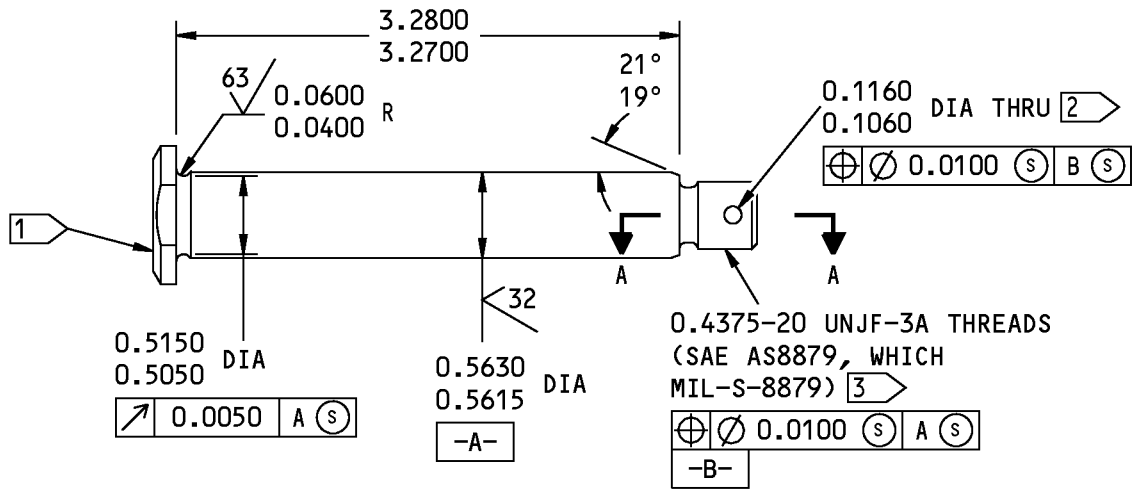
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REPAIR 20-1

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COMPONENT MAINTENANCE MANUAL



- 1 PART NUMBER AND SERIAL NUMBER
- 2 SHOT PEEN IS NOT NECESSARY.
OVERSPRAY IS PERMITTED
- 3 DO NOT SHOT PEEN

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES R 0.02-0.04

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE SHOT PEEN

161A1221-1 Crossbolt Repair
Figure 601

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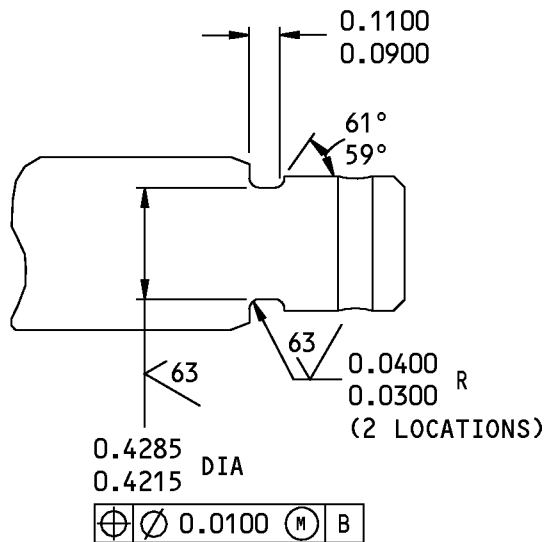
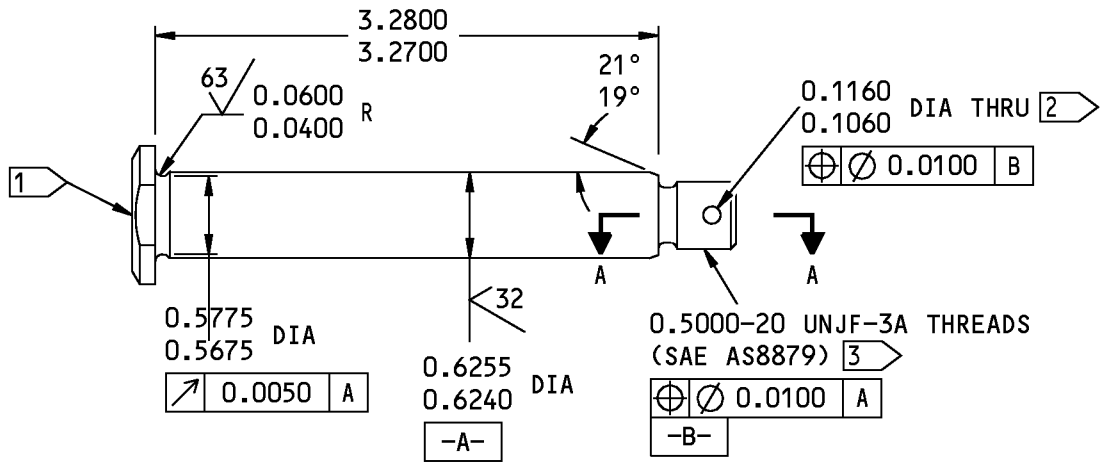
REPAIR 20-1

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COMPONENT MAINTENANCE MANUAL



A-A

- 1 PART NUMBER AND SERIAL NUMBER
- 2 SHOT PEEN IS NOT NECESSARY. OVERSPRAY IS PERMITTED
- 3 DO NOT SHOT PEEN

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES R 0.02-0.04

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE SHOT PEEN

1339309 S0000236116_V2

161A1221-2 Crossbolt Repair
Figure 602

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REPAIR 20-1

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COMPONENT MAINTENANCE MANUAL

COMPLETE TRAY ASSEMBLY - REPAIR 21-1

161A1315-1, -2, -3, -4

1. General

- A. This procedure tells how to replace parts of the complete tray assembly (140, 145).
- 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. Parts Replacement

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure (REPAIR 21-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03.

- (1) Use standard industry procedures to disassemble and assemble this component.
- (2) If you find defects on the components, refer to REPAIR 1-1, REPAIR 21-2, and REPAIR 26-1 for repair instructions.

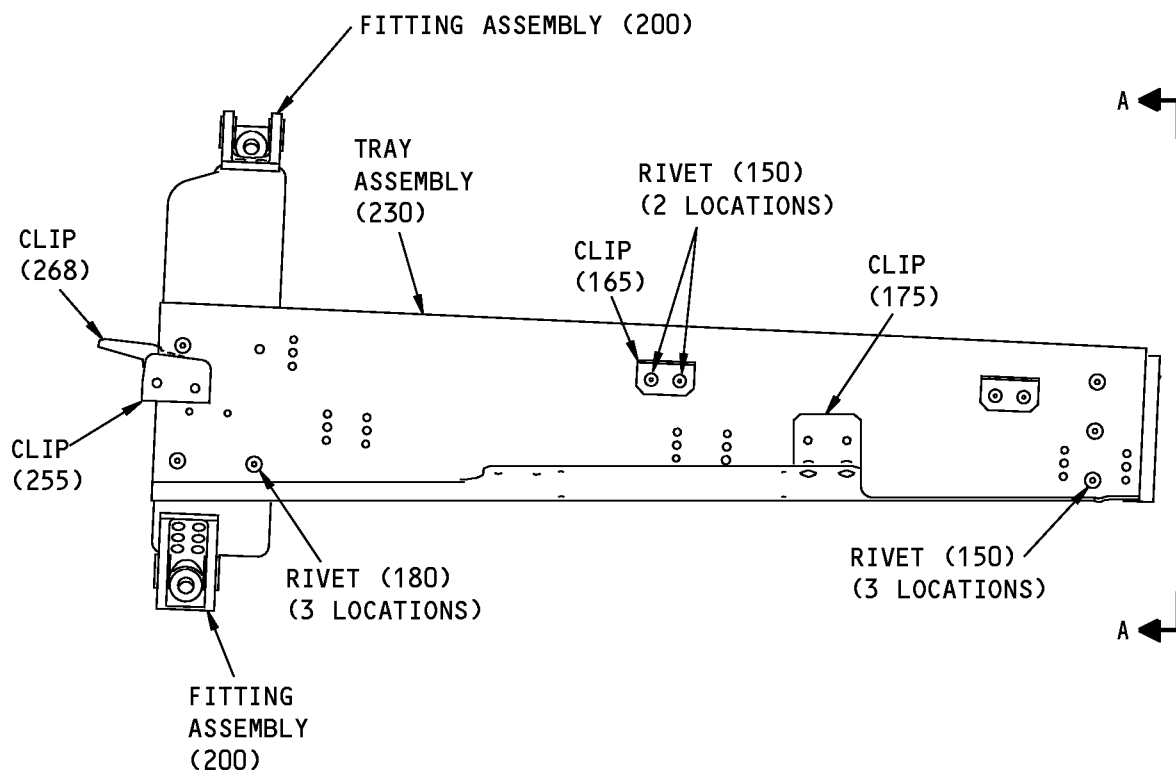
32-11-12

REPAIR 21-1

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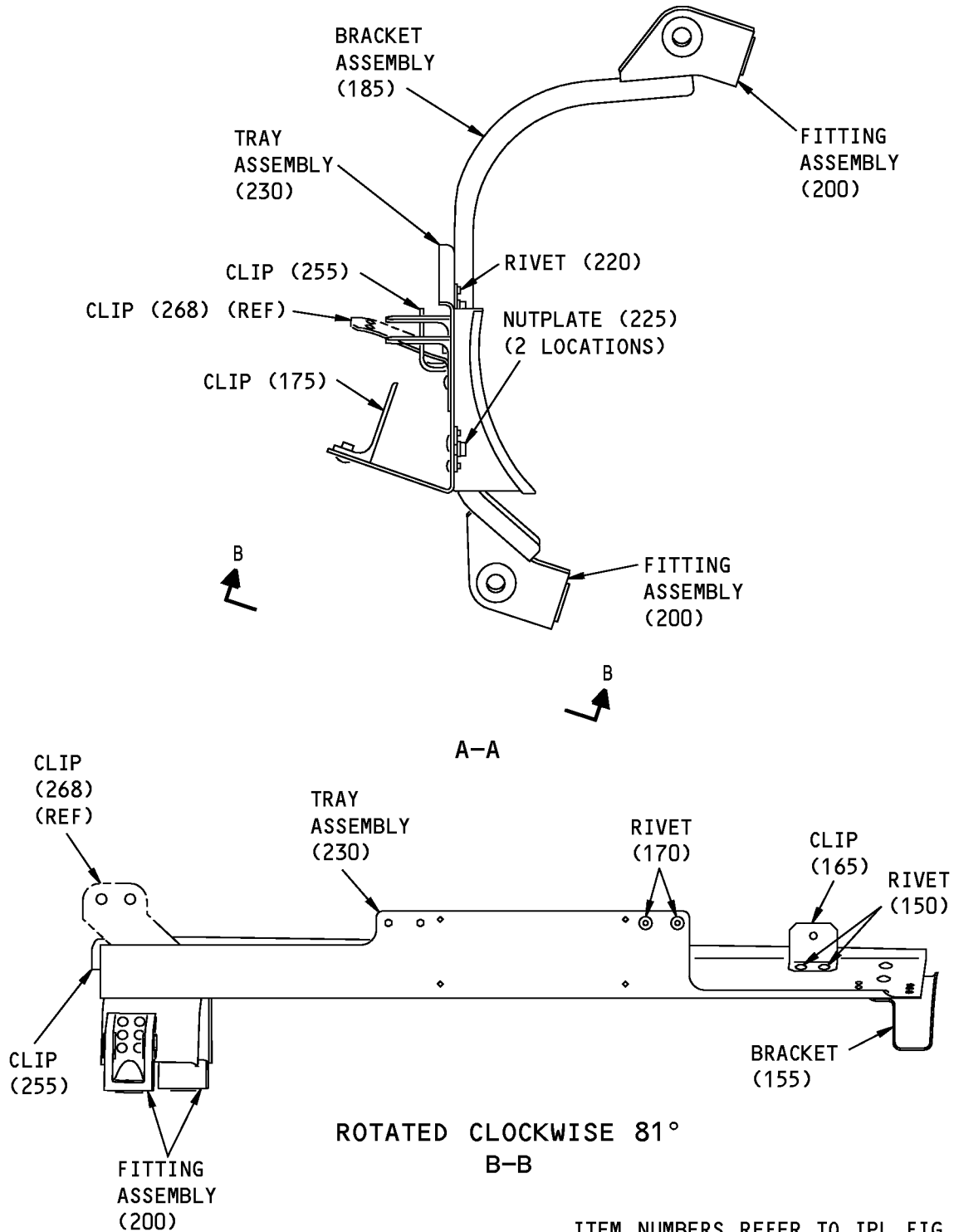
161A1315-1,-3 SHOWN
161A1315-2,-4 OPPOSITE

161A1315-1 Thru -4 Complete Tray Assembly Parts Replacement
Figure 601 (Sheet 1 of 2)

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REPAIR 21-1
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ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1315-1 Thru -4 Complete Tray Assembly Parts Replacement
Figure 601 (Sheet 2 of 2)

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REPAIR 21-1

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COMPONENT MAINTENANCE MANUAL

TRAY ASSEMBLY - REPAIR 21-2

161A1316-1, -2, -5, -6

1. General

- A. Use this procedure to repair and assemble the tray assembly (230, 235).
- 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. Repair

- A. Procedure
 - (1) If you find cracks in trays (260, 265), refer to Service Letter 737-SL-32-116 for advice and repair instructions.
 - (2) Other repair is only replacement of the original finish. Refer to REPAIR 21-2, Paragraph 3. for details.

3. Refinish

- A. Trays (260, 265) – Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31). Apply BMS 10-79, Type 3 primer (F-19.47) and BMS 10-60, Type 2 color 707 gray enamel (F-19.39-707). Material: Al alloy.

4. Assembly

- A. Procedure (REPAIR 21-2, Figure 601)
 - (1) Use standard industry procedures to assemble this component.
 - (2) Be sure to install the rivets with the head direction as shown.

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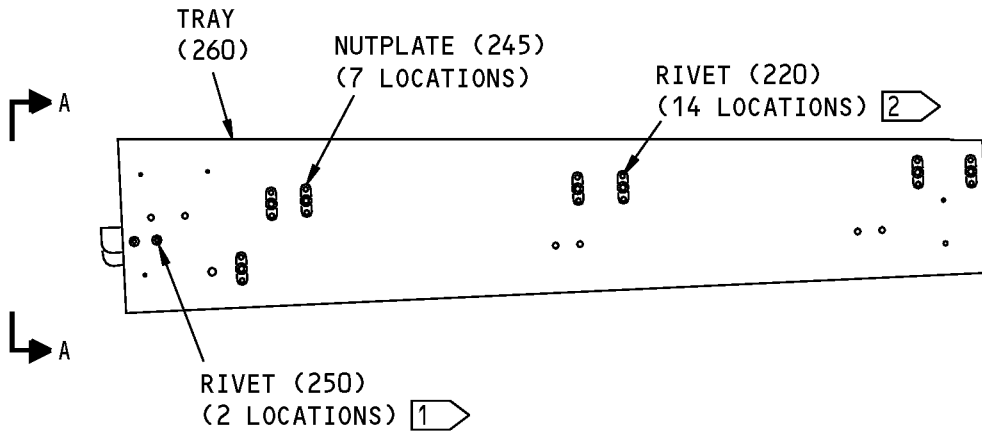
REPAIR 21-2

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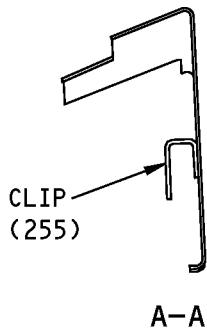
Nov 01/2008



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161A1316-1,-5 SHOWN
 161A1316-2,-6 OPPOSITE



- 1 INSTALL THE HEAD ON THE NEAR SIDE.
- 2 INSTALL THE HEAD ON THE FAR SIDE.

ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

161A1316-1,-2,-5,-6 Tray Assembly Repair
 Figure 601

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REPAIR 21-2
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COMPONENT MAINTENANCE MANUAL

APEX PIN - REPAIR 22-1

161A1214-1, -2, -3, -4

1. General

- A. This procedure tells how to repair and refinish the apex pin (330A).
- 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.
- D. General repair details:
 - (1) Material: 4340M steel
 - (a) HT TR: 275-300 ksi
 - (2) Shot peen: All surfaces, unless shown differently
 - (a) Intensity 0.014-0.018A2
 - (b) Coverage 2.0
 - (c) Overspray is permitted
 - (d) Hard Shot Rc55-65
 - (e) Shot Size 0.016-0.033

2. Pin Repair

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 22-1, Figure 601 or REPAIR 22-1, Figure 602)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Shank Repair
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Shot peen as indicated.
 - (c) Build up with chrome plate.
 - (d) Grind the chrome plate to design dimensions and finish.

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REPAIR 22-1
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- (2) Refinish
 - (a) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.66) all over unless shown differently.

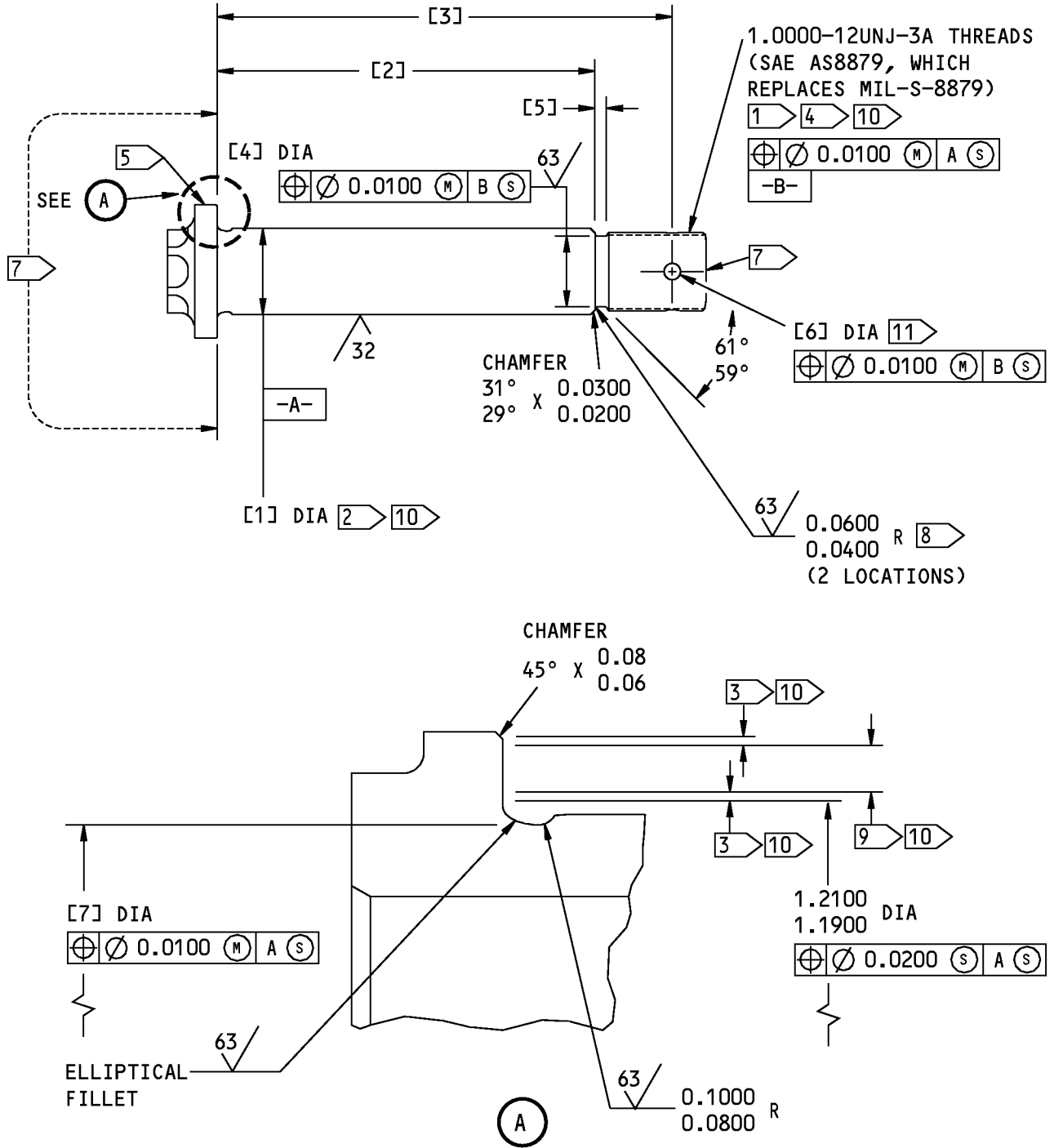
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REPAIR 22-1

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161A1214-1,-2,-3 Apex Pin Repair and Refinish
Figure 601 (Sheet 1 of 2)

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REPAIR 22-1
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REFERENCE NUMBER	[1]	[2] 14	[2] 15	[3] 14	[3] 15	[4]	[5]	[6]	[7]
DESIGN DIMENSION	1.1240 1.1225 12	6.5800 6.5700	8.4300 8.4200	7.8850 7.8650	9.7350 9.7150	0.8810 0.8710	0.1770 0.1570	0.2700 0.2600	1.0500 1.0300
REPAIR LIMIT	1.0950 13	---	---	---	---	---	---	---	---

- 1 DO NOT SHOT PEEN THIS SURFACE
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- 3 CHROME PLATE RUNOUT AREA
- 4 CADMIUM-TITANIUM PLATE (F-15.32)
- 5 PART NUMBER AND SERIAL NUMBER LOCATION
- 6 RESERVED
- 7 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 ENAMEL (F-19.39-707)
- 8 BE SURE TO SHOT PEEN THIS SURFACE
- 9 CHROME PLATE (F-15.34), 0.0015-0.0020 THICK. DO NOT GRIND
- 10 WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 11 SHOT PEEN OPTIONAL
- 12 AFTER PLATING
- 13 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 14 161A1214-1,-2
- 15 161A1214-3

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

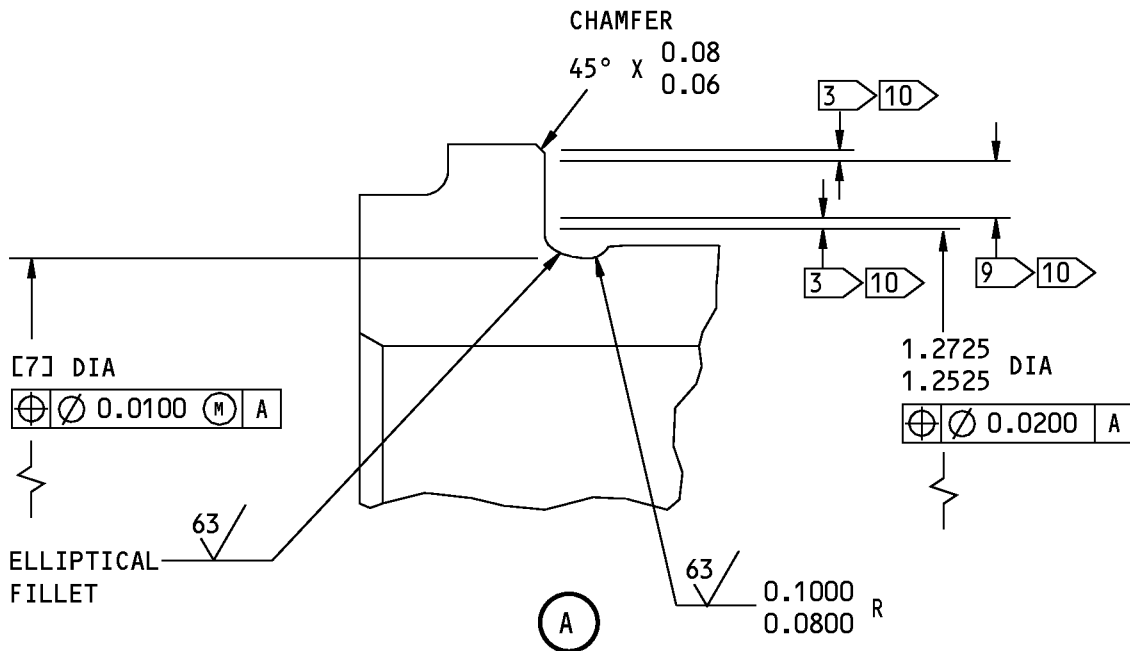
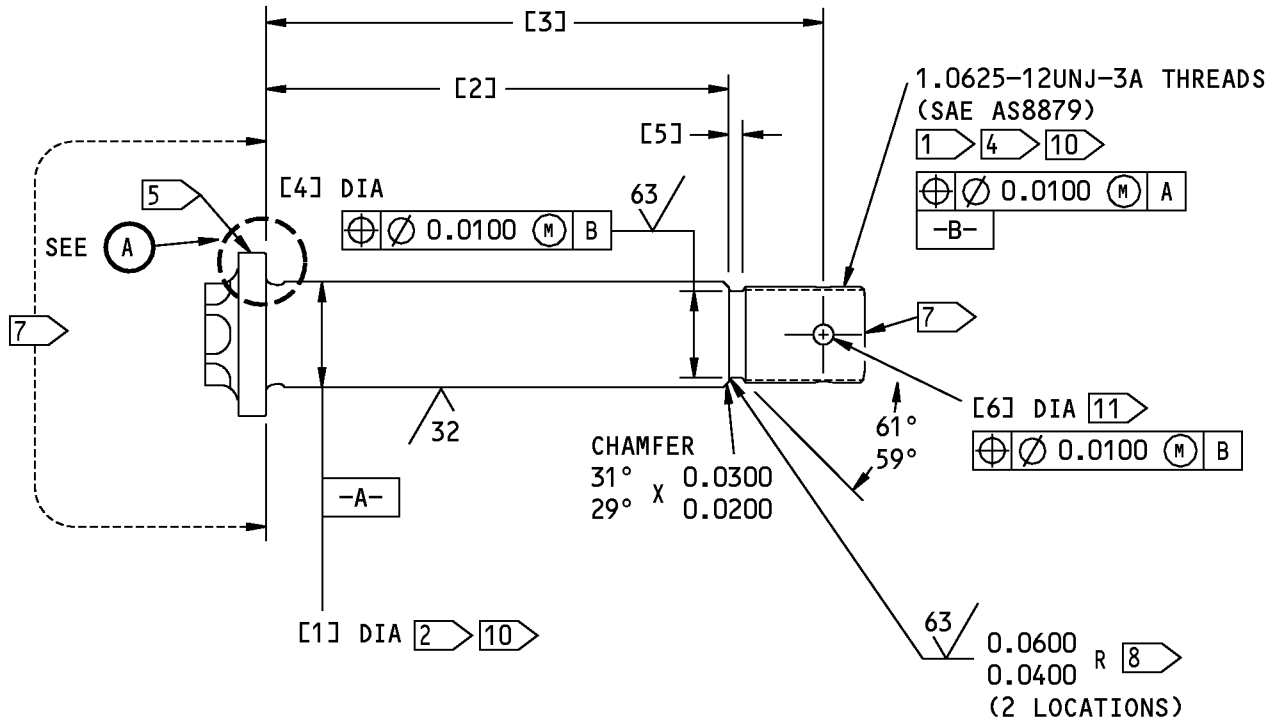
BREAK ALL SHARP EDGES TO 0.03-0.06 R
 ALL DIMENSIONS AND SURFACE ROUGHNESS APPLY BEFORE SHOT PEEN UNLESS SHOWN DIFFERENTLY
 ALL DIMENSIONS ARE IN INCHES

161A1214-1,-2,-3 Apex Pin Repair and Refinish
 Figure 601 (Sheet 2 of 2)

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REPAIR 22-1
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COMPONENT MAINTENANCE MANUAL



161A1214-4 Apex Pin Repair and Refinish
 Figure 602 (Sheet 1 of 2)

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COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	1.1865 1.1850 12	8.5500 8.5400	9.8550 9.8350	0.9435 0.9335	0.1770 0.1570	0.2700 0.2600	1.1125 1.0925
REPAIR LIMIT	1.1550 13	---	---	---	---	---	---

- 1 DO NOT SHOT PEEN THIS SURFACE
- 2 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRINDING
- 3 CHROME PLATE RUNOUT AREA
- 4 CADMIUM-TITANIUM PLATE (F-15.32)
- 5 PART NUMBER AND SERIAL NUMBER LOCATION
- 6 RESERVED
- 7 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) AND BMS 10-60, TYPE 2 ENAMEL (F-19.39-707)
- 8 BE SURE TO SHOT PEEN THIS SURFACE
- 9 CHROME PLATE (F-15.34), 0.0015-0.0020 THICK. DO NOT GRIND
- 10 WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451)
- 11 SHOT PEEN OPTIONAL
- 12 AFTER PLATING
- 13 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

125 / ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.03-0.06 R
ALL DIMENSIONS AND SURFACE ROUGHNESS APPLY BEFORE SHOT PEEN UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A1214-4 Apex Pin Repair and Refinish
Figure 602 (Sheet 2 of 2)

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REPAIR 22-1
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COMPONENT MAINTENANCE MANUAL

SLEEVE - REPAIR 23-1

161A1219-1, -2

1. General

- A. This procedure tells how to refinish sleeve (990).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi

2. Refinish

- A. References

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

- B. Procedure (REPAIR 23-1, Figure 601 and REPAIR 23-1, Figure 602)

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

- (1) Passivate (F-17.25).

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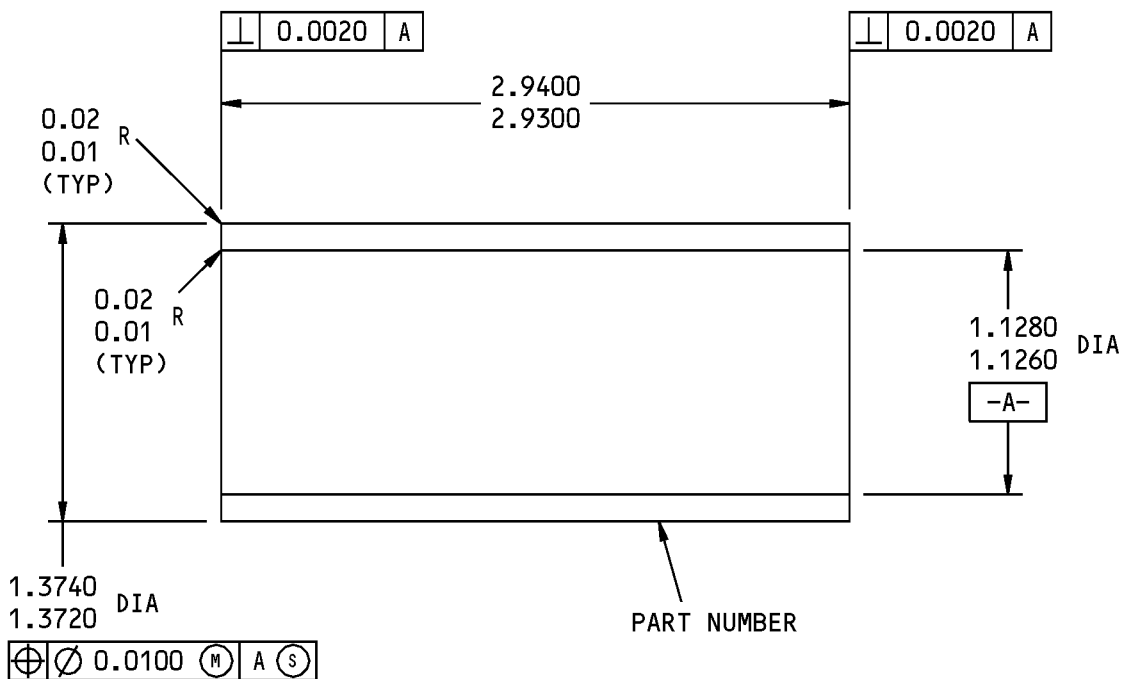
REPAIR 23-1

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COMPONENT MAINTENANCE MANUAL



63/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

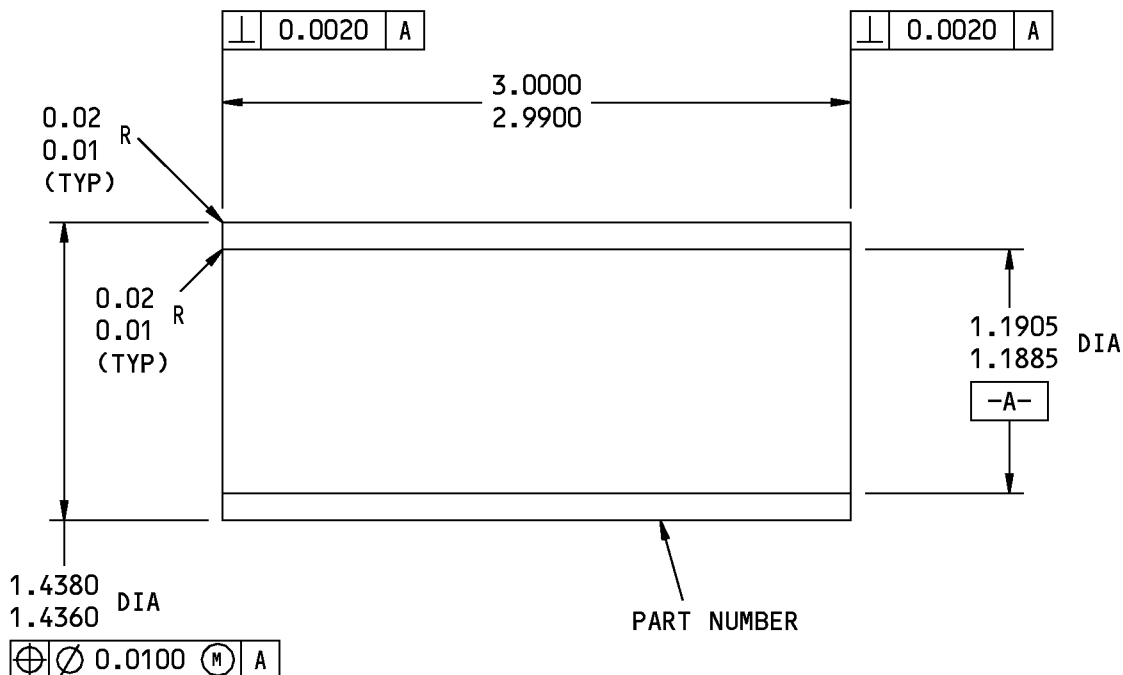
161A1219-1 Sleeve Refinish
Figure 601

32-11-12

REPAIR 23-1
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COMPONENT MAINTENANCE MANUAL



63/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A1219-2 Sleeve Refinish
Figure 602

32-11-12

REPAIR 23-1
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COMPONENT MAINTENANCE MANUAL

SLEEVE - REPAIR 24-1

161A1220-1, -2

1. General

- A. This procedure tells how to refinish sleeve (992).
- 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.
- D. General repair details:
 - (1) Material: 15-5PH CRES
 - (a) HT TR: 180-200 ksi

2. Refinish

- A. References

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

- B. Procedure (REPAIR 24-1, Figure 601 and REPAIR 24-1, Figure 602)

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

- (1) Passivate (F-17.25).

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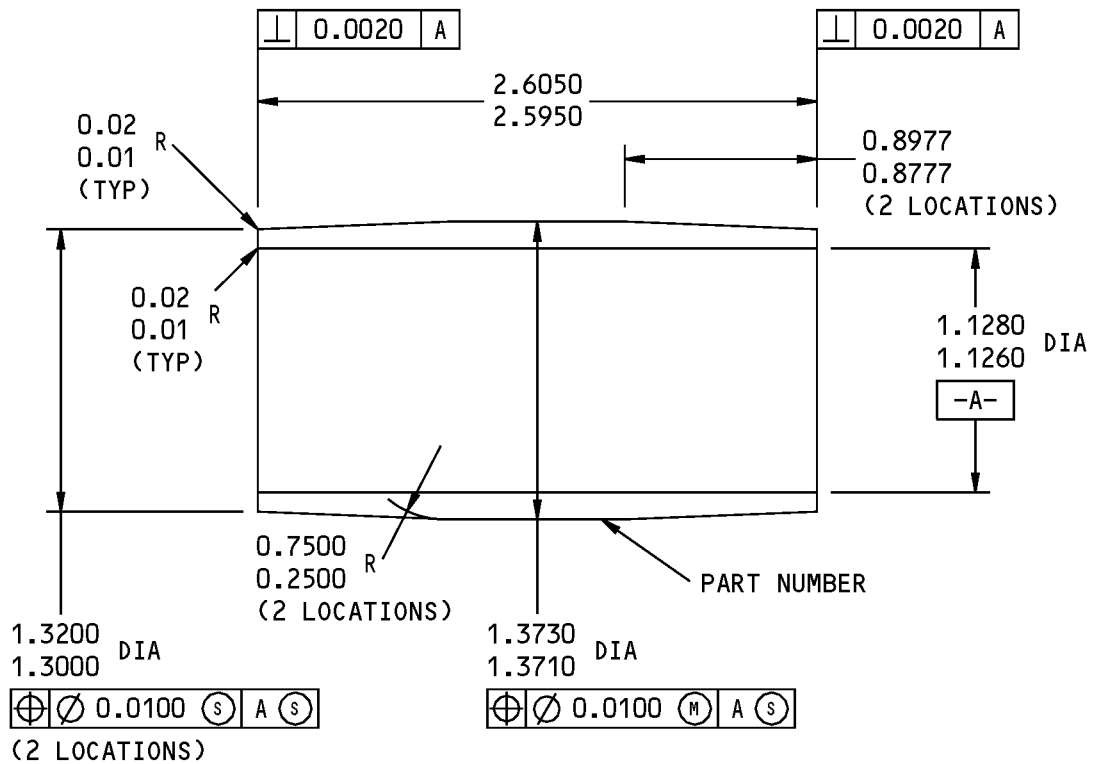
REPAIR 24-1

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COMPONENT MAINTENANCE MANUAL



63/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A1220-1 Sleeve Refinish
Figure 601

32-11-12

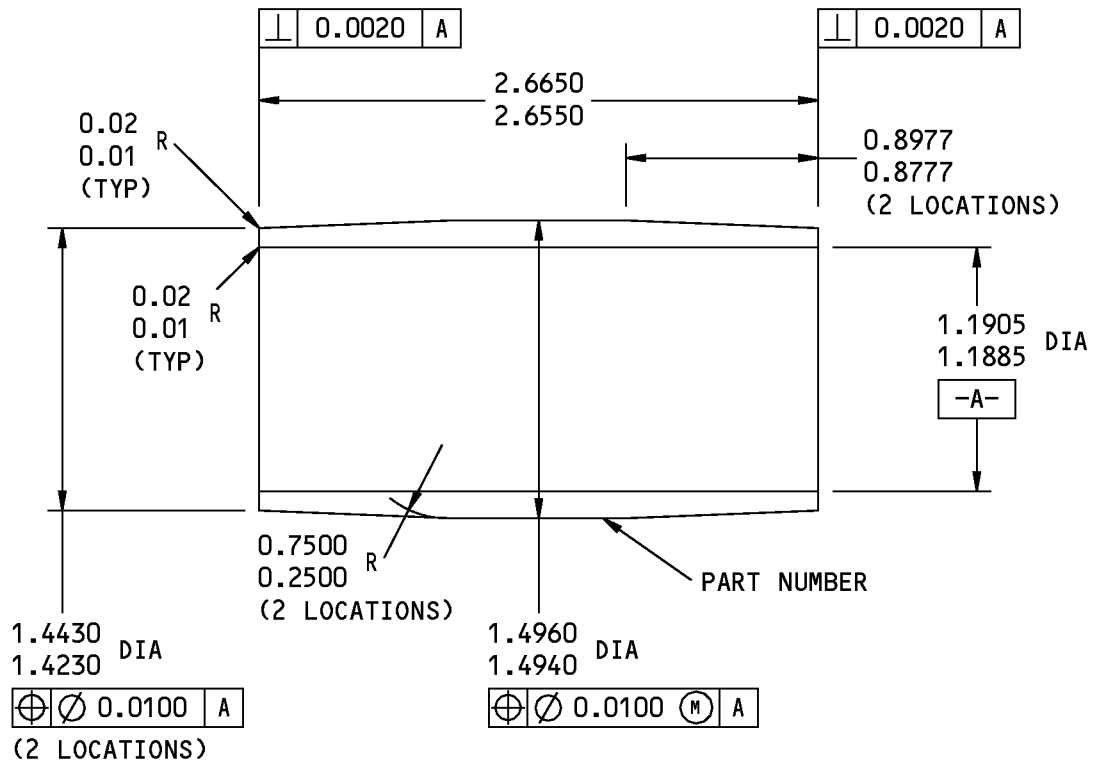
REPAIR 24-1

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COMPONENT MAINTENANCE MANUAL



63/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A1220-2 Sleeve Refinish
Figure 602

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REPAIR 24-1
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GLAND NUT - REPAIR 25-1

161A1154-1, -2, -3

1. General

- A. Use this procedure to repair and refinish gland nut (555).
- 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.
- D. General repair details:
 - (1) Material: 4330M steel, 180-200 ksi

2. Gland Nut Repair and Refinish

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

- B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING

- C. Procedure (REPAIR 25-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

- (1) Repair

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Build up the machined surfaces with chrome plate (SOPM 20-42-03) to return them to design dimensions.

- (2) Refinish

- (a) Chrome plate the areas shown by flagnote 1.
- (b) Cadmium plate (F-15.06) the other surfaces. Apply BMS 10-79, Type 3 primer, C00175 (F-19.47) and BMS 10-60, Type 2 enamel coating, C00033 unless shown differently.
 - 1) On gland nut 161A1154-1, use gray enamel coating, C00033 (F-19.39-701).
 - 2) On gland nuts 161A1154-2, -3, use yellow enamel coating, C00033 (F-19.39-302).

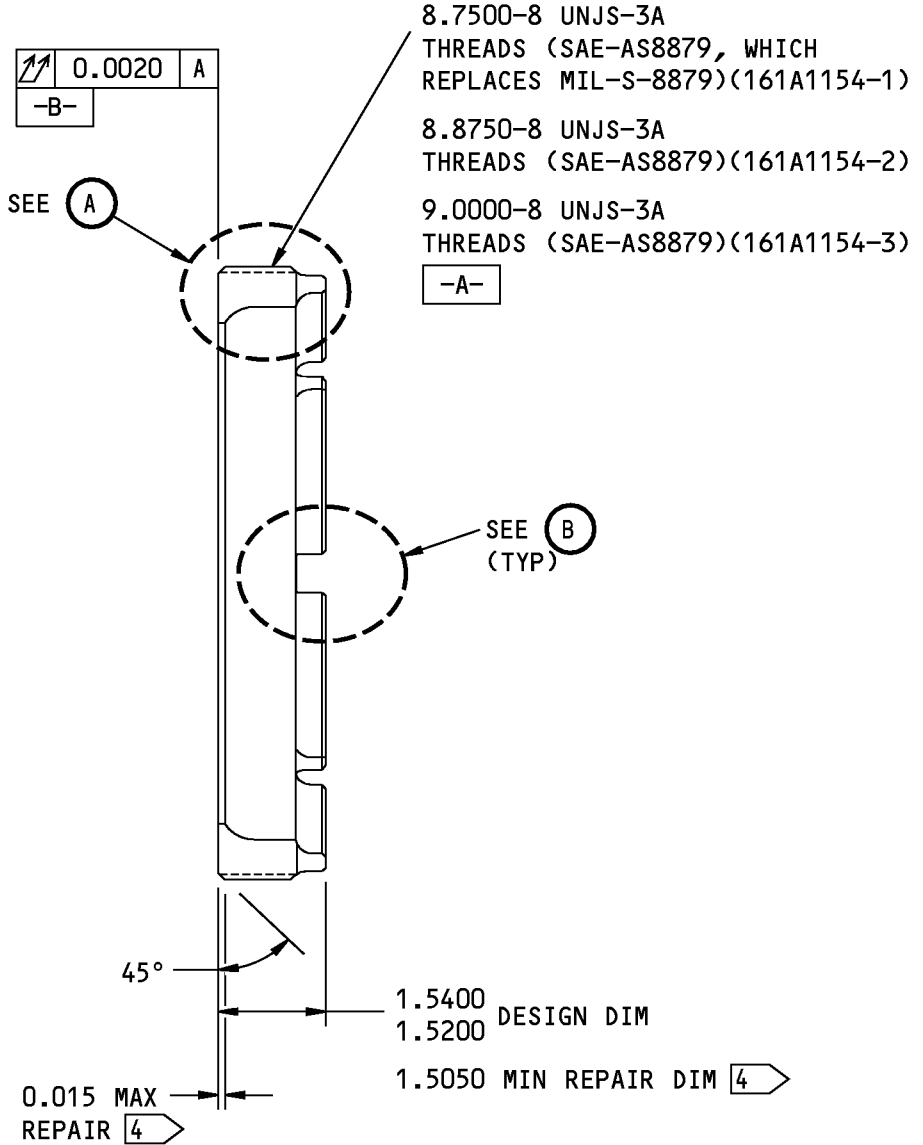
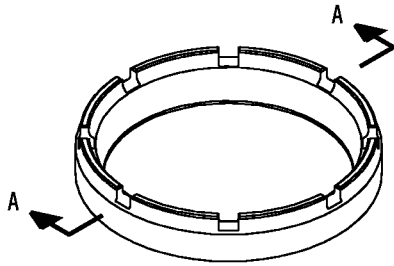
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REPAIR 25-1

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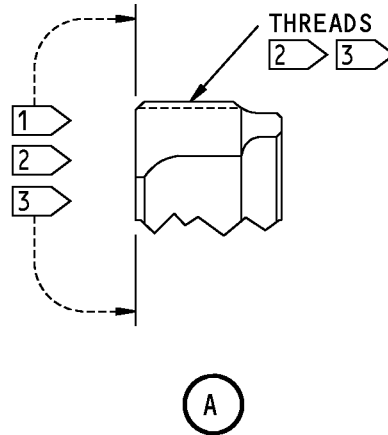
Gland Nut Repair and Refinish
 Figure 601 (Sheet 1 of 2)

32-11-12

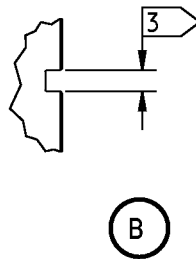
REPAIR 25-1
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A



B

- 1 APPLY THIN DENSE CHROME PLATING (F-15.43)
- 2 WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451).
- 3 NO PRIMER OR ENAMEL
- 4 LIMIT FOR BUILDUP WITH CHROME PLATE (SOPM 20-42-03)

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.005-0.010

ITEM NUMBERS REFER TO IPL FIG. 1

DIMENSIONS ARE BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

U70267 S0000213497_V2

Gland Nut Repair and Refinish
Figure 601 (Sheet 2 of 2)

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REPAIR 25-1

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FITTING ASSEMBLY - REPAIR 26-1

161A1320-1

1. General

- A. This procedure tells how to replace the bushings of fitting assembly (200).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices specified in the procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Bushing Replacement

A. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

B. Procedure (REPAIR 26-1, Figure 601)

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

- (1) Remove the old bushings.
- (2) If you find defects on the fitting surfaces, refer to REPAIR 26-2 for repair instructions.
- (3) Install replacement bushings by the shrink fit method (SOPM 20-50-03) with BMS 5-95 sealant as the installation finish.
- (4) If necessary, machine the bushings to design dimensions and finish.

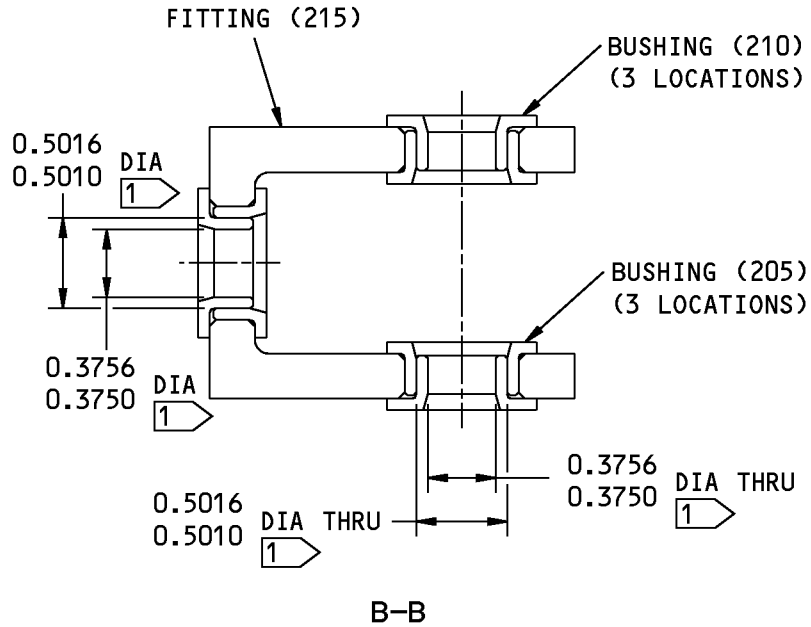
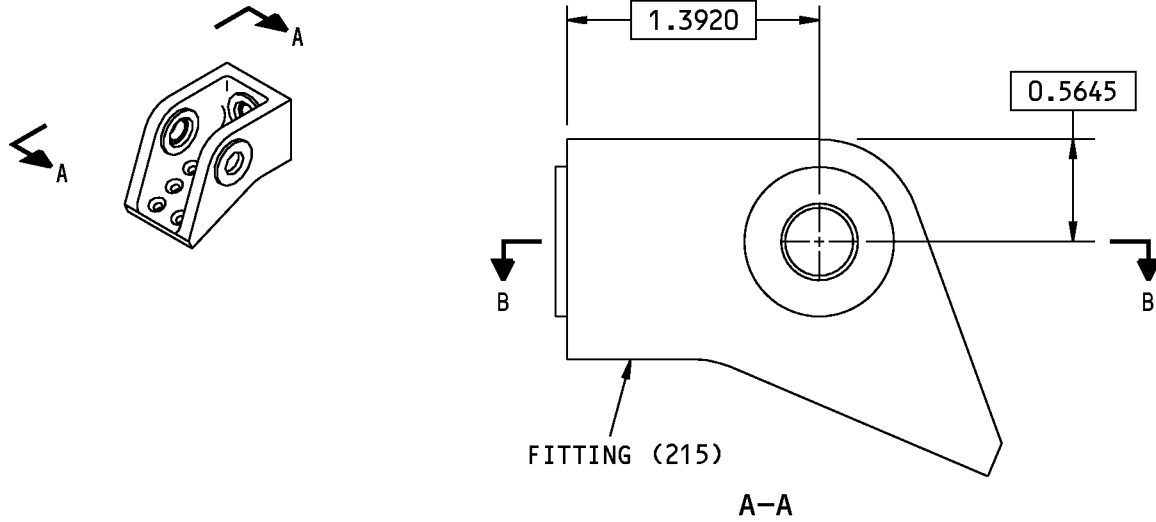
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REPAIR 26-1

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1 INSTALLED DIMENSIONS. ADJUST TO THIS SIZE IF NECESSARY

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A1320-1 Fitting Assembly Bushing Replacement
Figure 601

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REPAIR 26-1
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FITTING - REPAIR 26-2

161A1320-2

1. General

- A. This procedure tells how to repair and refinish fitting (215).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices specified in the procedure.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
 - (1) Material: Al alloy
 - (2) Shot peen: 0.008-0.013 A2 intensity

2. Fitting Repair

- A. Procedure (REPAIR 26-2, Figure 601)
 - (1) Bores for bushings
 - (a) Machine as necessary, within repair limits, to remove defects.
 - (b) Refinish as necessary, (REPAIR 26-2, Paragraph 3.).
 - (c) Make oversize bushings (REPAIR 26-2, Figure 602) to adjust for the material removed.
 - (d) Install the bushings (REPAIR 26-1).

3. Fitting Refinish

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
B00571	Coating - Clear Hydraulic Fluid Resistant Topcoat	BAC5710, Type 41
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

- B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

- C. Procedure (REPAIR 26-2, Figure 601)

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

- (1) Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31).

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REPAIR 26-2

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- (2) Apply BMS 10-79, Type 3 primer, C00175 (F-19.47) and BMS 10-60, Type 2 enamel coating, C00033 (F-19.39-707), but no primer or enamel in holes or bores, and no gray enamel in the area of or near the part number and serial number.
- (3) Apply black BMS 10-60, Type 2 enamel coating, C00033(F-19.39-701) and clear protective coating, B00571 (F-21.34) to the part number and serial number, as shown.

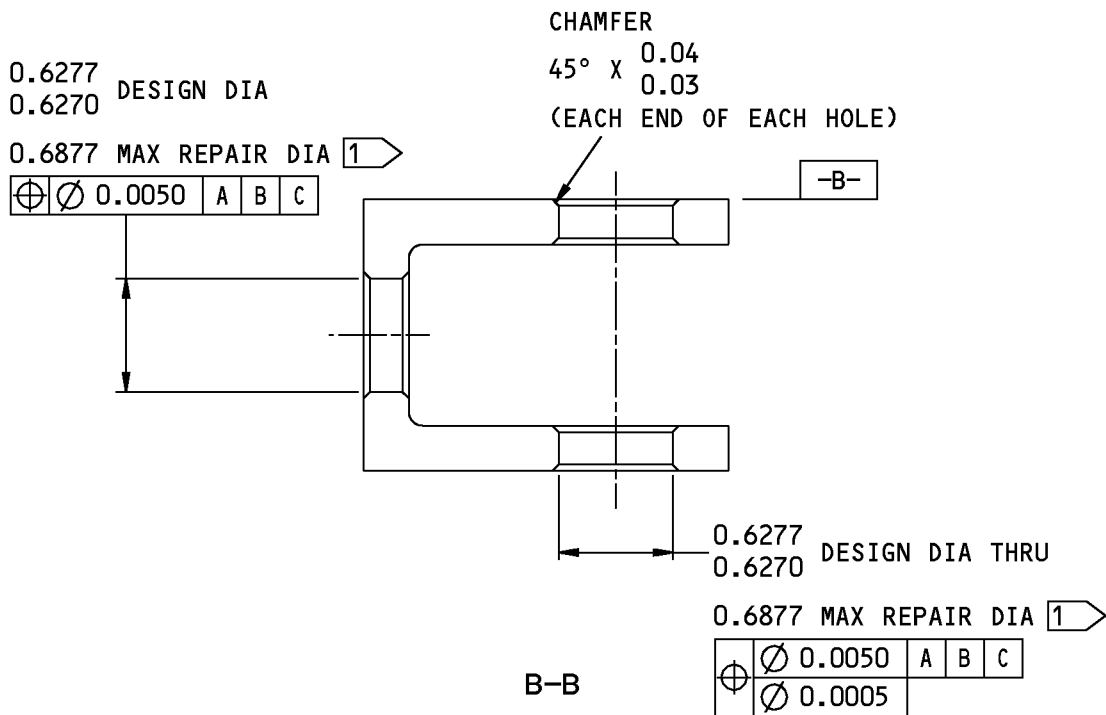
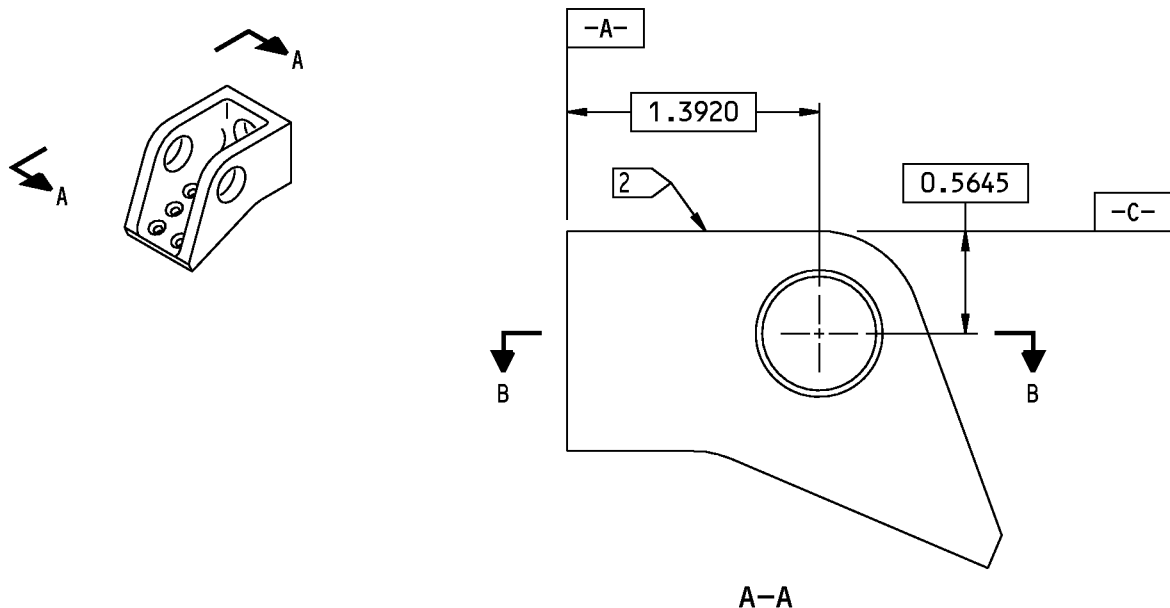
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REPAIR 26-2

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161A1320-2 Fitting Repair and Refinish
Figure 601 (Sheet 1 of 2)

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- 1 LIMIT FOR INSTALLATION OF
OVERSIZE BUSHINGS
- 2 PART NUMBER AND SERIAL NUMBER.
APPLY BLACK BMS 10-60, TYPE 2
ENAMEL (F-19.39-701) TO THESE
CHARACTERS. THEN APPLY TYPE 41
CLEAR PROTECTIVE COATING
(F-21.34) TO THE AREA, TO A
THICKNESS EQUIVALENT TO
ADJACENT ENAMEL

125/ ALL MACHINED SURFACES UNLESS
SHOWN DIFFERENTLY

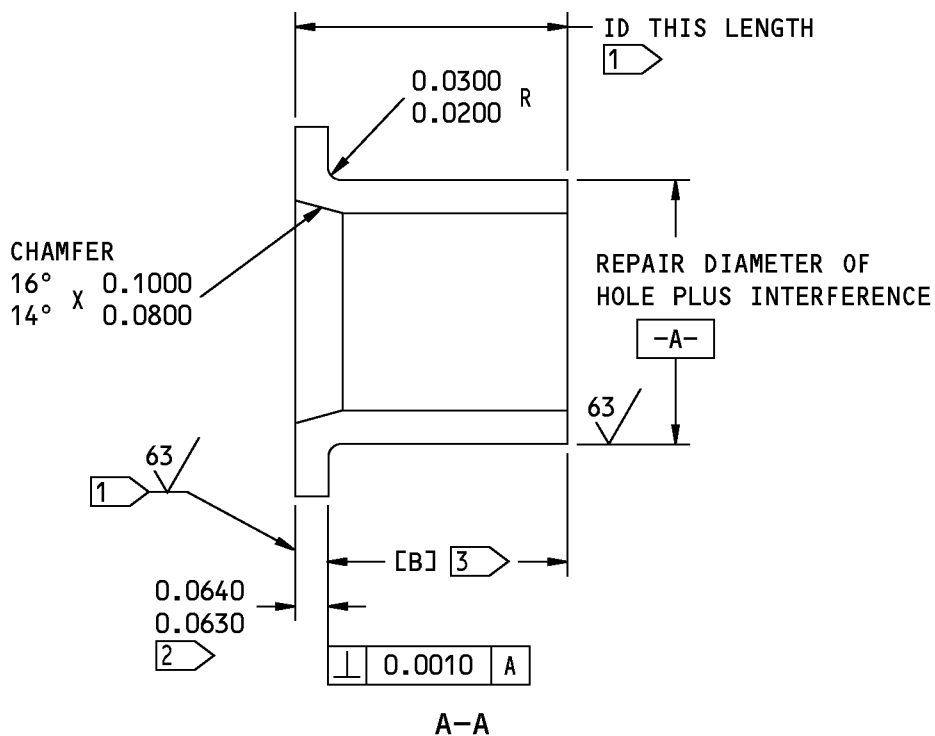
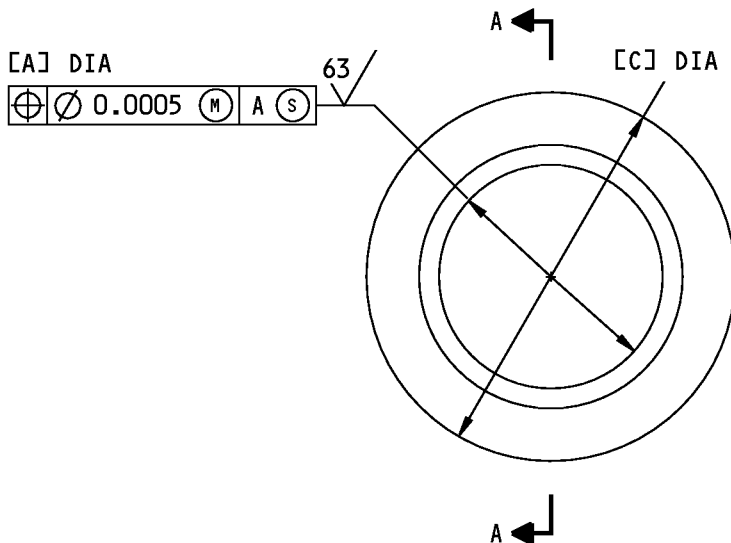
BREAK SHARP EDGES 0.01-0.03 R
ALL DIMENSIONS ARE IN INCHES

161A1320-2 Fitting Repair and Refinish
Figure 601 (Sheet 2 of 2)

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REPAIR 26-2
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Oversize Bushing Details
Figure 602 (Sheet 1 of 2)

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REPAIR 26-2
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REPLACES BUSHING (IPL FIG. 1)	[A]	[B]	[C]	INTERFERENCE
161A1321-1 (210)	0.3760 0.3754	0.2500 0.2300	0.8350 0.8150	0.0015 0.0006
161A1321-2 (205)	0.5021 0.5014	0.2400 0.2200	0.8350 0.8150	0.0017 0.0007

- 1 NO FINISH ON THIS SURFACE
- 2 PLUS THE AMOUNT REMOVED FROM THE LUG FACE
- 3 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

125/ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BRONZE (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

FINISH: CADMIUM PLATE (F-15.36)
UNLESS SHOWN BY 1

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2 of 2)

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REPAIR 26-2

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COMPONENT MAINTENANCE MANUAL

ASSEMBLY

1. General

- A. Use this procedure to assemble the main landing gear component 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. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-9505	Equipment - Removal/Installation, MLG Orifice Tube and Metering Pin (Part #: C32042-61, Supplier: 81205)
SPL-9507	Replacement Equipment - Lower Bearing Seals, MLG (Part #: C32017-43, Supplier: 81205) (Opt Part #: C32017-1, Supplier: 81205)
SPL-10997	Adapter Assy - Wrench, Hook Spanner - 737-600/700/800/900 (Part #: F80033-8, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I
D00467	Fluid - Landing Gear Shock Strut	BMS3-32, Type II
D00633	Grease - Aircraft General Purpose	BMS3-33
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32, Type I
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995~C32
G50136	Paste - Corrosion Inhibiting, Non-drying	BMS 3-38

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ASSEMBLY

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C. References

Reference	Title
CMM 32-11-16	MAIN GEAR CUSTOMER END ITEM
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

D. Procedure (ASSEMBLY, Figure 701)

NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For finishing materials, refer to SOPM 20-60-02. 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) Assemble orifice support tube (795) and related parts.
 - (a) Put orifice plate (765) on retainer nut (760).
 - (b) Install retainer nut (760) on orifice support tube (795). Tighten retainer nut (760) to hold orifice plate (765) with no gaps. Loosen retainer nut (760), if necessary, to align the cross bolt holes (flagnote 22).
 - (c) Install bolt (745), washer (750) and nut (755).
- (3) Install orifice support tube (795) and assembled parts in outer cylinder (830, 835).
- (4) Install retainer ring (785) in outer cylinder (830, 835).
- (5) Use removal/installation equipment, SPL-9505 to tighten retainer nut assembly (770). Compress retainer ring (785) and tighten retainer nut assembly (770) to 75-100 pound-feet (flagnotes 9, 23).
- (6) Apply hydraulic fluid, D50022 or hydraulic fluid, D00467 to retainer ring (805), then install the ring.
- (7) Use removal/installation equipment, SPL-9505 to install metering pin (825) and retainer nut assembly (810). Compress retainer ring (805) and tighten nut (820) to 75-100 pound-feet (flagnotes 9, 23).
- (8) Install gland nut (555) on inner cylinder (735).

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

- (a) Apply a thin layer of corrosion inhibiting non-drying paste, G50136 or compound, C00913 to the threads, thread reliefs, splines and washer faces before installation.
- (9) Install scraper (560).
 - (a) Before installation, wet scraper (560) with hydraulic fluid, D50022 or hydraulic fluid, D00467 (flagnote 1).
 - (b) Install scraper (560) with the O-ring away from the lower bearing (610) (flagnote 19). Do not install a split scraper, because split scrapers are only for temporary replacement between overhauls.

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ASSEMBLY

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- (10) Assemble lower bearing carrier (605).
 - (a) Apply hydraulic fluid, D50022 or hydraulic fluid, D00467 to seals (570, 575, 580, 585, 590) and excluder (565) and to the mating metal surfaces (flagnote 1).
 - (b) Install seals (570, 575, 580, 585) and excluder (565) on lower bearing carrier (605) with replacement equipment, SPL-9507
 - 1) Be sure to install only one set of backup rings with the two spare AGT rings (575) as shown (flagnote 29).
 - 2) Dynamic ring (585) includes a backup ring. This backup ring has a bore radius on only one side. Be sure to install the backup ring below the dynamic ring, and with the bore radius side of the backup ring against the dynamic ring, as shown (flagnote 28)
 - (c) Install three pins (595A) and packing (590).
- (11) Use replacement equipment, SPL-9507 to install lower bearing carrier (605).
- (12) Remove the replacement equipment, SPL-9507 and install seal retainer (600) and spacer tube (615).
- (13) Install recoil valve (620). Make sure the recoil valve moves freely.
- (14) Assemble upper bearing carrier (635).
 - (a) Install upper bearings (630) on upper bearing carrier assembly (635).
 - (b) Install piston ring (625).
- (15) Install upper bearing carrier assembly (635) on inner cylinder (735).
- (16) Install inner cylinder (735) in outer cylinder (830, 835). Apply MIL-C-11796, Class 1 corrosion preventive compound, C50001 to the internal surfaces (flagnotes 24, 25).
- (17) Tighten gland nut (555) to 125-150 pound-feet with landing gear gland nut hook spanner, SPL-10997 (flagnote 11).
- (18) Install torsion links (375, 490).
 - (a) Install the pins, nuts, washers and bolts in the sequence shown in views H-H, I-I, K-K.
 - (b) Include spacers (990, 992) and the shimmy damper (SB 32-1312) as applicable. Refer to CMM 32-11-16 for details.
- (19) Assemble all the other parts by standard industry practices and as shown.
- (20) Lubricate the component assembly with grease, D00633 at the lube fittings (flagnote 10).
- (21) Do the test as specified in TESTING AND FAULT ISOLATION.
- (22) Install cap (970), if applicable.
- (23) Install MS20995C32 lockwire, G01048 by the double twist method (SOPM 20-50-02).
- (24) Install the cotter pins.
 - (a) For the flagnote 2 cotter pins, use the instructions in SOPM 20-50-02
 - (b) For the flagnote 33 cotter pins, put them in and bend them to hold them only temporarily, because they will be removed later.
- (25) Apply BMS 8-45 tamperproof putty compound, A00226 (flagnote 3).
- (26) If necessary, install nameplate (985) with rivets (980) and BMS 5-95 sealant, A00247 (flagnotes 4, 13).

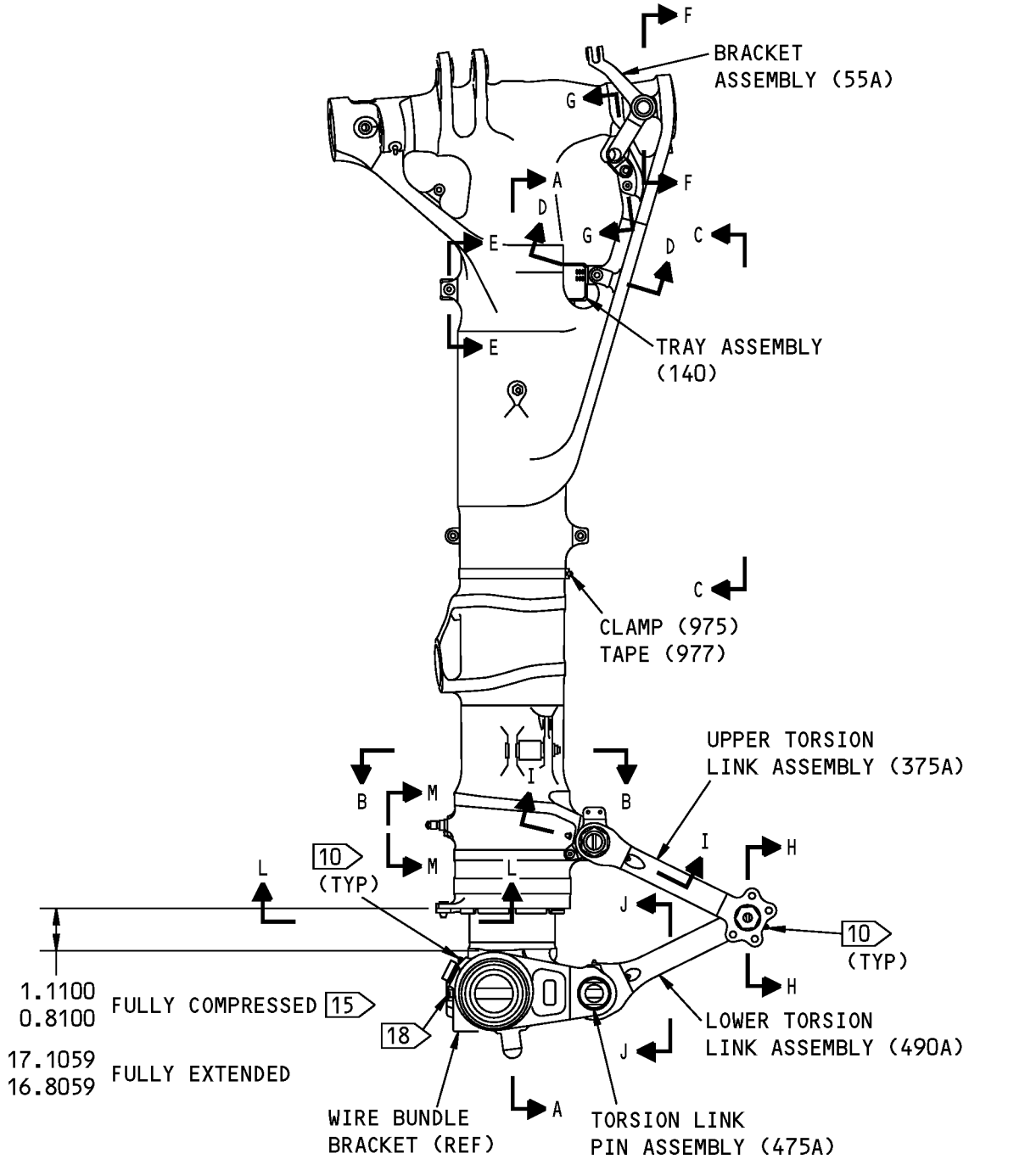
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ASSEMBLY

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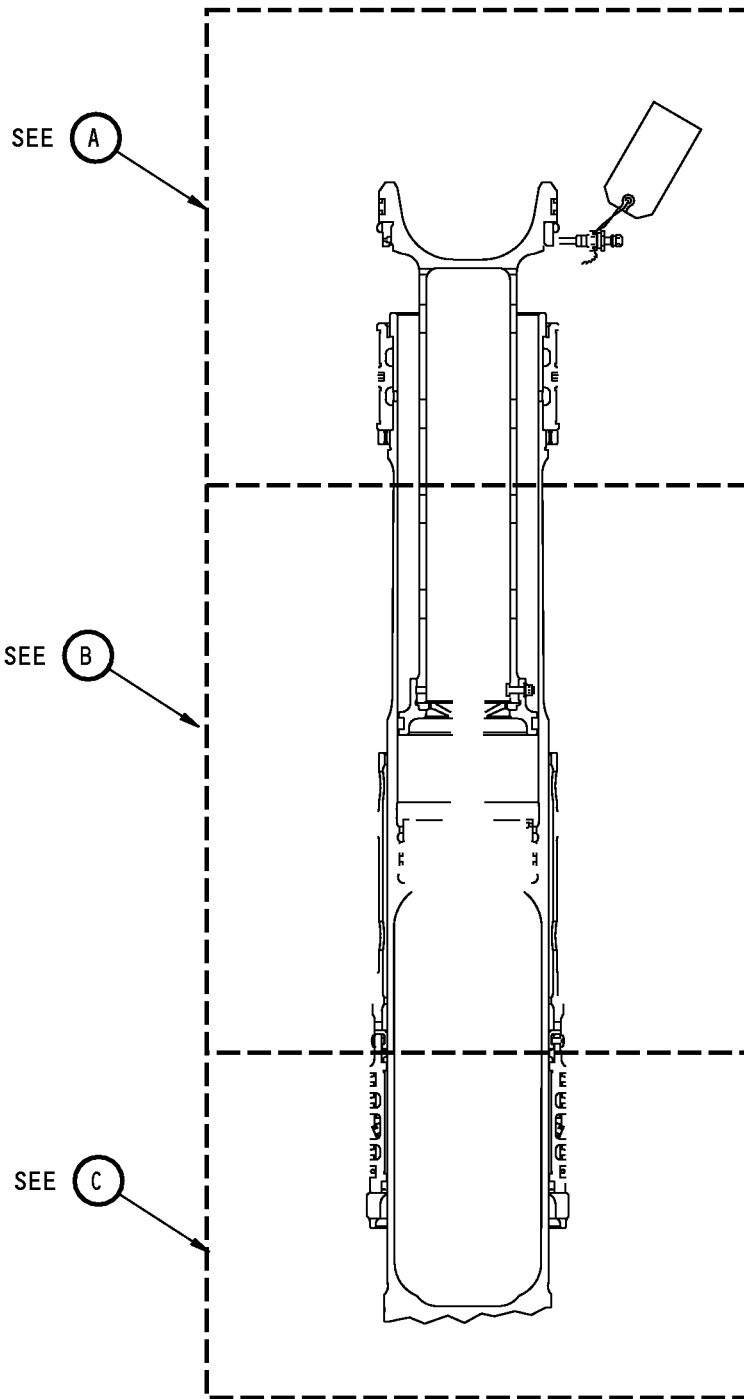
161A1100-5 SHOWN
 161A1100-(OTHER ODD DASH NUMBERS) SIMILAR
 161A1100-(EVEN DASH NUMBERS) OPPOSITE

Main Landing Gear Component Assembly
 Figure 701 (Sheet 1 of 14)

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A-A

F90279 S0004997011_V2

Main Landing Gear Component Assembly
Figure 701 (Sheet 2 of 14)

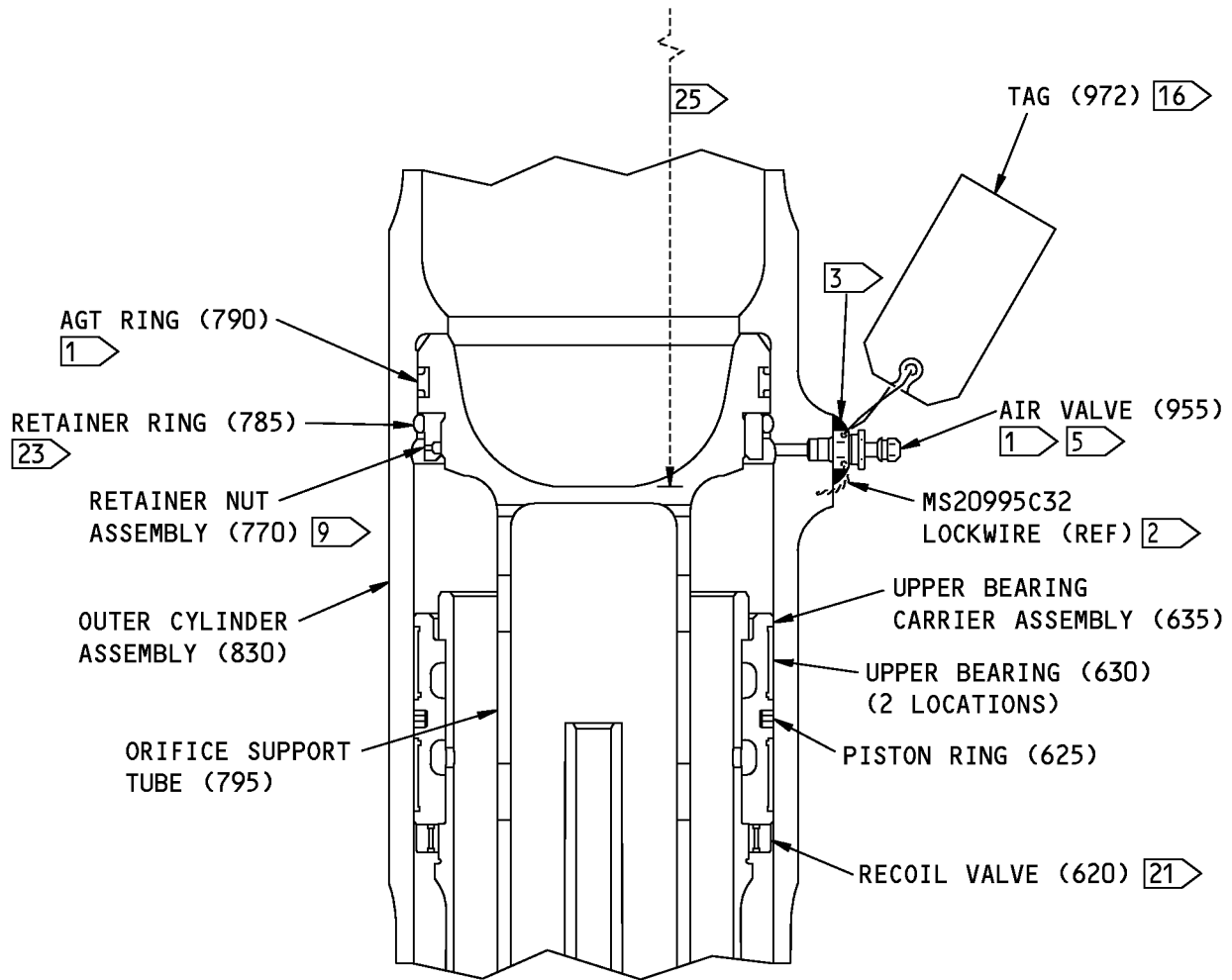
32-11-12

ASSEMBLY

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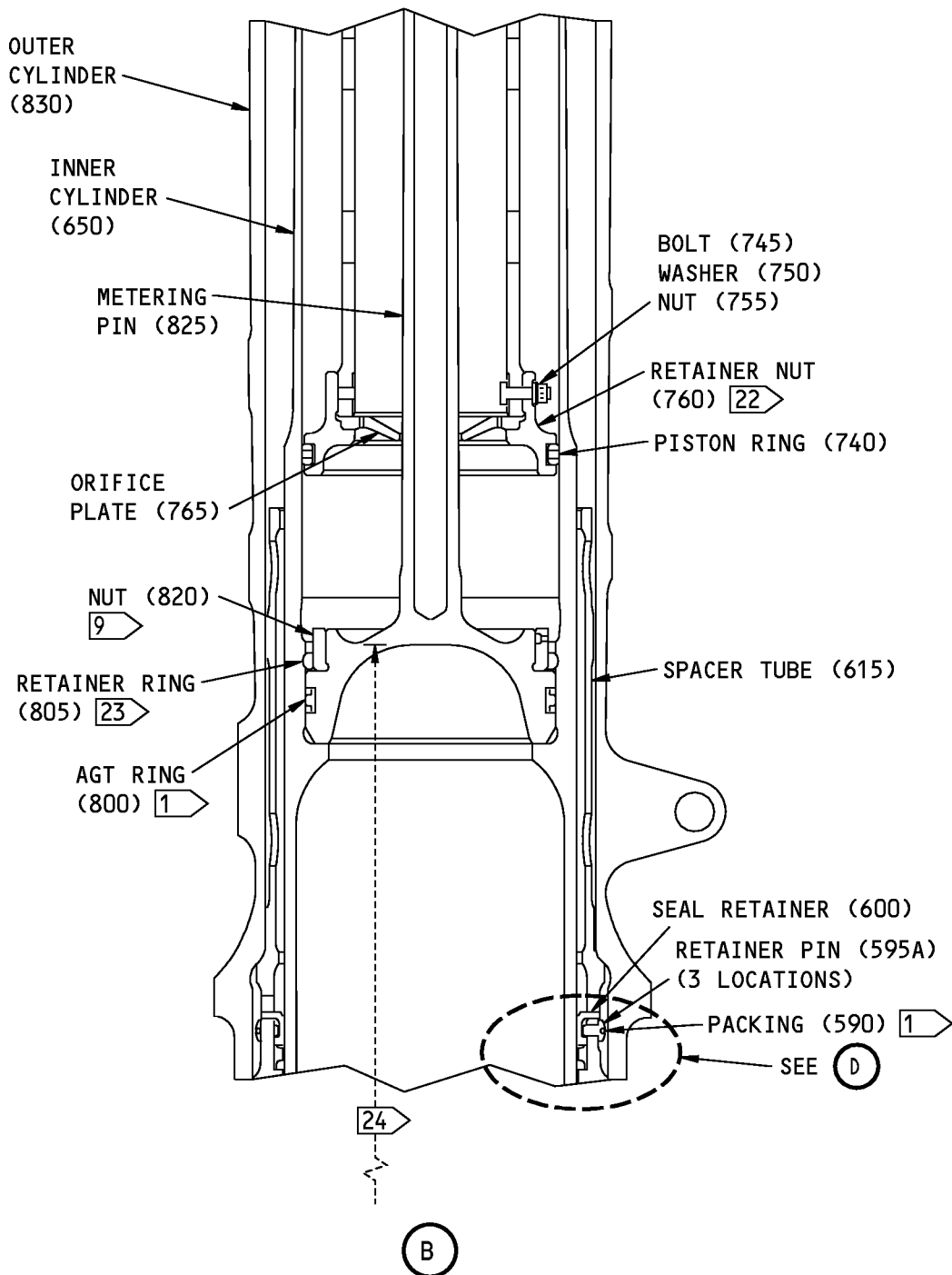
A

Main Landing Gear Component Assembly
Figure 701 (Sheet 3 of 14)

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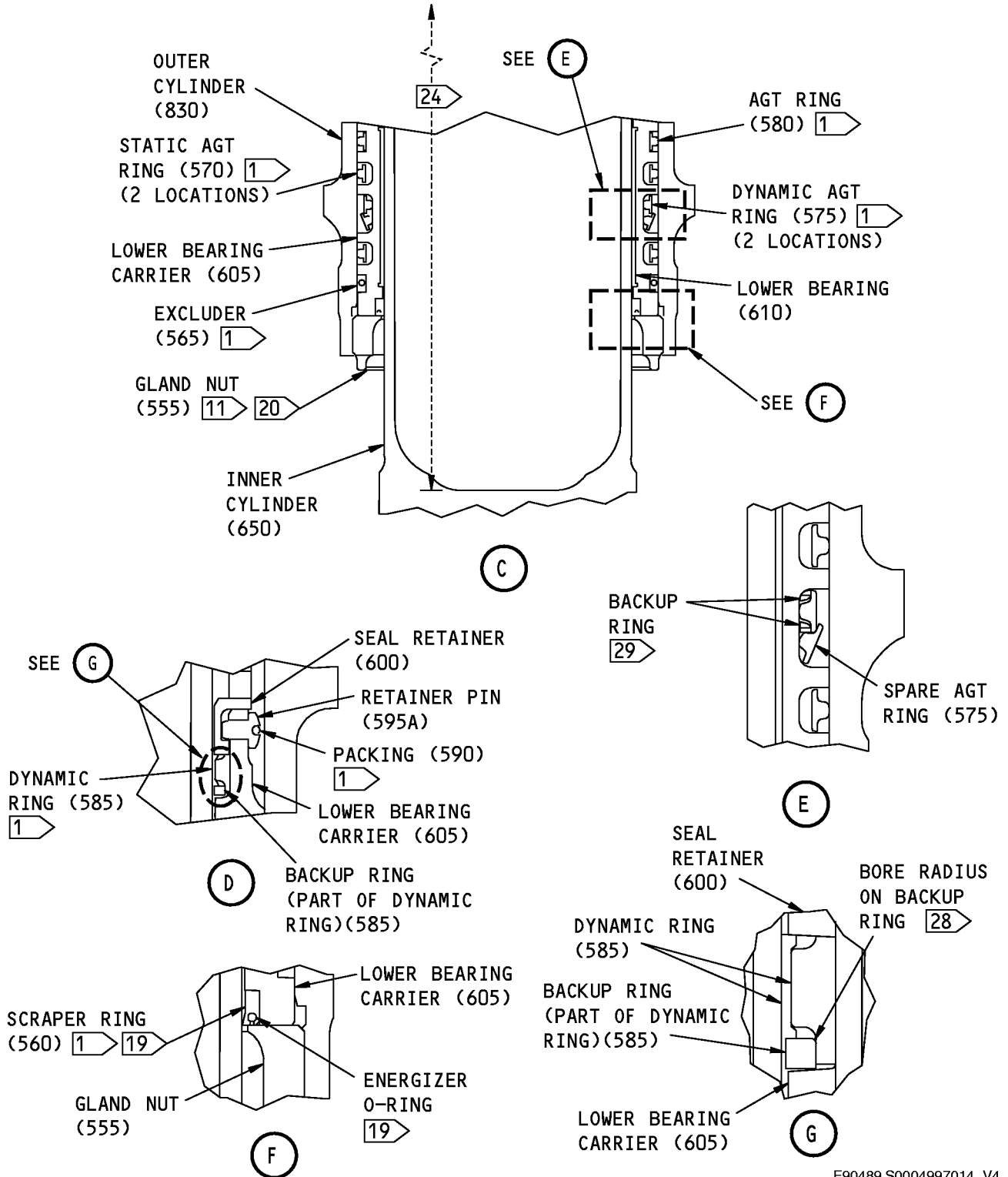
F90434 S0004997013_V3

Main Landing Gear Component Assembly
Figure 701 (Sheet 4 of 14)

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ASSEMBLY
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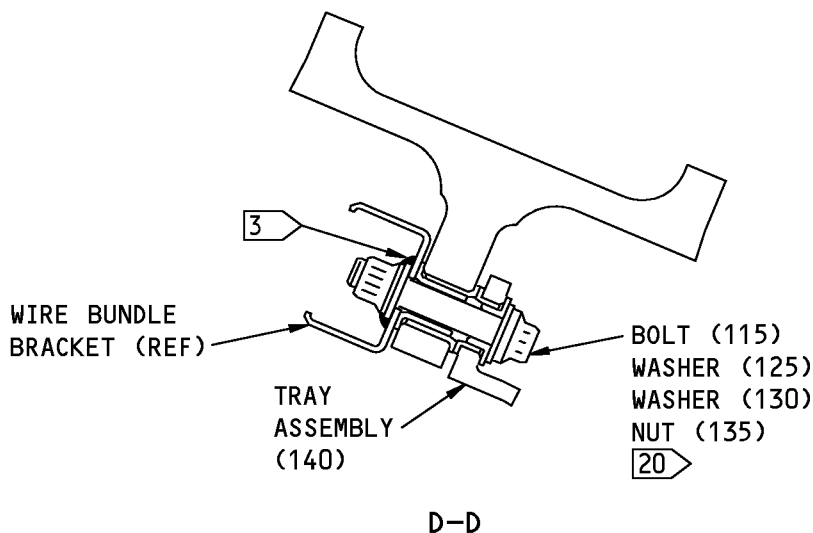
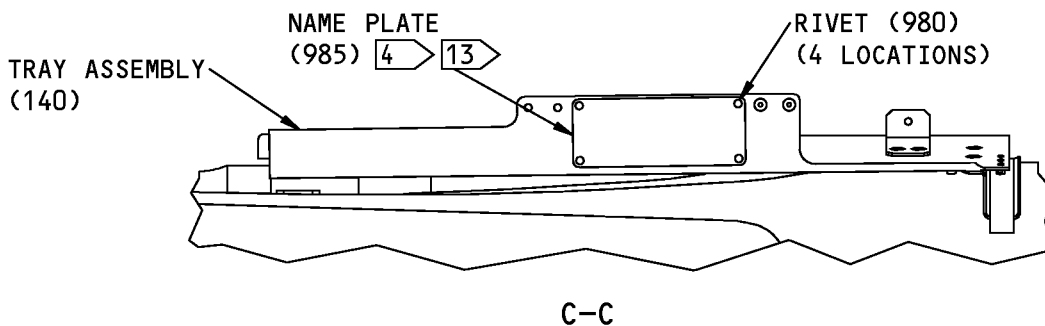
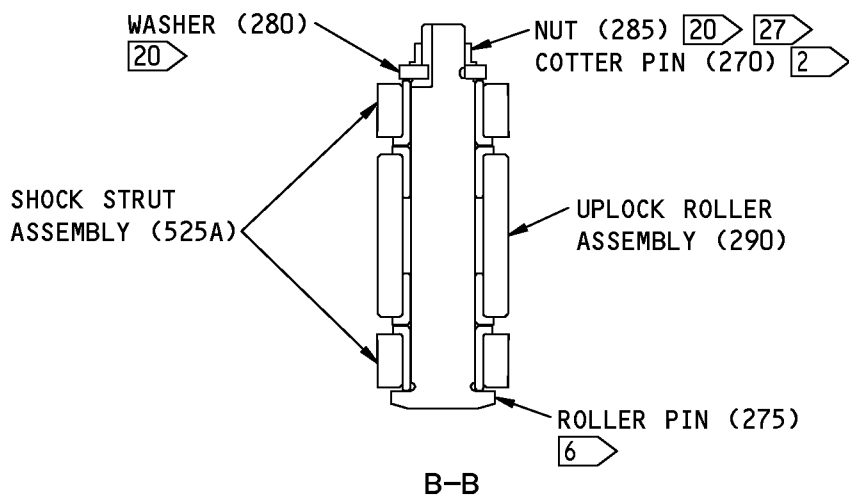
F90489 S0004997014_V4

Main Landing Gear Component Assembly
Figure 701 (Sheet 5 of 14)

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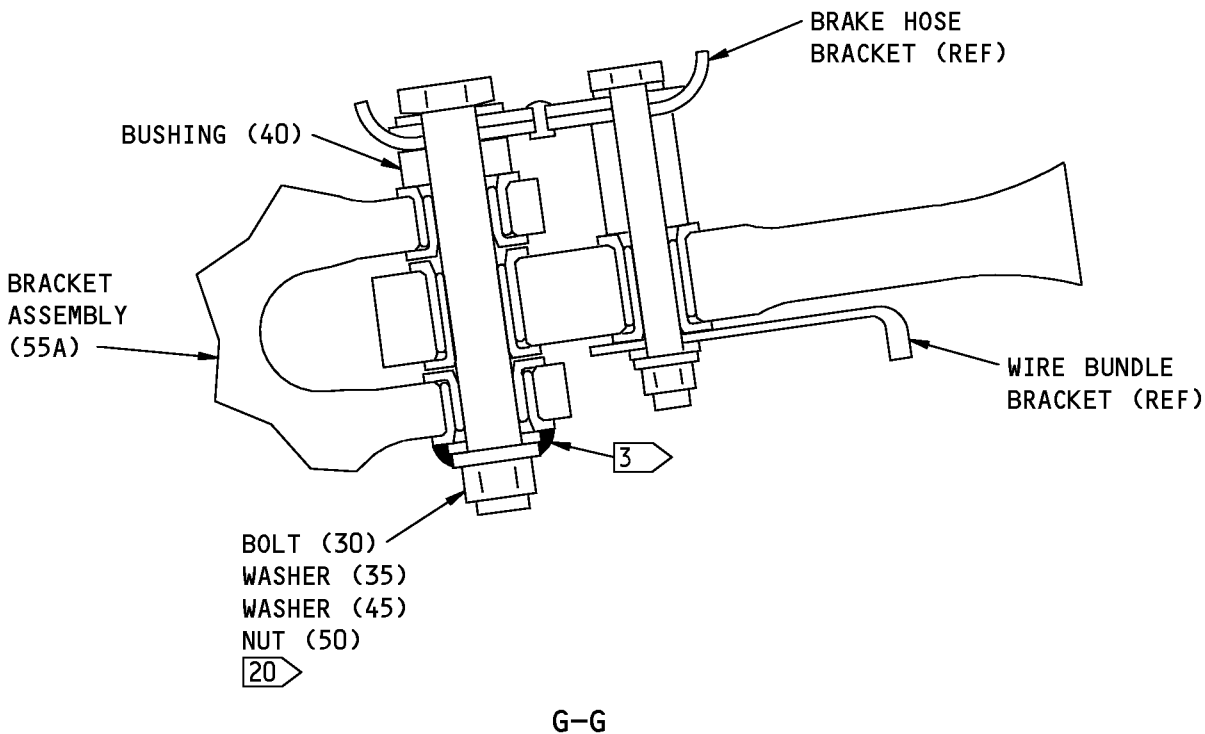
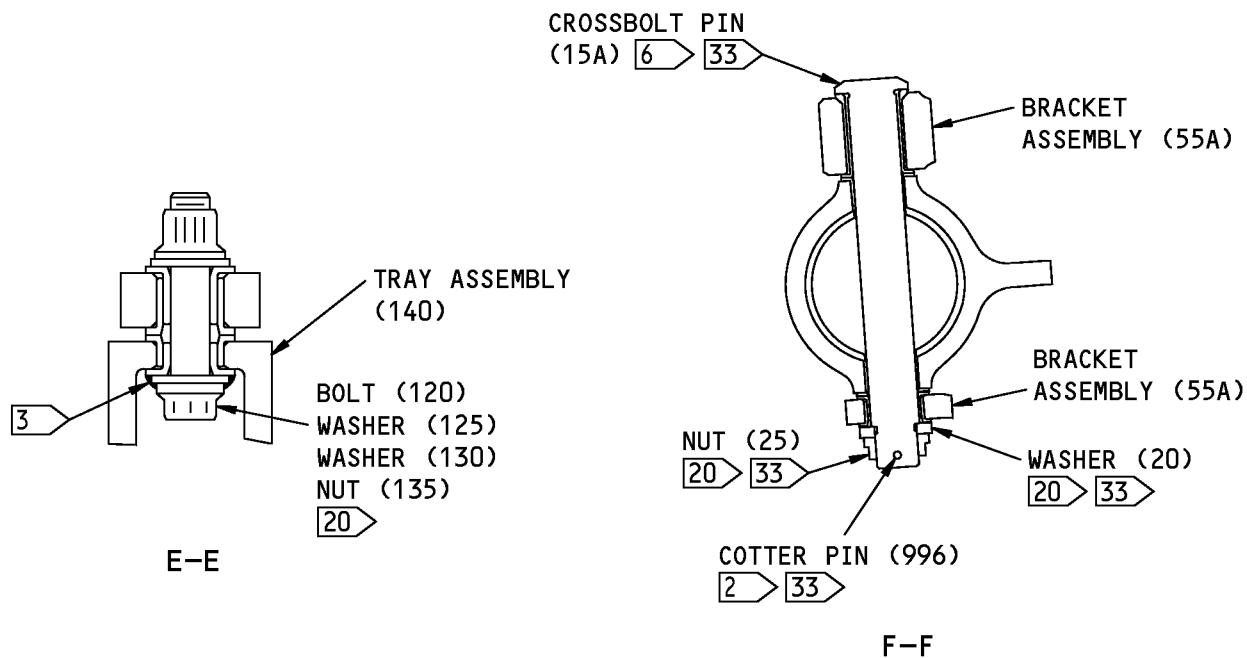
F90736 S0004997015_V2

Main Landing Gear Component Assembly
Figure 701 (Sheet 6 of 14)

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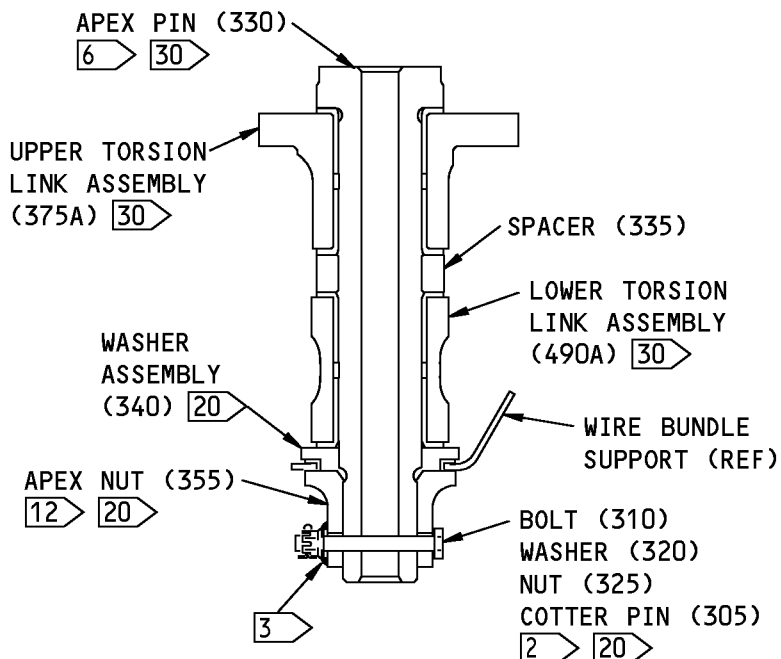
F91316 S0004997016_V2

Main Landing Gear Component Assembly
Figure 701 (Sheet 7 of 14)

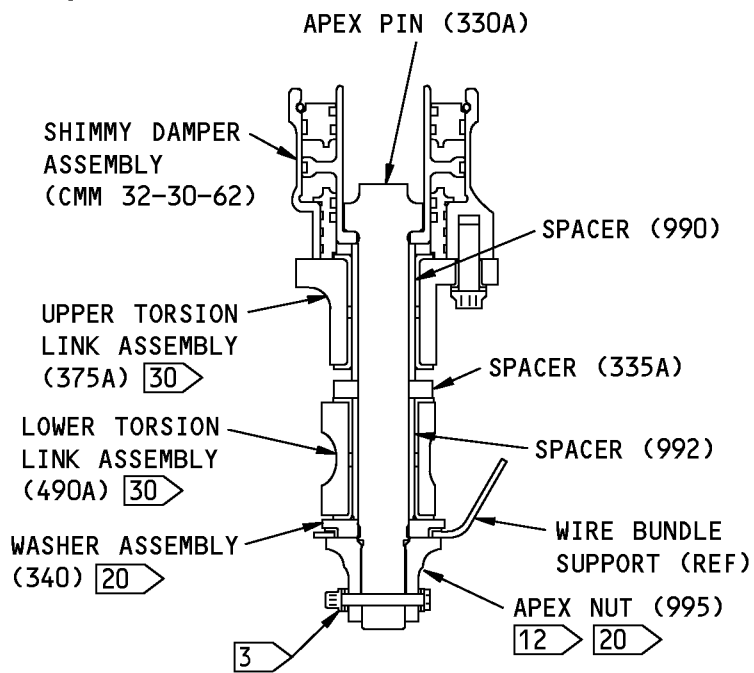
32-11-12

ASSEMBLY
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PRE SB 32-1312 CONFIGURATION
(NO SHIMMY DAMPER)
H-H



POST SB 32-1312 CONFIGURATION
H-H

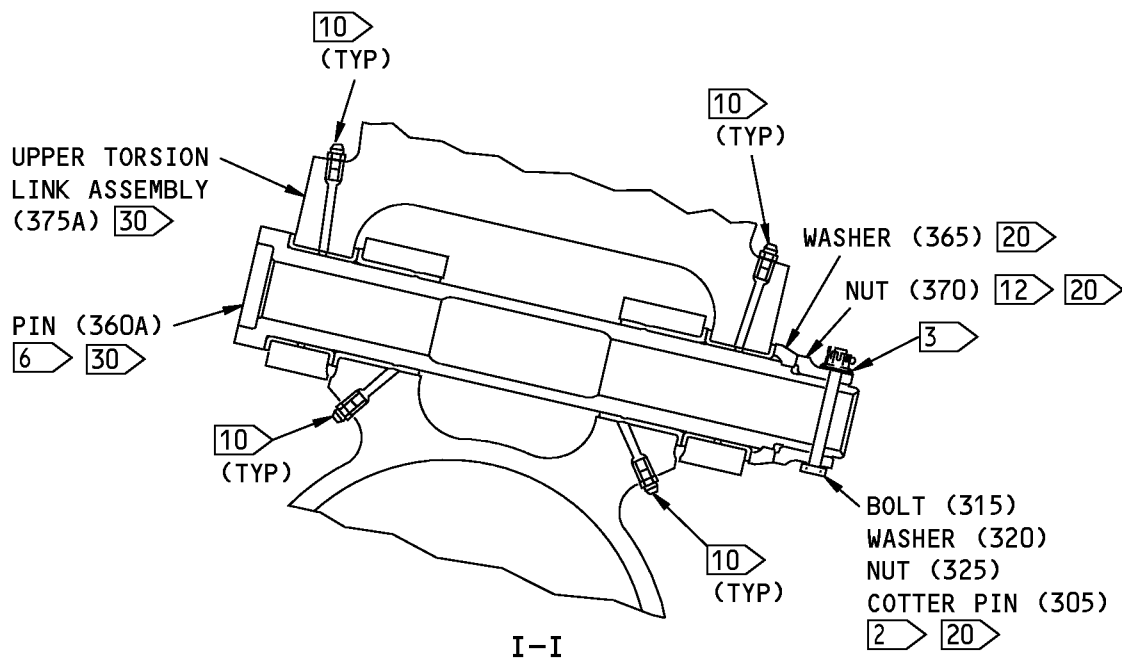
F91575 S0004997017_V4

Main Landing Gear Component Assembly
Figure 701 (Sheet 8 of 14)

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ASSEMBLY
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W24701 S0004997018_V3

Main Landing Gear Component Assembly
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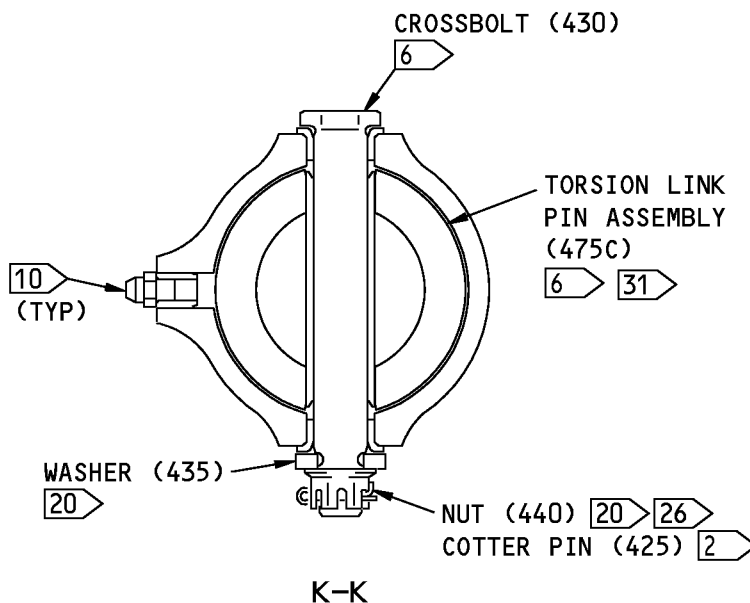
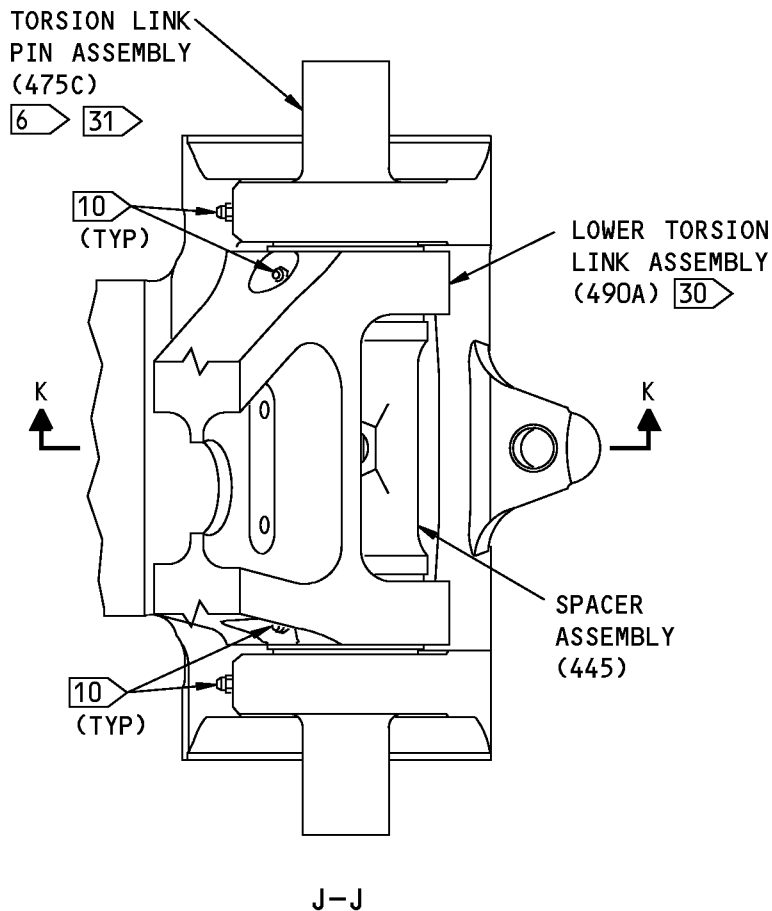
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F91678 S0004997019_V2

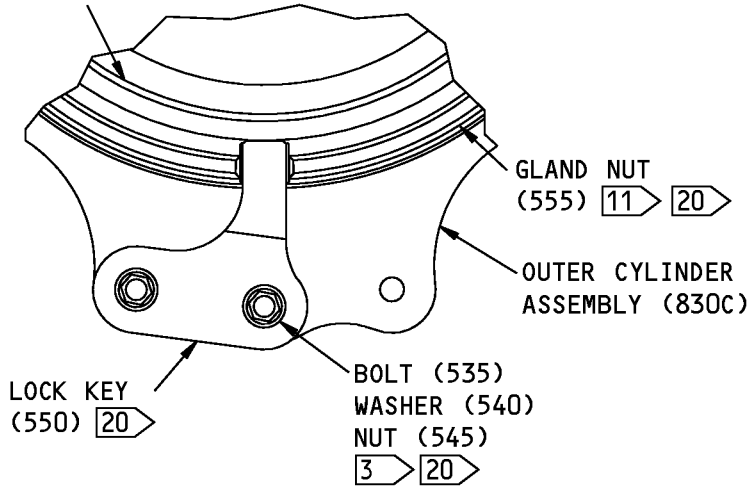
Main Landing Gear Component Assembly
Figure 701 (Sheet 10 of 14)

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ASSEMBLY
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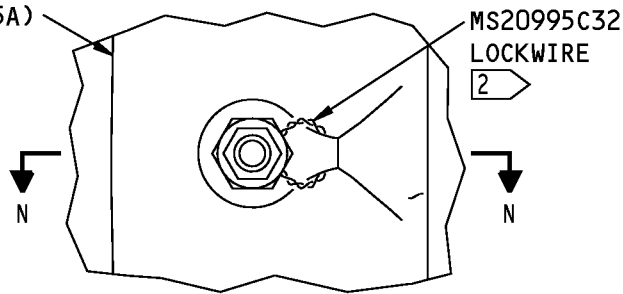
COMPONENT MAINTENANCE MANUAL

INNER CYLINDER
ASSEMBLY (650A)



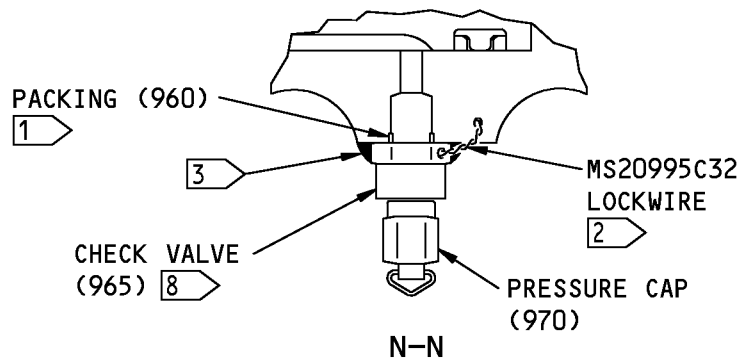
L-L

SHOCK STRUT
ASSEMBLY (525A)



161A1100-5,-6,-9,-10,-13,-14

M-M



N-N

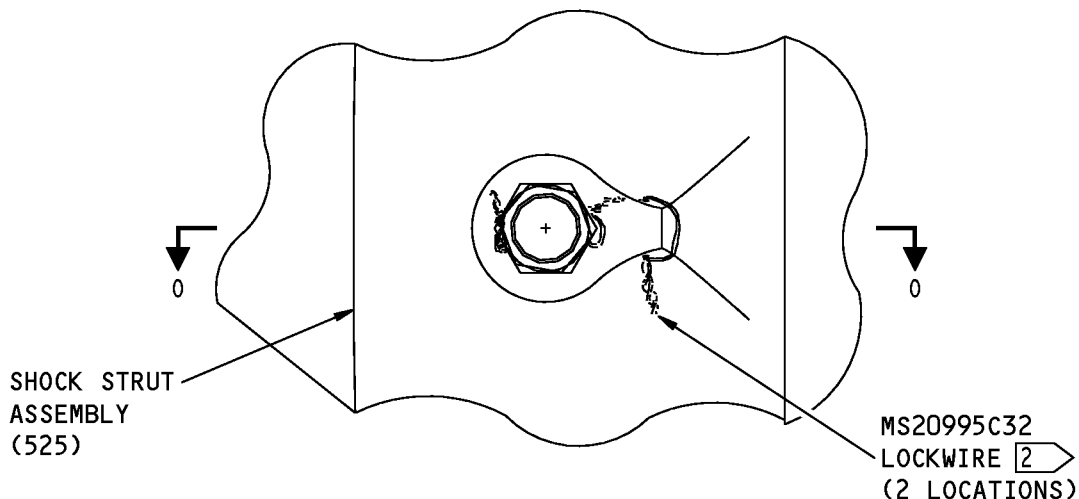
F91747 S0004997020_V3

Main Landing Gear Component Assembly
Figure 701 (Sheet 11 of 14)

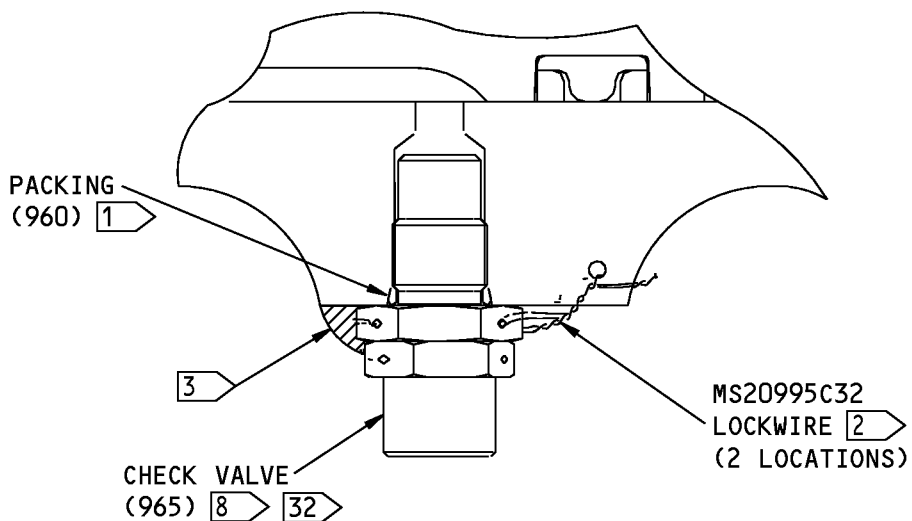
32-11-12

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161A1100-15 AND ON
M-M



161A1100-15 AND ON
0-0

1505641 S0000274910_V1

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COMPONENT MAINTENANCE MANUAL

- 1 WET THE SEAL WITH HYDRAULIC FLUID. WIPE THE MATING SURFACES WITH HYDRAULIC FLUID
- 2 INSTALL THE LOCKWIRE BY THE DOUBLE TWIST PROCEDURE OR INSTALL THE COTTER PIN (SOPM 20-50-02)
- 3 APPLY BMS 8-45 TAMPER PROOF PUTTY AFTER ASSEMBLY SO THAT THE SEAL BREAKS IF THE PARTS ARE ADJUSTED
- 4 MANUFACTURER, SERIAL NUMBER, ORDER NUMBER AND PART NUMBER LOCATION
- 5 LUBRICATE THE THREADS WITH HYDRAULIC FLUID. TIGHTEN THE BODY TO 11-13 POUND-FEET
TIGHTEN THE SWIVEL NUT TO 5-7 POUND-FEET
- 6 LUBRICATE THE CHROME PLATED SURFACES OF THE PINS WITH BMS 3-33 GREASE BEFORE ASSEMBLY
- 7 TIGHTEN TO 50-58 POUND-FEET ABOVE RUN-ON TORQUE. LOOSEN THE NUT TO ALIGN WITH THE NEAREST CASTELLATION
- 8 SOLVENT CLEAN THE VALVE (SOPM 20-30-03). REMOVE ALL THE SOLVENT BEFORE INSTALLATION. LUBRICATE THE THREADS WITH HYDRAULIC FLUID AND INSTALL THE VALVE. TIGHTEN IT TO 22-25 POUND-FEET
- 9 TIGHTEN TO 75-100 POUND-FEET
- 10 LUBRICATE WITH BMS 3-33 GREASE AFTER ASSEMBLY
- 11 TIGHTEN TO 125-150 POUND-FEET. LOOSEN TO ALIGN THE NEAREST NUT SLOT WITH THE TAB OF THE LOCK PLATE, IF NECESSARY
- 12 TIGHTEN TO 50-58 POUND-FEET. TIGHTEN MORE, TO ALIGN TO THE NEXT CASTELLATION WITH THE HOLE IN THE PIN. DO NOT TIGHTEN MORE THAN 150 POUND-FEET
- 13 BOND WITH TYPE 93 ADHESIVE (SOPM 20-50-12). APPLY BMS 5-95 SEALANT AROUND THE EDGES OF THE NAMEPLATE AFTER YOU INSTALL THE RIVETS. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE SURFACE AND THE FILLETED AREAS
- 14 CLEAN THE PAINTED SURFACES (SOPM 20-30-03) TO GET THE TAPE. INSTALL ONE WRAP OF 3M-8412 MYLAR TAPE WHERE THE STRAP WILL GO. MAKE THE ENDS OF THE TAPE OVERLAP APPROXIMATELY ONE INCH. MAKE SURE THE STRAP DOES NOT TOUCH THE OUTER CYLINDER
- 15 WITH THE SHOCK STRUT IN THE VERTICAL POSITION AND FULLY COMPRESSED, FILL WITH 869.7 CUBIC INCHES MINIMUM OF HYDRAULIC FLUID, UNTIL THE FLUID OVERFLOWS
- 16 REMOVE THE SHIPPING TAG BEFORE FLIGHT
- 17 SHIPPING INSTRUCTIONS: MAKE SURE THE SHOCK STRUT IS DEPRESSURIZED AND PREPARED AS FOLLOWS:
 1. PRESERVATION - GIVE PROTECTION TO THE SHOCK STRUT (SOPM 20-44-02)
 2. PACKAGING - COMPRESS THE INNER CYLINDER (PISTON) TO WITHIN ONE INCH OF THE FULLY COMPRESSED POSITION. PACK THE UNIT IN A BOEING/SUPPLIER APPROVED SHIPPING CONTAINER

F87600 S0004997021_V3

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- 18 ASSEMBLE WITH THE 287A6105 BRACKET INSTALLATION (CMM 32-11-16, IPL FIG. 1). TIGHTEN THE NUT TO 160-190 POUND-INCHES. LOOSEN TO THE NEAREST CASTELLATION
- 19 CAUTION: INSTALL THE SCRAPER WITH THE ENERGIZER (O-RING) AWAY FROM THE LOWER BEARING
- 20 APPLY A THIN LAYER OF BMS 3-27 OR BMS 3-38 CORROSION PREVENTIVE COMPOUND TO THE THREADS, THREAD RELIEFS, SPLINES AND WASHER FACES BEFORE ASSEMBLY. WIPE OFF UNWANTED COMPOUND
- 21 MAKE SURE THE VALVE SLIDES FREELY, AFTER IT IS INSTALLED IN THE INNER CYLINDER
- 22 TIGHTEN THE RETAINER NUT TO HOLD THE ORIFICE PLATE WITH NO GAPS. LOOSEN THE NUT, IF NECESSARY, TO ALIGN WITH THE NEAREST CROSS BOLT HOLES. INSTALL THE CROSS BOLT
- 23 TO INSTALL THE RETAINER RING, COMPRESS THE RETAINER RING AND TIGHTEN THE RETAINER NUT TO HOLD THE RETAINER RING COMPRESSED. WHEN THE RING IS IN THE INSTALLED POSITION LOOSEN THE NUT AND LET THE RING EXPAND INTO THE GROOVE. TIGHTEN THE NUT AS SPECIFIED AND MAKE SURE THE RING IS HELD IN THE GROOVE
- 24 APPLY MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO THE INTERNAL SURFACES, UP TO THE BASE OF THE METERING PIN
- 25 APPLY MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO THE NOTED SURFACES OF THE ORIFICE SUPPORT TUBE, AND TO THE INTERNAL SURFACES OF THE OUTER CYLINDER ABOVE THE ORIFICE SUPPORT TUBE
- 26 TIGHTEN TO 160-190 POUND-INCHES. LOOSEN TO THE NEAREST CASTELLATION
- 27 TIGHTEN TO 21-25 POUND-Feet TORQUE. LOOSEN TO THE NEAREST CASTELLATION
- 28 INSTALL WITH THE RADIUS OF THE BACKUP RING TOWARD THE SEAL RING.
- 29 INSTALL ONLY THIS ONE SET OF BACKUP RINGS, AND INSTALL THE TILTED AGT RING WITHOUT ITS BACKUP RINGS
- 30 THESE PARTS ARE NOT INSTALLED OPPOSITE. LEFT AND RIGHT INSTALLATION OF THESE PARTS ARE THE SAME
- 31 TURN THE PART AS SHOWN. THIS POSITION IS VERY IMPORTANT FOR INSTALLATION OF THE WHEELS AND BRAKES
- 32 TIGHTEN THE CAP TO 5-7 POUND-Feet
- 33 INSTALL THESE FASTENERS ONLY TEMPORARILY. DO NOT BEND THE COTTER PIN TO FINAL CONFIGURATION. THESE PARTS WILL BE REMOVED LATER WHEN THE LANDING GEAR IS INSTALLED ON THE AIRPLANE

ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

F87621 S0004997022_V5

Main Landing Gear Component Assembly
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ASSEMBLY

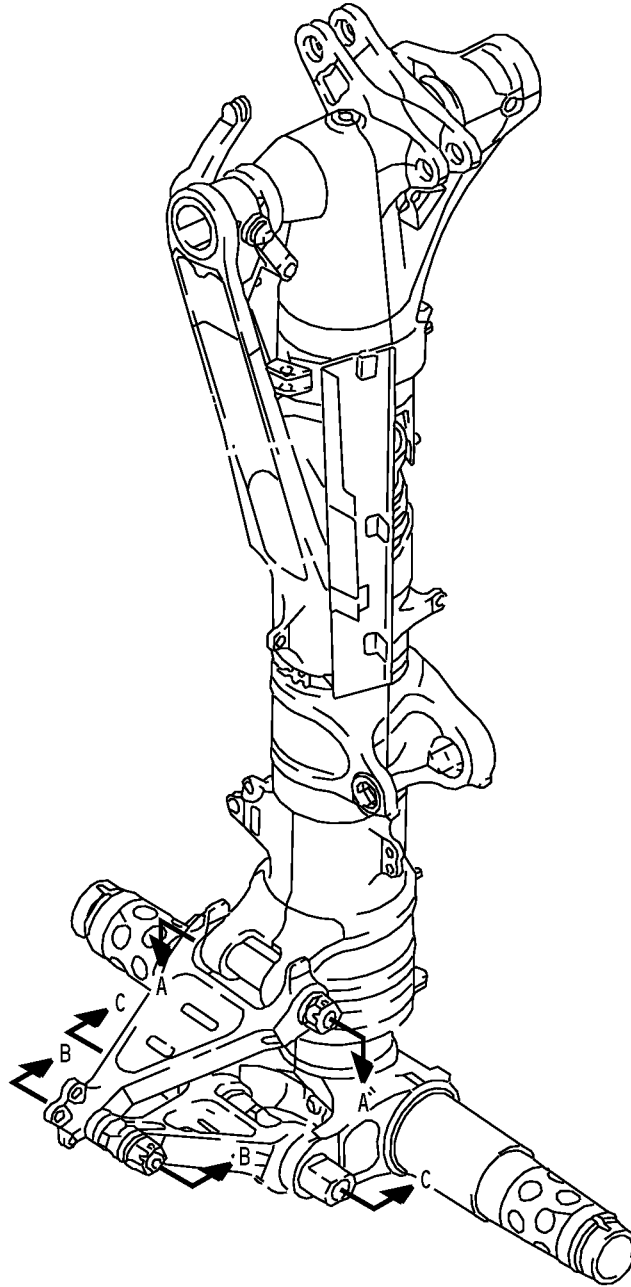
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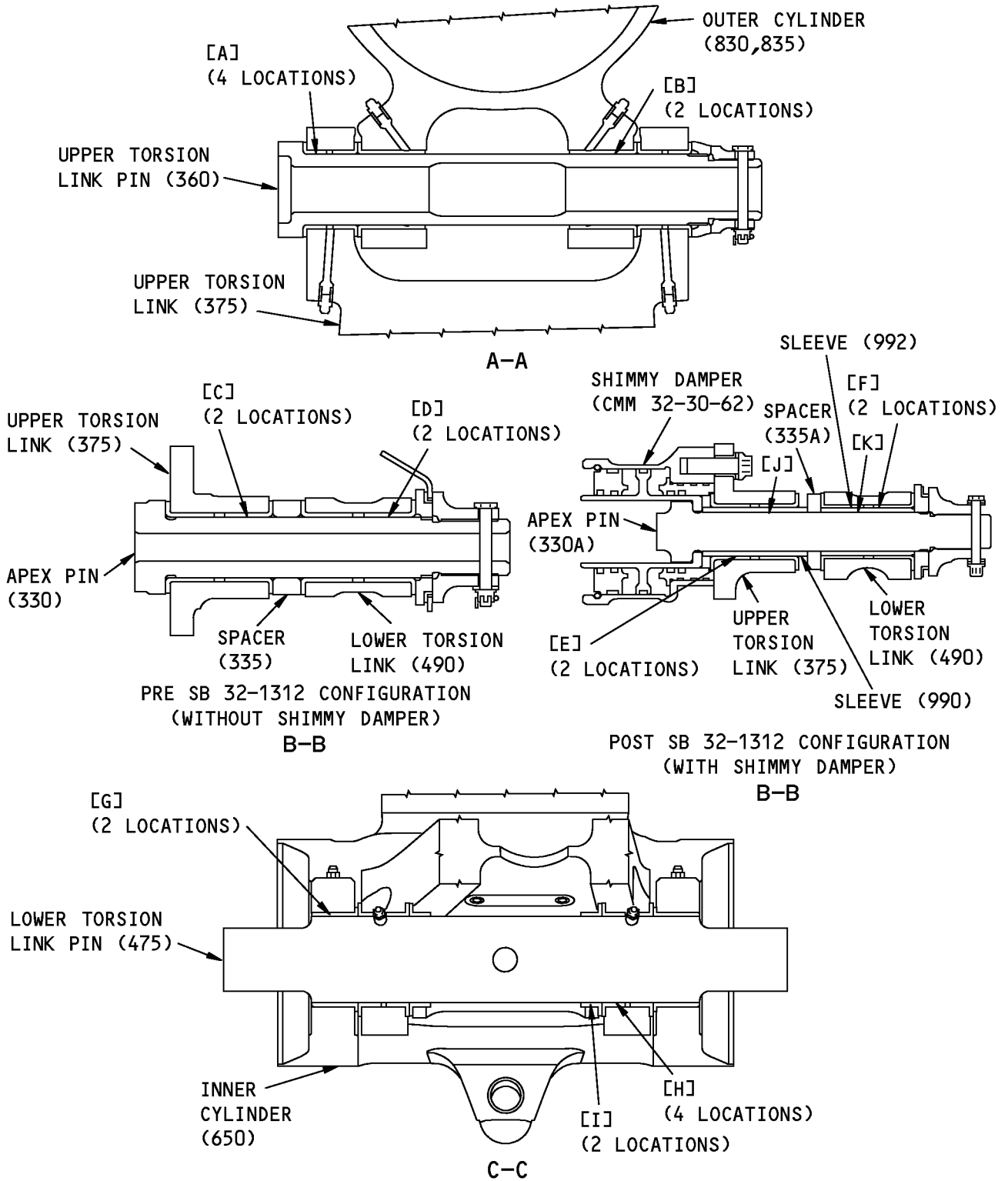
COMPONENT MAINTENANCE MANUAL

FITS AND CLEARANCES



Fits and Clearances
Figure 801 (Sheet 1 of 4)

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Fits and Clearances
Figure 801 (Sheet 2 of 4)

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FITS AND CLEARANCES

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REF LETTER	REF IPL	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. 1, MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[A]	ID 405	1.8750	1.8765	0.0010	0.0035	1.8703	1.8802	0.0062
	OD 360	1.8730	1.8740					
[A]	ID 405A	2.0000	2.0015	0.0010	0.0035	1.9952	2.0053	0.0063
	OD 360C	1.9980	1.9990					
[B]	ID 942	1.8750	1.8765	0.0010	0.0035	1.8803	1.8802	0.0062
	OD 360	1.8730	1.8740					
[B]	ID 942A	2.0000	2.0015	0.0010	0.0035	1.9952	2.0053	0.0063
	OD 360C	1.9980	1.9990					
[C]	ID 395	1.3750	1.3765	0.0010	0.0040	1.3701	1.3804	0.0064
	OD 330	1.3725	1.3740					
[D]	ID 515	1.3750	1.3762	0.0010	0.0037	1.3704	1.3801	0.0061
	OD 330	1.3725	1.3740					
[E]	ID 395	1.3750	1.3762	0.0010	0.0042	1.3697	1.3805	0.0065
	OD 990	1.3720	1.3740					
[E]	ID 395A	1.4390	1.4402	0.0010	0.0042	1.4336	1.4446	0.0066
	OD 990A	1.4360	1.4380					
[F]	ID 515	1.3750	1.3762	0.0020	0.0052	1.3690	1.3805	0.0075
	OD 992	1.3710	1.3730					
[F]	ID 515A	1.4980	1.4992	0.0020	0.0052	1.4916	1.5036	0.0076
	OD 992A	1.4940	1.4960					
[G]	ID 730	2.5000	2.5015	0.0010	0.0040	2.4943	2.5062	0.0072
	OD 475	2.4975	2.4990					

Fits and Clearances
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FITS AND CLEARANCES

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COMPONENT MAINTENANCE MANUAL

REF LETTER	REF IPL	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. 1, MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[H]	ID 505	2.5000	2.5015	0.0010	0.0040	2.4943	2.5062	0.0072
	OD 475	2.4975	2.4990					
[I]	ID 460	2.5000	2.5015	0.0010	0.0040	2.4943	2.5062	0.0072
	OD 475	2.4975	2.4990					
[J]	ID 990	1.1260	1.1280	0.0020	0.0055	1.1204	1.1316	0.0076
	OD 330A	1.1225	1.1240					
[J]	ID 990A	1.1885	1.1905	0.0020	0.0055	1.1828	1.1942	0.0077
	OD 330E	1.1850	1.1865					
[K]	ID 992	1.1260	1.1280	0.0020	0.0055	1.1204	1.1316	0.0076
	OD 330A	1.1225	1.1240					
[K]	ID 992A	1.1885	1.1905	0.0020	0.0055	1.1828	1.1942	0.0077
	OD 330E	1.1850	1.1865					

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
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FITS AND CLEARANCES
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REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	285	Nut		21-25
1	355	Nut		50-58 1
1	370	Nut		95-115
1	440	Nut	160-190	
1	555	Nut		125-150
1	770	Nut		75-100
1	820	Nut		75-100
1	955	Valve (Body)		11-13
1	955	Valve (Nut)		5-7
1	965	Valve		22-25
1	995	Nut		50-58 1

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

1 TIGHTEN MORE IF NECESSARY TO ALIGN NEXT CASTELLATION WITH HOLE IN PIN. FINAL TORQUE MUST NOT BE MORE THAN 150 LB-FT

W24740 S0004997027_V2

Torque Table
Figure 802

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FITS AND CLEARANCES
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COMPONENT MAINTENANCE MANUAL

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-1864	Equipment - Puller, MLG Axle Sleeve Assembly	C32032-57	81205
SPL-9432	Holding Fixture - MLG	C32037-1	81205
SPL-9505	Equipment - Removal/Installation, MLG Orifice Tube and Metering Pin	C32042-61	81205
SPL-9507	Replacement Equipment - Lower Bearing Seals, MLG	C32017-43	81205
		Opt: C32017-1	81205
SPL-10997	Adapter Assy - Wrench, Hook Spanner - 737-600/700/800/900	F80033-8	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

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SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

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COMPONENT MAINTENANCE MANUAL

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

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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
01673	AIRDROME PRECISION COMPONENTS 3251 E AIRPORT WAY LONG BEACH, CALIFORNIA 90806-2407 FORMERLY AIRDROME PARTS CO
06710	LAMSON AND SESSIONS CO THE VALLEY-TODECO 12975 BRADLEY AVENUE SYLMAR, CALIFORNIA 91342-3830 FORMERLY VALLEY BOLT CORP VB0097 IN NORTH HOLLYWOOD, CA
09257	BUSAK AND SHAMBAN INC SEALS DIV 2531 BREMER DR PO BOX 176 FORT WAYNE, INDIANA 46801 FORMERLY SHAMBAN, W S AND CO
11815	CHERRY AEROSPACE FASTENERS DIV OF TEXTRON 1224 EAST WARNER AVENUE PO BOX 2157 SANTA ANA, CALIFORNIA 92707-0157 FORMERLY IN LOS ANGELES, CALIF , FORMERLY CHERRY FASTENERS TOWNSEND DIV OF TEXTRON INC V71087
14242	VOSS INDUSTRIES INC 2168 WEST 25TH STREET CLEVELAND, OHIO 44113-4115
15653	ALCOA GLOBAL FASTENERS INC DIV KAYNAR PRODUCTS 800 S STATE COLLEGE BLVD FULLERTON, CALIFORNIA 92831-3001 FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH FORMERLY FAIRCHILD FASTENERS KAYNAR DIV

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Code	Name
27238	BRISTOL INDUSTRIES 630 EAST LAMBERT ROAD PO BOX 630 BREA, CALIFORNIA 92621-4119
39661	MENASCO INC CALIFORNIA DIV SUB OF COLT IND INC 1ST & CEDAR STREET PO BOX 7071 BURBANK, CALIFORNIA 91510 FORMERLY V75662 FORMERLY HOWMET CORP AEROSYSTEMS
50632	KAMATICS CORP SUB OF KAMAN CORP 1335 BLUE HILLS ROAD BLOOMFIELD, CONNECTICUT 06002-1304
50808	UNITED SUPPLY CO INC 3676 S BROADWAY PLACE LOS ANGELES, CALIFORNIA 90007-4432
52828	REPUBLIC FASTENER MFG CORP 1300 RANCHO CONEJO BLVD NEWBURY PARK, CALIFORNIA 91320-1405 FORMERLY IN SYLMAR, CALIFORNIA
56878	SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV 301 HIGHLAND AVE JENKINTOWN, PENNSYLVANIA 19046 FORMERLY STANDARD PRESSED STEEL FORMERLY IN SALT LAKE, UTAH
5F573	GREENE TWEED AND CO ILP DBA GREENE TWEED AND CO 2075 DETWILER RD KULPSVILLE, PENNSYLVANIA 19443-0305
62554	SIMMONDS MECAERO FASTENERS INC 1734 SEQUOIA AVENUE ORANGE, CALIFORNIA 92668
72962	HARVARD INDUSTRIES INC 3 WERNER WAY SUITE 210 LEBANON, NEW JERSEY 08833 FORMERLY ESNA V7A079 FORMERLY ELASTIC STOP NUT IN UNION, NJ

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Code	Name
76381	MINNESOTA MINING AND MFG CO 3M CENTER ST. PAUL, MINNESOTA 55144-1000 FORMERLY MINNESOTA MINING & MFG CO BUSINESS PRODUCTS SALES DIV V28218
80539	SPS TECHNOLOGIES INC DIV AERPSOACE - SANTA ANA 2701 SOUTH HARBOR BOULEVARD SANTA ANA, CALIFORNIA 92704-5803 FORMERLY NUTT-SHEL DIV OF SPC WESTERN CO V80539 AND STANDARD PRESSED STEEL WESTERN DIV V17279
8W928	EATON AEROQUIP INC CLAMP PRODUCTS DIV RT 2 BOX 361 MEADOWBROOK RD EASTANOLLEE, GEORGIA 30538-0361 FORMERLY AEROQUIP CORP IN TOCCOA, GEORGIA
94581	NATIONAL UTILITIES CORP/NUCO 1700 HICKORY DRIVE PO BOX 14639 FORT WORTH, TEXAS 76117-6020 FORMERLY IN MONROVIA, CALIFORNIA; FORMERLY V2D588
97928	Replaced: [V97928] SEE V17446 HUCK INTL by Code: Name and Address below 17446: HUCK INTL INC AEROSPACE FASTENER DIV 900 WATSON CENTER ROAD CARSON, CALIFORNIA 90745-4201 FORMERLY V32134 REXNORD INC; FORMERLY V97928 HUCK INTL
99240	CRISSAIR, INCORPORATED 38905 10TH STREET EAST PALMDALE, CALIFORNIA 93550-4000 FORMERLY IN EL SEGUNDO, CALIFORNIA
F0224	SIMMONDS SA FAIRCHILD FASTENERS ST COSME ST COSME EN VAIRAIS F-72580, FRANCE
U6153	SENSITITRE LTD EAST GRINSTEAD, W SUSSES UNITED KINGDOM OBSOLETE, LOCATION OF COMPANY UNKNOWN

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NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
102A9201-3		1	225	1
		1	245	7
102LH9031-6		1	135	2
102LH90316		1	135	2
161A0102-1		1	20	1
		1	20A	1
161A1100-10		1	5B	RF
161A1100-11		1	525B	1
161A1100-12		1	530B	1
161A1100-13		1	1D	RF
161A1100-14		1	5C	RF
161A1100-15		1	1E	RF
161A1100-16		1	5D	RF
161A1100-17		1	525C	1
161A1100-18		1	530C	1
161A1100-19		1	1F	RF
161A1100-20		1	5E	RF
161A1100-21		1	525D	1
161A1100-22		1	530D	1
161A1100-23		1	1G	RF
161A1100-24		1	5F	RF
161A1100-25		1	525E	1
161A1100-26		1	530F	1
161A1100-27		1	1H	RF
161A1100-27REVB		1	1M	RF
161A1100-28		1	5G	RF
161A1100-28REVB		1	5M	RF
161A1100-29		1	525F	1
161A1100-3		1	525	1
161A1100-30		1	530E	1
161A1100-31		1	1J	RF
161A1100-31REVB		1	1N	RF
161A1100-32		1	5H	RF
161A1100-32REVB		1	5N	RF

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1100-33		1	525G	1
161A1100-34		1	530G	1
161A1100-35		1	1K	RF
161A1100-36		1	5J	RF
161A1100-37		1	525H	1
161A1100-38		1	530H	1
161A1100-39		1	1L	RF
161A1100-39REVB		1	1P	RF
161A1100-4		1	530	1
161A1100-40		1	5L	RF
161A1100-40REVB		1	5P	RF
161A1100-41REVA		1	1Q	RF
161A1100-42REVA		1	5Q	RF
161A1100-43		1	525J	1
161A1100-44		1	530J	1
161A1100-45REVA		1	1R	RF
161A1100-46REVA		1	5R	RF
161A1100-47		1	525K	1
161A1100-48		1	530K	1
161A1100-49REVA		1	1S	RF
161A1100-5		1	1B	RF
161A1100-50REVA		1	5S	RF
161A1100-51		1	525L	1
161A1100-52		1	530L	1
161A1100-53REVA		1	1T	RF
161A1100-54REVA		1	5T	RF
161A1100-55		1	525M	1
161A1100-56		1	530M	1
161A1100-6		1	5A	RF
161A1100-7		1	525A	1
161A1100-8		1	530A	1
161A1100-9		1	1C	RF
161A1110-1		1	830	1
		1	830L	1
161A1110-10		1	835M	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1110-11		1	945H	1
161A1110-12		1	950H	1
161A1110-13		1	830Q	1
161A1110-14		1	835Q	1
161A1110-15		1	945M	1
161A1110-16		1	950M	1
161A1110-2		1	835	1
		1	835F	1
161A1110-3		1	945	1
161A1110-4		1	950	1
161A1110-5		1	830C	1
		1	830M	1
161A1110-6		1	835C	1
		1	835N	1
161A1110-7		1	945C	1
161A1110-8		1	950C	1
161A1110-9		1	830K	1
161A1112-1		1	855	1
161A1112-2		1	860	1
161A1112-3		1	855A	1
161A1112-4		1	860B	1
161A1113-1		1	935	1
161A1113-2		1	940	1
161A1113-3		1	942	2
161A1113-4		1	942A	2
161A1114-1		1	885	2
161A1115-1		1	865	4
161A1115-2		1	870	4
161A1115-3		1	875	2
161A1115-4		1	880	2
161A1115-5		1	867	2
		1	867A	2
161A1115-6		1	872	2
		1	872A	2
161A1116-1		1	830B	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	830N	1
161A1116-10		1	835K	1
161A1116-11		1	945F	1
161A1116-12		1	950F	1
161A1116-13		1	830R	1
161A1116-14		1	835R	1
161A1116-15		1	945K	1
161A1116-16		1	950K	1
161A1116-2		1	835B	1
		1	835G	1
161A1116-3		1	945B	1
161A1116-4		1	950B	1
161A1116-5		1	830E	1
161A1116-6		1	835E	1
161A1116-7		1	945E	1
161A1116-8		1	950E	1
161A1116-9		1	830H	1
161A1117-1		1	875A	2
161A1117-2		1	875B	2
161A1118-1		1	830A	1
		1	830F	1
161A1118-10		1	835L	1
161A1118-11		1	945G	1
161A1118-12		1	950G	1
161A1118-13		1	830P	1
161A1118-14		1	835P	1
161A1118-15		1	945J	1
161A1118-16		1	950J	1
161A1118-17		1	830S	1
161A1118-18		1	835S	1
161A1118-19		1	945L	1
161A1118-2		1	835A	1
		1	835J	1
161A1118-20		1	950L	1
161A1118-3		1	945A	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1118-4		1	950A	1
161A1118-5		1	830D	1
		1	830G	1
161A1118-6		1	835D	1
		1	835H	1
161A1118-7		1	945D	1
161A1118-8		1	950D	1
161A1118-9		1	830J	1
161A1119-1		1	910	3
161A1119-2		1	915	3
161A1119-3		1	890	2
161A1119-4		1	895	2
161A1119-5		1	920	4
161A1119-6		1	925	4
161A1119-7		1	900	1
161A1119-8		1	905	1
161A1120-1		1	650	1
161A1120-2		1	650A	1
161A1120-3		1	650B	1
161A1120-4		1	650C	1
161A1121-1		1	700	1
161A1121-2		1	735	1
161A1123-1		1	715	1
161A1124-1		1	720	2
161A1124-2		1	720A	2
161A1125-1		1	725	2
161A1125-2		1	730	2
161A1126-1		1	700A	1
161A1126-2		1	735A	1
161A1126-3		1	700C	1
161A1126-4		1	735C	1
161A1127-1		1	670	2
161A1128-1		1	660	1
161A1128-2		1	660A	1
		1	660B	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1128-3		1	660C	1
161A1129-1		1	700B	1
161A1129-2		1	735B	1
161A1130-1		1	675	1
161A1130-2		1	695	1
161A1130-3		1	675A	1
161A1130-4		1	695A	1
161A1130-5		1	675B	1
161A1130-6		1	695B	1
161A1130-7		1	675C	1
161A1130-8		1	695C	1
161A1131-1		1	685	2
161A1132-1		1	680	2
161A1133-1		1	690	1
161A1133-3		1	690A	1
161A1140-1		1	375	1
161A1140-2		1	420	1
161A1140-3		1	375A	1
161A1140-4		1	420A	1
161A1140-5		1	375B	1
161A1140-6		1	420B	1
161A1142-1		1	490	1
161A1142-2		1	520	1
161A1142-3		1	490A	1
161A1142-4		1	520A	1
161A1142-5		1	490B	1
161A1142-6		1	520B	1
161A1144-1		1	405	4
161A1144-2		1	505	4
161A1144-3		1	395	2
161A1144-4		1	515	2
161A1144-5		1	405A	4
161A1144-6		1	395A	2
161A1144-7		1	505A	4
161A1144-8		1	515B	2

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1145-1		1	330	1
161A1146-1		1	360	1
161A1146-2		1	360A	1
161A1146-3		1	360B	1
161A1146-4		1	360C	1
161A1147-1		1	475	1
161A1147-10		1	485D	1
161A1147-2		1	485	1
161A1147-3		1	475A	1
161A1147-4		1	485A	1
161A1147-5		1	475B	1
161A1147-6		1	485B	1
161A1147-7		1	475C	1
161A1147-8		1	485C	1
161A1147-9		1	475D	1
161A1148-1		1	355	1
161A1149-1		1	345	1
161A1150-1		1	825	1
161A1152-1		1	795	1
161A1152-2		1	795A	1
161A1154-1		1	555	1
161A1155-1		1	550	1
161A1156-1		1	805	1
161A1157-1		1	595A	3
161A1158-1		1	610	1
161A1159-1		1	615	1
161A1160-1		1	740	1
161A1161-1		1	765	1
161A1162-1		1	620	1
161A1163-1		1	630	2
161A1164-1		1	625	1
161A1165-1		1	600	1
161A1166-1		1	785	1
161A1167-1		1	635	1
161A1167-2		1	640	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1167-3		1	645	1
161A1167-4		1	635C	1
161A1167-5		1	645A	1
161A1167-6		1	640A	1
161A1168-1		1	605	1
161A1169-1		1	810	1
161A1169-2		1	820	1
161A1170-1		1	770	1
161A1170-2		1	780	1
161A1171-1		1	760	1
161A1180-1		1	985	1
161A1181-1		1	290	1
161A1181-2		1	300	1
161A1182-1		1	275	1
161A1184-1		1	280	1
161A1190-1		1	15	1
161A1190-2		1	15A	1
161A1190-3		1	15B	1
161A1195-1		1	335	1
161A1196-1		1	340	1
161A1196-2		1	350	1
161A1197-1		1	390	4
161A1197-2		1	410	1
161A1197-3		1	415	1
161A1197-4		1	390A	4
161A1200-10		1	60B	1
161A1200-11		1	105B	1
161A1200-12		1	110B	1
161A1200-13		1	55C	1
161A1200-14		1	60C	1
161A1200-15		1	105C	1
161A1200-16		1	110C	1
161A1200-5		1	55A	1
161A1200-6		1	60A	1
161A1200-7		1	105A	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1200-8		1	110A	1
161A1200-9		1	55B	1
161A1202-1		1	75	1
161A1202-10		1	70A	1
161A1202-11		1	75B	1
161A1202-12		1	80B	1
161A1202-2		1	80	1
161A1202-3		1	95	2
161A1202-4		1	100	2
161A1202-7		1	75A	1
161A1202-8		1	80A	1
161A1202-9		1	65A	1
161A1204-1		1	85	1
161A1204-2		1	90	1
161A1204-3		1	85A	1
161A1204-4		1	90A	1
161A1204-5		1	85B	1
161A1204-6		1	90B	1
161A1210-1		1	370	1
161A1210-2		1	370A	1
161A1211-1		1	480	1
161A1211-2		1	480A	1
161A1212-1		1	445	1
161A1212-2		1	470	1
161A1212-3		1	445A	1
161A1212-4		1	470A	1
161A1213-1		1	460	2
161A1213-2		1	465	2
161A1213-3		1	465A	2
161A1214-1		1	330A	1
161A1214-2		1	330B	1
161A1214-3		1	330C	1
		1	994	1
161A1214-4		1	994A	1
161A1215-1		1	355A	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	995	1
161A1216-1		1	365	1
161A1216-2		1	365A	1
161A1217-1		1	340A	1
161A1217-2		1	350A	1
161A1218-1		1	335A	1
161A1219-1		1	990	1
161A1220-1		1	992	1
161A1221-1		1	430	1
161A1221-2		1	430A	1
161A1222-1		1	435	1
161A1222-2		1	435A	1
161A1315-1		1	140	1
161A1315-2		1	145	1
161A1315-3		1	140A	1
161A1315-4		1	145A	1
161A1316-1		1	230	1
161A1316-2		1	235	1
161A1316-3		1	260	1
161A1316-4		1	265	1
161A1316-5		1	230A	1
161A1316-6		1	235A	1
161A1318-1		1	185	1
161A1318-2		1	190	1
161A1318-3		1	227	1
161A1318-4		1	227A	1
161A1319-1		1	155	1
161A1319-2		1	155A	1
161A1320-1		1	200	2
161A1320-2		1	215	1
161A1321-1		1	210	3
161A1321-2		1	205	3
161A1322-1		1	165	2
161A1322-2		1	175	1
161A1323-1		1	255	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A1323-2		1	255A	1
161A1323-3		1	268	1
161A1323-4		1	269	1
161W7010-1		1	385	3
		1	455	1
		1	500	3
		1	710	4
		1	850	7
162T1518-1		1	775	1
		1	815	1
1C3976		1	965A	1
265-44100-160-6050		1	585	1
		1	585B	1
265-44101-161-6050		1	585A	1
295-44100-965-5010		1	575	2
2C9342		1	965	1
3140AC086E		1	975	1
		1	975A	1
		1	975C	1
3140AC087E		1	975D	1
		1	975F	1
3140AC088E		1	975B	1
		1	975E	1
353-44100-312G		1	560	1
		1	560C	1
353-44100-330G		1	560B	1
354-44503-330G		1	565B	1
3M8412		1	977	AR
67832CD624		1	135	2
7433MT160P8		1	800	1
7442MTE160P8		1	790	1
7445MT160		1	570	2
		1	570B	2
7445MT160P8		1	580	1
AP1008-4		1	970	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
AS15004-1		1	450A	1
		1	495A	3
		1	705A	4
		1	840A	6
AS15004-2		1	845A	1
AS1660-0268		1	565A	1
		1	565D	1
BAC27WLG41		1	952	2
BACB28BA0612025		1	40	1
BACB28Y4F041		1	400	4
		1	510	2
BACB30LE6U16		1	120	1
BACB30LE6U19		1	115	1
BACB30LM4-11		1	535A	2
BACB30LM4-9		1	745A	1
BACB30LM4DU32		1	315B	1
BACB30LM4DU34		1	315A	1
BACB30NR6K36		1	30	1
BACC10FY086TE		1	975	1
		1	975A	1
		1	975C	1
		1	975D	1
BACC10FY087TE		1	975F	1
		1	975B	1
BACC10FY088TE		1	975E	1
		1	970	1
BACC14AD4		1	970	1
BACN10HR6CD		1	135	2
BACN10JR3CD		1	225	1
		1	245	7
BACN10YR4CD		1	545	2
		1	755	1
BACN10YR6CD		1	50	1
BACN11N107CD		1	440B	1
BACN11N108CD		1	285A	1
		1	440A	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
BACN11N110CD		1	667	1
		1	667B	1
BACN11N114CD		1	25	1
		1	25C	1
BACN11N116CD		1	25B	1
BACN11N4CD		1	327A	1
BACP18BC02A06P		1	307A	1
BACP18BC03A10P		1	270A	1
		1	425A	1
BACP18BC04A12H		1	655A	1
BACR15BA3AD		1	240	14
BACR15BA3AD4C		1	220	2
		1	240A	14
BACR15BA5AD8C		1	195	12
BACR15BB5AD5C		1	160A	4
BACR15BB6AD5C		1	150	3
BACR15BB6AD6C		1	170	2
BACR15BB6AD7C		1	180	3
		1	267	2
BACR15CE5AD		1	250	2
BACW10BN6AC		1	35	1
BACW10BN6UC		1	125	2
BACW10BN6UP		1	130	2
BACW10BP6DP		1	45	1
BC1083-086TE		1	975	1
		1	975A	1
		1	975C	1
BC1083-087TE		1	975D	1
		1	975F	1
BC1083-088TE		1	975B	1
		1	975E	1
BCREF12323		1	930	2
BCREF12760		1	585	1
		1	585B	1
BCREF12761		1	575	2

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
BCREF12762		1	295	2
BCREF56193		1	585A	1
BH00303CM6		1	135	2
		1	135	2
BMN5024CWD3-6		1	135	2
BMN5024CWD36		1	135	2
BR2000C3D		1	225	1
		1	245	7
CR60306		1	135	2
H51560		1	135	2
H51560-6		1	135	2
H52732-4CD		1	545	2
		1	755	1
H52732-6CD		1	50	1
K51601-3BAC		1	225	1
		1	245	7
KJB165100B12-050		1	295	2
KJB165100B12-066		1	930	2
MODREF102029		1	5P	RF
MODREF102030		1	1P	RF
MODREF102031		1	5N	RF
MODREF102032		1	1N	RF
MODREF102033		1	5M	RF
MODREF102034		1	1M	RF
MODREF282846		1	1Q	RF
MODREF282847		1	5Q	RF
MODREF293905		1	1R	RF
MODREF293906		1	5R	RF
MODREF293907		1	1S	RF
MODREF293908		1	5S	RF
MODREF293909		1	1T	RF
MODREF293910		1	5T	RF
MMS122		1	972	AR
MS14144L4		1	325	1
		1	327	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
MS14145L10		1	667A	1
MS14145L14		1	25A	1
MS14145L7		1	440	1
MS14145L8		1	285	1
MS15004-1		1	380	3
		1	450	1
		1	495	3
		1	705	4
		1	840	6
MS15004-2		1	845	1
MS24665-153		1	305	1
		1	307	1
MS24665-304		1	270	1
		1	425	1
MS24665-374		1	996	1
MS28775-171		1	590	1
MS28778-5		1	960	1
MS28889-2		1	955	1
NAS1149E0432P		1	540	2
		1	750	1
NAS1149E0463R		1	320	1
		1	322	1
NAS1149E1032P		1	665	1
NAS1149E1063P		1	665A	1
NAS1398D4A2		1	980	4
NAS6704-11		1	535	2
NAS6704-9		1	745	1
NAS6704DU		1	310C	1
NAS6704DU25		1	310B	1
NAS6704DU26		1	310A	1
NAS6704DU28		1	310	1
NAS6704DU32		1	315	1
NE103336-086		1	975	1
		1	975A	1
		1	975C	1

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PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
NE103336-087		1	975D	1
		1	975F	1
NE103336-088		1	975B	1
		1	975E	1
NE354C5		1	977A	AR
NS202439-02		1	225	1
		1	245	7
P3301-445P096		1	565	1
		1	565C	1
PBZF0A0004		1	790B	1
PHCR54CDBACN		1	327A	1
PLH54CD		1	545	2
		1	755	1
PLH56CD		1	50	1
S34702-433BAK29		1	800A	1
S34702-445BAK29		1	580B	1
S34706-445BAK		1	570C	2
S37402-445BAK		1	570A	2
S37967-441G99		1	560A	1
		1	560D	1
SL7108C6		1	135	2
SL7108C624		1	135	2
THCR516CDBACH		1	25B	1
THCR57CDBACH		1	440B	1
THCR58CDBACH		1	285A	1
		1	440A	1
US2103-4		1	970	1
VCU0005D		1	135	2

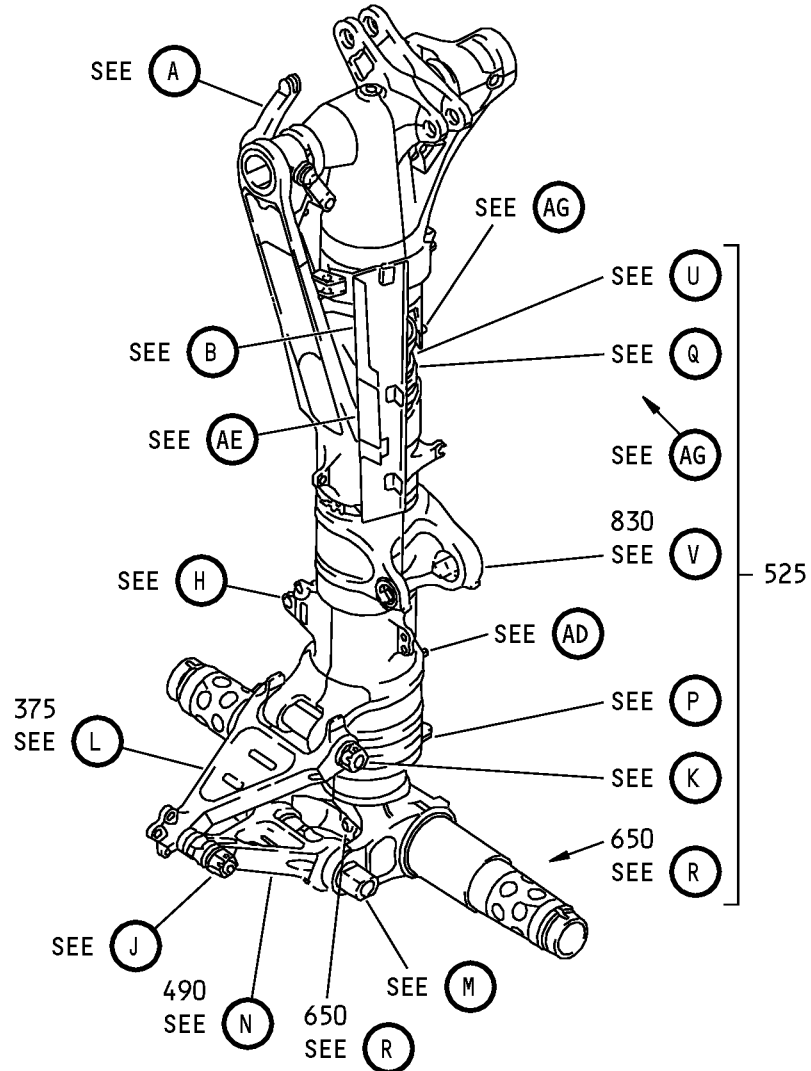
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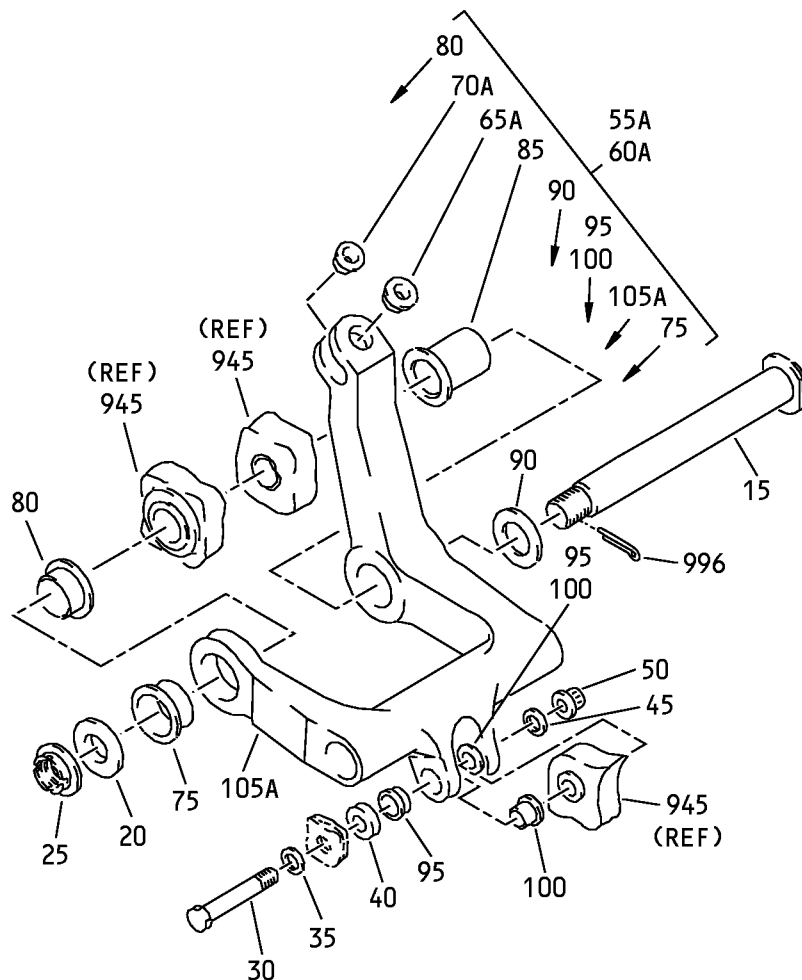
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Main Landing Gear Component Assembly
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A

F89108 S0004997032_V2

Main Landing Gear Component Assembly
IPL Figure 1 (Sheet 2 of 20)

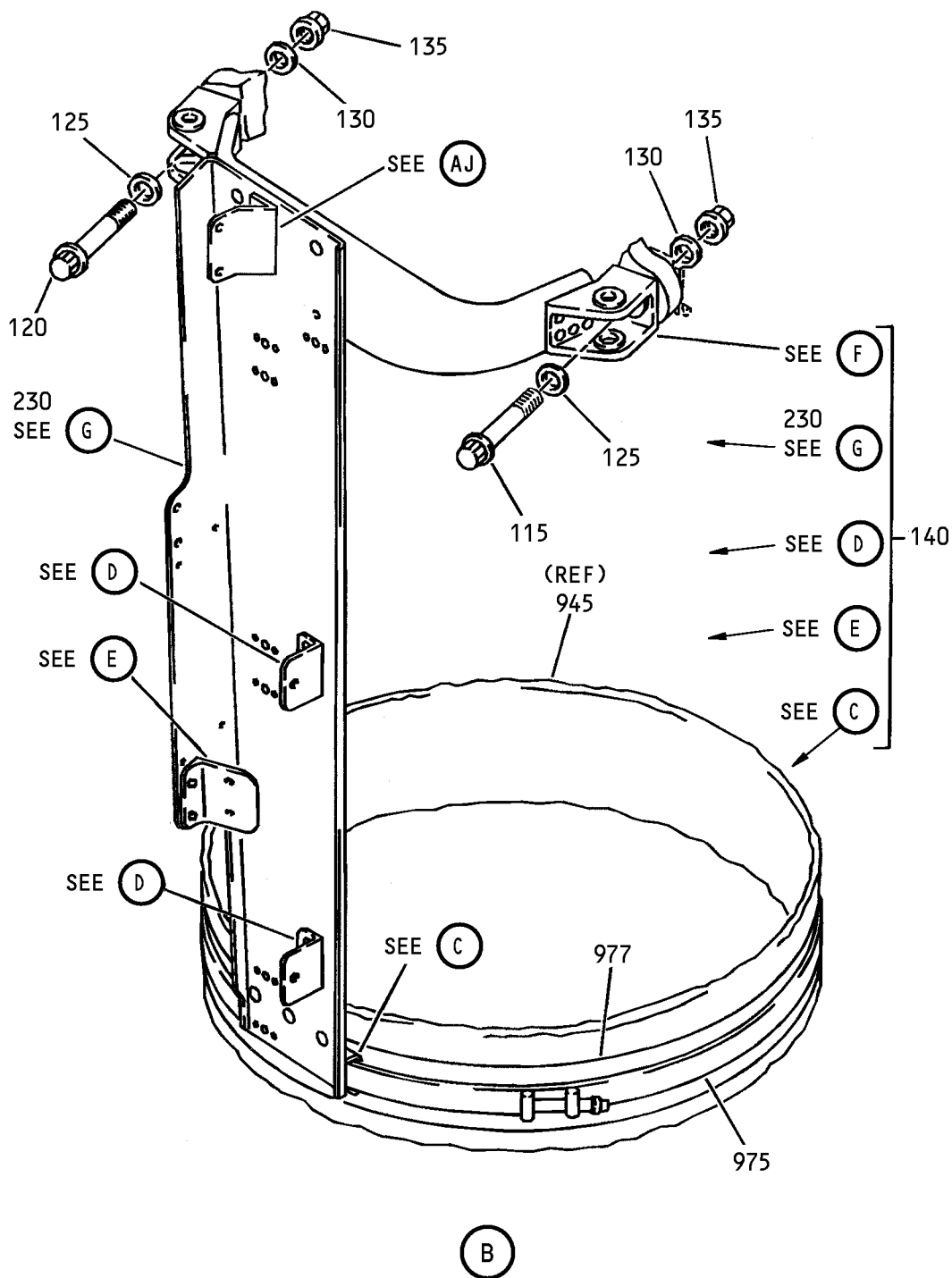
32-11-12

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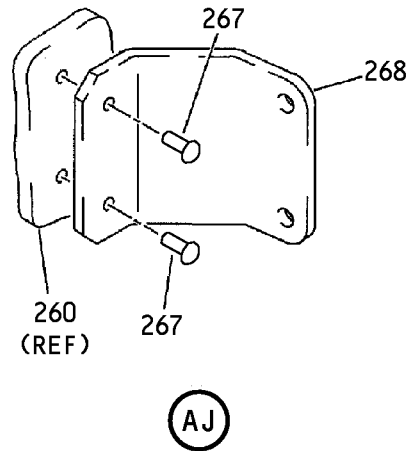
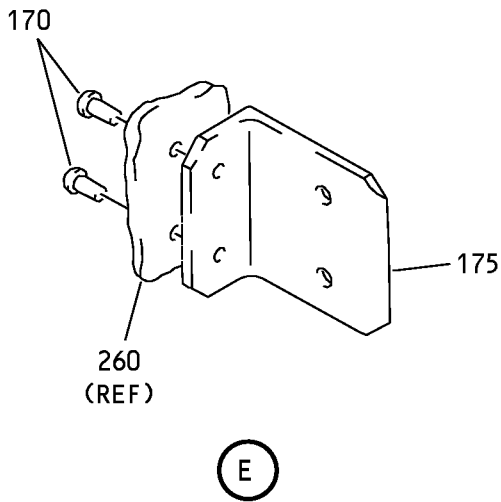
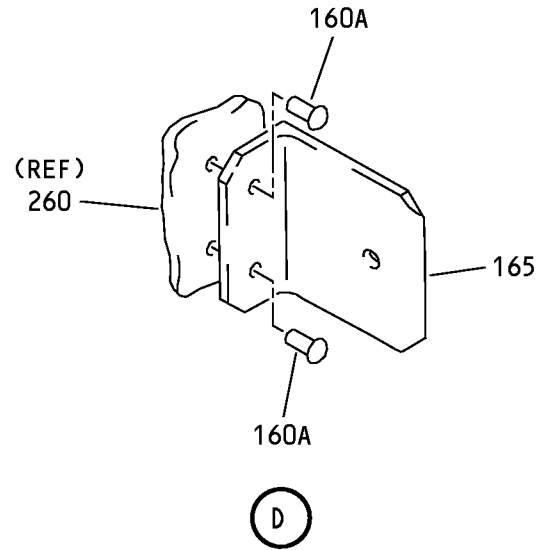
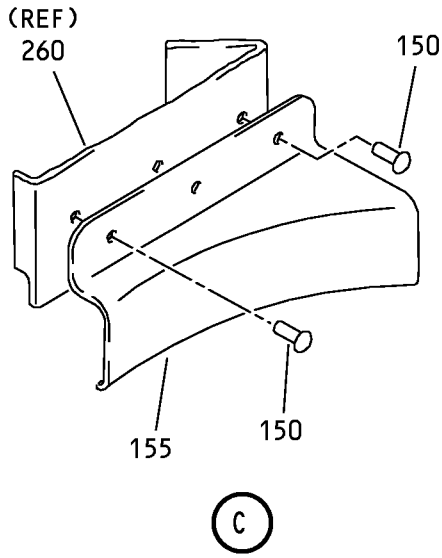


F89114 S0004997033_V3

Main Landing Gear Component Assembly
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F89113 S0004997034_V2

Main Landing Gear Component Assembly
IPL Figure 1 (Sheet 4 of 20)

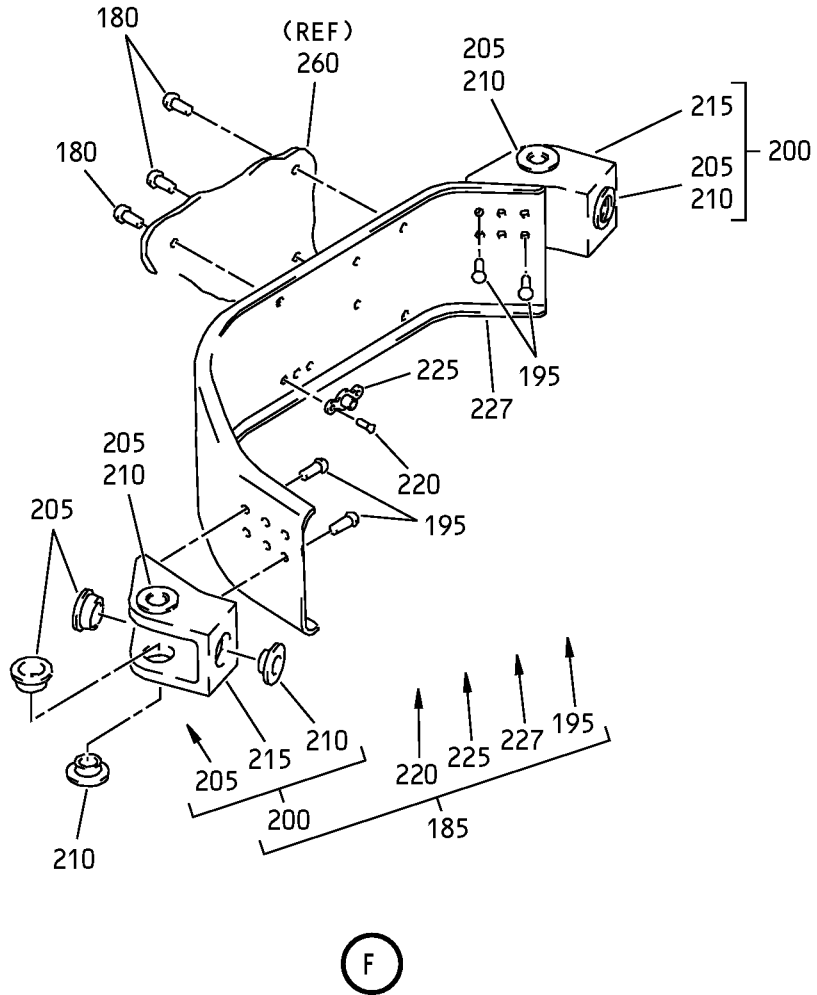
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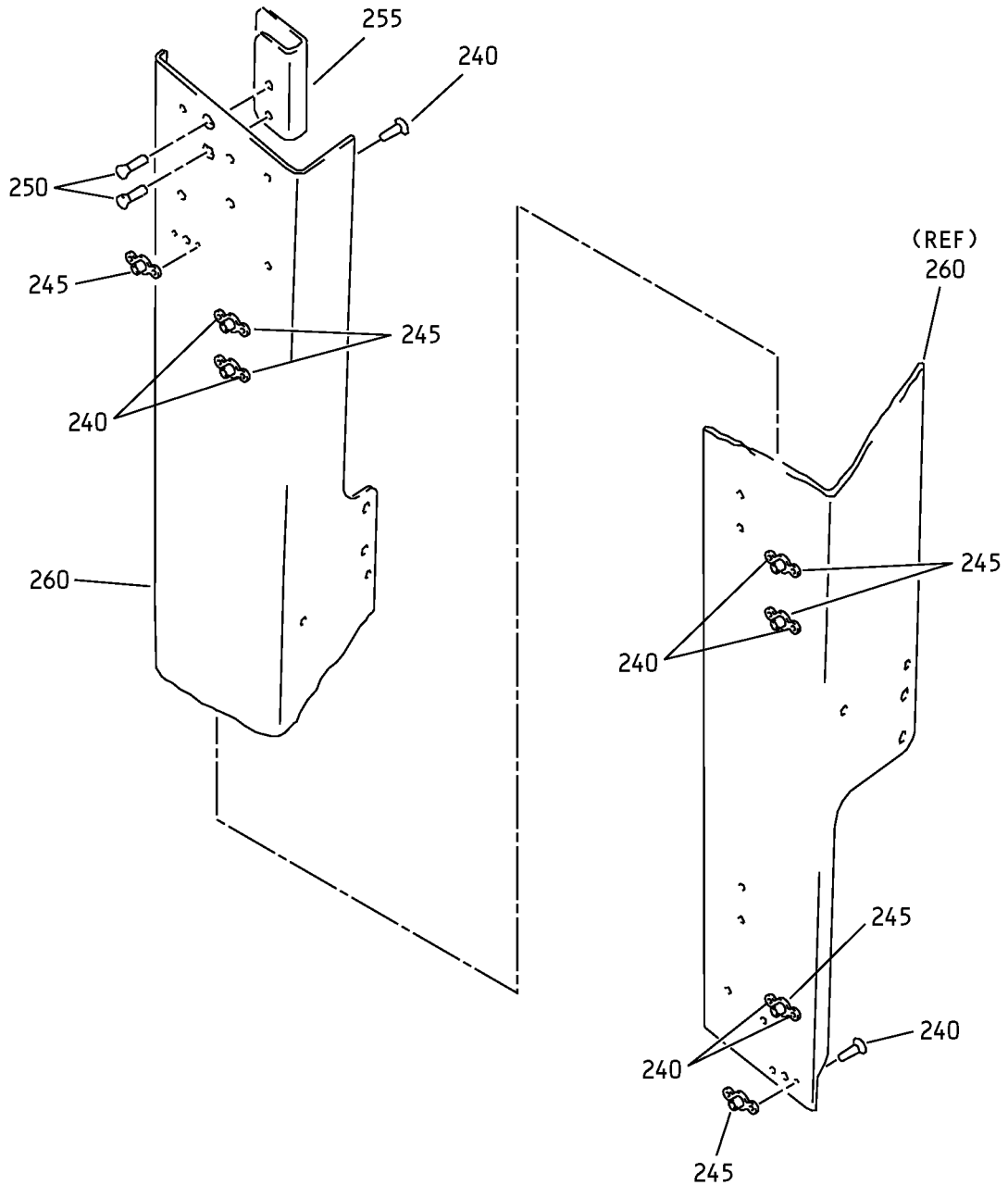
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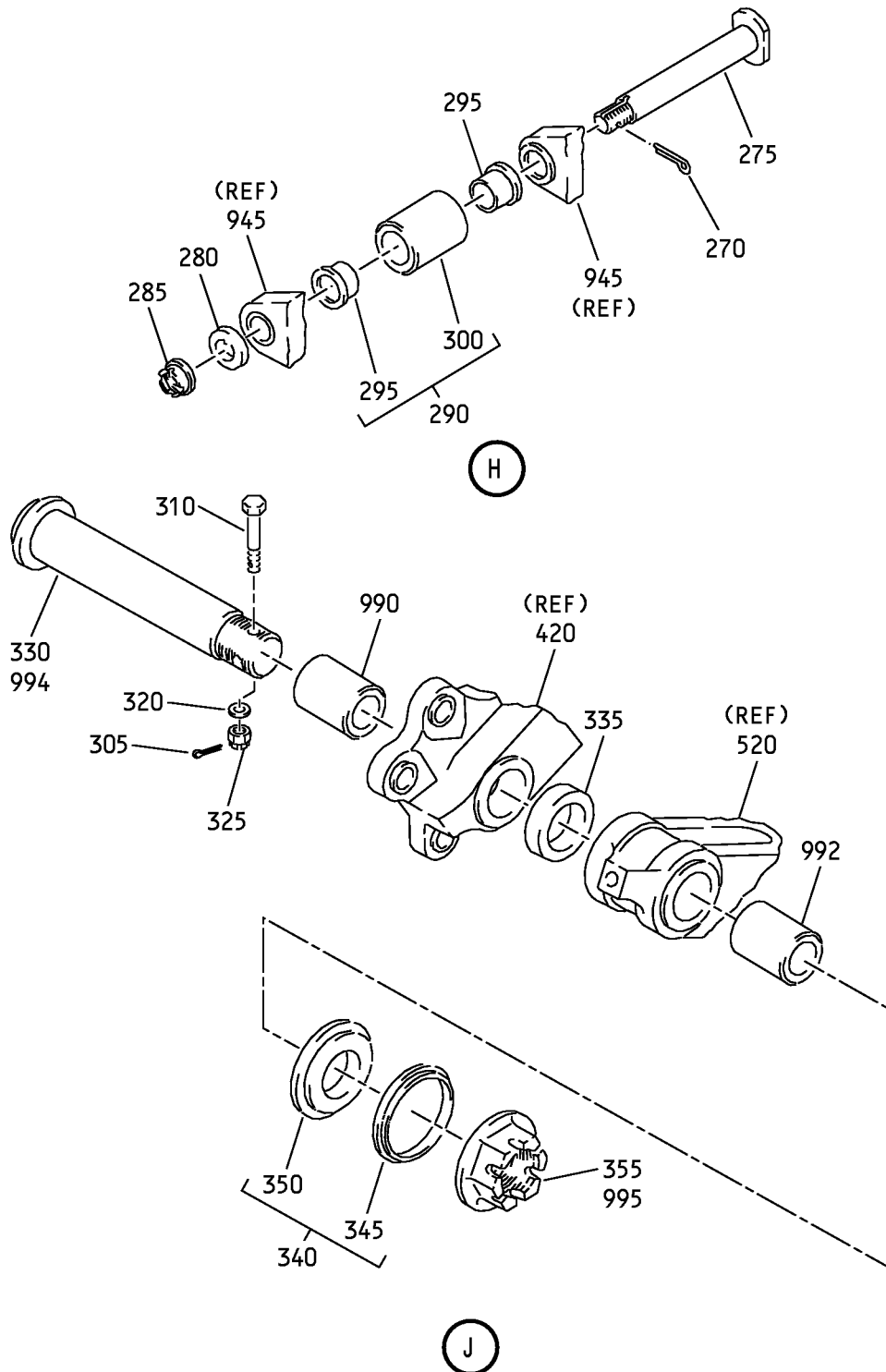
Main Landing Gear Component Assembly
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Main Landing Gear Component Assembly
IPL Figure 1 (Sheet 6 of 20)

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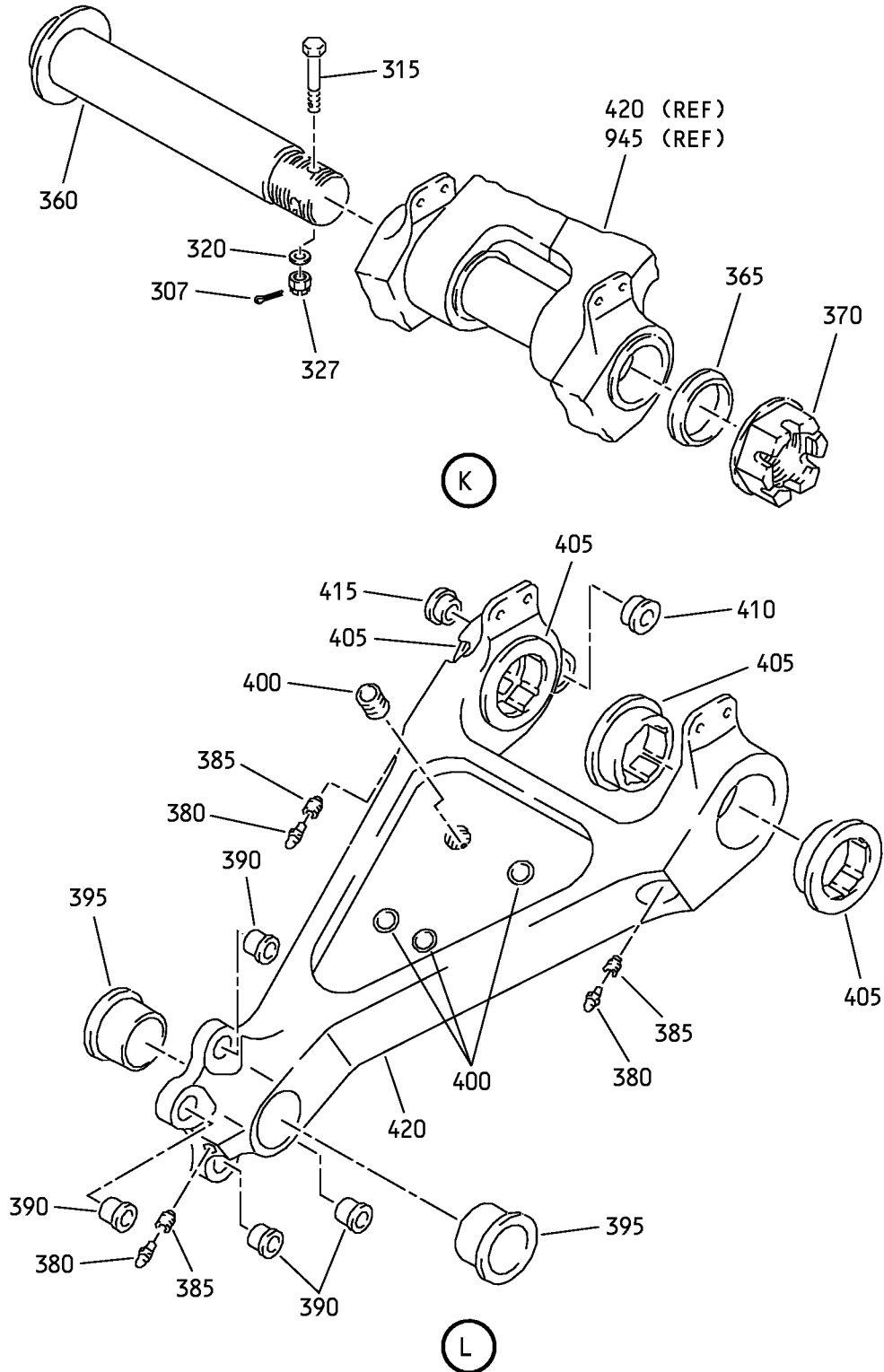


F89797 S0004997037_V3

Main Landing Gear Component Assembly
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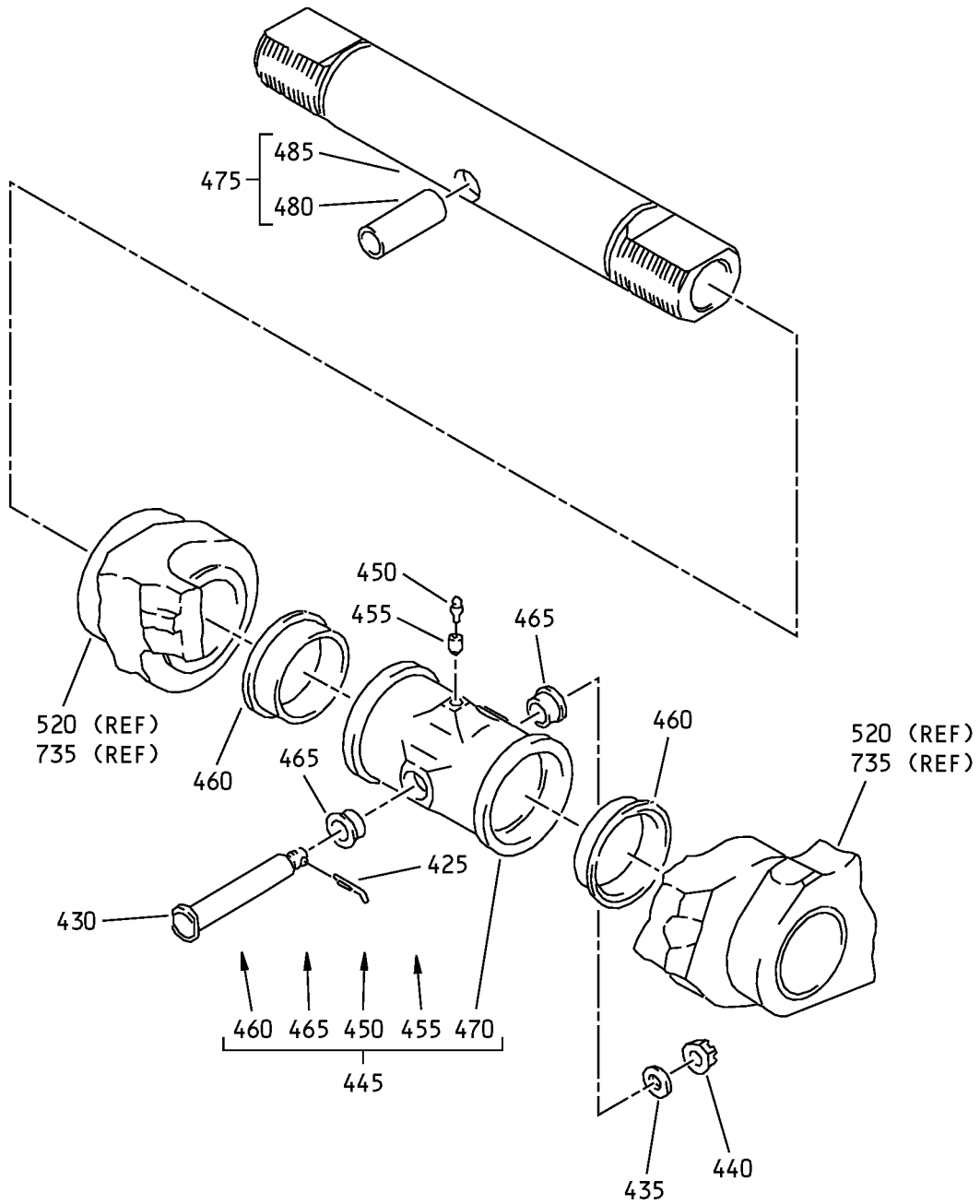
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Main Landing Gear Component Assembly
IPL Figure 1 (Sheet 8 of 20)

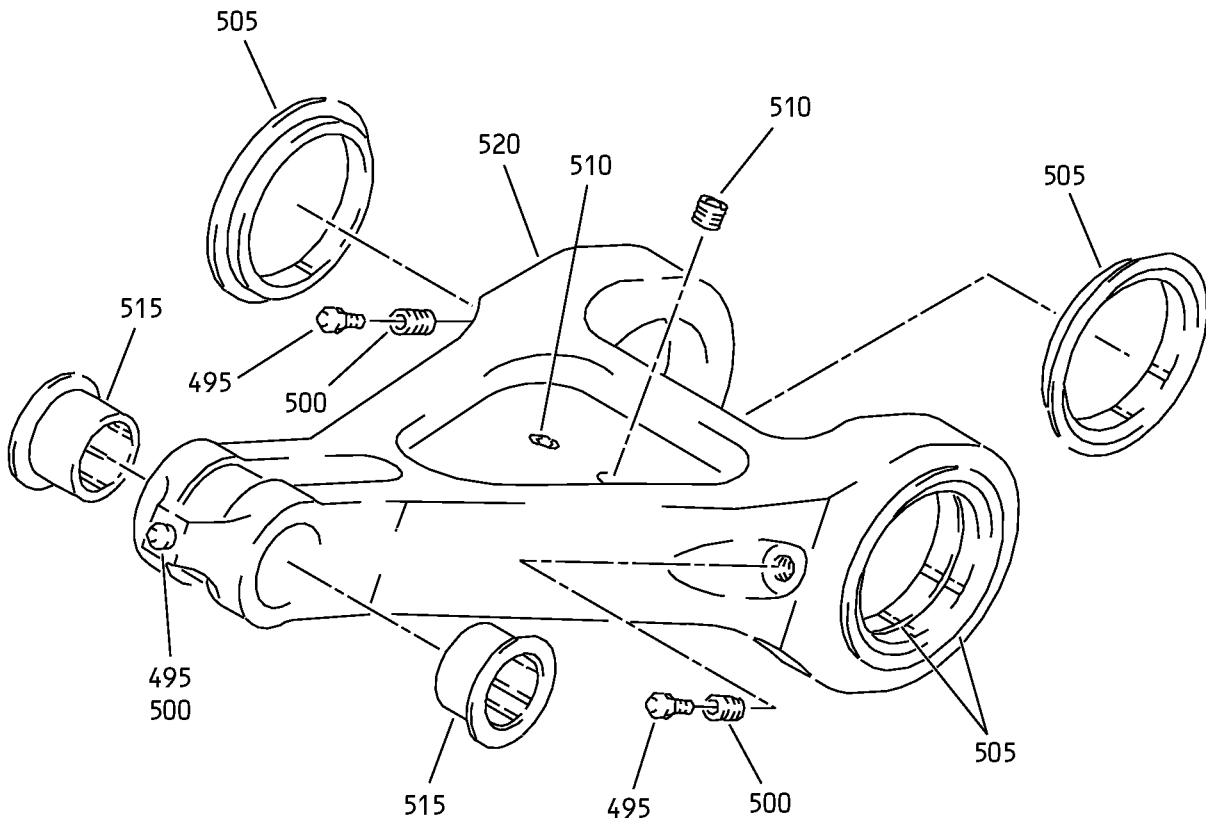
COMPONENT MAINTENANCE MANUAL



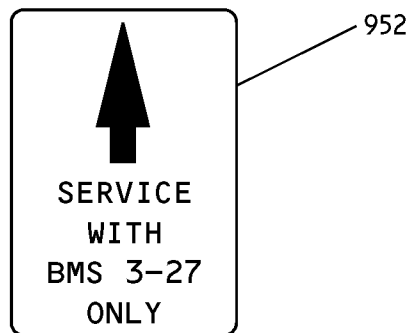
Main Landing Gear Component Assembly
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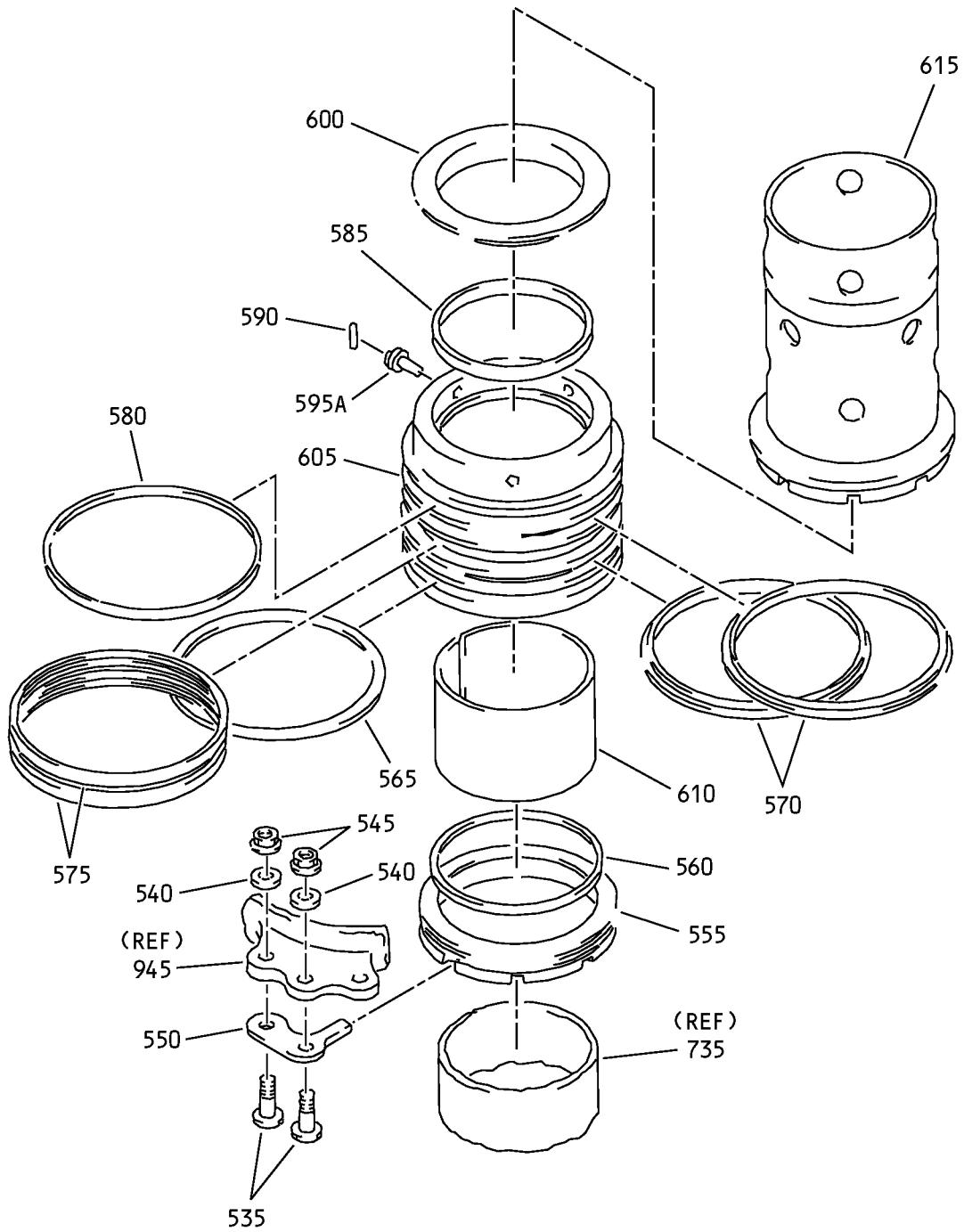
(N)



(AH)

Main Landing Gear Component Assembly
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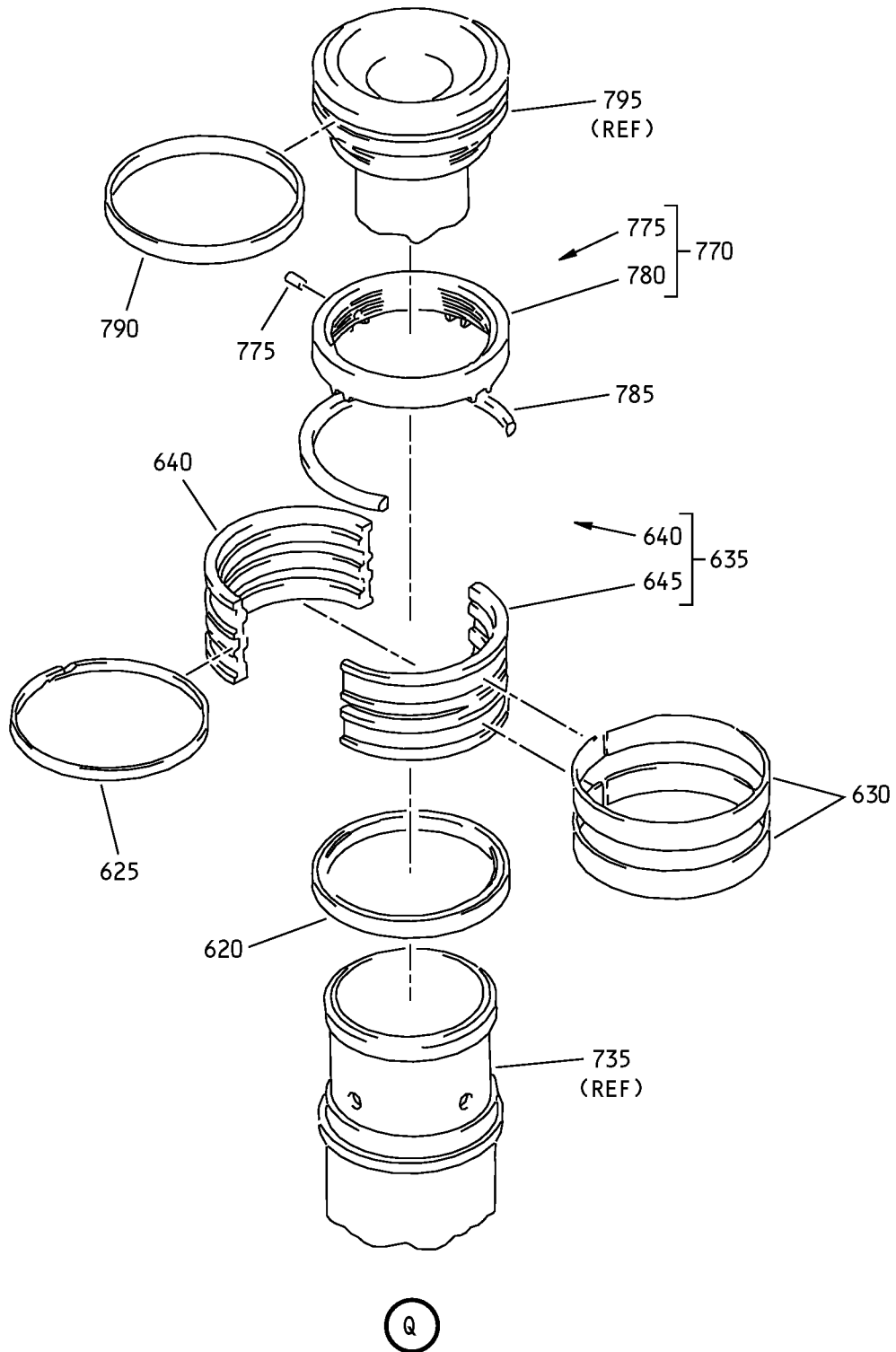


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Main Landing Gear Component Assembly
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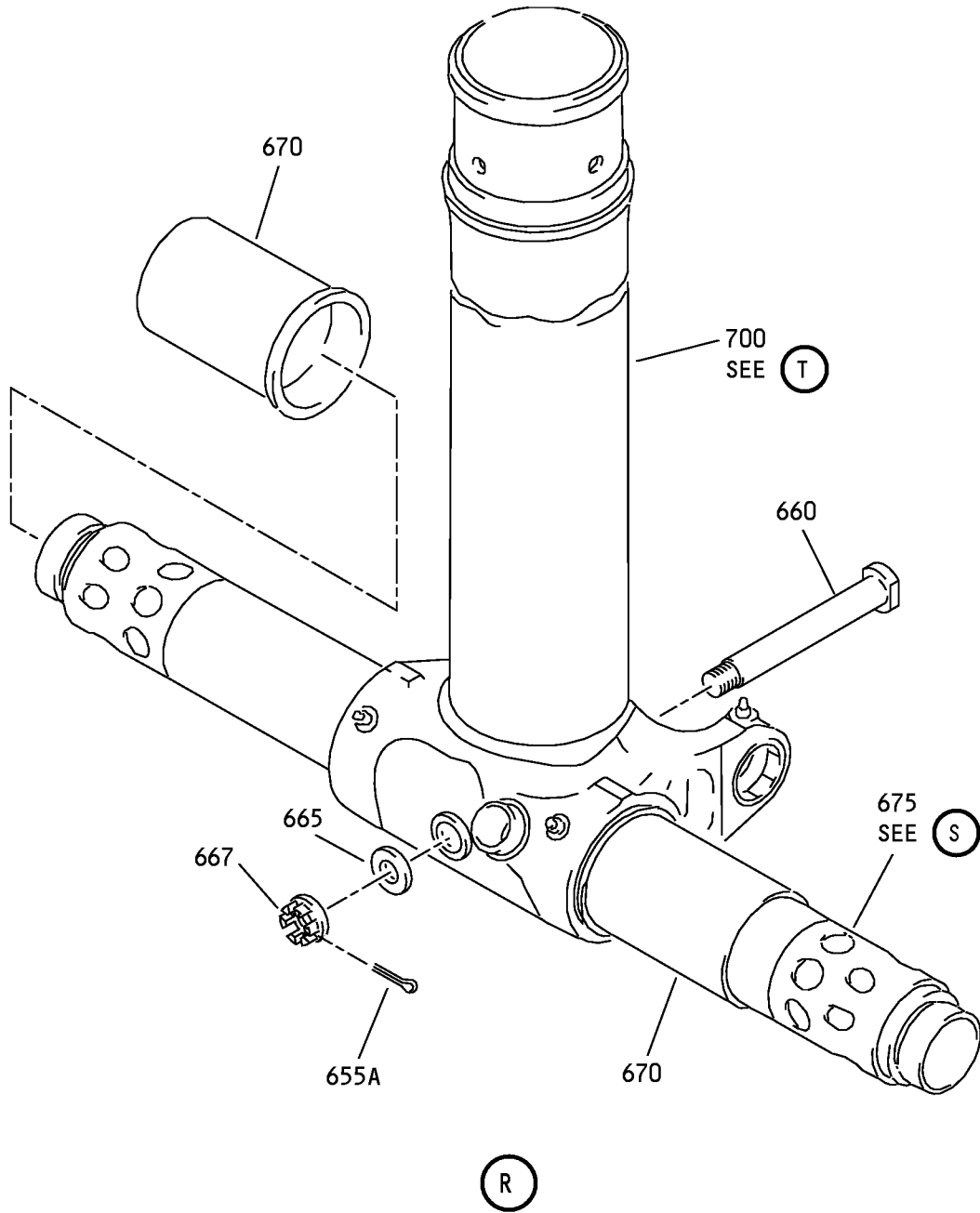
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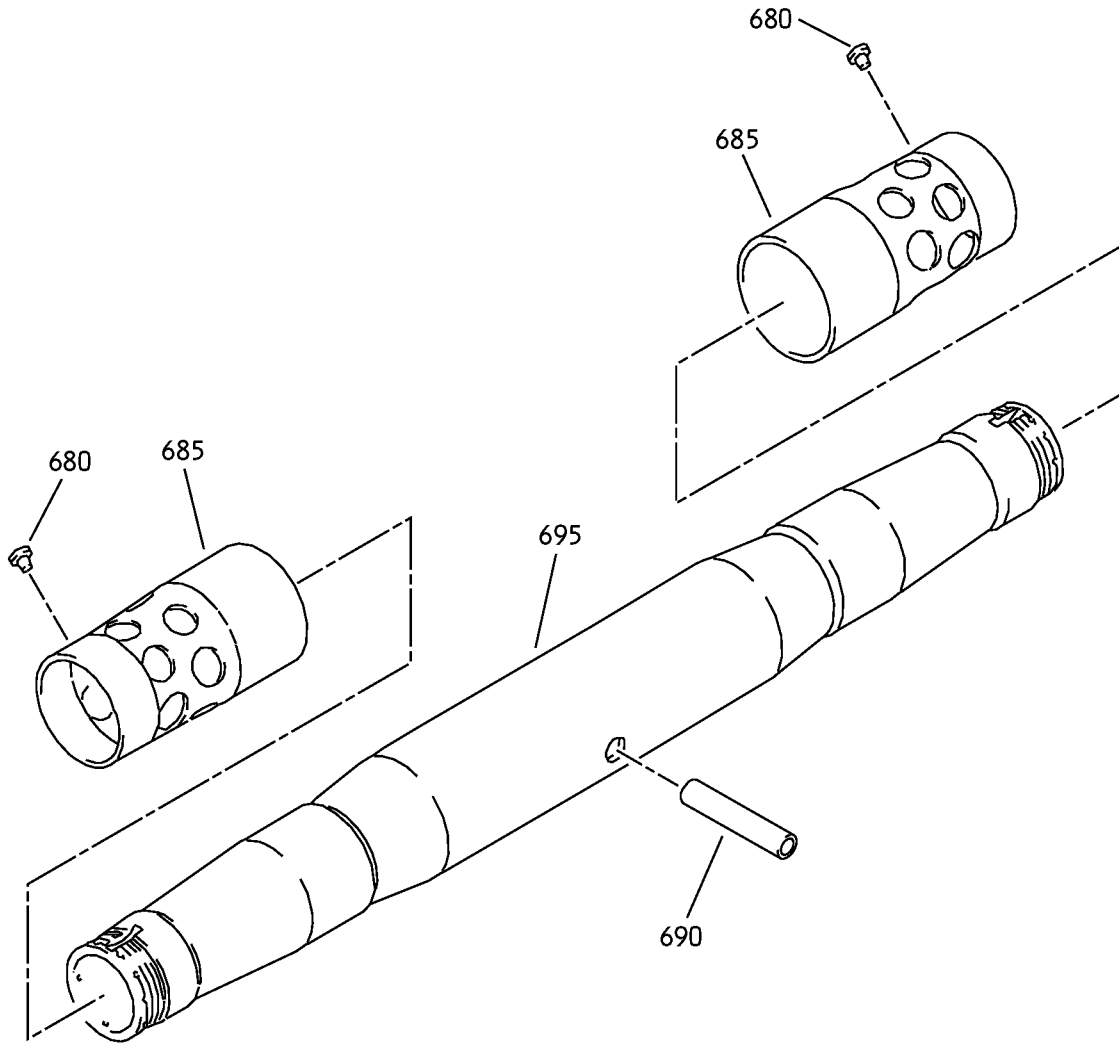


F90026 S0004997043_V2

Main Landing Gear Component Assembly
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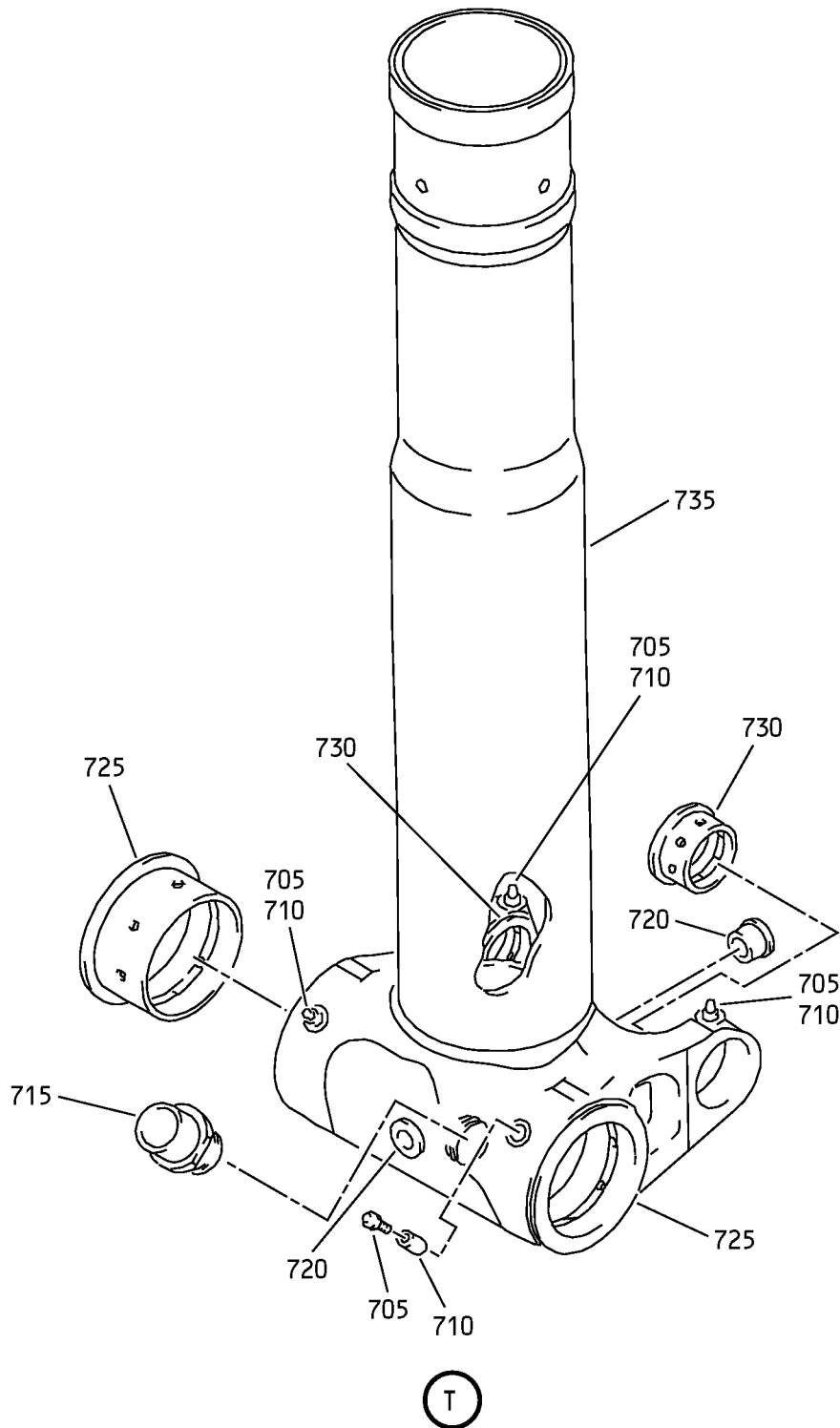


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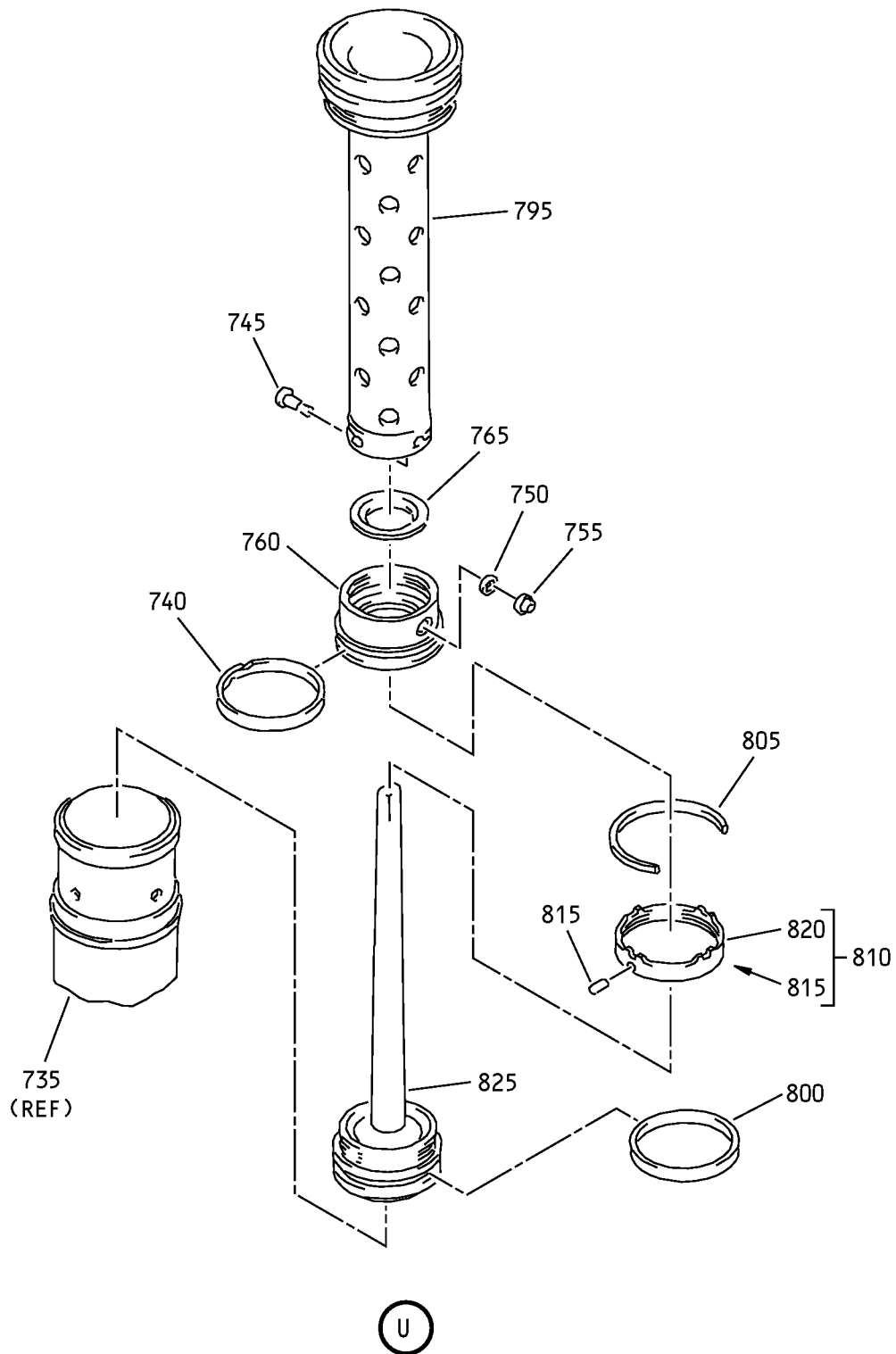
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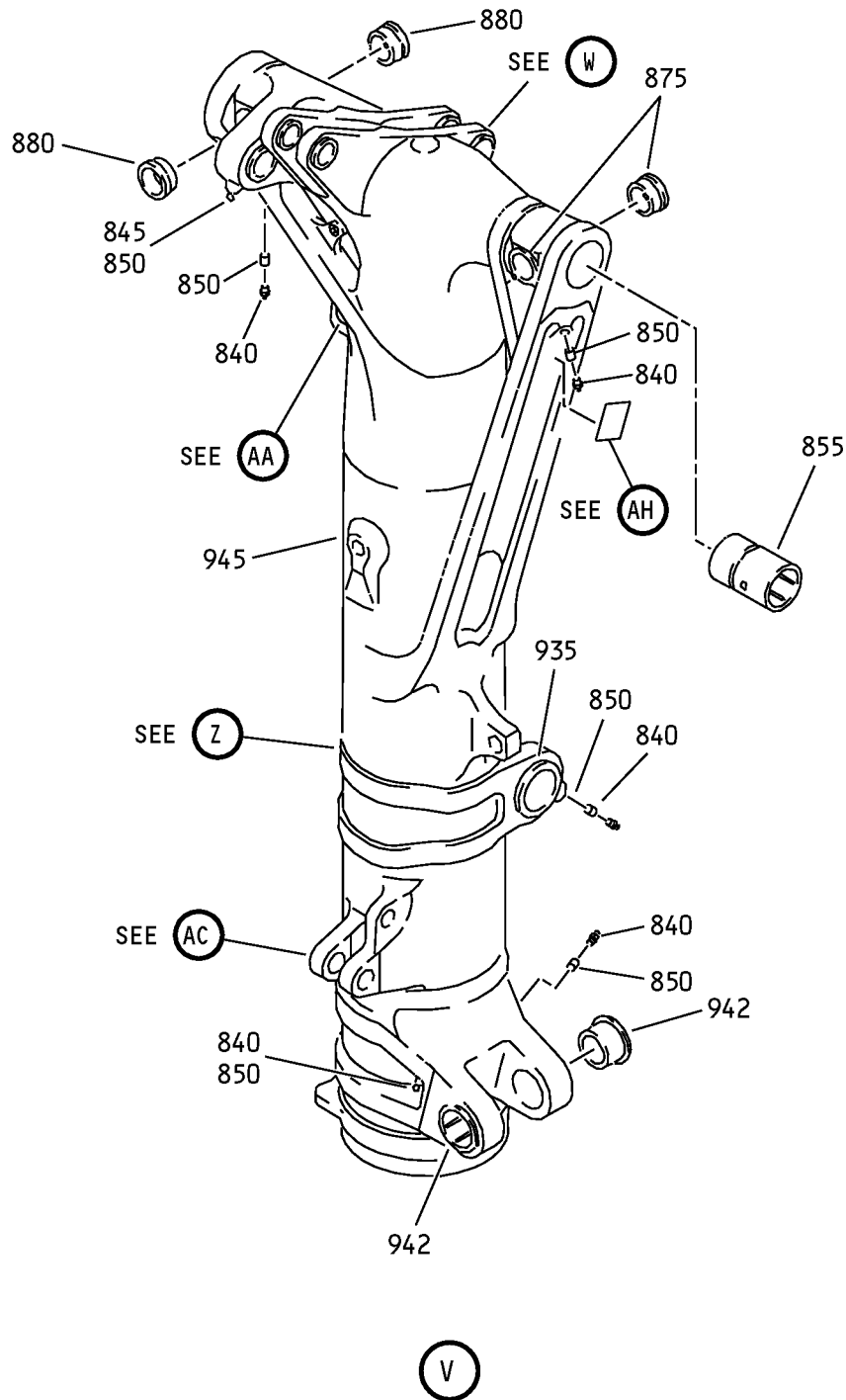
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Main Landing Gear Component Assembly
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Main Landing Gear Component Assembly
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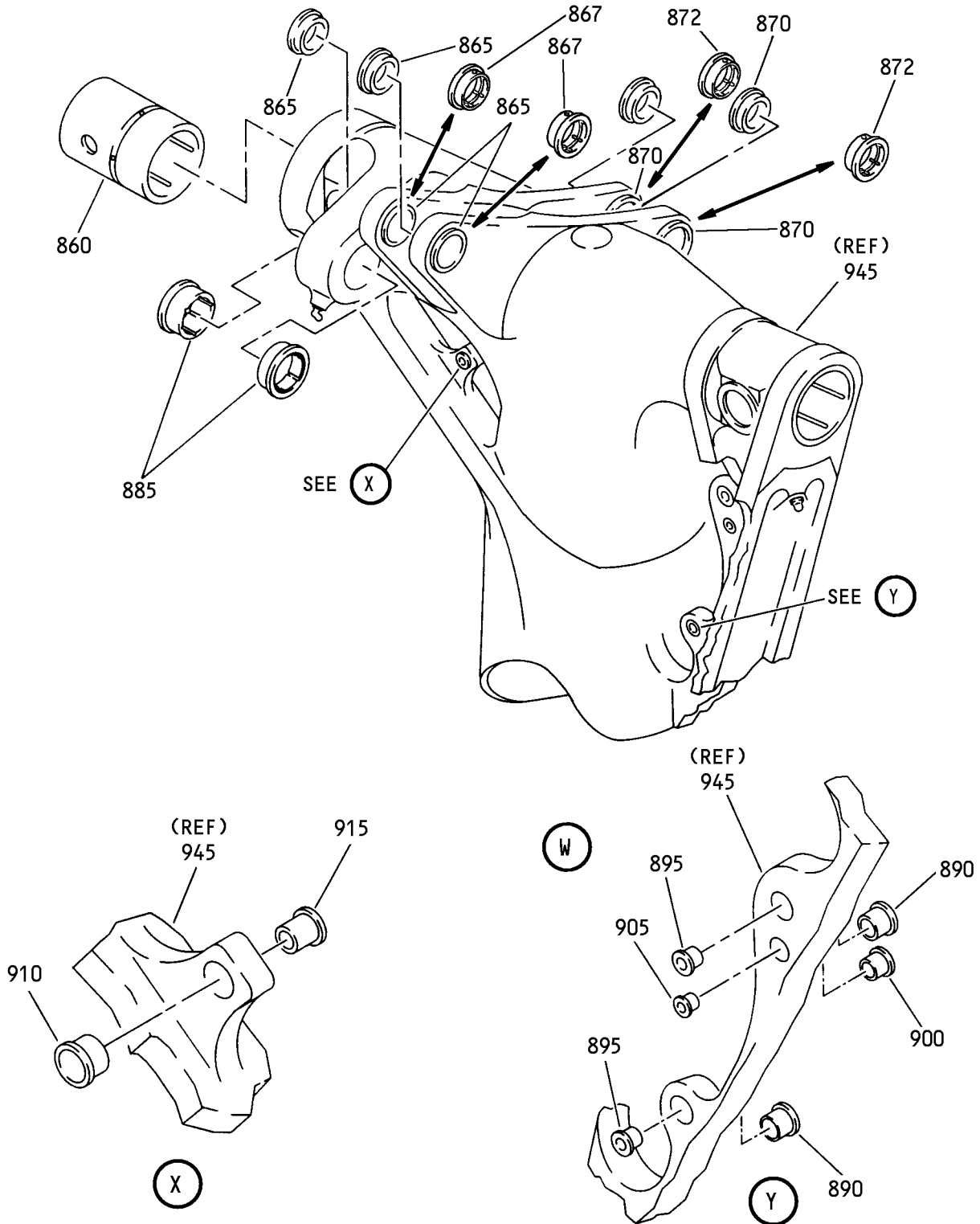
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Main Landing Gear Component Assembly
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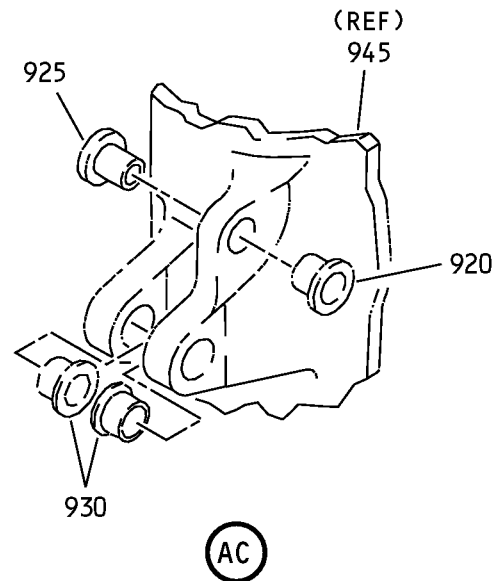
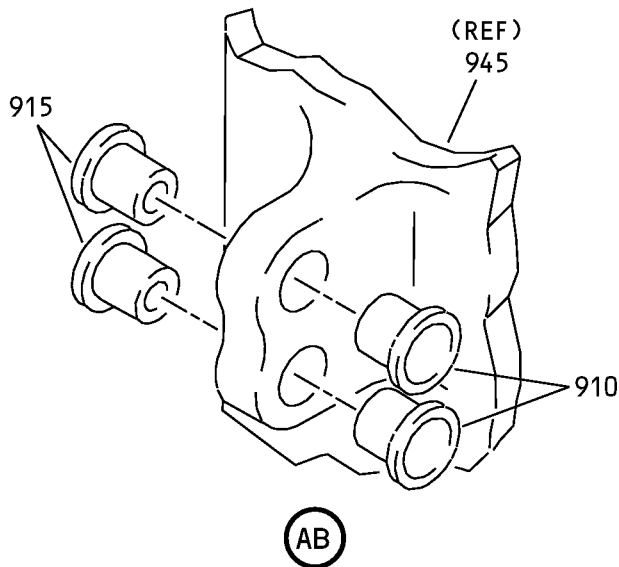
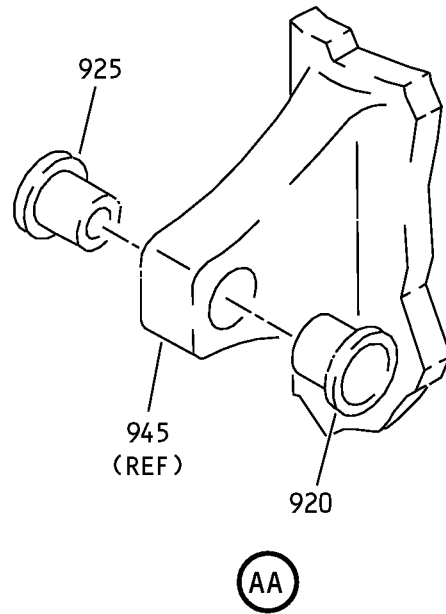
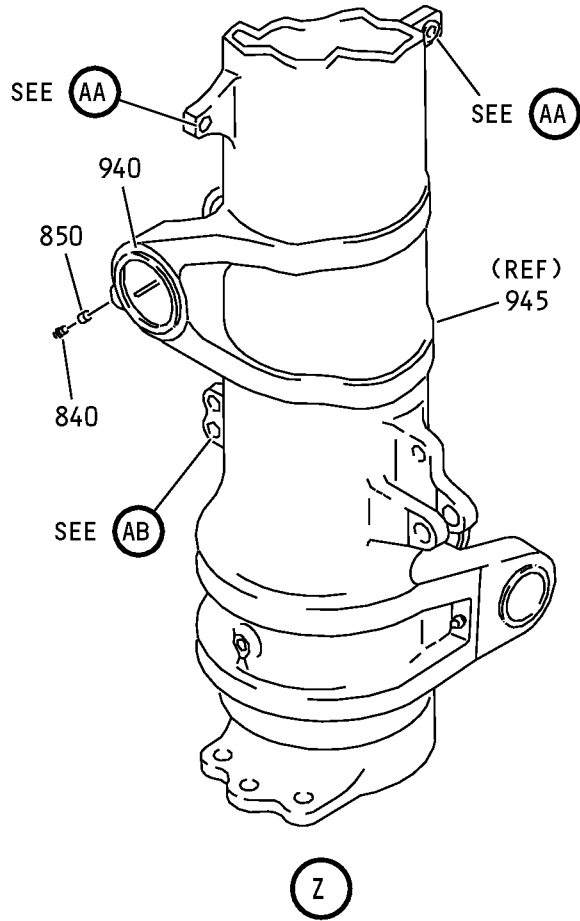
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Main Landing Gear Component Assembly
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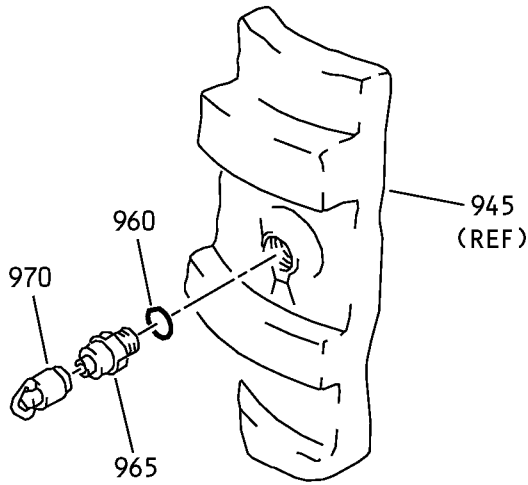
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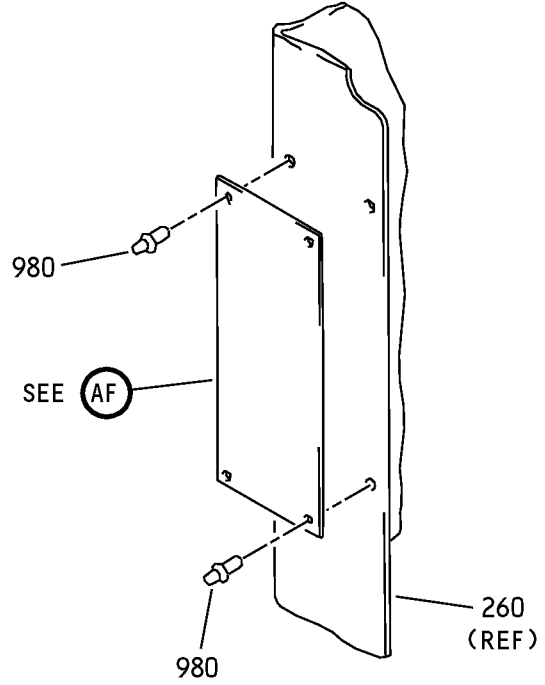
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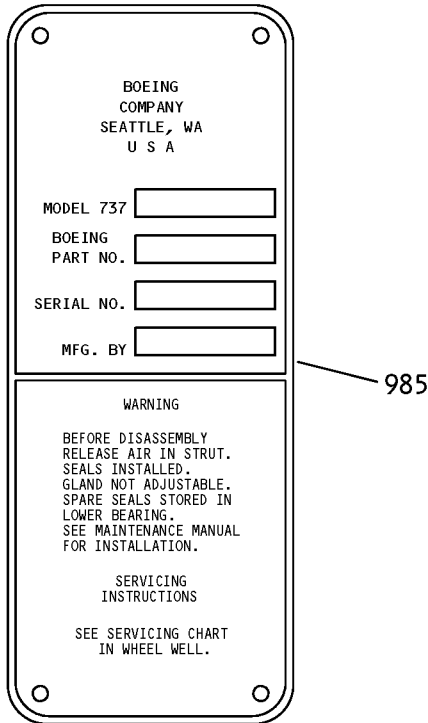
COMPONENT MAINTENANCE MANUAL



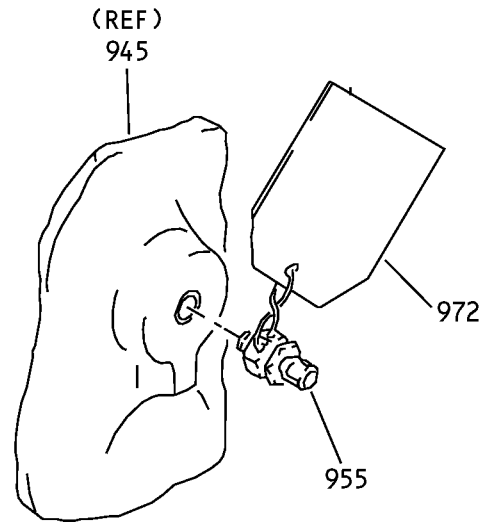
AD



AE



AF



AG

Main Landing Gear Component Assembly
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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-1A	161A1100-1										
-1B	161A1100-5									C	RF
-1C	161A1100-9									E	RF
-1D	161A1100-13									G	RF
-1E	161A1100-15									J	RF
-1F	161A1100-19									L	RF
-1G	161A1100-23									N	RF
-1H	161A1100-27									Q	RF
-1J	161A1100-31									S	RF
-1K	161A1100-35									U	RF
-1L	161A1100-39									W	RF
-1M	M0DREF102034									Y	RF
-1N	M0DREF102032									Z	RF
-1P	M0DREF102030									AA	RF
-1Q	M0DREF282846									AB	RF
-1R	M0DREF293905									A	RF
-1S	M0DREF293907									AG	RF
-1T	M0DREF293909									AJ	RF
-5	161A1100-2										
-5A	161A1100-6									D	RF
-5B	161A1100-10									F	RF
-5C	161A1100-14									H	RF
-5D	161A1100-16									K	RF
-5E	161A1100-20									M	RF
-5F	161A1100-24									P	RF
-5G	161A1100-28									R	RF

-Item not Illustrated

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-5H	161A1100-32									T	RF
-5J	161A1100-36									V	RF
-5L	161A1100-40									X	RF
-5M	M0DREF102033									AC	RF
-5N	M0DREF102031									AD	RF
-5P	M0DREF102029									AE	RF
-5Q	M0DREF282847									AF	RF
-5R	M0DREF293906									B	RF
-5S	M0DREF293908									AH	RF
-5T	M0DREF293910									AK	RF
10	MS24665-639										
15	161A1190-1									A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-15A	161A1190-2									C, D, N, P, U-X, AA, AE, AJ, AK	1
-15B	161A1190-3									AB, AF	1
20	161A0102-1									A, B, Y- AA, AC- AE, AG- AK	1
-20A	161A0102-1									AB, AF	1
25	BACN11N114CD									C-AA, AC-AE	1
-25A	MS14145L14									C-AA, AC-AE	1

-Item not Illustrated

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-25B	THCR516CDBACH		.	NUT						AB, AF	1
				(VF0224)							
				(SPEC BACN11N116CD)							
-25C	BACN11N114CD		.	NUT						A, B, AG- AK	1
30	BACB30NR6K36		.	BOLT							1
35	BACW10BN6AC		.	WASHER							1
40	BACB28BA0612025		.	BUSHING							1
45	BACW10BP6DP		.	WASHER							1
50	H52732-6CD		.	NUT							1
				(V15653)							
				(SPEC BACN10YR6CD)							
				(OPT PLH56CD (V62554))							
55	161A1200-1			DELETED							
55A	161A1200-5		.	BRACKET ASSY-DOOR ACTR						C, N, U, W, AA, AJ	1
-55B	161A1200-9		.	BRACKET ASSY-DOOR ACTR						A, E, G, J, L, Q, S, Y, Z, AG	1
-55C	161A1200-13		.	BRACKET ASSY-DOOR ACTR						AB	1
-60	161A1200-2			DELETED							
60A	161A1200-6		.	BRACKET ASSY-DOOR ACTR						D, P, V, X, AE, AK	1
-60B	161A1200-10		.	BRACKET ASSY-DOOR ACTR						B, F, H, K, M, R, T, AC, AD, AH	1
-60C	161A1200-14		.	BRACKET ASSY-DOOR ACTR						AF	1
65	161A1202-5			DELETED							
65A	161A1202-9		.	BUSHING							1
70	161A1202-6			DELETED							
70A	161A1202-10		.	BUSHING							1

-Item not Illustrated

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY	
			1	2	3	4	5	6	7			
1- 75	161A1202-1		.	.							A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-75A	161A1202-7		.	.							C, D, N, P, U-X, AA, AE, AJ, AK	1
-75B	161A1202-11		.	.							AB, AF	1
80	161A1202-2		.	.							A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-80A	161A1202-8		.	.							C, D, N, P, U-X, AA, AE, AJ, AK	1
-80B	161A1202-12		.	.							AB, AF	1
85	161A1204-1		.	.							A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-85A	161A1204-3		.	.							C, D, N, P, U-X, AA, AE, AJ, AK	1
-85B	161A1204-5		.	.							AB, AF	1
90	161A1204-2		.	.							A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-90A	161A1204-4		.	.							C, D, N, P, U-X, AA, AE, AJ, AK	1
-90B	161A1204-6		.	.							AB, AF	1
95	161A1202-3		.	.								2

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
100	161A1202-4		.	.	BUSHING						2
105	161A1200-3		DELETED								
105A	161A1200-7		.	.	BRACKET				C, N, U, W, AA, AJ		1
-105B	161A1200-11		.	.	BRACKET				A, E, G, J, L, Q, S, Y, Z, AG		1
-105C	161A1200-15		.	.	BRACKET				AB		1
-110	161A1200-4		DELETED								
-110A	161A1200-8		.	.	BRACKET				D, P, V, X, AE, AK		1
-110B	161A1200-12		.	.	BRACKET				B, F, H, K, M, R, T, AC, AD, AH		1
-110C	161A1200-16		.	.	BRACKET				AF		1
115	BACB30LE6U19		.	BOLT							1
120	BACB30LE6U16		.	BOLT							1
125	BACW10BN6UC		.	WASHER							2
130	BACW10BN6UP		.	WASHER							2
135	H51560-6		.	NUT							2
				(V15653)							
				(SPEC BACN10HR6CD)							
				(OPT 67832CD624 (V56878))							
				(OPT BMN5024CWD3-6 (V97928))							
				(OPT 102LH9031-6 (V72962))							
				(OPT BH00303CM6 (V27238))							
				(OPT SL7108C624 (V11815))							
				(OPT BH00303CM6 (V27238))							
				(OPT BMN5024CWD36 (V97928))							
				(OPT CR60306 (V62554))							
				(OPT H51560 (V15653))							
				(OPT SL7108C6 (V11815))							
				(OPT VCU0005D (V06710))							
				(OPT 102LH90316 (V72962))							
140	161A1315-1		.	TRAY ASSY-SYS SPRT					C, E, G, J, L, N		1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-140A	161A1315-3		.	TRAY	ASSY-SYS	SPRT				A, Q, S, U, W, Y- AB, AG, AJ	1
-145	161A1315-2		.	TRAY	ASSY-SYS	SPRT				D, F, H, K, M, P	1
-145A	161A1315-4		.	TRAY	ASSY-SYS	SPRT				B, R, T, V, X, AC- AF, AH, AK	1
150	BACR15BB6AD5C		.	RIVET							3
155	161A1319-1		.	BRACKET-LWR						A, C, E, G, J, L, N, Q, S, U, W, Y- AB, AG, AJ	1
-155A	161A1319-2		.	BRACKET-LWR						B, D, F, H, K, M, P, R, T, V, X, AC- AF	1
160	BACR15BB5ADC			DELETED							
160A	BACR15BB5AD5C		.	RIVET							4
165	161A1322-1		.	CLIP							2
170	BACR15BB6AD6C		.	RIVET							2
175	161A1322-2		.	CLIP-CHANNEL							1
180	BACR15BB6AD7C		.	RIVET							3
185	161A1318-1		.	BRACKET ASSY-UPR						A, C, E, G, J, L, N, Q, S, U, W, Y- AB, AG, AJ	1
-190	161A1318-2		.	BRACKET ASSY-UPR						B, D, F, H, K, M, P, R, T, V, X, AC- AF, AH, AK	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
195	BACR15BA5AD8C										12
200	161A1320-1										2
205	161A1321-2										3
210	161A1321-1										3
215	161A1320-2										1
220	BACR15BA3AD4C										2
225	BR2000C3D										1
227	161A1318-3									A, C, E, G, J, L, N, Q, S, U, W, Y- AB, AG, AJ	1
-227A	161A1318-4									B, D, F, H, K, M, P, R, T, V, X, AC- AF, AH, AK	1
230	161A1316-1									C, E, G, J, L, N	1
-230A	161A1316-5									A, Q, S, U, W, Y- AB, AG, AJ	1
-235	161A1316-2									D, F, H, K, M, P	1
-235A	161A1316-6									B, R, T, V, X, AC- AF, AH, AK	1
240	BACR15BA3AD									C-P	14
-240A	BACR15BA3AD4C									Q-AF	14

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
245	BR2000C3D		.	.	.	NUTPLATE (V52828) (SPEC BACN10JR3CD) (OPT K51601-3BAC (V15653)) (OPT NS202439-02 (V80539)) (OPT 102A9201-3 (V72962))					7
250	BACR15CE5AD		.	.	.	RIVET (SIZE DETERMINED ON INST)			C-P		2
255	161A1323-1		.	.	.	CLIP-CHANNEL			C, E, G, J, L, N		1
-255A	161A1323-2		.	.	.	CLIP-CHANNEL			D, F, H, K, M, P		1
260	161A1316-3		.	.	.	TRAY			A, C, E, G, J, L, N, Q, S, U, W, Y- AB, AG, AJ		1
-265	161A1316-4		.	.	.	TRAY			B, D, F, H, K, M, P, R, T, V, X, AC- AF, AH, AK		1
267	BACR15BB6AD7C		.	.		RIVET			Q-AF		2
268	161A1323-3		.	.		CLIP-CHAN			A, Q, S, U, W, Y- AB, AG, AJ		1
-269	161A1323-4		.	.		CLIP-CHAN			B, R, T, V, X, AC- AK		1
270	MS24665-304		.			PIN-COTTER			C-X		1
-270A	BACP18BC03A10P		.			PIN-COTTER			A, B, Y- AK		1
275	161A1182-1		.			PIN-ROLLER UPLOCK					1
280	161A1184-1		.			WASHER-UPLOCK					1
285	MS14145L8		.			NUT			C-X		1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
285A	THCR58CDBACH		.	NUT						A, B, Y- AK	1
				(VF0224)							
				(SPEC BACN11N108CD)							
290	161A1181-1		.	ROLLER ASSY-UPLOCK							1
295	BCREF12762		.	BUSHING							2
				(V50632)							
				(KJB165100B12-050)							
300	161A1181-2		.	ROLLER							1
305	MS24665-153		.	PIN-COTTER					C-P		1
307	MS24665-153		.	PIN-COTTER					C-X		1
-307A	BACP18BC02A06P		.	PIN-COTTER					A, B, Y- AK		1
310	NAS6704DU28		.	BOLT					C-P		1
				(PRE SB 737-32-1312)							
-310A	NAS6704DU26		.	BOLT					C-P		1
				(OPT ITEM 310B)							
				(POST SB 737-32-1312)							
-310B	NAS6704DU25		.	BOLT					C-P		1
				(OPT ITEM 310A)							
				(POST SB 737-32-1312)							
-310C	NAS6704DU		.	BOLT					Q-Z		1
				(REF) (SEE CMM 32-11-16 FIG. 2 ITEM 25-SERIES) (SIZE DETERMINED ON INST)							
315	NAS6704DU32		.	BOLT					C-AA, AC-AE		1
-315A	BACB30LM4DU34		.	BOLT					AB, AF		1
-315B	BACB30LM4DU32		.	BOLT					A, B, AG- AK		1
320	NAS1149E0463R		.	WASHER					C-P		1
322	NAS1149E0463R		.	WASHER							1
325	MS14144L4		.	NUT					C-P		1
327	MS14144L4		.	NUT					C-X		1
-327A	PHCR54CDBACN		.	NUT					A, B, Y- AK		1
				(VF0224)							
				(SPEC BACN11N4CD)							

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY		
			1	2	3	4	5	6	7				
1-													
330	161A1145-1		.								PIN-APEX (LIFE LIMITED PART) (PRE SB 737-32-1312)	C-P	1
-330A	161A1214-1		.								PIN-APEX (LIFE LIMITED PART) (POST SB 737-32-1312)	C-P	1
-330B	161A1214-2		.								PIN-APEX (POST SB 737-32-1312) (OPT)	C-P	1
-330C	161A1214-3		.								PIN-APEX (POST SB 737-32-1312) (OPT)	C-P	1
335	161A1195-1		.								SPACER-APEX (PRE SB 737-32-1312)	C-P	1
-335A	161A1218-1		.								SPACER-APEX (POST SB 737-32-1312)	C-P	1
340	161A1196-1		.								WASHER ASSY-SPLINED (PRE SB 737-32-1312)	C-P	1
-340A	161A1217-1		.								WASHER ASSY-SPLINED (POST SB 737-32-1312)	C-P	1
345	161A1149-1		.	.							BUSHING	C-P	1
350	161A1196-2		.	.							WASHER (PRE SB 737-32-1312)	C-P	1
-350A	161A1217-2		.	.							WASHER (POST SB 737-32-1312)	C-P	1
355	161A1148-1		.								NUT-APEX (LIFE LIMITED PART) (PRE SB 737-32-1312)	C-P	1
-355A	161A1215-1		.								NUT-APEX (LIFE LIMITED PART) (POST SB 737-32-1312)	C-P	1
360	161A1146-1		.								PIN-TORSION LINK (LIFE LIMITED PART)	G, H, L, M, S, T, Z, AD, AG, AH	1
-360A	161A1146-2		.								PIN-TORSION LINK (LIFE LIMITED PART)	C, D, N, P, U-X, AA, AE, AJ, AK	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE	USAGE CODE	UNITS PER ASSY
1-					
-360B	161A1146-3		. PIN-TORSION LINK (LIFE LIMITED PART)	A, B, E, F, J, K, Q, R, Y, AC	1
-360C	161A1146-4		. PIN-TORSION LINK (LIFE LIMITED PART)	AB, AF	1
365	161A1216-1		. WASHER-TORSION LINK UPR	A-AA, AC-AE, AG-AK	1
-365A	161A1216-2		. WASHER-TORSION LINK UPR	AB, AF	1
370	161A1210-1		. NUT-TORSION LINK UPR	A-AA, AC-AE, AG-AK	1
-370A	161A1210-2		. NUT-TORSION LINK UPR	AB, AF	1
375	161A1140-1		. LINK ASSY-TORSION UPR	A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-375A	161A1140-3		. LINK ASSY-TORSION UPR	C, D, N, P, U-X, AA, AE, AJ, AK	1
-375B	161A1140-5		. LINK ASSY-TORSION UPR	AB, AF	1
380	MS15004-1		. . FITTING-LUBE		3
385	161W7010-1		. . INSERT		3
390	161A1197-1		. . BUSHING	A-AA, AC-AE, AG-AK	4
-390A	161A1197-4		. . BUSHING	AB, AF	4
395	161A1144-3		. . BUSHING	A-AA, AC-AE, AG-AK	2
-395A	161A1144-6		. . BUSHING	AB, AF	2
400	BACB28Y4F041		. . BUSHING		4
405	161A1144-1		. . BUSHING	A-AA, AC-AE, AG-AK	4
-405A	161A1144-5		. . BUSHING	AB, AF	4

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
410	161A1197-2		.	.	BUSHING						1
415	161A1197-3		.	.	BUSHING						1
420	161A1140-2		.	.	LINK (LIFE LIMITED PART)				A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH		1
-420A	161A1140-4		.	.	LINK (LIFE LIMITED PART)				C, D, N, P, U-X, AA, AE, AJ, AK		1
-420B	161A1140-6		.	.	LINK (LIFE LIMITED PART)				AB, AF		1
425	MS24665-304		.		PIN-COTTER				C-AA, AC-AE		1
-425A	BACP18BC03A10P		.		PIN-COTTER				A, B, AB, AF-AK		1
430	161A1221-1		.		PIN-CROSSBOLT, LWR				A-AA, AC-AE, AG-AK		1
-430A	161A1221-2		.		PIN-CROSSBOLT, LWR				AB, AF		1
435	161A1222-1		.		WASHER-TORSION LINK LWR				A-AA, AC-AE, AG-AK		1
-435A	161A1222-2		.		WASHER-TORSION LINK LWR				C-AA, AC-AE		1
440	MS14145L7		.		NUT				C-AA, AC-AE		1
-440A	THCR58CDBACH		.		NUT (VF0224) (SPEC BACN11N108CD)				AB, AF		1
-440B	THCR57CDBACH		.		NUT (VF0224) (SPEC BACN11N107CD)				A, B, AG- AK		1
445	161A1212-1		.		SPACER ASSY-LWR				A-AA, AC-AE, AG, AK		1
-445A	161A1212-3		.		SPACER ASSY-LWR				AB, AF		1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
450	MS15004-1		.	.						A-AA, AC-AE, AG-AK	1
-450A	AS15004-1		.	.						AB, AF	1
455	161W7010-1		.	.							1
460	161A1213-1		.	.							2
465	161A1213-2		.	.						A-AA, AC-AE, AG-AK	2
-465A	161A1213-3		.	.						AB, AF	2
470	161A1212-2		.	.						A-AA, AC-AE, AG-AK	1
-470A	161A1212-4		.	.						AB, AF	1
475	161A1147-1		.							G, H, L, M, S, T, Z, AD, AG, AH	1
-475A	161A1147-3		.							C, D, N, P, U, V	1
-475B	161A1147-5		.							A, B, E, F, J, K, Q, R, Y, AC	1
-475C	161A1147-7		.							W, X, AA, AE, AJ, AK	1
-475D	161A1147-9		.							AB, AF	1
480	161A1211-1		.	.						A-AA, AC-AE, AG-AK	1
-480A	161A1211-2		.	.						AB, AF	1
485	161A1147-2		.	.						G, H, L, M, S, T, Z, AD, AG, AH	1
-485A	161A1147-4		.	.						C, D, N, P, U, V	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-485B	161A1147-6		.	.	PIN					A, B, E, F, J, K, Q, R, Y, AC	1
-485C	161A1147-8		.	.	PIN					W, X, AA, AE, AJ, AK	1
-485D	161A1147-10		.	.	PIN					AB, AF	1
490	161A1142-1		.		LINK ASSY-TORSION LWR					A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1
-490A	161A1142-3		.		LINK ASSY-TORSION LWR					C, D, N, P, U-X, AA, AE, AJ, AK	1
-490B	161A1142-5		.		LINK ASSY-TORSION LWR					AB, AF	1
495	MS15004-1		.	.	FITTING-LUBE					A-AA, AC-AE, AG-AK	3
-495A	AS15004-1		.	.	FITTING-LUBE (VU6153)					AB, AF	3
500	161W7010-1		.	.	INSERT						3
505	161A1144-2		.	.	BUSHING					A-AA, AC-AE, AG-AK	4
-505A	161A1144-7		.	.	BUSHING					AB, AF	4
510	BACB28Y4F041		.	.	BUSHING						2
515	161A1144-4		.	.	BUSHING					A-AA, AC-AE, AG-AK	2
-515A	161A1144-7				DELETED						
-515B	161A1144-8		.	.	BUSHING					AB, AF	2
520	161A1142-2		.	.	LINK (LIFE LIMITED PART)					A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-520A	161A1142-4		.	.	LINK (LIFE LIMITED PART)					C, D, N, P, U-X, AA, AE, AJ, AK	1
-520B	161A1142-6		.	.	LINK (LIFE LIMITED PART)					AB, AF	1
525	161A1100-3		.		STRUT ASSY-SHOCK (161A1100-7 T/W 1EA 161A1200-5, 1EA 161A1190-2 MAY REPLACE 161A1100-3 T/W 1EA 161A1200-1 AND 161A1190-1)					G	1
-525A	161A1100-7		.		STRUT ASSY-SHOCK (161A1100-7 T/W 1EA 161A1200-5, 1EA 161A1190-2 MAY REPLACE 161A1100-3 T/W 1EA 161A1200-1 AND 161A1190-1)					C	1
-525B	161A1100-11		.		STRUT ASSY-SHOCK					E	1
-525C	161A1100-17		.		STRUT ASSY-SHOCK					J	1
-525D	161A1100-21		.		STRUT ASSY-SHOCK					L	1
-525E	161A1100-25		.		STRUT ASSY-SHOCK					N	1
-525F	161A1100-29		.		STRUT ASSY-SHOCK					Q, Y	1
-525G	161A1100-33		.		STRUT ASSY-SHOCK					S, Z	1
-525H	161A1100-37		.		STRUT ASSY-SHOCK					U, W, AA	1
-525J	161A1100-43		.		STRUT ASSY-SHOCK					AB	1
-525K	161A1100-47		.		STRUT ASSY-SHOCK					A	1
-525L	161A1100-51		.		STRUT ASSY-SHOCK					AG	1
-525M	161A1100-55		.		STRUT ASSY-SHOCK					AJ	1
-530	161A1100-4		.		STRUT ASSY-SHOCK (161A1100-8 T/W 1EA 161A1200-6, 1EA 161A1190-2 MAY REPLACE 161A1100-4 T/W 1 EA 161A1200-2 AND 161A1190-1)					H	1
-530A	161A1100-8		.		STRUT ASSY-SHOCK (161A1100-8 T/W 1EA 161A1200-6, 1EA 161A1190-2 MAY REPLACE 161A1100-4 T/W 1EA 161A1200-2 AND 161A1190-1)					D	1
-530B	161A1100-12		.		STRUT ASSY-SHOCK					F	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-530C	161A1100-18		.	STRUT	ASSY-SHOCK					K	1
-530D	161A1100-22		.	STRUT	ASSY-SHOCK					M	1
-530E	161A1100-30		.	STRUT	ASSY-SHOCK					R, AC	1
-530F	161A1100-26		.	STRUT	ASSY-SHOCK					P	1
-530G	161A1100-34		.	STRUT	ASSY-SHOCK					T, AD	1
-530H	161A1100-38		.	STRUT	ASSY-SHOCK					V, X, AE	1
-530J	161A1100-44		.	STRUT	ASSY-SHOCK					AF	1
-530K	161A1100-48		.	STRUT	ASSY-SHOCK					B	1
-530L	161A1100-52		.	STRUT	ASSY-SHOCK					AH	1
-530M	161A1100-56		.	STRUT	ASSY-SHOCK					AK	1
535	NAS6704-11		.	.	BOLT					C-AA, AC-AE	2
-535A	BACB30LM4-11		.	.	BOLT					A, B, AB, AF-AK	2
540	NAS1149E0432P		.	.	WASHER						2
545	H52732-4CD		.	.	NUT						2
					(V15653)						
					(SPEC BACN10YR4CD)						
					(OPT PLH54CD (V62554))						
550	161A1155-1		.	.	KEY-LOCK						1
555	161A1154-1		.	.	NUT-GLAND						1
560	353-44100-312G		.	.	RING-SCRAPER					C-P	1
					(V5F573)						
					(OPT ITEM 560A)						
-560A	S37967-441G99		.	.	RING-SCRAPER					C-P	1
					(V09257)						
					(OPT ITEM 560)						
-560B	353-44100-330G		.	.	RING-SCRAPER					A, B, Q- AK	1
					(V5F573)						
					(OPT ITEM 560C, 560D)						
-560C	353-44100-312G		.	.	RING-SCRAPER					A, B, Q- AK	1
					(V5F573)						
					(OPT ITEM 560B, 560D)						
-560D	S37967-441G99		.	.	RING-SCRAPER					A, B, Q- AK	1
					(V09257)						
					(OPT ITEM 560B, 560C)						

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
565	P3301-445P096		. .	EXCLUDER						C-AF	1
				(V5F573)							
				(OPT ITEM 565A)							
-565A	AS1660-0268		. .	EXCLUDER						C-AF	1
				(OPT ITEM 565)							
-565B	354-44503-330G		. .	EXCLUDER						A, B, AG- AK	1
				(V5F573)							
				(OPT ITEM 565C, 565D)							
-565C	P3301-445P096		. .	EXCLUDER						A, B, AG- AK	1
				(V5F573)							
				(OPT ITEM 565B, 565D)							
-565D	AS1660-0268		. .	EXCLUDER						A, B, AG- AK	1
				(OPT ITEM 565B, 565C)							
570	7445MT160		. .	RING-STATIC AGT						C-AF	2
				(V5F573)							
				(OPT ITEM 570A)							
-570A	S37402-445BAK		. .	RING-STATIC AGT						C-AF	2
				(V09257)							
				(OPT ITEM 570)							
-570B	7445MT160		. .	RING-STATIC AGT						A, B, AG- AK	2
				(V5F573)							
				(OPT ITEM 570C)							
-570C	S34706-445BAK		. .	RING-STATIC AGT						A, B, AG- AK	2
				(V09257)							
				(OPT ITEM 570B)							
575	BCREF12761		. .	RING-DYNAMIC AGT							2
				(V5F573)							
				(295-44100-965-5010)							
580	7445MT160P8		. .	RING-AGT							1
				(V5F573)							
				(OPT ITEM 580B)							
-580A	S34702-433BAK29			DELETED							
-580B	S34702-445BAK29		. .	RING-AGT							1
				(V09257)							
				(OPT ITEM 580)							
585	BCREF12760		. .	RING-DYNAMIC						C-AF	1
				(V5F573)							
				(265-44100-160-6050)							

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-585A	BCREF56193		.	.	RING-DYNAMIC (V5F573) (OPT ITEM 585B) (265-44101-161-6050)					A, B, AG- AK	1
-585B	BCREF12760		.	.	RING-DYNAMIC (V5F573) (OPT ITEM 585A) (265-44100-160-6050)					A, B, AG- AK	1
590	MS28775-171		.	.	PACKING						1
595	161A1165-1				DELETED						
595A	161A1157-1		.	.	PIN-RETAINER LWR BRG						3
600	161A1165-1		.	.	RETAINER-SEAL						1
605	161A1168-1		.	.	CARRIER-LWR BRG						1
610	161A1158-1		.	.	BEARING-LWR						1
615	161A1159-1		.	.	SPACER-TUBE						1
620	161A1162-1		.	.	VALVE-RECOIL						1
625	161A1164-1		.	.	RING-PISTON UPR BRG						1
630	161A1163-1		.	.	BEARING-UPR						2
635	161A1167-1		.	.	CARRIER ASSY-UPR BRG					C-P	1
-635A	161A1167-1				DELETED						
-635B	161A1167-4				DELETED						
-635C	161A1167-4		.	.	CARRIER ASSY-UPR BRG					A, B, G, H, Q-AK	1
640	161A1167-2		.	.	CARRIER-HALF (MATCHED SET) (USED ON ITEM 635)					C-P	1
-640A	161A1167-6		.	.	CARRIER-HALF (MATCHED SET) (USED ON ITEMS 635C)					A, B, G, H, Q-AK	1
645	161A1167-3		.	.	CARRIER-HALF (MATCHED SET) (USED ON ITEM 635)					C-P	1
-645A	161A1167-5		.	.	CARRIER-HALF (MATCHED SET) (USED ON ITEMS 635C)					A, B, G, H, Q-AK	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
650	161A1120-1		.	.	CYLINDER ASSY-INNER, COMPLETE					G, H, L, M, S, T, Z, AD, AG, AH	1
-650A	161A1120-2		.	.	CYLINDER ASSY-INNER, COMPLETE					C, D, N, P, U-X, AA, AE, AJ, AK	1
-650B	161A1120-3		.	.	CYLINDER ASSY-INNER, COMPLETE					A, B, E, F, J, K, Q, R, Y, AC	1
-650C	161A1120-4		.	.	CYLINDER ASSY-INNER, COMPLETE					AB, AF	1
655	BACP10BC04A12H				DELETED						
655A	BACP18BC04A12H		.	.	PIN-COTTER						1
660	161A1128-1		.	.	PIN (LIFE LIMITED PART) (OPT ITEM 660A)					G, H, L, M, S, T, Z, AD, AG, AH	1
-660A	161A1128-2		.	.	PIN (LIFE LIMITED PART) (OPT ITEM 660)					G, H, L, M, S, T, Z, AD, AG, AH	1
-660B	161A1128-2		.	.	PIN (LIFE LIMITED PART)					A-F, J, K, N-R, U-Y, AA, AC, AE, AJ, AK	1
-660C	161A1128-3		.	.	PIN (LIFE LIMITED PART)					AB, AF	1
665	NAS1149E1032P		.	.	WASHER (OPT ITEM 665A)						1
-665A	NAS1149E1063P		.	.	WASHER (OPT ITEM 665)						1
667	BACN11N110CD		.	.	NUT (OPT ITEM 667A)					C, D, G, H, L-P, S- X, Z, AA, AD, AE, AG-AK	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-667A	MS14145L10		. . .	NUT						C, D, G, H, L-P, S- X, Z, AA, AD, AE, AG-AK	1
				(OPT ITEM 667)							
-667B	BACN11N110CD		. . .	NUT						A, B, E, F, J, K, Q, R, Y, AB, AC, AF	1
670	161A1127-1		. . .	SLEEVE-BRAKE							2
675	161A1130-1		. . .	AXLE ASSY						G, H, L, M, S, T, Z, AD, AG, AH	1
-675A	161A1130-3		. . .	AXLE ASSY						C, D, N, P, U-X, AA, AE, AJ, AK	1
-675B	161A1130-5		. . .	AXLE ASSY						A, B, E, F, J, K, Q, R, Y, AC	1
-675C	161A1130-7		. . .	AXLE ASSY						AB, AF	1
680	161A1132-1		. . . .	PIN							2
685	161A1131-1		. . . .	SLEEVE-WHEEL							2
690	161A1133-1		. . . .	BUSHING						A-AA, AC-AE, AG-AK	1
-690A	161A1133-3		. . . .	BUSHING						AB, AF	1
695	161A1130-2		. . . .	AXLE						G, H, L, M, S, T, Z, AD, AG, AH	1
				(LIFE LIMITED PART)							
-695A	161A1130-4		AXLE						C, D, N, P, U-X, AA, AE, AJ, AK	1
				(LIFE LIMITED PART)							

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-695B	161A1130-6		. . . .					AXLE (LIFE LIMITED PART)	A, B, E, F, J, K, Q, R, Y, AC	1
-695C	161A1130-8		. . . .					AXLE (LIFE LIMITED PART)	AB, AF	1
700	161A1121-1		. . .					CYLINDER ASSY-INNER	G, H, L, M, S, T, Z, AD, AG, AH	1	
-700A	161A1126-1		. . .					CYLINDER ASSY-INNER	C, D, N, P, U-X, AA, AE, AJ, AK	1	
-700B	161A1129-1		. . .					CYLINDER ASSY-INNER	A, B, E, F, J, K, Q, R, Y, AC	1	
-700C	161A1126-3		. . .					CYLINDER ASSY-INNER	AB, AF	1	
705	MS15004-1		. . . .					FITTING-LUBE	A-AA, AC-AE, AG-AK	4
-705A	AS15004-1		. . . .					FITTING-LUBE	AB, AF	4
710	161W7010-1		. . . .					INSERT		4
715	161A1123-1		. . . .					BUSHING		1
720	161A1124-1		. . . .					BUSHING	A-AA, AC-AE, AG-AK	2
-720A	161A1124-2		. . . .					BUSHING	AB, AF	2
725	161A1125-1		. . . .					BUSHING		2
730	161A1125-2		. . . .					BUSHING		2
735	161A1121-2						CYLINDER (LIFE LIMITED PART)	G, H, L, M, S, T, Z, AD, AG, AH	1	
-735A	161A1126-2						CYLINDER (LIFE LIMITED PART)	C, D, N- P, U-X, AA, AE, AJ, AK	1	

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-735B	161A1129-2		. . . .							A, B, E, F, J, K, Q, R, Y, AC	1
-735C	161A1126-4		. . . .							AB, AF	1
740	161A1160-1		. .								1
745	NAS6704-9		. .							C-AA, AC-AE	1
-745A	BACB30LM4-9		. .							A, B, AB, AF-AK	1
750	NAS1149E0432P		. .								1
755	H52732-4CD		. .								1
760	161A1171-1		. .								1
765	161A1161-1		. .								1
770	161A1170-1		. .								1
775	162T1518-1		. . .								1
780	161A1170-2		. . .								1
785	161A1166-1		. .								1
790	7442MTE160P8		. .								1
-790A	S34702-442BAK29		DELETED								
-790B	PBZF0A0004		. .								1
795	161A1152-1		. .							C, D, G, H	1
-795A	161A1152-2		. .							A, B, E, F, J-AK	1
-795B	161A1152-2		DELETED								
800	7433MT160P8		. .								1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY	
			1	2	3	4	5	6	7			
1- -800A	S34702-433BAK29		.	.								1
805	161A1156-1		.	.								1
810	161A1169-1		.	.								1
815	162T1518-1		.	.	.							1
820	161A1169-2		.	.	.							1
825	161A1150-1		.	.								1
830	161A1110-1		.	.						G		1
-830A	161A1118-1		.	.							C	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -830B	161A1116-1		. . CYLINDER ASSY-OUTER (161A1118-5 T/W 1 EA 1C3976 1 EA 161A1200-5, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116- 1 T/W 1 EA 2C9342, 1 EA 161A1200-9, 1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1118-1 T/W 1 EA 161A1200-5, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116-1 T/W 1 EA 161A1200-9, 1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1110-5 OR 161A1110-9 T/W 1EA 1C3976 MAY REPLACE 161A1116-1 T/W 1EA 2C9342) (161A1116-5 T/W 1 EA 1C3976 I/W 161A1116-1 T/W 1 EA 2C9342) (CONT AT ITEM 830N)							E	1
-830C	161A1110-5		. . CYLINDER ASSY-OUTER (161A1110-5 OR 161A1110-9 T/W 1EA 1C3976 IS INTER- CHANGEABLE WITH 161A1110-1 T/W 1EA 2C9342) (161A1118-5 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-5 OR 161A1110-9 T/W 1EA 161A1200-9, 1EA 161A1190-1 & 1EA 161A1188-1) (161A1118-1 T/W 1 EA 2C9342 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110- 5 T/W 1 EA 1C3976 1 EA 161A1200-9 1 EA 161A1190-1) (161A1110-5 OR 161A1110-9 T/W 1EA 1C3976 MAY REPLACE 161A1116-1 T/W 1EA 2C9342) (CONT AT ITEM 830M)							L	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -830D	161A1118-5		. . CYLINDER ASSY-OUTER (161A1118-5 T/W 1 EA 1C3976 1 EA 161A1200-5, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116- 1 T/W 1 EA 2C9342, 1 EA 161A1200-9, 1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1118-5 T/W 1C3976 1 EA 161A1200-5 1 EA 161A1190 -2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 2C9342 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1182-1) (161A1118-5 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1110-5 OR 161A1110-9 T/W 1EA 161A1200-9, 1EA 161A1190-1 & 1EA 161A1188-1) (161A1118-5 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-5 T/W 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1188-5)							N	1
-830E	161A1116-5		. . CYLINDER ASSY-OUTER (161A1118-1 T/W 1 EA 161A1200-5, 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-1 T/W 1 EA 161A1200-9, 1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1110-1 T/W 2C9342 MAY REPLACE 161A1116-5 T/W 1C3976) (161A1116- 5 T/W 1 EA 1C3976 I/W 161A1116-1 T/W 1 EA 2C9342) (161A1118-5 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116-5 T/W 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1188-5)							J	1
-830F	161A1118-1		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 830A) (161A1118-5 OR -9 T/W 1C3976 I/W 161A1118-1 TW 2C9342)							C	1
-830G	161A1118-5		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 830D) (161A1118-5 OR -9 T/W 1C3976 I/W 161A1118-1 TW 2C9342)							N	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-830H	161A1116-9		.	.	CYLINDER ASSY-OUTER					Q, Y	1
-830J	161A1118-9		.	.	CYLINDER ASSY-OUTER (161A1118-5 OR -9 T/W 1C3976 I/W 161A1118-1 TW 2C9342)					U, W, AA	1
-830K	161A1110-9		.	.	CYLINDER ASSY-OUTER (161A1110-5 OR 161A1110-9 T/W 1EA 1C3976 IS INRER- CHANGEABLE WITH 161A1110-1 T/W 1EA 2C9342) (161A1118-5 T/W 1C3976 1 EA 161A1200-5 1 EA 161A1190- -2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 2C9342 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1182-1) (161A1118-1 T/W 1 EA 2C9342 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-5 T/W 1 EA 1C3976 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1188-1) (161A1110-5 OR 161A1110-9T/W 1EA 1C3976 MAY REPLACE 161A1116-1 T/W 1EA 2C9342)				S, Z	1	
-830L	161A1110-1		.	.	CYLINDER ASSY-OUTER (CONT FROM ITEM 830)					G	1
-830M	161A1110-5		.	.	CYLINDER ASSY-OUTER (CONT FROM ITEM 830C)					L	1
-830N	161A1116-1		.	.	CYLINDER ASSY-OUTER (CONT FROM ITEM 830B)					E	1
-830P	161A1118-13		.	.	CYLINDER ASSY-OUTER					AB	1
-830Q	161A1110-13		.	.	CYLINDER ASSY-OUTER					AG	1
-830R	161A1116-13		.	.	CYLINDER ASSY-OUTER					A	1
-830S	161A1118-17		.	.	CYLINDER ASSY-OUTER					AJ	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -835	161A1110-2		. . CYLINDER ASSY-OUTER (161A1118-5 T/W 1C3976 1 EA 161A1200-5 1 EA 161A1190- -2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 2C9342 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1182-1) (161A1118-1 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1188-1)							H	1
-835A	161A1118-2		. . CYLINDER ASSY-OUTER (161A1118-2 T/W 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-2 T/W 1 EA 161A1200-10,1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1118-1 T/W 1 EA 161A1200-5 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1188-1) (161A1118-2 T/W 1 EA 2C9342 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 1C3976, 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1) (CONT AT ITEM 835J)							D	1
-835B	161A1116-2		. . CYLINDER ASSY-OUTER (161A1118-6 T/W 1 EA 1C3976 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116- 2 T/W 1 EA 2C9342, 1 EA 161A1200-10,1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1110-6 OR 161A1110-10 T/W 1EA 1C3976 MAY REPLACE 161A1116-2 T/W 1EA 2C9342) (161A1118-2 T/W 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116-2 T/W 1 EA 161A1200-10,1 EA 161A1190-1 AND 1 EA 161A1188- 5) (CONT AT ITEM 835G)							F	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -835C	161A1110-6		. . CYLINDER ASSY-OUTER (161A1110-6 OR 161A1110-10 T/W IEA 1C3976 IS INTERCHANGEABLE WITH 161A1110-2 T/W 1EA 2C9342) (161A1118-6 T/W 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1) (161A1118-2 T/W 1 EA 2C9342 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 1C3976, 1 EA 161A1200-10, 1EA 161A1190-1 AND 1 EA 161A1188-1) (CONT AT ITEM 835N)							M	1
-835D	161A1118-6		. . CYLINDER ASSY-OUTER (161A1118-2 OR -6 T/W 1 EA 161A1200-6, 1 EA 161A1190-2 MAY REPLACE 161A1110-2 OR 161A1116-2 T/W 161A1200-2 AND 1 EA 161A1190-1) (161A1118-5 T/W 1C3976 1 EA 161A1200-5 1 EA 161A1190 -2 AND 1 EA 161A1188-3 MAY REPLACE 161A1110-1 T/W 2C9342 1 EA 161A1200-9 1 EA 161A1190-1 AND 1 EA 161A1182-1) (161A1118-6 T/W 1 EA 161A1200-6 1 EA 161A1190-2 AND 1EA 161A1188- 3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1) (161A1118-6 T/W 1 EA 1C3976 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116- 2 T/W 1 EA 2C9342, 1 EA 161A1200-10,1 EA 161A1190-1 AND 1 EA 161A1188-5) (CONT AT ITEM 835H)							P	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -835E	161A1116-6		. . CYLINDER ASSY-OUTER (161A1110-2 T/W 2C9342 MAY REPLACE 161A1116-6 T/W 1C3976) (161A1116-6 T/W 1 EA 1C3976 I/W 161A1116-2 T/W 1 EA 2C9342) (161A1118-6 T/W 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-6 T/W 1 EA 161A1200-9 1 EA 161A1190-10 AND 1EA 161A1188-5) (161A1118-2 T/W 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188-3 MAY REPLACE 161A1116-1 T/W 1 EA 161A1200-10, 1 EA 161A1190-1 AND 1 EA 161A1188-5)							K	1
-835F	161A1110-2		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 835) (161A1110- 6 OR 161A1110-10 T/W 1 EA 1C3976 IS INTER- CHANGEABLE WITH 161A1110-2 T/W 1EA 2C9342) (161A1110-2 T/W 2C9342 MAY REPLACE 161A1116-6 T/W 1C3976)							H	1
-835G	161A1116-2		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 835B) (161A1116-6 T/W 1 EA 1C3976 I/W 161A1116-2 T/W 1 EA 2C9342)							F	1
-835H	161A1118-6		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 835D) (161A1118-6 T/W 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-6 T/W 1 EA 161A1200-9 1 EA 161A1190-10 AND 1EA 161A1188-5) (161A1118-6 OR -10 T/W 1C3976 I/W 161A1118-2 T/W 2C9342) (161A1118-6 T/W 1EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A188-3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1)							P	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -835J	161A1118-2		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 835A) (161A1118-2 T/W 1 EA 161A1200-6, 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1116-1 T/W 1 EA 161A1200-10, 1 EA 161A1190-1 AND 1 EA 161A1188-5) (161A1118-6 OR -10 T/W 1C3976 I/W 161A1118-2 T/W 2C9342) (161A1118-2 T/W 1 EA 2C9342-1, 1EA 161A1200-6 1EA 161A1190-2 AND 1EA 161A1188-3 MAY REPLACE 161A1110-6OR 161A1110-10 T/W 1EA 1C3976, 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1)							D	1
-835K	161A1116-10		. . CYLINDER ASSY-OUTER							R, AC	1
-835L	161A1118-10		. . CYLINDER ASSY-OUTER (161A1118-6 OR -10 T/W 1C3976 I/W 161A1118-2 T/W 2C9342)							V, X, AE	1
-835M	161A1110-10		. . CYLINDER ASSY-OUTER (161A1118-6 T/W 1 EA 161A1200-6 1 EA 161A1190-2 AND 1 EA 161A1188- 3 MAY REPLACE 161A1110-6 OR 161A1110- 10 T/W 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1) (161A1118-2 T/W 1 EA 2C9342-1, 1EA 161A1200-6, 1EA 161A1190-2 AND 1EA 161A1188-3 MAY REPLACE 161A1110-6 OR 161A1110-10 T/W 1EA 1C3976, 1EA 161A1200-10, 1EA 161A1190-1 AND 1EA 161A1188-1) (161A1110-6 OR 161A1110-10 T/W 1EA 1C3976 MAY REPLACE 161A1116-2 T/W 1EA 2C9342)							T, AD	1
-835N	161A1110-6		. . CYLINDER ASSY-OUTER (CONT FROM ITEM 835C) (161A1110-6 OR 161A1110-10 T/W 1EA 1C3976 MAY REPLACE 161A1116-2 T/W 1EA 2C9342)							M	1
-835P	161A1118-14		. . CYLINDER ASSY-OUTER							M, AF	1
-835Q	161A1110-14		. . CYLINDER ASSY-OUTER							AH	1
-835R	161A1116-14		. . CYLINDER ASSY-OUTER							B	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-835S	161A1118-18		.	.	CYLINDER ASSY-OUTER					AK	1
840	MS15004-1		.	.	FITTING-LUBE					C-AA, AC-AE	6
-840A	AS15004-1		.	.	FITTING-LUBE (VU6153)					A, B, AB, AF-AK	6
845	MS15004-2		.	.	FITTING-LUBE					C-AA, AC-AE	1
-845A	AS15004-2		.	.	FITTING-LUBE					A, B, AB, AF-AK	1
850	161W7010-1		.	.	INSERT						7
855	161A1112-1		.	.	BUSHING					A-AA, AC-AE, AG-AK	1
-855A	161A1112-3		.	.	BUSHING					AB, AF	1
860	161A1112-2		.	.	BUSHING					A-AA, AC-AE, AG-AK	1
-860A	161A1112-3				DELETED						
-860B	161A1112-4		.	.	BUSHING					AB, AF	1
865	161A1115-1		.	.	BUSHING (PRE SB 737-32-1393)					C-AA, AC-AE	4
867	161A1115-5		.	.	BUSHING					A, B, AB, AF-AK	2
-867A	161A1115-5		.	.	BUSHING (POST SB 737-32-1393)					C-AA, AC-AE	2
870	161A1115-2		.	.	BUSHING (PRE SB 737-32-1393)					C-AA, AC-AE	4
872	161A1115-6		.	.	BUSHING					A, B, AB, AF-AK	2
-872A	161A1115-6		.	.	BUSHING (POST SB 737-32-1393)					C-AA, AC-AE	2
875	161A1115-3		.	.	BUSHING					A, B, E- M, Q-T, Y, Z, AC, AD, AG, AH	2

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-875A	161A1117-1		. . .	BUSHING						C, D, N- P, U-X, AA, AE, AJ, AK	2
-875B	161A1117-2		. . .	BUSHING						AB, AF	2
880	161A1115-4		. . .	BUSHING							2
885	161A1114-1		. . .	BUSHING							2
890	161A1119-3		. . .	BUSHING							2
895	161A1119-4		. . .	BUSHING							2
900	161A1119-7		. . .	BUSHING							1
905	161A1119-8		. . .	BUSHING							1
910	161A1119-1		. . .	BUSHING							3
915	161A1119-2		. . .	BUSHING							3
920	161A1119-5		. . .	BUSHING							4
925	161A1119-6		. . .	BUSHING							4
930	BCREF12323		. . .	BUSHING (V50632) (KJB165100B12-066)							2
935	161A1113-1		. . .	BUSHING							1
940	161A1113-2		. . .	BUSHING							1
942	161A1113-3		. . .	BUSHING						A-AA, AC-AE, AG-AK	2
-942A	161A1113-4		. . .	BUSHING						AB, AF	2
945	161A1110-3		. . .	CYLINDER (LIFE LIMITED PART)						G	1
-945A	161A1118-3		. . .	CYLINDER (LIFE LIMITED PART)						C	1
-945B	161A1116-3		. . .	CYLINDER (LIFE LIMITED PART)						E	1
-945C	161A1110-7		. . .	CYLINDER (LIFE LIMITED PART)						L	1
-945D	161A1118-7		. . .	CYLINDER (LIFE LIMITED PART)						N	1
-945E	161A1116-7		. . .	CYLINDER (LIFE LIMITED PART)						J	1

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-945F	161A1116-11		. . .	CYLINDER						Q, Y	1
				(LIFE LIMITED PART)							
-945G	161A1118-11		. . .	CYLINDER						U, W, AA	1
				(LIFE LIMITED PART)							
-945H	161A1110-11		. . .	CYLINDER						S, Z	1
				(LIFE LIMITED PART)							
-945J	161A1118-15		. . .	CYLINDER						AB	1
				(LIFE LIMITED PART)							
-945K	161A1116-15		. . .	CYLINDER						A	1
				(LIFE LIMITED PART)							
-945L	161A1118-19		. . .	CYLINDER						AJ	1
				(LIFE LIMITED PART)							
-945M	161A1110-15		. . .	CYLINDER						AG	1
				(LIFE LIMITED PART)							
-950	161A1110-4		. . .	CYLINDER						H	1
				(LIFE LIMITED PART)							
-950A	161A1118-4		. . .	CYLINDER						D	1
				(LIFE LIMITED PART)							
-950B	161A1116-4		. . .	CYLINDER						F	1
				(LIFE LIMITED PART)							
-950C	161A1110-8		. . .	CYLINDER						M	1
				(LIFE LIMITED PART)							
-950D	161A1118-8		. . .	CYLINDER						P	1
				(LIFE LIMITED PART)							
-950E	161A1116-8		. . .	CYLINDER						K	1
				(LIFE LIMITED PART)							
-950F	161A1116-12		. . .	CYLINDER						R, AC	1
				(LIFE LIMITED PART)							
-950G	161A1118-12		. . .	CYLINDER						V, X, AE	1
				(LIFE LIMITED PART)							
-950H	161A1110-12		. . .	CYLINDER						T, AD	1
				(LIFE LIMITED PART)							
-950J	161A1118-16		. . .	CYLINDER						AF	1
				(LIFE LIMITED PART)							
-950K	161A1116-16		. . .	CYLINDER						B	1
				(LIFE LIMITED PART)							
-950L	161A1118-20		. . .	CYLINDER						AK	1
				(LIFE LIMITED PART)							

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-950M	161A1110-16		. . .	CYLINDER						AH	1
				(LIFE LIMITED PART)							
952	BAC27WLG41		. . .	DECAL						C-H	2
955	MS28889-2		. .	VALVE-AIR							1
960	MS28778-5		. .	PACKING							1
965	2C9342		. .	VALVE-CHECK						C-H	1
				(V99240)							
-965A	1C3976		. .	VALVE-CHECK						A, B, J- AK	1
				(V99240)							
970	AP1008-4		. .	CAP-PRESSURE						C-H	1
				(V01673)							
				(SPEC BACC14AD4)							
				(OPT US2103-4 (V50808))							
972	MMS122		. .	TAG-SHIPPING						C-X	AR
				(V39661)							
975	3140AC086E		. CLAMP							A, B, E, F, J, K, Q, R, Y, AC	1
				(V94581)							
				(SPEC BACC10FY086TE)							
				(OPT BC1083-086TE (V14242))							
				(OPT NE103336-086 (V8W928))							
-975A	3140AC086E		. CLAMP							C, D	1
				(V94581)							
				(SPEC BACC10FY086TE)							
				(OPT BC1083-086TE (V14242))							
				(OPT NE103336-086 (V8W928))							
				(OPT ITEM 975B)							
-975B	3140AC088E		. CLAMP							C, D	1
				(V94581)							
				(SPEC BACC10FY088TE)							
				(OPT BC1083-088TE (V14242))							
				(OPT NE103336-088 (V8W928))							
				(OPT ITEM 975A)							
-975C	3140AC086E		. CLAMP							G, H	1
				(V94581)							
				(SPEC BACC10FY086TE)							
				(OPT BC1083-086TE (V14242))							
				(OPT NE103336-086 (V8W928))							
				(OPT ITEM 975D)							

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1- -975D	3140AC087E		.	CLAMP (V94581) (SPEC BACC10FY087TE) (OPT BC1083-087TE (V14242)) (OPT NE103336-087 (V8W928)) (OPT ITEM 975C)						G, H	1
-975E	3140AC088E		.	CLAMP (V94581) (SPEC BACC10FY088TE) (OPT BC1083-088TE (V14242)) (OPT NE103336-088 (V8W928))						N, P, U- X, AA, AB, AE, AF, AJ, AK	1
-975F	3140AC087E		.	CLAMP (V94581) (SPEC BACC10FY087TE) (OPT BC1083-087TE (V14242)) (OPT NE103336-087 (V8W928))						L, M, S, T, Z, AD, AG, AH	1
977	3M8412		.	TAPE (V76381)						C-X	AR
-977A	NE354C5		.	TAPE (V76381)						A, B, Y- AK	AR
980	NAS1398D4A2		.	RIVET							4
985	161A1180-1		.	NAMEPLATE							1
				INSTALLATION PARTS							
990	161A1219-1			SLEEVE (POST SB 737-32-1312)							1
992	161A1220-1			SLEEVE (POST SB 737-32-1312)							1
994	161A1214-3			PIN-APEX (FOR DETAILS SEE CMM 32-11-16)							1
-994A	161A1214-4			PIN-APEX (FOR DETAILS SEE CMM 32-11-16)							1
995	161A1215-1			NUT-APEX (LIFE LIMITED PART) (POST SB 737-32-1312)						C-P	1
996	MS24665-374			PIN-COTTER						C-P	1

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