COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

MAIN LANDING GEAR SIDE STRUT ASSEMBLY

PART NUMBER 161A2100–10, –11, –12, –13, –14, –15, –16, –5, –6, –7, –8, –9

PUBLISHED BY BOEING COMMERCIAL AIRPLANES GROUP, SEATTLE, WASHINGTON, USA
A DIVISION OF THE BOEING COMPANY
PAGE DATE: Jul 01/2009

BOEING®

COMPONENT MAINTENANCE MANUAL

Revision No. 18
Jul 01/2009

To: All holders of MAIN LANDING GEAR SIDE STRUT ASSEMBLY 32-11-13.

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

IF YOU RECEIVE PRINTED REVISIONS, PLEASE VERIFY THAT YOU HAVE RECEIVED AND FILED THE PREVIOUS REVISION. BOEING MUST BE NOTIFIED WITHIN 30 DAYS IF YOU HAVE NOT RECEIVED THE PREVIOUS REVISION. REQUESTS FOR REVISIONS OTHER THAN THE PREVIOUS REVISION WILL REQUIRE A COMPLETE MANUAL REPRINT SUBJECT TO REPRINT CHARGES SHOWN IN THE DATA AND SERVICES CATALOG.

Location of Change	Description of Change
32-11-13	
REPAIR 4-1	Added a hole on lower downlock links 161A2105-series. Added clarifications and updated callouts. Added side strut assemblies 161A2100-13, -14 with adjusted geometry.
REPAIR 4-2	Added a hole on lower downlock links 161A2105-series. Added dimensions to define the angle of the froggie feet lugs.

BOEING®

COMPONENT MAINTENANCE MANUAL

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

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

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

TABLE OF CONTENTS

BOEING®

COMPONENT MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38168	DEC 01/97
		PRR 38137	DEC 01/97
	32-26	PRR 38610-5	JUL 01/06
		PRR 3800A-3	JUL 01/08

COMPONENT MAINTENANCE MANUAL

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

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

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

BOEING®

COMPONENT MAINTENANCE MANUAL

All temporary revisions to this manual will be accompanied by a cover sheet bearing the temporary revision number. Enter the temporary revision number in numerical order, together with the temporary revision date, the date the temporary revision is inserted and the initials of the person filing.
When the temporary revision is incorporated or cancelled, and the pages are removed, enter the date the pages are removed and the initials of the person who removed the temporary revision.

Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

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.

MAIN LANDING GEAR SIDE STRUT ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The side strut assembly consists of a steel upper strut, a steel lower strut, a steel reaction link, a titanium alloy hanger link and an aluminum alloy lock link.

2. Operation

A. The side strut braces and supports the main landing gear. The lock links lock the side strut in the extended position. During main landing gear extension, the side strut extends and the lock links travel into overcenter position, bracing the side strut.

3. Leading Particulars (Approximate)

A. Dimensions

(1) Length – 51 inches

(2) Width – 9 inches

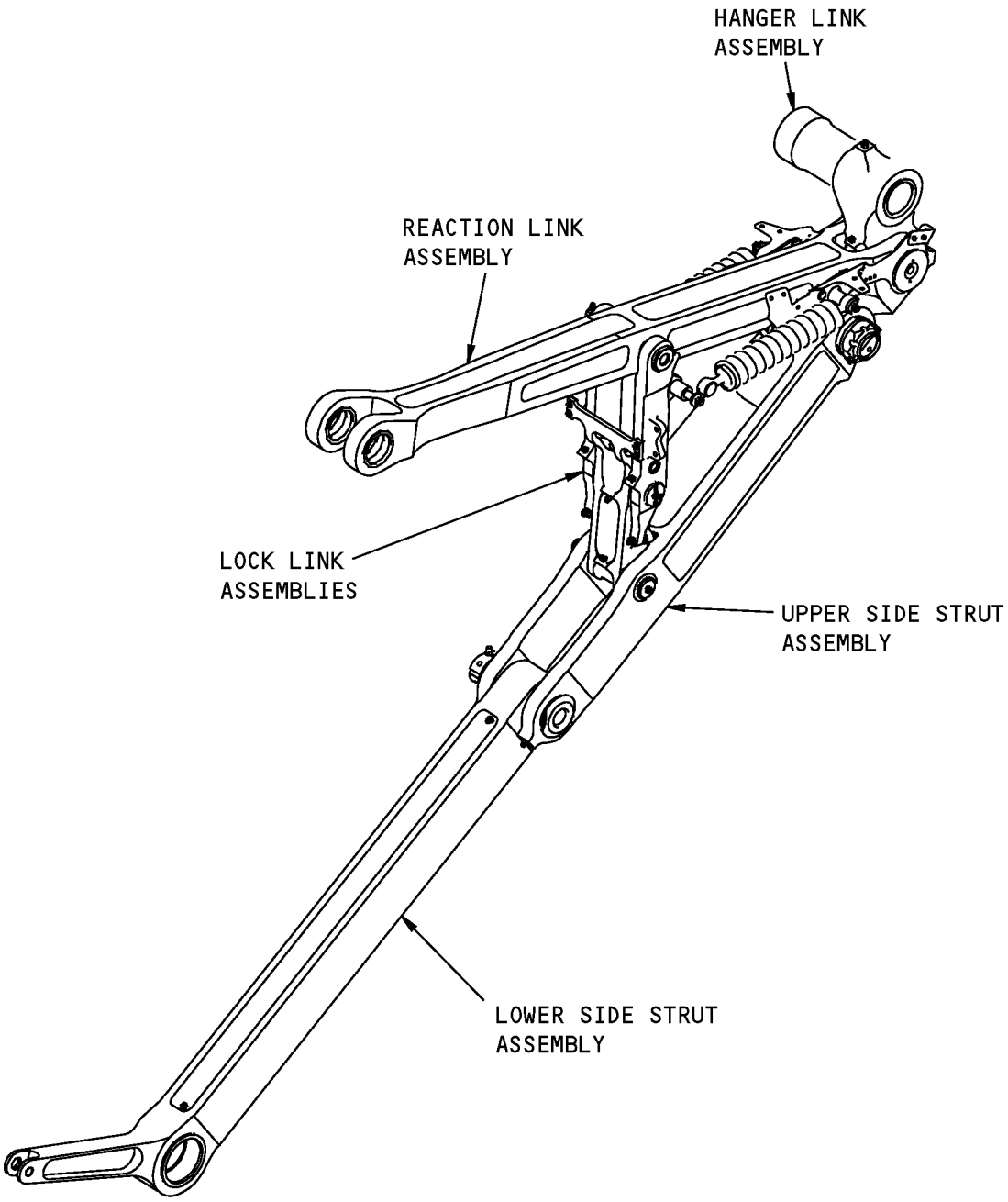
(3) Height – 45 inches

B. Weights

(1) 161A2100-5, -6 – 212 pounds

(2) 161A2100-7, -8 – 222 pounds

(3) 161A2100-9, -10 – 216 pounds



Main Landing Gear Side Strut Assembly
Figure 1

(NOT APPLICABLE)

DISASSEMBLY

1. General

A. This procedure tells how to disassemble the main gear side strut assembly.

B. Disassemble this component only sufficiently to isolate the 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-5400	Pin Removal/Installation Kit - Main Landing Gear (Part #: C32029-1, Supplier: 81205)

B. Procedure

WARNING: YOU MUST DISENGAGE THE SPRINGS (50) BEFORE DISASSEMBLY. FAILURE TO DO THIS STEP CAN CAUSE INJURY TO YOU OR DAMAGE TO THE PARTS.

(1) Remove the springs (50).

NOTE: Install thread protectors from pin removal/installation kit, SPL-5400 to give protection to the pin threads.

(2) Remove pin (430), bolt (415), washer (420), nuts (425, 440) and cotter pin (410) to disassemble upper side strut assembly (445) from reaction link assembly (510).

(3) Remove end cap (490), spacers (495, 500), washers (480), bolt (475), pin (505), nut (485) and cotter pin (470) to disassemble reaction link assembly (510) from hanger link assembly (570).

(4) Use standard industry practices to disassemble the other joints.

(5) Measure the thickness of shims (300A) to help during assembly.

(NOT APPLICABLE)

CHECK

1. General

A. This procedure tells how to find defects in the specified parts.

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

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

D. Refer to IPL Figure 1 and IPL Figure 2 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.

(2) Do a magnetic particle check (SOPM 20-20-01) of the parts that follow.

(a) Washers (20, 150, 170, 345A, 435, IPL Figure 1)

(b) End Fitting (45, IPL Figure 1)

(c) Pins (145, 165, 255, 505, IPL Figure 1; 65, IPL Figure 2)

(d) End Caps (250, 352, 490, IPL Figure 1; 60, IPL Figure 2)

(e) Stops (305, 307, IPL Figure 1; 5, 25, IPL Figure 2)

(f) Apex Bolt (340B, IPL Figure 1)

(3) Do a penetrant check (SOPM 20-20-02) of the parts that follow.

(a) Spring (50, IPL Figure 1)

(b) Lock Links (220, 225, IPL Figure 1; 110, 115, IPL Figure 2)

(c) Downlock Links (285A, IPL Figure 1; 145, IPL Figure 2)

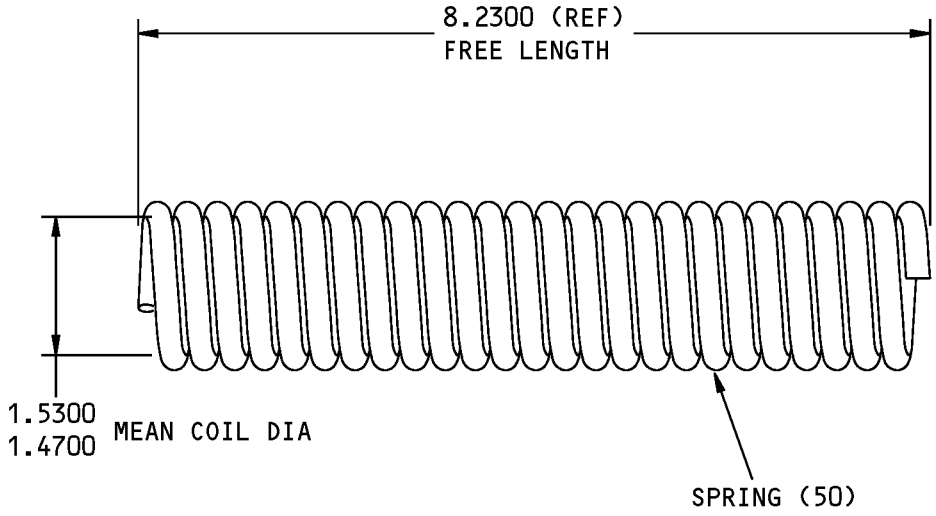
(d) Hanger Link (600, IPL Figure 1)

(4) Do a check of spring assembly (35, IPL Figure 1) (CHECK, Figure 501).

NOTE: The approximate free length is 10.920 inches. All length dimensions are between the centers of bushings (40, IPL Figure 1).

(a) Extend the unit 12.178-12.198 inches. The load must be 50-70 pounds.

(b) Extend the unit 16.197-16.217 inches. The load must be 220-280 pounds.



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Spring Check
Figure 501

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
161A2101	UPPER SIDE STRUT ASSEMBLY	2-1
161A2101	UPPER SIDE STRUT	2-2
161A2103	LOWER SIDE STRUT ASSEMBLY	3-1, 3-2
161A2105	LOWER DOWNLOCK LINK ASSEMBLY	4-1, 4-2
161A2107	UPPER LOCK LINK ASSEMBLY	5-1, 5-2
161A2111	APEX PIN	6-1
161A2112	DOWNLOCK PIN ASSEMBLY	7-1, 7-2
161A2122	PIN	8-1
161A2123	PIN	9-1
161A2124	APEX PIN	10-1
161A2125	SIDE STRUT NUT	11-1
161A2300	SPRING ASSEMBLY	12-1
161A2325	PIN	13-1
161A2326	PIN	14-1
161A4100	REACTION LINK ASSEMBLY	15-1, 15-2
161A4300	HANGER LINK ASSEMBLY	16-1, 16-2, 16-3
161A4302	PIN	17-1
161A2119	APEX BOLT	18-1

2. Dimensioning Symbols

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

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

EXAMPLES

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

True Position Dimensioning Symbols
Figure 601

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

A. This procedure tells how to refinish the parts which are not 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 and IPL Figure 2 for item numbers.

2. 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
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
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 listed in REPAIR 1-1, Table 601 are for the replacement of the original finish.

Table 601: Refinish Details

IPL FIG. AND ITEM NUMBER	MATERIAL	FINISH
IPL Fig. 1		
Washers (20, 345A)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-16.06) and apply primer, C00259 (F-20.02).
Spacers (22, 23)	Al-Ni-Bronze (AMS 4640 or AMS 4880)	No finish (F-25.01).
End Fitting (45)	15-5PH CRES, 150-170 ksi	Passivate (F-17.25).

Table 601: Refinish Details (Continued)

IPL FIG. AND ITEM NUMBER	MATERIAL	FINISH
Clip (80)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31). Apply primer, C00175 (F-19.47) and then gray enamel coating, C50075 (F-19.39-707).
Brackets (95, 100)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31). Apply primer, C00175 (F-19.47) and then gray enamel coating, C50075 (F-19.39-707).
Spacer (120)	Al-Ni-Bronze (AMS 4640)	Cadmium plate (F-15.06).
Washers (150, 170, 435)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-16.06) and apply primer, C00259 (F-20-02).
End Caps (250, 352)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
Stops (305, 307)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-16.06).
Shim (320)	BMS 7-335, Type 3 CRES	Cadmium plate (F-15.06) only the face without the laminations.
Target (330)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
End Cap (490)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).
Spacers (495, 500)	Delrin Plastic	No finish (F-25.01).
IPL Fig. 2		
Stops (5, 25)	15-5PH CRES, 180-200 ksi	Cadmium plate (F-16.06).
End Cap (60)	15-5PH CRES, 180-200 ksi	Passivate (F-17.25).

UPPER SIDE STRUT ASSEMBLY - REPAIR 2-1

161A2101–1, –3, –5, –7

1. General

A. This procedure tells how to replace the bushings and lube fittings of upper side strut assembly (445).

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
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 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure (REPAIR 2-1, Figure 601, REPAIR 2-1, Figure 602, and REPAIR 2-1, Figure 603)

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

(1) Remove old bushings (460, 462, 465) from upper side strut (467).

(2) If you find defects on the strut surfaces, refer to REPAIR 2-2 for repair instructions.

(3) Install replacement bushings (460, 462, 465) by the shrink-fit method with corrosion inhibiting non-drying paste, G50136 as specified in SOPM 20-50-03. Apply enough corrosion inhibiting non-drying paste, G50136 to fill the gap between the radius of the bushing flange and the chamfer of the hole. Remove unwanted corrosion inhibiting non-drying paste, G50136 from around the bushing flange and the gap between the bushings and clean with solvent. Fillet seal the bushings with sealant, A00247 by the 69B13372 procedure as specified in SOPM 20-50-19.

NOTE: For 161A2101-1, -3 and -5, sealant, A00247 and compound, C00913 are optional to corrosion inhibiting non-drying paste, G50136.

(4) Do a check of the dimensions and machine them as necessary.

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
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

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

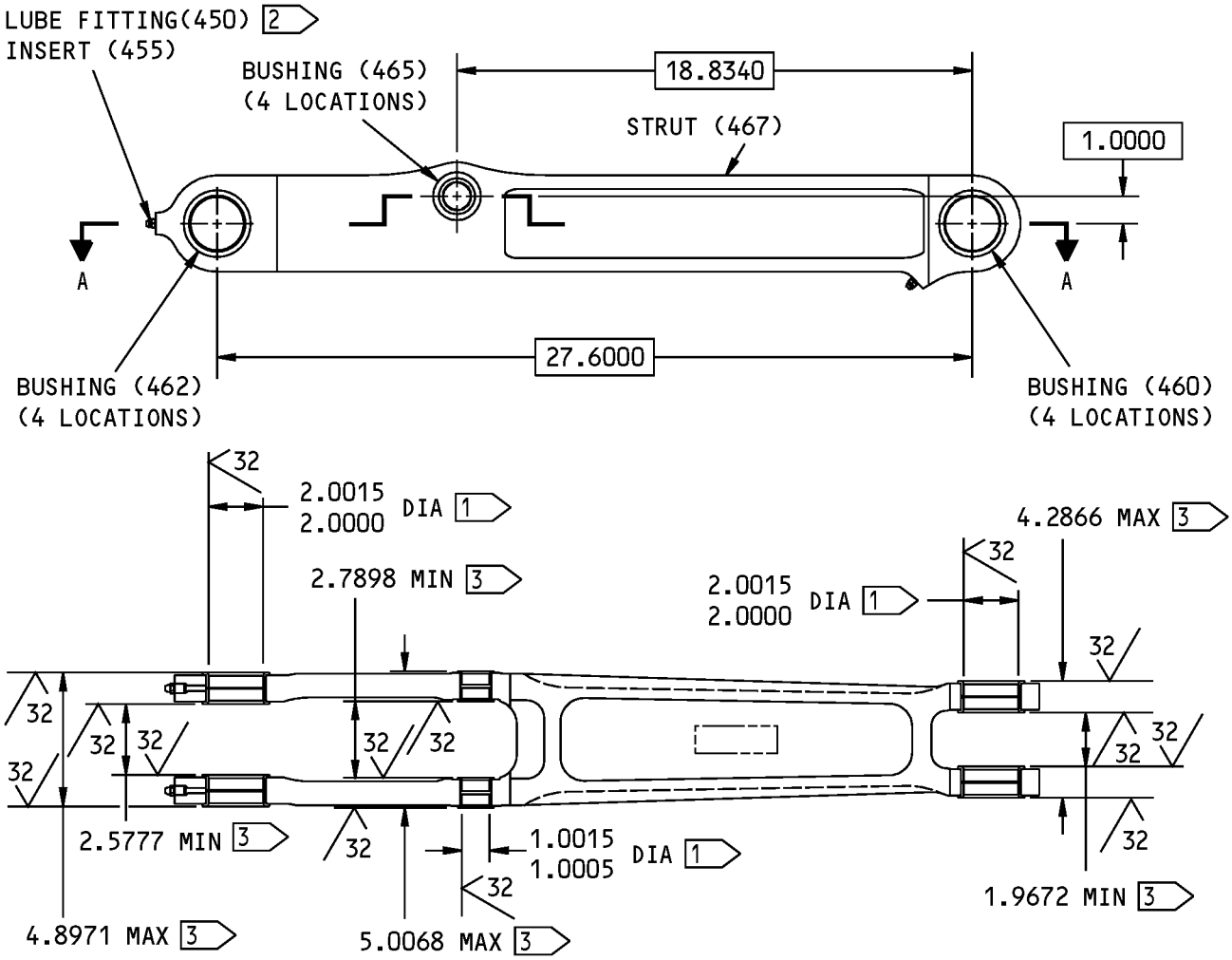
C. Procedure (REPAIR 2-1, Figure 601, REPAIR 2-1, Figure 602, and REPAIR 2-1, Figure 603)

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

(1) Remove old lube fittings (450) and inserts (455) from upper side strut (467).

(2) Install replacement inserts (455) by the shrink-fit method with sealant, A00247. Make sure each insert is flush with upper side strut (467) within ± 0.0200 inch.

(3) Install the replacement lube fittings and tighten them as shown. Before sealant, A00247 dries, apply grease, D00633 at each lubrication fitting until you see grease, D00633 come out at the inside diameter of the bushing.



A–A

1 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

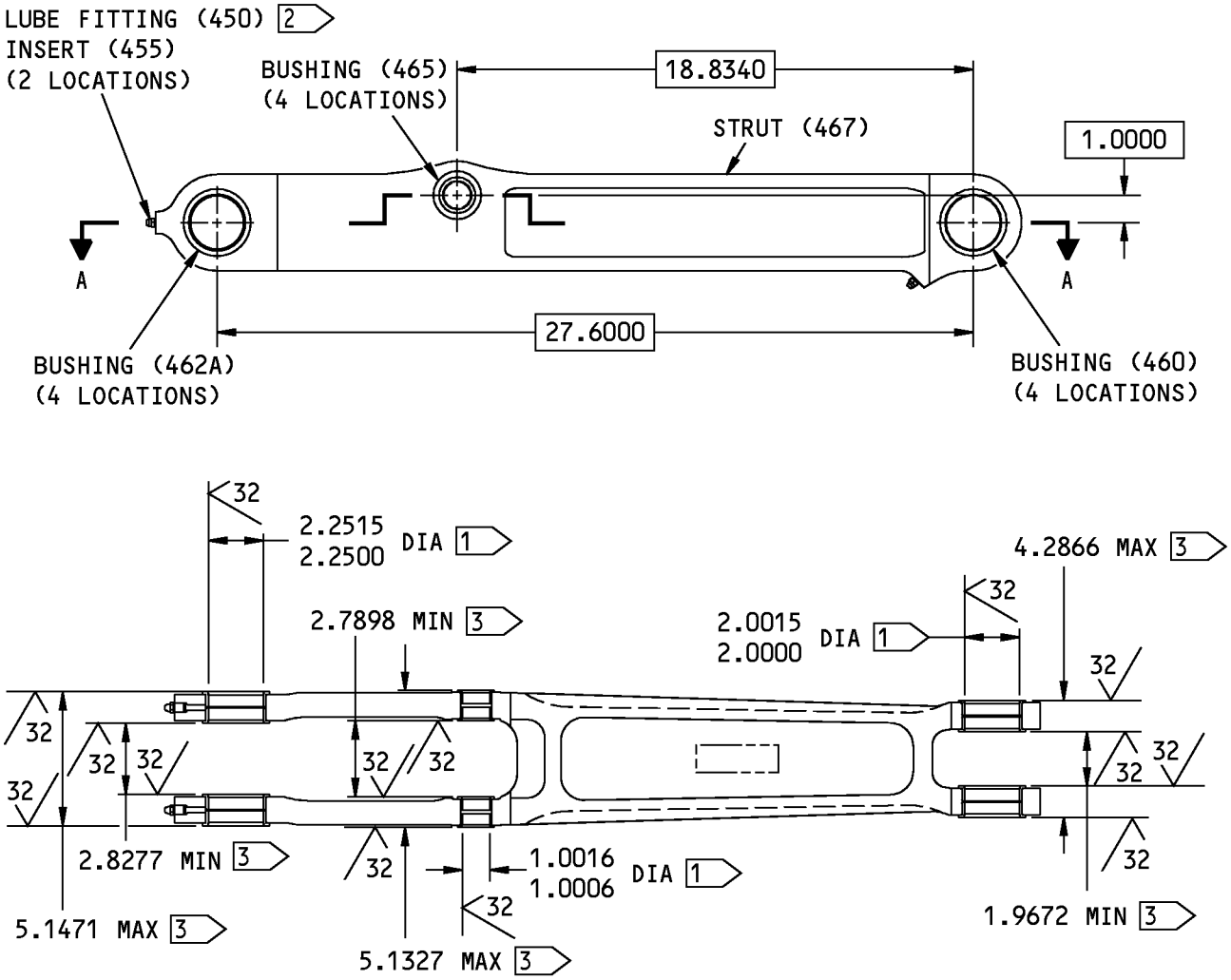
2 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND INCHES

3 BUSHING FACE INSTALLATION DIMENSION.

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2101-1 Upper Side Strut Assembly Repair
Figure 601



A–A

1 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

2 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND INCHES

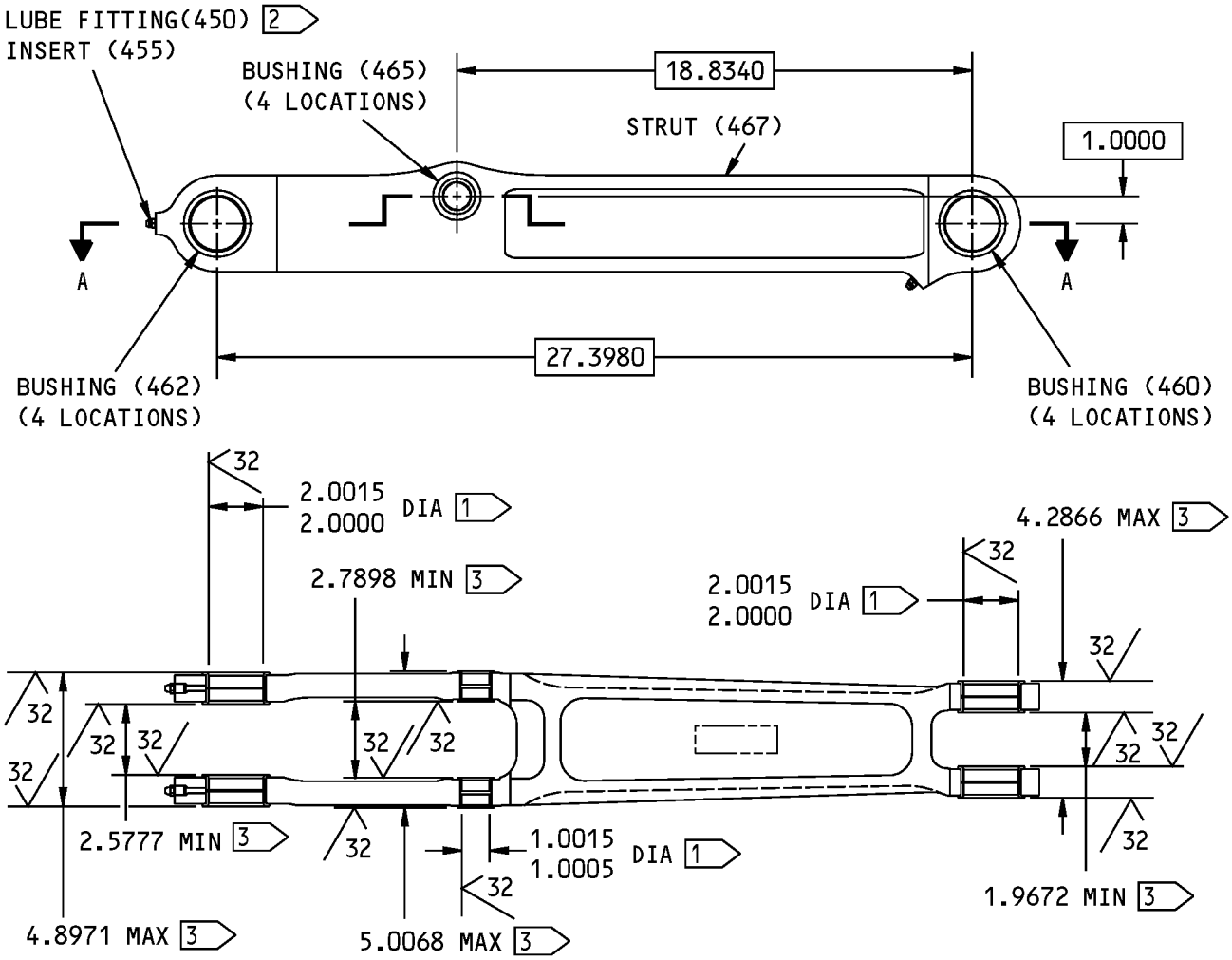
3 BUSHING FACE INSTALLATION DIMENSION

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

U59772 S0000208209_V2

161A2101-3, -7 Upper Side Strut Assembly Repair
Figure 602



A–A

1 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

2 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND INCHES

3 BUSHING FACE INSTALLATION DIMENSION.

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2101-5 Upper Side Strut Assembly Repair
Figure 603

UPPER SIDE STRUT - REPAIR 2-2

161A2101–2, –4, –6, –8

1. General

A. Use this procedure to repair and refinish upper side strut (467).

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) 275-300 ksi

(2) Shot peen: All surfaces, but not in the lubrication holes.

(a) Intensity 0.014-0.019A2

(b) Coverage 2.0

(c) Hard Shot Rc 55-65

2. Upper Side Strut Repair

A. Procedure (REPAIR 2-2, Figure 601, REPAIR 2-2, Figure 602 and REPAIR 2-2, Figure 603)

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

(2) Refinish as specified in REPAIR 2-2, Paragraph 3.

(3) Make oversize bushings (REPAIR 2-2, Figure 604) to adjust for the material removed.

(4) Install the bushings as specified in REPAIR 2-1.

3. 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

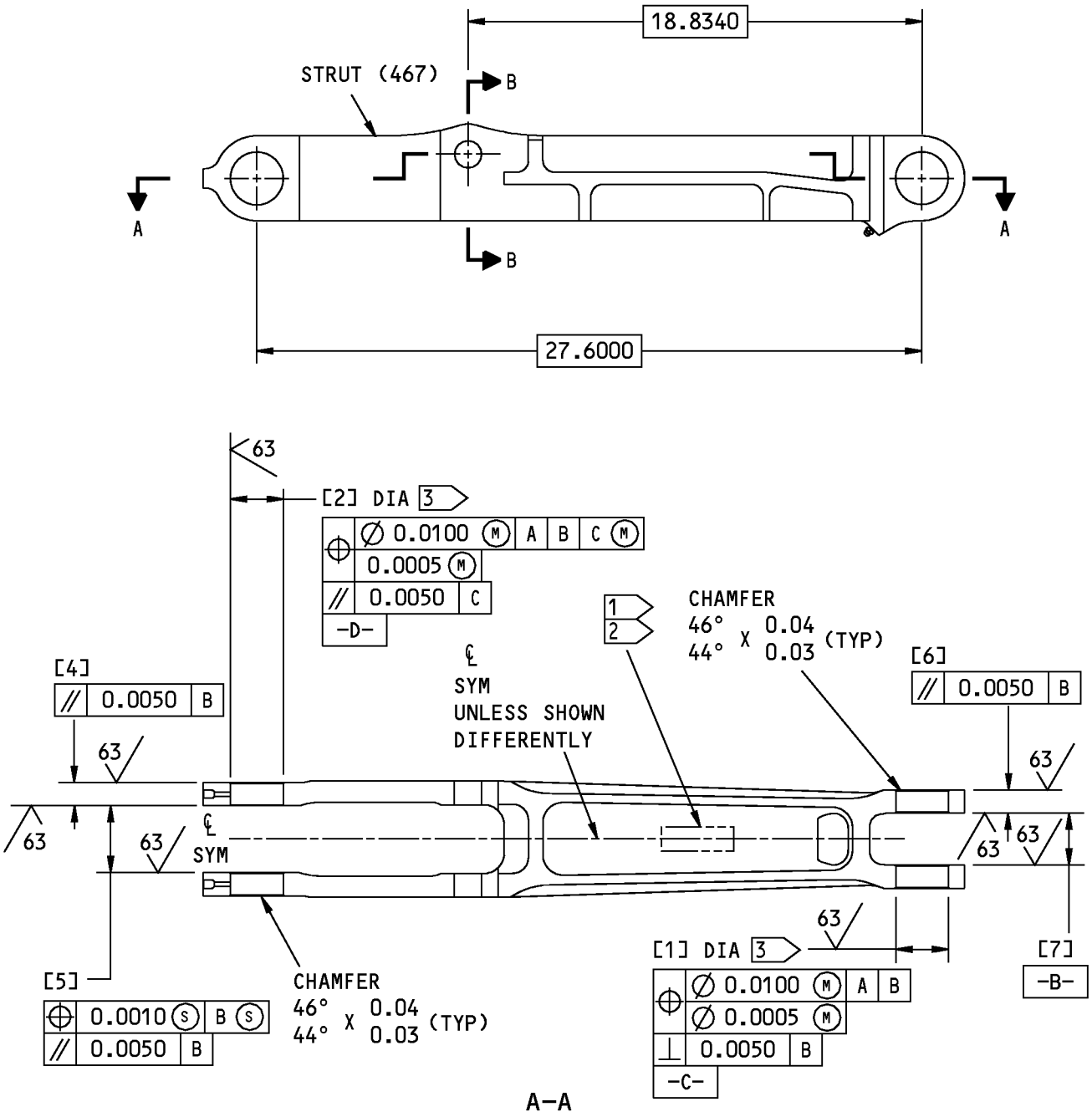
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 2-2, Figure 601, REPAIR 2-2, Figure 602 and REPAIR 2-2, Figure 603)

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.

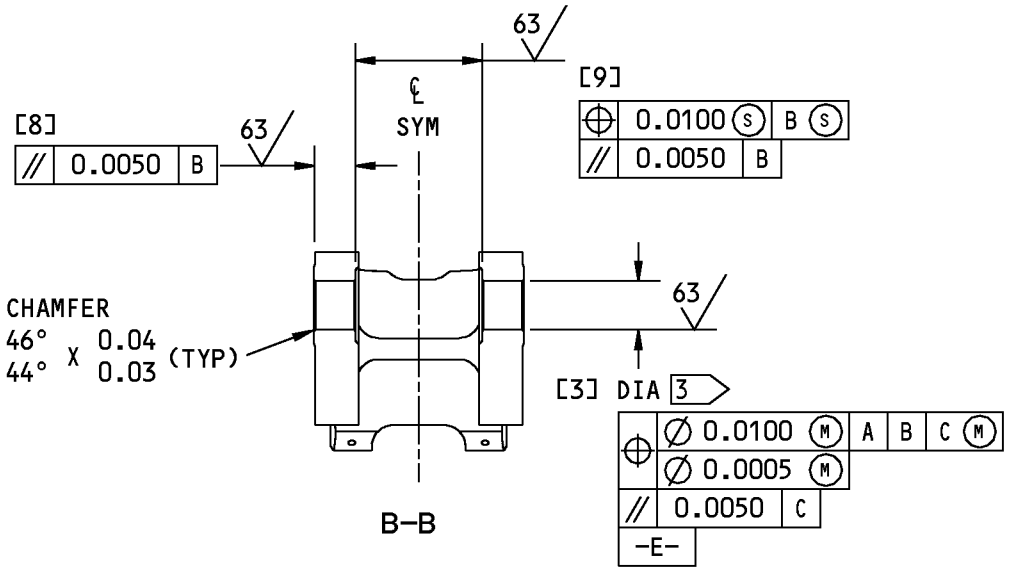
(1) Cadmium-titanium plate (F-15.01). Apply primer, C00175 (F-19.66) unless shown differently.

(2) After bushing and lube fitting installation, apply enamel coating, C00033 (F-20.56-707) unless shown differently.



F72518 S0004997070_V3

161A2101-2 Upper Side Strut Repair and Refinish
Figure 601 (Sheet 1 of 2)



REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
DESIGN DIMENSION	2.1895 2.1880	2.1895 2.1880	1.1270 1.1260	0.9600 0.9550	2.7799 2.7749	0.9600 0.9550	2.1694 2.1644	0.9708 0.9658	2.9300 2.9250
REPAIR LIMIT 4	2.2495	2.2495	1.1870	0.8950	2.8399	0.8950	2.2294	0.9058	2.9900

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE SURFACE AREA AS NECESSARY. APPLY BMS 10-60 TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE SURFACE AREA. WHEN THE AREA IS DRY, APPLY BMS 10-60 TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE AREA. FILL TO THE SAME THICKNESS AS THE OTHER ENAMEL NEAR IT

3 CADMIUM-TITANIUM PLATE (F-15.01) (0.0005-0.0010 THICK) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) TO THE HOLE

4 LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

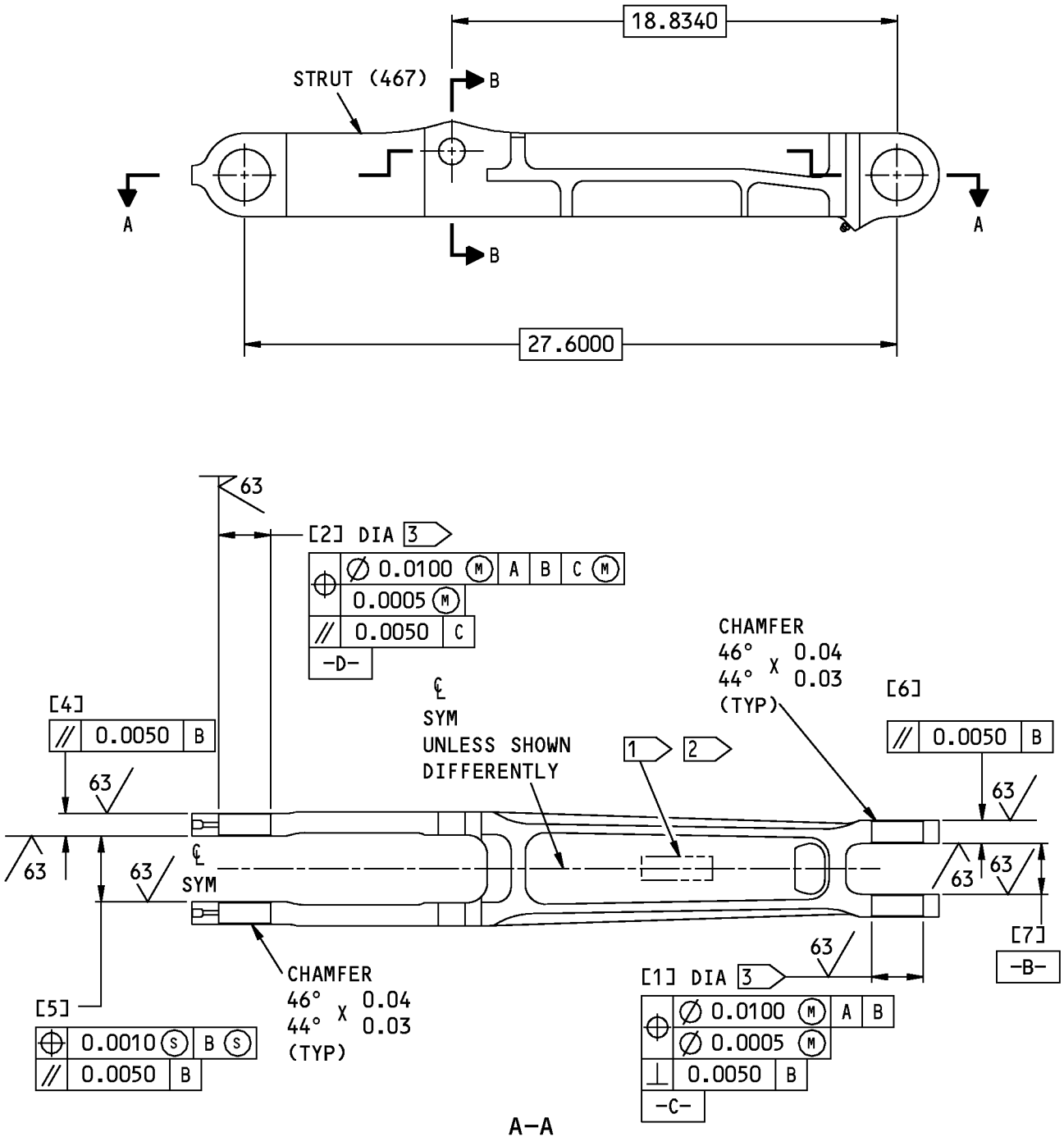
BREAK ALL SHARP EDGES 0.06-0.09 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

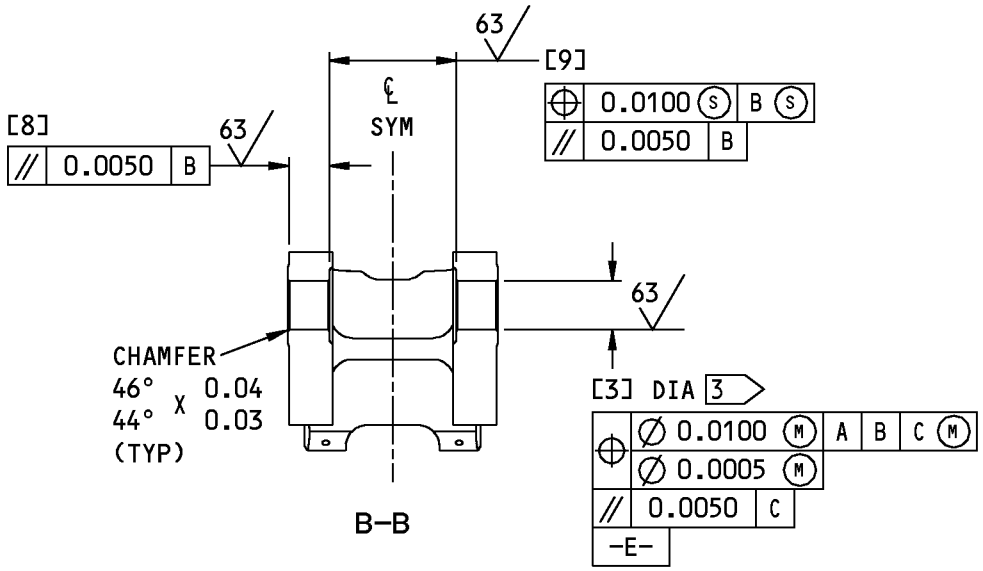
F72597 S0004997071_V3

161A2101-2 Upper Side Strut Repair and Finish
Figure 601 (Sheet 2 of 2)



U59773 S0000208215_V3

161A2101-4, -8 Upper Side Strut Repair and Refinish
Figure 602 (Sheet 1 of 2)



REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
DESIGN DIMENSION	2.1895 2.1880	2.4380 2.4365	1.1270 1.1260	0.9600 0.9550	3.0299 3.0249	0.9600 0.9550	2.1694 2.1644	1.0337 1.0287	2.9300 2.9250
REPAIR LIMIT 4	2.2495	2.4980	1.1870	0.8950	3.0899	0.8950	2.2294	0.9687	2.9900

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE SURFACE AREA AS NECESSARY. APPLY BMS 10-60, TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE SURFACE AREA. WHEN THE AREA IS DRY, APPLY BMS 10-60, TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE AREA. FILL TO THE SAME THICKNESS AS THE OTHER ENAMEL NEAR IT

3 CADMIUM-TITANIUM PLATE (F-15.01) (0.0005-0.0010 THICK) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) TO THE HOLE

4 LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

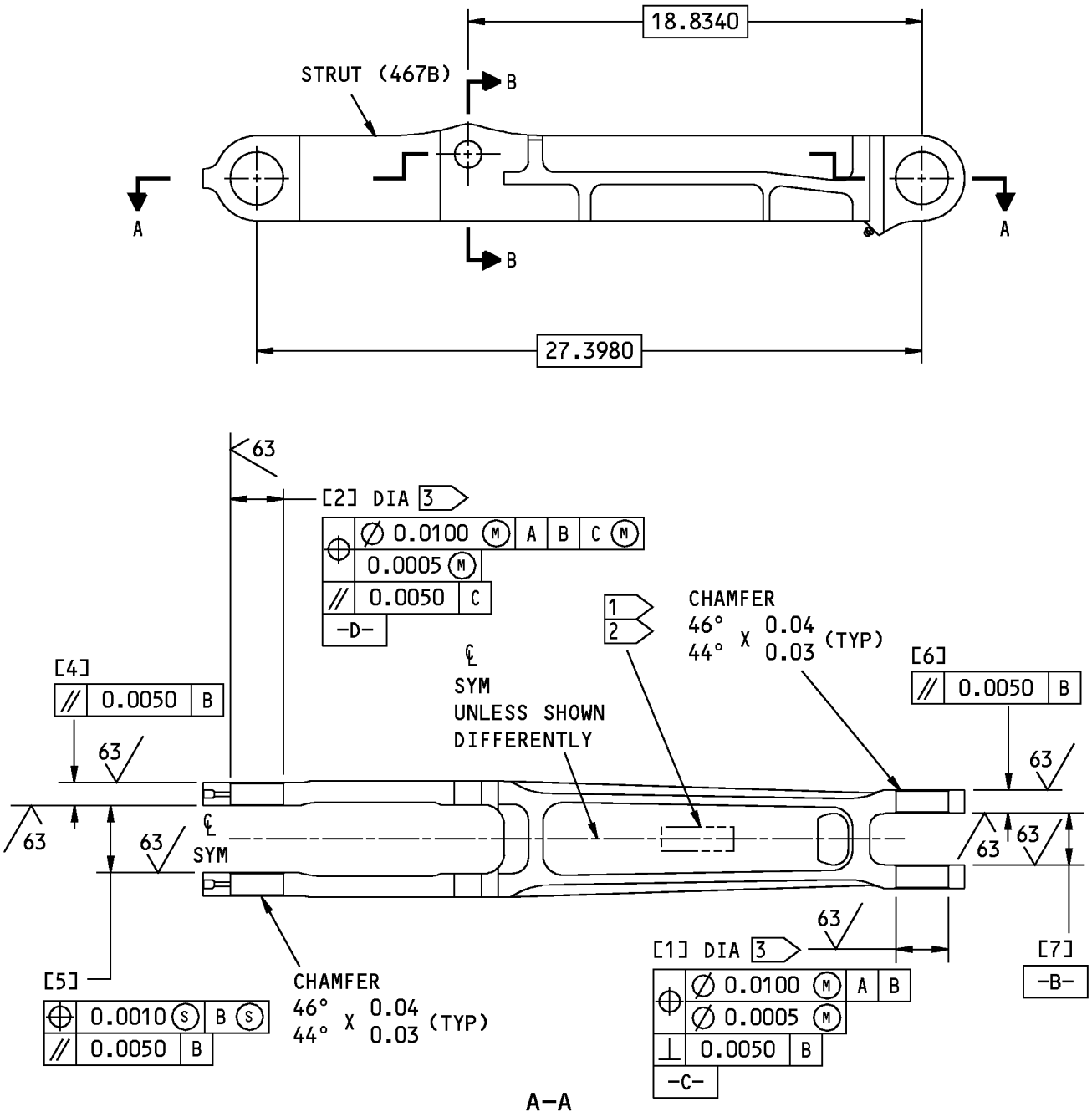
BREAK ALL SHARP EDGES 0.06-0.09 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

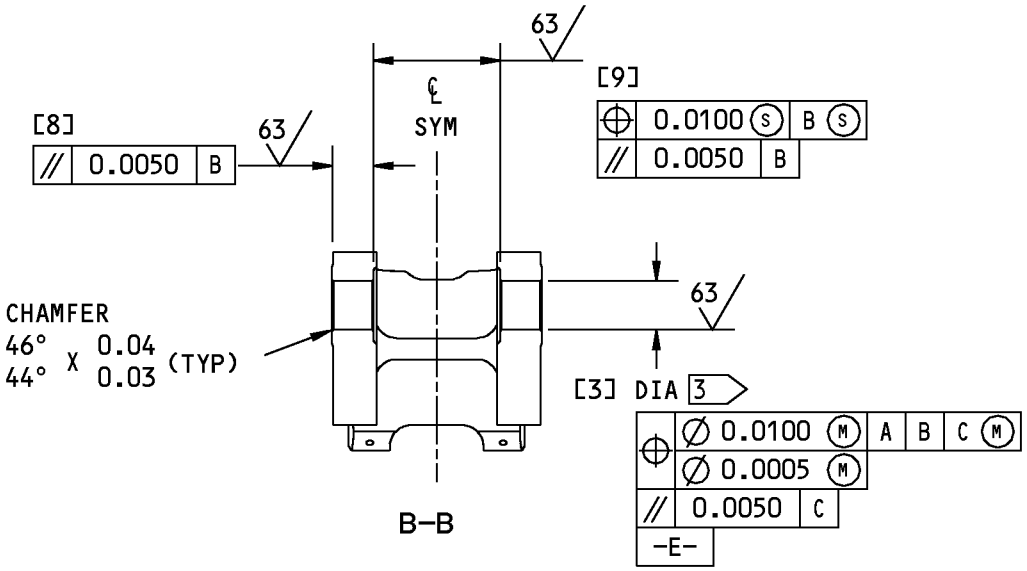
U59775 S0000208217_V3

161A2101-4, -8 Upper Side Strut Repair and Refinish
Figure 602 (Sheet 2 of 2)



U59774 S0000208218_V2

161A2101-6 Upper Side Strut Repair and Refinish
Figure 603 (Sheet 1 of 2)



REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
DESIGN DIMENSION	2.1895 2.1880	2.4380 2.4365	1.1270 1.1260	0.9600 0.9550	2.7799 2.7749	0.9600 0.9550	2.1694 2.1644	0.9708 0.9658	2.9300 2.9250
REPAIR LIMIT 4	2.2495	2.4980	1.1870	0.8950	2.8399	0.8950	2.2294	0.9058	2.9900

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE SURFACE AREA AS NECESSARY. APPLY BMS 10-60 TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE SURFACE AREA. WHEN THE AREA IS DRY, APPLY BMS 10-60 TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE AREA. FILL TO THE SAME THICKNESS AS THE OTHER ENAMEL NEAR IT

3 CADMIUM-TITANIUM PLATE (F-15.01) (0.0005-0.0010 THICK) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) TO THE HOLE

4 LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

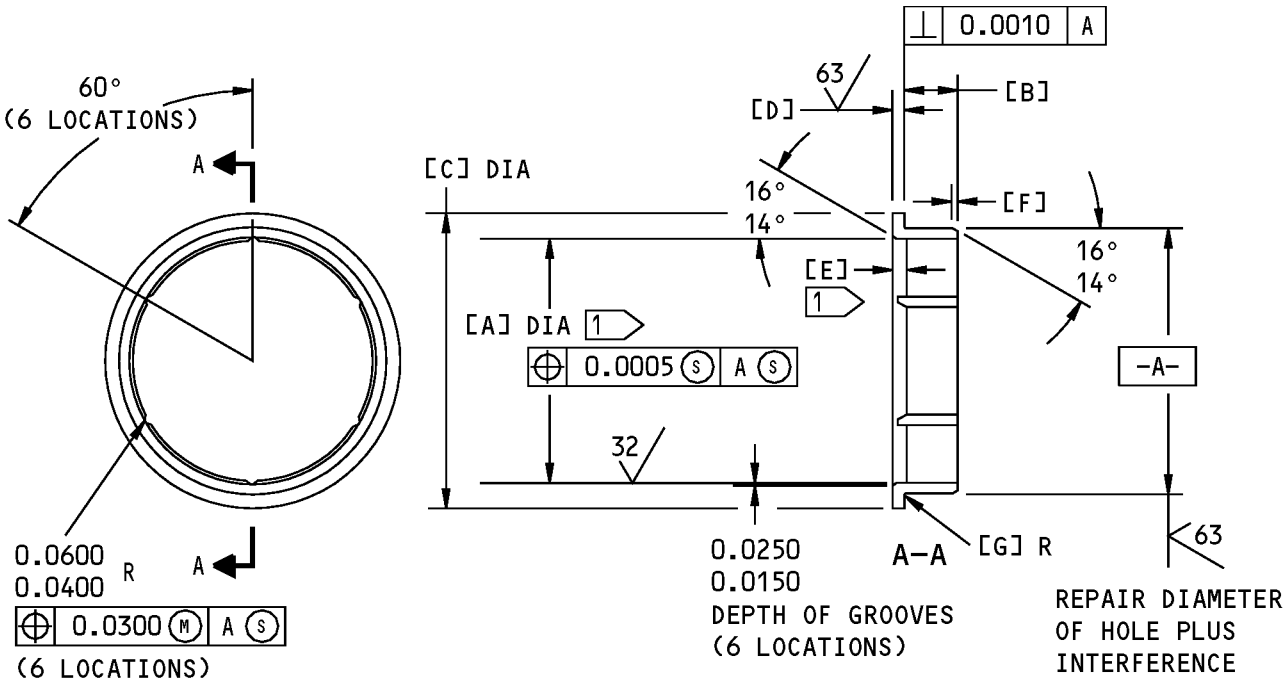
BREAK ALL SHARP EDGES 0.06-0.09 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

U59776 S0000208219_V2

161A2101-6 Upper Side Strut Repair and Refinish
Figure 603 (Sheet 2 of 2)



HOLE LOCATION 4	REPLACES BUSHING (IPL FIGURE 1)	[A]	[B] 2	[C]	[D] 3	[E]	[F]	[G]	INTER-FERENCE
[1] [2]	(460,462) 161A2109-1	2.0023 2.0008	0.4375 0.4175	2.4480 2.4280	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0040 0.0010
[2]	(462A) 161A2109-12	2.2508 2.2498	0.4375 0.4175	2.6965 2.6765	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0040 0.0010
[3]	(465) 161A2109-2	1.0015 1.0006	0.4350 0.4250	1.3360 1.3160	0.0640 0.0630	0.1000 0.0800	0.0500 0.0300	0.0300 0.0200	0.0025 0.0006

1 NO FINISH IN THIS AREA

2 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

3 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

4 REFER TO FIGURE 601, 602, 603

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS ARE BEFORE PLATING

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 604

LOWER SIDE STRUT ASSEMBLY - REPAIR 3-1

161A2103–1, –3, –5, –7, –9, –11, –13

1. General

A. This procedure tells how to replace the bushings and the lube fittings on lower side strut assembly (370).

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
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27

B. References

Reference	Title
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure (REPAIR 3-1, Figure 601, REPAIR 3-1, Figure 602 and REPAIR 3-1, Figure 603)

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

(1) Remove old bushings (385, 390, 395, 400) from lower side strut (405).

(2) Use the shrink-fit method to install replacement bushings (385, 390, 395, 400) with sealant, A00247. Remove unwanted sealant, A00247 from the gap between the bushings when applicable.

NOTE: For 161A2103-7 thru -13, compound, C00913 is optional to sealant, A00247.

(3) If you use compound, C00913, fillet seal the bushings with sealant, A00247 by the 69B13372 procedure as specified in SOPM 20-50-19.

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

C. Procedure (REPAIR 3-1, Figure 601, REPAIR 3-1, Figure 602 and REPAIR 3-1, Figure 603)

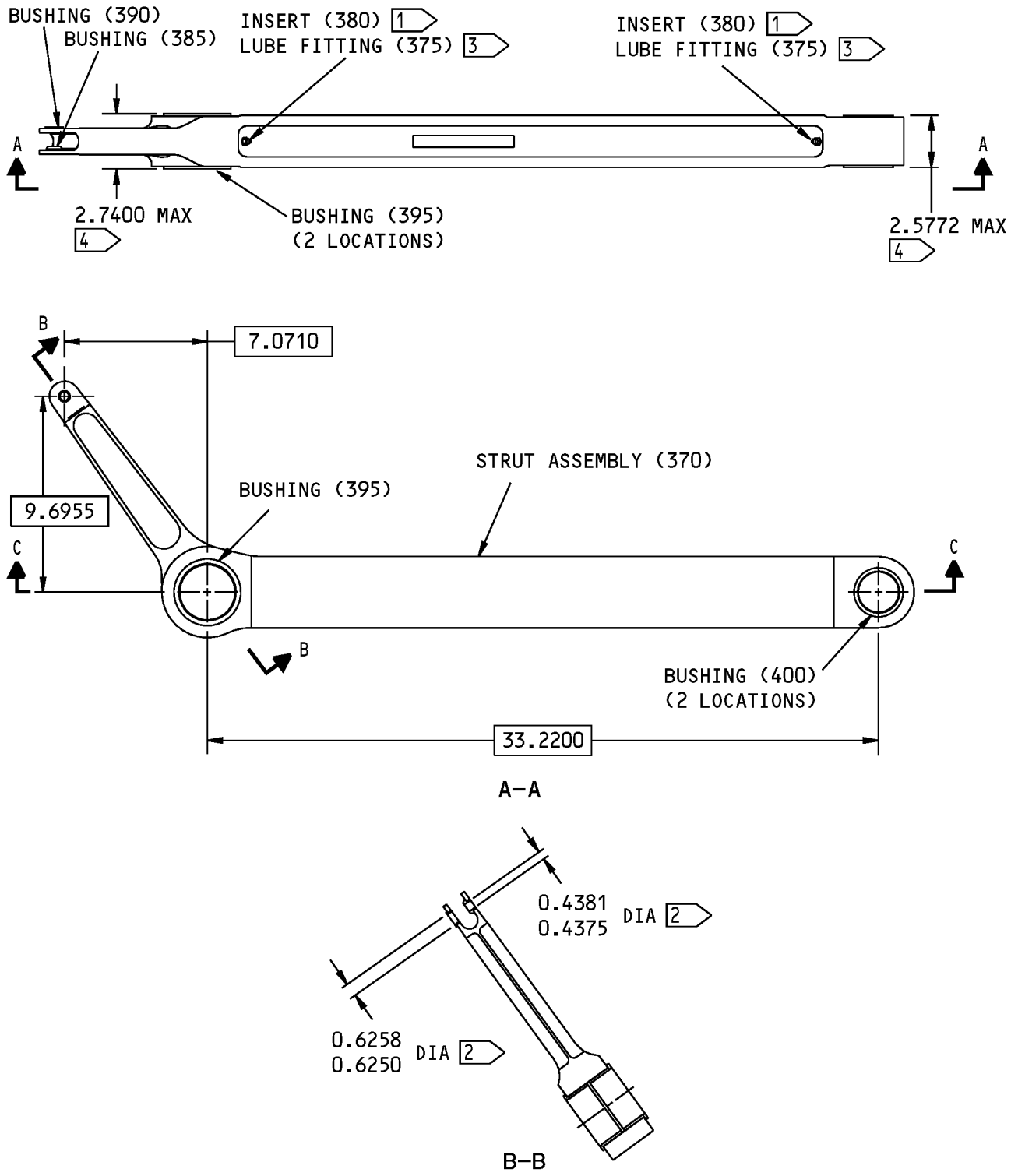
NOTE: For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove old lubrication fittings (375) and inserts (380) from lower side strut assembly (370).

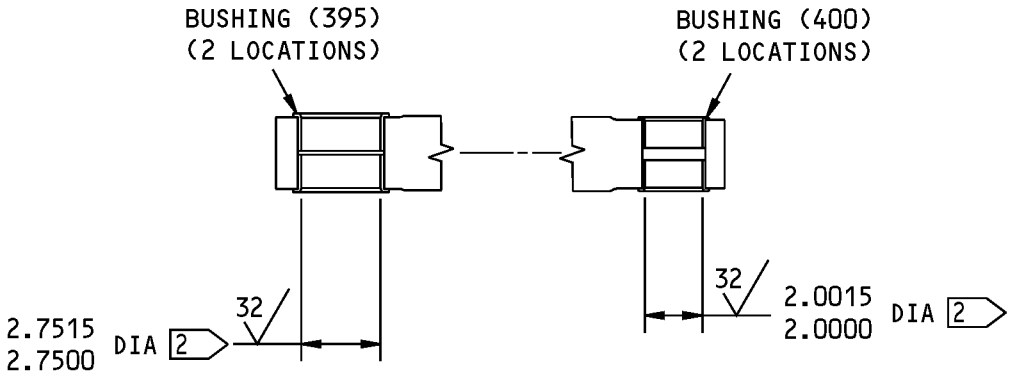
(2) Use the shrink-fit method to install replacement inserts (380) wet with sealant, A00247.

(3) Install a replacement lubrication fitting and tighten it to 25-30 pound-inches.

(4) Before the sealant, A00247 dries, apply grease, D00633 or grease, D00013 at each lubrication fitting until you see the grease come out at the inside diameter of the bushing.



161A2103-1,-3,-5,-7 Lower Side Strut Assembly Repair
Figure 601 (Sheet 1 of 2)



C–C

1 INSTALL THIS INSERT BY THE SHRINK FIT METHOD WITH BMS 5-95 SEALANT (SOPM 20-50-03). INSTALL FLUSH TO MACHINED PART SURFACE WITHIN PLUS OR MINUS 0.0200

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

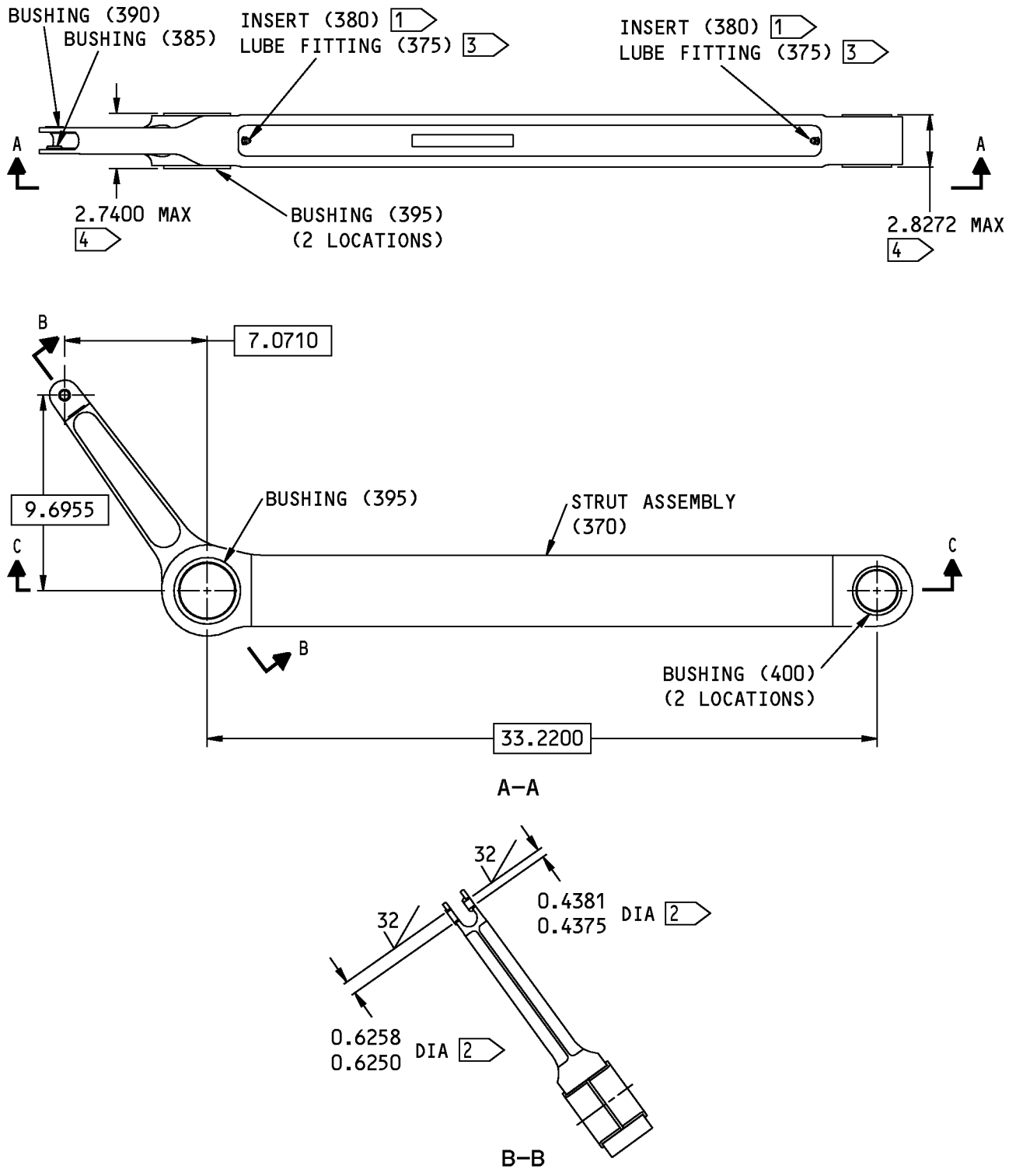
3 TIGHTEN THE LUBRICATION FITTING TO 25-30 IN-LBS

4 BUSHING FACE INSTALLATION DIMENSION

ITEM NUMBERS REFER TO IPL FIG. 1

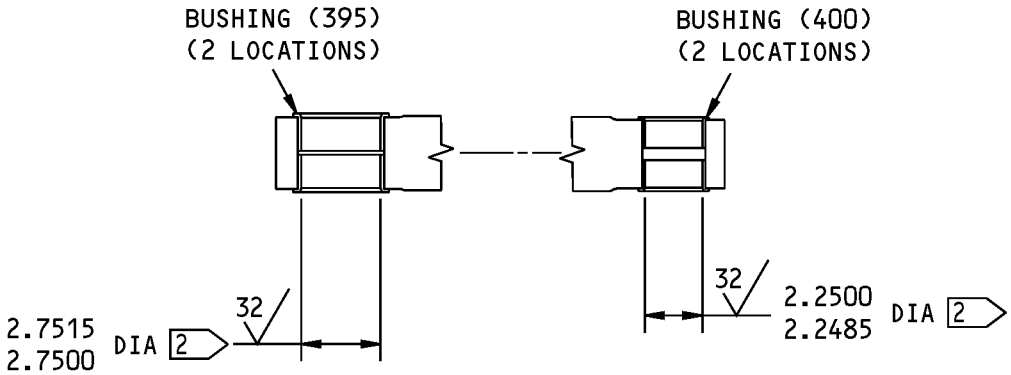
ALL DIMENSIONS ARE IN INCHES

161A2103-1,-3,-5,-7 Lower Side Strut Assembly Repair
Figure 601 (Sheet 2 of 2)



U59777 S0000208223_V2

161A2103-9,-13 Lower Side Strut Assembly Repair
Figure 602 (Sheet 1 of 2)



C–C

1 INSTALL THIS INSERT BY THE SHRINK FIT METHOD WITH BMS 5-95 SEALANT (SOPM 20-50-03). INSTALL FLUSH TO MACHINED PART SURFACE WITHIN PLUS OR MINUS 0.0200

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

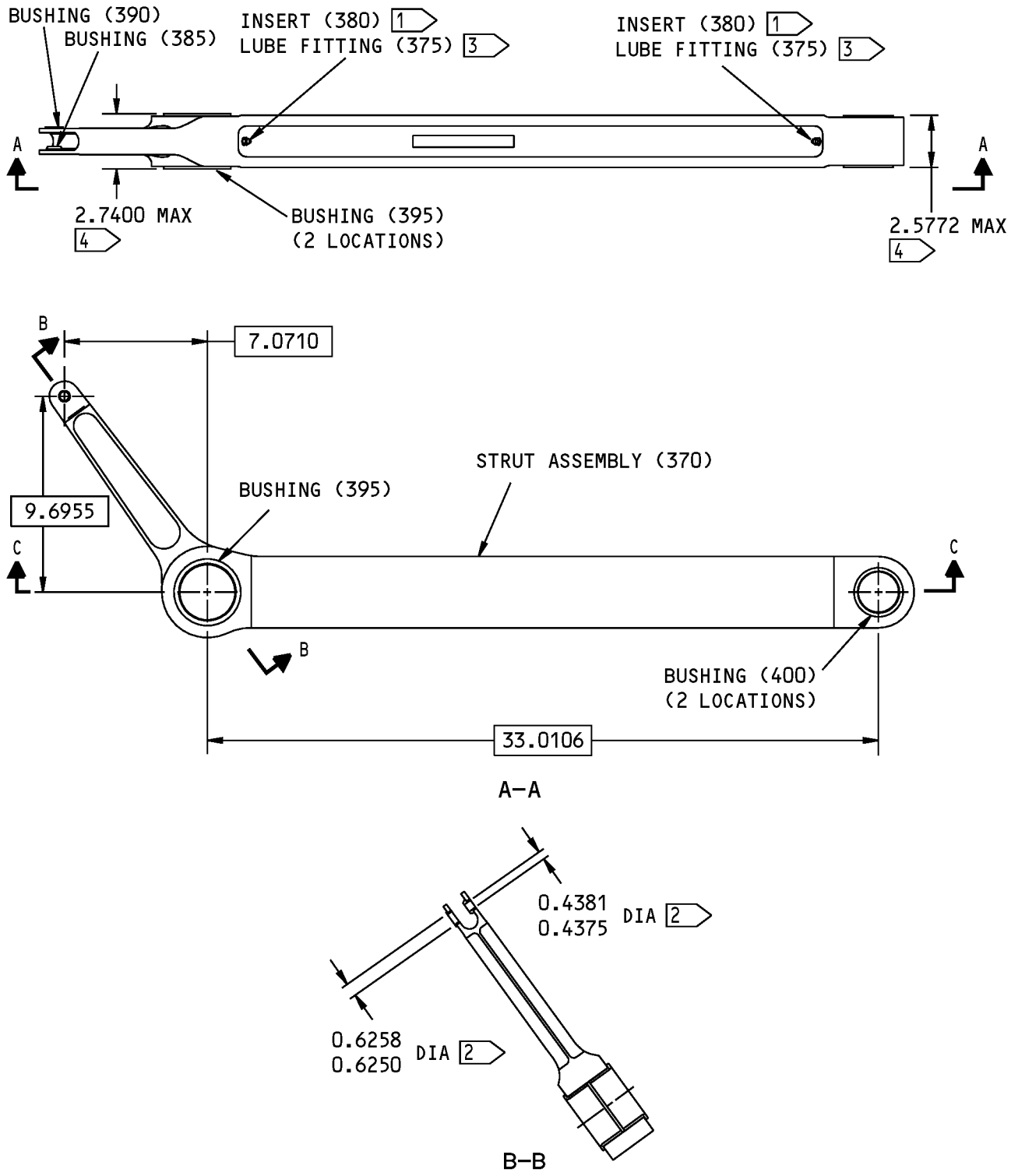
3 TIGHTEN THE LUBRICATION FITTING TO 25-30 IN-LBS

4 BUSHING FACE INSTALLATION DIMENSION

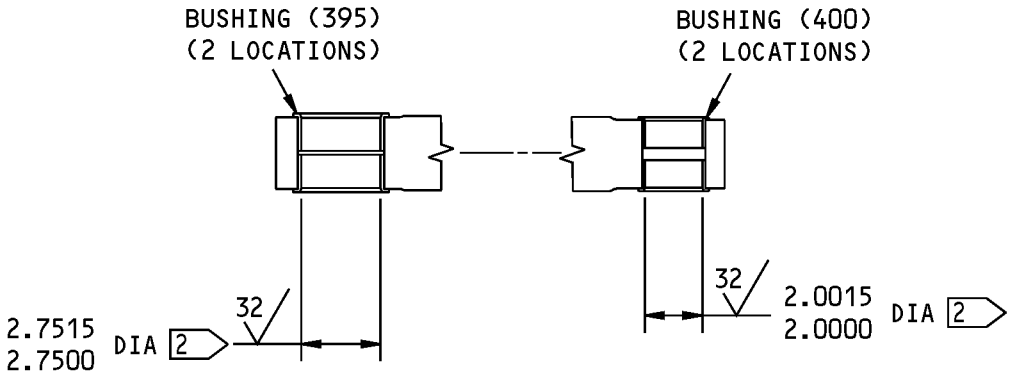
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2103-9,-13 Lower Side Strut Assembly Repair
Figure 602 (Sheet 2 of 2)



161A2103-11 Lower Side Strut Assembly Repair
Figure 603 (Sheet 1 of 2)



C–C

1 INSTALL THIS INSERT BY THE SHRINK FIT METHOD WITH BMS 5-95 SEALANT (SOPM 20-50-03). INSTALL FLUSH TO MACHINED PART SURFACE WITHIN PLUS OR MINUS 0.0200

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

3 TIGHTEN THE LUBRICATION FITTING TO 25-30 IN-LBS

4 BUSHING FACE INSTALLATION DIMENSION

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2103-11 Lower Side Strut Assembly Repair
Figure 603 (Sheet 2 of 2)

LOWER SIDE STRUT - REPAIR 3-2

161A2103–2, –4, –6, –8, –10, –12, –14

1. General

A. This repair procedure tells how to repair and refinish the lower side strut (405).

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

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: 4340M steel

(a) 275-300 KSI

(2) Shot Peen: Intensity 0.014-0.019 A2

(a) Coverage 2.0

(b) Hard shot Rc 55-65

2. Lower Side Strut Repair

A. 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

B. Procedure (REPAIR 3-2, Figure 601, REPAIR 3-2, Figure 602 and REPAIR 3-2, Figure 603)

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

(2) Refinish as specified in REPAIR 3-2, Paragraph 3.

(3) Make oversize bushings (REPAIR 3-2, Figure 604), as necessary to adjust for the material removed in REPAIR 3-2, Paragraph 2.B.(1).

(4) Install the bushings as specified in REPAIR 3-1.

3. Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

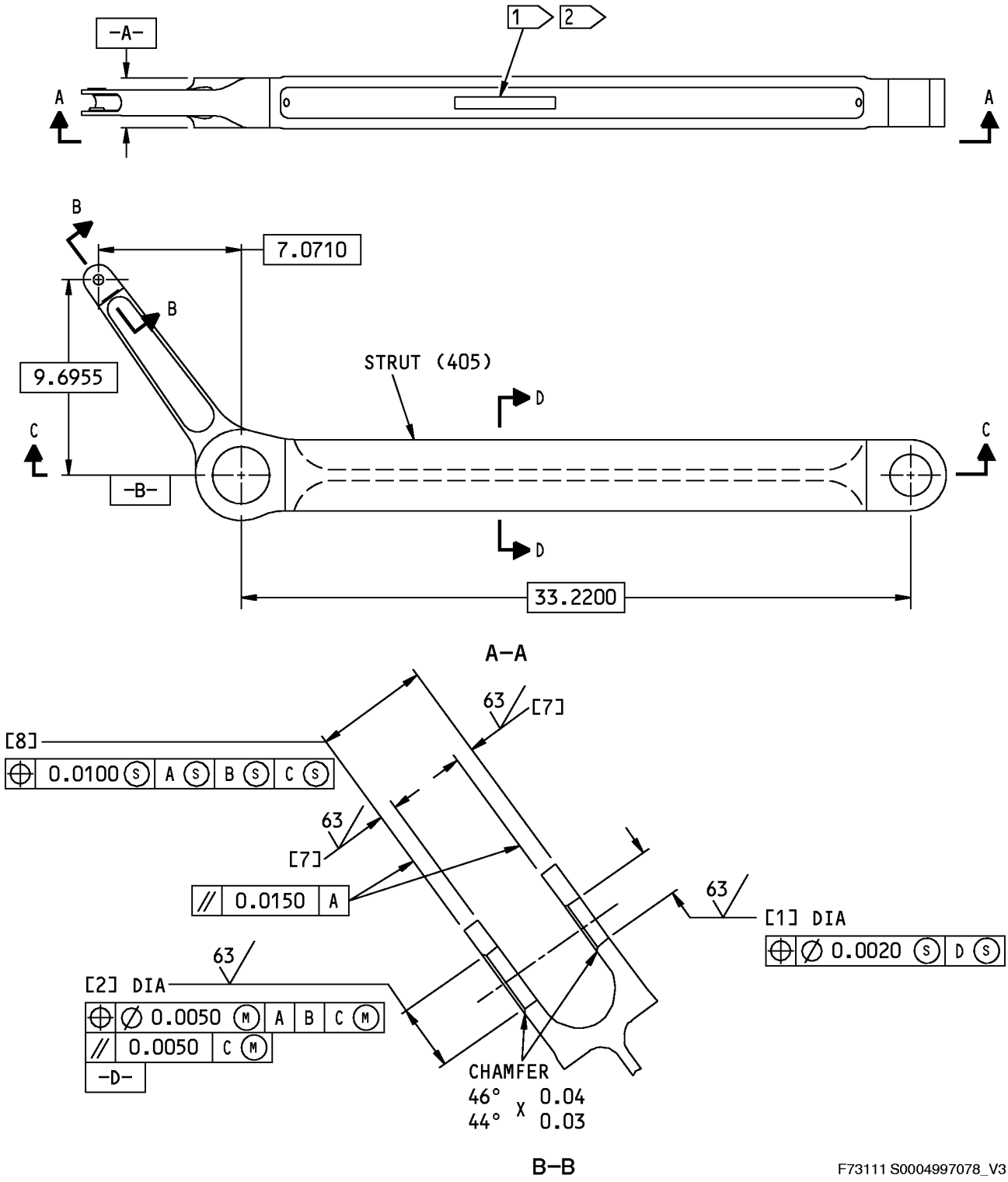
Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

B. Procedure (REPAIR 3-2, Figure 601, REPAIR 3-2, Figure 602 and REPAIR 3-2, Figure 603)

(1) Cadmium-titanium plate (F-15.01) with a minimum thickness of 0.0005 inch.

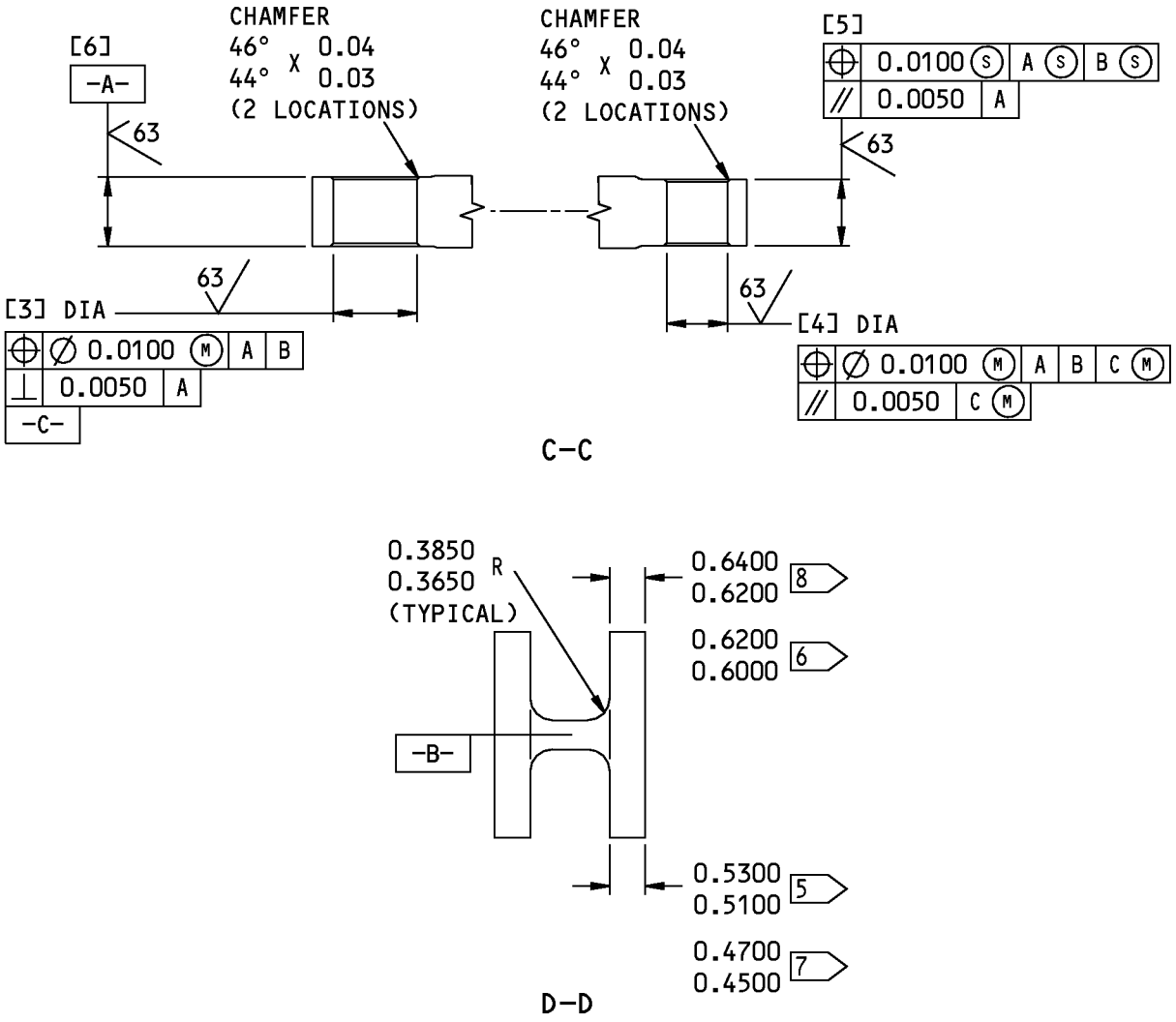
(2) Apply primer, C00175 (F-19.47) unless shown differently.

(3) After bushing and lube fitting installation, apply enamel coating, C00033 (F-20.56) but not on bushing flange faces or bores or on lube fittings.



F73111 S0004997078_V3

161A2103-2,-4,-6,-8 Lower Side Strut Repair and Refinish
Figure 601 (Sheet 1 of 3)



REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	0.5643 0.5635	0.7518 0.7510	3.0015 3.0000	2.1895 2.1880	2.3800 2.3750	2.4808 2.4758	0.2120 0.1920	1.2900 1.2700
REPAIR LIMIT 3	0.6243	0.8118	3.0615	2.2495	2.3150	2.4158	0.1320	1.2100

F72541 S0004997079_V3

161A2103-2,-4,-6,-8 Lower Side Strut Repair and Refinish
Figure 601 (Sheet 2 of 3)

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE PAD SURFACE AS NECESSARY. APPLY BMS 10-60 TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE PAD SURFACE. WHEN THE SURFACE IS DRY, APPLY BMS 10-60 TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE SURFACE. FILL THE SURFACE TO THE SAME THICKNESS OF THE OTHER ENAMEL NEAR IT

3 LIMIT FOR OVERSIZE BUSHING INSTALLATION

4 DELETED

5 161A2103-2

6 161A2103-4

7 161A2103-6

8 161A2103-8

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

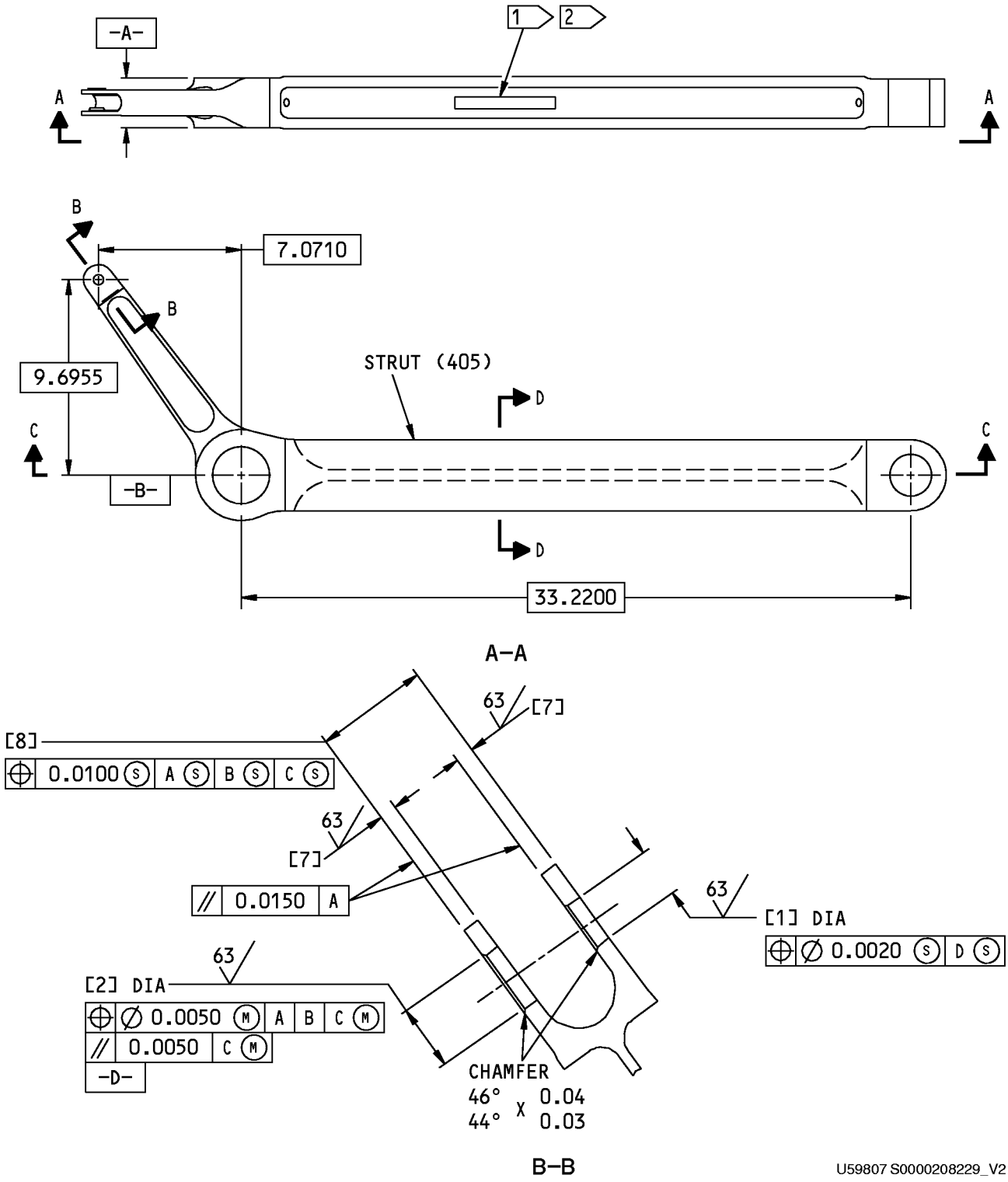
BREAK ALL SHARP EDGES TO 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

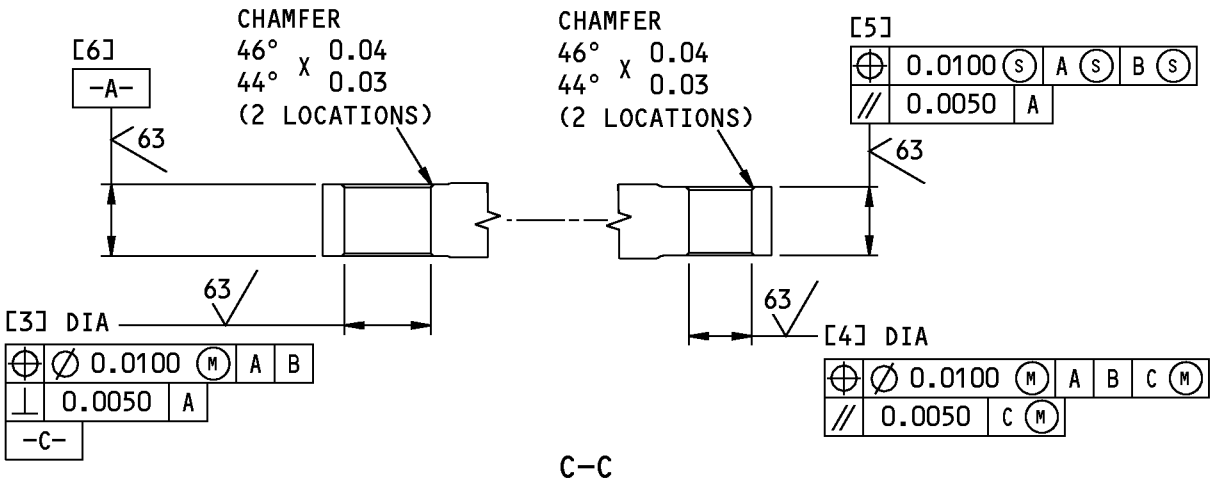
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

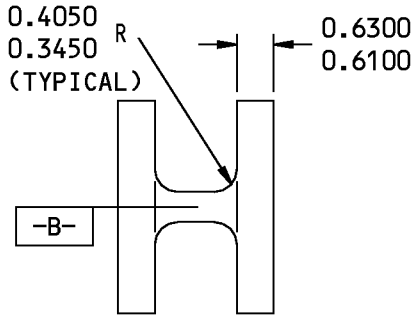
161A2103-2,-4,-6,-8 Lower Side Strut Repair and Refinish
Figure 601 (Sheet 3 of 3)



161A2103-10,-14 Lower Side Strut Repair and Refinish
Figure 602 (Sheet 1 of 3)



C–C



D–D

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	0.5643 0.5635	0.7518 0.7510	3.0015 3.0000	2.4380 2.4365	2.6300 2.6250	2.4808 2.4758	0.2120 0.1920	1.2900 1.2700
REPAIR LIMIT 3	0.6243	0.8118	3.0615	2.4980	2.5650	2.4158	0.1320	1.2100

U59808 S0000208230_V2

161A2103-10,-14 Lower Side Strut Repair and Refinish
Figure 602 (Sheet 2 of 3)

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE PAD SURFACE AS NECESSARY. APPLY BMS 10-60 TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE PAD SURFACE. WHEN THE SURFACE IS DRY, APPLY BMS 10-60 TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE SURFACE. FILL THE SURFACE TO THE SAME THICKNESS OF THE OTHER ENAMEL NEAR IT

3 LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

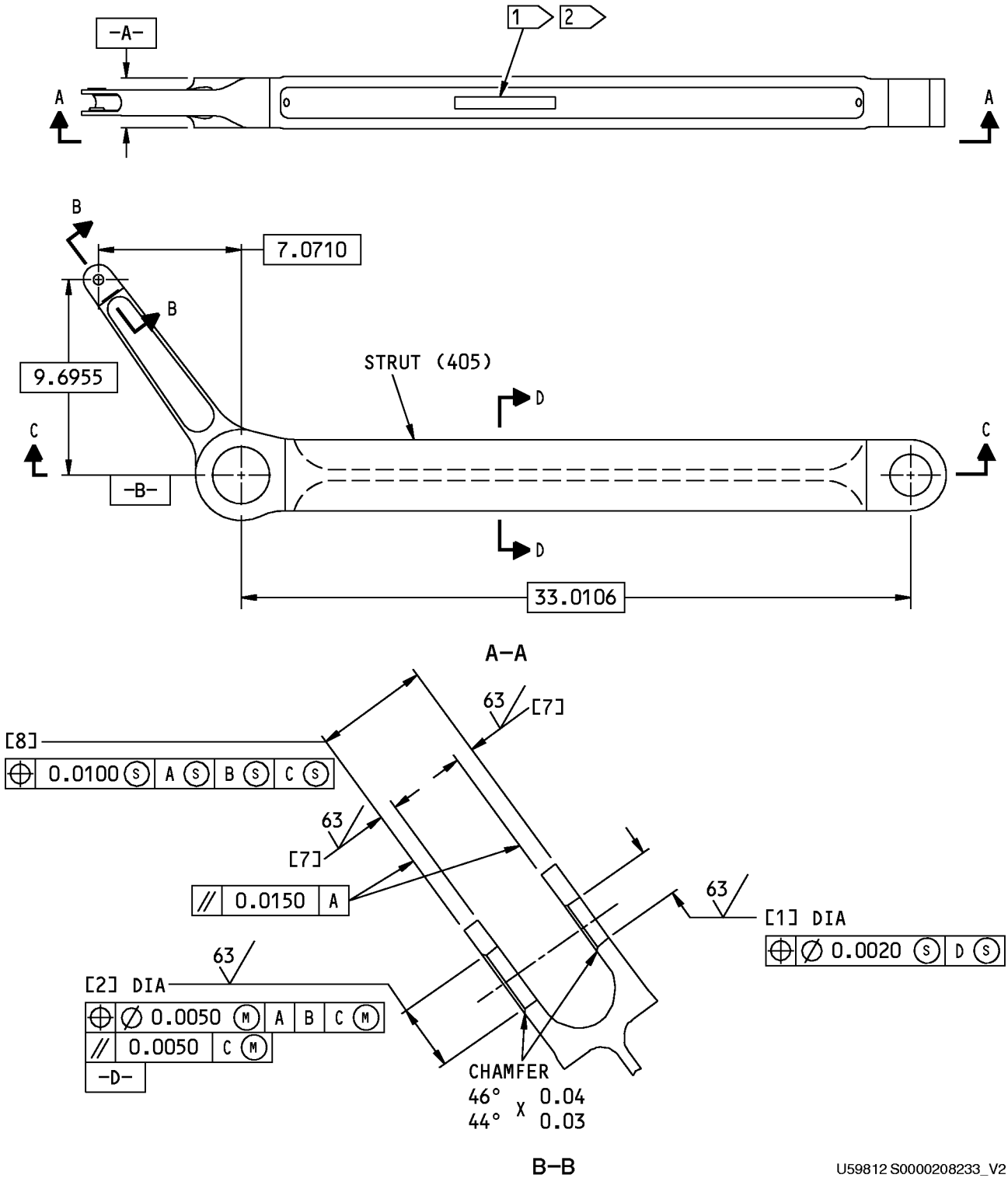
BREAK ALL SHARP EDGES TO 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

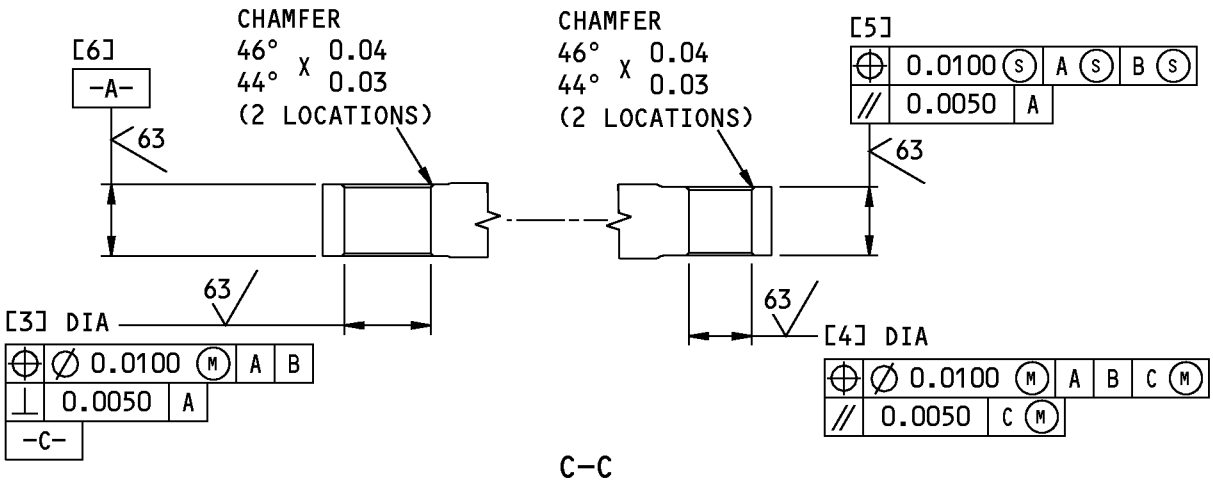
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

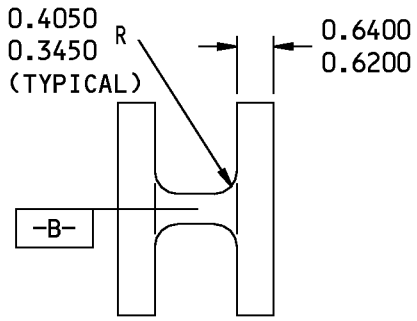
161A2103-10,-14 Lower Side Strut Repair and Refinish
Figure 602 (Sheet 3 of 3)



161A2103-12 Lower Side Strut Repair and Refinish
Figure 603 (Sheet 1 of 3)



C–C



D–D

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	0.5643 0.5635	0.7518 0.7510	3.0015 3.0000	2.1895 2.1880	2.3800 2.3750	2.4808 2.4758	0.2120 0.1920	1.2900 1.2700
REPAIR LIMIT 3	0.6243	0.8118	3.0615	2.2495	2.3150	2.4158	0.1320	1.2100

U59813 S0000208234_V2

161A2103-12 Lower Side Strut Repair and Refinish
Figure 603 (Sheet 2 of 3)

1 PART NUMBER AND SERIAL NUMBER

2 DO NOT APPLY ENAMEL (F-20.56-707) HERE; MASK THE PAD SURFACE AS NECESSARY. APPLY BMS 10-60 TYPE 2 GRAY ENAMEL (F-19.39-707) TO THE PAD SURFACE. WHEN THE SURFACE IS DRY, APPLY BMS 10-60 TYPE 2 BLACK ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE SURFACE. FILL THE SURFACE TO THE SAME THICKNESS OF THE OTHER ENAMEL NEAR IT

3 LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

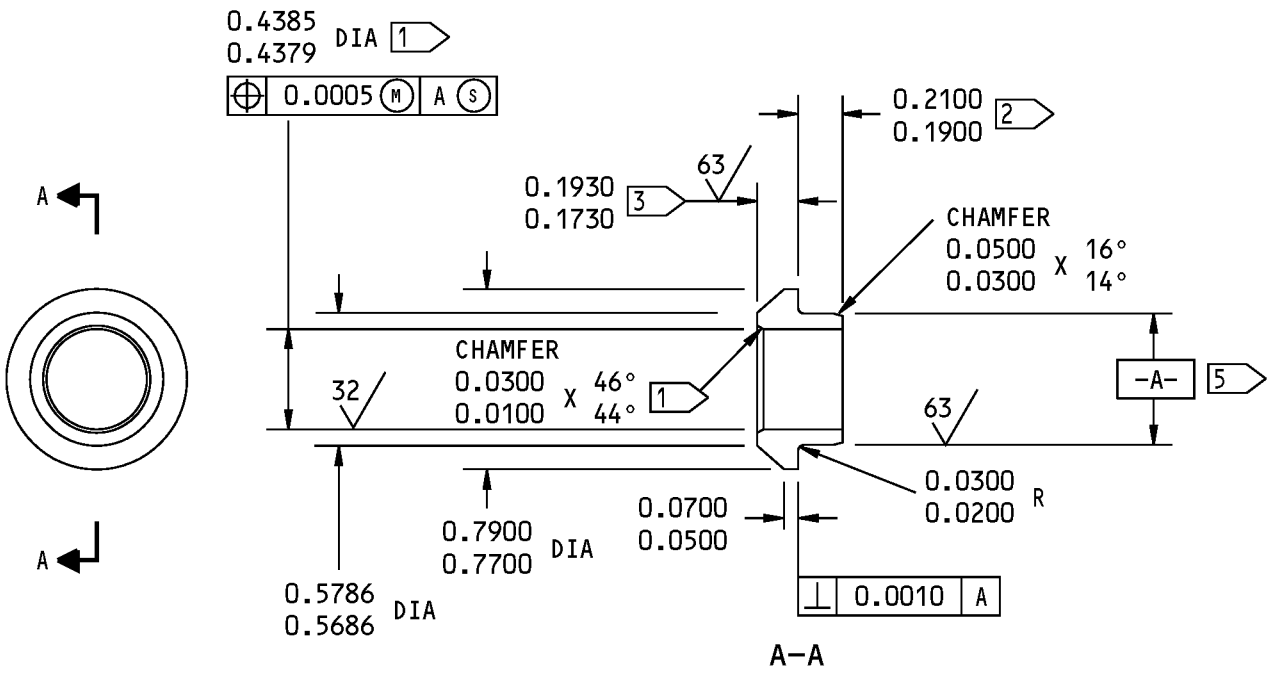
BREAK ALL SHARP EDGES TO 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

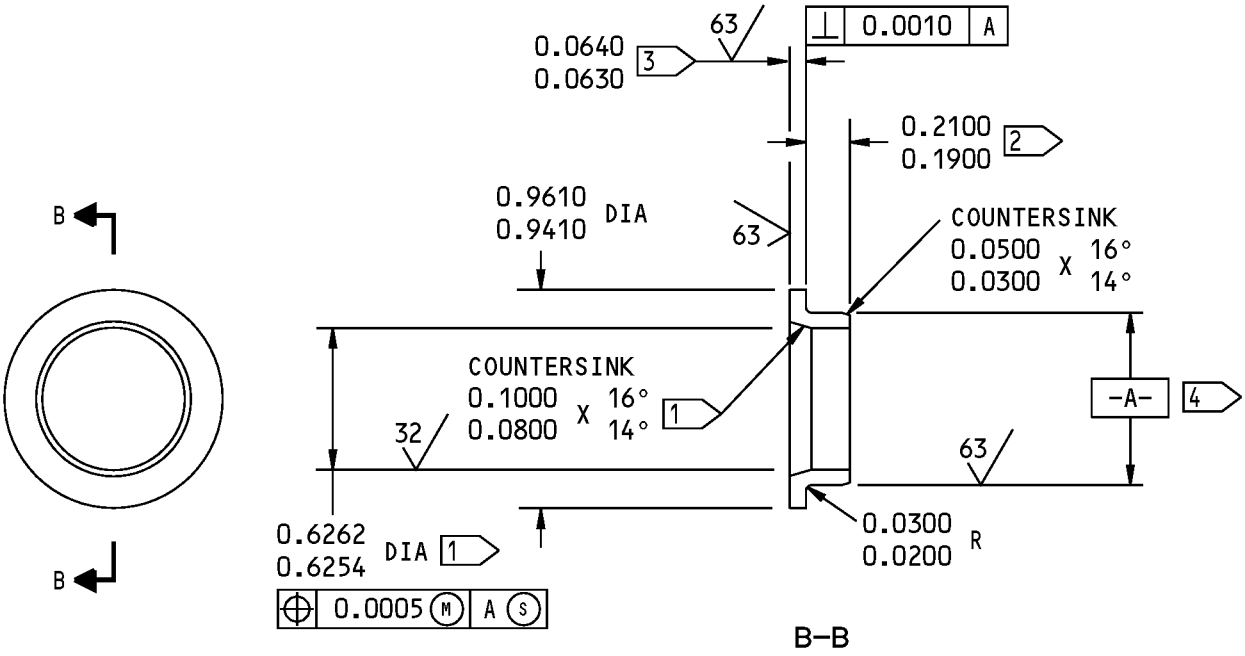
ALL DIMENSIONS ARE IN INCHES

161A2103-12 Lower Side Strut Repair and Refinish
Figure 603 (Sheet 3 of 3)



HOLE LOCATION [1]

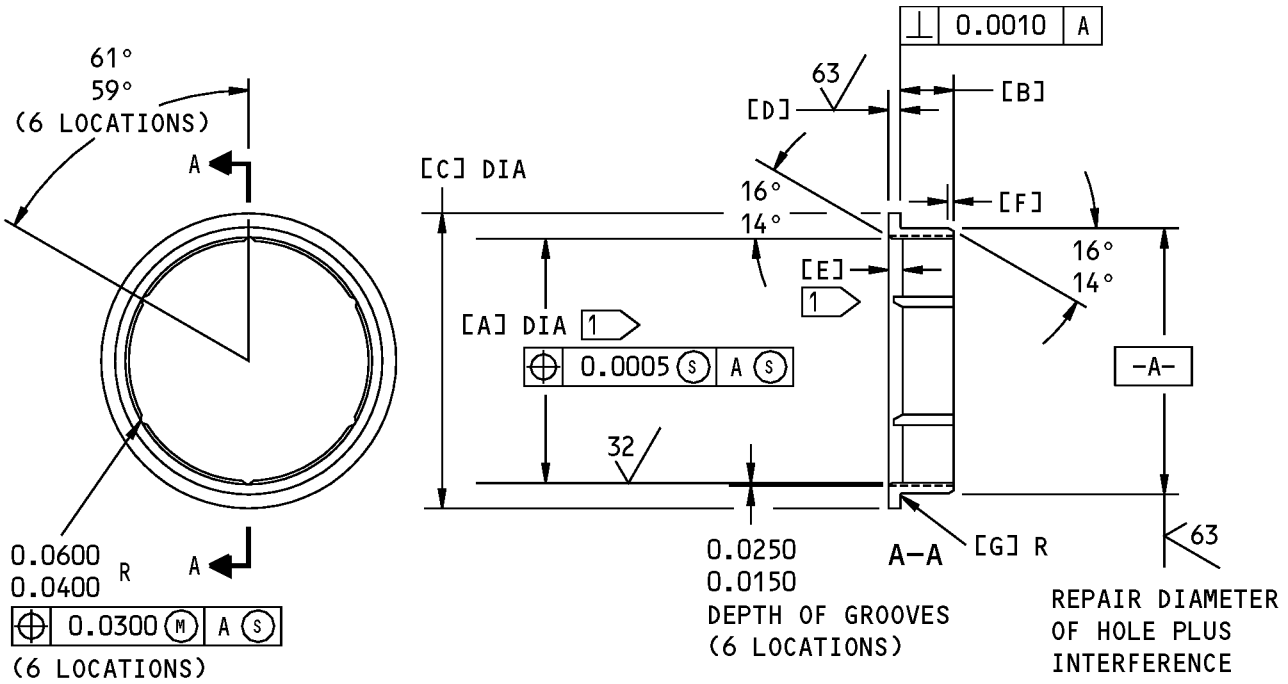
FIG. 601,602,603 -- REPLACES BUSHING (385) 161A2109-7



HOLE LOCATION [2]

FIG. 601,602,603 -- REPLACES BUSHING (390) 161A2109-8

Oversize Bushing Details
Figure 604 (Sheet 1 of 2)



HOLE LOCATION (FIG. 601 THRU 603)	REPLACES BUSHING (IPL FIGURE 1)	[A]	[B] 2	[C]	[D] 3	[E]	[F]	[G]	INTER-FERENCE
[3]	(395) 161A2109-4	2.7526 2.7511	1.1850 1.1650	3.3220 3.3020	0.1260 0.1250	0.1600 0.1400	0.0500 0.0300	0.0300 0.0200	0.0042 0.0012
[4]	(400) 161A2109-3	2.0023 2.0008	0.9900 0.9700	2.4480 2.4280	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0040 0.0010
[4] 6	(400A) 161A2109-13	2.2508 2.2498	1.1150 1.0950	2.6965 2.6765	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0040 0.0010

1 APPLY NO FINISH (F-25.01)

2 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

3 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

4 REPAIR DIAMETER OF LUG HOLE PLUS 0.0004-0.0019 INTERFERENCE

5 REPAIR DIAMETER OF LUG HOLE PLUS 0.0003-0.0016 INTERFERENCE

6 FIG. 602 ONLY

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) 0.0003-0.0005 THICK UNLESS SHOWN BY 1

MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS ARE BEFORE PLATING

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 604 (Sheet 2 of 2)

LOWER DOWNLOCK LINK ASSEMBLY - REPAIR 4-1

161A2105–3, –5, –7

1. General

A. Use this procedure to replace the parts of the lower downlock link assembly (260A, IPL Figure 1; 120, IPL Figure 2).

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

C. Refer to IPL Figure 1 or IPL Figure 2 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
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142

B. References

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

C. Procedure (REPAIR 4-1, Figure 601 or REPAIR 4-1, Figure 602)

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

(1) Remove the old bushings from the downlock link assembly.

(2) If you find defects on link surfaces, refer to REPAIR 4-2 for repair instructions.

(3) Install the replacement bushings by the shrink-fit method (SOPM 20-50-03) with sealant, A00247. Remove unwanted sealant, A00247 (as applicable) from the gaps between the bushings.

(4) Swage bushing (280, IPL Figure 1; 125, IPL Figure 2) as shown (SOPM 20-50-03). Apply sealant, A02315 to fillet seal the bushing.

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
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

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

B. References

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

C. Procedure (REPAIR 4-1, Figure 601 or REPAIR 4-1, Figure 602)

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

(1) Remove the old lube fittings and the inserts from the downlock link assembly.

(2) Install replacement inserts by the shrink-fit method (SOPM 20-50-03) with sealant, A00247. Put the inserts flush with the downlock link surface within ± 0.0200 inch.

(3) Install replacement lubrication fittings and tighten them as indicated.

(4) After you install the lubrication fittings and before the sealant, A00247 dries, apply grease, D00013 or grease, D00633 at the lubrication fittings until you see the grease at the inside diameter of the bushing.

4. Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

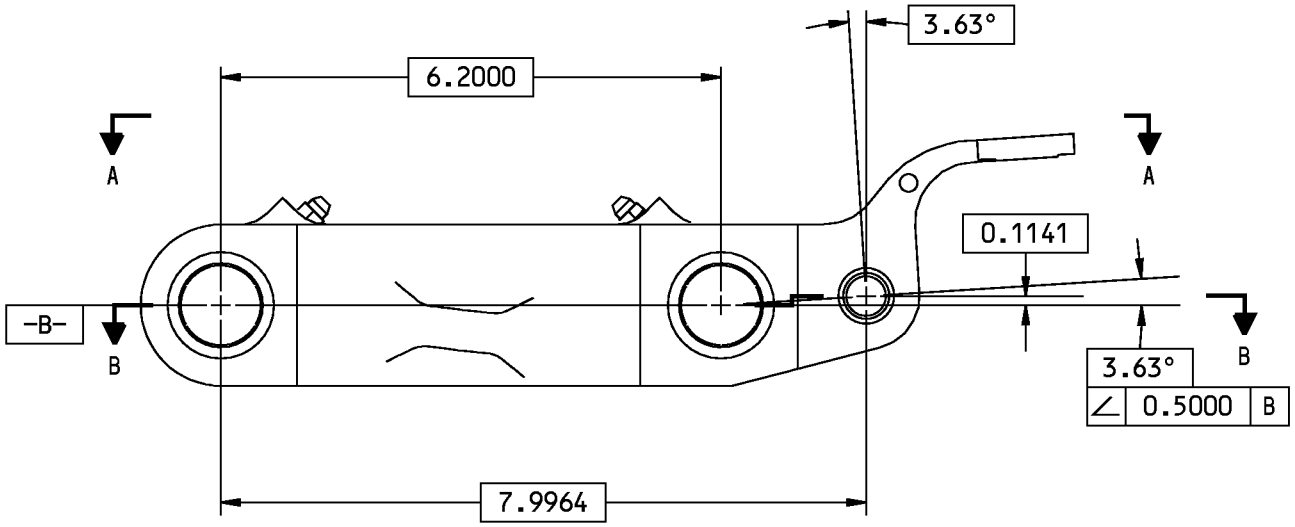
B. References

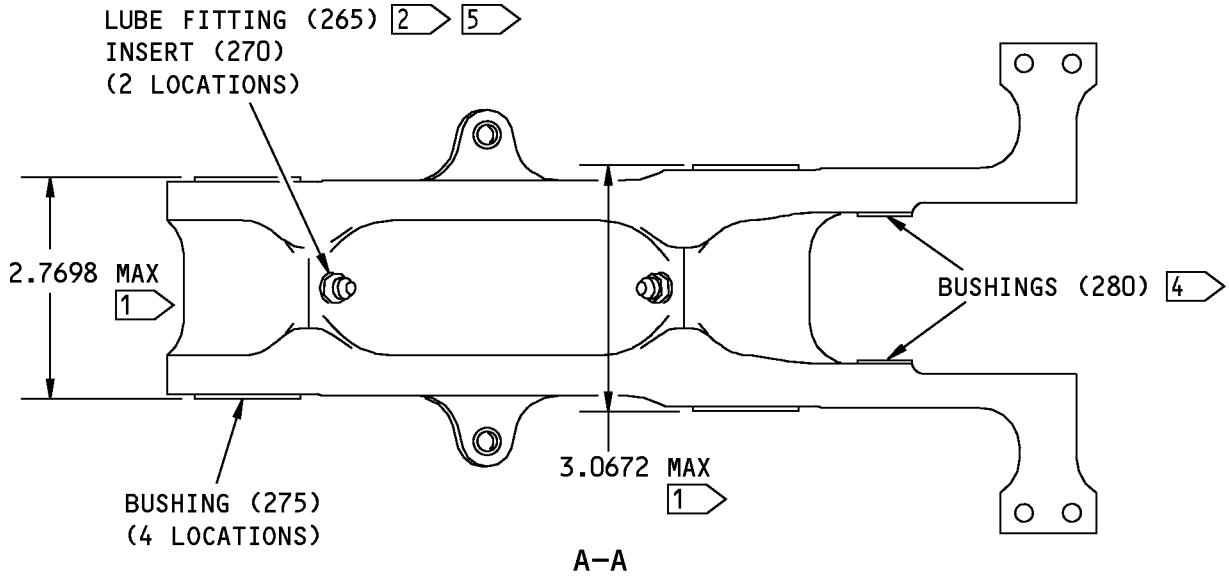
Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 4-1, Figure 601 or REPAIR 4-1, Figure 602)

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

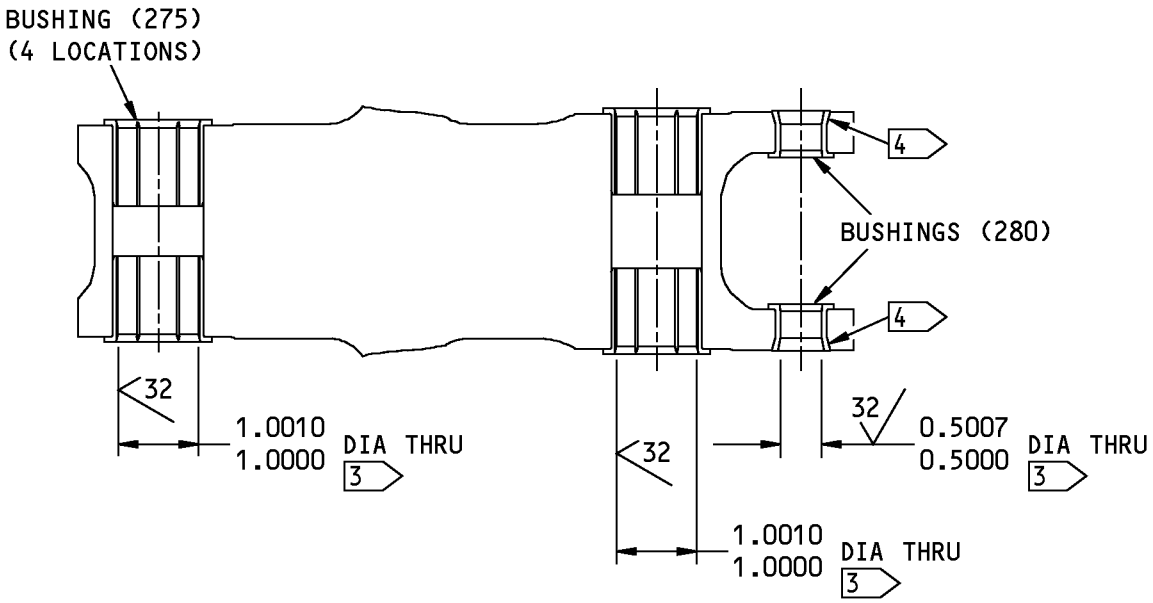
(1) Apply enamel coating, C00033 (F-20.56-707) unless shown differently. Do not paint bushing faces or bores or lubrication fittings.





F76297 S0004997084_V2

161A2105-3,-7 Lower Downlock Link Assembly Repair
Figure 601 (Sheet 1 of 2)



B–B

1 > INSTALLED DIMENSION

2 > TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND–INCHES

3 > INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

4 > ANVIL SWAGE (SOPM 20–50–03)

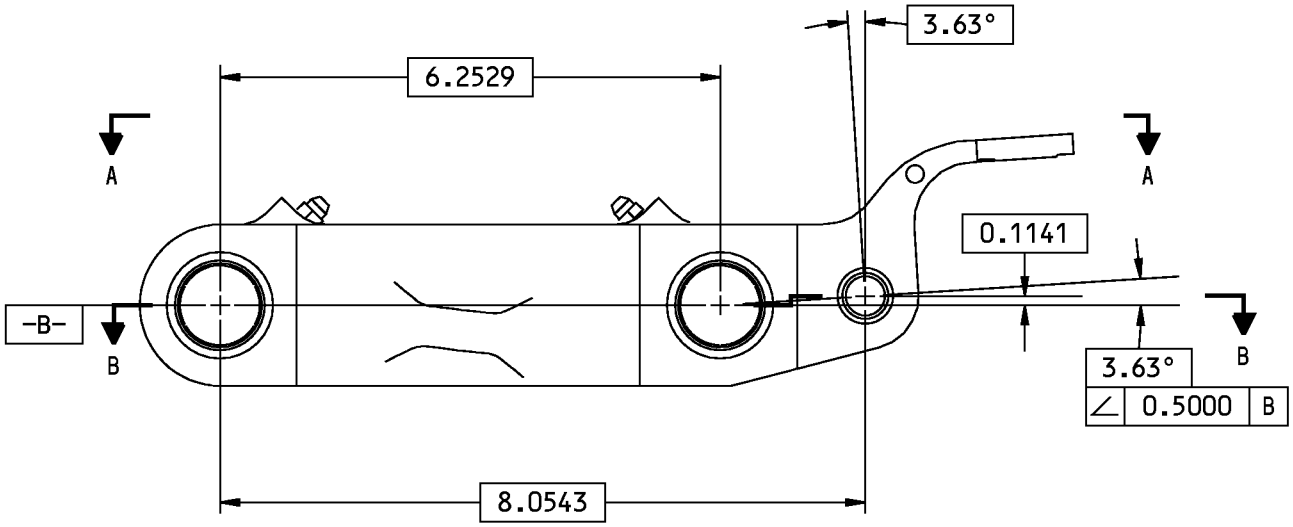
5 > AFTER INSTALLATION, APPLY BMS 3–33 GREASE AT THE LUBE FITTING

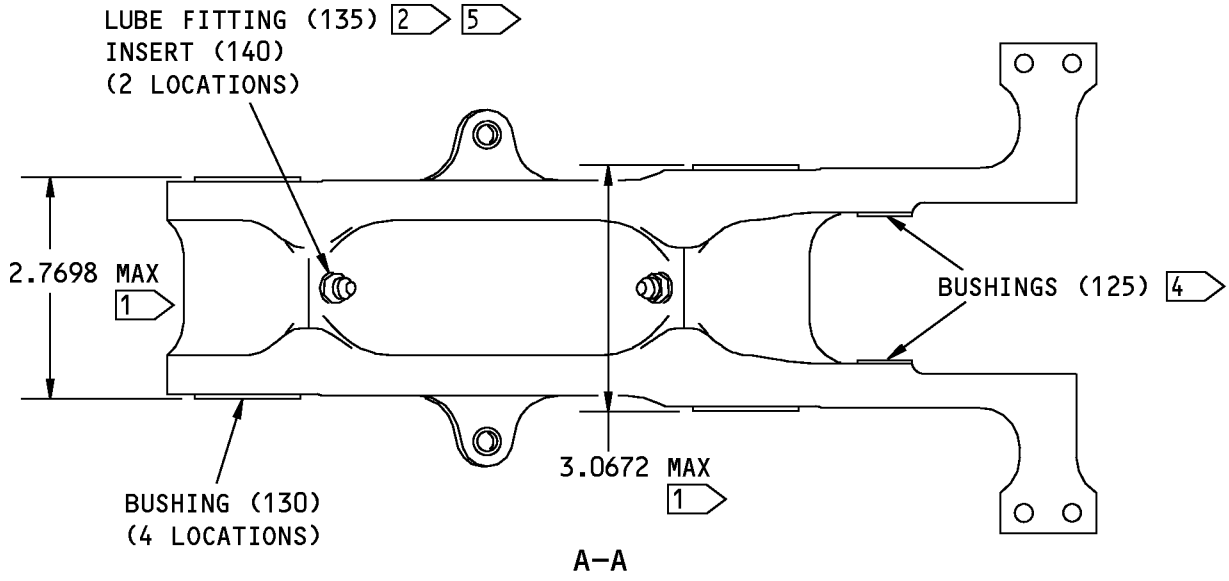
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72559 S0004997085_V2

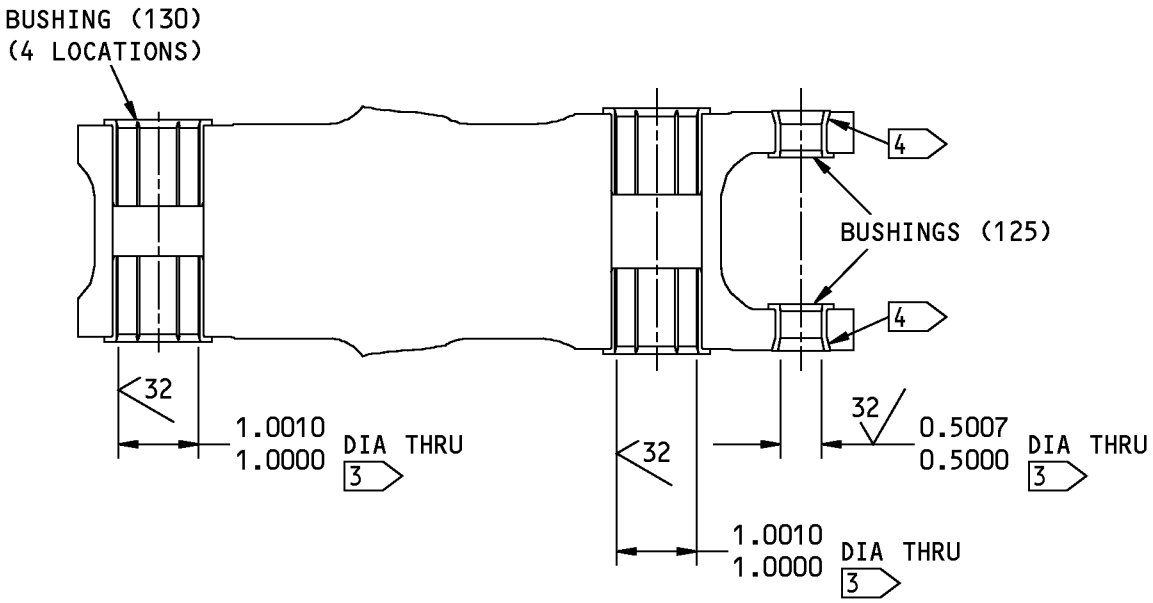
161A2105-3,-7 Lower Downlock Link Assembly Repair
Figure 601 (Sheet 2 of 2)





U59944 S0000208248_V2

161A2105-5 Lower Downlock Link Assembly Repair
Figure 602 (Sheet 1 of 2)



B–B

1 INSTALLED DIMENSION

2 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND–INCHES

3 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

4 ANVIL SWAGE (SOPM 20–50–03)

5 AFTER INSTALLATION, APPLY BMS 3–33 GREASE AT THE LUBE FITTING

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

U59952 S0000208249_V2

161A2105-5 Lower Downlock Link Assembly Repair
Figure 602 (Sheet 2 of 2)

LOWER DOWNLOCK LINK - REPAIR 4-2

161A2105–4, –6, –8

1. General

A. Use this procedure to repair lower downlock link (285A, IPL Figure 1; 145, IPL Figure 2).

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

C. Refer to IPL Figure 1 or IPL Figure 2 for item numbers.

D. General repair details:

(1) Material: Aluminum alloy

(2) Shot Peen: Intensity 0.010A2

(a) Shot peen only in the holes for bushings. Do not shot peen in the lubrication holes.

2. Lug Faces and Holes

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

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

(2) Refinish as specified in REPAIR 4-2, Paragraph 3.

(3) Make oversize bushings (REPAIR 4-2, Figure 602) to adjust for the material removed.

(4) Install the bushings as specified in REPAIR 4-1.

3. 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

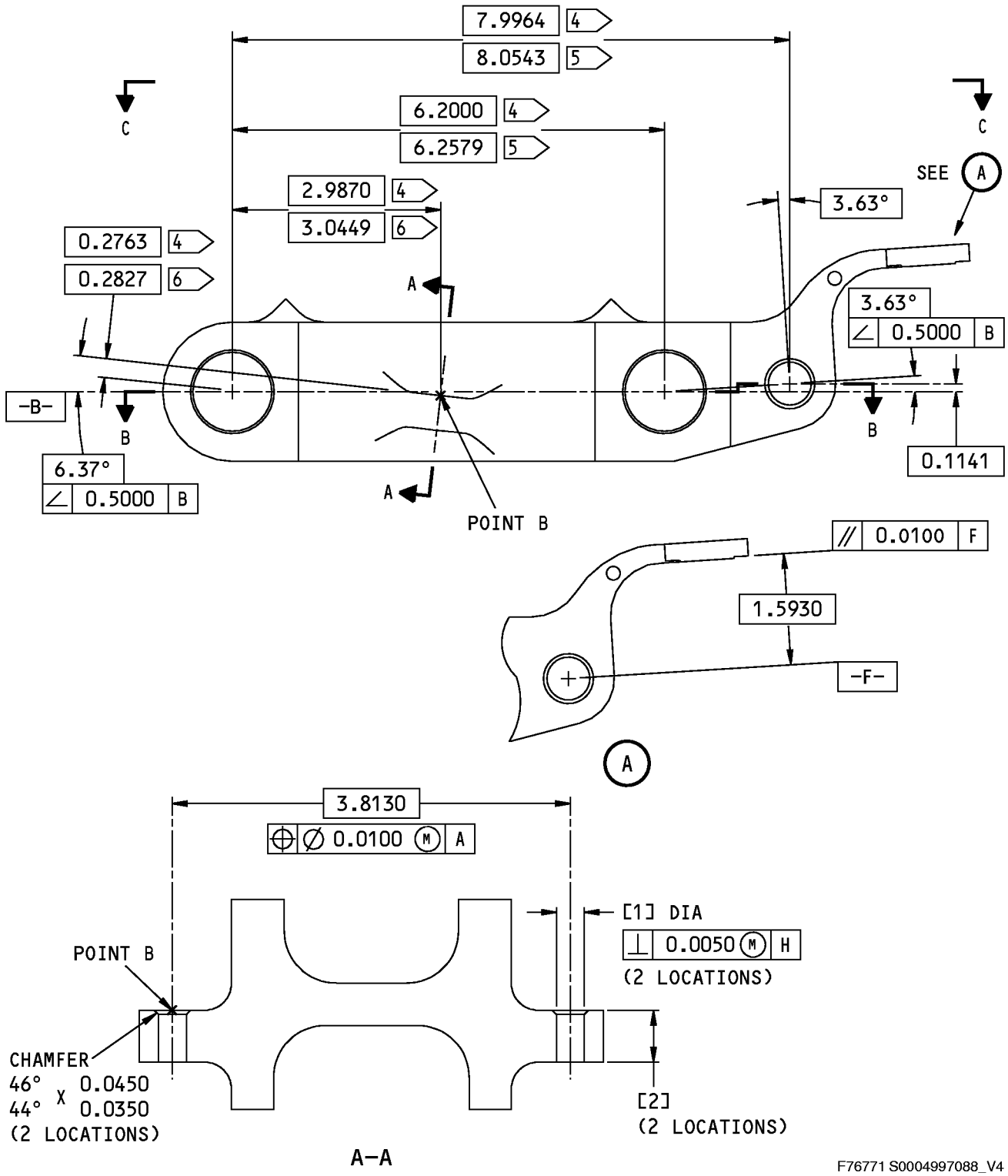
B. References

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

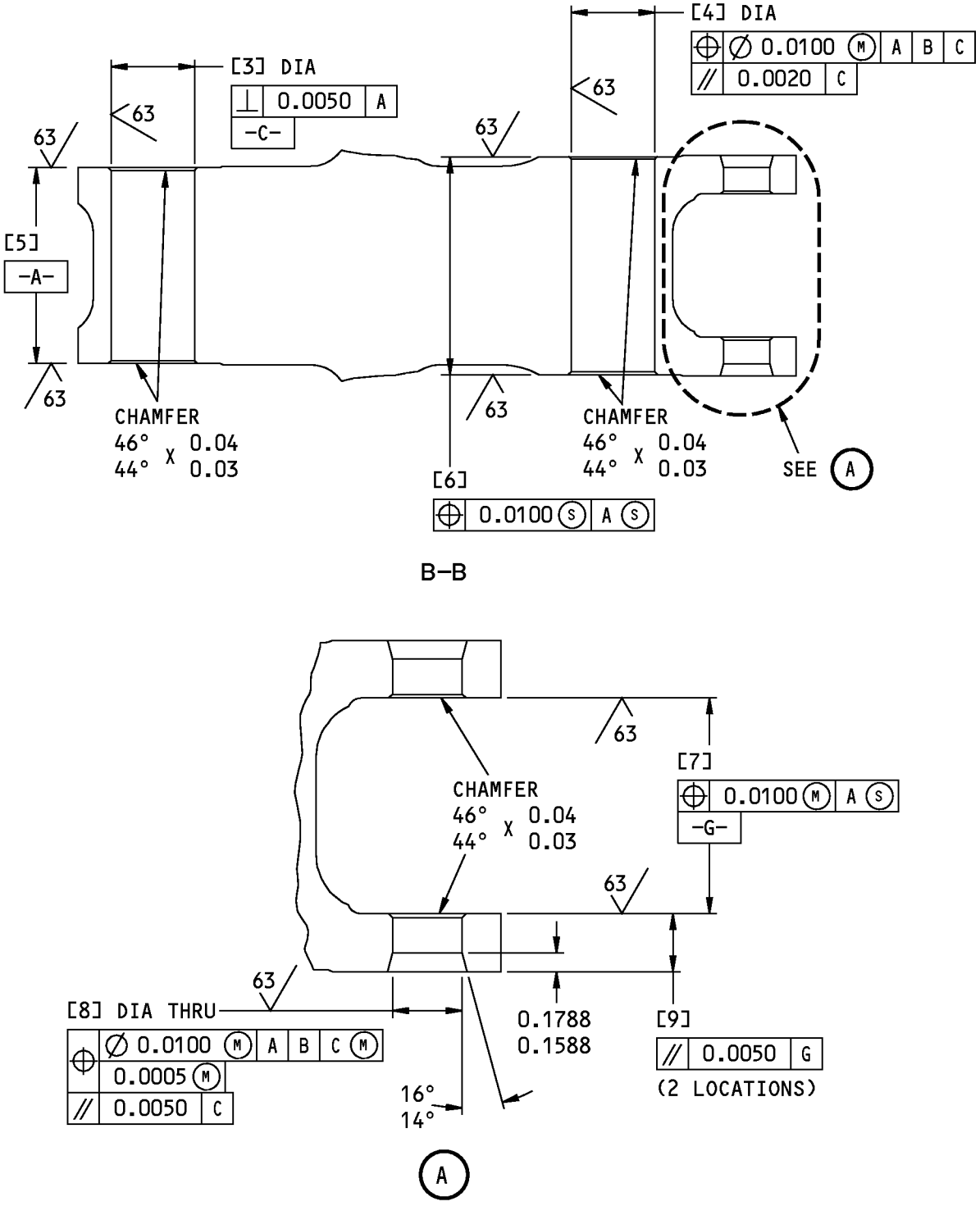
C. Procedure

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) Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31) and apply primer, C00175 (F-19.47).

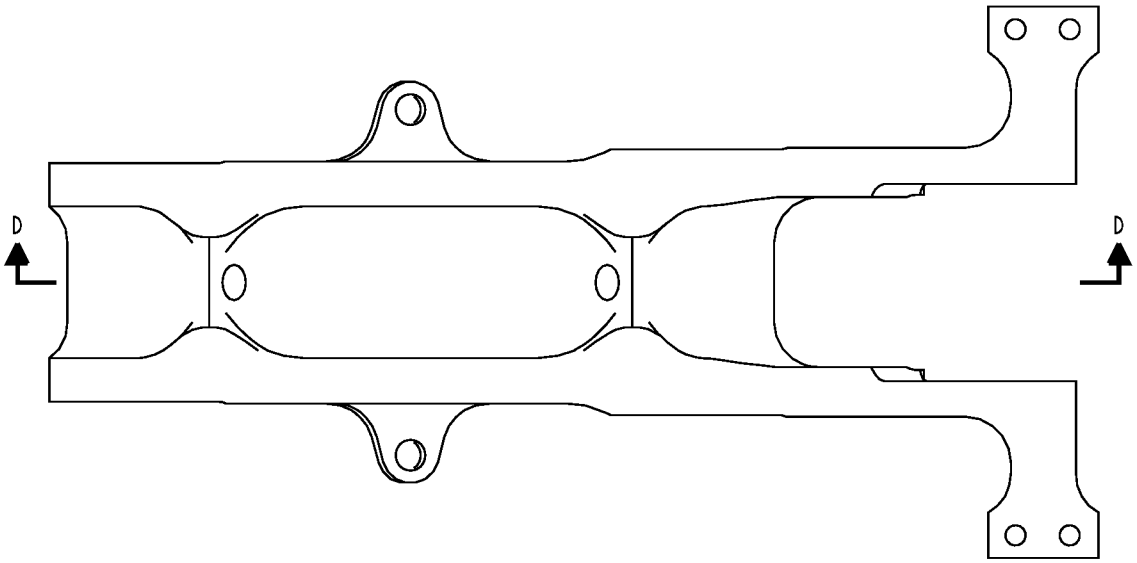


161A2105-4,-6,-8 Lower Downlock Link Repair and Refinish
Figure 601 (Sheet 1 of 4)

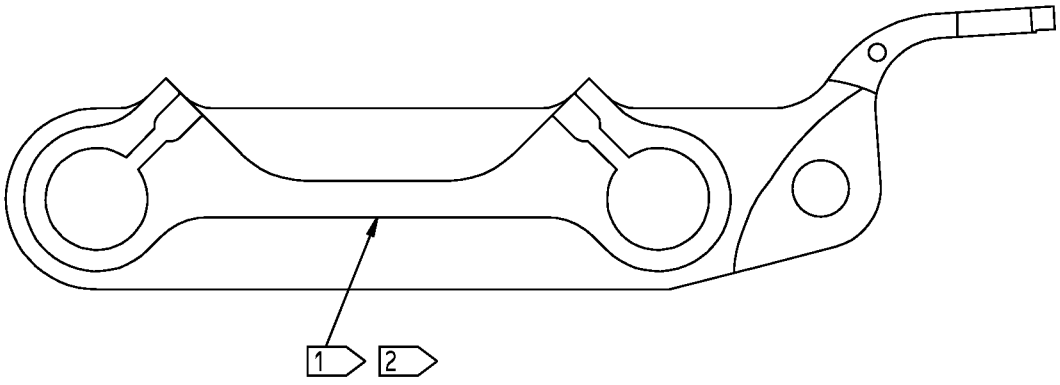


F77049 S0004997089_V3

161A2105-4,-6,-8 Lower Downlock Link Repair and Refinish
Figure 601 (Sheet 2 of 4)



C–C



D–D

161A2105-4,-6,-8 Lower Downlock Link Repair and Refinish
Figure 601 (Sheet 3 of 4)

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
DESIGN DIMENSION	0.2610 0.2550	0.5100 0.4900	1.1270 1.1260	1.1270 1.1260	2.6386 2.6336	2.9360 2.9310	1.9410 1.9310	0.6267 0.6260	0.5220 0.5170
REPAIR LIMIT 3	---	---	1.1870	1.1870	2.5736	2.8710	1.9710	0.6867	0.4570

1 THE PART NUMBER AND SERIAL NUMBER LOCATION

2
- DO NOT APPLY ENAMEL (F-20.56-707) HERE. MASK THE AREA AS NECESSARY
- APPLY GRAY BMS 10-60 ENAMEL (F-19.39-707) TO THE AREA.
- WHEN THE AREA IS DRY, APPLY BLACK BMS 10-60 ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY.
- APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE AREA AND FILL TO THE SAME THICKNESS AS THE OTHER ENAMEL NEAR IT

3 LIMIT FOR INSTALLATION OF OVERSIZE BUSHING

4 161A2105-4,-8

5 161A2105-6

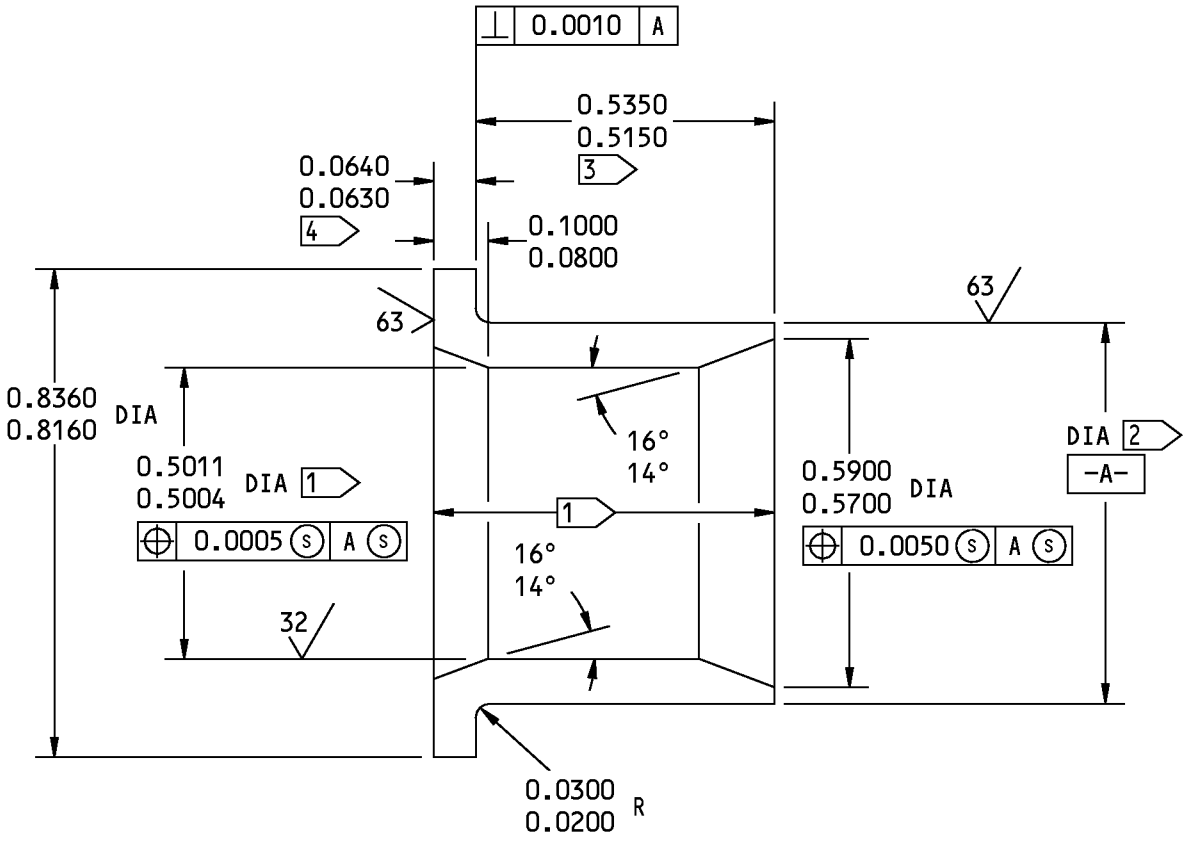
125 ALL MACHINED SURFACES BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ALL DIMENSIONS ARE IN INCHES

F72576 S0004997091_V3

161A2105-4,-6,-8 Lower Downlock Link Repair and Refinish
Figure 601 (Sheet 4 of 4)



Hole Location [8] Fig. 601 - Replaces Bushing 161A2109-11

1 APPLY NO FINISH (F-25.01)

2 REPAIR DIAMETER OF HOLE PLUS 0.0007-0.0017 INTERFERENCE

3 MINUS AMOUNT REMOVED FROM LUG FACE

4 PLUS AMOUNT REMOVED FROM LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

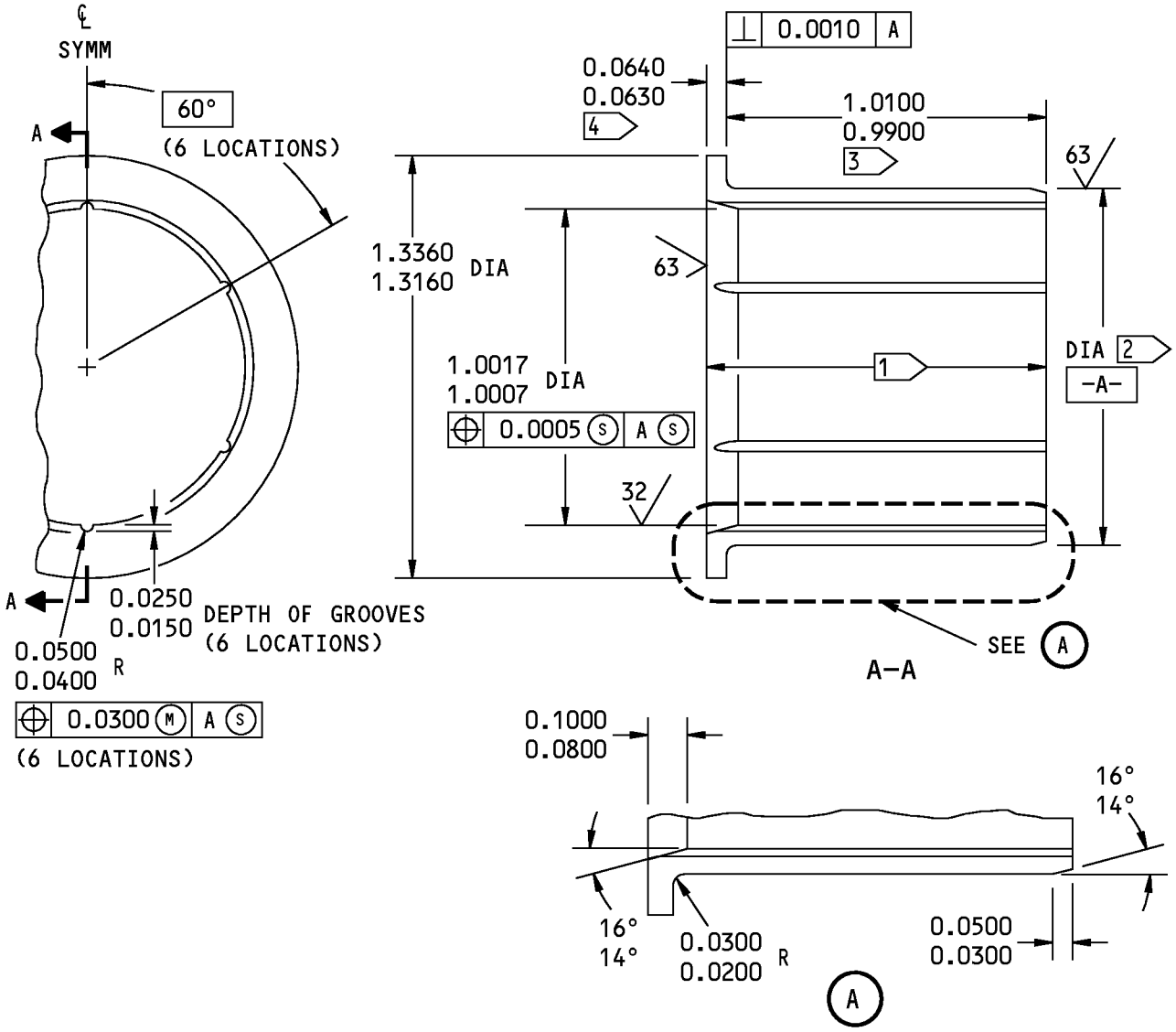
MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602



Hole Location [3],[4] Fig. 601 - Replaces Bushing 161A2109-5

1 APPLY NO FINISH (F-25.01)

2 REPAIR DIAMETER OF HOLE PLUS 0.0010-0.0028 INTERFERENCE

3 MINUS AMOUNT REMOVED FROM LUG FACE

4 PLUS AMOUNT REMOVED FROM LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 603

BOEING®

COMPONENT MAINTENANCE MANUAL

UPPER LOCK LINK ASSEMBLY - REPAIR 5-1

161A2107–1, –2, –5, –6, –9, –10

1. General

A. This procedure tells how to replace the parts of the upper lock link assembly (180, 185, IPL Figure 1; 70, 75, IPL Figure 2).

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

C. Refer to IPL Figure 1 or IPL Figure 2 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 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

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

(1) Remove the old bushings from the upper lock link assemblies.

(2) If you find defects on link surfaces, refer to REPAIR 5-2 for repair instructions.

(3) Install the replacement bushings by the shrink-fit method (SOPM 20-50-03) with sealant, A00247.

(4) Swage bushing (205, IPL Figure 1; 95, IPL Figure 2) as shown.

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
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
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

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

(1) Remove the lubrication fittings and the inserts from the upper lock link assemblies.

(2) Install replacement inserts by the shrink-fit method (SOPM 20-50-03) with sealant, A00247.

(3) Install replacement lubrication fittings and tighten them as shown.

(4) Apply grease, D00013 or grease, D00633 at the lube fittings until you see the grease come out on the bushing inner diameter.

4. Upper Lock Link Assembly Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00700	Coating - Exterior Protective Enamel, Gray Gloss Enamel	BMS10-60, Type I, BAC 707
C50075	Coating - Exterior Protective Enamel, Gray	BMS10-60, Type II, BAC707 Gray

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

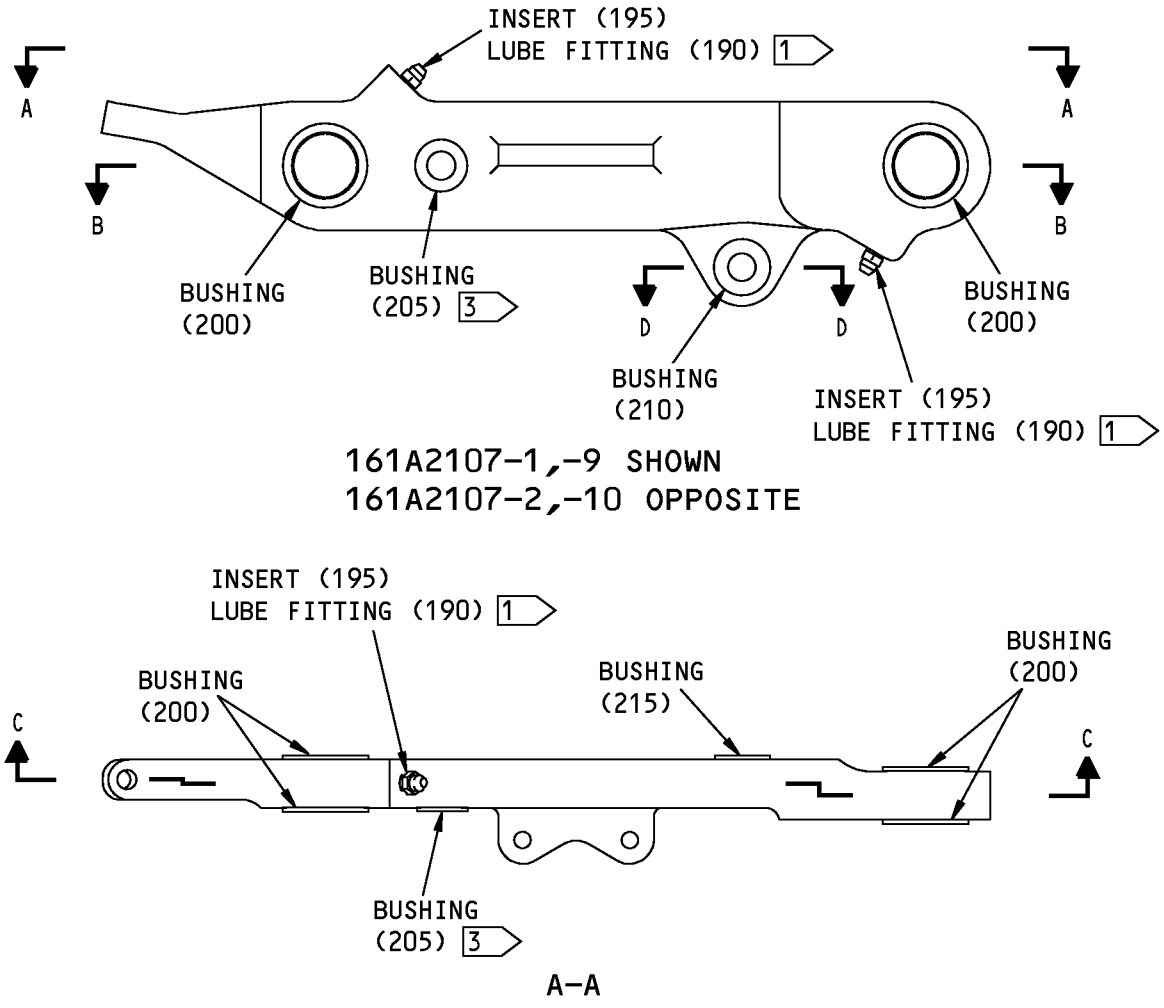
NOTE: For decoding the table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) For 161A2107-1 and -2:

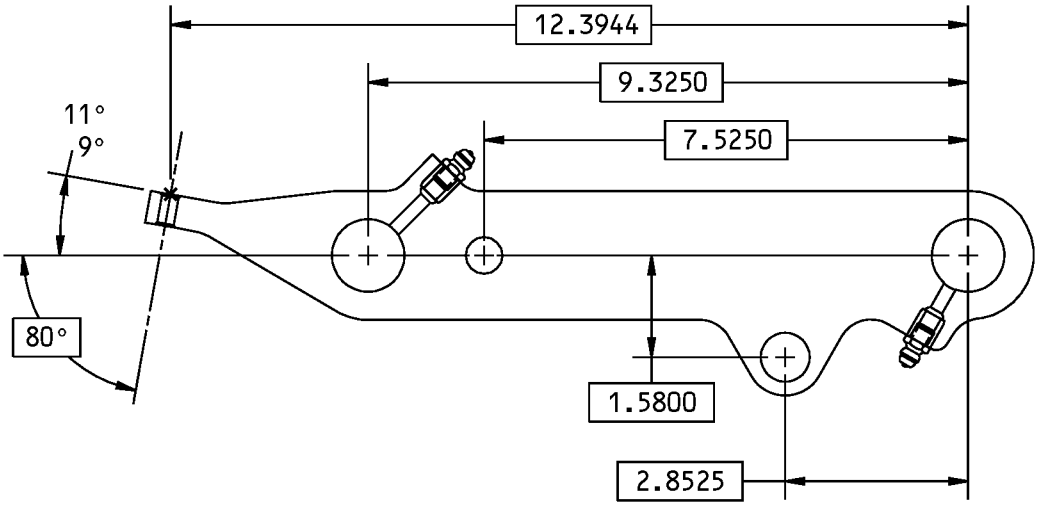
(a) Apply enamel coating, C00700 (F-14.9813, which replaces SRF-14.9813) or enamel coating, C50075 (F-19.39-707) to a thickness of 0.010-0.012 inches. Do not paint bushing faces or bores or lube fittings.

(2) For 161A2107-5 thru -10:

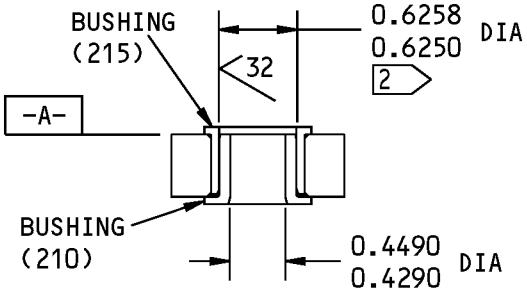
(a) Apply enamel coating, C50075 (F-20.56-707) to a thickness of 0.010-0.012 inches. Do not paint bushing faces or bores or lube fittings.



161A2107-1,-2,-9,-10 Upper Lock Link Assembly
Figure 601 (Sheet 1 of 2)



(BUSHINGS NOT SHOWN)
C–C



D–D

1 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND–INCHES

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

3 ANVIL SWAGE (SOPM 20–50–03)

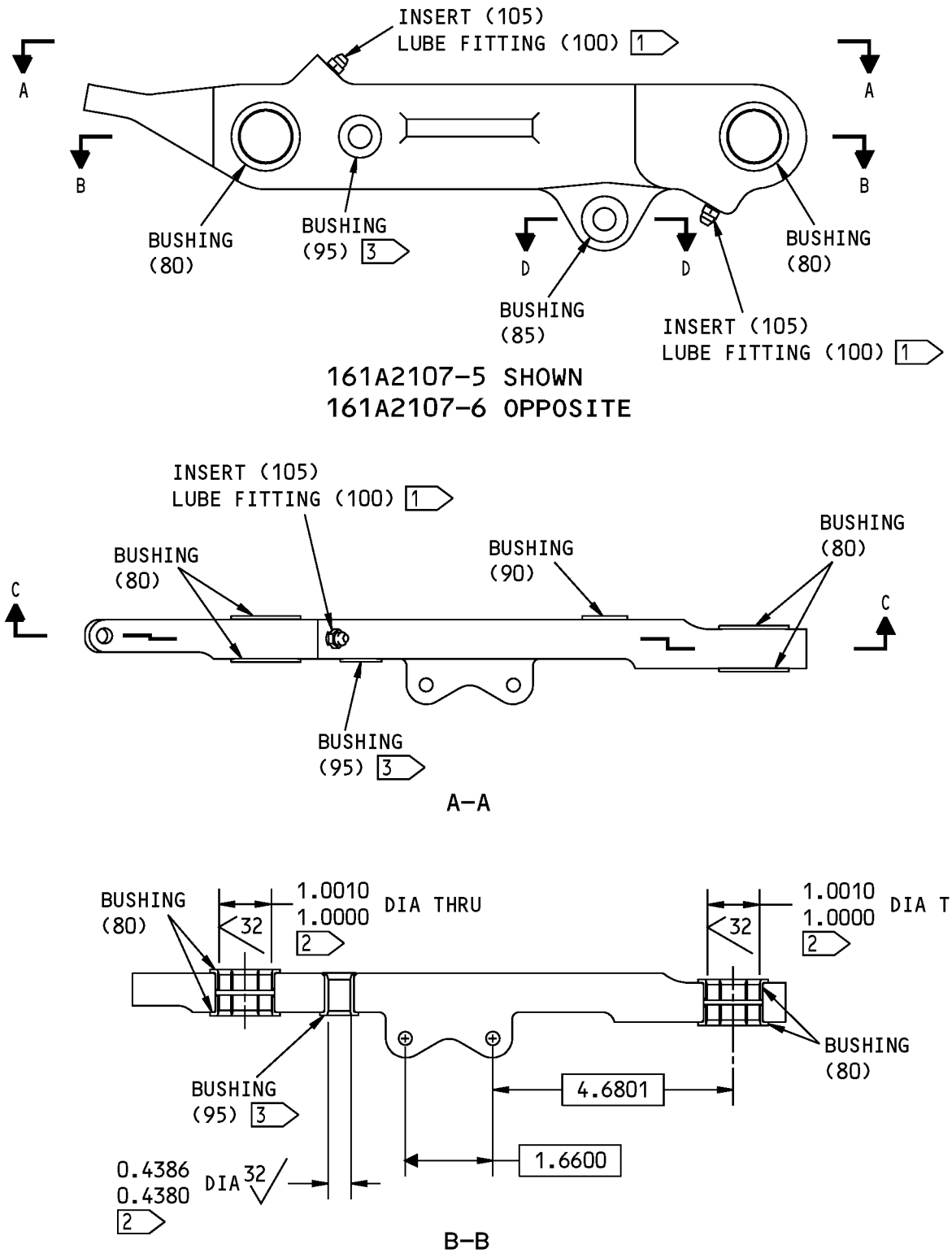
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

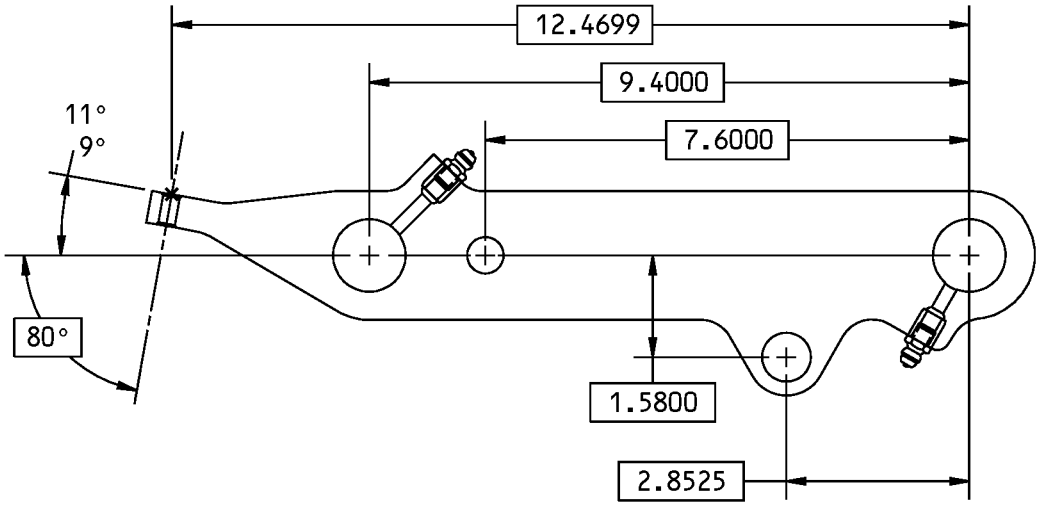
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

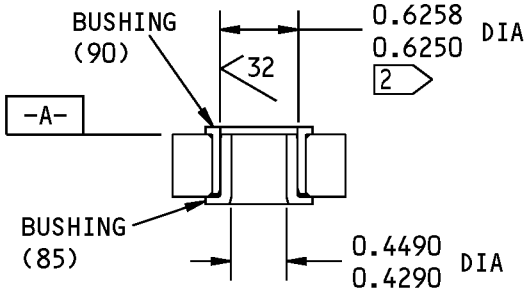
161A2107-1,-2,-9,-10 Upper Lock Link Assembly
Figure 601 (Sheet 2 of 2)



161A2107-5,-6 Upper Lock Link Assembly
Figure 602 (Sheet 1 of 2)



(BUSHINGS NOT SHOWN)
C–C



D–D

1 TIGHTEN THE LUBRICATION FITTING TO 25–30 POUND-INCHES

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

3 ANVIL SWAGE (SOPM 20-50-03)

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

161A2107-5,-6 Upper Lock Link Assembly
Figure 602 (Sheet 2 of 2)

UPPER LOCK LINK - REPAIR 5-2

161A2107–3, –4, –7, –8, –11, –12

1. General

A. This procedure tells how to repair and refinish the upper lock links (220, 225, IPL Figure 1; 110, 115, IPL Figure 2).

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

C. Refer to IPL Figure 1 or IPL Figure 2 for item numbers.

D. General repair details:

(1) Material: Aluminum alloy

(2) Shot peen: Intensity 0.010A2

(a) Only in holes for bushings.

(b) Do not shot peen in holes for the lube fittings.

2. Lug Faces and Holes

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

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

(2) Refinish as specified in REPAIR 5-2, Paragraph 3.

(3) Make oversize bushings (REPAIR 5-2, Figure 602, REPAIR 5-2, Figure 603 and REPAIR 5-2, Figure 604) to adjust for the material removed.

(4) Install the bushings as specified in REPAIR 5-1.

3. 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

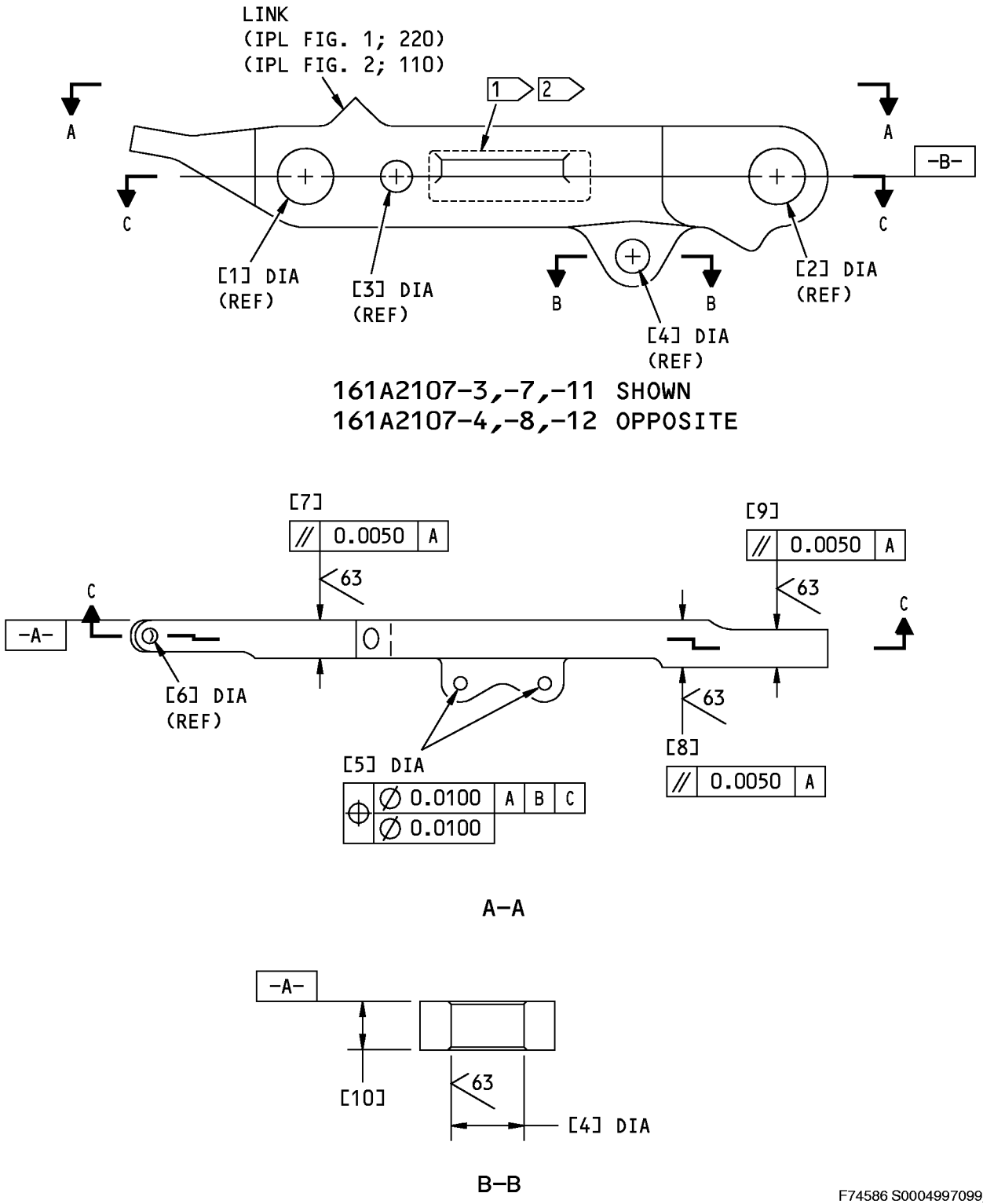
B. References

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

C. Procedure

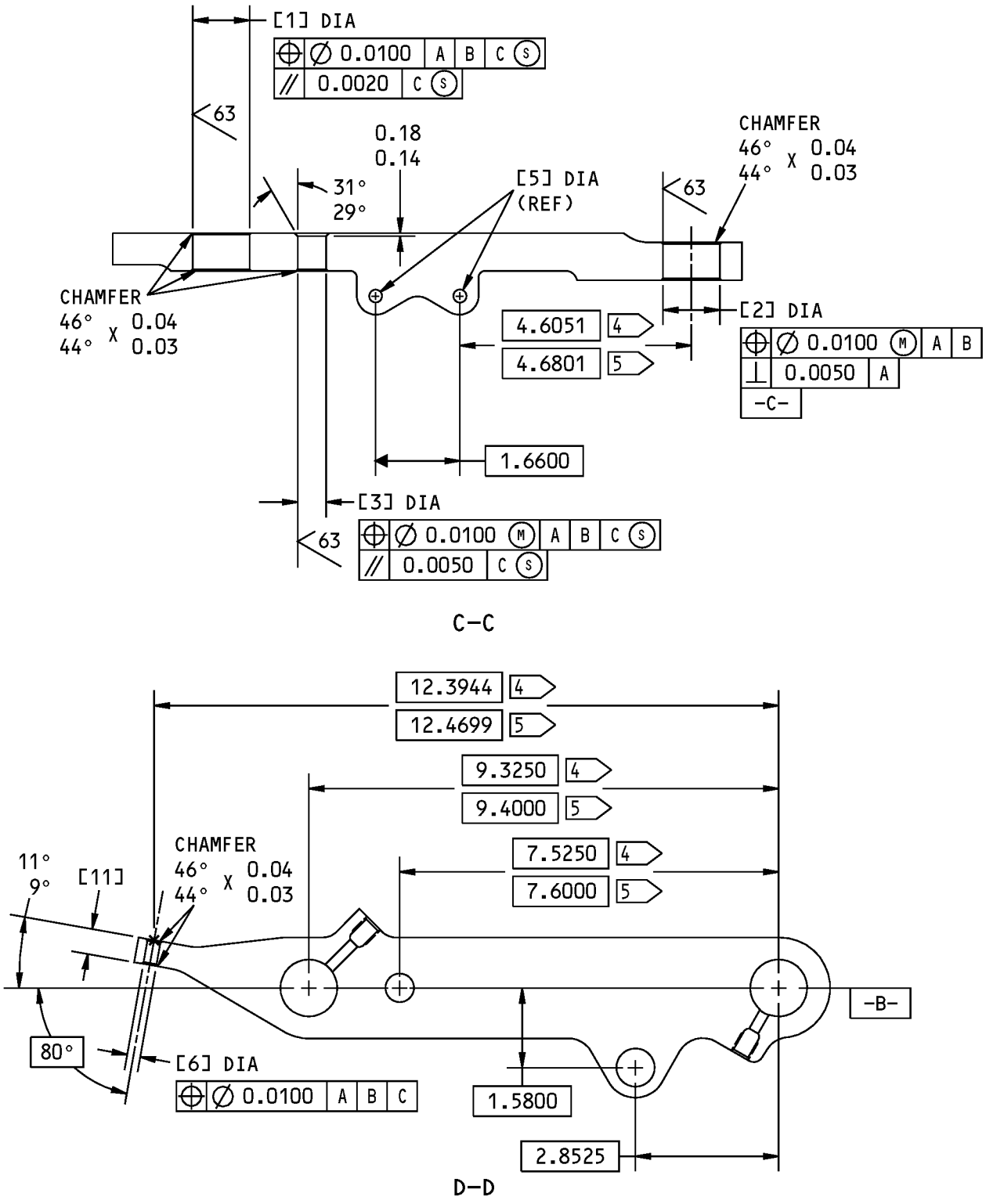
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31) and apply primer, C00175 (F-19.47).



F74586 S0004997099_V3

161A2107-3,-4,-7,-8,-11,-12 Upper Lock Link Repair and Refinish
Figure 601 (Sheet 1 of 3)



161A2107-3,-4,-7,-8,-11,-12 Upper Lock Link Repair and Refinish
Figure 601 (Sheet 2 of 3)

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
DESIGN DIMENSION	1.1270 1.1260	1.1270 1.1260	0.5646 0.5640	0.7518 0.7510	0.2610 0.2550	0.2610 0.2550	0.7525 0.7475	0.9400 0.9350
REPAIR LIMIT 3	1.1870	1.1870	0.6246	0.8118	---	---	0.6875	---

REFERENCE NUMBER	[9]	[10]	[11]
DESIGN DIMENSION	0.7525 0.7475	0.5100 0.4900	0.5100 0.4900
REPAIR LIMIT 3	0.6875	0.4300	---

1 PART NUMBER AND SERIAL NUMBER

2
- DO NOT APPLY ENAMEL (F-20.56-707) HERE. MASK THE AREA AS NECESSARY
- APPLY GRAY BMS 10-60, TYPE 2 ENAMEL (F-19.39-707) TO THE AREA.
- WHEN THE AREA IS DRY, APPLY BLACK BMS 10-60, TYPE 2 ENAMEL (F-19.39-701) TO THE IDENTIFICATION CHARACTERS ONLY.
- APPLY TYPE 41 CLEAR COATING (F-21.34) TO THE AREA AND FILL TO THE SAME THICKNESS AS THE OTHER ENAMEL NEAR IT

3 LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS

4 161A2107-3,-4,-11,-12

5 161A2107-7,-8

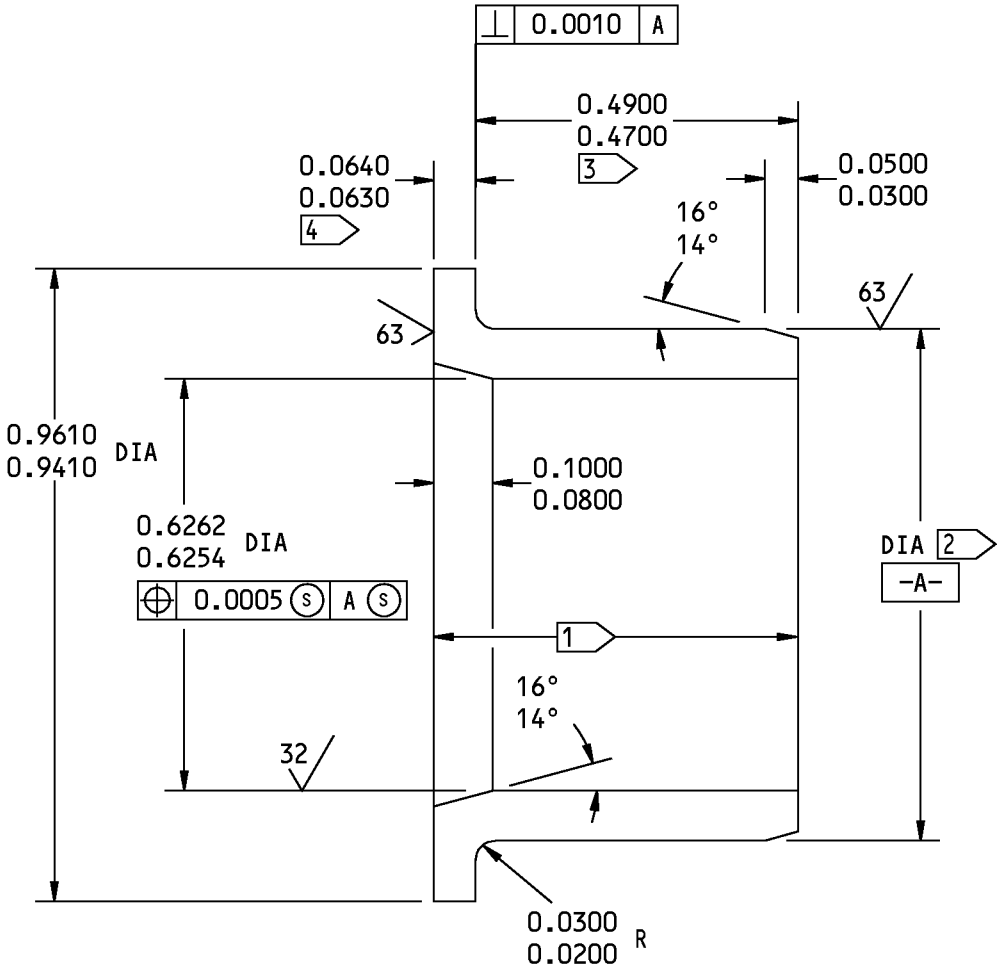
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.06-0.09 R UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

F72613 S0004997101_V3

161A2107-3,-4,-7,-8,-11,-12 Upper Lock Link Repair and Refinish
Figure 601 (Sheet 3 of 3)



Hole Location [4] Fig. 601 - Replaces Bushing 161A2109-9

1 APPLY NO FINISH (F-25.01)

2 REPAIR DIAMETER OF HOLE PLUS 0.0007-0.0020 INTERFERENCE

3 MINUS AMOUNT REMOVED FROM LUG FACE

4 PLUS AMOUNT REMOVED FROM LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

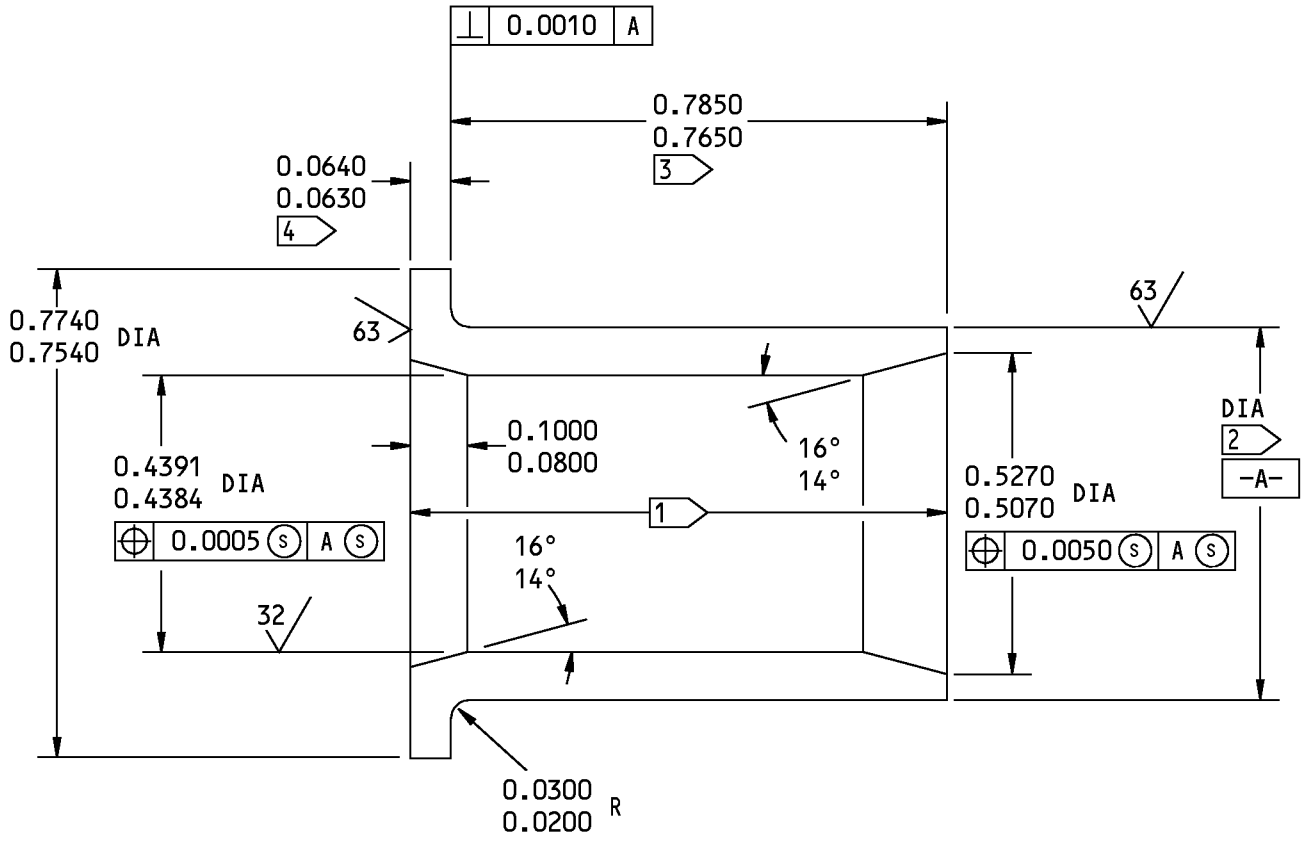
MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602



Hole Location [3] Fig. 601 - Replaces Bushing 161A2109-10

1 APPLY NO FINISH (F-25.01)

2 REPAIR DIAMETER OF HOLE PLUS 0.0007-0.0016 INTERFERENCE

3 MINUS AMOUNT REMOVED FROM LUG FACE

4 PLUS AMOUNT REMOVED FROM LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

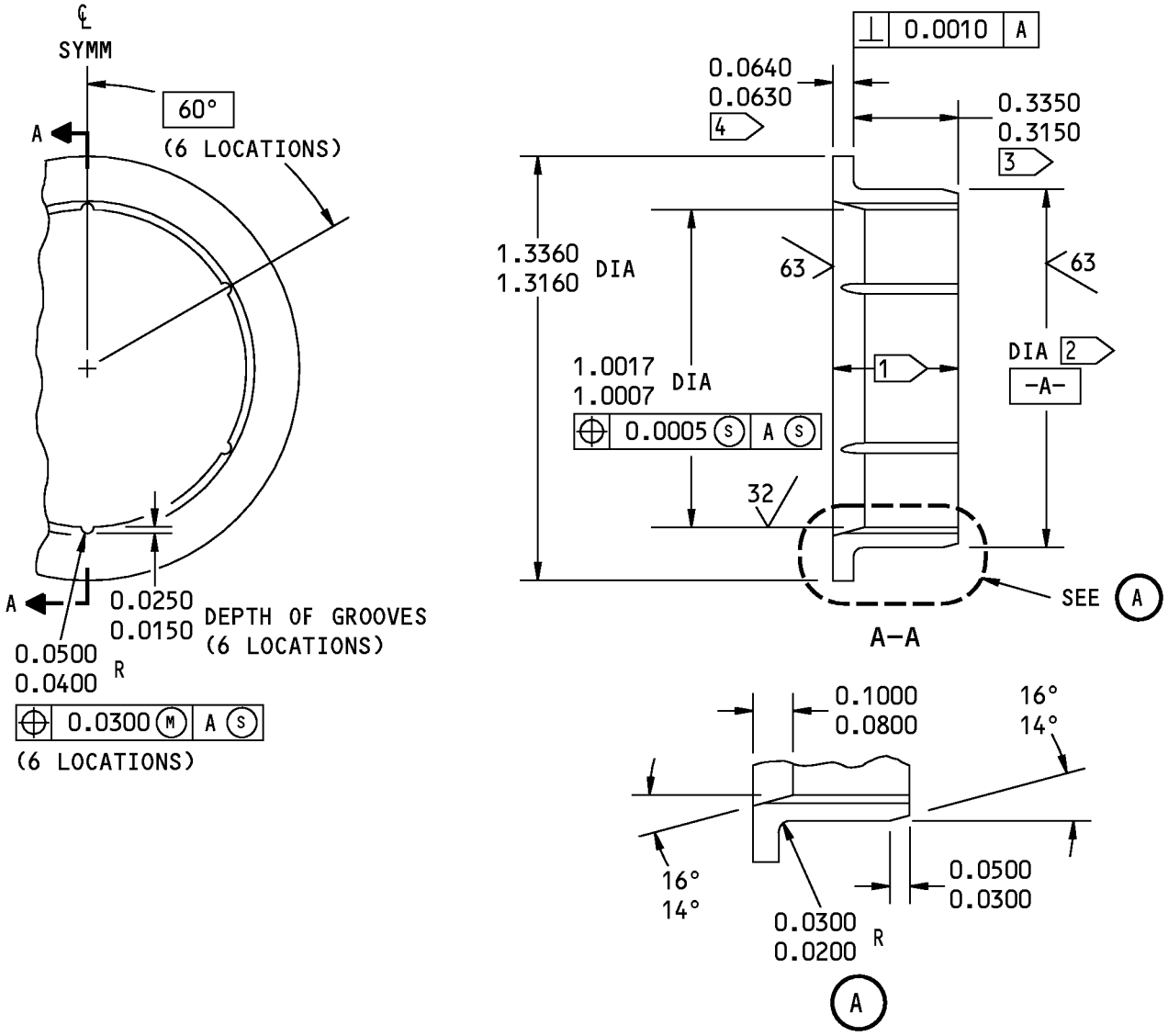
MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 603



Hole Location [1],[2] Fig. 601 - Replaces Bushing 161A2109-6

1 APPLY NO FINISH (F-25.01)

2 REPAIR DIAMETER OF HOLE PLUS 0.0010-0.0028 INTERFERENCE

3 MINUS AMOUNT REMOVED FROM LUG FACE

4 PLUS AMOUNT REMOVED FROM LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) UNLESS SHOWN BY 1

MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 604

APEX PIN - REPAIR 6-1

161A2111–4, –5, –6, –7

1. General

A. This procedure tells how to repair and refinish the apex pin (355C).

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

C. Refer to REPAIR-GENERAL, Figure 601 for the 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

F. Shot peen

(1) Intensity 0.008-0.013A2

(2) Coverage 2.0

(3) Hard shot Rc 55-65

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
C00308	Compound - Corrosion Preventive, Petrolatum Hot Application	MIL-C-11796

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 6-1, 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) Pin Shank Outer Diameter Repair

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

(b) Build up with chrome plate. Grind to design dimensions and finish.

(2) Bore Repair

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

(b) Refinish as indicated.

(3) Pin Refinish

(a) Chrome plate the areas shown.

(b) Cadmium-titanium plate (F-15.01), 0.005 inch minimum thickness.

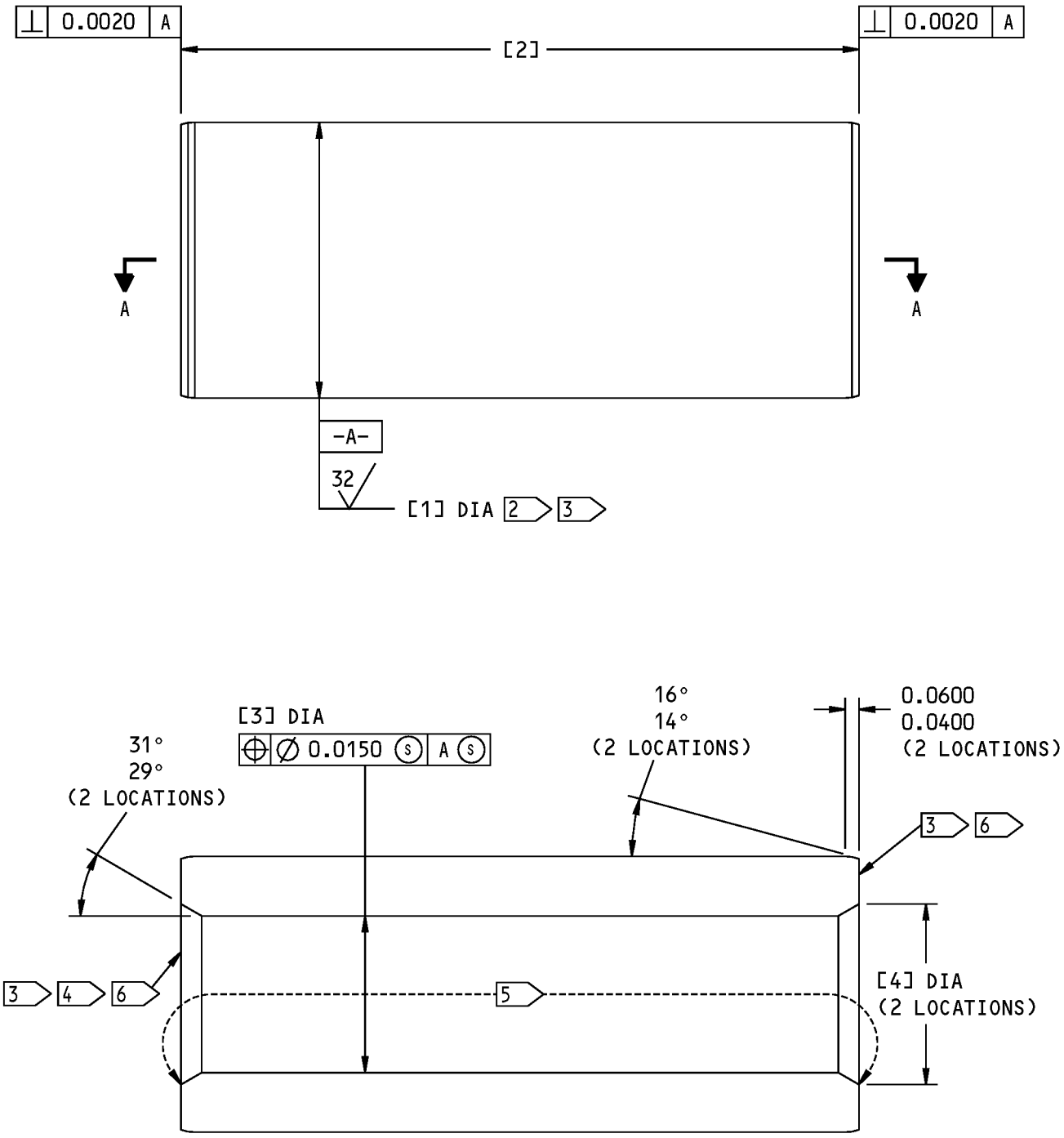
(c) Wipe the chrome plate with primer, C00175 (F-19.451).

(d) On the inner diameter of the pin:

1) Cadmium-titanium plate (F-15.01).

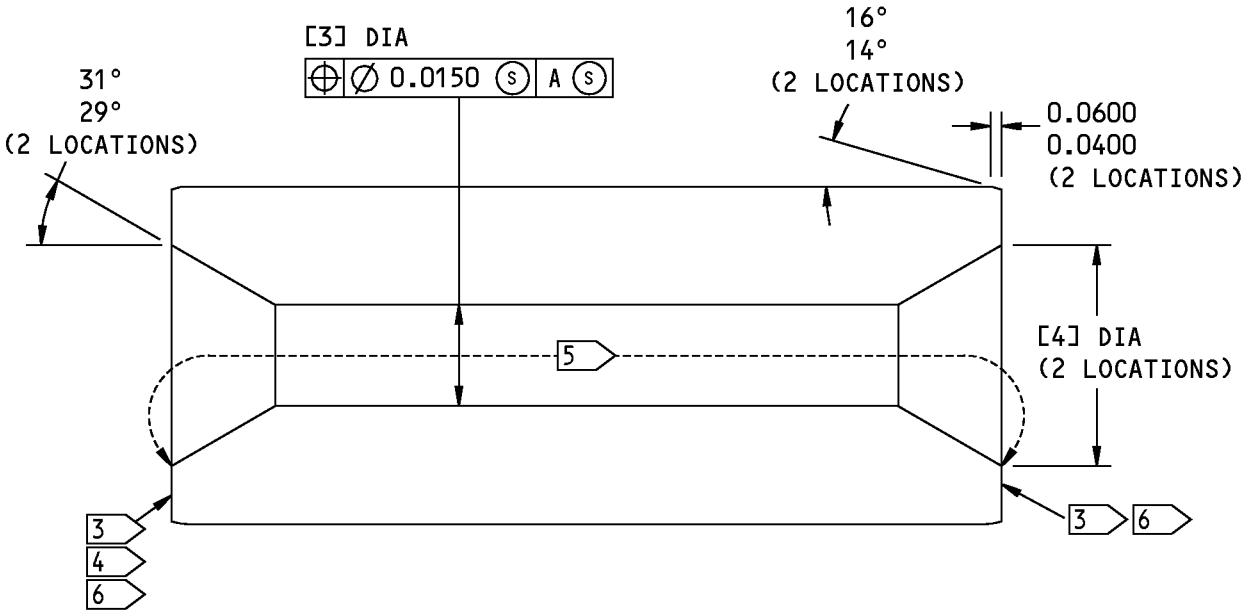
2) Apply primer, C00175 (F-19.66).

3) Apply corrosion preventive compound, C00308 (F-19.03).

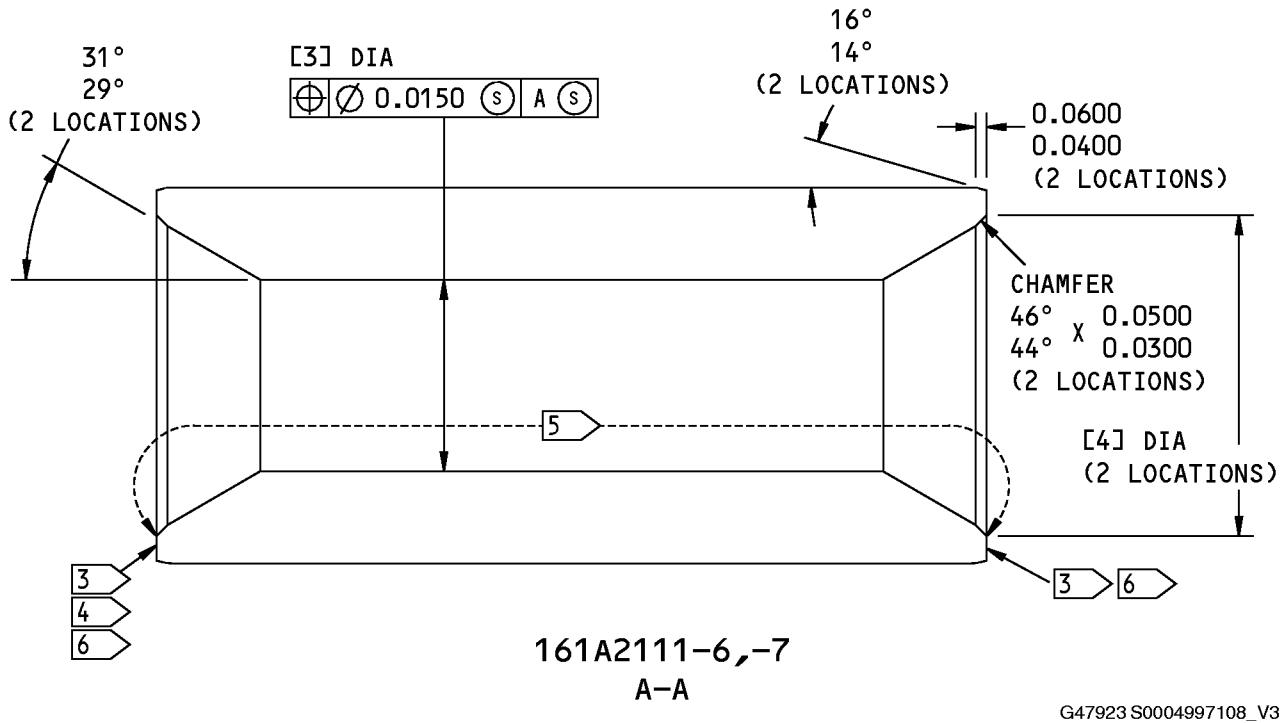


161A2111-4
A-A

161A2111-4,-5,-6,-7 Apex Pin Repair and Refinish
Figure 601 (Sheet 1 of 3)



161A2111-5
A-A



161A2111-6,-7
A-A

G47923 S0004997108_V3

161A2111-4,-5,-6,-7 Apex Pin Repair and Refinish
Figure 601 (Sheet 2 of 3)

PART NUMBER	REFERENCE NUMBER	[1]	[2]	[3]	[4]
161A2111-4	DESIGN DIMENSION	1.9990 1.9980 [1]	4.9200 4.9100	1.1400 1.1300	1.3182 1.2982
	REPAIR LIMIT	1.9780 [7]	---	1.1840 [8]	---
161A2111-5	DESIGN DIMENSION	1.9990 1.9980 [1]	4.9200 4.9100	0.6050 0.5950	1.3182 1.2982
	REPAIR LIMIT	1.9780 [7]	---	0.6300 [8]	---
161A2111-6,-7	DESIGN DIMENSION	2.2490 2.2480 [1]	5.1700 5.1600	1.1550 1.1450	1.7695 1.7495
	REPAIR LIMIT	2.2280 [7]	---	---	---

[1] DIMENSION AFTER PLATING

[2] CHROME PLATE (F-15.34)

[3] WIPE CHROME PLATE WITH PRIMER (F-19.451)

[4] PART NUMBER AND SERIAL NUMBER

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

[6] CHROME PLATE (F-15.43, WHICH REPLACES F-14.892) ON THIS SURFACE

[7] LIMIT FOR CHROME PLATE BUILDUP (SOPM 20-42-03) AND GRIND TO DESIGN DIMENSIONS AND FINISH (SOPM 20-10-04). PUT A 0.080 MAXIMUM PLATING RUNOUT AT EDGES

[8] OD [1] MUST BE WITHIN DESIGN DIMENSIONS

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.01-0.02 R

ITEM NUMBERS REFER TO IPL FIG. 1

DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN BY [1]

ALL DIMENSIONS ARE IN INCHES

G47940 S0004997109_V5

161A2111-4,-5,-6,-7 Apex Pin Repair and Refinish
Figure 601 (Sheet 3 of 3)

DOWNLOCK PIN ASSEMBLY - REPAIR 7-1

161A2112–1, –3, –5

1. General

A. This procedure tells how to replace insert (140) and lubrication fitting (135) of downlock pin assembly (130).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. 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
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 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

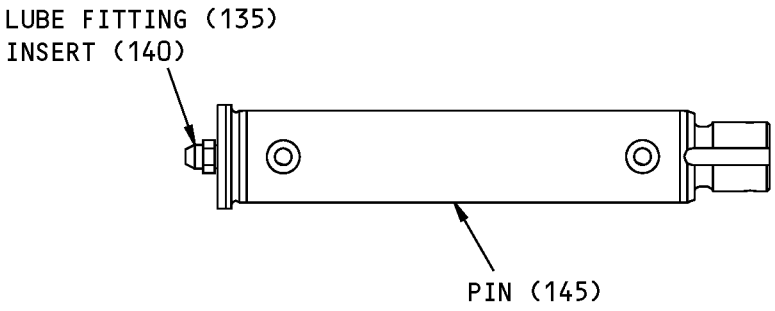
NOTE: For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove old lube fitting (135) and, if necessary, old insert (140) from downlock pin (145).

(2) Install replacement insert (140) by the shrink-fit method with wet sealant, A00247. Put the insert flush with the pin surface within ±0.0200 inch.

(3) Install replacement lubrication fitting (135) and tighten it to 25-30 pound-inches.

(4) Before sealant, A00247 dries, apply grease, D00633 or grease, D00013 to the lubrication fitting until the grease appears at both lube holes.



ITEM NUMBERS REFER TO IPL FIG. 1

161A2112-1,-3,-5 Downlock Pin Assembly Parts Replacement
Figure 601

DOWNLOCK PIN - REPAIR 7-2

161A2112–2, –4, –6

1. General

A. This procedure tells how to repair and refinish the downlock pin (145).

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 dimensioning symbols 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:

(a) All surfaces, unless shown differently in REPAIR 7-2, Figure 601.

(b) Intensity 0.008A-0.013A

(c) Coverage 2.0

2. Pin Repair and Refinish

A. Procedure (REPAIR 7-2, Figure 601)

(1) Pin Repair

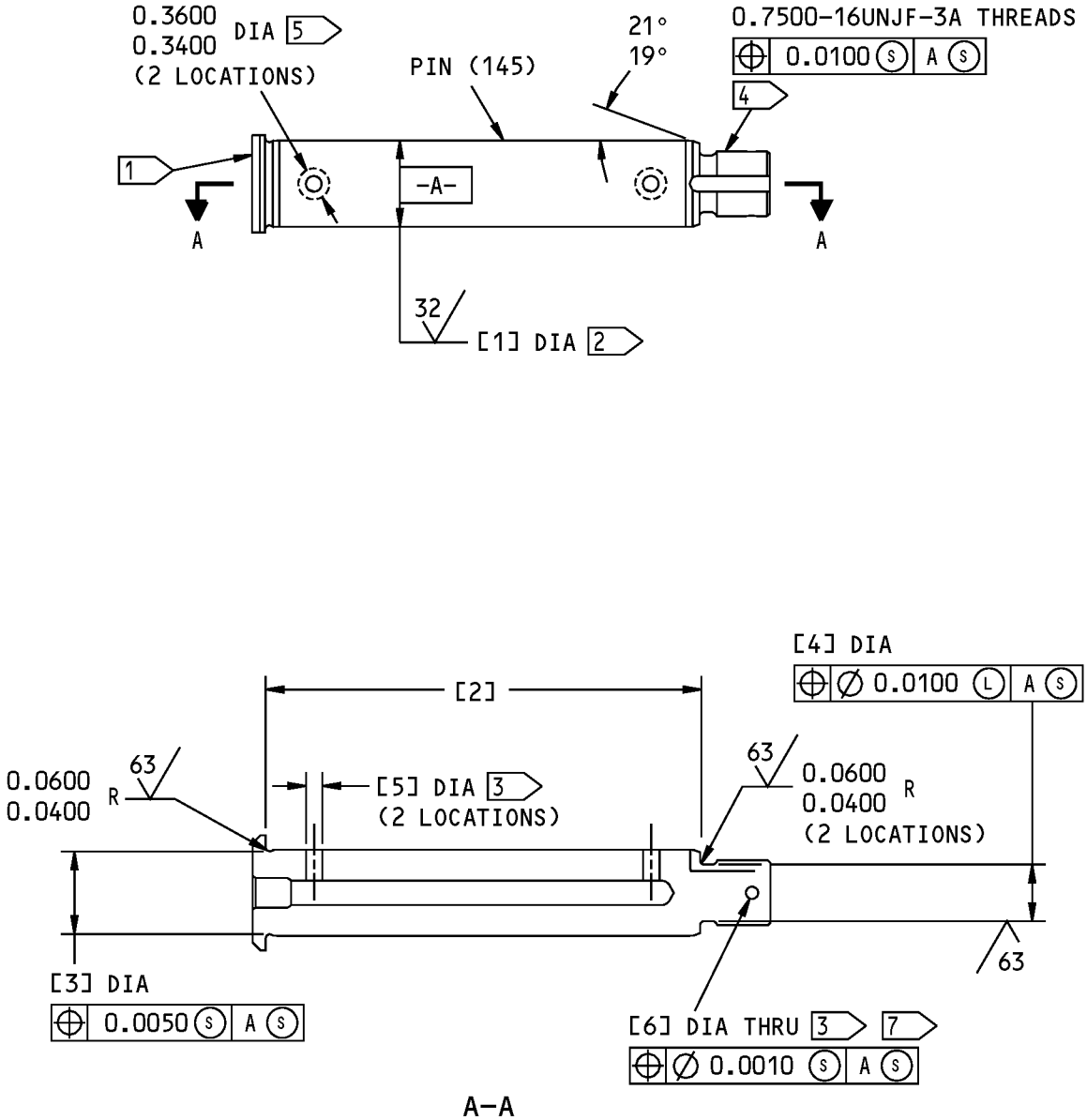
(a) Machine as necessary, within repair limits, to remove defects.

(b) Build up with chrome plate. Grind to design dimensions and finish.

(2) Pin Refinish

(a) Chrome plate (F-15.34) the areas shown.

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



A-A

161A2112-2,-4,-6 Downlock Pin
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	[1]	[2] 6	[2] 7	[3]	[4]	[5]	[6]
DESIGN DIMENSION	0.9990 / 0.9980 10	5.0268 / 5.0168	5.1527 / 5.1427	0.9690 / 0.9490	0.6590 / 0.6500	0.2000 / 0.1800	0.1460 / 0.1360
REPAIR LIMIT	0.9780 8	---	---	0.9290 9	0.6300 9	0.2200 9	0.1760 9

1 PART NUMBER AND SERIAL NUMBER

2 CHROME PLATE (F-15.34), 0.0030-0.0050 THICK, AFTER GRINDING

3 SHOT PEEN IS NOT NECESSARY, BUT OVERSPRAY IS PERMITTED

4 MASK THE THREADS BEFORE SHOT PEENING

5 DO NOT CHROME PLATE THIS AREA

6 161A2112-2

7 161A2112-4,-6

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

9 RESTORATION TO DESIGN DIMENSIONS NOT NECESSARY

10 AFTER PLATING

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.03-0.06 R UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN BY 5 10

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72400 S0004997115_V3

161A2112-2,-4,-6 Downlock Pin
Figure 601 (Sheet 2 of 2)

PIN - REPAIR 8-1

161A2122–1, –2

1. General

A. This procedure tells how to repair and refinish pin (430).

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 dimensioning symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 4340M Steel

(a) 275-300 ksi

(2) Shot peen: Intensity 0.014-0.018 A2

(a) Coverage 2.0

(b) Hard shot Rc 55-65

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 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 8-1, 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.

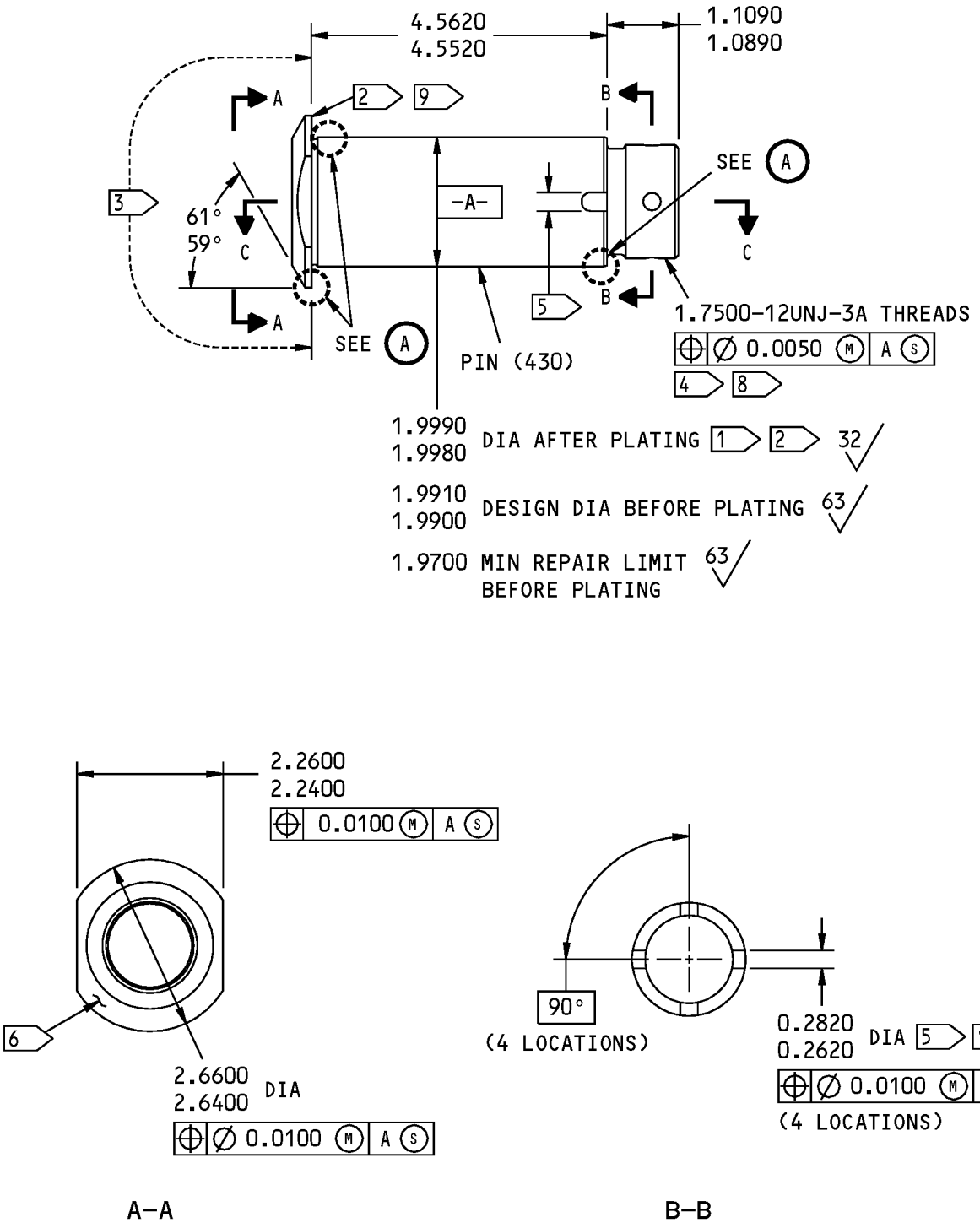
(1) Pin Repair

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

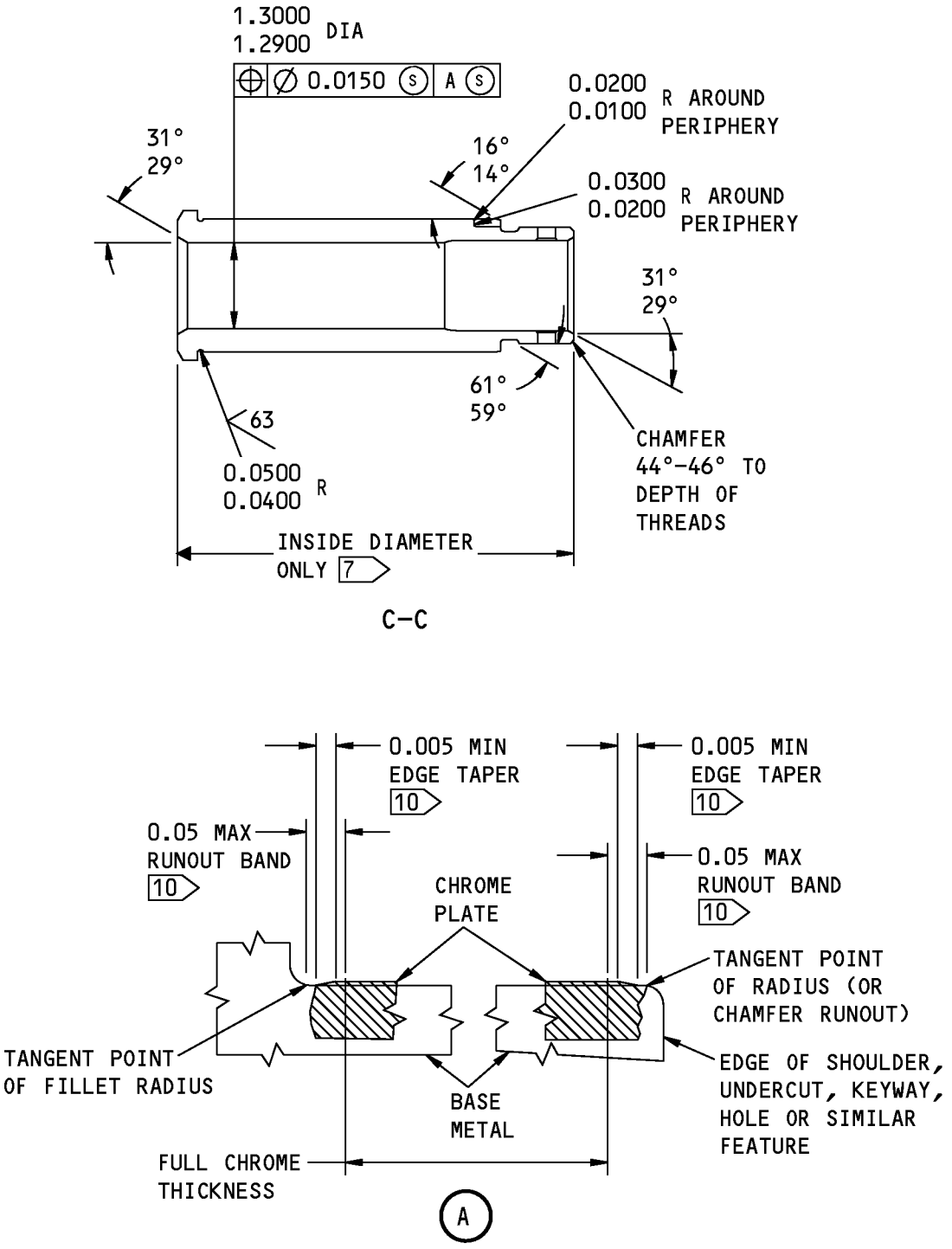
(b) Build up with chrome plate and grind to design dimensions and finish.

(2) Pin Refinish

(a) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.47) to all surfaces.



161A2122-1,-2 Pin Repair
Figure 601 (Sheet 1 of 3)



F73445 S0004997119_V2

161A2122-1,-2 Pin Repair
Figure 601 (Sheet 2 of 3)

1> APPLY F-15.34 THE SINGLE PLATE THICKNESS SHOULD BE 0.003 MINIMUM AFTER GRINDING. SEE VIEW A FOR CHROME PLATE RUNOUT.

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

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

4> MASK THE THREADS BEFORE SHOT PEENING.

5> SHOT PEEN IS NOT NECESSARY. OVERSPRAY IS ALLOWED.

6> THE PART NUMBER AND THE SERIAL NUMBER ARE FOUND HERE.

7> 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).

8> CADMIUM-TITANIUM PLATE (F-15.32). WIPE THE PLATING WITH BMS 10-79, TYPE 3 PRIMER (F-19.451).

9> APPLY F-15.34 THE SINGLE PLATE THICKNESS MUST BE 0.001-0.002 THICK. DO NOT GRIND. SEE VIEW A FOR CHROME PLATE RUNOUT.

10> THE CHROME PLATE MUST STOP WITH A TAPER FROM FULL TO ZERO THICKNESS OVER A 0.005 INCH MINIMUM LENGTH. DO NOT STOP THE CHROME PLATE WITH A SQUARE EDGE. THE CHROME MUST BE WITHIN A 0.05 WIDE BAND. THIS BAND SHOULD START AT A TANGENT POINT OF A SHOULDER, CHAMFER OR UNDERCUT.

11> BREAK SHARP EDGES AND CLEAN THE THREADS AROUND HOLES.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES TO 0.01-0.02 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72416 S0004997120_V2

161A2122-1,-2 Pin Repair
Figure 601 (Sheet 3 of 3)

PIN - REPAIR 9-1

161A2123–1, –2

1. General

A. This procedure tells how to repair and refinish pin (165).

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) 180-200 ksi

(2) Shot Peen: All surfaces, unless shown differently in REPAIR 9-1, Figure 601.

(a) Intensity 0.008-0.013 A2

(b) Coverage 2.0

2. Repair and Refinish

A. References

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

B. Procedure (REPAIR 9-1, Figure 601)

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

(1) Pin Repair

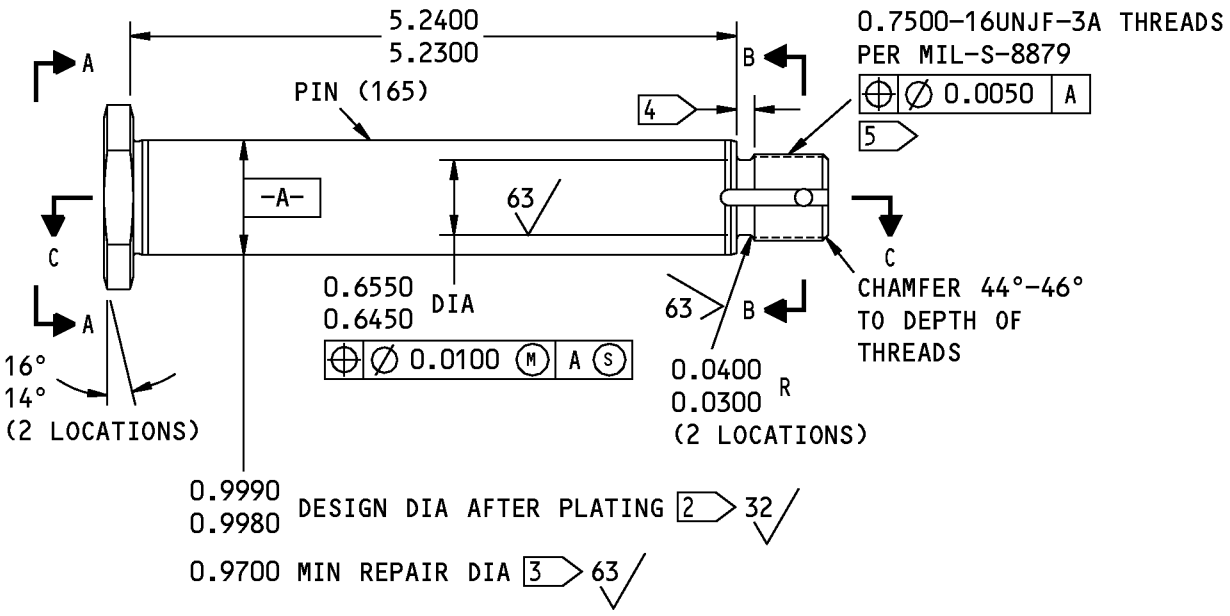
(a) Machine as necessary, within repair limits, to remove defects.

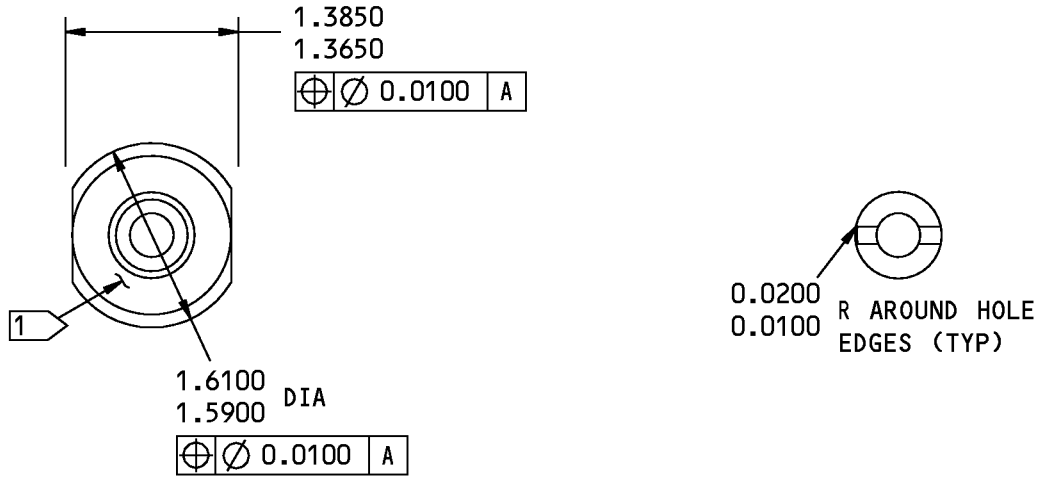
(b) Build up with chrome plate. Grind to design dimensions and finish.

(2) Pin Refinish

(a) Chrome plate (F-15.34) as shown in REPAIR 9-1, Figure 601.

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



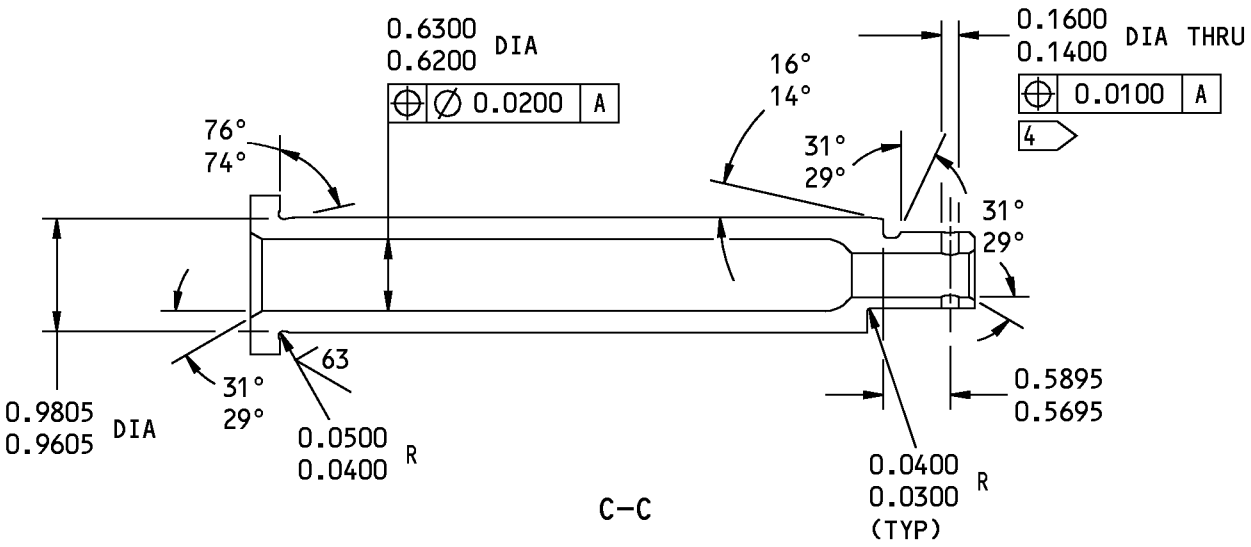


A–A

B–B

F73565 S0004997123_V2

161A2123-1,-2 Pin Repair
Figure 601 (Sheet 1 of 2)



1 > PART NUMBER AND SERIAL NUMBER LOCATION

2 > CHROME PLATE (F-15.34) (0.003-0.005 THICK)

3 > LIMIT FOR CHROME PLATE BUILDUP

4 > SHOT PEEN IS NOT NECESSARY. OVERSPRAY IS PERMITTED

5 > MASK THE THREADS BEFORE YOU SHOT PEEN

125 √ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.030-0.060 R BUT NOT WHEN NOTED

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F73658 S0004997124_V2

161A2123-1,-2 Pin Repair
Figure 601 (Sheet 2 of 2)

APEX PIN - REPAIR 10-1

161A2124–1, –2

1. General

A. This procedure tells how to repair and refinish pin (255, IPL Figure 1; 65, IPL Figure 2).

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) 180-200 ksi

(2) Shot Peen: All surfaces

(a) Intensity 0.012-0.017 A2

(b) Coverage 2.0

2. Repair and Refinish

A. References

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

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

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

(1) Pin Repair

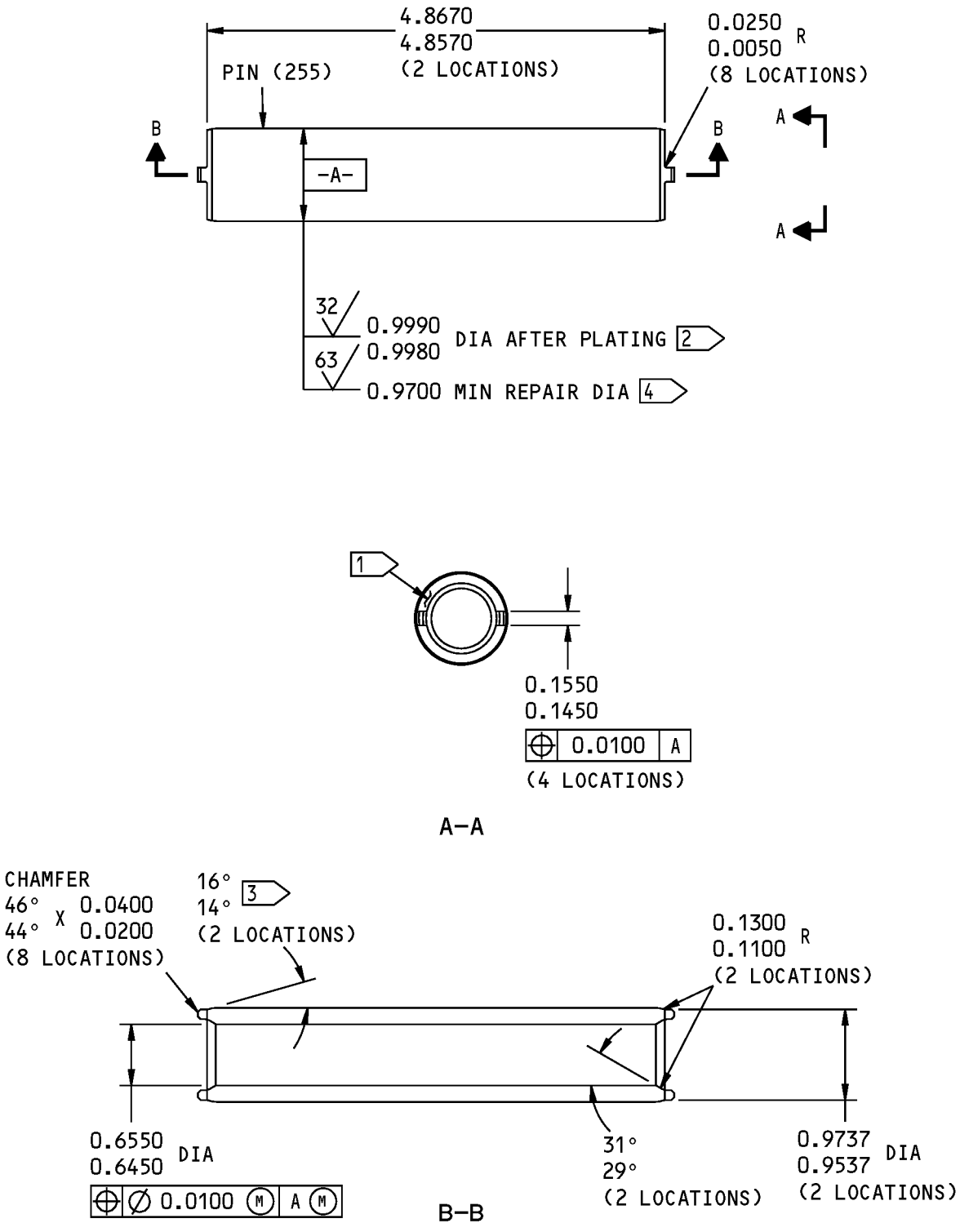
(a) Machine as necessary, within repair limits, to remove defects.

(b) Build up with chrome plate. Grind to design dimensions and finish.

(2) Pin Refinish

(a) Chrome plate (F-15.34) as indicated.

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



161A2124-1,-2 Apex Pin Repair and Refinish
Figure 601 (Sheet 1 of 2)

1 PART NUMBER AND SERIAL NUMBER LOCATION

2 CHROME PLATE (F-15.34). 0.003-0.005 THICK

3 NO CHROME PLATE

4 LIMIT FOR CHROME PLATE BUILDUP

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.030-0.060 UNLESS NOTED

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2124-1,-2 Apex Pin Repair and Refinish
Figure 601 (Sheet 2 of 2)

SIDE STRUT NUT - REPAIR 11-1

161A2125–3

1. General

A. This procedure tells how to refinish the nut (440).

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

(a) 220-240 ksi

(2) Shot Peen: All surfaces, unless shown in REPAIR 11-1, Figure 601

(a) Intensity 0.012-0.017A2

(b) Coverage 2.0

2. 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

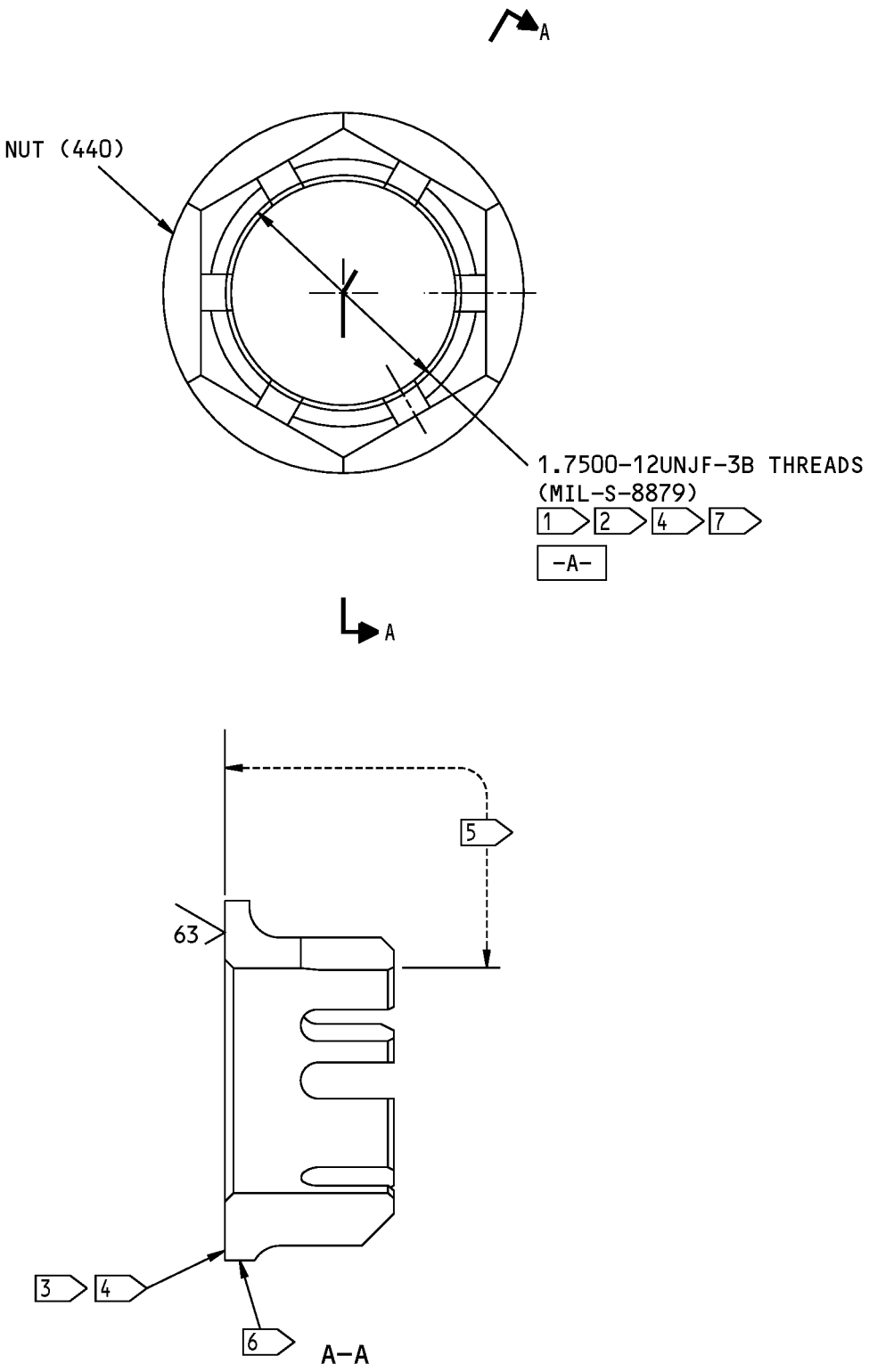
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 11-1, 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) Chrome plate (F-15.43) as shown.

(2) Cadmium-titanium plate (F-15.32) other surfaces and apply primer, C00175 (F-19.451) and enamel coating, C00033 (F-19.39-707) as shown.



161A2125-3 Nut Refinish
Figure 601 (Sheet 1 of 2)

1 CADMIUM-TITANIUM PLATE (F-15.32) THIS SURFACE.

2 AFTER PLATING

3 CHROME PLATE (F-15.43, WHICH REPLACES F-14.892), 0.0003-0.0005 THICK. DO NOT GRIND

4 WIPE WITH PRIMER (F-19.451)

5 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)

6 PART NUMBER LOCATION

7 DO NOT SHOT PEEN THE THREADS

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2125-3 Nut Refinish
Figure 601 (Sheet 2 of 2)

SPRING ASSEMBLY - REPAIR 12-1

161A2300–1

1. General

A. This procedure tells how to repair and refinish the spring assembly (35).

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 details for spring (50)

(1) Material: Ti-3A1-8V-6Cr-4Mo-4Zr alloy (BMS 7-320, Type 2) titanium alloy.

(2) Shot Peen: 0.014-0.016A2 intensity, Coverage 2.0. Extend the spring as necessary for good coverage. Be sure not to extend the spring more than 16.0 inches between end fitting centers.

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 20-60-03	LUBRICANTS

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

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

(1) Remove the old bushings from the spring assembly (35).

(2) Use the shrink-fit method to install the replacement bushings (40) with grease, D00015 or grease, D00633.

(3) If necessary, machine the bushing bores to design dimensions and finish.

3. Spring Repair

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I

B. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

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

NOTE: If the damage is between the coils, then extend the spring until the spaces between the coils are a sufficient width to let you do the repairs. Be sure not to extend the spring more than 16.0 inches between end fitting centers.

(1) Coating defects without bare metal.

(a) Sand the area with 280 grit or finer abrasive paper. Make all edges of this area smooth with adjacent areas.

(b) Solvent clean (SOPM 20-30-03) the area.

(c) Dry abrasive blast clean (SOPM 20-30-03) the surface. If necessary, use compressed air to remove the abrasive dust from the spring.

(d) Refinish the spring as shown in par. 2 below. Optional: touch up with primer, C00259 and enamel coating, C00033. Keep overspray to a minimum.

(2) Coating defects with bare metal.

(a) Sand the area with 280 grit or finer abrasive paper to expose the bare metal. Make all edges of the coating smooth.

(b) Solvent clean (SOPM 20-30-03) the area.

(c) Penetrant examine (SOPM 20-20-02) the bare metal areas.

(d) If the penetrant check finds crack indications, remove the spring from service.

(e) If there are no crack indications, lightly sand the bare metal to remove small scratches, but do not go deeper than 5% of the wire diameter.

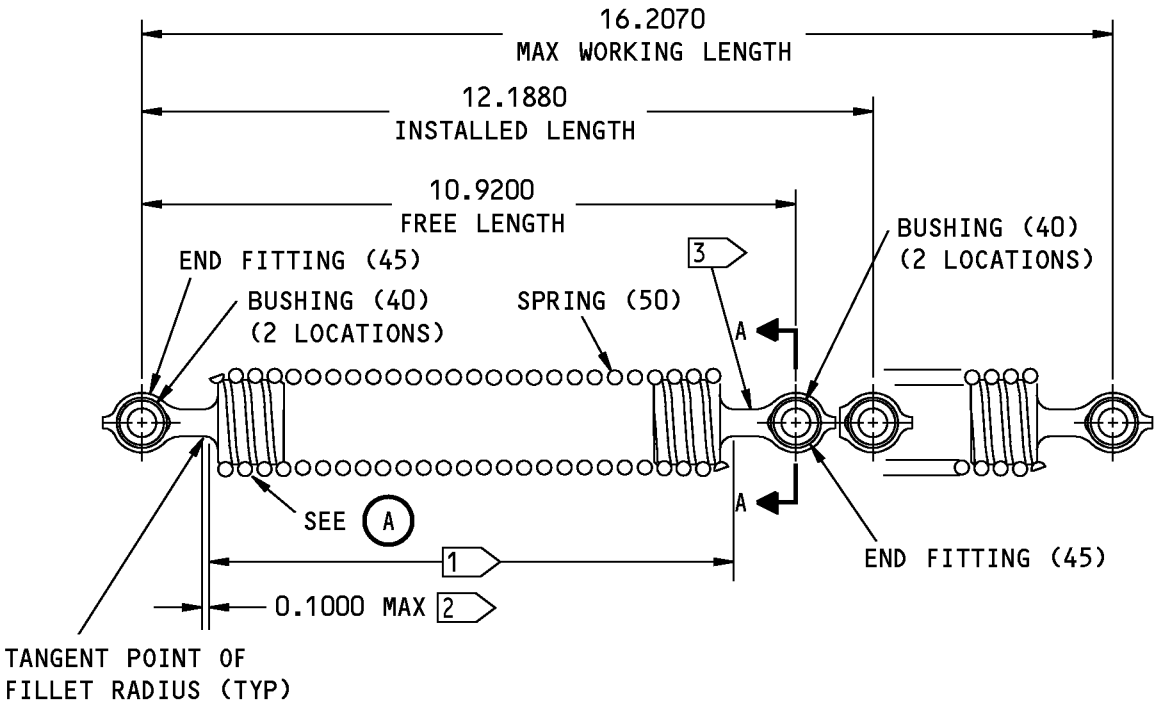
(f) Shot peen (SOPM 20-10-03) the blended area.

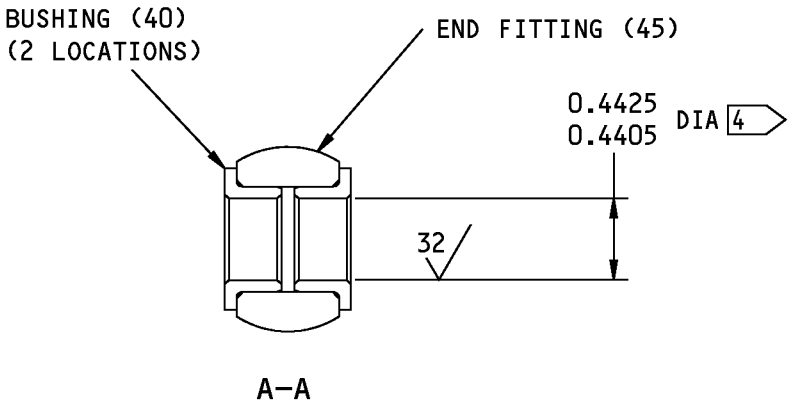
(g) Refinish the spring as shown in REPAIR 12-1, Paragraph 4. below. Optional: touch up with primer, C00259 and enamel coating, C00033. Keep overspray to a minimum.

4. Spring Refinish

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.

A. Apply gray coating, C00802 (F-21.14). Apply the coating with the spring held extended in a fixture, with the spaces between the coils equal to the wire diameter. Be sure not to extend the spring more than 16.0 inches between end fitting centers.



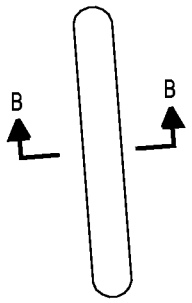


A–A

ITEM NUMBERS REFER TO IPL FIG. 1

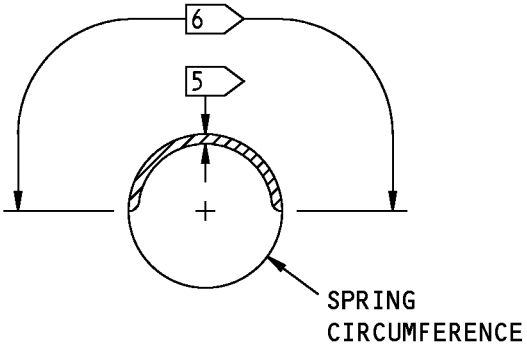
ALL DIMENSIONS ARE IN INCHES

161A2300-1 Spring Assembly Repair and Refinish
Figure 601 (Sheet 1 of 2)



TYPICAL SPRING COIL

A



B–B

1 > APPLY TYPE 49 GRAY NYLON COATING (F-21.14) WITH THE SPRING EXTENDED

2 > NYLON COATING RUNOUT AREA.

3 > RUBBER STAMP THE PART NUMBER (SOPM 20-50-10, CODE RH) IN THIS AREA. THE CIRCUMFERENTIAL LOCATION IS OPTIONAL.

4 > INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY.

5 > THE MAXIMUM DEPTH OF THE BLEND-OUT MUST BE LESS THAN 0.010 INCH

6 > THE TOTAL LENGTH OF ALL OF THE DAMAGED AREAS MUST BE LESS THAN HALF OF THE DISTANCE OF THE CIRCUMFERENCE OF THE SPRING

ALL DIMENSIONS ARE IN INCHES

161A2300-1 Spring Assembly Repair and Refinish
Figure 601 (Sheet 2 of 2)

PIN - REPAIR 13-1

161A2325–1, –2

1. General

A. Use this procedure to repair and refinish pin (25).

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 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) Intensity 0.008-0.013 A2

(b) Coverage 2.0

2. Pin Repair

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
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 (REPAIR 13-1, 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) Pin Repair

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

(b) Build up with chrome plate. Grind to design dimensions and finish.

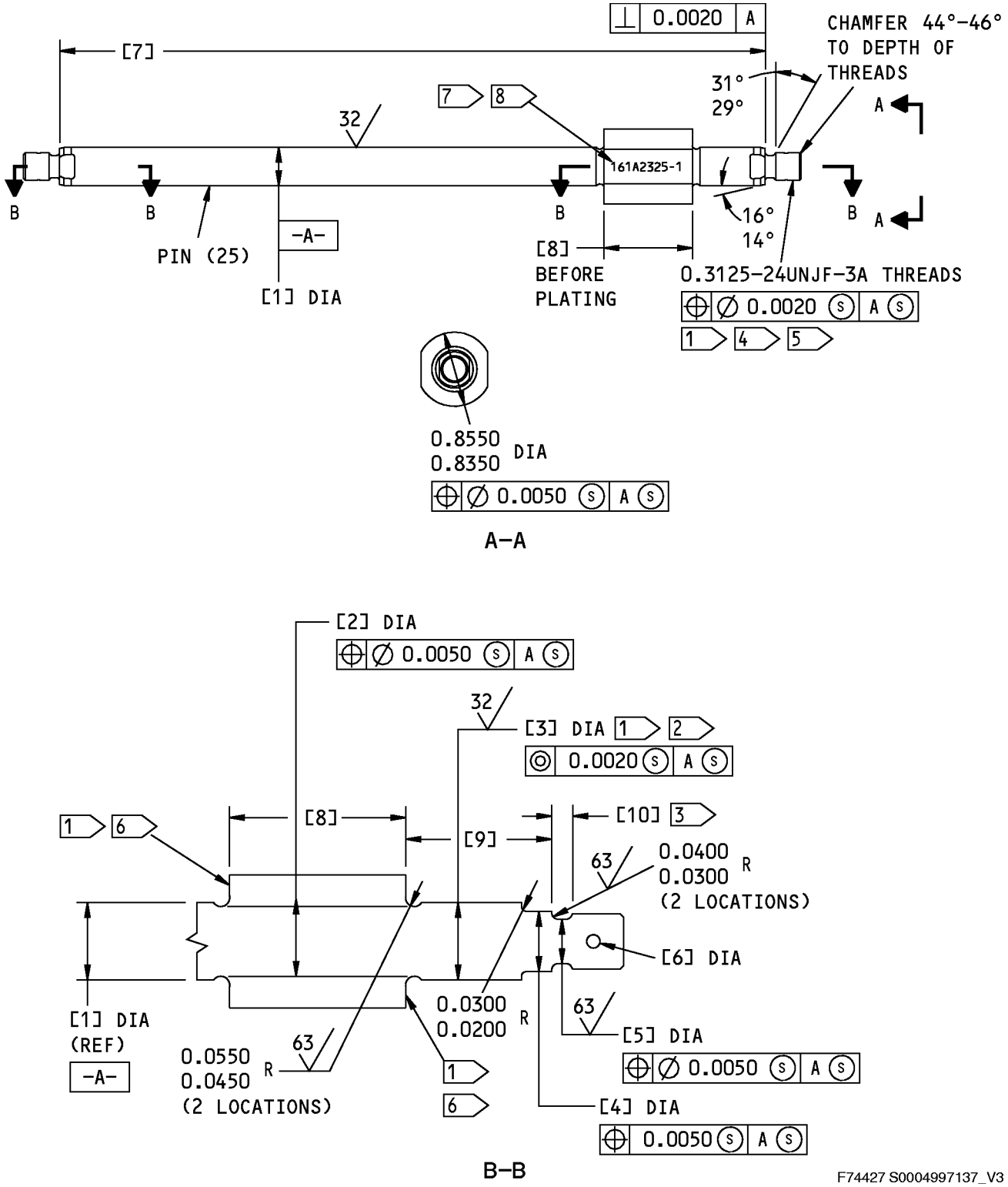
(2) Pin Refinish

(a) Cadmium-titanium plate (F-15.01) and apply primer, C00175 (F-19.47) all over, unless shown differently.

(b) Apply primer, C00175 (F-19.451) to the surfaces identified by flagnote 1.

(c) Cadmium-titanium plate (F-15.32) and apply primer, C00175 (F-19.451) to the surfaces identified by flagnote 5

(d) Apply gray enamel coating, C50075 (F-19.39-707) to the surfaces identified by flagnote 7. Apply black enamel coating, C00033 (F-19.39-701) to the characters on the surfaces identified by flagnote 7.



161A2325-1,-2 Pin Repair
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
DESIGN DIMENSION	0.4365 0.4355 10	0.3980 0.3880	0.4365 0.4355 10	0.3450 0.3350	0.2510 0.2470	0.810 0.710	7.9620 7.9520	0.9950 0.9850	0.8290 0.8190	0.1100 0.0900
REPAIR LIMIT	0.4055 9	—	0.4055 9	—	—	—	—	—	—	—

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

2 CHROME PLATE (F-15.34), 0.003-0.005 THICK

3 SHOT PEEN IS NOT REQUIRED. OVERSPRAY IS ALLOWED.

4 MASK THE THREADS BEFORE YOU SHOT PEEN

5 CADMIUM-TITANIUM PLATE (F-15.32)

6 CHROME PLATE (F-15.34), 0.001-0.002 THICK. DO NOT GRIND

7 APPLY BMS 10-60, TYPE 2, GRAY ENAMEL (F-19.39-707) TO ALL OF THE SURFACE. APPLY BMS 10-60, TYPE 2, BLACK ENAMEL TO THE CHARACTERS ONLY

8 PART NUMBER AND SERIAL NUMBER

9 LIMIT FOR CHROME PLATE BUILDUP

10 AFTER PLATING

125 ALL MACHINED SURFACES BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES, 0.030-0.060 UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS APPLY BEFORE PLATING UNLESS SHOWN BY 10

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72462 S0004997138_V3

161A2325-1,-2 Pin Repair
Figure 601 (Sheet 2 of 2)

PIN - REPAIR 14-1

161A2326–1

1. General

A. This procedure tells how to repair and refinish the pin (30).

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: 4340M Steel

(a) 275-300 ksi

(2) Shot peen: All surfaces, unless noted

(a) Intensity 0.014-0.018 A2

(b) Coverage 2.0

2. 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

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 14-1, 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) Pin Repair

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

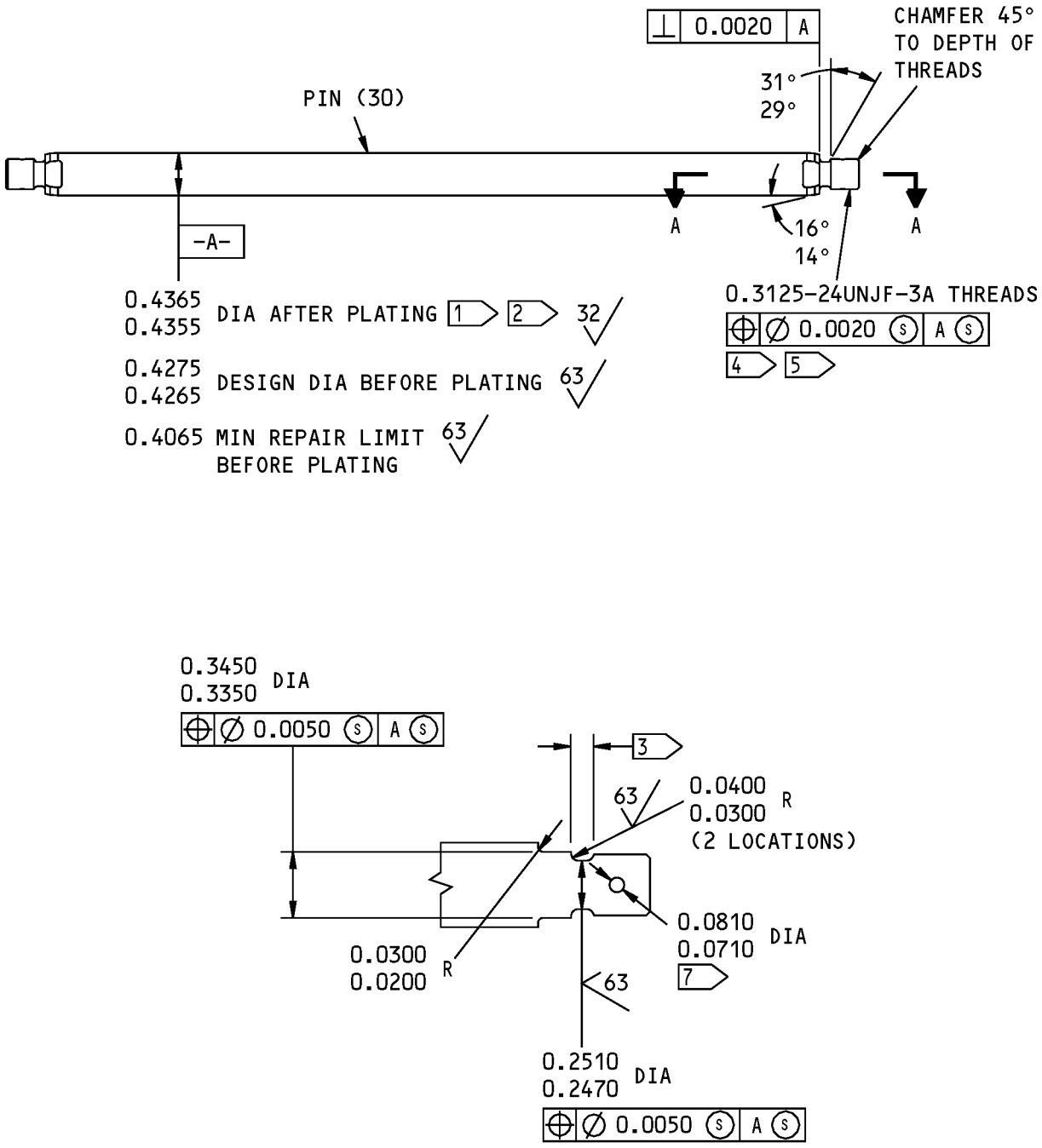
(b) Build up with chrome plate. Grind to design dimensions and finish.

(2) Pin Refinish .

(a) Cadmium-titanium plate (F-15.01) and primer, C00175 (F-19.47) unless shown.

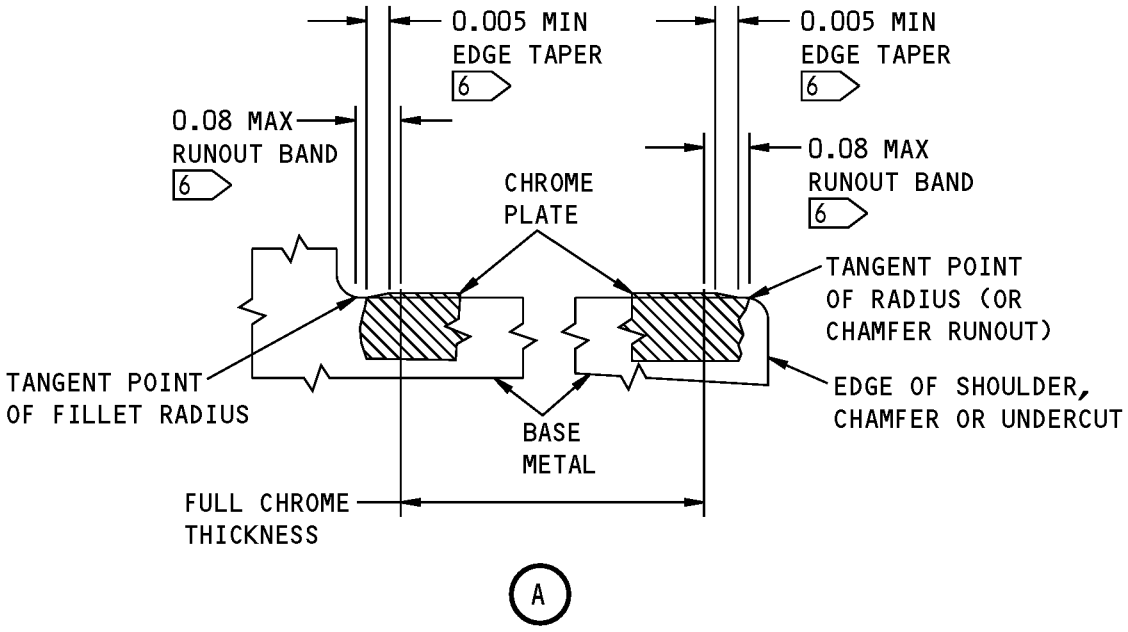
(b) Apply primer, C00175 (F-19.451) to surfaces noted by flagnote 1

(c) Cadmium-titanium plate (F-15.32) and primer, C00175 (F-19.451) the surfaces noted by flagnote 5.



A-A

161A2326-1 Pin Repair
Figure 601 (Sheet 1 of 2)



1 APPLY WIPE-ON PRIMER PER F-19.451

2 APPLY F-15.34 (0.003-0.005 THICK) TO THIS SURFACE. THE SINGLE PLATE THICKNESS TO BE 0.003 INCH AFTER GRINDING. SEE VIEW A FOR CHROME PLATE RUNOUT

3 SHOT PEEN IS NOT REQUIRED. OVER-SPRAY IS ALLOWED

4 MASK THE THREADS BEFORE SHOT PEENING

5 APPLY F-15.32 PLUS F-19.451

6 THE CHROME PLATE SHALL END WITH A TAPER FROM FULL TO ZERO THICKNESS OVER A 0.005 INCH MINIMUM LENGTH. (DO NOT END WITH A SQUARE EDGE.) THE TAPERED EDGE OF THE CHROME SHALL BE WITHIN A 0.08 INCH WIDE BAND. THIS BAND SHALL START AT A TANGENT POINT OF A SHOULDER, CHAMFER OR UNDERCUT

7 BREAK SHARP EDGES AND CLEAN UP THREADS AROUND HOLES

125 ALL MACHINED SURFACES BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES, 0.030-0.060, BUT NOT WHEN NOTED

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

ALL DIMENSIONS APPLY BEFORE PLATE FINISH BUT NOT WHEN NOTED.

161A2326-1 Pin Repair
Figure 601 (Sheet 2 of 2)

REACTION LINK ASSEMBLY - REPAIR 15-1

161A4100–1, –3

1. General

A. This procedure tells how to replace the bushings and lube fittings in the reaction link assembly (510).

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 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 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

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

(1) Remove old bushings (525, 530, 535, 540, 545, 550, 555, 560) from reaction link (565).

(2) Use the shrink-fit method to install replacement bushings (525, 530, 535, 540, 545, 550, 555, 560), wet with sealant, A00247.

(a) For the bushings identified by flagnote 1, remove unwanted sealant from the gap between the bushings (when applicable). Fillet seal the bushings with sealant, A00247 by the 69B13372 procedure in SOPM 20-50-19.

(b) Before you swage the bushings identified by flagnote 7, fay surface seal the washer surfaces that will touch the reaction link and the bushings with sealant, A00247. Install and fillet seal the bushing by the shrink-fit method and anvil swage (or roller swage) method.

(c) For the bushings identified by flagnote 8, do a visual check of the swaged lip for cracks. Use 10X magnification. If you see cracks, replace the bushing. If the shorter bushing turns after you swage the bushing, remove the two bushings and try again.

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS 5-95
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

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

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

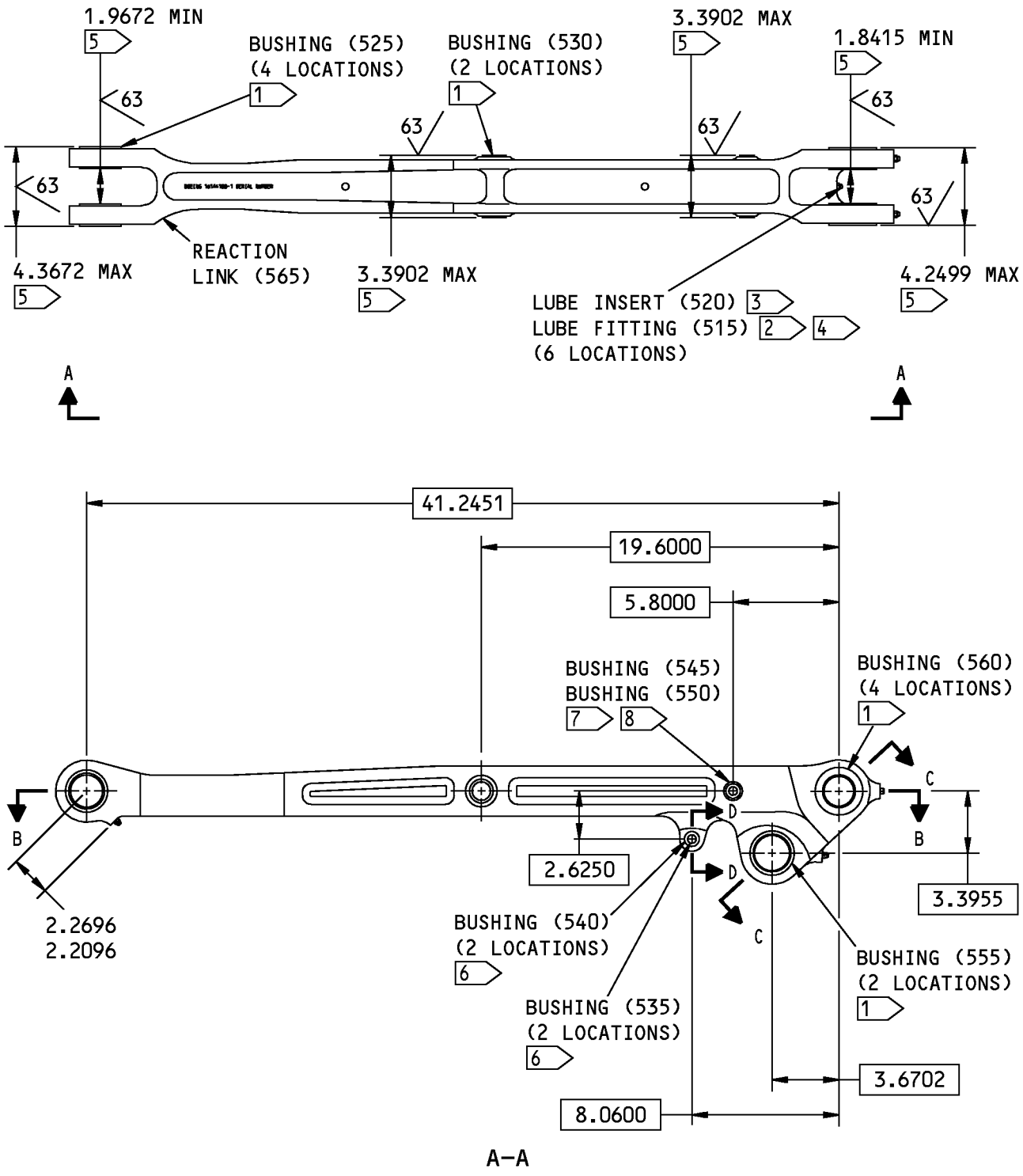
NOTE: For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove old lube inserts (520) and lube fittings (515).

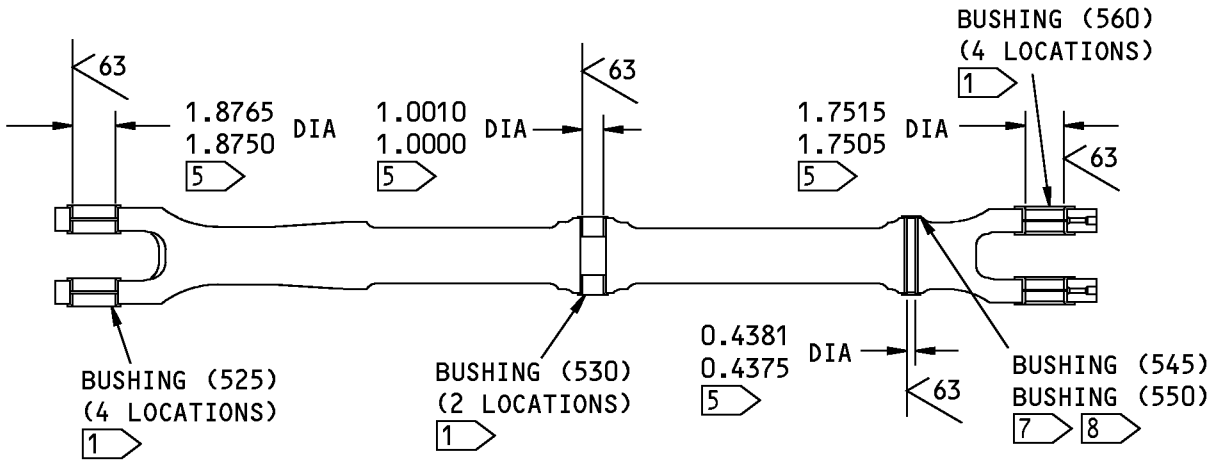
(2) Use the shrink-fit method to install replacement inserts flush to the reaction link surface within ±0.0020 as identified by flagnote 3. Use sealant, A00247 as the installation finish.

(3) Install replacement lube fittings and tighten them to 25-30 pound-inches.

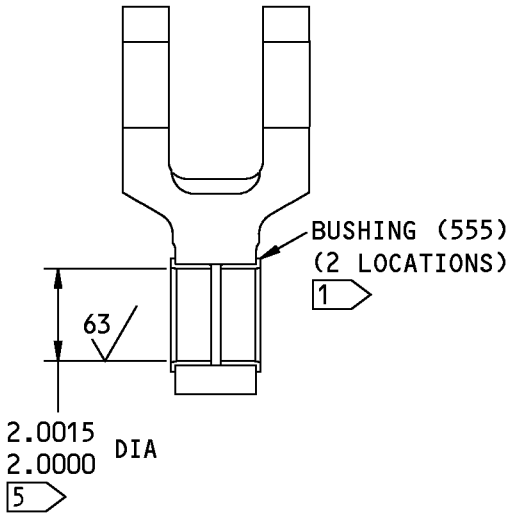
(4) After installation and before the sealant dries, apply grease, D00633 to the lube fitting (515) until the grease, D00633 appears at the bushing inner diameter.



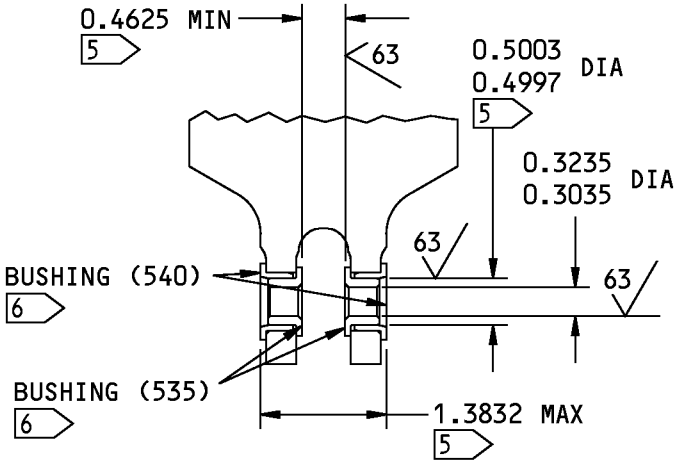
161A4100-1,-3 Reaction Link Assembly Parts Replacement
Figure 601 (Sheet 1 of 3)



B–B



C–C



D–D

F75044 S0004997145_V3

161A4100-1,-3 Reaction Link Assembly Parts Replacement
Figure 601 (Sheet 2 of 3)

1 > AFTER BUSHING INSTALLATION, REMOVE UNWANTED SEALANT FROM THE GAP BETWEEN THE BUSHINGS (WHEN APPLICABLE).

2 > AFTER YOU INSTALL THE BUSHING AND BEFORE THE SEALANT DRIES, APPLY BMS 3-33 GREASE TO THE LUBE FITTING UNTIL THE GREASE COMES OUT AT THE BUSHING INNER DIAMETER.

3 > INSTALL THE INSERT FLUSH TO THE REACTION LINK SURFACE TO WITHIN ±0.0200.

4 > TIGHTEN THE LUBE FITTING TO 25-30 POUND-INCHES

5 > INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

6 > USE THE SHRINK-FIT METHOD TO INSTALL THESE BUSHINGS WITH WET BMS 5-95 SEALANT. USE BMS 5-95 SEALANT TO FILLET SEAL THE BUSHINGS

7 > USE THE SHRINK-FIT METHOD AND THE ANVIL-SWAGE RETENTION (OR ROLLER SWAGE) METHOD TO INSTALL THESE BUSHINGS. USE BMS 5-95 SEALANT TO FILLET SEAL THE BUSHINGS.

8 > LOOK FOR CRACKS AT THE SWAGED LIP WITH 10X MAGNIFICATION. REPLACE THE BUSHING IF YOU SEE CRACKS. REPLACE THE TWO BUSHINGS IF THE SHORTER BUSHING CAN TURN AFTER IT IS SWAGED

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72640 S0004997146_V3

161A4100-1,-3 Reaction Link Assembly Parts Replacement
Figure 601 (Sheet 3 of 3)

REACTION LINK - REPAIR 15-2

161A4100–2, –4

1. General

A. This procedure tells how to repair and refinish the reaction link (565).

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 dimensioning symbols shown in the repair.

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 4340M Steel

(a) 275-300 ksi

(2) Shot peen: All surfaces, but not in the lubrication holes

(a) Intensity 0.014-0.018 A2

(b) Coverage 2.0

2. Reaction Link Repair

A. 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

B. Procedure (REPAIR 15-2, 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) Machine as necessary, within repair limits, to remove defects.

(2) Refinish as specified.

(3) Make oversize bushings (REPAIR 15-2, Figure 602 and on), as required, to adjust for the material removed in REPAIR 15-2, Paragraph 2.B.(1).

(4) Install the bushings as specified in REPAIR 15-1.

3. Reaction Link Refinish

A. Consumable Materials

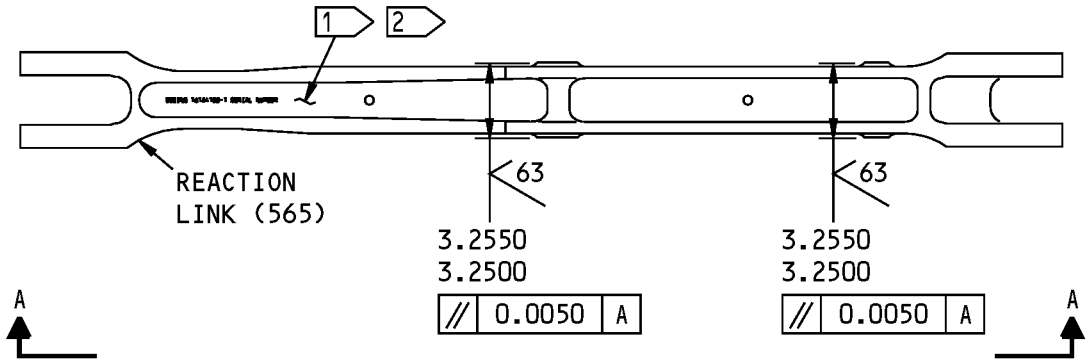
NOTE: Equivalent substitutes may be used.

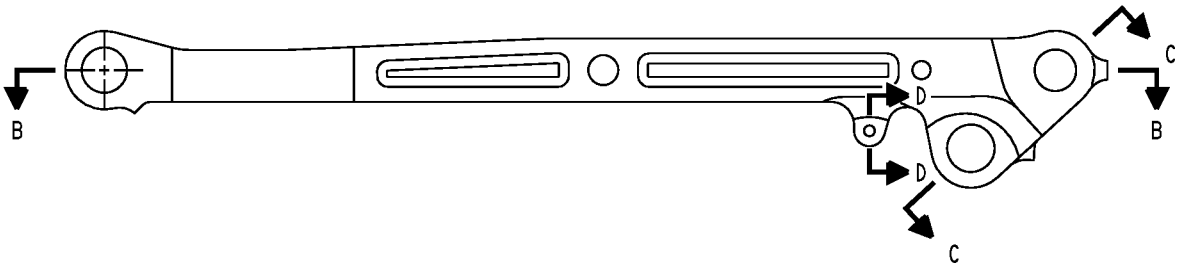
Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

B. Procedure

(1) Cadmium-titanium plate (F-15.01) to a minimum thickness of 0.0005 inches.

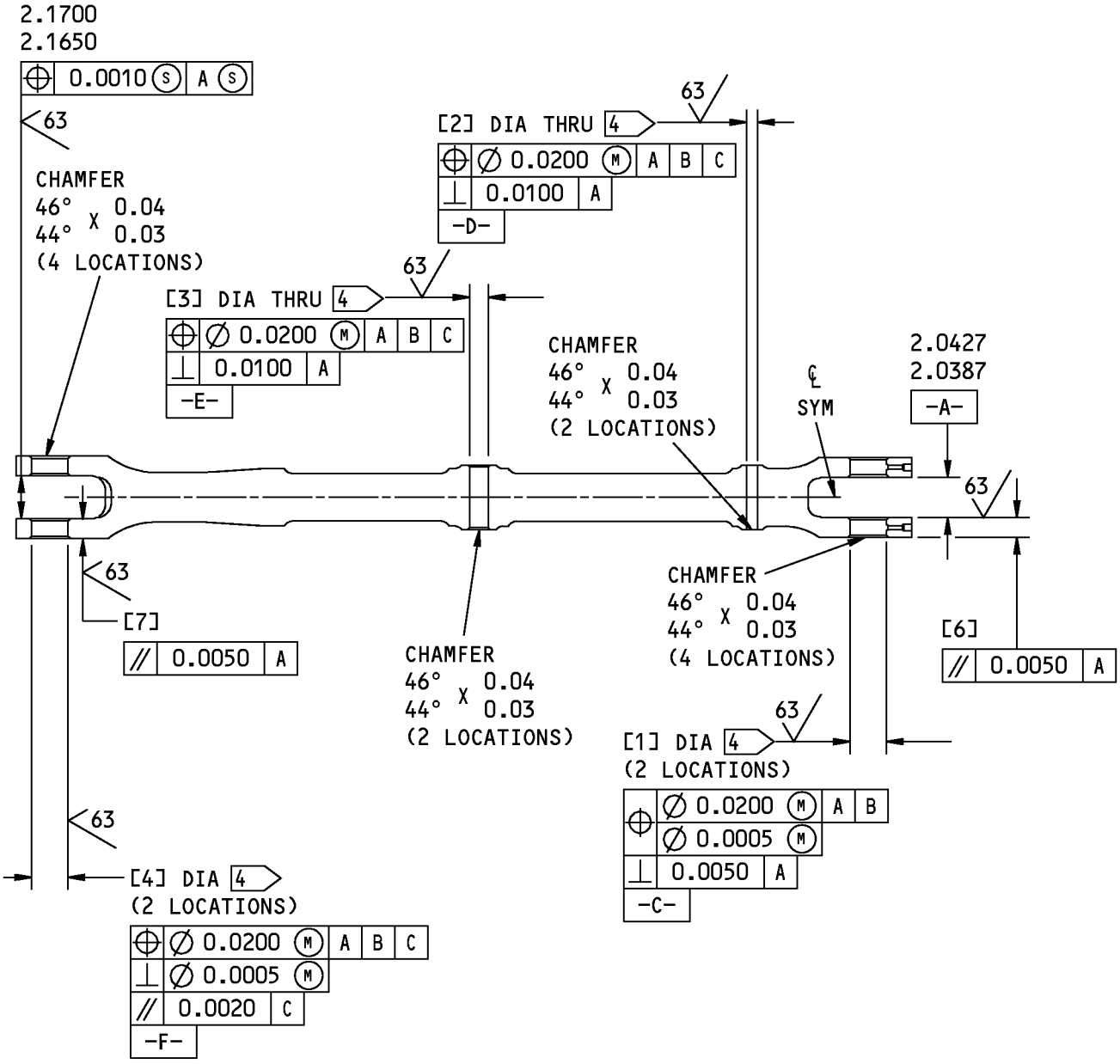
(2) Apply primer, C00175 (F-19.47) and enamel coating, C00033 (F-19.39-707).





A–A

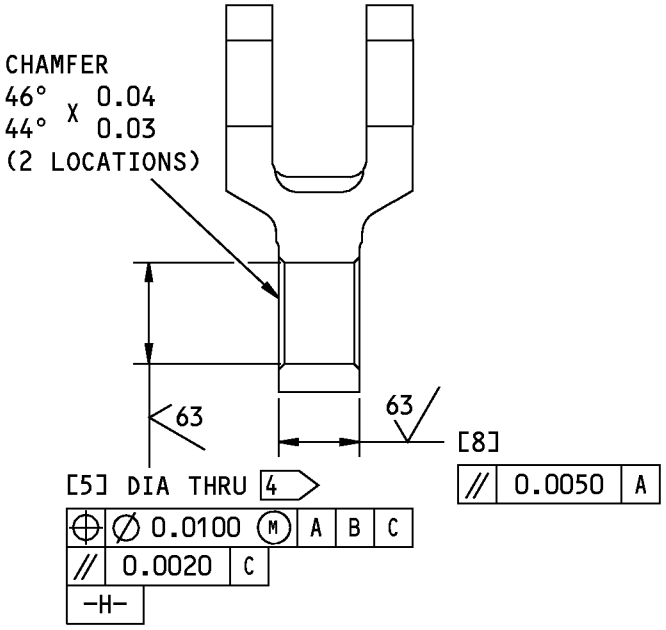
161A4100-2,-4 Reaction Link Repair
Figure 601 (Sheet 1 of 5)



B–B

F75516 S0004997150_V3

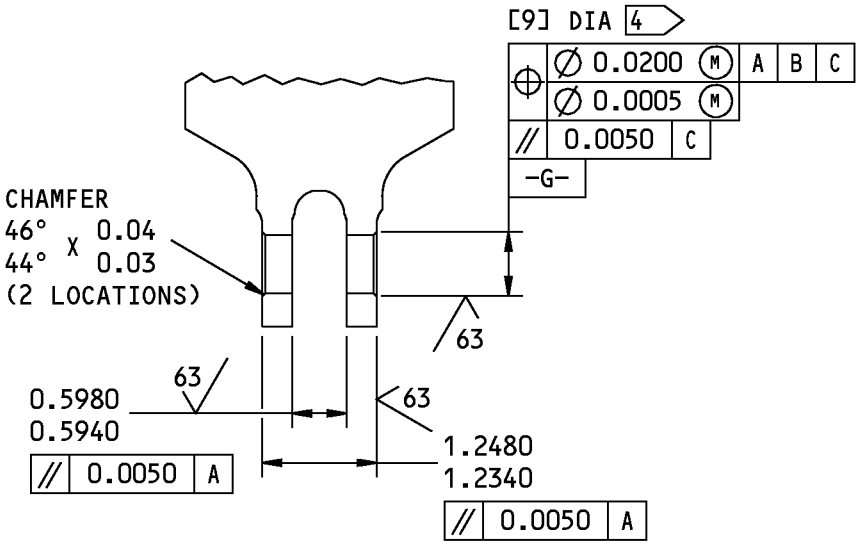
161A4100-2,-4 Reaction Link Repair
Figure 601 (Sheet 2 of 5)



C–C

F75572 S0004997151_V3

161A4100-2,-4 Reaction Link Repair
Figure 601 (Sheet 3 of 5)



D–D

F75867 S0004997152_V3

161A4100-2,-4 Reaction Link Repair
Figure 601 (Sheet 4 of 5)

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
DESIGN DIMENSION	1.9395 1.9380	0.5661 0.5655	1.1270 1.1260	2.0645 2.0630	2.1895 2.1880	1.0050 1.0000	1.0075 0.9875	1.7500 1.7450	0.6267 0.6260
REPAIR LIMIT 3	1.9995	0.6261	1.1870	2.1245	2.2495	0.9400	0.9275	1.6850	0.6867

1 PART NUMBER AND THE SERIAL

2 DO NOT APPLY GRAY BMS 10-60 TYPE 2 ENAMEL (F-19.39-707) TO THE CHARACTERS. MASK THE CHARACTERS AS NECESSARY. APPLY BMS 10-60 TYPE 2 ENAMEL (F-19.39-707) ONLY TO THE OTHER POCKET SURFACES. WHEN THE ENAMEL IS DRY, APPLY BMS 10-60 TYPE 2 ENAMEL BLACK ENAMEL (F-19.39-701) TO THE CHARACTERS ONLY. APPLY TYPE 41 CLEAR COATING (F-21.34) TO ALL OF THE POCKET SURFACES, WITH THE SAME THICKNESS AS ADJACENT ENAMEL

3 LIMIT FOR INSTALLATION OF OVERSIZE BUSHINGS

4 CADMIUM-TITANIUM PLATE (F-15.01) (0.0005-0.0010 THICKNESS) AND APPLY BMS 10-79, TYPE 3 PRIMER (F-19.47) TO ALL AREAS OF THE HOLE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.09-0.12 R UNLESS SHOWN DIFFERENTLY

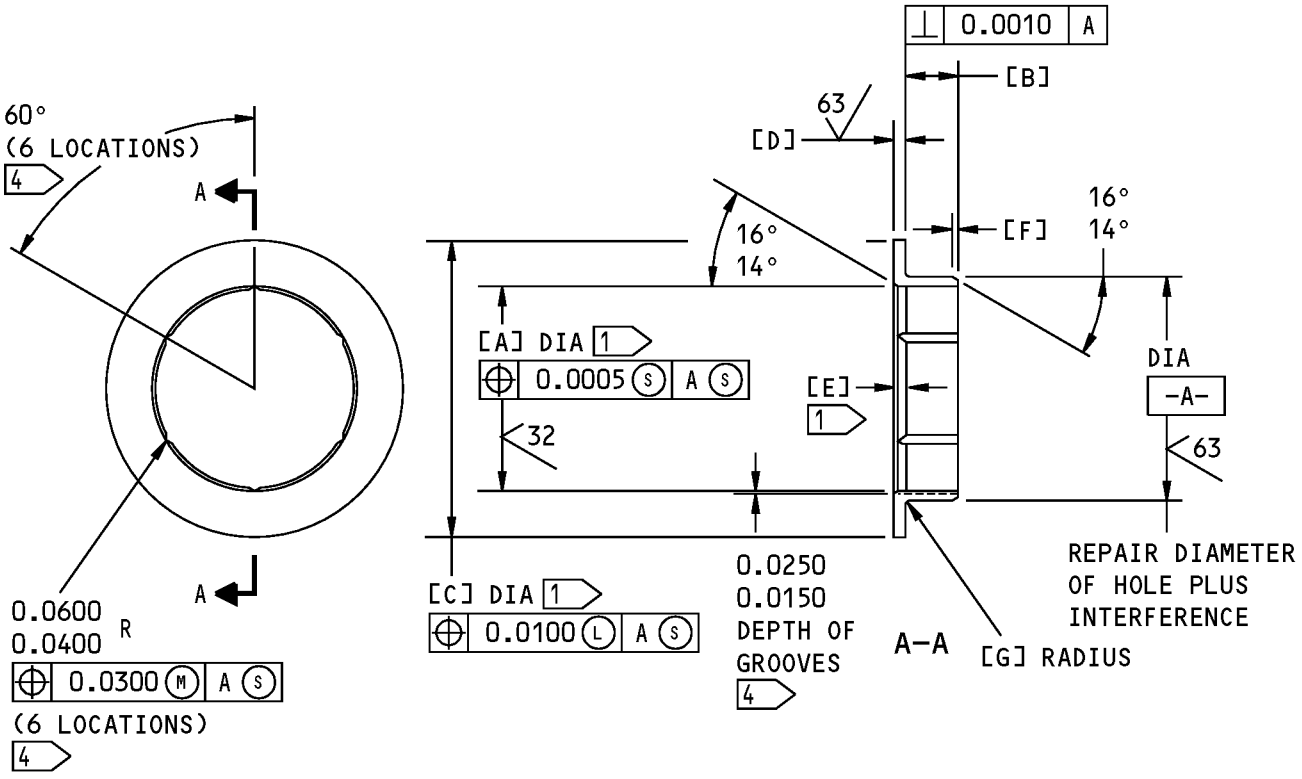
ITEM NUMBERS REFER TO IPL FIG. 1

SURFACE FINISHES AND DIMENSIONS APPLY BEFORE SHOT PEENING

ALL DIMENSIONS ARE IN INCHES

F72662 S0004997153_V3

161A4100-2,-4 Reaction Link Repair
Figure 601 (Sheet 5 of 5)



Oversize Bushing Details
Figure 602 (Sheet 1 of 2)

HOLE LOCATION (FIGURE 601)	REPLACES BUSHING (IPL FIGURE 1)	[A]	[B] 2	[C]	[D] 3	[E]	[F]	[G]	INTERFERENCE
[1]	(560) 161A4102-1	1.7522 1.7508	0.4850 0.4650	2.6100 2.5900	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0038 0.0008
[3]	(530) 161A4102-4	1.0015 1.0006	0.8100 0.7900	1.3360 1.3160	0.0640 0.0630	0.1000 0.0800	0.0500 0.0300	0.0300 0.0200	0.0025 0.0006
[4]	(525) 161A4102-5	1.8773 1.8758	0.4620 0.4420	2.3230 2.3030	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0039 0.0009
[5]	(555) 161A4102-2	2.0023 2.0008	0.7850 0.7650	2.4480 2.4280	0.0950 0.0940	0.1300 0.1100	0.0500 0.0300	0.0300 0.0200	0.0040 0.0010
[9]	(540) 161A4102-8	0.5011 0.5004	0.3000 0.2800	0.8360 0.8160	0.0640 0.0630	0.1000 0.0800	0.0500 0.0300	0.0300 0.0200	0.0017 0.0004

1 APPLY NO FINISH (F-25.01)

2 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

3 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

4 LUBE GROOVES NOT APPLICABLE TO BUSHING (540) 161A1402-8

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.36) 0.0003-0.0005 THICK, UNLESS SHOWN DIFFERNTLY

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

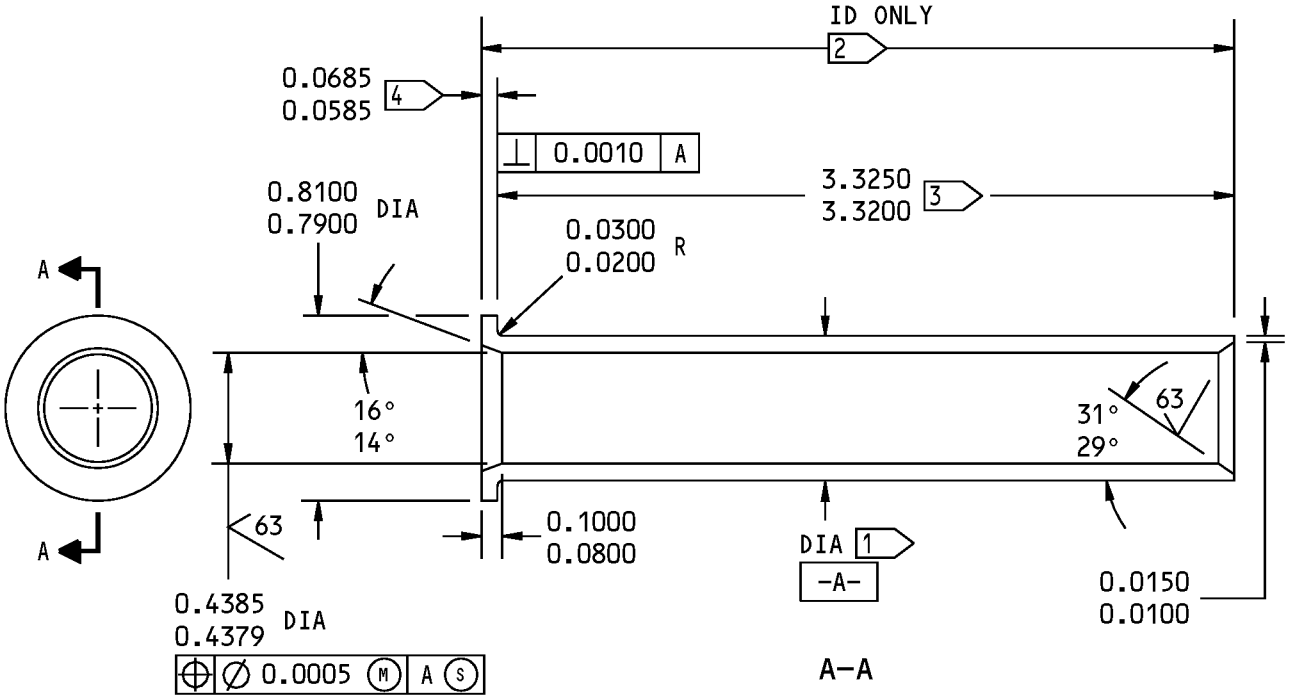
BREAK ALL SHARP EDGES 0.01-0.02 R

ALL DIMENSIONS APPLY BEFORE PLATING

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2 of 2)



HOLE LOCATION [2] FIG. 601 – REPLACES BUSHING (545) 161A4103-1

Oversize Bushing Details
Figure 603 (Sheet 1 of 2)

1 REPAIR DIAMETER OF LUG HOLE PLUS 0.0005-0.0015 CLEARANCE

2 APPLY NO FINISH (F-25.01)

3 MINUS THE AMOUNT REMOVED FROM THE LUG FACE

4 PLUS THE AMOUNT REMOVED FROM THE LUG FACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.01-0.02 R

MATERIAL: COPPER BERYLLIUM ALLOY 25 (C17200) AS SHOWN IN AMS 4533 OR AMS 4535 EXCEPT MATERIAL SHALL BE SOLUTION TREATED AND OVERAGED TO 120 KS1 MIN FTU, 90 KSI MIN FTY, 15 PERCENT MINIMUMELONGATION. HARDNESS SHOULD BE 28-32 HRC. REFER TO SOPM 20-10-09.

CADMIUM PLATE (F-15.36) 0.0003-0.0005 THICK UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS APPLY BEFORE PLATING

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [2] FIG. 601 - REPLACES BUSHING (545) 161A4103-1

Oversize Bushing Details
Figure 603 (Sheet 2 of 2)

HANGER LINK ASSEMBLY - REPAIR 16-1

161A4300–1, –3

1. General

A. This procedure tells how to replace the parts of hanger link assembly (570).

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 and Bearing 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 20-60-03	LUBRICANTS

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

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

(1) Remove old bushings (580, 595) and ball assembly (590) as necessary.

(2) If you find defects on link surfaces, refer to REPAIR 16-3 for repair instructions.

(3) If you find defects on the surfaces of ball assembly (590), refer to REPAIR 16-3 for repair instructions.

(4) Install replacement bushings (585, 595) by the shrink-fit method with grease, D00633 or grease, D00013.

3. Lube Fitting and Insert 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 20-60-03	LUBRICANTS

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

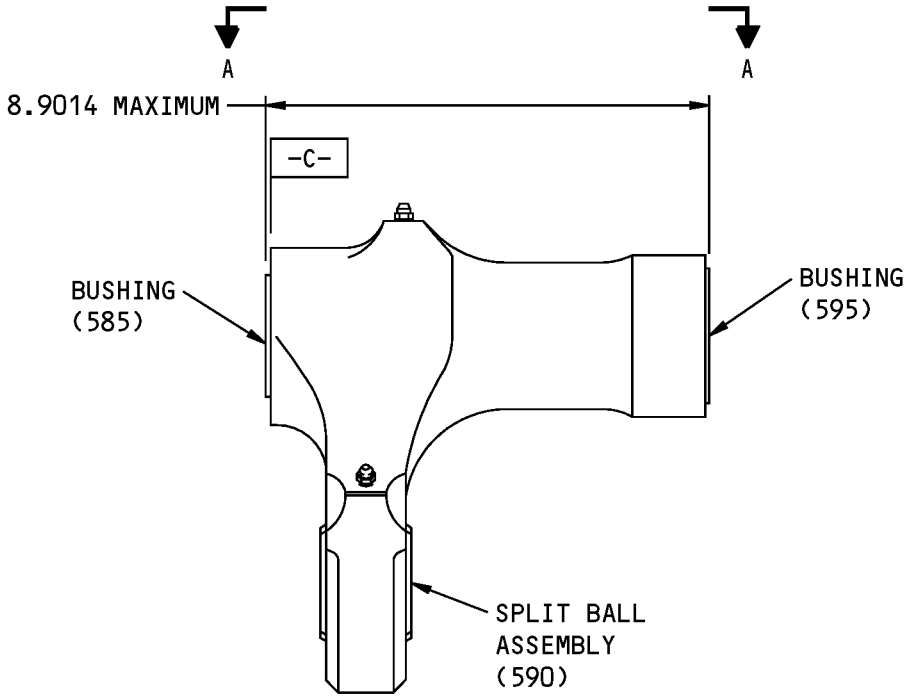
NOTE: For lubricants, refer to SOPM 20-60-03.

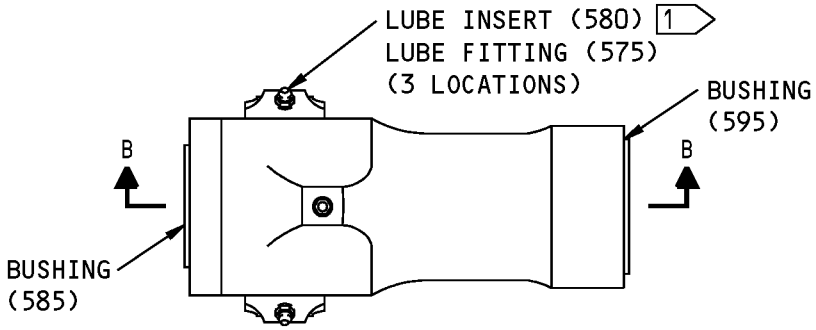
(1) Remove old lube fittings (575) and inserts (580) as necessary.

(2) Install a replacement insert by the shrink-fit method, dry, without an installation finish. Make sure the insert is flush with the fitting face, as shown.

(3) Install a replacement lube fitting and tighten it to 25-30 pound-inches.

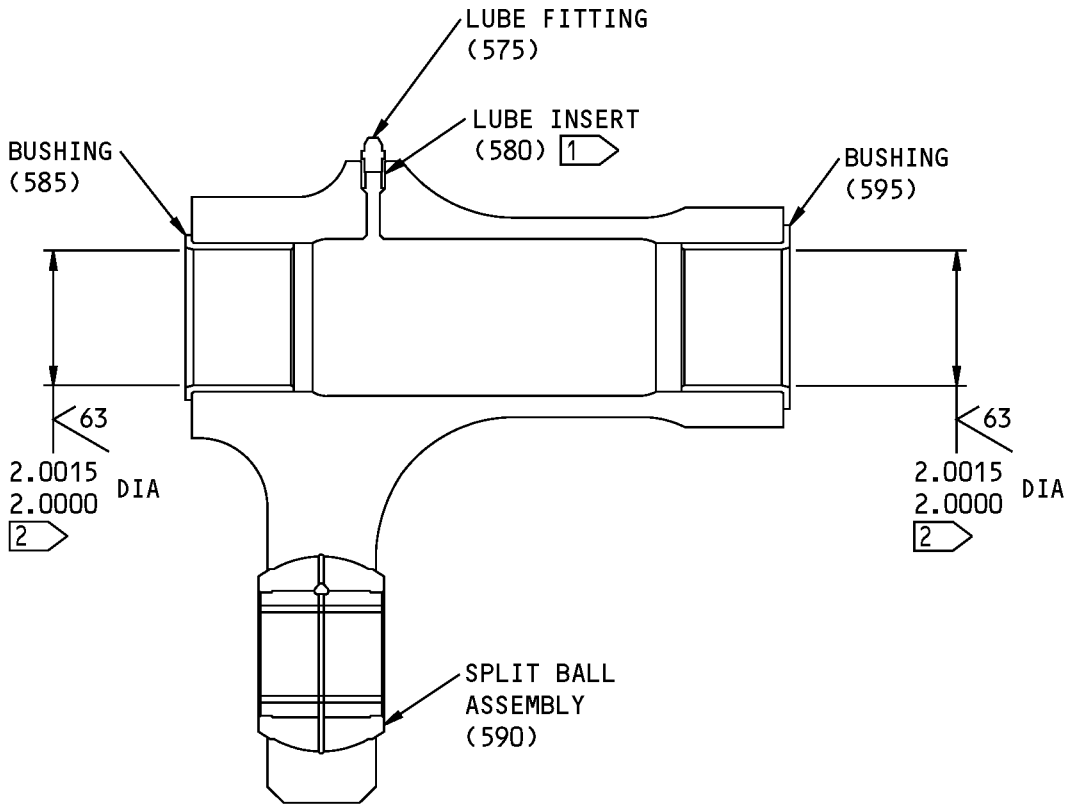
(4) Apply grease, D00633 or grease, D00013 at the lube fitting until the grease comes out at the bushing inner diameter.





A-A

161A4300-1,-3 Hanger Link Assembly Parts Replacement
Figure 601 (Sheet 1 of 2)



B–B

1 INSTALL THE INSERT FLUSH WITH THE FITING FACE WITHIN ±0.02 INCH

2 INSTALLED DIMENSION. ADJUST TO THIS SIZE IF NECESSARY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A4300-1,-3 Hanger Link Assembly Parts Replacement
Figure 601 (Sheet 2 of 2)

HANGER LINK - REPAIR 16-2

161A4300–2, –4

1. General

A. This procedure tells how to repair and refinish the hanger link (600).

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: Intensity 0.014-0.019 A2

(a) Coverage 2.0

(b) Hard shot Rc 55-65

2. Hanger Link Repair

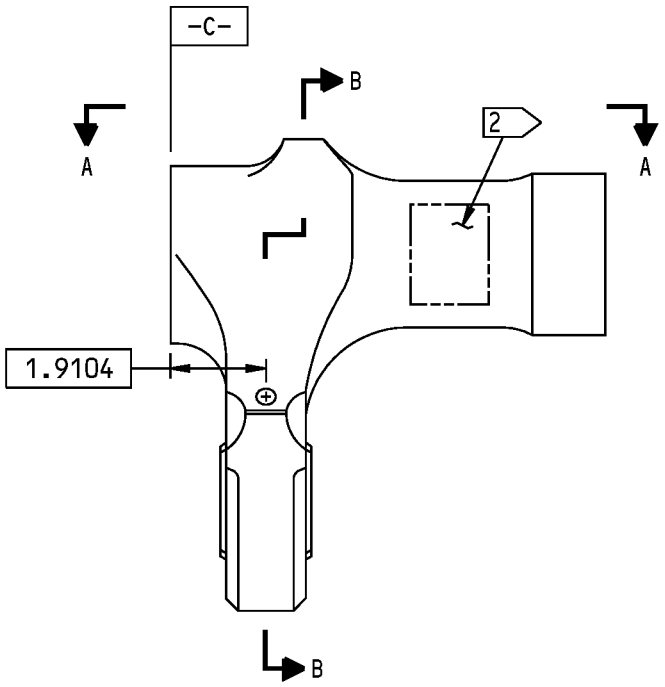
A. Procedure (REPAIR 16-2, Figure 601)

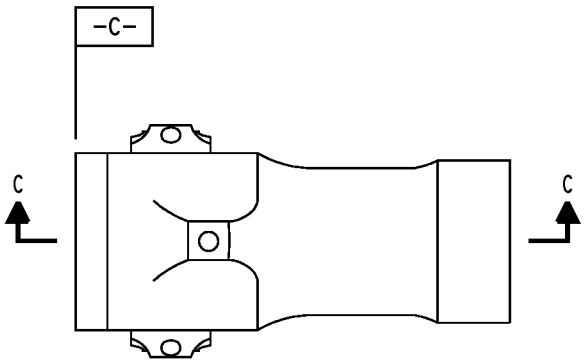
(1) Machine as necessary, within repair limits, to remove defects.

(2) Refinish as indicated.

(3) Make oversize bushings (REPAIR 16-2, Figure 602), as necessary, to adjust for the material removed.

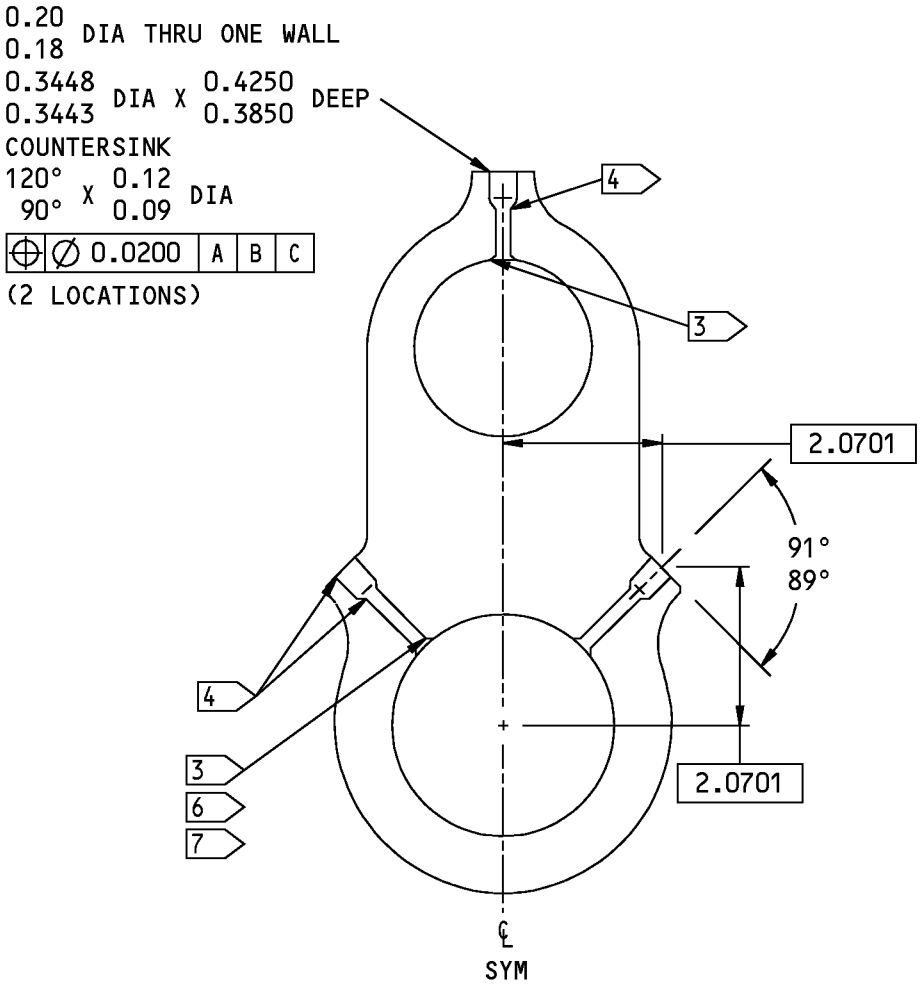
(4) Install the bushings as specified in REPAIR 16-1.





A-A

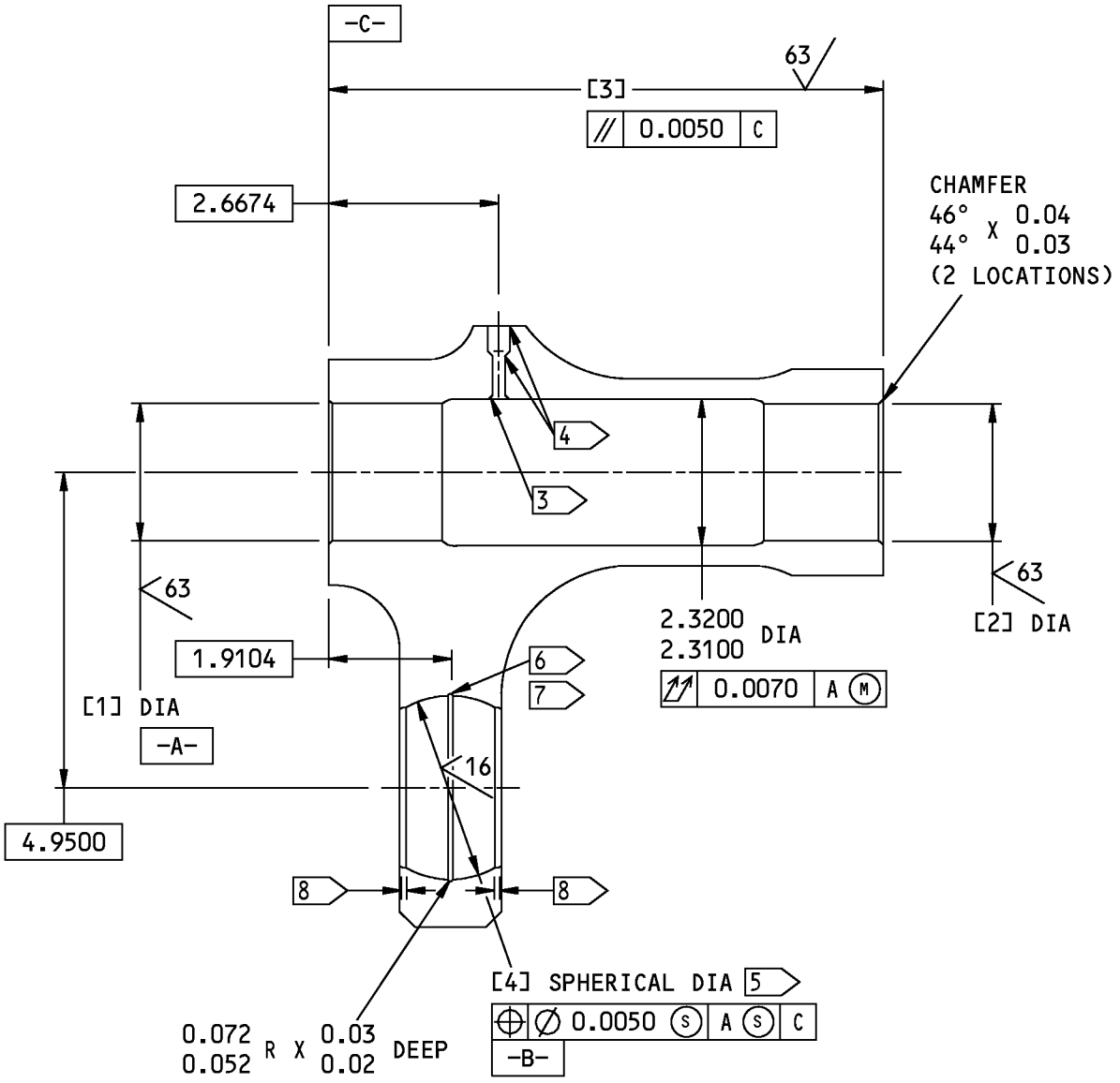
161A4300-2,-4 Hanger Link Repair and Refinish
Figure 601 (Sheet 1 of 4)



B–B

F74152 S0004997164_V2

161A4300-2,-4 Hanger Link Repair and Refinish
Figure 601 (Sheet 2 of 4)



C–C

F72495 S0004997165_V2

161A4300-2,-4 Hanger Link Repair and Refinish
Figure 601 (Sheet 3 of 4)

REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	2.1895 2.1880	2.1895 2.1880	8.7114 8.7064	2.8630 2.8615 10
REPAIR LIMIT 9	2.2495	2.2495	--	--

1 DEPTH OF CLOSE TOLERANCE DIA TO BE 0.35 - 0.36 DEEP. MAKE THE TRANSITION SMOOTH

2 PART AND SERIAL NUMBER LOCATION

3 BREAK SHARP EDGES OF THE HOLE TO 0.06-0.09 R AND 63 MICROINCH FINISH

4 BREAK SHARP EDGES OF THE HOLD TO 0.01-0.03 R AND 63 MICROINCH FINISH

5 APPLY F-15.380 IN THIS AREA ONLY, 0.004-0.006 THICK AFTER ALL FINISH

6 F-15.380 IS NOT NECESSARY BUT OVERSPRAY IS PERMITTED. THE LUBRICATION GROOVE DIMENSIONS ARE BEFORE FINISH. MAKE SURE THE FINISH DOES NOT CAUSE A BLOCKAGE OF GREASE FLOW

7 BREAK SHARP EDGES OF THE GROOVE TO 0.015-0.025 R, 63 MICROINCH FINISH

8 RUNOUT AREA 0.08 MAXIMUM

9 LIMIT FOR OVERSIZE BUSHING INSTALLATION

10 DIMENSIONS AFTER ALL FINISH

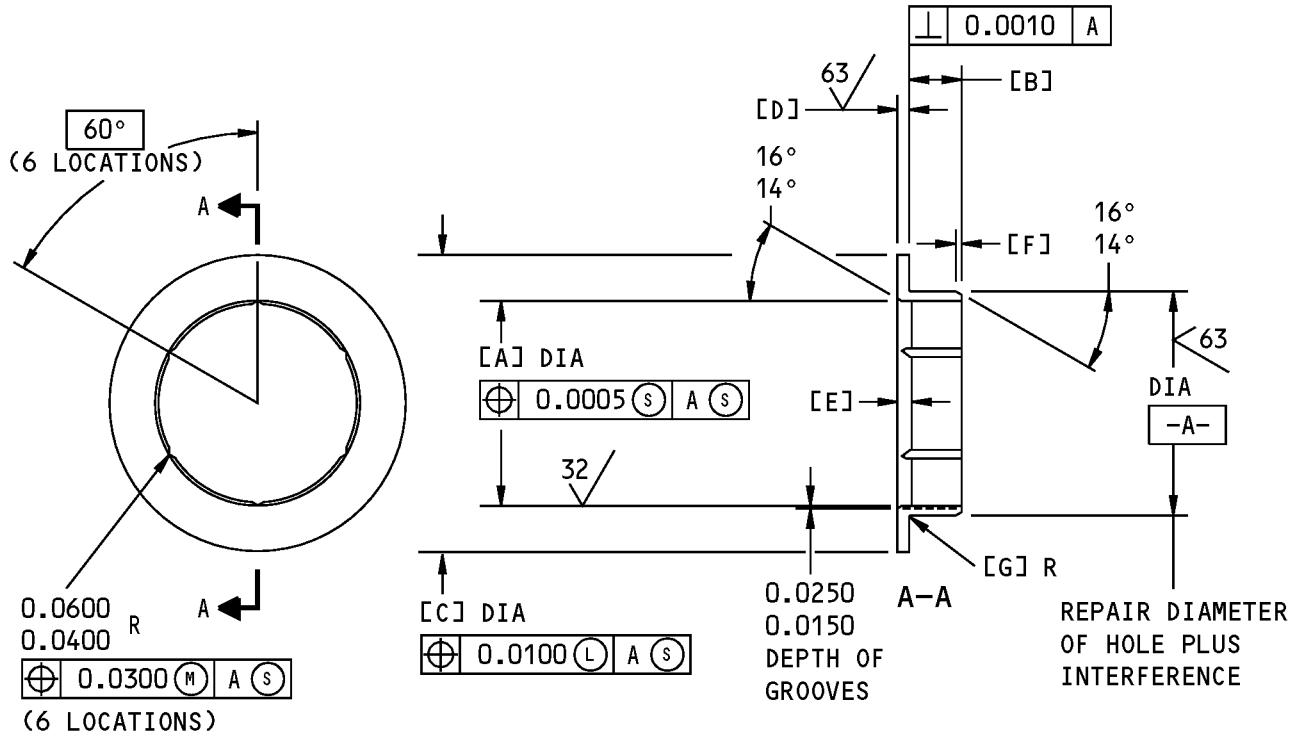
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.06-0.09 R UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A4300-2,-4 Hanger Link Repair and Refinish
Figure 601 (Sheet 4 of 4)



HOLE LOCATION (FIGURE 601)	REPLACES BUSHING (IPL FIGURE 1)	[A]	[B]	[C]	[D]	[E]	[F]	[G]	INTERFERENCE
[1]	(585) 161A4102-7	2.0029 2.0014	1.5000	2.4380	0.0950 0.0940	0.1300 0.1100	0.0400	0.0300 0.0200	0.0049 0.0018
[2]	(595) 161A4102-6	2.0029 2.0014	1.5000	2.7000	0.0950 0.0940	0.1300 0.1100	0.0400	0.0300 0.0200	0.0049 0.0018

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

FINISH: APPLY NO FINISH (F-25.01)

MATERIAL: AL-NI-BRZ (AMS 4640)

BREAK ALL SHARP EDGES 0.01-0.02 R

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602

SPLIT BALL ASSEMBLY - REPAIR 16-3

161A4301–1

1. General

A. This procedure tells how to repair and refinish the split ball assembly (590).

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: Copper-beryllium

2. Split Ball Repair

A. References

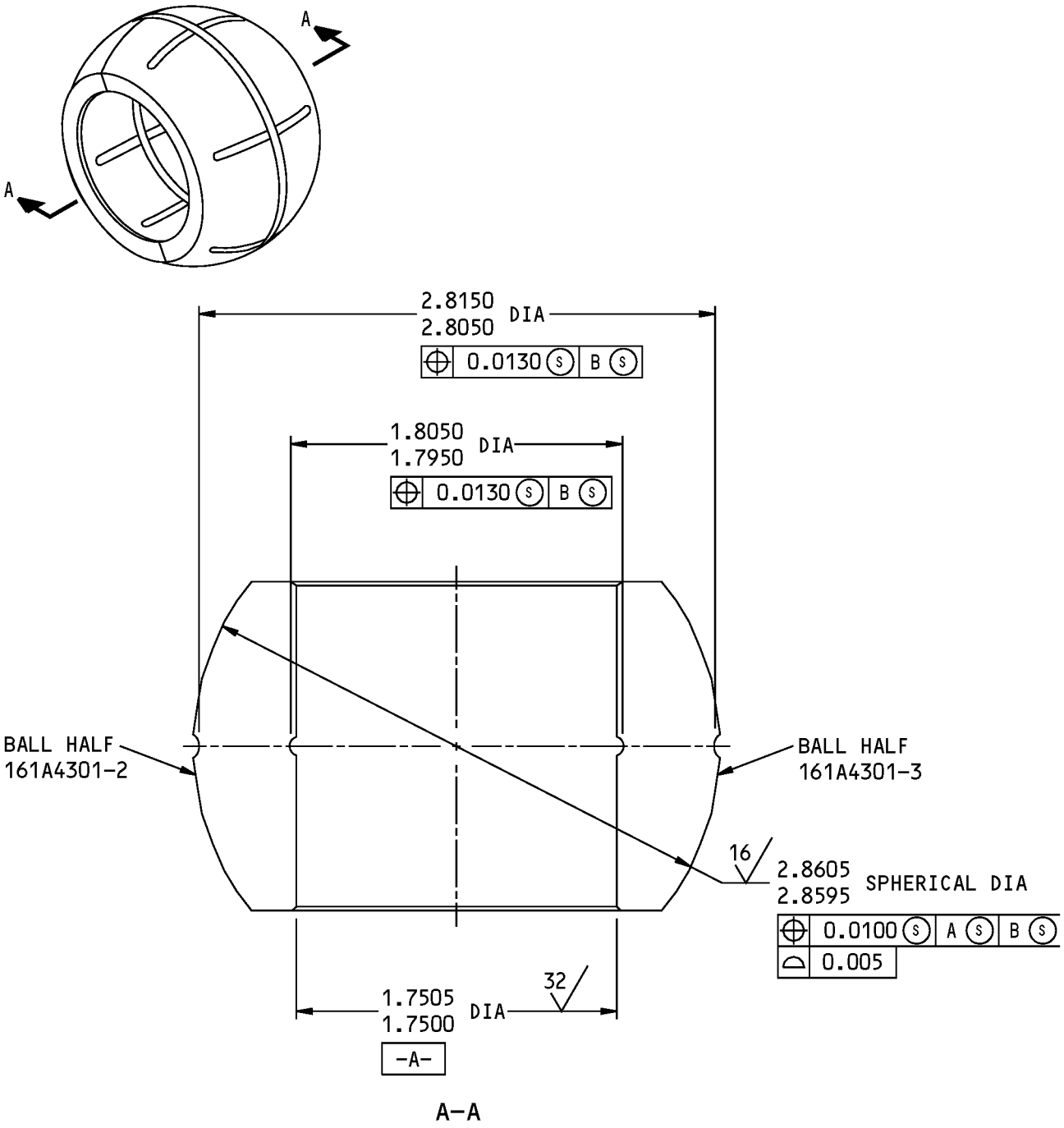
Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 16-3, Figure 601)

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

(1) Repair is only replacement of a defective ball. Because the ball is a matched set of halves, it must be replaced as a unit. Do not mix with halves from other sets.

(2) Apply no finish (F-25.01).



A–A

CAUTION: THIS IS A MATCHED SET OF HALVES

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

161A4301-1 Split Ball Assembly Details
Figure 601

PIN - REPAIR 17-1

161A4302–1, –2

1. General

A. This procedure tells how to repair and refinish the pin (505).

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 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) 180-200 Ksi

(2) Shot Peen: Intensity 0.008-0.013 A2

(a) Coverage 2.0

2. Pin Repair

A. References

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

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

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

(1) Pin Repair

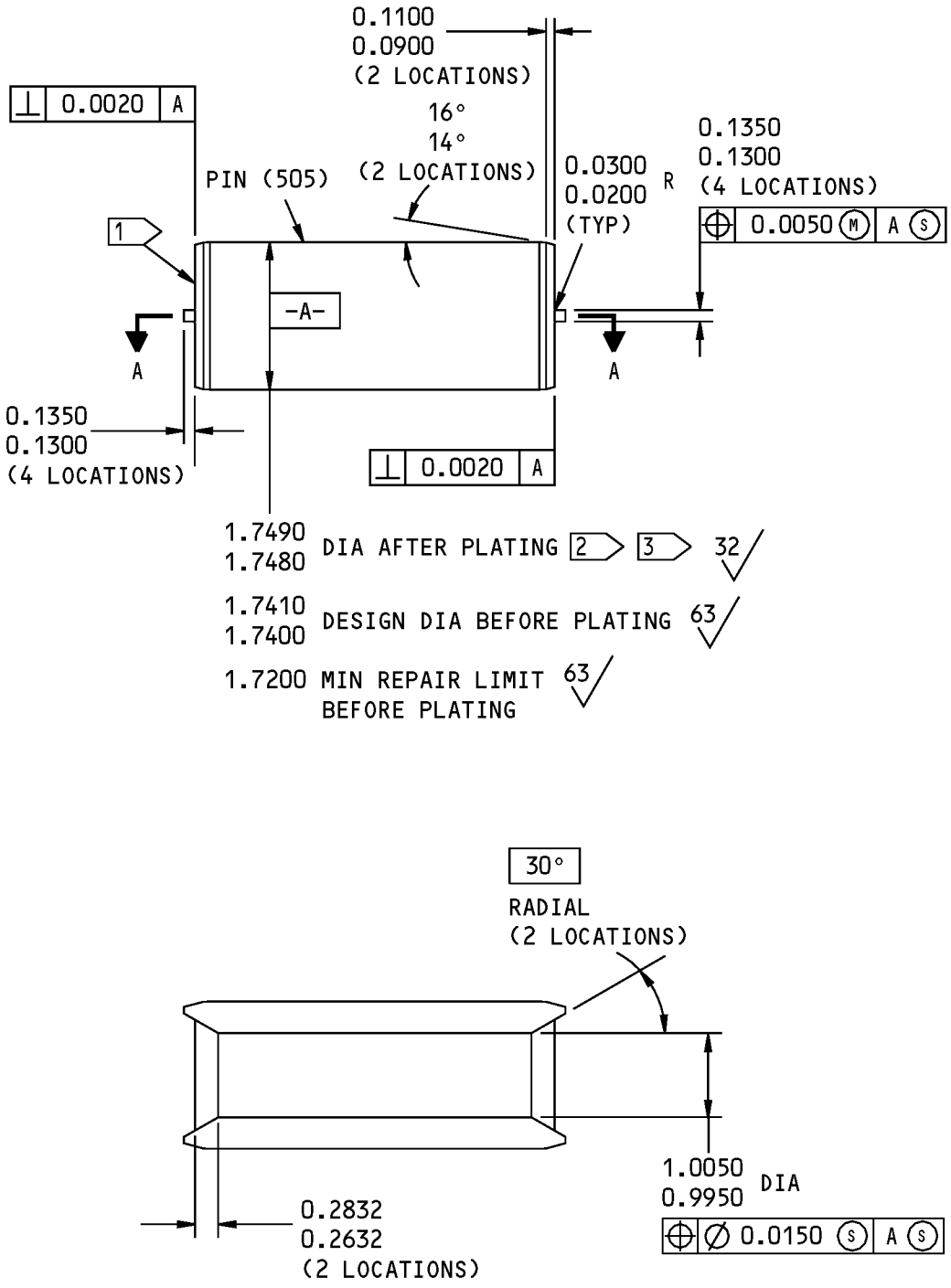
(a) Machine as necessary, within repair limits, to remove defects.

(b) Build up with chrome plate and grind to design dimensions and finish.

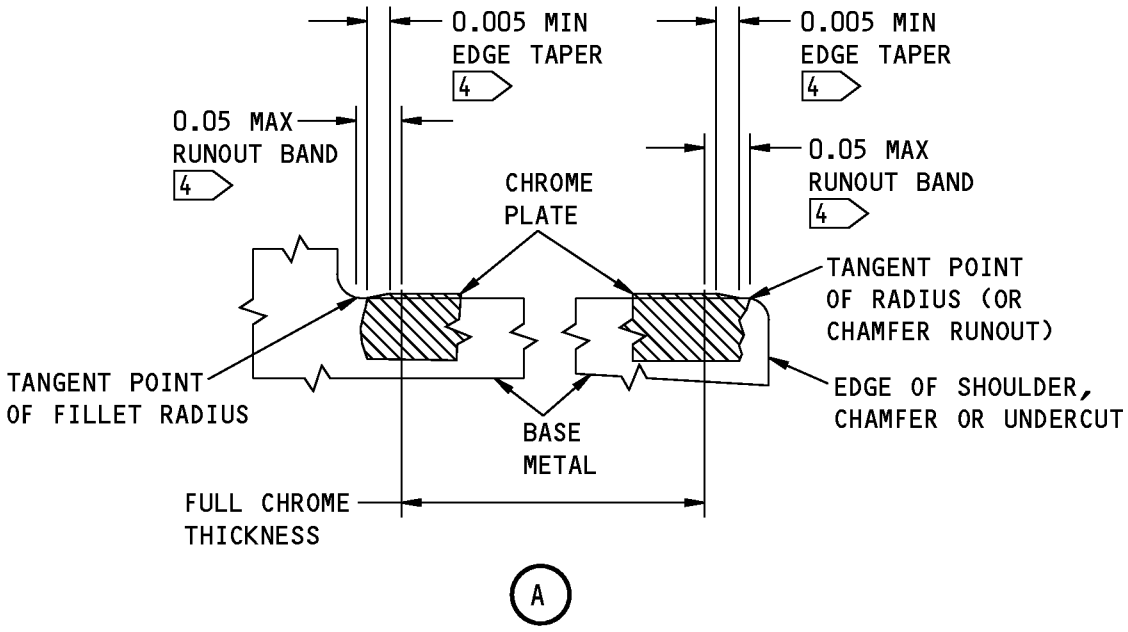
(2) Pin Refinish

(a) Chrome plate (F-15.34) as indicated.

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



161A4302-1,-2 Pin Repair
Figure 601 (Sheet 1 of 2)



1 THE PART NUMBER AND THE SERIAL NUMBER ARE FOUND HERE.

2 CHROME PLATE (F-15.34) THIS SURFACE, 0.003-0.005 INCH THICK.

3 CHROME PLATE THICKNESS AFTER ALL FINISH OPERATIONS TO BE 0.0030 TO 0.0050. SEE VIEW A FOR CHROME RUNOUT.

4 THE CHROME PLATE MUST STOP WITH A TAPER FROM FULL TO ZERO THICKNESS OVER A 0.005 INCH MINIMUM LENGTH. DO NOT STOP WITH A SQUARE EDGE. THE TAPERED EDGE OF THE CHROME MUST BE WITHIN A 0.05 INCH WIDE BAND. THIS BAND MUST START AT THE TANGENT POINT OF A SHOULDER, CHAMFER, OR UNDERCUT.

125 ALL MACHINED SURFACES BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES, 0.030-0.060, BUT NOT WHEN NOTED

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F72509 S0004997173_V2

161A4302-1,-2 Pin Repair
Figure 601 (Sheet 2 of 2)

APEX BOLT-REPAIR 18-1

161A2119–1

1. General

A. This procedure tells how to repair and refinish the apex bolt (340B).

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: Intensity 0.008-0.013 A2

2. Apex Bolt Repair and Refinish

A. References

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

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

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

(1) Apex Bolt Repair

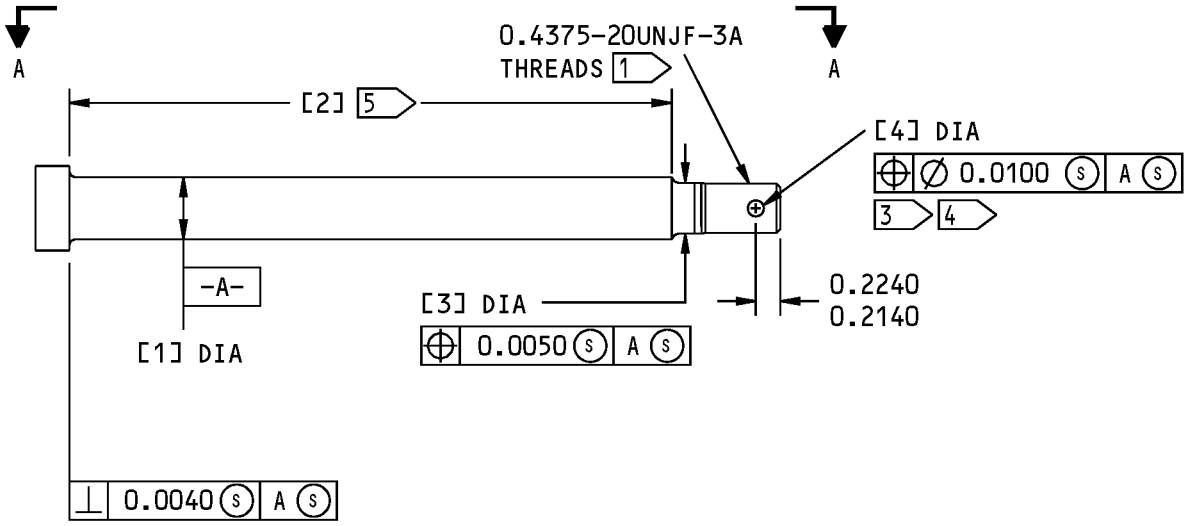
(a) Machine as necessary, within repair limits, to remove defects.

(b) Build up with chrome plate. Grind to design dimensions and finish.

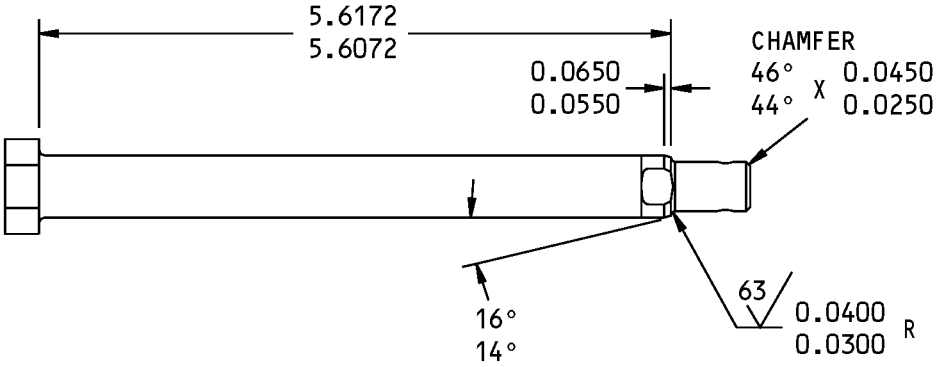
(2) Apex Bolt Refinish.

(a) Passivate (F-17.25).

(b) Cadmium plate (F-16.06) as indicated.



161A2119-1 Apex Bolt Repair and Refinish
Figure 601 (Sheet 1 of 2)



A–A

REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	0.5550 0.5450	5.3535 5.3435	0.4550 0.4450	0.1510 0.1410
REPAIR LIMIT	0.5250 6	---	---	0.1810 7

1 MASK THREADS BEFORE SHOT PEENING.

2 PART NUMBER

3 BREAK OUTSIDE EDGES OF HOLE 0.010–0.020. CLEAN UP THE THREADS.

4 SHOT PEEN IS NOT NECESSARY. OVERSPRAY IS ALLOWED.

5 CADMIUM PLATE (F-16.06)

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

7 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

161A2119-1 Apex Bolt Repair and Refinish
Figure 601 (Sheet 2 of 2)

ASSEMBLY

1. General

A. This procedure tells how to assemble the main landing gear side strut 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, unless shown differently.

2. Assembly

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-5400	Pin Removal/Installation Kit - Main Landing Gear (Part #: C32029-1, Supplier: 81205)

B. 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
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Paste - Corrosion Inhibiting, Non-drying	BMS 3-38

C. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

D. Procedure

NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For general sealing, refer to SOPM 20-50-19. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Use standard industry procedures and these steps.

NOTE: ASSEMBLY, Figure 701 (and on) show the 161A2100-5, -7, -9, -11, -13, -15 (left) side strut assemblies. Install all bolts, pins and nuts with the head direction as shown. For the 161A2100-6, -8, -10, -12, -14, -16 (right) side strut assemblies, install the bolts, pins, nuts and hanger link assembly (570) in the opposite direction compared to the 161A2100-5, -7, -9, -11, -13, -15 (left) side strut assemblies.

NOTE: Use the thread protectors in pin removal/installation kit, SPL-5400 to give protection to the threads of the pins and bolts.

(2) Assemble lock link assemblies (180, 185, 260A) (ASSEMBLY, Figure 702).

NOTE: For the 161A2120-1 lock link assembly (227, IPL Figure 1; 1A, IPL Figure 2) go to ASSEMBLY, Paragraph 2.D.(3).

(a) Apply grease, D00633 to the chrome plated surfaces of pin (255) and the mating surfaces of end caps (250) before assembly.

(b) Connect upper lock link (180) to lower lock link (260A) and upper lock link (185):

1) Install pin (255) and end caps (250) on lock links (180, 185, 260A).

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.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

2) Install bolt (235).

3) Apply corrosion inhibiting non-drying paste, G50136 or compound, C00913 to bolt (235), the thread reliefs and the threads. Do not apply this material to the chrome-plated surfaces of the bolt.

4) Install washer (240).

5) Install nut (245). Tighten the nut to 30-50 pound-inches. Loosen the nut to the nearest castellation if necessary.

6) Install cotter pin (230).

(c) Install shims (300A), washers (295, 297), nuts (290, 292) and stops (305, 307) on the lock links.

1) Remove laminations from the shims as necessary to get the overcenter dimension as shown in ASSEMBLY, Figure 702.

2) Use sealant, A00247 to fay surface seal shims (300A) to the lock links.

3) Tighten nuts (290, 292) to 30-50 pound-inches. Loosen nuts (290, 292) to the nearest castellation if necessary.

(3) Assemble lock link assembly (227, IPL Figure 1; 1A, IPL Figure 2) as shown in ASSEMBLY, Figure 703, with grease, D00633, corrosion inhibiting non-drying paste, G50136 and sealant, A00247.

(4) Connect upper strut assembly (445) to reaction link assembly (510) (ASSEMBLY, Figure 701).

(a) Apply grease, D00633 to the chrome plated surfaces of pin (430).

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.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(b) Install pin (430).

1) Apply corrosion inhibiting non-drying paste, G50136 or compound, C00913 (F-19.71) to pin (430), the thread reliefs, and the threads. Do not apply this material to the chrome-plated surfaces of the pin.

(c) Install washer (435) and nut (440).

1) Apply corrosion inhibiting non-drying paste, G50136 or compound, C00913 to the washer and the nut. Wipe off unwanted material.

2) Tighten nut (440) to 600-900 inch-pounds. Loosen the nut to the nearest castellation if necessary.

(5) Connect lock link assemblies (180, 185, 260A) or lock link assembly (227) to upper side strut assembly (445) (ASSEMBLY, Figure 701).

(a) Apply grease, D00633 to the chrome plated surfaces of pin assembly (130).

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.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(b) Install pin assembly (130).

(c) Apply corrosion inhibiting non-drying paste, G50136 or compound, C00913 to pin assembly (130), the thread reliefs, and the threads. Do not apply this material to the chrome-plated surfaces of the pin assembly.

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.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(d) Install washer (150), nut (155A) and cotter pin (125).

1) Apply corrosion inhibiting non-drying paste, G50136 or compound, C00913 to the washer and the nut where applicable. Wipe off unwanted material.

2) Tighten nut (155A) to 360-600 pound-inches. Loosen the nut to the nearest castellation if necessary.

(6) Connect lock link assemblies (180, 185) or lock link assembly (227) to reaction link assembly (510) (ASSEMBLY, Figure 701), View C-C. Tighten nut (175) to 360-600 pound-inches. Loosen the nut to the nearest castellation if necessary.

(7) Connect the upper side strut assembly (445) to lower side strut assembly (370).

CAUTION: MAKE SURE THAT THE HEAD OF APEX BOLT (340B) IS ON THE AFT SIDE. IF THE HEAD OF THE BOLT IS ON THE FORWARD SIDE, DAMAGE TO COMPONENTS AND AIRPLANE STRUCTURE WILL OCCUR.

(a) Use the instructions in ASSEMBLY, Figure 701, View D-D.

(b) Tighten nut (350B) to 30-50 pound-inches. Loosen the nut to the nearest castellation if necessary.

WARNING: BE VERY CAREFUL WHEN YOU INSTALL THE SPRING ASSEMBLIES (35). FAILURE TO ATTACH THE SPRING ASSEMBLIES CORRECTLY CAN CAUSE INJURY TO YOU AND DAMAGE TO THE PARTS.

(8) Install spring assemblies (35).

(a) Install spring assemblies (35) to pins (25, 30).

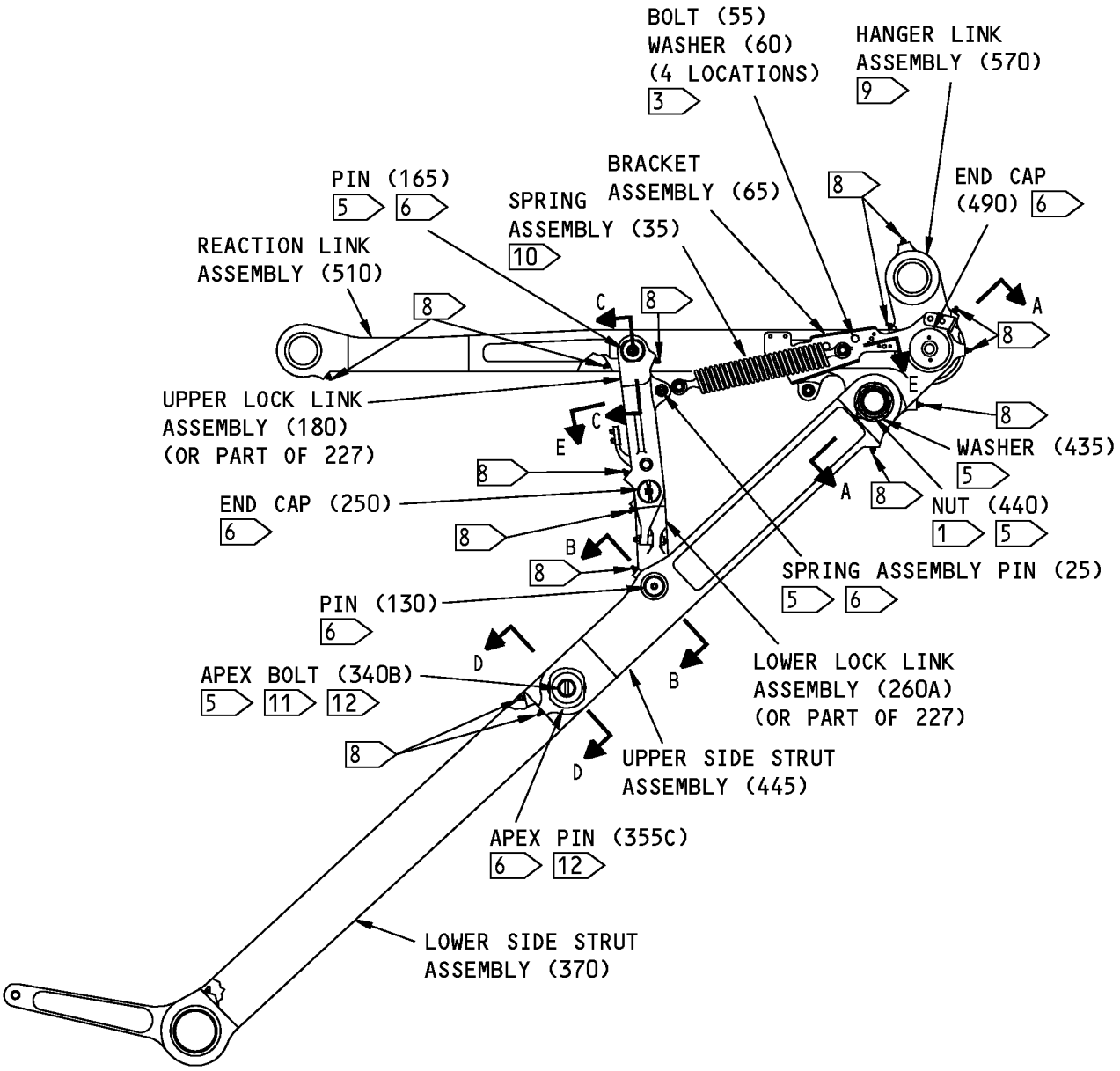
(b) Use the instructions in ASSEMBLY, Figure 701, View E-E.

(c) Tighten nuts (15) to 15-25 pound-inches. Loosen the nuts to the nearest castellation if necessary.

(9) Apply grease, D00633 to all lube fittings after assembly.

(10) Do a movement check of the side strut assembly (ASSEMBLY, Figure 704).

(a) Make sure the side strut assembly folds freely within the dimensions shown in ASSEMBLY, Figure 704.

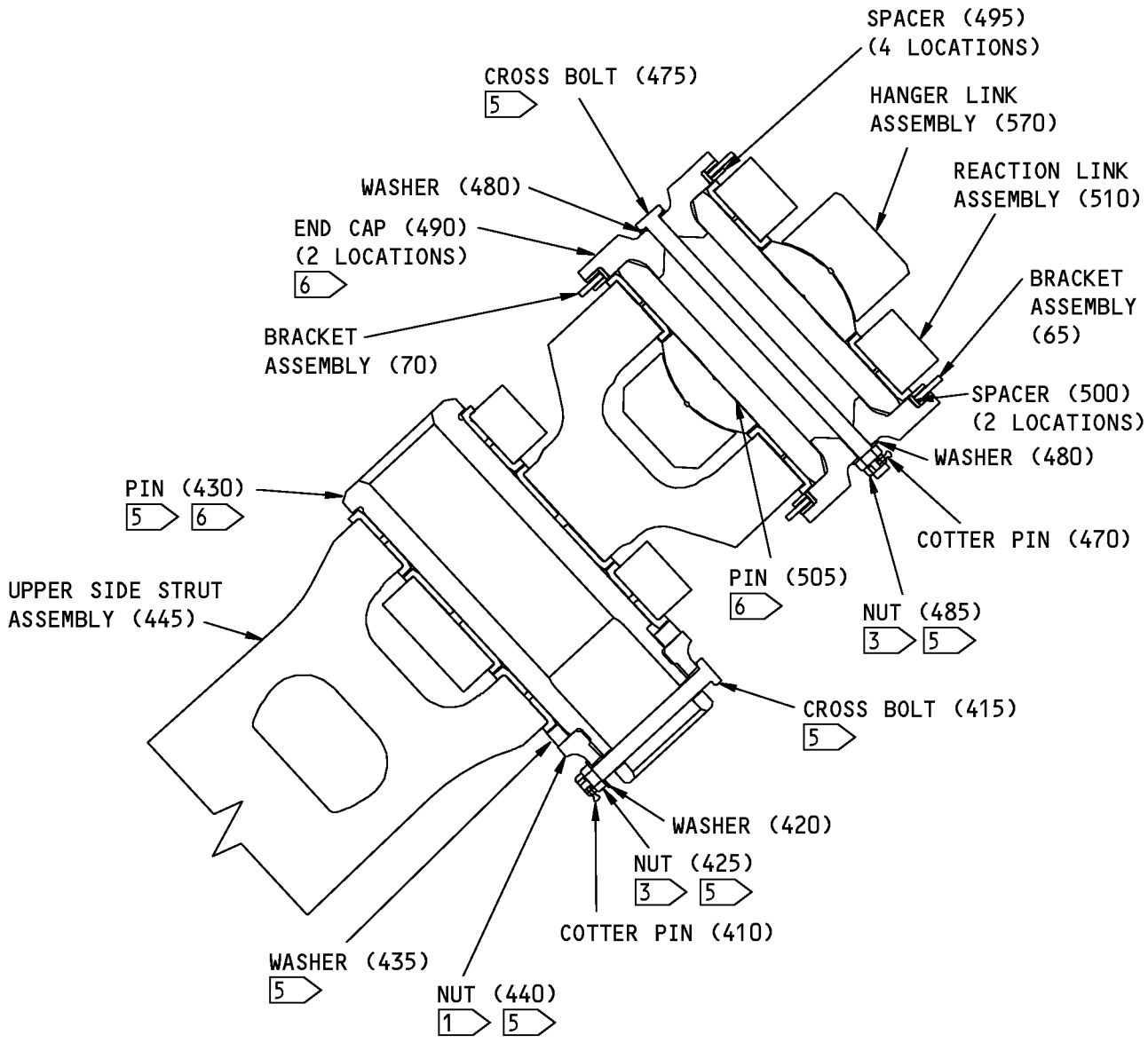


161A2100-5 SHOWN (VIEW AS YOU LOOK FORWARD)
161A2100-7,-9,-11,-13,-15 SIMILAR
161A2100-6,-8,-10,-12,-14,-16 OPPOSITE

161A2100-5 thru -16 10

F73534 S0004997179_V5

Side Strut Assembly Details
Figure 701 (Sheet 1 of 5)

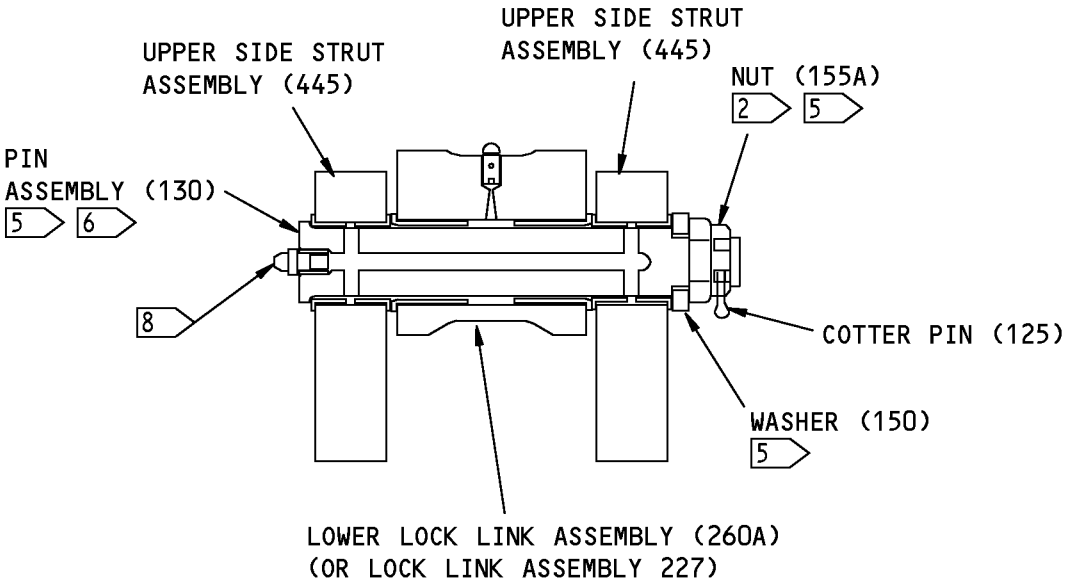


A–A

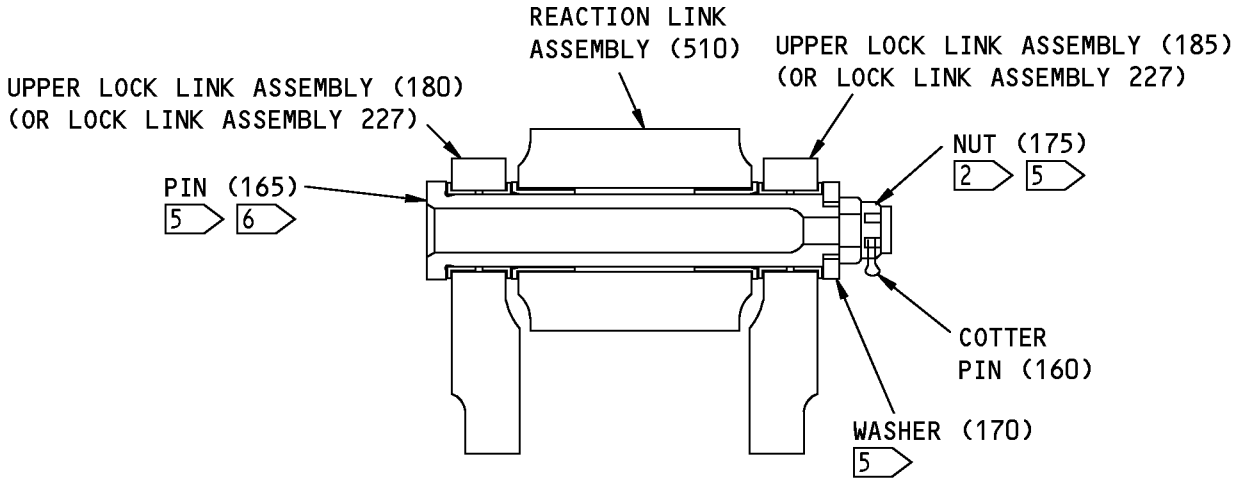
161A2100–5 thru –16 10

F74291 S0004997180_V3

Side Strut Assembly Details
Figure 701 (Sheet 2 of 5)



B–B

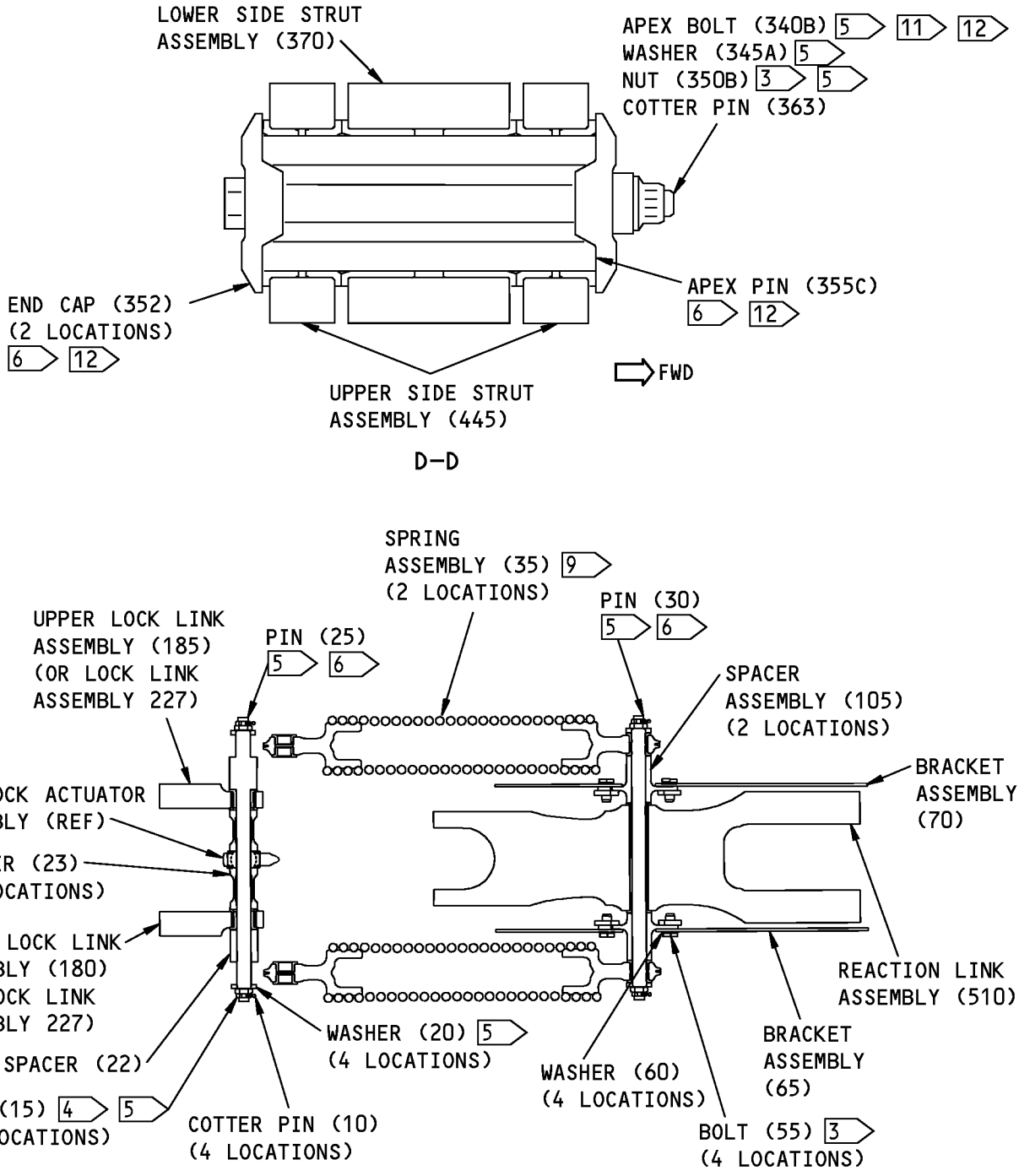


C–C

161A2100-5 thru -16 10

F74295 S0004997181_V3

Side Strut Assembly Details
Figure 701 (Sheet 3 of 5)



F74612 S0004997182_V4

Side Strut Assembly Details
Figure 701 (Sheet 4 of 5)

1> TIGHTEN THE NUT TO 600-900 POUND-INCHES. LOOSEN THE NUT TO THE NEAREST CASTELLATION IF NECESSARY

2> TIGHTEN THE NUT TO 360-600 POUND-INCHES. LOOSEN THE NUT TO THE NEAREST CASTELLATION IF NECESSARY

3> TIGHTEN THE NUT TO 30-50 POUND-INCHES. LOOSEN THE NUT TO THE NEAREST CASTELLATION IF NECESSARY

4> TIGHTEN THE NUT TO 15-25 POUND-INCHES. LOOSEN THE NUT TO THE NEAREST CASTELLATION IF NECESSARY

5> APPLY A THIN LAYER OF BMS 3-38 CORROSION PREVENTIVE COMPOUND TO THE BOLTS AND PINS (BUT NOT ON THE CHROME PLATED SURFACES), THREAD RELIEFS, AND THREADS AFTER BOLT AND PIN INSTALLATION AND BEFORE WASHER AND NUT INSTALLATION (BMS 3-27 COMPOUND IS OPTIONAL TO BMS 3-38 COMPOUND FOR 161A2100-5 THRU -10). APPLY THE CORROSION PREVENTIVE COMPOUND TO THE NUT AND THE WASHER WHERE APPLICABLE. WIPE OFF UNWANTED COMPOUND

6> APPLY BMS 3-33 GREASE TO THE CHROME PLATED SURFACES OF THE PINS AND THE SURFACES OF THE END CAPS BEFORE ASSEMBLY

7> FAY SURFACE SEAL THE SURFACES WITH BMS 5-95 SEALANT

8> APPLY BMS 3-33 GREASE AFTER ASSEMBLY

9> USE SOMETHING TO HOLD THE SPRINGS AND HANGER LINK IN POSITION AFTER ASSEMBLY UNTIL INSTALLATION

10> FOR THE 161A2100-5,-7,-9,-11,-13,-15 ASSEMBLIES, INSTALL ALL THE BOLTS, PINS, AND NUTS WITH THE HEAD DIRECTION AS SHOWN IN FIGURE 701. FOR THE 161A2100-6,-8,-10,-12,-14,-16 ASSEMBLIES, INSTALL THE BOLTS, PINS, NUTS AND HANGER ASSEMBLY IN THE OPPOSITE DIRECTION

11> CAUTION: MAKE SURE THAT THE HEAD OF THE APEX BOLT IS ON THE AFT SIDE. IF THE HEAD OF THE BOLT IS ON THE FORWARD SIDE, DAMAGE TO COMPONENTS AND AIRPLANE STRUCTURE WILL OCCUR.

12> APPLY BMS 3-38 CORROSION PREVENTIVE COMPOUND TO THE INNER DIAMETER OF THE PIN, INSIDE THE UNPLATED SURFACE OF THE END CAP AND THE SHANK OF THE BOLT (BMS 3-37 COMPOUND IS OPTIONAL TO BMS 3-38 COMPOUND FOR 161A2100-5 THRU -10). WHEN YOU ARE DONE, MAKE SURE THE DRAINAGE HOLES IN THE END CAPS ARE CLEAR

INSTALL THE COTTER PINS AS SPECIFIED IN SOPM 20-50-02

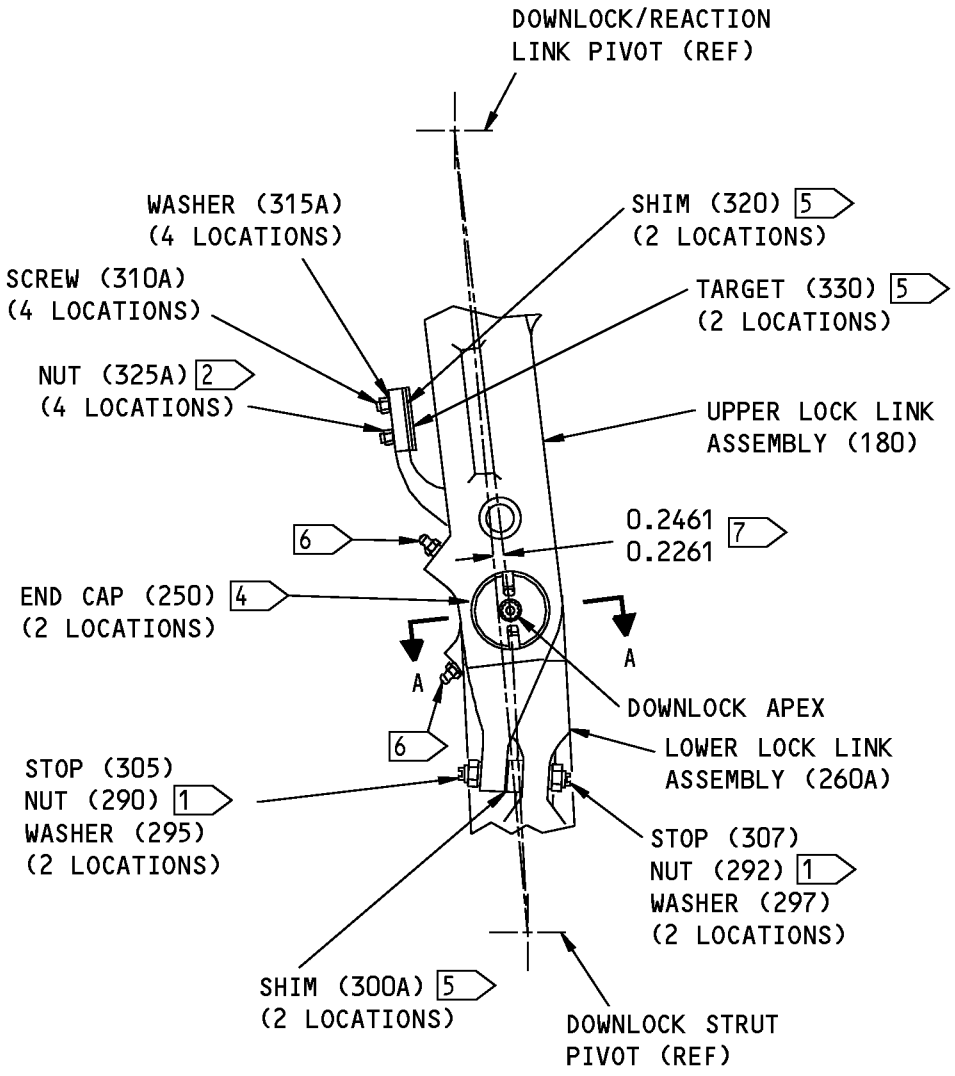
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161A2100-5 thru -16 10>

F74616 S0004997183_V4

Side Strut Assembly Details
Figure 701 (Sheet 5 of 5)

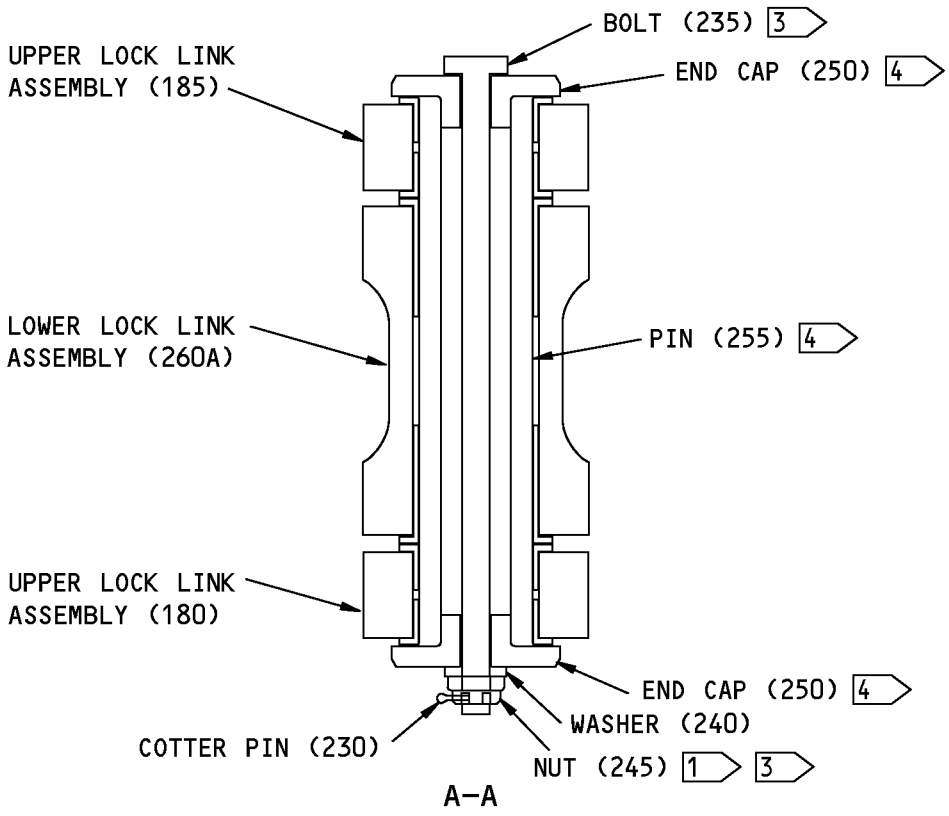


ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F75719 S0004997184_V2

Lock Link Assembly Details
Figure 702 (Sheet 1 of 2)



1 TIGHTEN NUTS (245,290,292) TO 30-50 POUND-INCHES. LOOSEN TO THE NEAREST CASTELLATION AS NECESSARY.

2 TIGHTEN NUT (325A) 15-25 POUND-INCHES. LOOSEN TO THE NEAREST CASTELLATION AS NECESSARY.

3 APPLY A THIN LAYER OF BMS 3-38 CORROSION PREVENTIVE COMPOUND TO THE BOLTS (BUT NOT ON THE CHROME PLATED SURFACES), THE THREAD RELIEFS AND THE THREADS AFTER YOU INSTALL THE BOLTS AND BEFORE YOU INSTALL THE WASHER AND THE NUT (BMS 3-27 COMPOUND IS OPTIONAL TO BMS 3-38 COMPOUND FOR 161A2100-5 THRU -10). APPLY THE COMPOUND TO THE NUT AND THE WASHER WHERE APPLICABLE. WIPE OFF UNWANTED COMPOUND.

4 APPLY BMS 3-33 GREASE TO THE CHROME PLATED SURFACES OF THE PINS AND ALL SURFACES OF THE END CAPS BEFORE ASSEMBLY.

5 FAY SURFACE SEAL WITH BMS 5-95 SEALANT.

6 APPLY BMS 3-33 GREASE AFTER ASSEMBLY.

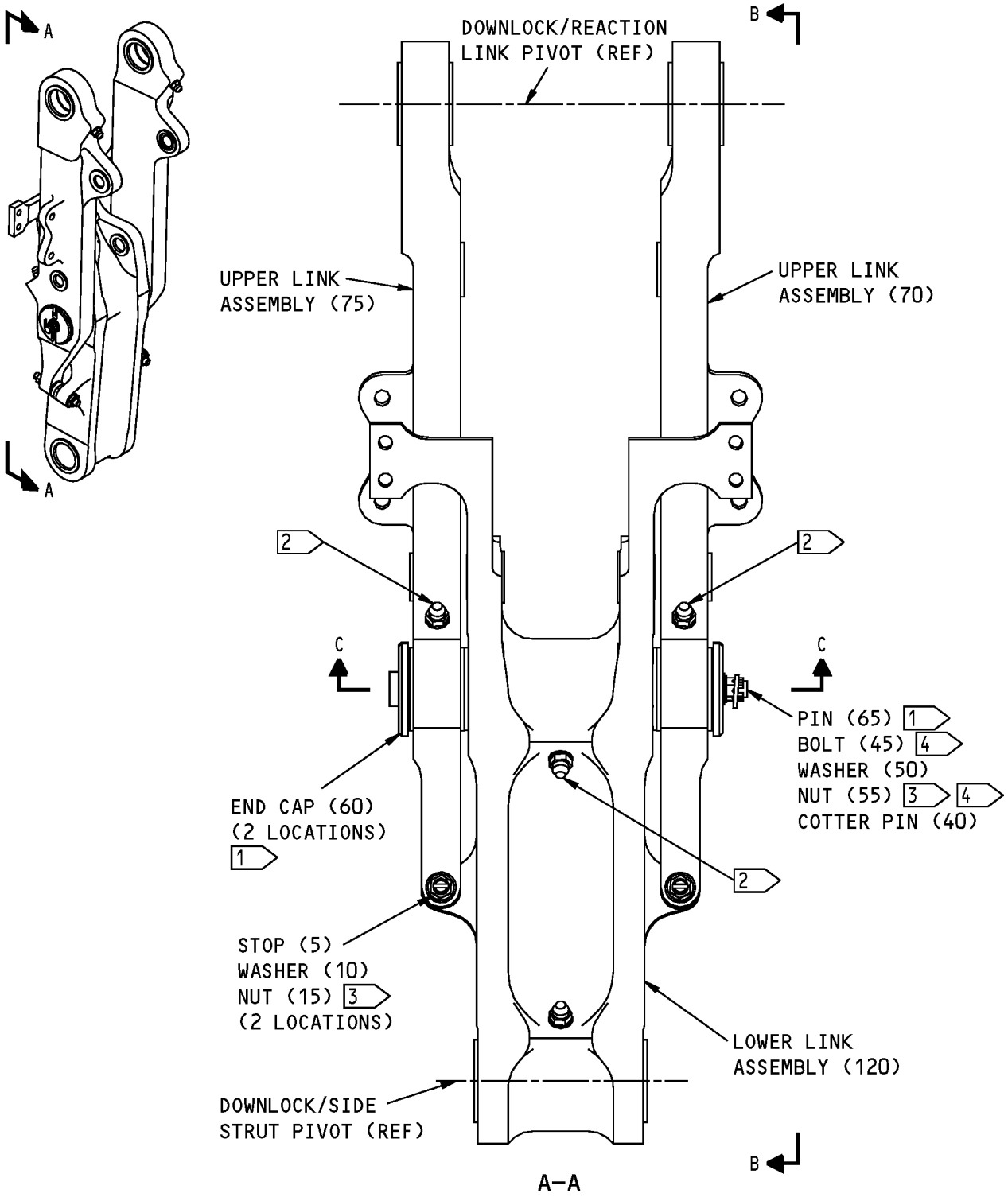
7 REMOVE LAMINATIONS FROM THE SHIM TO GET THE OVERCENTER DIMENSIONS OF 0.2261-0.2461 INCHES.

ITEM NUMBERS REFER TO IPL FIG. 1

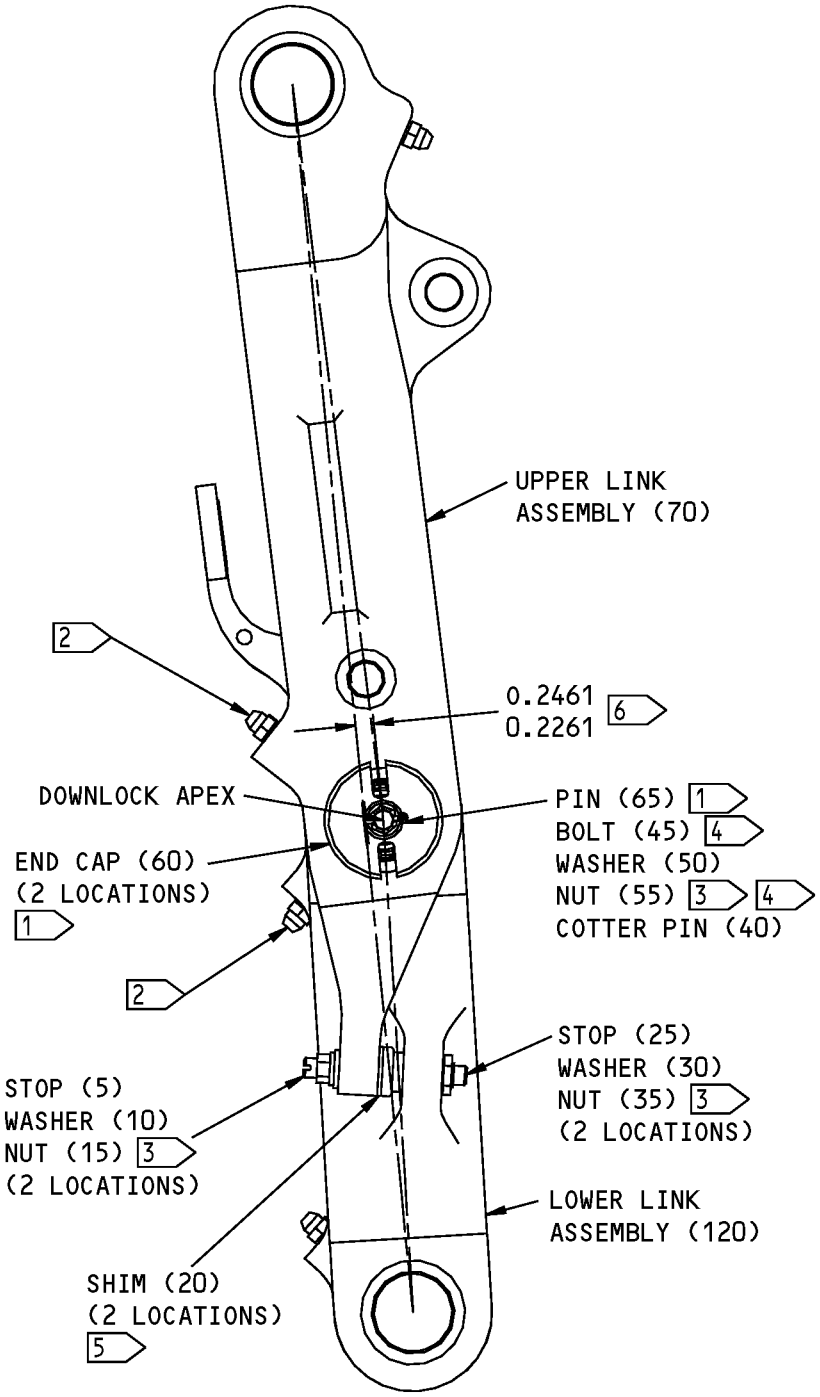
ALL DIMENSIONS ARE IN INCHES

F75727 S0004997185_V3

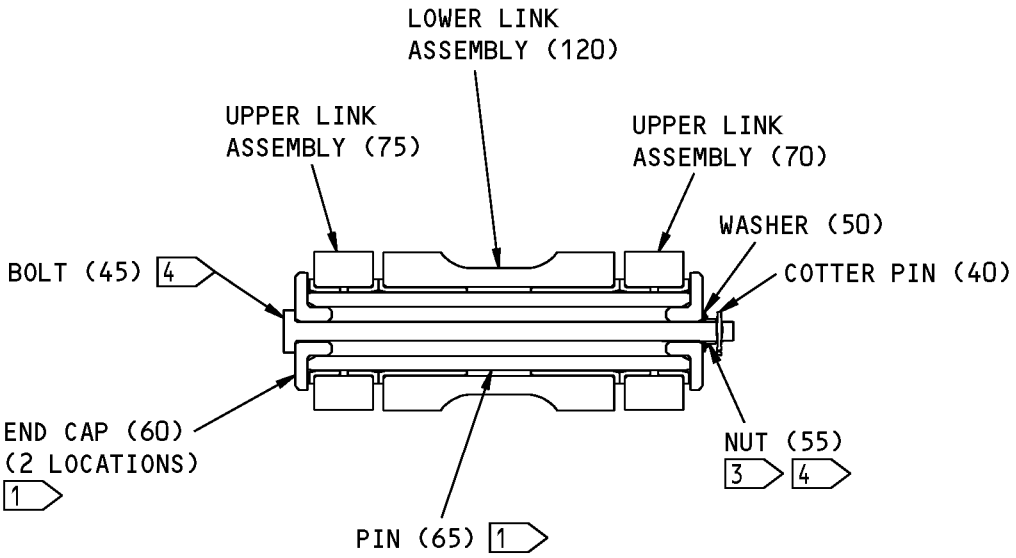
Lock Link Assembly Details
Figure 702 (Sheet 2 of 2)



161A2120-1 Lock Link Assembly Details
Figure 703 (Sheet 1 of 3)



161A2120-1 Lock Link Assembly Details
Figure 703 (Sheet 2 of 3)



C–C

1 BEFORE ASSEMBLY, LUBRICATE THE CHROME PLATED SURFACES OF PINS, AND THE MATING SURFACES OF END CAPS, WITH BMS 3-33 GREASE

2 AFTER ASSEMBLY, LUBRICATE WITH BMS 3-33 GREASE

3 TIGHTEN THE NUT TO 30-50 POUND-INCHES ABOVE DRIVE TORQUE. BACK OFF TO THE NEAREST CASTELLATION

4 AFTER YOU INSTALL THE BOLT BUT BEFORE YOU INSTALL THE WASHER AND NUT, APPLY A THIN LAYER OF BMS 3-38 CORROSION PREVENTIVE COMPOUND TO BOLT SURFACES (BUT NOT CHROME PLATE), THREAD RELIEFS, THREADS, WASHER AND NUT. WIPE OFF UNWANTED COMPOUND AFTER INSTALLATION

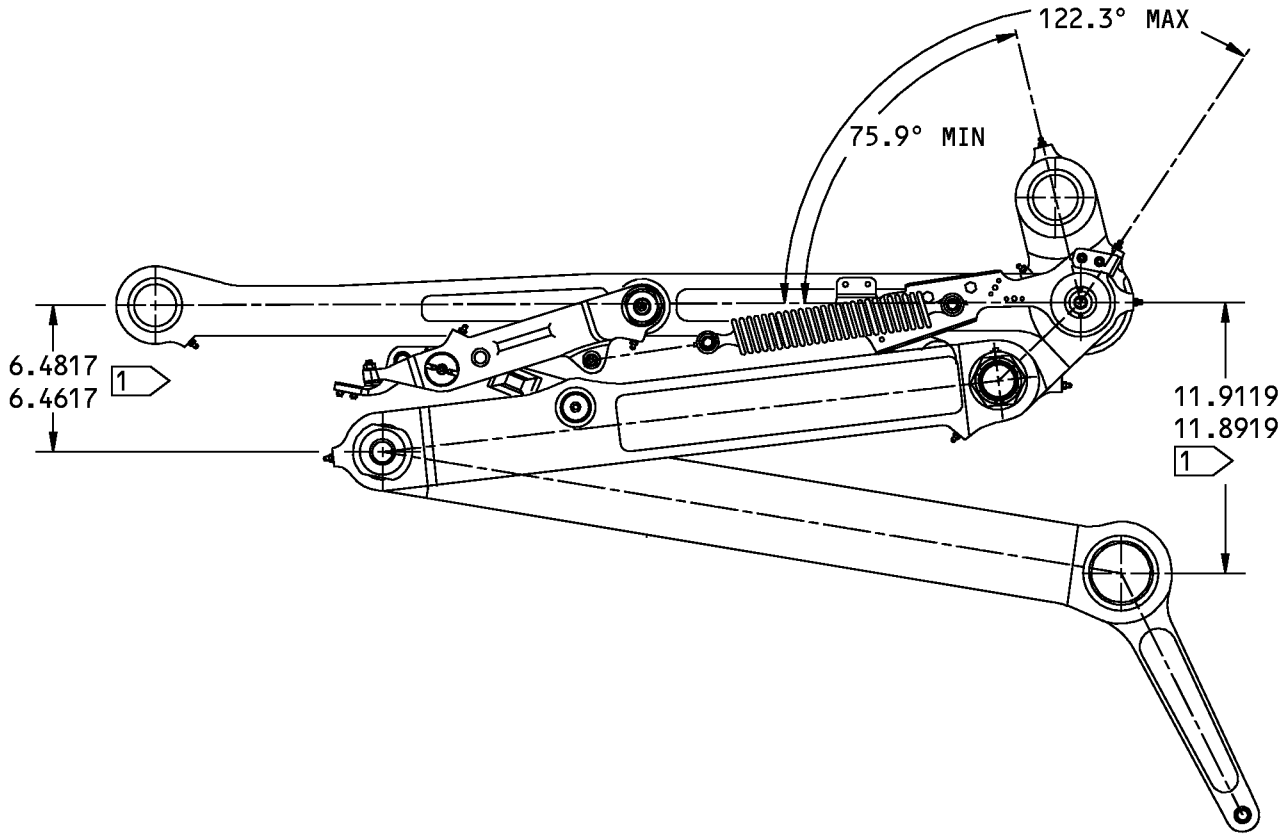
5 FAY SURFACE SEAL WITH BMS 5-95 SEALANT (SOPM 20-50-19)

6 ADJUST THICKNESS OF EACH SHIM TO GET THIS OVERCENTER DIMENSION

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

161A2120-1 Lock Link Assembly Details
Figure 703 (Sheet 3 of 3)



1 FOLD THE ASSEMBLY TO GET THESE DIMENSIONS. MAKE SURE ALL PARTS MOVE SMOOTHLY WITHOUT INTERFERENCE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

F75646 S0004997186_V3

Main Gear Side Strut Assembly Movement Check
Figure 704

FITS AND CLEARANCES

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	15	Nut	15-25 [1]	
1	135	Lube Fitting	25-30	
1	155A	Nut	360-600 [1]	
1	175	Nut	360-600 [1]	
1	190	Lube Fitting	25-30	
1	245	Nut	30-50 [1]	
1	265	Lube Fitting	25-30	
1	290	Nut	30-50 [1]	
1	292	Nut	30-50 [1]	
1	325A	Nut	15-25 [1]	
1	350B	Nut	30-50 [1]	
1	375	Lube Fitting	25-30	
1	440	Nut	600-900 [1]	
1	450	Lube Fitting	25-30	
1	515	Lube Fitting	25-30	
1	575	Lube Fitting	25-30	
2	15	Nut	30-50 [1] [2]	
2	35	Nut	30-50 [1] [2]	
2	55	Nut	30-50 [1] [2]	

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

[1] LOOSEN TO NEAREST CASTELLATION, IF NECESSARY, TO LET YOU INSTALL THE COTTER PIN

[2] ABOVE RUN-ON TORQUE

Torque Table
Figure 801

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-5400	Pin Removal/Installation Kit - Main Landing Gear	C32029-1	81205

Tool Supplier Information

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

ILLUSTRATED PARTS LIST

1. Introduction

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

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

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

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

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

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

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

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

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

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

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

H. Interchangeable Parts

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

VENDOR CODES

Code	Name
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
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
50632	KAMATICS CORP SUB OF KAMAN CORP 1335 BLUE HILLS ROAD BLOOMFIELD, CONNECTICUT 06002-1304
52828	REPUBLIC FASTENER MFG CORP 1300 RANCHO CONEJO BLVD NEWBURY PARK, CALIFORNIA 91320-1405 FORMERLY IN SYLMAR, CALIFORNIA
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

Code	Name
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
F0224	SIMMONDS SA FAIRCHILD FASTENERS ST COSME ST COSME EN VAIRAIS F-72580, FRANCE

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
102F9201-3		1	90	2
102F9207P4		1	115A	2
102LH9075-4W		1	292	2
		2	35	2
161A2100-10		1	5D	RF
161A2100-11REVA		1	1F	RF
161A2100-12REVA		1	5E	RF
161A2100-13REVA		1	1G	RF
161A2100-14REVA		1	5F	RF
161A2100-15REVA		1	1H	RF
161A2100-16REVA		1	5G	RF
161A2100-5		1	1C	RF
161A2100-6		1	5B	RF
161A2100-7		1	1D	RF
161A2100-8		1	5C	RF
161A2100-9		1	1E	RF
161A2101-1		1	445	1
161A2101-2		1	467	1
161A2101-3		1	445A	1
161A2101-4		1	467A	1
161A2101-5		1	445B	1
161A2101-6		1	467B	1
161A2101-7		1	445C	1
161A2101-8		1	467C	1
161A2103-1		1	370	1
161A2103-10		1	405F	1
161A2103-11		1	370E	1
161A2103-12		1	405G	1
161A2103-13		1	370F	1
161A2103-14		1	405H	1
161A2103-2		1	405	1
161A2103-3		1	370A	1
161A2103-4		1	405B	1
161A2103-5		1	370B	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A2103-6		1	405C	1
161A2103-7		1	370C	1
161A2103-8		1	405E	1
161A2103-9		1	370D	1
161A2105-3		1	260A	1
161A2105-4		1	285A	1
161A2105-5		2	120	1
161A2105-6		2	145	1
161A2105-7		1	260B	1
161A2105-8		1	285B	1
161A2107-1		1	180	1
161A2107-10		1	185A	1
161A2107-11		1	220A	1
161A2107-12		1	225A	1
161A2107-2		1	185	1
161A2107-3		1	220	1
161A2107-4		1	225	1
161A2107-5		2	70	1
161A2107-6		2	75	1
161A2107-7		2	110	1
161A2107-8		2	115	1
161A2107-9		1	180A	1
161A2109-1		1	460	4
		1	462	4
161A2109-10		1	205	1
		2	95	1
161A2109-11		1	280	2
		2	125	2
161A2109-12		1	462A	4
161A2109-13		1	400A	2
161A2109-2		1	465	4
161A2109-3		1	400	2
161A2109-4		1	395	2
161A2109-5		1	275	4
		2	130	4

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A2109-6		1	200	4
		2	80	4
161A2109-7		1	385	1
161A2109-8		1	390	1
161A2109-9		1	215	1
		2	90	1
161A2110-1		1	65	1
161A2110-2		1	70	1
161A2110-3		1	95	1
161A2110-4		1	100	1
161A2110-5		1	70A	1
161A2110-6		1	100A	1
161A2111-4		1	355C	1
161A2111-5		1	355D	1
161A2111-6		1	355E	1
161A2111-7		1	355F	1
161A2112-1		1	130	1
161A2112-2		1	145	1
161A2112-3		1	130A	1
161A2112-4		1	145A	1
161A2112-5		1	130B	1
161A2112-6		1	145B	1
161A2113-1		1	250	2
		2	60	1
161A2113-2		1	352	2
161A2113-3		1	352A	2
161A2114-1		1	305	2
		2	5	2
161A2114-2		1	307	2
		2	25	2
161A2115-1		1	320	2
161A2116-1		1	330	2
161A2117-1		1	80	1
161A2117-2		1	80A	1
161A2118-1		1	105	2

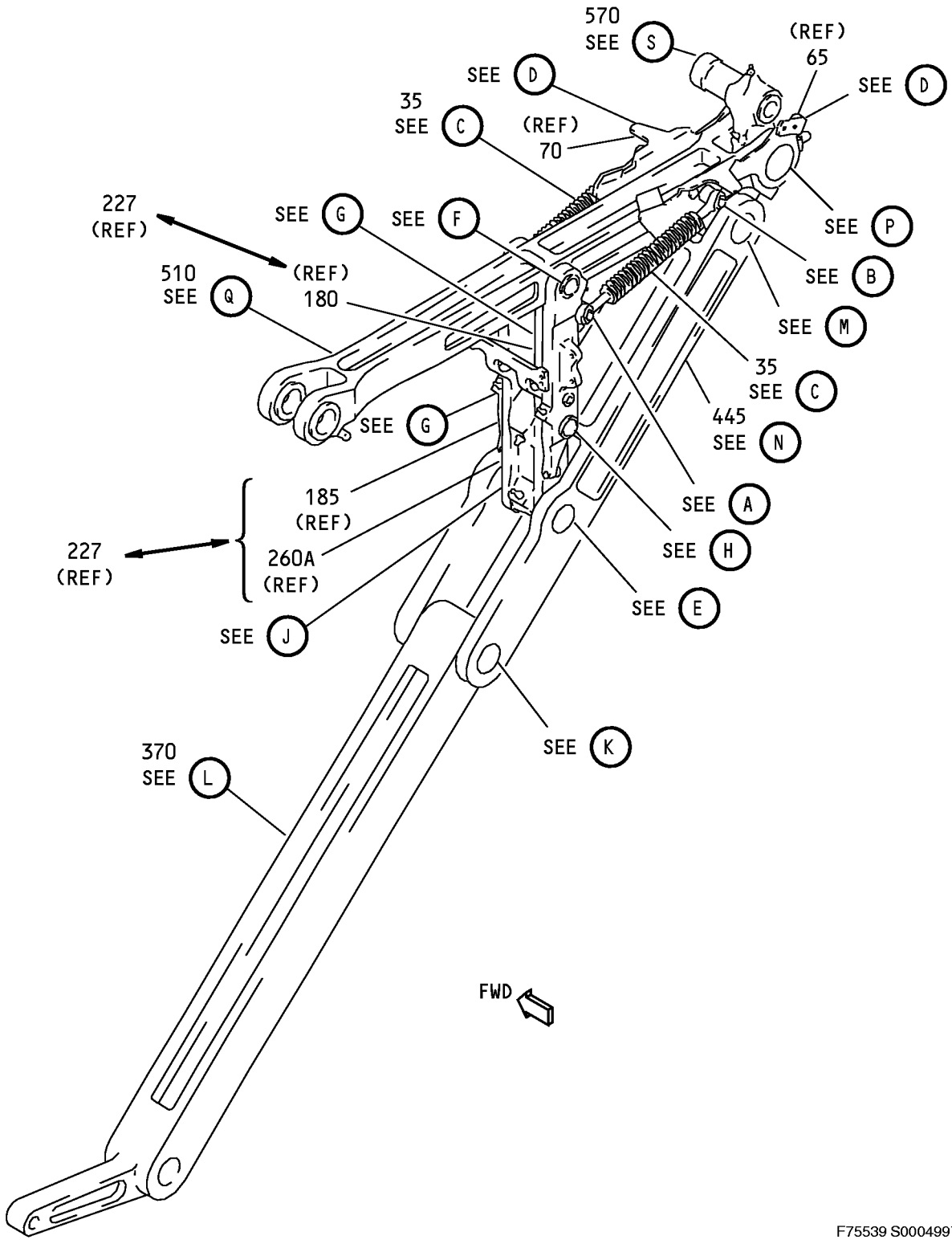
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A2118-2		1	120	1
161A2119-1		1	340B	1
161A2120-1		1	227	1
		2	1A	RF
161A2122-1		1	430	1
161A2122-2		1	430A	1
161A2123-1		1	165	1
161A2123-2		1	165A	1
161A2124-1		1	255	1
		2	65	1
161A2124-2		1	255A	1
161A2125-3		1	440	1
161A2126-4		1	170	1
161A2126-5		1	435	1
161A2126-6		1	150	1
161A2128-1		1	20	4
161A2128-2		1	345A	1
161A2300-1		1	35	2
161A2300-2		1	50	1
161A2301-1		1	45	2
161A2302-1		1	22	1
161A2302-2		1	23	2
161A2305-1		1	40	4
161A2325-1		1	25	1
161A2325-2		1	25A	1
161A2326-1		1	30	1
161A4100-1		1	510	1
161A4100-2		1	565	1
161A4100-3		1	510A	1
161A4100-4		1	565A	1
161A4102-1		1	560	4
161A4102-2		1	555	2
161A4102-4		1	530	2
161A4102-5		1	525	4
161A4102-6		1	595	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A4102-7		1	585	1
161A4102-8		1	540	2
161A4103-1		1	545	1
161A4103-2		1	550	1
161A4300-1		1	570	1
161A4300-2		1	600	1
161A4300-3		1	570A	1
161A4300-4		1	600A	1
161A4301-1		1	590	1
161A4302-1		1	505	1
161A4302-2		1	505A	1
161A4303-1		1	490	2
161A4305-1		1	495	4
161A4305-2		1	500	2
161W7010-1		1	140	1
		1	195	2
		1	270	2
		1	380	2
		1	455	4
		1	520	6
		1	580	3
		2	105	2
		2	140	2
AS15004-1		1	135A	1
		1	190A	2
		1	265A	2
		1	375A	2
		1	450A	4
		1	515A	6
		1	575A	3
		2	100	2
		2	135	2
BACB30LM4D34		1	415A	1
BACB30LM4D73		1	475A	1
BACB30LM4D82		1	235A	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	45	1
BACB30NR4K3		1	55	4
BACN10JC4CD		1	292	2
		2	35	2
BACN10JR3CFD		1	90	2
BACN10KB4CFD		1	115A	2
BACN10YR3CD		1	325B	4
BACN10YR4CD		1	290	2
		2	15	2
BACN11N112CD		1	155B	1
		1	175A	1
BACN11N4CD		1	245A	1
		1	425A	1
		1	485A	1
		2	55	1
BACN11N5CD		1	15A	4
BACN11N7CS		1	350B	1
BACP18BC02A06P		1	230A	1
		1	410A	1
		2	40	1
BACP18BC02A08P		1	10A	4
BACP18BC04A06P		1	335A	1
		1	335C	1
BACP18BC04A12P		1	125A	1
		1	160A	1
BACP18C02A06P		1	470A	1
BACR15BA3AD		1	110	4
BACR15BA3AD6C		1	85A	4
BACR15BB6D6C		1	75A	2
BACS40U5L3C		1	300A	2
		2	20	2
BACW10BP4APU		1	295	2
		2	10	2
BCREF12235		1	535	2
BCREF144701		1	210A	1

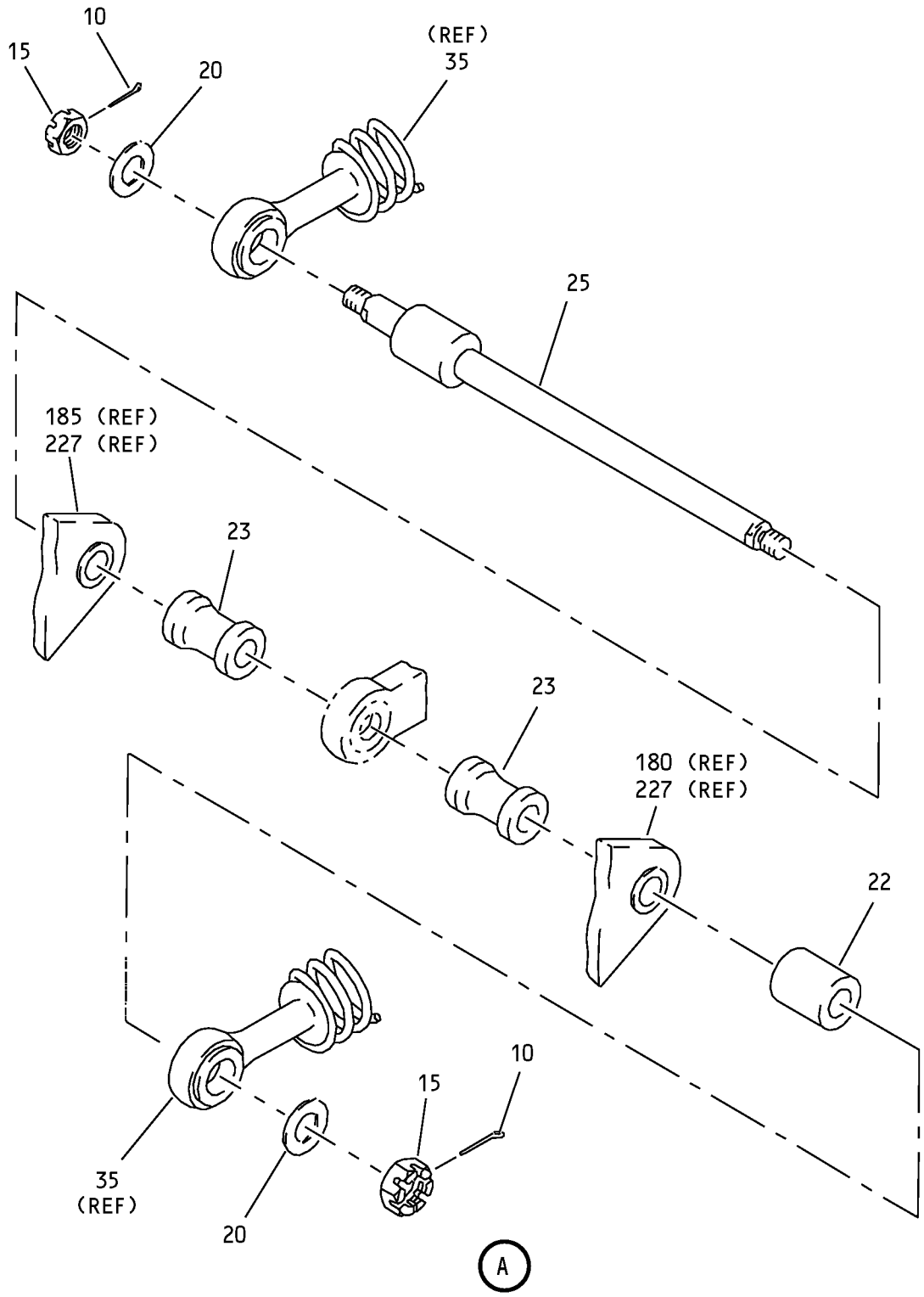
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	85	1
BRF100C4D		1	115A	2
BRF200C3D		1	90	2
BRH10C4D		1	292	2
		2	35	2
F51604-4		1	115A	2
H51650-4BAC		1	292	2
		2	35	2
H52732-3CD		1	325B	4
H52732-4CD		1	290	2
		2	15	2
K51602-3BAC		1	90	2
KJB165000B05-039		1	535	2
KJB165000B07-050		1	210A	1
		2	85	1
KJB165000B07050		1	210	1
M0DREF259276		1	1G	RF
M0DREF259277		1	5F	RF
M0DREF282848		1	1F	RF
M0DREF282849		1	5E	RF
M0DREF355841		1	1H	RF
M0DREF355842		1	5G	RF
MS14144L4		1	245	1
		1	425	1
		1	485	1
MS14144L5		1	15	4
MS14145L12		1	155A	1
		1	175	1
MS15004-1		1	135	1
		1	190	2
		1	265	2
		1	375	2
		1	450	4
		1	515	6
		1	575	3

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	100A	2
		2	135A	2
MS21042L3		1	325A	4
MS24665-153		1	230	1
		1	410	1
		1	470	1
MS24665-155		1	10	4
MS24665-368		1	335B	1
MS24665-374		1	125	1
		1	160	1
NAS1149C0316R		1	315A	4
NAS1149D0432J		1	60	4
		1	480	2
NAS1149E0416P		1	297	2
		2	30	2
NAS1149E0432P		1	240	1
		1	420	1
		2	50	1
NAS514P1032-10P		1	310A	4
NAS6704D34		1	415	1
NAS6704D73		1	475	1
NAS6704D82		1	235	1
NS202476-02		1	90	2
NS202478-048		1	115A	2
NS202486-048		1	292	2
		2	35	2
PHCR54CDBACN		1	245A	1
		1	425A	1
		1	485A	1
PLH53CD		1	325B	4
PLH54CD		1	290	2
		2	15	2
T6C428JCD		1	292	2
		2	35	2
T8092C1032CD		1	90	2

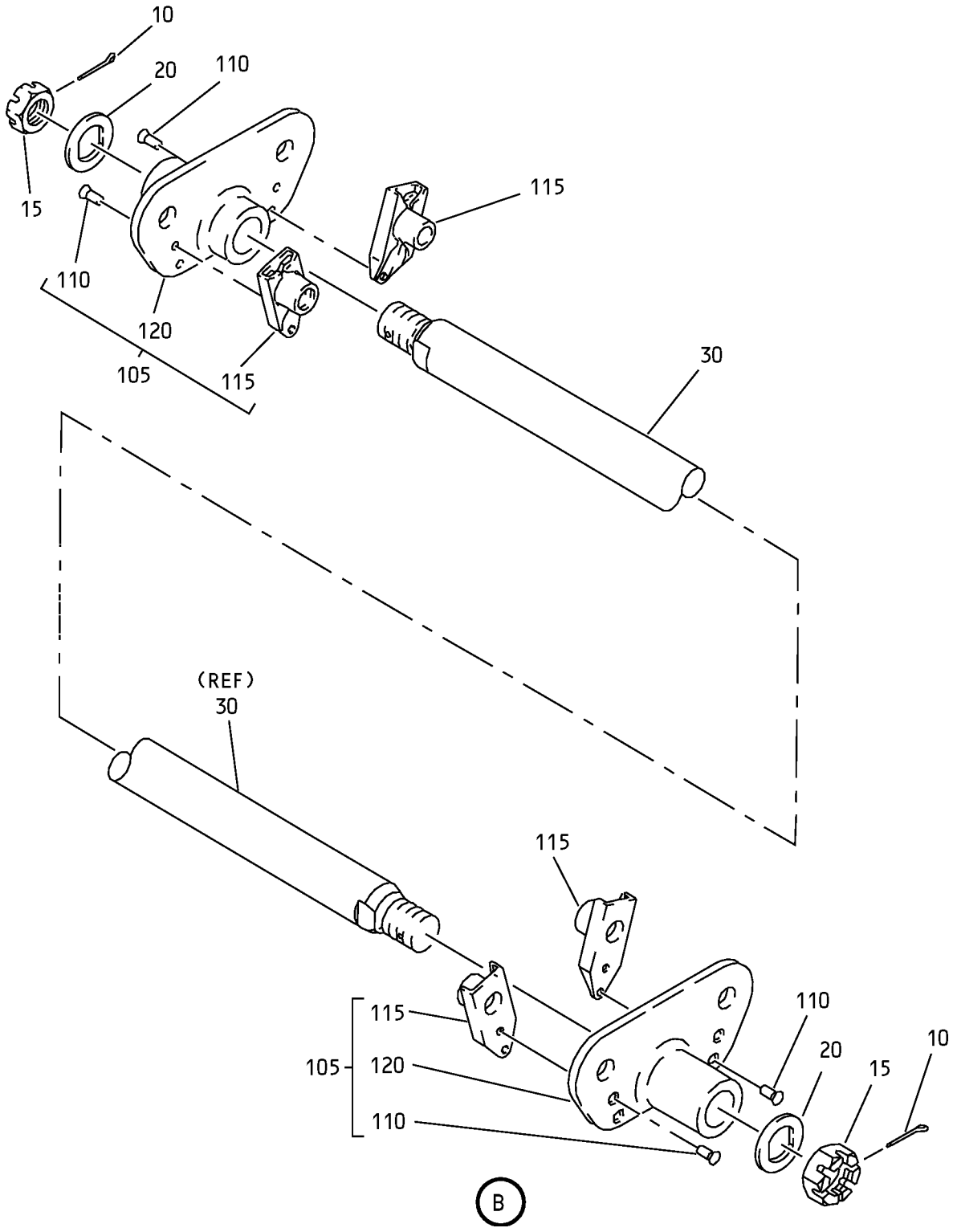


F75539 S0004997192_V3

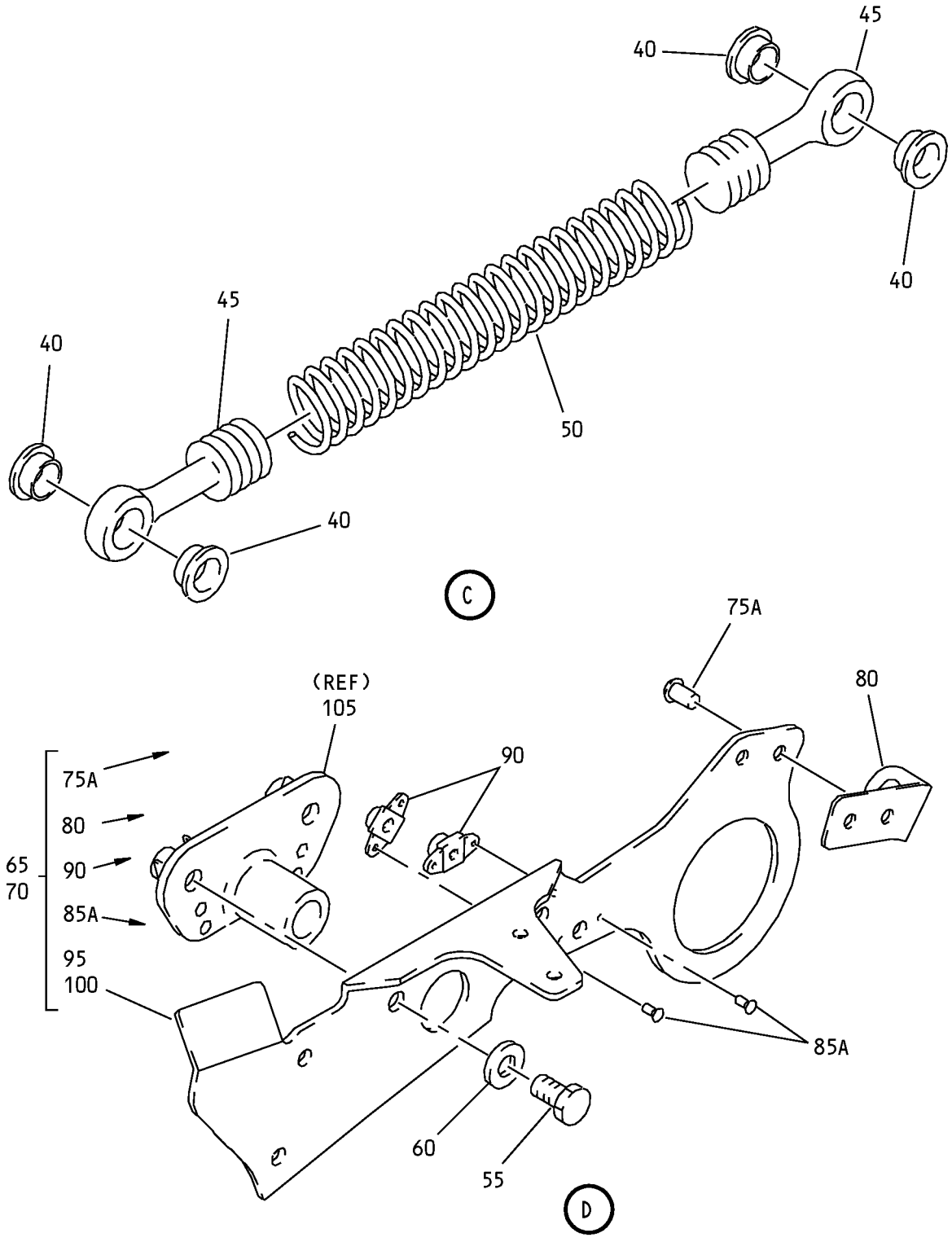
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 1 of 16)



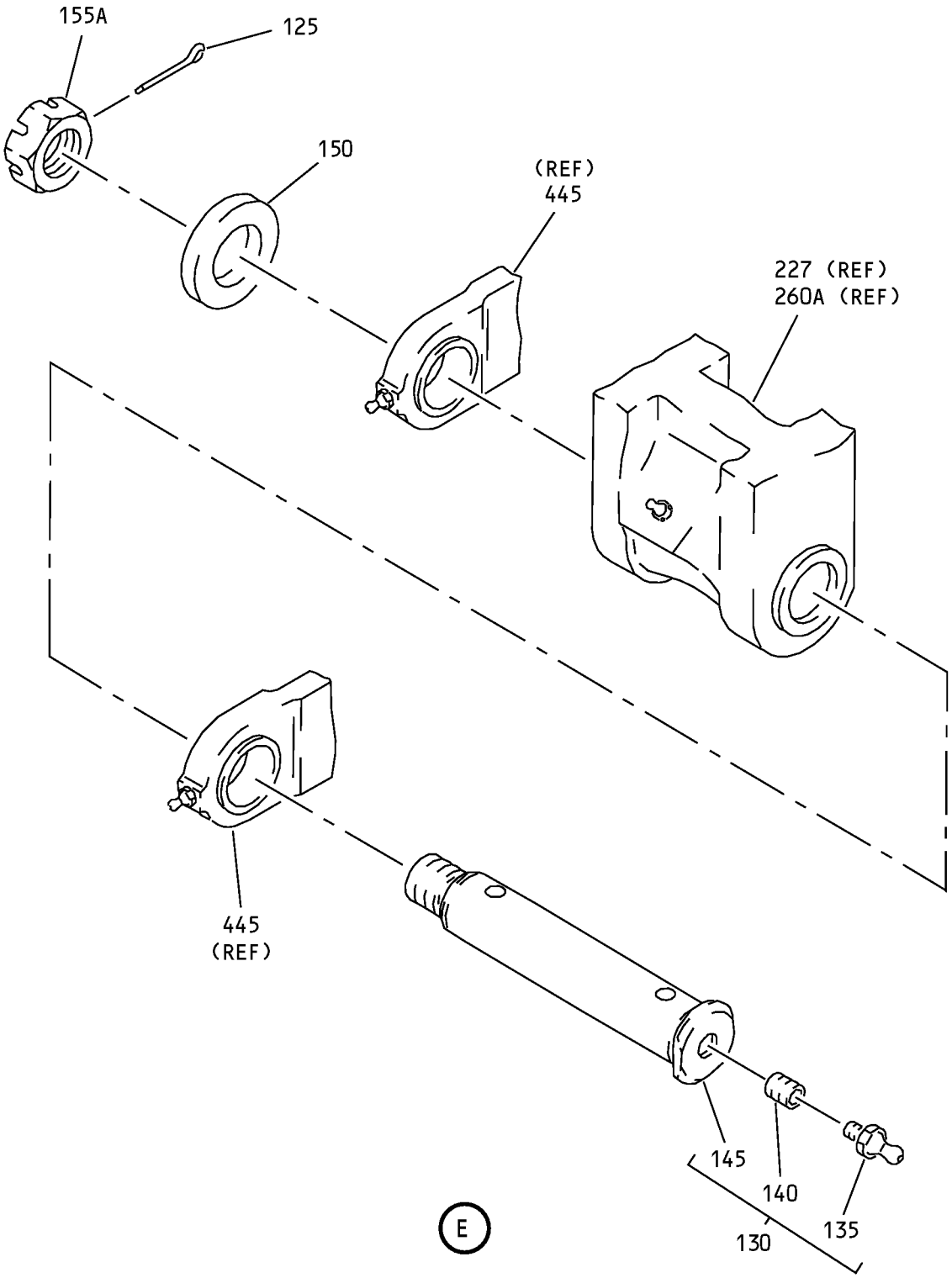
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 2 of 16)



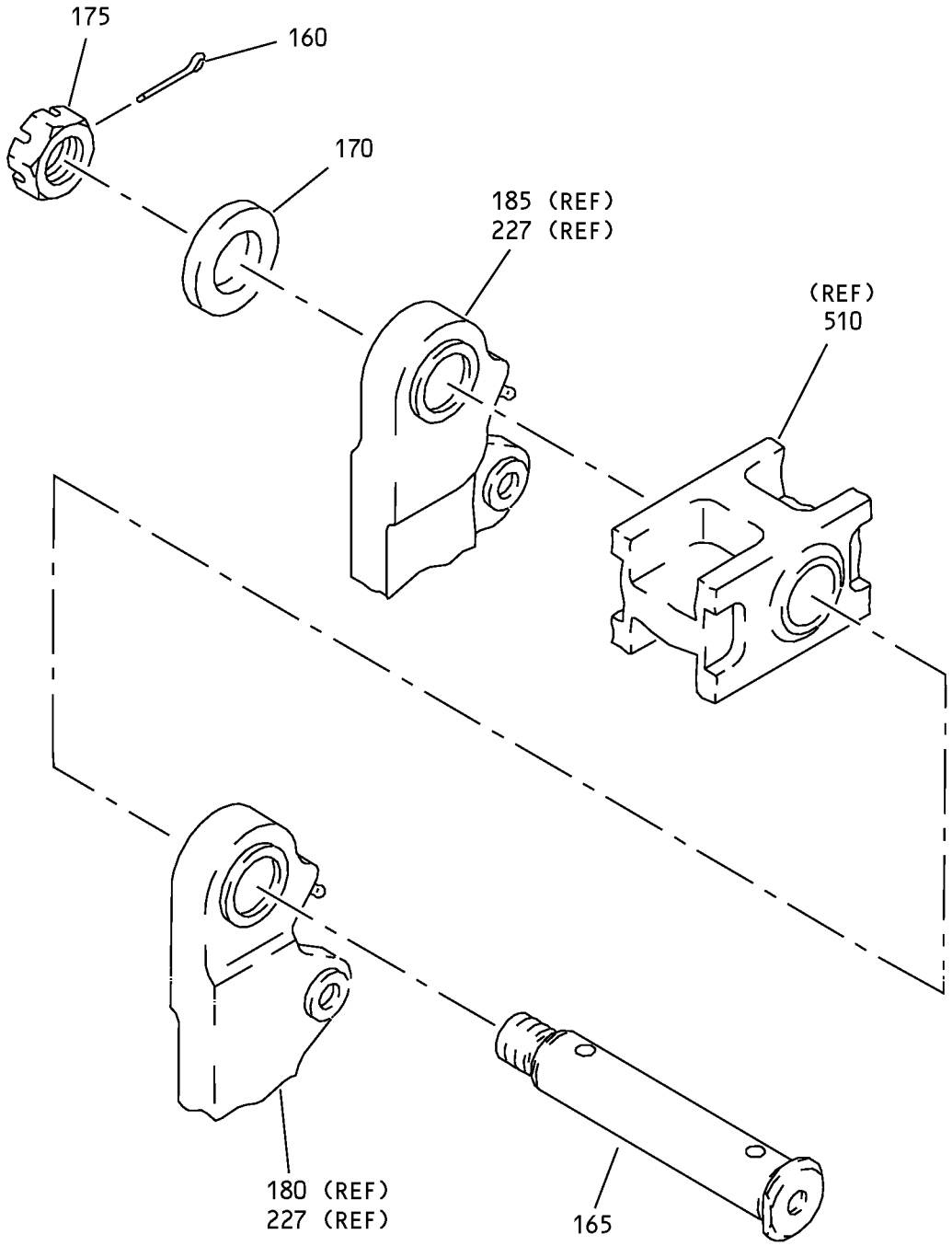
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 3 of 16)



Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 4 of 16)

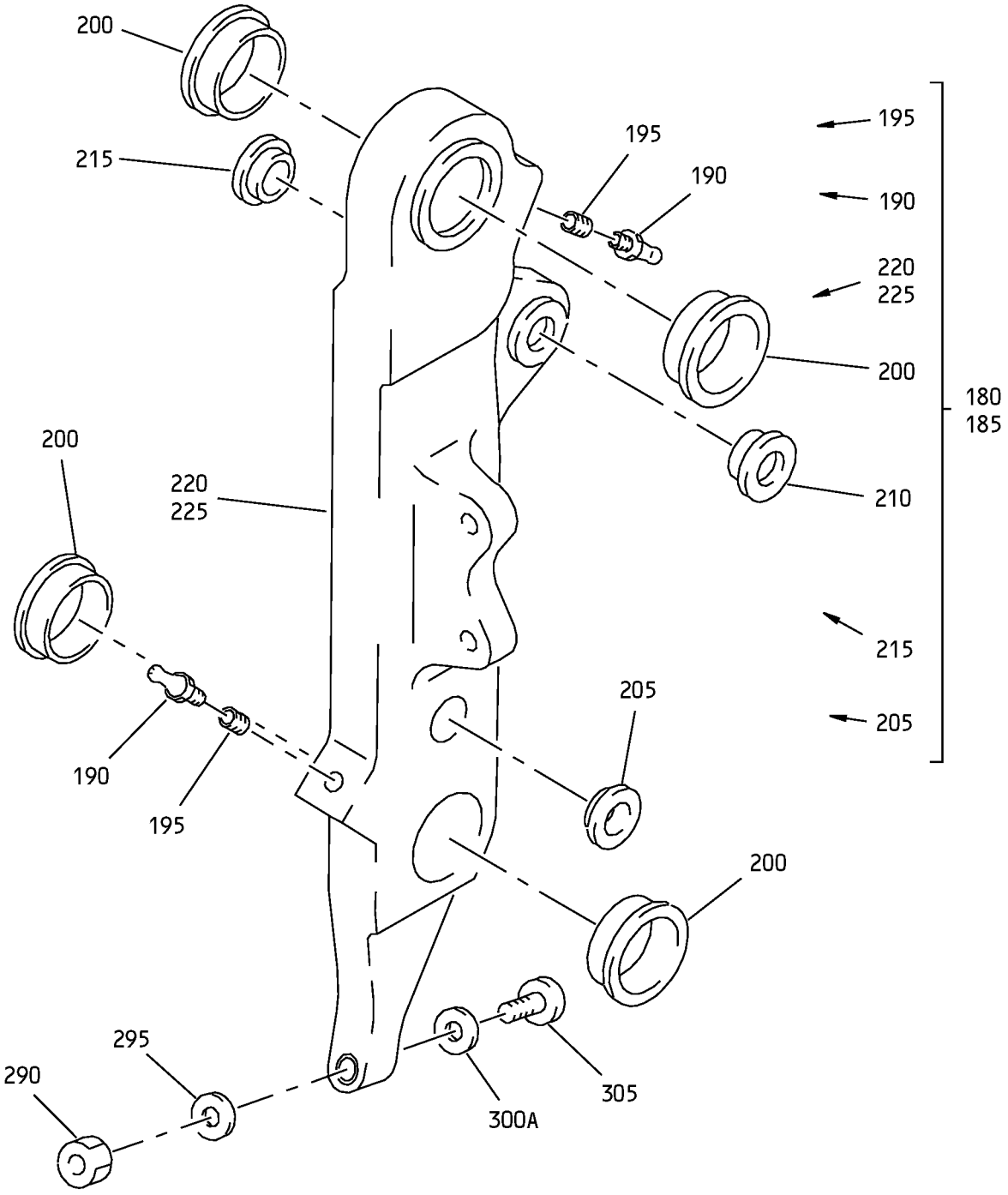


Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 5 of 16)



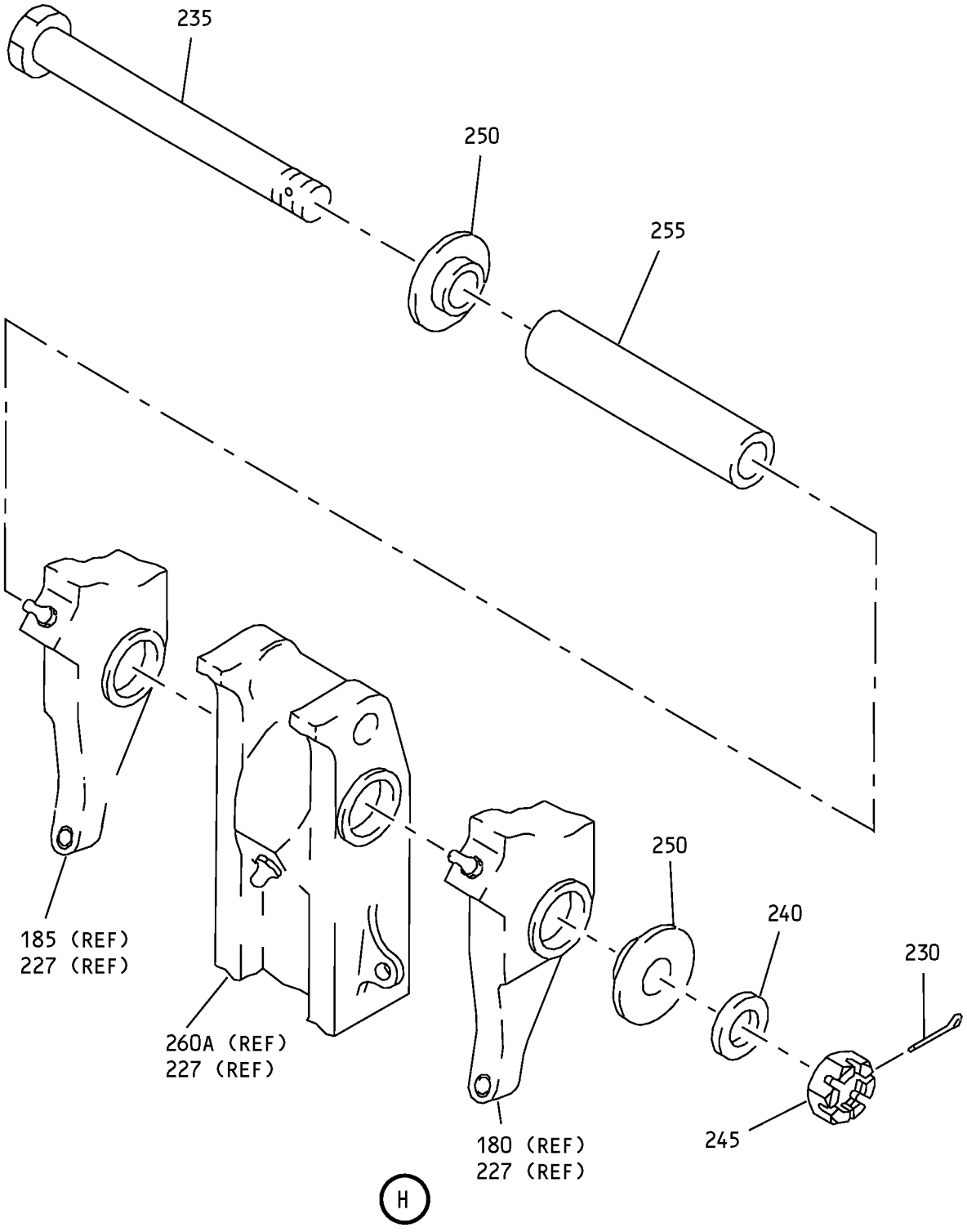
F

Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 6 of 16)

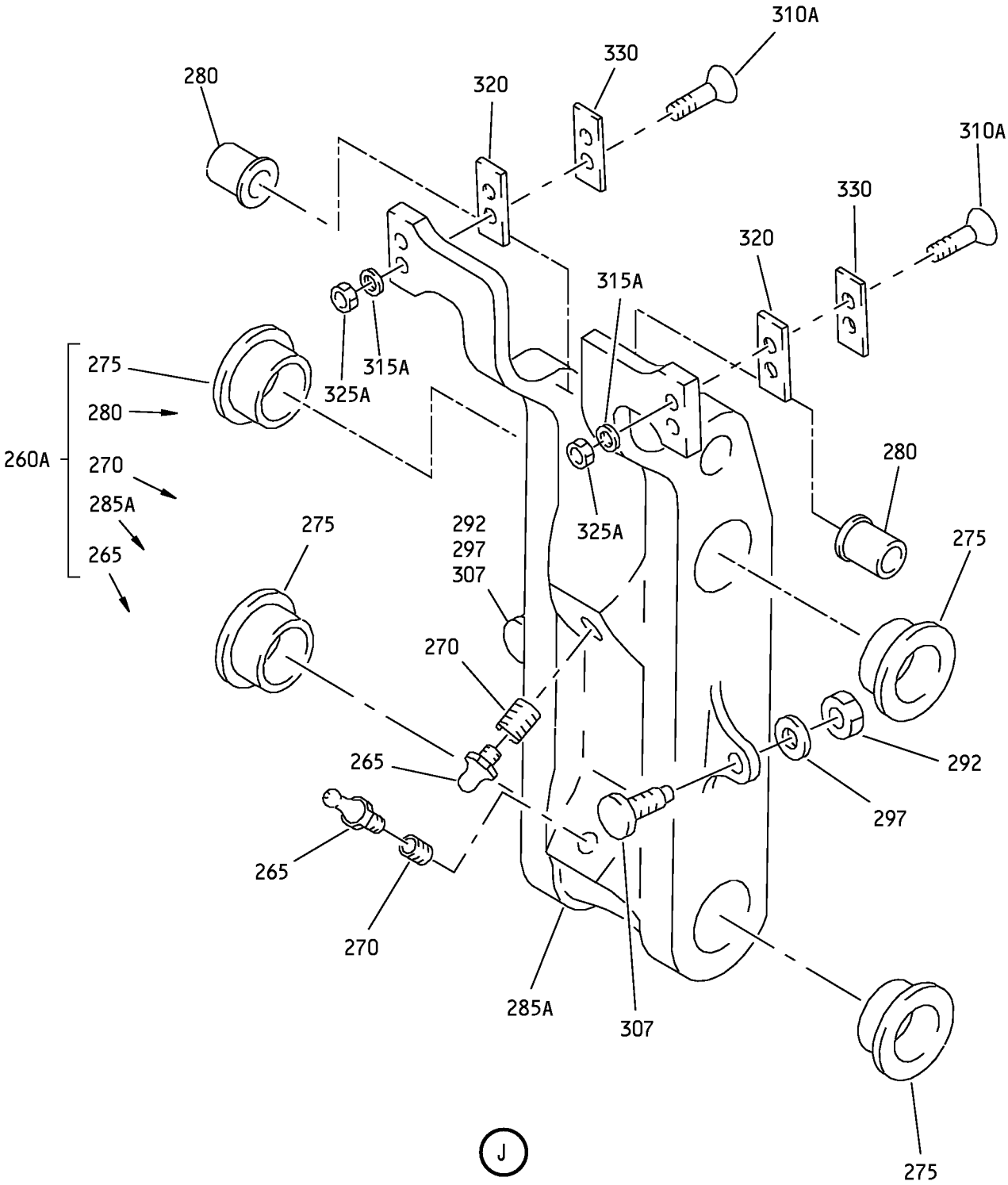


G

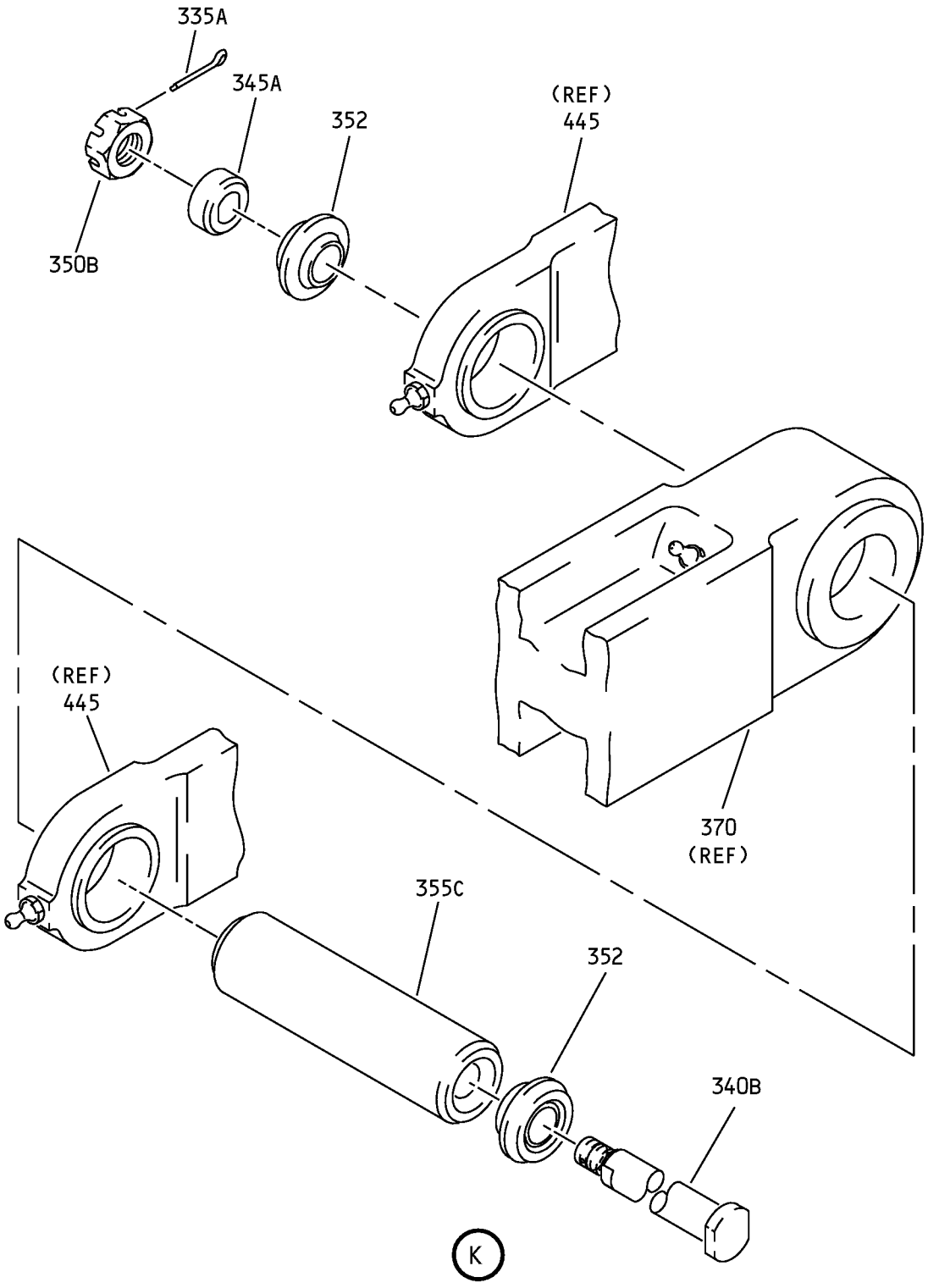
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 7 of 16)



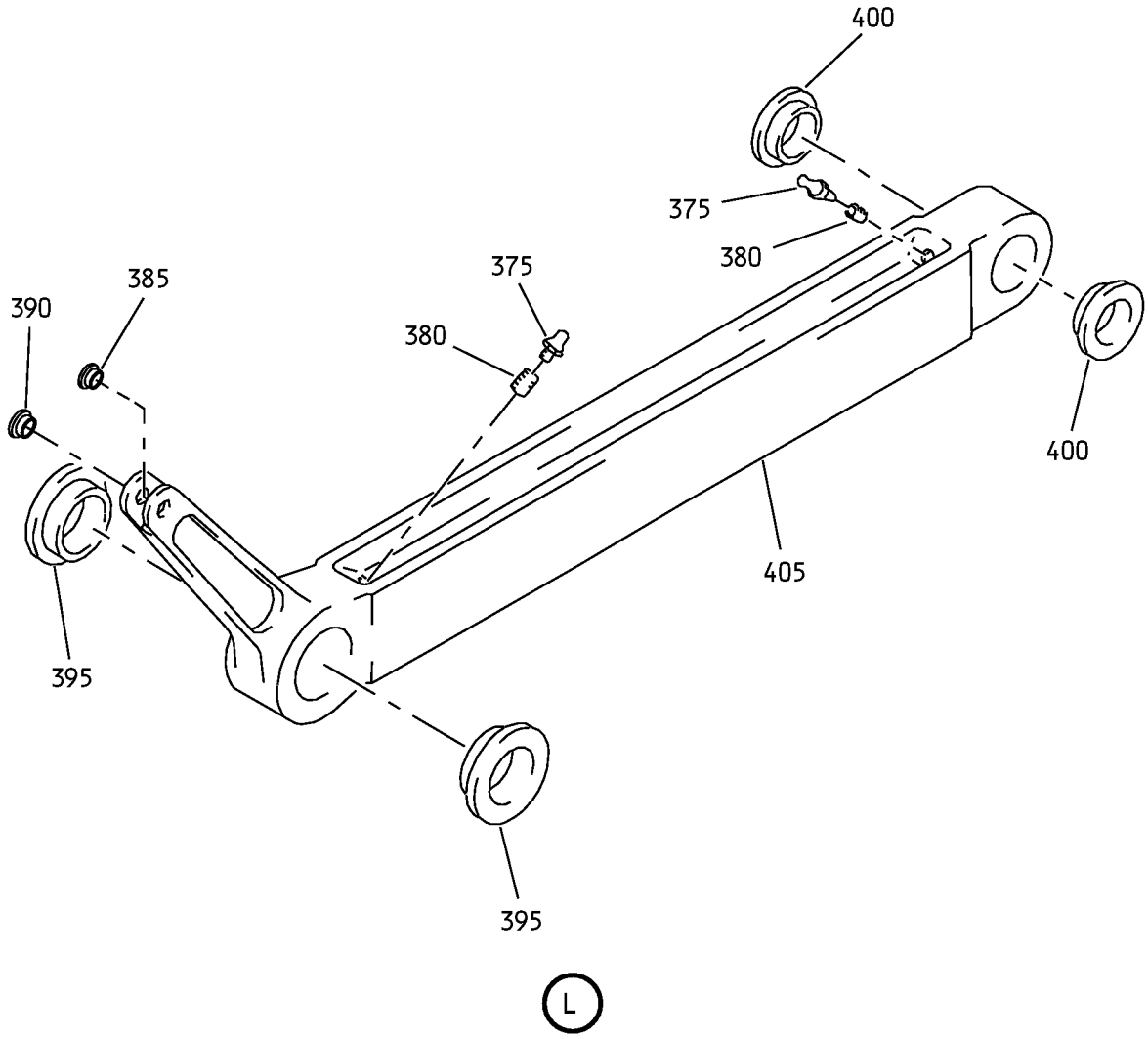
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 8 of 16)



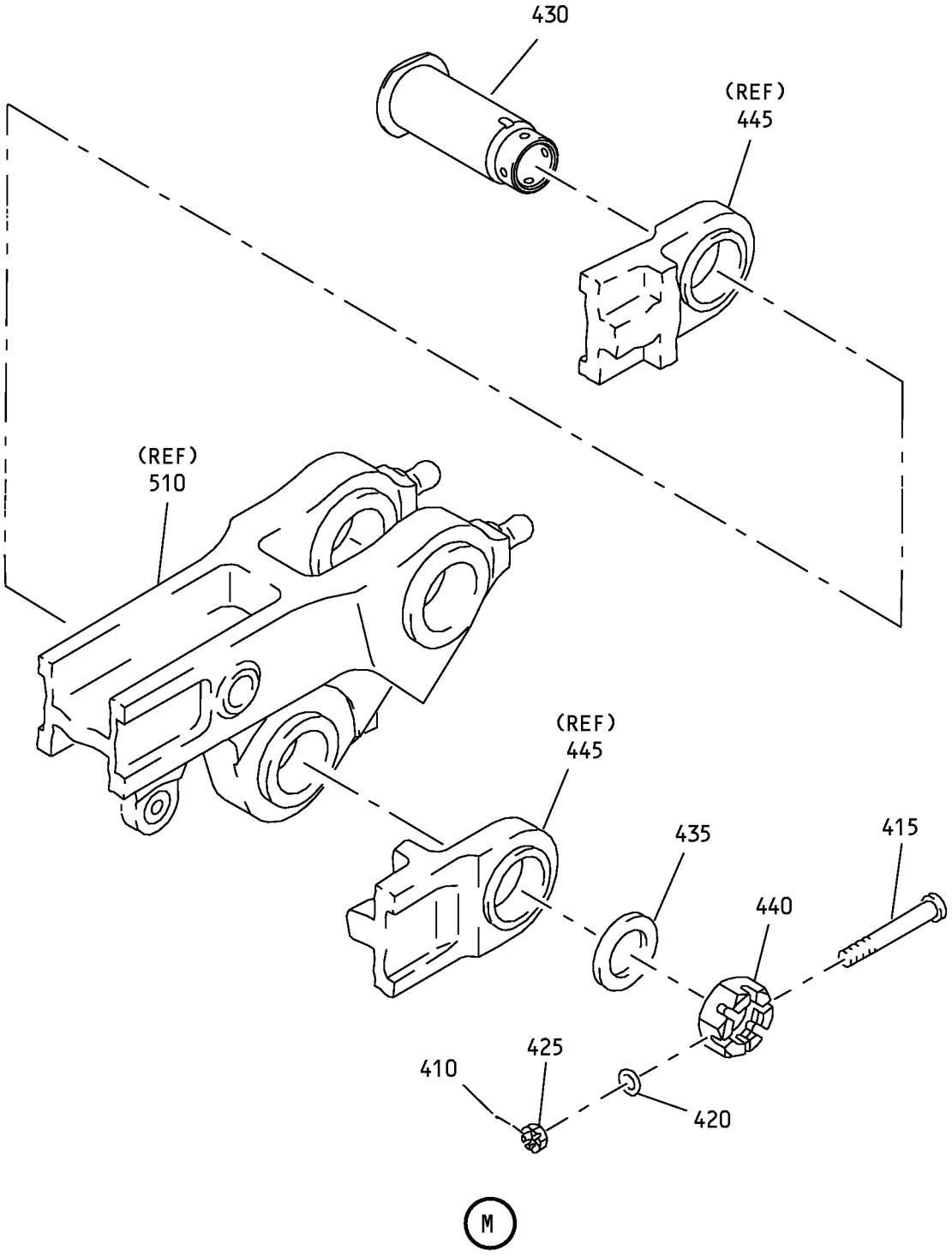
Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 9 of 16)



Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 10 of 16)

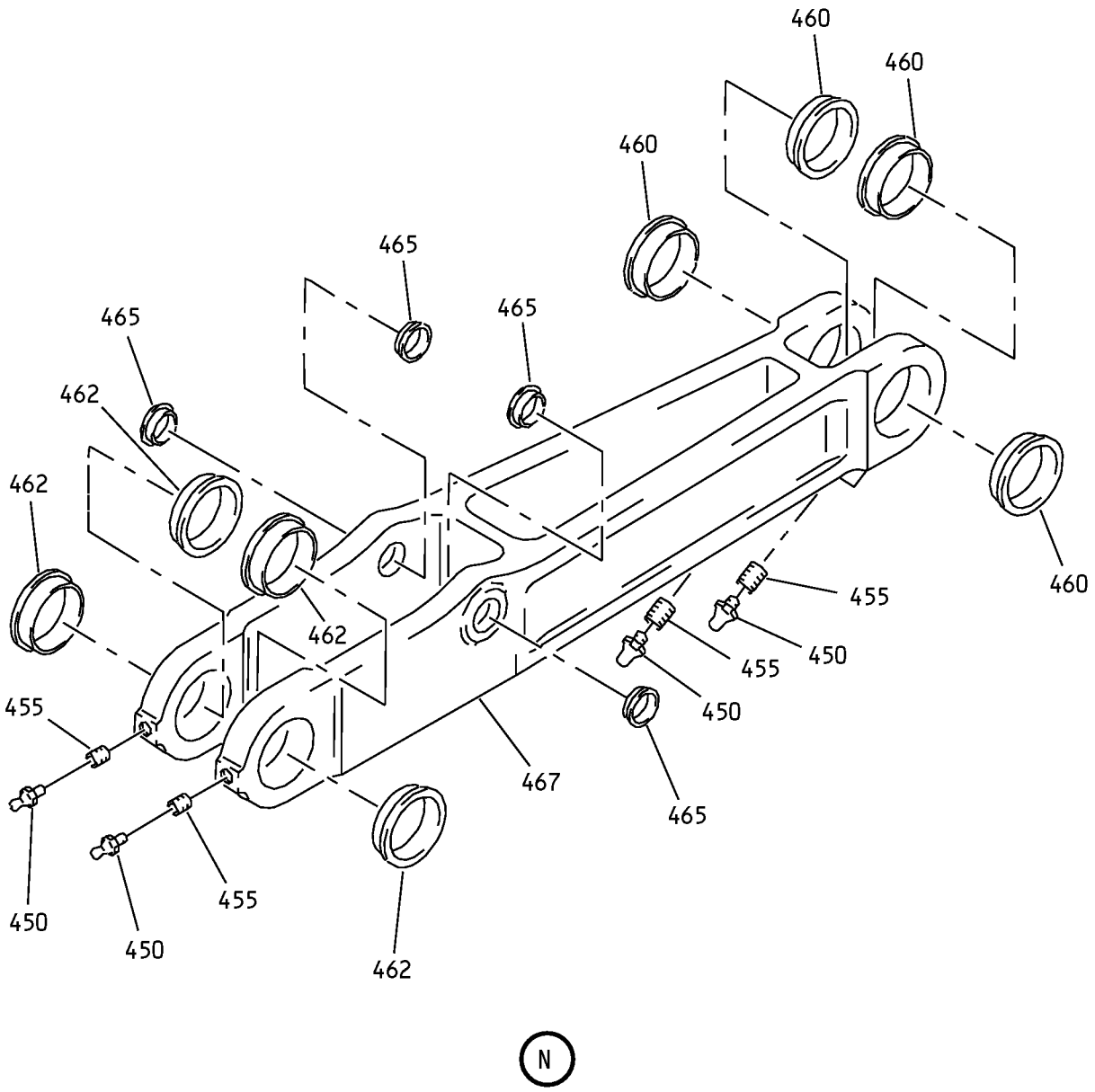


Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 11 of 16)

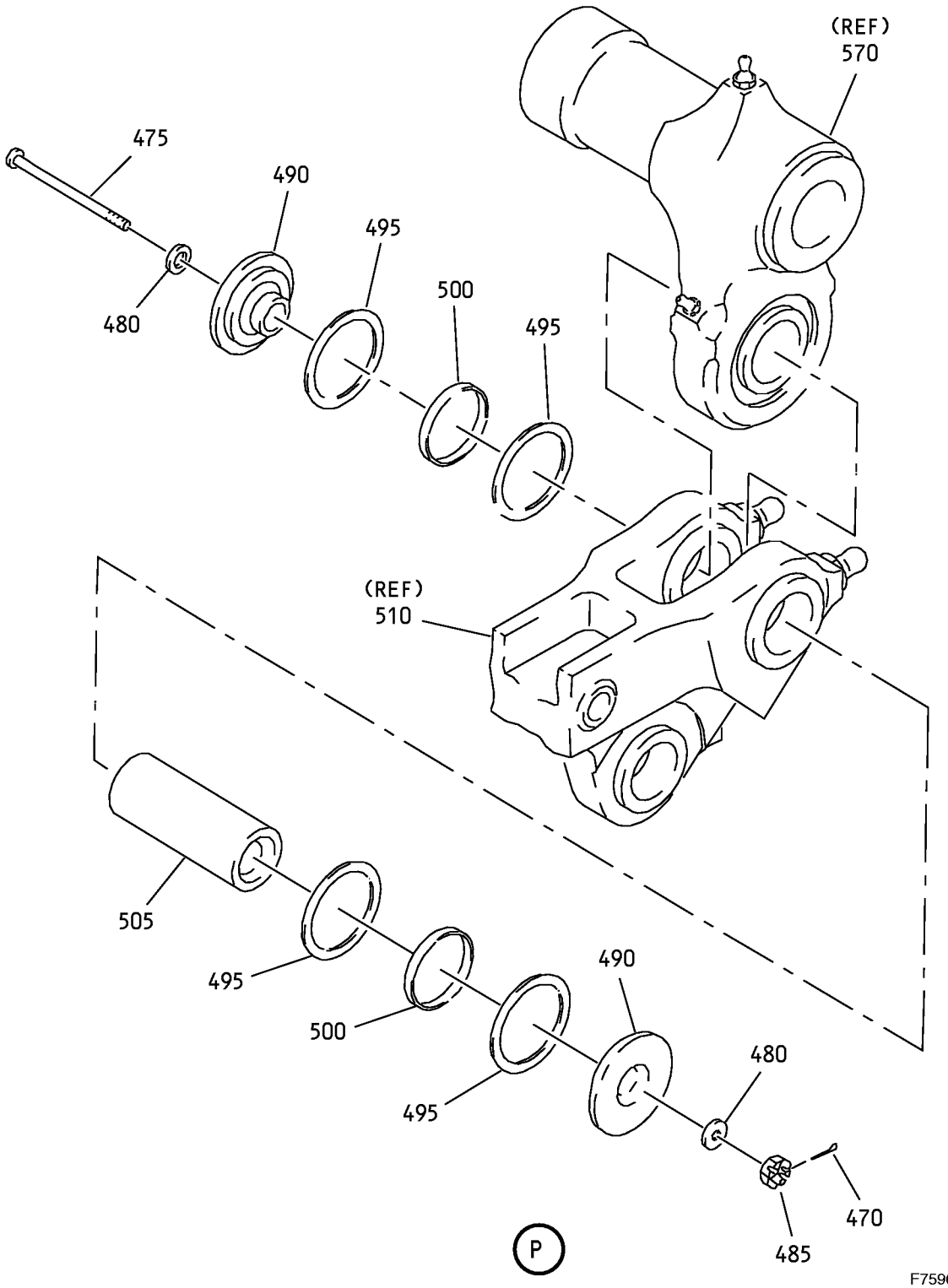


F75952 S0004997203_V2

Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 12 of 16)

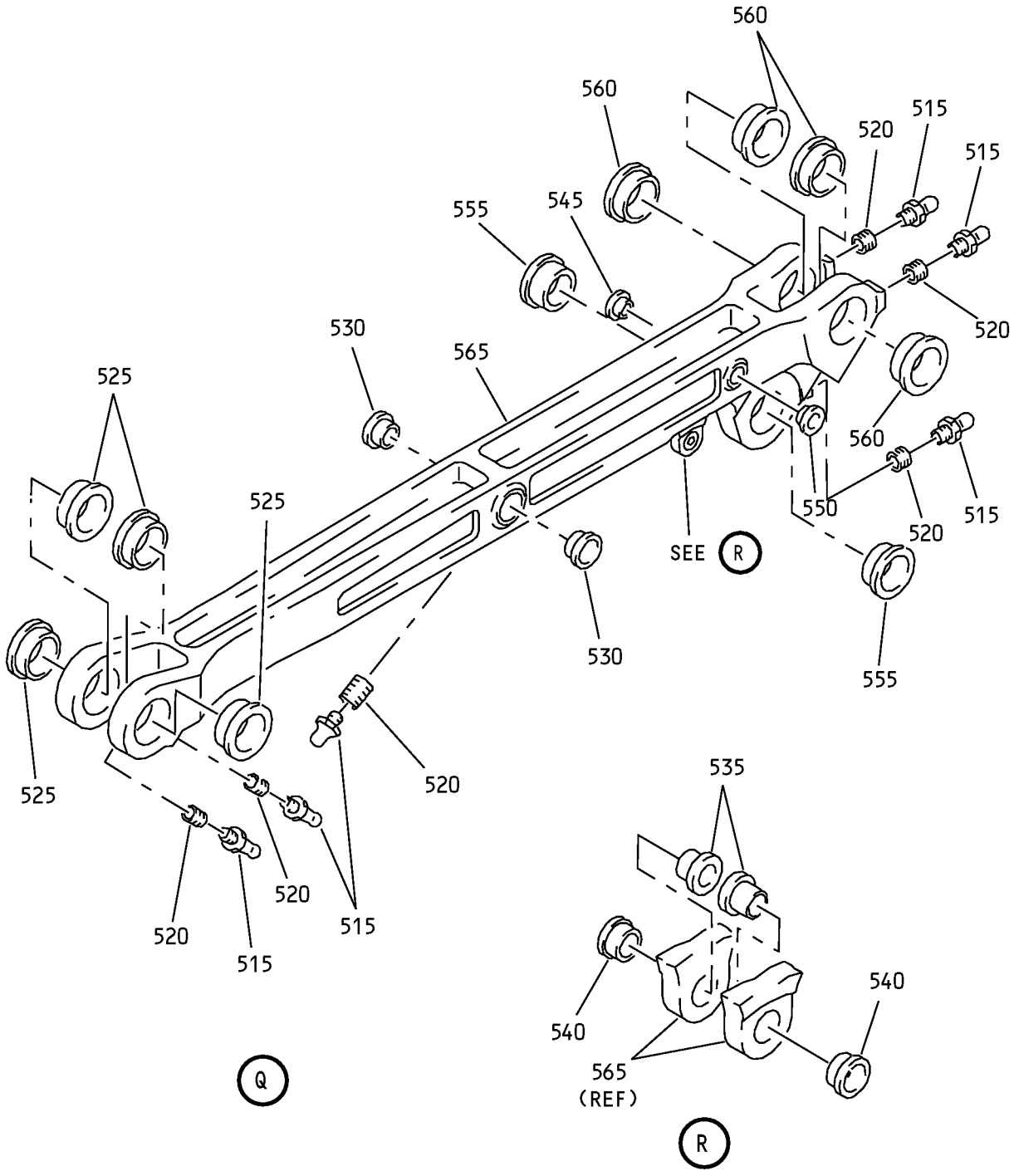


Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 13 of 16)

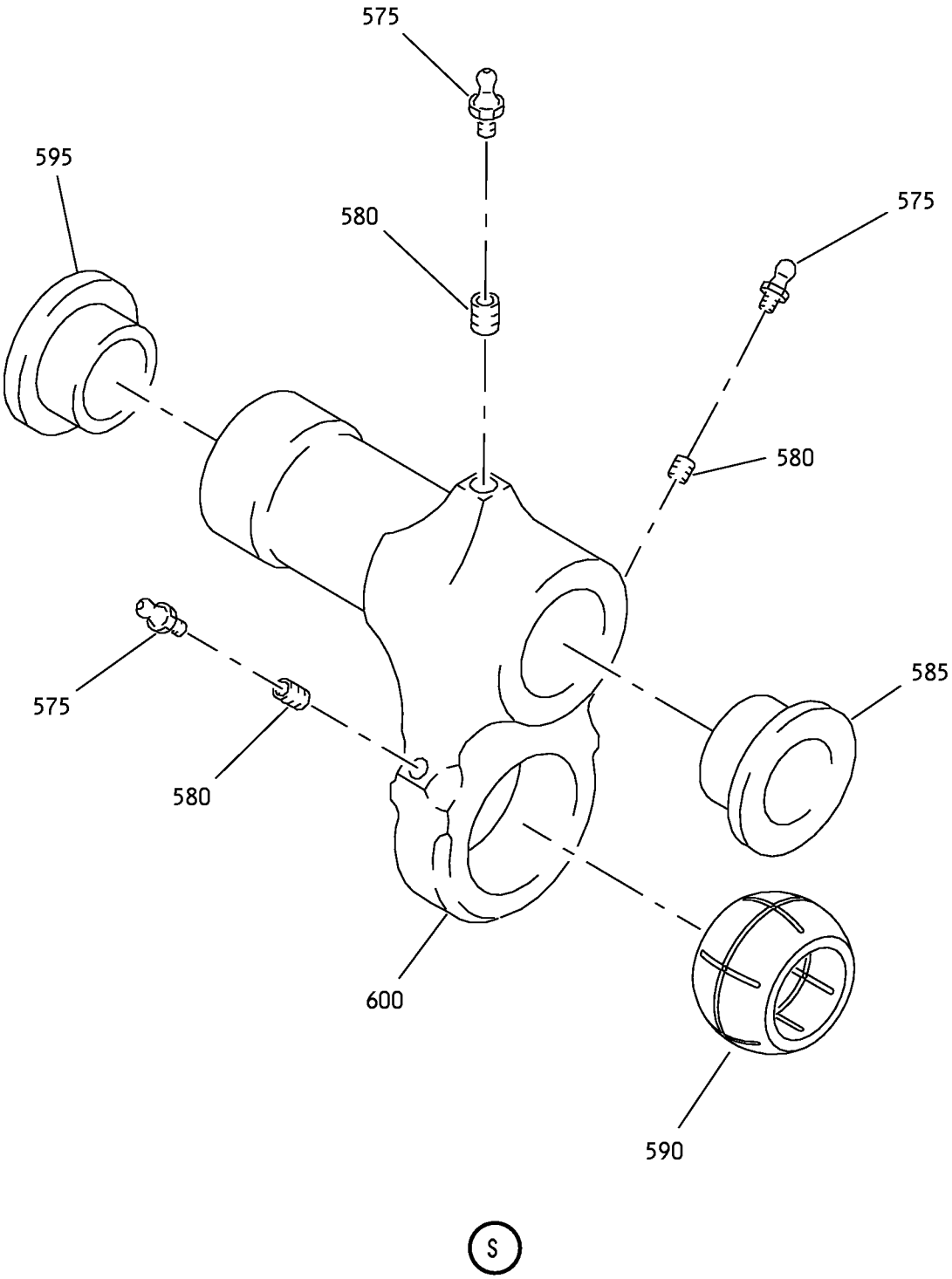


F75966 S0004997205_V2

Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 14 of 16)



Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 15 of 16)



F76024 S0004997207_V2

Main Landing Gear Side Strut Assembly
IPL Figure 1 (Sheet 16 of 16)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	161A2100-1		DELETED		
–1B	161A2100-3		DELETED		
–1C	161A2100-5		COMPONENT INSTL-SIDE STRUT, MLG	A	RF
–1D	161A2100-7		COMPONENT INSTL-SIDE STRUT, MLG	C	RF
–1E	161A2100-9		COMPONENT INSTL-SIDE STRUT, MLG	E	RF
–1F	M0DREF282848		COMPONENT INSTL-SIDE STRUT MLG (161A2100-11REVA)	G	RF
–1G	M0DREF259276		COMPONENT INSTL-SIDE STRUT, MLG (161A2100-13REVA)	J	RF
–1H	M0DREF355841		COMPONENT INSTL-SIDE STRUT, MLG (161A2100-15REVA)	L	RF
–5	161A2100-2		DELETED		
–5A	161A2100-4		DELETED		
–5B	161A2100-6		COMPONENT INSTL-SIDE STRUT, MLG	B	RF
–5C	161A2100-8		COMPONENT INSTL-SIDE STRUT MLG	D	RF
–5D	161A2100-10		COMPONENT INSTL-SIDE STRUT, MLG	F	RF
–5E	M0DREF282849		COMPONENT INSTL-SIDE STRUT, MLG (161A2100-12REVA)	H	RF
–5F	M0DREF259277		COMPONENT INSTL-SIDE STRUT, MLG (161A2100-14REVA)	K	RF
–5G	M0DREF355842		COMPONENT INSTL-SIDE STRUT, MLG (161A2100-16REVA)	M	RF
10	MS24665-155		. PIN-COTTER	A-F	4
–10A	BACP18BC02A08P		. PIN-COTTER	G-L	4
15	MS14144L5		. NUT	A-F	4
–15A	BACN11N5CD		. NUT	G-M	4
20	161A2128-1		. WASHER-SLOTTED		4
22	161A2302-1		. SPACER		1
23	161A2302-2		. SPACER		2
25	161A2325-1		. PIN-SPR ASSY (LIFE LIMITED PART)	A-K	1
–25A	161A2325-2		. PIN-SPR ASSY	L, M	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
30	161A2326-1		. PIN (LIFE LIMITED PART)		1
35	161A2300-1		. SPRING ASSY		2
40	161A2305-1		. . BUSHING		4
45	161A2301-1		. . FITTING-END		2
50	161A2300-2		. . SPRING		1
55	BACB30NR4K3		. BOLT		4
60	NAS1149D0432J		. WASHER		4
65	161A2110-1		. BRACKET ASSY		1
70	161A2110-2		. BRACKET ASSY (OPT ITEM 70A)		1
–70A	161A2110-5		. BRACKET ASSY (OPT ITEM 70)		1
–75	BACR15BB6D		DELETED		
75A	BACR15BB6D6C		. . RIVET		2
80	161A2117-1		. . CLIP (USED ON ITEM 65)		1
–80A	161A2117-2		. . CLIP (USED ON ITEM 70, 70A)		1
–85	BACR15BA3AD		DELETED		
85A	BACR15BA3AD6C		. . RIVET (USED ON ITEM 65, 70)		4
90	BRF200C3D		. . NUTPLATE (V52828) (SPEC BACN10JR3CFD) (OPT K51602-3BAC (V15653)) (OPT NS202476-02 (V80539)) (OPT 102F9201-3 (V72962)) (OPT T8092C1032CD (V11815)) (USED ON ITEM 65, 70)		2
95	161A2110-3		. . BRACKET (USED ON ITEM 65)		1
100	161A2110-4		. . BRACKET (USED ON ITEM 70)		1
–100A	161A2110-6		. . BRACKET (USED ON ITEM 70A)		1
105	161A2118-1		. SPACER ASSY		2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
110	BACR15BA3AD		. . RIVET (SIZE DETERMINED ON INST)		4
–115	BACN10KB4CFDA		DELETED		
115A	BRF100C4D		. . NUTPLATE (V52828) (SPEC BACN10KB4CFD) (OPT NS202478-048 (V80539)) (OPT 102F9207P4 (V72962)) (OPT F51604-4 (V15653))		2
120	161A2118-2		. . SPACER		1
125	MS24665-374		. PIN-COTTER	A-F	1
–125A	BACP18BC04A12P		. PIN-COTTER	G-M	1
130	161A2112-1		. PIN ASSY	A-F, J, K	1
–130A	161A2112-3		. PIN ASSY-DOWNLOCK, LWR	G, H	1
–130B	161A2112-5		. PIN ASSY-DOWNLOCK, LWR	L, M	1
135	MS15004-1		. . FITTING-LUBE	A-F, J, K	1
–135A	AS15004-1		. . FITTING-LUBE	G, H, L, M	1
140	161W7010-1		. . INSERT-LUBE		1
145	161A2112-2		. . PIN (LIFE LIMITED PART)	A-F, J, K	1
–145A	161A2112-4		. . PIN (LIFE LIMITED PART)	G, H	1
–145B	161A2112-6		. . PIN	L, M	1
150	161A2126-6		. WASHER-TANG		1
–155	MS14144L12		DELETED		
155A	MS14145L12		. NUT	A-F	1
–155B	BACN11N112CD		. NUT	G-K	1
160	MS24665-374		. PIN-COTTER	A-F	1
–160A	BACP18BC04A12P		. PIN-COTTER	G-M	1
165	161A2123-1		. PIN (LIFE LIMITED PART)	A-K	1
–165A	161A2123-2		. PIN	L, M	1
170	161A2126-4		. WASHER-TANG		1
175	MS14145L12		. NUT		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–175A	BACN11N112CD		. NUT	G-M	1
180	161A2107-1		. LINK ASSY-LOCK	A-H	1
–180A	161A2107-9		. LINK ASSY-LOCK	L, M	1
185	161A2107-2		. LINK ASSY-LOCK	A-H	1
–185A	161A2107-10		. LINK ASSY-LOCK	L, M	1
190	MS15004-1		. . FITTING-LUBE	A-H	2
–190A	AS15004-1		. . FITTING-LUBE	L, M	2
195	161W7010-1		. . INSERT-LUBE	A-H, L, M	2
200	161A2109-6		. . BUSHING	A-H, L, M	4
205	161A2109-10		. . BUSHING	A-H, L, M	1
210	KJB165000B07050		. . BUSHING (V50632)	A-H	1
–210A	BCREF144701		. . BUSHING (V50632) (KJB165000B07-050)	L, M	1
215	161A2109-9		. . BUSHING	A-H, L, M	1
220	161A2107-3		. . LINK (LIFE LIMITED PART) (USED ITEM 180)	A-H	1
–220A	161A2107-11		. . LINK (USED ITEM 180A)	L, M	1
225	161A2107-4		. . LINK (LIFE LIMITED PART) (USED ITEM 185)	A-H	1
–225A	161A2107-12		. . LINK (USED ITEM 185A)	L, M	1
227	161A2120-1		. LINK ASSY-LOCK (FOR DETAILS SEE FIG. 2)	J, K	1
230	MS24665-153		. PIN-COTTER	A-F	1
–230A	BACP18BC02A06P		. PIN-COTTER	G, H, L, M	1
235	NAS6704D82		. BOLT	A-F	1
–235A	BACB30LM4D82		. BOLT	G, H, L, M	1
240	NAS1149E0432P		. WASHER	A-H, L, M	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
245	MS14144L4		. NUT	A-F	1
–245A	PHCR54CDBACN		. NUT (VF0224) (SPEC BACN11N4CD)	G, H, L, M	1
250	161A2113-1		. CAP-END	A-H, L, M	2
255	161A2124-1		. PIN (LIFE LIMITED PART)	A-H	1
–255A	161A2124-2		. PIN	L, M	1
–260	161A2105-1		DELETED		
260A	161A2105-3		. LINK ASSY-LWR	A-H	1
–260B	161A2105-7		. LINK ASSY-LWR	L, M	1
265	MS15004-1		. . FITTING-LUBE	A-H	2
–265A	AS15004-1		. . FITTING-LUBE	L, M	2
270	161W7010-1		. . INSERT-LUBE	A-H, L, M	2
275	161A2109-5		. . BUSHING	A-H, L, M	4
280	161A2109-11		. . BUSHING	A-H, L, M	2
–285	161A2105-2		DELETED		
285A	161A2105-4		. . LINK	A-H	1
–285B	161A2105-8		. . LINK	L, M	1
290	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A-H, L, M	2
292	BRH10C4D		. NUT (V52828) (SPEC BACN10JC4CD) (OPT T6C428JCD (V11815)) (OPT NS202486-048 (V80539)) (OPT 102LH9075-4W (V72962)) (OPT H51650-4BAC (V15653))	A-H, L, M	2
295	BACW10BP4APU		. WASHER	A-H, L, M	2
297	NAS1149E0416P		. WASHER	A-H, L, M	2
–300	BACS40U5L3A		DELETED		
300A	BACS40U5L3C		. SHIM	A-H, L, M	2
305	161A2114-1		. STOP	A-H, L, M	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
307	161A2114-2		. STOP	A-H, L, M	2
–310	NAS514P832-10P		DELETED		
310A	NAS514P1032-10P		. SCREW		4
–315	NAS1149DN816J		DELETED		
315A	NAS1149C0316R		. WASHER		4
320	161A2115-1		. SHIM		2
–325	MS21042L08		DELETED		
325A	MS21042L3		. NUT	A-F	4
–325B	PLH53CD		. NUT (V62554) (SPEC BACN10YR3CD) (OPT H52732-3CD (V15653))	G-M	4
330	161A2116-1		. TARGET		2
–335	MS24665-153		DELETED		
335A	BACP18BC04A06P		. PIN-COTTER (OPT ITEM 335B)	A-F	1
–335B	MS24665-368		. PIN-COTTER (OPT ITEM 335A)	A-F	1
–335C	BACP18BC04A06P		. PIN-COTTER	G-M	1
–340	NAS6704D34		DELETED		
–340A	BACB30LJ4-9		DELETED		
340B	161A2119-1		. BOLT-CROSS		1
–345	NAS1149E0432P		DELETED		
345A	161A2128-2		. WASHER		1
–350	MS14144L4		DELETED		
–350A	BACN10JC4CD		DELETED		
350B	BACN11N7CS		. NUT		1
352	161A2113-2		. CAP-END	A-F, J, K	2
–352A	161A2113-3		. CAP-END	G, H, L, M	2
–355	161A2111-1		DELETED		
–355A	161A2111-2		DELETED		
–355B	161A2111-3		DELETED		

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
355C	161A2111-4		. PIN-APEX (LIFE LIMITED PART)	A, B, E, F	1
–355D	161A2111-5		. PIN-APEX (LIFE LIMITED PART)	C, D, J, K	1
–355E	161A2111-6		. PIN-APEX (LIFE LIMITED PART)	G, H	1
–355F	161A2111-7		. PIN-APEX	L, M	1
–357	161A2113-2		DELETED		
–360	161A2126-2		DELETED		
–363	BACP18BC04A06H		DELETED		
–365	161A2125-2		DELETED		
370	161A2103-1		. STRUT ASSY-SIDE, LWR (OPT ITEM 370A)	E, F	1
–370A	161A2103-3		. STRUT ASSY-SIDE, LWR (OPT ITEM 370)	E, F	1
–370B	161A2103-5		. STRUT ASSY-SIDE, LWR	A, B	1
–370C	161A2103-7		. STRUT ASSY-SIDE, LWR	C, D	1
–370D	161A2103-9		. STRUT ASSY-SIDE, LWR	G, H	1
–370E	161A2103-11		. STRUT ASSY-SIDE, LWR	J, K	1
–370F	161A2103-13		. STRUT ASSY-SIDE, LWR	L, M	1
375	MS15004-1		. . FITTING-LUBE	A-K	2
–375A	AS15004-1		. . FITTING-LUBE	L, M	2
380	161W7010-1		. . INSERT-LUBE		2
385	161A2109-7		. . BUSHING		1
390	161A2109-8		. . BUSHING		1
395	161A2109-4		. . BUSHING		2
400	161A2109-3		. . BUSHING	A-F, J, K	2
–400A	161A2109-13		. . BUSHING	G, H, L, M	2
405	161A2103-2		. . STRUT (LIFE LIMITED PART) (USED ON ITEM 370)	E, F	1
–405A	161A2103-2		DELETED		

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–405B	161A2103-4		. . STRUT (LIFE LIMITED PART) (USED ON ITEM 370A)	E, F	1
–405C	161A2103-6		. . STRUT	A, B	1
–405D	161A2103-6		DELETED		
–405E	161A2103-8		. . STRUT	C, D	1
–405F	161A2103-10		. . STRUT	G, H	1
–405G	161A2103-12		. . STRUT	J, K	1
–405H	161A2103-14		. . STRUT	L, M	1
410	MS24665-153		. PIN-COTTER	A-F	1
–410A	BACP18BC02A06P		. PIN-COTTER	G-M	1
415	NAS6704D34		. BOLT	A-F	1
–415A	BACB30LM4D34		. BOLT	G-M	1
420	NAS1149E0432P		. WASHER		1
425	MS14144L4		. NUT	A-F	1
–425A	PHCR54CDBACN		. NUT (VF0224) (SPEC BACN11N4CD)	G-M	1
430	161A2122-1		. PIN (LIFE LIMITED PART)	A-K	1
–430A	161A2122-2		. PIN	L, M	1
435	161A2126-5		. WASHER-TANG		1
440	161A2125-3		. NUT		1
445	161A2101-1		. STRUT ASSY-SIDE, UPR	A-F	1
–445A	161A2101-3		. STRUT ASSY-SIDE, UPR	G, H	1
–445B	161A2101-5		. STRUT ASSY-SIDE, UPR	J, K	1
–445C	161A2101-7		. STRUT ASSY-SIDE, UPR	L, M	1
450	MS15004-1		. . FITTING-LUBE	A-K	4
–450A	AS15004-1		. . FITTING-LUBE	L, M	4
455	161W7010-1		. . INSERT-LUBE		4
460	161A2109-1		. . BUSHING		4
462	161A2109-1		. . BUSHING	A-F, J, K	4
–462A	161A2109-12		. . BUSHING	G, H	4

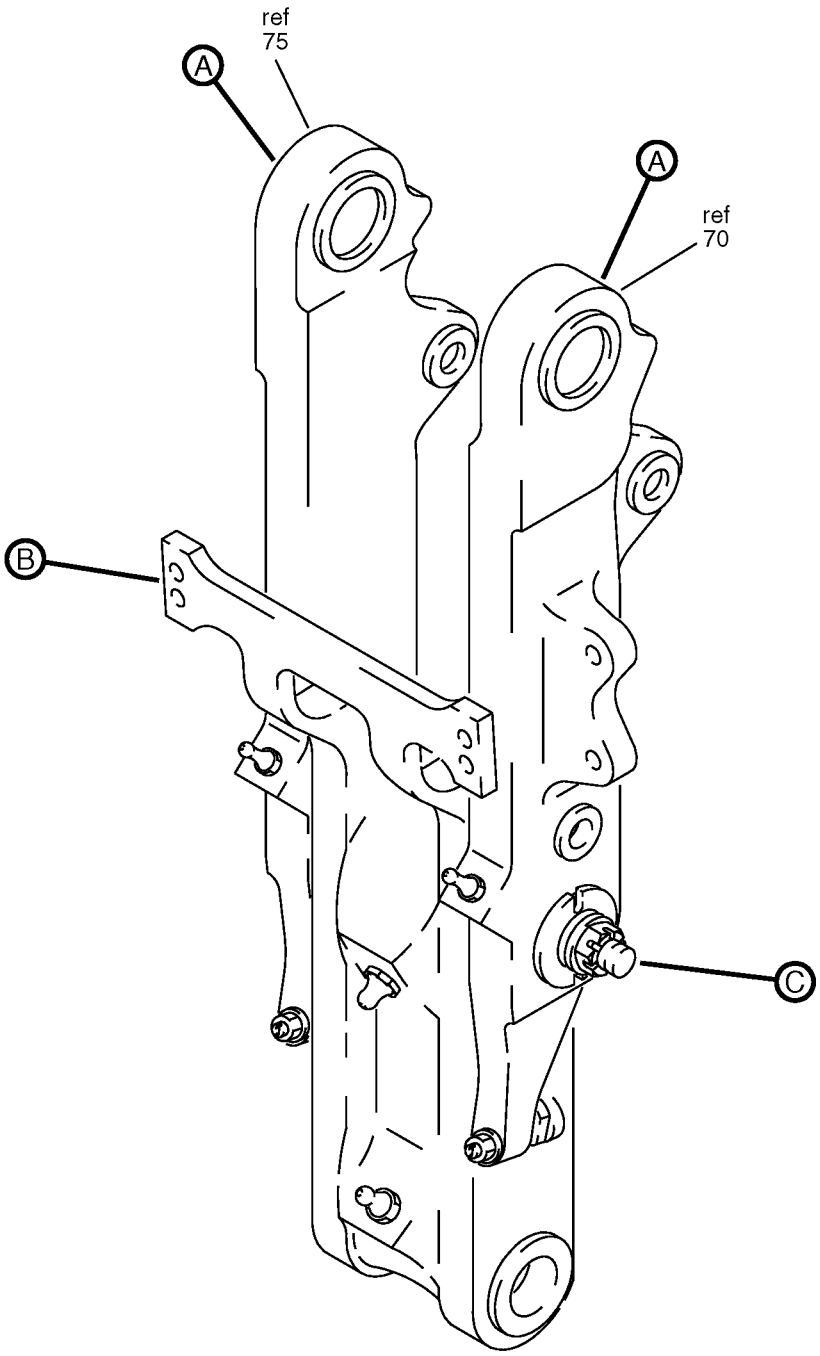
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
465	161A2109-2		. . BUSHING		4
467	161A2101-2		. . STRUT (LIFE LIMITED PART)	A-F	1
–467A	161A2101-4		. . STRUT (LIFE LIMITED PART)	G, H	1
–467B	161A2101-6		. . STRUT (LIFE LIMITED PART)	J, K	1
–467C	161A2101-8		. . STRUT	L, M	1
470	MS24665-153		. PIN-COTTER	A-F	1
–470A	BACP18C02A06P		. PIN-COTTER	G-M	1
475	NAS6704D73		. BOLT	A-F	1
–475A	BACB30LM4D73		. BOLT	G-M	1
480	NAS1149D0432J		. WASHER		2
485	MS14144L4		. NUT	A-F	1
–485A	PHCR54CDBACN		. NUT (VF0224) (SPEC BACN11N4CD)	G-M	1
490	161A4303-1		. CAP-END		2
495	161A4305-1		. SPACER		4
500	161A4305-2		. SPACER		2
505	161A4302-1		. PIN (LIFE LIMITED PART)	A-K	1
–505A	161A4302-2		. PIN	L, M	1
510	161A4100-1		. LINK ASSY-REACTION	A-K	1
–510A	161A4100-3		. LINK ASSY-REACTION	L, M	1
515	MS15004-1		. . FITTING-LUBE	A-K	6
–515A	AS15004-1		. . FITTING-LUBE	L, M	6
520	161W7010-1		. . INSERT-LUBE		6
525	161A4102-5		. . BUSHING		4
530	161A4102-4		. . BUSHING		2
535	BCREF12235		. . BUSHING (V50632) (KJB165000B05-039)		2
540	161A4102-8		. . BUSHING		2

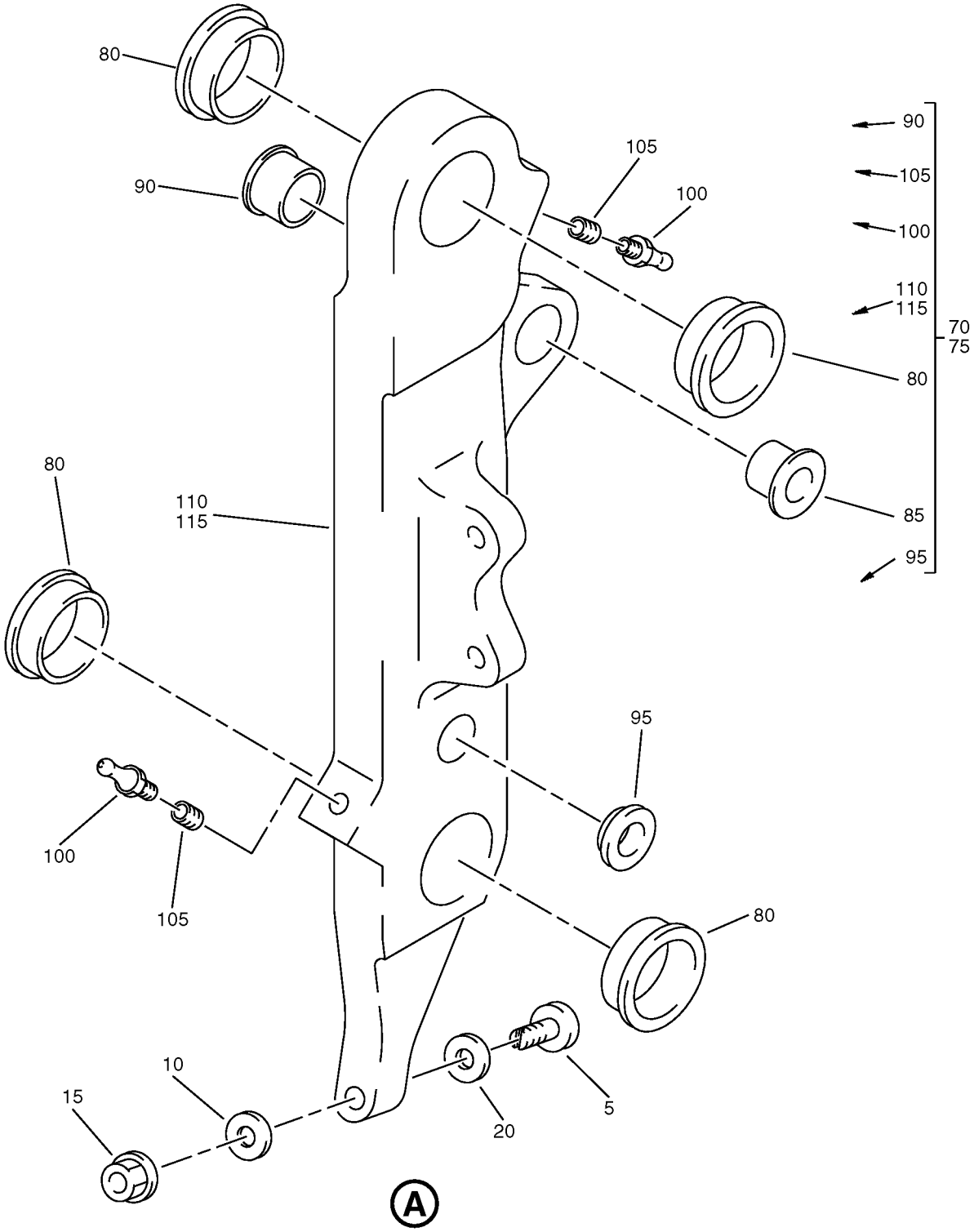
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
545	161A4103-1		. . BUSHING-SWAGED		1
550	161A4103-2		. . BUSHING-SWAGED		1
555	161A4102-2		. . BUSHING		2
560	161A4102-1		. . BUSHING		4
565	161A4100-2		. . LINK (LIFE LIMITED PART)	A-K	1
–565A	161A4100-4		. . LINK	L, M	1
570	161A4300-1		. LINK ASSY-HANGER	A-K	1
–570A	161A4300-3		. LINK ASSY-HANGER	L, M	1
575	MS15004-1		. . FITTING-LUBE	A-K	3
–575A	AS15004-1		. . FITTING-LUBE	L, M	3
580	161W7010-1		. . INSERT-LUBE		3
585	161A4102-7		. . BUSHING		1
590	161A4301-1		. . BALL ASSY		1
595	161A4102-6		. . BUSHING		1
600	161A4300-2		. . LINK (LIFE LIMITED PART)	A-K	1
–600A	161A4300-4		. . LINK	L, M	1

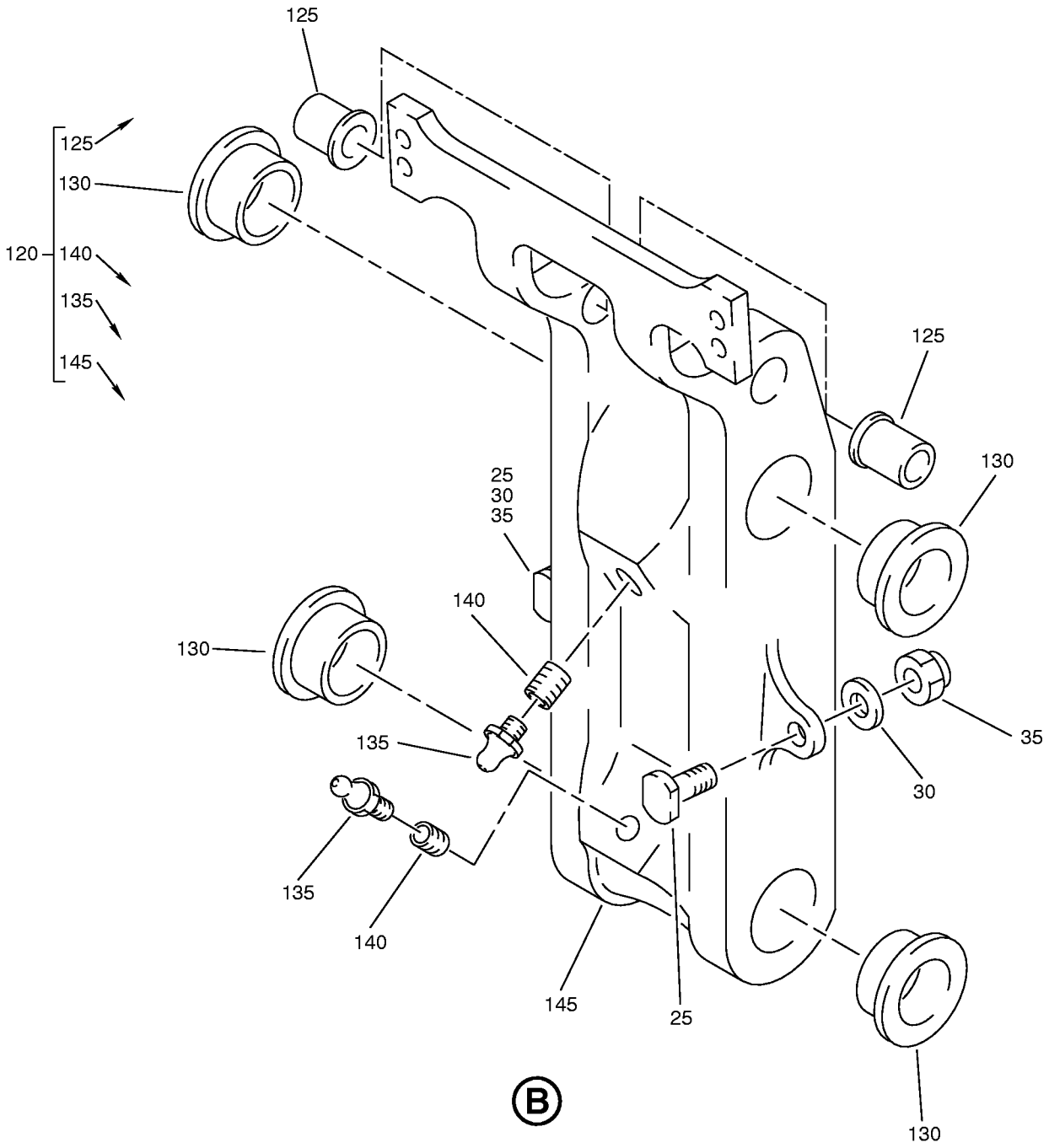
–Item not Illustrated



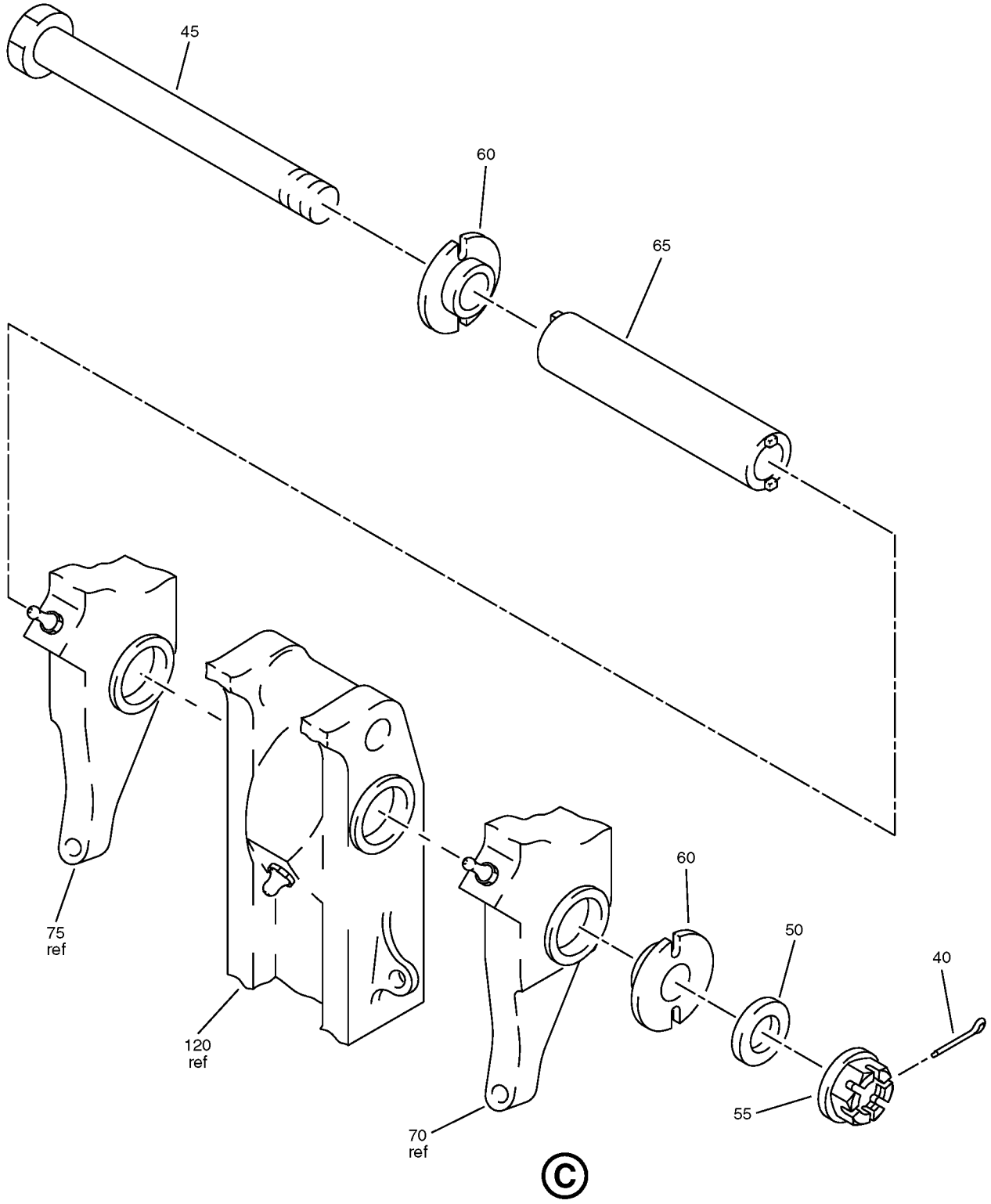
Lock Link Assembly
IPL Figure 2 (Sheet 1 of 4)



Lock Link Assembly
IPL Figure 2 (Sheet 2 of 4)



Lock Link Assembly
IPL Figure 2 (Sheet 3 of 4)



Lock Link Assembly
IPL Figure 2 (Sheet 4 of 4)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–1A	161A2120-1		LINK ASSY-LOCK	J, K	RF
5	161A2114-1		. STOP	J, K	2
10	BACW10BP4APU		. WASHER	J, K	2
15	PLH54CD		. NUT (V62554) (SPEC BACN10YR4CD) (OPT H52732-4CD (V15653))	J, K	2
20	BACS40U5L3C		. SHIM	J, K	2
25	161A2114-2		. STOP	J, K	2
30	NAS1149E0416P		. WASHER	J, K	2
35	BRH10C4D		. NUT (V52828) (SPEC BACN10JC4CD) (OPT T6C428JCD (V11815)) (OPT NS202486-048 (V80539)) (OPT 102LH9075-4W (V72962)) (OPT H51650-4BAC (V15653))	J, K	2
40	BACP18BC02A06P		. PIN-COTTER	J, K	1
45	BACB30LM4D82		. BOLT	J, K	1
50	NAS1149E0432P		. WASHER	J, K	1
55	BACN11N4CD		. NUT	J, K	1
60	161A2113-1		. CAP-END	J, K	1
65	161A2124-1		. PIN	J, K	1
70	161A2107-5		. LINK ASSY	J, K	1
75	161A2107-6		. LINK ASSY	J, K	1
80	161A2109-6		. . BUSHING	J, K	4
85	BCREF144701		. . BUSHING (V50632) (KJB165000B07-050)	J, K	1
90	161A2109-9		. . BUSHING	J, K	1
95	161A2109-10		. . BUSHING	J, K	1
100	AS15004-1		. . FITTING (OPT ITEM 100A)	J, K	2
–100A	MS15004-1		. . FITTING (OPT ITEM 100)	J, K	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
105	161W7010-1		. . INSERT-THREADED	J, K	2
110	161A2107-7		. . LINK (USED ON ITEM 70)	J, K	1
115	161A2107-8		. . LINK (USED ON ITEM 75)	J, K	1
120	161A2105-5		. LINK ASSY	J, K	1
125	161A2109-11		. . BUSHING	J, K	2
130	161A2109-5		. . BUSHING	J, K	4
135	AS15004-1		. . FITTING (OPT ITEM 135A)	J, K	2
–135A	MS15004-1		. . FITTING (OPT ITEM 135)	J, K	2
140	161W7010-1		. . INSERT-THREADED	J, K	2
145	161A2105-6		. . LINK	J, K	1

–Item not Illustrated