COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

ENGINE STRUT INSTALLATION COMPONENTS

PART NUMBER 311A2090–1, 311A2091–1, 311A2092–2, 311A2093–1, 311A2094–1, 311A2097–1, –2, –3, –4, 311A2098–2, –3, –4, –5, 311A2551–1, –2, 311A2552–1, –10, –2, –5, –6,

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311A2710–1, –6,
311A2730–1, –10, –12, –15, –7,
311A2740–3,
311A2741–2

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COMPONENT MAINTENANCE MANUAL

Revision No. 11
Jul 01/2009

To: All holders of ENGINE STRUT INSTALLATION COMPONENTS 54-50-02.

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.

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

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38025	DEC 01/96
		PRR 38524	NOV 01/06
		PRR 38570	NOV 01/06

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Temporary Revision		Inserted		Removed	
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INTRODUCTION

1. General

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

B. This manual is divided into different parts:

(1) Title Page

(2) Transmittal Letter

(3) Highlights

(4) List of Effective Pages

(5) Table of Contents

(6) Temporary Revision & Service Bulletin Record

(7) Record of Revisions

(8) Record of Temporary Revisions

(9) Introduction

(10) Procedures & IPL Sections

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

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

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

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

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

ENGINE STRUT INSTALLATION COMPONENTS - DESCRIPTION AND OPERATION

1. Description

A. The engine strut installation has components that attach the strut to the wing structure. The components include an upper link assembly, a diagonal brace assembly, side link assemblies and different fuse pins.

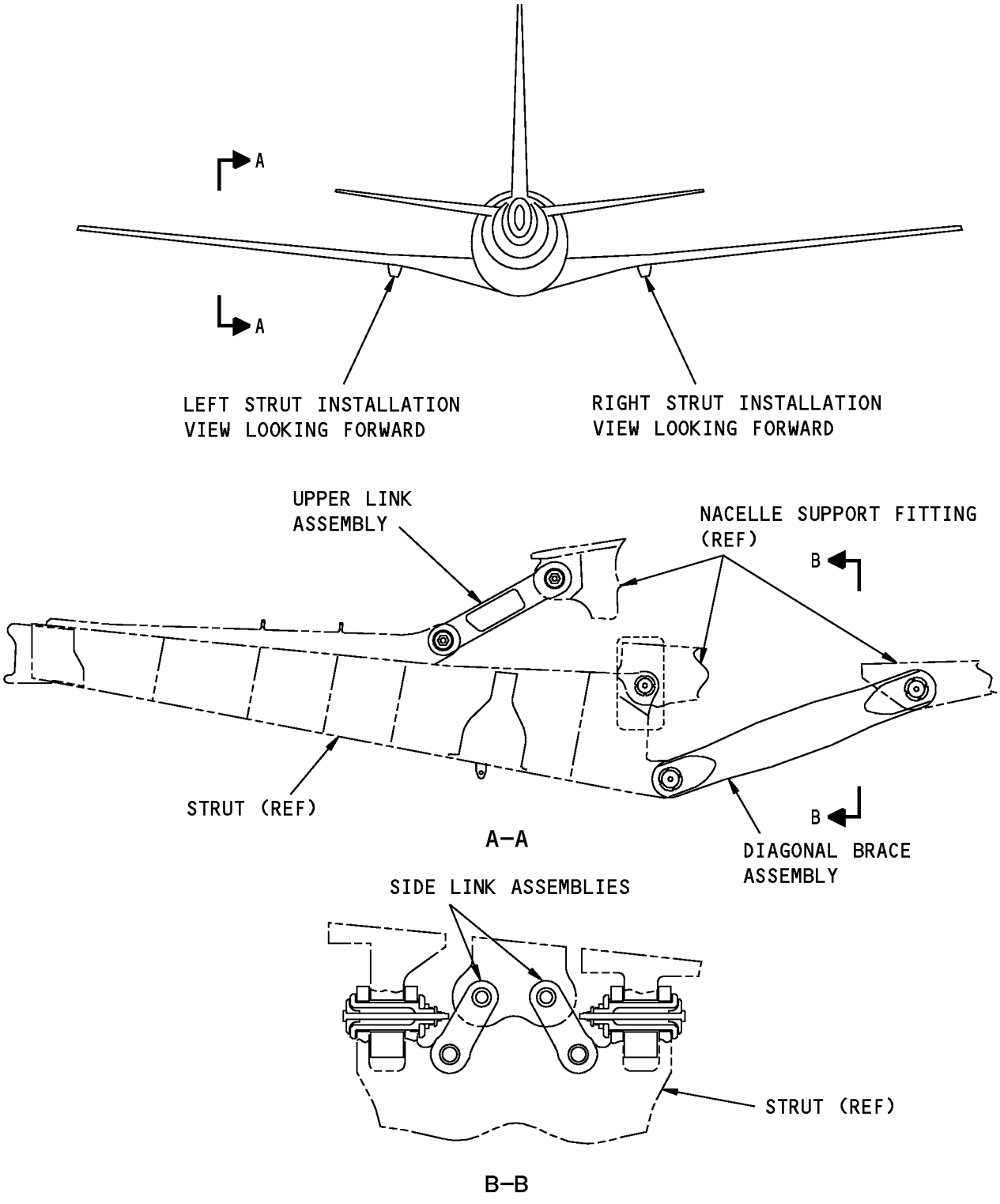
B. The thrust reverser hinge installation has components that attach each thrust reverser half to the strut assembly. The components include four hinge assemblies and two tie rod assemblies.

2. Leading Particulars (Approximate)

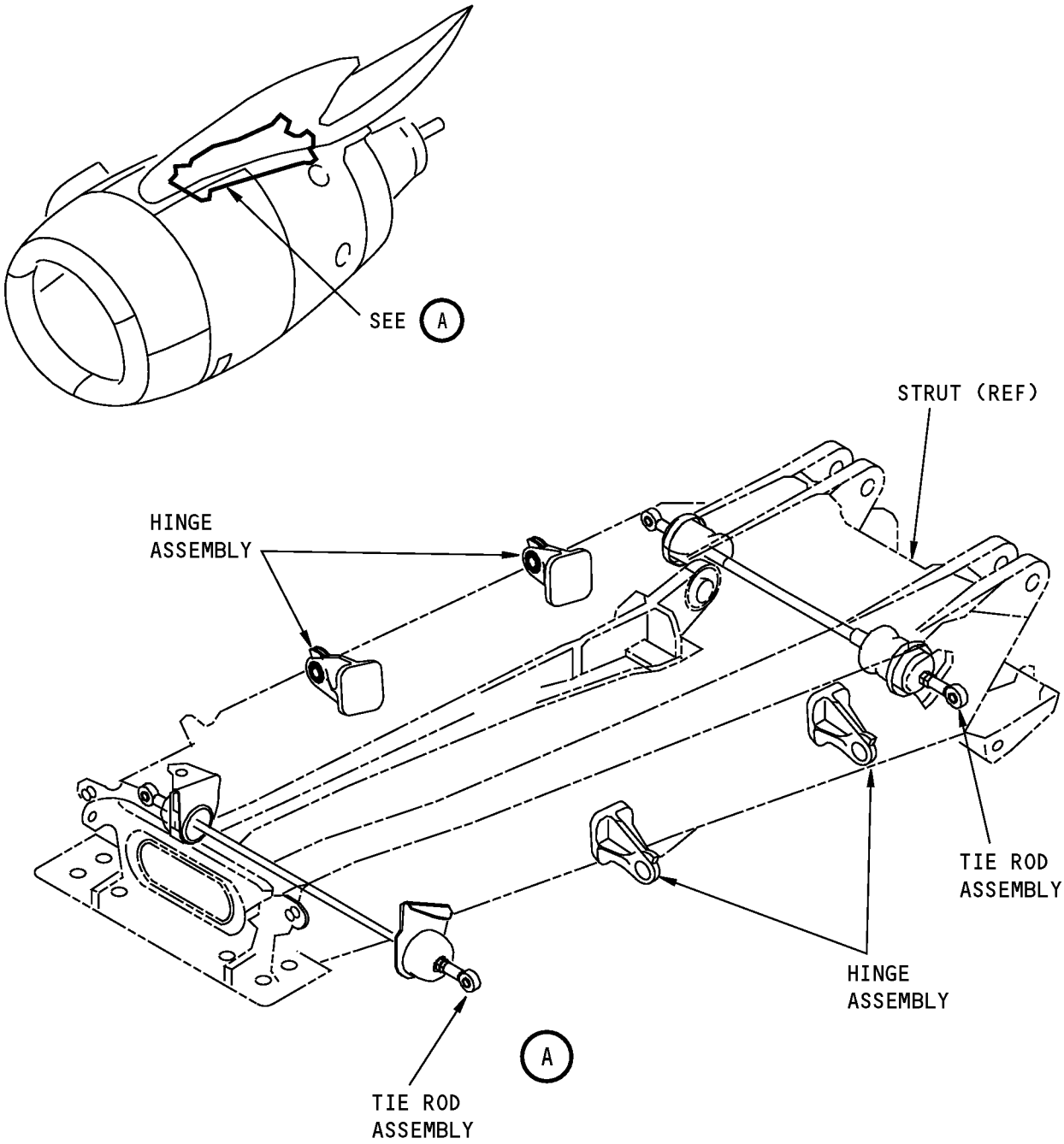
A. Refer to DESCRIPTION AND OPERATION, Table 1 for details:

Table 1: Leading particulars

Part Number	Length (inches)	Width (inches)	Height (inches)	Weight (pounds)
311A2710-1, -6	21.0	3.0	4.0	25
311A2730-1, -7	39.0	6.0	6.0	32
311A2730-10, -12	39.0	3.7	5.0	33
311A2730-15	39.0	3.7	5.0	36
311A2740-3	6.0	0.5	2.5	3



Engine Strut Installation Components
Figure 1



Trust Reverser Hinge Installation Components
Figure 2

(NOT APPLICABLE)

(NOT APPLICABLE)

(NOT APPLICABLE)

CHECK

1. General

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

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

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

D. Refer to IPL Figure 1 thru IPL Figure 12 for item numbers.

2. Check

A. References

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

B. Procedure

(1) Use standard industry procedures to do a visual check of all the parts for defects. Do the penetrant or magnetic particle check if the visual check shows possible damage or if you suspect possible damage on the parts listed below:

(a) Do a magnetic particle check, class A, (SOPM 20-20-01) of these parts:

1) Fuse pin, retention/shoulder bolt (IPL Figure 1; 1A, 5, 10, 15, 20, 30A, 30C)
2) Link (IPL Figure 2; 20)
3) Link (IPL Figure 6; 20)

(b) Do a magnetic particle check, class B, (SOPM 20-20-01) of these parts:

1) Bushing (IPL Figure 3; 10, 20)
2) Bushing (IPL Figure 4; 10, 25)
3) Bushing (IPL Figure 13; 10, 15)

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

1) Shoulder Bolt (IPL Figure 1; 30, 30B)
2) Bushing (IPL Figure 2; 5, 10, 15)
3) Bushing (IPL Figure 3; 5, 15)
4) Brace (IPL Figure 3; 25)
5) Brace (IPL Figure 13; 145)
6) Bushing (IPL Figure 4; 5, 20)
7) Brace (IPL Figure 4; 30)
8) Link (IPL Figure 5; 15A)
9) Bushing (IPL Figure 6; 5, 10, 15)
10) Bushing (IPL Figure 13; 5, 20)
11) Tie Rod (IPL Figure 7; 45)
12) Fitting (IPL Figure 8; 15, 20)

13) Fitting (IPL Figure 9; 25, 30)
14) Fitting (IPL Figure 10; 15, 20)
15) Fitting (IPL Figure 11; 25, 25A, 30, 30A)
16) Brace (IPL Figure 12; 25, 25A)
17) Bracket Assy (IPL Figure 13; 85, 130)

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
311A2710	LINK ASSEMBLY	1-1, 1-2
311A2730-1, -10, -12, -15	DIAGONAL BRACE ASSEMBLY	2-1, 2-2
311A2730-7	DIAGONAL BRACE ASSEMBLY	3-1, 3-2, 3-3
311A2740	SIDE LINK ASSEMBLY	4-1, 4-2
311A2090	FUSE PIN	5-1
311A2091	FUSE PIN	5-1
311A2092	FUSE PIN	5-1
311A2093	FUSE PIN	5-1
311A2094	FUSE PIN	5-1
311A2097	RETENTION BOLT	6-1
311A2098	SHOULDER BOLT	7-1
311A2551	TIE ROD ASSEMBLY	8-1, 8-2
311A2552	HINGE ASSEMBLY	9-1, 9-2
311A2553	HINGE ASSEMBLY	10-1, 10-2

2. Dimensioning Symbols

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

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

EXAMPLES

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

True Position Dimensioning Symbols
Figure 601

LINK ASSEMBLY - REPAIR 1-1

311A2710–1, –6

1. General

A. This procedure has the data necessary to repair and refinish the link assembly (1A).

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

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

D. Refer to IPL Figure 2 and IPL Figure 6 for item numbers.

2. Bushing Replacement (5, IPL Figure 2 and IPL Figure 6)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-07	LUBRICATION
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For lubrication, refer to SOPM 20-50-07. For lubricants, refer to SOPM 20-60-03.

(1) Remove the bushing (5) from the link (20).

(2) Install the new bushing (5, IPL Figure 2, IPL Figure 6) with grease, D00015 using shrink-fit method as shown in SOPM 20-50-03. It is satisfactory to use the press fit method as shown in SOPM 20-50-03 to complete the installation of the bushing (5, IPL Figure 2, IPL Figure 6).

(3) Machine the inside diameter of the bushing (5, IPL Figure 2, IPL Figure 6) to the dimension shown in REPAIR 1-1, Figure 601.

(4) Machine the flange of the bushing (5, IPL Figure 2, IPL Figure 6) as necessary to get the dimension shown in REPAIR 1-1, Figure 601.

NOTE: The flanges of the bushing (5, IPL Figure 2, IPL Figure 6) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

3. Bushing Replacement (10, IPL Figure 2, IPL Figure 6)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-07	LUBRICATION
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For lubrication, refer to SOPM 20-50-07. For lubricants, refer to SOPM 20-60-03.

(1) Remove the bushing (10, IPL Figure 2, IPL Figure 6) with the bushing (5, IPL Figure 2, IPL Figure 6) from the link (20, IPL Figure 2, IPL Figure 6).

(2) Install the new bushing (10, IPL Figure 2, IPL Figure 6) with grease, D00015 using shrink-fit method as shown in SOPM 20-50-03. It is satisfactory to use the press fit method as shown in SOPM 20-50-03 to complete the installation of the bushing (10, IPL Figure 2, IPL Figure 6)

(3) Machine the inside diameter of the bushing (10, IPL Figure 2, IPL Figure 6) to the dimension shown in REPAIR 1-1, Figure 601.

(4) Machine the flange of the bushing (10, IPL Figure 2, IPL Figure 6) as necessary to get the dimension shown in REPAIR 1-1, Figure 601.

NOTE: The flanges of the bushing (10, IPL Figure 2, IPL Figure 6) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

(5) Install the bushing (5, IPL Figure 2, IPL Figure 6) as shown in REPAIR 1-1, Paragraph 2.C.(2) thru REPAIR 1-1, Paragraph 2.C.(4).

4. Bushing Replacement (15, IPL Figure 2, IPL Figure 6)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-07	LUBRICATION
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For lubrication, refer to SOPM 20-50-07. For lubricants, refer to SOPM 20-60-03.

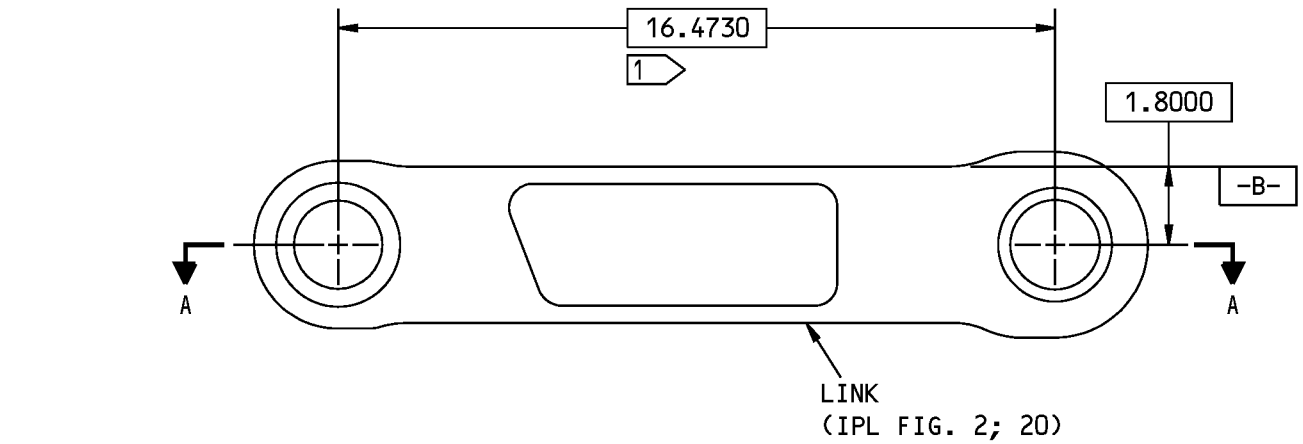
(1) Remove the bushing (15, IPL Figure 2, IPL Figure 6) from the link (20, IPL Figure 2, IPL Figure 6).

(2) Install the new bushing (15, IPL Figure 2, IPL Figure 6) with grease, D00015 using shrink-fit method as shown in SOPM 20-50-03. It is satisfactory to use the press fit method as shown in SOPM 20-50-03 to complete the installation of the bushing (15, IPL Figure 2, IPL Figure 6).

(3) Machine the inside diameter of the bushing (15, IPL Figure 2, IPL Figure 6) to the dimension shown in REPAIR 1-1, Figure 601.

(4) Machine the flange of the bushing (15, IPL Figure 2, IPL Figure 6) as necessary to get the dimension shown in REPAIR 1-1, Figure 601.

NOTE: The flanges of the bushing (15, IPL Figure 2, IPL Figure 6) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.



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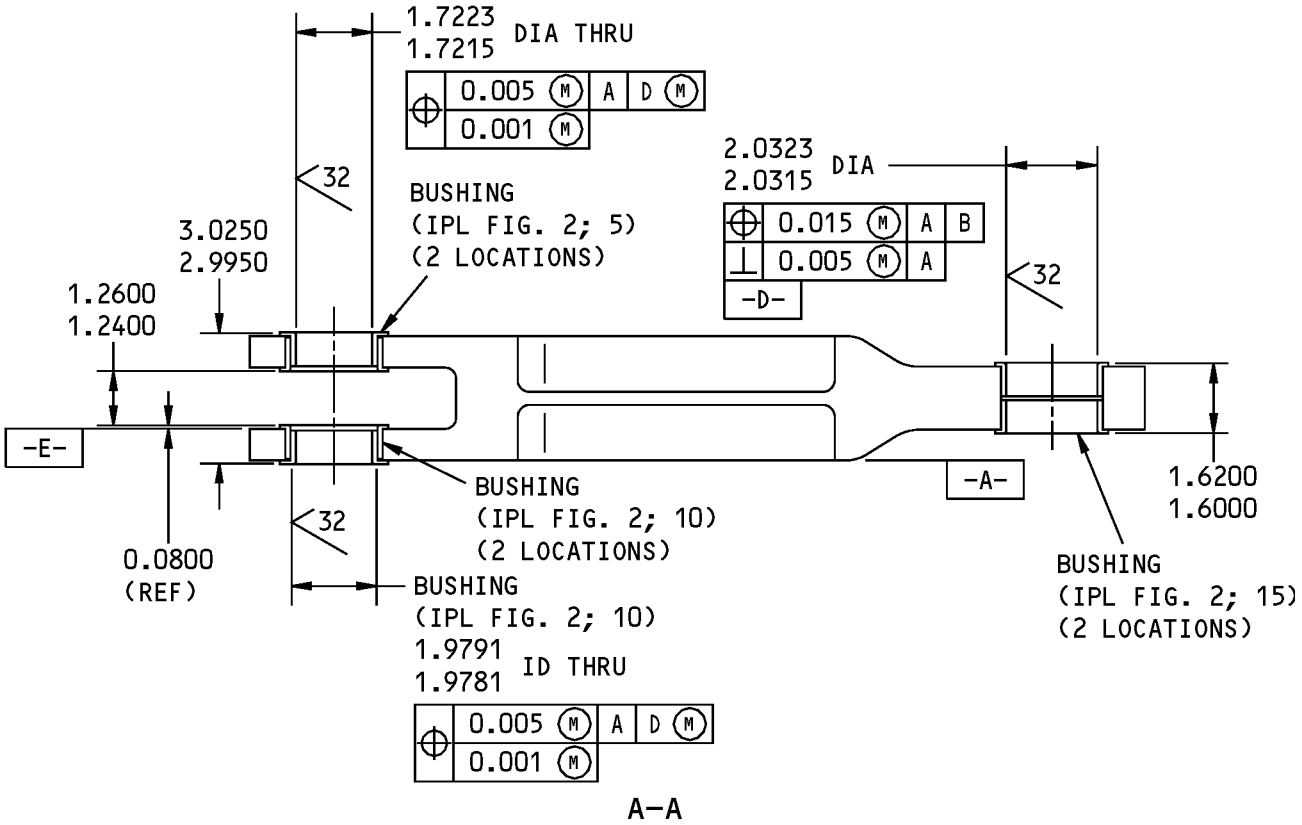
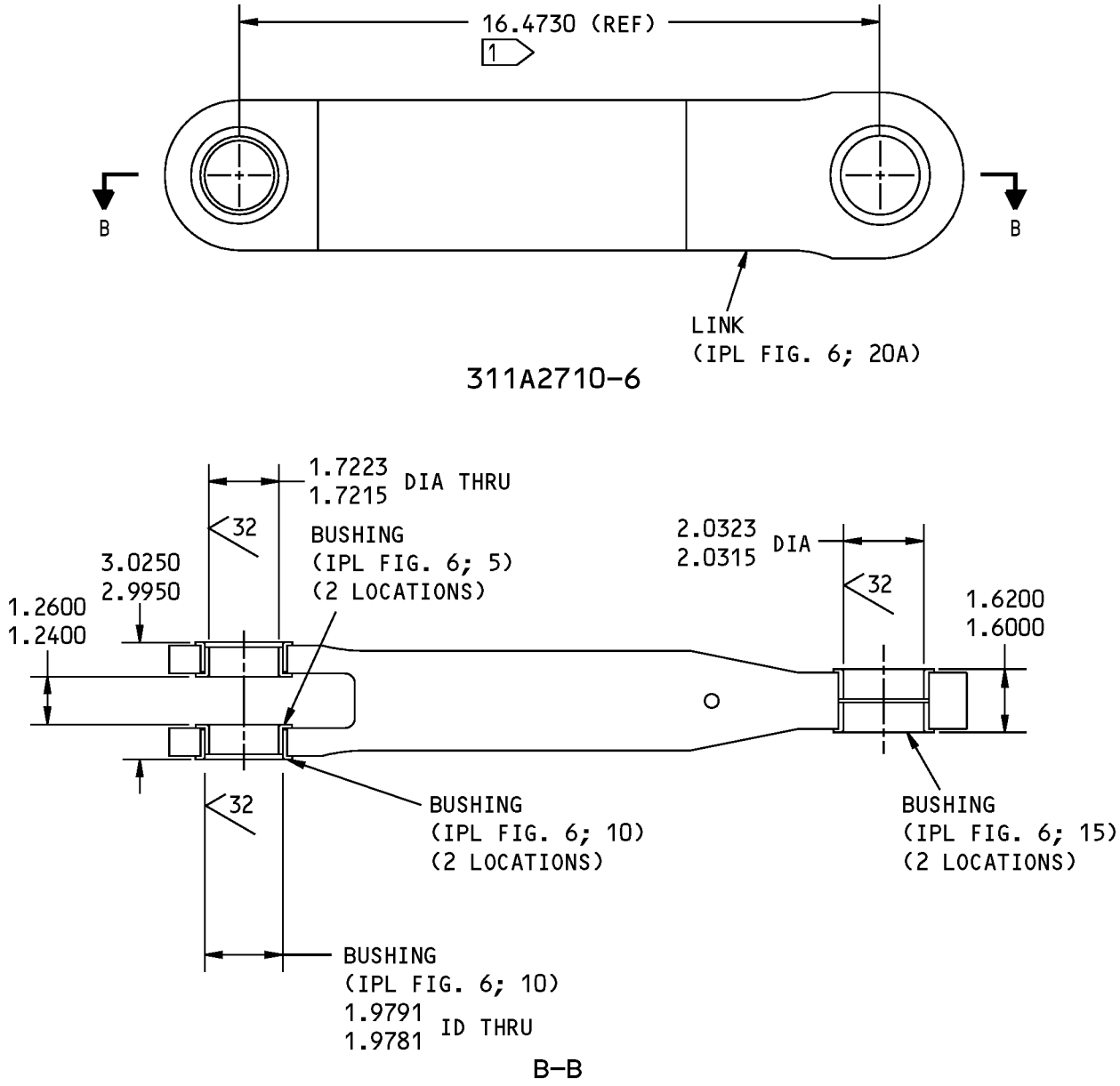


A-A

311A2710-1,-6 Link Assembly Repair
Figure 601 (Sheet 1 of 2)



1 THIS DIMENSION IS FOR 72° F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THE THERMAL GROWTH BY 0.0000063 INCH/INCH/ DEGREE F.

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ALL DIMENSIONS ARE IN INCHES

311A2710-1,-6 Link Assembly Repair
Figure 601 (Sheet 2 of 2)

LINK - REPAIR 1-2

311A2710–2, –7

1. General

A. This procedure has the data necessary to repair and refinish the link (20, IPL Figure 2, IPL Figure 6).

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

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

D. Refer to IPL Figure 2 and IPL Figure 6 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES

150-170 Ksi

(2) Shot peen: All surfaces

Intensity: 0.014A - 0.019A (311A2710-2)

0.008A - 0.013A (311A2710-7)

Coverage: 2.0

2. Link Repair

A. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

B. Procedure

(1) Machine the hole in the link (20, IPL Figure 2, IPL Figure 6) to remove defects up to the repair limit shown in REPAIR 1-2, Figure 601.

(2) Break the sharp edges.

(3) Do a magnetic particle check, class A, as shown in SOPM 20-20-01.

(4) Shot peen as shown in REPAIR 1-2, Paragraph 1.E.(2) (SOPM 20-10-03).

(a) After shot peen, 0.002 inch maximum material can be removed from the surfaces of the holes to get the necessary dimensions and surface roughness.

3. Manufacturing of Oversize Bushing

A. References

Reference	Title
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure

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

(1) Manufacture the oversize bushing as shown in REPAIR 1-2, Figure 602 and REPAIR 1-2, Figure 603 to adjust for the material removed in REPAIR 1-2, Paragraph 2.B.(1).

(2) Do a penetrant check as shown in SOPM 20-20-02.

(3) Install the oversize bushing as shown in REPAIR 1-1.

4. Link Refinish

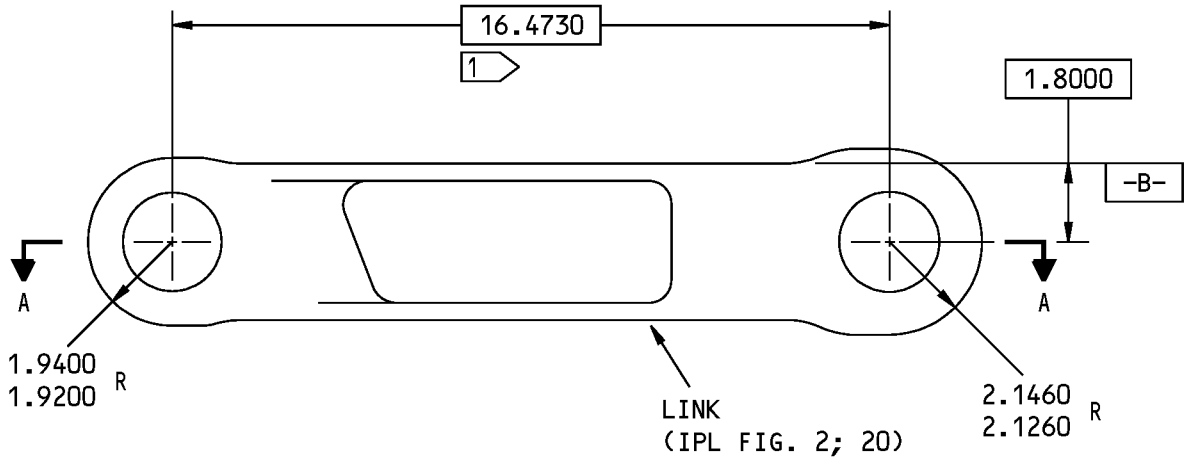
A. References

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

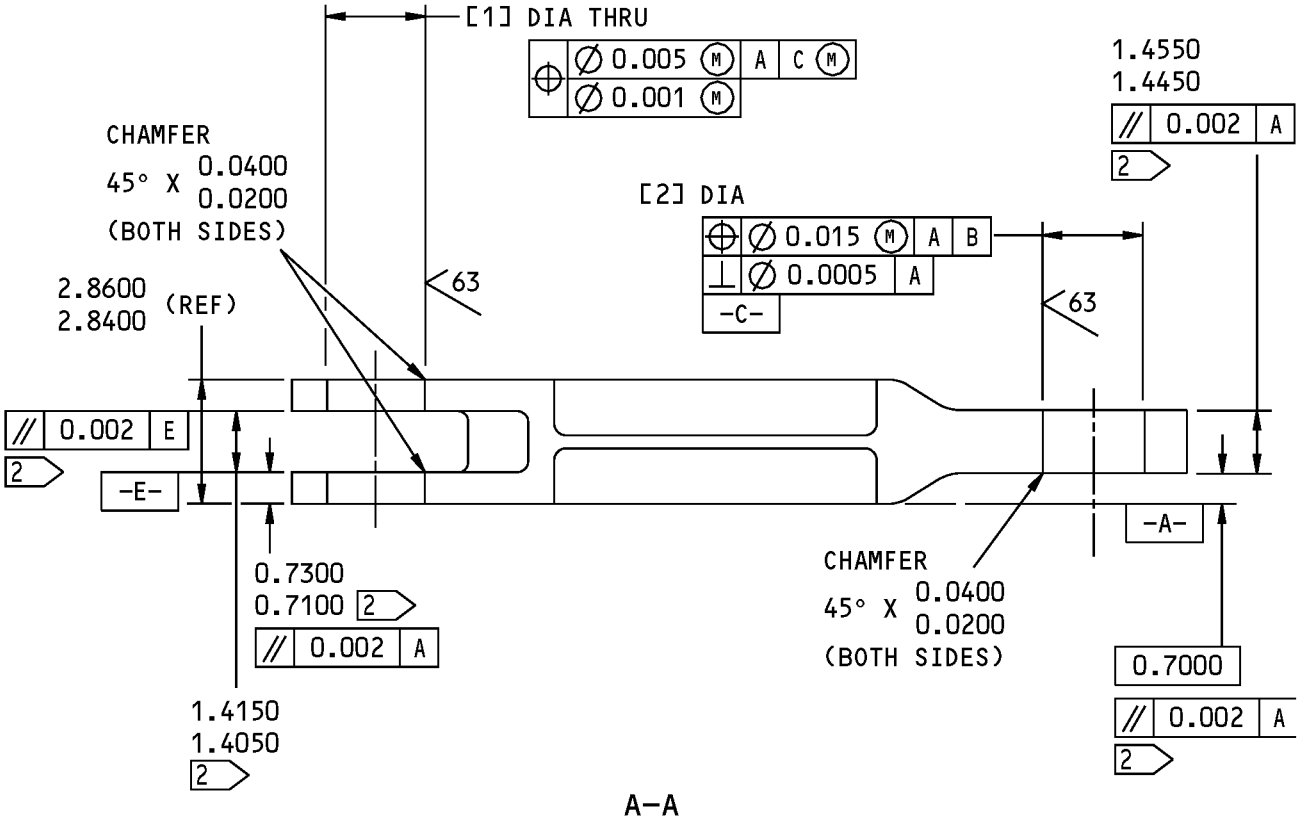
B. Procedure

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

(1) Passivate (F-17.25) as shown in SOPM 20-30-03, Method 2.

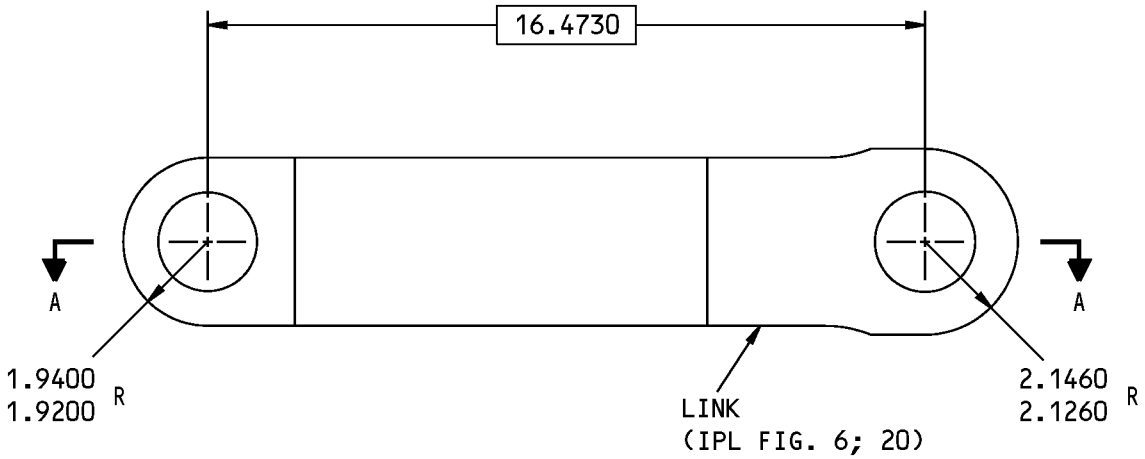


311A2710-2



A-A

311A2710-2,-7 Link Repair
Figure 601 (Sheet 1 of 3)



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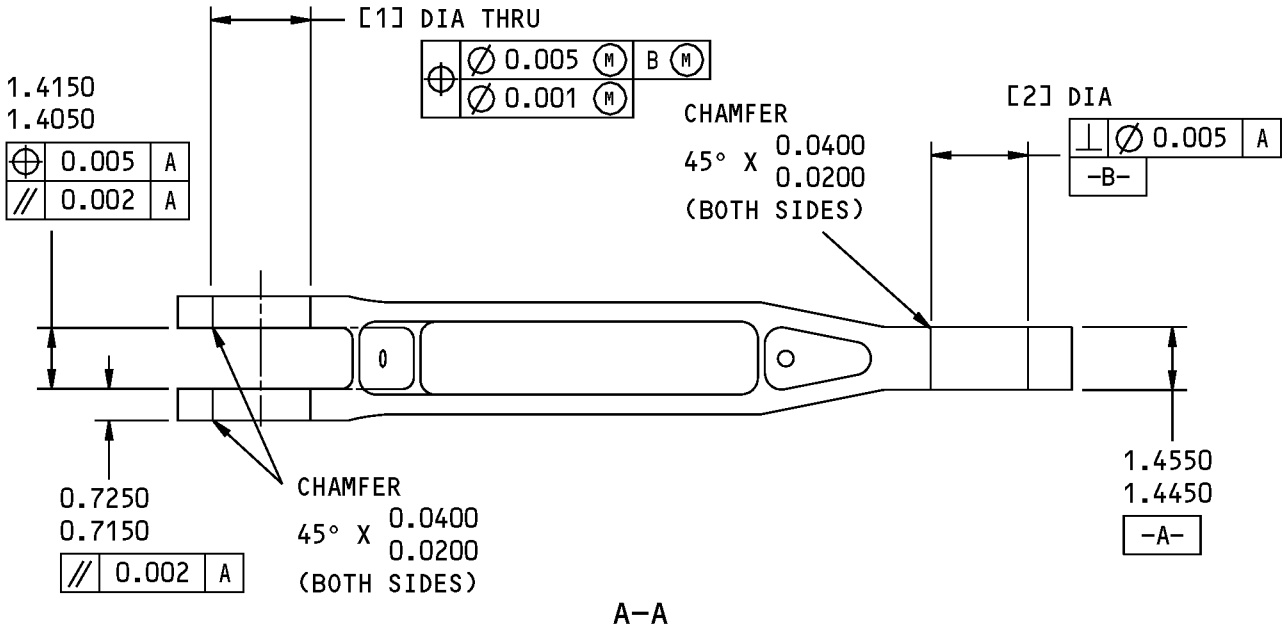


A-A

311A2710-2,-7 Link Repair
Figure 601 (Sheet 2 of 3)

REFERENCE NUMBER	[1]	[2]
DESIGN DIMENSION	2.2363 2.2353	2.3292 2.3282
REPAIR LIMIT	2.2963 MAX	2.3892 MAX

1 THIS DIMENSION IS FOR 72°F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.0000063 INCH/INCH/DEGREE F.

2 DIMENSION APPLIES TO THE SURFACE EXTENDED 0.30 INCH RADICALLY OUT FROM THE EDGE OF THE HOLE ONLY.

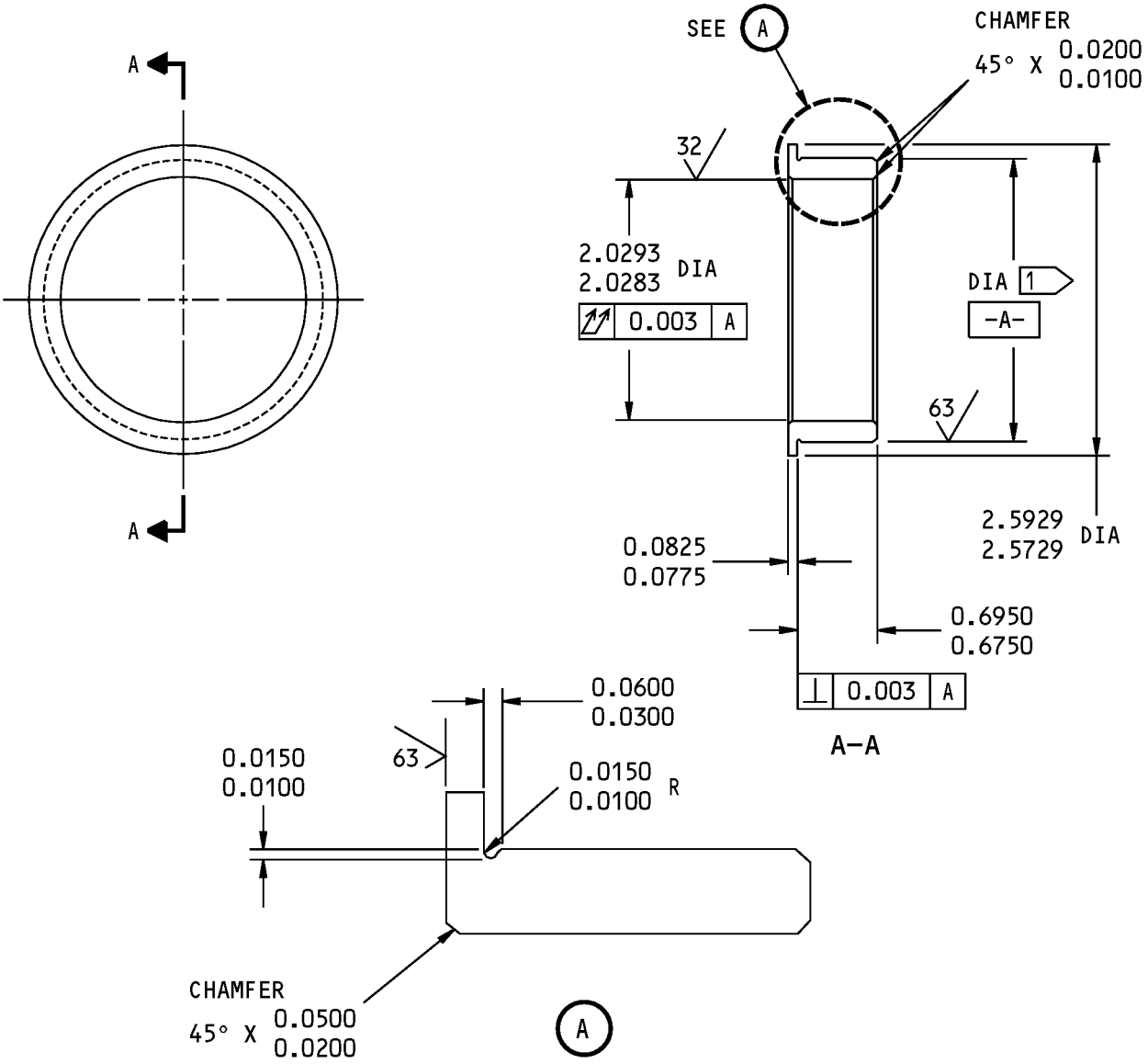
REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ALL DIMENSIONS ARE IN INCHES

311A2710-2,-7 Link Repair
Figure 601 (Sheet 3 of 3)



1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF LINK HOLE PLUS 0.0033–0.0051 INCH INTERFERENCE.

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

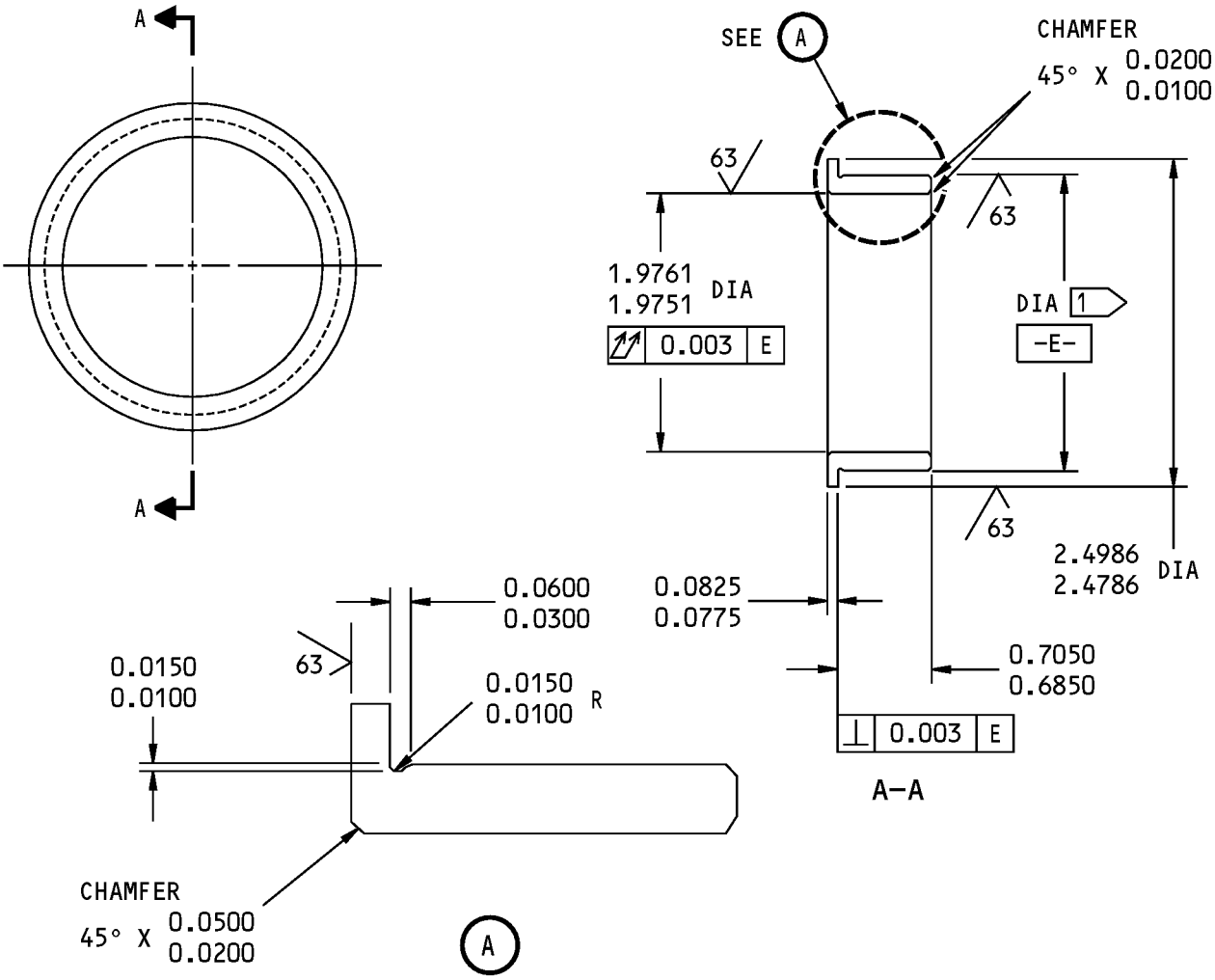
MATERIAL: AL–NI–BR, AMS 4640

BREAK ALL SHARP EDGES

ALL DIMENSIONS ARE IN INCHES

OVERSIZE REPLACEMENT FOR BUSHING (IPL FIG. 2,6; 15)

Oversize Bushing Details
Figure 602



1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE LINK HOLE PLUS 0.0018-0.0038 INCH INTERFERENCE.

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 15-5PH CRES, AMS 5659
180-200 KSI

PASSIVATE (F-17.25) AS SHOWN IN SOPM 20-30-03, METHOD 2.

BREAK ALL SHARP EDGES

ALL DIMENSIONS ARE IN INCHES

OVERSIZE REPLACEMENT FOR BUSHING (IPL FIG. 2,6; 10)

Oversize Bushing Details
Figure 603

BOEING®

COMPONENT MAINTENANCE MANUAL

DIAGONAL BRACE ASSEMBLY - REPAIR 2-1

311A2730–1, –10, –12, –15

1. General

A. This procedure has the data necessary to repair and refinish the diagonal brace assembly (1A).

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

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

D. Refer to IPL Figure 3, IPL Figure 12 or IPL Figure 13 for item numbers.

2. Bushing (5, 15) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedure

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

(1) Remove the bushing (5, 15), from the brace (IPL Figure 3; 25, IPL Figure 12; 25 or IPL Figure 13; 145).

(2) Apply BMS 5-95 sealant, A00247 under the flange of the bushing (5, 15) only.

(3) Install the bushing (5, 15) as shown in SOPM 20-50-03, shrink-fit method.

(4) Apply a fillet seal to the flange of the bushing (5, 15).

(5) Machine the inside diameter of the bushing (5, 15) to the dimension as shown in REPAIR 2-1, Figure 601 or REPAIR 2-1, Figure 602 or REPAIR 2-1, Figure 603.

(6) Machine the flange of the bushing (5, 15) as necessary to get the dimension shown in REPAIR 2-1, Figure 601 or REPAIR 2-1, Figure 602 or REPAIR 2-1, Figure 603.

NOTE: The flanges of the bushings (5, 15) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

3. Bushing (10, 20) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedure

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

(1) Remove the bushing (10, 20) from the brace (IPL Figure 3; 25, IPL Figure 12; 25 or IPL Figure 13; 145).

NOTE: The bushings (5, 15) are installed in the bushings (10, 20).

(2) Apply BMS 5-95 sealant, A00247 under the flange of the bushing (10, 20) only.

(3) Install the bushing (10, 20) as shown in SOPM 20-50-03, shrink-fit method.

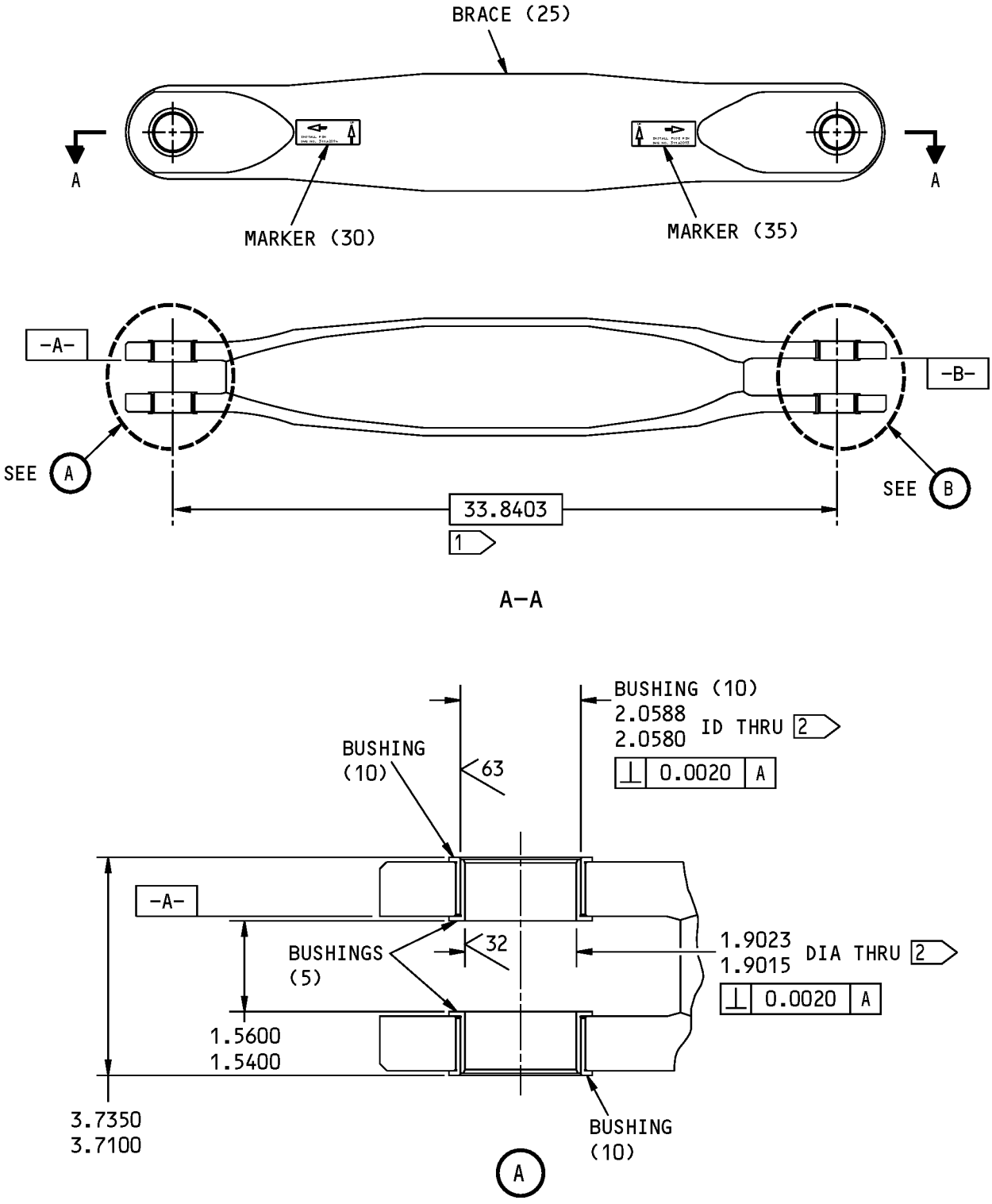
(4) Apply a fillet seal to the flange of the bushing (10, 20).

(5) Machine the inside diameter of the bushing (10, 20) to the dimension as shown in REPAIR 2-1, Figure 601, REPAIR 2-1, Figure 602 or REPAIR 2-1, Figure 603.

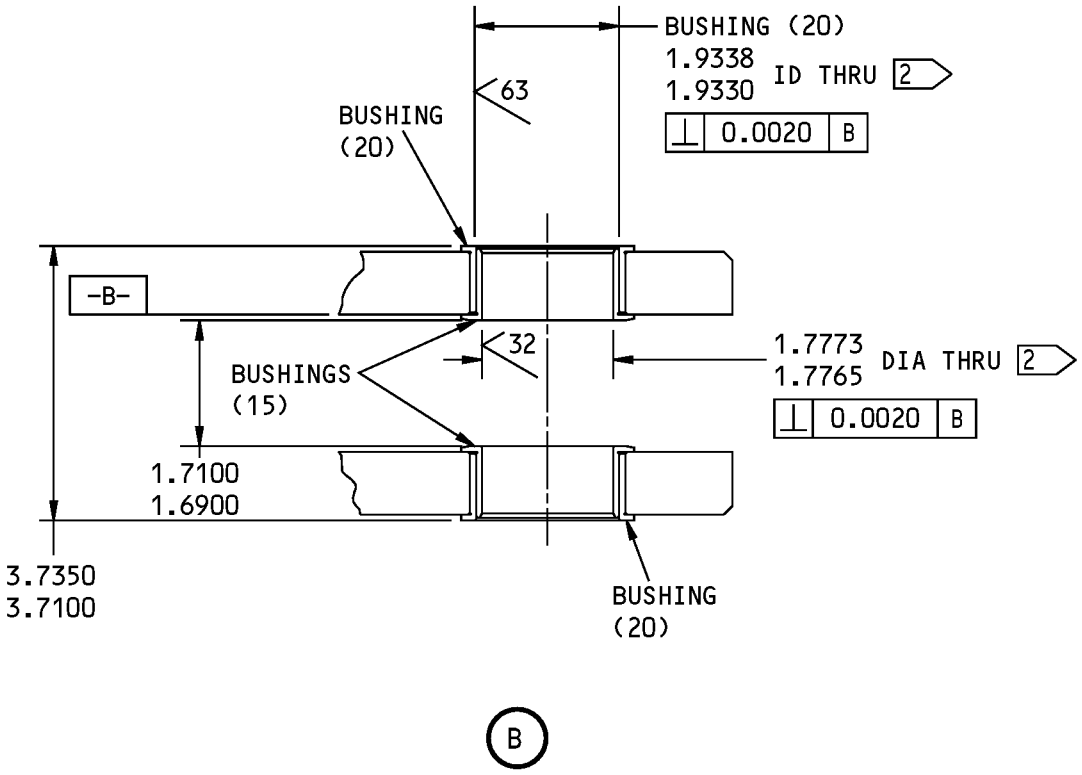
(6) Machine the flange of the bushing (10, 20) as necessary to get the dimension shown in REPAIR 2-1, Figure 601, REPAIR 2-1, Figure 602 or REPAIR 2-1, Figure 603.

NOTE: The flanges of the bushing (10, 20) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

(7) Install the bushing (5, 15) as shown in REPAIR 2-1, Paragraph 2.C.(2) thru REPAIR 2-1, Paragraph 2.C.(6).



311A2730-1 Diagonal Brace Assembly Repair
Figure 601 (Sheet 1 of 2)



1 THIS DIMENSION IS FOR 72° F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.000014 INCH/INCH/ DEGREE F.

2 THE DIAMETERS MUST BE CONCENTRIC TO THE COMMON AXIS WITHIN 0.001 INCH FIM.

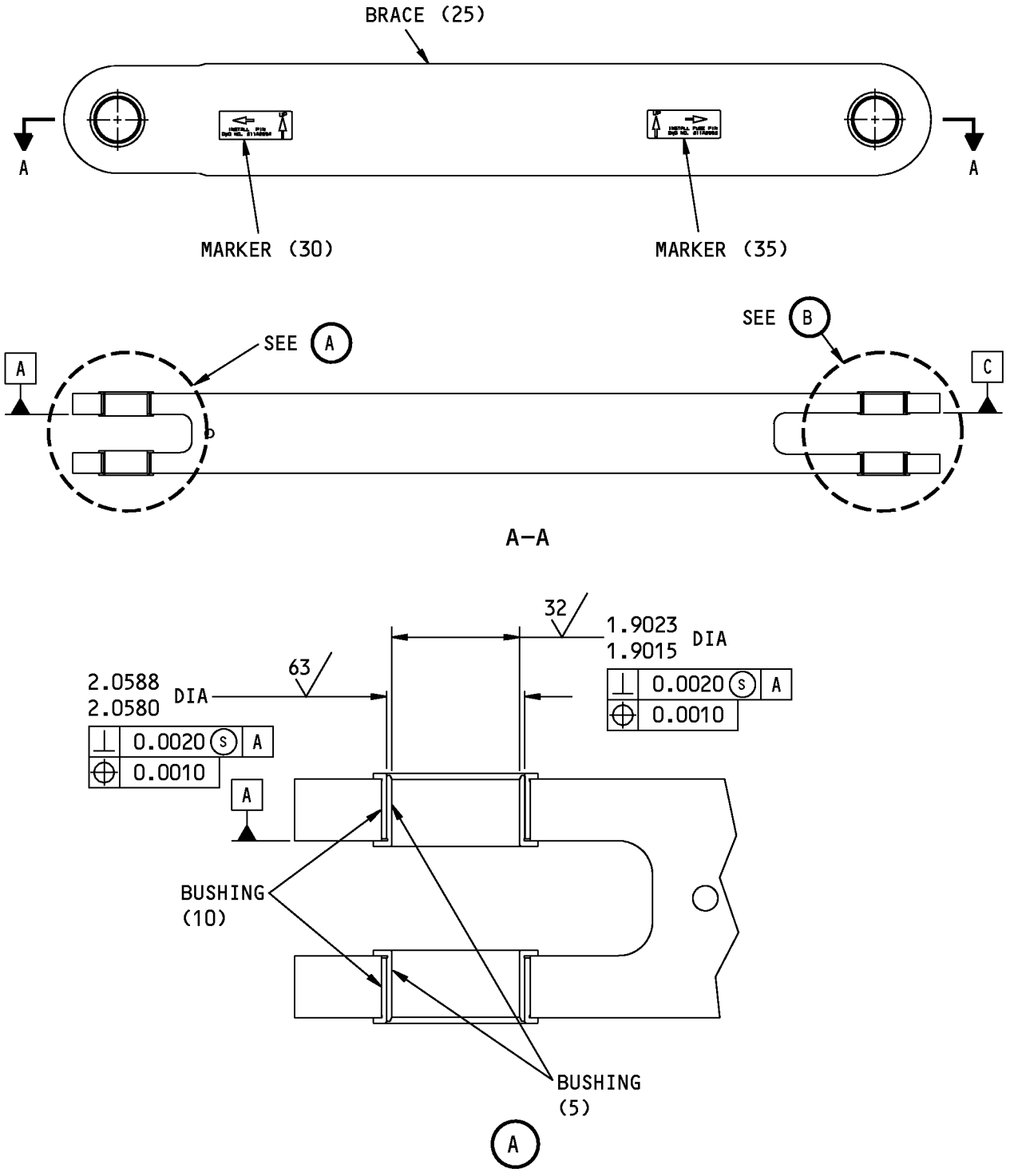
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

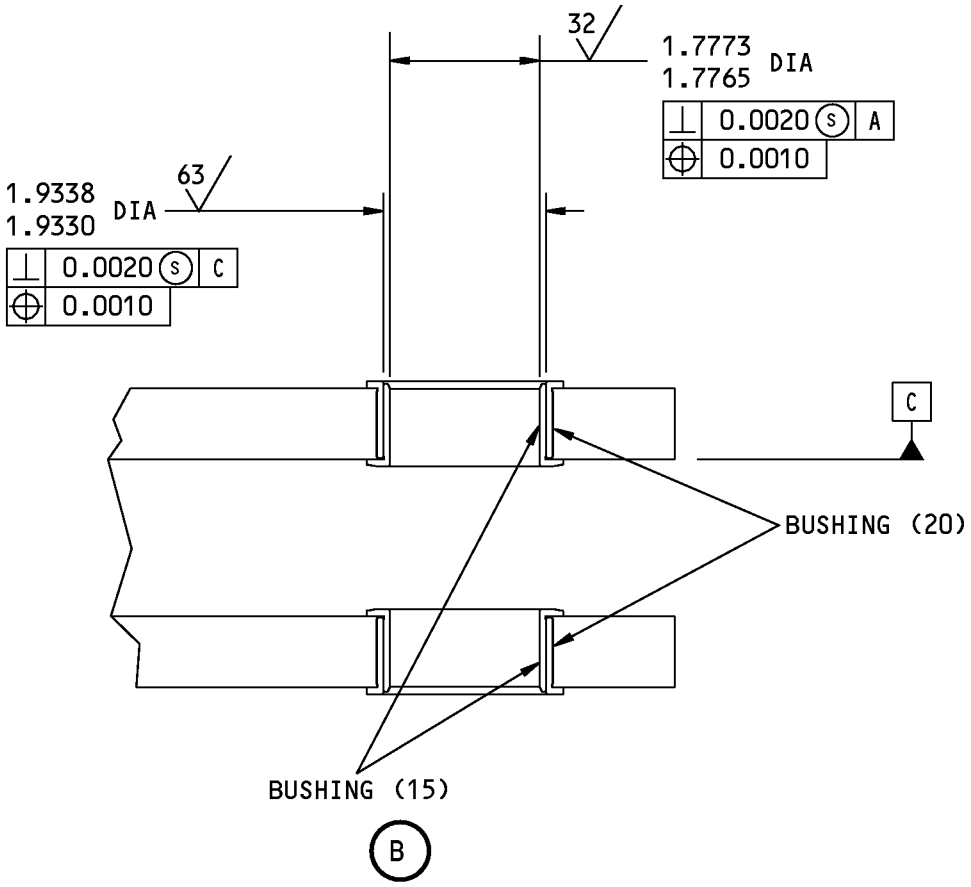
ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

311A2730-1 Diagonal Brace Assembly Repair
Figure 601 (Sheet 2 of 2)



311A2730-10, -12 Diagonal Brace Assembly Repair
Figure 602 (Sheet 1 of 2)



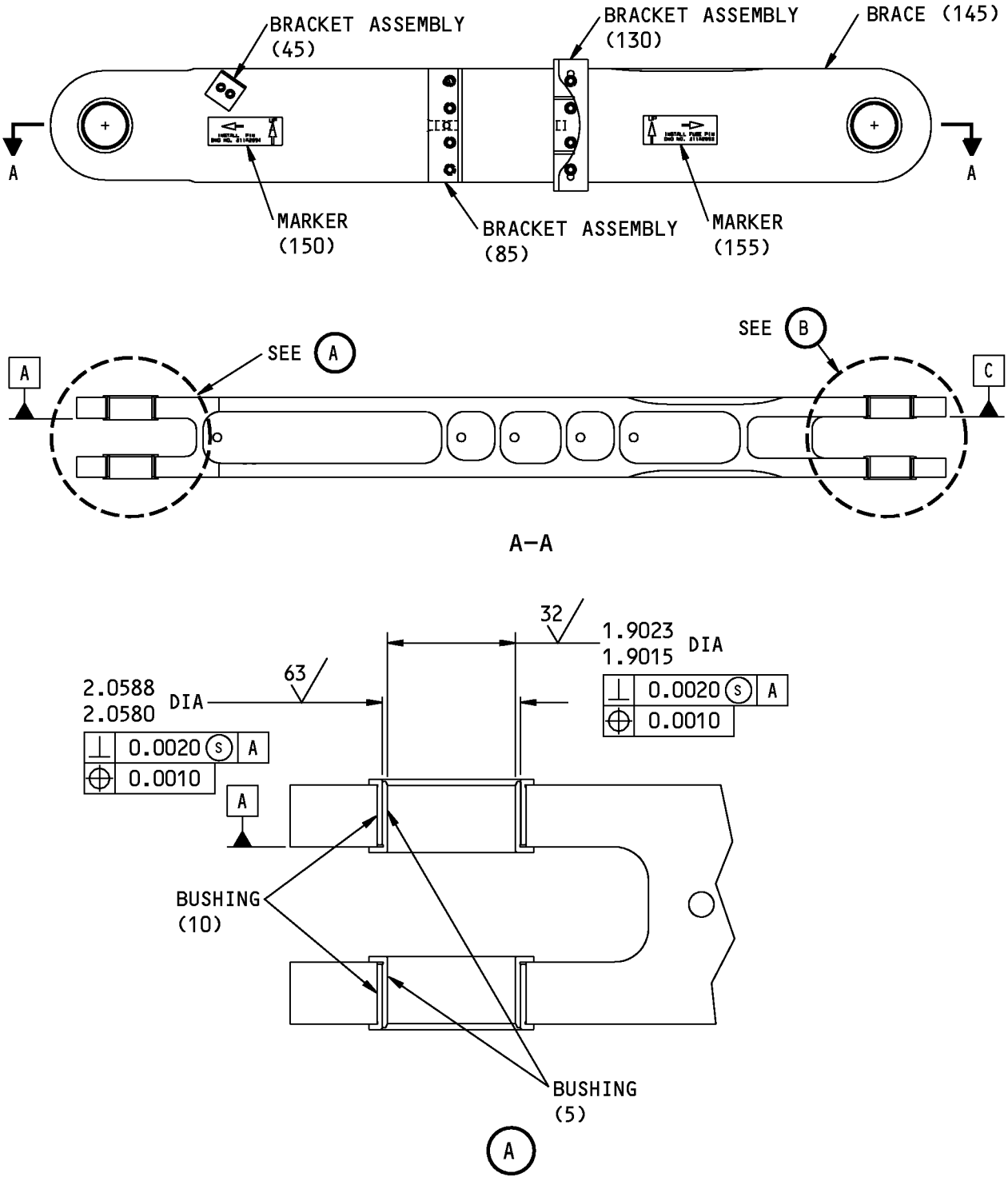
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

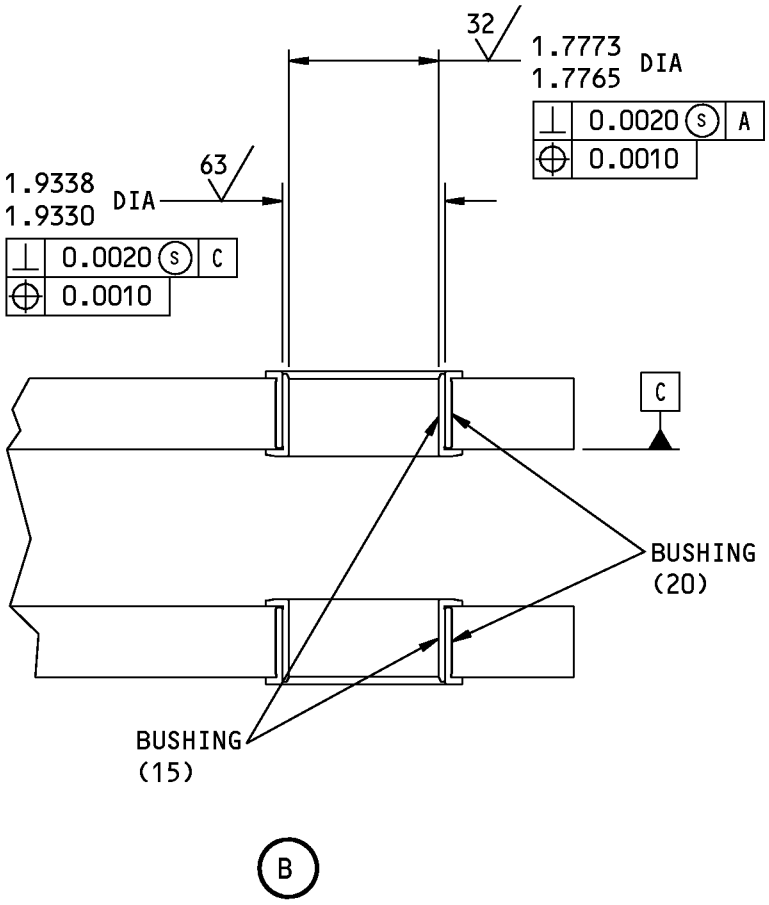
ITEM NUMBERS REFER TO IPL FIG. 12

ALL DIMENSIONS ARE IN INCHES

311A2730-10, -12 Diagonal Brace Assembly Repair
Figure 602 (Sheet 2 of 2)



311A2730-15 Diagonal Brace Assembly Repair
Figure 603 (Sheet 1 of 2)



125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 13

ALL DIMENSIONS ARE IN INCHES

311A2730-15 Diagonal Brace Assembly Repair
Figure 603 (Sheet 2 of 2)

DIAGONAL BRACE - REPAIR 2-2

311A2730–2, –11, –13, –14

1. General

A. This procedure has the data necessary to repair and refinish the diagonal brace.

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

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

D. Refer to IPL Figure 3 or IPL Figure 12 REPAIR 2-1, Figure 603 for item numbers.

E. General repair details:

(1) Material:

(a) (For 311A2730-2) 7075-T73 Aluminum Alloy

(b) (For 311A2730-11, -13, -14) 7050-T7451 Aluminum Alloy

(2) Shot peen:

(a) (For 311A2730-2) All machined surfaces, Intensity: 0.014A - 0.019A, Coverage: 2.0, Overspray is permitted

(b) (For 311A2730-11, -13, -14) All machined surfaces, Intensity 0.006A per BAC5730 (SOPM 20-10-03)

2. Brace Repair (For 311A2730-2, -11, -13)

A. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

(1) Machine the hole in the brace (25) to remove defects up to the repair limit shown in REPAIR 2-2, Figure 601, REPAIR 2-2, Figure 602 or REPAIR 2-2, Figure 603.

(2) Break the sharp edges, 0.02 - 0.04 inch radius.

(3) Do a penetrant check as shown in SOPM 20-20-02.

(4) Shot peen as shown in REPAIR 2-2, Paragraph 1.E.(2) (SOPM 20-10-03).

(a) After shot peen, 0.002 inch maximum material can be removed from the surfaces of the holes to get the necessary dimensions and surface roughness.

3. Manufacturing of Oversize Bushings (For 311A2730-2, -11, -13)

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

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

B. Procedure

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

(1) Manufacture the oversize bushing as shown in REPAIR 2-2, Figure 604 to adjust for the material removed in REPAIR 2-2, Paragraph 2.B.(1).

(2) Break all sharp edges, 0.02 - 0.04 inch radius.

(3) Do a magnetic particle check, class B, as shown in SOPM 20-20-01.

(4) Apply cadmium plate (F-15.06) to the outside diameter and flange only.

(5) Install the oversize bushing as shown in REPAIR 2-1.

4. Brace Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

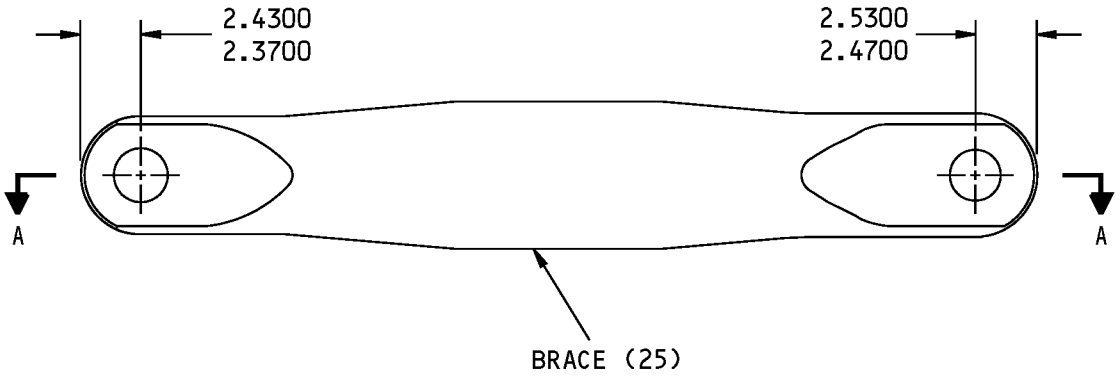
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

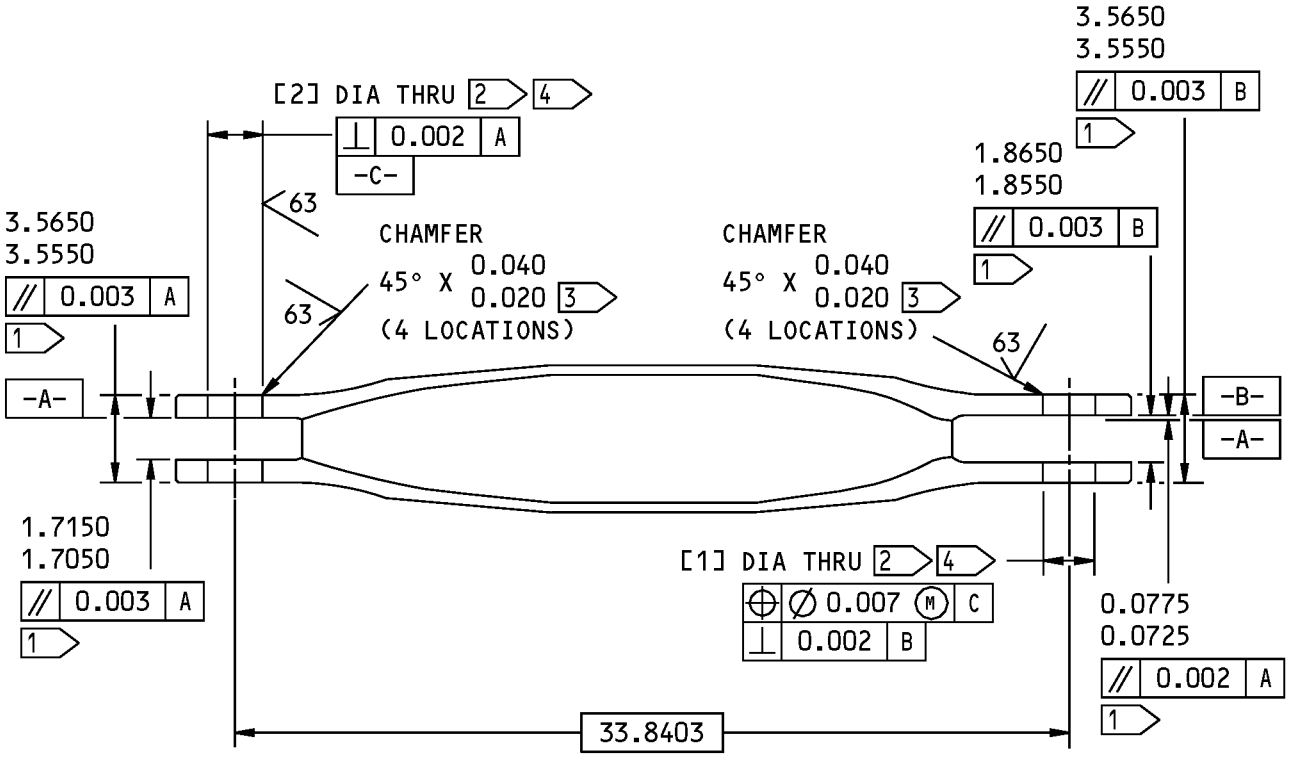
C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of 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 the brace (25) (F-17.31). Include the bushing holes.

(2) Apply primer, C00259 (F-20.03) to all surfaces. Include primer, C00259 in the bushing holes.





A–A

311A2730-2 Diagonal Brace Repair
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	[1]	[2]
DESIGN DIMENSION	2.0910 2.0902	2.2158 2.2150
REPAIR LIMIT	2.1510 MAX	2.2758 MAX

1. DIMENSION APPLIES TO SURFACE WITHIN 2.500 INCH DIAMETER AROUND THE CENTER OF THE HOLE
2. DIMENSION AND SURFACE ROUGHNESS ARE AFTER SHOT PEEN
3. DIMENSION AND SURFACE ROUGHNESS ARE AFTER SHOT PEEN
4. THE DIAMETERS MUST BE CONCENTRIC TO THE COMMON AXIS WITHIN 0.001 INCH FIM

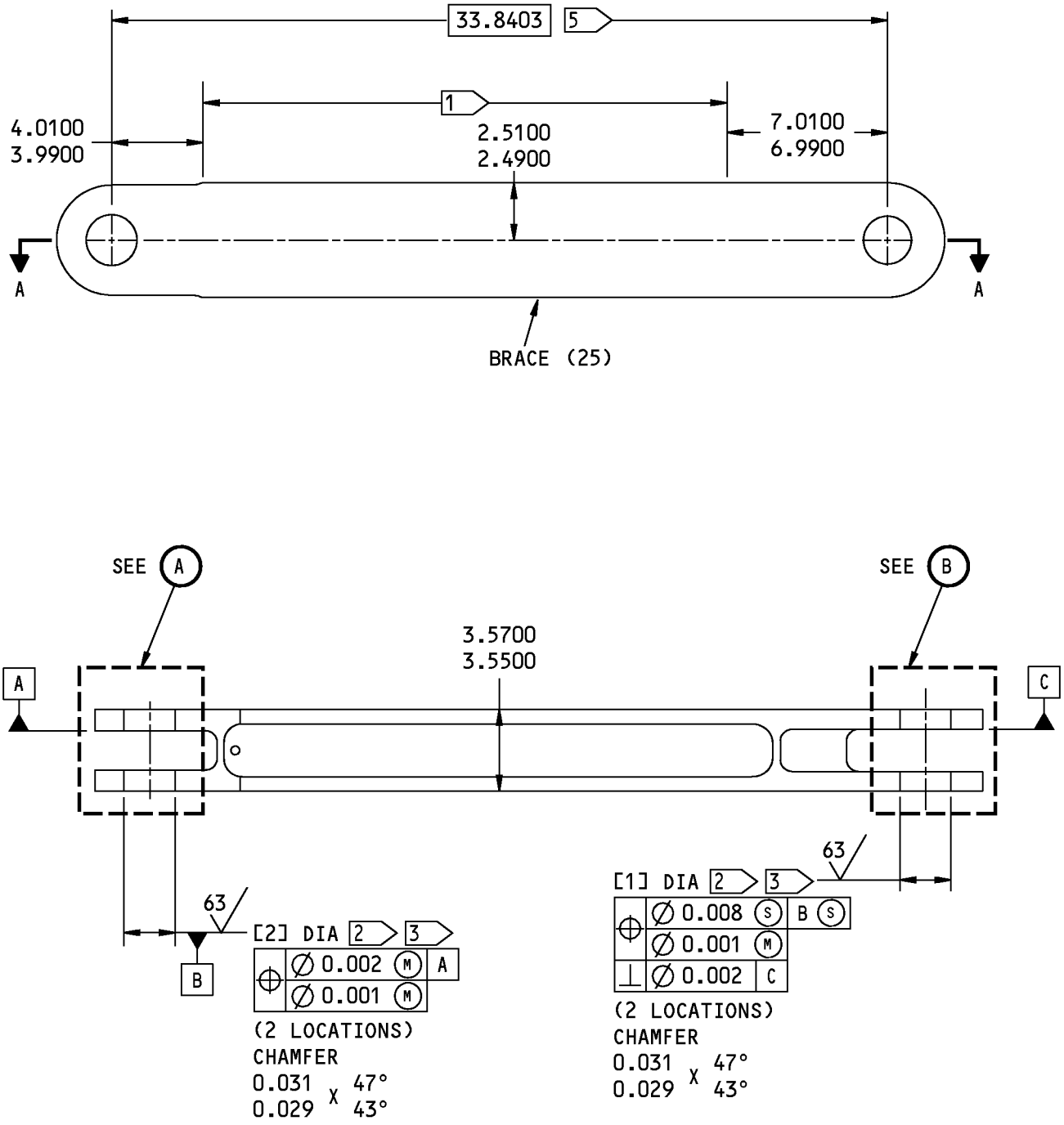
63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

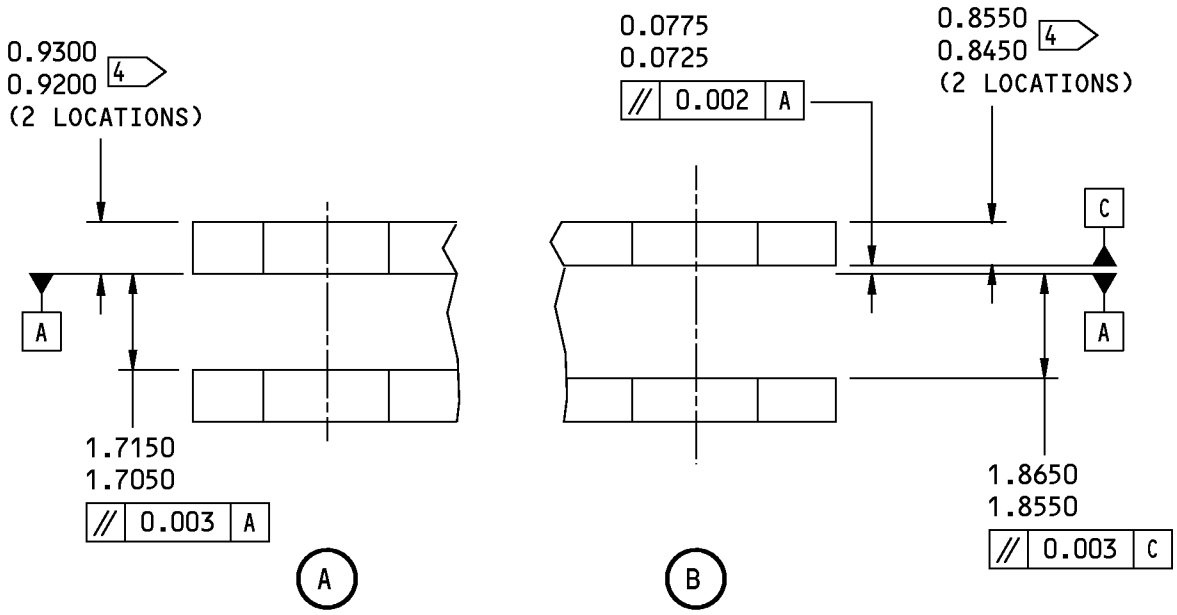
ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

311A2730-2 Diagonal Brace Repair
Figure 601 (Sheet 2 of 2)



311A2730-11 Diagonal Brace Repair
Figure 602 (Sheet 1 of 2)



REFERENCE NUMBER	[1]	[2]
DESIGN DIMENSION	2.0910 2.0902	2.2158 2.2150
REPAIR LIMIT	2.1510 MAX	2.2758 MAX

1 SHOT PEEN OPTIONAL IN THIS AREA

2 BEFORE AND AFTER SHOT PEEN

3 HOLE DIMENSION TO BE MET AFTER SHOT PEEN. A 0.002 MAXIMUM THICKNESS MAY BE REMOVED FROM PEENED SURFACE BY HONING OR LAPPING

4 TOLERANCE APPLIES TO AREAS WITHIN 2.500 DIAMETER CIRCLE AROUND HOLE CENTER

5 THIS DIMENSION IS FOR 72°F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.000014 INCH/INCH/DEGREE F

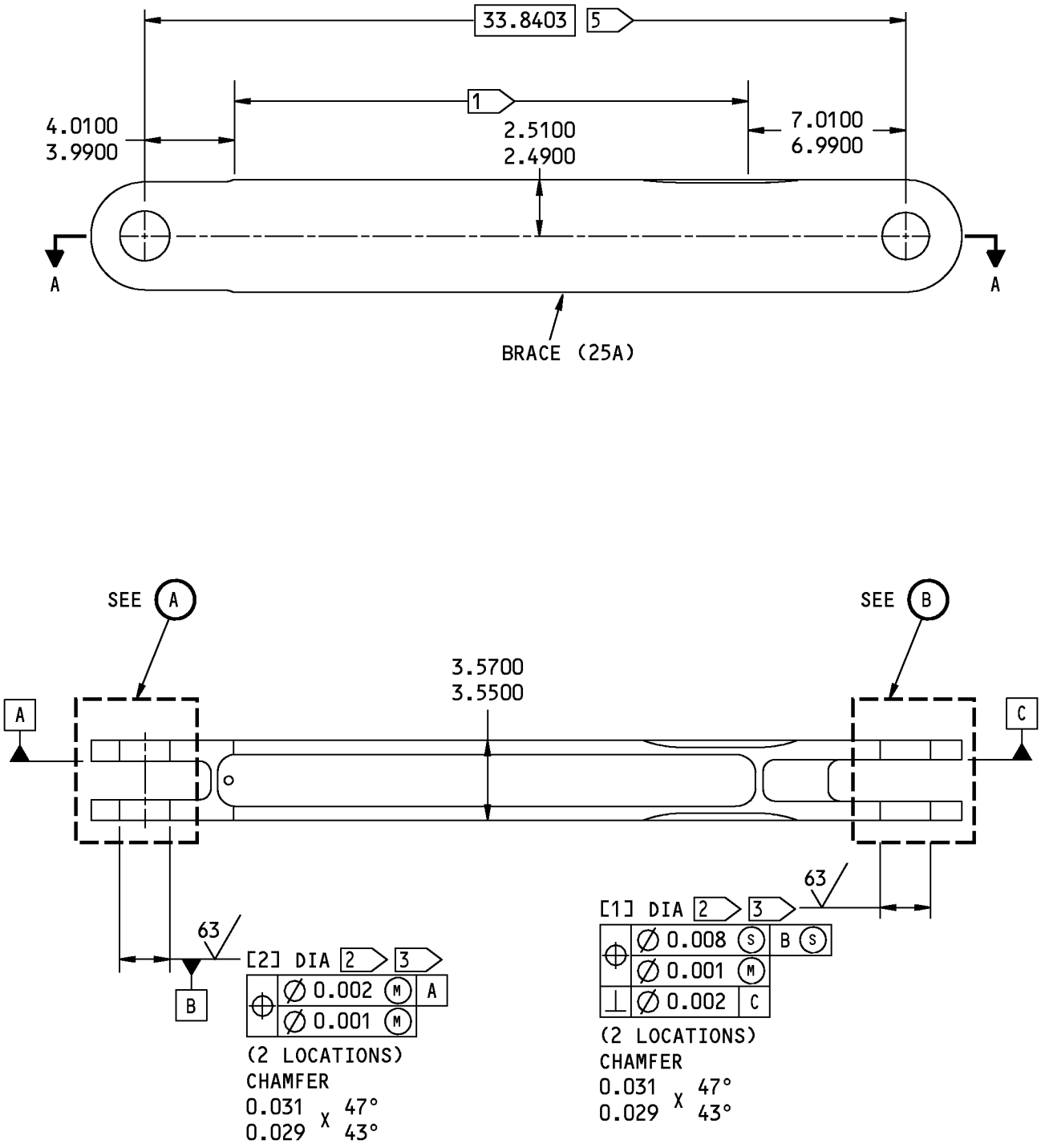
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 12

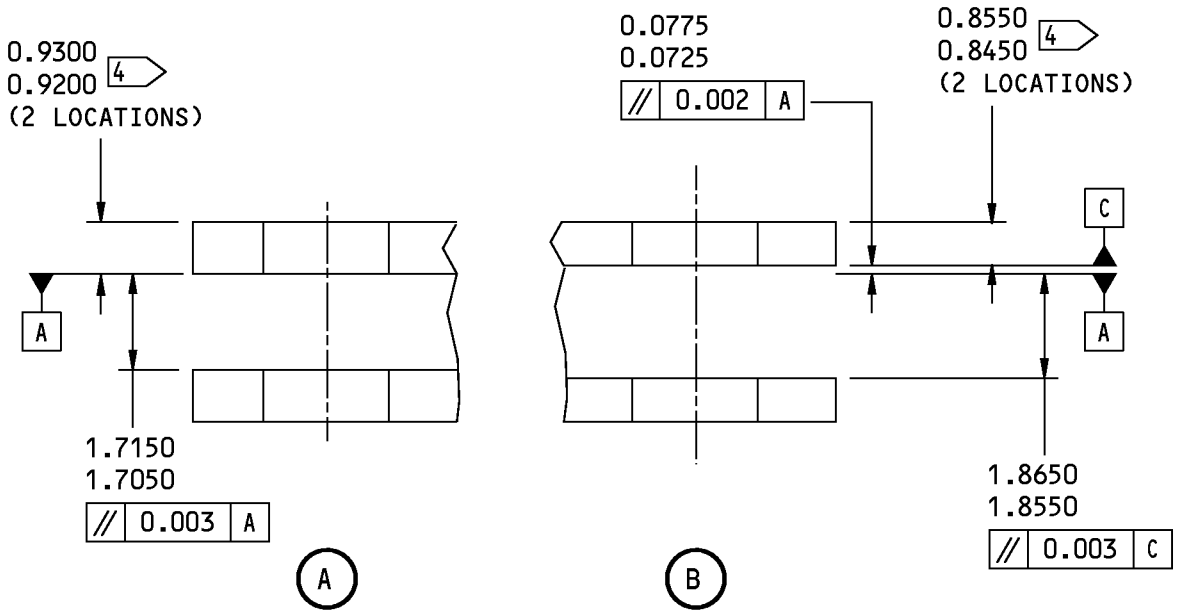
ALL DIMENSIONS ARE IN INCHES

311A2730-11 Diagonal Brace Repair
Figure 602 (Sheet 2 of 2)



A–A

311A2730-13 Diagonal Brace Repair
Figure 603 (Sheet 1 of 2)



REFERENCE NUMBER	[1]	[2]
DESIGN DIMENSION	2.0910 2.0902	2.2158 2.2150
REPAIR LIMIT	2.1510 MAX	2.2758 MAX

1 SHOT PEEN OPTIONAL IN THIS AREA

2 BEFORE AND AFTER SHOT PEEN

3 HOLE DIMENSION TO BE MET AFTER SHOT PEEN. A 0.002 MAXIMUM THICKNESS MAY BE REMOVED FROM PEENED SURFACE BY HONING OR LAPPING

4 TOLERANCE APPLIES TO AREAS WITHIN 2.500 DIAMETER CIRCLE AROUND HOLE CENTER

5 THIS DIMENSION IS FOR 72°F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.000014 INCH/INCH/DEGREE F

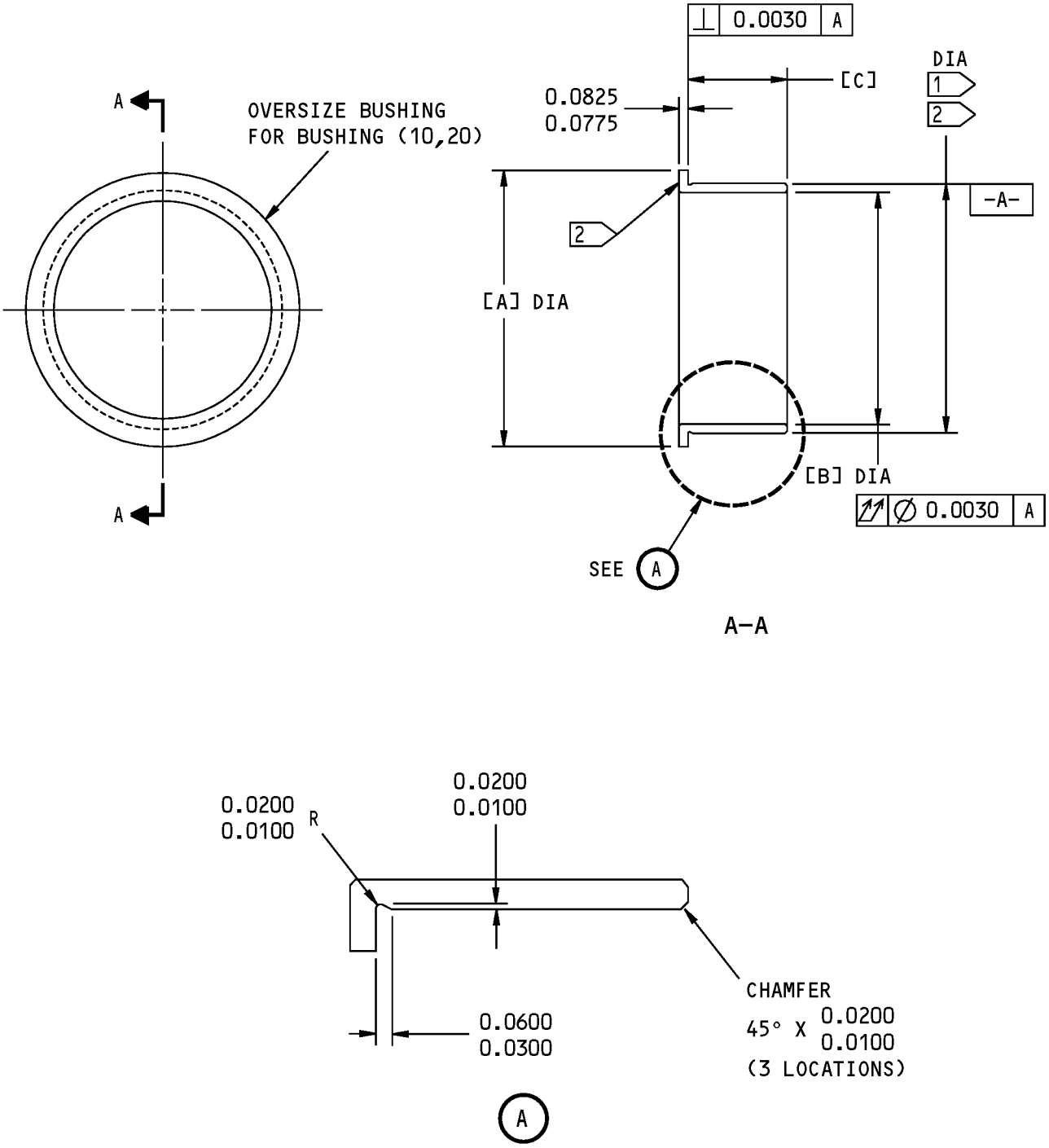
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 12

ALL DIMENSIONS ARE IN INCHES

311A2730-13 Diagonal Brace Repair
Figure 603 (Sheet 2 of 2)



Oversize Bushing Details
Figure 604 (Sheet 1 of 2)

HOLE LOCATION (FIG. 601-603)	REPLACES BUSHING (IPL FIG. 3,12)	[A]	[B]	[C]	INTER-FERENCE
[1]	(20)	2.3500 2.3300	1.9210 1.9060	0.8400 0.8200	0.0036 0.0020
[2]	(10)	2.4600 2.4400	2.0460 2.0310	0.9050 0.8850	0.0038 0.0022

1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE BRACE HOLE PLUS THE INTERFERENCE.

2 CADMIUM PLATE ON THIS SURFACE ONLY.

MAIERIAL: 15-5PHCRES, AMS 5659
HEAT TREAT 150-170KSI

CADMIUM PLATE (F-15.06) THE OUTSIDE DIAMETER AND FLANGES ONLY

63 $\surd$ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.04 INCH RADIUS

ITEM NUMBERS REFER TO IPL FIG. 3,12

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 604 (Sheet 2 of 2)

DIAGONAL BRACE ASSEMBLY - REPAIR 3-1

311A2730–7

1. General

A. This procedure has the data necessary to repair and refinish the diagonal brace assembly (1A).

NOTE: SEE REPAIR 3-3 IF REPLACEMENT OF DIAGONAL BRACE ASSEMBLY, 311A2730-7, IS REQUIRED

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

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

D. Refer to IPL Figure 4 for item numbers.

2. Bushing (5, 20) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedure

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

(1) Remove the bushing (5, 20) from the brace (30).

(2) Apply sealant, A00247 under the flange of the bushing (5, 20) only.

(3) Install the bushing (5, 20) as shown in SOPM 20-50-03, shrink-fit method.

(4) Apply a fillet seal to the flange of the bushing (5, 20).

(5) Machine the inside diameter of the bushing (5, 20) to the dimension as shown in REPAIR 3-1, Figure 601.

(6) Machine the flange of the bushing (5, 20) as necessary to get the dimension shown in REPAIR 3-1, Figure 601.

NOTE: The flanges of the bushings (5, 20) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

3. Bushing (10, 25) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedure

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

(1) Remove the bushing (10, 25) from the brace (30).

NOTE: The bushings (5, 20) are installed in the bushings (10, 25).

(2) Apply sealant, A00247 under the flange of the bushing (10, 25) only.

(3) Install the bushing (10, 25) as shown in SOPM 20-50-03, shrink-fit method.

(4) Apply a fillet seal to the flange of the bushing (10, 25).

(5) Machine the inside diameter of the bushing (10, 25) to the dimension as shown in REPAIR 3-1, Figure 601.

(6) Machine the flange of the bushing (10, 25) as necessary to get the dimension shown in REPAIR 3-1, Figure 601.

NOTE: The flanges of the bushing (10, 25) must be of equal thickness to within ±0.010 inch if machining is necessary after installation.

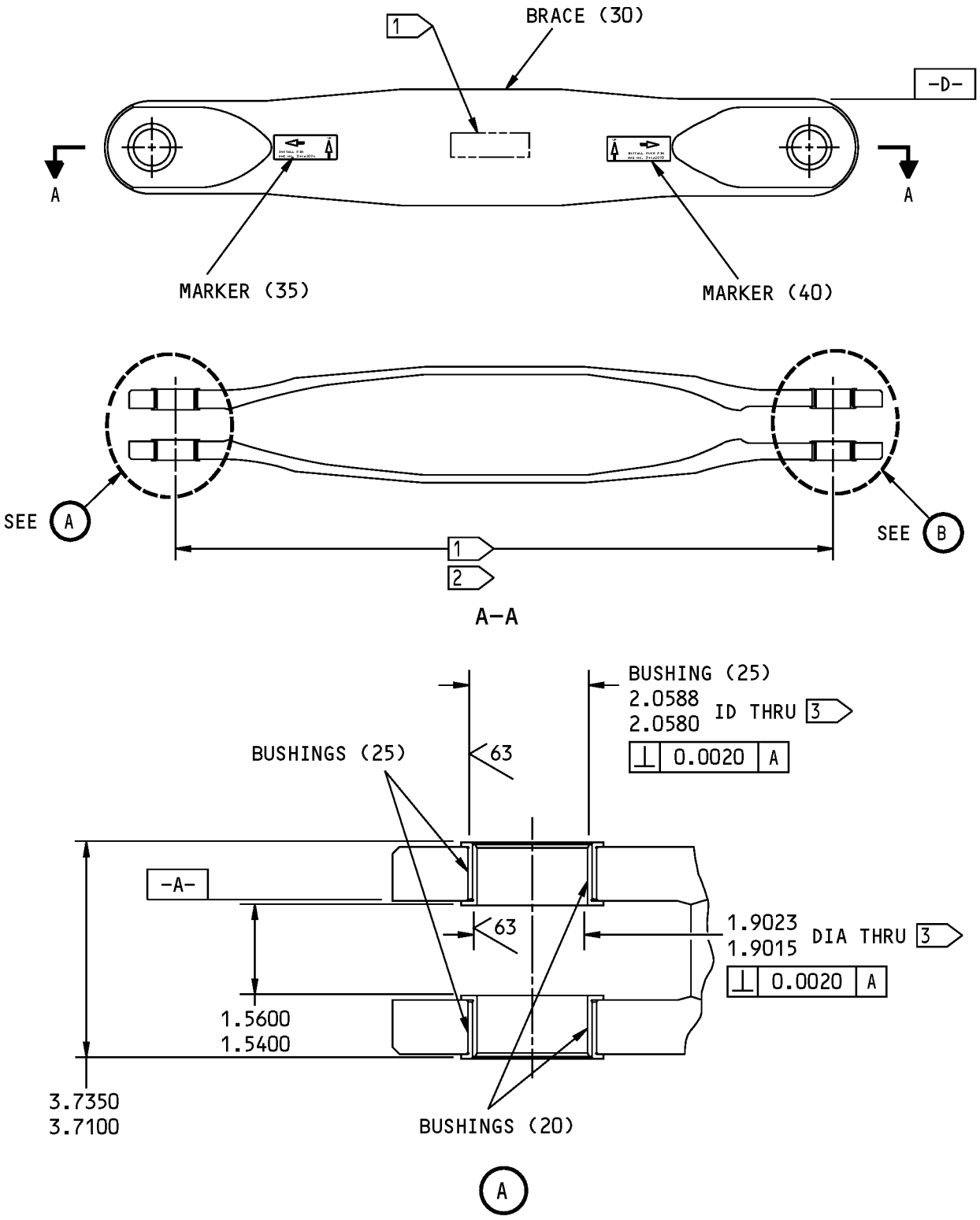
(7) Install the bushing (5, 20) as shown in REPAIR 3-1, Paragraph 2.C.(2) thru REPAIR 3-1, Paragraph 2.C.(6).

4. Diagonal Brace (30) Replacement

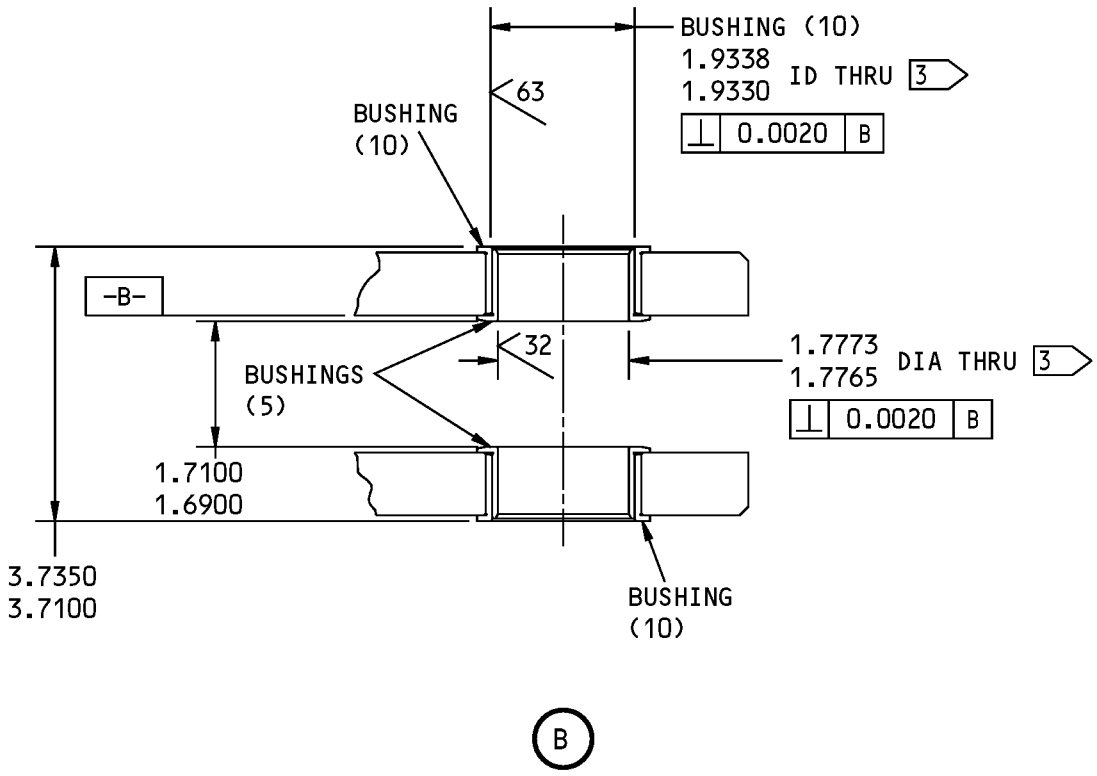
A. Procedure

NOTE: If replacing the diagonal brace (30), the diagonal brace assembly (15) must be used that includes the diagonal brace (30).

(1) See REPAIR 3-3 for the replacement procedure.



311A2730-7 Diagonal Brace Assembly Repair
Figure 601 (Sheet 1 of 2)



1 THE CENTER TO CENTER DIMENSION OF THE BUSHING BORES IS SHOWN ON THE BRACE. (THE DIMENSION IS BETWEEN 33.7903-33.8903 INCHES).

2 THIS DIMENSION IS FOR 72° F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.000014 INCH/INCH/ DEGREE F.

3 THE DIAMETERS MUST BE CONCENTRIC TO THE COMMON AXIS WITHIN 0.001 INCH FIM.

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 4

ALL DIMENSIONS ARE IN INCHES

311A2730-7 Diagonal Brace Assembly Repair
Figure 601 (Sheet 2 of 2)

DIAGONAL BRACE - REPAIR 3-2

311A2730–9

1. General

A. This procedure has the data necessary to repair and refinish the diagonal brace (30).

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

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

D. Refer to IPL Figure 4 for item numbers.

(1) Material: 7075 Aluminum alloy

Heat treat T73

(2) Shot peen: All machined surfaces

Intensity: 0.014A - 0.019A

Coverage: 2.0

Overspray is permitted

2. Brace Repair

A. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

(1) Machine the hole in the brace (30) to remove defects up to the repair limit shown in REPAIR 3-2, Figure 601.

(2) Break all the sharp edges, 0.02 - 0.04 inch radius.

(3) Do a penetrant check as shown in SOPM 20-20-02.

(4) Shot peen as shown in REPAIR 3-2, Paragraph 1.D.(2) (SOPM 20-10-03).

(a) After shot peen, 0.002 inch maximum material can be removed from the surfaces of the holes to get the necessary dimensions and surface roughness.

3. Manufacturing of Oversize Bushings

A. References

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

B. Procedure

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

(1) Manufacture the oversize bushing as shown in REPAIR 3-2, Figure 602 to adjust for the material removed in REPAIR 3-2, Paragraph 2.B.(1).

(2) Break all sharp edges, 0.02 - 0.04 inch radius.

(3) Do a magnetic particle check, class B, as shown in SOPM 20-20-01.

(4) Apply cadmium plate (F-15.06) to the outside diameter and flange only.

(5) Install the oversize bushing as shown in REPAIR 3-1.

4. Brace Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

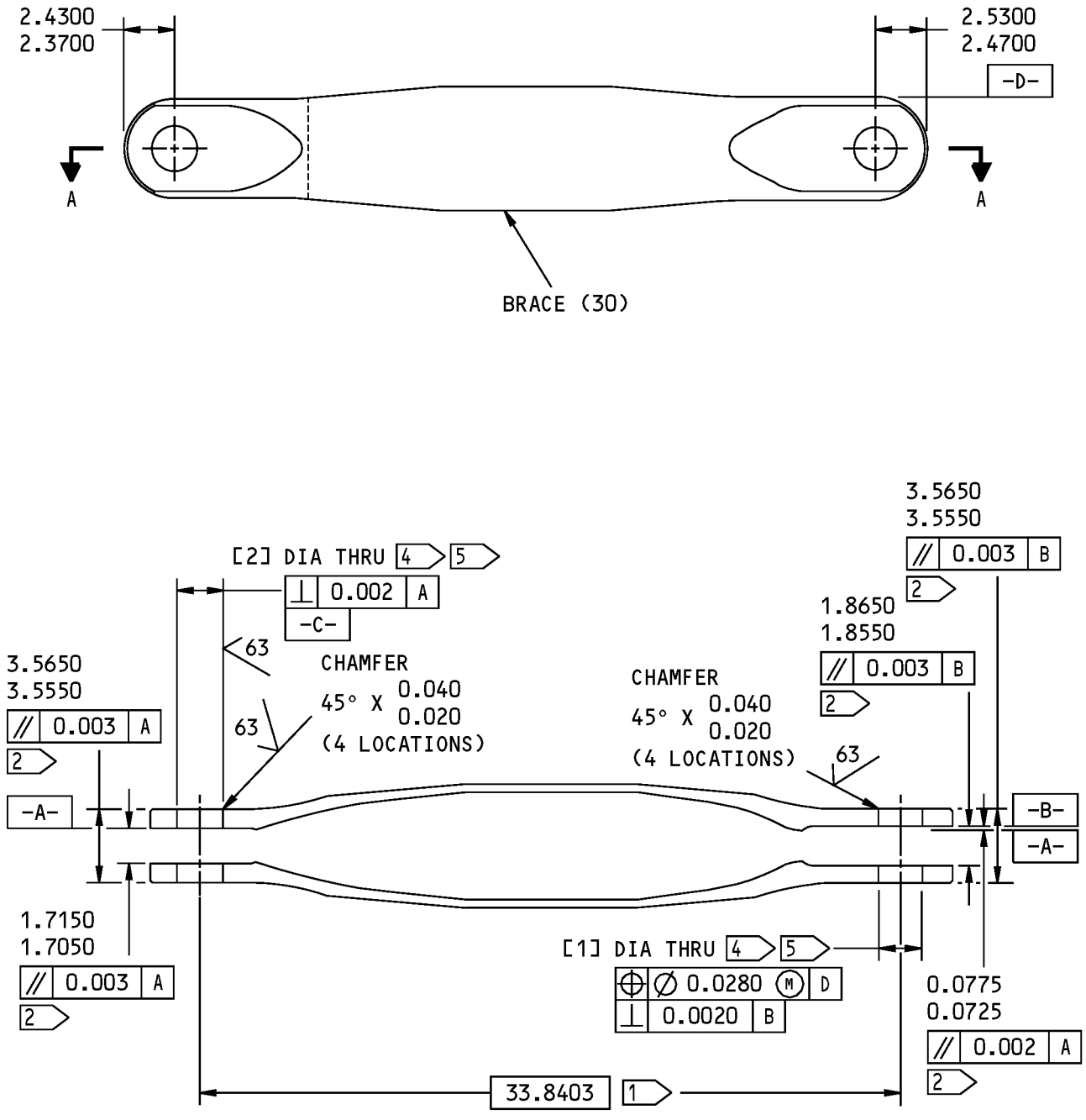
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

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

(1) Boric acid - sulfuric acid anodize or chromic acid anodize the brace (F-17.31). Make sure to include the bushing holes.

(2) Apply primer, C00259 (F-20.03) in to all surfaces. Include primer, C00259 in the bushing holes.



A–A

311A2730-9 Diagonal Brace Repair
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	[1]	[2]
DESIGN DIMENSION	2.0910 2.0902	2.2158 2.2150
REPAIR LIMIT	2.1510 MAX	2.2758 MAX

1> THE CENTER TO CENTER DIMENSION OF THE BORES IS SHOWN ON THE BRACE (30).

2> DIMENSION APPLIES TO SURFACE WITHIN 2.500 INCH DIAMETER AROUND THE CENTER OF THE HOLE.

3> DIMENSION AND SURFACE ROUGHNESS ARE AFTER SHOT PEEN.

4> DIMENSION AND SURFACE ROUGHNESS ARE BEFORE SHOT PEEN.

5> THE DIAMETERS MUST BE CONCENTRIC TO THE COMMON AXIS WITHIN 0.001 INCH FIM.

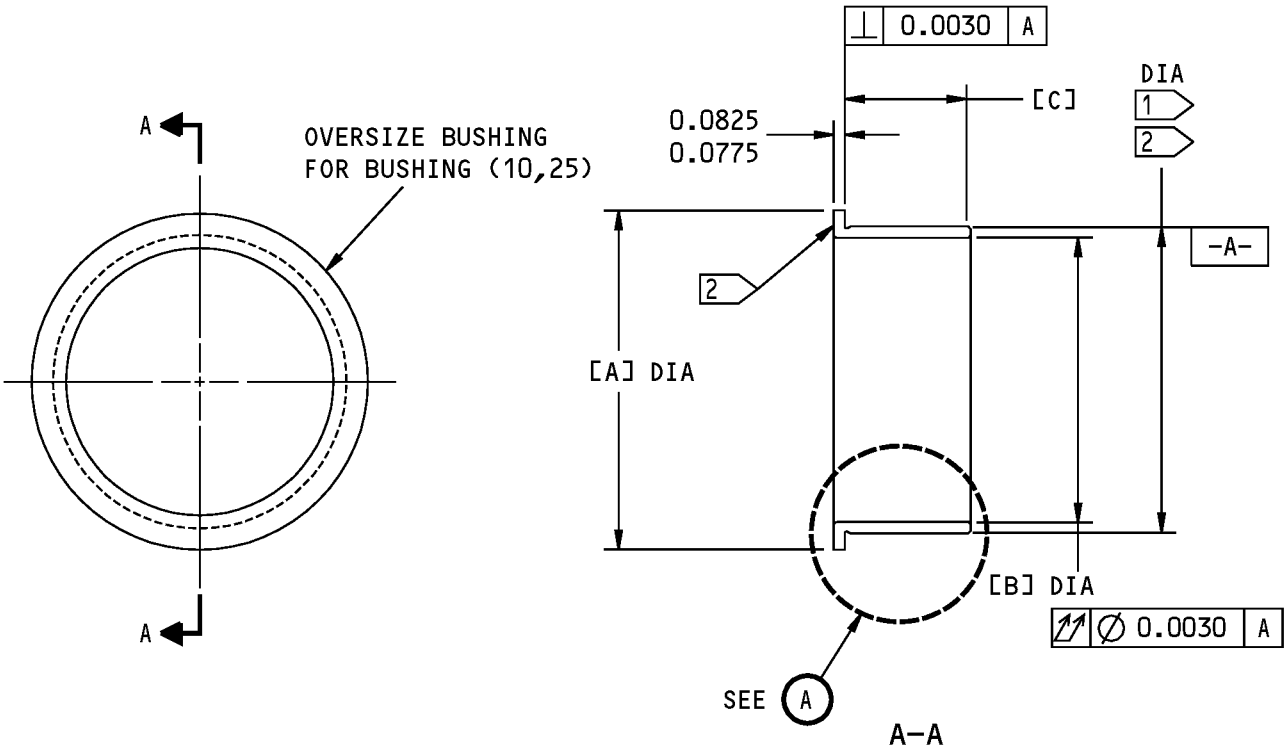
63 √ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

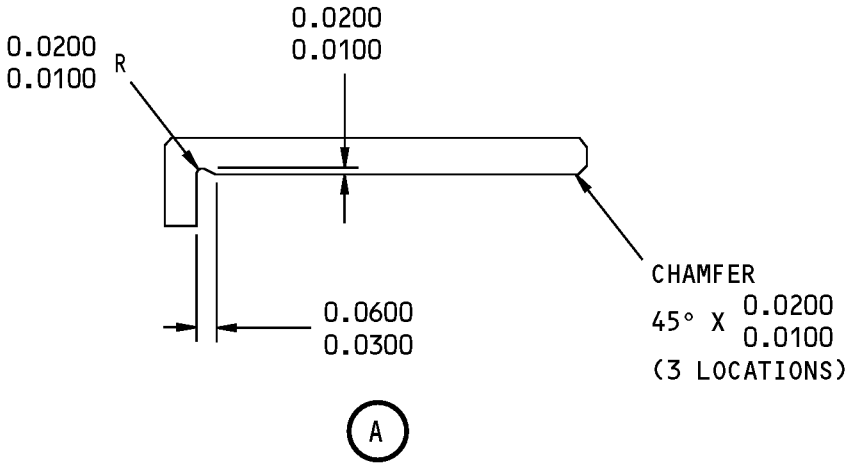
BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 4

ALL DIMENSIONS ARE IN INCHES

311A2730-9 Diagonal Brace Repair
Figure 601 (Sheet 2 of 2)





Oversize Bushing Details
Figure 602 (Sheet 1 of 2)

HOLE LOCATION (FIG. 601)	REPLACES BUSHING (IPL FIG. 4)	[A]	[B]	[C]	INTER-FERENCE
[1]	(10)	2.3500 2.3300	1.9210 1.9060	0.8400 0.8200	0.0036 0.0020
[2]	(25)	2.4600 2.4400	2.0460 2.0310	0.9050 0.8850	0.0038 0.0022

1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE BRACE HOLE PLUS THE INTERFERENCE.

2 CADMIUM PLATE ON THIS SURFACE ONLY.

MAIERIAL: 15-5PHCRES, AMS 5659
HEAT TREAT 150-170KSI

CADMIUM PLATE (F-15.06) THE OUTSIDE DIAMETER AND FLANGES ONLY

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.04 INCH RADIUS

ITEM NUMBERS REFER TO IPL FIG. 4

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2 of 2)

DIAGONAL BRACE ASSEMBLY - REPAIR 3-3

311A2730–8

1. General

A. This procedure has the data necessary to replace the diagonal brace assembly (1A).

NOTE: To replace the diagonal brace assembly (1A) you must rework the diagonal brace assembly (15) into the diagonal brace assembly (1A). To do this, you must install the bushings (5, 10) into a new diagonal brace assembly (15).

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

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

D. Refer to IPL Figure 4 for item numbers.

E. General repair details:

(1) Material: 7075 Aluminum alloy

Heat treat T73

(2) Shot peen: All machined surfaces

Intensity: 0.014A - 0.019A

Coverage: 2.0

Overspray is permitted

2. Brace Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-10	APPLICATION OF STENCILS, INSIGNIA, SILK SCREEN, PART NUMBERING AND IDENTIFICATION MARKINGS
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of Boeing finish codes, refer to SOPM 20-41-01. For application of stencils, insignia, silkscreen, part numbering and identification markings, refer to SOPM 20-50-10. For finishing materials, refer to SOPM 20-60-02.

(1) Procure the brace assembly (15) shown in REPAIR 3-3, Figure 601.

NOTE: The new brace (30) has a pilot hole in one end of the brace.

(2) Determine the distance between the centers of the bushing holes of the nacelle support fitting and the strut. The distance between the bushing hole centerlines must not be more than the dimensions shown in REPAIR 3-3, Figure 602.

(3) Machine the hole in the brace assembly (15) to the dimension shown in REPAIR 3-3, Figure 602.

(4) Break all sharp edges, 0.02 - 0.04 inch radius.

(5) Do a penetrant check as shown in SOPM 20-20-02.

(6) Shot peen the machined holes as shown in REPAIR 3-3, Paragraph 1.E.(2).

(a) The holes can be shot peened manually.

(b) After shot peen, 0.002 inch maximum material can be removed from the surfaces of the holes to get the necessary dimensions and surface roughness.

(7) Boric acid-sulfuric acid anodize or chromic acid anodize the machined surfaces of the brace (30) (F-17.31).

(8) Apply primer, C00259 (F-20.03) to all machined surfaces.

(9) Install the bushing (10) as shown in REPAIR 3-1, Paragraph 3.C.(2).

(10) Install the bushing (5) as shown in REPAIR 3-1, Paragraph 2.C.(2).

(11) Put a rubber stamp mark of the part number on the brace assembly (1A) as shown in SOPM 20-50-10.

(a) The part number is 311A2730-7.

(b) Apply a coating that is resistant to hydraulic fluid to the part mark.

(12) Put the following information on the brace assembly as shown in SOPM 20-50-10 and REPAIR 3-3, Figure 602:

(a) Center-To-Center distance is X.XXXX inches

1) X.XXXX is the distance measured in step REPAIR 3-3, Paragraph 2.C.(2).

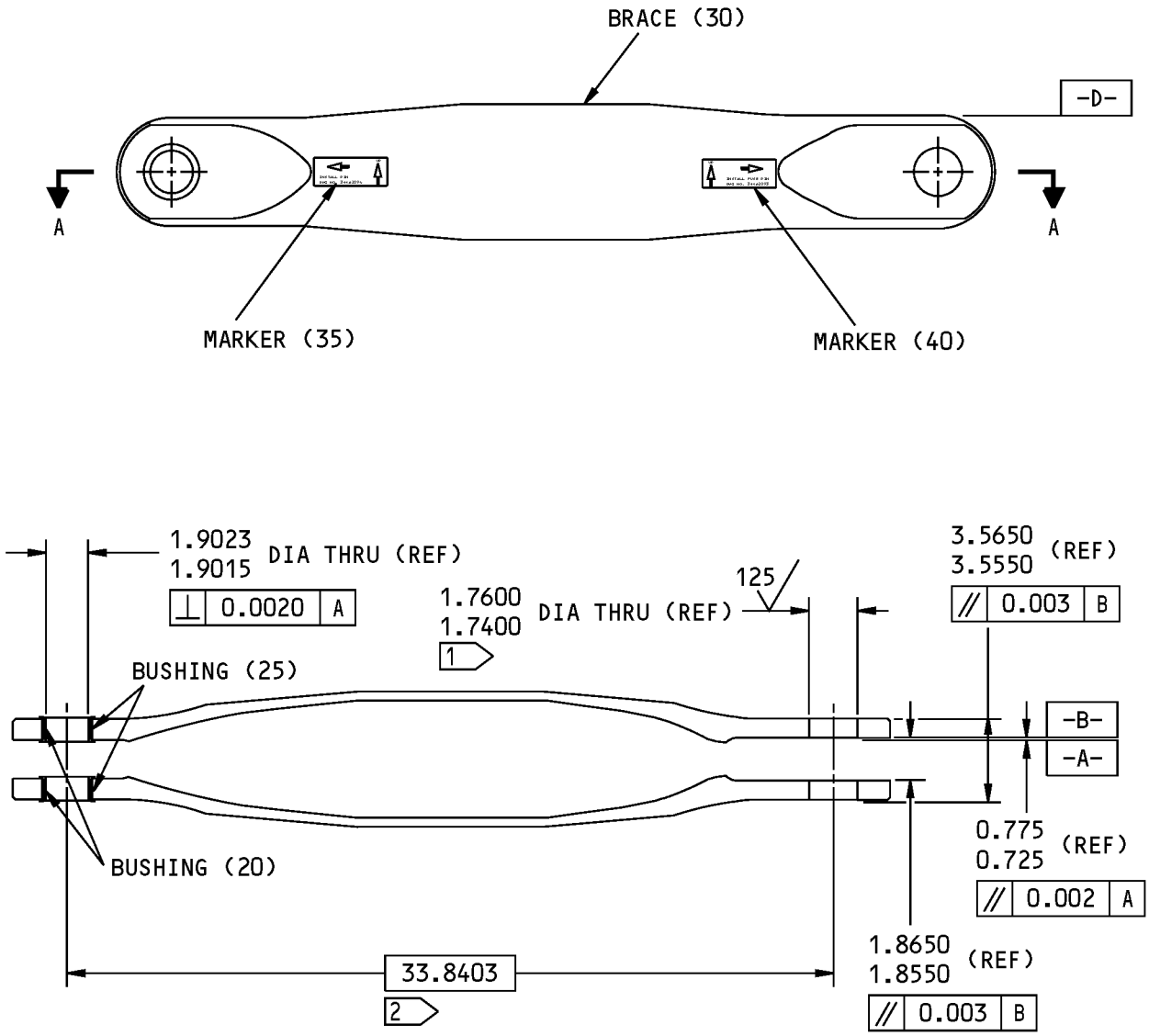
(b) Airplane number YYYYY

1) YYYYY is the airplane number assigned by The Boeing Company.

(c) Engine number Z

1) Z is the engine position number 1, 2, 3 or 4 from left to right pointing forward.

(13) Apply a coating that is resistant to hydraulic fluid to the information put on the brace assembly in REPAIR 3-3, Paragraph 2.C.(12).



A-A

1 PILOT HOLE

2 REFERENCE ONLY FOR PILOT HOLE LOCATION.

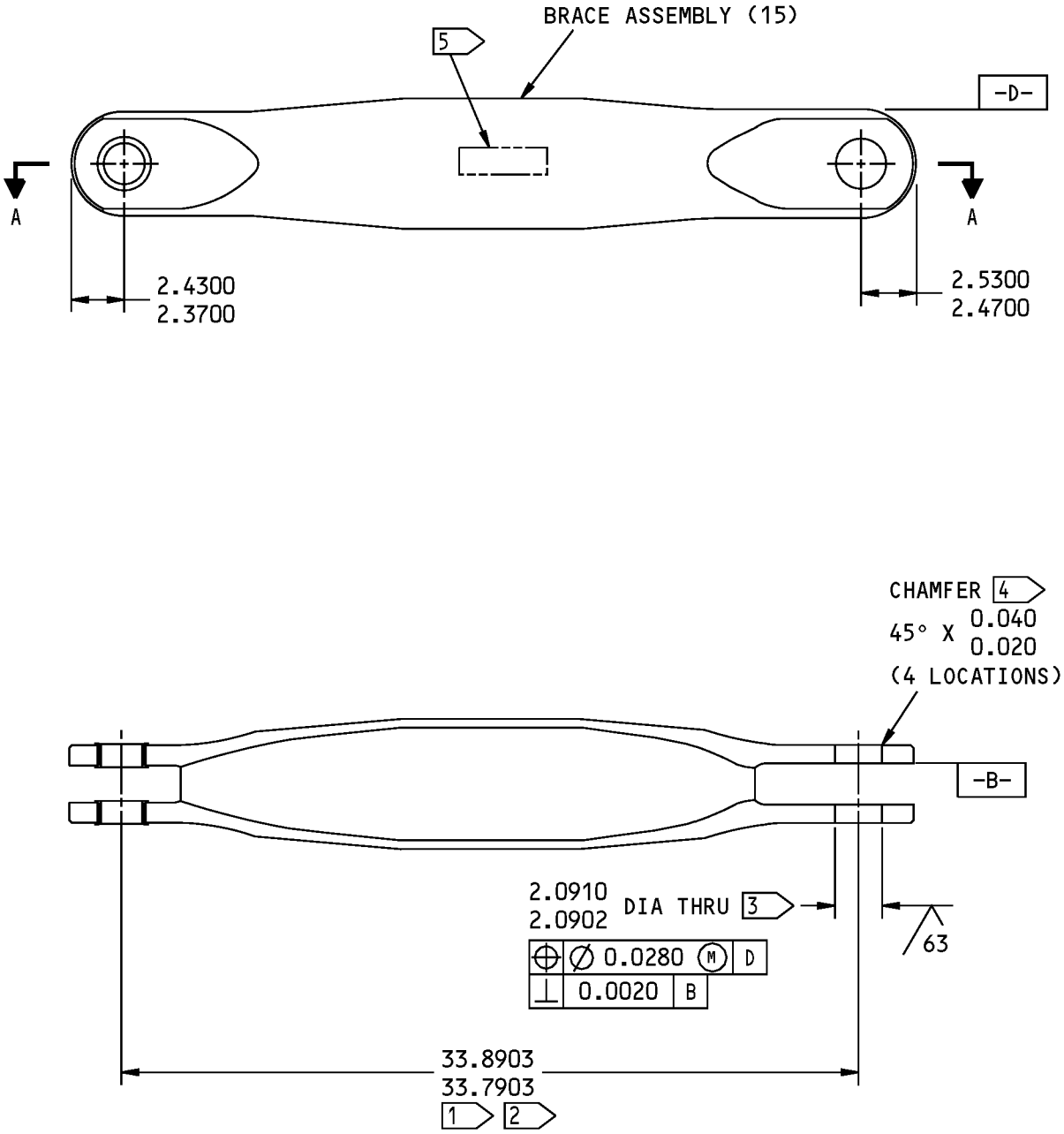
63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 4

ALL DIMENSIONS ARE IN INCHES

311A2730-8 Diagonal Brace Assembly Replacement
Figure 601



A–A

311A2730-8 Diagonal Brace Assembly Replacement
Figure 602 (Sheet 1 of 2)

1 DISTANCE BETWEEN THE CENTERS OF THE BUSHING HOLES OF THE NACELLE SUPPORT FITTING AND THE STRUT.

2 THIS DIMENSION IS FOR 72° F. MEASUREMENTS AT OTHER TEMPERATURES MUST BE ADJUSTED FOR THERMAL GROWTH BY 0.000014 INCH/INCH/ DEGREE F.

3 THE DIAMETERS MUST BE CONCENTRIC TO THE COMMON AXIS WITHIN 0.001 INCH FIM.

4 DIMENSION AND SURFACE ROUGHNESS ARE BEFORE SHOT PEEN.

5 CENTER-TO-CENTER DISTANCE, AIRPLANE NUMBER AND ENGINE POSITION IN THIS AREA.

63 √ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 4

ALL DIMENSIONS ARE IN INCHES

311A2730-8 Diagonal Brace Assembly Replacement
Figure 602 (Sheet 2 of 2)

SIDE LINK ASSEMBLY - REPAIR 4-1

311A2740–3

1. General

A. This procedure has the data necessary to repair the side link assembly (1A).

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

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

D. Refer to IPL Figure 5 for item numbers.

2. Bushing (5) Replacement

A. Procedure

(1) Remove the bushing (5) from the link (15A) SOPM 20-50-03.

(2) Install the new bushing (5) with grease, D00015 grease, using shrink-fit method as shown inSOPM 20-50-03. It is satisfactory to use the press fit method as shown in SOPM 20-50-03 to complete the installation of the bushing (15).

(3) Machine the inside diameter of the bushing (5) to the dimension shown in REPAIR 4-1, Figure 601.

3. Bushing (10) Replacement

A. Procedure

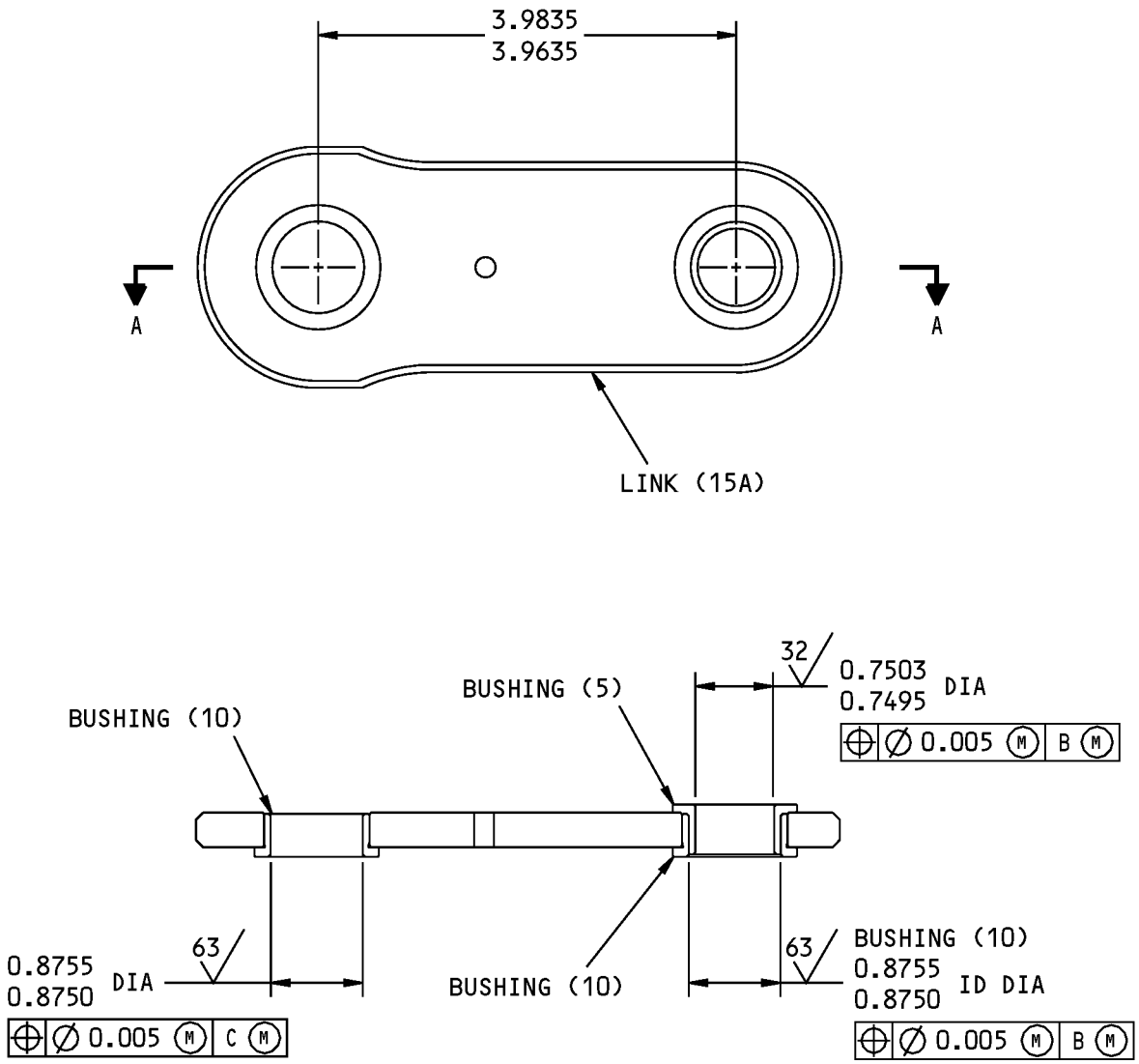
(1) Remove the bushing (10) from the link (15A).

NOTE: One of the bushing (10) is assembled with the bushing (5).

(2) Install the new bushing (10) as shown in SOPM 20-50-03, shrink-fit method. It is satisfactory to use the press-fit method as shown in SOPM 20-50-03 to complete the installation of the bushing (10).

(3) Machine the inside diameter of the bushing (10) to the dimension shown in REPAIR 4-1, Figure 601.

(4) Install the bushing (5) as shown in REPAIR 4-1, Paragraph 2.A.(2)) and REPAIR 4-1, Paragraph 2.A.(3) and REPAIR 4-1, Figure 601.



A–A

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 5

ALL DIMENSIONS ARE IN INCHES

311A2740-3 Side Link Assembly Repair
Figure 601

SIDE LINK - REPAIR 4-2

311A2740–4

1. General

A. This procedure has the data necessary to repair and refinish the link (15A).

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

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

D. Refer to IPL Figure 5 for item numbers.

E. General repair details:

(1) Material: TI-6AL-4V Titanium alloy

(2) Shot peen: All surfaces

Intensity: 0.014A - 0.019A

Coverage: 2.0

Hard Shot RC55-65

2. Side Link Repair

A. References

Reference	Title
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-07	MACHINING OF TITANIUM
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

NOTE: For machining of titanium, refer to SOPM 20-10-07. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03.

(1) Machine the hole in the link (15A) to remove defects up to the repair limit shown in REPAIR 4-2, Figure 601.

(2) Break all sharp edges.

(3) Do a penetrant check as shown in SOPM 20-20-02.

(4) Shot peen as shown in REPAIR 4-2, Paragraph 1.E.(2)SOPM 20-10-03.

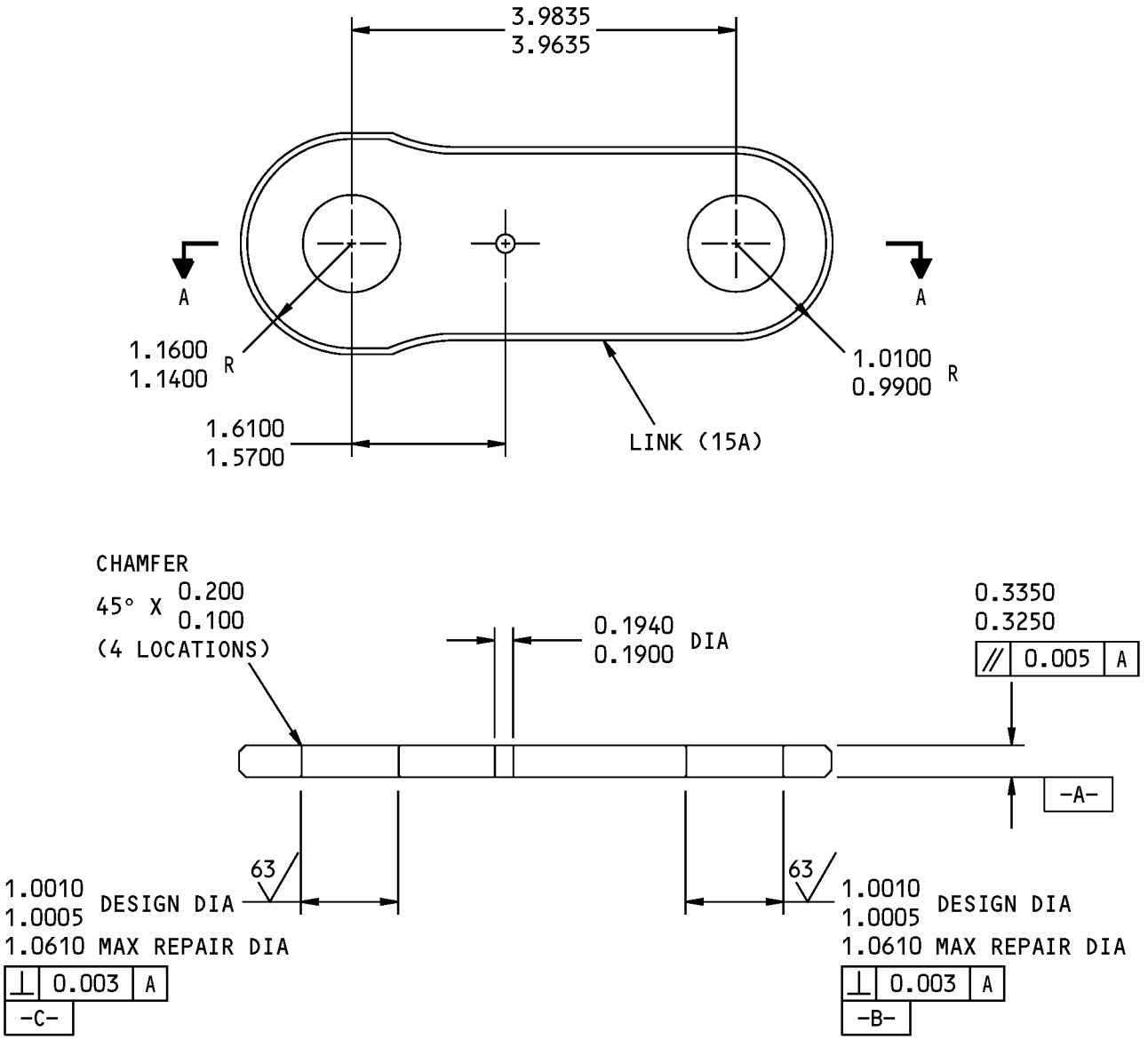
(a) After shot peen, 0.002 inch maximum material can be removed from the surfaces of the holes to get the necessary dimensions and surface roughness.

3. Manufacturing of Oversize Bushing

A. Procedure

(1) Manufacture the oversize bushing as shown in REPAIR 4-2, Figure 602 to adjust for the material removed in REPAIR 4-2, Paragraph 2.B.(1).

(2) Install the oversize bushing as shown in REPAIR 4-1.



A–A

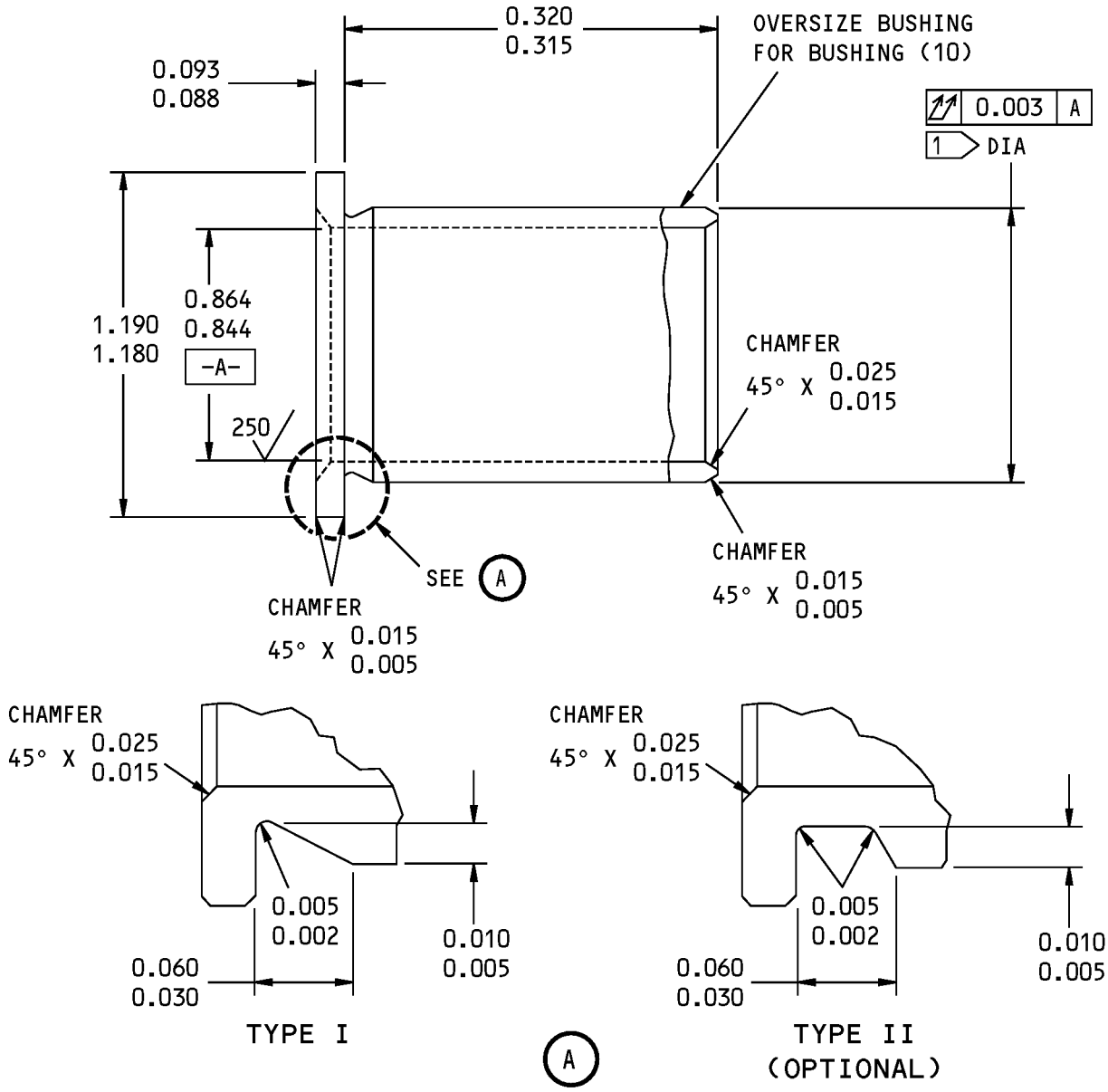
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 5

ALL DIMENSIONS ARE IN INCHES

311A2740-4 Side Link Repair
Figure 601



1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE LINK HOLE PLUS 0.0007–0.0017 INCH INTERFERENCE.

MATERIAL: 15–5PH CRES, AMS 5659
17–4PH CRES (OPTIONAL)
HEAT TREAT 32–37 HRC

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 5

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602

FUSE PIN - REPAIR 5-1

311A2090–1, 311A2091–1, 311A2092–2, 311A2093–1, 311A2094–1

1. General

A. This procedure has the data necessary to repair and refinish the fuse pin (1A, 5, 10, 15, 20).

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

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

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES

Heat treat 140-150 ksi

(311A2090-1)

(311A2092-2)

(311A2093-1)

Heat treat 150-170 ksi

(311A2091-1)

(311A2094-1)

(2) Shot Peen: Surface as shown in REPAIR 5-1, Figure 601

Intensity: 0.012A - 0.017A

Coverage: 2.0

2. Fuse Pin Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5

B. References

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

Reference	Title
SOPM 20-41-02	APPLICATION OF CHEMICAL AND SOLVENT RESISTANT FINISHES
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove chrome plate to the dimension shown in REPAIR 5-1, Figure 601.

(2) Break the sharp edges, 0.03 - 0.05 inch radius.

(3) Do a magnetic particle check, class A, as shown in SOPM 20-20-01.

(4) Shot peen the outside diameter of the fuse pin (1A, 5, 10, 15, 20) as shown in REPAIR 5-1, Paragraph 1.E.(2) and REPAIR 5-1, Figure 601 (SOPM 20-10-03).

(5) Passivate (F-17.25) as shown in SOPM 20-30-03 all surfaces, but do not passivate the outside diameter of the fuse pin (1A, 5, 10, 15, 20) as shown in REPAIR 5-1, Figure 601.

(6) Apply chrome plate (F-15.34) to the surface as shown in REPAIR 5-1, Figure 601. Make sure there is no chrome plate in the fillet radius.

(7) Grind the diameter of the fuse pin (1A, 5, 10, 15, 20) to get the dimension and surface roughness shown in REPAIR 5-1, Figure 601.

(8) Do a magnetic particle check, class A, as shown in SOPM 20-20-01 again.

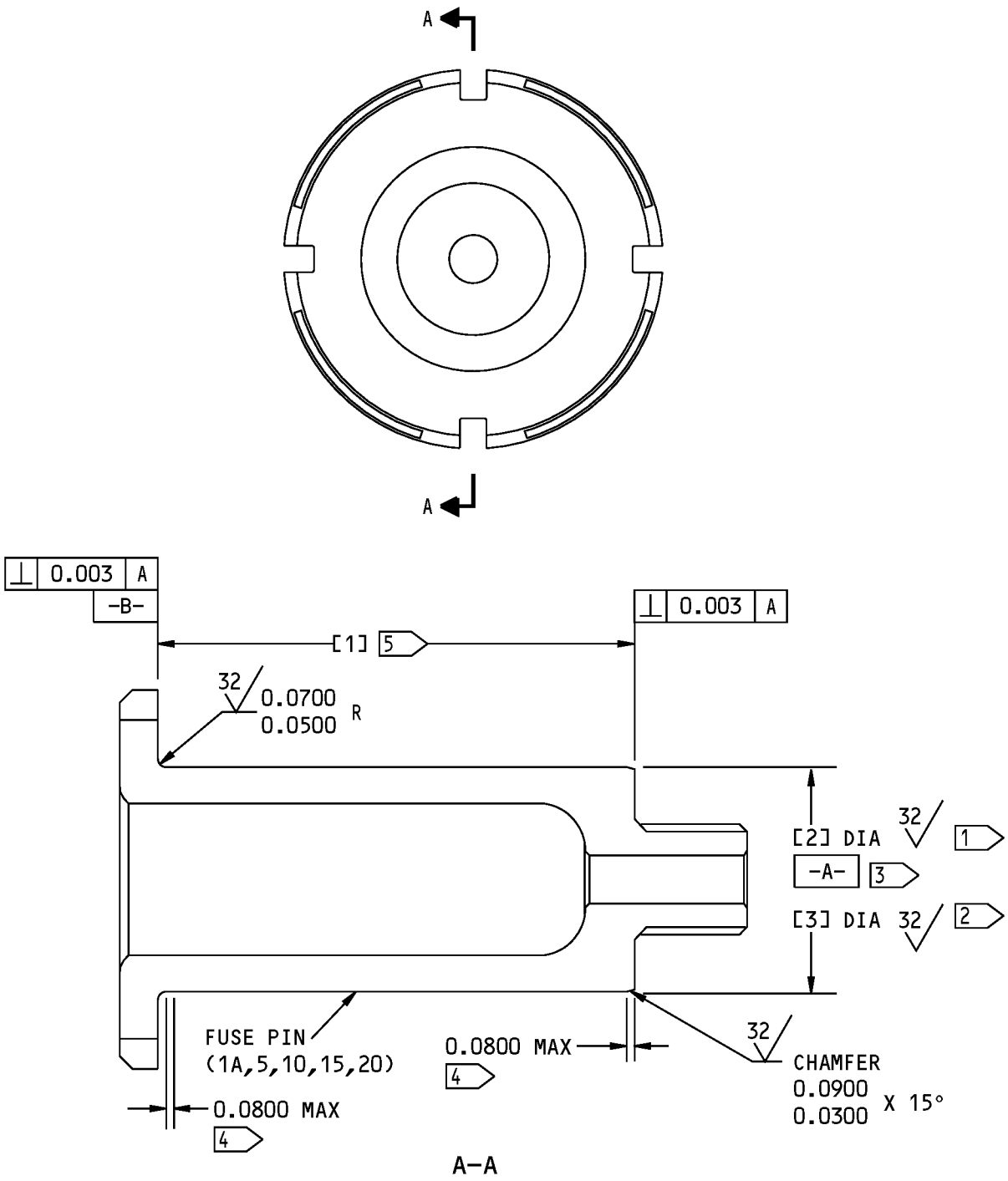
(9) Put a primer, C00259 on the chrome plated surface (F-19.45):

(a) Prepare the surface as shown in SOPM 20-41-02.

(b) Apply a large quantity of primer, C00259 to the surface with a cotton wiper, G00034.

(c) Remove the unwanted wet primer, C00259 with the cotton wiper, G00034.

(d) Cure the primer, C00259 as shown in SOPM 20-41-02.



311A2090-1,311A2091-1, 311A2092-2,311A2093-1,311A2094-1 Fuse Pin Repair
Figure 601 (Sheet 1 of 2)

PART NUMBER	REFERENCE NUMBER FOR DESIGN DIMENSION		
	[1]	[2] 1	[3] 2
311A2090-1	3.0650 3.0550	1.7140 1.7125	1.7205 1.7200
311A2091-1	5.1200 5.1050	2.0240 2.0225	2.0305 2.0300
311A2092-2	3.8850 3.8750	1.6440 1.6425	1.6505 1.6500
311A2093-1	3.7800 3.7650	1.7690 1.7675	1.7755 1.7750
311A2094-1	3.7800 3.7650	1.8940 1.8925	1.9005 1.9000

1 DIAMETER BEFORE CHROME PLATE

2 DIAMETER AFTER CHROME PLATE

3 125 SURFACE ROUGHNESS AFTER SHOT PEEN

4 CHROME PLATE RUNOUT AREA

5 CHROME PLATE ON THIS SURFACE
DO NOT PASSIVATE THIS SURFACE

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

311A2090-1,311A2091-1, 311A2092-2,311A2093-1,311A2094-1 Fuse Pin Repair
Figure 601 (Sheet 2 of 2)

RETENTION BOLT - REPAIR 6-1

311A2097–1, –2, –3, –4

1. General

A. This procedure has the data necessary to refinish the retention bolt (25 thru 25C).

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

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

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH CRES

Heat treat 150-170 Ksi

2. Retention Bolt Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-03	LUBRICANTS

C. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of Boeing finish codes, refer to SOPM 20-41-01. For application of bonded solid film lubricants, refer to SOPM 20-50-08. For finishing materials, refer to SOPM 20-60-02. For lubricants, refer to SOPM 20-60-03.

(1) Passivate (F-17.25) all surfaces as shown in SOPM 20-30-03.

(2) Apply lubricant, D00113 on all surfaces..

SHOULDER BOLT - REPAIR 7-1

311A2098–2, –3, –4, –5

1. General

A. This procedure has the data necessary to refinish the shoulder bolt (30, 30A, 30B, 30C).

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

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

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material:

(a) 718 Nickel alloy, Heat treat 215-235 ksi (30, 30B)

(b) 15-5PH CRES, Heat treat 150-170 Ksi (30A, 30C)

(2) Shot peen: All external surfaces except threads, and pawl (30, 30A)

Intensity: 0.012A - 0.017A

Coverage: 2.0

2. Shoulder Bolt Refinish

A. References

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

B. Procedure

NOTE: For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of Boeing finish codes, refer to SOPM 20-41-01. For hard chrome plating, refer to SOPM 20-42-03.

(1) Remove chrome plate to the dimension shown in REPAIR 7-1, Figure 601, REPAIR 7-1, Figure 602 or REPAIR 7-1, Figure 603.

(2) Break the sharp edges, 0.03 - 0.05 inch radius.

(3) Do a magnetic particle check, class A, as shown in SOPM 20-20-01 (30A, 30C). Do a penetrant check as shown in SOPM 20-20-02. (30, 30B)

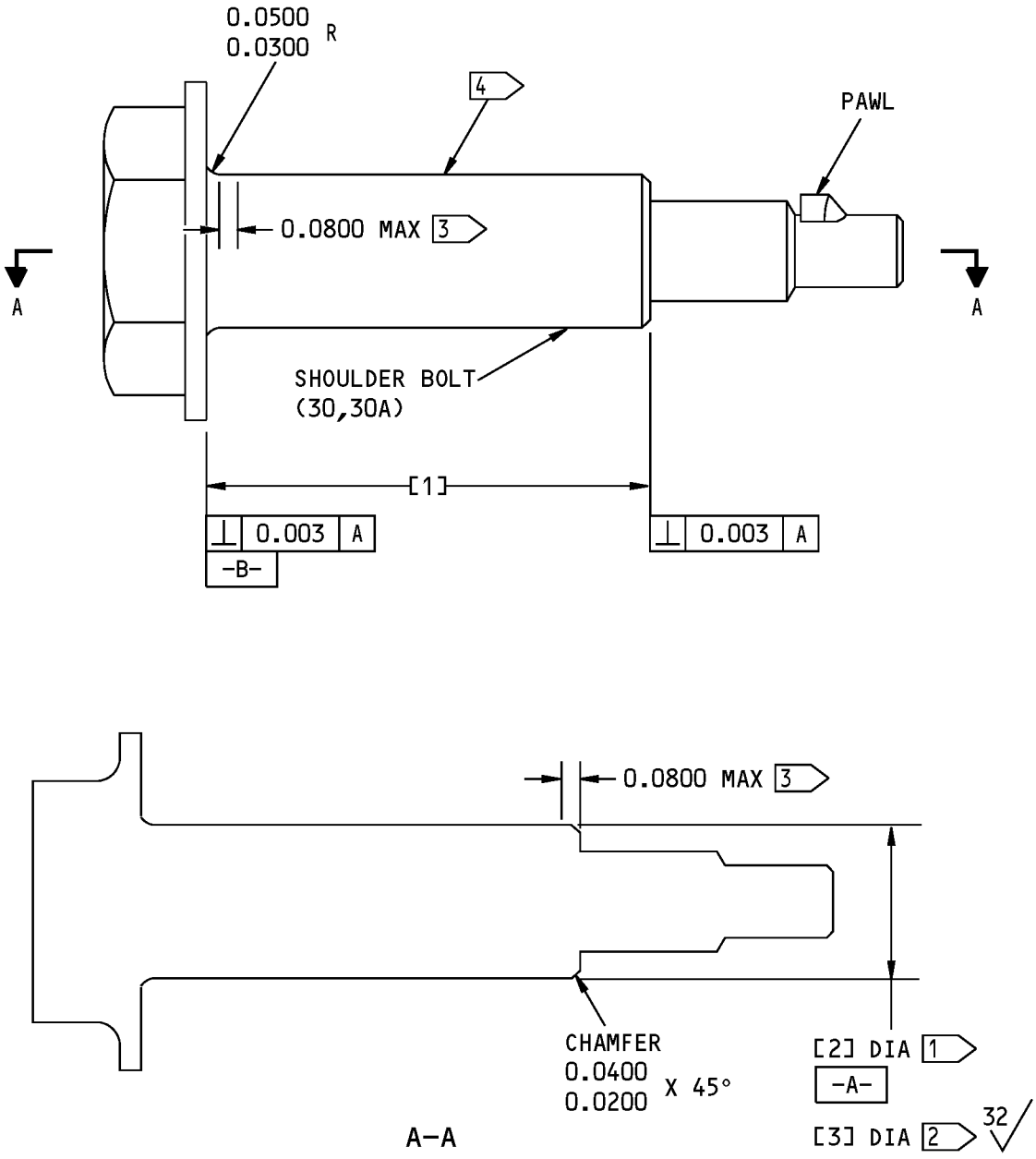
(4) Shot peen as shown in REPAIR 7-1, Paragraph 1.E.(2) per SOPM 20-10-03.

(5) Apply chrome plate (F-15.34), 0.0005 - 0.0010 inch single plate thick, to the surface as shown in REPAIR 7-1, Figure 601. Make sure there is no chrome plate in the fillet radius under the head of bolt (30, 30A, 30B, 30C).

(6) Grind the diameter of the shoulder bolt (30, 30A, 30B, 30C) to get the dimension and surface roughness shown in REPAIR 7-1, Figure 601, REPAIR 7-1, Figure 602 or REPAIR 7-1, Figure 603.

(7) Do a magnetic particle check, class A, as shown in SOPM 20-20-01 again (30A, 30C). Do a penetrant check as shown in SOPM 20-20-02 again (30, 30B).

(8) Passivate (F-17.25) as shown in SOPM 20-30-03.



311A2098-2,-3 Shoulder Bolt Repair
Figure 601 (Sheet 1 of 2)

PART NUMBER 311A2098	REFERENCE NUMBER FOR DESIGN DIMENSION		
	[1]	[2] 1	[3] 2
-2	1.7210 1.7110	0.6225 0.6220	0.6240 0.6235
-3	1.7210 1.7110	0.7475 0.7470	0.7490 0.7485

1 DIAMETER BEFORE CHROME PLATE

2 DIAMETER AFTER CHROME PLATE

3 CHROME PLATE RUNOUT AREA

4 CHROME PLATE THIS SURFACE

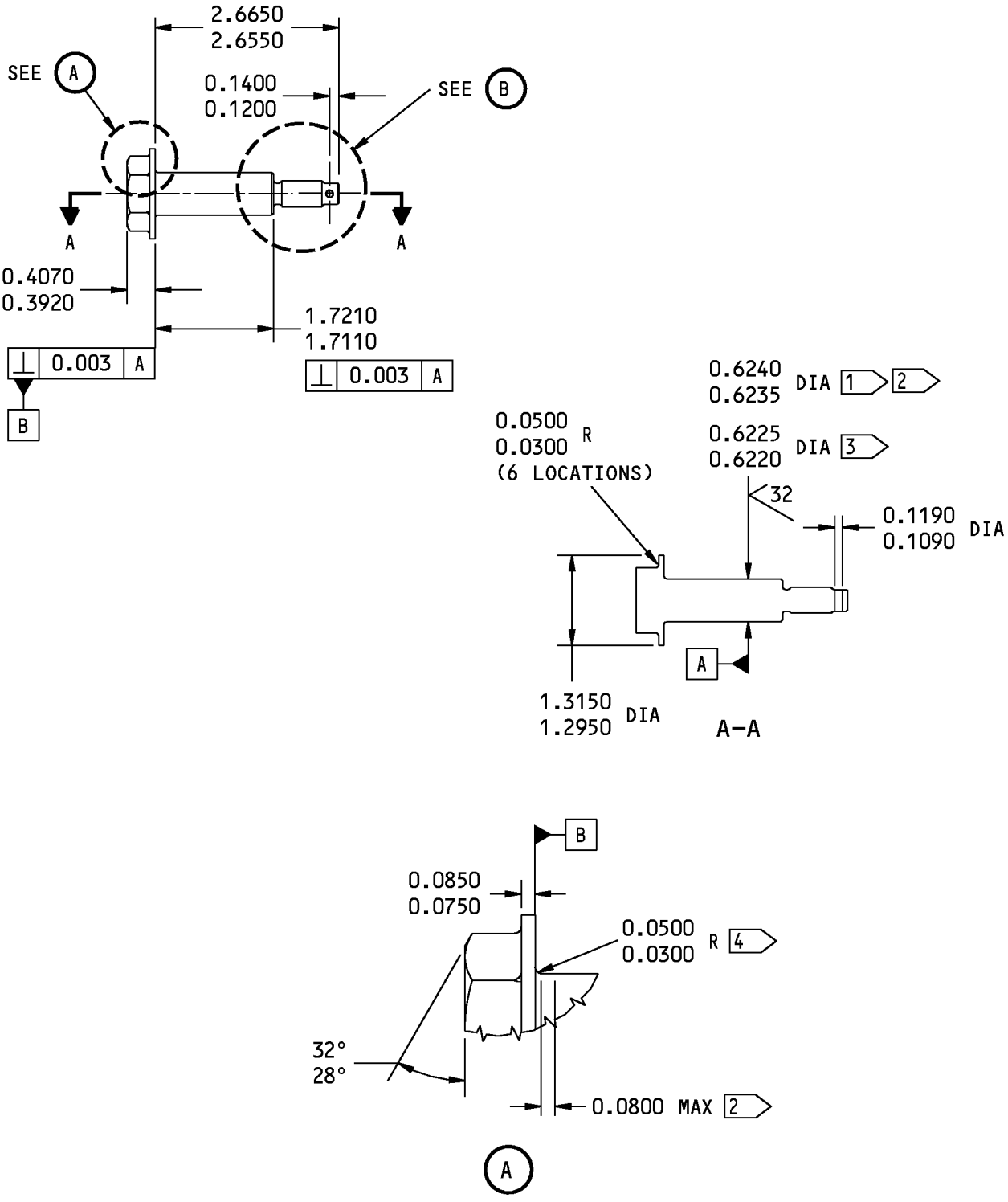
64 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

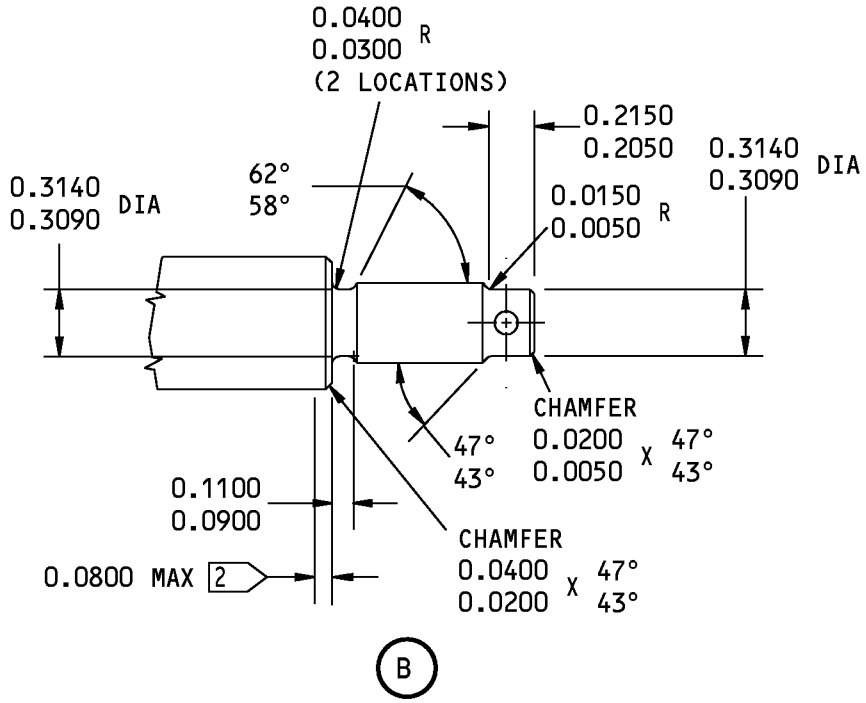
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

311A2098-2,-3 Shoulder Bolt Repair
Figure 601 (Sheet 2 of 2)



311A2098-4 Shoulder Bolt Repair
Figure 602 (Sheet 1 of 2)



1 CHROME PLATE TO RUN OUT 0.000 TO 0.080 MAXIMUM FROM BOTH ENDS OF PIN DIAMETER. NO CHROME PLATING IN FILLET RADII UNDER HEAD. POST PLATE GRINDING PER BAC 5032 (SOPM 20-10-04) TO ACHIEVE FINAL DIMENSION AND SURFACE ROUGHNESS AS REQUIRED

2 AFTER (F-15.34) PLATING

3 BEFORE PLATING

4 PROTECT FILLET RADIUS FROM CHROME DEPOSIT DURING AND AFTER PLATING PROCESS

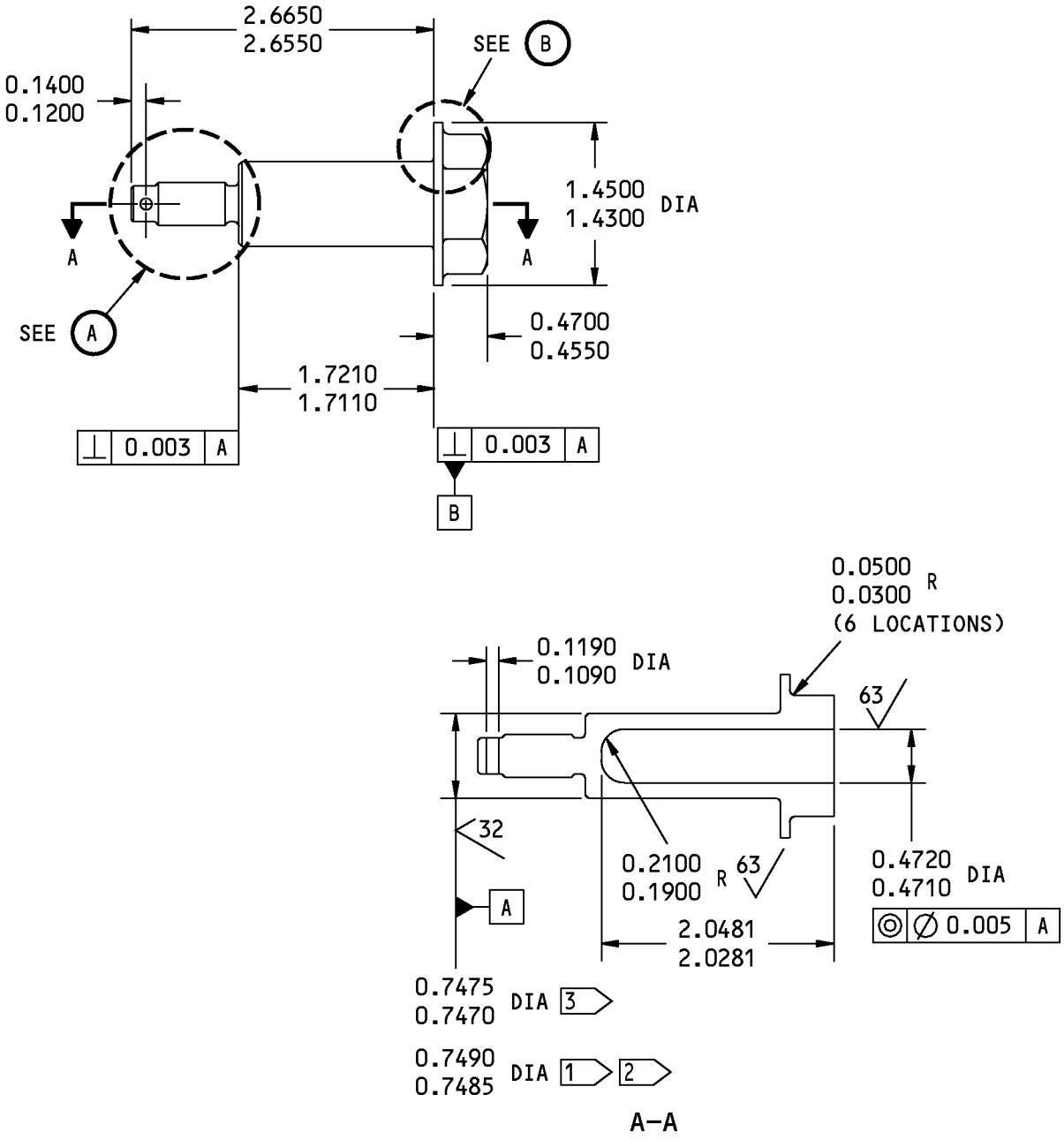
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

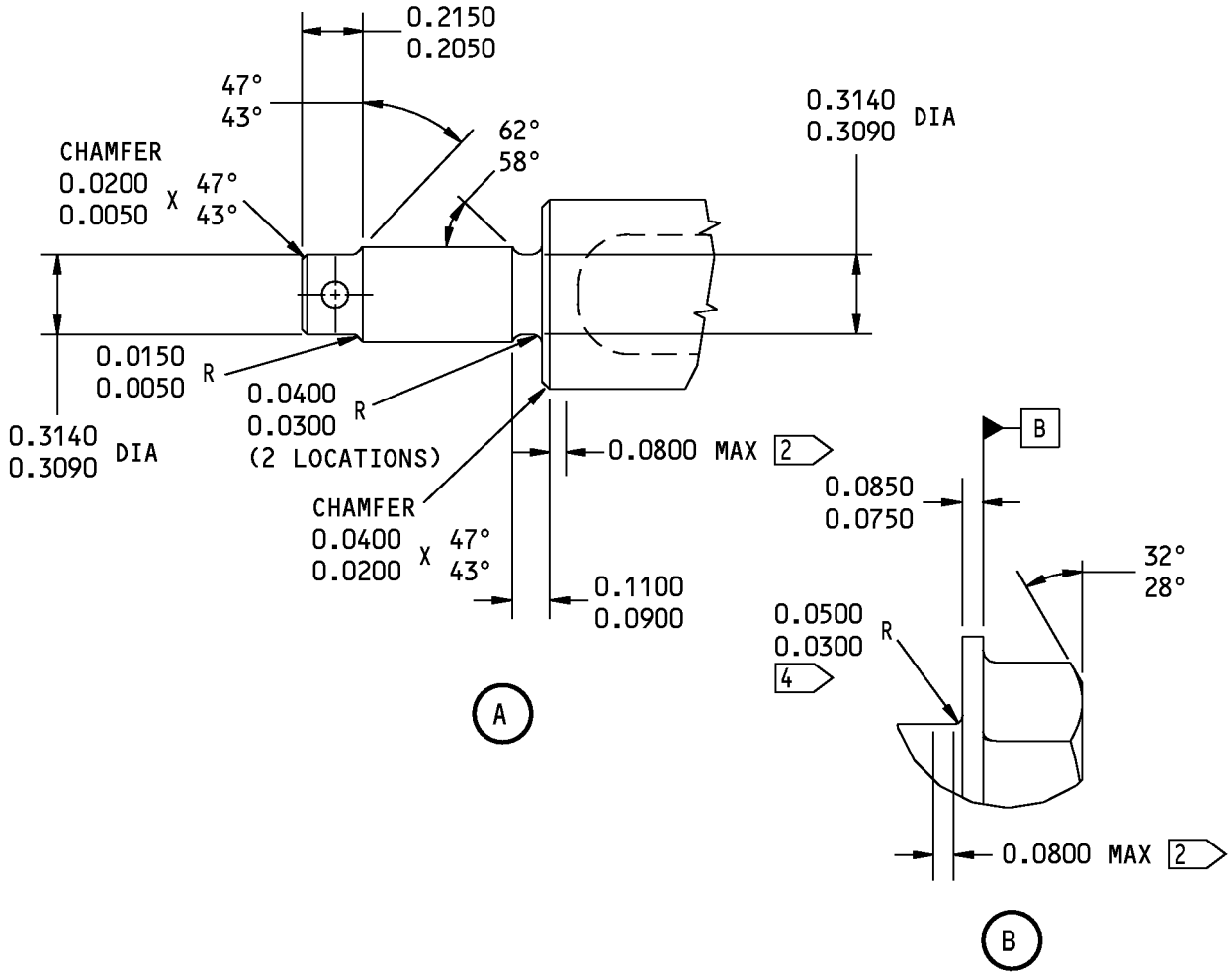
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

311A2098-4 Shoulder Bolt Repair
Figure 602 (Sheet 2 of 2)



311A2098-5 Shoulder Bolt Repair
Figure 603 (Sheet 1 of 2)



1 CHROME PLATE TO RUN OUT 0.000 TO 0.080 MAXIMUM FROM BOTH ENDS OF PIN DIAMETER. NO CHROME PLATING IN FILLET RADII UNDER HEAD. POST PLATE GRINDING PER BAC 5032 (SOPM 20-10-04) TO ACHIEVE FINAL DIMENSION AND SURFACE ROUGHNESS AS REQUIRED

2 AFTER (F-15.34) PLATING

3 BEFORE PLATING

4 PROTECT FILLET RADIUS FROM CHROME DEPOSIT DURING AND AFTER PLATING PROCESS

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

311A2098-5 Shoulder Bolt Repair
Figure 603 (Sheet 2 of 2)

TIE ROD ASSEMBLY - REPAIR 8-1

311A2551–1, –2

1. General

A. This procedure has the data necessary to repair the tie rod assembly (1A, 1B).

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

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

D. Refer to IPL Figure 7 for item numbers.

2. Rod End Bearing (15, 30) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00648	Compound - Retaining - Loctite 242	

B. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-12	APPLICATION OF ADHESIVES
SOPM 20-60-04	MISCELLANEOUS MATERIALS

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

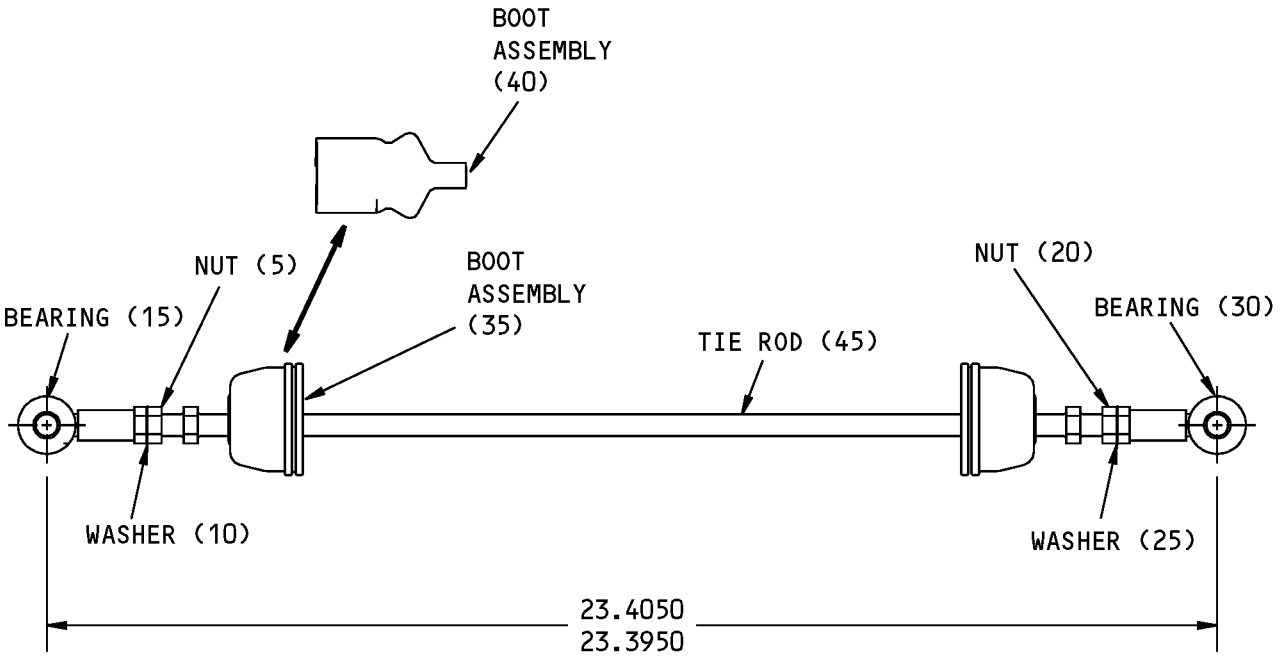
NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For application of adhesives, refer to SOPM 20-50-12. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Loosen the nut (5, 20) on the tie rod (45). Remove the bearing (15, 30) and the washer (10, 25).

(2) Install the washer (10, 25) and the replacement bearing (15, 30) on the tie rod (45) to obtain the dimension shown in REPAIR 8-1, Figure 601.

NOTE: Bearing (15, 30) must be threaded equally on Rod (45).

(3) Apply Loctite 242 compound, A00648 as specified in SOPM 20-50-12 to the nut (5, 20) and tighten the nut against the bearing (15, 30).



ITEM NUMBERS REFER TO IPL FIG. 7

ALL DIMENSIONS ARE IN INCHES

311A2551-1,-2 Tie Rod Assembly
Figure 601

TIE ROD - REPAIR 8-2

311A2551–3

1. General

A. This procedure has the data necessary to repair and refinish the tie rod (45).

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

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

D. Refer to IPL Figure 7 for item numbers.

E. General repair details:

(1) Material: TI-6AL-4V Titanium alloy

2. Tie Rod Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00951	Coating - Teflon Filled	BAC5710, Type 27
C50030	Coating - Phosphate-Fluoride, Manual Application	BAC5861, Method III
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-03	LUBRICANTS

C. Procedure (REPAIR 8-2, Figure 601)

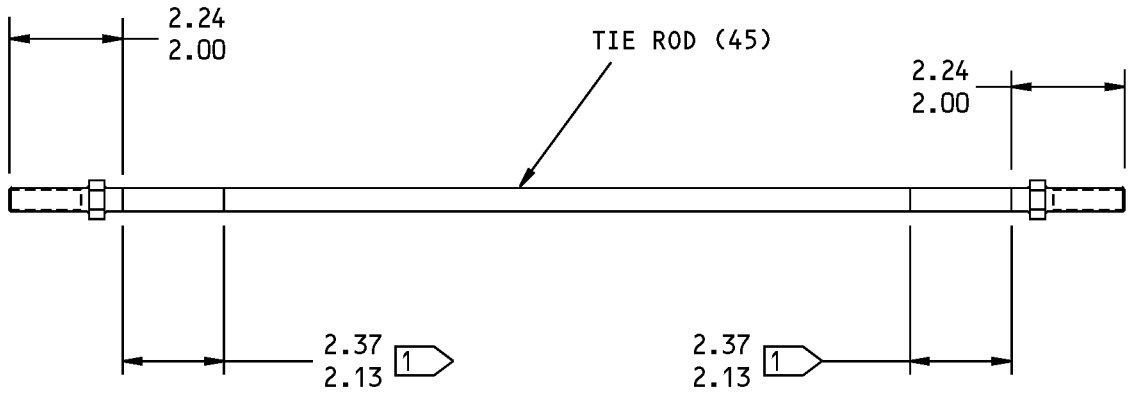
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedures, refer to SOPM 20-30-03. For decoding of Boeing finish codes, refer to SOPM 20-41-01. For application of solid film lubricants, refer to SOPM 20-50-08. For finishing materials, refer to SOPM 20-60-02. For lubricants, refer to SOPM 20-60-03.

(1) Apply phosphate-fluoride coating, C50030 (F-14.881) to all surfaces of the rod (45).

(2) Apply lubricant, D00113 (F-19.10) to the threads of the rod (45).

(3) Apply primer, C00259 (F-20.02) as shown in REPAIR 8-2, Figure 601.

(4) Apply coating, C00951 (F-14.9625) as shown in REPAIR 8-2, Figure 601.



1 PRIMER (F-20.020) AND ABRASION TEFLON COAT (F-14.9625) CIRCUMFERENTIAL AREA

ITEM NUMBERS REFER TO IPL FIG. 7

ALL DIMENSIONS ARE IN INCHES

311A2551-3 Tie Rod
Figure 601

HINGE ASSEMBLY - REPAIR 9-1

311A2552–1, –2, –5, –6, –9, –10

1. General

A. This procedure has the data necessary to repair the hinge assemblies (IPL Figure 8; 1A, 5A; IPL Figure 9; 1A, 5A).

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

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

D. Refer to IPL Figure 8 and IPL Figure 9 for item numbers.

2. Bearing Replacement (IPL Figure 8, 10; IPL Figure 9, 20).

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63
A00900	Sealant - Silicone, RTV - Dow Corning 93-006-1	

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

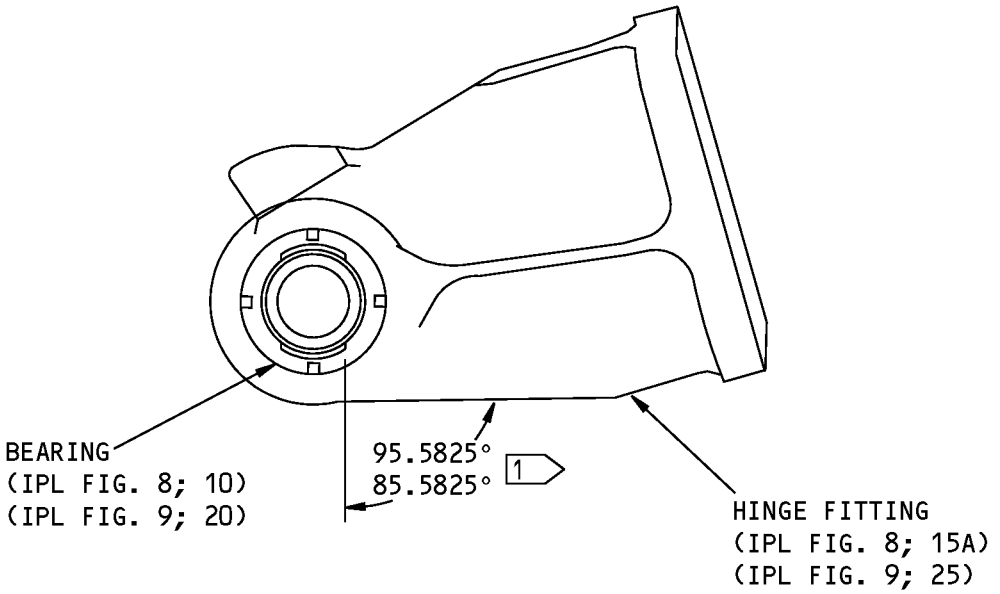
C. Procedure (REPAIR 9-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03 . For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For bolt and nut installation, refer to SOPM 20-50-01. For general sealing, refer to SOPM 20-50-19. For miscellaneous material, refer to SOPM 20-60-04.

(1) Remove the bearing (IPL Figure 8, 10; IPL Figure 9, 20) from the fitting (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30) (SOPM 20-50-03).

(2) Install new bearing (IPL Figure 8, 10; IPL Figure 9, 20) into the fitting (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30) with sealant, A00160 or Dow Corning 93-006-1 sealant, A00900 as shown in SOPM 20-50-03.

(3) Torque the bearing nut (IPL Figure 8, 10; IPL Figure 9, 20) to 120-140 pound-inches.



311A2552-5 SHOWN
311A2552-6 OPPOSITE
311A2552-1,-2,-9,-10 SIMILAR

1 BEARING SLOT MAY BE ORIENTED NEAR SIDE OR FAR SIDE

ALL DIMENSIONS ARE IN INCHES

311A2552-1,-2,-5,-6,-9,-10 Hinge Assembly Repair
Figure 601

HINGE FITTING - REPAIR 9-2

311A2552–3, –4, –7, –8

1. General

A. This procedure has the data necessary to repair and refinish the hinge fittings (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30).

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

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

D. Refer to IPL Figure 8 and IPL Figure 9 for item numbers.

E. General repair details:

(1) Material: TI-6AL-4V Titanium alloy

2. Fitting Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00951	Coating - Teflon Filled	BAC5710, Type 27
C50030	Coating - Phosphate-Fluoride, Manual Application	BAC5861, Method III

B. References

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

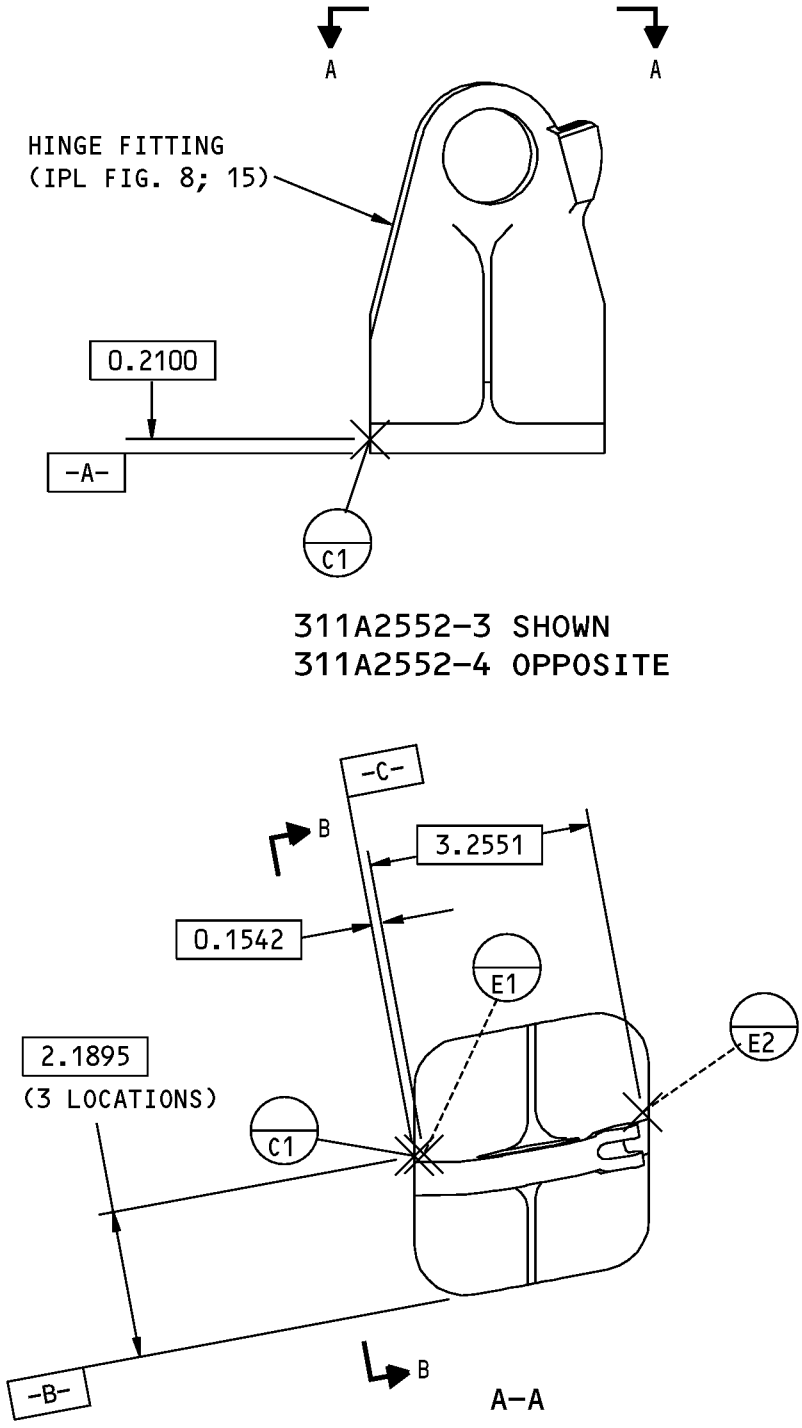
C. Procedure (REPAIR 9-2, Figure 601)

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

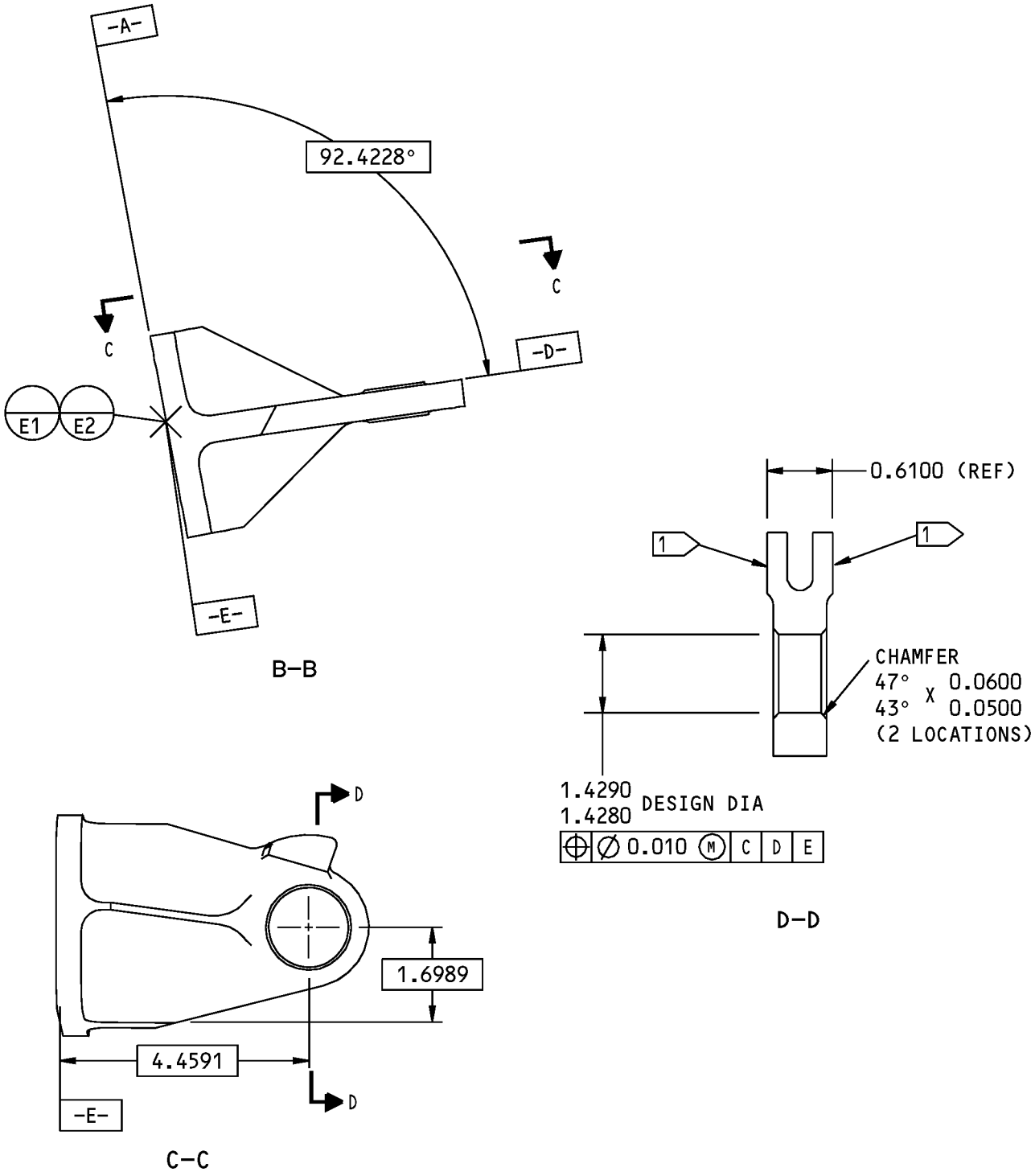
(1) Apply phosphate-fluoride coating, C50030 (F-14.881) to all surfaces of the hinge fittings (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30).

(2) Apply primer, C00259 (F-20.02) to all surfaces of the hinge fitting (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30) except as shown in REPAIR 9-2, Figure 601.

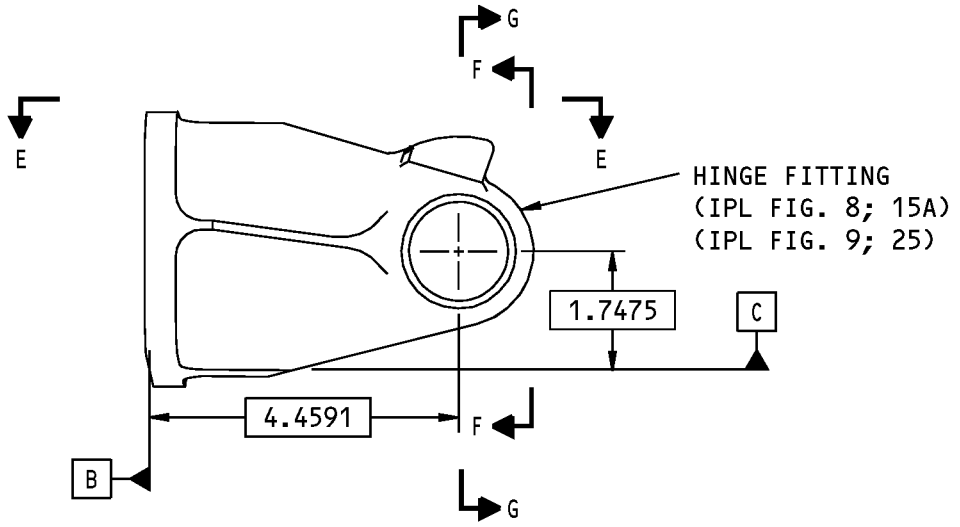
(3) Apply Teflon filled coating, C00951 (F-14.9625) to the hinge fitting (IPL Figure 8, 15, 20; IPL Figure 9, 25, 30) as shown in REPAIR 9-2, Figure 601.

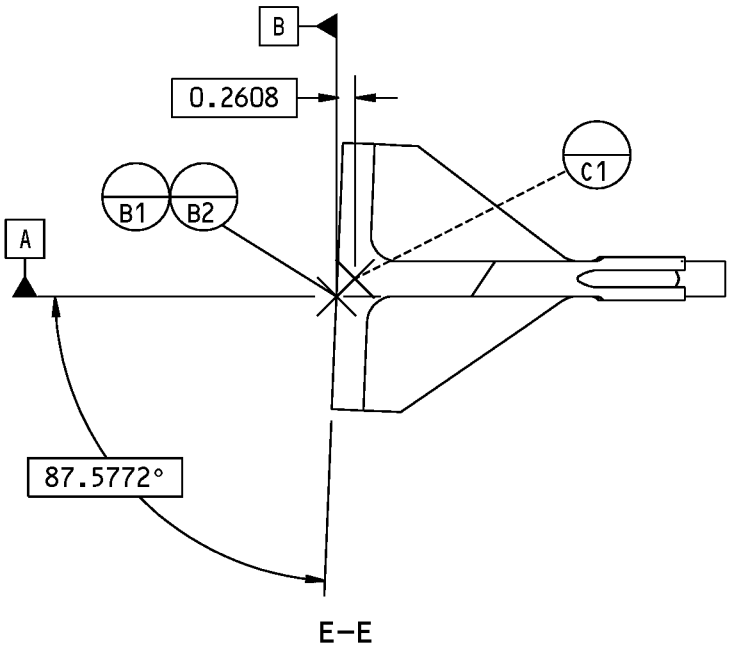


311A2552-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 1 of 4)

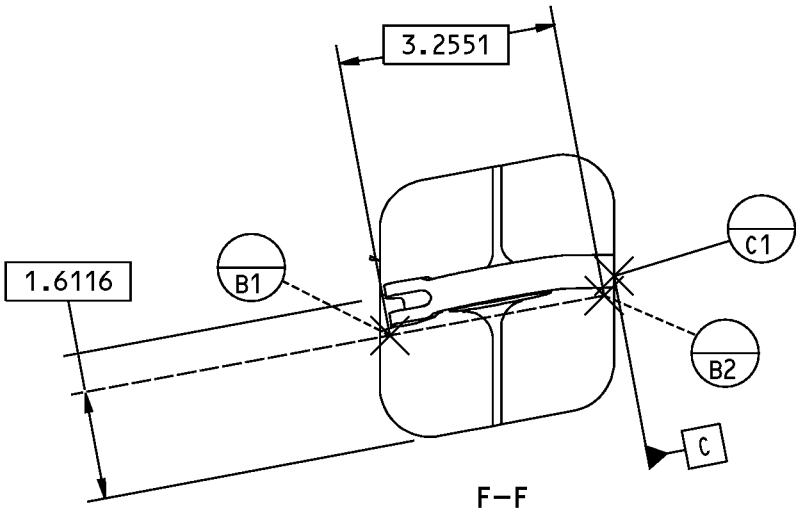


311A2552-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 2 of 4)

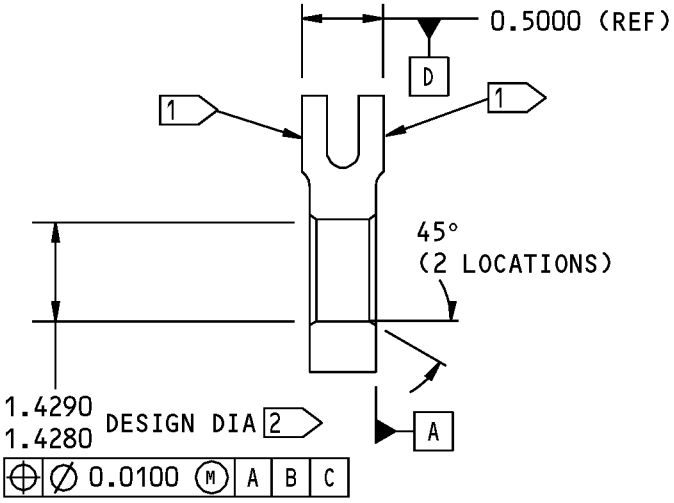




311A2552-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 3 of 4)



F–F



G–G

1 TEFLON COATING

2 NO PRIMER INSIDE BORE

63 ALL MACHINED SURFACES

BREAK ALL SHARP EDGES 0.020–0.040

ALL DIMENSIONS ARE IN INCHES

311A2552-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 4 of 4)

HINGE ASSEMBLY - REPAIR 10-1

311A2553–1, –2, –5, –6, –9, –10, –11, –12

1. General

A. This procedure has the data necessary to repair the hinge assemblies (IPL Figure 10: 1A, 5A; IPL Figure 11: 1A, 5A).

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

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

D. Refer to IPL Figure 10 and IPL Figure 11 for item numbers.

2. Bearing Replacement (IPL Figure 10: 10; IPL Figure 11: 20).

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63
A00900	Sealant - Silicone, RTV - Dow Corning 93-006-1	

B. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-19	GENERAL SEALING
SOPM 20-60-04	MISCELLANEOUS MATERIALS

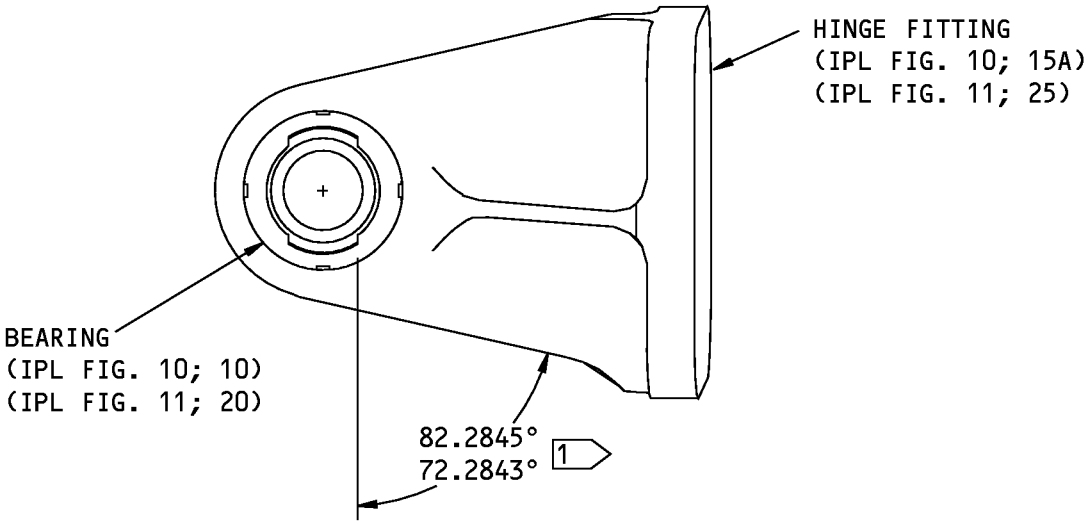
C. Procedure (REPAIR 10-1, Figure 601)

NOTE: For general cleaning procedures, refer to SOPM 20-30-03 . For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For bolt and nut installation, refer to SOPM 20-50-01. For general sealing, refer to SOPM 20-50-19. For miscellaneous material, refer to SOPM 20-60-04.

(1) Remove the bearing (IPL Figure 10: 10; IPL Figure 11: 20) from the fitting (IPL Figure 10: 15, 20; IPL Figure 11: 25, 30) (SOPM 20-50-03).

(2) Install the new bearing (IPL Figure 10: 10; IPL Figure 11: 20) into the fitting (IPL Figure 10: 15, 20; IPL Figure 11: 25, 30) (SOPM 20-50-03) with sealant, A00160 or Dow Corning 93-006-1 sealant, A00900 as shown in SOPM 20-50-19.

(3) Torque the bearing nut (IPL Figure 10: 10; IPL Figure 11: 20) to 120-140 pound-inches.



311A2553-5 SHOWN
311A2553-6 OPPOSITE
311A2553-1,-2,-9 THRU -12 SIMILAR

1 BEARING SLOT MAY BE ORIENTED
NEAR SIDE OR FAR SIDE

311A2553-1, -2, -5, -6, -9, -10, -11, -12 Hinge Assembly Repair
Figure 601

HINGE FITTING - REPAIR 10-2

311A2553–3, –4, –7, –8, –15, –16

1. General

A. This procedure has the data necessary to repair and refinish the hinge fittings ((IPL Figure 10: 15, 20; IPL Figure 11: 25, 30).

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

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

D. Refer to IPL Figure 10 and IPL Figure 11 for item numbers.

E. General repair details:

(1) Material: TI-6AL-4V Titanium alloy

2. Fitting Refinish

A. References

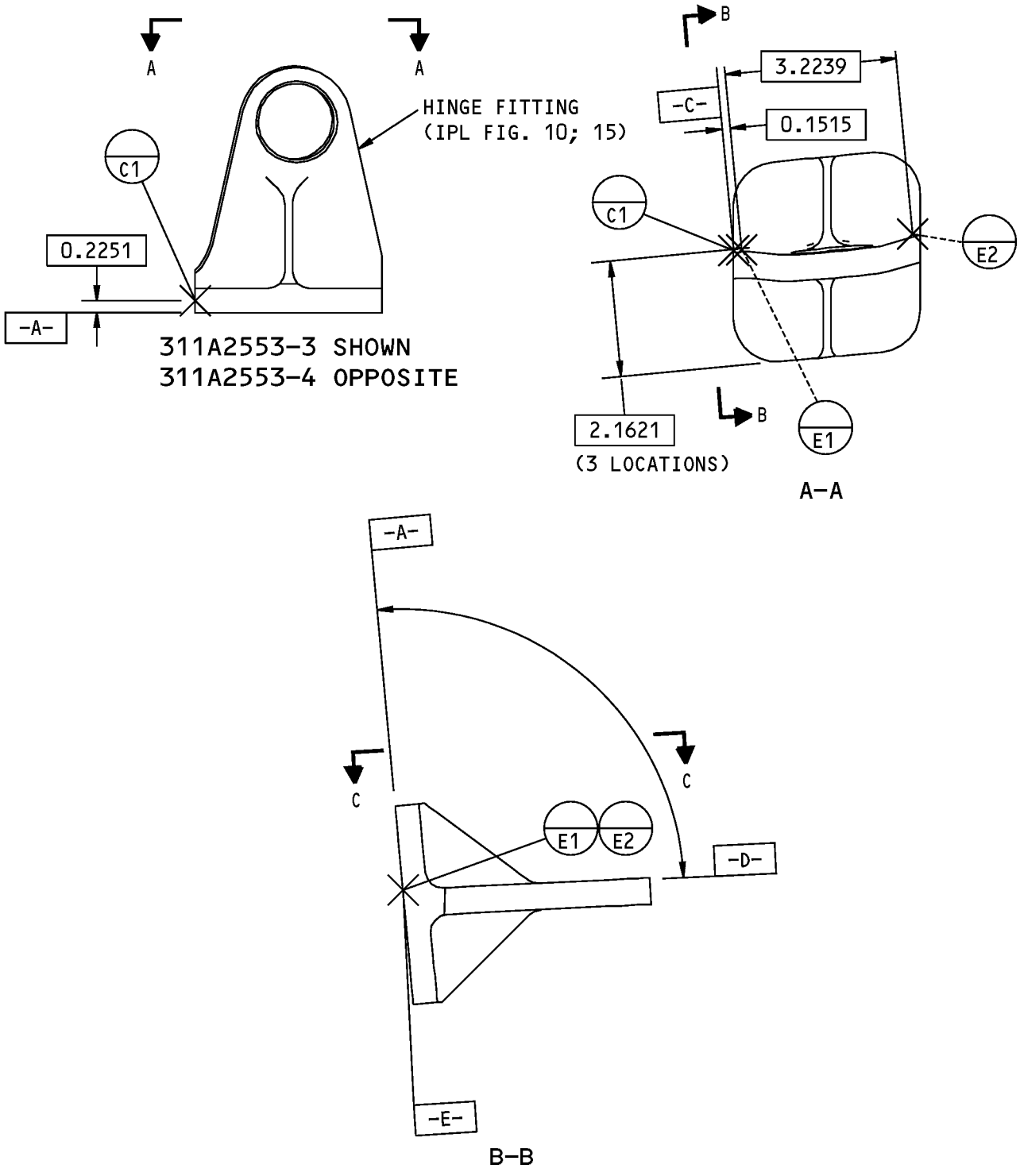
Reference	Title
SOPM 20-10-07	MACHINING OF TITANIUM
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-44-02	TEMPORARY PROTECTIVE COATINGS

B. Procedure (REPAIR 10-2, Figure 601 and REPAIR 10-2, Figure 602)

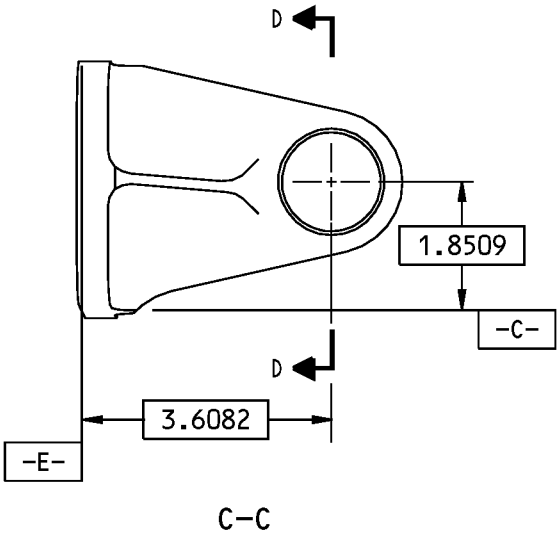
NOTE: For machining of titanium, refer to SOPM 20-10-07. For general cleaning procedures, refer to SOPM 20-30-03 . For decoding table for Boeing finish codes, refer to SOPM 20-41-01.

(1) Do a penetrant check as shown in SOPM 20-20-02.

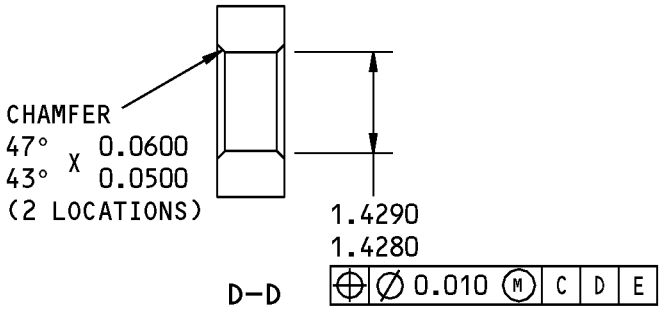
(2) Apply no finish (F-25.01), except for temporary protection as specified in SOPM 20-44-02.



311A2553-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 1 of 4)

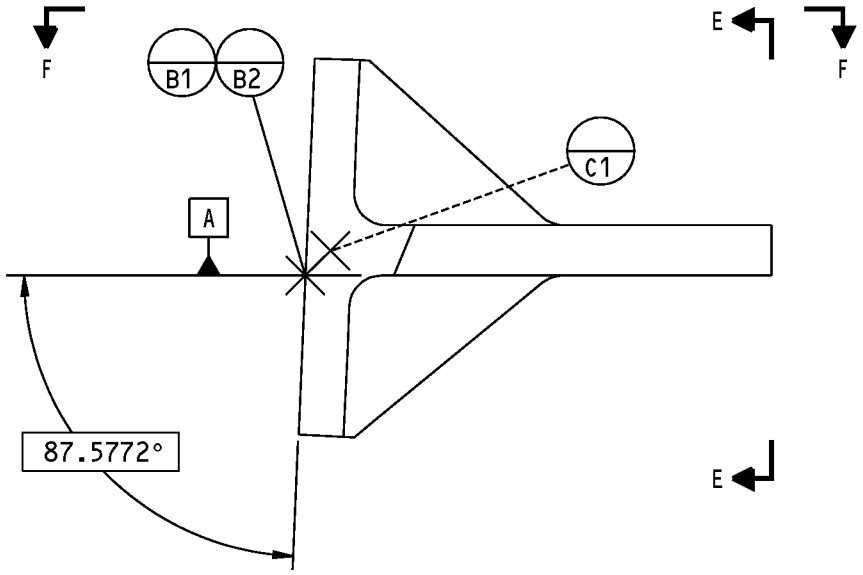


C-C

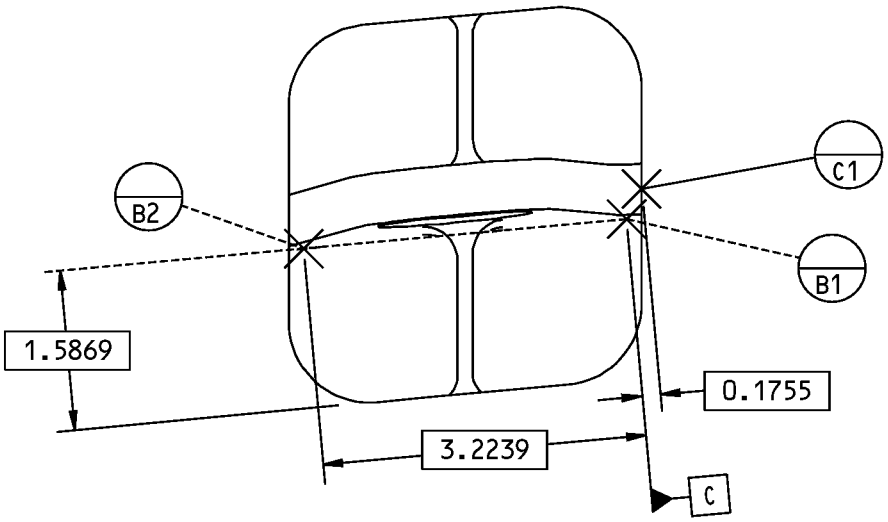


D-D

311A2553-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 2 of 4)

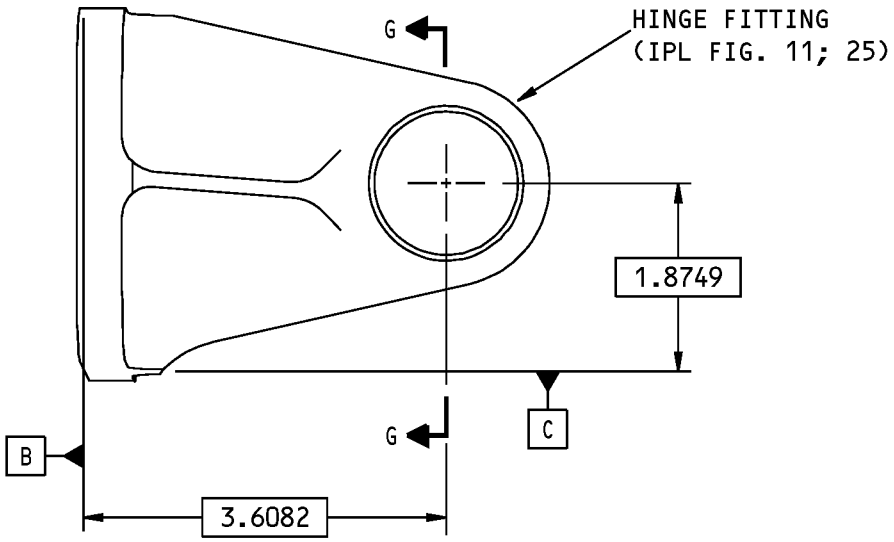


311A2553-7 SHOWN
311A2553-8 OPPOSITE

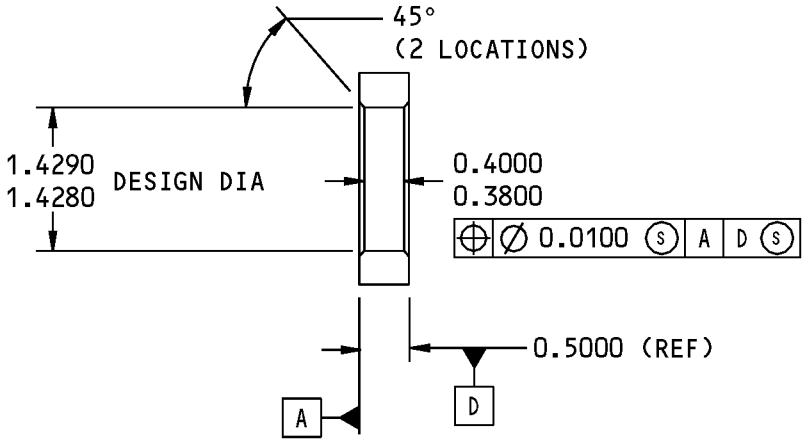


E-E

311A2553-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 3 of 4)



F–F



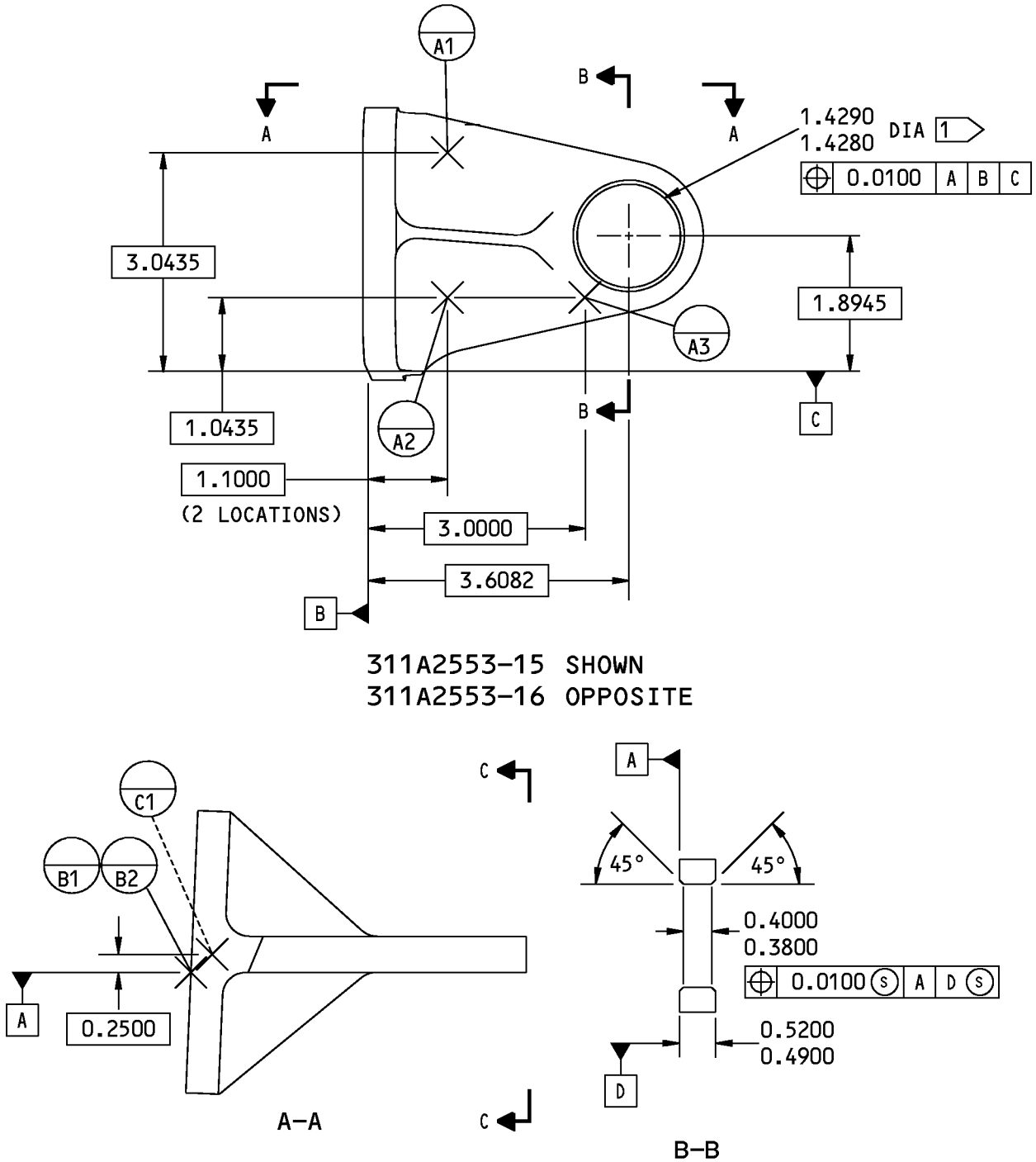
G–G

REPAIR

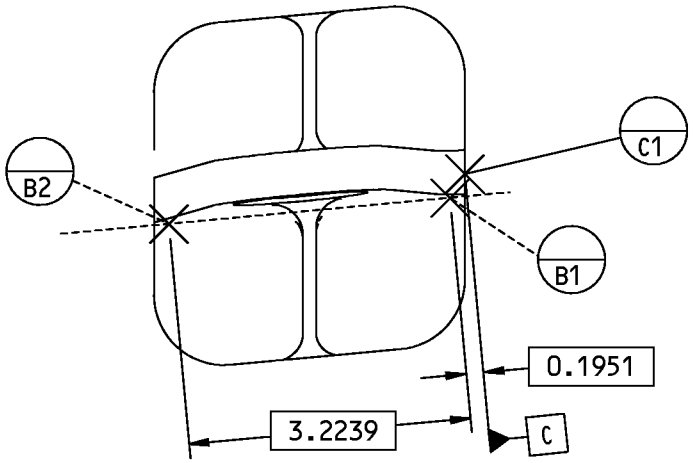
BREAK ALL SHARP EDGES 0.020–0.040

ALL DIMENSIONS ARE IN INCHES

311A2553-3,-4,-7,-8 Hinge Fitting Repair
Figure 601 (Sheet 4 of 4)



311A2553-15, -16 Hinge Fitting Repair
Figure 602 (Sheet 1 of 2)



C–C

1 63 MICROINCH RA FINISH OR BETTER REQUIRED IN BEARING HOLE PRIOR TO SHOT PEENING. 125 MICROINCH RA FINISH OR BETTER REQUIRED IN BEARING HOLE AFTER SHOT PEENING. HOWEVER, A 63 MICROINCH RA FINISH OR BETTER IS REQUIRED IF ANY MATERIAL REMOVAL AFTER SHOT PEENING IS REQUIRED

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

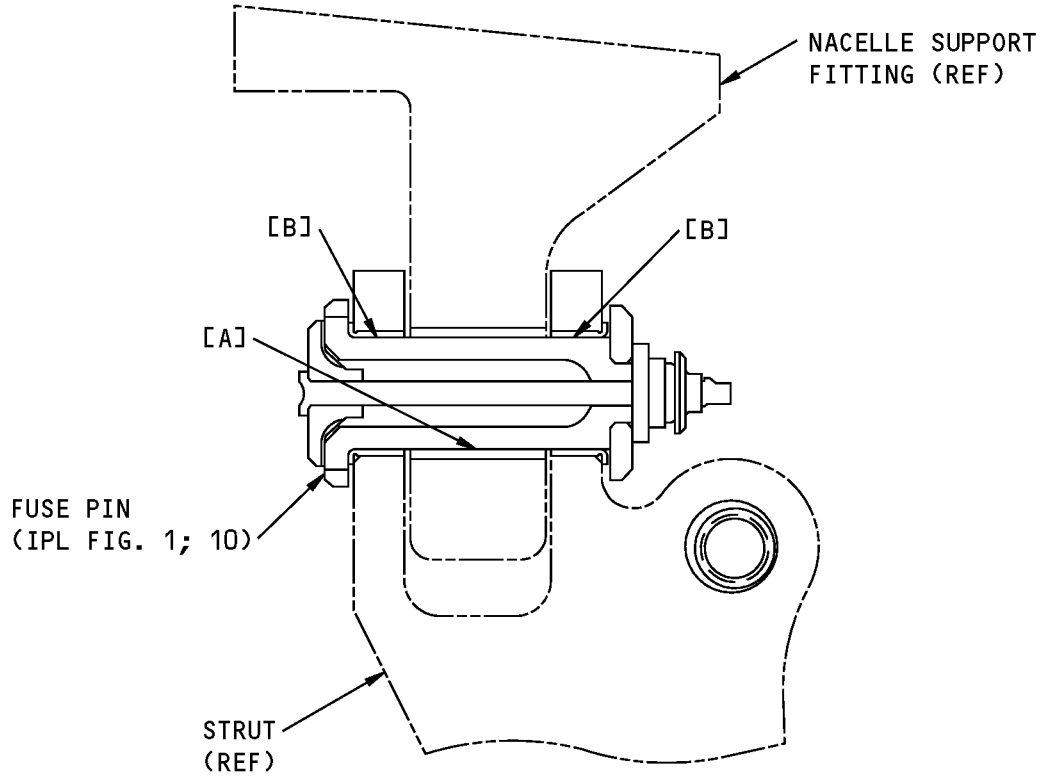
BREAK ALL SHARP EDGES

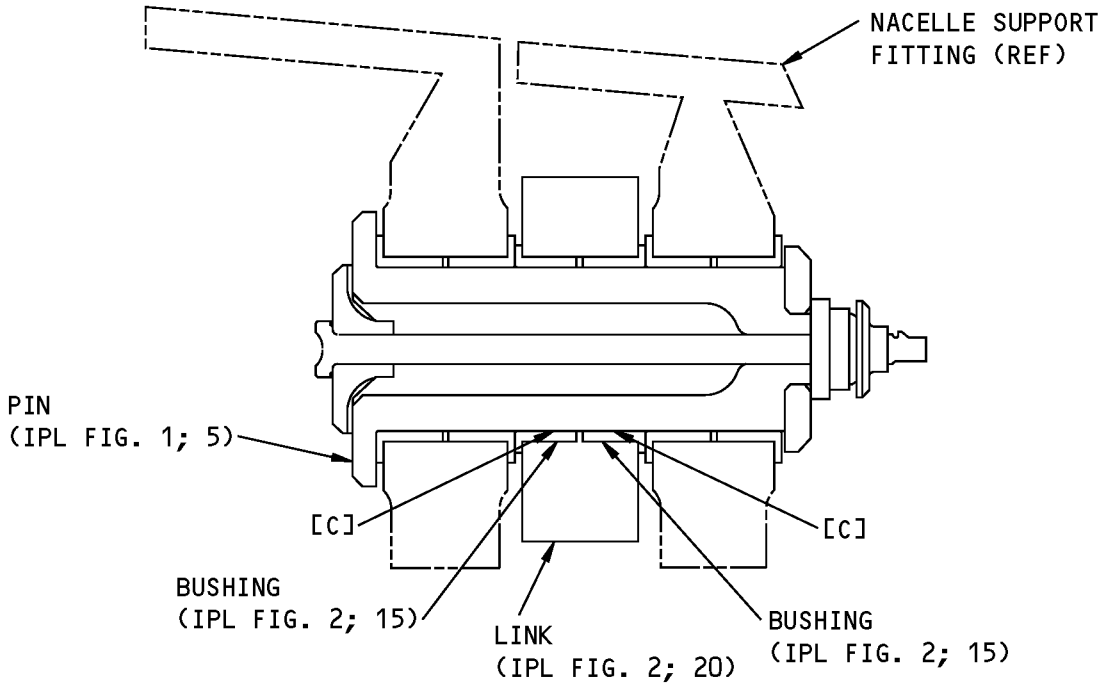
ALL DIMENSIONS ARE IN INCHES

311A2553-15, -16 Hinge Fitting Repair
Figure 602 (Sheet 2 of 2)

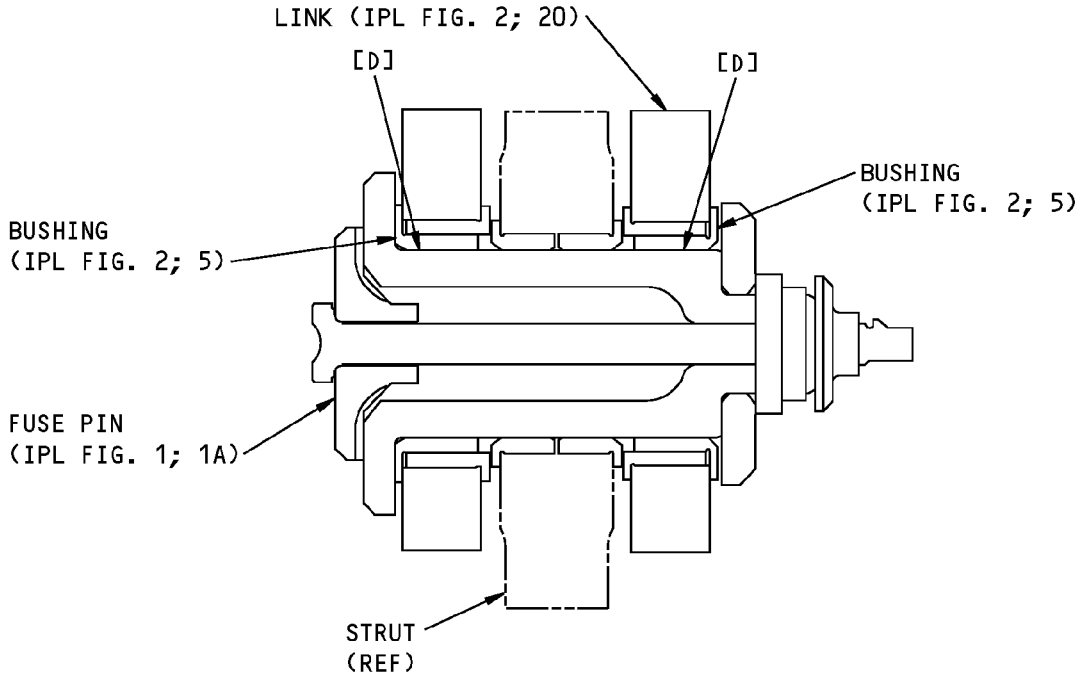
(NOT APPLICABLE)

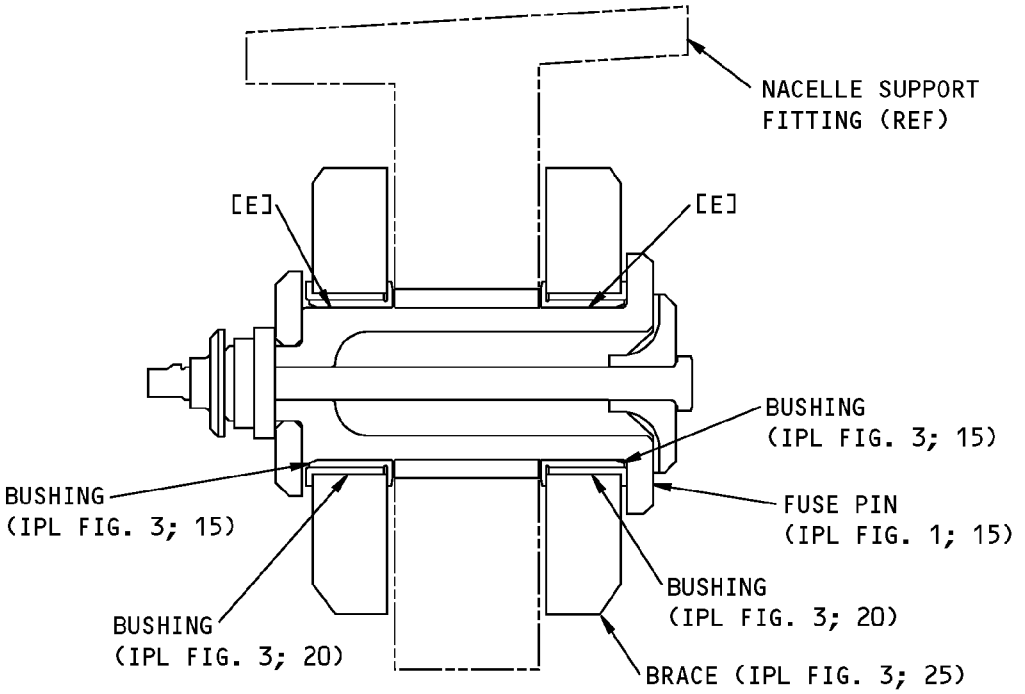
FITS AND CLEARANCES



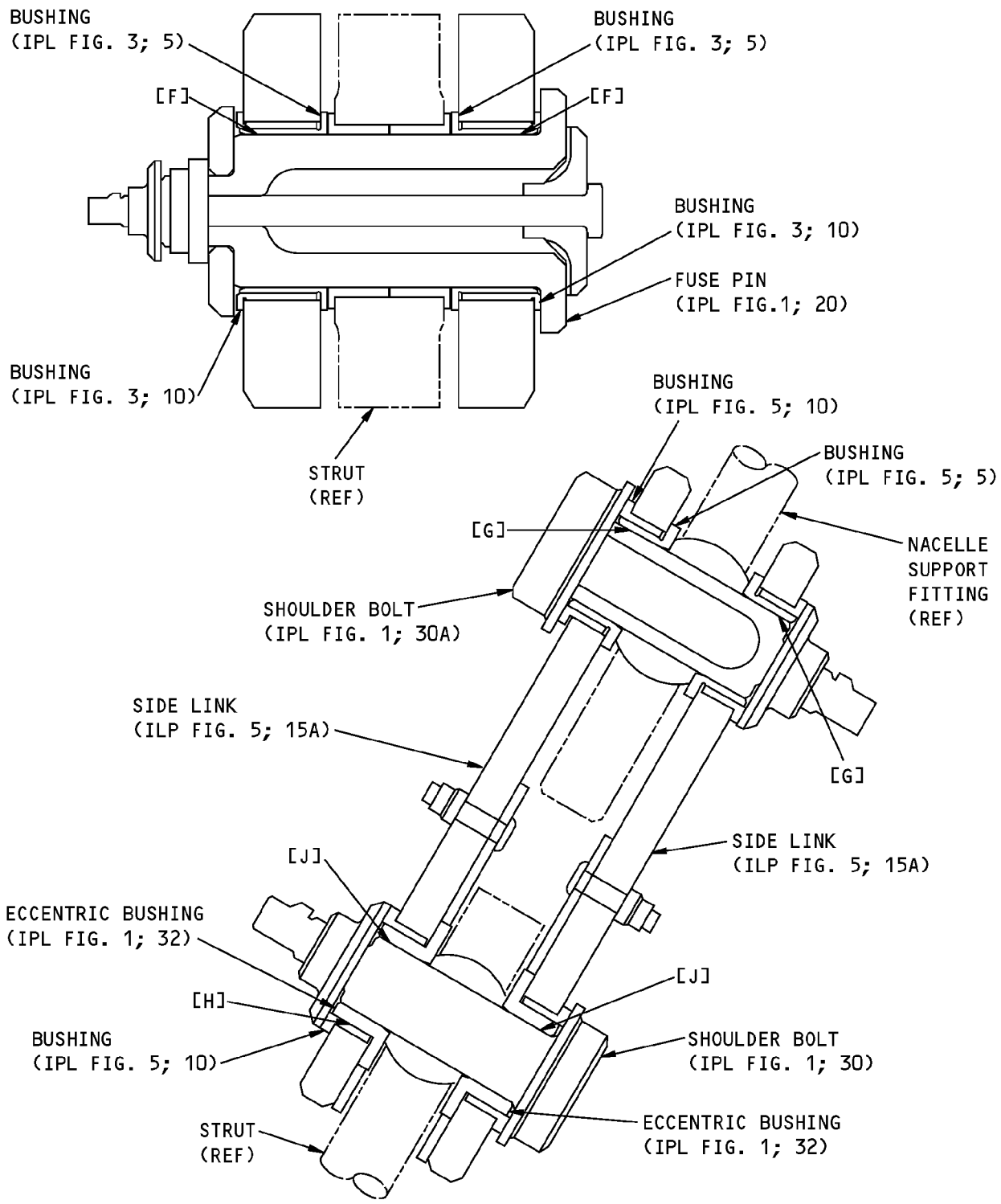


Fits and Clearances
Figure 801 (Sheet 1 of 6)

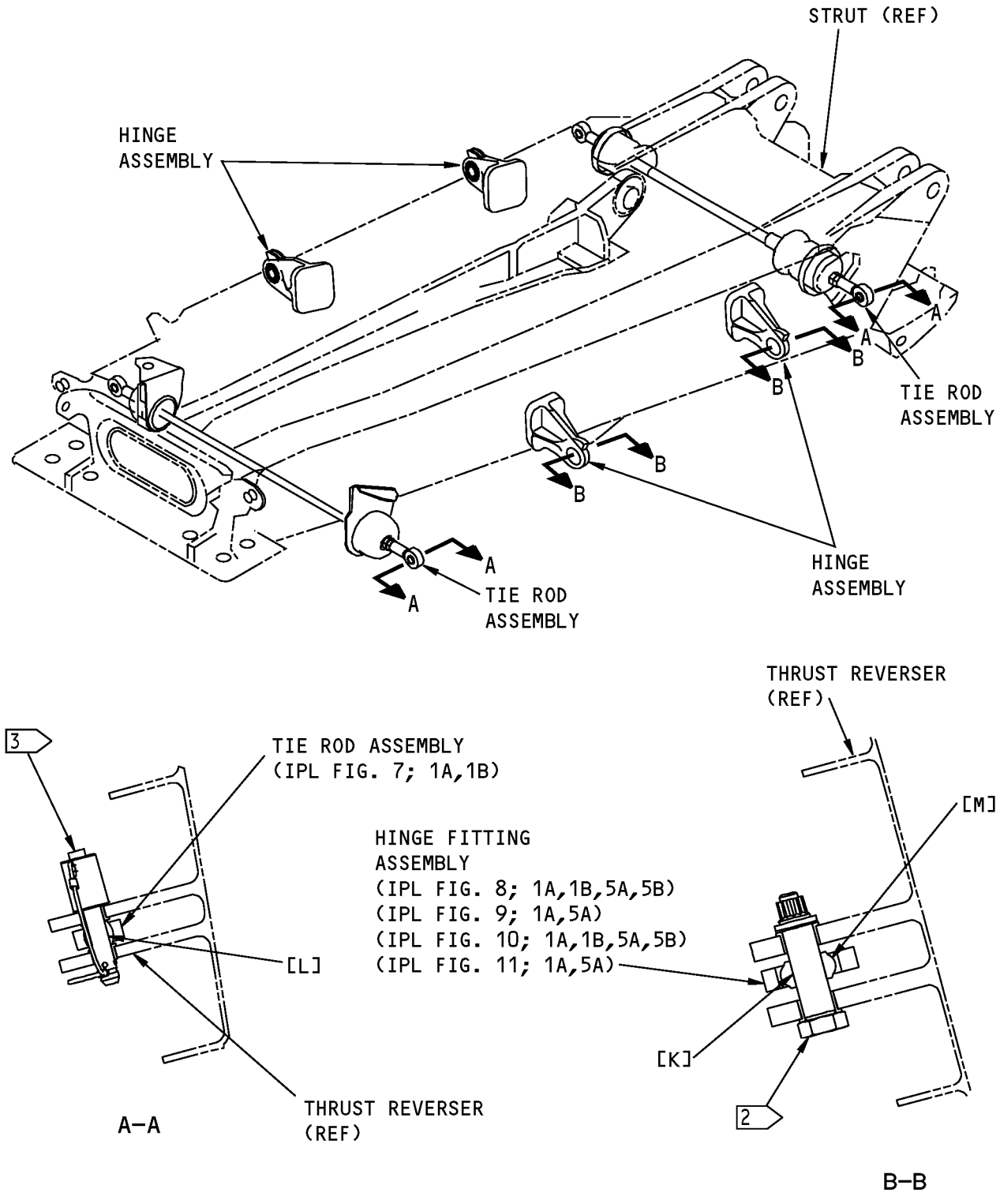




Fits and Clearances
Figure 801 (Sheet 2 of 6)



Fits and Clearances
Figure 801 (Sheet 3 of 6)



Fits and Clearances
Figure 801 (Sheet 4 of 6)

REF LETTER	REF IPL		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. NO.	MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE 1		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
[A]	1	ID NACELLE SUPPORT FITTING (REF) OD 10	1.6515 1.6500	1.6523 1.6505	0.0010	0.0023	 1.6477	1.6546	0.0046
[B]	1	ID STRUT (REF) OD 10	1.6515 1.6500	1.6523 1.6505	0.0010	0.0023	 1.6477	1.6546	0.0046
[C]	2 1	ID 15 OD 5	2.0315 2.0300	2.0323 2.0305	0.0010	0.0023	 2.0277	2.0346	0.0046
[D]	2 1	ID 5 OD 1A	1.7215 1.7200	1.7223 1.7205	0.0010	0.0023	 1.7177	1.7246	0.0046
[E]	3 1	ID 15 OD 15	1.7765 1.7750	1.7773 1.7755	0.0010	0.0023	 1.7727	1.7796	0.0046
[F]	3 1	ID 5 OD 20	1.9015 1.9000	1.9023 1.9005	0.0010	0.0023	 1.8977	1.9046	0.0046
[G]	5 1	ID 5 OD 30A	0.7495 0.7485	0.7503 0.7490	0.0005	0.0018	 0.7467	0.7521	0.0036
[H]	5 1	ID 10 OD 32	0.8755 0.8750	0.8755 0.8760	-0.0005	0.0005	 0.8745	0.8760	0.0010
[J]	1	ID 32 OD 30	0.6245 0.6235	0.6252 0.6240	0.0005	0.0017	 0.6218	0.6269	0.0034

Fits and Clearances
Figure 801 (Sheet 5 of 6)

REF LETTER	REF IPL		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. NO.	MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE 1		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
[K]		ID 4 OD 2	0.7500 0.7385	0.7505 0.7410	0.0090	0.0120		1.6546	
[L]	7	ID 1A,1B OD 3	0.4370 0.4355	0.4375 0.4365	0.0005	0.0020			
[M]		ID (RACE) 4 OD (BALL) 4	1.1790 1.1775	1.1795 1.1780	0.0010	0.0020			

* ALL DIMENSIONS ARE IN INCHES

1 NEGATIVE VALUES INDICATE AN INTERFERANCE FIT

2 INSTALLATION BOLT 315A2010-1

3 INSTALLATION PIN S310T410-24

4 FITTING ASSEMBLY
(IPL FIG. 8,10,11; 1A,1B,5A,5B)
(IPL FIG. 9; 1A,5A)

Fits and Clearances
Figure 801 (Sheet 6 of 6)

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
8	10	Bearing Nut	120-140	
9	20	Bearing Nut	120-140	
10	10	Bearing Nut	120-140	
11	20	Bearing Nut	120-140	

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

Torque Table
Figure 802

(NOT APPLICABLE)

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
02758	NETWORKS ELECTRONIC CORP U S BEARING DIV 9750 DE SOTO AVENUE CHATSWORTH, CALIFORNIA 91311-4409 FORMERLY U S BEARING DIV NETWORKS ELEC CORP
06710	LAMSON AND SESSIONS CO THE VALLEY-TODECO 12975 BRADLEY AVENUE SYLMAR, CALIFORNIA 91342-3830 FORMERLY VALLEY BOLT CORP VB0097 IN NORTH HOLLYWOOD, CA
09455	RBC TRANSPORT DYNAMICS CORP 3131 W SEGERSTROM AVE SANTA ANA, CALIFORNIA 92704-5872 FORMERLY TRANSPORT DYNAMICS AEROSPACE DIV; FABROID DIV TRANSPORT DYNAMICS V17571 & LEAR SEIGLER INC TRANSPORT DIV V98076; FORMERLY BFM TRANSPORT DYNAMICS
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

Code	Name
15860	NEW HAMPSHIRE BALL BEARINGS, INC ASTRO DIVISION 155 LEXINGTON AVENUE LACONIA, NEW HAMPSHIRE 03246-2937 FORMERLY ASTRO BEARING CORP, LOS ANGELES, CALIF.
16746	SPECLINE INCORPORATED 2230 MOUTON DR CARSON CITY, NV 89706 FORMERLY IN SUN VALLEY, CAIFORNIA
27238	BRISTOL INDUSTRIES 630 EAST LAMBERT ROAD PO BOX 630 BREA, CALIFORNIA 92621-4119
52828	REPUBLIC FASTENER MFG CORP 1300 RANCHO CONEJO BLVD NEWBURY PARK, CALIFORNIA 91320-1405 FORMERLY IN SYLMAR, CALIFORNIA
56644	AURORA BEARING CO 970 SOUTH LAKE STREET AURORA, ILLINOIS 60506-5929
56878	SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV 301 HIGHLAND AVE JENKINTOWN, PENNSYLVANIA 19046 FORMERLY STANDARD PRESSED STEEL FORMERLY IN SALT LAKE, UTAH
57606	REXNORD CORP PSI BEARINGS DIV 2175 UNION PL SIMI VALLEY, CALIFORNIA 93065-1661 FORMERLY PSI BEARINGS
62554	SIMMONDS MECAERO FASTENERS INC 1734 SEQUOIA AVENUE ORANGE, CALIFORNIA 92668

Code	Name
72962	HARVARD INDUSTRIES INC 3 WERNER WAY SUITE 210 LEBANON, NEW JERSEY 08833 FORMERLY ESNA V7A079 FORMERLY ELASTIC STOP NUT IN UNION, NJ
73134	ROLLER BEARING COMPANYOF AMER DBA HEIM BEARINGS DIV 60 ROUND HILL RD FAIRFIELD, CONNECTICUT 06430-0000 FORMERLY INCOM INTL HEIM DIV; HEIM UNIVERSAL CORP INCOM; FORMERLY HEIM DIV INCOM INTL; IMO IND HEIM BEARINGS DIV
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
81376	SMITH ACQUISITION COMPANY 2240 BUENA VISTA BALDWIN PARK, CALIFORNIA 91706
92215	FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV 3010 W LOMITA BLVD TORRANCE, CALIFORNIA 90505-5102 FORMERLY VOI-SHAN IN CULVER CITY, CALIF
97613	SARGENT CONTROLS & AEROSPACE/KAHR BEARING DIV 5675 W BURLINGAME RD TUCSON, ARIZONA 85743 FORMERLY AETNA STEEL PROD KAHR BEARING DIV V96579 FORMERLY SARGENT IND KAHR BEARING DIV, BURBANK, CALIFORNIA
97928	Replaced: [V97928] SEE V17446 HUCK INTL by Code: Name and Address below 17446: HUCK INTL INC AEROSPACE FASTENER DIV 900 WATSON CENTER ROAD CARSON, CALIFORNIA 90745-4201 FORMERLY V32134 REXNORD INC; FORMERLY V97928 HUCK INTL
S0352	NIPPON MINIATURE BEARING CO LTD TOKYO, JAPAN

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1		1
		1		1
102F9201-3		13	55	1
102LH9031-3		13	40	2
102LH90313		13	40	2
109A9207M4		13	140	2
109A9207M82		13	95	2
109F9201M4		13	105	1
109LH9031-4		13	80	8
109LH90314		13	80	8
12E7-117T		7	30	1
13E7-117T		7	15	1
311A2090-1		1	1A	RF
311A2091-1		1	5	RF
311A2092-2		1	10	RF
311A2093-1		1	15	RF
311A2094-1		1	20	RF
311A2097-1		1	25	RF
311A2097-2		1	25A	RF
311A2097-3		1	25B	RF
311A2097-4		1	25C	RF
311A2098-2		1	30	RF
311A2098-3		1	30A	RF
311A2098-4		1	30B	RF
311A2098-5		1	30C	RF
311A2551-1		1	50	RF
		7	1A	RF
311A2551-2		1	50A	RF
		7	1B	RF
311A2551-3		7	45	1
311A2552-1		1	55	RF
		8	1A	RF
311A2552-10		1	60B	RF
		9	5A	RF

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
311A2552-2		1	60	RF
		8	5A	RF
311A2552-3		8	15	1
311A2552-4		8	20	1
311A2552-5		1	55A	RF
		8	1B	RF
		9	10	1
311A2552-6		1	60A	RF
		8	5B	RF
		9	15	1
311A2552-7		8	15A	1
		9	25	1
311A2552-8		8	20A	1
		9	30	1
311A2552-9		1	55B	RF
		9	1A	RF
311A2553-1		1	65	RF
		10	1A	RF
311A2553-10		1	70B	RF
		11	5A	RF
311A2553-11		1	65C	RF
		11	1B	RF
311A2553-12		1	70C	RF
		11	5B	RF
311A2553-13		11	10A	1
311A2553-14		11	15A	1
311A2553-15		11	25A	1
311A2553-16		11	30A	1
311A2553-2		1	70	RF
		10	5A	RF
311A2553-3		10	15	1
311A2553-4		10	20	1
311A2553-5		1	65A	RF
		10	1B	RF
		11	10	1

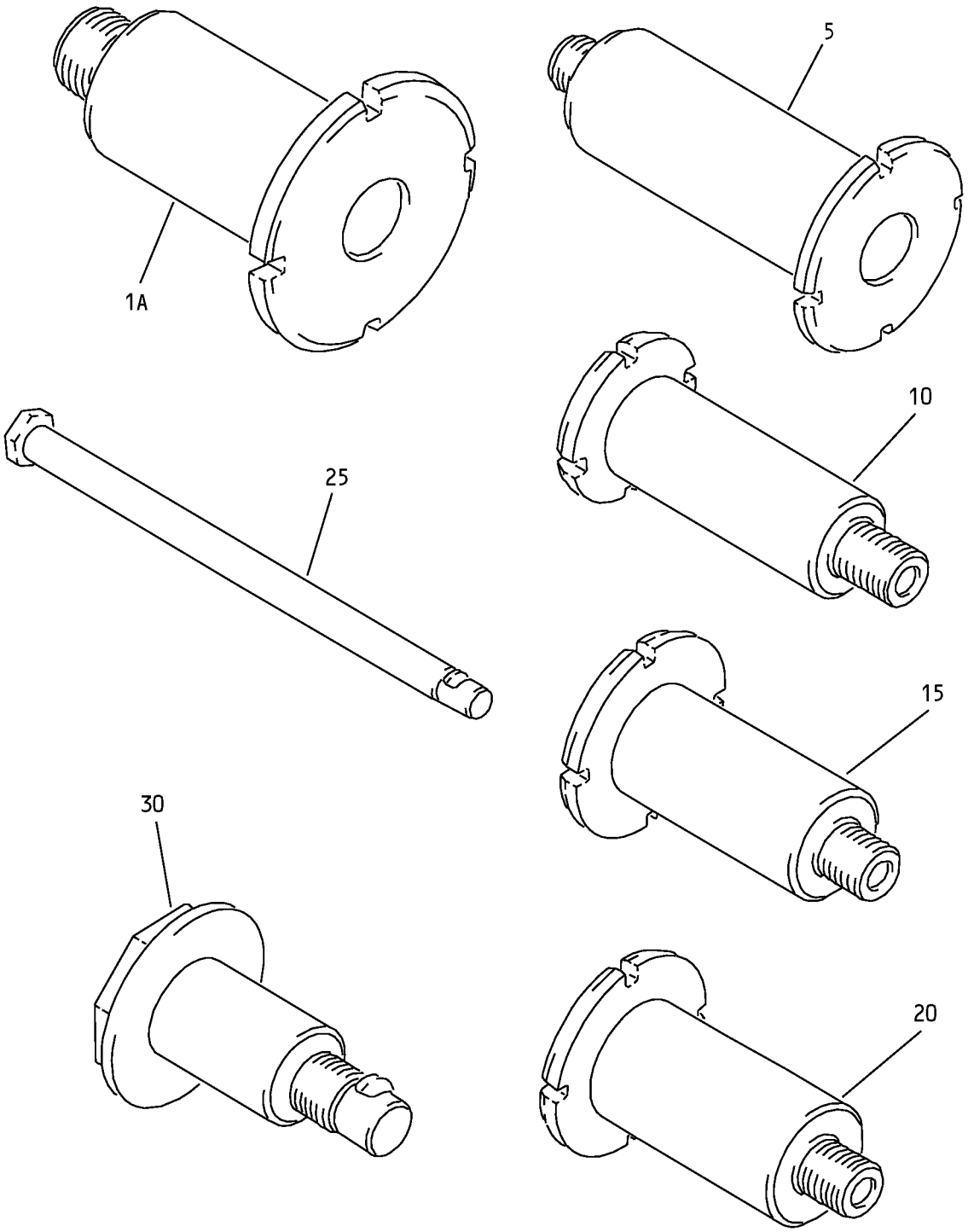
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
311A2553-6		1	70A	RF
		10	5B	RF
		11	15	1
311A2553-7		10	15A	1
		11	25	1
311A2553-8		10	20A	1
		11	30	1
311A2553-9		1	65B	RF
		11	1A	RF
311A2557-1		7	40	2
311A2710-1		1	35	RF
		2	1A	RF
311A2710-2		2	20	1
311A2710-3		2	15	2
		6	15	2
311A2710-4		2	5	2
311A2710-5		2	10	2
		6	5	2
311A2710-6		1	36	RF
		6	1A	RF
311A2710-7		6	20	1
311A2710-8		6	10	2
311A2730-1		1	40	RF
		3	1A	RF
311A2730-10		1	40B	RF
		12	1A	RF
311A2730-11		12	25	1
311A2730-12		1	40C	RF
		12	1B	RF
311A2730-13		12	25A	1
311A2730-14		13	145	1
311A2730-15		1	40D	RF
		13	1A	RF
311A2730-2		3	25	1
311A2730-3		3	5	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		4	20	2
		12	5	2
		13	5	2
311A2730-4		3	10	2
		4	25	2
		12	10	2
		13	10	2
311A2730-5		3	15	2
		4	5	2
		12	15	2
		13	15	2
311A2730-6		3	20	2
		4	10	2
		12	20	2
		13	20	2
311A2730-7		1	40A	RF
		4	1A	RF
311A2730-8		4	15	1
311A2730-9		4	30	1
311A2740-3		1	45	RF
		5	1A	RF
311A2740-4		5	15A	1
313A2910-1		13	85	1
313A2910-12		13	60	1
313A2910-2		13	130	1
313A2910-3		13	45	1
315W1084-1		7	35	2
315W1085-1		7	37	1
51589-071VL		7	30	1
51589L071VL		7	15	1
67832AS4		13	80	8
67832AS428		13	80	8
67832CD1032		13	40	2
67832CD3		13	40	2
AR7-8W3		7	30	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
ARB7-61TW		7	30	1
ARBL7-61TW		7	15	1
ARL7-8W3		7	15	1
ASGK7-1DT		7	15	1
ASWK7-1DT		7	30	1
BAC27DPP437		2	25	1
		6	25	1
BAC27DPP438		3	30	1
		4	35	1
		12	30	1
		13	150	1
BAC27DPP439		3	35	1
		4	40	1
		12	35	1
		13	155	1
BACB10Z7LT		7	15	1
BACB10Z7T		7	30	1
BACB28AT14D032A		5	10	2
BACB28AU12B040A		5	5	1
BACB30US3K12		13	25	2
BACB30US4K16		13	65	8
BACN10HR3CD		13	40	2
BACN10HR4CS		13	80	8
BACN10JN4CM		13	105	1
BACN10JP08BCM		13	95	2
BACN10JP4BCM		13	140	2
BACN10JR3CFD		13	55	1
BACR15BA3AD4C		13	50	2
BACS12HN4U16		13	110	1
BACW10BP3CD		13	30	2
BACW10BP3DP		13	35	2
BACW10BP4APU		13	75	8
		13	120	2
BACW10BP4CD		13	70	8
BACW10EC04CN		13	115	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
BH00303-4		13	80	8
BH003034		13	80	8
BH00303CM3		13	40	2
BMM10HRCPD3-4		13	80	8
BMN10HRCPD3-4		13	80	8
BMN10HRCWD3-3		13	40	2
BMN5024CPD34		13	80	8
BMN5024CWD33		13	40	2
BRELHS7-2003EL1		7	15	1
BRES7-2003EL1		7	30	1
BRF200C3D		13	55	1
BRFM20C4M		13	105	1
BRM100C08M		13	95	2
BRM100C4M		13	140	2
CR59084		13	80	8
CR60303		13	40	2
FSSK7AS2		7	30	1
FSSKL7AS2		7	15	1
H39953-4		13	80	8
H51560-3		13	40	2
HB7-201KLT		7	15	1
HB7-201KT		7	30	1
K51602-3BAC		13	55	1
KB7-150WT		7	30	1
KBL7-150WT		7	15	1
MF1001-4BAC		13	105	1
MF53050-4DL		13	105	1
MK2001-08BAC		13	95	2
MK2001-4BAC		13	140	2
MS20427M3-5		13	90	4
		13	100	2
		13	135	4
MS35650-3254		13	125	1
NAS1149C0716R		7	10	1
		7	25	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
NAS509-7C		7	20	1
NAS509L7C		7	5	1
NS103198SE048		13	140	2
NS103198SE82		13	95	2
NS103218SE048		13	105	1
NS202476-02		13	55	1
P24220		8	10	1
		9	20	1
		10	10	1
		11	20	1
S302T001-225		8	10	1
		9	20	1
		10	10	1
		11	20	1
SL705094		13	80	8
SL7059C428		13	80	8
SL7108C1032		13	40	2
SL7108C3		13	40	2
T8081C428		13	140	2
T8081C832		13	95	2
T8092C1032CD		13	55	1
T8125C4C		13	105	1
VCU0005D3		13	40	2
VN201D1-048		13	140	2
VN201D1-82		13	95	2
VN252D048		13	105	1
VTB07250		8	10	1
		9	20	1
		10	10	1
		11	20	1



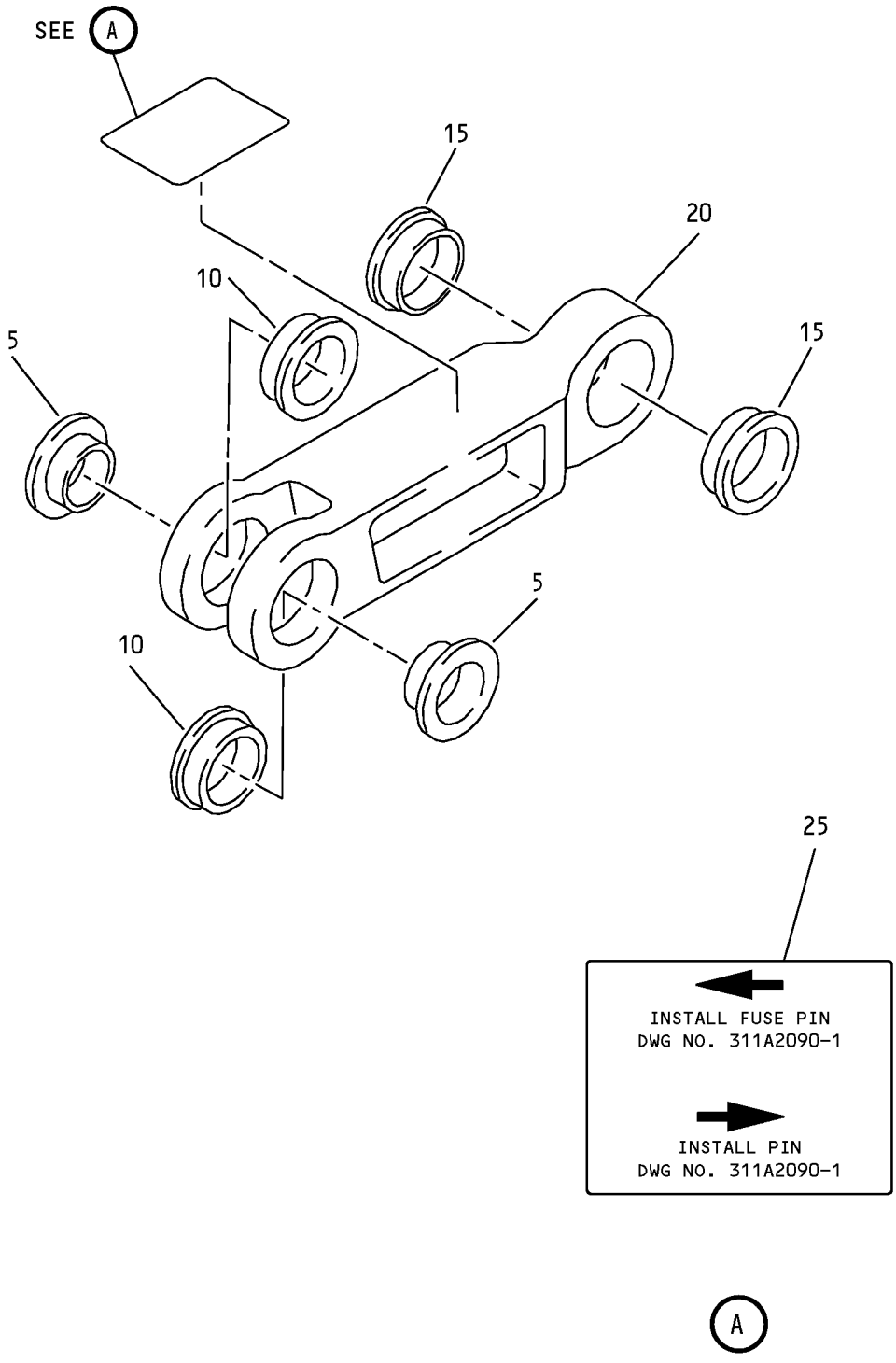
Engine Strut Installation Components
IPL Figure 1

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
			ENGINE STRUT INSTALLATION		
			COMPONENTS		
1A	311A2090-1		PIN-FUSE	A	RF
5	311A2091-1		PIN	B	RF
10	311A2092-2		PIN-FUSE	C	RF
15	311A2093-1		PIN-FUSE	D	RF
20	311A2094-1		PIN-FUSE	E	RF
25	311A2097-1		BOLT-RETENTION	F	RF
–25A	311A2097-2		BOLT-RETENTION	G	RF
–25B	311A2097-3		BOLT-RETENTION	H	RF
–25C	311A2097-4		BOLT-RETENTION	J	RF
30	311A2098-2		BOLT-SHOULDER	K	RF
–30A	311A2098-3		BOLT-SHOULDER	L	RF
–30B	311A2098-4		BOLT-SHOULDER	AG	RF
–30C	311A2098-5		BOLT-SHOULDER	AH	RF
–35	311A2710-1		LINK ASSY-UPR (FOR DETAILS SEE FIG. 2)	M	RF
–36	311A2710-6		LINK ASSY-UPR (FOR DETAILS SEE FIG. 6)	R	RF
–40	311A2730-1		BRACE ASSY-DIAG (FOR DETAILS SEE FIG. 3)	N	RF
–40A	311A2730-7		BRACE ASSY-DIAG (FOR DETAILS SEE FIG. 4)	P	RF
–40B	311A2730-10		BRACE ASSY-DIAG (FOR DETAILS SEE FIG. 12)	AJ	RF
–40C	311A2730-12		BRACE ASSY-DIAG (FOR DETAILS SEE FIG. 12)	AK	RF
–40D	311A2730-15		BRACE ASSY-DIAG (FOR DETAILS SEE FIG. 13)	AN	RF
–45	311A2740-3		LINK ASSY-SIDE (FOR DETAILS SEE FIG. 5)	Q	RF
–50	311A2551-1		ROD ASSY-TIE (FOR DETAILS SEE FIG. 7)	S	RF

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–50A	311A2551-2		ROD ASSY-TIE (FOR DETAILS SEE FIG. 7)	T	RF
–55	311A2552-1		HINGE ASSY (FOR DETAILS SEE FIG. 8)	U	RF
–55A	311A2552-5		HINGE ASSY (FOR DETAILS SEE FIG. 8)	V	RF
–55B	311A2552-9		HINGE ASSY (FOR DETAILS SEE FIG. 9)	W	RF
–60	311A2552-2		HINGE ASSY (FOR DETAILS SEE FIG. 8)	X	RF
–60A	311A2552-6		HINGE ASSY (FOR DETAILS SEE FIG. 8)	Y	RF
–60B	311A2552-10		HINGE ASSY (FOR DETAILS SEE FIG. 9)	Z	RF
–65	311A2553-1		HINGE ASSY (FOR DETAILS SEE FIG. 10)	AA	RF
–65A	311A2553-5		HINGE ASSY (FOR DETAILS SEE FIG. 10)	AB	RF
–65B	311A2553-9		HINGE ASSY (FOR DETAILS SEE FIG. 11)	AC	RF
–65C	311A2553-11		HINGE ASSY (FOR DETAILS SEE FIG. 11)	AL	RF
–70	311A2553-2		HINGE ASSY (FOR DETAILS SEE FIG. 10)	AD	RF
–70A	311A2553-6		HINGE ASSY (FOR DETAILS SEE FIG. 10)	AE	RF
–70B	311A2553-10		HINGE ASSY (FOR DETAILS SEE FIG. 11)	AF	RF
–70C	311A2553-12		HINGE ASSY (FOR DETAILS SEE FIG. 11)	AM	RF

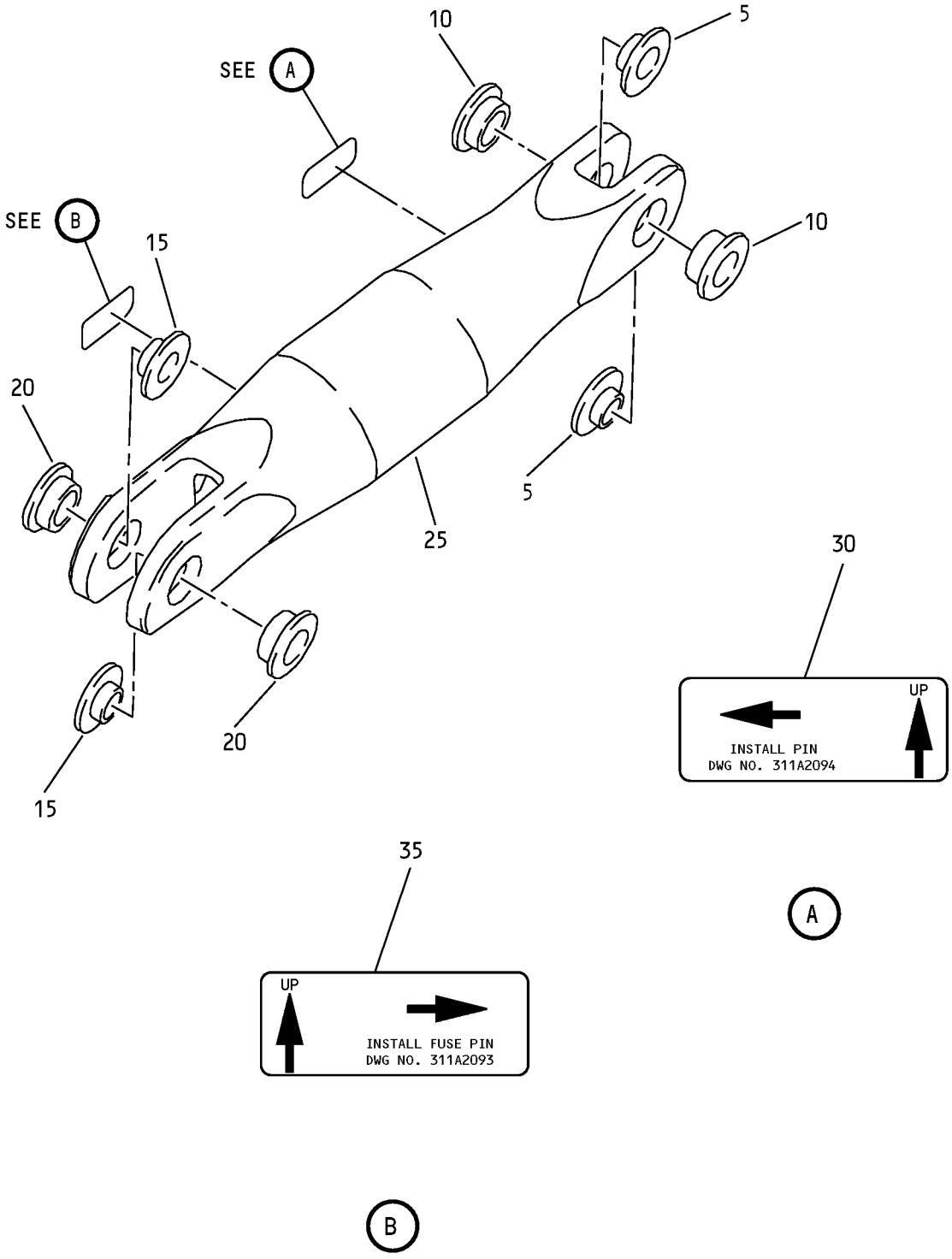
–Item not Illustrated



Upper Link Assembly
IPL Figure 2

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–1A	311A2710-1		LINK ASSY-UPR	M	RF
5	311A2710-4		. BUSHING	M	2
10	311A2710-5		. BUSHING	M	2
15	311A2710-3		. BUSHING	M	2
20	311A2710-2		. LINK	M	1
25	BAC27DPP437		. MARKER-ALUMINUM FOIL	M	1

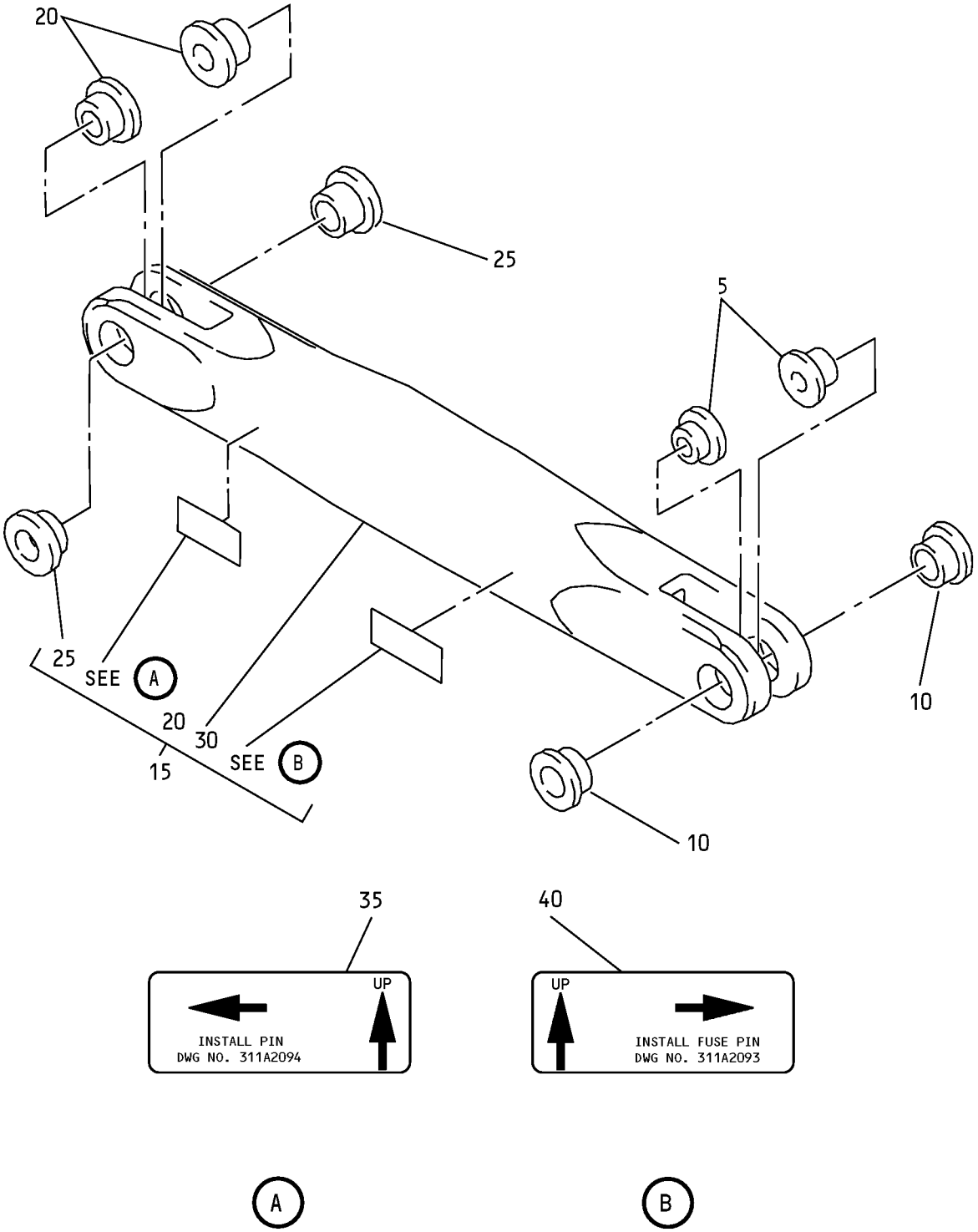
–Item not Illustrated



Diagonal Brace Assembly
IPL Figure 3

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
3–					
–1A	311A2730-1		BRACE ASSY-DIAG	N	RF
5	311A2730-3		. BUSHING	N	2
10	311A2730-4		. BUSHING	N	2
15	311A2730-5		. BUSHING	N	2
20	311A2730-6		. BUSHING	N	2
25	311A2730-2		. BRACE	N	1
30	BAC27DPP438		. MARKER-ALUMINUM FOIL	N	1
35	BAC27DPP439		. MARKER-ALUMINUM FOIL	N	1

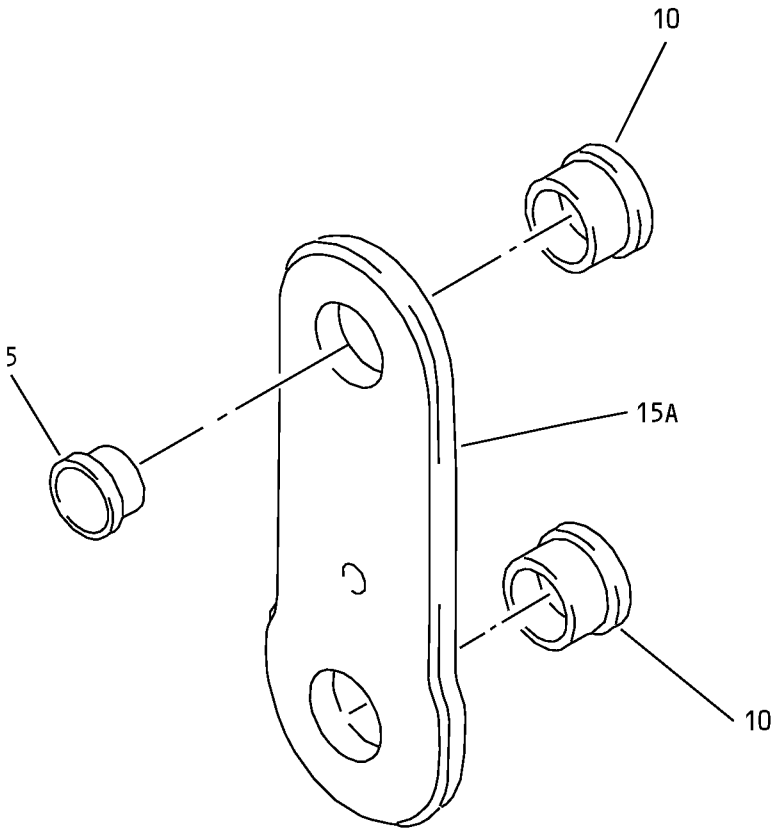
–Item not Illustrated



Diagonal Brace Assembly
IPL Figure 4

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
4–					
–1A	311A2730-7		BRACE ASSY-DIAG	P	RF
5	311A2730-5		. BUSHING	P	2
10	311A2730-6		. BUSHING	P	2
15	311A2730-8		. BRACE ASSY	P	1
20	311A2730-3		. . BUSHING	P	2
25	311A2730-4		. . BUSHING	P	2
30	311A2730-9		. . BRACE	P	1
35	BAC27DPP438		. . MARKER-ALUMINUM FOIL	P	1
40	BAC27DPP439		. . MARKER-ALUMINUM FOIL	P	1

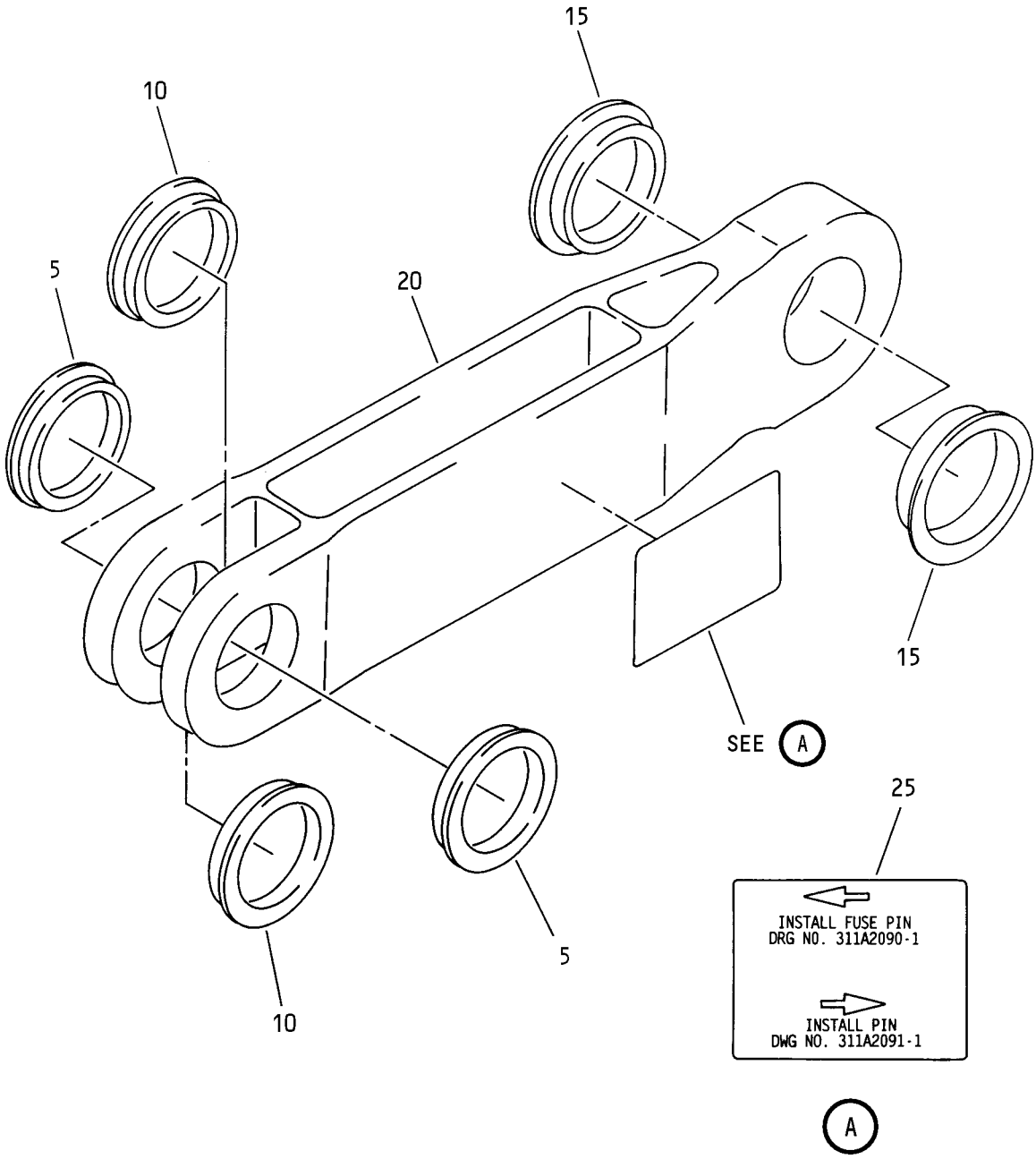
–Item not Illustrated



Side Link Assembly
IPL Figure 5

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
5–					
–1A	311A2740-3		LINK ASSY-SIDE	Q	RF
5	BACB28AU12B040A		. BUSHING	Q	1
10	BACB28AT14D032A		. BUSHING	Q	2
15	311A2740-2		DELETED		
15A	311A2740-4		. LINK	Q	1

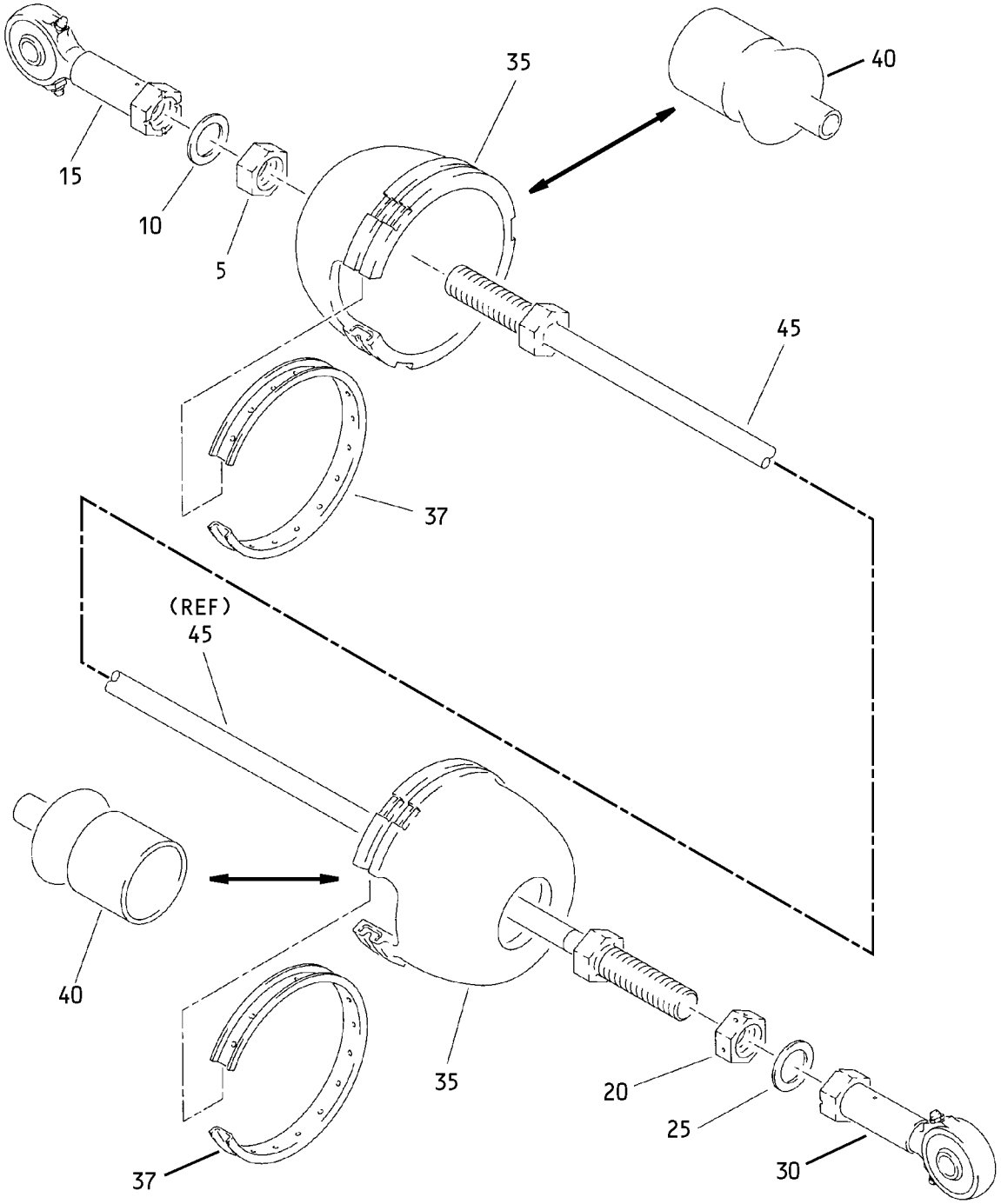
–Item not Illustrated



Upper Link Assembly
IPL Figure 6

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
6–					
–1A	311A2710-6		LINK ASSY-UPR	R	RF
5	311A2710-5		. BUSHING	R	2
10	311A2710-8		. BUSHING	R	2
15	311A2710-3		. BUSHING	R	2
20	311A2710-7		. LINK	R	1
25	BAC27DPP437		. MARKER-ALUMINUM FOIL	R	1

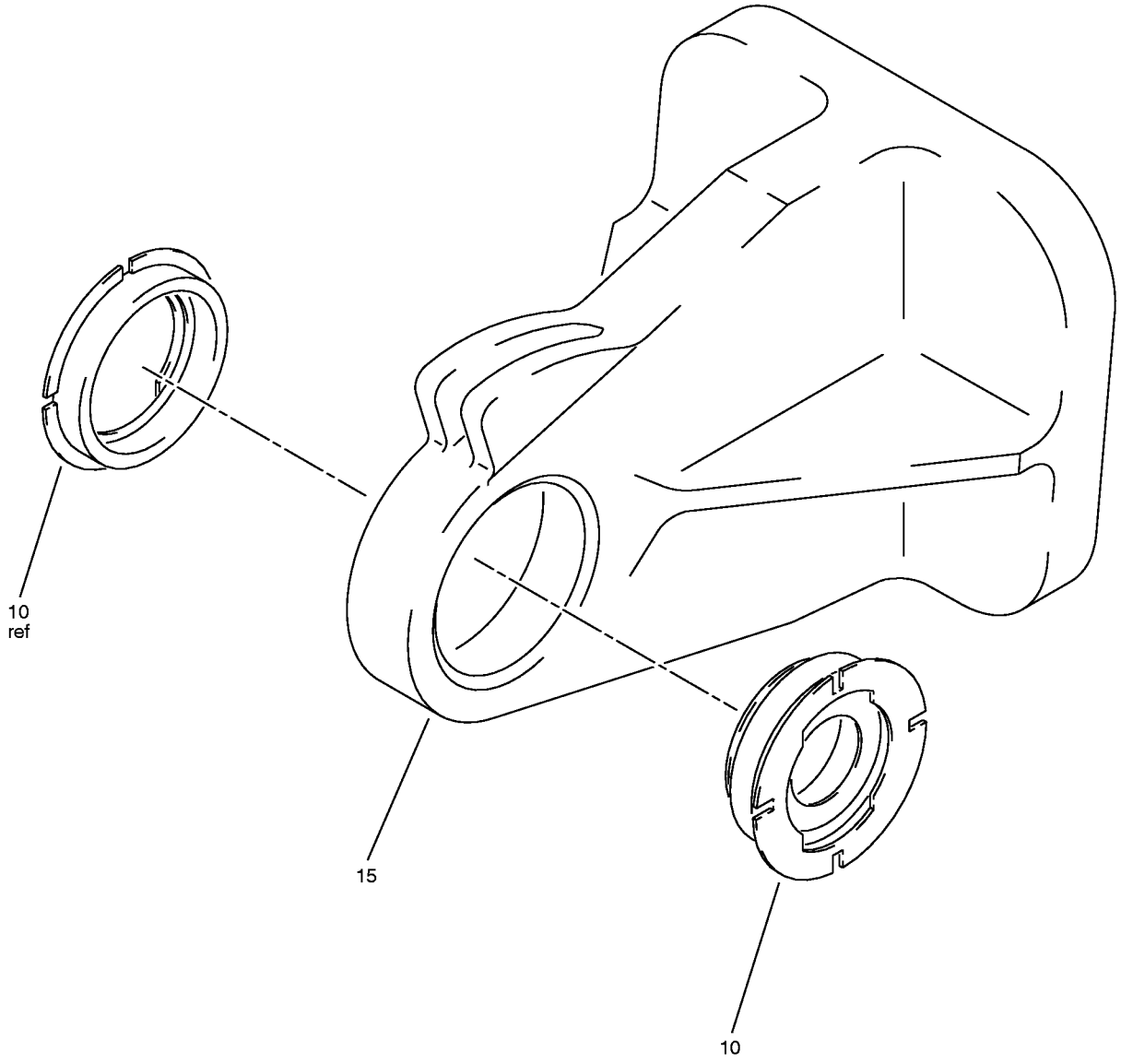
–Item not Illustrated



Tie Rod Assembly
IPL Figure 7

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
7–					
–1A	311A2551-1		ROD ASSY-TIE	S	RF
–1B	311A2551-2		ROD ASSY-TIE	T	RF
5	NAS509L7C		. NUT	S, T	1
10	NAS1149C0716R		. WASHER	S, T	1
15	13E7-117T		. BEARING (V16746) (SPEC BACB10Z7LT) (OPT ARL7-8W3 (VS0352)) (OPT ASGK7-1DT (V56644)) (OPT 51589L071VL (V09455)) (OPT KBL7-150WT (V97613)) (OPT HB7-201KLT (V02758)) (OPT FSSKL7AS2 (V73134)) (OPT BRELHS7-2003EL1 (V81376)) (OPT ARBL7-61TW (V15860))	S, T	1
20	NAS509-7C		. NUT	S, T	1
25	NAS1149C0716R		. WASHER	S, T	1
30	12E7-117T		. BEARING (V16746) (SPEC BACB10Z7T) (OPT AR7-8W3 (VS0352)) (OPT ASWK7-1DT (V56644)) (OPT 51589-071VL (V09455)) (OPT KB7-150WT (V97613)) (OPT HB7-201KT (V02758)) (OPT FSSK7AS2 (V73134)) (OPT BRES7-2003EL1 (V81376)) (OPT ARB7-61TW (V15860))	S, T	1
35	315W1084-1		. BOOT ASSY	S	2
37	315W1085-1		. . RING-SNAP	S	1
40	311A2557-1		. BOOT ASSY	T	2
45	311A2551-3		. ROD	S, T	1

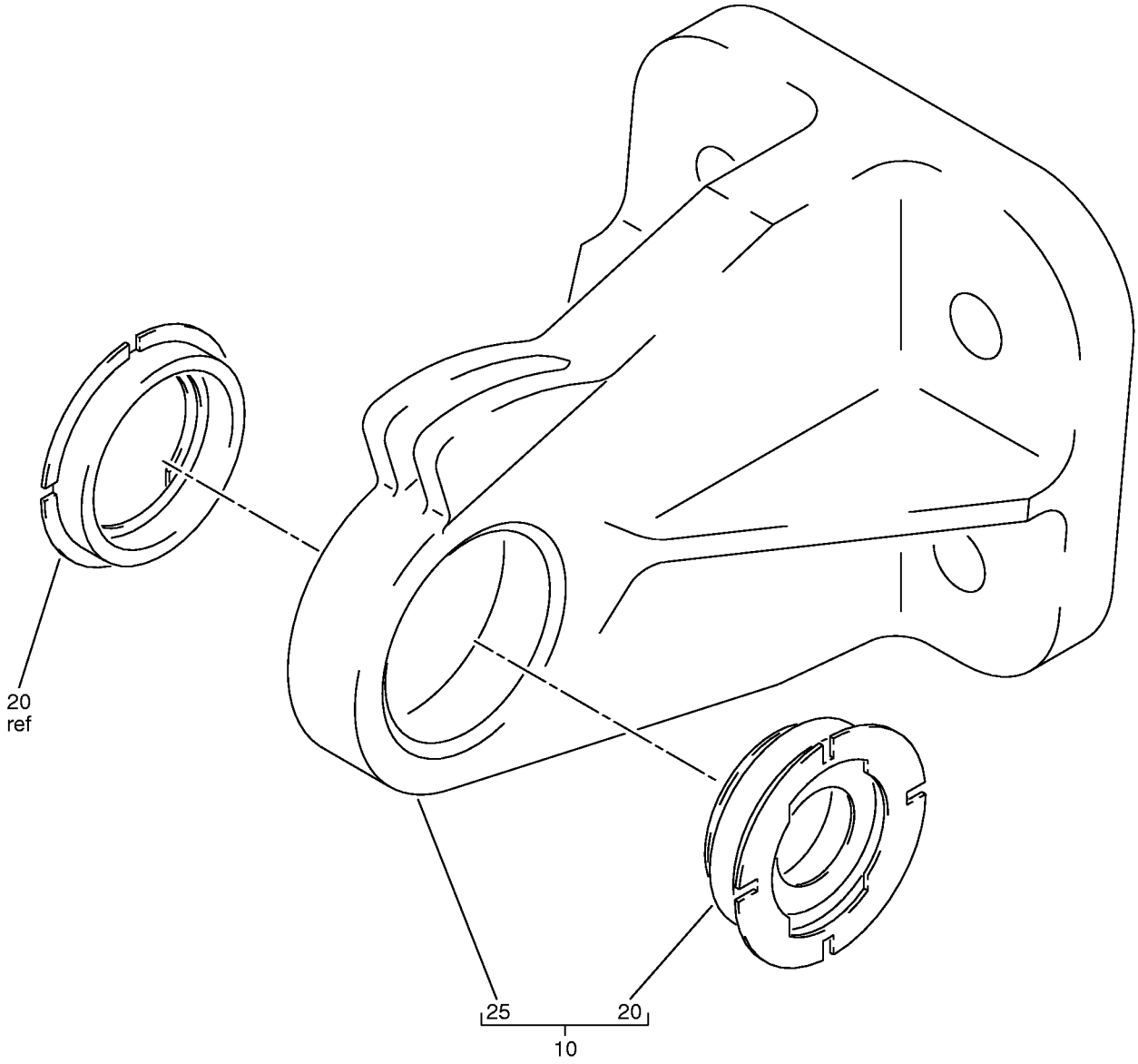
–Item not Illustrated



Hinge Assembly
IPL Figure 8

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
8–					
–1A	311A2552-1		HINGE ASSY	U	RF
–1B	311A2552-5		HINGE ASSY	V	RF
–5A	311A2552-2		HINGE ASSY	X	RF
–5B	311A2552-6		HINGE ASSY	Y	RF
10	P24220		. BEARING (V57606) (SPEC S302T001-225) (OPT VTB07250 (V06710))	U, V, X, Y	1
15	311A2552-3		. FITTING	U	1
–15A	311A2552-7		. FITTING	V	1
–20	311A2552-4		. FITTING	X	1
–20A	311A2552-8		. FITTING	Y	1

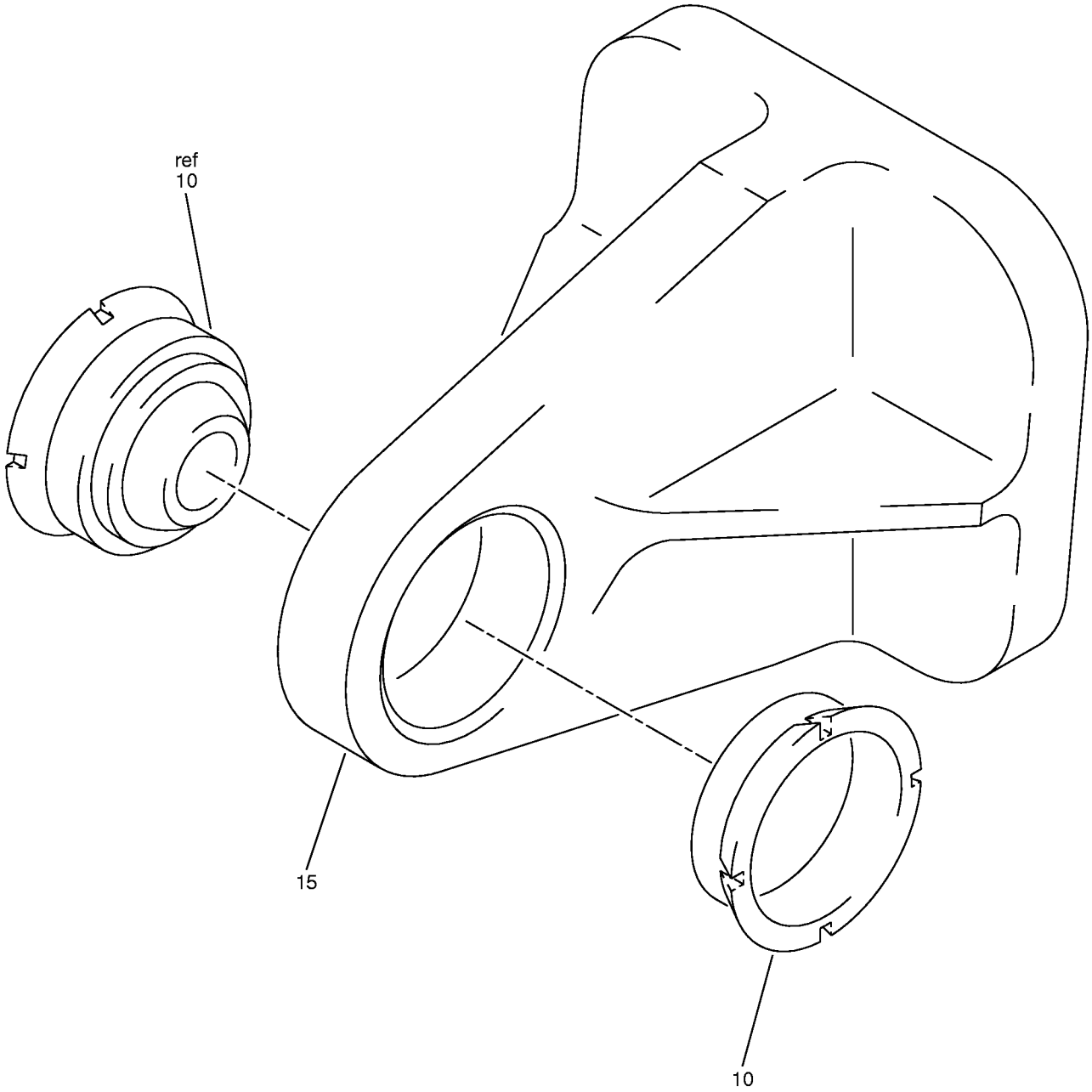
–Item not Illustrated



Hinge Assembly
IPL Figure 9

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
9–					
–1A	311A2552-9		HINGE ASSY	W	RF
–5A	311A2552-10		HINGE ASSY	Z	RF
10	311A2552-5		. HINGE ASSY	W	1
–15	311A2552-6		. HINGE ASSY	Z	1
20	P24220		. . BEARING (V57606) (SPEC S302T001-225) (OPT VTB07250 (V06710))	W, Z	1
25	311A2552-7		. . FITTING	W	1
–30	311A2552-8		. . FITTING	Z	1

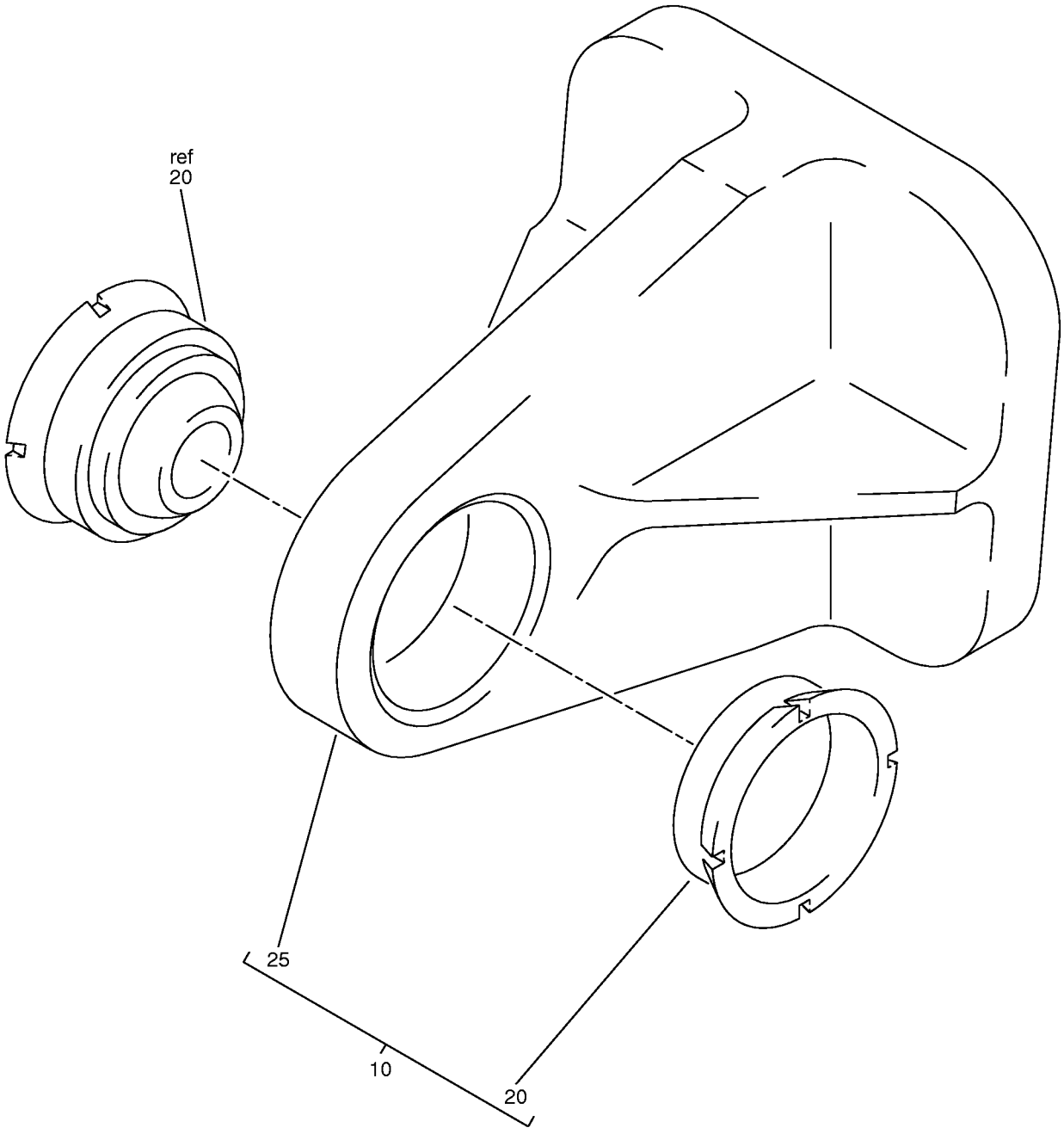
–Item not Illustrated



Hinge Assembly
IPL Figure 10

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
10–					
–1A	311A2553-1		HINGE ASSY	AA	RF
–1B	311A2553-5		HINGE ASSY	AB	RF
–5A	311A2553-2		HINGE ASSY	AD	RF
–5B	311A2553-6		HINGE ASSY	AE	RF
10	P24220		. BEARING (V57606) (SPEC S302T001-225) (OPT VTB07250 (V06710))	AA, AB, AD, AE	1
15	311A2553-3		. FITTING	AA	1
–15A	311A2553-7		. FITTING	AB	1
–20	311A2553-4		. FITTING	AD	1
–20A	311A2553-8		. FITTING	AE	1

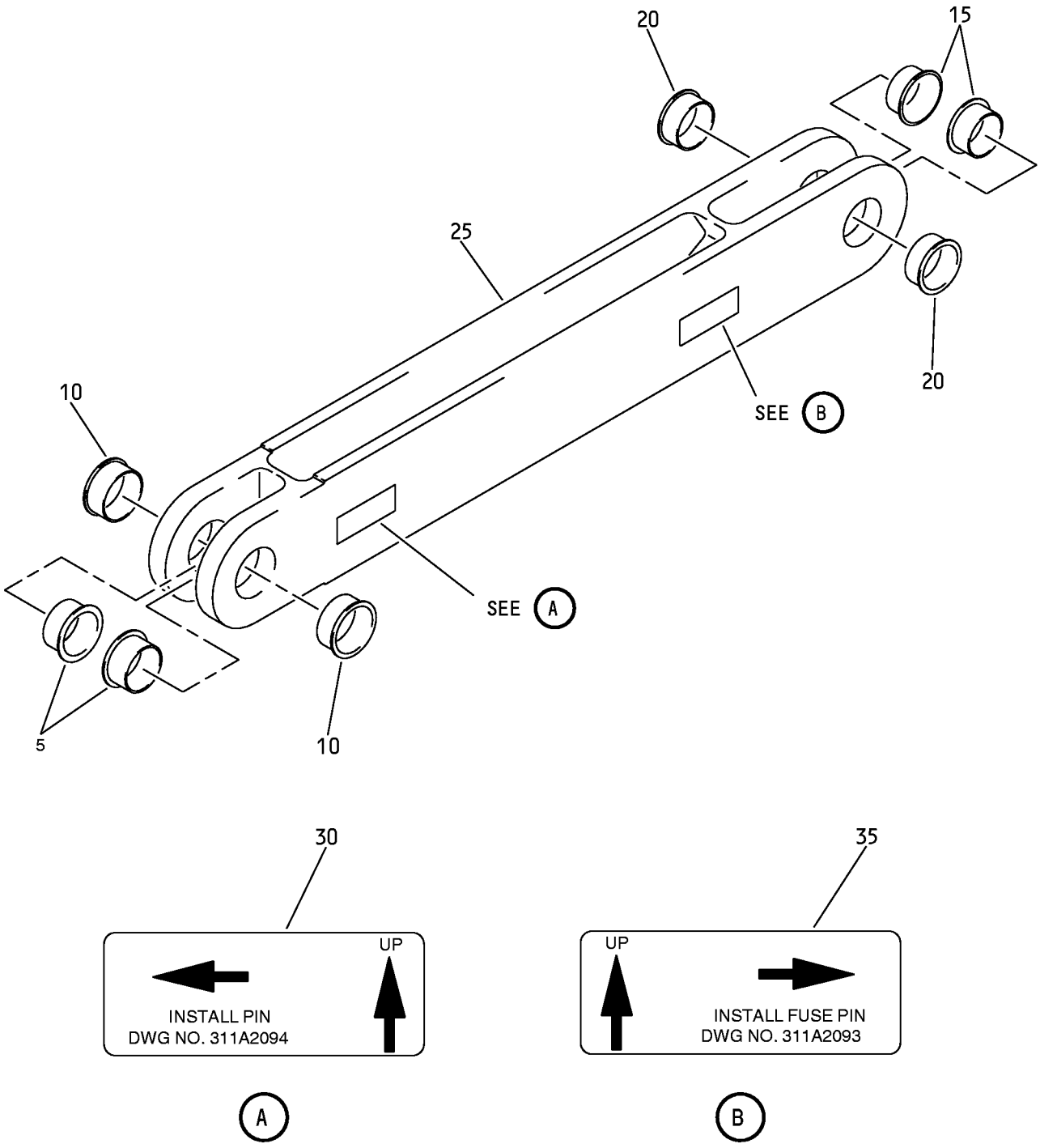
–Item not Illustrated



Hinge Assembly
IPL Figure 11

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
11–					
–1A	311A2553-9		HINGE ASSY	AC	RF
–1B	311A2553-11		HINGE ASSY	AJ	RF
–5A	311A2553-10		HINGE ASSY	AF	RF
–5B	311A2553-12		HINGE ASSY	AK	RF
10	311A2553-5		. HINGE ASSY	AC	1
–10A	311A2553-13		. HINGE ASSY	AJ	1
–15	311A2553-6		. HINGE ASSY	AF	1
–15A	311A2553-14		. HINGE ASSY	AK	1
20	P24220		. . BEARING (V57606) (SPEC S302T001-225) (OPT VTB07250 (V06710))	AC, AF, AJ, AK	1
25	311A2553-7		. . FITTING	AC	1
–25A	311A2553-15		. . FITTING	AJ	1
–30	311A2553-8		. . FITTING	AF	1
–30A	311A2553-16		. . FITTING	AK	1

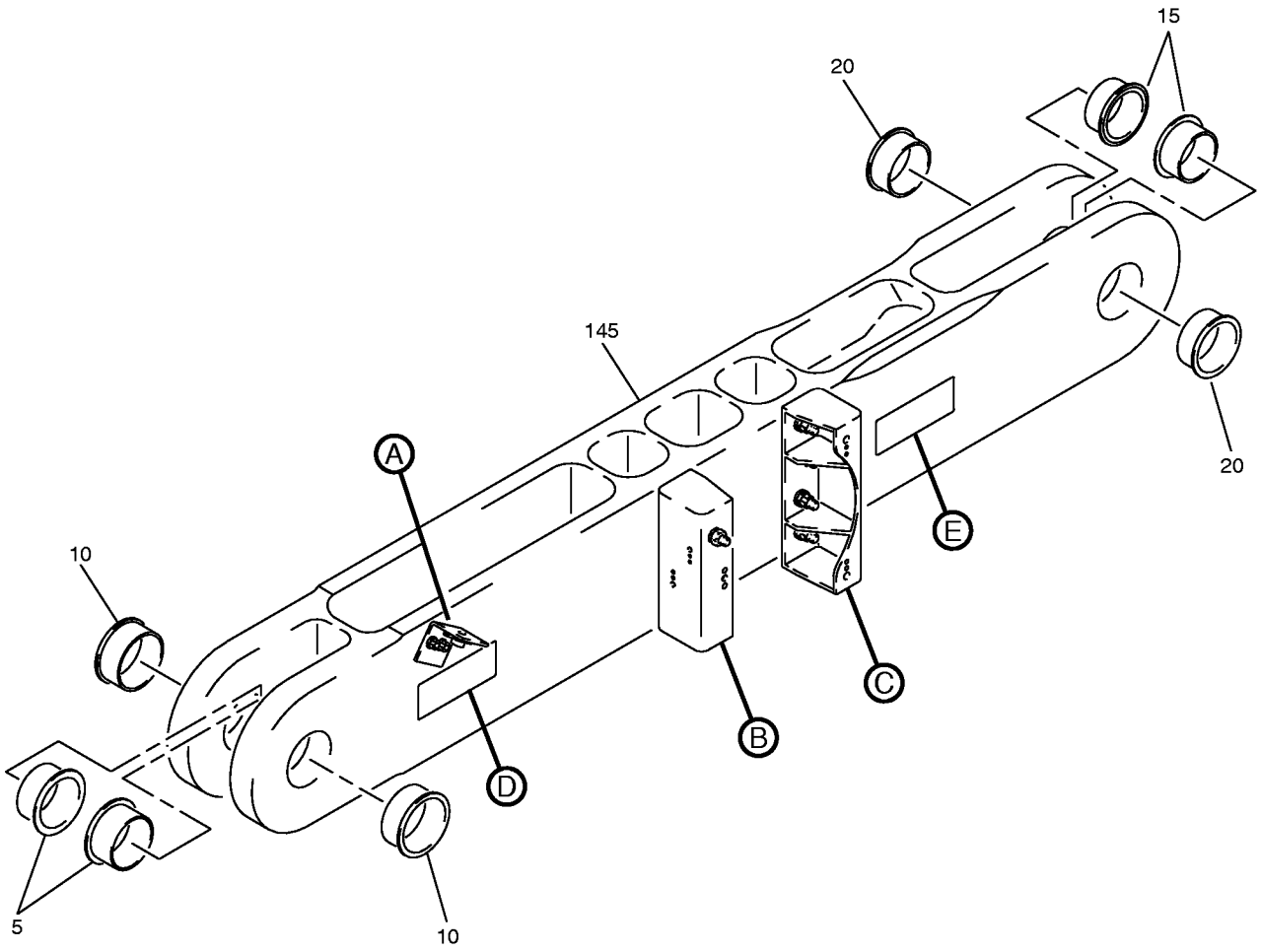
–Item not Illustrated



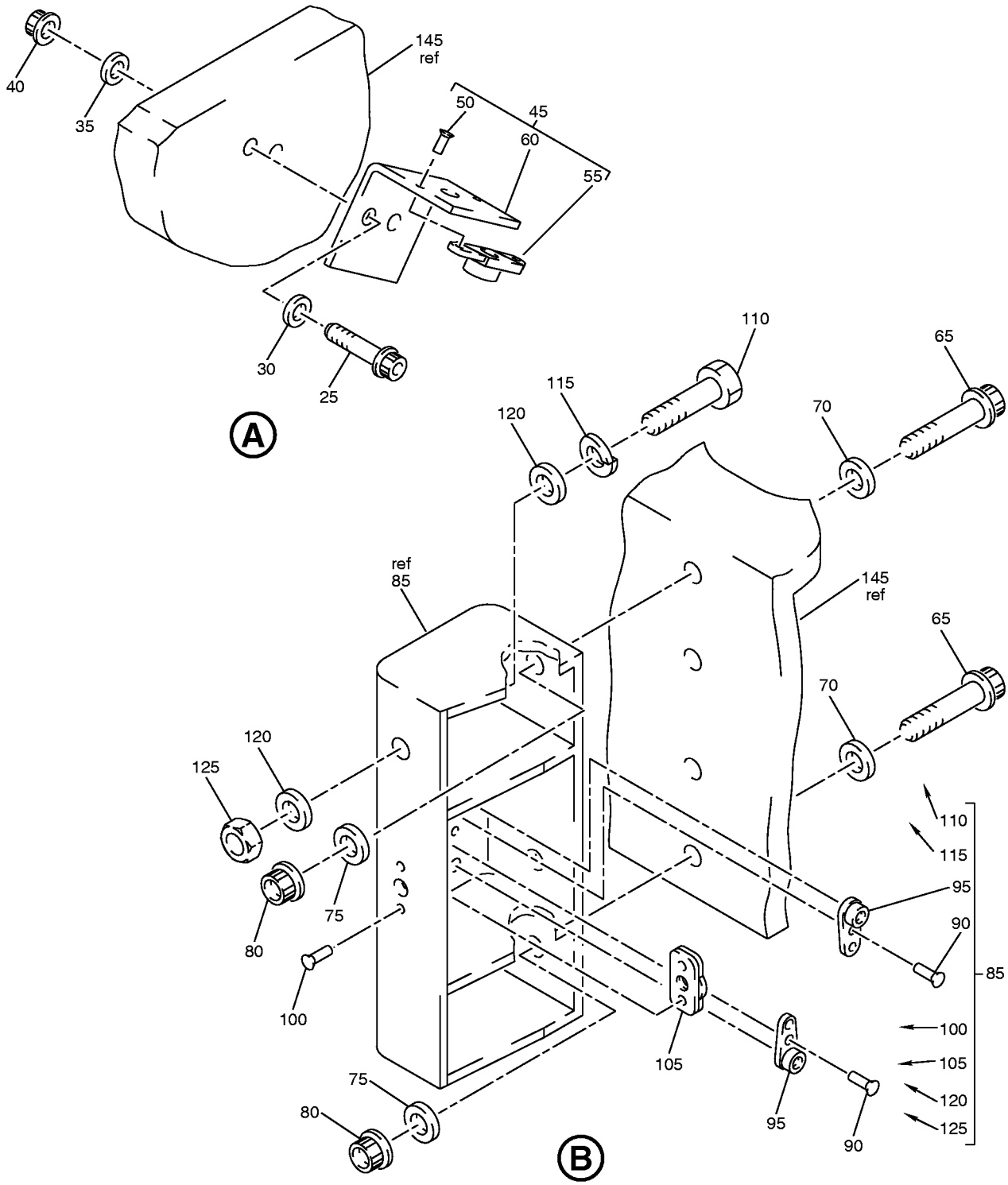
Diagonal Brace Assembly
IPL Figure 12

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
12–					
–1A	311A2730-10		BRACE ASSY-DIAG	AJ	RF
–1B	311A2730-12		BRACE ASSY-DIAG	AK	RF
5	311A2730-3		. BUSHING	AJ, AK	2
10	311A2730-4		. BUSHING	AJ, AK	2
15	311A2730-5		. BUSHING	AJ, AK	2
20	311A2730-6		. BUSHING	AJ, AK	2
25	311A2730-11		. BRACE	AJ	1
–25A	311A2730-13		. BRACE	AK	1
30	BAC27DPP438		. MARKER-ALUMINUM FOIL	AJ, AK	1
35	BAC27DPP439		. MARKER-ALUMINUM FOIL	AJ, AK	1

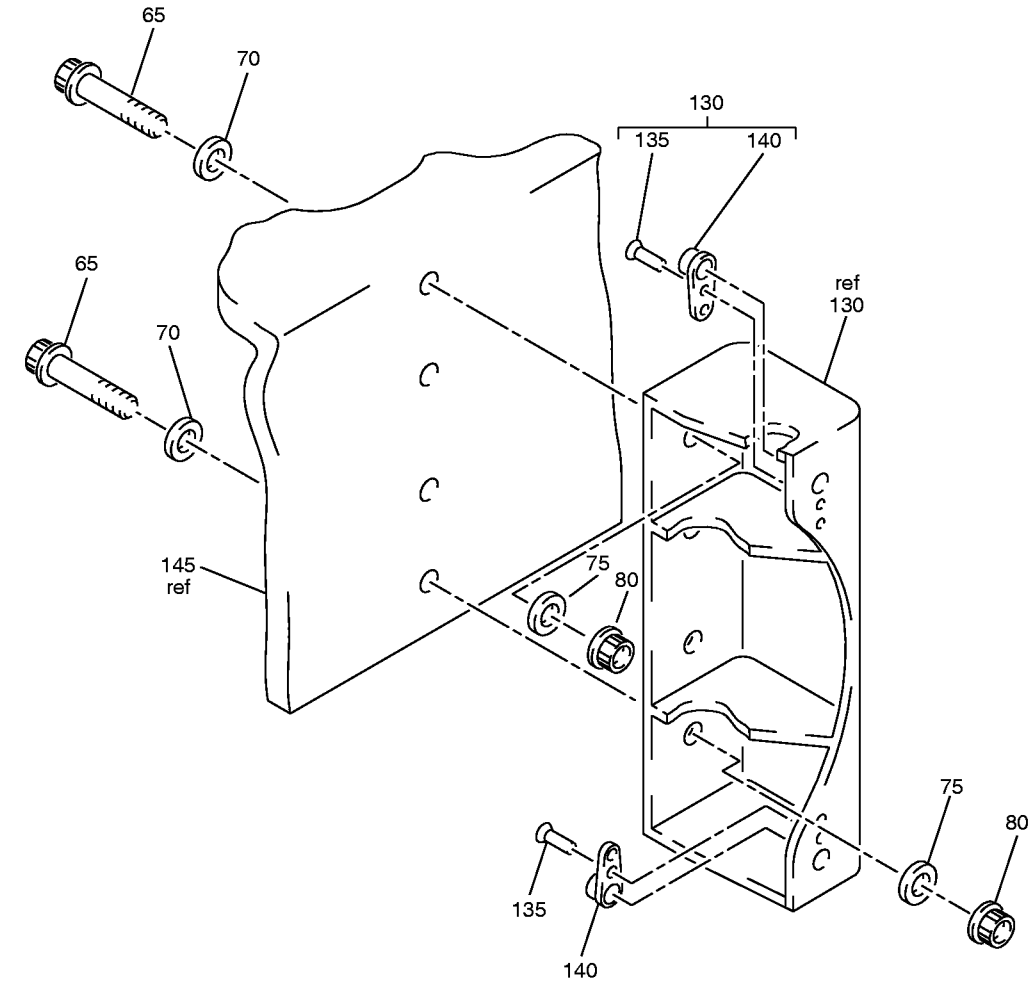
–Item not Illustrated



Diagonal Brace Assembly
IPL Figure 13 (Sheet 1 of 3)



Diagonal Brace Assembly
IPL Figure 13 (Sheet 2 of 3)



C

D E

Diagonal Brace Assembly
IPL Figure 13 (Sheet 3 of 3)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
13–					
–1A	311A2730-15		BRACE ASSY-DIAG NACELLE STRUT	AN	RF
5	311A2730-3		. BUSHING	AN	2
10	311A2730-4		. BUSHING	AN	2
15	311A2730-5		. BUSHING	AN	2
20	311A2730-6		. BUSHING	AN	2
25	BACB30US3K12		. BOLT	AN	2
30	BACW10BP3CD		. WASHER	AN	2
35	BACW10BP3DP		. WASHER	AN	2
40	BH00303CM3		. NUT (V27238) (SPEC BACN10HR3CD) (OPT H51560-3 (V15653)) (OPT 67832CD1032 (V56878)) (OPT 102LH9031-3 (V72962)) (OPT SL7108C1032 (V11815)) (OPT BMN5024CWD33 (V97928)) (OPT CR60303 (V62554)) (OPT SL7108C3 (V11815)) (OPT VCU0005D3 (V06710)) (OPT 102LH90313 (V72962)) (OPT 67832CD3 (V56878)) (OPT BMN10HRCWD3-3 (V97928))	AN	2
45	313A2910-3		. BRACKET ASSY	AN	1
50	BACR15BA3AD4C		. . RIVET	AN	2
55	BRF200C3D		. . NUTPLATE (V52828) (SPEC BACN10JR3CFD) (OPT K51602-3BAC (V15653)) (OPT NS202476-02 (V80539)) (OPT 102F9201-3 (V72962)) (OPT T8092C1032CD (V11815))	AN	1
60	313A2910-12		. . BRACKET	AN	1
65	BACB30US4K16		. BOLT	AN	8
70	BACW10BP4CD		. WASHER	AN	8
75	BACW10BP4APU		. WASHER	AN	8

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
13–					
80	BMM10HRCPD3-4		. NUT (V97928) (SPEC BACN10HR4CS) (OPT H39953-4 (V15653)) (OPT 109LH9031-4 (V72962)) (OPT 67832AS428 (V56878)) (OPT BH00303-4 (V27238)) (OPT SL7059C428 (V11815)) (OPT BH003034 (V27238)) (OPT BMN5024CPD34 (V97928)) (OPT CR59084 (V62554)) (OPT 109LH90314 (V72962)) (OPT 67832AS4 (V56878)) (OPT BMN10HRCPD3-4 (V97928)) (OPT SL705094 (V11815))	AN	8
85	313A2910-1		. BRACKET ASSY	AN	1
90	MS20427M3-5		. . RIVET	AN	4
95	T8081C832		. . NUTPLATE (V11815) (SPEC BACN10JP08BCM) (OPT MK2001-08BAC (V15653)) (OPT NS103198SE82 (V80539)) (OPT VN201D1-82 (V92215)) (OPT 109A9207M82 (V72962)) (OPT BRM100C08M (V52828))	AN	2
100	MS20427M3-5		. . RIVET	AN	2
105	MF53050-4DL		. . NUTPLATE (V15653) (SPEC BACN10JN4CM) (OPT BRFM20C4M (V52828)) (OPT MF1001-4BAC (V15653)) (OPT NS103218SE048 (V80539)) (OPT VN252D048 (V92215)) (OPT 109F9201M4 (V72962)) (OPT T8125C4C (V11815))	AN	1
110	BACS12HN4U16		. . SCREW	AN	1
115	BACW10EC04CN		. . WASHER	AN	1
120	BACW10BP4APU		. . WASHER	AN	2
125	MS35650-3254		. . NUT	AN	1
130	313A2910-2		. BRACKET ASSY	AN	1
135	MS20427M3-5		. . RIVET	AN	4

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
13–					
140	T8081C428		. . NUTPLATE (V11815) (SPEC BACN10JP4BCM) (OPT MK2001-4BAC (V15653)) (OPT NS103198SE048 (V80539)) (OPT VN201D1-048 (V92215)) (OPT 109A9207M4 (V72962)) (OPT BRM100C4M (V52828))	AN	2
145	311A2730-14		. BRACE	AN	1
150	BAC27DPP438		. MARKER-ALUMINUM FOIL	AN	1
155	BAC27DPP439		. MARKER-ALUMINUM FOIL	AN	1

–Item not Illustrated