TO: ALL HOLDERS OF TAIL SKID INSTALLATION COMPONENTS COMPONENT MAINTENANCE MANUAL 32-71-14.

REVISION NO. 3 DATED JUL 01/04

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date to the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
CONTENTS 1	Added clarifications and updated callouts.
DESCRIPTION & OPERATION 1	

TAIL SKID INSTALLATION COMPONENTS

PART NUMBER 163T0001-1

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

K12851

REVISION RECORD

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

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

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL

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REPAIR 11-2		
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602	JUL 01/99	01
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*[1] Special instructions are not necessary. Use standard industry practices.
*[2] Not applicable.
*[3] Also use the instructions in SOPM 20-30-03.

INTRODUCTION

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

This manual is divided into separate sections:

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

Refer to the Table of Contents for the page location of applicable sections.

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

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

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

Design changes, optional parts, configuration differences and Service Bulletin modifications create alternate part numbers. These are identified in the Illustrated Parts List (IPL) by adding an alphabetical character to the basic item number. The resulting item number is called an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless otherwise indicated.

Verification:

TAIL SKID INSTALLATION COMPONENTS

DESCRIPTION AND OPERATION

1. Description

A. The tail skid installation components include a shock absorber, a door, pins, links, and a lever.

2. Operation

A. The tail skid installation components and the shock absorber assembly help to prevent damage to the airplane if over rotation occurs at takeoff or landing.

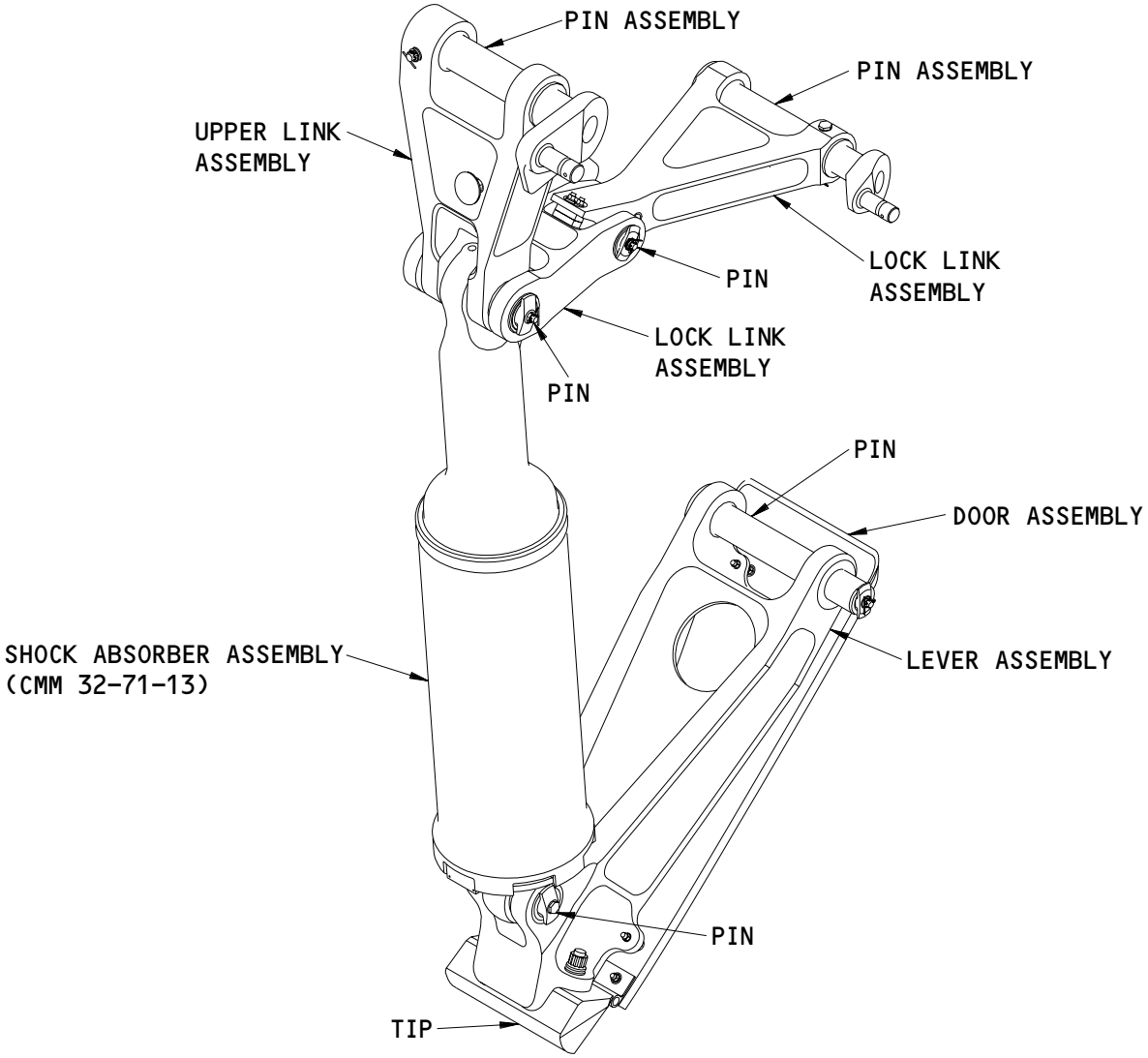
3. Leading Particulars (Approximate)

A. Length -- 20 inches

B. Width -- 7 inches

C. Height -- 40 inches

D. Weight -- 80 pounds



Tail Skid Installation Components
Figure 1

K12945

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 details of the SOPM chapters identified in this procedure.

   D. Refer to IPL Fig. 1 for item numbers.

2. Check

   A. References

      (1) SOPM 20-20-01, Magnetic Particle Inspection

      (2) 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:

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

         (a) End Cap (85, 285)

         (b) Pin (90, 125, 205, 245, 290, 425)

         (c) Stop Plate (315, 365)

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

         (a) End Cap (120, 200)

         (b) Lever (175)

         (c) Link (340, 385, 450)

         (d) Seal Retainer (45)

REPAIR - GENERAL

1. General

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

PART NUMBER	NAME	REPAIR
---	REFINISH OF OTHER PARTS	1-1
148T7703	DOOR ASSEMBLY	2-1
163T0100	FUSE PIN ASSEMBLY	3-1
163T0101	PIN ASSEMBLY	4-1
163T0102	PIN	5-1
163T0103	PIN	6-1
163T0104	PIN	7-1
163T1002	LINK ASSEMBLY	8-1, 8-2
163T1004	LOCK LINK ASSEMBLY	9-1, 9-2
163T1005	LOCK LINK ASSEMBLY	10-1, 10-2
163T1010	LEVER ASSEMBLY	11-1, 11-2
163W1006	PIN	12-1

2. Dimensioning Symbols

   A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in Fig. 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

K12947

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

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

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

   C. Refer to IPL Fig. 1 for item numbers.

2. Refinish of Other Parts

   A. General

      (1) Instructions for the repair of the parts listed in Table 601 are for repair of the initial finish.

   B. Consumable Materials

      NOTE: Equivalent material can be used.

      (1) C00032 Enamel -- BMS 10-60, Type 1 (SOPM 20-60-02)

      (2) C00033 Enamel -- BMS 10-60, Type 2 (SOPM 20-60-02)

      (3) C00259 Primer -- BMS 10-11 (SOPM 20-60-02)

      (4) C00766 Primer -- BMS 10-103, Type 1 (SOPM 20-60-02)

      (5) C00767 Coating -- BMS 10-21, Type 1 (SOPM 20-60-02)

   C. References

      (1) SOPM 20-30-02, Stripping of Protective Finishes

      (2) SOPM 20-30-03, General Cleaning Procedures

      (3) SOPM 20-41-01, Decoding Table for Boeing Finish Codes

      (4) SOPM 20-60-02, Finishing Materials

   D. Procedure

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Seal Retainer (45)	Aluminum alloy	Chemical treat and apply BMS 10-11, type 1 primer (F-18.06). Apply BMS 10-11, type 2 enamel (F-21.02).
End Cap (120, 220)	Aluminum alloy	Chromic acid anodize and apply BMS 10-11, type 1 primer (F-18.13).
Stop Plate (315, 365)	15-5PH 180-200 ksi	Passivate (F-17.25).
Bond Assembly (60)	Fiberglass	Prepare the surface (F-14.679). Apply BMS 10-21 coating (SRF-14.685). Apply BMS 10-103, type 1 primer (F-14.692). Apply BMS 10-60 enamel (F-19.39-707) color gray.

Refinish Details
Table 601

DOOR ASSEMBLY - REPAIR 2-1

148T7703-6

1. General

A. This procedure has the data necessary to repair and refinish the door assembly (25).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

2. Seal Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) G00110 Silicone Sponge -- BMS 1-23 (SOPM 20-60-04)

B. References

(1) SOPM 20-50-01, Bolt and Nut Installation

(2) SOPM 20-50-12, Application of Adhesives

(3) SOPM 20-60-04, Miscellaneous Materials

C. Procedure

(1) Remove the nuts (40), the washers (35), the bolts (30), the seal retainer (45) and the seal (50) from the bond assembly (60).

(2) Install the bolts (30), the seal (50), the seal retainer (45), the washers (35) and the nuts (40) onto the bond assembly (60).

(3) Install the plug (55) into the ends of the seal (50) with type 60 adhesive as shown in the SOPM 20-50-12.

(a) The plug (55) can be made from BMS 1-23 silicone sponge. The dimensions of the plug (55) must be 0.38 inch diameter x 1.0 inch long.

FUSE PIN ASSEMBLY - REPAIR 3-1

163T0100-1

1. General

A. This repair gives the data that is necessary to repair and refinish the fuse pin assembly (410).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.

D. Refer to IPL Fig. 1 for item numbers.

E. General repair details:

(1)	Material:	15-5PH 138-150 ksi
(2)	Shot peen:	Shot Number 0.017-0.033 Intensity 0.012A-0.014A Coverage 2.0

2. Bushing Hole Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Landing Gear Parts

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inspection

(4) SOPM 20-50-03, Bearing Removal, Installation and Retention

B. Procedure

(1) Machine the worn or damaged hole for the bushing (415) as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.020-0.030 inch.

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

(4) Make the repair bushing as shown in Fig. 602 as follows:

(a) Bushing Material: Aluminum-bronze, AMS 4640.

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

(5) Install the bushing (415) in the fuse pin (420) using the shrink-fit method, as shown in SOPM 20-50-03.

(6) Machine the bushing (415) inside diameter to the dimension and finish shown in Fig. 601.

(7) Break all sharp edges to a radius of 0.020-0.030 inch.

3. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Landing Gear Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inspection

(5) SOPM 20-30-02, Stripping of Protective Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

C. Diameter A Repair

(1) Rework of diameter A shall be limited to the stripping of chrome and replating in the area shown in Fig. 601; therefore, machine diameter A as required, within the repair limit shown in Fig. 601, to remove defects.

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

(3) Shot peen, chrome plate and grind diameter A to dimensions and finish as shown in Fig. 601.

(4) Rework on the inside diameter will be limited to the restoration of the original finish, passivate (F-17.25).

D. Diameter B Repair

(1) Machine diameter B as required, within the repair limit shown in Fig. 601, to remove defects.

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

(3) Shot peen, chrome plate and grind diameter B to dimensions and finish as shown in Fig. 601.

E. Relief Grooves and Other Repair Features

(1) Machine as required, within the repair limits as shown in Fig. 601, to remove defects.

(2) Shot peen areas machined in the previous step.

4. Pin Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79, type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

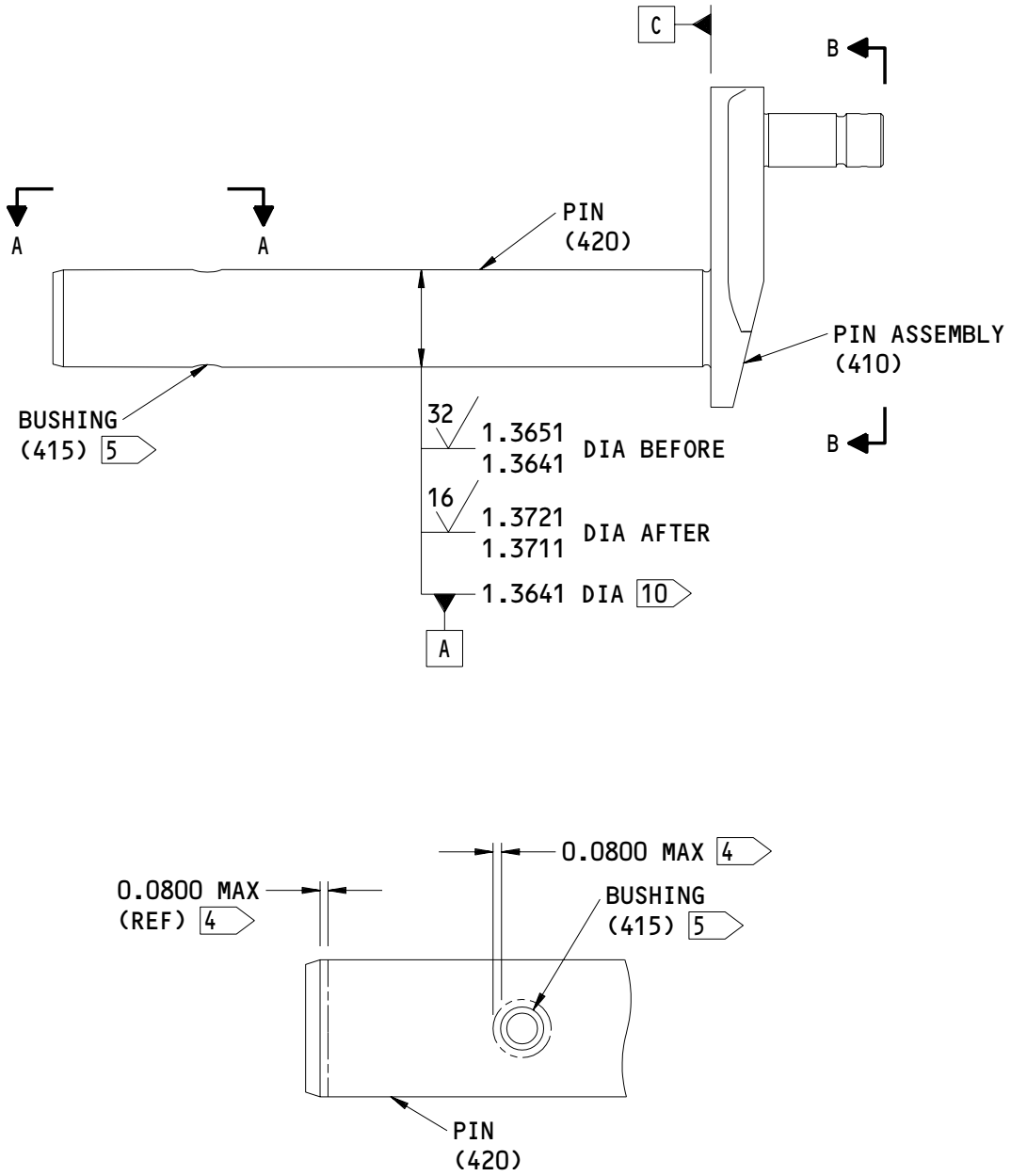
(5) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

C. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not then repair markings as shown in (SOPM 20-50-10).

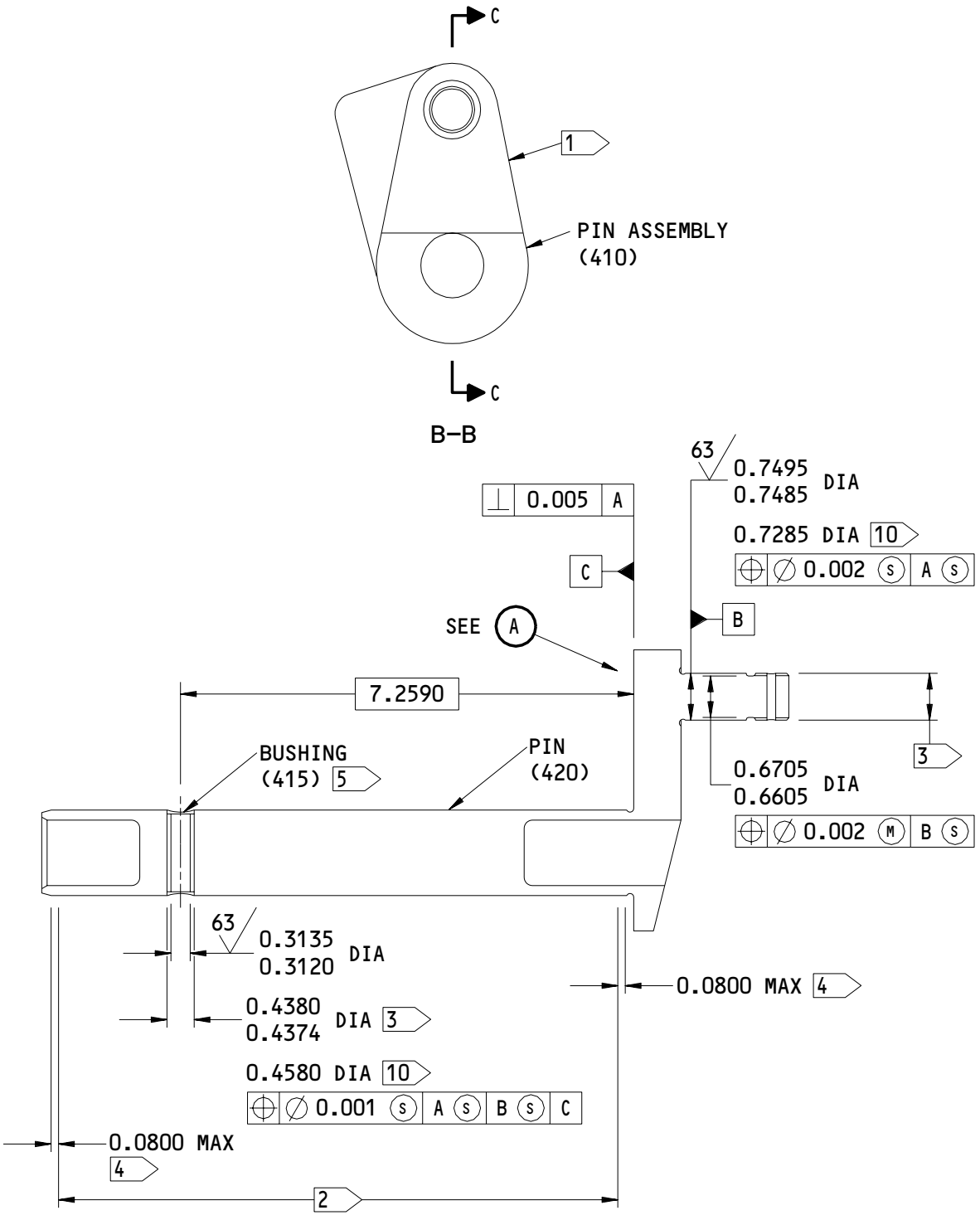
(3) Wipe diameter A plating with primer (F-19.451).



A–A

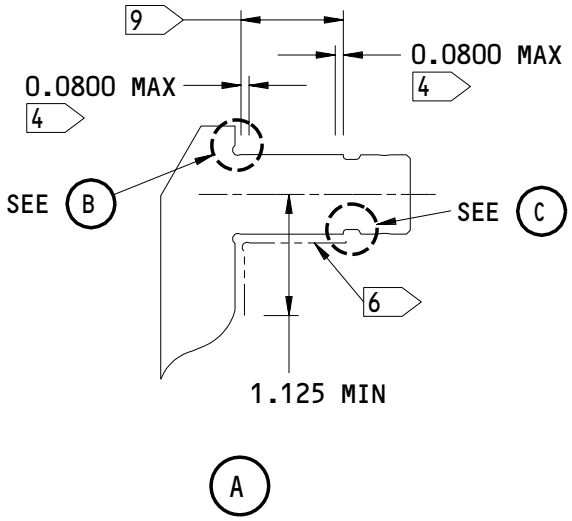
163T0100–1
Fuse Pin Assembly – Bushing Replacement Repair
Figure 601 (Sheet 1)

K13930



163T0100-1
Fuse Pin Assembly – Bushing Replacement Repair
Figure 601 (Sheet 2)

K13931



163T0100-1
Fuse Pin Assembly - Bushing Replacement Repair
Figure 601 (Sheet 3)

K13932

1 PART NUMBER AND SERIAL NUMBER LOCATED HERE

2 CHROME PLATE (F-15.34) PLATE THICKNESS (0.003-0.015) AFTER GRINDING. WIPE THE PLATING WITH PRIMER (F-19.451)

3 DO NOT SHOT PEEN

4 CHROME PLATE TO RUN OUT WITHIN THIS AREA. DIMENSION TO START FROM TANGENT POINT OF RADIUS OR EDGE BREAK. PLATING WILL NOT TERMINATE WITH A SQUARE EDGE, BUT WILL TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

5 INSTALL BUSHING 0.005 MINIMUM BELOW SURFACE OF PIN

6 REPAIR AREA

7 REMOVE ALL CORROSION PITS, SCRATCHES, DENTS BY MACHINING AND BLENDING SMOOTH. NO MACHINING OR GRINDING WITH THE HAND-HELD POWER TOOLS PERMITTED. REMOVE 0.010 MAXIMUM FROM ANY BASE MATERIAL SURFACE

8 REMOVE 0.015 MAXIMUM. DESIGN GRIP LENGTH MUST BE MAINTAINED

9 CHROME PLATE (F-15.34), 0.015 MAX THICKNESS AFTER GRINDING

10 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

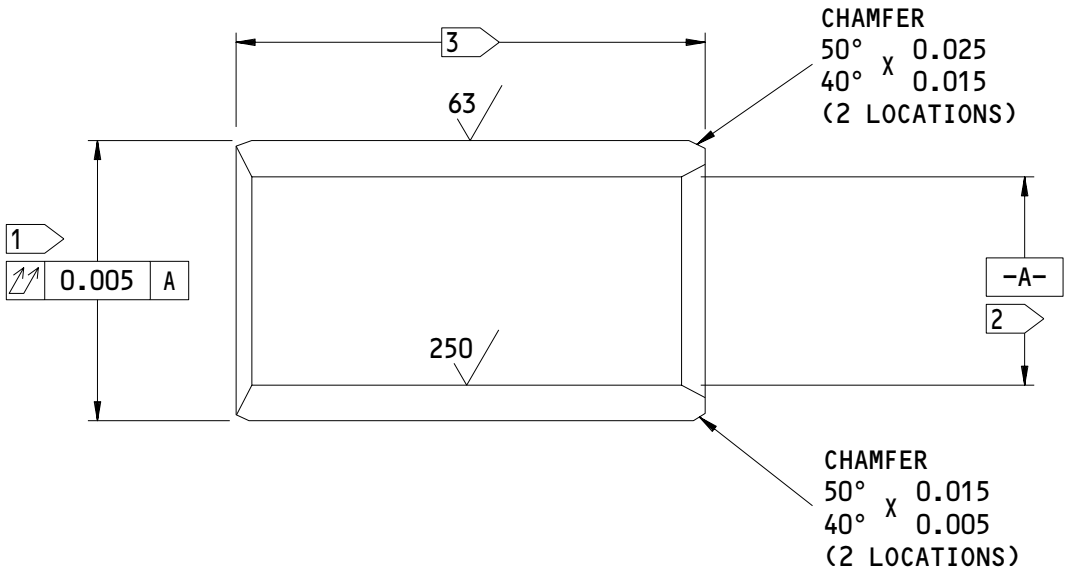
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

DIMENSIONS AND SURFACE FINISHES APPLY BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

163T0100-1
Fuse Pin Assembly - Bushing Replacement Repair
Figure 601 (Sheet 4)

K13933



OVERSIZE REPLACEMENT FOR BUSHING (415)

1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE BUSHING HOLE PLUS THE INTERFERENCE OF 0.0004–0.0015

2 FINAL DIAMETER TO BE MACHINED AFTER INSTALLATION

3 THE BUSHING LENGTH WILL BE SUCH THAT BOTH ENDS OF THE BUSHING ARE 0.005 MINIMUM BELOW THE SURFACE OF THE PIN

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602

K13927

PIN ASSEMBLY - REPAIR 4-1

163T0101-1

1. General

A. This repair gives the data that is necessary to repair and refinish the pin assembly (235).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR - GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1)	Material:	15-5PH 180-220 ksi
(2)	Shot Peen:	Shot Number 0.017-0.033 Intensity 0.016A Coverage 2.0

2. Bushing Hole Repair

A. Consumable Materials

(1) D00015 Grease -- BMS 3-24 (SOPM 20-60-03)

B. References

(1) CMM 32-00-05, Repair of High Strength Steel Landing Gear Parts

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inspection

(4) SOPM 20-50-03, Bearing Removal, Installation and Retention

(5) SOPM 20-60-03, Lubricants

C. Procedure

(1) Machine the worn or damaged hole for the bushing (240) as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.020-0.040 inch.

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

(4) Shot peen the machined areas as shown in the SOPM 20-10-03.

(5) Make the repair bushing as shown in Fig. 602 as follows:

(a) Bushing Material: Aluminum-bronze, AMS 4640.

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

(6) Install the bushing (240) in the pin (245) using the shrink-fit method, with BMS 3-24, as shown in the SOPM 20-50-03.

(7) Machine the bushing (240) inside diameter to the dimension and finish as shown in Fig. 601.

(8) Break all sharp edges to a radius of 0.020-0.040 inch.

3. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inpsection

(5) SOPM 20-30-02, Stripping of Protectrive Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

C. Repair of Diameter Defined by Datum A.

(1) Machine datum A diameter as required, within the repair limit shown in Fig. 601, to remove defects.

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

(3) Shot peen, chrome plate and grind diameter A to dimensions and finish as shown in Fig. 601.

(4) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

D. Repair of Diameter Defined by Datum B.

(1) Machine datum B diameter as required, within the repair limit as shown in Fig. 601, to remove defects.

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

(3) Shot peen chrome plate and grind diameter B to dimensions and finish as shown in Fig. 601.

(4) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

E. Relief Grooves and Other Repair Features

(1) Machine as required, within the repair limits as shown in Fig. 601, to remove defects.

(2) Shot peen areas machined in the previous step.

4. Pin Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79, type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

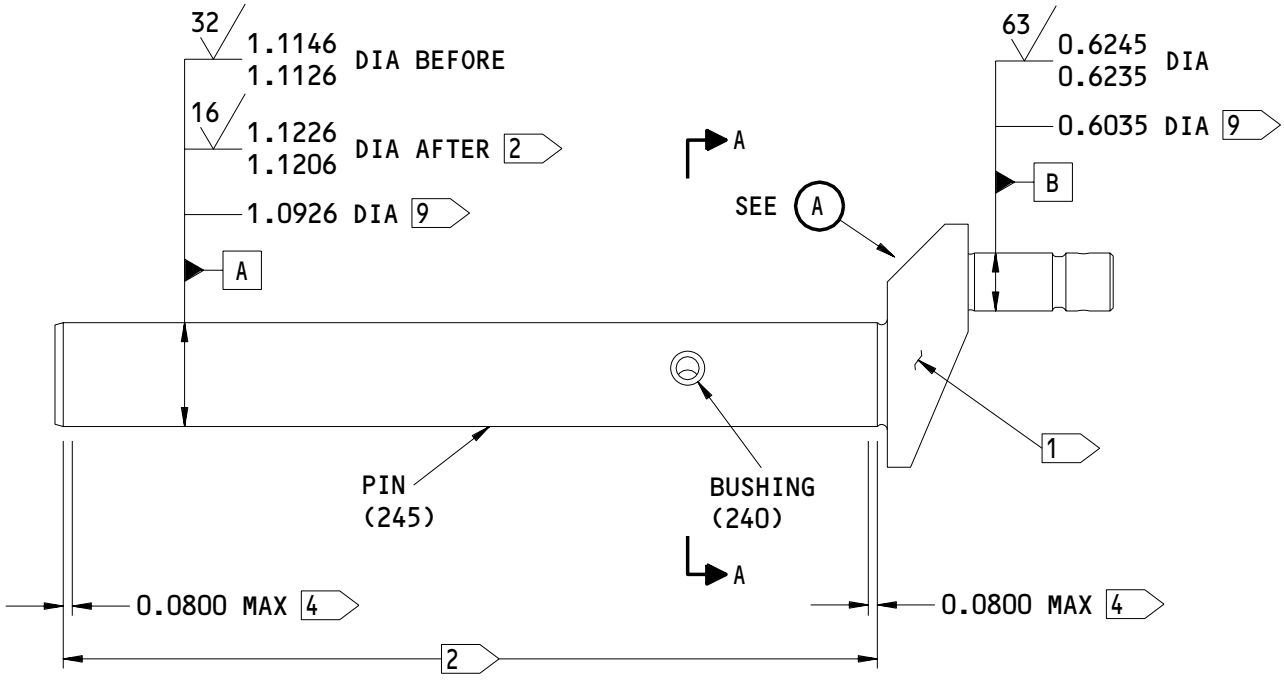
(5) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

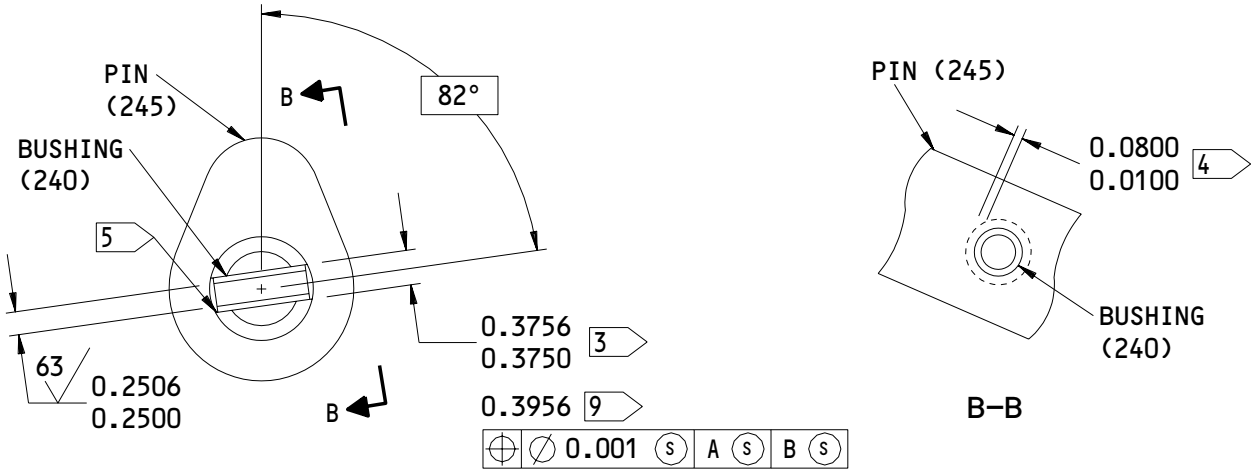
C. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not, then repair markings as shown in the SOPM 20-50-10.

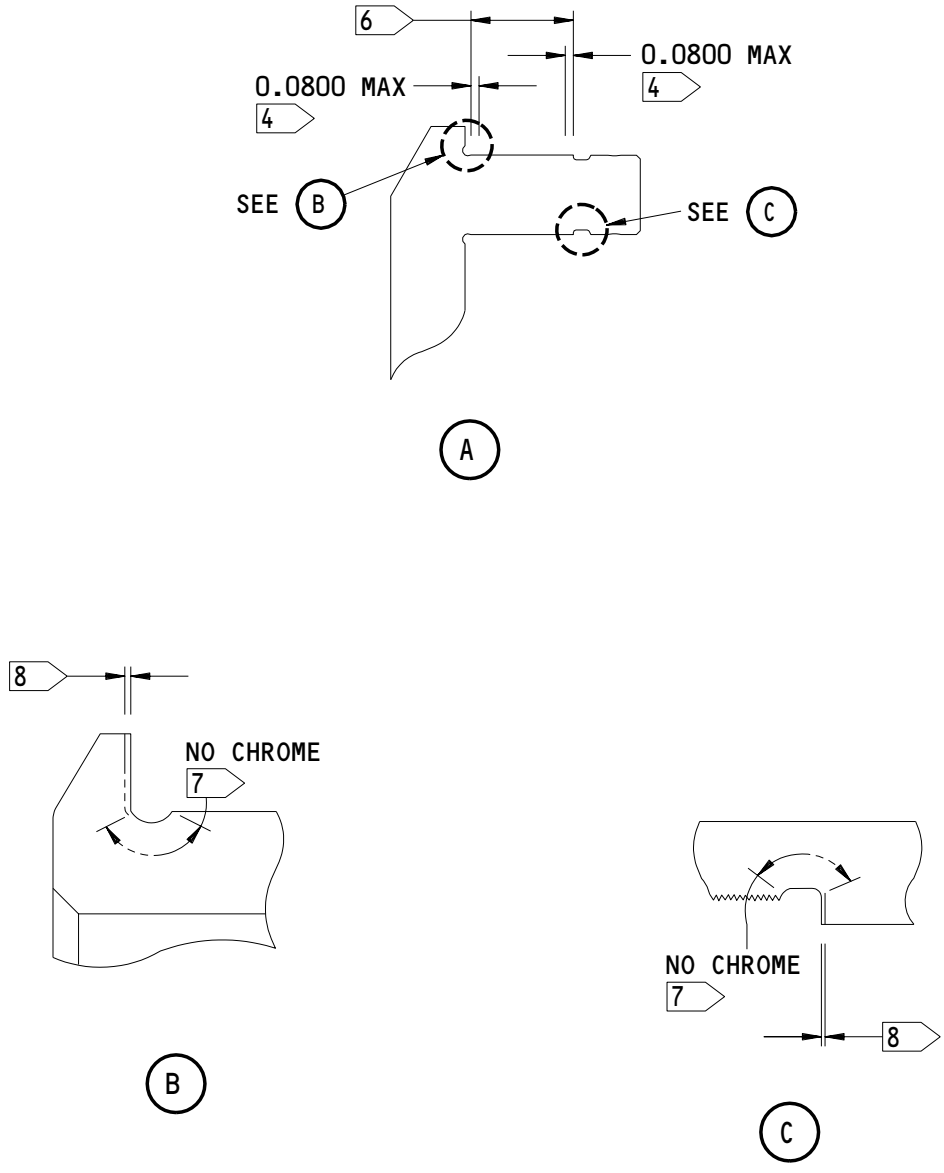
(3) Wipe diameter A plating with primer (F-19.451).





163T0101-1
Pin Assembly - Bushing Replacement Repair
Figure 601 (Sheet 1)

K13957



163T0101-1
Pin Assembly - Bushing Replacement Repair
Figure 601 (Sheet 2)

K13967

1 > PART NUMBER AND SERIAL NUMBER LOCATED HERE

2 > CHROME PLATE (F-15.34) PLATE THICKNESS (0.003-0.015) AFTER GRINDING. WIPE THE PLATING WITH PRIMER (F-19.451)

3 > DO NOT SHOT PEEN

4 > CHROME PLATE TO RUN OUT WITHIN THIS AREA. DIMENSION TO START FROM TANGENT POINT OF RADIUS OR EDGE BREAK. PLATING WILL NOT TERMINATE WITH A SQUARE EDGE, BUT WILL TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

5 > INSTALL BUSHING 0.005 MINIMUM BELOW SURFACE OF PIN

6 > CHROME PLATE (F-15.34), 0.015 MAX THICKNESS AFTER GRINDING

7 > REMOVE ALL CORROSION PITS, SCRATCHES, DENTS BY MACHINING AND BLENDING SMOOTH. NO MACHINING OR GRINDING WITH THE HAND-HELD POWER TOOLS PERMITTED. REMOVE 0.010 MAXIMUM FROM ANY BASE MATERIAL SURFACE

8 > REMOVE 0.015 MAXIMUM. DESIGN GRIP LENGTH MUST BE MAINTAINED

9 > REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

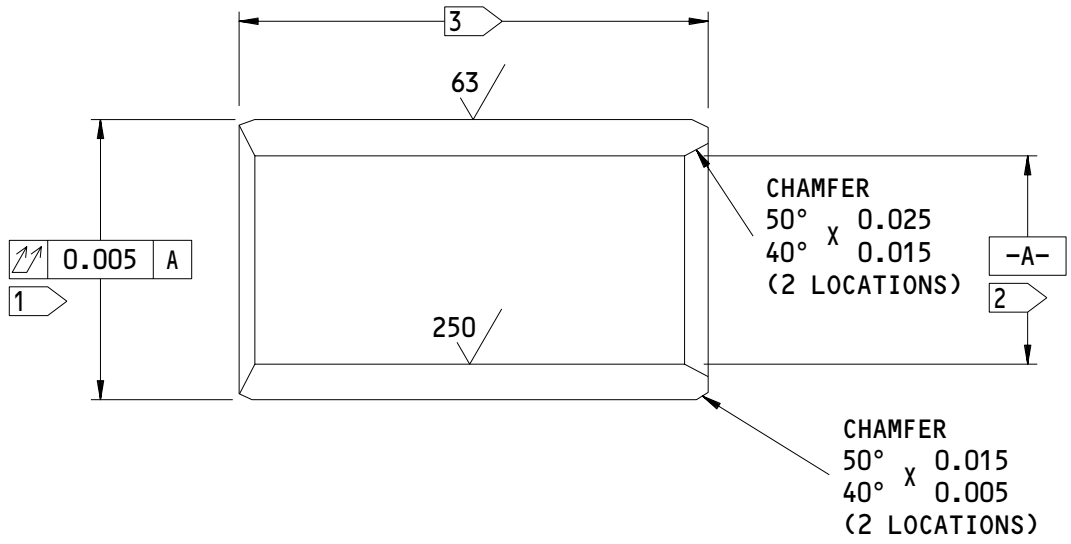
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

DIMENSIONS AND SURFACE FINISHES APPLY BEFORE SHOT PEENING UNLESS SHOWN DIFFERENTLY

163T0101-1
Pin Assembly - Bushing Replacement Repair
Figure 601 (Sheet 3)

K13989



OVERSIZE REPLACEMENT FOR BUSHING (240)

1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE BUSHING HOLE PLUS THE INTERFERENCE OF 0.0003–0.0014

2 FINAL DIAMETER TO BE MACHINED AFTER INSTALLATION

3 THE BUSHING LENGTH WILL BE SUCH THAT BOTH ENDS OF THE BUSHING ARE 0.005 MIN BELOW THE SURFACE OF THE PIN

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602

K13991

UPPER SHOCK ABSORBER PIN - REPAIR 5-1

163T0102-2, -3

1. General

A. This repair gives the data that is necessary to refinish the upper shock absorber attach pin (205).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR - GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 15-5PH
180-200 ksi

(2) Shot Peen: Shot Number 0.017-0.033
Intensity 0.016A
Coverage 2.0

2. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inspection

(5) SOPM 20-30-02, Stripping of Protective Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

(1) Machine the outside diameter as required, within the repair limit shown in Fig. 601, to remove defects.

(2) Break all the sharp edges to a radius of 0.020-0.040 inch.

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

(4) Shot peen, chrome plate and grind the outside diameter to dimensions and finish shown in Fig. 601.

(5) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

(6) Break all the sharp edges to a radius of 0.020-0.040 inch.

3. Pin Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79, type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

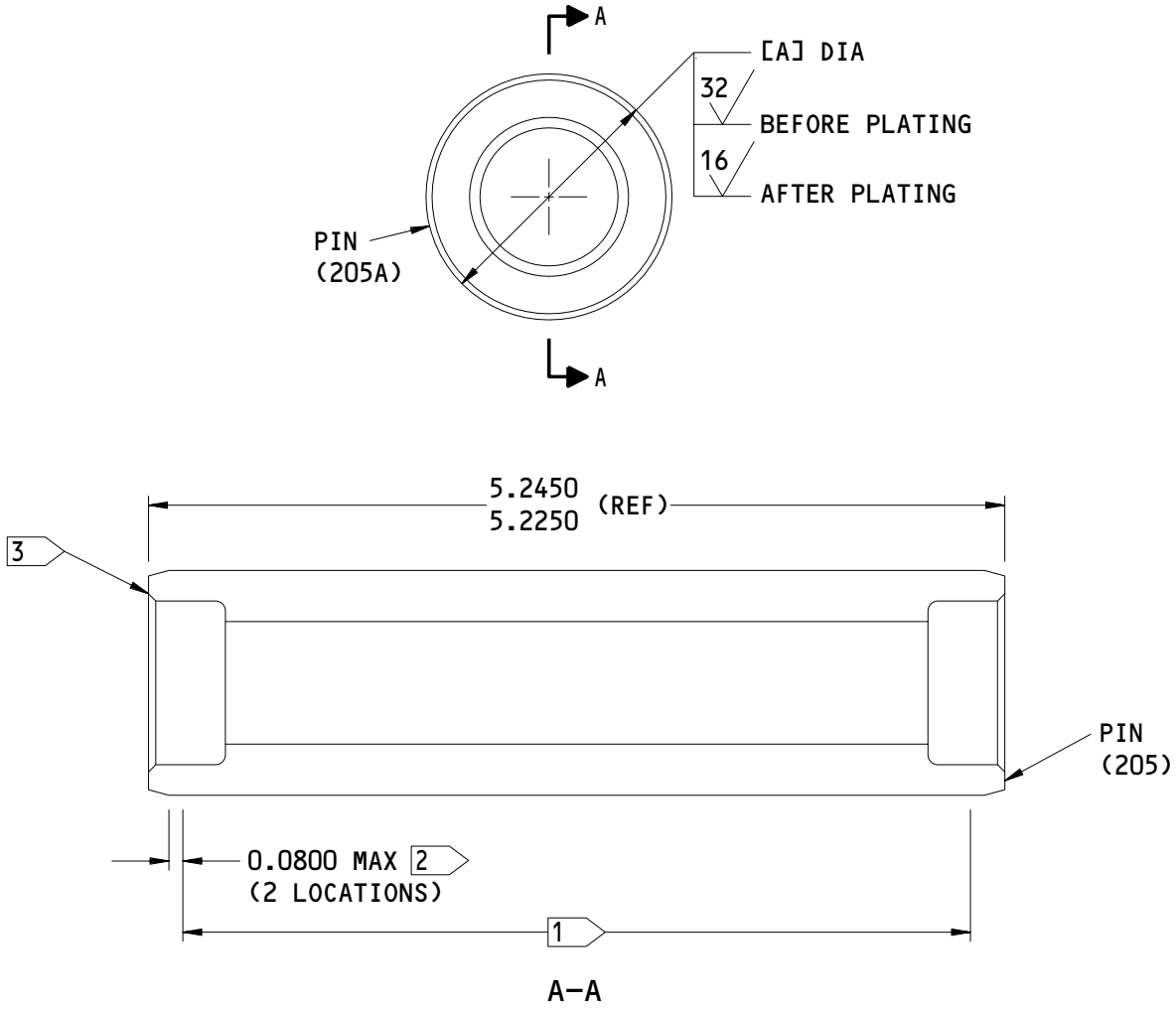
(5) SOPM 20-50-01, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

C. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not, then repair marking as shown in the SOPM 20-50-10.

(3) Wipe the chrome plated outer diameter with primer (F-19.451).



A-A

PIN	[A] DIA		
	BEFORE PLATING	AFTER PLATING	REPAIR LIMIT
163T0102-2	1.3665 1.3645	1.3710 1.3700	1.3410
163T0102-3	1.3630 1.3610	1.3710 1.3690	

163T0102-2,-3
Upper Shock Absorber Pin Repair
Figure 601 (Sheet 1)

K13999

1 CHROME PLATE (F-15.34) SINGLE PLATE THICKNESS (0.003-0.015) AFTER GRINDING. WIPE THE PLATING WITH PRIMER (F-19.451)

2 CHROME PLATE TO RUN OUT WITHIN THIS AREA. DIMENSION TO START FROM TANGENT POINT OF RADIUS OR EDGE BREAK. PLATING WILL NOT TERMINATE WITH A SQUARE EDGE, BUT WILL TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

3 PART NUMBER AND SERIAL NUMBER LOCATED HERE

4 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T0102-1
Upper Shock Absorber Pin Repair
Figure 601 (Sheet 2)

LOWER SHOCK ABSORBER ATTACH PIN - REPAIR 6-1

163T0103-1

1. General

A. This repair gives the data that is necessary to repair and refinish the lower shock absorber attach pin (125).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1)	Material:	15-5PH 180-200 ksi
(2)	Shot Peen:	Shot Number 0.017-0.033 Intensity 0.016A Coverage 2.0

2. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inspection

(5) SOPM 20-30-02, Stripping of Protective Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

(1) Machine the outside diameter as required, within the repair limit shown in Fig. 601, to remove defects.

(2) Break all the sharp edges to a radius of 0.020-0.030 inch.

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

(4) Shot peen, chrome plate and grind the outside diameter to dimensions and finish shown in Fig. 601.

(5) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

(6) Break all the sharp edges to a radius of 0.020-0.030 inch.

3. Pin Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79, type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

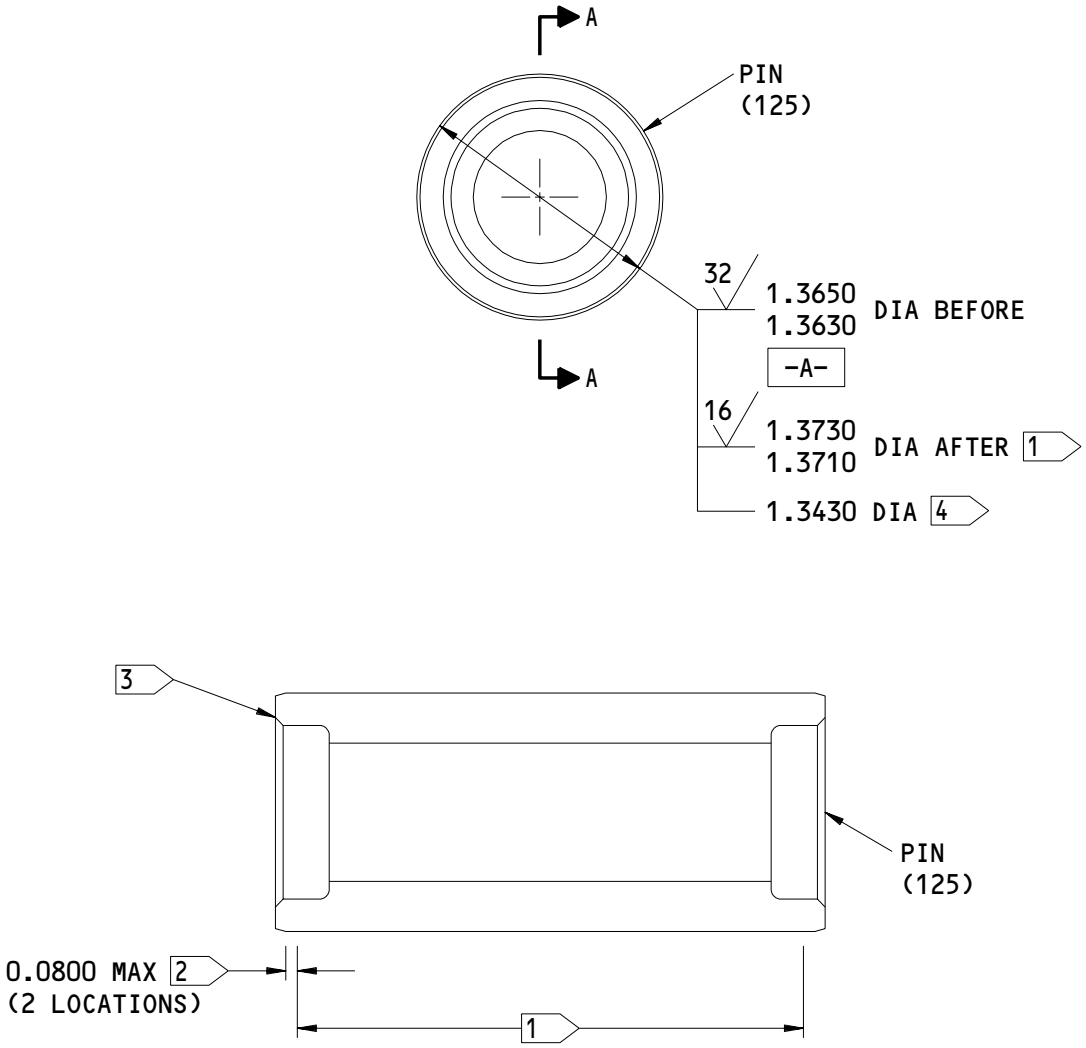
(5) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

C. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not, then repair marking as shown in the SOPM 20-50-10.

(3) Wipe the chrome plated outer diameter with primer (F-19.451).



A-A

163T0103-1
Lower Shock Absorber Attach Pin Repair
Figure 601 (Sheet 1)

K14010

1 CHROME PLATE (F-15.34) SINGLE PLATE THICKNESS (0.003-0.015) AFTER GRINDING. WIPE THE PLATING WITH PRIMER (F-19.451)

2 CHROME PLATE TO RUN OUT WITHIN THIS AREA. DIMENSION TO START FROM TANGENT POINT OF RADIUS OR EDGE BREAK. PLATING WILL NOT TERMINATE WITH A SQUARE EDGE, BUT WILL TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

3 PART NUMBER AND SERIAL NUMBER LOCATED HERE

4 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T0103-1
Lower Shock Absorber Attach Pin Repair
Figure 601 (Sheet 2)

K14011

DRAG LEVER ATTACH PIN - REPAIR 7-1

163T0104-1

1. General

A. This repair gives the data that is necessary to repair and refinish the drag lever attach pin (90).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1)	Material:	15-5PH 180-200 ksi
(2)	Shot Peen:	Shot Number 0.017-0.033 Intensity 0.016A Coverage 2.0

2. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inspection

(5) SOPM 20-30-02, Stripping of Protective Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

(1) Machine the outside diameter as required, within the repair limit shown in Fig. 601, to remove defects.

(2) Break all the sharp edges to a radius of 0.020-0.030 inch.

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

(4) Shot peen, chrome plate and grind the outside diameter to dimensions and finish shown in Fig. 601.

(5) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

(6) Break all the sharp edges to a radius of 0.020-0.030 inch.

3. Pin Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79, type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

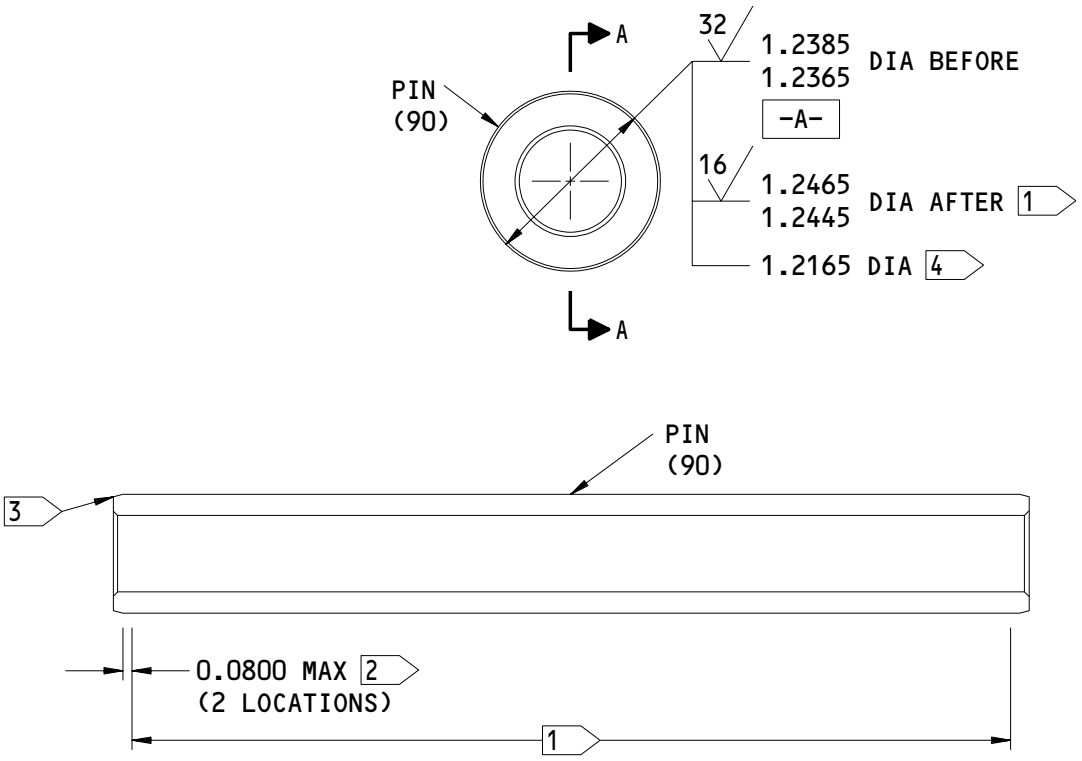
(5) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

C. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not, then repair marking as shown in SOPM 20-50-10.

(3) Wipe the chrome plated outer diameter with primer (F-19.451).



A–A

1 CHROME PLATE (F-15.34) PLATE THICKNESS (0.003-0.015) AFTER GRINDING. WIPE THE PLATING WITH PRIMER (F-19.451)

2 CHROME PLATE TO RUN OUT WITHIN THIS AREA. DIMENSION TO START FROM TANGENT POINT OF RADIUS OR EDGE BREAK. PLATING WILL NOT TERMINATE WITH A SQUARE EDGE, BUT WILL TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

3 PART NUMBER AND SERIAL NUMBER LOCATED HERE

4 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T0104-1
Drag Lever Attach Pin Repair
Figure 601

K14019

UPPER ATTACH LINK ASSEMBLY - REPAIR 8-1

163T1002-1

1. General

   A. This repair gives the data that is necessary to repair the upper attach link assembly (425).

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

   C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

   D. Refer to the IPL Fig. 1 for item numbers.

2. Bushing Replacement

   A. Consumable Materials

      (1) AOO247 Sealant -- BMS 5-95 (SOPM 20-60-04)

      (2) COOO32 Enamel -- BMS 10-60 (SOPM 20-60-02)

   B. References

      (1) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

      (2) SOPM 20-50-03, Bearing Removal, Installation and Retention

      (3) SOPM 20-50-19, General Sealing

      (4) SOPM 20-60-02, Finishing Materials

      (5) SOPM 20-60-04, Miscellaneous Materials

   C. Procedure

      (1) Replace the bushings (430, 435, 440, 445) in the link assembly, as shown in Fig. 601.

         (a) Remove the bushings (430, 435, 440, 445) from the link assembly.

(b) Install the bushings (430, 435, 440, 445) into the link assembly by the shrink-fit method, wiht BMS 5-95 sealant, as shown in the (SOPM 20-50-03). The maximum gap under the flange of the bushings is 0.002 inches.

(c) Machine the bushing (445) inside diameter to the dimension and finish shown in Fig. 601. The bushings (430, 435, 440) must not be machined. They have a coating on the inner diameter.

(d) Fillet seal bushings (430, 435, 440, 445) with BMS 5-95 sealant after all paint applications are completed: Apply BMS 10-60 enamel (SRF-14.9813) over sealant. Bushing bores must be free of enamel.

(e) Apply BMS 5-95 sealant to the gap between the bushings (430) as shown in the SOPM 20-50-19). The sealant must not extend above or onto the bushing inner diameter.

3. Refinish

A. Consumable Materials

(1) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

B. References

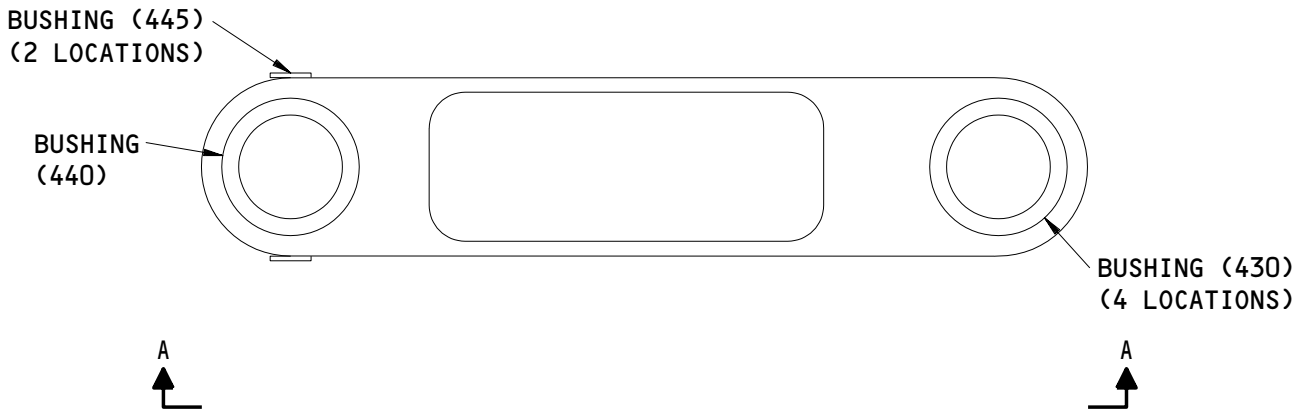
(1) SOPM 20-30-02, Stripping of Protective Finishes

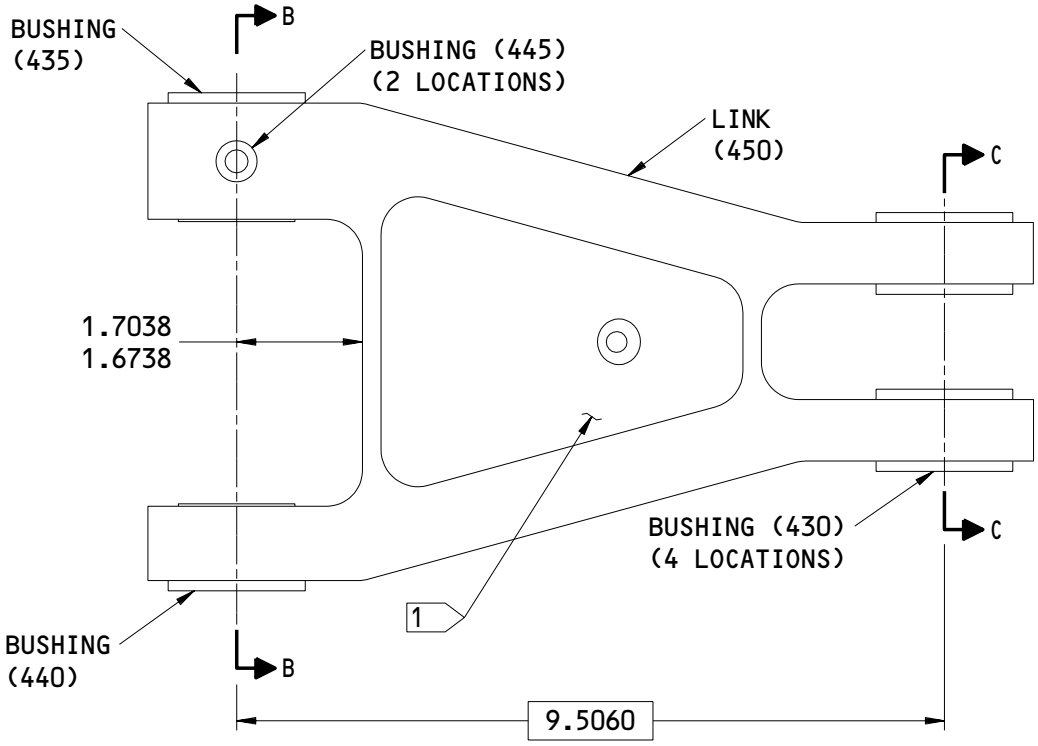
(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-60-02, Finishing Materials

C. Procedure

(1) Apply BMS 10-60 (SRF-14.9813) all over except do not apply enamel on lubricating passages, bushing inner diameters, lube fittings and where shown in Fig. 601.

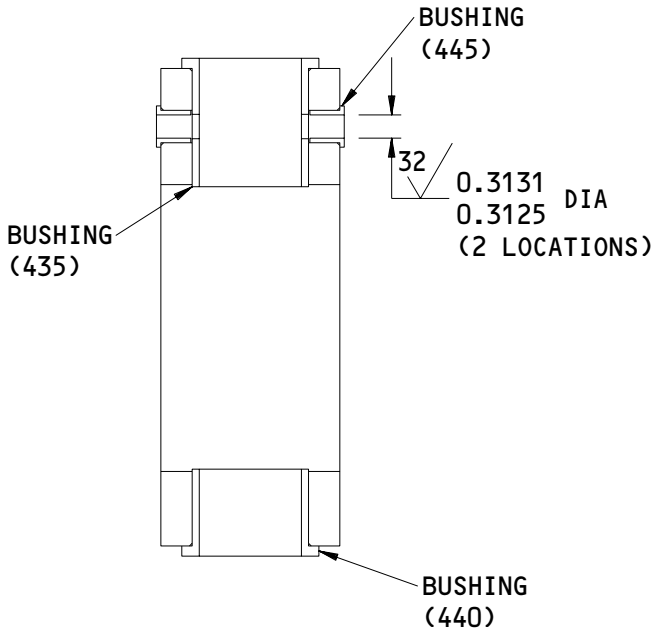




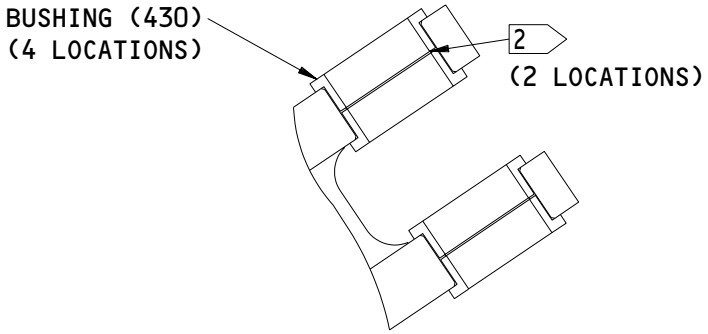
A–A

163T1002-1
Upper Attach Link Assembly – Bushing Replacement
Figure 601 (Sheet 1)

K14091



B–B



C–C

1 PART NUMBER AND SERIAL NUMBER LOCATED HERE

2 APPLY BMS 5-95 SEALANT TO THE GAP BETWEEN THE BUSHING. SEALANT MUST NOT EXTEND ABOVE OR ONTO THE BUSHING INNER DIAMETER

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T1002-1
Upper Attach Link Assembly – Bushing Replacement
Figure 601 (Sheet 2)

K14154

UPPER ATTACH LINK - REPAIR 8-2

163T1002-2

1. General

A. This repair gives the data that is necessary to repair and refinish the upper attach link (450).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 7050-T7451 Al Alloy

(2) Shot Peen: Intensity 0.012A

2. Bushing Hole Repair

A. References

(1) SOPM 20-10-03, Shot Peening

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inpsection

(4) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(5) SOPM 20-42-05, Bright Cadmium Plating

B. Procedure

(1) Machine the worn or damaged hole for the bushings (430, 435, 440, 445), as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.010-0.020 inch.

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

(4) Shot peen the machined areas as shown in the SOPM 20-10-03.

(5) Machine the hole to the finish shown in Fig. 601.

(6) Oversize bushings.

(a) Make the repair bushing for bushing (445) as shown in Fig. 602 and in the following instructions.

1) Bushing Material: 15-5PH, AMS 5659, 32-37HRC, or
17-4PH, AMS 5643, 32-37 HRC

2) Break all the sharp edges.

3) Do a magnetic check as shown in (SOPM 20-20-01).

4) Prepare the surface and cadmium plate (F-15.02) as shown in (SOPM 20-42-05).

5) Be sure the interference between the bushing O.D. and the oversize hole I.D. is 0.0003 to 0.0014 inches.

6) Install the oversize repair bushing as shown in REPAIR 8-1.

3. Upper Link - Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

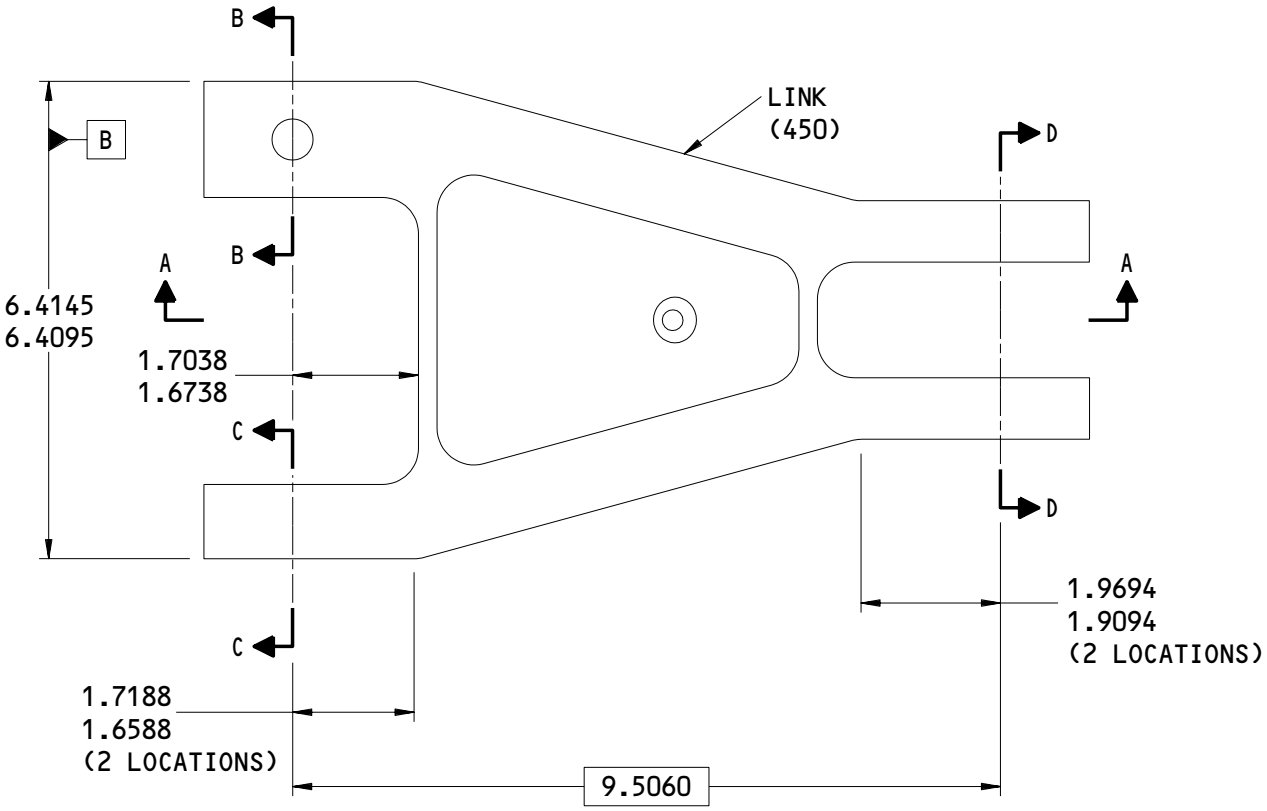
(3) SOPM 20-43-01, Chromic Acid Anodizing

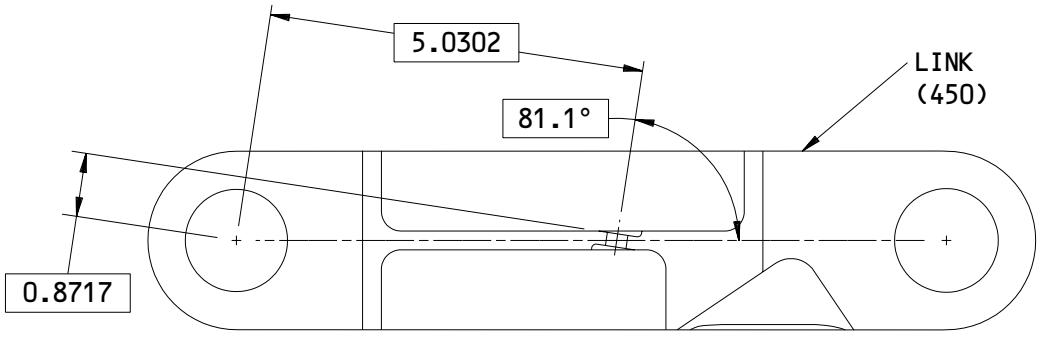
(4) SOPM 20-44-04, Application of Urethane Compatible Primer

C. Procedure

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

(2) Apply BMS 10-79, type 3 primer (F-19.47).

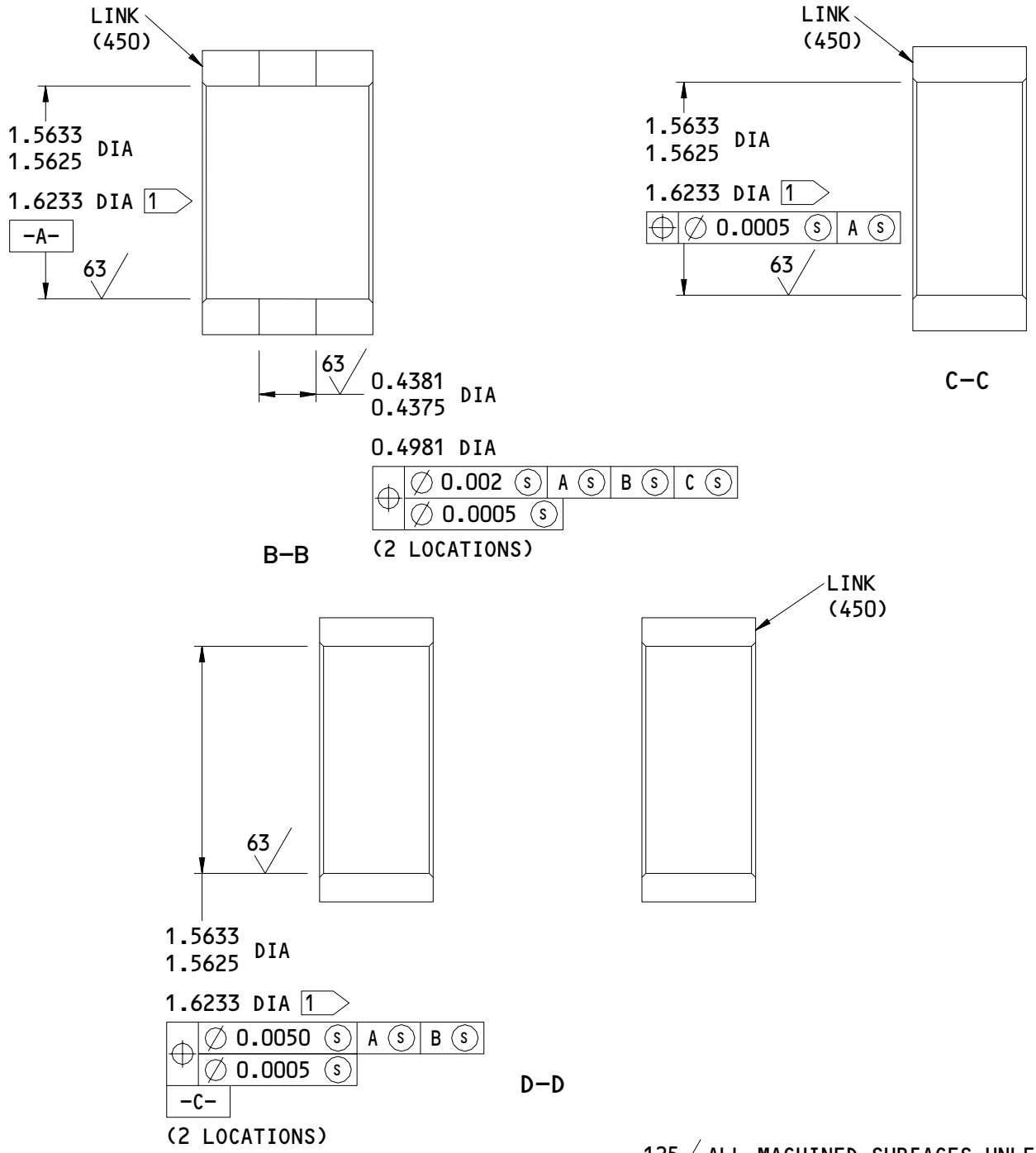




A–A

163T1002-2
Upper Attach Link Repair
Figure 601 (Sheet 1)

K14192



125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

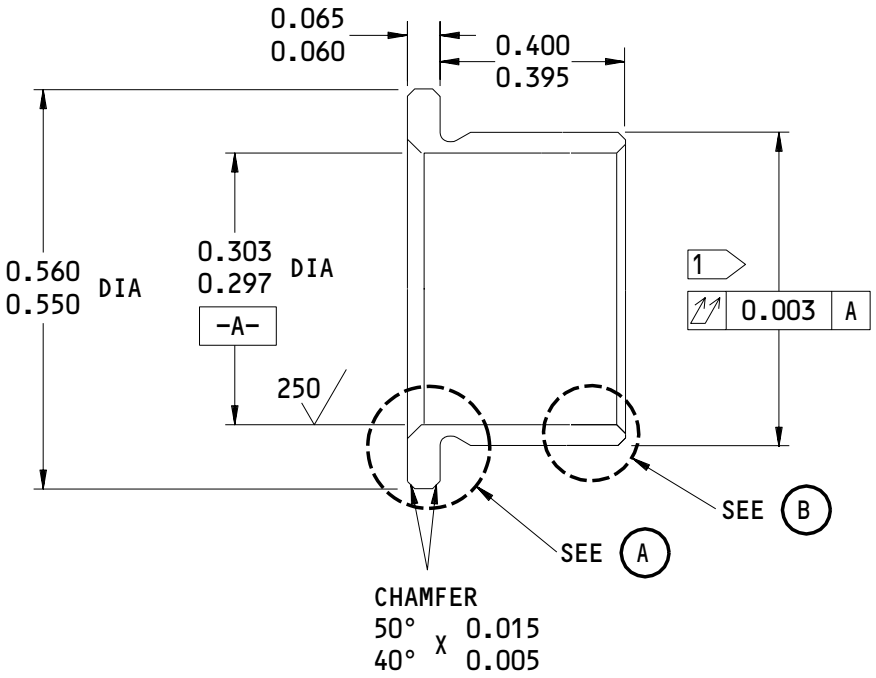
1 REPAIR LIMIT

ITEM NUMBERS REFER TO IPL FIG. 1

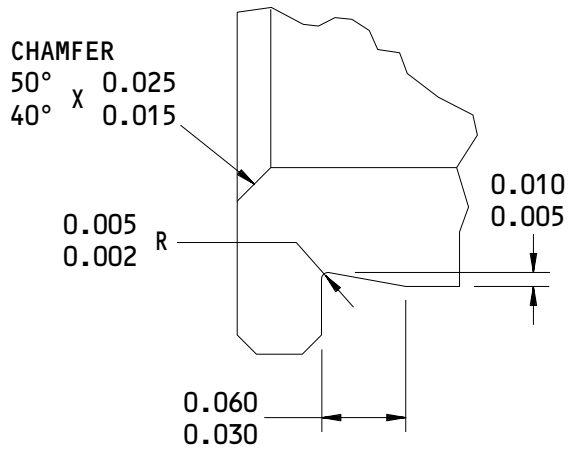
ALL DIMENSIONS ARE IN INCHES

163T1002-2
Upper Attach Link Repair
Figure 601 (Sheet 2)

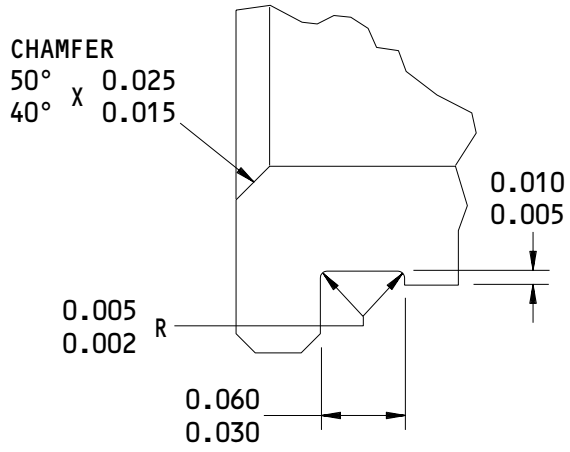
K14216



OVERSIZE REPLACEMENT FOR BUSHING (445)



TYPE 1

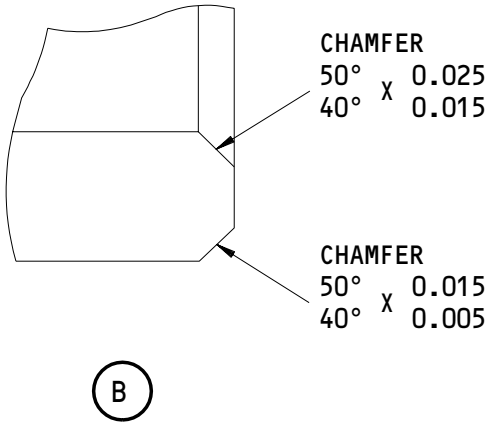


TYPE 2

A

Oversize Bushing Details
Figure 602 (Sheet 1)

K14230



1 THE OUTSIDE DIAMETER OF THE BUSHING AFTER PLATING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0003–0.0014

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2)

K14231

FORWARD LOCK LINK ASSEMBLY - REPAIR 9-1

163T1004-1

1. General

   A. This repair gives the data that is necessary to repair the forward lock link assembly (295).

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

   C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

   D. Refer to the IPL Fig. 1 for item numbers.

2. Bushing Replacement

   A. Consumable Materials

      (1) A00247 Sealant -- BMS 5-95 (SOPM 20-60-04)

      (2) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

   B. References

      (1) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

      (2) SOPM 20-50-03, Bearing Removal, Installation and Retention

      (3) SOPM 20-60-02, Finishing Materials

      (4) SOPM 20-60-04, Miscellaneous Materials

   C. Procedure

      (1) Replace the bushings (320, 325, 330, 335) in the link assembly, as shown in Fig. 601.

         (a) Remove the bushings (320, 325A, 330, 335) from the link assembly.

(b) Install the bushings (320, 325A, 330, 335) into the link assembly by the shrink-fit method, with BMS 5-95 sealent, as shown in The (SOPM 20-50-03) and Fig. 601. The maximum gap under the flange of the bushings is 0.002 inches.

(c) Anvil or roller swage the end of the bushing (325) as shown in the (SOPM 20-50-03).

(d) Machine the bushings (325A, 335) inside diameters to the dimensions and finish shown in Fig. 601. The bushings (320, 330) must not be machined. They have a liner on the inner diameter.

(e) Break all the sharp edges.

(f) Fillet seal bushings (320, 325A, 330, 340) with BMS 5-95 sealant after all paint applications are completed. Apply BMS 10-60 enamel (SRF-14.9813) over sealant. Bushing bores must be free of enamel.

(g) Apply BMS 5-95 sealant to the gap between the bushing (320) as shown in the (SOPM 20-50-19). The sealant must not extend above or onto the bushing inner diameter.

3. Replacement of Stop Plate

A. Consumable Materials

(1) A00247 Sealant -- BMS 5-95 (SOPM 20-60-04)

(2) C00913 Compound -- BMS 3-27 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-50-19, General Sealing

(5) SOPM 20-60-02, Finishing Materials

(6) SOPM 20-60-04, Miscellaneous Materials

4. Refinish

A. Consumable Materials

(1) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-60-02, Finishing Materials

C. Procedure

(1) Apply BMS 10-60 enamel (SRF-14.9813) all over except do not apply enamel on lubricating passages, bushing inner diameters, lube fittings and where shown in Fig. 601.

(2) Remove the nuts (310), the washers (305), the bolts (300) and the stop plate (315).

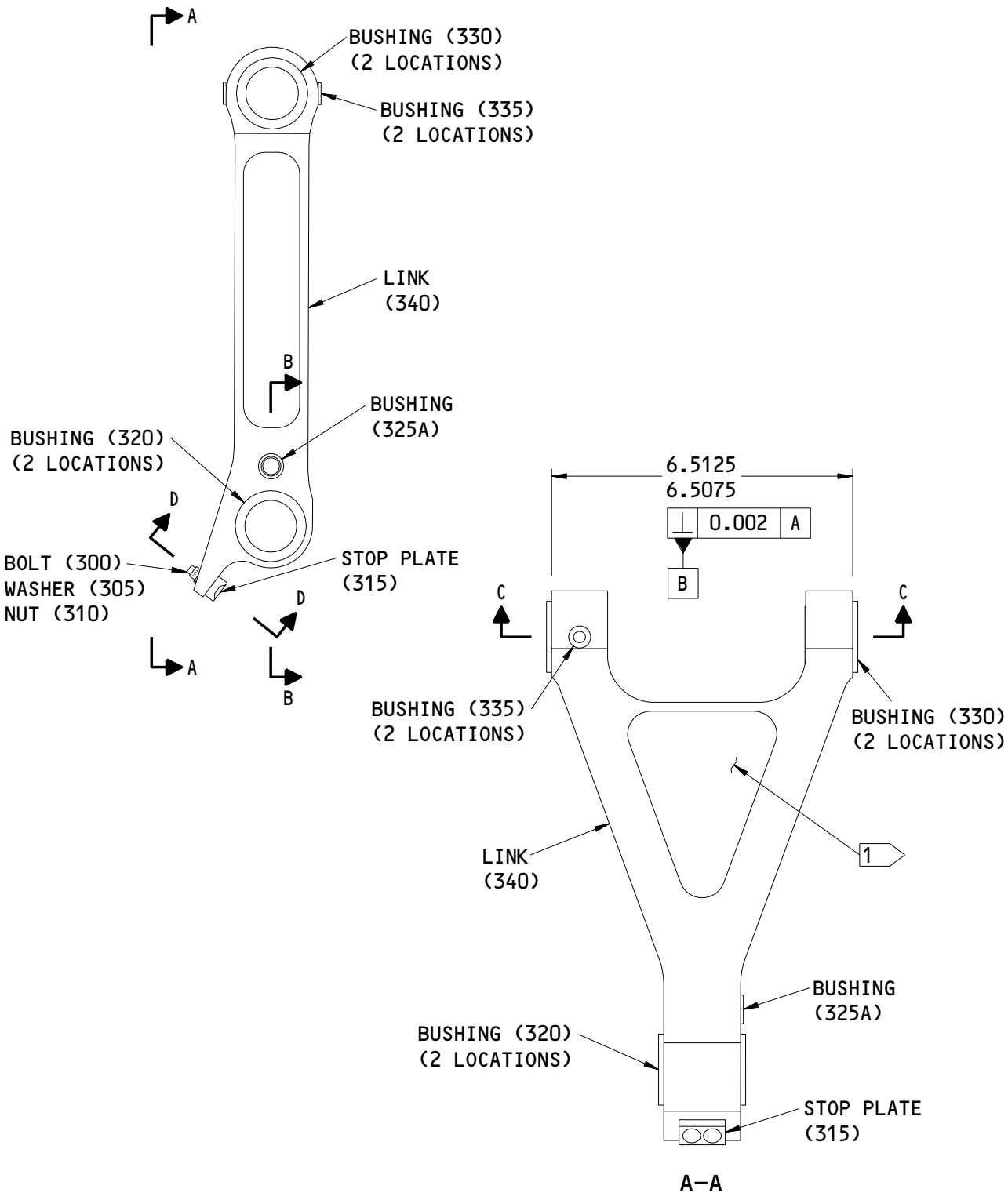
(3) Clean the faying surface of the stop plate (315) and the link (340) as shown in the (SOPM 20-30-03).

(4) Install the stop plate.

(a) Apply a thin layer of BMS 3-27 corrosion preventative compound to the faying surfaces of the stop plate (315) and the link (340).

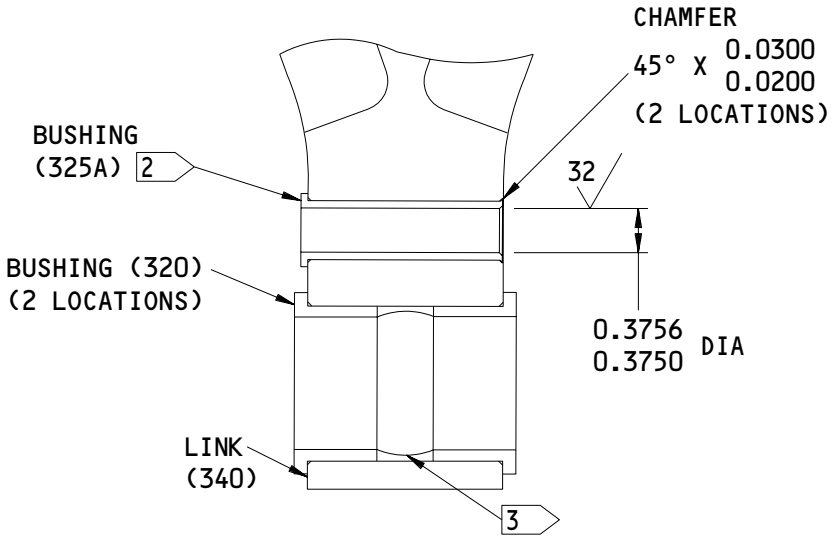
(b) Install the bolts (300), the washers (305) and the nuts (310) with BMS 3-27 corrosion preventative compound.

(c) Fillet seal the edge of the stop plate (315) and the link (340) with BMS 5-95 sealant.

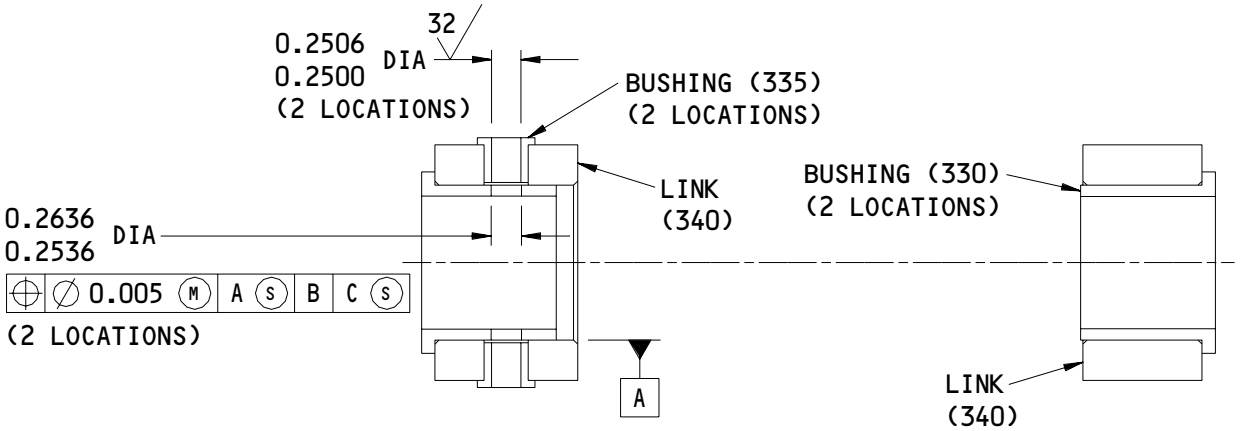


163T1004-1
Foward Lock Link Assembly Bushing Replacement
Figure 601 (Sheet 1)

K14254



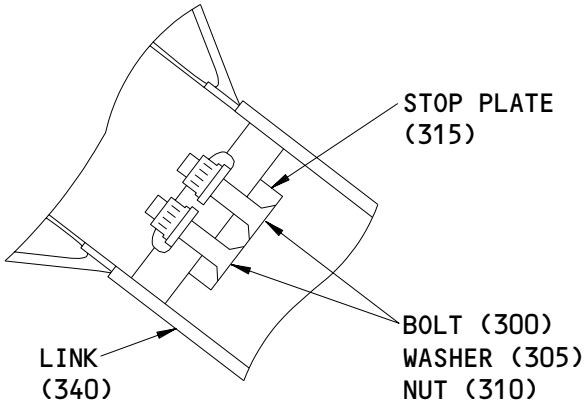
B–B



C–C

163T1004-1
Foward Lock Link Assembly Bushing Replacement
Figure 601 (Sheet 2)

K14331



D–D

1 PART NUMBER AND SERIAL NUMBER LOCATED HERE

2 ANVIL OR ROLLER SWAGE END OF BUSHING

3 APPLY BMS 5–95 SEALANT TO GAP BETWEEN BUSHINGS. SEALANT MUST NOT EXTEND ABOVE OR INTO BUSHING INNER DIAMETER

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T1004-1
Foward Lock Link Assembly Bushing Replacement
Figure 601 (Sheet 3)

K14339

FORWARD LOCK LINK - REPAIR 9-2

163T1004-2

1. General

A. This repair gives the data that is necessary to repair and refinish the forward lock link (340).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 7050-T7451 Al Alloy

(2) Shot Peen: Intensity 0.012A

2. Bushing Hole Repair

A. References

(1) SOPM 20-10-03, Shot Peening

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inspection

(4) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(5) SOPM 20-42-05, Bright Cadmium Plating

B. Procedure

(1) Machine the worn or damaged hole for the bushings (320, 325, 330, 335), as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.010-0.020 inch.

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

(4) Shot peen the machined area as shown in the SOPM 20-10-03.

(5) Machine the hole to the finish shown in Fig. 601.

(6) Oversize bushings.

(a) Make the repair bushing for bushing (325A) as shown in Fig. 602 and in the following instructions.

1) Bushing Material: 15-5PH, AMS 5659, 32-37 HRC, or 17-4PH, AMS 5643, 32-37 HRC

2) Break all the sharp edges.

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

4) Prepare the surface and cadmium plate (F-15.06) as shown in (SOPM 20-42-05).

5) Be sure the interference between the bushing O.D. and the oversize hole I.D. is 0.0002 to 0.0015 inches.

6) Install the oversize repair bushing as shown in REPAIR 9-1.

(b) Make the repair bushing for bushing (335) as shown in Fig. 602 and in the following instructions.

1) Bushing Material: AL-Ni-Bronze, AMS 4640, HR50 or TQ50

2) Break all the sharp edges.

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

4) Prepare the surface and cadmium plate (F-15.06) as shown in (SOPM 20-42-05).

5) Be sure the interference between the bushing O.D. and the oversize hole I.D. is 0.0002 to 0.0015 inches.

6) Install the oversize repair bushing as shown in REPAIR 9-1.

3. Link - Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

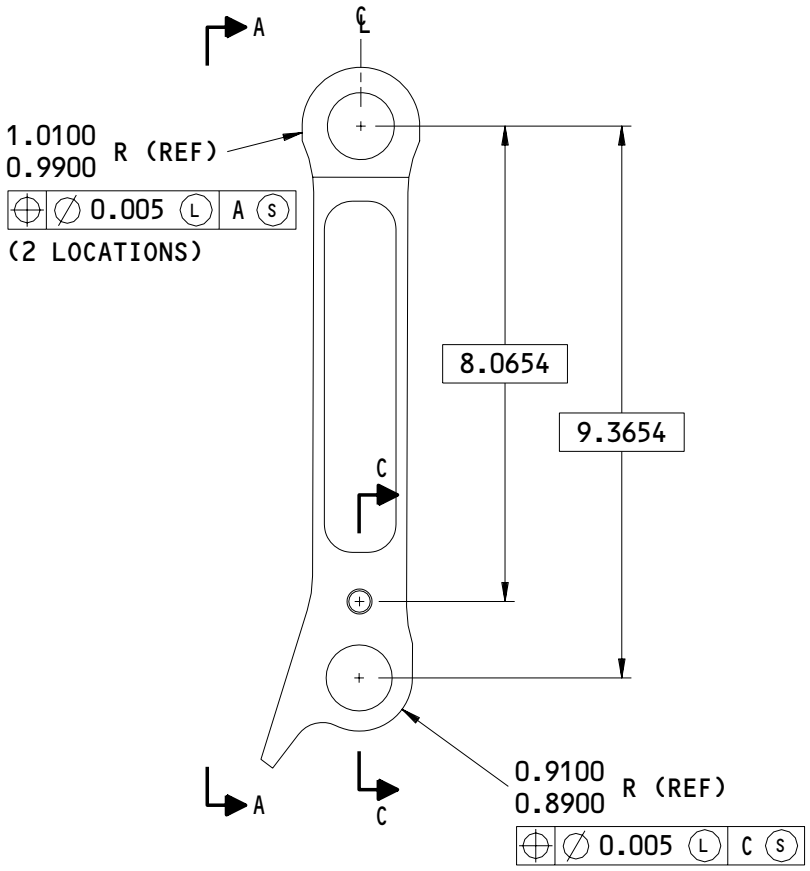
(3) SOPM 20-43-01, Chromic Acid Anodize

(4) SOPM 20-44-04, Application of Urethane Compatible Primer

C. Procedure

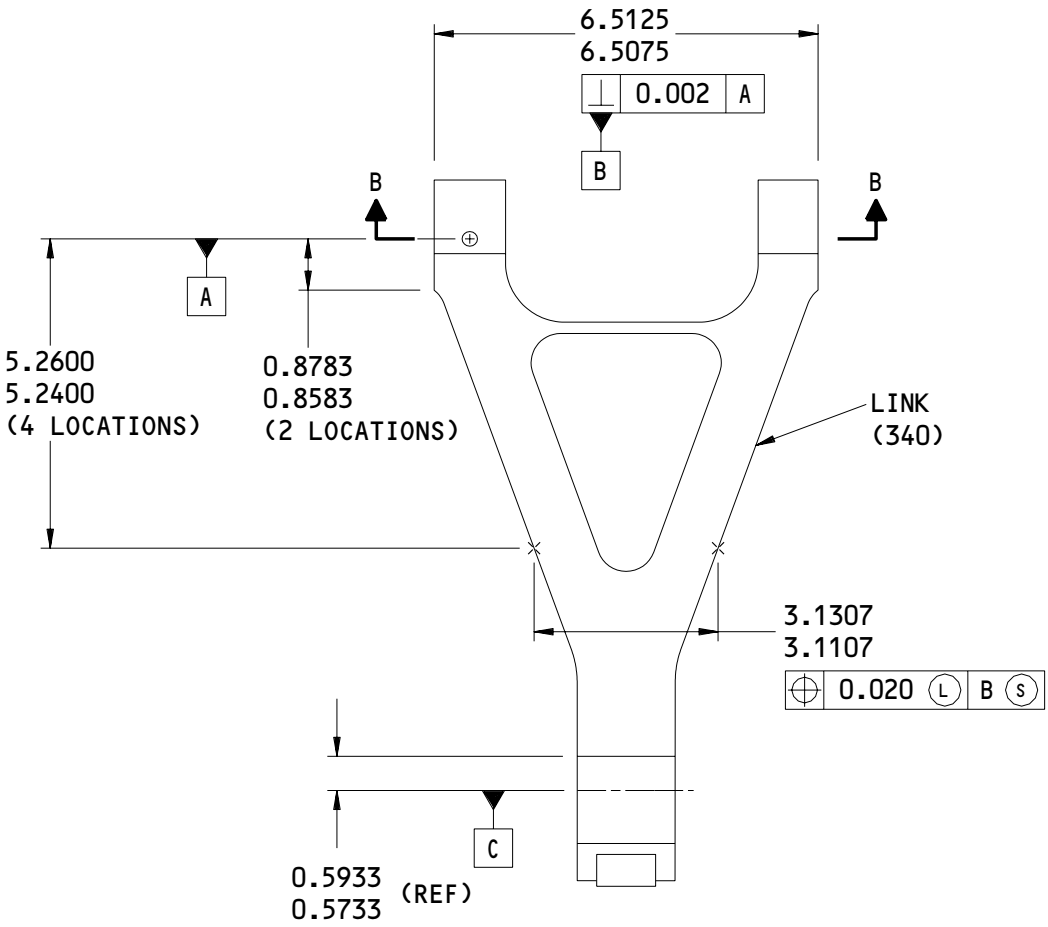
(1) Boric Acid-Sulfuric Acid Anodize (F-17.31)

(2) Apply BMS 10-79, Type 3 Primer (F-19.47).



163T1004-2
Foward Lock Link Repair
Figure 601 (Sheet 1)

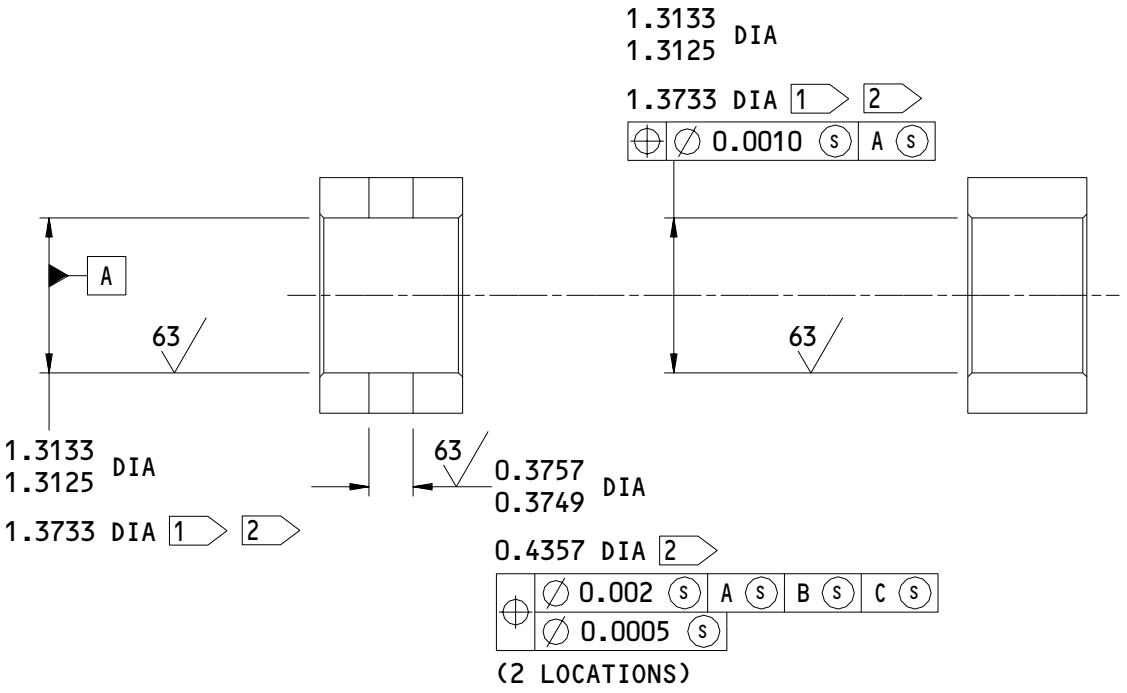
K14544



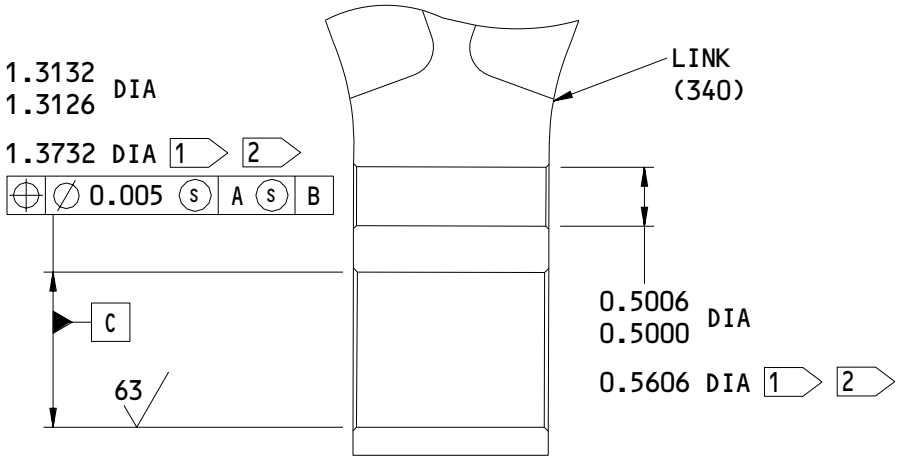
A–A

163T1004-2
Foward Lock Link Repair
Figure 601 (Sheet 2)

K14564



B–B



C–C

1 DO NOT PRIME

2 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

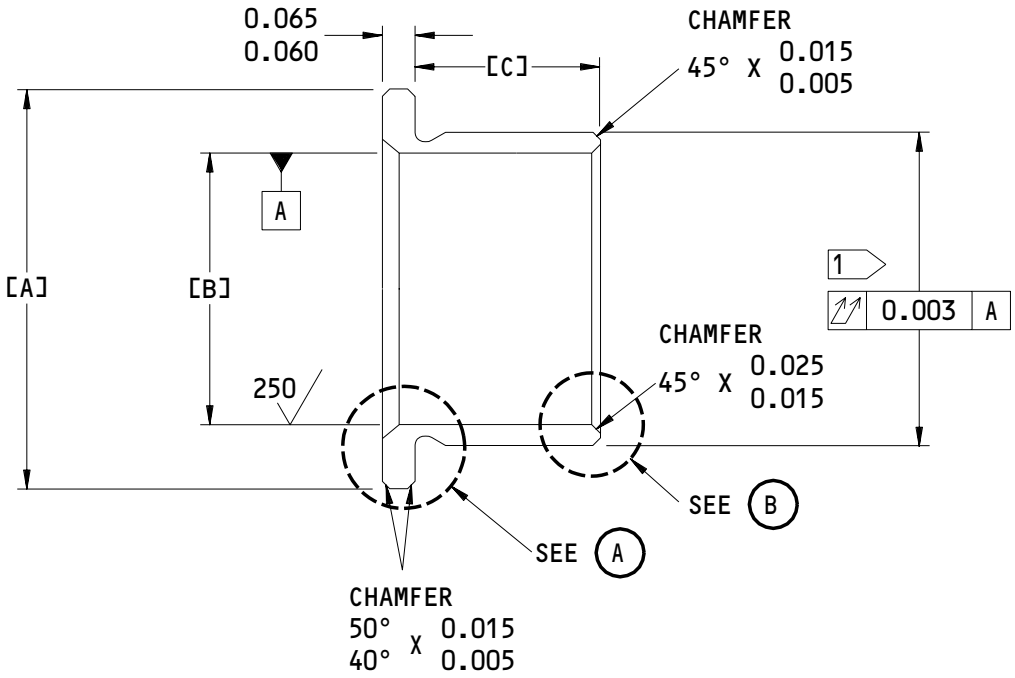
BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

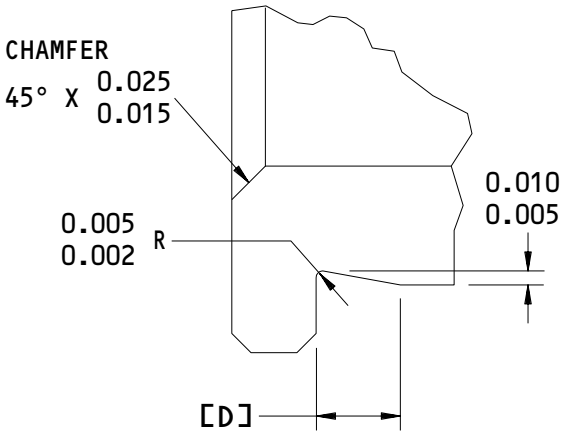
ALL DIMENSIONS ARE IN INCHES

163T1004-2
Foward Lock Link Repair
Figure 601 (Sheet 3)

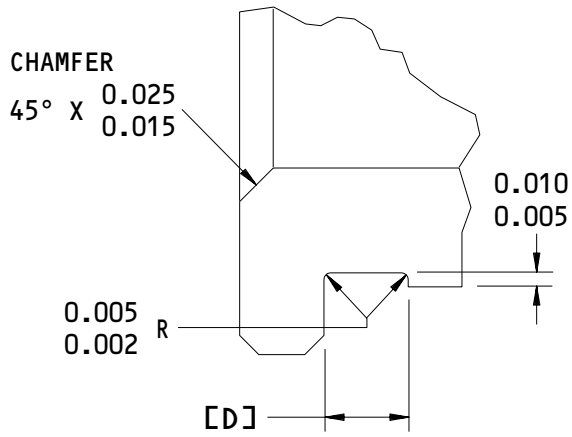
K14594



OVERSIZE REPLACEMENT FOR BUSHING (325A,335)



TYPE 1

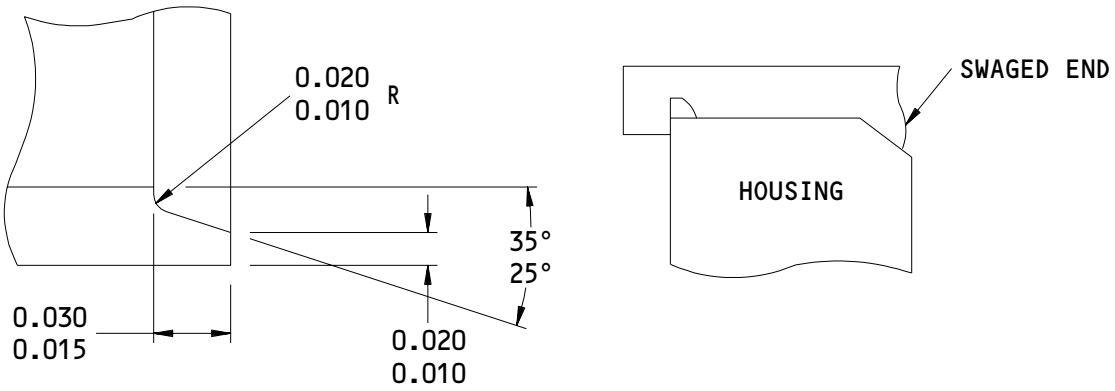


TYPE 2

A

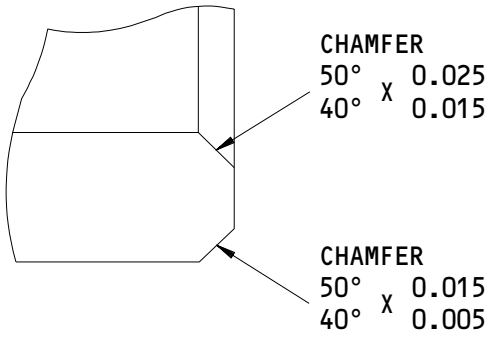
Oversize Bushing Details
Figure 602 (Sheet 1)

K14613



TYPE 1

B



TYPE 2

B

Oversize Bushing Details
Figure 602 (Sheet 2)

K14618

BUSHING ITEM NO.	[A]	[B]	[C]	[D]	INTERFERENCE
325A	0.6300 0.6200	0.3660 0.3590	1.6500 1.6450	0.0600 0.0300	0.0004–0.0015
335	0.5000 0.4900	0.2340 0.2410	0.3200 0.3150	0.0600 0.0300	0.0002–0.0015

1 THE OUTSIDE DIAMETER OF THE BUSHING AFTER PLATING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE

2 BREAK SHARP EDGE 0.005 MAXIMUM

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 3)

K14628

AFT LOCK LINK ASSEMBLY - REPAIR 10-1

163T1005-1

1. General

   A. This repair gives the data that is necessary to repair the aft lock link assembly (345).

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

   C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

   D. Refer to the IPL Fig. 1 for item numbers.

2. Bushing Replacement

   A. Consumable Materials

      (1) A00247 Sealant -- BMS 5-95 (SOPM 20-60-04)

      (2) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

   B. References

      (1) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

      (2) SOPM 20-50-03, Bearing Removal, Installation and Retention

      (3) SOPM 20-60-02, Finishing Materials

      (4) SOPM 20-60-04, Miscellaneous Materials

   C. Procedure

      (1) Replace the bushings (370, 375, 380) in the link assembly, as shown in Fig. 601.

         (a) Remove the bushings (370, 375, 380) from the link assembly.

         (b) Install the bushing (370, 375, 380) into the link assembly by the shrink-fit method, with BMS 5-95 sealant, as shown in the (SOPM 20-50-03). The maximum gap under the flange of the bushing is 0.002 inches.

(c) Anvil or roller swage the end of the bushings (375, 380) as shown in the (SOPM 20-50-03).

(d) Machine the bushing (370) inside diameter to the dimension and finish as shown in Fig. 601. Bushings (375, 380) must not be machined. They have a liner on the inner diameter.

(e) Break all the sharp edges.

(f) Fillet seal bushings (370, 375, 380) with BMS 5-95 sealant after all paint applications are completed. Apply BMS 10-60 enamel (SRF-14.9813) over sealant. Bushing bores must be free of enamel.

3. Replacement of Stop Plate

A. Consumable Materials

(1) AOO247 Sealant -- BMS 5-95 (SOPM 20-60-04)

(2) COO913 Compound -- BMS 3-27 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-50-19, General Sealing

(5) SOPM 20-60-02, Finishing Materials

(6) SOPM 20-60-04, Miscellaneous Materials

C. Procedure

(1) Remove the nuts (360), the washers (355), the bolts (350) and the stop plate (365).

(2) Clean the faying surface of the stop plate (365) and the link (385) as shown in the (SOPM 20-30-03).

(3) Install the stop plate.

(a) Apply a thin layer of BMS 3-27 corrosion preventative compound to the faying surfaces of the stop plate (365) and the link (385).

(b) Install the bolts (350), the washers (355) and the nuts (360) with BMS 3-27 corrosion preventative compound.

(c) Fillet seal the edge of the stop plate (365) and the link (385) with BMS 5-95 sealant.

4. Refinish

A. Consumable Materials

(1) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

B. References

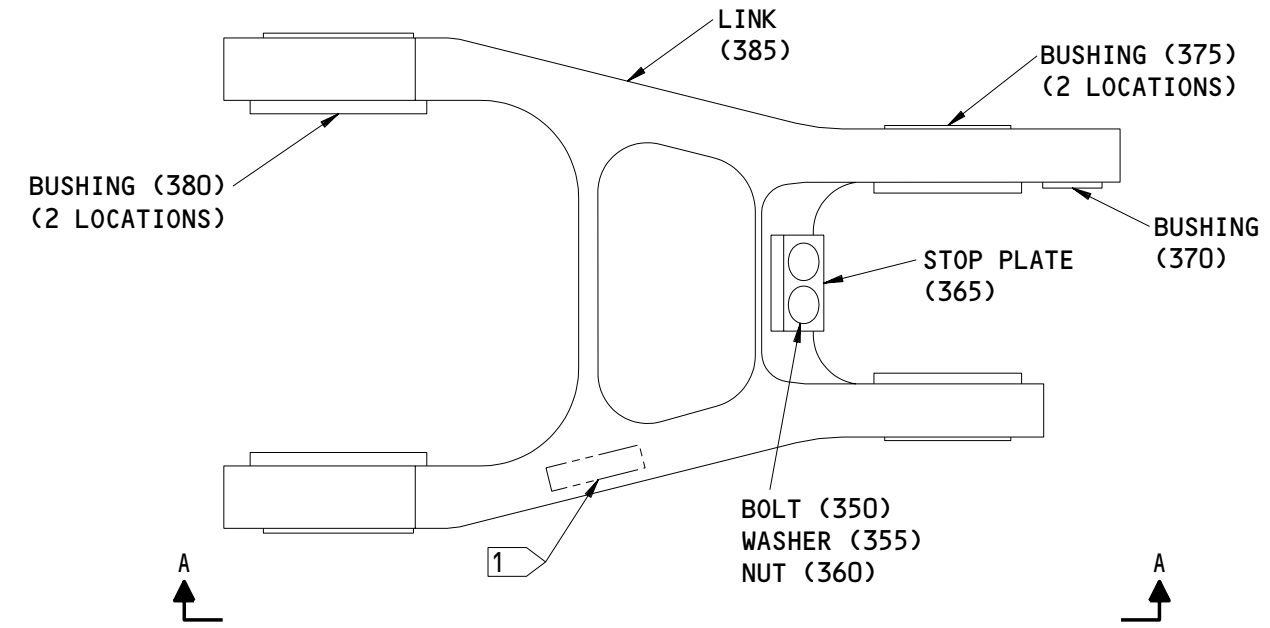
(1) SOPM 20-30-02, Stripping of Protective Finishes

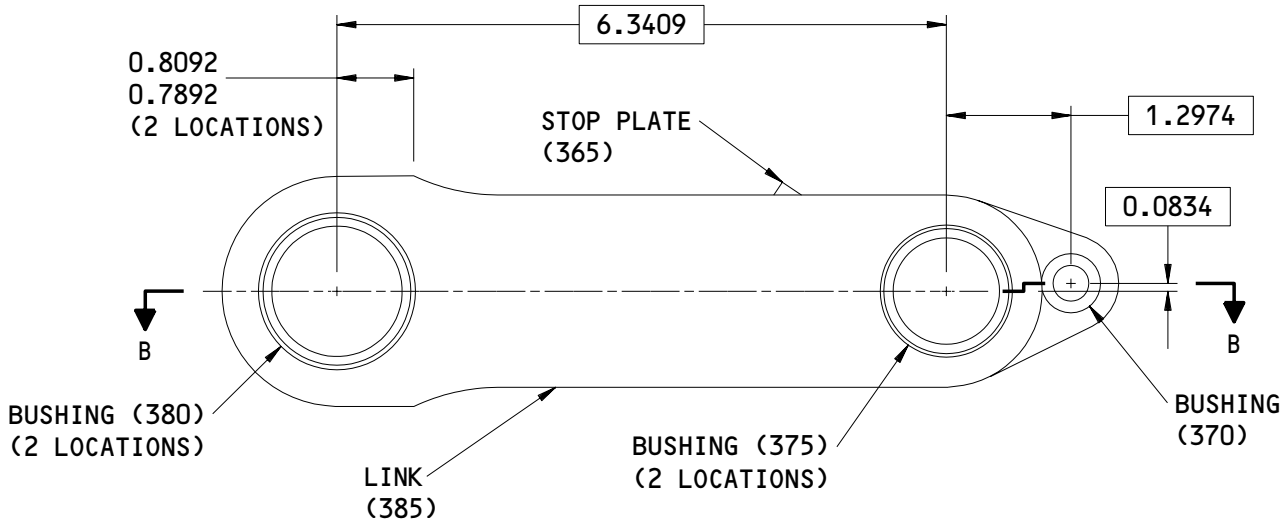
(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-60-02, Finishing Materials

C. Procedure

(1) Apply BMS 10-60 enamel (SRF-14.9813) all over except do not apply enamel on lubricating passages, bushing inner diameters, lube fittings and where shown in Fig. 601.

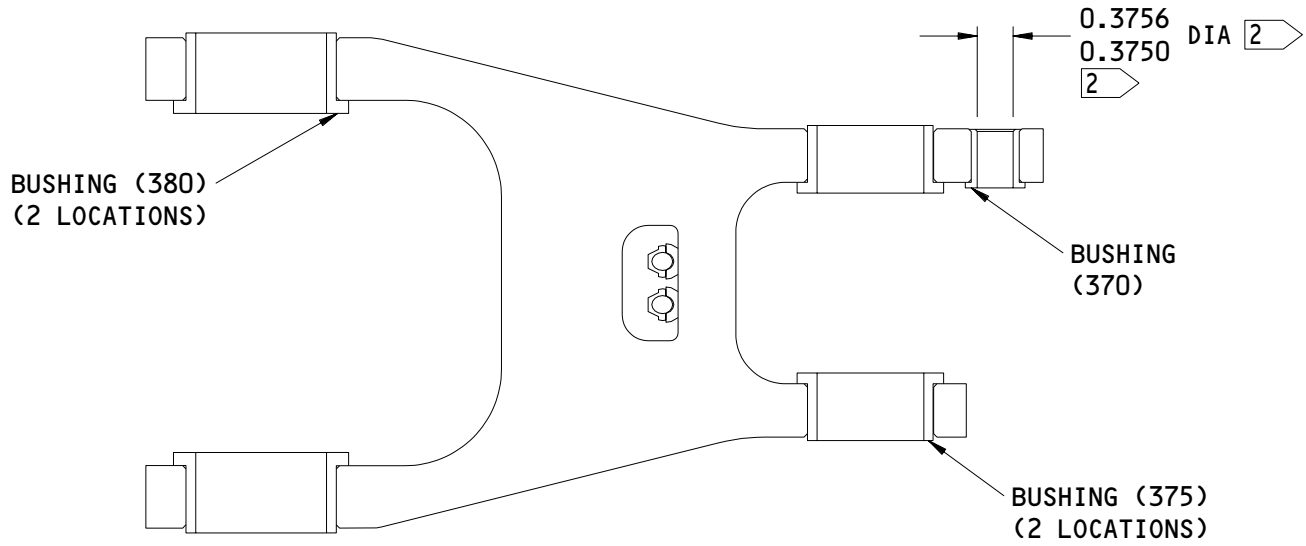




A–A

163T1005-1
Aft Lock Link Assembly Bushing Replacement
Figure 601 (Sheet 1)

K14742



B–B

1 PART NUMBER AND SERIAL NUMBER LOCATED HERE

2 ANVIL OR ROLLER SWAGE END OF BUSHING

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T1005-1
Aft Lock Link Assembly Bushing Replacement
Figure 601 (Sheet 2)

K14753

AFT LOCK LINK - REPAIR 10-2

163T1005-2

1. General

A. This repair gives the data that is necessary to repair and refinish the aft lock link (385).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 7050-T7451 Al Alloy

(2) Shot Peen: Intensity 0.012A

2. Bushing Hole Repair

A. References

(1) SOPM 20-10-03, Shot Peening

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inspection

(4) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(5) SOPM 20-42-05, Bright Cadmium Plating

B. Procedure

(1) Machine the worn or damaged hole for the bushings (370, 375, 380), as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.010-0.020 inch.

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

(4) Shot Peen the machined areas as shown in the SOPM 20-10-03.

(5) Machine the hole to the finish as shown in Fig. 601.

(6) Oversize bushings.

(a) Make the repair bushing for bushing (370) as shown in Fig. 602 and in the following instructions.

1) Bushing Material: 15-5PH, AMS 5659, 32-37 HRC, or 17-4PH, AMS 5643, 32-37 HRC

2) Break all the sharp edges.

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

4) Prepare the surface and cadmium plate (F-15.02) as shown in (SOPM 20-42-05).

5) Be sure the interference between the bushing O.D. and the oversize hole I.D. is 0.0004 to 0.0015 inches.

6) Install the oversize repair bushing as shown in REPAIR 10-1.

3. Link - Refinish

A. Consumable Materials

(1) C00175 Primer -- BMS 10-79 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

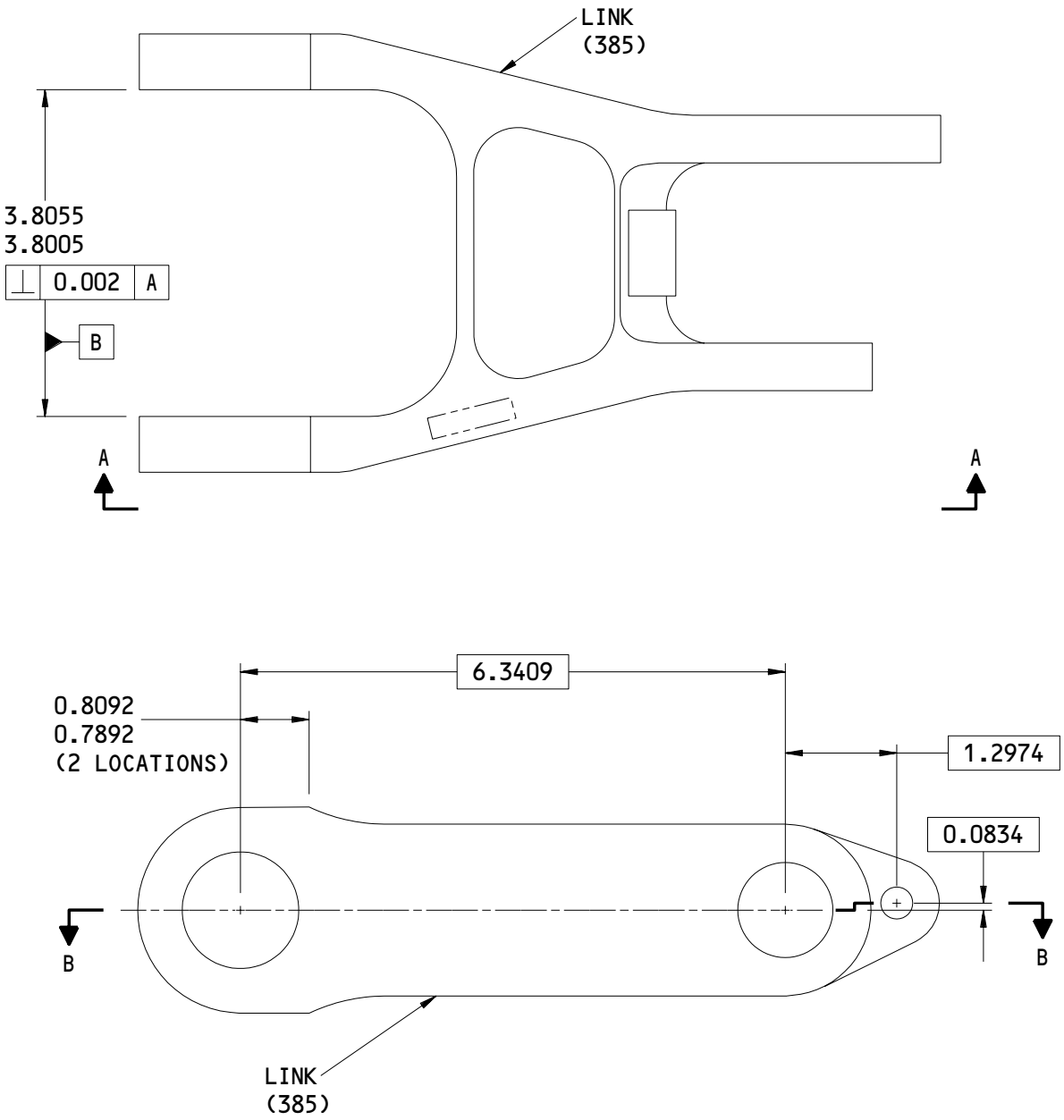
(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-44-04, Application of Urethane Compatible Primer

C. Procedure

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

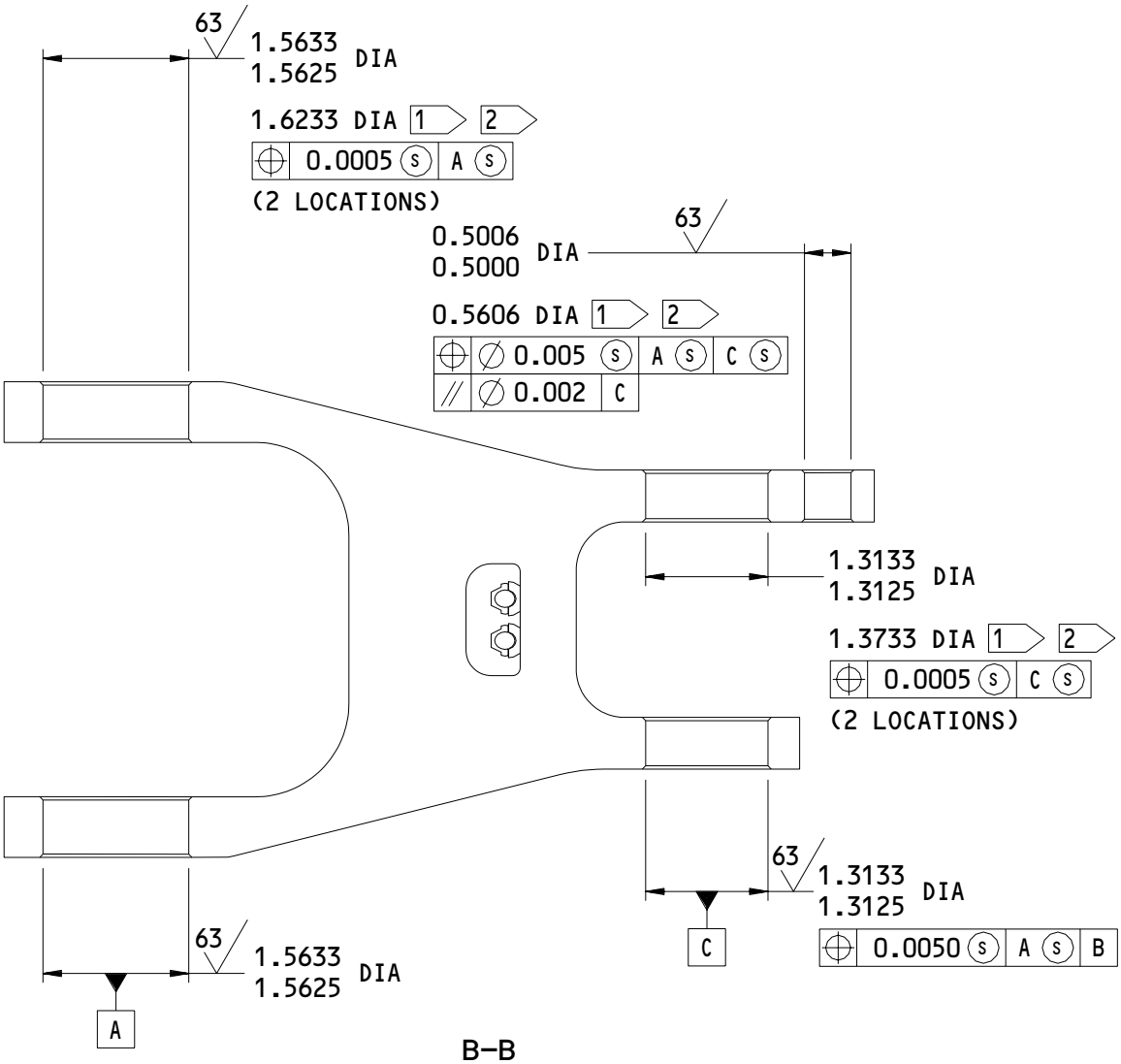
(2) Apply BMS 10-79, Type 3 Primer (F-19.47).



A–A

163T1005-2
Aft Lock Link Repair
Figure 601 (Sheet 1)

K14791



1 DO NOT PRIME

2 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

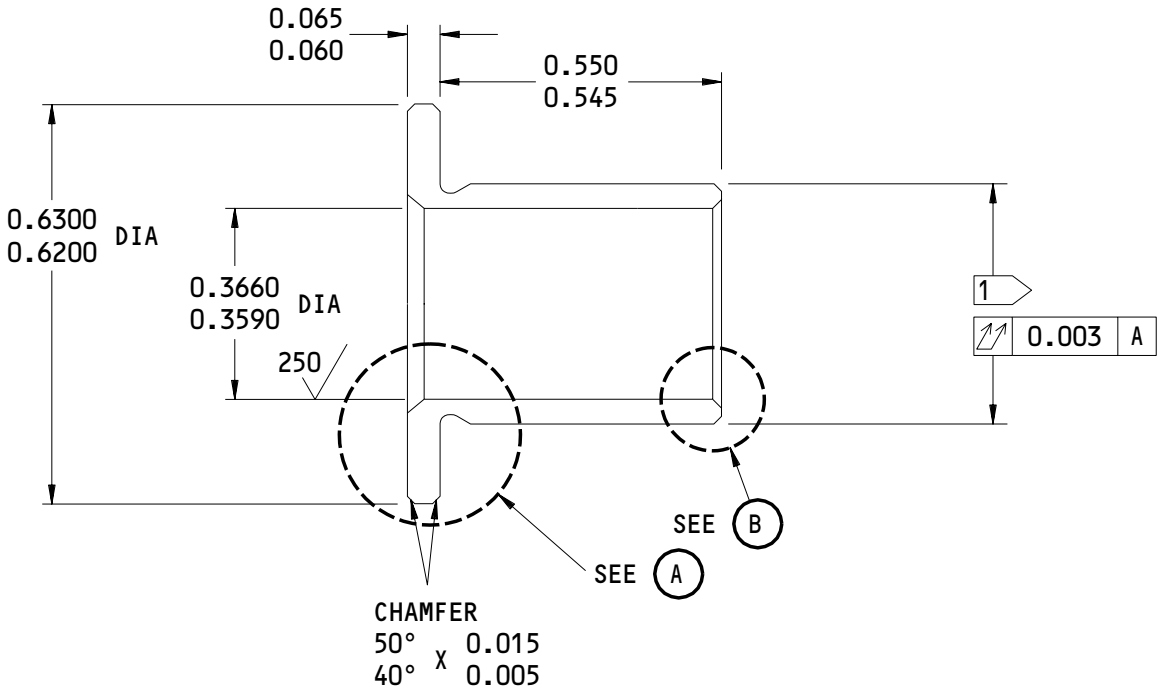
BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

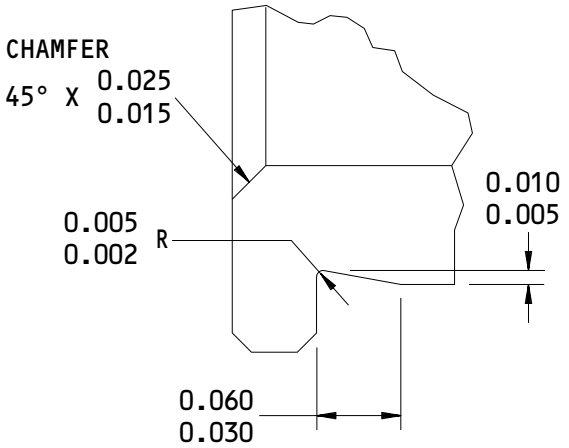
ALL DIMENSIONS ARE IN INCHES

163T1005-2
Aft Lock Link Repair
Figure 601 (Sheet 2)

K14903

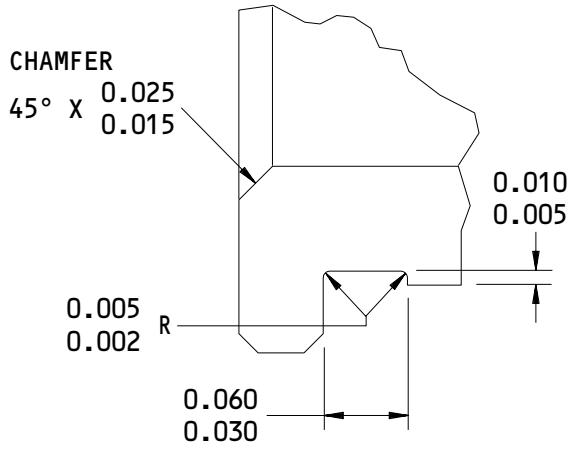


OVERSIZE REPLACEMENT FOR BUSHING (370)



TYPE 1

A

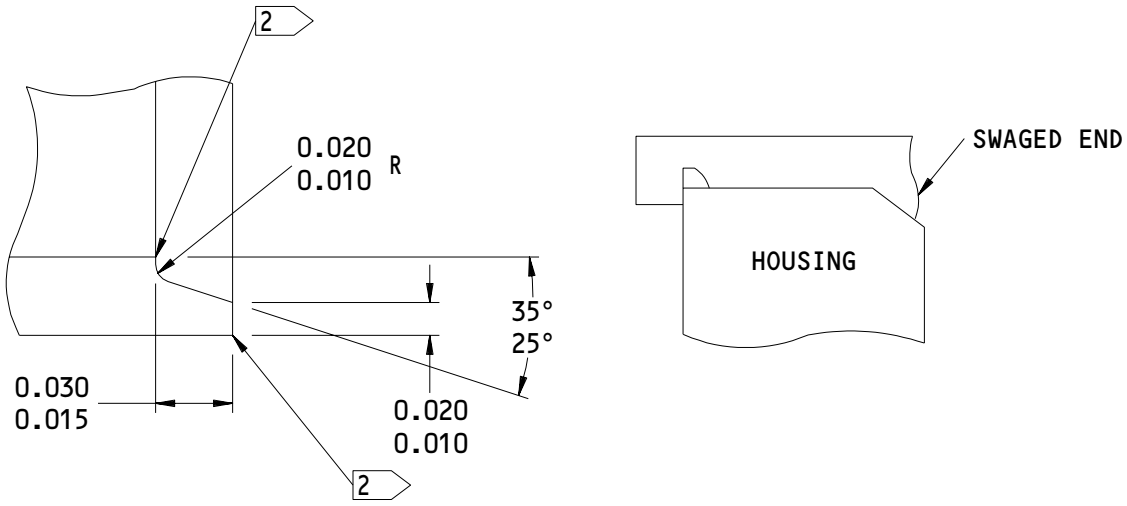


TYPE 2

A

Oversize Bushing Details
Figure 602 (Sheet 1)

K14966



TYPE 1

(B)

1 THE OUTSIDE DIAMETER OF THE BUSHING AFTER PLATING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0004–0.0015

2 BREAK SHARP EDGES 0.005 MAXIMUM

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2)

K14972

LEVER ASSEMBLY - REPAIR 11-1

163T1010-1

1. General

A. This repair gives the data that is necessary to repair and refinish the lever assembly (130).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

2. Bushing Replacement

A. Consumable Materials

(1) A00247 Sealant -- BMS 5-95 (SOPM 20-60-04)

(2) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

B. References

(1) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(2) SOPM 20-50-03, Bearing Removal, Installation and Retention

(3) SOPM 20-60-02, Finishing Materials

(4) SOPM 20-60-04, Miscellaneous Materials

C. Procedure

(1) Replace the bushings (160, 165, 170) in the lever assembly, as shown in Fig. 601.

(a) Remove the bushings (160, 165, 170) from the lever assembly.

(b) Install the bushings (160, 165, 170) into the lever assembly by the shrink-fit method, with BMS 5-95 sealant, as shown in the (SOPM 20-50-03). The maximum gap under the flange of the bushings is 0.002 inches.

(c) Machine the bushings (160) inside diameters to the dimensions and finish as shown in Fig. 601. Bushings (165, 170) must not be machined. They have a liner on the inner diameter.

(d) Break all sharp edges.

(e) Fillet seal bushings (160, 165, 170) with BMS 5-95 sealant after all paint applications are completed. Apply BMS 10-60 enamel (SRF-14.9813) over sealant. Bushing bores must be free of enamel.

3. Tip Replacement

A. Consumable Materials

(1) C00913 Sealant -- BMS 3-27 (SOPM 20-60-02)

B. References

(1) SOPM 20-30-03, General Cleaning Procedures

(2) SOPM 20-60-02, Finishing Materials

C. Procedure

(1) Replace the tip (155).

(a) Remove the nuts (150), the washers (140, 145) and the bolts (135).

(b) Remove the worn tip (155).

(c) Install the new tip (155).

1) Apply a thin coat of BMS 3-27 corrosion preventive compound to the bolt shanks/threads (135), the washer faces (140, 145) and the fay surface of tip before the assembly onto the lever (175).

CAUTION: ADJUST THE POSITION OF THE TIP (155) UNTIL CONTACT IS MADE WITH BOTH FAYING SURFACES OF THE TIP AND THE LEVER (175) BEFORE THE FASTENERS ARE TIGHTENED.

2) Install the tip (155) with the above bolts, the washers and the nut (150) onto the lever (175).

4. Refinish

A. Consumable Materials

(1) C00032 Enamel -- BMS 10-60 (SOPM 20-60-02)

B. References

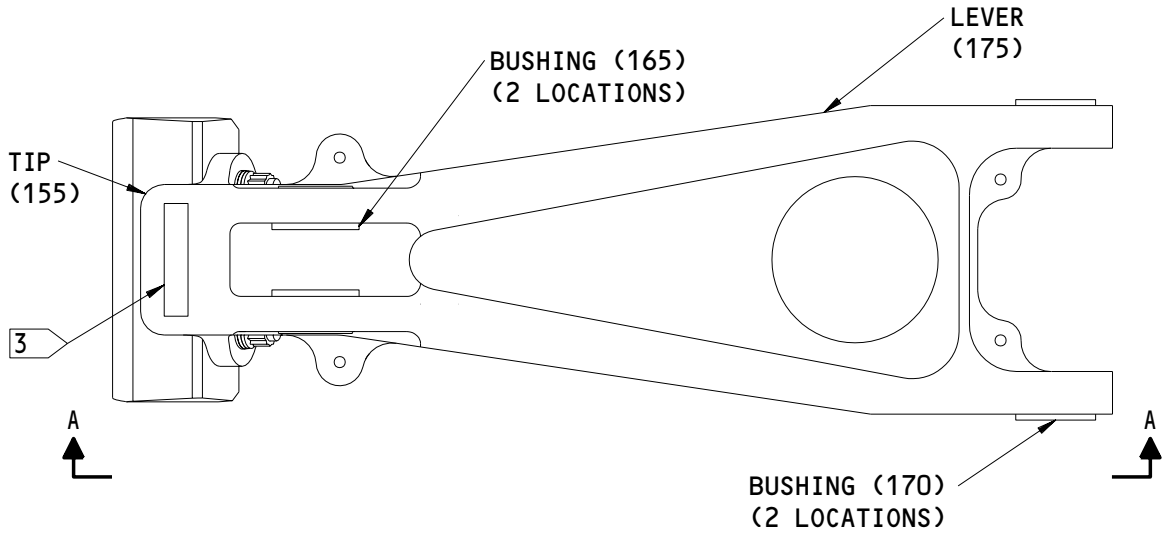
(1) SOPM 20-30-02, Stripping of Protective Finishes

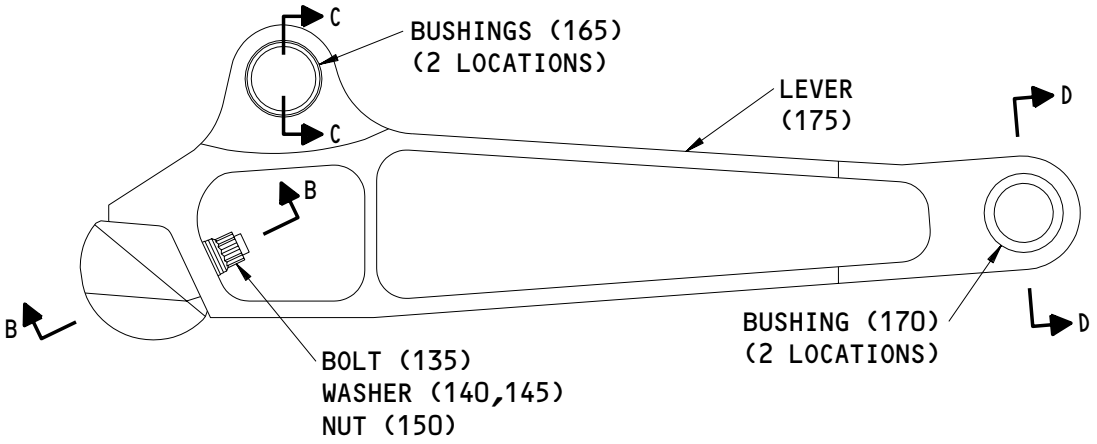
(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-60-02, Finishing Materials

C. Procedure

(1) Apply BMS 10-60 enamel (SRF-14.9813) all over except do not apply enamel on lubricating passages, bushing inner diamters, lube fittings and where shown in Fig. 601.

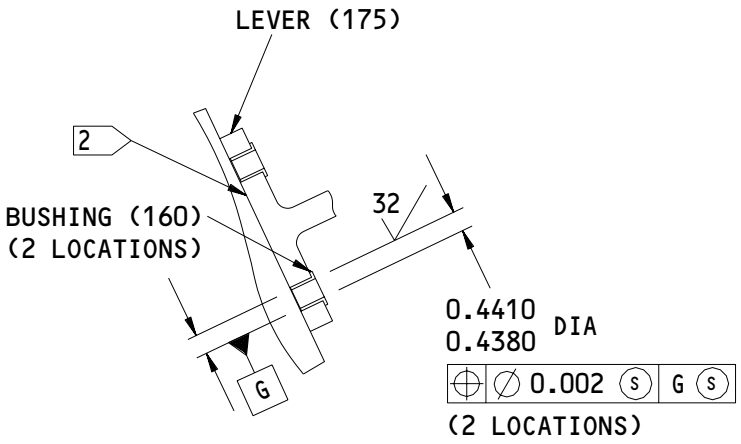




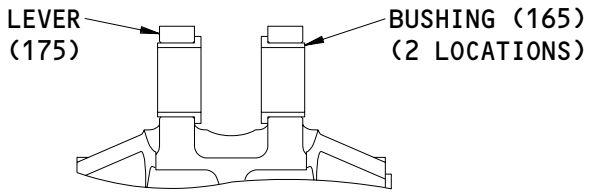
A–A

163T1010-1
Lever Assembly Repair
Figure 601 (Sheet 1)

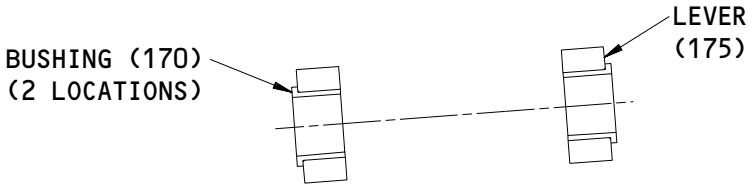
K15397



B–B



C–C



D–D

1 TIP, ATTACH BOLTS, NUTS AND WASHERS NOT SHOW IN B–B FOR VIEW CLEARITY

2 DO NOT PAINT

3 PART NUMBER AND SERIAL NUMBER LOCATED HERE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

163T1010-1
Lever Assembly Repair
Figure 601 (Sheet 2)

K15412

LEVER - REPAIR 11-2

163T1010-2

1. General

A. This repair gives the data that is necessary to repair and refinish the lever (175).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1) Material: 7075-T7451 Al Alloy

(2) Shot Peen: Intensity 0.012A

2. Bushing Hole Repair

A. References

(1) SOPM 20-10-03, Shot Peening

(2) SOPM 20-20-01, Magnetic Particle Inspection

(3) SOPM 20-20-02, Penetrant Methods of Inspection

(4) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(5) SOPM 20-42-05, Bright Cadmium Plating

B. Procedure

(1) Machine the worn or dmaged hole for the bushings (160, 165, 170), as necessary, to remove defects, cracks, and/or corrosion up to the limit shown in Fig. 601.

(2) Break all the sharp edges to a radius of 0.010-0.020 inch.

(3) Do a penetrant check as shown in SOPM 20-20-02, class A critical.

(4) Shot peen the machined areas as shown in the SOPM 20-10-03.

(5) Machine the hole to the finish shown in Fig. 601.

(6) Oversize bushings.

(a) Make the repair bushing for bushing (160) as shown in Fig. 602 and in the following instructions.

1) Bushing Material: 15-5PH, AMS 5659, 40-43 HRC, or 17-4PH, AMS 5643, 40-43 HRC

2) Break all the sharp edges.

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

4) Prepare the surface and cadmium plate (F 15.02) as shown in (SOPM 20-42-05).

5) Be sure the interference between the bushing O.D. and the oversize hole I.D. is 0.0005 to 0.0016 inches.

6) Install the oversize repair bushing as shown in REPAIR 11-1.

3. Lever Refinish

A. Consumable Materials

(1) C00032 Primer -- BMS 10-79, Type 3 (SOPM 20-44-04)

B. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

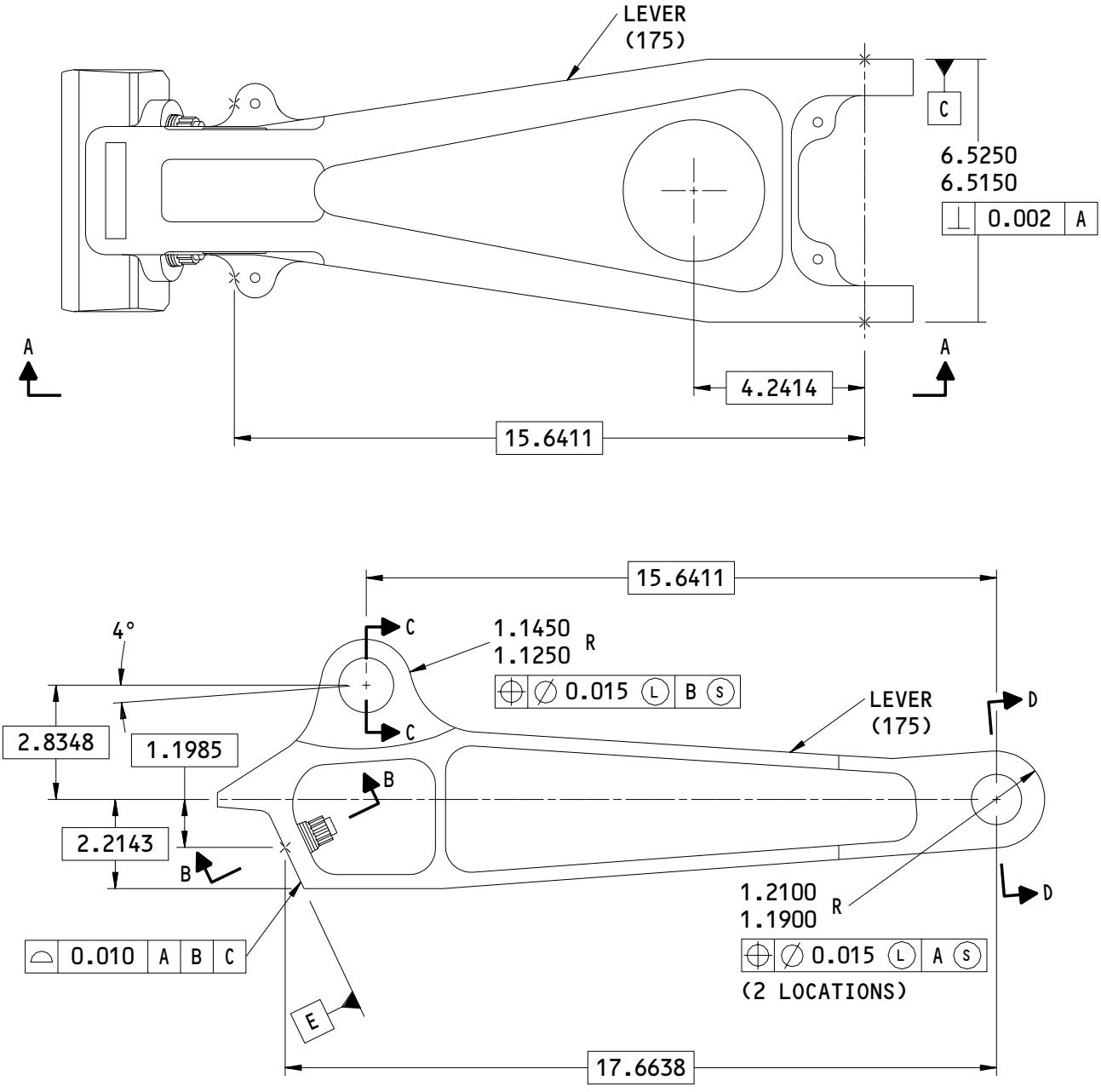
(2) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(3) SOPM 20-44-04, Application of Urethane Compatible Primer

C. Procedure

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

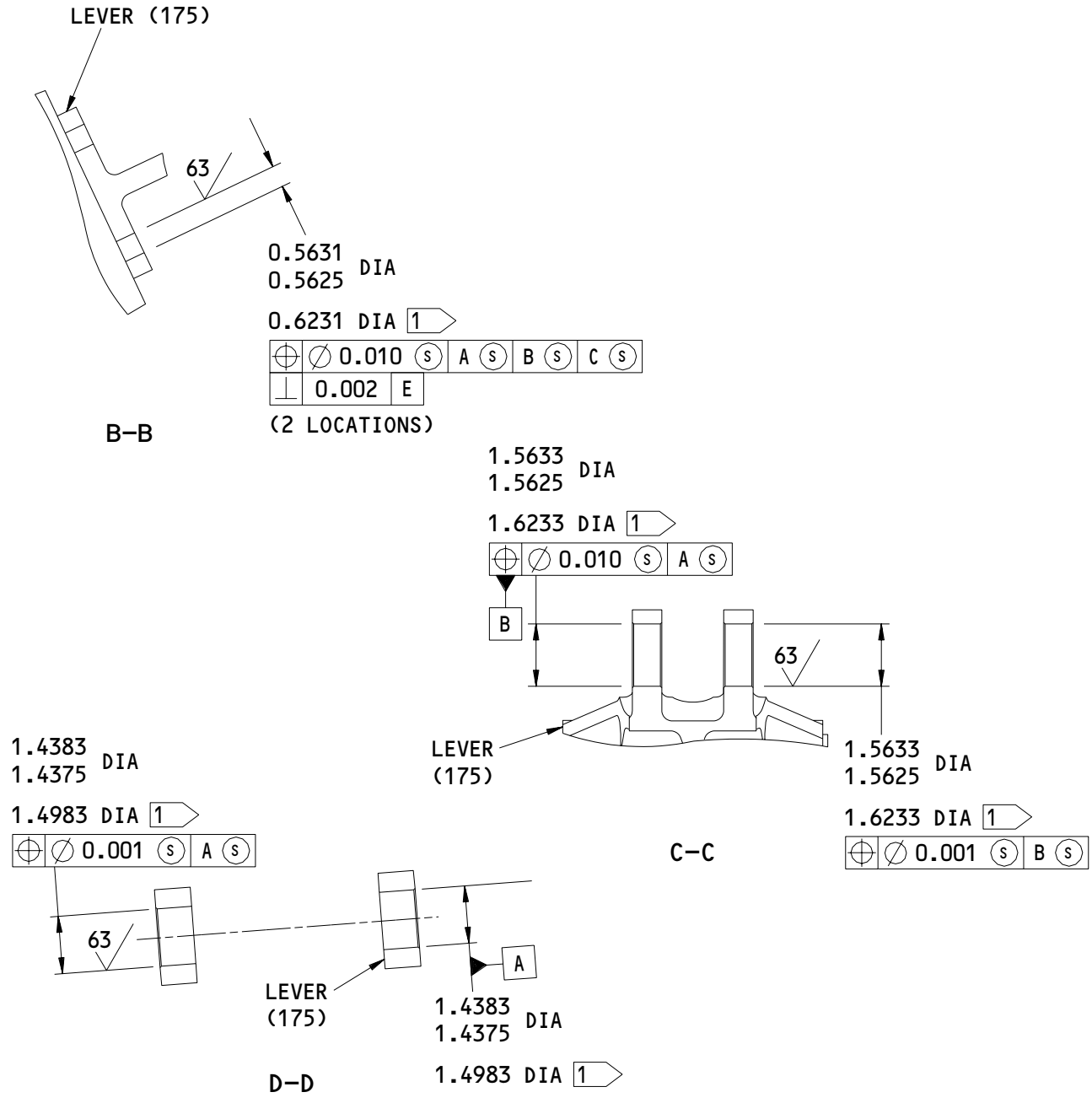
(2) Apply BMS 10-79, Type 3 Primer (F-19.47).



A–A

163T1010-2
Lever Repair
Figure 601 (Sheet 1)

K15646



1 REPAIR LIMIT

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

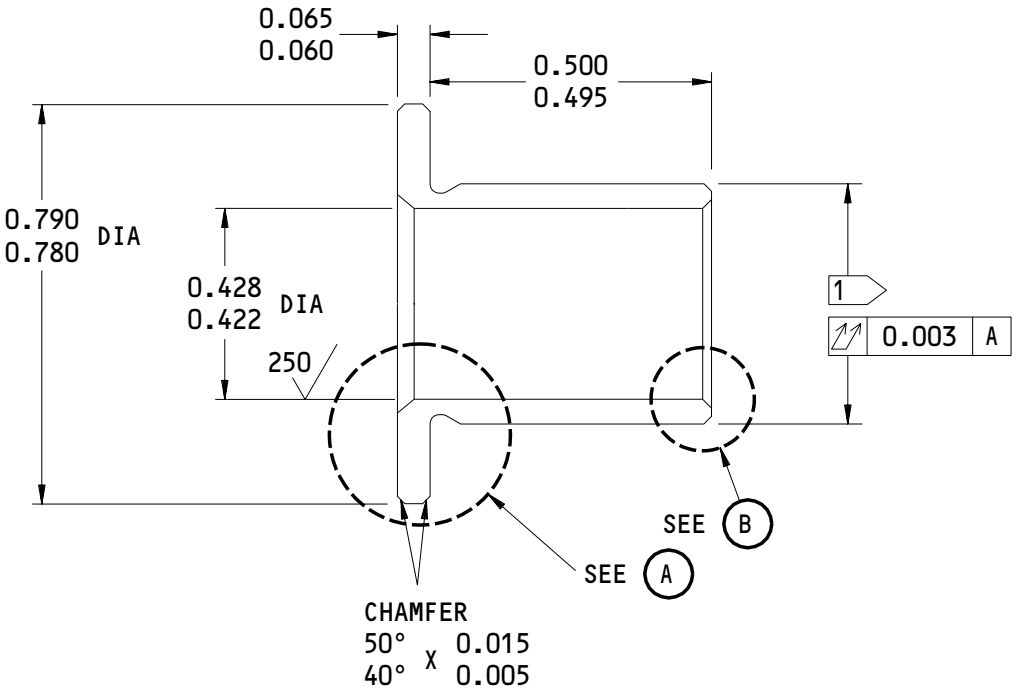
BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

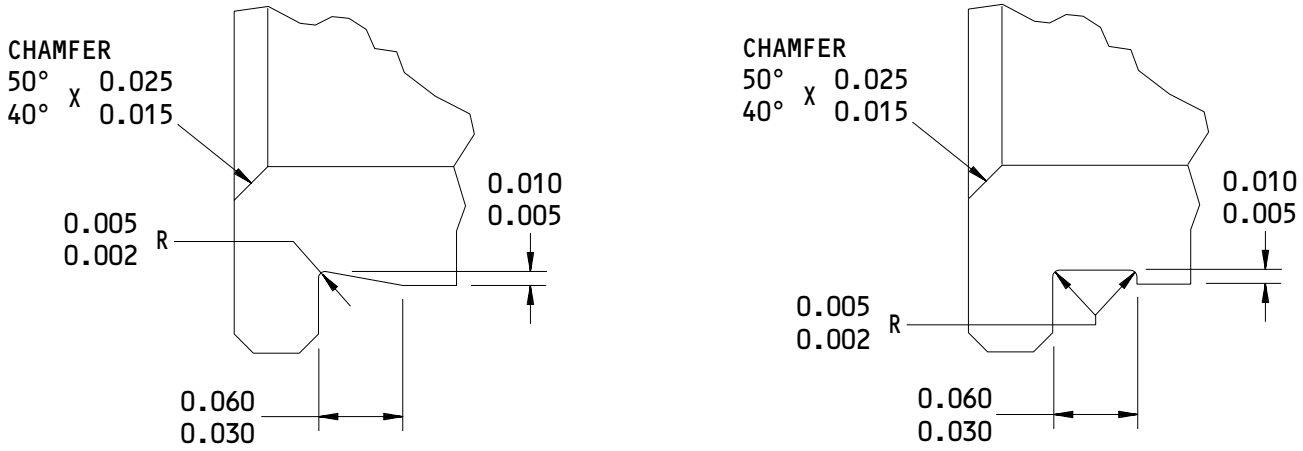
ALL DIMENSIONS ARE IN INCHES

163T1010-2
Lever Repair
Figure 601 (Sheet 2)

K15665



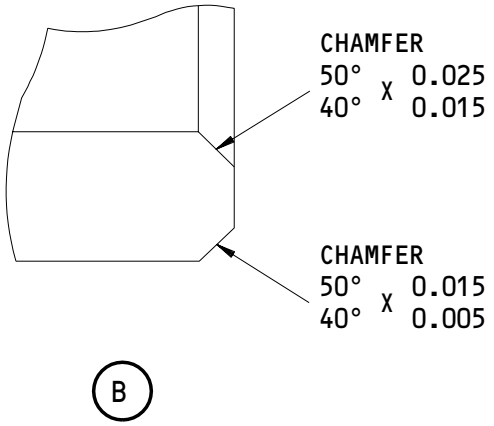
OVERSIZE REPLACEMENT FOR BUSHING (160)



A

Oversize Bushing Details
Figure 602 (Sheet 1)

K15667



1 THE OUTSIDE DIAMETER OF THE BUSHING AFTER PLATING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0005–0.0016

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2)

K15669

LOCK LINK APEX PIN - REPAIR 12-1

163W1006-1

1. General

A. This repair gives the data that is necessary to repair and refinish the lock link apex pin (290).

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

C. Refer to the REPAIR - GENERAL (32-71-14/601, REPAIR -GENERAL) for the standard true position dimensioning symbols shown in the repair.

D. Refer to the IPL Fig. 1 for item numbers.

E. General repair details:

(1)	Material:	15-5PH 180-200 ksi
(2)	Shot Peen:	Shot Number 0.017-0.033 Intensity 0.010A-0.014A Coverage 2.0

2. Pin Repair

A. References

(1) CMM 32-00-05, Repair of High Strength Steel Parts

(2) SOPM 20-10-03, Shot Peening

(3) SOPM 20-10-04, Grinding of Chrome Plated Parts

(4) SOPM 20-20-01, Magnetic Particle Inspection

(5) SOPM 20-30-02, Stripping of Protective Finishes

(6) SOPM 20-30-03, General Cleaning Procedures

(7) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(8) SOPM 20-42-03, Hard Chrome Plating

B. Procedure

(1) Machine the outside diameter as required, within the repair limit shown in Fig. 601, to remove defects.

(2) Break all the sharp edges to a radius of 0.020-0.030 inch.

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

(4) Shot peen, chrome plate and grind the outside diameter to dimensions and finish shown in Fig. 601.

(5) Machine the inside diameter as required to remove defects. Remove 0.010 inch maximum from any surface.

(6) Break all the sharp edges to a radius of 0.020-0.030 inch.

3. Pin Refinish

A. References

(1) SOPM 20-30-02, Stripping of Protective Finishes

(2) SOPM 20-30-03, General Cleaning Procedures

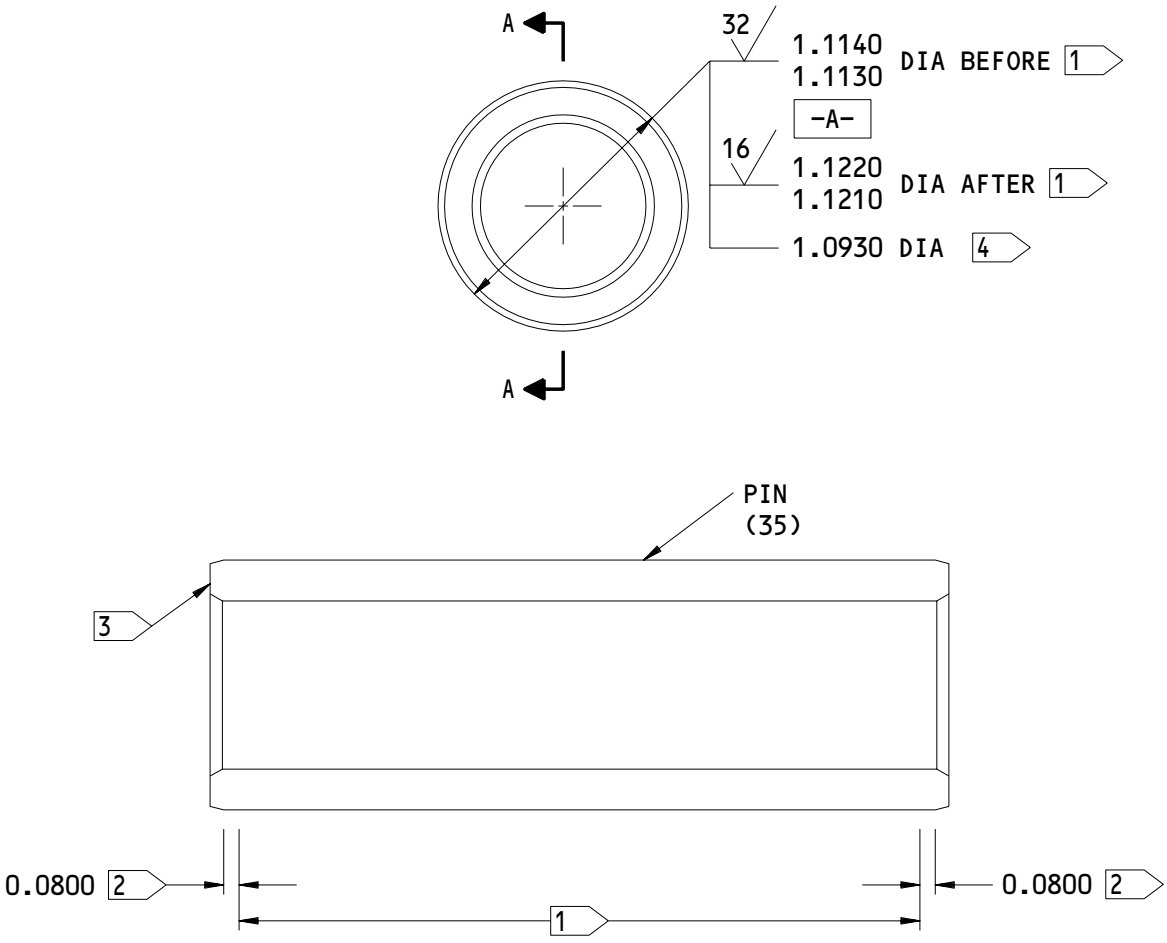
(3) SOPM 20-41-01, Decoding Table of Boeing Finish Codes

(4) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings

B. Procedure (Fig. 601)

(1) Passivate (F-17.25).

(2) Make sure that the part identification number is visible after repair and refinish procedures; if it is not then repair markings as shown in the SOPM 20-50-10.



A-A

1 CHROME PLATE (F-15.34), SINGLE PLATE THICKNESS (0.003-0.015) AFTER PLATING

2 CHROME PLATE RUN OUT AREA. PLATING MUST TAPER FROM FULL TO ZERO THICKNESS OVER A MINIMUM LENGTH OF 0.005 INCHES

3 PART NUMBER AND SERIAL NUMBER LOCATED HERE

4 REPAIR LIMIT

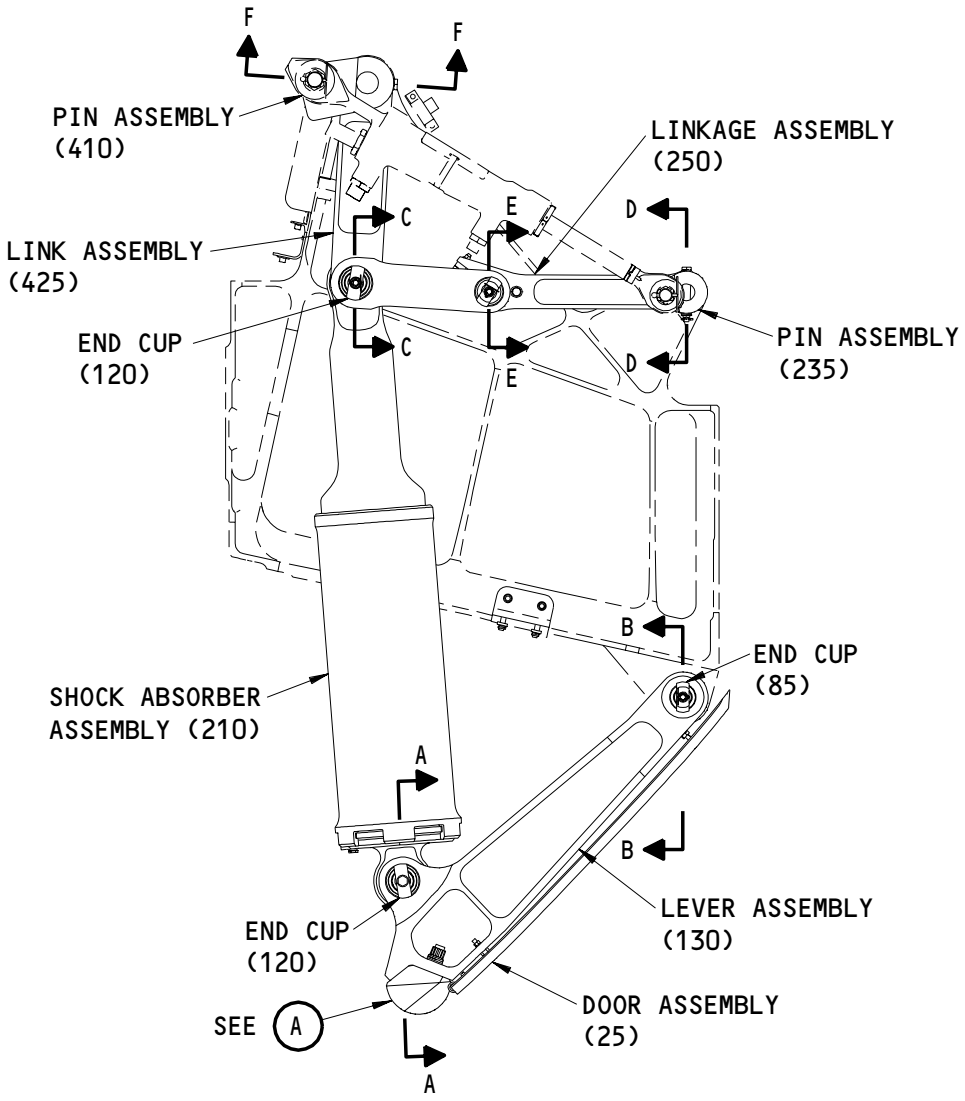
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

ITEM NUMBER REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

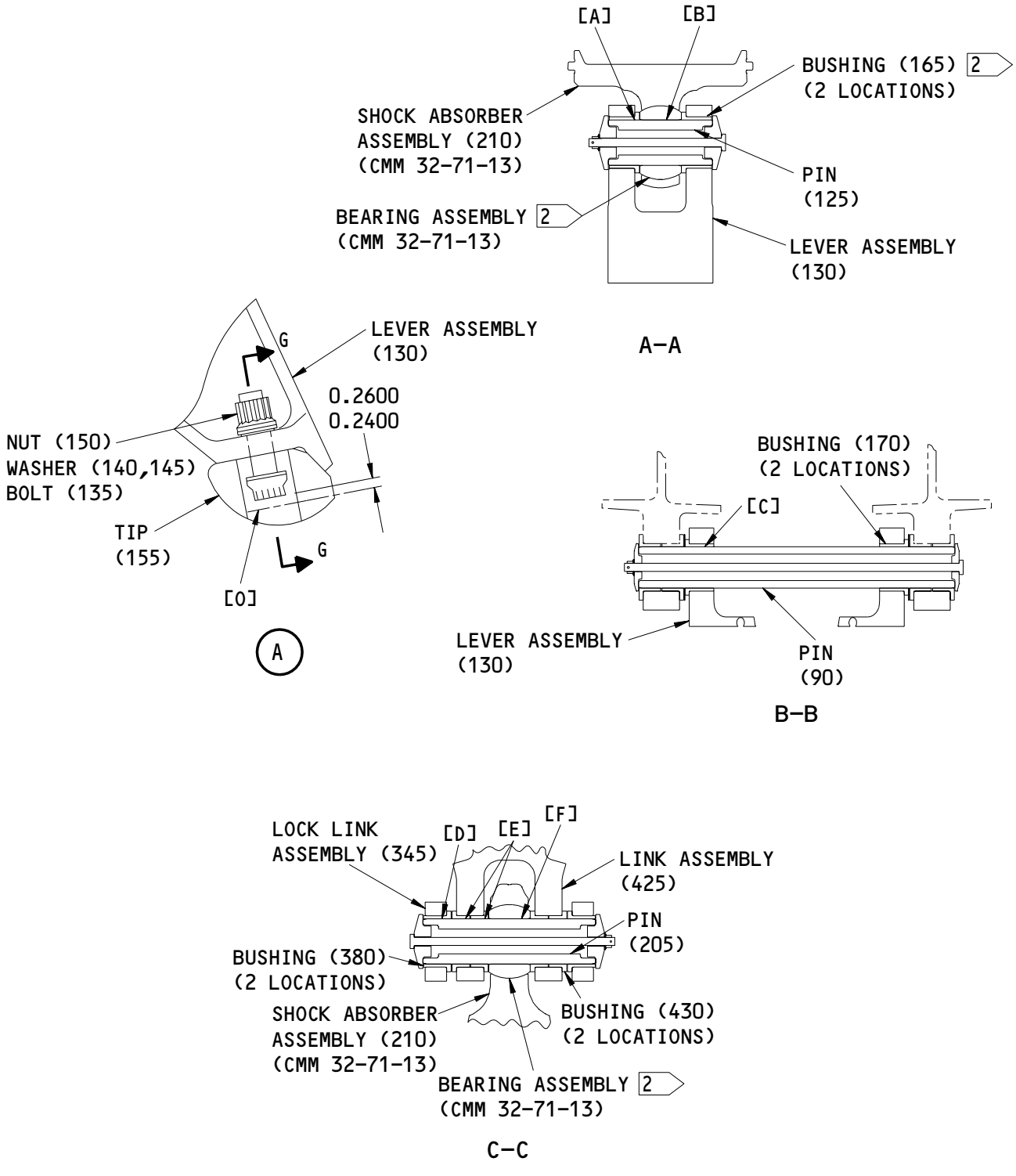
163W1006-1
Pin Repair
Figure 601

K15684



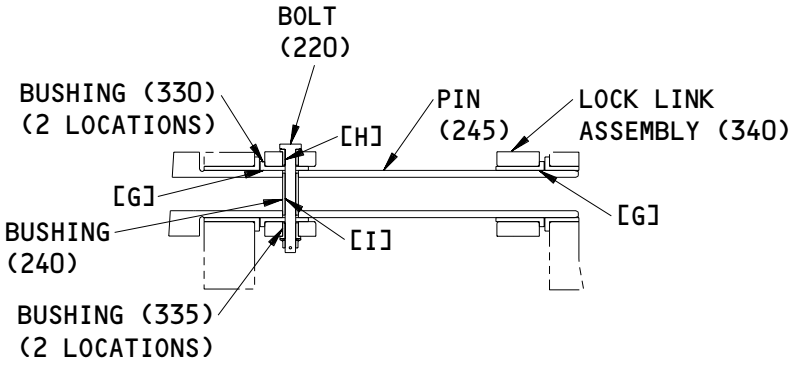
Fits and Clearances
Figure 801 (Sheet 1)

K16133

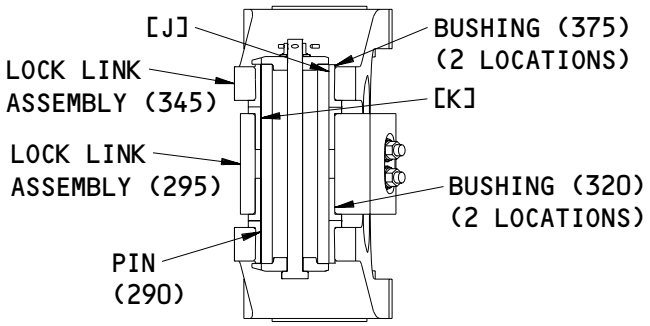


Fits and Clearances
Figure 801 (Sheet 2)

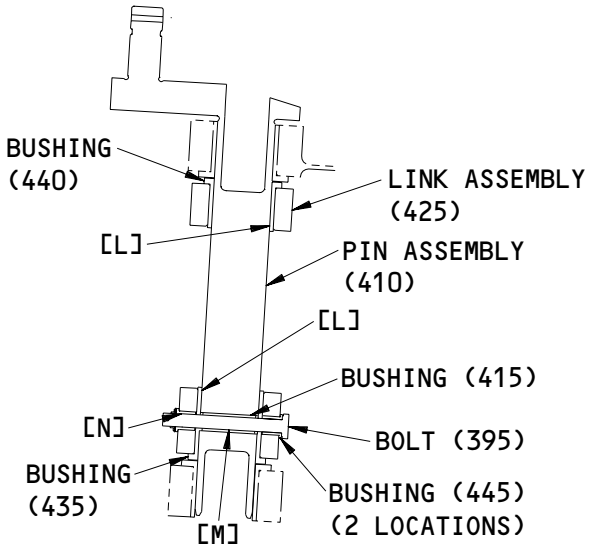
K16224



D–D



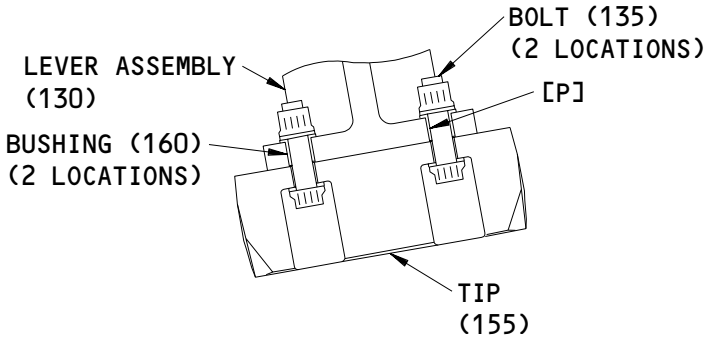
E–E



F–F

Fits and Clearances
Figure 801 (Sheet 3)

K16165



G–G

Fits and Clearances
Figure 801 (Sheet 4)

K16235

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[A]	ID 165 [1] OD 125	1.3710	1.3730					
[B]	ID [1] [2] OD 125	1.3710	1.3730					
[C]	ID 170 [1] OD 90	1.2445	1.2465					
[D]	ID 380 [1] OD 205	1.3725	1.3745					
[E]	ID 430 [1] OD 205	1.3725	1.3745					
[F]	ID [1] [2] OD 205	1.3725	1.3745					
[G]	ID 330 [1] OD 245	1.1206	1.1226					
[H]	ID 335 OD 220	0.2536 0.2485	0.2636 0.2495	0.0041	0.0151	0.2475	0.2656	0.0161
[I]	ID 240 OD 220	0.2500 0.2485	0.2506 0.2495	0.0005	0.0021	0.2475	0.2526	0.0031
[J]	ID 375 [1] OD 290	1.1210	1.1220					
[K]	ID 320 [1] OD 290	1.1210	1.1220					

Fits and Clearances
Figure 801 (Sheet 5)

K15721

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[L]	ID 435,440 [1] OD 410	 1.3711	 1.3721					
[M]	ID 415 OD 395	0.3120 0.3110	0.3135 0.3120	0.0000	0.0025	 0.3099	0.3156	0.0036
[N]	ID 445 OD 395	0.3125 0.3110	0.3131 0.3120	0.0005	0.0021	 0.3099	0.3152	0.0032
[O]	ID [3] OD [3]					[4]	[4]	
[P]	ID 160 OD 135	0.4380 0.4370	0.4410 0.4370	0.0010	0.0045	 0.4352	0.4428	0.0058

* ALL DIMENSIONS ARE IN INCHES

[1] IF THE LINER IS WORN ENOUGH SO THAT THE BASE MATERIAL OF THE BUSHING SHOWS, REPLACE THE BUSHING. IF WEAR HAS OCCURRED TO THE MATING PART CONSULT THE APPROPRIATE REPAIR PROCEDURE IN CMM 32-71-14

[2] BEARING ASSEMBLY 163N2526, REF CMM 32-71-13

[3] DOES NOT APPLY

[4] REFER TO FIGURE 801, VIEW A

Fits and Clearances
Figure 801 (Sheet 6)

K15735

ILLUSTRATED PARTS LIST

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

2. Indentures show parts relationships as follows:

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

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

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

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

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

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

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

6. Parts Interchangeability

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

VENDORS

06710 LAMSON AND SESSIONS CO THE VALLEY-TODECO
12975 BRADLEY AVENUE
SYLMAR, CALIFORNIA 91342-3830

11815 CHERRY AEROSPACE FASTENERS DIV OF TEXTRON
1224 EAST WARNER AVENUE PO BOX 2157
SANTA ANA, CALIFORNIA 92707-0157

15653 KAYNAR TECHNOLOGY KAYNAR DIV
800 SOUTH STATE COLLEGE BLVD PO BOX 3001
FULLERTON, CALIFORNIA 92634-3001

27238 BRISTOL INDUSTRIES
630 EAST LAMBERT ROAD PO BOX 630
BREA, CALIFORNIA 92621-4119

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046

62554 SIMMONDS MECAERO FASTENERS INC
1734 SEQUOIA AVENUE
ORANGE, CALIFORNIA 92668

72962 HARVARD INDUSTRIES INC
3 WERNER WAY SUITE 210
LEBANON, NEW JERSEY 08833

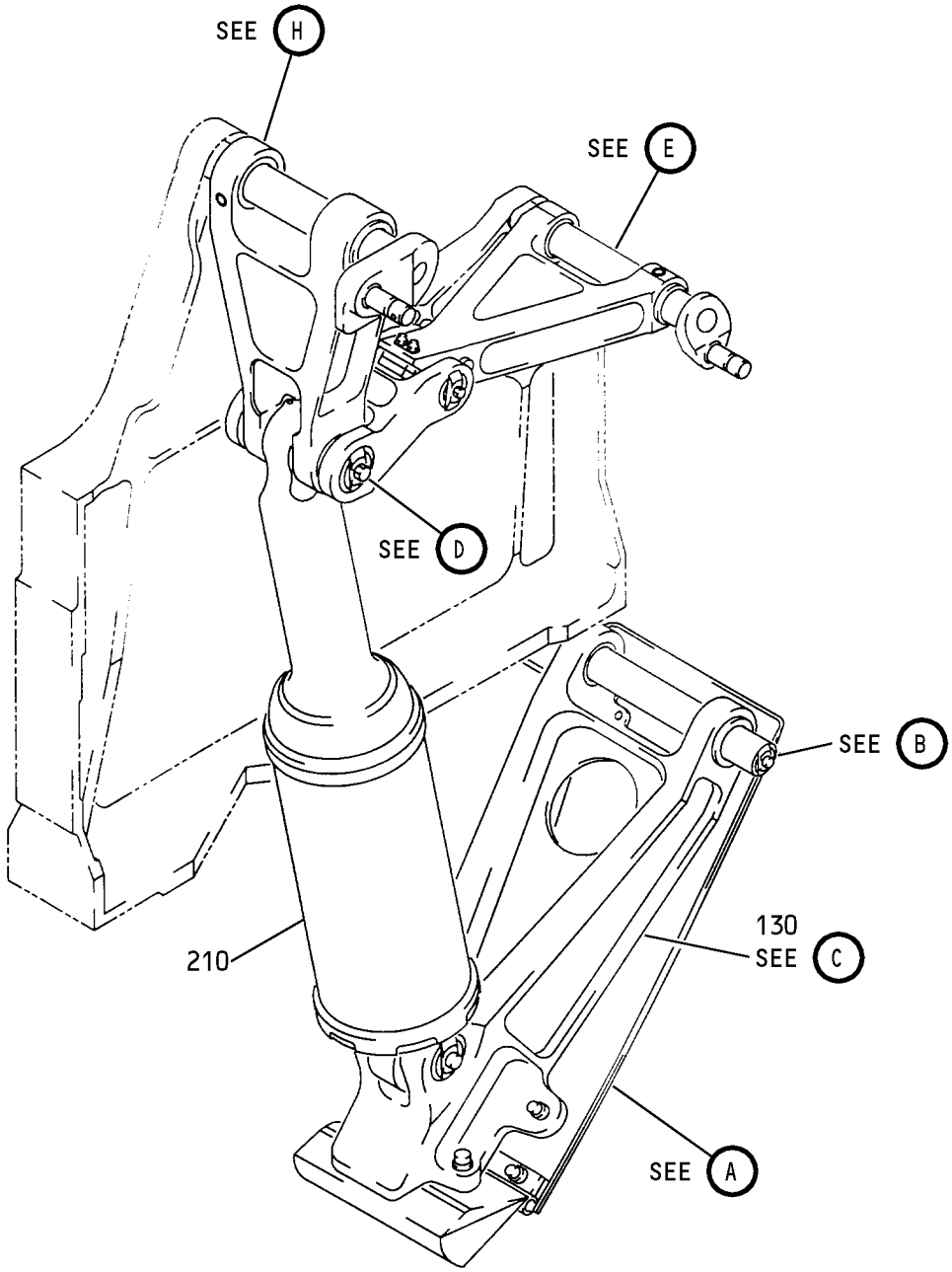
97928 DEUTSCH FASTENER CORP
3969 PARAMONT BOULEVARD
LAKEWOOD, CALIFORNIA 90712-4193

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACB28AP07P050		1	160	2
BACB28AT04B032C		1	335	2
BACB28AT05D040C		1	445	2
BACB28AT06D055C		1	370	1
BACB28AW04B100A		1	240	1
BACB28AW05B125A		1	415	1
BACB28AY18A059C		1	320	2
		1	375	2
BACB28AY18A103C		1	330	2
BACB28AY20A090C		1	170	2
BACB28AY22A040C		1	430	4
BACB28AY22A070C		1	380	2
BACB28AY22A078C		1	165	2
BACB28AY22A159C		1	435	1
BACB30LE7U18		1	135	2
BACB30LH3-08		1	300	2
BACB30LH3-18		1	350	2
BACB30LJ4DU156		1	70	1
BACB30LJ4DU33		1	220	1
BACB30LJ4DU55		1	270A	1
BACB30LJ4DU58		1	105	1
BACB30LJ4DU91		1	185	1
BACB30LJ4D55		1	270	1
BACB30LJ5DU38		1	395	1
BACB30LJ6-39		1	255	1
BACB30NN3K4		1	30	3
BACN10HR7CS		1	150	2
BACN10YR3CD		1	15	4
		1	40	3
		1	310	2
		1	360	2
BACN10YR6CD		1	260	1
BACN11N104CS		1	80	1
		1	115	1
		1	195	1
		1	230	1
		1	280	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACN11N105CS		1	405	1
BACP18BC02A06P		1	65	1
		1	100	1
		1	180	1
		1	215	1
		1	265	1
		1	390	1
BACS12ER3K22		1	5	4
BACS30FD2-10		1	455	1
BACW10BP3DP		1	305	2
		1	355	2
BACW10BP7ACU		1	140	2
BACW10BP7APU		1	145	2
BAC28AT06D165CG		1	325A	1
BAC28AY22A103C		1	440	1
BCREF15740		1	325A	1
BH003027CS		1	150	2
BH00303-7		1	150	2
BH003037		1	150	2
BMN10HR7CS		1	150	2
BMN5024CPD37		1	150	2
BMN5024CP3-7		1	150	2
CR59067CS		1	150	2
CR59087		1	150	2
H39953		1	150	2
H39953-7		1	150	2
H52732-3CD		1	15	4
		1	40	3
		1	310	2
		1	360	2
H52732-6CD		1	260	1
H967CS		1	150	2
NAS1149C0332R		1	10	4
NAS1149C0432R		1	75	1
		1	110	1
		1	190	1
		1	225	1
		1	275A	1

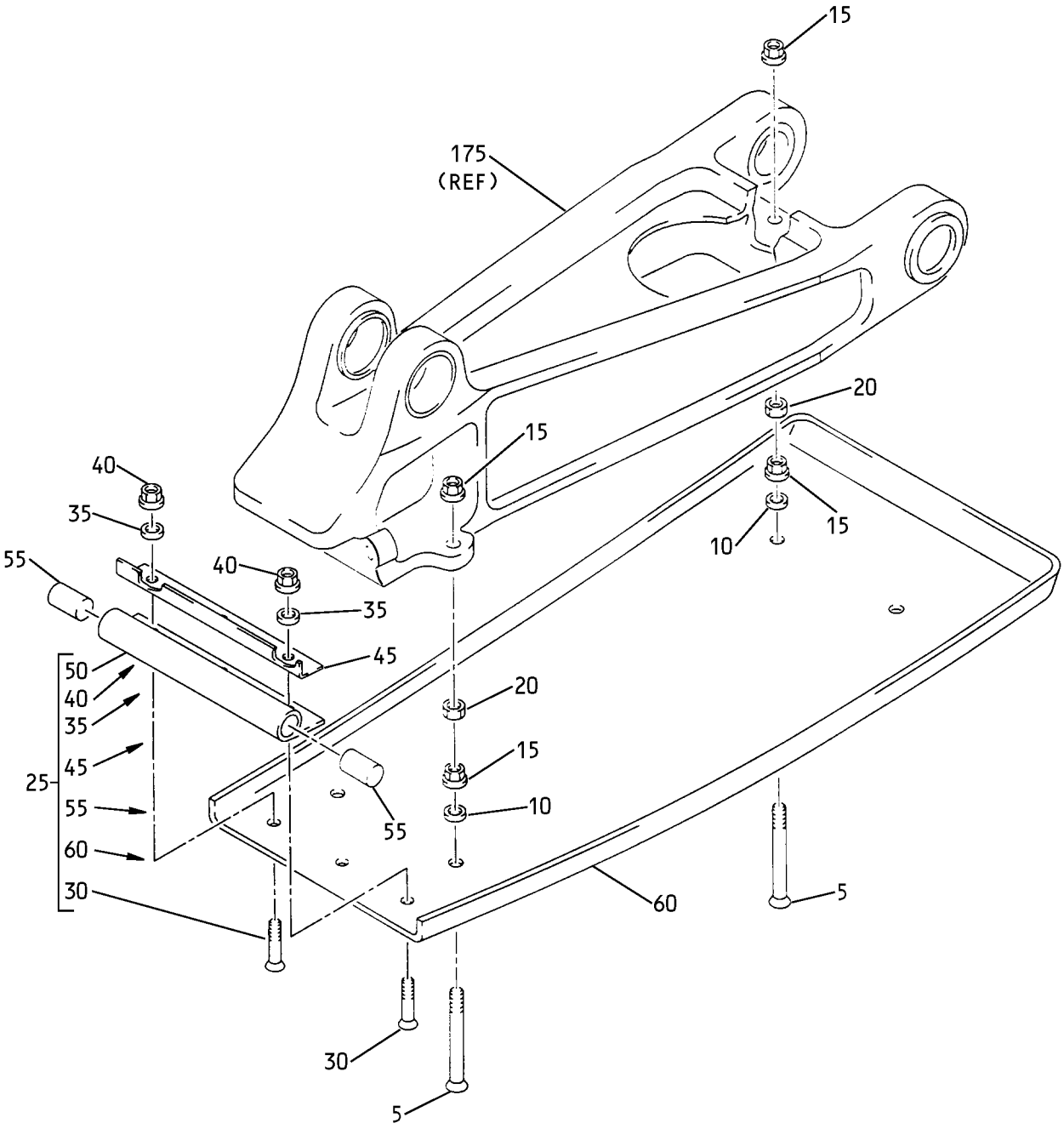
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
NAS1149C0532R		1	400	1
NAS1149C2016R		1	95	2
NAS1149D0332J		1	35	3
NAS1149D0432J		1	275	1
NAS5509-3		1	20	4
NAS5509-4		1	460	2
PLH53CD		1	15	4
		1	40	3
		1	310	2
		1	360	2
PLH56CD		1	260	1
RMLH227CS		1	150	2
SL70509		1	150	2
VAL280097CS		1	150	2
109LH9031-7		1	150	2
109LH90317		1	150	2
148T7703-3		1	50	1
148T7703-4		1	45	1
148T7703-5		1	55	2
148T7703-6		1	25	1
148T7703-7		1	60	1
161W4121-1		1	315	1
		1	365	1
163N2102-1		1	155A	1
163T0001-1		1	1A	RF
163T0100-1		1	410	1
163T0100-2		1	420	1
163T0101-1		1	235	1
163T0101-2		1	245	1
163T0102-2		1	205A	1
163T0102-3		1	205B	1
163T0103-1		1	125	1
163T0104-1		1	90	1
163T1002-1		1	425	1
163T1002-2		1	450	1
163T1004-1		1	295	1
163T1004-2		1	340	1
163T1005-1		1	345	1
163T1005-2		1	385	1
163T1010-1		1	130	1
163T1010-2		1	175	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
163T1020-1		1	210	1
163T1050-1		1	250	1
163T3002-1		1	120	2
		1	200	2
163W0106-2		1	85	2
		1	285	2
163W1006-1		1	290	1
67832AS7		1	150	2
67832AS720		1	150	2
678327CS		1	150	2



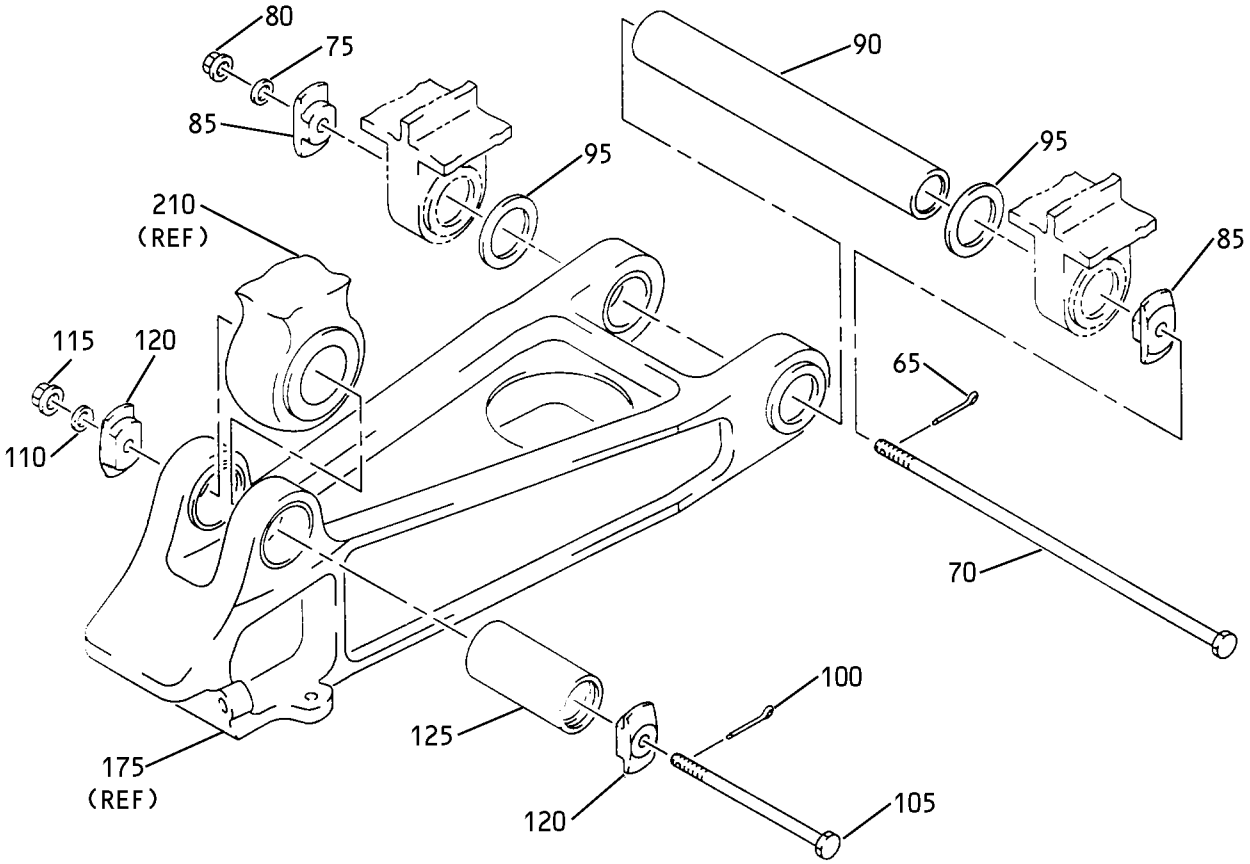
Tail Skid Installation Components
Figure 1 (Sheet 1)

K17032



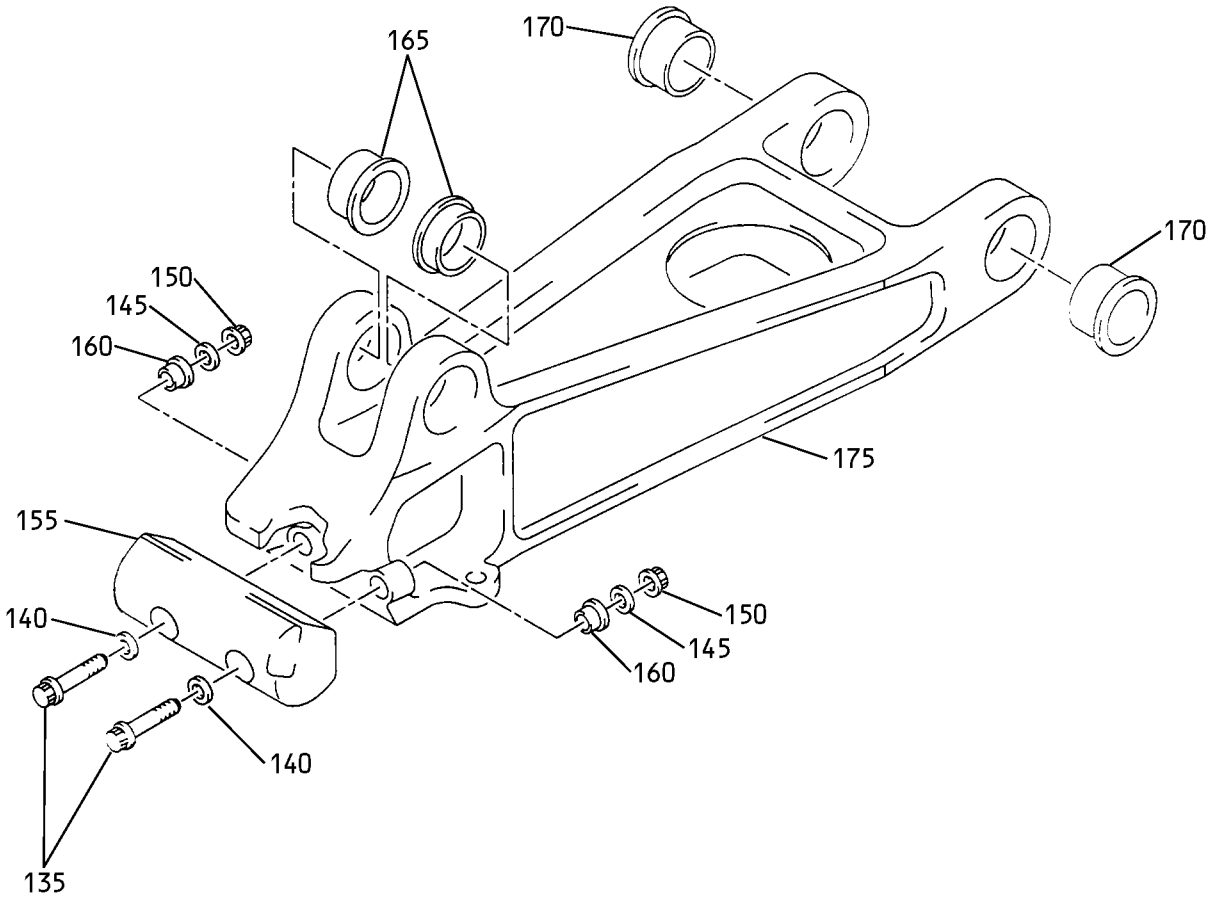
Tail Skid Installation Components
Figure 1 (Sheet 2)

K17018



Tail Skid Installation Components
Figure 1 (Sheet 3)

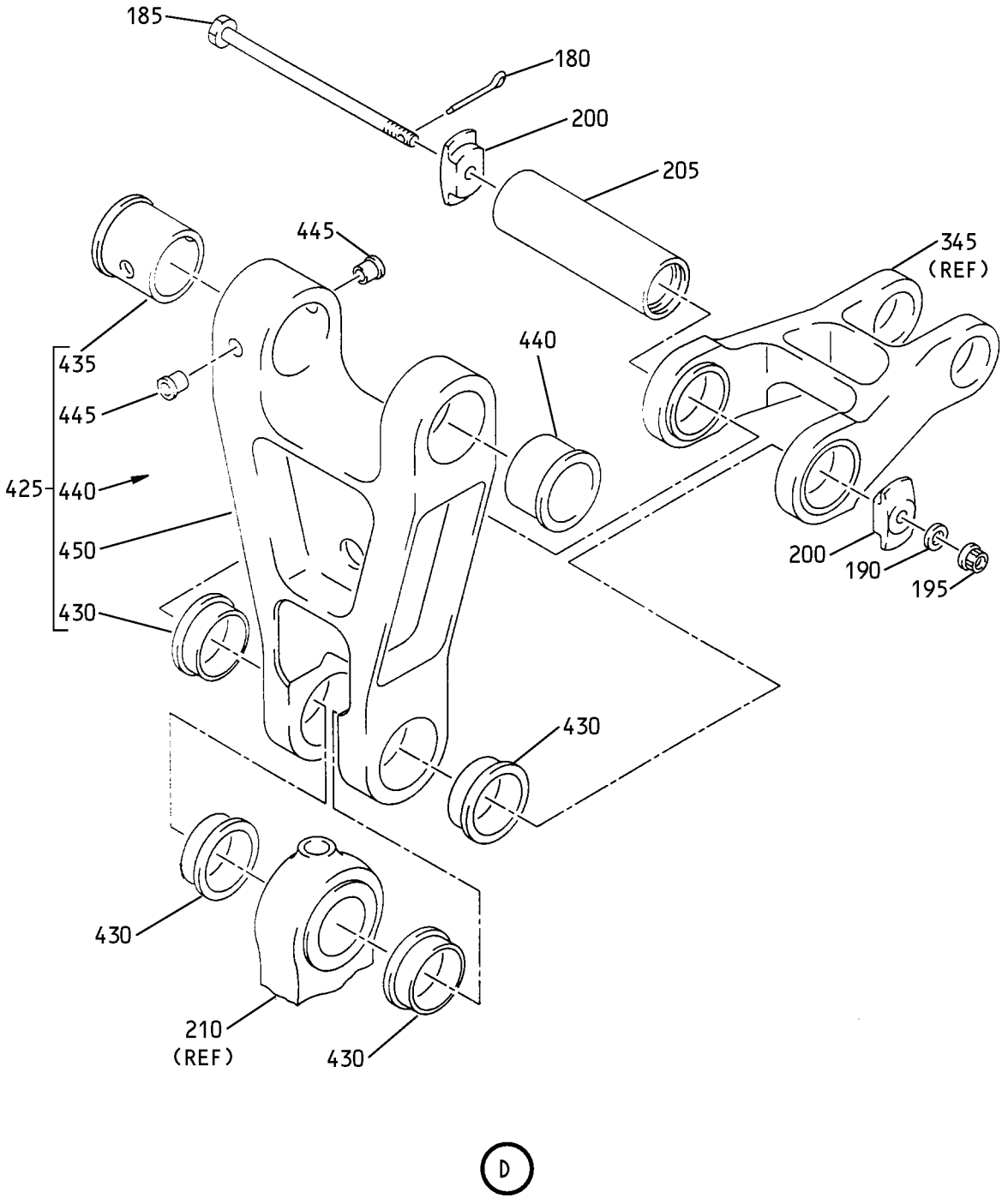
K17037



C

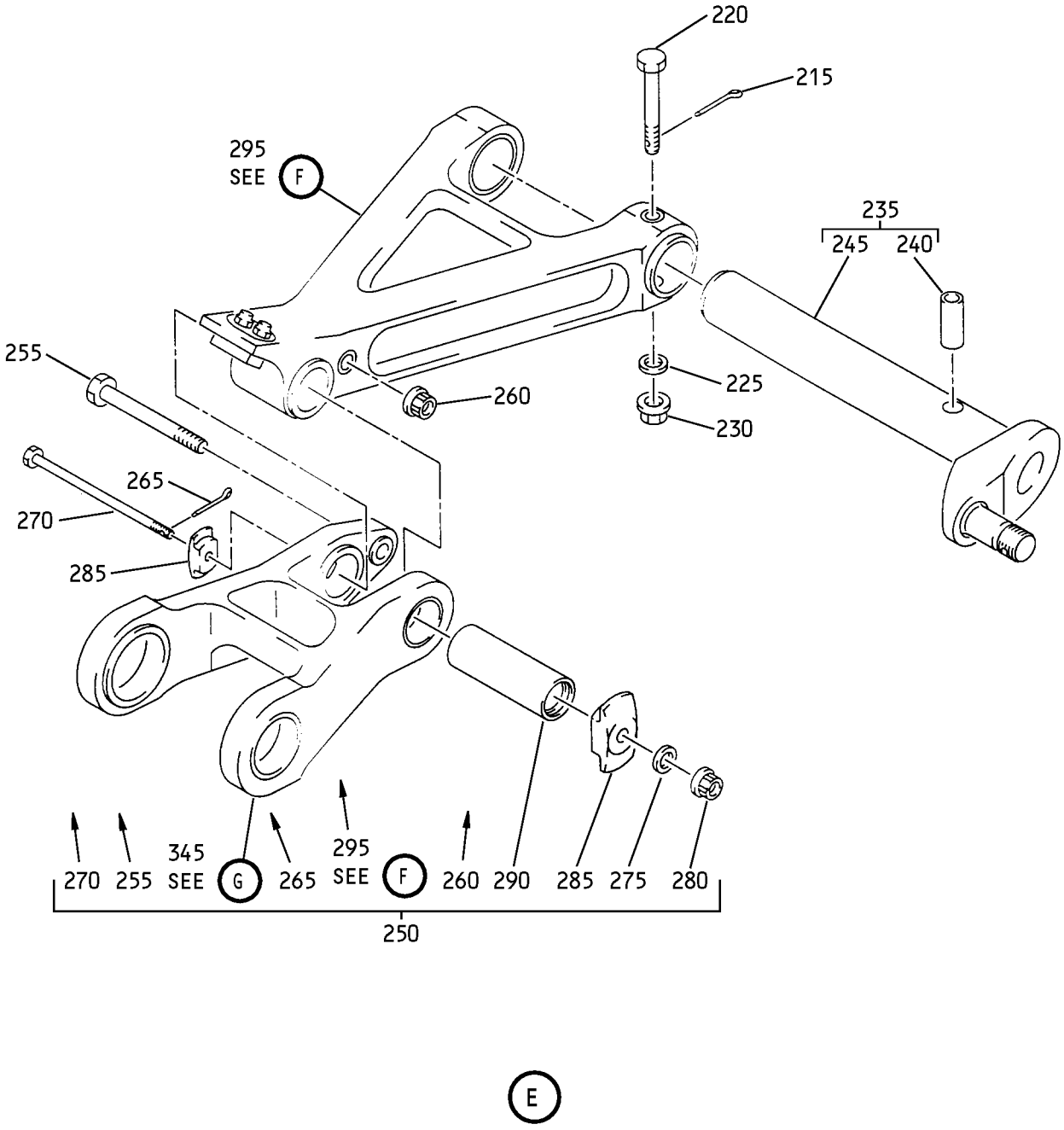
Tail Skid Installation Components
Figure 1 (Sheet 4)

K17048



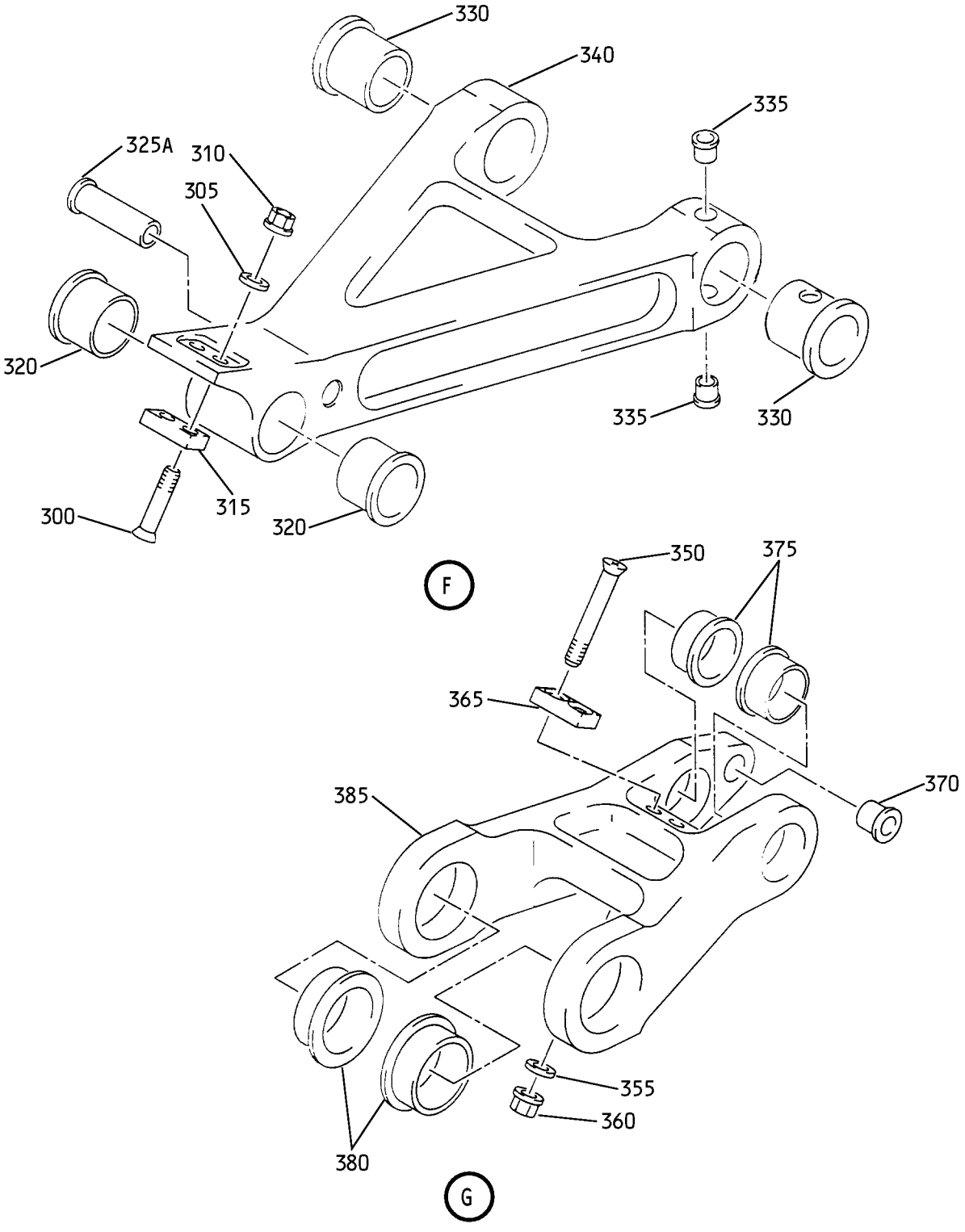
Tail Skid Installation Components
Figure 1 (Sheet 5)

K17060



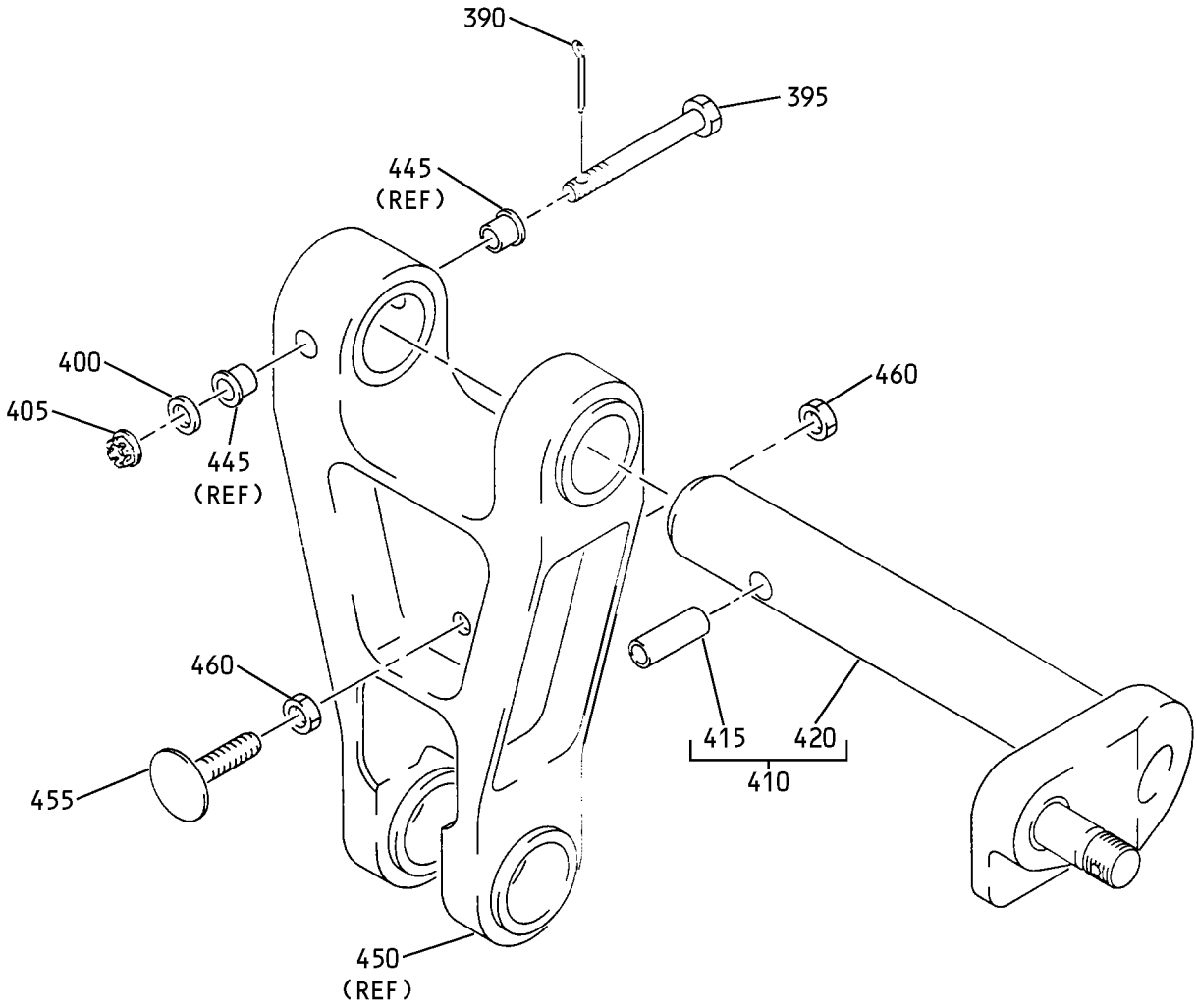
Tail Skid Installation Components
Figure 1 (Sheet 6)

K17082



Tail Skid Installation Components
Figure 1 (Sheet 7)

K17103



Tail Skid Installation Components
Figure 1 (Sheet 8)

K17115

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1A	163T0001-1		TAIL SKID INSTALLATION- COMPONENTS		RF
5	BACS12ER3K22		.SCREW		4
10	NAS1149C0332R		.WASHER		4
15	H52732-3CD		.NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		4
20	NAS5509-3		.NUT		4
25	148T7703-6		.DOOR ASSY		1
30	BACB30NN3K4		..BOLT		3
35	NAS1149D0332J		..WASHER		3
40	H52732-3CD		..NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		3
45	148T7703-4		..RETAINER-SEAL		1
50	148T7703-3		..SEAL		1
55	148T7703-5		..PLUG		2
60	148T7703-7		..BOND ASSY		1
65	BACP18BC02A06P		.PIN-COTTER		1
70	BACB30LJ4DU156		.BOLT		1
75	NAS1149C0432R		.WASHER		1
80	BACN11N104CS		.NUT		1
85	163W0106-2		.END CAP		2
90	163T0104-1		.PIN		1
95	NAS1149C2016R		.WASHER		2
100	BACP18BC02A06P		.PIN-COTTER		1
105	BACB30LJ4DU58		.BOLT		1
110	NAS1149C0432R		.WASHER		1
115	BACN11N104CS		.NUT		1
120	163T3002-1		.END CAP		2
125	163T0103-1		.PIN		1
130	163T1010-1		.LEVER ASSY		1
135	BACB30LE7U18		..BOLT		2
140	BACW10BP7ACU		..WASHER		2
145	BACW10BP7APU		..WASHER		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-150	H39953-7		..NUT- (V15653) (SPEC BACN10HR7CS) (OPT 109LH9031-7 (V72962)) (OPT 67832AS720 (V56878)) (OPT BMN5024CP3-7 (V97928)) (OPT BH00303-7 (V27238)) (OPT BH003037 (V27238)) (OPT BMN5024CPD37 (V97928)) (OPT CR59087 (V62554)) (OPT H39953 (V15653)) (OPT SL70509 (V11815)) (OPT 109LH90317 (V72962)) (OPT 67832AS7 (V56878)) (OPT BH003027CS (V27238)) (OPT BMN10HR7CS (V97928)) (OPT CR59067CS (V62554)) (OPT H967CS (V15653)) (OPT RMLH227CS (V72962)) (OPT VAL280097CS (V06710)) (OPT 678327CS (V56878))		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
155	163N2102-2		..TIP-		1
			(OPT ITEM 155A)		
-155A	163N2102-1		..TIP-		1
			(OPT ITEM 155)		
160	BACB28AP07P050		..BUSHING		2
165	BACB28AY22A078C		..BUSHING		2
170	BACB28AY20A090C		..BUSHING		2
175	163T1010-2		..LEVER		1
180	BACP18BC02A06P		.PIN-COTTER		1
185	BACB30LJ4DU91		.BOLT		1
190	NAS1149C0432R		.WASHER		1
195	BACN11N104CS		.NUT		1
200	163T3002-1		.END CAP		2
205	163T0102-1		DELETED		
205A	163T0102-2		.PIN		1
205B	163T0102-3		.PIN (PREF)		1
210	163T1020-1		.SHOCK ABSORBER ASSY-		1
			(REF CMM 32-71-13)		
215	BACP18BC02A06P		.PIN-COTTER		1
220	BACB30LJ4DU33		.BOLT		1
225	NAS1149C0432R		.WASHER		1
230	BACN11N104CS		.NUT		1
235	163T0101-1		.PIN ASSY		1
240	BACB28AW04B100A		..BUSHING		1
245	163T0101-2		..PIN		1
250	163T1050-1		.LINKAGE ASSY-		1
255	BACB30LJ6-39		..BOLT		1
260	H52732-6CD		..NUT-		1
			(V15653)		
			(SPEC BACN10YR6CD)		
			(OPT PLH56CD		
			(V62554))		
265	BACP18BC02A06P		..PIN-COTTER		1
270	BACB30LJ4D55		..BOLT-		1
			(OPT ITEM 270A)		
-270A	BACB30LJ4DU55		..BOLT-		1
			(OPT ITEM 270)		
275	NAS1149D0432J		..WASHER-		1
			(OPT ITEM 275A)		
-275A	NAS1149C0432R		..WASHER-		1
			(OPT ITEM 275)		
280	BACN11N104CS		..NUT		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
285	163W0106-2		..END CAP		2
290	163W1006-1		..PIN		1
295	163T1004-1		..LINK ASSY-LOCK		1
300	BACB30LH3-08		...BOLT		2
305	BACW10BP3DP		...WASHER		2
310	H52732-3CD		...NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		2
315	161W4121-1		...PLATE-STOP		1
320	BACB28AY18A059C		...BUSHING		2
325	BACB28AT06D165C		DELETED		
325A	BCREF15740		...BUSHING- (BAC28AT06D165CG)		1
330	BACB28AY18A103C		...BUSHING		2
335	BACB28AT04B032C		...BUSHING		2
340	163T1004-2		...LINK		1
345	163T1005-1		..LINK ASSY-LOCK		1
350	BACB30LH3-18		...BOLT		2
355	BACW10BP3DP		...WASHER		2
360	H52732-3CD		...NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))		2
365	161W4121-1		...PLATE-STOP		1
370	BACB28AT06D055C		...BUSHING		1
375	BACB28AY18A059C		...BUSHING		2
380	BACB28AY22A070C		...BUSHING		2
385	163T1005-2		...LINK		1
390	BACP18BC02A06P		.PIN-COTTER		1
395	BACB30LJ5DU38		.BOLT		1
400	NAS1149C0532R		.WASHER		1
405	BACN11N105CS		.NUT		1
410	163T0100-1		.PIN ASSY-		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
415	BACB28AW05B125A		..BUSHING		1
420	163T0100-2		..PIN		1
425	163T1002-1		.LINK ASSY-		1
430	BACB28AY22A040C		..BUSHING		4
435	BACB28AY22A159C		..BUSHING		1
440	BAC28AY22A103C		..BUSHING		1
445	BACB28AT05D040C		..BUSHING		2
450	163T1002-2		..LINK		1
455	BACS30FD2-10		.STUD ASSY		1
460	NAS5509-4		.NUT		2

- Item Not Illustrated