TO: ALL HOLDERS OF NOSE WHEEL STEERING DRUM AND LOCKOUT ASSY COMPONENT MAINTENANCE MANUAL 32-34-16

REVISION NO. 20 DATED NOV 01/05

HIGHLIGHTS

All data that was in 767 CMM 32-34-11 is included in this manual 32-34-16.

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 on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
REPAIR 3-1 601 REPAIR 3-2 601-603 REPAIR 7-2 601-607	Added clarifications and updated callouts.
REPAIR 3-1 601 REPAIR 7-1 601	Changed bearing replacement from housing swage to sleeve swage.

BOEING

COMPONENT
MAINTENANCE MANUAL

NOSE WHEEL STEERING DRUM AND LOCKOUT ASSEMBLY

PART NUMBERS 257T4318-4 THRU -11
015T1626-6 THRU -9

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

13587

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
		PRR B10489	JUL 10/82
32-15		PRR B11036	APR 10/85
32-22		PRR B11106	APR 10/85
		PRR B10450-1	OCT 01/87
		PRR B11857	JAN 01/90
32-0166			JUL 01/99
32-0166 IN01			NOV 01/01
32-0166,R3			NOV 01/02

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2	BLANK	
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1	JUL 01/99	01.1
2	BLANK	
TR & SB RECORD		
1	NOV 01/02	01.1
2	BLANK	
LIST OF EFFECTIVE PAGES		
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* = REVISED, ADDED OR DELETED

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602	JUL 01/99	01.1
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801	JUL 01/99	01.1
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ILLUSTRATED PARTS LIST		
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1002	JUL 01/99	01.1
1003	JUL 01/99	01.1
1004	NOV 01/02	01.1
1005	NOV 01/02	01.1
1006	JUL 01/04	01.1
1007	MAR 01/05	01.1
1008	MAR 01/05	01.1
1009	MAR 01/05	01.1
1010	MAR 01/05	01.1
1011	MAR 01/05	01.1
1012	MAR 01/05	01.1
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* = REVISED, ADDED OR DELETED

TABLE OF CONTENTS

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. An asterisked flagnote *[ ] in place of the page number indicates that no special instructions are provided since the function can be performed using standard industry practices.

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:

Disassembly	Jul 29/83
Assembly	Jul 29/83

NOSE WHEEL STEERING DRUM AND LOCKOUT ASSEMBLY

DESCRIPTION AND OPERATION

1. The steering drum and lockout assembly has an aluminum housing with a driver and a drum, a drive crank, a lockout cam and a shaft. Cable input turns the drum which turns the shaft to engage the lockout cam. Movement of the lockout cam up or down turns the connecting drive crank down or up.

2. Leading Particulars (approximate)

   Length -- 17 inches
   Width -- 15 inches
   Height -- 13 inches
   Weight -- 10 pounds

DISASSEMBLY

NOTE: Refer to IPL Fig. 1 for item numbers.

1. Remove nut (5), washer (10) and drum assy (15) from housing (65) and shaft (135). Remove shaft assy (110) from housing (65).

2. Remove parts (40A thru 55), bearing (60 or 61), spacer (62) and fitting (64) from housing (65).

3. Remove nut (140), washer (145) and crank drive (170) from drive shaft (175).

4. Remove spacers (150, 155), bearing (160) and bushing (165) from drive shaft (175). Remove drive shaft (175) from driver (230) and housing (65).

5. Remove bolt (70), washers (75B, 77) and nut (80) from housing (105).

6. Remove cam assy (205A), driver assy (220) and link assy (235) from housing (65).

7. Remove bolt (180), washer (185), nut (190), bushing (195) and bearing (200) from driver (230) and link (210).

8. Remove bolt (115), washer (120), nut (125) and roller (130) from shaft (135).

9. Remove bolt (240), washer (245), nut (250), from link (210) and link assy (235) from cam assy (205).

CLEANING

1. Clean all parts but the bearings by standard industry practices and the instructions in SOPM 20-30-03.

2. Refer to FITS and CLEARANCES for design dimensions and wear limits.

3. Clean teflon-sealed bearings by the vendor's instructions.

CHECK

NOTE: Refer to IPL Fig. 1 for item numbers.

1. Examine all parts for defects by standard industry practices.

2. Magnetic particle check (SOPM 20-20-01)

   A. Drive shaft (175)

   B. Cam (215)

3. Penetrant check per 20-20-02

   A. Housing (105)

   B. Shaft (135)

   C. Crank (170)

   D. Driver (230)

   E. Link (265)

   F. Cam Link (210)

   G. Drum (35)

REPAIR - GENERAL

1. Content

   A. Repair, refinish and replacement procedures are included in separate repair sections as follows:

P/N	NAME	REPAIR
257T4301	DRUM ASSEMBLY	1-1
257T4302	HOUSING ASSEMBLY	2-1, 2-2
257T4305	LINK ASSEMBLY	3-1, 3-2
257T4307	SHAFT ASSEMBLY	4-1
257T4317	CAM ASSEMBLY	5-1, 5-2, 5-3
257T4325	SHAFT	6-1
257T4330	DRIVER ASSEMBLY	7-1, 7-2
257T4336	DRIVER ASSEMBLY	7-1, 7-2
- - -	MISCELLANEOUS PARTS REFINISH	8-1
257T4318-7	DRUM AND LOCKOUT (POST SB 32-22)	9-1

2. Standard Practices

   A. Refer to the following standard practices, as applicable, for details of procedures in individual repairs.

   20-00-00 Introduction
   20-30-02 Stripping of Protective Finishes
   20-30-03 General Cleaning Procedures
   20-41-01 Decoding Table for Boeing Finish Codes
   20-42-05 Bright Cadmium Plating
   20-43-01 Chromic Acid Anodizing
   20-50-03 Bearing and Bushing Replacement
   20-50-12 Application of Adhesives
   20-50-19 General Sealing
   20-60-02 Finishing Materials
   20-60-03 Lubricants
   20-60-04 Miscellaneous Materials

3. Materials

   NOTE: Equivalent substitutes can be used.

A. Primer -- BMS 10-11, Type 1 (SOPM 20-60-02)

B. Sealant -- BMS 5-95 (SOPM 20-60-04)

C. Enamel -- BMS 10-60 gray gloss (SOPM 20-60-02)

D. Corrosion Preventive Compound -- MIL-C-11796, Class 1 (SOPM 20-60-02)

E. Adhesive -- Type 44 (SOPM 20-50-12)

F. Grease -- BMS 3-24 (SOPM 20-60-03)

G. Grease -- BMS 3-33 (SOPM 20-60-03)

H. Grease -- MIL-G-23827 (SOPM 20-60-03)

4. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in applicable repair procedures are shown in SOPM 20-00-00.

DRUM ASSEMBLY - REPAIR 1-1

257T4301-1

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of drum (35) surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Bushing (20) Replacement (Fig. 601)

   A. Remove the old bushings from the drum.

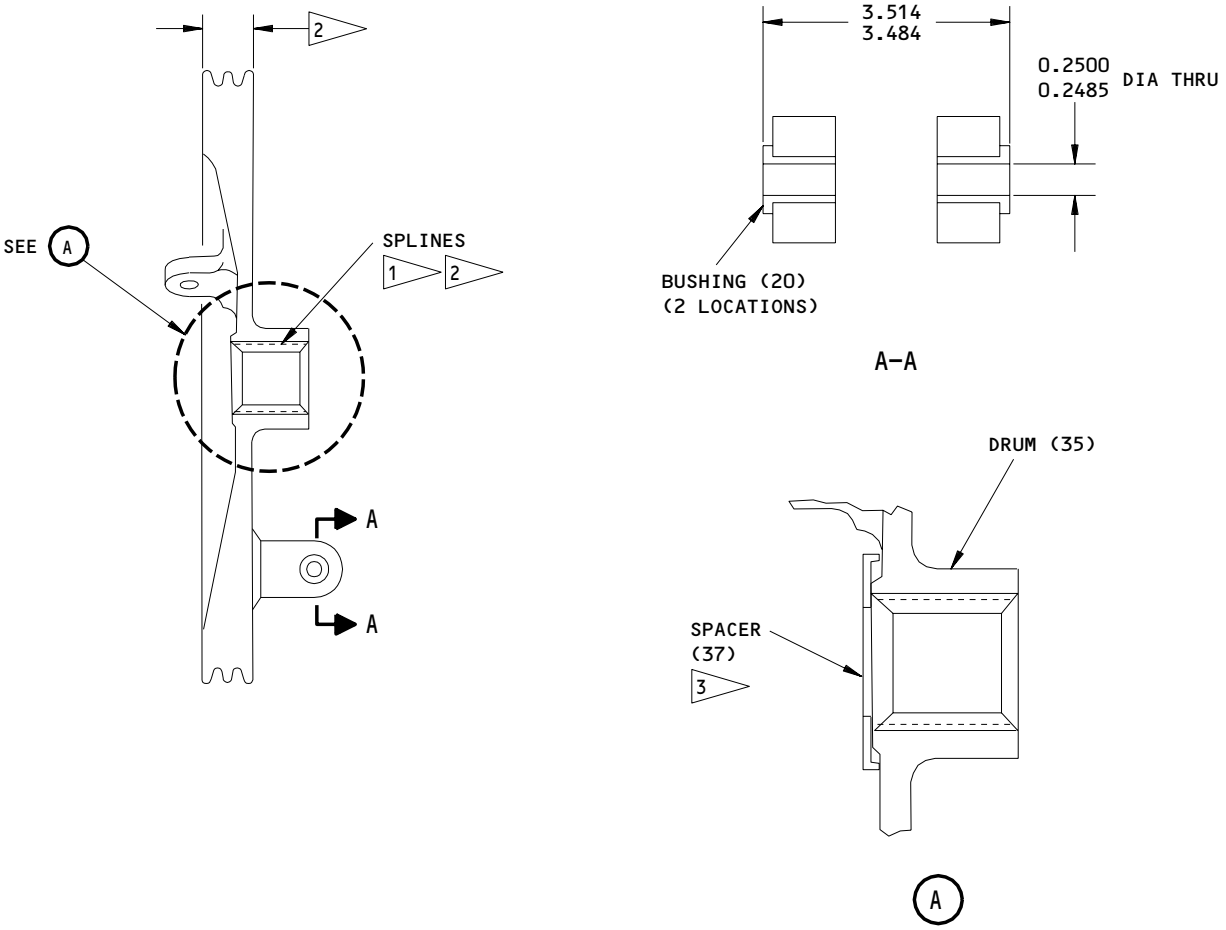
   B. Install replacement bushings by the shrink-fit method of SOPM 20-50-03.

   C. Fillet seal the bushing ends and flanges with BMS 5-95 sealant.

2. Spacer (37) Replacement (Fig. 601)

   A. Remove the old spacer from the drum.

   B. Bond a replacement spacer to the drum, with the countersunk side against the drum, with BMS 5-95 sealant.



REFINISH

CHROME ACID ANODIZE (F-17.05). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.03) AND BMS 10-11, TYPE 2, WHITE GLOSS ENAMEL (F-21.03) UNLESS SHOWN BY 1 2

INSTALL BUSHINGS (20) AND SPACER (37) AFTER REFINISH

1 NO PRIMER

2 NO ENAMEL

3 BOND WITH BMS 5-95 SEALANT WITH COUNTERSINK AGAINST DRUM AS SHOWN

REPAIR

REF 3

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4301-1
Drum Repair and Refinish
Figure 601

HOUSING ASSEMBLY - REPAIR 2-1

257T4302-6, -10, -14, -16, -18, -19

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of surfaces which is only restoration of the original finish, refer to Refinish instructions in REPAIR 2-2.

1. If applicable, refer to REPAIR 9-1 for replacement of sleeve (305), split bushings (310), rivets (325) (Post SB 32-22 configuration).

2. Bearing Replacement (Fig. 601)

   A. Remove the defective bearings.

   B. If you find defects on the bores in the housing, refer to REPAIR 2-2 for repair instructions. If you find defects on the bore for the center bearing on housings 257T4302-14, -16, -18, you must discard the housing and get a 257T4302-19 housing (SB 32-0166).

   C. Install replacement bearings with installation finish as follows:

      (1) Center bearing on housing assembly 257T4302-19: BMS 3-33 or MIL-G-23827 grease.

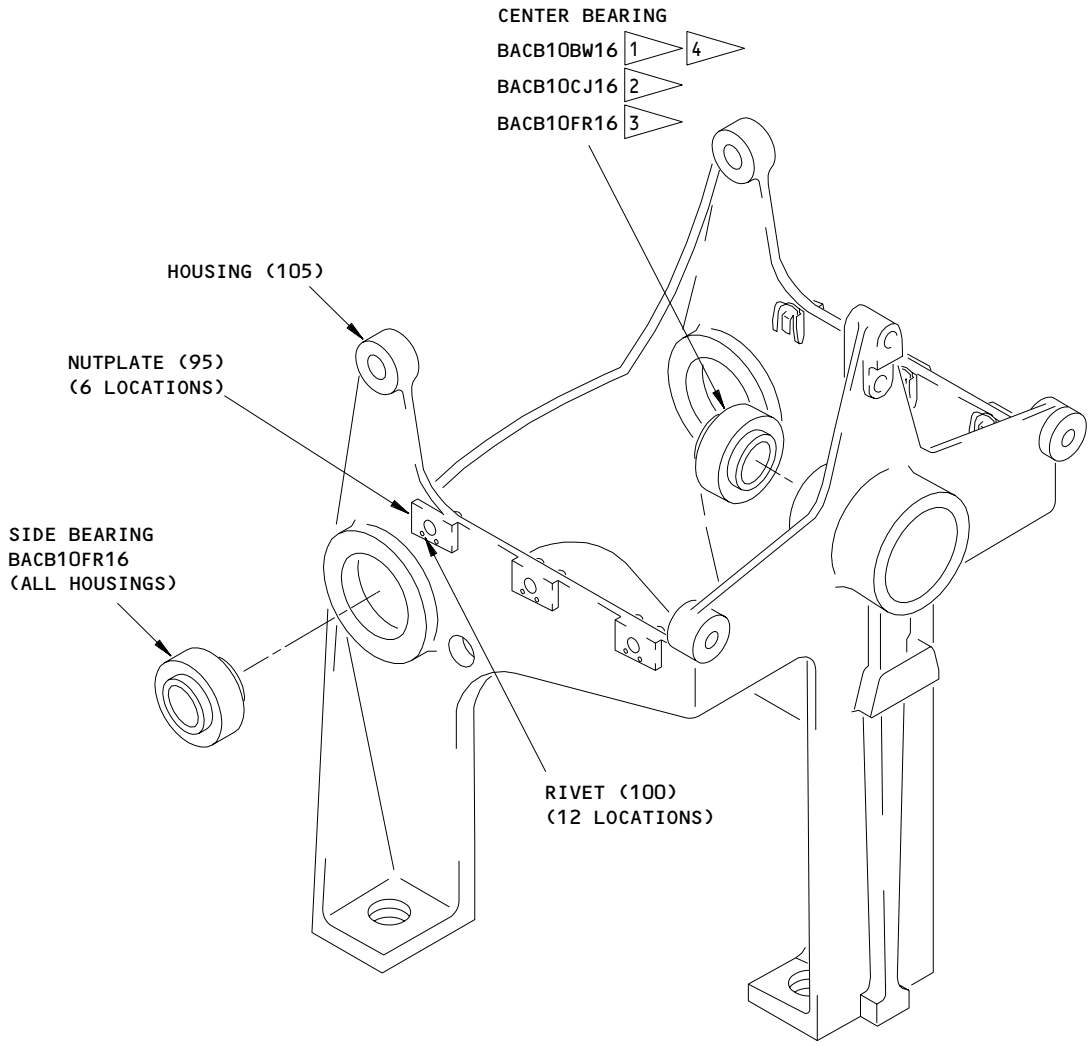
      (2) All other bearings on all other housing assemblies: BMS 5-95 sealant.

   D. Roller swage the bearings per SOPM 20-50-03.

3. Nutplate Replacement (Fig. 601)

   A. Remove rivets (100) and defective nutplate (95).

   B. Install a replacement nutplate (95) with new rivets (100).



1 HOUSING 257T4302-6,-10

2 HOUSING 257T4302-14,-16,-18

3 HOUSING 257T4302-19

4 BEARING BACB10FR16 REPLACES BACB10BW16

ITEM NUMBERS REFER TO IPL FIG. 1

257T4302-6,-10,-14,-16,-18,-19
Housing Bearing Replacement
Figure 601

F77624

HOUSING - REPAIR 2-2

257T4302-7, -9, -11, -12, -13, -15, -17, -20
015T1626-111, -112, -113, -115, -117

NOTE: Refer to REPAIR - GEN for a list of applicable standard practices. For For repair of surfaces which is only restoration of the original finish, refer to Refinish instructions in Fig. 601 or 602.

1. Bore for Bearings (Fig. 601, 602)

   A. Machine the bore as required, within repair limits, to remove defects.

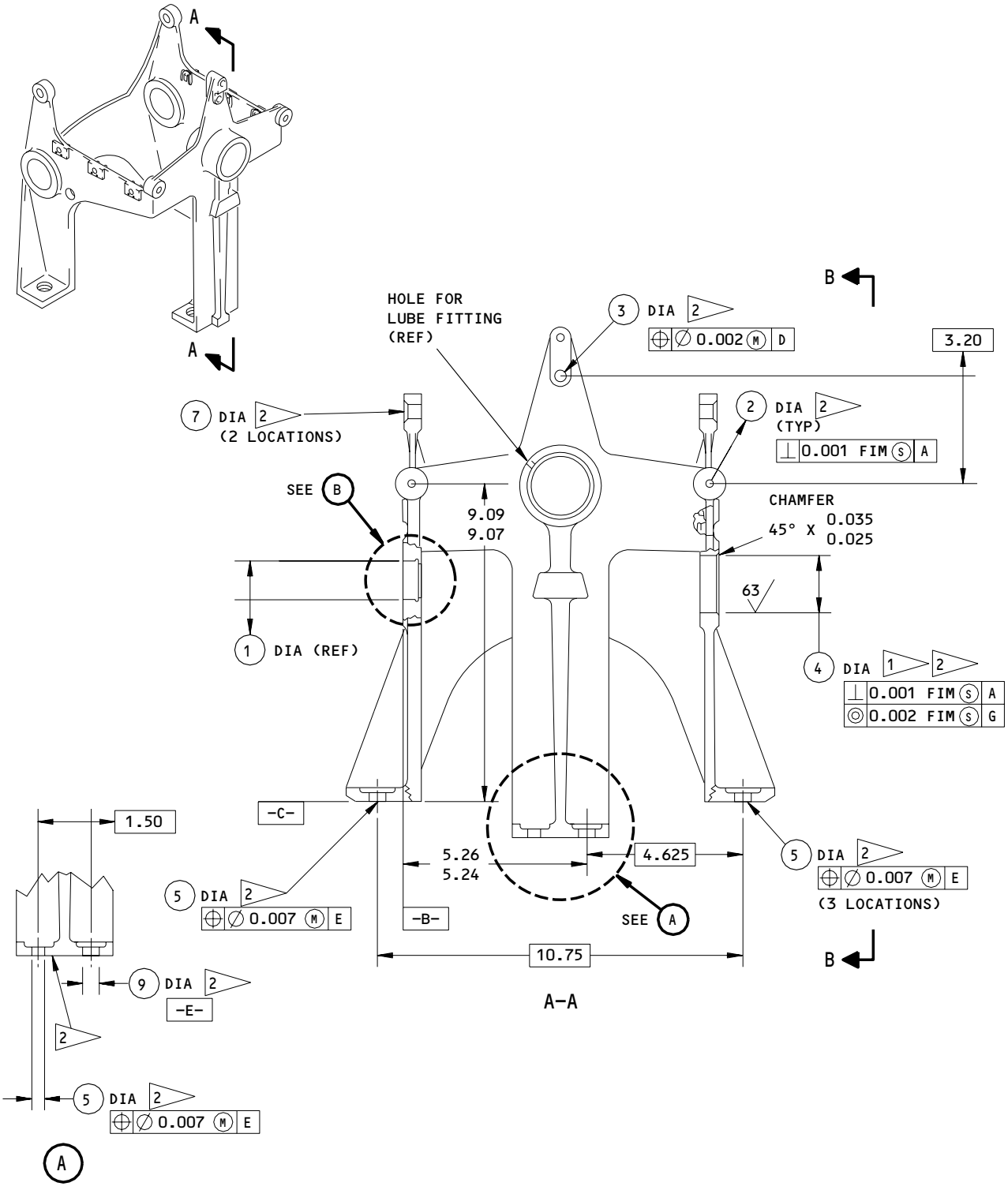
   B. Chamfer the end of the bore as shown.

   C. Make a repair sleeve (Fig. 603).

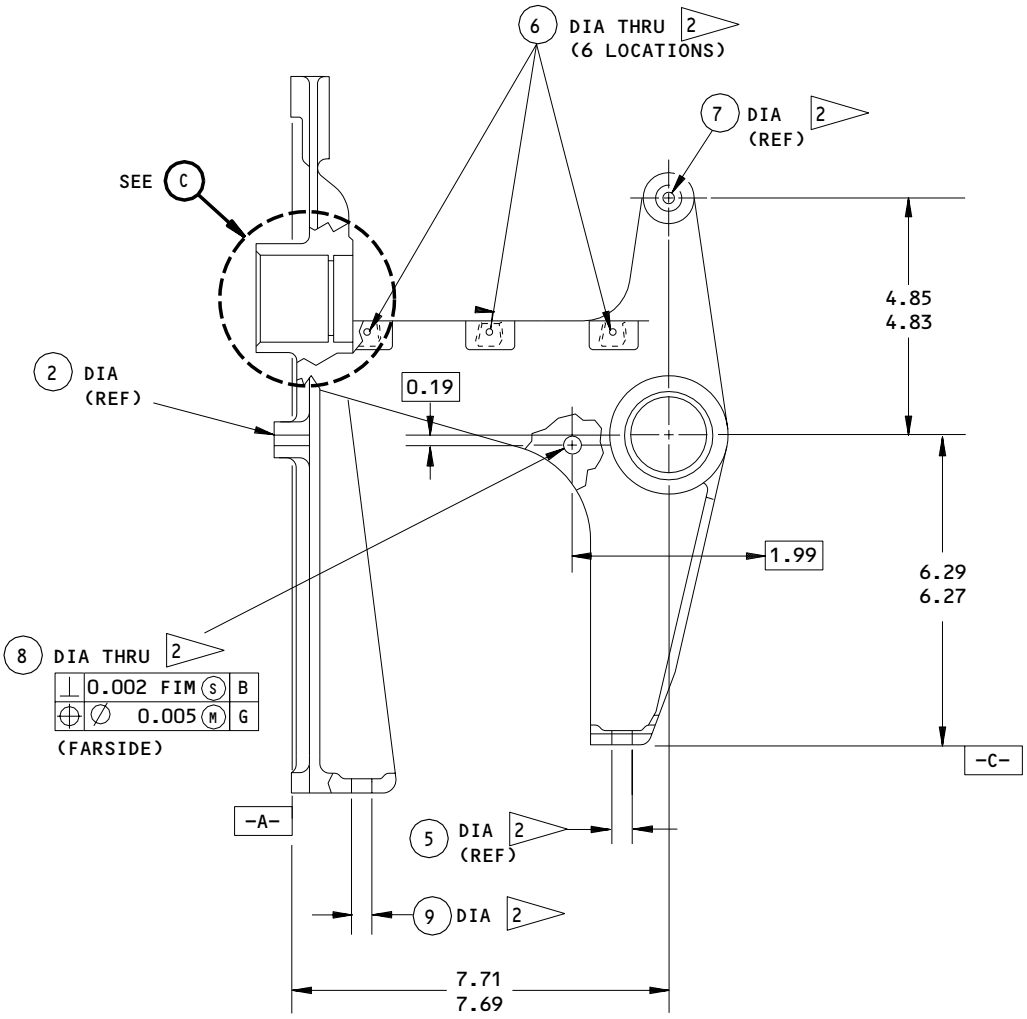
   D. Install the sleeve with BMS 5-95 sealant. Then fill the split with BMS 5-95 sealant.

   E. Install a replacement bearing into the sleeve.

   F. Roller swage the sleeve over the bearing. Machine the sleeve surfaces, if necessary.



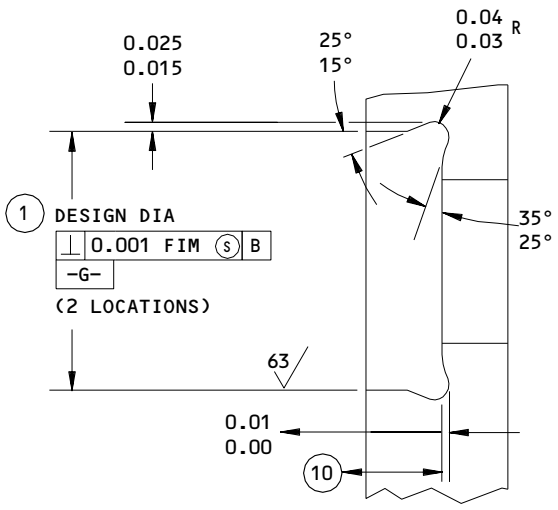
257T4302-7,-9,-11,-12,-13,-15,-17
015T1626-111,-112,-113,-115,-117
Housing Repair and Refinish
Figure 601 (Sheet 1)



B-B

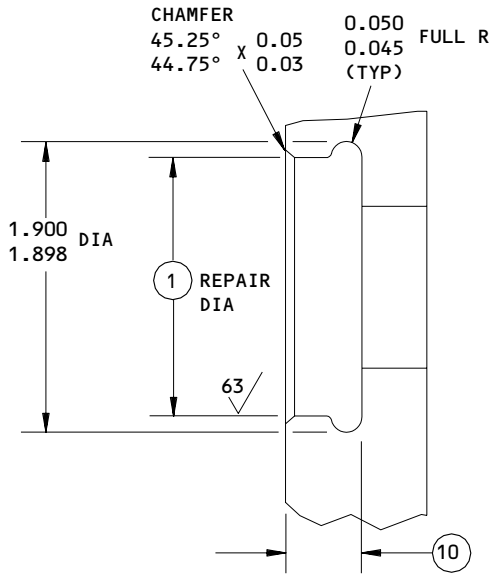
257T4302-7,-9,-11,-12,-13,-15,-17
015T1626-111,-112,-113,-115,-117
Housing Repair and Refinish
Figure 601 (Sheet 2)

F78010



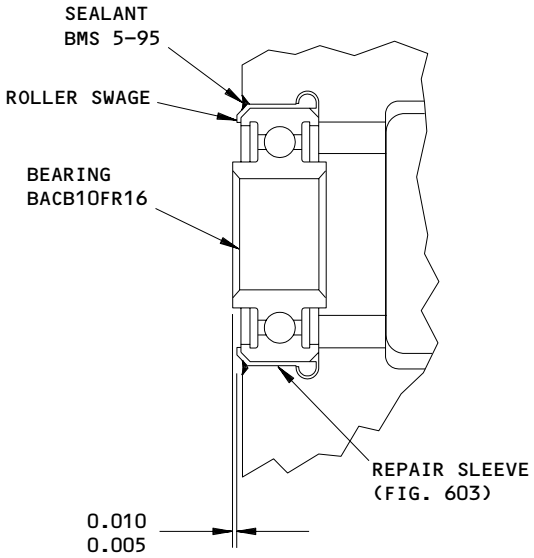
ORIGINAL CONFIGURATION

B



MACHINING COMPLETE

B

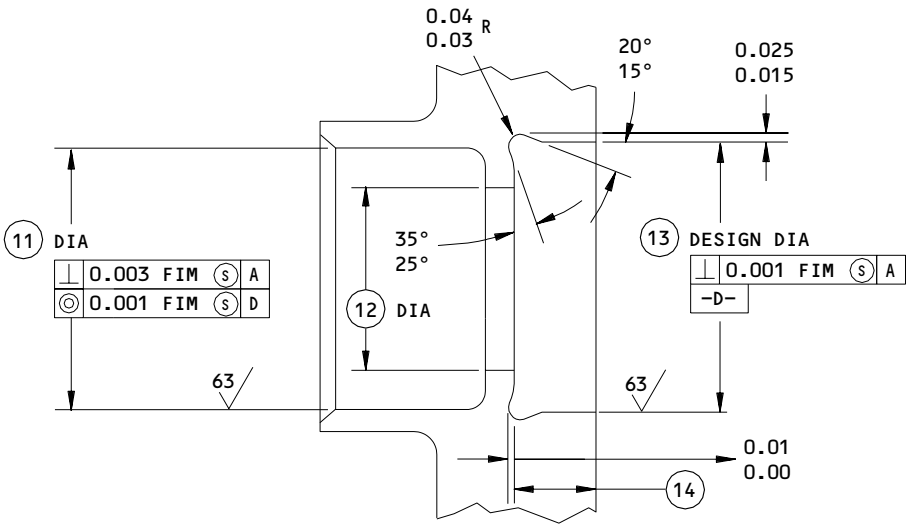


REPAIR COMPLETE

B

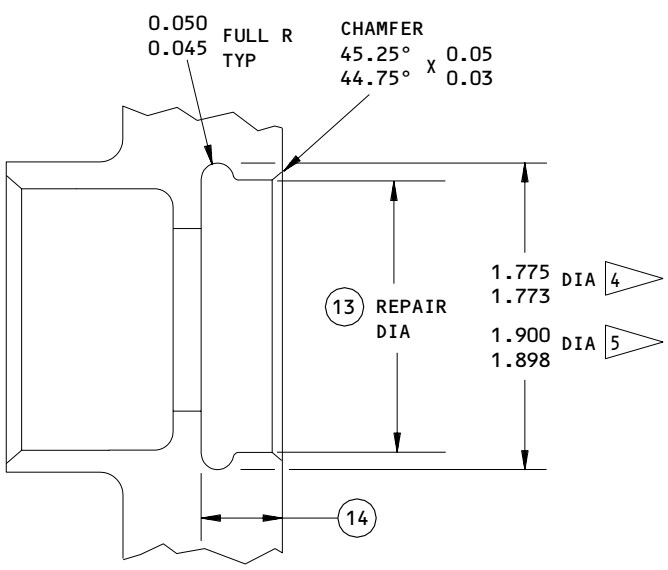
257T4302-7,-9,-11,-12,-13,-15,-17
015T1626-111,-112,-113,-115,-117
Housing Repair and Refinish
Figure 601 (Sheet 3)

F78119



ORIGINAL CONFIGURATION

C



MACHINING COMPLETE

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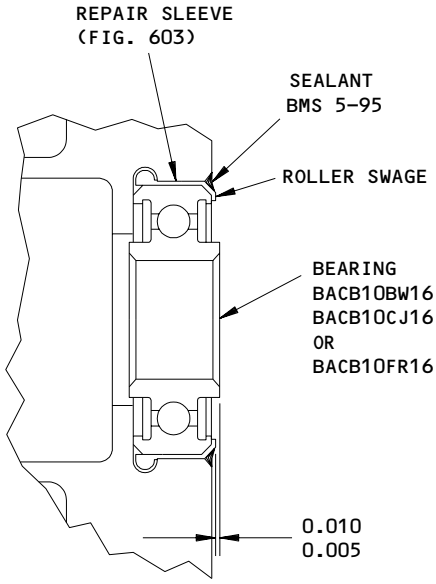


REPAIR COMPLETE

C

257T4302-7,-9,-11,-12,-13,-15,-17
015T1626-111,-112,-113,-115,-117
Housing Repair and Refinish
Figure 601 (Sheet 4)

F78232

REFERENCE NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DESIGN DIMENSION	1.751 1.750	0.194 0.191	0.327 0.323	1.6243 1.6238	0.390 0.386	0.229 0.218	0.254 0.250	0.327 0.323	0.379 0.375
REPAIR LIMIT ▷3◁	1.811 1.810	--	--	--	--	--	--	--	--

REFERENCE NUMBER	(10)	(11) ▷4◁	(11) ▷5◁	(12) ▷4◁	(12) ▷5◁	(13) ▷4◁	(13) ▷5◁	(14) ▷4◁	(14) ▷5◁
DESIGN DIMENSION	0.390 0.375	1.6256 1.6250	1.751 1.750	1.46 1.44	1.58 1.56	1.6256 1.6250	1.751 1.750	0.465 0.450	0.390 0.375
REPAIR LIMIT ▷3◁	--	▷6◁	--	▷6◁	--	▷6◁	1.811 1.810 ▷3◁	▷6◁	--

REFINISH

CHROMIC ACID ANODIZE (F-17.05). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ALL OVER UNLESS SHOWN BY ▷1◁. AFTER BEARING AND NUTPLATE INSTALLATION, APPLY BMS 10-60, GRAY GLOSS ENAMEL (SRF-14.9813) ALL OVER UNLESS SHOWN BY ▷2◁.

▷1◁ NO PRIMER

▷2◁ NO ENAMEL

▷3◁ RANGE FOR INSTALLATION OF SPLIT REPAIR SLEEVE (FIG. 603) AND STANDARD BEARING

▷4◁ 257T4302-13,-15,-17

▷5◁ 257T4302-7,-9,-11,-12 (PRE SB 32-22), 015T1626-111,-112,-113,-115,-117 (REFER TO REPAIR 9-1 FOR 257T4302-7,-9, -11,-12 POST SB 32-22)

▷6◁ NO REPAIR PERMITTED. IF THERE ARE DEFECTS, REPLACE WITH HOUSING 257T4302-20

REPAIR

REF ▷3◁

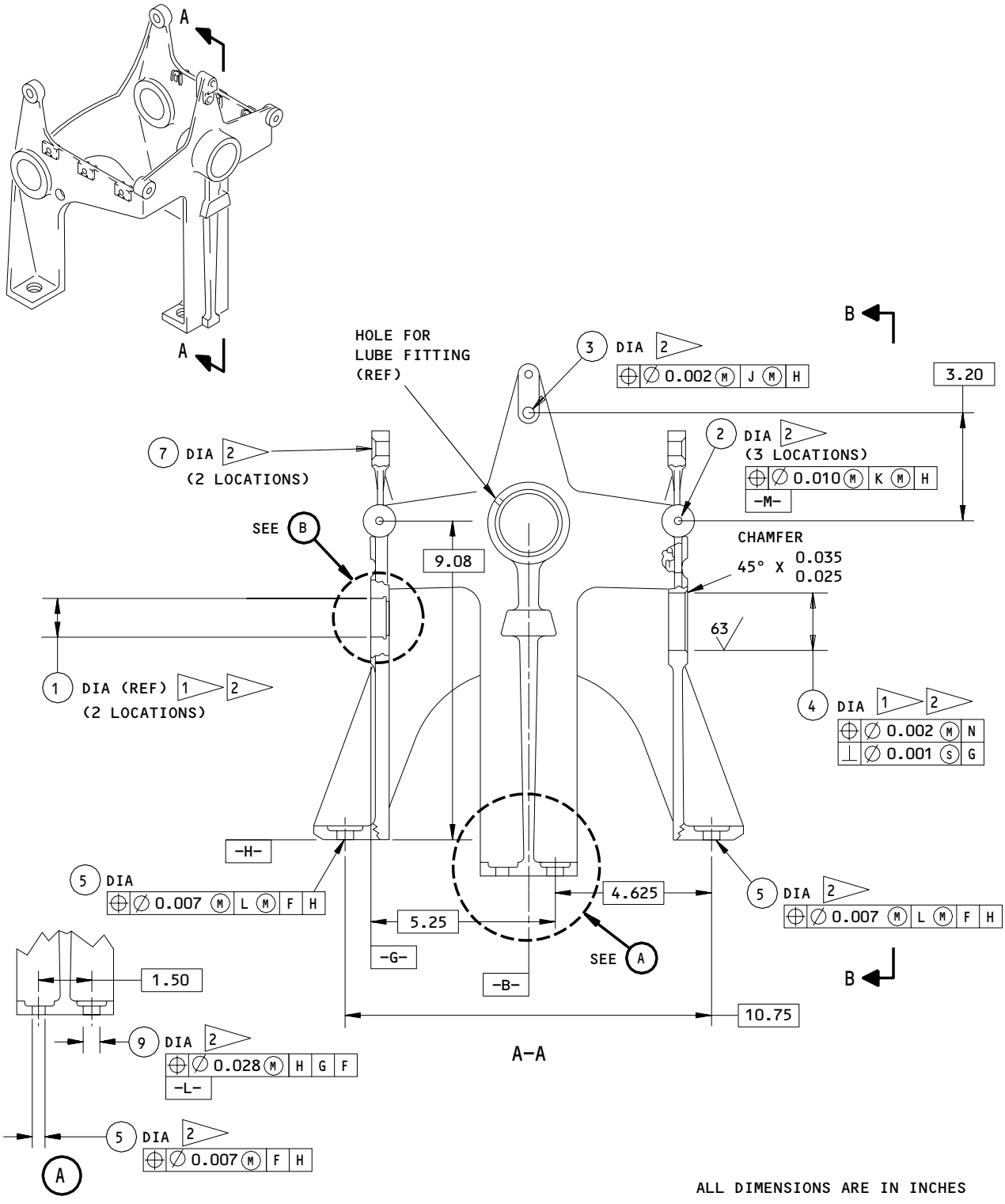
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

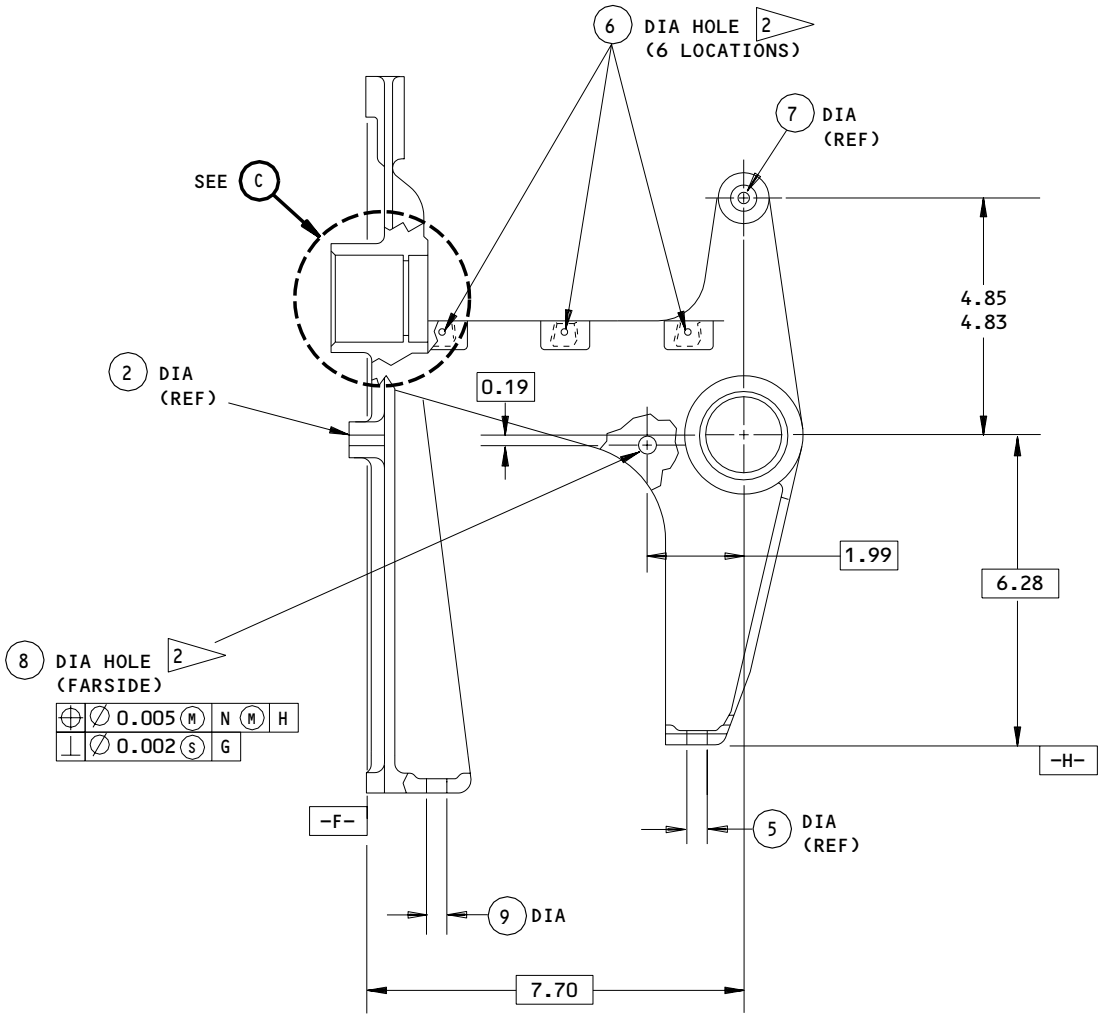
257T4302-7,-9,-11,-12,-13,-15,-17
015T1626-111,-112,-113,-115,-117
Housing Repair and Refinish
Figure 601 (Sheet 5)

44868



257T4302-20
Housing Repair and Refinish
Figure 602 (Sheet 1)

F78312

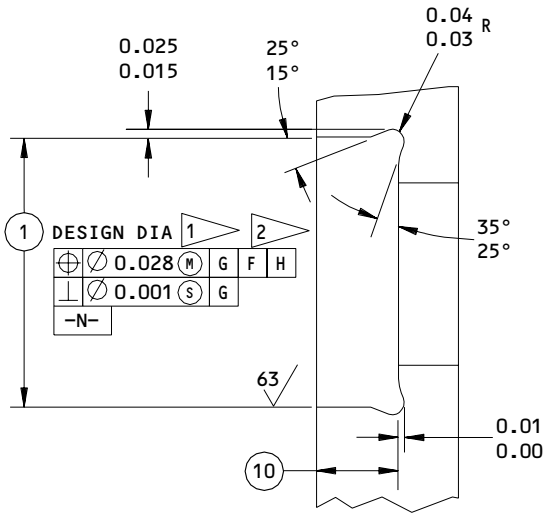


B–B

ALL DIMENSIONS ARE IN INCHES

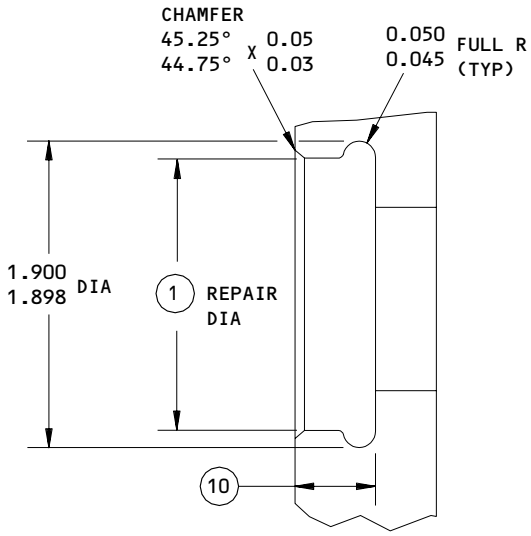
257T4302-20
Housing Repair and Refinish
Figure 602 (Sheet 2)

F78427



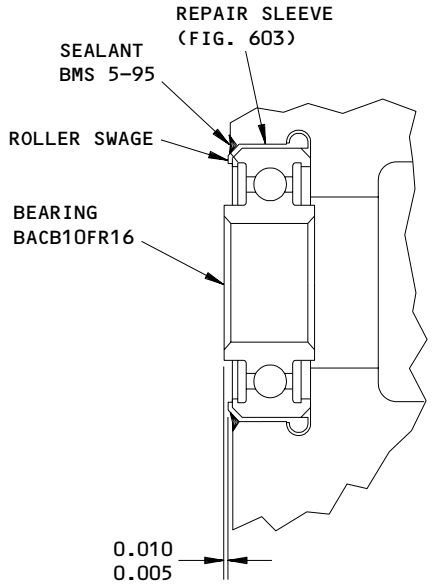
ORIGINAL CONFIGURATION

B



MACHINING COMPLETE

B

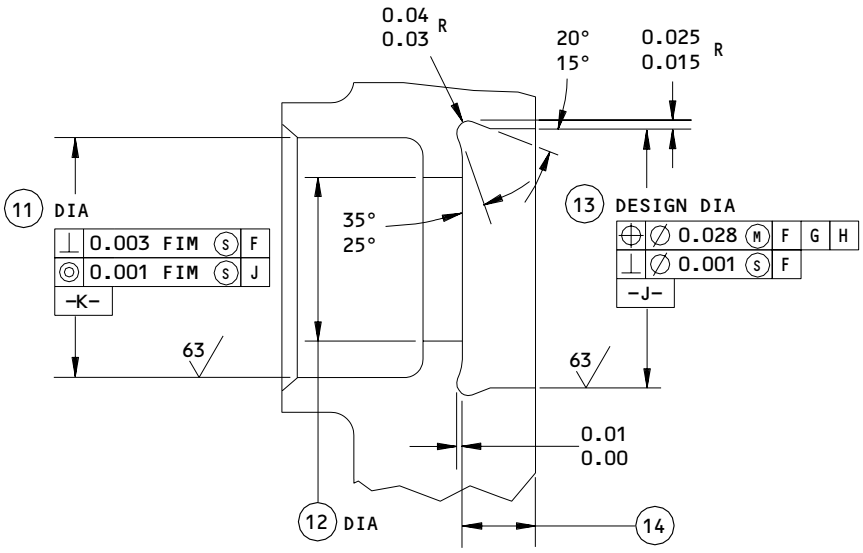


REPAIR COMPLETE

B

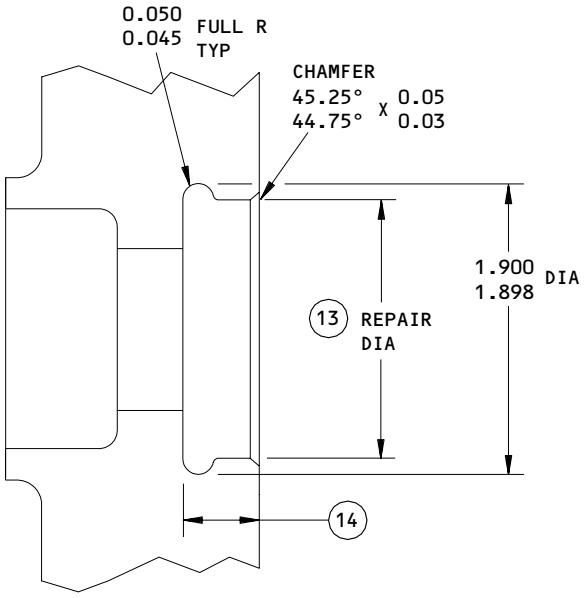
257T4302-20
Housing Repair and Refinish
Figure 602 (Sheet 3)

F78530



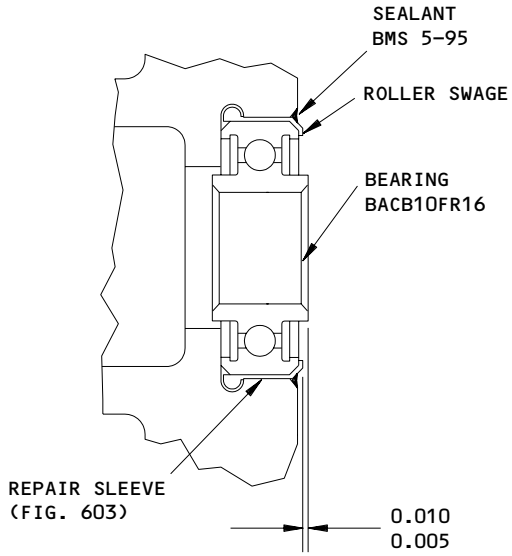
ORIGINAL CONFIGURATION

C



MACHINING COMPLETE

C



REPAIR COMPLETE

C

257T4302-20
Housing Repair and Refinish
Figure 602 (Sheet 4)

F78560

REFERENCE NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
DESIGN DIMENSION	1.751 1.750	0.194 0.191	0.327 0.323	1.6243 1.6238	0.390 0.386	0.229 0.218	0.254 0.250	0.327 0.323	0.379 0.375	
REPAIR LIMIT ▷3	1.811 1.810	--	--	--	--	--	--	--	--	

REFERENCE NUMBER	(10)	(11)	(12)	(13)	(14)
DESIGN DIMENSION	0.390 0.375	1.751 1.750	1.58 1.56	1.751 1.750	0.390 0.375
REPAIR LIMIT ▷3	--	--	--	1.811 1.810	--

REFINISH

CHROMIC ACID ANODIZE (F-17.05). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ALL OVER UNLESS SHOWN BY ▷1. AFTER BEARING AND NUTPLATE INSTALLATION, APPLY BMS 10-60, GRAY GLOSS ENAMEL (SRF-14.9813) ALL OVER UNLESS SHOWN BY ▷2.

▷1 NO PRIMER

▷2 NO ENAMEL

▷3 RANGE FOR INSTALLATION OF SPLIT REPAIR SLEEVE (FIG. 603) AND STANDARD BEARING

REPAIR

REF ▷3

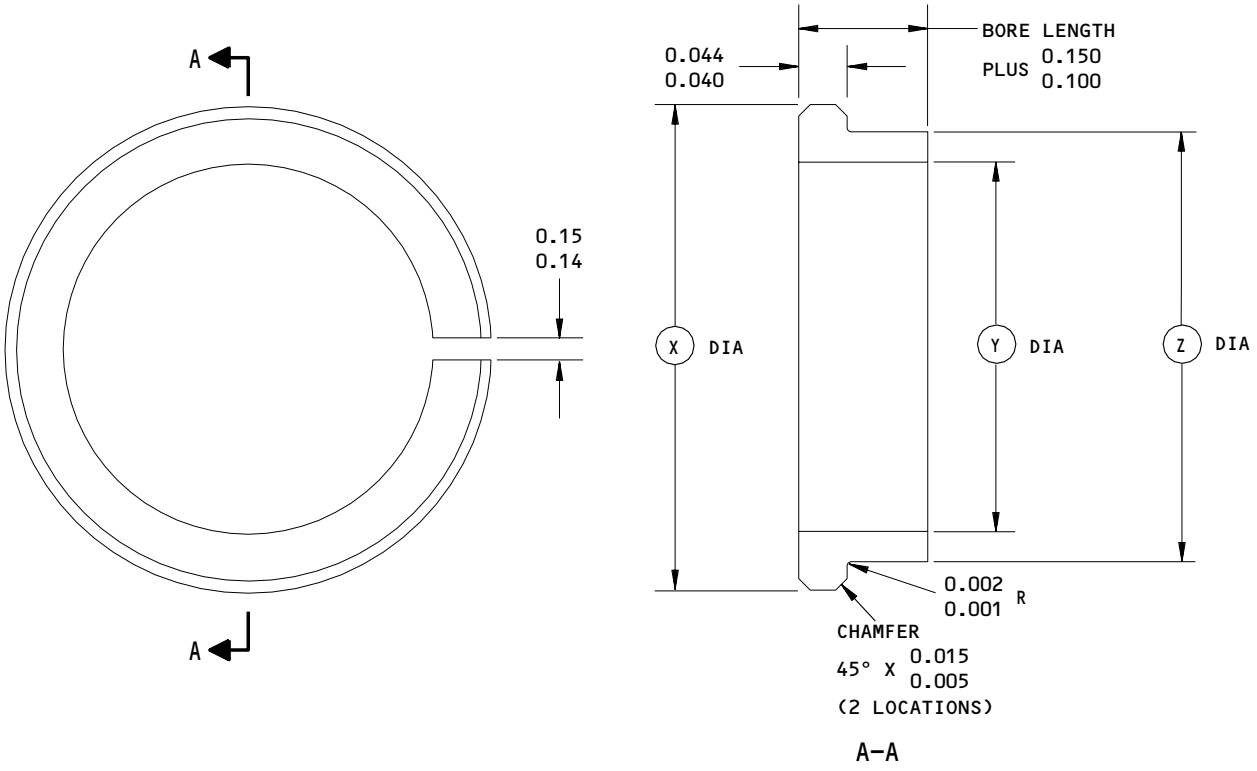
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4302-20
Housing Repair and Refinish
Figure 602 (Sheet 5)

F78260



A–A

HOLE LOCATION	REPAIR FIGURE	(X)	(Y)	(Z)
(1)	601 602	1.858 1.856	1.751 1.750	1.810 1.808
(13) 1	601	1.733 1.731	1.6256 1.6250	1.685 1.683
(13) 2	601	1.858 1.856	1.751 1.750	1.810 1.808
(13)	602	1.858 1.856	1.751 1.750	1.810 1.808

FINISH

CHROMIC ACID ANODIZE (F-17.02)

1 FOR HOUSING 257T4302-13,-15,-17

2 FOR HOUSING 257T4302-7,-9,-11, WITHOUT SB 32-22

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES

MATERIAL: 2024T3 AL ALLOY

DIMENSIONS APPLY BEFORE SPLIT

ALL DIMENSIONS ARE IN INCHES

Repair Sleeve Details
Figure 603

F78479

GUIDE LINK ASSY - REPAIR 3-1

257T4305-3

NOTE: Refer to REPAIR - GENERAL for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions in REPAIR 3-2.

1. Bearing Replacement

A. Remove the bad bearings (260) from the link. Because the housing (link) material was swaged over the bearings when the link assembly was made, removal of the bearings will remove the swaged material that held the bearing in the link. Because this material will not be there to hold the replacement bearing in the link, you must machine the hole oversize to install a sleeve to swage over the replacement bearing. Refer to REPAIR 3-2 for details.

LINK - REPAIR 3-2

257T4305-2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only restoration of the original finish, refer to Refinish instructions, Fig. 601.

1. Bore for Bearing (260) (Fig. 601)

   A. Machine the bore as required, within repair limits, to remove defects.

   B. Chamfer each end of the bore as shown.

   C. Chemical treat or chromic acid anodize the machined surfaces.

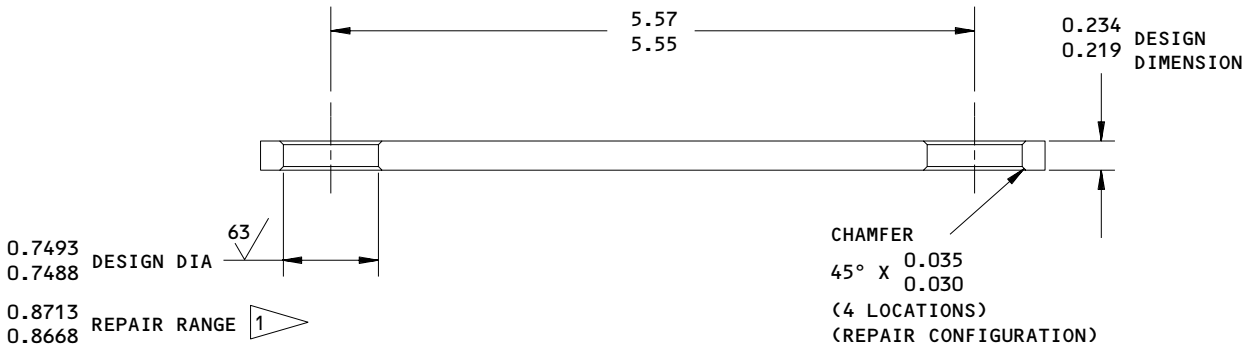
   D. Make a repair sleeve (Fig. 602) as necessary to adjust for the material removed in step A.

   E. Install the sleeve by the shrink-fit method of SOPM 20-50-03.

   F. Machine the sleeve ID to the hole design dimensions and finish.

   G. Chemical treat the sleeve ID.

   H. Install a replacement bearing with wet BMS 5-95 sealant. Roller swage the sleeve over the bearing and the link.



REFINISH

CHROMIC ACID ANODIZE (F-17.04). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ALL OVER BUT NOT IN HOLES

1 RANGE FOR INSTALLATION OF REPAIR SLEEVE AND STANDARD BEARING (260A)

REPAIR

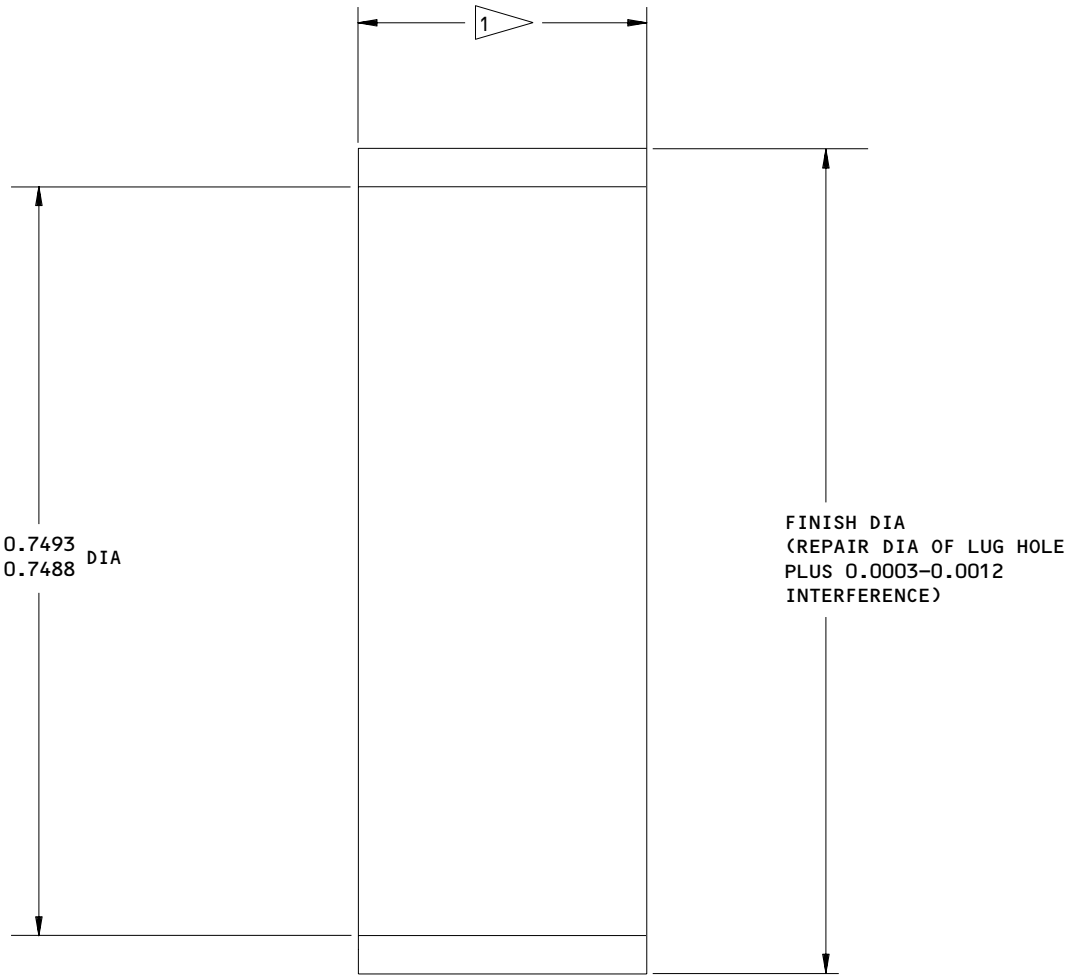
REF 1

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4305-2
Link Repair and Refinish
Figure 601



FINISH

CHROMIC ACID ANODIZE (SOPM 20–43–01)

1 LUG THICKNESS PLUS 0.158 / 0.152

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES

MATERIAL: AL ALLOY 6061–T6

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATIONS IN FIG. 601

Repair Sleeve Details
Figure 602

F78603

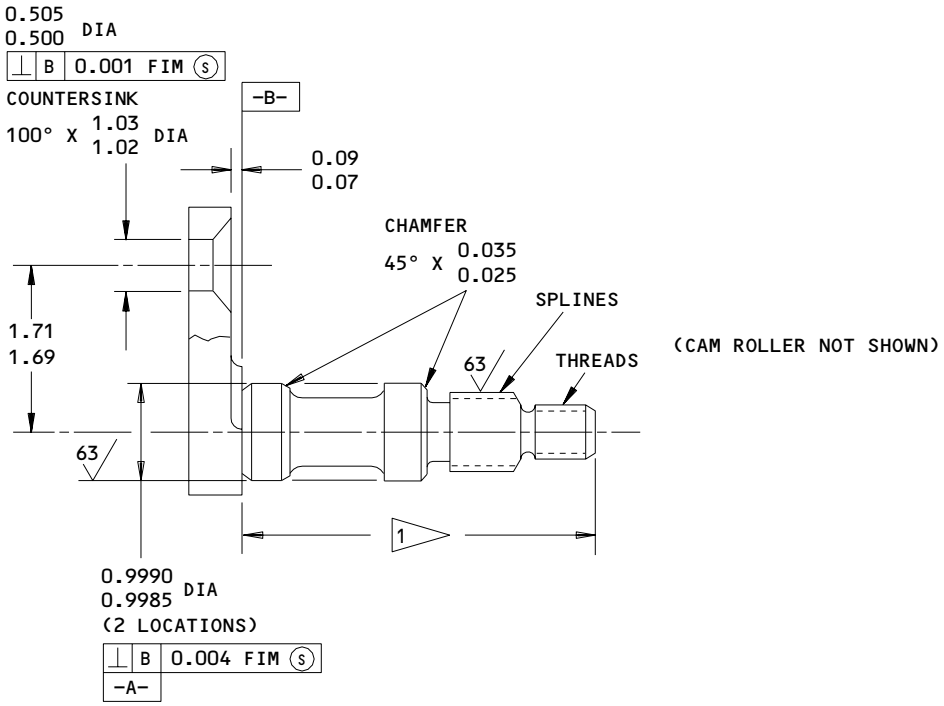
SHAFT ASSEMBLY - REPAIR 4-1

257T4307-1, -3

1. Plating Repair

   A. Repair is only replacement of the original finish. Refer to Refinish instructions, Fig. 601. Refer to REPAIR-GEN for a list of applicable standard practices.

   B. For replacement of split bushings (310) (Post SB 32-22) which go with this shaft, refer to REPAIR 9-1.



REFINISH

CHROMIC ACID ANODIZE (F-17.04) ALL OVER.
APPLY BMS 10-11, TYPE 1, PRIMER (F-20.02)
BUT NOT IN AREAS SHOWN BY 1

1 PUT NO PRIMER ON THIS AREA.

REPAIR

SAME AS REFINISH

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

Shaft Repair and Refinish
Figure 601

99431

CAM ASSEMBLY - REPAIR 5-1

257T4317-2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, REPAIR 5-2 and 5-3.

1. Cam Replacement (Fig. 601)

   A. Remove rivets (217) and cam (215).

   B. With the holes in cam support link (210) as a guide, drill seven holes as shown in new cam (215) for rivets (217).

   C. Apply BMS 5-95 sealant to the mating surfaces and install cam (215) with new rivets (217) on cam support link (210).

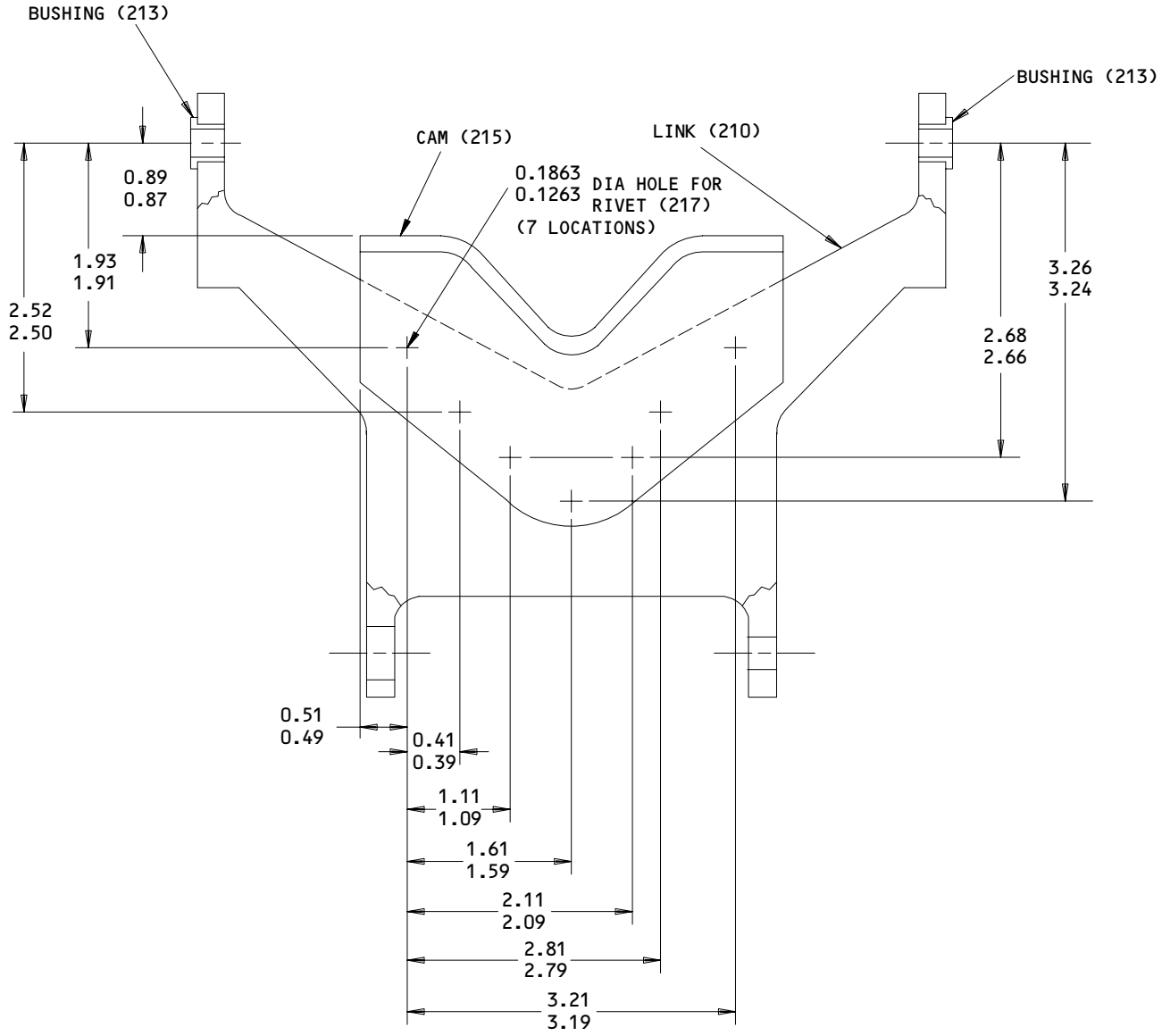
2. Bushing Replacement (Fig. 601)

   A. Remove bushings (213).

   B. If you find defects in the holes, refer to REPAIR 5-2 for repair instructions.

   C. Install replacement bushings per 20-50-03 with wet BMS 5-95 sealant.

   D. Fillet seal the bushings with BMS 5-95 sealant per 20-50-03.



REPAIR

125 ALL MACHINED SURFACES

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4317-2
Cam Assembly Parts Replacement
Figure 601

LINK - REPAIR 5-2

257T4304-2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Lug Holes (Fig. 601)

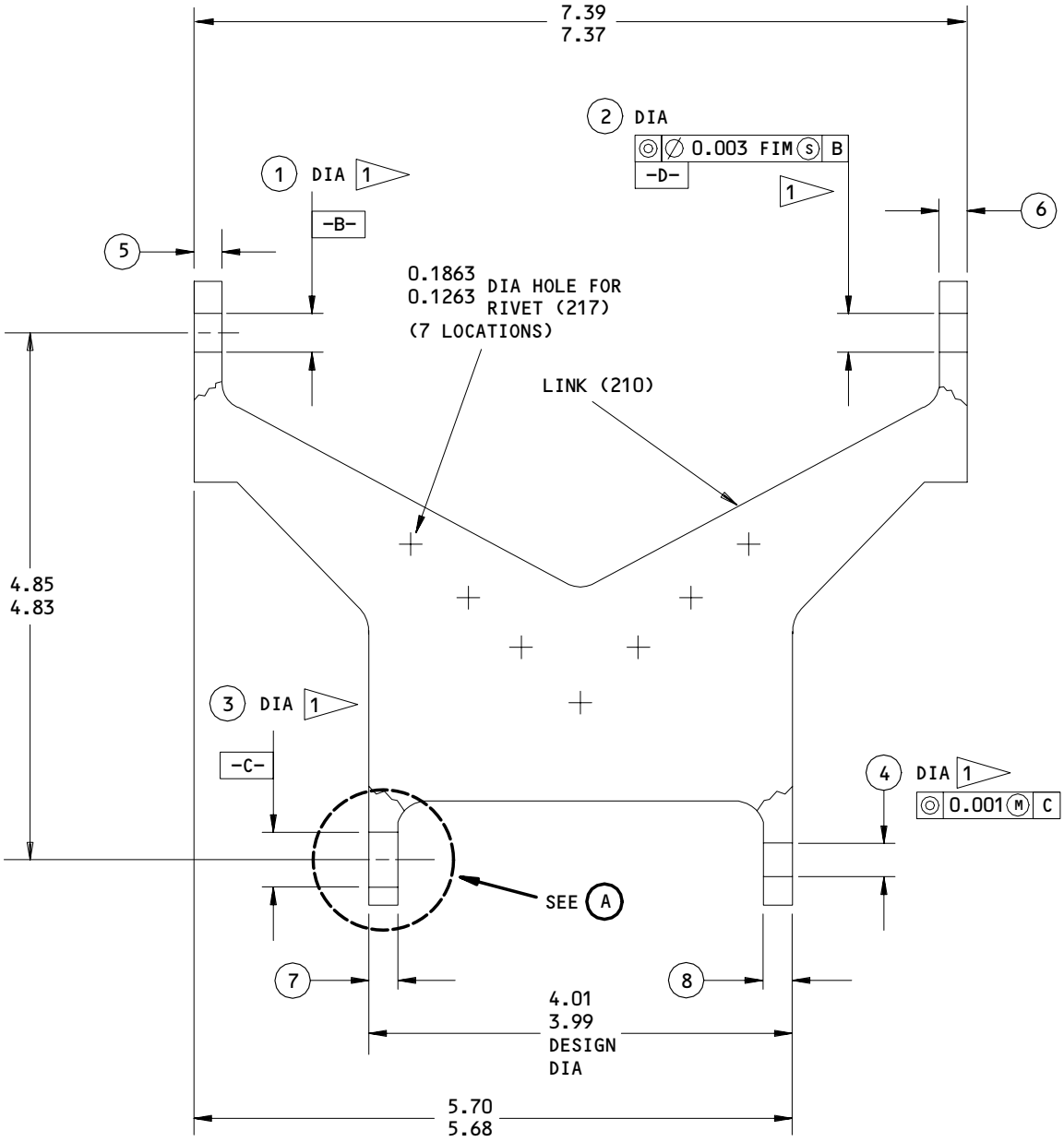
   A. Machine as required, within repair limits, to remove defects.

   B. Chemical treat and apply primer, BMS 10-11, Type 1.

   C. Make oversize bushings (Fig. 602) or repair sleeves (Fig. 603) as required to make allowance for the amount of material removed in step A.

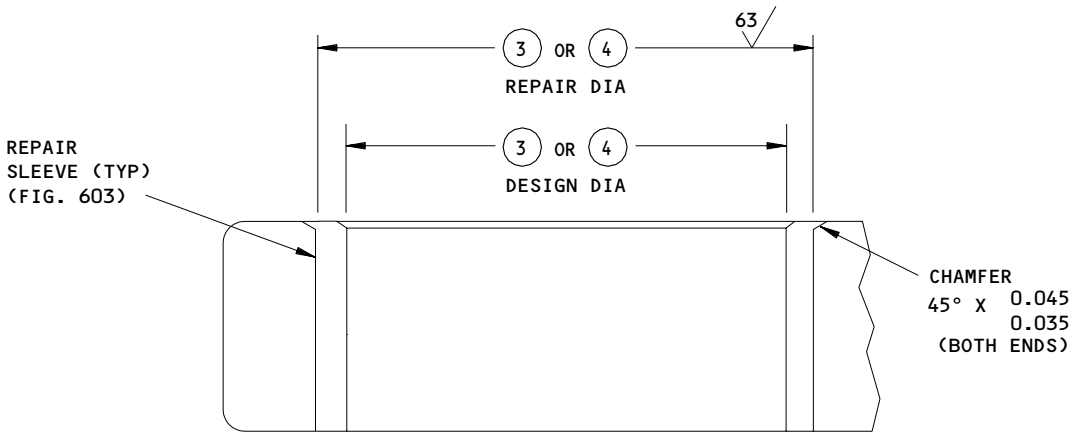
   D. Install the bushings or sleeves per REPAIR 5-1.

   E. Machine the ID of the repair sleeves as necessary to get to design dimensions and finish.



257T4304-2
Link Repair and Refinish
Figure 601 (Sheet 1)

F20143



REPAIR SLEEVE INSTALLED
(TYP)
A

	1	2	3	4	5	6	7	8
DESIGN DIM	0.3756 0.3750	0.3756 0.3750	0.442 0.436	0.316 0.312	0.26 0.24	0.26 0.24	0.26 0.24	0.26 0.24
REPAIR LIMIT	0.4375 2	0.4375 2	0.567 3	0.379 3	--	--	--	--

REFINISH

CHROMIC ACID ANODIZE (F-17.04) AND APPLY BMS 10-11, TYPE 1 PRIMER, (F-20.02) ALL OVER EXCEPT AS NOTED BY 1.

1. NO PRIMER ON THIS SURFACE.
2. LIMIT FOR INSTALLATION OF OVERSIZE BUSHING (FIG. 602).
3. LIMIT FOR INSTALLATION OF REPAIR SLEEVES (FIG. 603).

REPAIR

REF 2 3

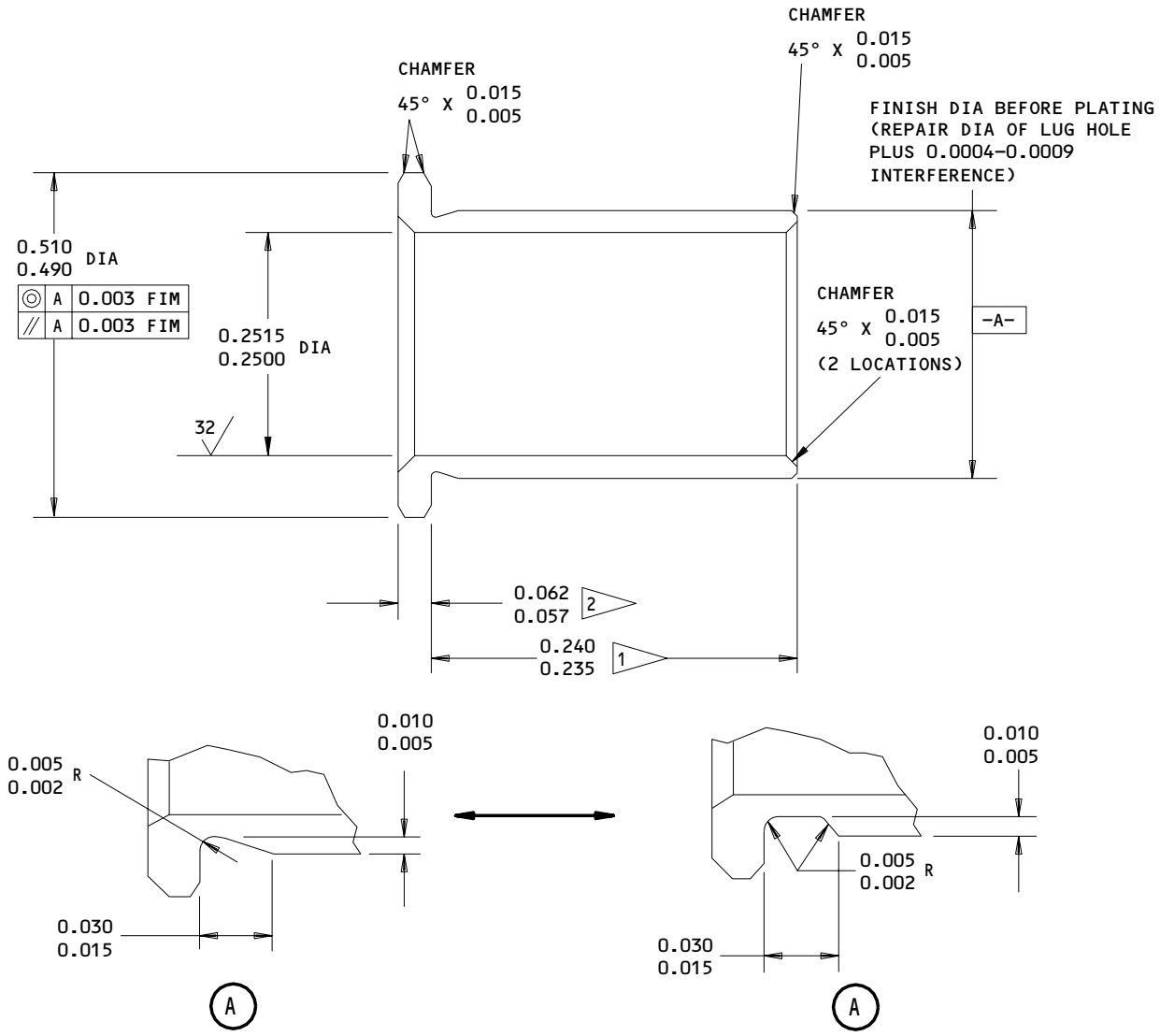
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4304-2
Link Repair and Refinish
Figure 601 (Sheet 2)

F20149



1 MINUS AMOUNT REMOVED FROM LUG FACE

2 PLUS AMOUNT REMOVED FROM LUG FACE

REPAIR

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

CADMIUM PLATE (F-15.06) (0.0003-0.0005 THICK) (OPTIONAL ON INTERNAL SURFACES)

MATERIAL: UNS 17400 CRES, AMS 5643

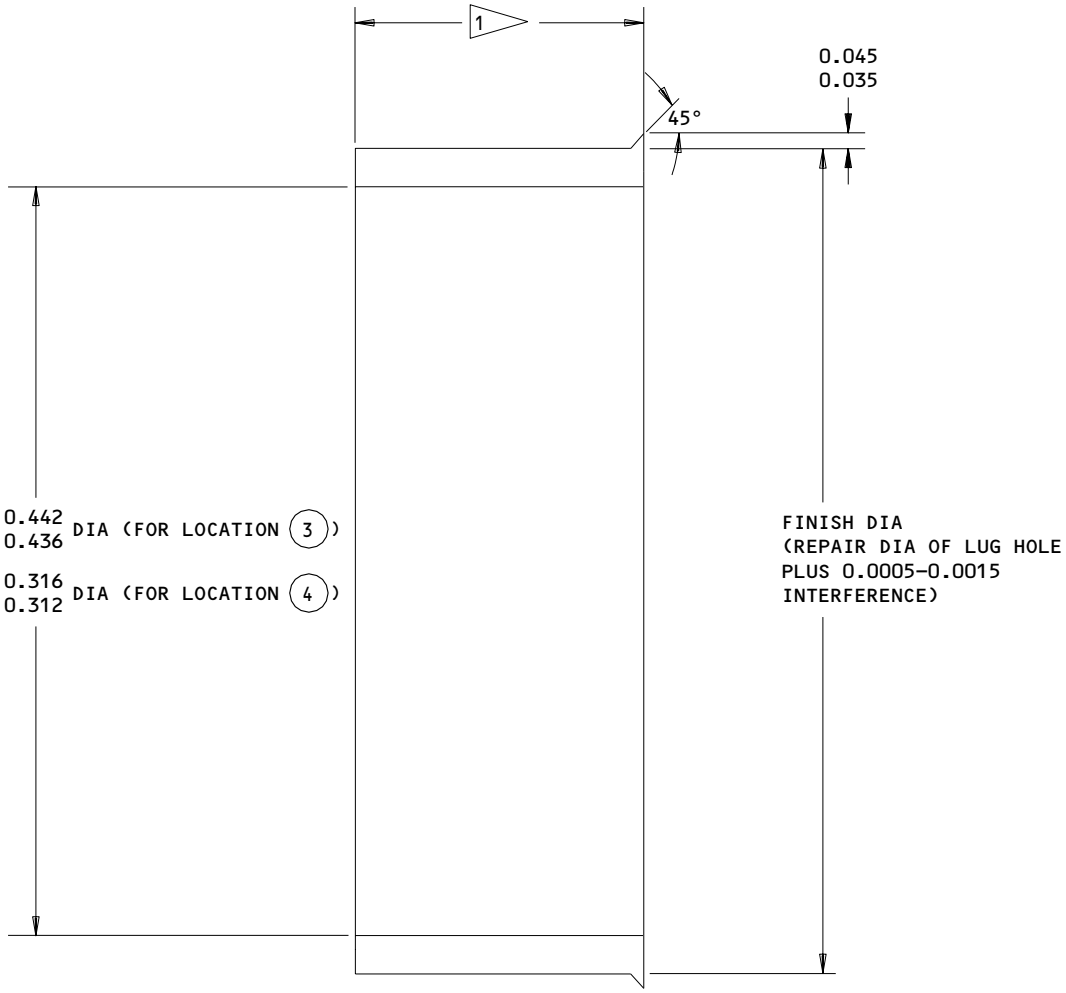
ALL DIMENSIONS APPLY BEFORE PLATING

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1) (2) FIG. 601 - REPLACES BUSHING (213) BACB28X4C024

Oversize Bushing Details
Figure 602

E56381



FINISH

CHROMIC ACID ANODIZE (REF 20-43-01)

1 LUG THICKNESS +0.000/–0.010

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES

MATERIAL: AL ALLOY 7075-T73 PER QQ-A-225/9

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION 3 4 FIG. 601

Repair Sleeve Details
Figure 603

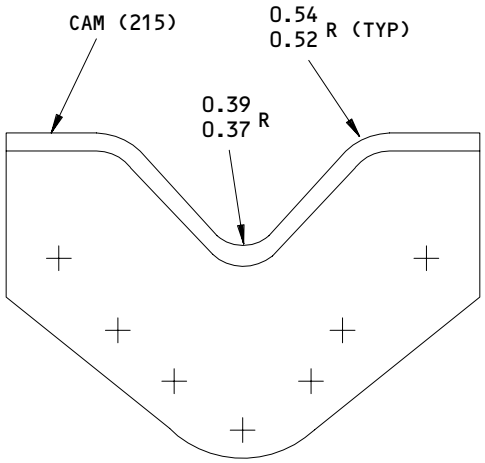
LINK - REPAIR 5-3

257T4303-1

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, Fig. 601.

1. Coating Repair (Fig. 601)

   A. Repair is only replacement of the original finish. Refer to refinish instructions for details.



REFINISH

CADMIUM PLATE AND APPLY BMS 10-11, TYPE 1, PRIMER (F-16.01) ALL OVER.

REPAIR

SAME AS REFINISH

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

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

ALL DIMENSIONS ARE IN INCHES

257T4303-1
Cam Refinish
Figure 601

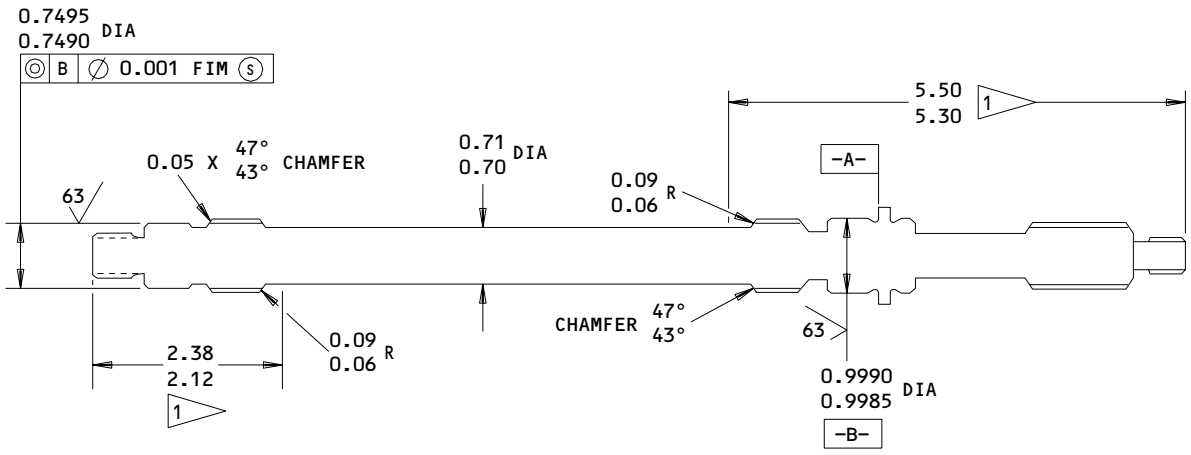
F20265

SHAFT - REPAIR 6-1

257T4325-1

1. Plating Repair

A. Repair is only replacement of the original finish. Refer to Refinish instructions, Fig. 601. Refer to REPAIR-GEN for a list of applicable standard practices.



REFINISH

PASSIVATE (F-17.09) ALL OVER. CADMIUM PLATE (F-15.02) TO 0.0002-0.0004 INCH AS NOTED BY 1 .

MATERIAL: 15-5 PH, 180-200 KSI

ALL DIMENSION ARE IN INCHES

Shaft Repair
Figure 601

99434

DRIVER ASSEMBLY - REPAIR 7-1

257T4330-1
257T4336-1

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to IPL Fig. 1 for item numbers. For repair of surfaces which is only replacement of the original finish, refer to Refinish instructions, REPAIR 7-2.

1. Bearing Replacement

A. Remove the bad bearing (225) from driver (230). Because the housing (driver) material was swaged over the bearings when the driver assembly was made, removal of the bearings will remove the swaged material that held the bearing in the driver. Because this material will not be there to hold the replacement bearing in the driver, you must machine the hole oversize to install a sleeve to swage over the replacement bearing. Refer to REPAIR 7-2 for details.

DRIVER - REPAIR 7-2

257T4330-2
257T4336-2

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. For repair of surfaces which is only restoration of the original finish, refer to Refinish instructions in Fig. 601 or 602.

1. Bore for Bearings (225, 225A) (Fig. 601, 602)

   A. Machine the bore as required, within repair limits, to remove defects.

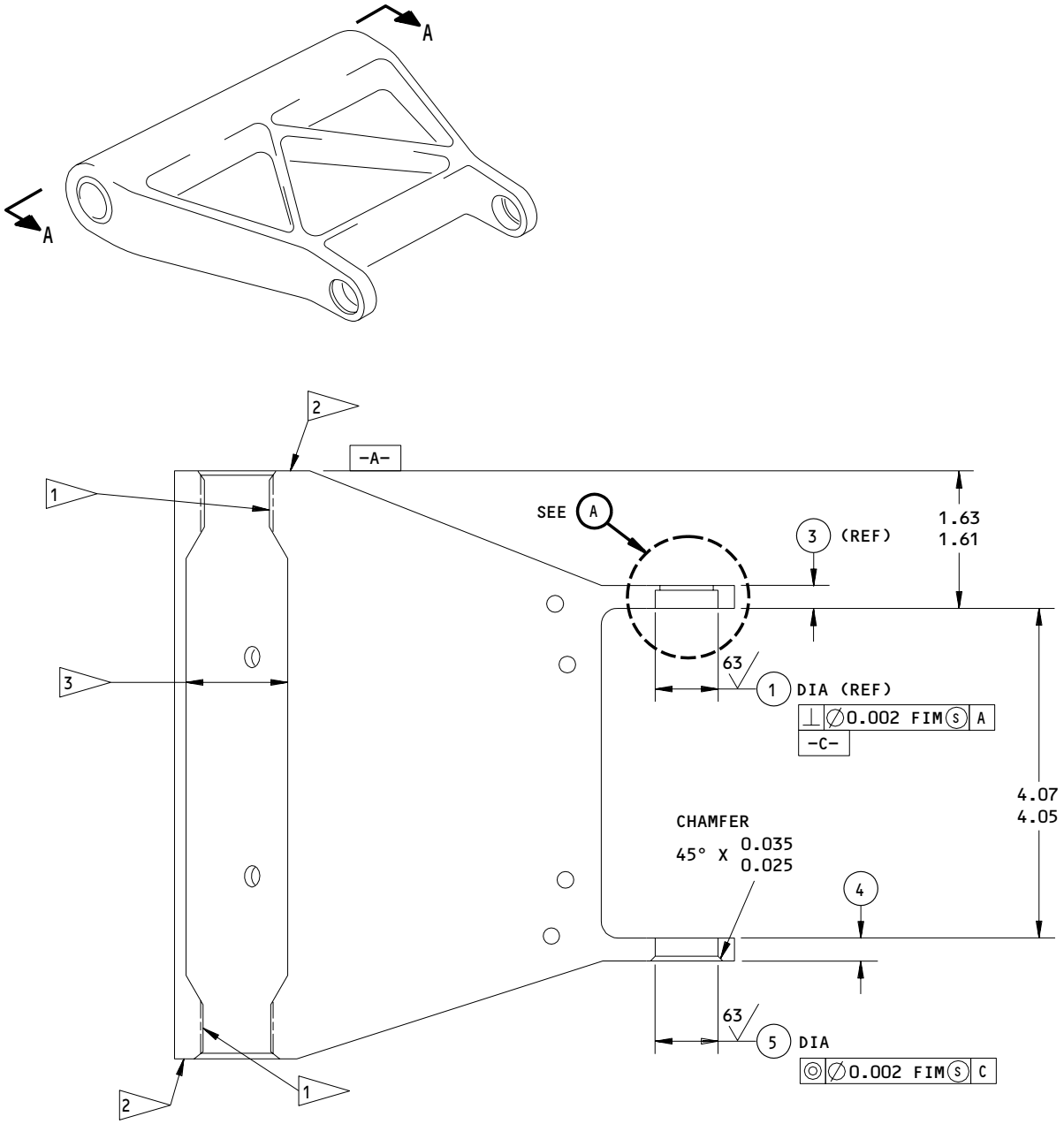
   B. Chamfer the end of the bore as shown.

   C. Make a repair sleeve (Fig. 603).

   D. Install the sleeve with BMS 5-95 sealant. Then fill the split with BMS 5-95 sealant.

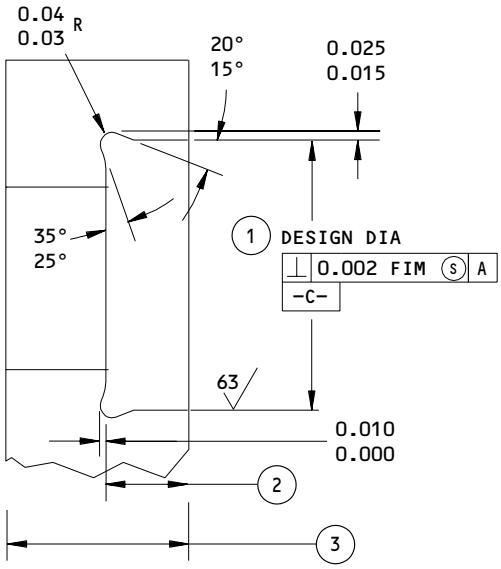
   E. Install a replacement bearing into the sleeve with BMS 3-33 or BMS 3-24 grease (257T4330) or BMS 5-95 sealant (257T4336).

   F. Roller swage the sleeve over the bearing. Machine the sleeve surfaces, if necessary.



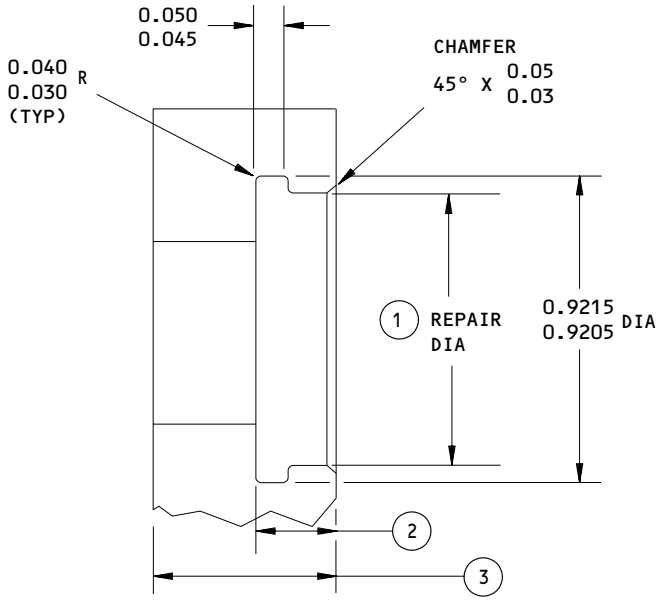
A-A

257T4330-2
Driver Repair and Refinish
Figure 601 (Sheet 1)



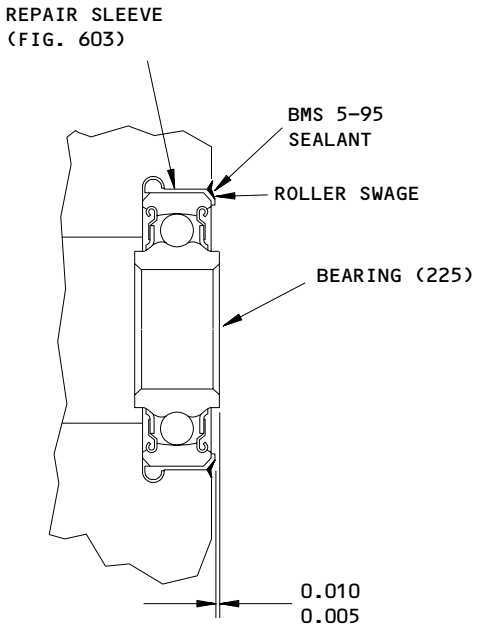
ORIGINAL CONFIGURATION

A



MACHINING COMPLETE

A



REPAIR COMPLETE

A

257T4330-2

Driver Repair and Refinish
Figure 601 (Sheet 2)

F78503

REFERENCE NUMBER	(1)	(2)	(3)	(4)	(5)
DESIGN DIMENSION	0.8118 0.8113	0.254 0.244	0.34 0.32	0.34 0.32	0.8118 0.8113
REPAIR LIMIT 4	0.8718 0.8713	--	--	--	--

REFINISH

CHROMIC ACID ANODIZE (F-17.04). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ALL OVER UNLESS SHOWN BY 1. AFTER BEARING INSTALLATION, APPLY BMS 10-60, GRAY GLOSS ENAMEL (F-14.9813, WHICH REPLACES SRF-14.9813) BUT NOT ON BEARING OR AREAS SHOWN BY 2. APPLY CORROSION PREVENTIVE COMPOUND (F-19.03) PER 3.

1. NO PRIMER
2. NO ENAMEL
3. AFTER CHROMIC ACID ANODIZE AND PRIMER APPLY MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO THIS AREA.
4. RANGE FOR INSTALLATION OF REPAIR SLEEVE (FIG. 603) AND STANDARD BEARING.

REPAIR

REF 4

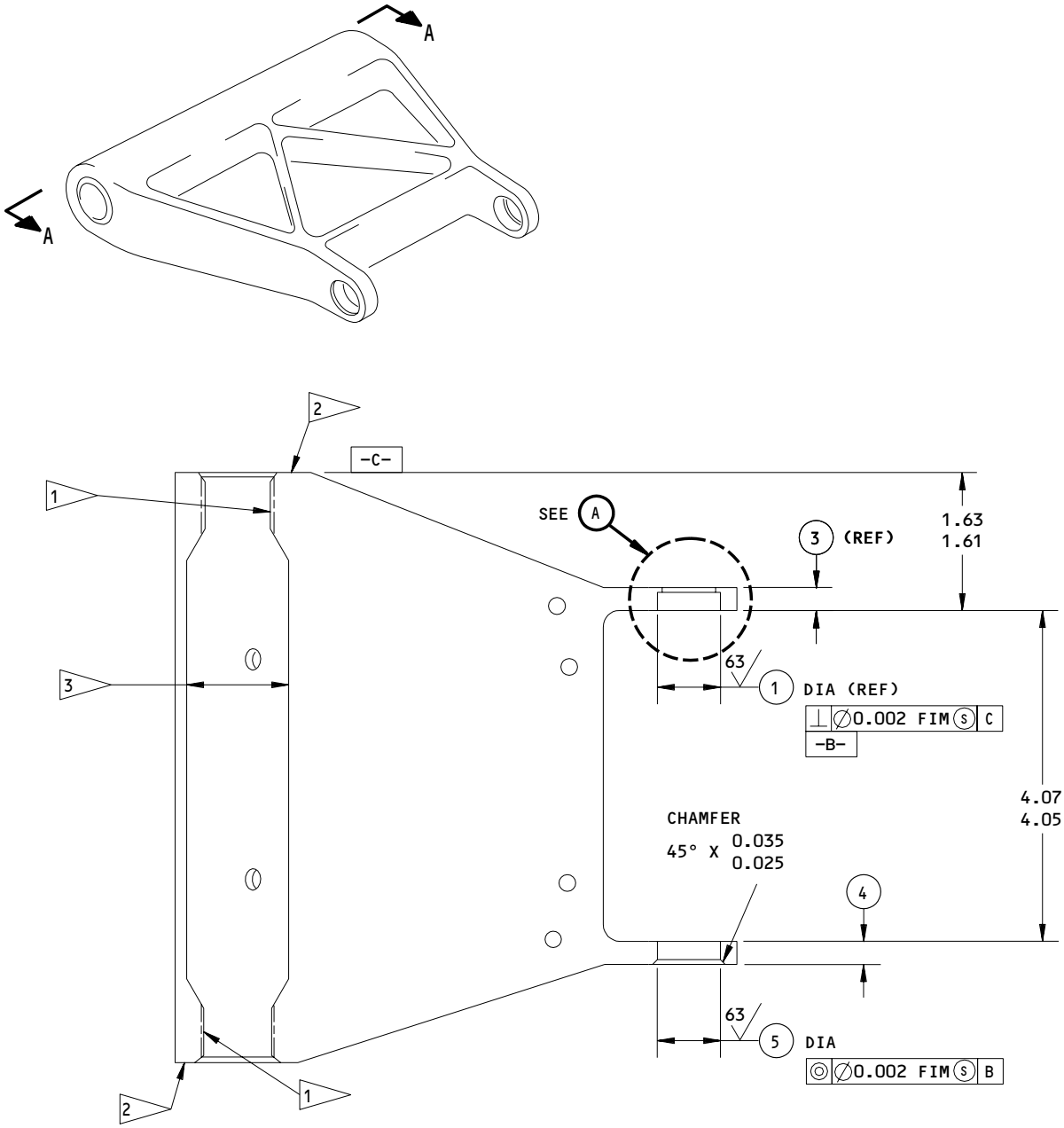
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4330-2
Driver Repair and Refinish
Figure 601 (Sheet 3)

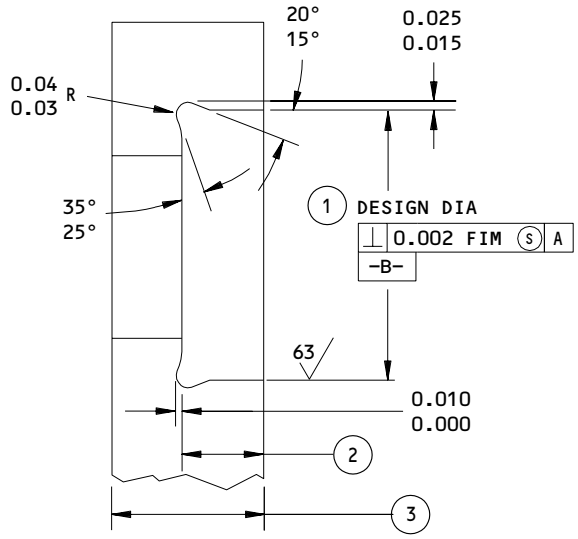
F78268



A-A

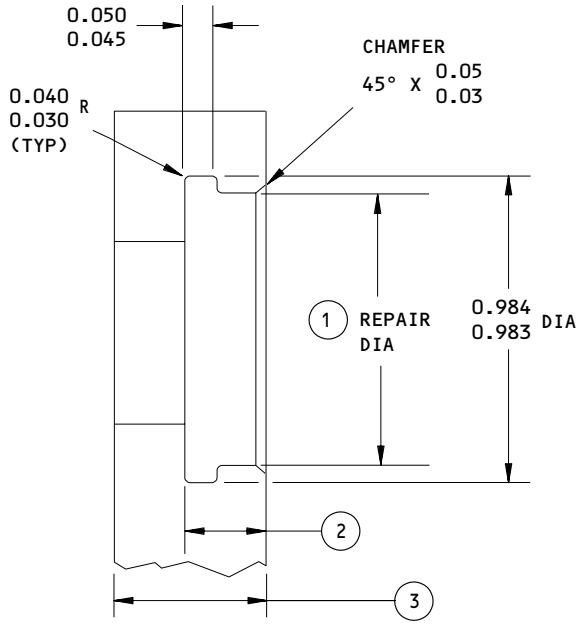
257T4336-2
Driver Repair and Refinish
Figure 602 (Sheet 1)

F78656



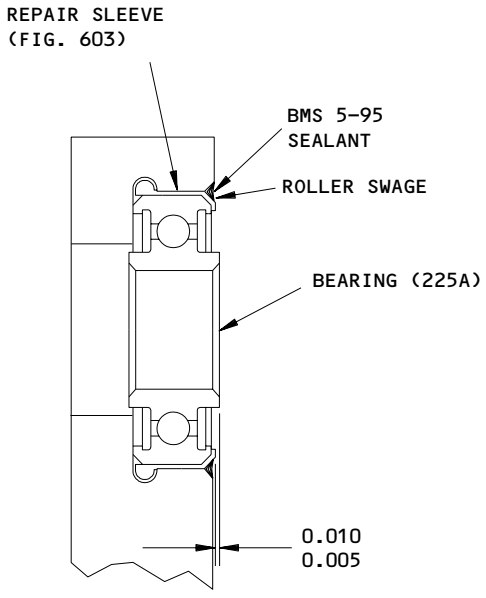
ORIGINAL CONFIGURATION

A



MACHINING COMPLETE

A



REPAIR COMPLETE

A

257T4336-2
Driver Repair and Refinish
Figure 602 (Sheet 2)

F78517

REFERENCE NUMBER	(1)	(2)	(3)	(4)	(5)
DESIGN DIMENSION	0.8118 0.8113	0.254 0.244	0.34 0.32	0.34 0.32	0.8128 0.8123
REPAIR LIMIT ▷4◁	0.8718 0.8713	--	--	--	--

REFINISH

CHROMIC ACID ANODIZE (F-17.04). APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) ALL OVER UNLESS SHOWN BY ▷1◁. AFTER BEARING INSTALLATION, APPLY BMS 10-60 GRAY GLOSS ENAMEL (F-14.9813, WHICH REPLACES SRF-14.9813) BUT NOT ON BEARING OR AREAS SHOWN BY ▷2◁. APPLY CORROSION PREVENTIVE COMPOUND (F-19.03) PER ▷3◁.

▷1◁ NO PRIMER

▷2◁ NO ENAMEL

▷3◁ AFTER CHROMIC ACID ANODIZE AND PRIMER APPLY MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO THIS AREA

▷4◁ RANGE FOR INSTALLATION OF REPAIR SLEEVE (FIG. 603) AND STANDARD BEARING

REPAIR

REF ▷3◁

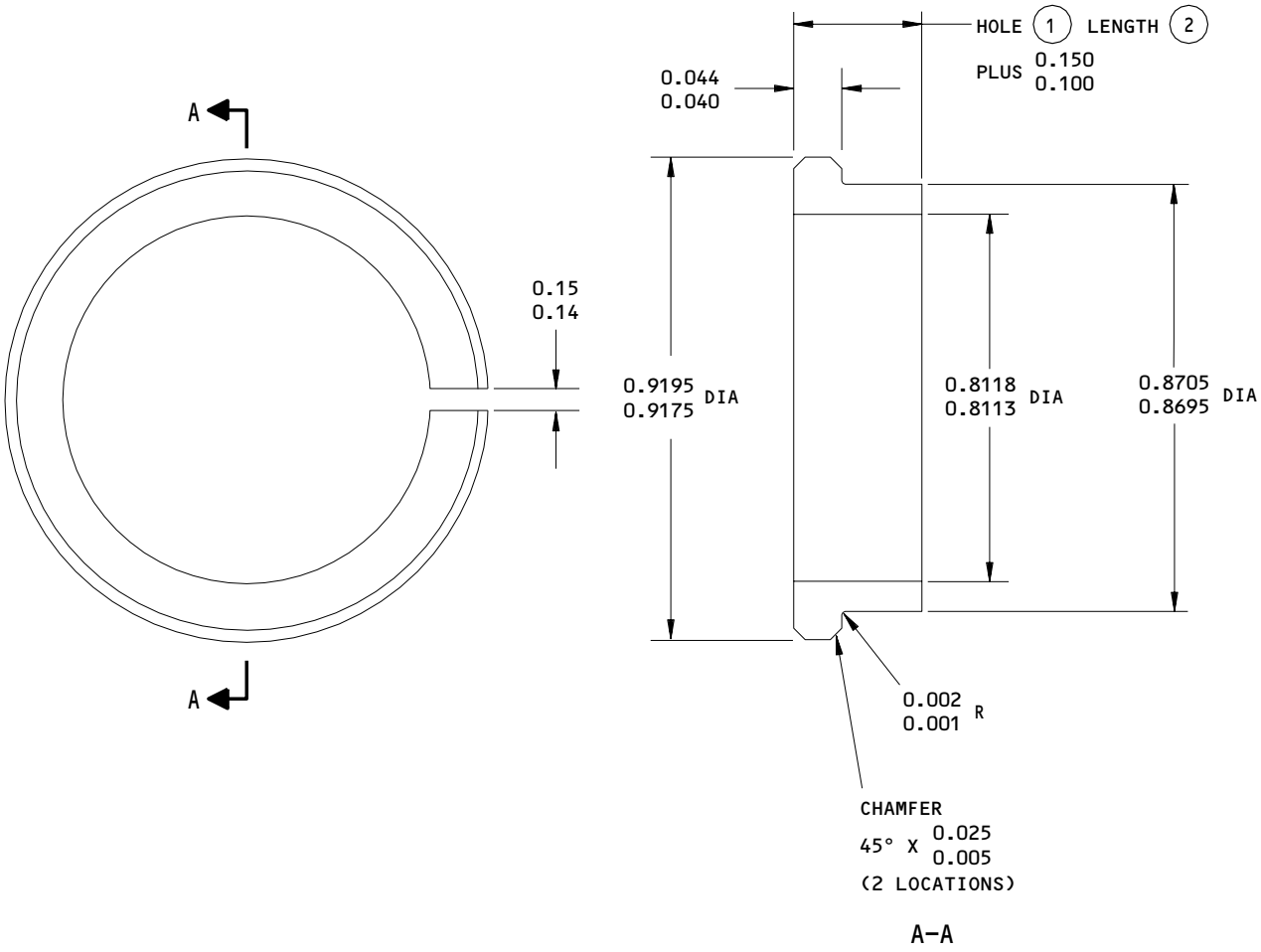
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

257T4336-2
Driver Repair and Refinish
Figure 602 (Sheet 3)

F78683



FINISH

CHROMIC ACID ANODIZE (F-17.02)

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES

MATERIAL: 2024T3 AL ALLOY

DIMENSIONS APPLY BEFORE SPLIT

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION (1) FIG. 601,602

Repair Sleeve Details
Figure 603

F78454

MISCELLANEOUS PARTS REFINISH - REPAIR 8-1

1. Repair of these parts is only replacement of the original finish. Refer to REPAIR-GENERAL for a list of applicable standard practices.

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Spacer (37)	Al alloy	Chromic acid anodize (F-17.04). Apply primer, BMS 10-11, type 1 (F-20.03) and BMS 10-60 color 707 white gloss enamel (F-21.03).
Crank (170)	Al alloy	Chromic acid anodize (F-17.04). Apply primer, BMS 10-11, type 1 (F-20.02) and BMS 10-60 color 707 gray gloss enamel (F-14.9813, which replaces SRF-14.9813), but no primer or enamel on 0.323-0.327 inch diameter hole and splined diameter.
Cover support (270)	Al alloy	Chemical treat and apply BMS 10-11, type 1 primer (F-18.06). Apply BMS 10-60 gray gloss enamel (F-14.9813, which replaces SRF-14.9813) all over but not on nuteplates (280).
Split bushings (310)	Al alloy	Chromic acid anodize (F-17.05).

Refinish Details
Figure 601

DRUM AND LOCKOUT ASSEMBLY - REPAIR 9-1

257T4318-7

NOTE: Refer to REPAIR-GEN for a list of applicable standard practices. Refer to 1PL Fig. 1 for item numbers. For repair of surfaces which is only restoration of the original finish, refer to Refinish instructions, Fig. 601, or to individual repair sections as applicable.

1. Split Bushing Replacement (Fig. 601)

   A. Remove nut (5), washer (10) from housing (65) and remove shaft (110).

   B. Remove split bushings (310) from shaft (135).

   C. Install new bushings (310), centered between bearing lands, and bond them to the shaft with Type 44 adhesive.

2. Bearing Replacement (Fig. 601)

   A. Remove bearings (61) from housing (65).

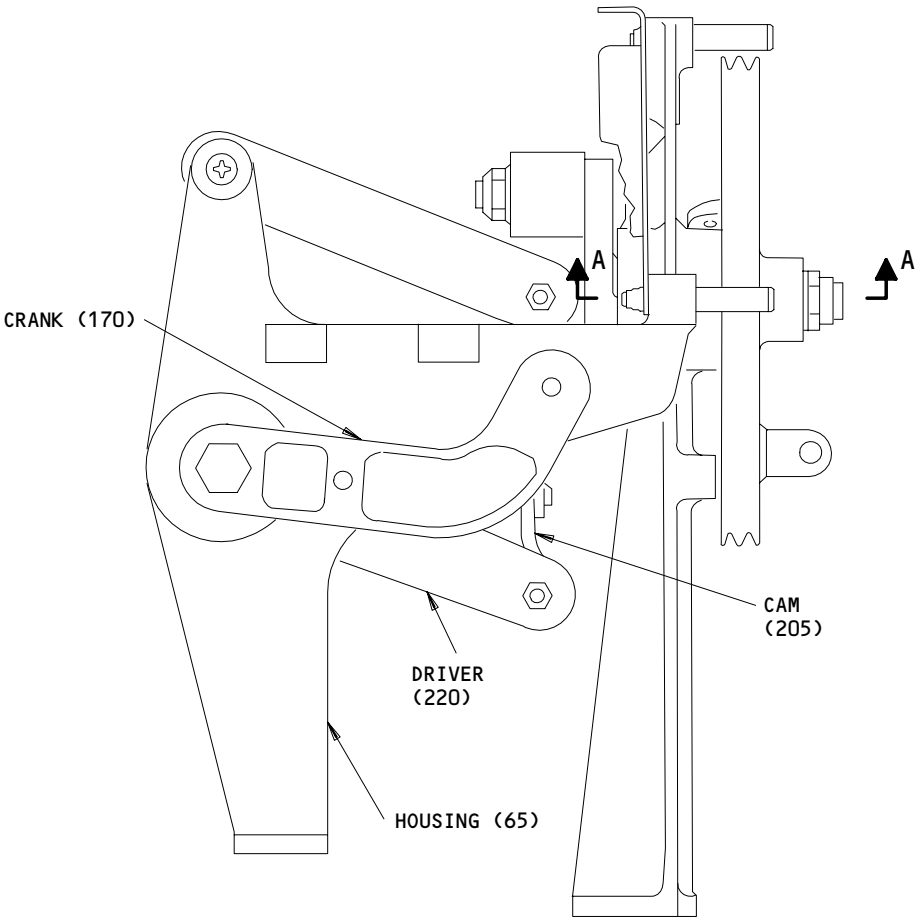
   B. Install new bearings in housing and roller swage them per 20-50-03.

3. Sleeve Replacement (Fig. 601)

   A. Remove rivets (325) from housing (65) and remove sleeve (305).

   B. Get a new sleeve (305) or make one per Fig. 602. Install it in the housing with wet sealant.

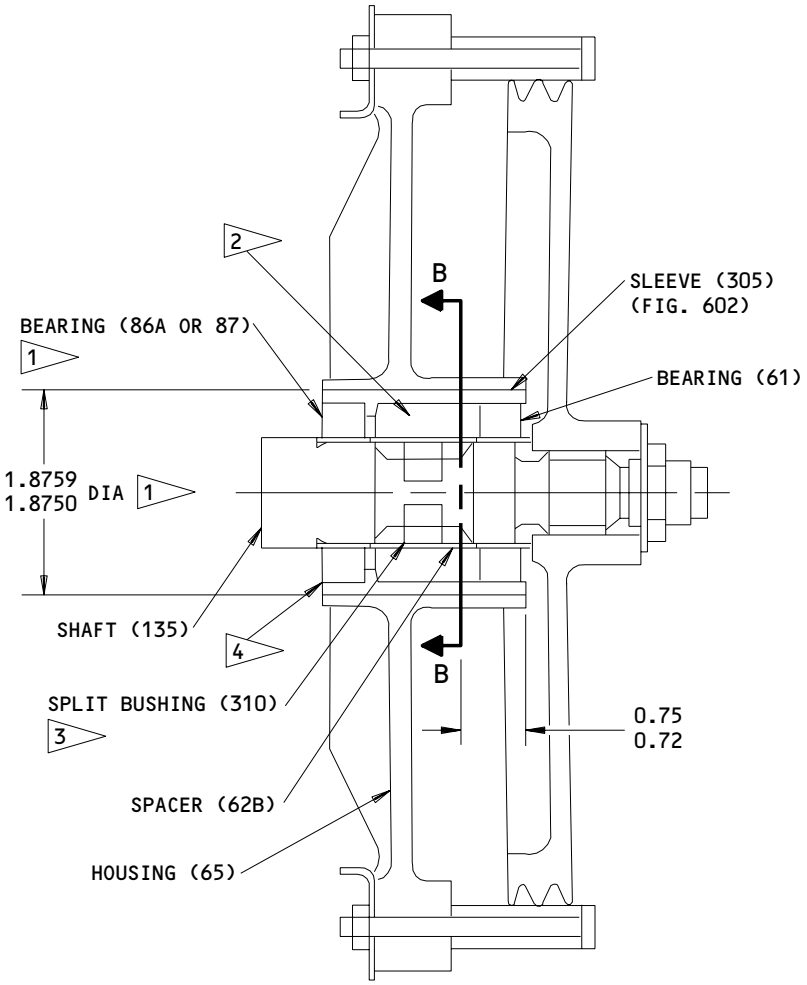
   C. Drill 0.160-0.164 dia. holes in the sleeve, with the 3 holes in the housing as pilots. Install rivets (305).



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4318-7
Drum and Lockout Assembly Repair
Figure 601 (Sheet 1)

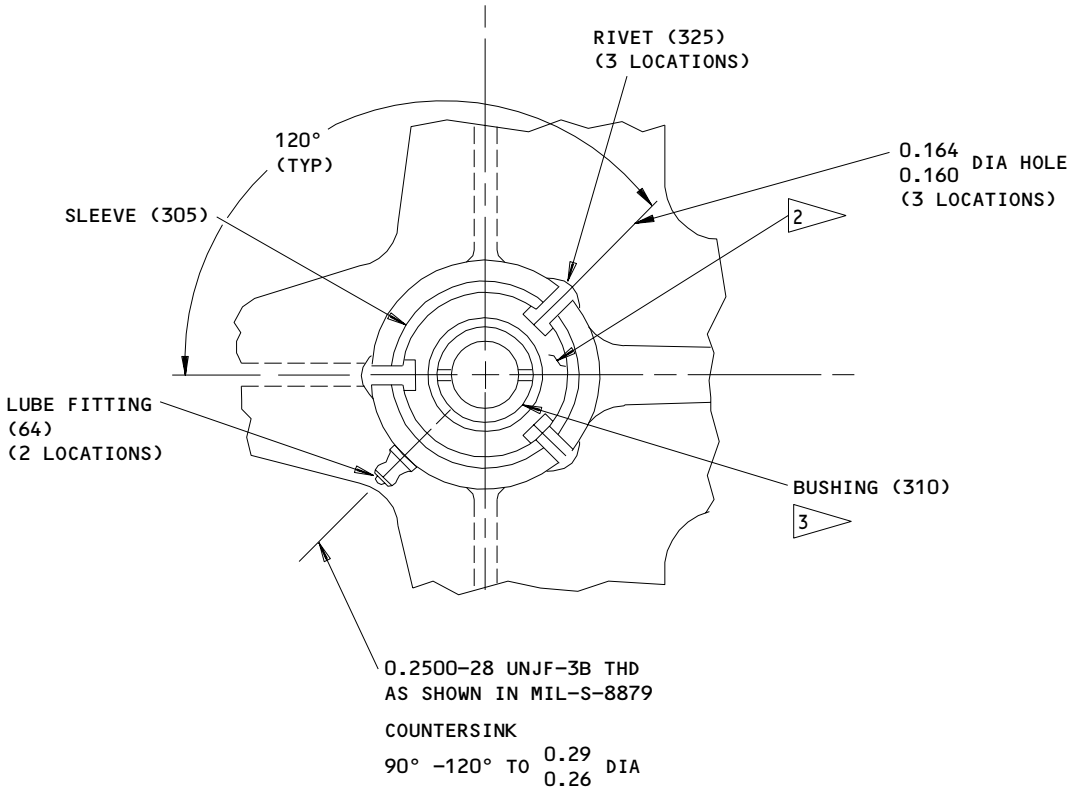


A-A

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4318-7
Drum and Lockout Assembly Repair
Figure 601 (Sheet 2)



B-B

1 CHEMICAL TREAT (F-17.10)

2 FILL THIS AREA A MINIMUM OF 80 PERCENT FULL WITH BMS 3-24 GREASE

3 BOND TO SHAFT WITH TYPE 44 ADHESIVE AS SHOWN IN SOPM 20-50-12

4 ROLLER SWAGE AS SHOWN IN SOPM 20-50-03

REPAIR

REF 1 2 3 4

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

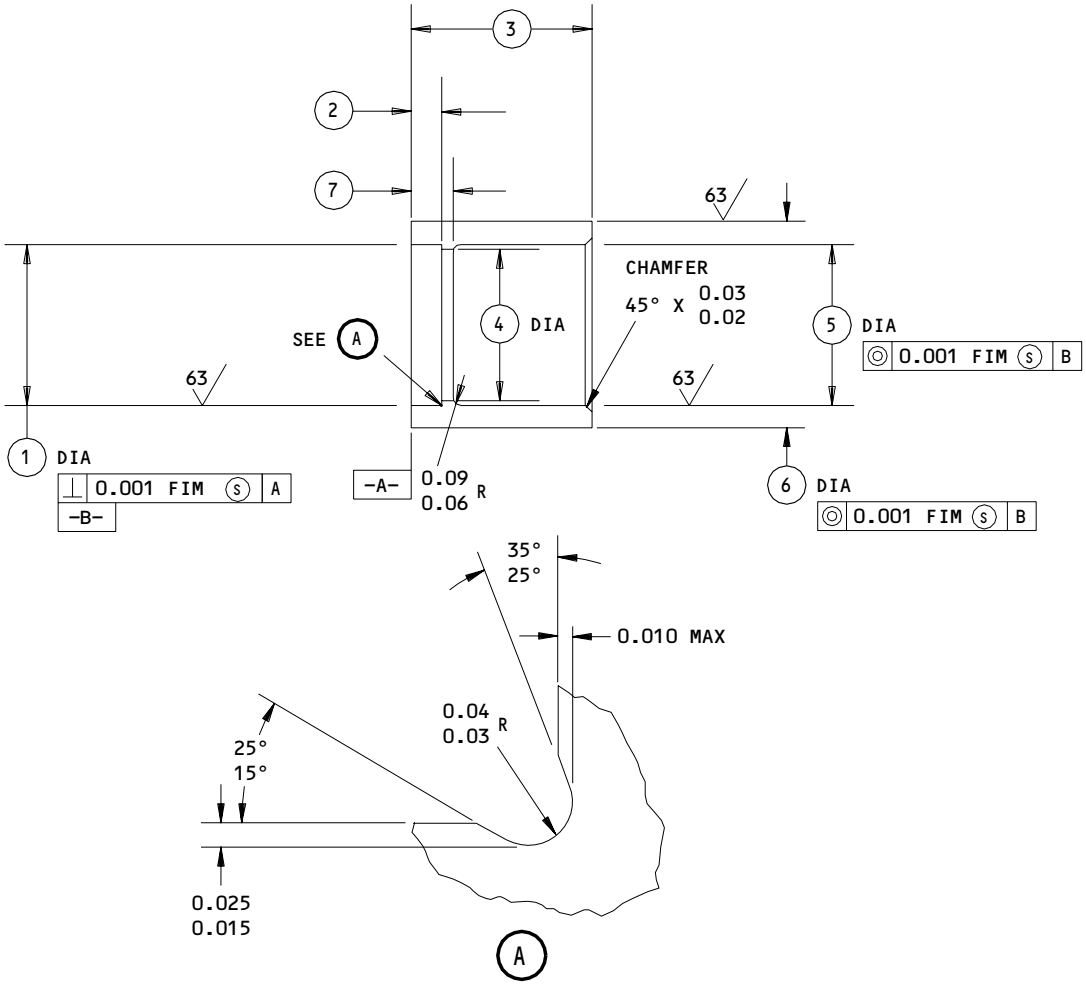
MATERIAL: HOUSING (65) -- AL ALLOY
SLEEVE (305) -- AL ALLOY
BUSHING (310) -- AL ALLOY
SHAFT (135) -- AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4318-7
Drum and Lockout Assembly Repair
Figure 601 (Sheet 3)

278666



	1	2	3	4	5	6	7
DESIGN DIM	1.6256 1.6250	0.465 0.450	1.96 1.94	1.46 1.44	1.6256 1.6250	1.8755 1.8750	0.59 0.57

REFINISH

CHROMIC ACID ANODIZE (F-17.05)

REPAIR

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 6061-T6 AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

257T4338-1
Swage Sleeve Details
Figure 602

169344

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes can be used.

A. Sealant -- BMS 5-95 (SOPM 20-60-04)

B. Grease -- BMS 3-33 or BMS 3-24 (SOPM 20-60-03)

2. Assembly (IPL Fig. 1)

A. Install link (235) and attaching parts (240 thru 250) with grease on cam (205).

B. Apply a layer of grease to the spline surfaces of driver (230). Install cam (205) on driver (220) and install parts (180 thru 200) to secure it.

C. Position driver (220) in housing (65). Install drive shaft (175) thru housing (105) arms, spacer (155) and driver (230) splined hole.

D. Install bushing (165), bearing (160) and spacers (150, 155) on drive shaft (175). Then install crank (170), washers (145) and nuts (140) on drive shaft (175).

E. Fillet seal the gap between spacer (150) and crank (170). Also seal the gap between spacer (155) and driver (230) with BMS 5-95 sealant.

F. Install link (265) free end on housing (65) arm. Install bolts (70), washers (75B, 77) and nuts (80).

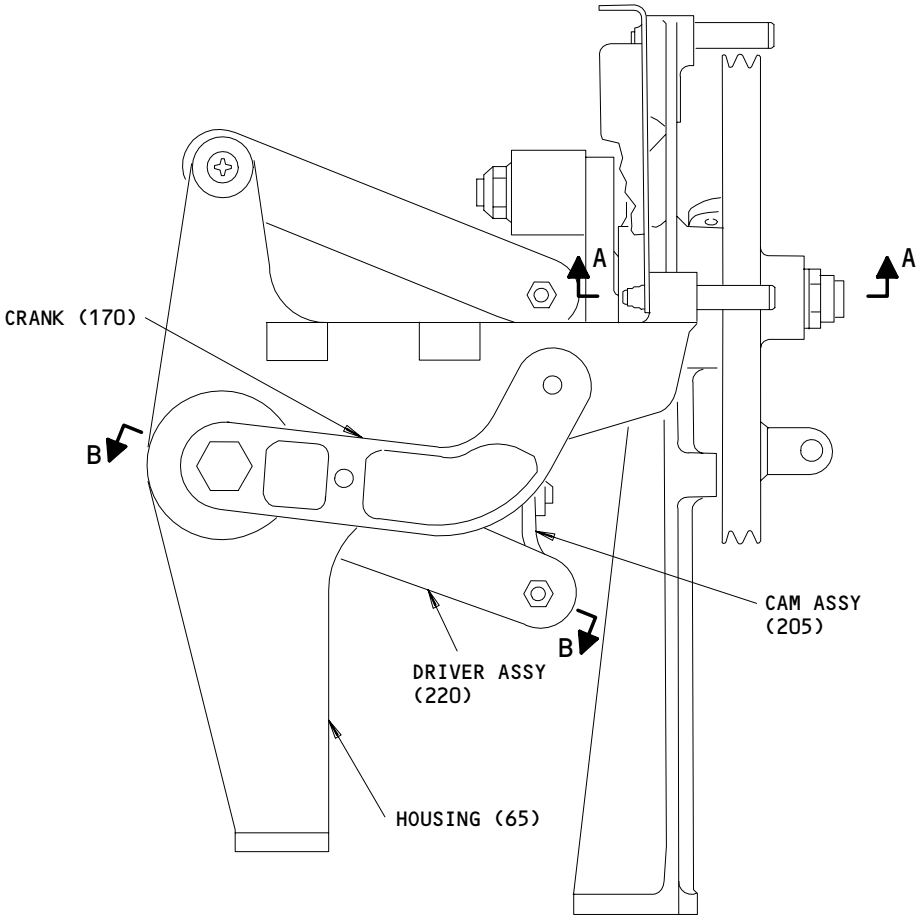
G. Install bolt (115), roller (130), washer (120) and nut (125) on shaft (135).

H. Install spacer (62), bearing (60 or 61) and fitting (64) on housing (65). Then install shaft (135) on housing thru bearings (60 or 61) and (86 or 87).

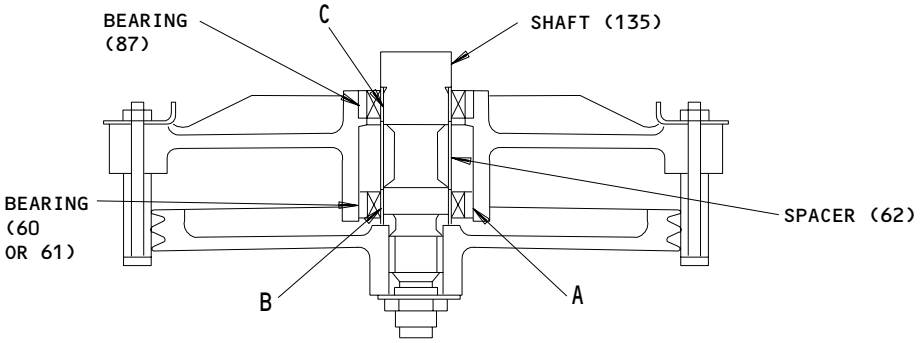
I. Install bolts (25) and nuts (30) on drum (35). Install drum (15) on shaft (135) and housing (65), then install nut (5) and washer (10).

J. Put cover support (270) on housing (65) and install bolts (40), washers (45), nut (50) and spacer (55).

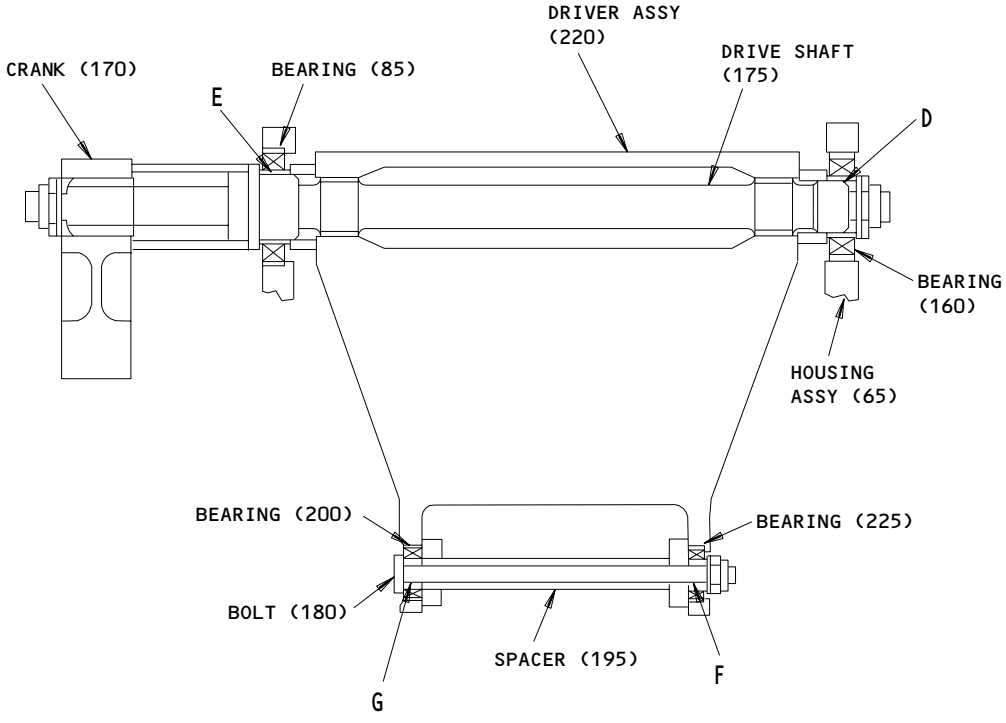
FITS AND CLEARANCES



Fits and Clearances
Figure 801 (Sheet 1)



A-A



B-B

Fits and Clearances
Figure 801 (Sheet 2)

45215

Ref Letter Fig.801	Mating Item No. IPL Fig.	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 105 OD 60,61	1.750 1.749	1.751 1.750	0.0	0.002	1.7464	1.7546	0.0046
B	ID 60,61 OD 135	0.9990 0.9985	1.0000 0.9990	0.0	0.0015	0.9965	1.0025	0.0035
C	ID 87 OD 135	0.9990 0.9985	1.0000 0.9990	0.0	0.0015	0.9965	1.0025	0.0035
D	ID 160 OD 175	0.7495 0.7490	0.7500 0.7495	0.0	0.0010	0.7473	0.7522	0.0027
E	ID 85 OD 175	0.9990 0.9985	1.0000 0.9990	0.0	0.0015	0.9965	1.0025	0.0035
F	ID 225 OD 180	0.3120 0.3110	0.3125 0.3120	0.0	0.0015	0.3099	0.3146	0.0026
G	ID 200 OD 180	0.3120 0.3110	0.3125 0.3120	0.0	0.0015	0.3099	0.3146	0.0026

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 3)

FOR TORQUE VALUES OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG. 1	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
5	NUT	300 - 450	

Torque Table
Figure 802

44873

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

K8455 RHP BEARINGS PLC RHP AEROSPACE
OLDENDS LANE
STONEHOUSE GL10 3RM UK

08524 DEUTSCH FASTENER CORP SEE CODE V97928

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

21335 TORRINGTON CO FAFNIR BEARING DIV
59 FIELD STREET
TORRINGTON, CONNECTICUT 06790-4942

30163 VALENTEC DAYRON INC
333 MAGUIRE BLVD PO BOX 140394
ORLANDO, FLORIDA 32814-0394

38443 MRC BEARINGS
402 CHANDLER STREET
JAMESTOWN, NEW YORK 14701-3802

40920 MPB MINIATURE PRECISION BEARING DIV
PRECISION PARK PO BOX 547
KEENE, NEW HAMPSHIRE 03431

43991 FAG BEARING INCORPORATED
118 HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

52828 REPUBLIC FASTENER MFG CORP
1300 RANCHO CONEJO BLVD
NEWBURY PARK, CALIFORNIA 91320-1405

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

60380 TORRINGTON CO BEARINGS DIV SUBSIDIARY OF INGERSOLL-RAND CORP
59 FIELD STREET PO BOX 1008
TORRINGTON, CONNECTICUT 06790-4942

71087 BOOTS ACFT NUT DIV TOWNSEND CO SEE TEXTRON INC CHERRY
FASTENER TOWNSEND DIV V11815

VENDORS

72962 ELASTIC STOP NUT A DIV OF HARTFORD INDUSTRIES INC
2330 VAUXHALL ROAD
UNION, NEW JERSEY 07083-5038

77896 REXNORD INC BEARING OPERATION
2400 CURTIS STREET
DOWNERS GROVE, ILLINOIS 60515-4005

80539 SPS TECHNOLOGIES INC AEROSPACE PRODUCTS DIV
2701 SOUTH HARBOR BOULEVARD PO BOX 1259
SANTA ANA, CALIFORNIA 92702-1259

83086 NEW HAMPSHIRE BALL BEARINGS, INCORPORATED
ROUTE 202
PETERBOROUGH, NEW HAMPSHIRE 03458

85495 BRILES MFG CO SEE OMARK INDUSTRIES
PRECISION FASTENING SUB OF OMARK IND INC SEE DEUTSCH
FASTENER CORP V08524

92215 FAIRCHILD IND INC FAIRCHILD AEROSP FASTNR DIV DESIGN & ENGRG
3000 WEST LOMITA BLVD
TORRANCE, CALIFORNIA 90505-5102

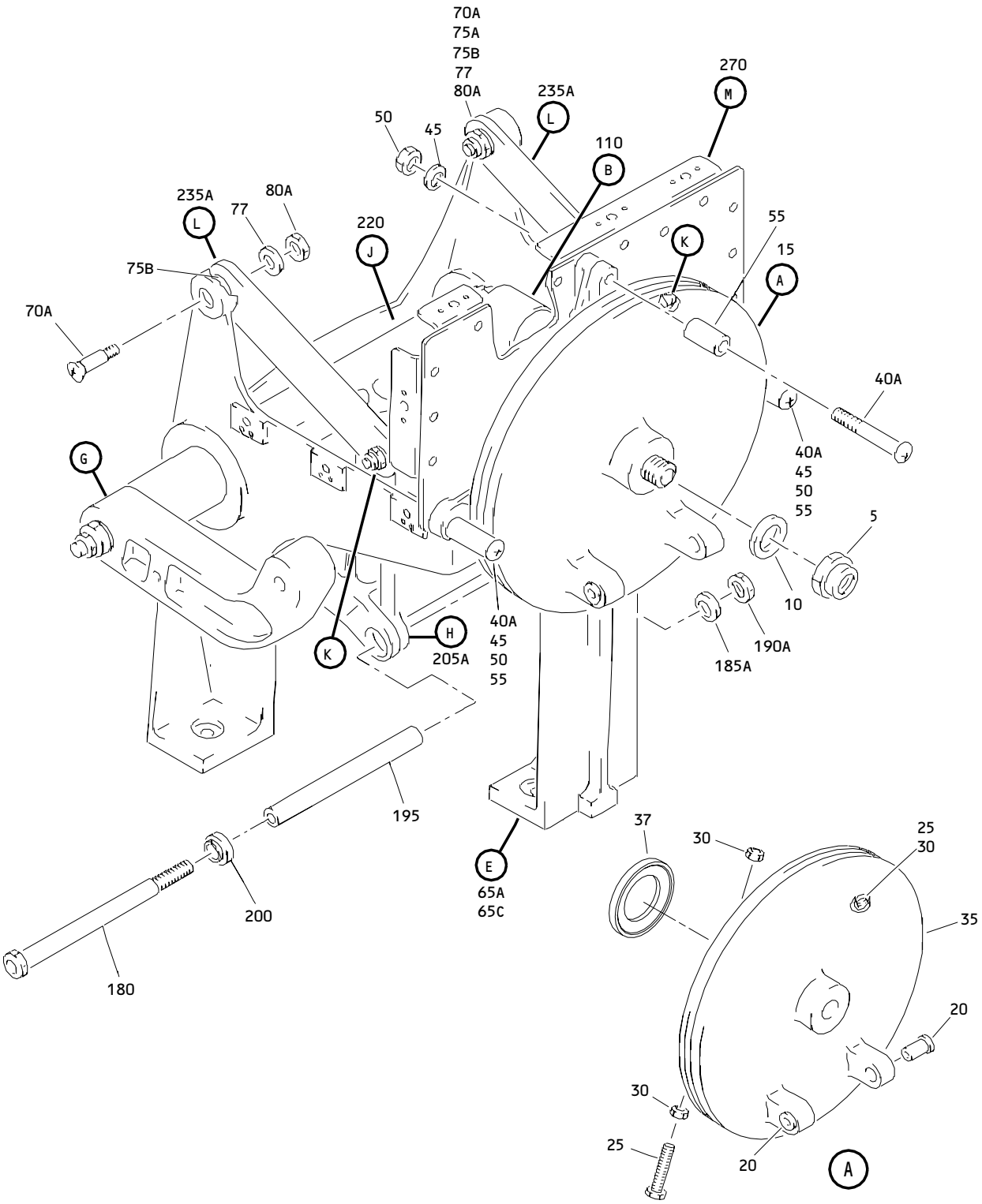
92563 MCGILL MFG CO INC BEARINGS DIV
909 LAFAYETTE STREET
VALPARAISO, INDIANA 46383-4210

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

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AN960KD416		1	75A	
		1	245A	
AN960PD10		1	45	3
AN960PD1016		1	10	1
AN960PD516		1	185	
AN960PD816		1	120	1
		1	145	2
BACB10AC4A		1	260A	2
BACB10AC5A		1	200	1
		1	225	1
BACB10BW16		1	60	1
		1	85	1
		1	87	1
		1	85B	1
BACB10BX12		1	160	1
		1	160B	1
BACB10BX5		1	225A	1
BACB10CJ16		1	61	1
		1	320	2
		1	87A	1
BACB10EU08		1	130	1
BACB10FR16		1	88	
		1	60A	1
		1	85A	1
		1	85C	1
		1	87B	1
		1	320A	2
BACB10FS12		1	160A	1
		1	160C	1
BACB28AK05-377		1	195	1
BACB28AK12-044		1	165	1
BACB28X4C024		1	213	2
BACB28X4M050		1	20	2
BACB30LU4-13		1	70A	2
BACB30LU8-26		1	115	1
BACB30NF4-11		1	240	2
BACB30NF5-74		1	180	1
BACN10JC10		1	5	1
BACN10JC10CD		1	5A	1
BACN10JC3		1	50	3
BACN10JC3CD		1	50A	3
BACN10JC4CD		1	80A	2
		1	250A	2
BACN10JC5CD		1	190A	1
BACN10JC8		1	125	1
BACN10JC8CD		1	140A	2
BACN10JR3F		1	280	6

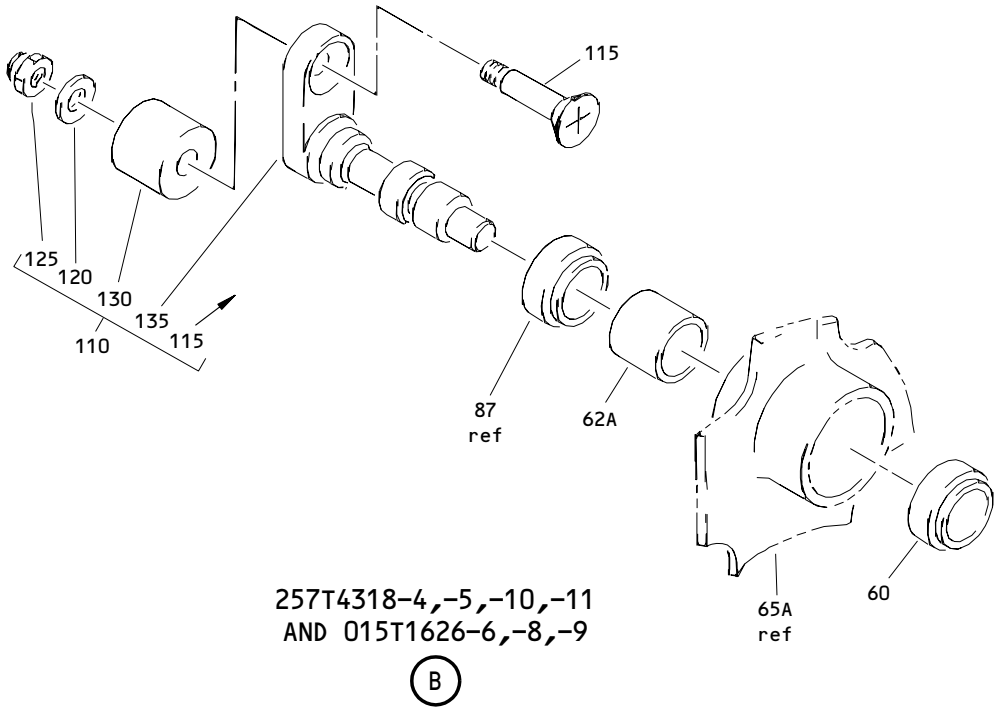
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACN10KH3		1	95	6
BACR15DR3		1	100	12
		1	275	12
BACR15FT5KE		1	217	7
BACR15FT5KEC		1	285	12
BACW10P128D		1	75B	2
H10-4BAC		1	80	
		1	250	
H10-5BAC		1	190	
H10-8BAC		1	140	
KP16B		1	86	
MS15001-1		1	64	2
		1	330	2
NAS1149D0363J		1	45A	3
NAS1149D0432K		1	77	2
		1	245B	2
NAS1149D0563J		1	185A	1
NAS1149D0863J		1	145A	2
NAS1149D1063J		1	10A	1
NAS1398D5-5		1	325	3
NAS1398D6A5		1	325A	3
NAS42DD6-82		1	55	3
NAS42DD6-82FC		1	55A	3
NAS428KH4-13		1	25	2
NAS43HT16-64		1	315	1
		1	62B	1
NAS43HT16-73		1	62A	1
		1	315A	1
NAS509-4		1	30	4
NAS623-3-34		1	40A	3
NAS73-16E007		1	155	1
NAS73-16E113		1	150	1
015T1626-111		1	105J	1
015T1626-112		1	105K	1
015T1626-113		1	105L	1
015T1626-115		1	105M	1
015T1626-117		1	105N	1
015T1626-6		1	1J	RF
015T1626-7		1	1K	RF
015T1626-8		1	1L	RF
015T1626-9		1	1M	RF
257T4301-1		1	15	1
257T4301-2		1	35	1
257T4302-10		1	65B	1
257T4302-11		1	105C	1
257T4302-12		1	105D	1
257T4302-13		1	105E	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
257T4302-14		1	65C	1
257T4302-15		1	105F	1
257T4302-16		1	65D	1
257T4302-17		1	105G	1
257T4302-18		1	65E	1
		1	65F	1
257T4302-19		1	65G	1
		1	65H	1
257T4302-20		1	105H	1
257T4302-6		1	65A	1
257T4302-7		1	105A	1
257T4302-9		1	105B	1
257T4303-1		1	215	1
257T4304-2		1	210A	1
257T4305-2		1	265	1
257T4305-3		1	235A	2
257T4307-1		1	110	1
257T4307-2		1	135	1
257T4307-3		1	110A	1
257T4307-4		1	136	1
257T4314-1		1	37	1
257T4317-2		1	205A	1
257T4318-10		1	1H	RF
257T4318-11		1	1N	RF
257T4318-4		1	1B	RF
257T4318-5		1	1C	RF
257T4318-6		1	1D	RF
257T4318-7		1	1E	RF
257T4318-8		1	1F	RF
257T4318-9		1	1G	RF
257T4324-1		1	170	1
257T4325-1		1	175	1
257T4330-1		1	220	1
257T4330-2		1	230	1
257T4336-1		1	220A	1
257T4336-2		1	230A	1
257T4337-1		1	270	1
257T4337-2		1	300	1
257T4337-3		1	295	1
257T4337-4		1	290	2
257T4338-1		1	305	1
257T4338-3		1	305A	1
257T4339-1		1	310	2



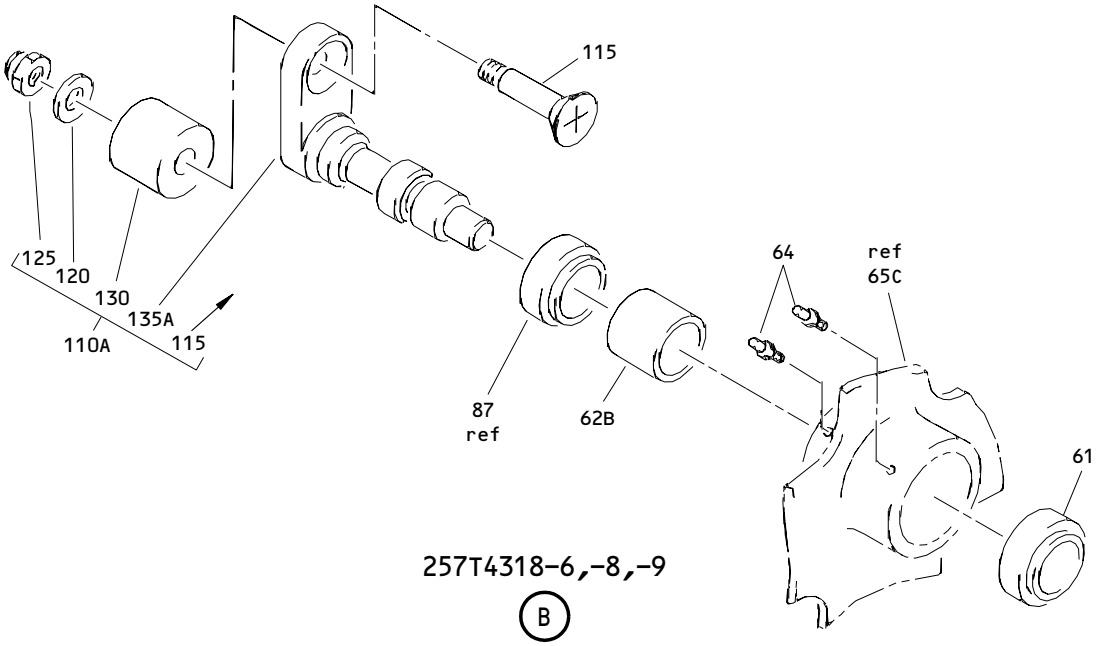
Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 1)

T60437



257T4318-4,-5,-10,-11
AND 015T1626-6,-8,-9

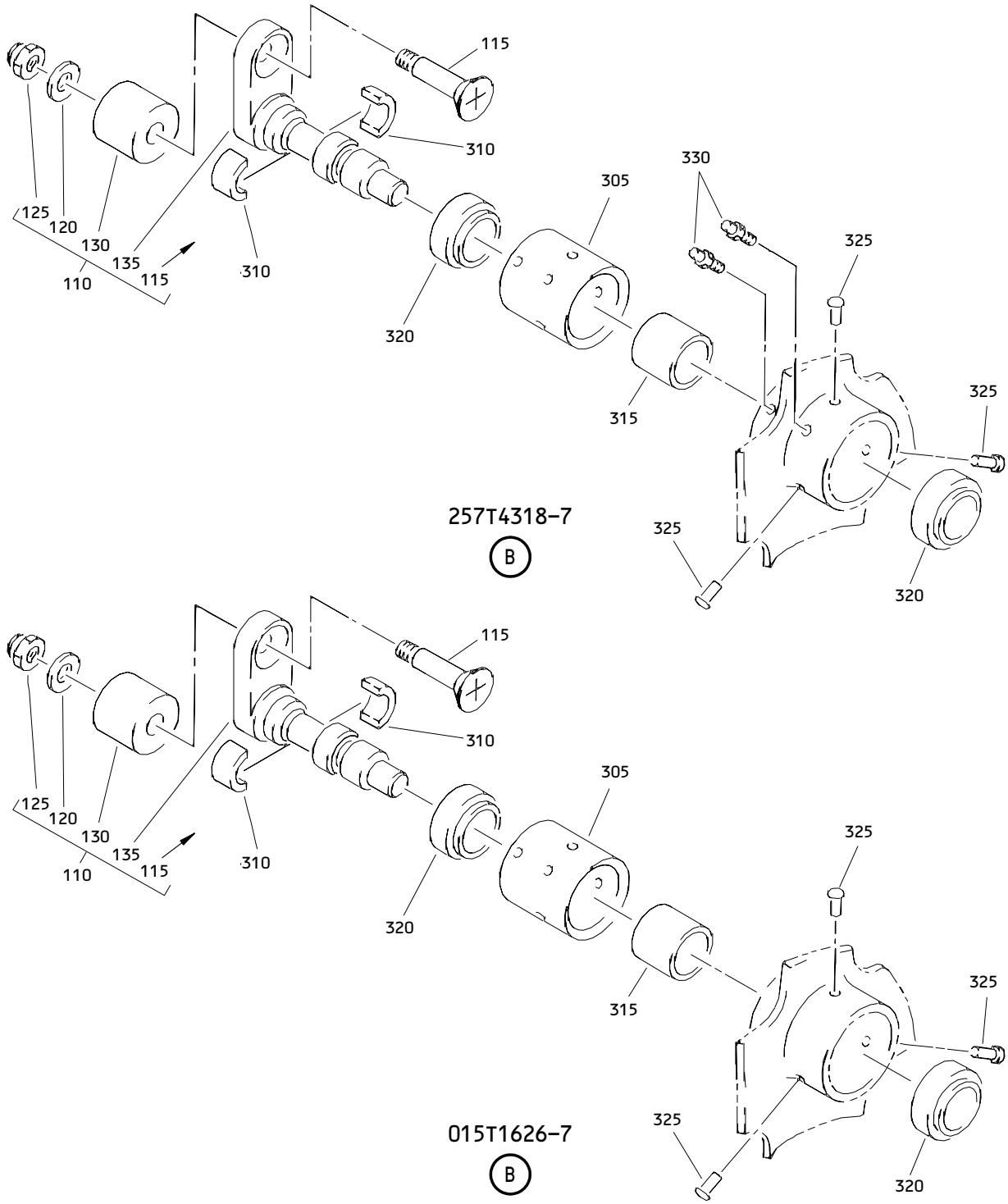
B



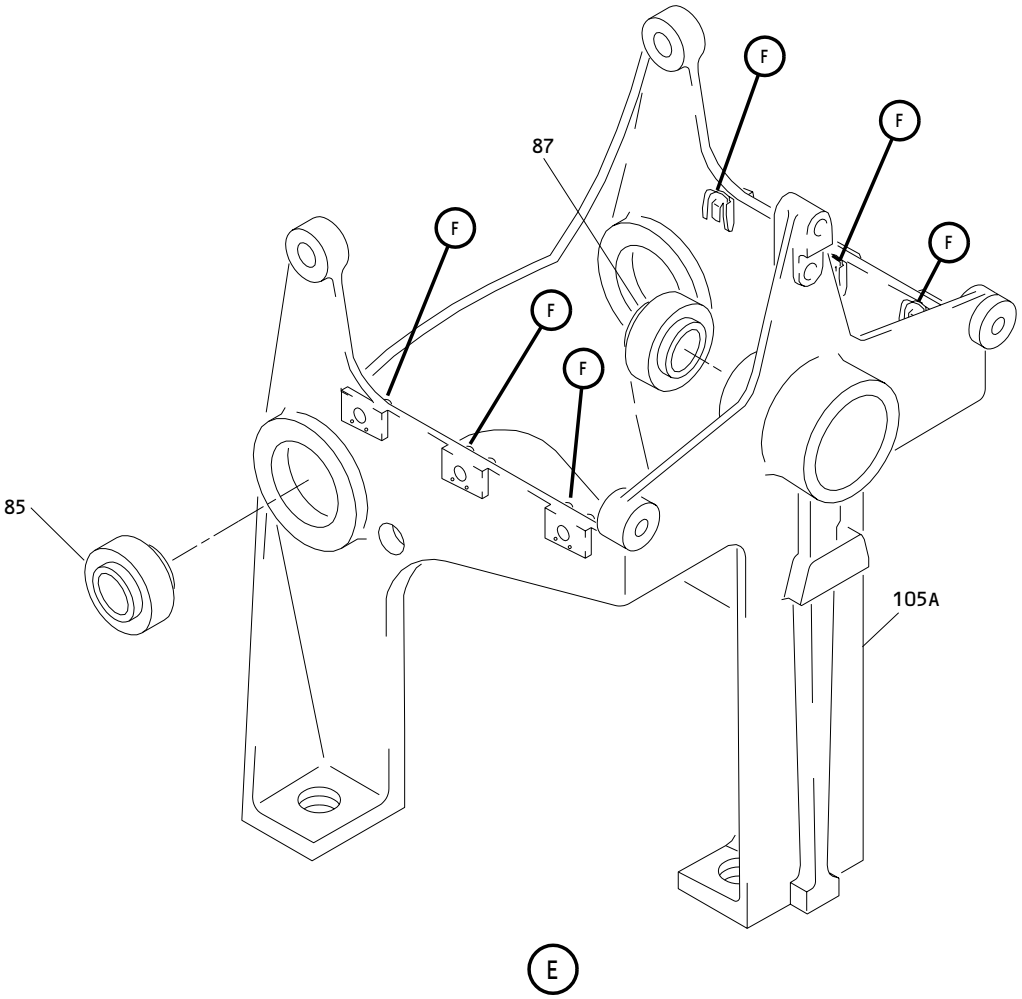
257T4318-6,-8,-9

B

Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 2)

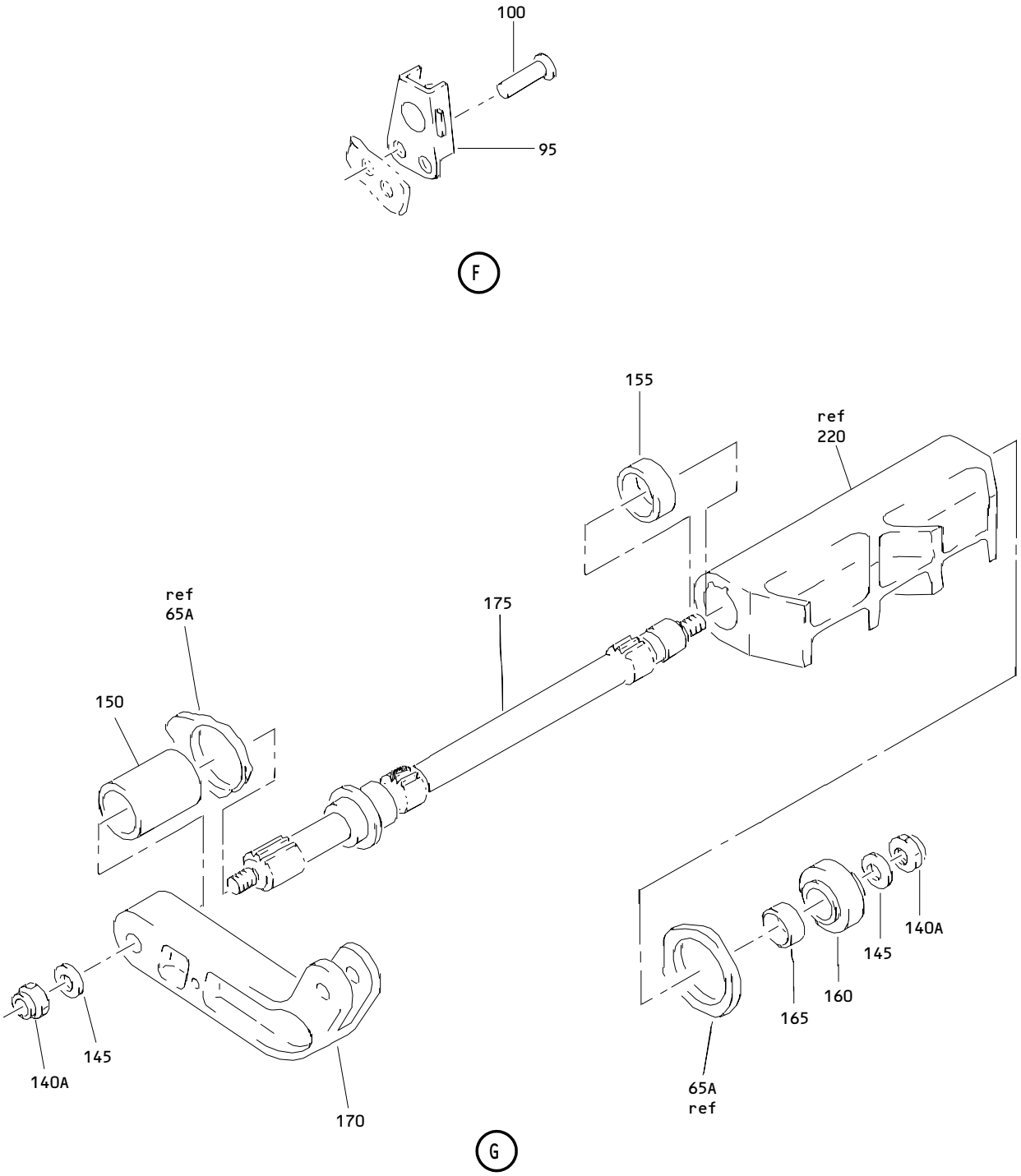


Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 3)

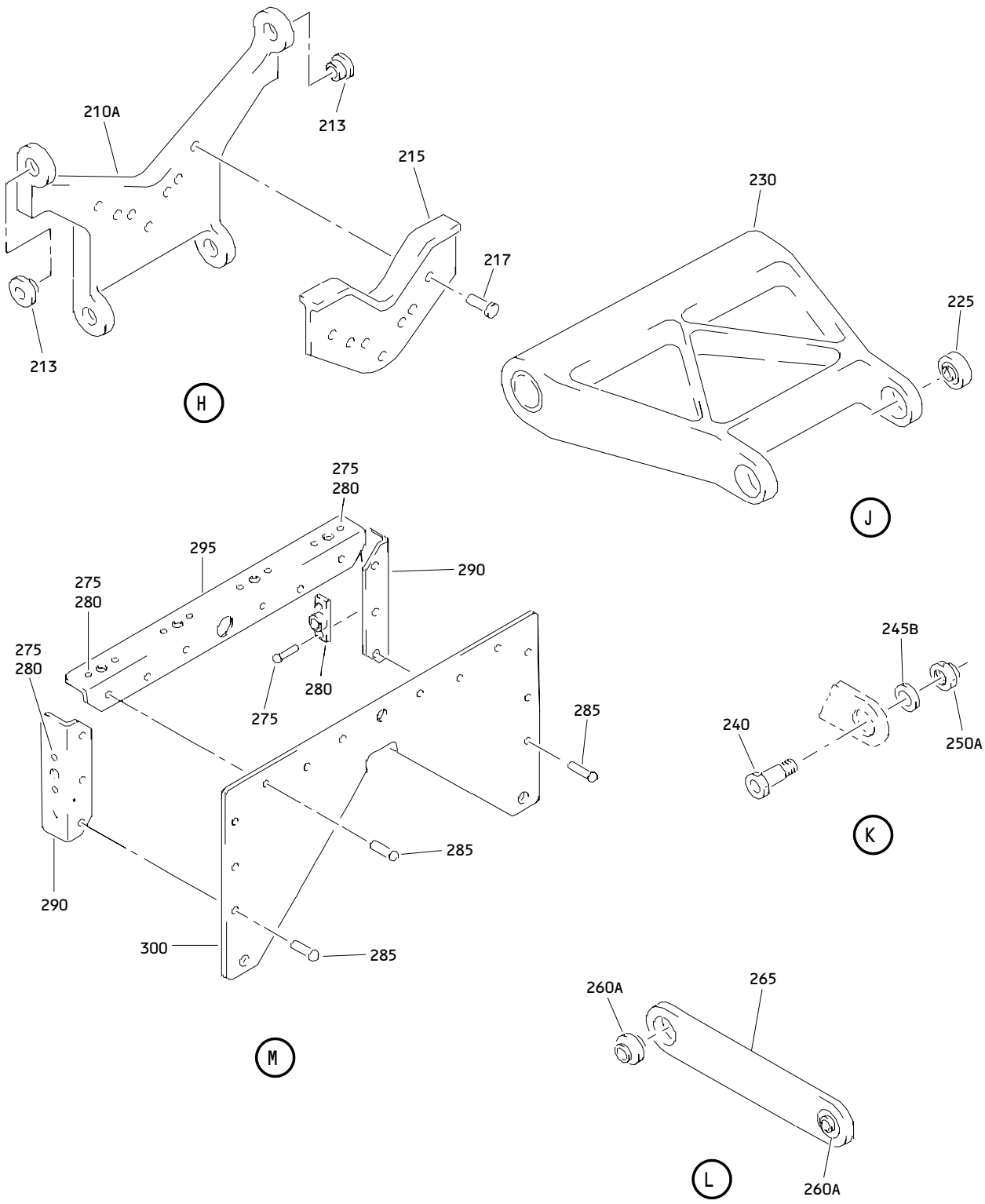


Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 4)

T60438



Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 5)



Nose Wheel Steering Drum and Lockout Assembly
Figure 1 (Sheet 6)

T60440

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1B	257T4318-4		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (PRE SB 32-22)	A	RF
-1C	257T4318-5		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (PRE SB 32-22)	B	RF
-1D	257T4318-6		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (PRE SB 32-0166)	C	RF
-1E	257T4318-7		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (POST SB 32-22) (PRE SB 32-0166)	D	RF
-1F	257T4318-8		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (PRE SB 32-0166)	E	RF
-1G	257T4318-9		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (PRE SB 32-0166)	F	RF
-1H	257T4318-10		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING	G	RF
-1J	015T1626-6		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (POST SB 32-0166)	H	RF
-1K	015T1626-7		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (POST SB 32-0166)	I	RF
-1L	015T1626-8		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (POST SB 32-0166)	J	RF
-1M	015T1626-9		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING (POST SB 32-0166)	K	RF
-1N	257T4318-11		DRUM AND LOCKOUT ASSY-NOSE WHL STEERING	L	RF
5	BACN10JC10		.NUT	A-F H-K	1
-5A	BACN10JC10CD		.NUT	GL	1
10	AN960PD1016		.WASHER	A-F H-K	1
-10A	NAS1149D1063J		.WASHER	GL	1
15	257T4301-1		.DRUM ASSY		1
20	BACB28X4M050		..BUSHING		2
25	NAS428KH4-13		..BOLT		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
30	NAS509-4		..NUT		4
35	257T4301-2		..DRUM		1
37	257T4314-1		.SPACER	L	1
40A	NAS623-3-34		.SCREW		3
45	AN960PD10		.WASHER	A-F H-K	3
-45A	NAS1149D0363J		.WASHER	GL	3
50	BACN10JC3		.NUT	A-F H-K	3
-50A	BACN10JC3CD		.NUT	GL	3
55	NAS42DD6-82		.SPACER	A-F H-K	3
-55A	NAS42DD6-82FC		.SPACER	GL	3
60	BACB10BW16		.BEARING	AB	1
-60A	BACB10FR16		.BEARING	GHJKL	1
61	BACB10CJ16		.BEARING-	CEF K	1
62A	NAS43HT16-73		.SPACER	ABGHJ KL	1
62B	NAS43HT16-64		.SPACER	CEF	1
64	MS15001-1		.FITTING	CEF	2
65A	257T4302-6		.HOUSING ASSY	A	1
-65B	257T4302-10		.HOUSING ASSY	BDI	1
65C	257T4302-14		.HOUSING ASSY (REPLD BY ITEM 65F) (PRE SB 32-0166)	C	1
-65D	257T4302-16		.HOUSING ASSY (REPLD BY ITEM 65F) (PRE SB 32-0166)	E	1
-65E	257T4302-18		.HOUSING ASSY (PRE SB 32-0166)	F	1
-65F	257T4302-18		.HOUSING ASSY (REPLS ITEMS 65C,65D) (PRE SB 32-0166)	CE	1
-65G	257T4302-19		.HOUSING ASSY	GL	1
-65H	257T4302-19		.HOUSING ASSY (POST SB 32-0166)	CEFHJ K	1
			ATTACHING PARTS		
70A	BACB30LU4-13		.BOLT		2
75A	AN960KD416		DELETED		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
75B	BACW10P128D		.WASHER		2
77	NAS1149D0432K		.WASHER		2
80	H10-4BAC		DELETED		
80A	BACN10JC4CD		.NUT-		2
			-------*-------		
85	BACB10BW16		..BEARING- (USED ON ITEMS 65A, 65B,65C) (REPLD BY ITEM 85A)		1
-85A	BACB10FR16		..BEARING- (PREF) (USED ON ITEMS 65A-65F)		1
-85B	BACB10BW16		..BEARING- (OPT) (USED ON ITEMS 65D,65F)		1
-85C	BACB10FR16		..BEARING- (USED ON ITEMS 65G,65H)		1
86	KP16B		DELETED		
87	BACB10BW16		..BEARING- (USED ON ITEMS 65A,65B)		1
-87A	BACB10CJ16		..BEARING- (USED ON ITEMS 65C-65F)		1
-87B	BACB10FR16		..BEARING- (USED ON ITEMS 65G,65H)		1
88	BACB10FR16		DELETED		
95	BACN10KH3		..NUTPLATE-		6
100	BACR15DR3		..RIVET- (SIZE DETERMINE ON INST)		12
105A	257T4302-7		..HOUSING- (USED ON ITEM 65A)		1
-105B	257T4302-9		..HOUSING- (OPT) (USED ON ITEM 65A)		1
-105C	257T4302-11		..HOUSING- (USED ON ITEM 65B) (PRE-SB 32-0166)		1
-105D	257T4302-12		..HOUSING- (OPT) (USED ON ITEM 65B) (PRE-SB 32-0166)		1
-105E	257T4302-13		..HOUSING (USED ON ITEM 65C) (PRE-SB 32-0166)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-105F	257T4302-15		..HOUSING (USED ON ITEM 65D) (PRE-SB 32-0166)		1
-105G	257T4302-17		..HOUSING (USED ON ITEM 65E,65F) (PRE-SB 32-0166)		1
-105H	257T4302-20		..HOUSING (USED ON ITEM 65G,65H)		1
-105J	015T1626-111		..HOUSING (USED ON ITEM 65B) (POST-SB 32-0166)		1
-105K	015T1626-112		..HOUSING (USED ON ITEM 65B) (OPT) (POST-SB 32-0166)		1
-105L	015T1626-113		..HOUSING (USED ON ITEM 65C) (POST-SB 32-0166)		1
-105M	015T1626-115		..HOUSING (USED ON ITEM 65D) (POST-SB 32-0166)		1
-105N	015T1626-117		..HOUSING (USED ON ITEM 65E,65F) (POST-SB 32-0166)		1
110	257T4307-1		.SHAFT ASSY	ABDGIL	1
-110A	257T4307-3		.SHAFT ASSY	CEFHJK	1
115	BACB30LU8-26		..BOLT		1
120	AN960PD816		..WASHER		1
125	BACN10JC8		..NUT-		1
130	BACB10EU08		..BEARING		1
135	257T4307-2		..SHAFT (USED ON ITEM 110)		1
-135A	257T4307-4		..SHAFT (USED ON ITEM 110A)		1
140	H10-8BAC		DELETED		
140A	BACN10JC8CD		.NUT		2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
145	AN960PD816		.WASHER	A-F H-K	2
-145A	NAS1149D0863J		.WASHER	GL	2
150	NAS73-16E113		.SPACER		1
155	NAS73-16E007		.SPACER		1
160	BACB10BX12		.BEARING	A-D H-K	1
160A	BACB10FS12		.BEARING (OPT)	A-D H-K	1
-160B	BACB10BX12		.BEARING- (OPT)	EFGL	1
-160C	BACB10FS12		.BEARING- (PREF)	EFGL	1
165	BACB28AK12-044		.BUSHING		1
170	257T4324-1		.CRANK-DRIVE		1
175	257T4325-1		.SHAFT-DRIVE		1
180	BACB30NF5-74		.BOLT		1
185	AN960PD516		DELETED		
185A	NAS1149D0563J		.WASHER		1
190	H10-5BAC		DELETED		
190A	BACN10JC5CD		.NUT-		1
195	BACB28AK05-377		.BUSHING		1
200	BACB10AC5A		.BEARING-		1
205A	257T4317-2		.CAM ASSY		1
210A	257T4304-2		..LINK-SPRT		1
213	BACB28X4C024		..BUSHING		2
215	257T4303-1		..CAM ATTACHING PARTS		1
217	BACR15FT5KE		..RIVET- (SIZE DETERMINE ON INST) -------*-------		7
220	257T4330-1		.DRIVER ASSY-CAM CENTERING (OPT ITEM 220A)		1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-220A	257T4336-1		.DRIVER ASSY-CAM CENTERING (OPT ITEM 220)		1
225	BACB10AC5A		..BEARING- (USED ON ITEM 220)		1
-225A	BACB10BX5		..BEARING- (USED ON ITEM 220A)		1
230	257T4330-2		..DRIVER- (USED ON ITEM 220)		1
-230A	257T4336-2		..DRIVER- (USED ON ITEM 220A)		1
235A	257T4305-3		.LINK ASSY-GUIDE ATTACHING PARTS		2
240	BACB30NF4-11		.BOLT		2
245A	AN960KD416		DELETED		
245B	NAS1149D0432K		.WASHER		2
250	H10-4BAC		DELETED		
250A	BACN10JC4CD		.NUT -------*-------		2
260A	BACB10AC4A		..BEARING		2
265	257T4305-2		..LINK		1
270	257T4337-1		.SUPPORT ASSY-COVER		1
275	BACR15DR3		..RIVET- (SIZE DETERMINE ON INST)		12
280	BACN10JR3F		..NUTPLATE-		6
285	BACR15FT5KEC		..RIVET- (SIZE DETERMINE ON INST)		12
290	257T4337-4		..ANGLE		2
295	257T4337-3		..ANGLE-SPRT		1
300	257T4337-2		..BRACKET-SPRT		1
305	257T4338-1		.SLEEVE-SWAGE	D	1
-305A	257T4338-3		.SLEEVE-SWAGE	I	1
310	257T4339-1		.BUSHING-SPLIT	DI	2
315	NAS43HT16-64		.SPACER	D	1
-315A	NAS43HT16-73		.SPACER	I	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
320	BACB10CJ16		.BEARING	D	2
-320A	BACB10FR16		.BEARING	I	2
325	NAS1398D5-5		.RIVET	D	3
-325A	NAS1398D6A5		.RIVET	I	3
330	MS15001-1		.FITTING	D	2