TO: ALL HOLDERS OF ELEVATOR CONTROL TORQUE TUBE ASSEMBLY COMPONENT MAINTENANCE MANUAL 27-31-37

REVISION NO. 12 DATED MAR 01/00

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 on the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
TITLE PAGE	Incorporated PRR 13204 which added new top assemblies
1	253T2127-21 and -22 that use new force transducer
TR & SB RECORD	assemblies 253T2311-9 and -10.
1	
DESCRIPTION & OPERATION	
1	
301-302	
501	
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REPAIR 1-1	
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1014,1017-1030,	
1032-1039,1041	

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
CONTENTS 1	Edited text.
REPAIR 2-1 602	
401	Clarified text for Chapter 20 references.
501	
REPAIR 2-1 601	
REPAIR 3-1 601	
REPAIR 4-1 601	
REPAIR 5-1 601	
REPAIR 6-1 601	
REPAIR 7-1 601	
REPAIR 8-1 601	
REPAIR 9-1 601	
REPAIR 10-1 601	
701-703	
REPAIR-GEN 603	Updated true position dimensioning symbols.
701-703 901	Removed tool fixture A27082-1.

BOEING

COMPONENT
MAINTENANCE MANUAL

ELEVATOR CONTROL TORQUE TUBE ASSEMBLY

PART NUMBER 253T2127-5 THRU -19, -21,-22

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

3990

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 B10479	APR 10/82
		PRR B11720	JAN 01/89
767-27-0121			JUN 01/95
		PRR 13204	MAR 01/00

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*706	MAR 01/00	01.1
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1001	JUL 10/83	01
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*1004	MAR 01/00	01.1
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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	JAN 21/83
Assembly	JAN 21/83

ELEVATOR CONTROL TORQUE TUBE ASSEMBLY

DESCRIPTION AND OPERATION

1. The elevator control torque tube assembly consists of a follower assembly, support with a stick shaker, support fitting, transducer assembly, torque tube and two arm assemblies. The torque tube assembly is connected to the control column and its rotational output is sent to the tension regulators. The regulators, in turn, send the output to the elevator control aft quadrant assemblies.

2. Leading Particulars (Approximate)

A. 253T2127-5, -7, -9, -11, -13, -15, -17, -19, -21 Assemblies

Diameter -- 12 inches
Length -- 51 inches
Weight -- 21 pounds

B. 253T2127-6, -8, -10, -12, -14, -16, -18, -22 Assemblies

Diameter -- 12 inches
Length -- 22 inches
Weight -- 14 pounds

DISASSEMBLY

NOTE: Disassemble this component only as necessary to complete fault isolation, determine the serviceability of parts, perform required repairs, and restore the unit to serviceable condition.

1. Disassembly of 253T2127-5, -7, -9, -11, -13, -15, -17, -18, -19, -21 (IPL Fig. 1)

A. On 253T2127-5, -7, -11, -13, -15, -18, -19, -21 remove rivets (10) and transducer assembly (5) from torque tube (255).
On 253T2127-9, -17, remove rivets (10) and crank assembly (7) from torque tube (255).

NOTE: Refer to par. 3 for disassembly of transducer assembly (253T2311-1, -3, -5, -7, -9).

B. Remove rivets (20) and support fitting (15) from torque tube (255).

C. Remove bolts (30), washers (35), nuts (40) and stick shaker (25A) from support (45B or 45C or 45D).

D. Remove rivets (50) and support (45B or 45C or 45D) from torque tube (255).

WARNING: USE EXTREME CARE DURING SPRING REMOVAL. SPRINGS ARE HEAVILY LOADED.

CAUTION: DO NOT USE TOOLS THAT MAY CAUSE DAMAGE TO SPRING.

E. Remove springs (55) from arm assemblies (115, 135) and follower assembly (170).

F. On 253T2127-21, remove rivets (58) and remove crank (57) from torue tube (255).

G. Remove bolts (60, 65), spacer (70), washers (75), nuts (90), and bushings (95, 100) from arm assemblies (115, 135).

H. Remove rivets (120) and arm assembly (115) from torque tube (255).

NOTE: Do not remove bushings (105, 125) from arm (130) unless necessary for repair or replacement.

I. Remove rivets (140) and arm assembly (135) from torque tube (255).

NOTE: Do not remove bushings (105, 145) from arm (150) unless necessary for repair or replacement.

J. Remove bolts (80), washers (85), nuts (90), plain bushing (110) and follower assembly (170).

NOTE: Do not disassemble follower assembly (170) unless necessary for repair or replacement.

K. Remove screws (155), nuts (160), and fittings (165) from follower assembly (170).

2. Disassembly of 253T2127-6, -8, -10, -12, -14, -16, -22 (IPL Fig. 2)

A. Remove bolts (15), washers (20), nuts (25) and cam (10) from override crank assembly (30).

B. Remove rivets (35) and override crank assembly (30) from torque tube (110).

NOTE: Do not remove bushings (5, 40A) from crank assembly (30).

C. Remove rivets (55) and fitting (50) from torque tube (110).

D. On 253T2127-22, remove rivets (58) and remove crank (57) from torque tube (100).

E. Remove bolts (65), washers (70), nuts (75) and stick shaker (60A) from support (80B or 80C or 80D).

F. Remove rivets (85) and support (80B or 80C or 80D) from torque tube (110).

G. On 253T2127-6, -8, -12, -14, -16, -22, remove rivets (95) and transducer assembly (90) from torque tube (110).
On 253T2127-10, remove rivets (95) and crank assembly (92) from torque tube (110).

NOTE: Refer to par. 3., for disassembly of transducer assembly (90).

H. Remove rivets (105) and stop (100) from torque tube (110).

3. Disassembly of Transducer Assembly (IPL Fig. 3)

NOTE: Do not remove flanged bushings unless necessary for repair or replacement.

A. Remove bolts (10), washers (15), nuts (20) and transducer (25).

B. Remove bolts (30, 50, 52), washers (35, 55, 57), plain bushings (45, 65), nuts (40, 60), collar (62), and arm assembly (70) from crank assembly (95 or 100).

C. Remove spacer (150) and bearing (145) from crank assembly (95 or 100).

NOTE: Do not remove bearing (105) from crank assembly (95 or 100) unless necessary for repair or replacement.

CLEANING

1. Clean all parts but not the bearings shown in 20-30-03.

2. Clean teflon-sealed bearings (210, IPL Fig. 1 and 105, 145, IPL Fig. 3) as shown in manufacturer's suggested procedures.

CHECK

1. Check all parts for defects in accordance with standard industry practices.

2. Check spring (55, IPL Fig. 1).

   A. Extend spring to 7.10-7.16 inches and check that load is 11.15-13.65 lbs.

   B. Extend spring to 10.26-10.32 inches and check that load is 46.17-56.43 lbs.

   C. Visually check springs for nicks, scratches or other damage. Replace spring if damage is found.

3. Check Detail Parts for 253T2127-5, -7, -9, -11, -13, -15, -17, -18, -19, -21 (IPL Fig. 1)

   A. Magnetic particle check as shown in 20-20-01 -- Spring (55), fitting (165) and retainer (205).

   B. Penetrant check as shown in 20-20-02 -- Fitting (15), support (45B, 45C, 45D), crank (57), spacer (70), arm (130, 150), follower (215) and tube (255).

4. Check Detail Parts for 253T2127-6, -8, -10, -12, -14, -16, -22 (IPL Fig. 2)

   A. Magnetic particle check as shown in 20-20-01 -- Cam (10).

   B. Penetrant check as shown in 20-20-02 -- Crank (45, 57), fitting (50), support (80B, 80C), stop (100), and tube (110).

5. Check Detail Parts for 253T2311-1 thru -10 (IPL Fig. 3)

   A. Penetrant check as shown in 20-20-02 -- Arm (90) and crank (125, 130)

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
253T2126	SUPPORT	1-1, 1-2
253T2130	FOLLOWER	2-1
253T2131	ARM	3-1
253T2134	ARM	4-1
253T2146	CRANK, OVERRIDE	5-1
253T2312	ARM	6-1, 6-2, 6-3, 6-4
253T2313	CRANK	7-1, 7-2
253T2314	CRANK	8-1, 8-2
253T2316	CRANK	9-1
253T2317	CRANK	10-1
- -	MISC PARTS REFINISH	11-1
253T2152	TORQUE TUBE	12-1

2. Standard Procedures

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

20-30-01 Cleaning and Relubricating Antifriction Bearing
20-30-02 Stripping of Protective Finishes
20-30-03 General Cleaning Procedure
20-41-01 Decoding Table for Boeing Finish Codes
20-42-05 Bright Cadmium Plating
20-43-01 Chromic Acid Anodizing
20-50-01 Bolt and Nut Installation
20-50-03 Bearing Installation and Retention
20-50-12 Application of Adhesives

3. Materials

NOTE: Equivalent substitutes may be used.

A. Primer -- BMS 10-11, type 1 (Ref 20-60-02)

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

C. Adhesive -- Type 44 (Ref 20-50-12)

—	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 WHICH 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 B WITHIN 0.002
[// | 0.002 | A]	PARALLEL TO 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 PLANE A
[⌓ | 0.020 | A]	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
[◎ | ∅ 0.0005 | C]	CONCENTRIC TO C WITHIN 0.0005 DIAMETER
[≡ | 0.010 | A]	SYMMETRICAL WITH A WITHIN 0.010
[∠ | 0.005 | A]	ANGULAR TOLERANCE 0.005 WITH 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, AND EXTENDING 0.510-INCH ABOVE, DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	THEORETICALLY EXACT DIMENSION IS 2.000

NOTE: DATUM MAY APPEAR AT EITHER SIDE OF TOLERANCE FRAME [0.020 | A] [A | 0.020]

True Position Dimensioning Symbols
Figure 601

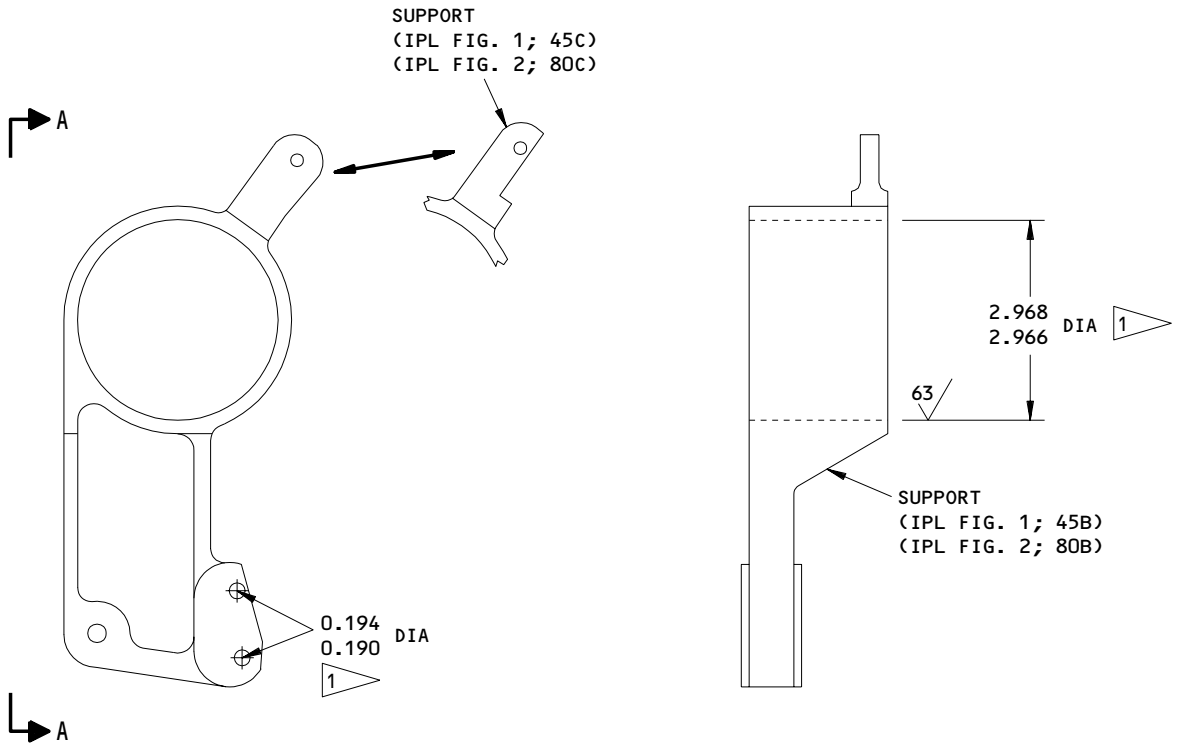
3993

SUPPORT - REPAIR 1-1

253T2126-4, -5

1. Plating Repair (IPL Fig. 1; 45B, IPL Fig. 2; 80B, Fig. 601)

NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601, and to REPAIR-GEN for list of applicable standard practices.



A-A

REFINISH

CHROMIC ACID ANODIZE (F-17.05) ALL OVER. APPLY A COAT OF PRIMER, BMS 10-11, TYPE I (F-20.02) BUT NOT WHEN NOTED 1

1 OMIT PRIMER

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

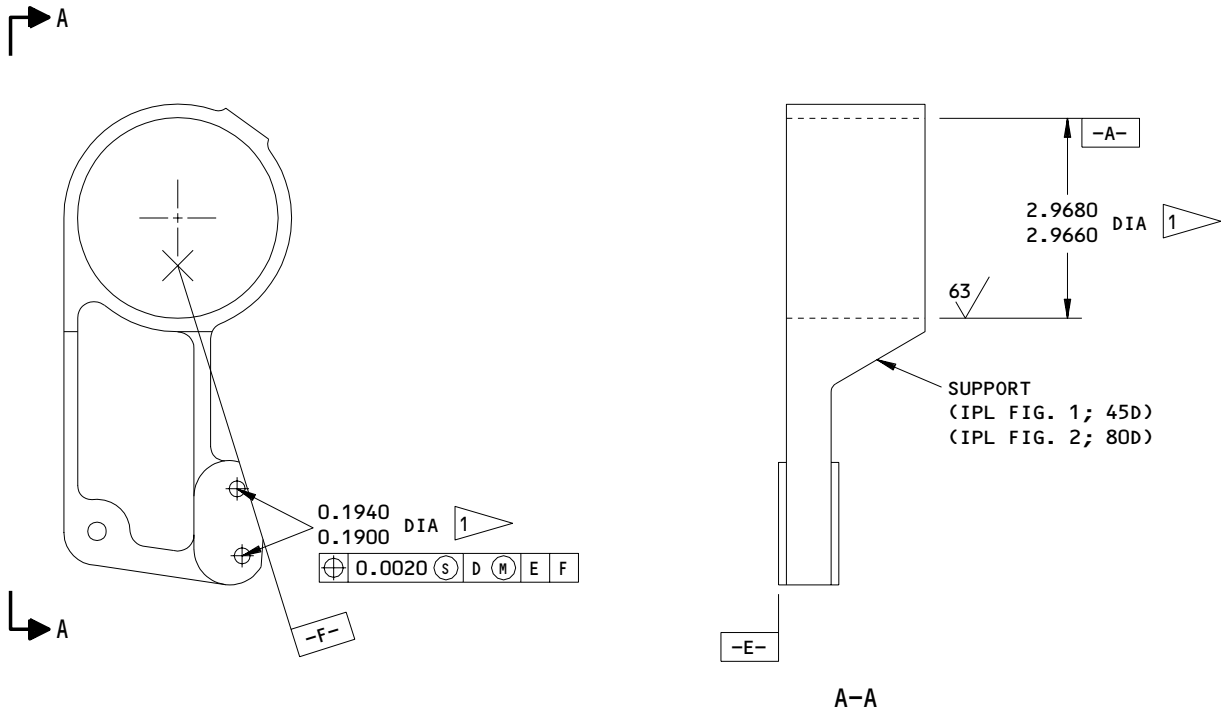
253T2126-4,-5
Support - Plating Repair
Figure 601

SUPPORT - REPAIR 1-2

253T2126-6

1. Refinish Repair (IPL Fig. 1; 45D, IPL Fig. 2; 80D, Fig. 601)

   NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601, and to REPAIR-GEN for list of applicable standard practices.



REFINISH

BORIC ACID - SULFURIC ACID ANODIZE (F-17.31) CLASS I OR 5, OR CHROMIC ACID ANODIZE ATT 22 VOLTS AS SHOWN IN SOPM 20-43-01, CLASS 3 OR 5. APPLY TWO LAYERS OF BMS 10-11, TYPE 1 PRIMER (F.20.03) BUT NOT WHEN IDENTIFIED BY 1

1 OMIT PRIMER

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

253T2126-6
Support - Refinish/Repair
Figure 601

L06145

FOLLOWER ASSEMBLY - REPAIR 2-1

253T2130-1

1. Bearing Replacement (IPL Fig. 1, Fig. 601)

   NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

   A. Remove bolts (190), washers (195), nuts (200), and retainers (205). Remove bearings (210).

   B. Install new bearings (210) as shown in 20-50-03.

   C. Install retainers (205) and secure with bolts (190), washers (195), and nuts (200).

2. Roller Replacement (IPL Fig. 1, Fig. 601)

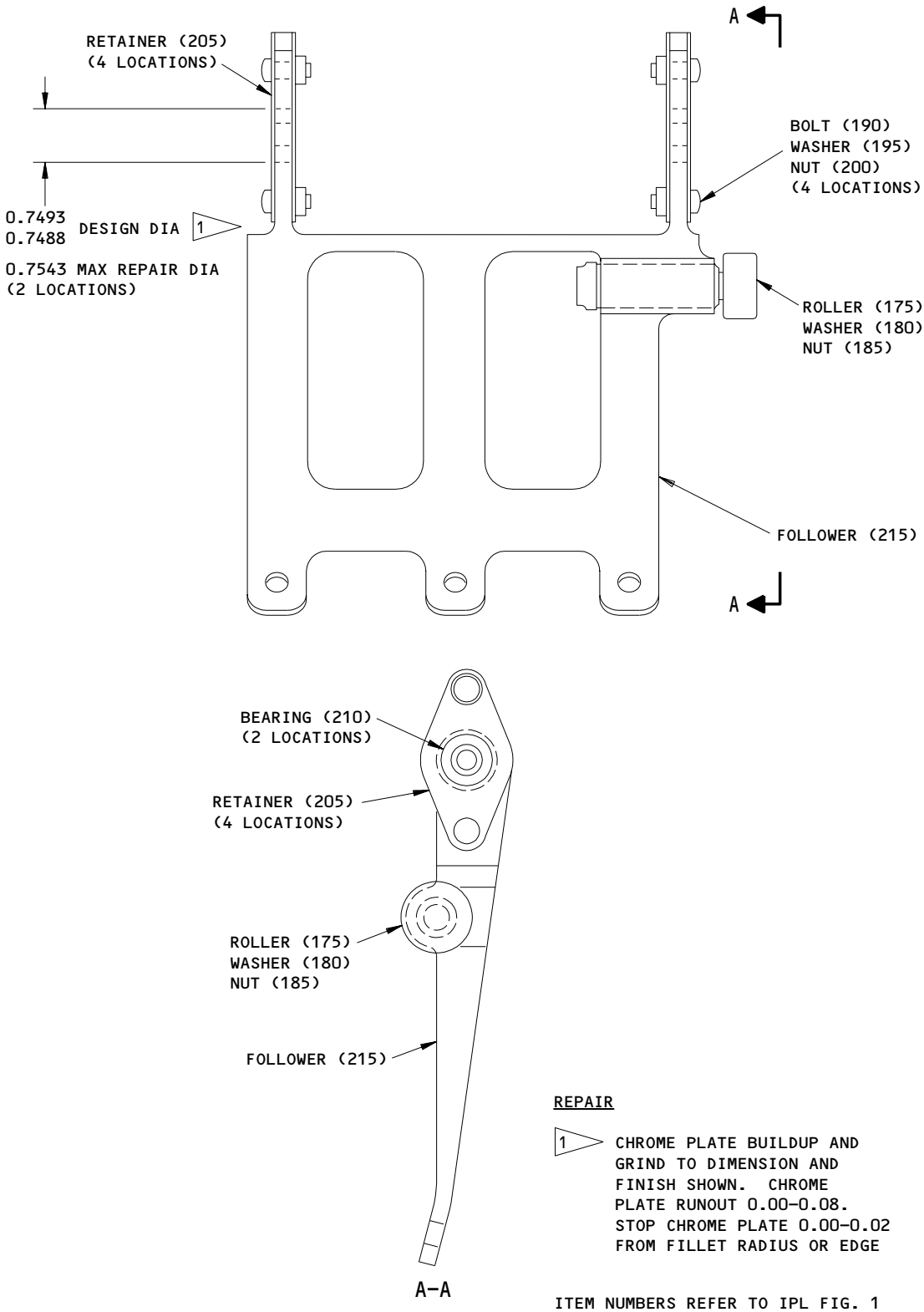
   A. Remove nut (185), washer (180), and roller (175) from follower (215).

   B. Install roller (175), washer (180) and nut (185) on follower (215).

3. Bearing Seat Repair (IPL Fig. 1, Fig. 601)

   A. Machine bearing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension shown.



REPAIR

1 CHROME PLATE BUILDUP AND GRIND TO DIMENSION AND FINISH SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

ITEM NUMBERS REFER TO IPL FIG. 1

253T2130-1
Follower Assembly - Bearing/Roller Replacement
Figure 601

ARM ASSEMBLY - REPAIR 3-1

253T2131-1

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

1. Bushing Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushings (105, 145).

   B. Install new bushings (145) as shown in 20-50-03.

   C. Install new bushings (105) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine to dimension shown.

   E. Fillet seal bushing (105) flanges with BMS 5-95 sealant.

2. Bushing Seat Replacement (IPL Fig. 1, Fig. 601)

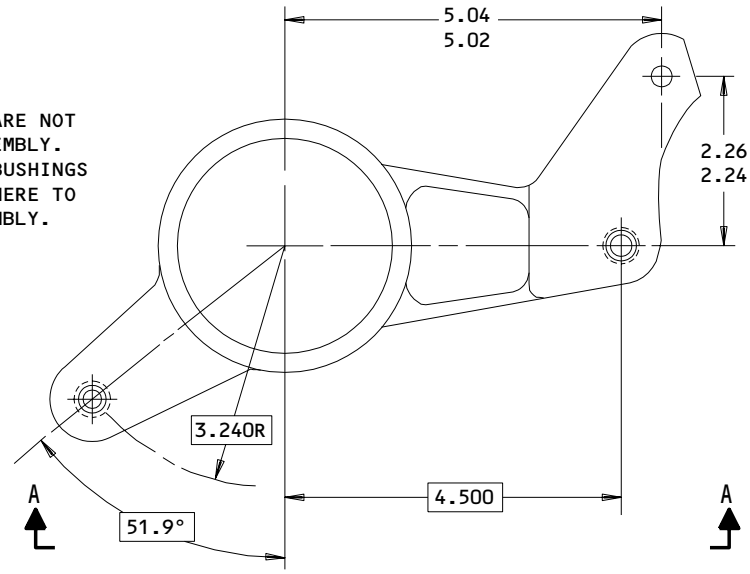
   A. Machine bushing seat as required, within repair limits shown, to remove defects.

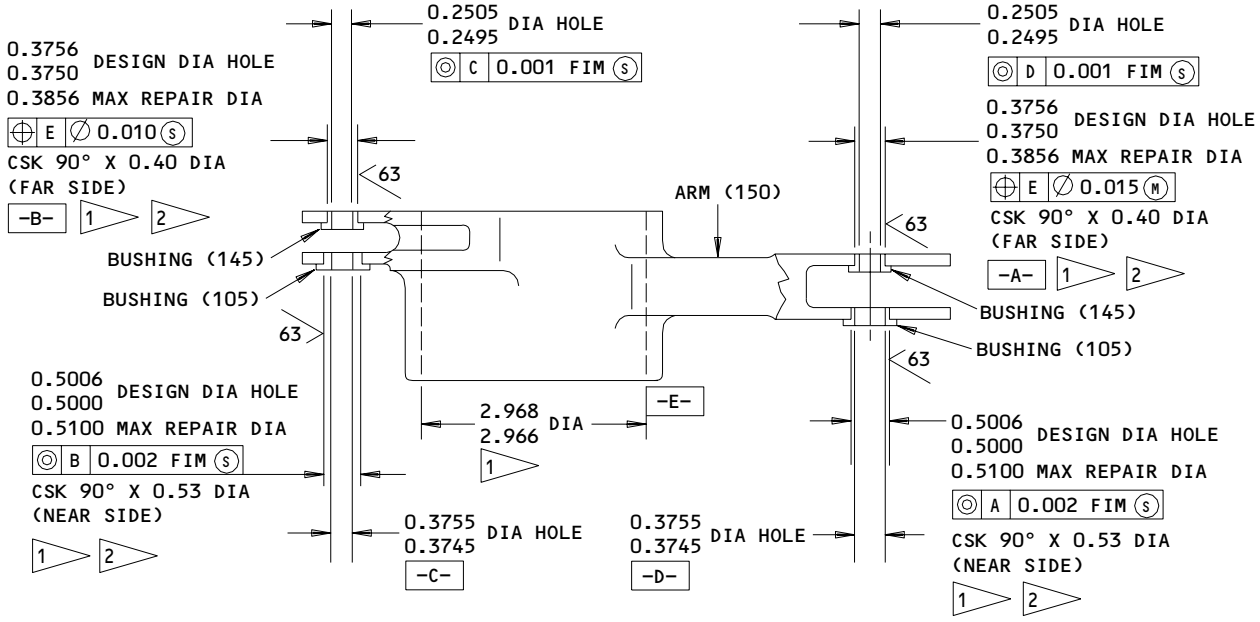
   B. Chrome plate build up repaired surface and grind to dimension shown.

3. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Arm Assembly.

NOTE: BUSHINGS (105) ARE NOT PART OF ARM ASSEMBLY. REPLACEMENT OF BUSHINGS (105) IS SHOWN HERE TO FACILITATE ASSEMBLY.





A-A

REFINISH

ARM (150) -- ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF PRIMER, BMS 10-11, TYPE I (F-20.02) EXCEPT AS NOTED

1 OMIT PRIMER

2 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION AND FINISH SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 2

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

253T2131-1
Arm Assembly - Bushing Replacement and Refinish
Figure 601

ARM ASSEMBLY - REPAIR 4-1

253T2134-1

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

1. Bushing Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushings (105, 125).

   B. Install new bushing (125) as shown in 20-50-03.

   C. Install new bushing (105) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine bushings to dimension shown.

   E. Fillet seal bushing (105) flange with BMS 5-95 sealant.

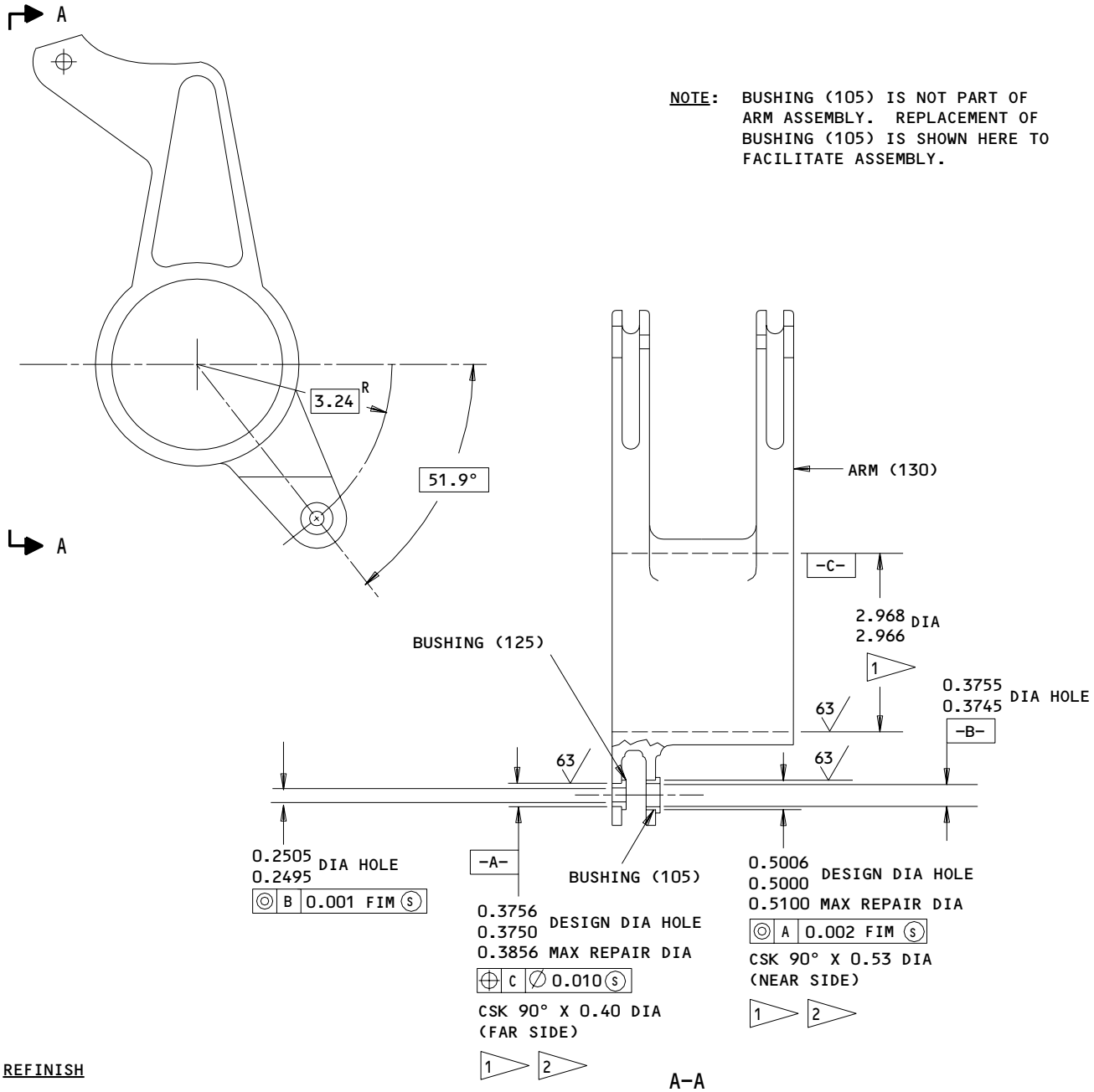
2. Bushing Seat Replacement (IPL Fig. 1, Fig. 601)

   A. Machine bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension and finish shown.

3. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Arm Assembly.



A-A

REFINISH

ARM (130) -- ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF PRIMER, BMS 10-11, TYPE I (F-20.02) EXCEPT AS NOTED

1 OMIT PRIMER

2 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION AND FINISH SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 2

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

253T2134-1
Arm - Bushing Replacement and Refinish
Figure 601

OVERRIDE CRANK ASSEMBLY - REPAIR 5-1

253T2146-1

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

1. Bushing Replacement (IPL Fig. 2, Fig. 601)

   A. Remove bushings (5, 40).

   B. Install new bushing (40) as shown in 20-50-03.

   C. Install new bushing (5) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine bushings to dimension shown.

   E. Fillet seal bushing (5) flange with BMS 5-95 sealant.

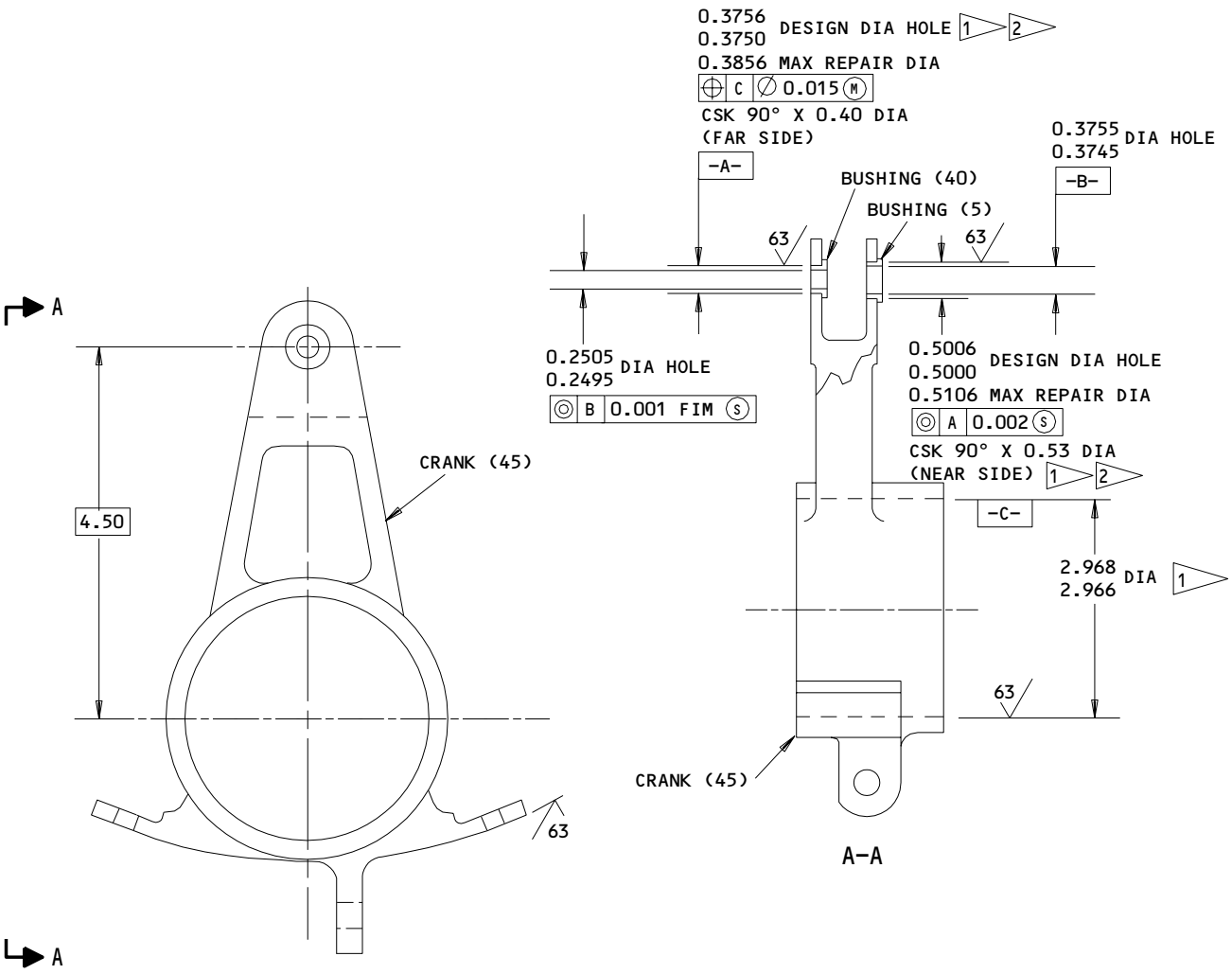
2. Bushing Seat Replacement (IPL Fig. 1, Fig. 601)

   A. Machine bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension and finish shown.

3. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Override Crank Assembly.



NOTE: BUSHING (5) IS NOT PART OF CRANK ASSEMBLY. REPLACEMENT OF BUSHING (5) IS SHOWN HERE TO FACILITATE ASSEMBLY.

REFINISH

CRANK (45) -- ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF PRIMER, BMS 10-11, TYPE I (F-20.02) EXCEPT AS NOTED

1 OMIT PRIMER

2 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 2

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

253T2146-1
Override Crank Assembly - Bushing Replacement and Refinish
Figure 601

ARM ASSEMBLY - REPAIR 6-1

253T2312-1

NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

1. Bushing Replacement (IPL Fig. 3, 601)

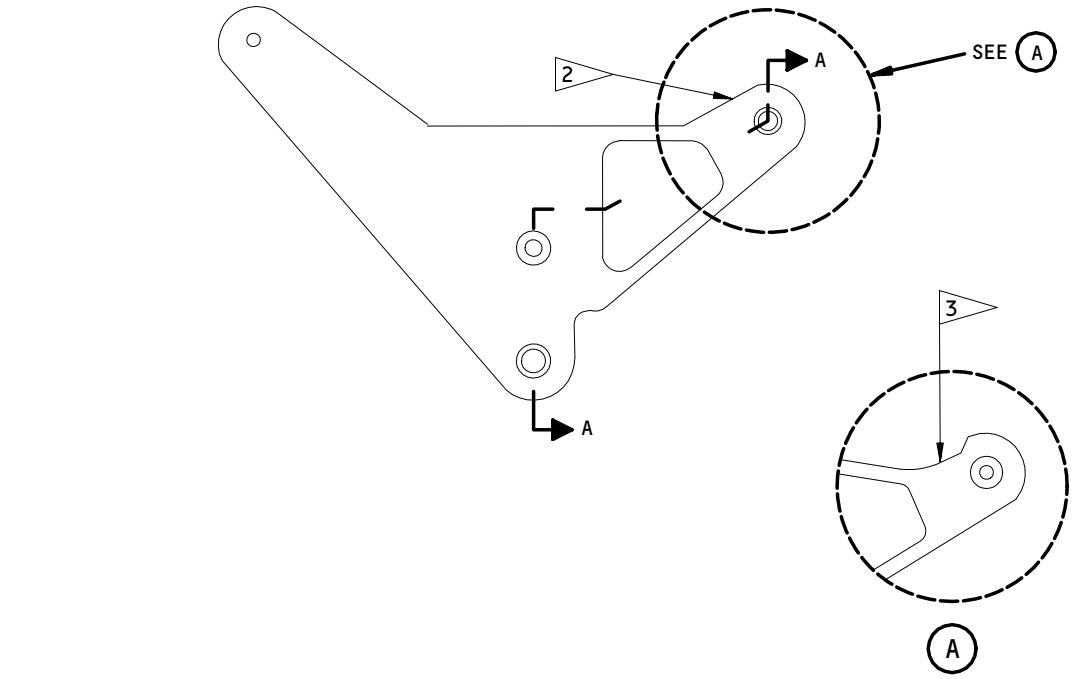
   A. Remove bushings (75, 80, 85, 135, 140, 155).

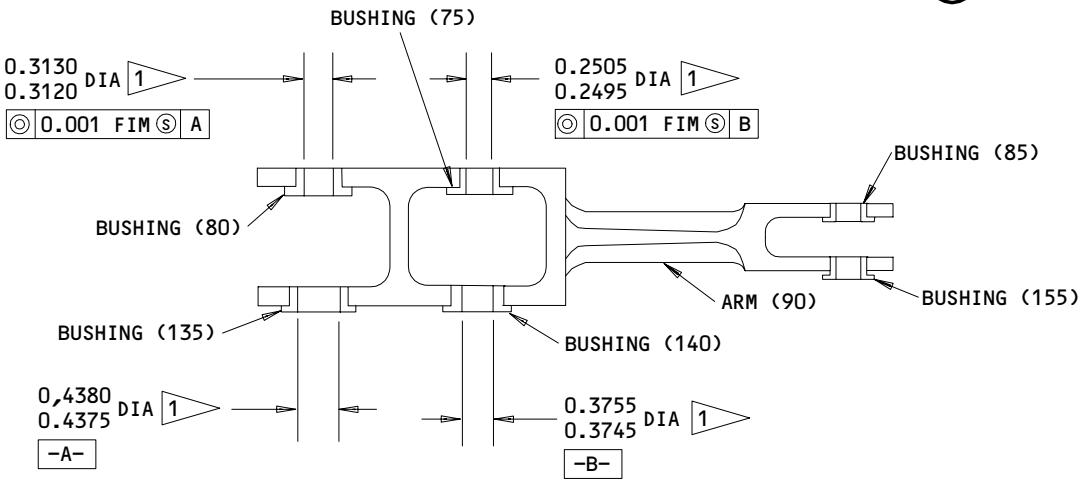
   B. Install new bushings (75, 80, 85) as shown in 20-50-03.

   C. Install new bushings (135, 140, 155) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine bushings (75, 80, 135, 140) to dimension shown.

   E. Fillet seal bushing (135, 140, 155) flanges with BMS 5-95 wet sealant.





A-A

1 DIMENSIONS APPLY AFTER INSTALLATION OF BUSHINGS

2 ORIGINAL PRODUCTION CONFIGURATION OF 253T2312-1 AND CONFIGURATION OF 253T2312-1 BEFORE INCORPORATION OF SB 767-27-0121.

3 NEW PRODUCTION CONFIGURATION OF 253T2312-1 AND CONFIGURATION OF 253T2312-1 AFTER INCORPORATION OF SB 767-27-0121.

NOTE: BUSHINGS (135,140,155) ARE NOT PART OF ARM ASSEMBLY. REPLACEMENT OF BUSHINGS (135,140,155) IS SHOWN HERE TO FACILITATE ASSEMBLY.

ITEM NUMBER REFERS TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

253T2312-1
Bushing Replacement
Figure 601

T21603

ARM - REPAIR 6-2

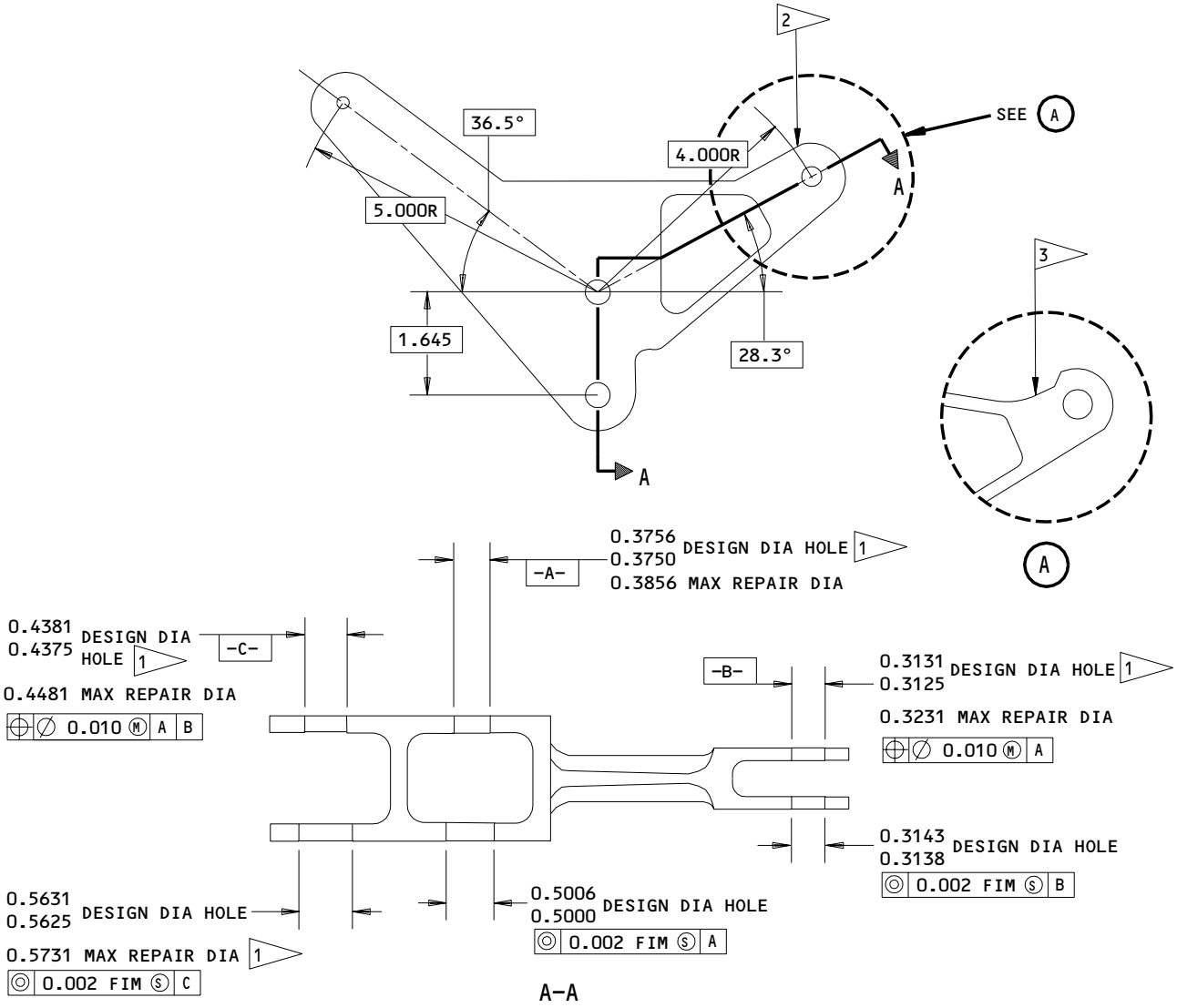
253T2312-2

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

1. Repair (Fig. 601)

A. Machine bearing seat as required, within repair limit shown to remove defects.

B. Chrome plate build up repaired surface and grind to dimension and finish shown.



A-A

REFINISH

ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER ON ALL ID'S

REPAIR

REF 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE.

2 ORIGINAL PRODUCTION CONFIGURATION OF 253T2312-2 AND CONFIGURATION OF 253T2312-2 BEFORE INCORPORATION OF SB 767-27-0121.

3 NEW PRODUCTION CONFIGURATION OF 253T2312-2 AND CONFIGURATION OF 253T2312-2 AFTER INCORPORATION OF SB 767-27-0121.

253T2312-2
Arm - Plating Repair
Figure 601

T21604

ARM ASSEMBLY - REPAIR 6-3

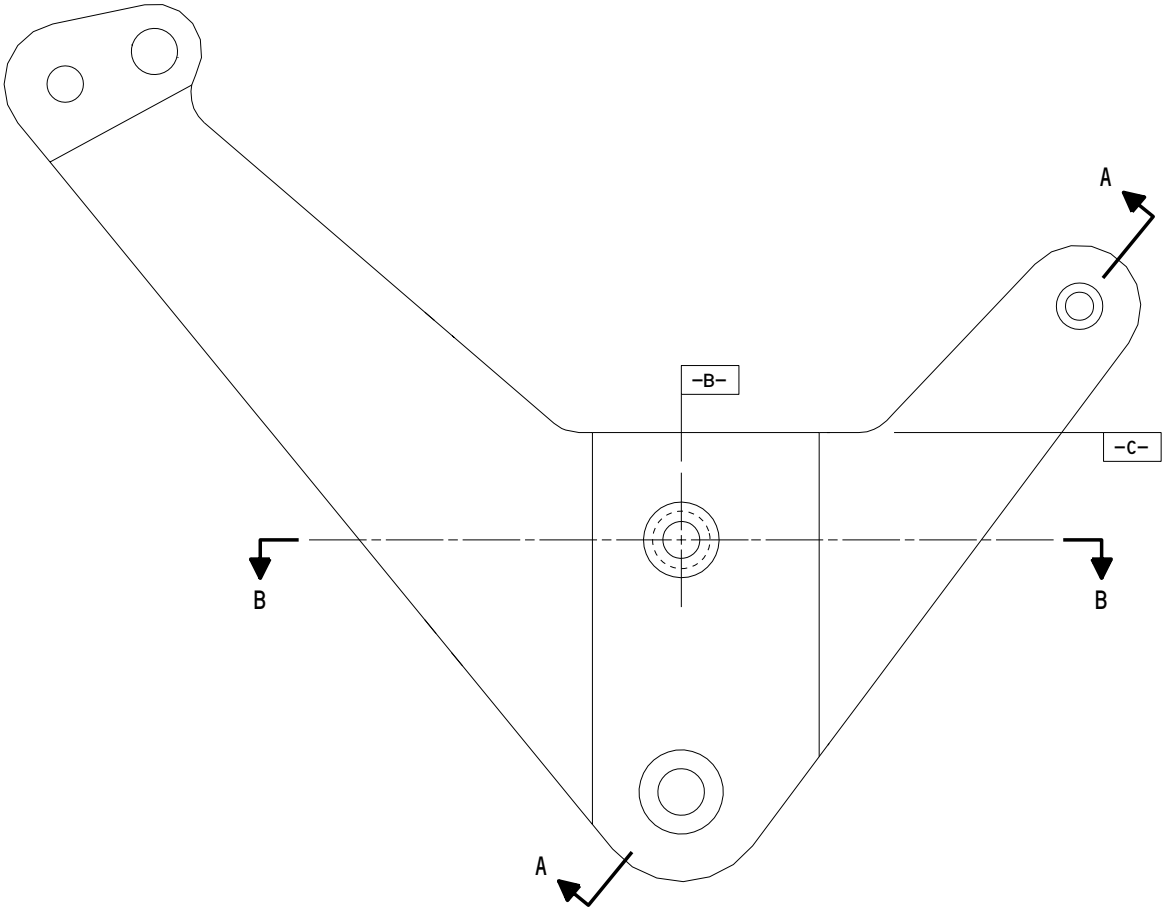
253T2312-4

NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

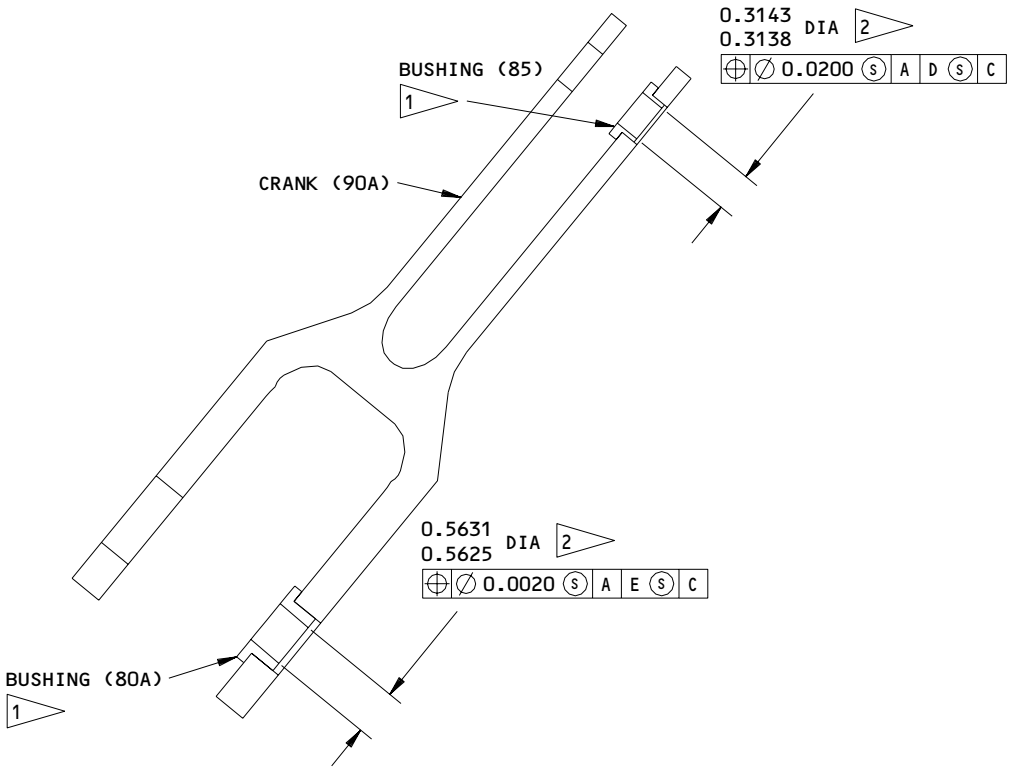
1. Bushing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bushings (75A, 80A, 85) from arm (90A).

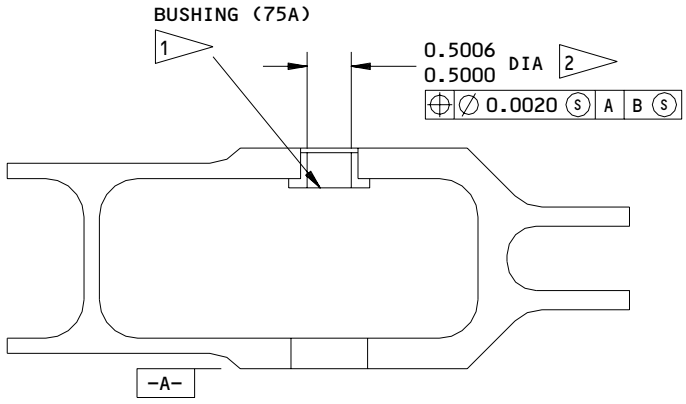
   B. Install new bushings (75A, 80A, 85) into arm (90A) by shrink-fit procedure as shown in SOPM 20-50-03.



253T2312-4
Arm Assembly Repair
Figure 601 (Sheet 1)



A–A



B–B

1 INSTALL THIS BUSHING BY SHRINK–FIT PROCEDURE AS SHOWN IN SOPM 20–50–03.

2 DO NOT PUT PROMER IN THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

253T2312–4
Arm Assembly Repair
Figure 601 (Sheet 2)

L07255

ARM - REPAIR 6-4

253T2312-5

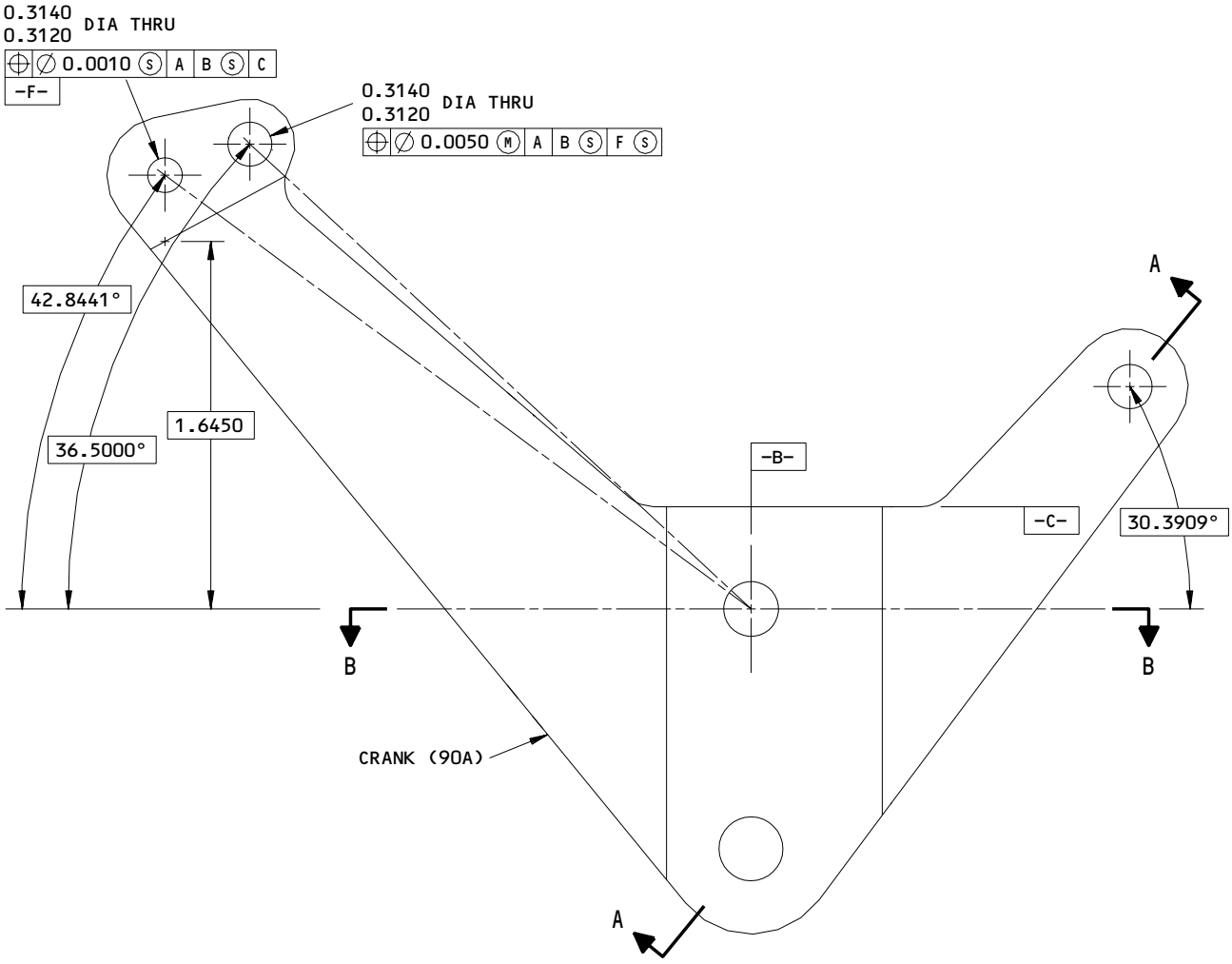
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces, which may only require restoration of original finish, refer to Refinish instructions, Fig. 601.

1. Arm Refinish (IPL Fig. 3, Fig. 601)

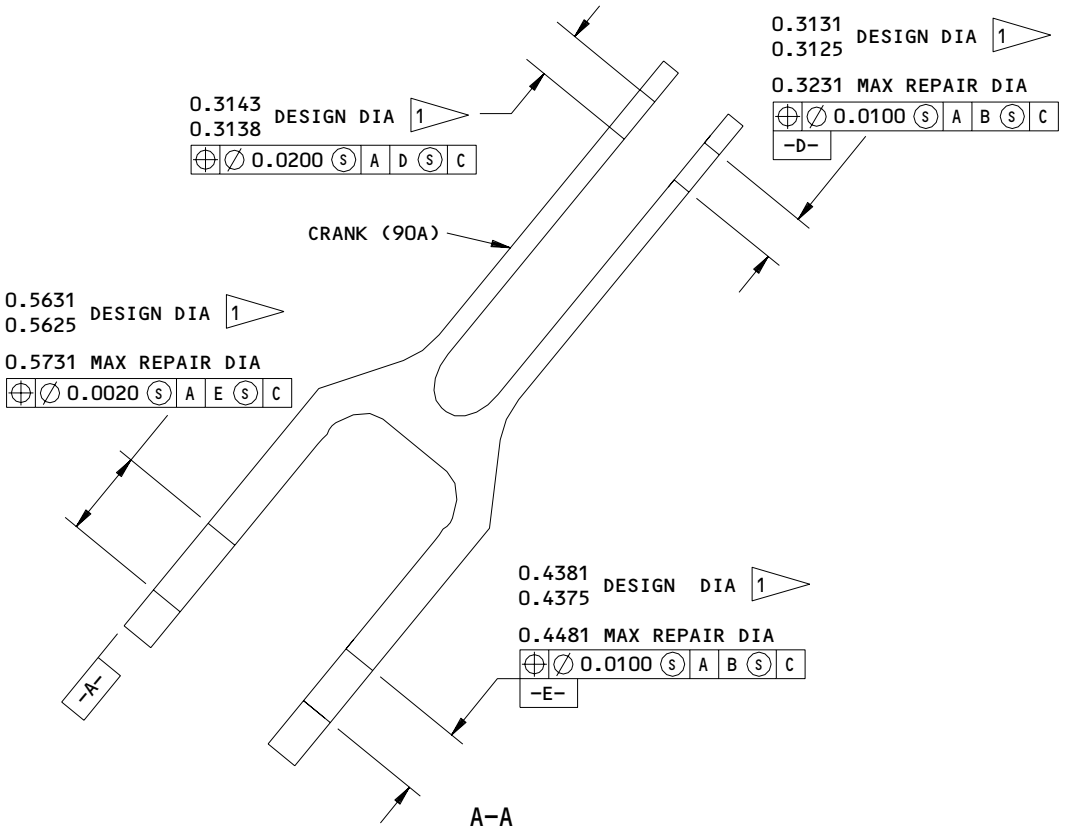
A. Machine as required, within repair limits shown in Fig. 601 to remove defects.

B. Boric acid-sulfuric acid anodize, class 1 or chromic acid anodize at 22 volts, class 3 (F-17.35) all surfaces as shown in SOPM 20-43-03.

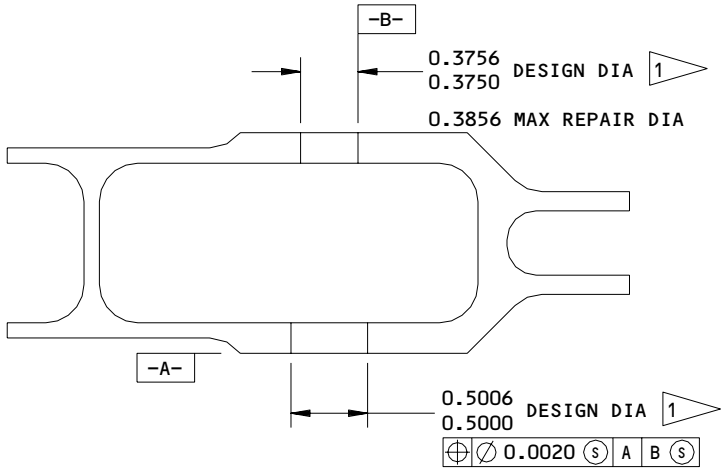
C. Apply two layers of BMS 10-11, type 1 primer (F-20.03) to all outside surfaces as shown in SOPM 20-41-02, but not in holes identified by flagnote 1 in Fig. 601.



253T2312-5
Arm Repair
Figure 601 (Sheet 1)



A-A



B-B

1 DO NOT PUT PROMER IN THIS SURFACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 3

ALL DIMENSIONS ARE IN INCHES

253T2312-5
Arm Repair
Figure 601 (Sheet 2)

L07341

CRANK ASSEMBLY - REPAIR 7-1

253T2313-1

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

1. Bushing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bushings.

   B. Install new bushings (110, 115, 120) as shown in 20-50-03.

   C. Install new bushings (155, 160) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine bushings (115, 160) to dimension shown.

   E. Fillet seal bushing (155, 160) flanges with BMS 5-95 sealant.

2. Bearing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bearing.

   B. Install and roller swage new bearing (105) as shown in 20-50-03 but use BMS 10-11, type 1, wet primer.

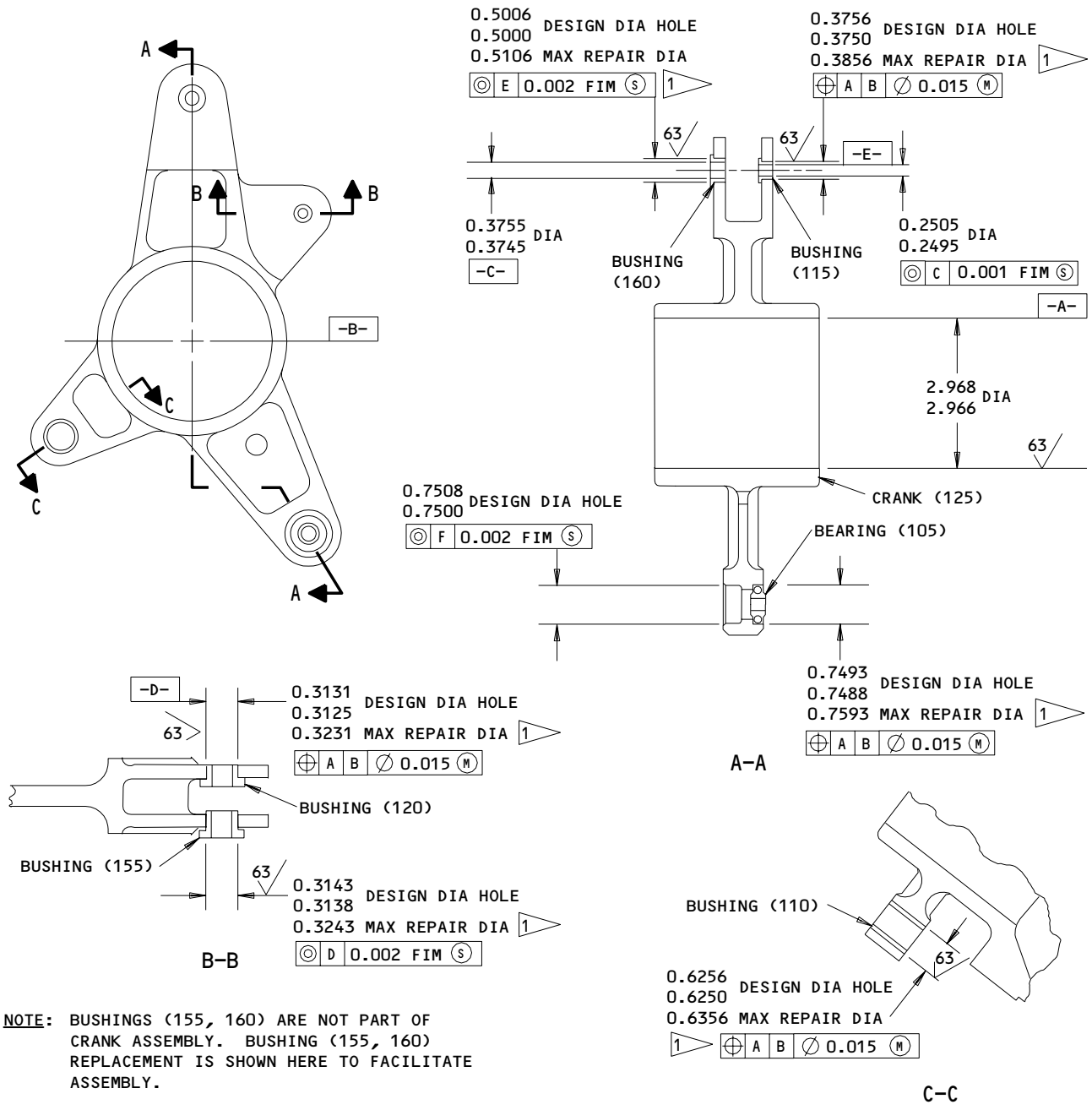
3. Bearing and Bushing Seat Repair (IPL Fig. 3, Fig. 601)

   A. Machine bearing or bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension shown.

4. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



NOTE: BUSHINGS (155, 160) ARE NOT PART OF CRANK ASSEMBLY. BUSHING (155, 160) REPLACEMENT IS SHOWN HERE TO FACILITATE ASSEMBLY.

REFINISH

ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER ON ALL ID'S

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 1

ALL DIMENSIONS ARE IN INCHES

253T2313-1
Crank Assembly - Repair
Figure 601

130933

CRANK ASSEMBLY - REPAIR 7-2

253T2313-4

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surface, which may only require restoration of original finish, refer to Refinish instructions.

1. Bushing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bushings (115A, 120) from crank (130A).

   B. Install new bushings (115A, 120) into crank (130A) by shrink-fit procedure as shown in SOPM 20-50-03.

   C. Machine bushings (115A, 120) to dimension shown.

2. Bearing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bearing (105A) from crank (130A).

   B. Install and roller swage new bearing (105A) into crank (130A) as shown in SOPM 20-50-03 but use BMS 10-11, type 1 wet primer.

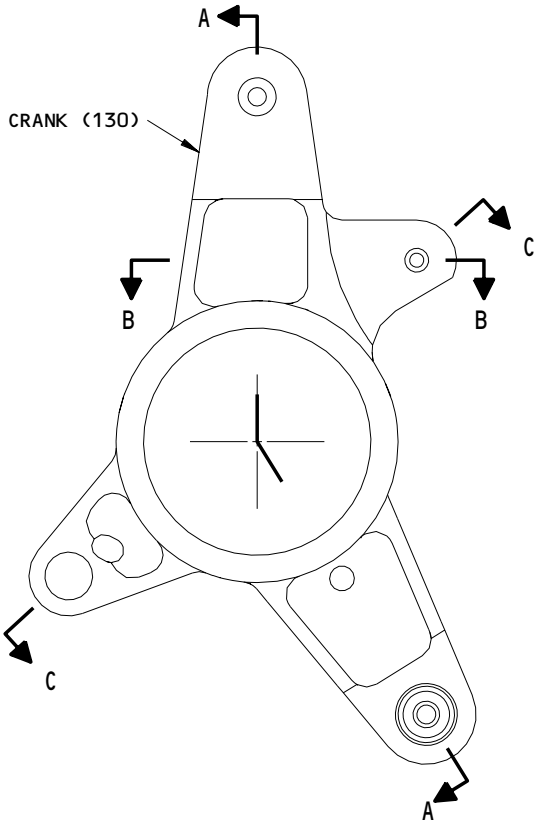
3. Bearing and Bushing Seat Repair (IPL Fig. 3, Fig. 601)

   A. Machine bearing or bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension shown.

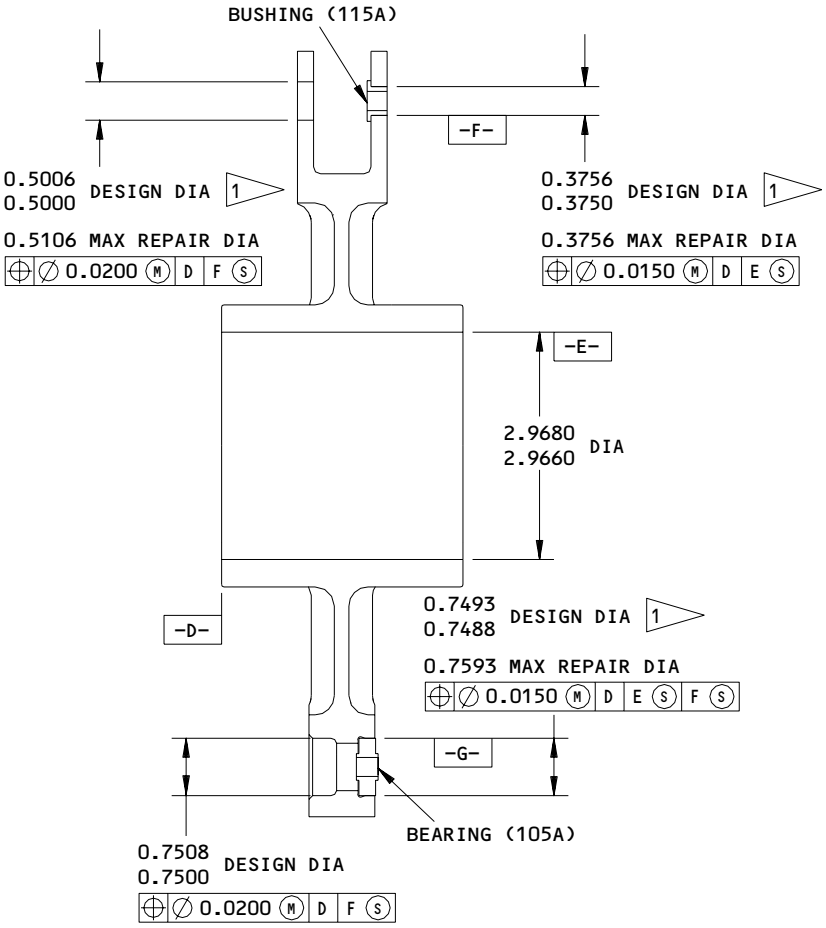
4. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



253T2313-4
Crank Assembly Repair
Figure 601 (Sheet 1)

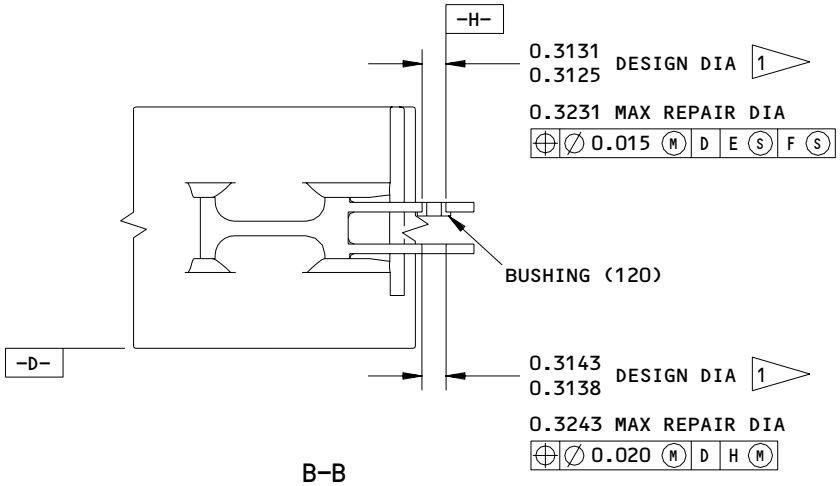
L07358



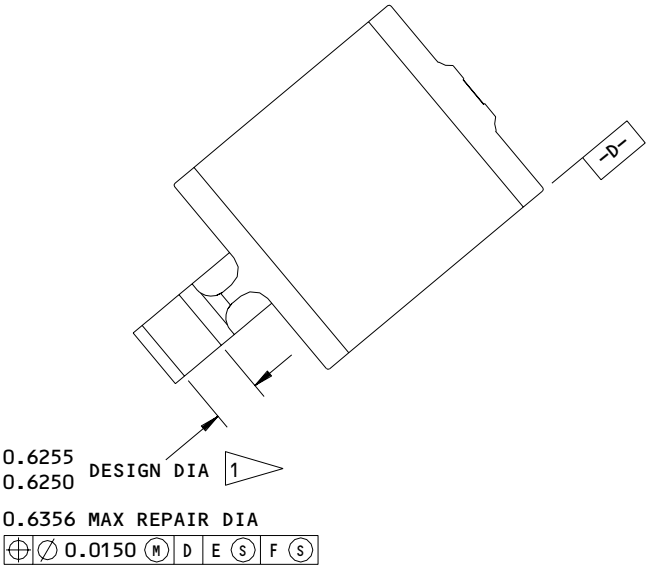
A-A

253T2313-4
Crank Assembly Repair
Figure 601 (Sheet 2)

L07398



B-B



C-C

REFINISH

BORIC - SULFURIC ACID ANODIZE (F-17.35).
APPLY BMS 10-11, TYPE 1 PRIMER (F-20.03).
DO NOT PUT PRIMER TO ALL INSIDE DIAMETERS.

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE.

REPAIR

REF 1

ALL DIMENSIONS ARE IN INCHES

253T2313-4
Crank Assembly Repair
Figure 601 (Sheet 3)

L07413

CRANK ASSEMBLY - REPAIR 8-1

253T2314-1

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

1. Bushing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bushings.

   B. Install new bushings (110, 115, 120) as shown in 20-50-03.

   C. Install new bushings (155, 160) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   D. Machine bushings (115, 160) to dimension shown.

   E. Fillet seal bushing (155, 160) flanges with BMS 5-95 sealant.

2. Bearing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bearing.

   B. Install and roller swage new bearing (105) as shown in 20-50-03 but use BMS 10-11, type 1, wet primer.

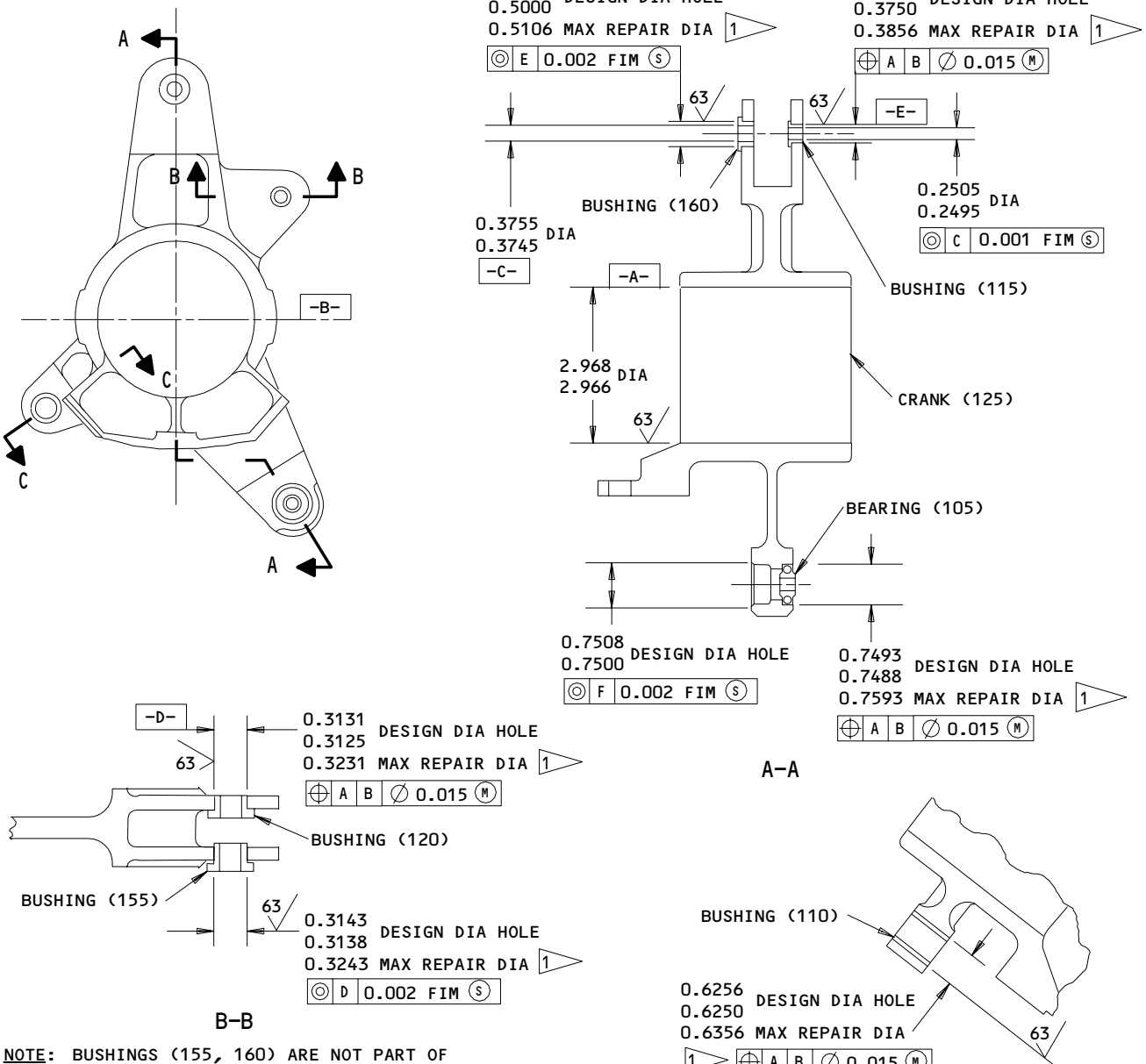
3. Bearing and Bushing Seat Repair (IPL Fig. 3, Fig. 601)

   A. Machine bearing or bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension shown.

4. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



NOTE: BUSHINGS (155, 160) ARE NOT PART OF CRANK ASSEMBLY. BUSHING (155, 160) REPLACEMENT IS SHOWN HERE TO FACILITATE ASSEMBLY.

REFINISH

ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER ON ALL ID'S

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 1

ALL DIMENSIONS ARE IN INCHES

253T2314-1
Crank Assembly - Repair
Figure 601

T21606

CRANK ASSEMBLY - REPAIR 8-2

253T2314-4

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

1. Bushing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bushings (115A, 120) from crank (125A).

   B. Install new bushings (115A, 120) into crank (125A) by shrink-fit procedure as shown in SOPM 20-50-03.

   C. Machine bushings (115A, 120) to dimension shown.

2. Bearing Replacement (IPL Fig. 3, Fig. 601)

   A. Remove bearing (105A) from crank (125A).

   B. Install and roller swage new bearing (105A) into crank (125A) as shown in SOPM 20-50-03 but use BMS 10-11, type 1 wet primer.

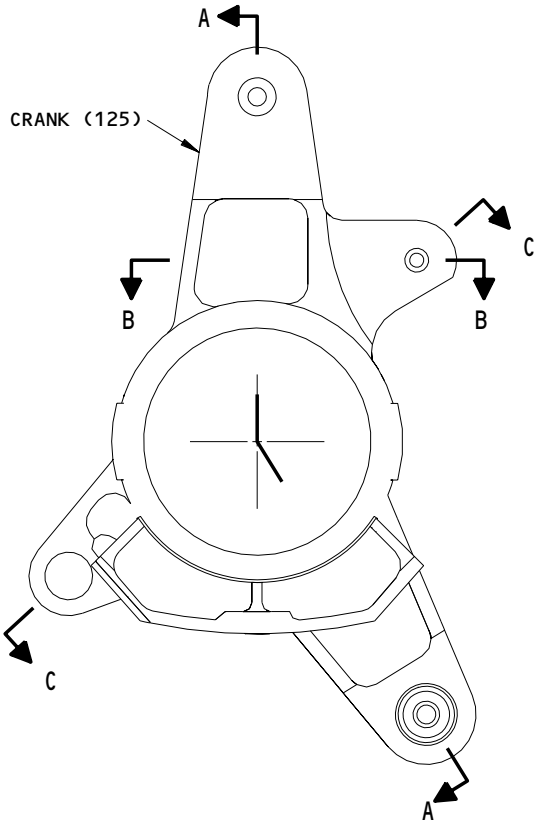
3. Bearing and Bushing Seat Repair (IPL Fig. 3, Fig. 601)

   A. Machine bearing or bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate build up repaired surface and grind to dimension shown.

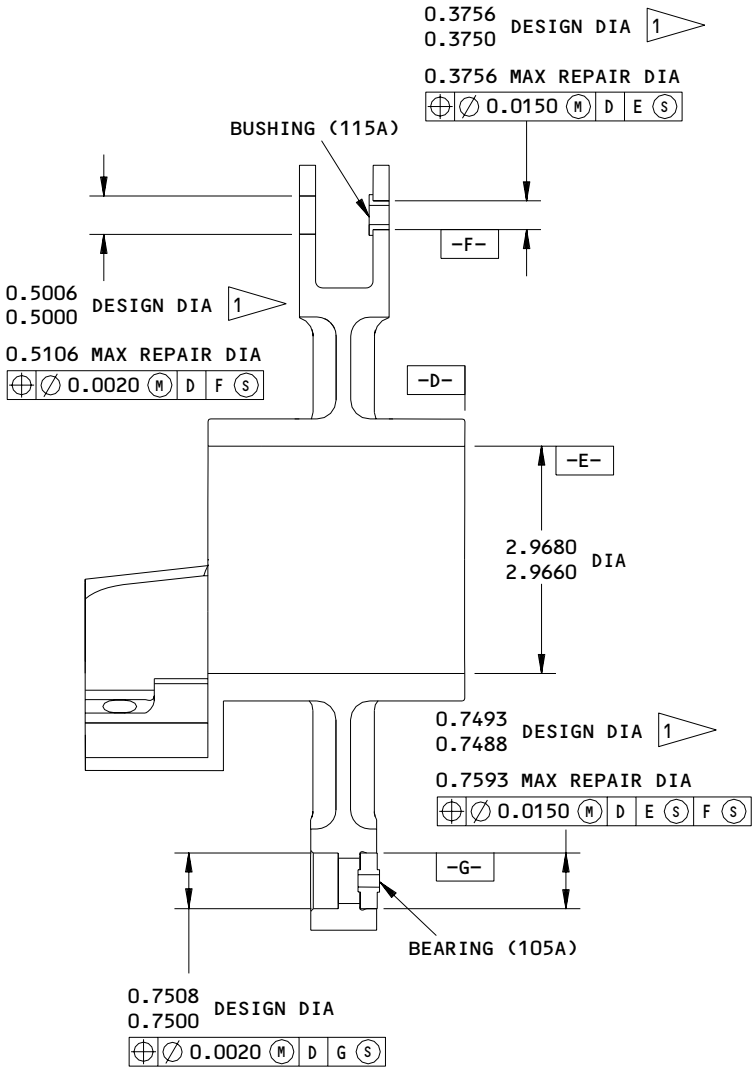
4. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



253T2314-4
Crank Assembly Repair
Figure 601 (Sheet 1)

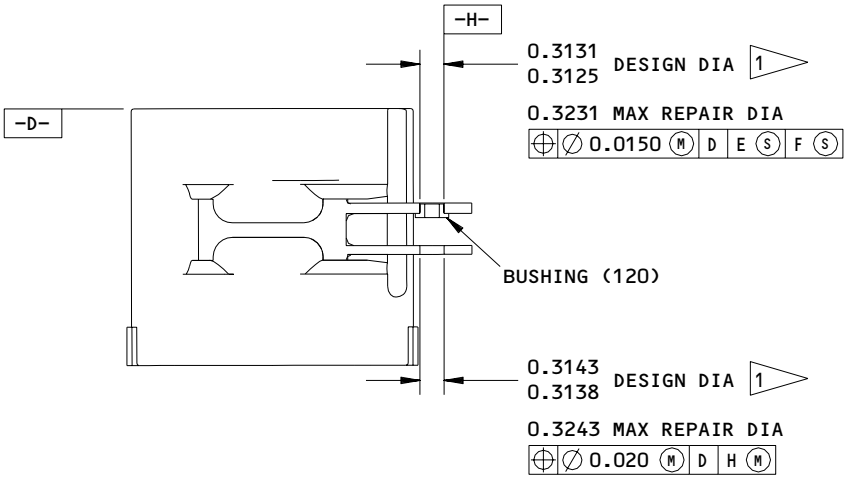
L07453



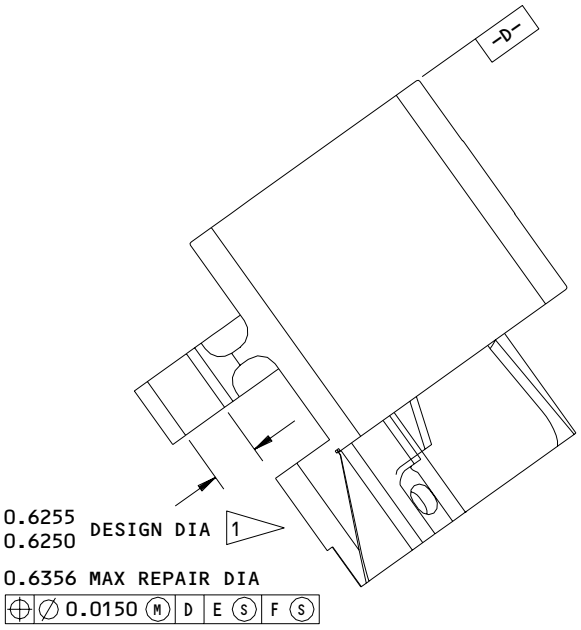
A-A

253T2314-4
Crank Assembly Repair
Figure 601 (Sheet 2)

L07563



B-B



C-C

REFINISH

BORIC - SULFURIC ACID ANODIZE (F-17.35).
APPLY BMS 10-11, TYPE 1 PRIMER (F-20.03).
DO NOT PUT PRIMER TO ALL INSIDE DIAMETERS.

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE.

REPAIR

REF 1

ALL DIMENSIONS ARE IN INCHES

253T2314-4
Crank Assembly Repair
Figure 601 (Sheet 3)

L07566

CRANK ASSEMBLY - REPAIR 9-1

253T2316-1

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

1. Bushing Replacement (IPL Fig. 2, Fig. 601)

   A. Remove bushings.

   B. Install new bushings (96 thru 99) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   C. Machine bushings (96, 97) to dimension shown.

   D. Fillet seal bushing (96) flanges with BMS 5-95 sealant.

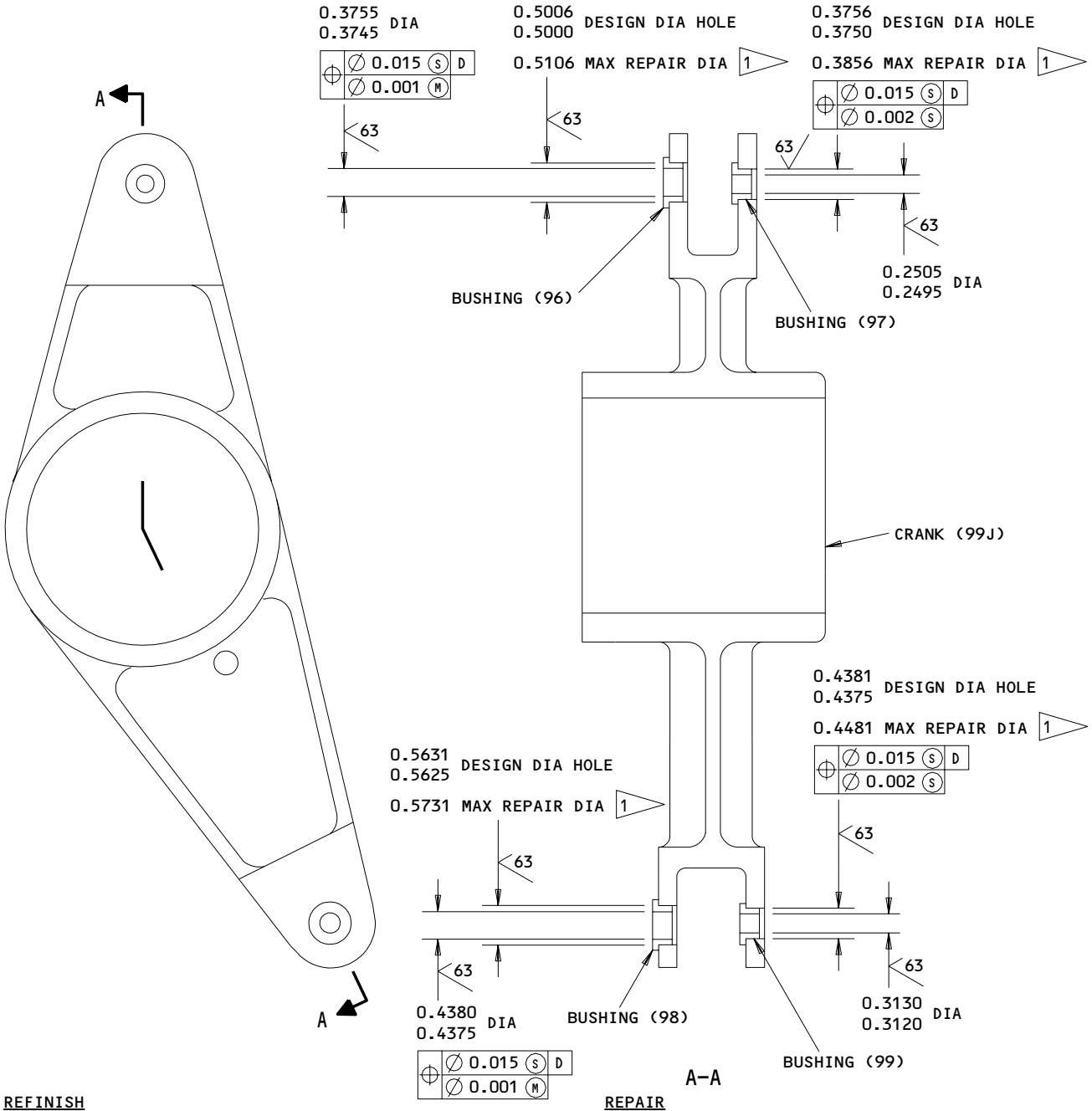
2. Bushing Seat Replacement (IPL Fig. 2, Fig. 601)

   A. Machine bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate buildup repaired surface and grind to dimension shown.

3. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



REFINISH

ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER ON ALL ID'S

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

ITEM NUMBERS REFER TO IPL FIG. 2

253T2316-1
Crank Assembly - Repair
Figure 601

656360

CRANK ASSEMBLY - REPAIR 10-1

253T2317-1

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

1. Bushing Replacement (IPL Fig. 1, Fig. 601)

   A. Remove bushings.

   B. Install new bushings (11 thru 14) as shown in 20-50-03 but use BMS 5-95 wet sealant.

   C. Machine bushings (11, 12) to dimension shown.

   D. Fillet seal bushing (11) flanges with BMS 5-95 sealant.

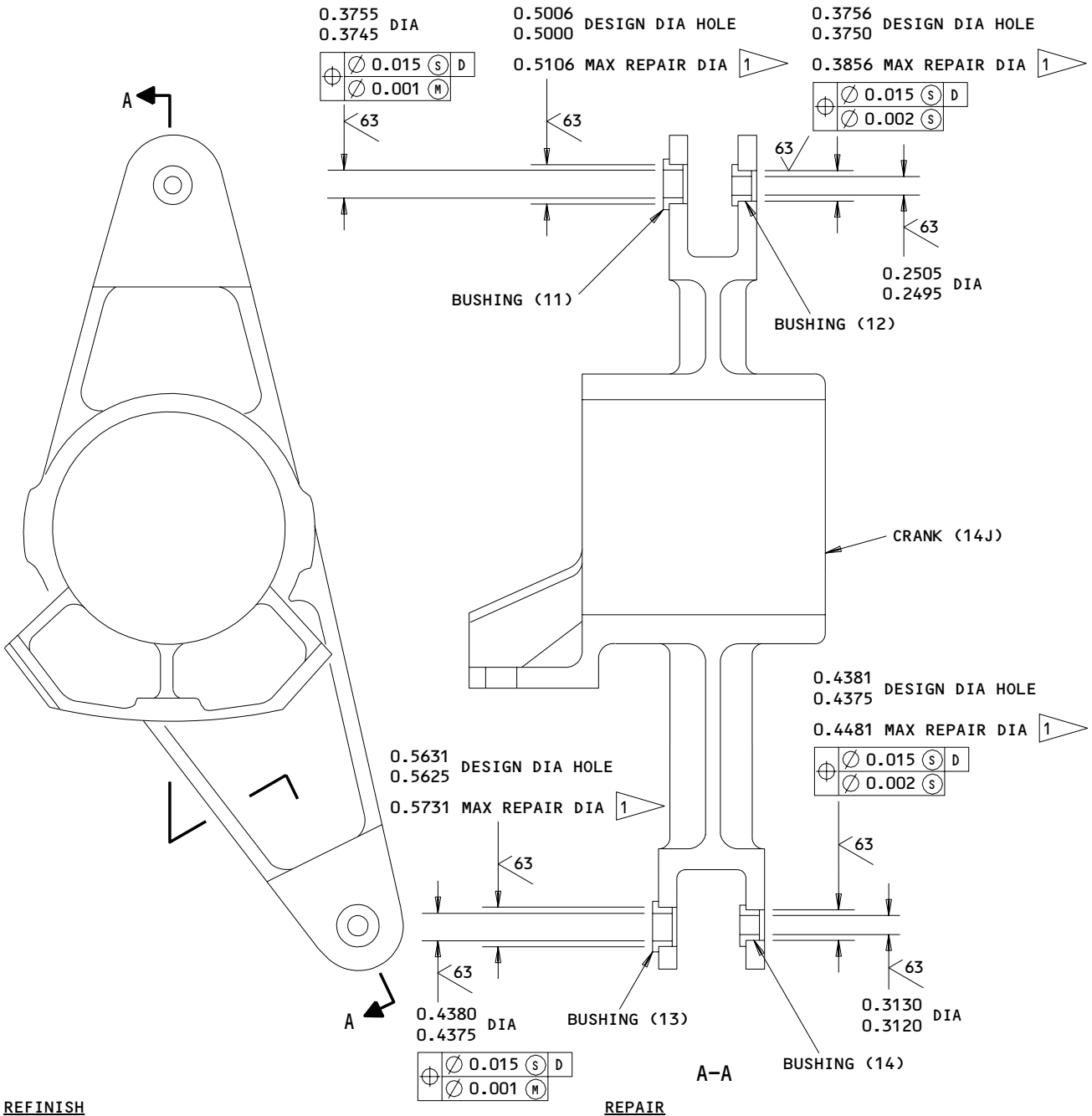
2. Bushing Seat Replacement (IPL Fig. 1, Fig. 601)

   A. Machine bushing seat as required, within repair limit shown, to remove defects.

   B. Chrome plate buildup repaired surface and grind to dimension shown.

3. Fastener Hole Repair

   A. Refer to Torque Tube Repair 12-1 for oversize hole repair instructions of the Crank Assembly.



REFINISH

ANODIZE (F-17.05) ALL OVER. APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02) EXCEPT OMIT PRIMER ON ALL ID'S

1 BUILD UP WITH CHROME PLATE AND GRIND TO DIMENSION SHOWN. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE

REPAIR

REF 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

ITEM NUMBERS REFER TO IPL FIG. 1

253T2317-1
Crank Assembly - Repair
Figure 601

656381

MISC PARTS REFINISH - REPAIR 11-1

1. Repair of parts listed in Fig. 601 consists of restoration of the original finish.

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Spacer (70)	Al alloy	Chromic acid anodize and apply one coat of primer, BMS 10-11, type 1 (F-18.13).
Support Fitting (15)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, Type 1 (F-20.02) except omit primer on OD of 0.998-0.999 inch diameter shank and ID of 2.966-2.968 inch hole.
Fitting (165)	15-5PH CRES, 150-170 ksi	Passivate (F-17.09).
Follower (215)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, type 1 (F-20.02) except omit primer on ID of 0.375-0.379 and 0.7488-0.7493 inch dia holes.
Retainer (205)	4130 Steel, normalized	Cadmium plate and apply one coat of primer, BMS 10-11, type 1 (F-16.01).
Tube (255)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, type 1 (F-20.02) except omit primer on 2.962-2.964-inch faying surface.

Refinish Details
Figure 601 (Sheet 1)

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 2		
Cam (10)	17-4PH CRES, 180 ksi min	Passivate (F-17.09) all over. Cadmium plate and apply one coat of primer, BMS 10-11, type 1 (F-16.01) on 6.25-inch radius faying surface only.
Support Fitting (50)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, type 1 (F-20.02) except omit primer on OD of 0.998-0.999 inch diameter shank shank and ID Of 2.966-2.968-inch hole.
Crank (57)	Al alloy	Boric acid-sulfuric acid anodized (F-17.35). Apply BMS 10-11, type 1 primer (F-20.03) but do not put primer in the inside diameter.
Tube (110)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, type 1 (F-20.02) except omit primer on OD of 2.962-2.964 inch faying surfaces.
Stop (100)	Al alloy	Anodize (F-17.05) all over. Apply one coat of primer, BMS 10-11, type 1 (F-20.02) except omit primer on ID of 2.966-2.968 inch hole.

Refinish Details
Figure 601 (Sheet 2)

TORQUE TUBE - REPAIR 12-1

253T2152-1, -2

NOTE: Refer to REPAIR-GENERAL for list of applicable standard practices. For repair of surfaces which may only require restoration of original finish, refer to Repair 11-1 for finish instructions.

1. 0.260-0.263 Diameter Hole Repair for Torque Tube 253T2152-1 (255, Fig. 1)

NOTES: (1) Item numbers refer to IPL Fig. 1 unless specified differently.

(2) Assembly Fig. 701 identifies the hole locations.

A. Repair the worn or corroded 0.260-0.263 diameter holes in the torque tube (255) and the related holes in the transducer assy (5), crank assembly (7), support fitting (15) or arm assembly (115, 135) parts as follows:

(1) Machine the holes to 0.276-0.279 inch. All of the parts are aluminum alloy. Break sharp edges. The surface roughness must be 125 microinch or better.

(2) Do a penetrant check of the machined areas as specified in 20-20-02.

(3) Touch up finish the parts. Refer to the following for the finishes:

(a) For the transducer assembly (5), the finish for the crank assembly (95, Fig. 3) is identified in Repair 8-1.

(b) For the crank assembly (7), the finish is identified in Repair 10-1.

(c) For the support fitting (15), and the torque tube (255), the finish is identified in Repair 11-1.

(d) For the arm assembly (115), the finish is identified in Repair 4-1.

(e) For the arm assembly (135), the finish is identified in Repair 3-1.

(4) Use the applicable steps specified in Assembly par. 4 to assemble the parts to the torque tube (255), but replace the rivets with the following oversized bolts:

(a) Attach arm assembly (115, 135) with BACB30VH08-05 bolts.

(b) Attach support fitting (15) with BACB30VH08-06 bolts.

(c) Attach transducer assembly (5) and crank assembly (7) with BACB30VH08-07 bolts.

2. 0.260-0.263 Diameter Hole Repair for Torque Tube 253T2152-2 (110, Fig. 2)

NOTES: (1) Item numbers refer to IPL Fig. 2 unless specified differently.

(2) Assembly Fig. 702 identifies the hole locations.

A. Repair the worn or corroded 0.260-0.263 diameter holes in the torque tube (110) and the related holes in the crank assy (30, 92), support fitting (50), transducer assy (90) or stop (100) as follows:

(1) Machine the holes to 0.276-0.279 inch. All of the parts are aluminum alloy. Break sharp edges. The surface roughness must be 125 microinch or better.

(2) Do a penetrant check of the machined areas as specified in 20-20-02.

(3) Touch up finish the parts as necessary. Refer to the following for the finishes:

(a) For the crank assembly (30), the finish is identified in Repair 5-1.

(b) For the support fitting (50), stop (100) and the torque tube (110), the finish is identified in Repair 11-1.

(c) For the transducer assembly (90), the finish for the crank assembly (100, Fig. 3) is identified in Repair 7-1.

(d) For the crank assembly (92), the finish is identified in Repair 9-1.

(4) Use the applicable steps specified in Assembly par. 6 to assemble the parts to the torque tube (110), but replace the rivets with the following oversized bolts:

(a) Attach crank assembly (30) with BACB30VH08-05 bolts.

(b) Attach support fitting (50) with BACB30VH08-06 bolts.

(c) Attach transducer assembly (90), crank assembly (92) and stop (100) with BACB30VH08-07 bolts.

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes may be used.

A. Primer -- BMS 10-11, type 1 (Ref 20-60-02)

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

C. Adhesive -- Type 44 (Ref 20-50-12)

D. Grease -- MIL-G-23827 (Ref 20-60-03)

E. Lockwire -- MS20995C32

2. Equipment

NOTE: Equivalent substitutes may be used.

A. Deleted

B. Force Transducer Rigging Set -- A27025-1

3. Assemble Transducer Assembly (IPL Fig. 3)

A. Coat all surfaces of spacer (150) with grease. Install spacer (150). Install bearing (145) on crank assembly (95 or 100) as shown in 20-50-03 but use primer.

B. Install arm assembly (70) on crank assembly with bolt (50, 52), washers (55, 57), bushings (65, 140) and nut (60, 62). Install rigging bushing A27025-3 in crank assembly (95 or 100) in place of bushing (45).

CAUTION: DO NOT APPLY ANY EXTERNAL LOAD TO TRANSDUCER ASSEMBLY WHILE RIGGING TRANSDUCER (25).

C. Loosen jamnut of transducer (25). Install transducer (25) on arm assembly (70) and crank assembly (95 or 100) with bolts (10), washers (15), bushings (85, 155) and nuts (20).

D. Adjust length of transducer (25) so that rigging rod A27025-2 can be passed thru arm assembly (70) and the above rigging bushing without loading transducer (25).

E. Lock adjustment with adjustment screw and locknuts of transducer (25) and recheck for no load on transducer (25). Lockwire adjustment screw and locknuts as shown in 20-50-02.

F. Remove rigging set. Coat all surfaces of bushing (45) with grease. Install bushing (45), bolt (30), washers (35) and nut (40).

G. Coil and protect wire bundle of transducer (25).

4. Assembly of 253T2127-5, -7, -9, -11, -13, -15, -17, -18, -19, -21
(IPL Fig. 1, 701)

NOTE: Install all rivets with wet BMS 5-95 sealant.

NOTE: See Repair 12-1 for oversized bolt information. Oversized bolts replace rivets after torque tube (255) holes are repaired as specified in Repair 12-1.

A. If a new torque tube (255) is being installed, drill rivet holes thru tube (255) per Fig. 701 using existing holes of assemblies (5, 15, 45B, 45C, 115, 135).

B. If a new part (5, 15, 45B or 45C or 45D, 115 or 135) is being installed, spotface to dimension shown.

NOTE: New torque tube (255) installation as shown in par. A is recommended.

C. Apply adhesive on all faying surfaces of tube (255).

D. On 253T2127-5, -7, -11, -13, -15, -18, -19, -21, install transducer assembly (5) on tube (255) with rivets (10).
On 253T2127-9, -17, install crank assembly (14J) on tube (255) with rivets (10).

E. Install support fitting (15) on tube (255) with rivets (20).

F. Install support (45B or 45C) on tube (255) with rivets (50).

G. On 253T2127-21, bond crank (57) onto tube (255) with type 44 adhesive. Install rivets (58) onto crank (57) with BMS 5-95 sealant.

H. Secure stick shaker (25A) on support (45B or 45C) with fasteners (30, 35, 40).

I. Install arm assembly (115) on tube (255) with rivets (120).

J. Install arm assembly (135) on tube (255) with rivets (140).

K. Install fittings (165) on follower assembly (170) and secure with screws (155) and nuts (160).

L. Align IDs of bearings (210) of follower assembly (170) between IDs of bushings (105, 125, 145) in arm assemblies (115, 135). Slide plain bushings (110) against inner race of bearings (210). Secure with bolts (80), washers (85) and nuts (90).

M. Install spacer (70), bushing (100), bolt (65), washer (75) and nut (90) on arm assembly (135).

N. Install bushing (95), bolts (60), washers (75), nuts (90) on arm assembly (115).

WARNING: USE EXTREME CARE WHEN INSTALLING SPRINGS. SPRINGS ARE HEAVILY LOADED.

CAUTION: DO NOT USE TOOLS THAT MAY CAUSE DAMAGE TO SPRING.

O. Install springs (55).

5. Prepare and store component in accordance with standard industry practices.

6. Assembly of 253T2127-6, -8, -10, -12, -14, -16, -22 (IPL Fig. 2, 702)

NOTE: Install all rivets with wet BMS 5-95 sealant.

NOTE: See Repair 12-1 for oversized bolt information. Oversized bolts replace rivets after torque tube (110) holes are repaired as specified in Repair 12-1.

A. If a new torque tube (110) is being installed, drill rivet holes thru tube (110) as shown in Fig. 702 using holes of assemblies (30, 50, 80B or 80C or 80D, 90, 100).

B. If a new part (30, 50, 80B or 80C or 80D, 90 or 100) is being installed, spotface to dimension shown.

NOTE: New torque tube (110) installation per par. A is recommended.

C. Apply adhesive on all faying surfaces of torque tube (110).

D. Secure cam (10) on override crank assembly (30) with fasteners (15, 20, 25).

E. Install override crank assembly (30) on tube (110) with rivets (35).

F. Install fitting (50) on tube (110) with rivets (55).

G. Bond crank (57) onto tube (110) with type 44 adhesive. Install rivets (58) onto crank (57) with BMS 5-95 sealant.

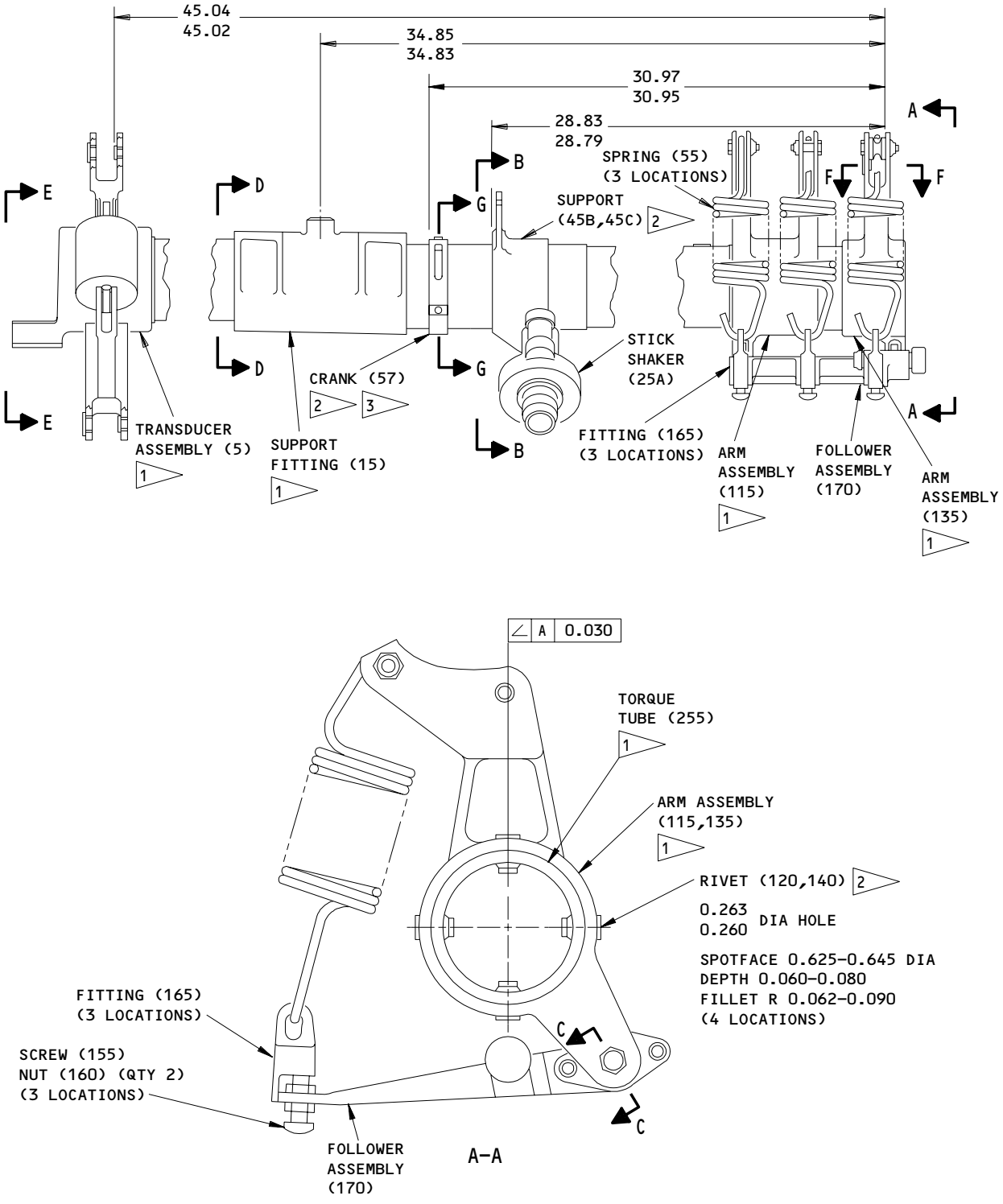
H. Secure stick shaker (60A) on support (80B or 80C or 80D) with fasteners (65, 70, 75).

I. Install support (80B or 80C or 80D) on tube (110) with rivets (85).

J. On 253T2127-6, -8, -12, -14, -16, -22, install transducer assembly (90) on tube (110) with rivets (95).
On 253T2127-10, install crank assembly (99J) on tube (110) with rivets (95).

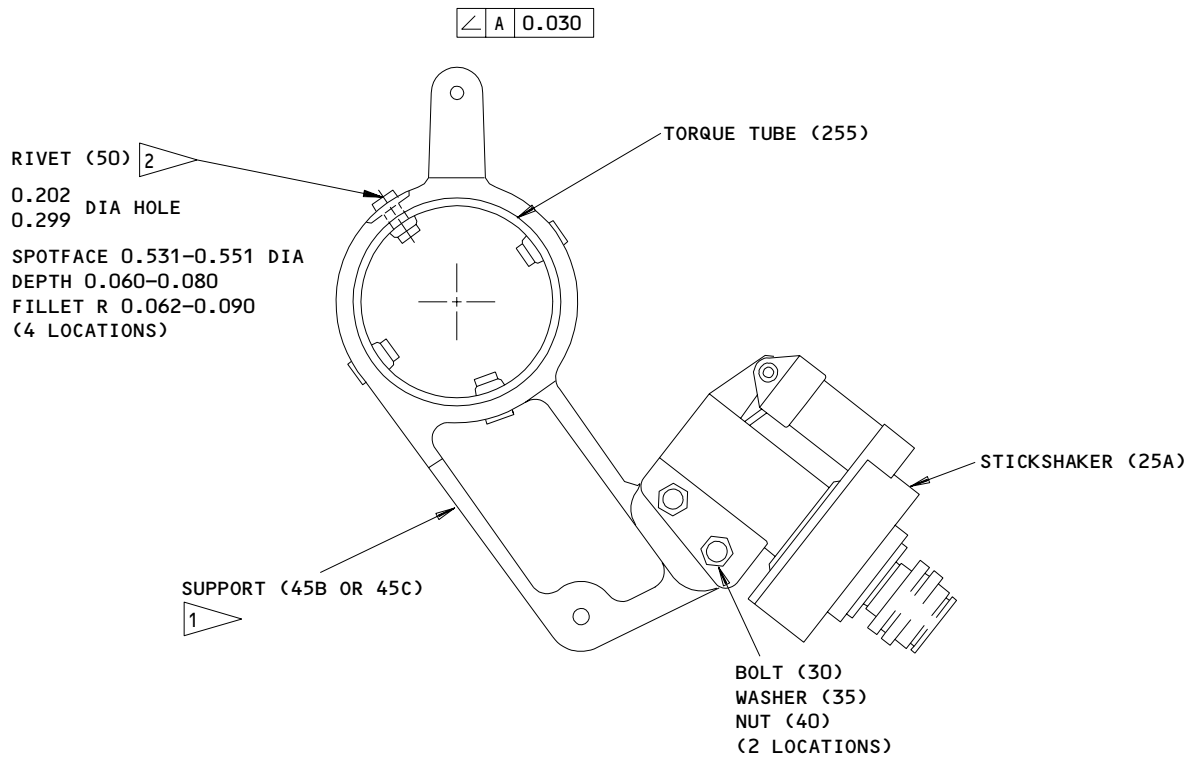
K. Install stop (100) on tube (110) with rivets (105).

7. Prepare and store component in accordance with standard industry practices.

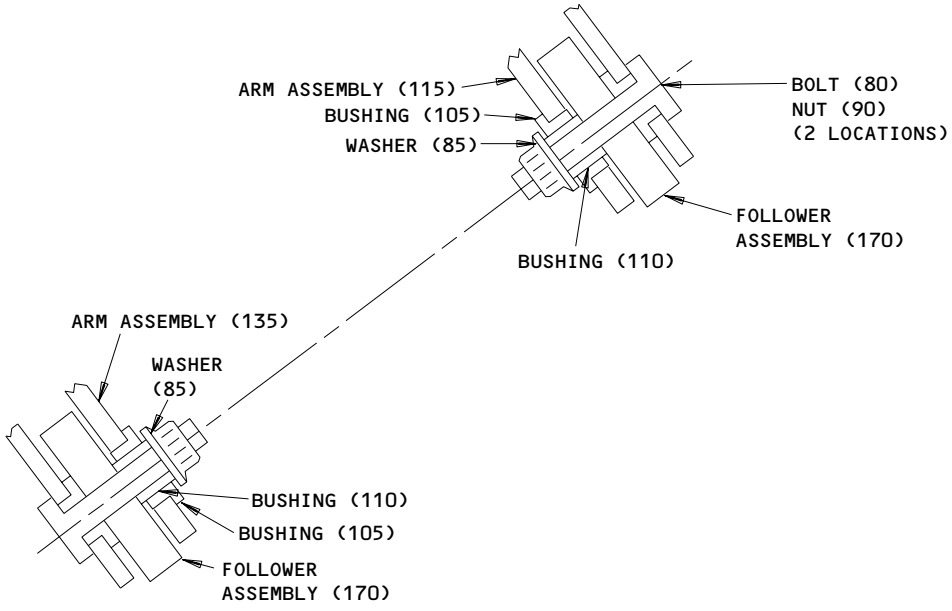


Torque Tube Assembly
Figure 701 (Sheet 1)

4181

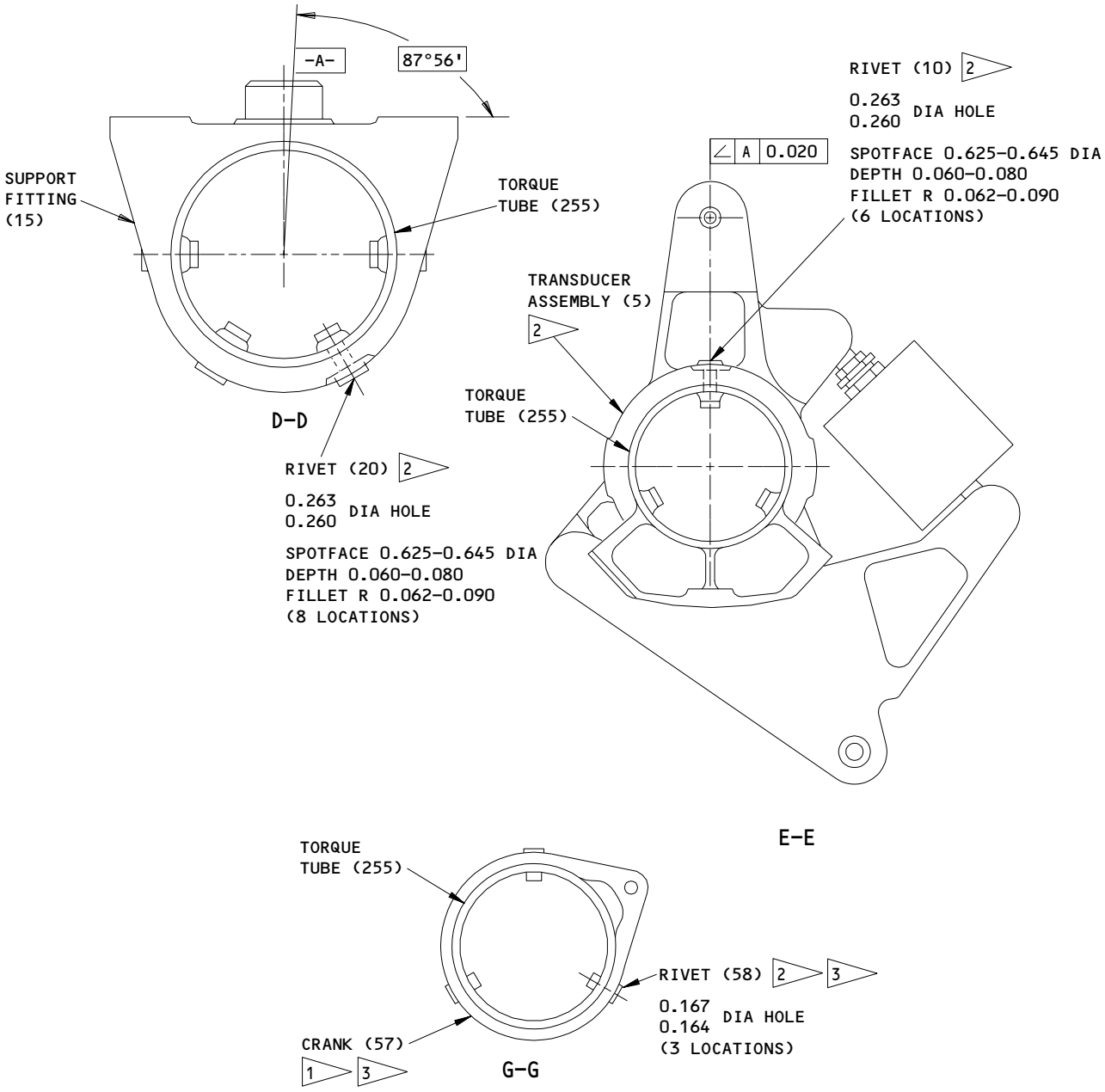


B-B



C-C

Torque Tube Assembly
Figure 701 (Sheet 2)



1 BOND PER SOPM 20-50-12 WITH TYPE 44 ADHESIVE

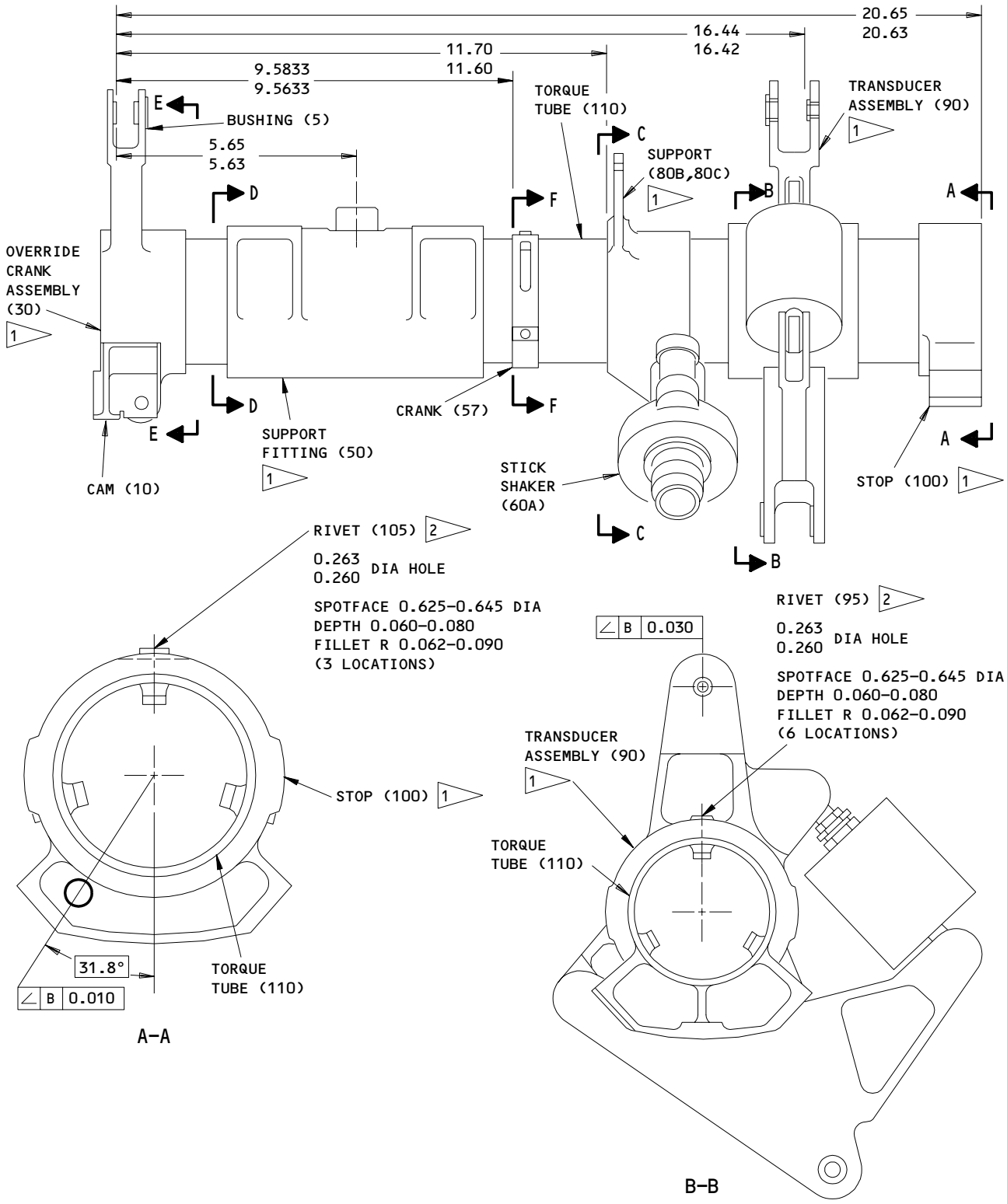
2 INSTALL WITH WET SEALANT, BMS 5-95

3 FOR 253T2127-21

ITEM NUMBERS REFER TO IPL FIG. 1

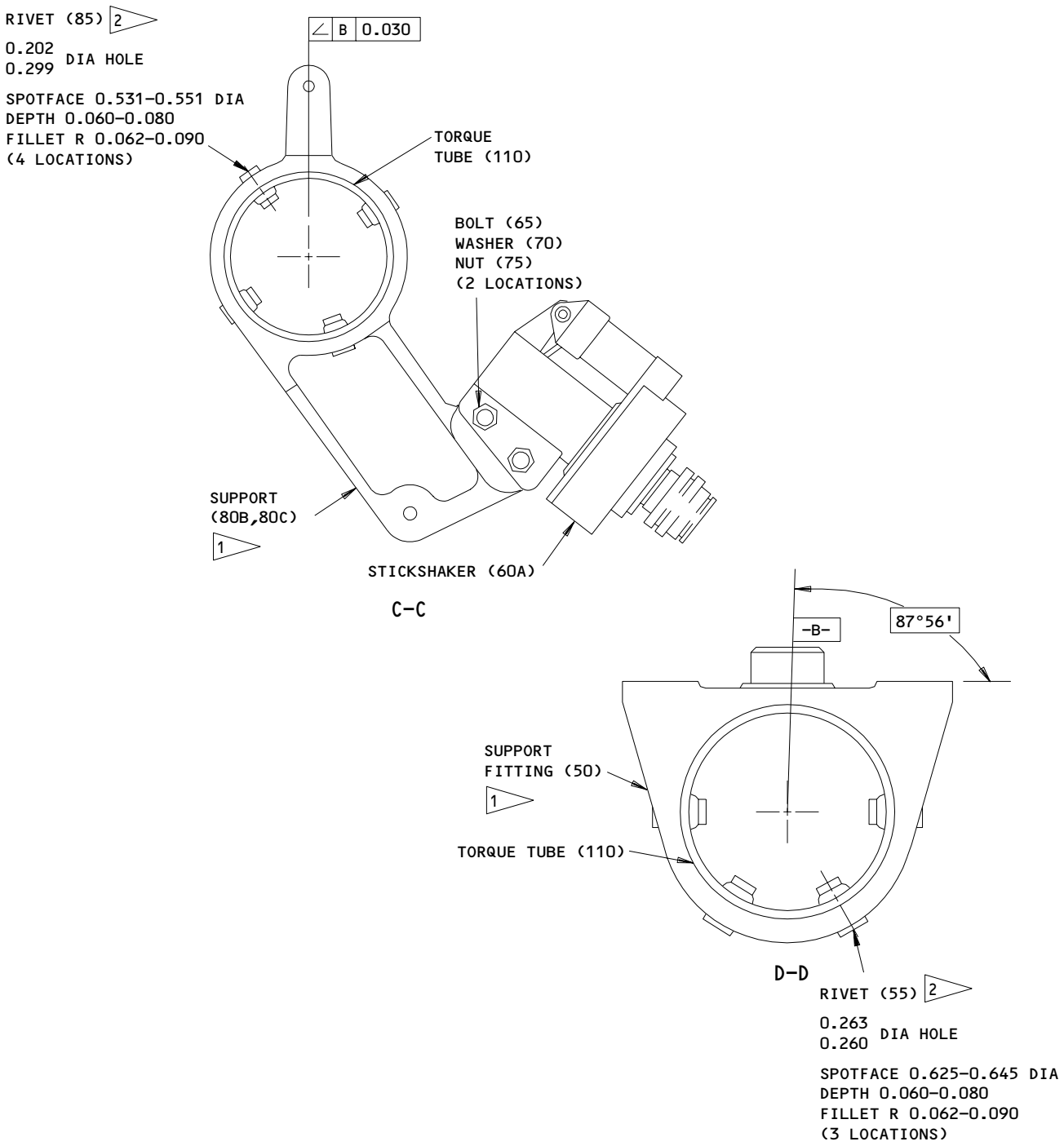
ALL DIMENSIONS ARE IN INCHES

Torque Tube Assembly
Figure 701 (Sheet 3)



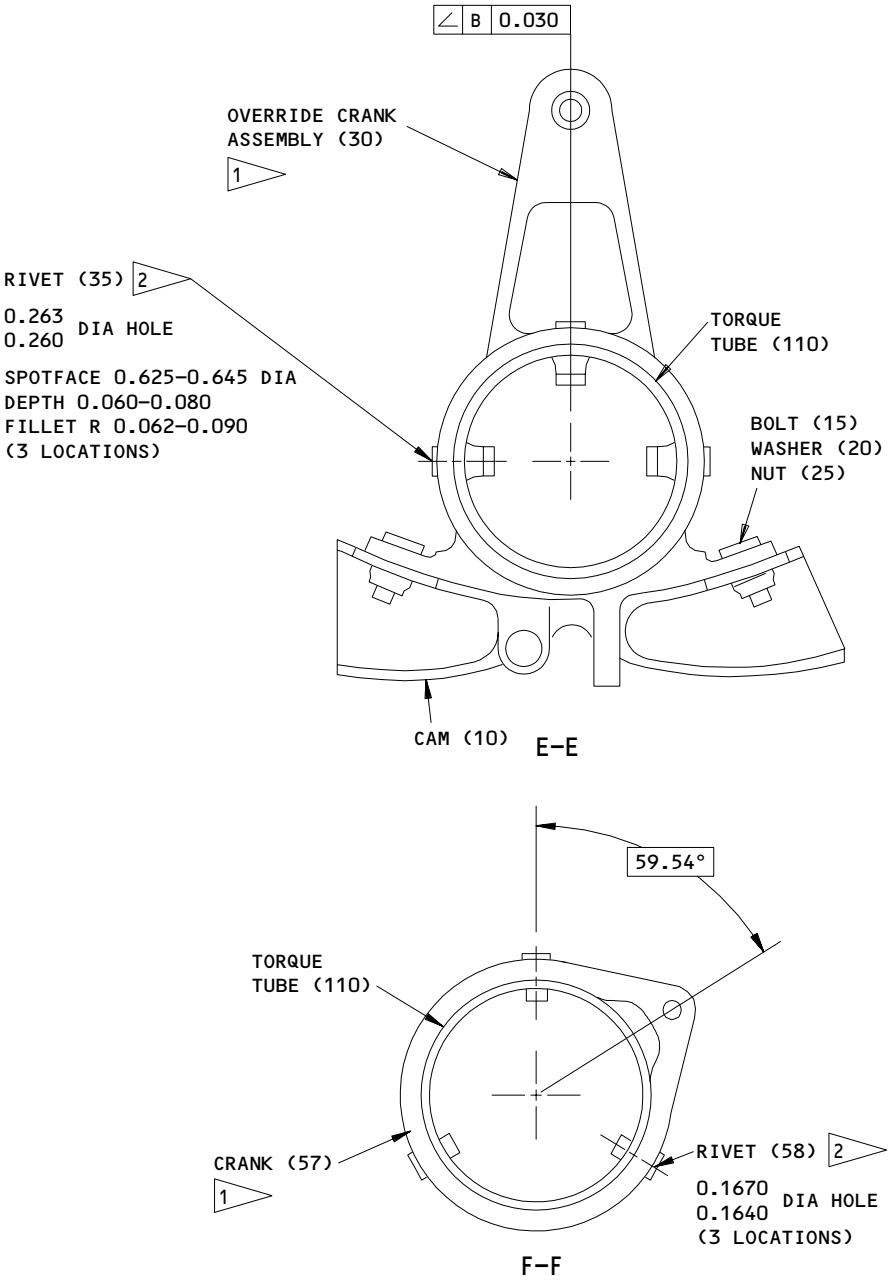
Torque Tube Assembly
Figure 702 (Sheet 1)

4239



Torque Tube Assembly
Figure 702 (Sheet 2)

4242



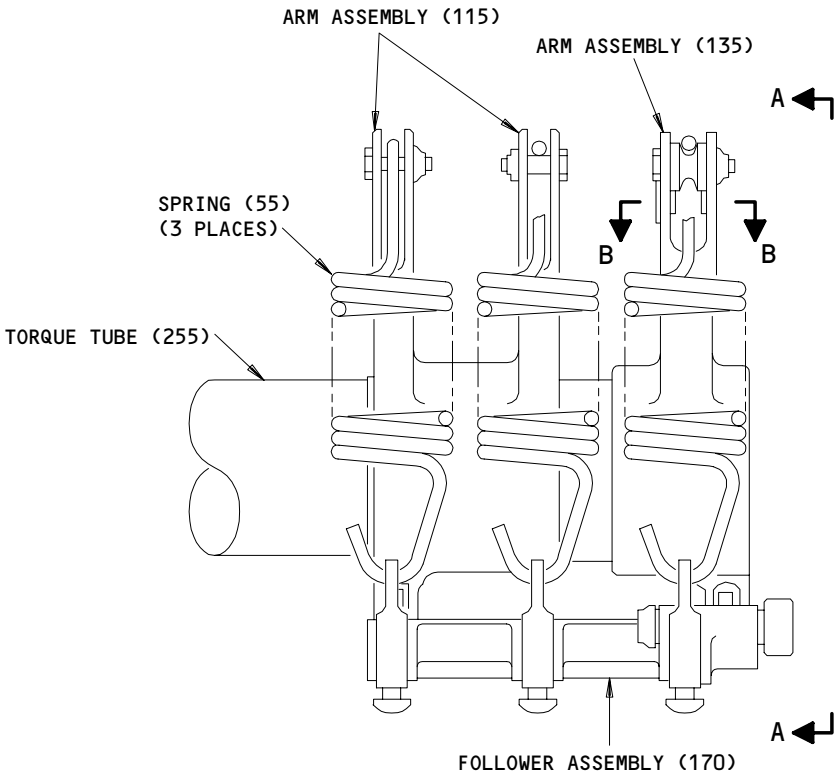
1 BOND PER SOPM 20-50-12 WITH TYPE 44 ADHESIVE

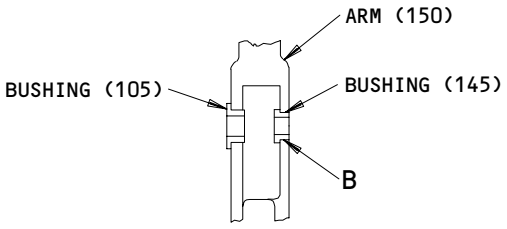
2 INSTALL WITH WET SEALANT, BMS 5-95

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

Torque Tube Assembly
Figure 702 (Sheet 3)

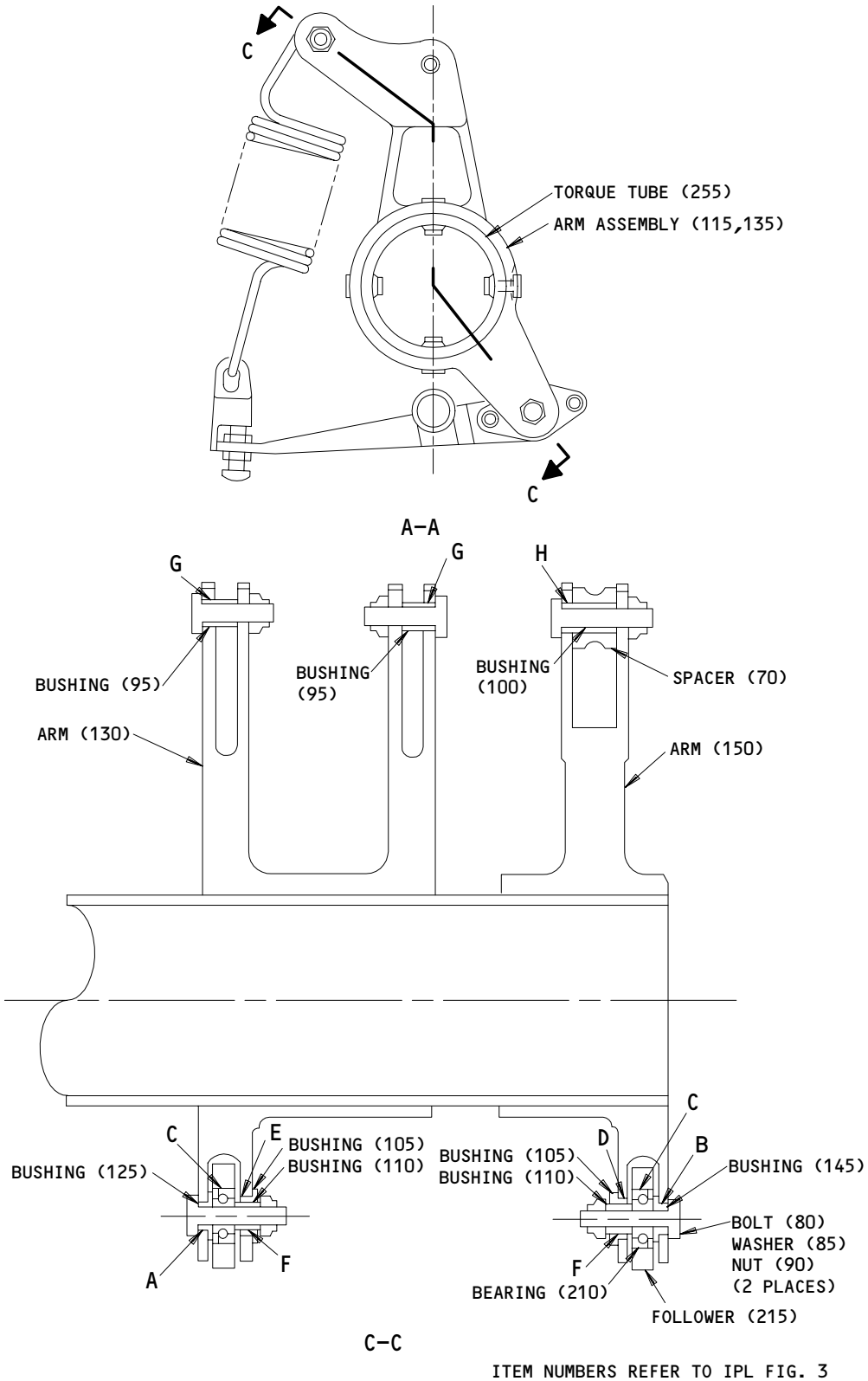




B–B

ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 801 (Sheet 1)



ITEM NUMBERS REFER TO IPL FIG. 3

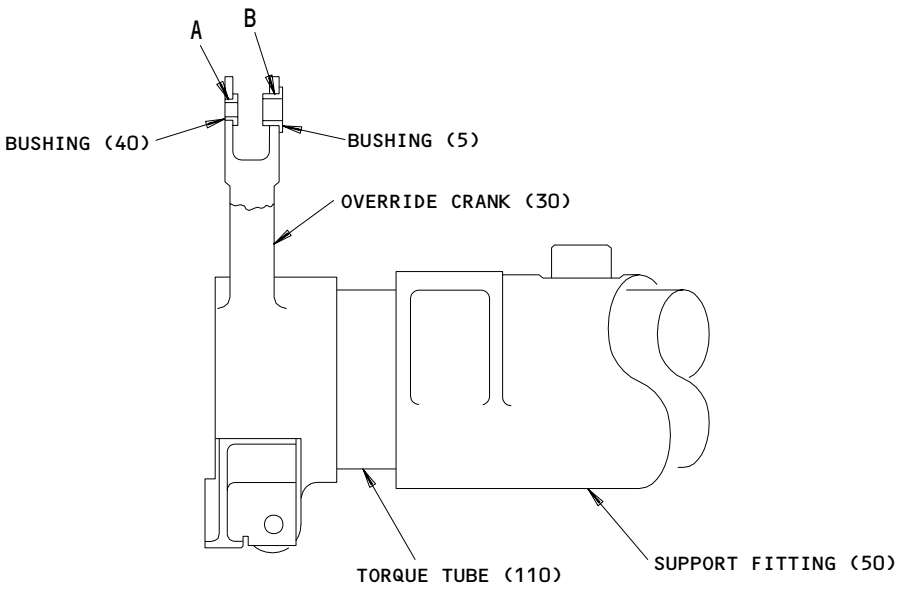
Fits and Clearances
Figure 801 (Sheet 2)

Ref Letter Fig.801	Mating Item No. IPL Fig.1	Design Dimension				Service Wear Limit		
		Dimension		Assembly *[1] Clearance		Dimension		*[1] Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 130 OD 125	0.3750 0.3759	0.3756 0.3765	−0.0015	−0.0003	0.3759	0.3758	−0.0001
B	ID 150 OD 145	0.3750 0.3759	0.3756 0.3765	−0.0015	−0.0003	0.3759	0.3758	−0.0001
C	ID 215 OD 210	0.7489 0.7495	0.7493 0.7500	−0.0012	−0.0002	0.7495	0.7494	−0.0001
D	ID 150 OD 105	0.5000 0.5010	0.5006 0.5016	−0.0016	−0.0004	0.5010	0.5009	−0.0001
E	ID 130 OD 105	0.5000 0.5010	0.5006 0.5016	−0.0016	−0.0004	0.5010	0.5009	−0.0001
F	ID 105 OD 110	0.366 0.3745	0.359 0.3740	−0.008	−0.0155			
G	ID 130 OD 95	0.3750 0.3740	0.3790 0.3745	0.001	0.005			
H	ID 150 OD 100	0.3750 0.3740	0.3790 0.3745	0.001	0.005			

*[1] NEGATIVE VALUES DENOTE INTERFERENCE FIT

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 3)



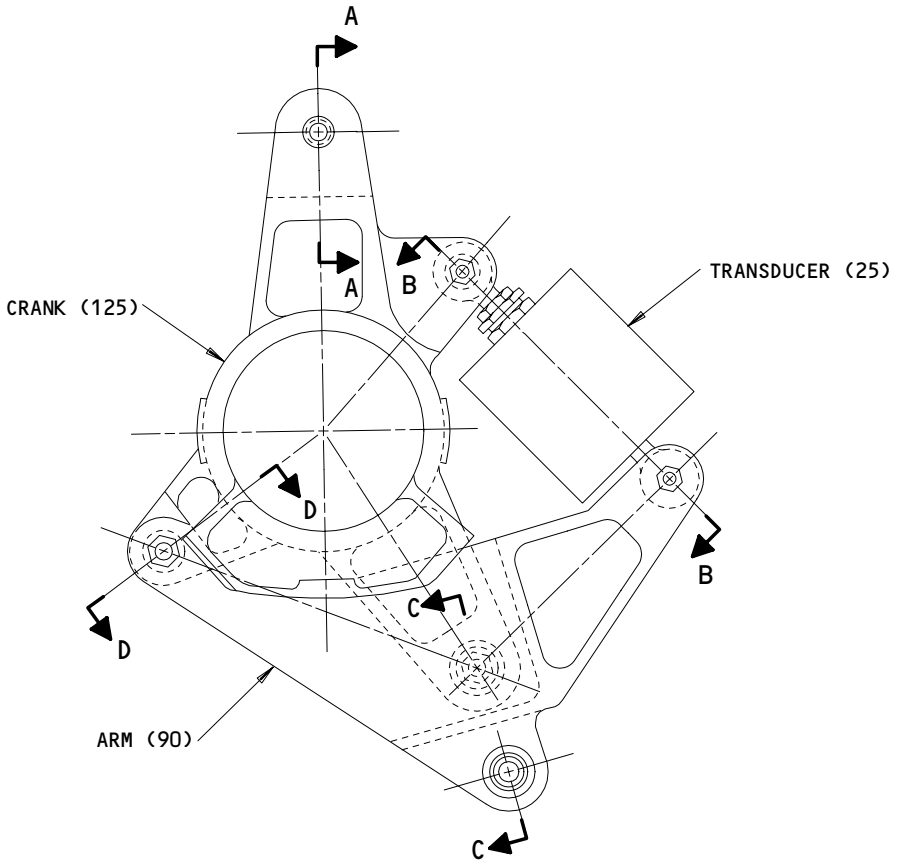
ITEM NUMBERS REFER TO IPL FIG. 2

Ref Letter Fig.802	Mating Item No. IPL Fig.2	Design Dimension				Service Wear Limit		
		Dimension		Assembly *[1] Clearance		Dimension		*[1] Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 30 OD 40	0.3750 0.3759	0.3756 0.3765	-0.0015	-0.0003	0.3759	0.3758	-0.0001
B	ID 30 OD 5	0.5000 0.5010	0.5006 0.5016	-0.0016	-0.0004	0.5010	0.5009	-0.0001

*[1] NEGATIVE VALUES DENOTE INTERFERENCE FIT

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 802

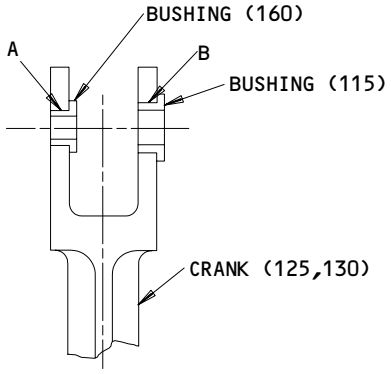


TRANSDUCER ASSEMBLY

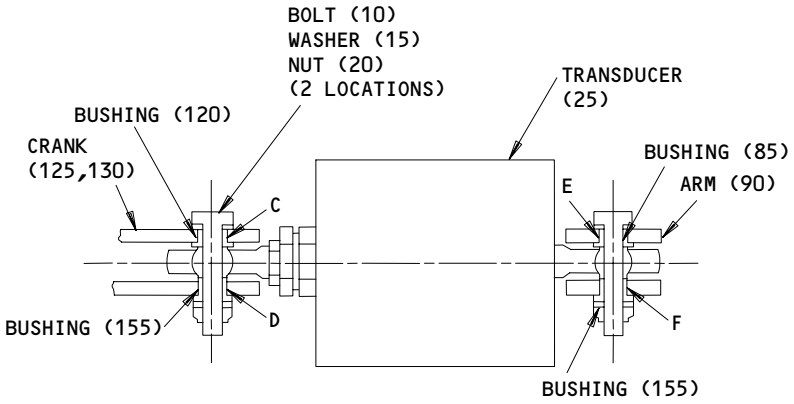
ITEM NUMBERS REFER TO IPL FIG. 3

Fits and Clearances
Figure 803 (Sheet 1)

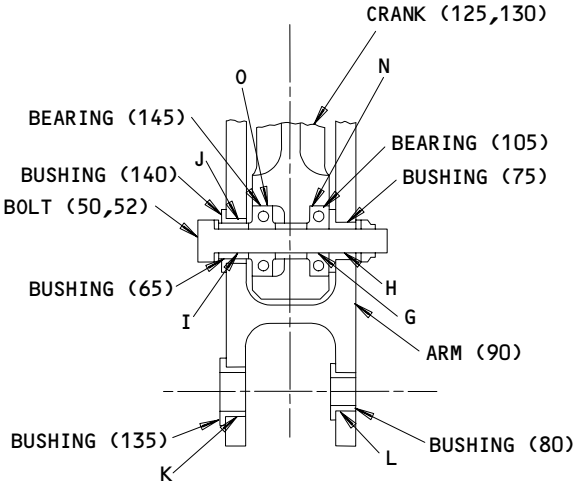
119811



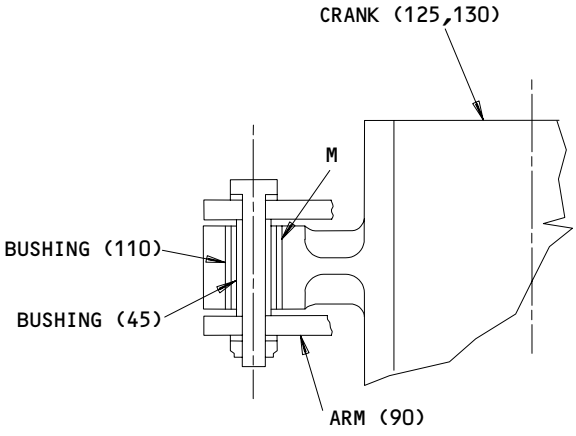
A–A



B–B



C–C



D–D

Fits and Clearances
Figure 803 (Sheet 2)

119813

REF LETTER	REF IPL FIG. 3, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
A	ID 125,130 OD 115	0.3750 0.3759	0.3756 0.3765	−0.0015	−0.0003	0.3759	0.3758	−0.0001
B	ID 125,130 OD 160	0.5000 0.5010	0.5006 0.5016	−0.0016	−0.0004	0.5010	0.5009	−0.0001
C	ID 125,130 OD 120	0.3125 0.3131	0.3131 0.3136	−0.0011	0.000	0.3131	0.3131	0.000
D	ID 125,130 OD 155	0.3125 0.3131	0.3131 0.3136	−0.0011	0.000	0.3131	0.3131	0.000
E	ID 90 OD 85	0.3125 0.3131	0.3131 0.3136	−0.0011	0.000	0.3131	0.3131	0.000
F	ID 90 OD 155	0.3125 0.3131	0.3131 0.3136	−0.0011	0.000	0.3131	0.3131	0.000
G	ID 105,145 OD 50	0.2495 0.2495	0.2500 0.2495	0.0000	0.0015	0.2480	0.2500	0.0020
G	ID 105,145 OD 52	0.2495 0.2481	0.2500 0.2495	0.0000	0.0019			
H	ID 75 OD 50	0.2495 0.2485	0.2505 0.2495	0.0000	0.0020	0.2480	0.2505	0.0025
H	ID 75 OD 52	0.2495 0.2481	0.2505 0.2495	0.0000	0.0024			
I	ID 65 OD 50	0.2500 0.2485	0.2505 0.2495	0.0005	0.0020	0.2480	0.2505	0.0025
I	ID 65 OD 52	0.2500 0.2481	0.2505 0.2495	0.0005	0.0024			
J	ID 90 OD 140	0.5000 0.5010	0.5006 0.5016	−0.0016	−0.0004	0.5010	0.5009	−0.0001
K	ID 90 OD 135	0.5625 0.5636	0.5631 0.5642	−0.0017	−0.0005	0.5636	0.5635	−0.0001
L	ID 90 OD 80	0.4375 0.4384	0.4381 0.4390	−0.0015	−0.0003	0.4384	0.4383	−0.0001
M	ID 125,130 OD 110	0.6250 0.6257	0.6256 0.6265	−0.0015	−0.0001	0.6257	0.6256	−0.0001

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 803 (Sheet 3)

119759

Ref Letter Fig.803	Mating Item No. IPL Fig.3	Design Dimension				Service Wear Limit		
		Dimension		Assembly *[1] Clearance		Dimension		*[1] Maximum Clearance
		Min	Max	Min	Max	Min	Max	
N	ID 125,130 OD 105	0.7488 0.7495	0.7493 0.7500	-0.0012	-0.0002	0.7495	0.7494	-0.0001
O	ID 125,130 OD 145	0.7488 0.7495	0.7493 0.7500	-0.0012	-0.0002	0.7495	0.7494	-0.0001

*[1] NEGATIVE VALUES DENOTE INTERFERENCE FIT

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 803 (Sheet 4)

SPECIAL TOOLS

NOTE: Equivalent substitutes may be used.

1. Deleted

2. Force Transducer Rigging Set -- A27025-1

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
0PTK6	SPS TECHNOLOGIES INC AEROSPACE PRODUCTS DIV 5195 W 4700 SPO BOX 18459 KEARNS, UTAH 84118
06725	AIR INDUSTRIES CORPORATION 12570 KNOTT STREET GARDEN GROVE, CALIFORNIA 92641-3932
07484	ACCURATE BUSHING CO INC 443 NORTH AVENUE GARWOOD, NEW JERSEY 07027-1014
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
22863	KAVLICO CORP INC 14501 LOS ANGELES AVENUE MOORPARK, CALIFORNIA 93021
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

VENDORS

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

5M902 FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV
3016 W LOMITA BLVD
TORRANCE, CALIFORNIA 90505-5103

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

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

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

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

VENDORS

73197 HI-SHEAR TECHNOLOGY CORP
2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA 90509

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

83326 SAFE FLIGHT INSTRUMENT CORPORATION
NEW KING STREET PO BOX 550
WHITE PLAINS, NEW YORK 10602

92215 FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV
3010 W LOMITA BLVD
TORRANCE, CALIFORNIA 90505-5102

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

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
AN316-5R		1	160	6
AN960D10		3	15	4
AN960D416		3	35	1
		3	37	1
		3	55	1
		3	57	1
AN960PD10		1	35	2
		2	70	2
AN960PD416		1	85	2
		2	20	4
AN960PD416L		1	75	3
AN960PD616		1	180	1
AN960PD8L		1	195	8
BACB10AC3		80	10	2
BACB10AF6F26HS		1	175	1
BACB10BX4		1	210	2
		3	105	1
		3	145	1
BACB10FS04J		3	105A	1
BACB28AK04-017		1	100	1
BACB28AK04-030		1	110	2
BACB28AK04-035		3	65	1
BACB28AK04-049		1	95	2
BACB28AM06B014A		1	105	3
BACB28AM06B015A		2	5	1
BACB28AM06B017A		3	140	1
BACB28AM06B020A		1	11	1
		2	96	1
		3	160	1
BACB28AM07B018A		3	135	1
BACB28AM07B020A		1	13	1
		2	98	1
BACB28AP04-011		1	125	1
		1	145	2
BACB28AP04-012		2	40A	1
BACB28AP04-017		3	75	1
BACB28AP04-020		3	115	1
BACB28AP04P017		3	75A	1
BACB28AP04P020		1	12	1
		3	115A	1
BACB28AP05-018		3	80	1
BACB28AP05P020		1	14	1
		2	99	1
BACB28AT06B014C		1	105A	3
BACB28AT06B015C		2	5A	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACB28AT06B017C		3	140A	1
BACB28AT07B018C		3	135A	1
BACB28X3C010		3	85	1
BACB28X3C011		3	120	1
BACB28X3C024		3	120A	1
		3	155	2
BACB28Y4C104		3	45	1
BACB28Y8C084		3	110	1
BACB30NF3-13		3	10	2
BACB30NM3K13		3	10A	2
BACB30NM3K16		1	30A	2
		2	65A	2
BACB30NR4K10		1	60	2
BACB30NR4K12		1	80	2
BACB30NR4K14		1	65	1
BACB30NR4K24		3	30	1
BACB30NR4K25		3	50	1
BACB30NR4K4		2	15A	2
BACB30NR4K6		2	15	2
BACB30VH08-05		1	120A	4
		1	140A	4
		2	35A	3
BACB30VH08-06		1	20A	8
		2	55A	8
BACB30VH08-07		1	10A	6
		2	95A	6
		2	105A	3
BACB30VT8K28		3	52	1
BACC30BL8		3	62	1
BACC45FT12C12P		80	5	3
BACN10JC08		1	200	4
BACN10JC3		1	40	2
		2	75	2
		3	20	2
BACN10JC4		1	90	5
		2	25	2
		3	40	1
		3	60	1
BACN10JC6		1	185	1
BACN10YR3CD		1	40A	2
		2	75A	2
		3	20A	2
BACN10YR4CD		1	90A	5
BACN10YR4CD		2	25A	2
		3	40A	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACS12CK5-20		1	155	3
BACW10BN4AC		3	35B	1
		3	55B	1
BACW10CT8CU		3	55A	1
BRH10A08		1	200	4
BRH10A3		1	40	2
		2	75	2
		3	20	2
CS204E		1	210	2
		3	105	1
		3	145	1
C07202-3		1	25A	1
		2	60A	1
GM10242		3	25D	1
		80	1	RF
HHKSP3		80	10	2
HRS4CFR26		1	175	1
HRS4CFR6		1	175	1
HST10AG8-28		3	52	1
HST79-8		3	62	1
HST79CY8		3	62	1
H10-08BAC		1	200	4
H10-3BAC		1	40	2
		2	75	2
		3	20	2
H52732-3CD		1	40A	2
		2	75A	2
		3	20A	2
H52732-4CD		1	90A	5
		2	25A	2
		3	40A	1
KP4A		1	210	2
		3	105	1
		3	145	1

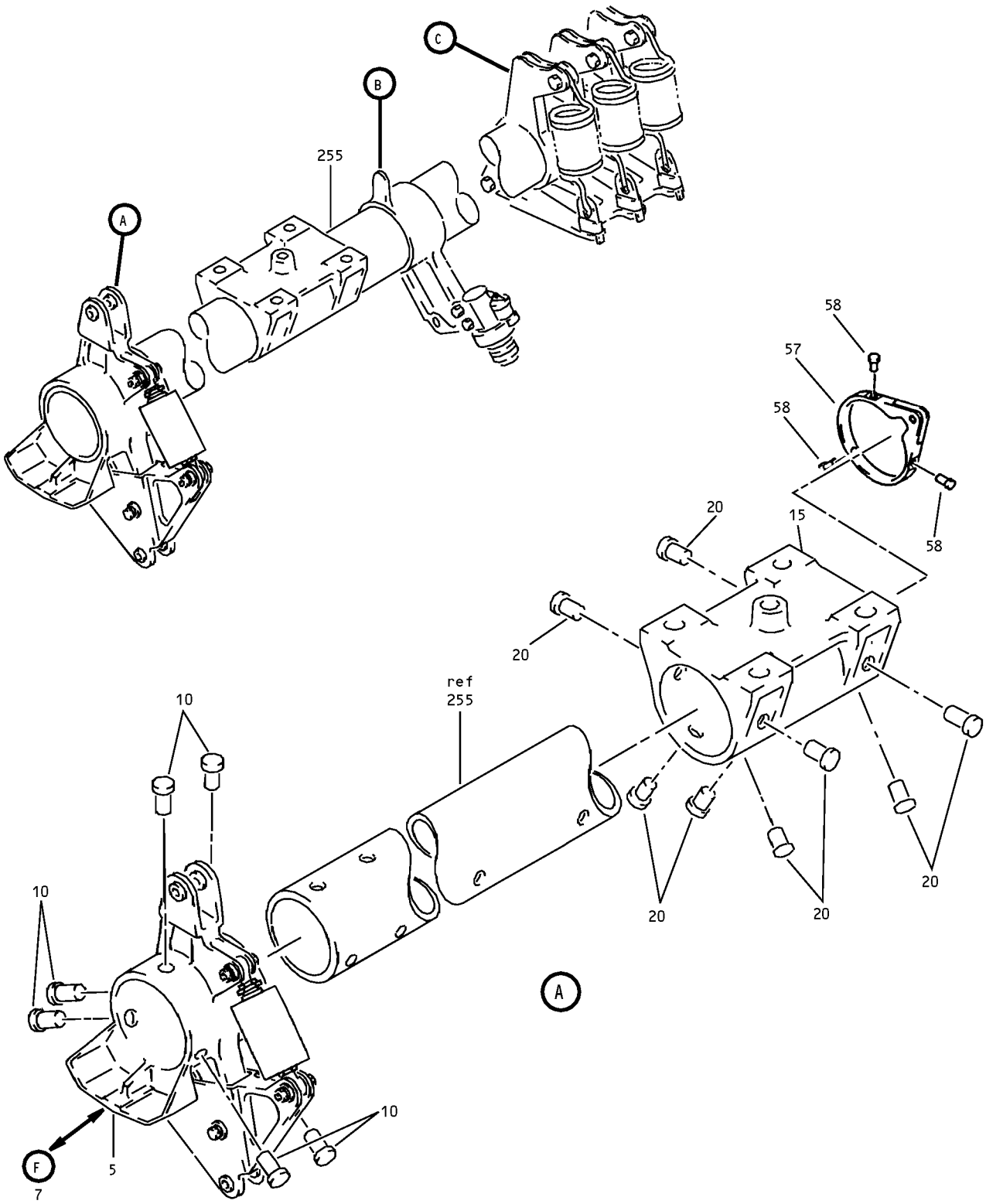
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
KP4AFS428		1	210	2
		3	105	1
		3	145	1
KP4AG27		1	210	2
		3	105	1
		3	145	1
KP4ALY196		1	210	2
		3	105	1
		3	145	1
KP4ASD610		1	210	2
		3	105	1
		3	145	1
KP4A2TS		1	210	2
		3	105	1
		3	145	1
KSP3		80	10	2
LLKP4A		1	210	2
		3	105	1
		3	145	1
MS90354-0605		1	50	4
		2	85	4
MS90354-0805		1	120	4
		1	140	4
		2	35	3
MS90354-0806		1	20	8
		2	55	8
MS90354-0807		1	10	6
		2	95	6
		2	105	3
MS90354U0504		1	58	3
		2	58	4
MS90354U0605		1	50A	4
		2	85A	4
MS90354U0805		1	120B	4
		1	140B	4
		2	35B	3

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
MS90354U0806		1	20B	8
		2	55B	8
MS90354U0807		1	10B	6
		2	105B	3
NAS1149D0363J		1	35A	2
		2	70A	2
NAS1149D0363J		3	15A	4
NAS1149D0416J		1	75A	3
		2	20A	4
NAS1149D0463J		1	85A	2
		3	37A	1
		3	57B	1
NAS1190E5P20		1	155A	3
NAS43DD4-24		3	150	1
NAS43DD4-24FC		3	150A	1
NAS602-9		1	190	4
NAS6603-16		1	30	2
		2	65	2
NS202101-02		1	40	2
		2	75	2
		3	20	2
NS202101-82		1	200	4
PLH53CD		1	40A	2
		2	75A	2
		3	20A	2
PLH54CD		1	90A	5
		2	25A	2
		3	40A	1
RMLH9075-3W		1	40	2
		2	75	2
		3	20	2

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
RMLH9075-82W		1	200	4
S253T401-1		3	25	1
		80	1	RF
S253T401-3		3	25D	1
T6S1032J		1	40	2
		2	75	2
		3	20	2
T6S832J		1	200	4
VN303A02		1	40	2
		2	75	2
		3	20	2
VN303A82		1	200	4
10-61072-3		3	25C	1
10-61072-4		3	25B	1
253T2126-4		1	45B	1
		2	80B	1
253T2126-5		1	45C	1
		2	80C	1
253T2126-6		1	45D	1
		2	80D	1
253T2127-10		1	1J	RF
		2	1D	RF
253T2127-11		1	1K	RF
		2	1E	RF
253T2127-13		1	1M	RF
		2	1F	RF
253T2127-15		1	1P	RF
		2	1G	RF
253T2127-17		1	1R	RF
		2	1H	RF
253T2127-5		1	1D	RF
		2	1B	RF
253T2127-7		1	1F	RF
		2	1C	RF
253T2127-9		1	1H	RF
253T2128-1		1	15	1
		2	50	1
253T2129-1		2	10	1
253T2130-1		1	170	1
253T2131-1		1	135	1
253T2131-2		1	150	1
253T2132-1		1	55	3
253T2132-2		1	55A	3
253T2133-1		1	215	1
253T2134-1		1	115	1

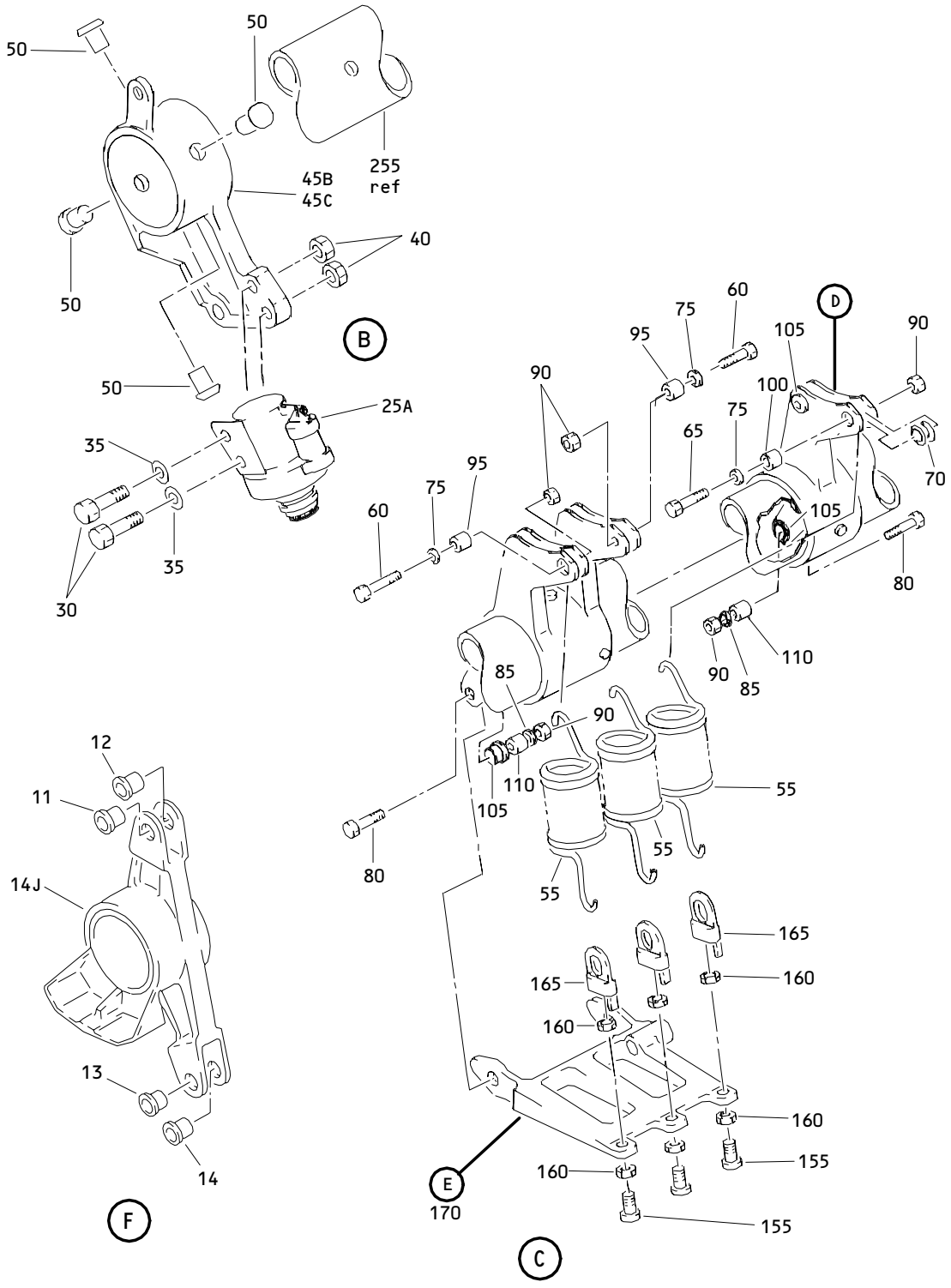
PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
253T2134-2		1	130	1
253T2135-1		1	205	4
253T2145-1		2	100	1
253T2146-1		2	30	1
253T2146-2		2	45	1
253T2152-1		1	255	1
253T2152-2		2	110	1
253T2154-1		1	70	1
253T2155-1		1	165	3
253T2311-1		1	5	1
		3	1	RF
253T2311-10		2	90D	1
		3	5D	RF
253T2311-2		2	90	1
		3	5	RF
253T2311-3		1	5A	1
		3	1A	RF
253T2311-4		2	90A	1
		3	5A	RF
253T2311-5		1	5B	1
		3	1B	RF
253T2311-6		2	90B	1
		3	5B	RF
253T2311-7		1	5C	1
		3	1C	RF
253T2311-8		2	90C	1
		3	5C	RF
253T2311-9		3	1D	RF
253T2312-1		3	70	1
253T2312-2		3	90	1
253T2312-4		3	70A	1
253T2312-5		3	90A	1
253T2313-1		3	100	1

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
253T2313-2		3	130	1
253T2313-4		3	100A	1
253T2313-5		3	130A	1
253T2314-1		3	95	1
253T2314-2		3	125	1
253T2314-4		3	95A	1
253T2314-5		3	125A	1
253T2316-1		2	92	1
253T2316-2		2	99J	1
253T2317-1		1	7	1
253T2317-2		1	14J	1
253T4013-2		1	57	1
		2	57	1
96-02		1	40	2
		2	75	2
		3	20	2
96-82		1	200	4

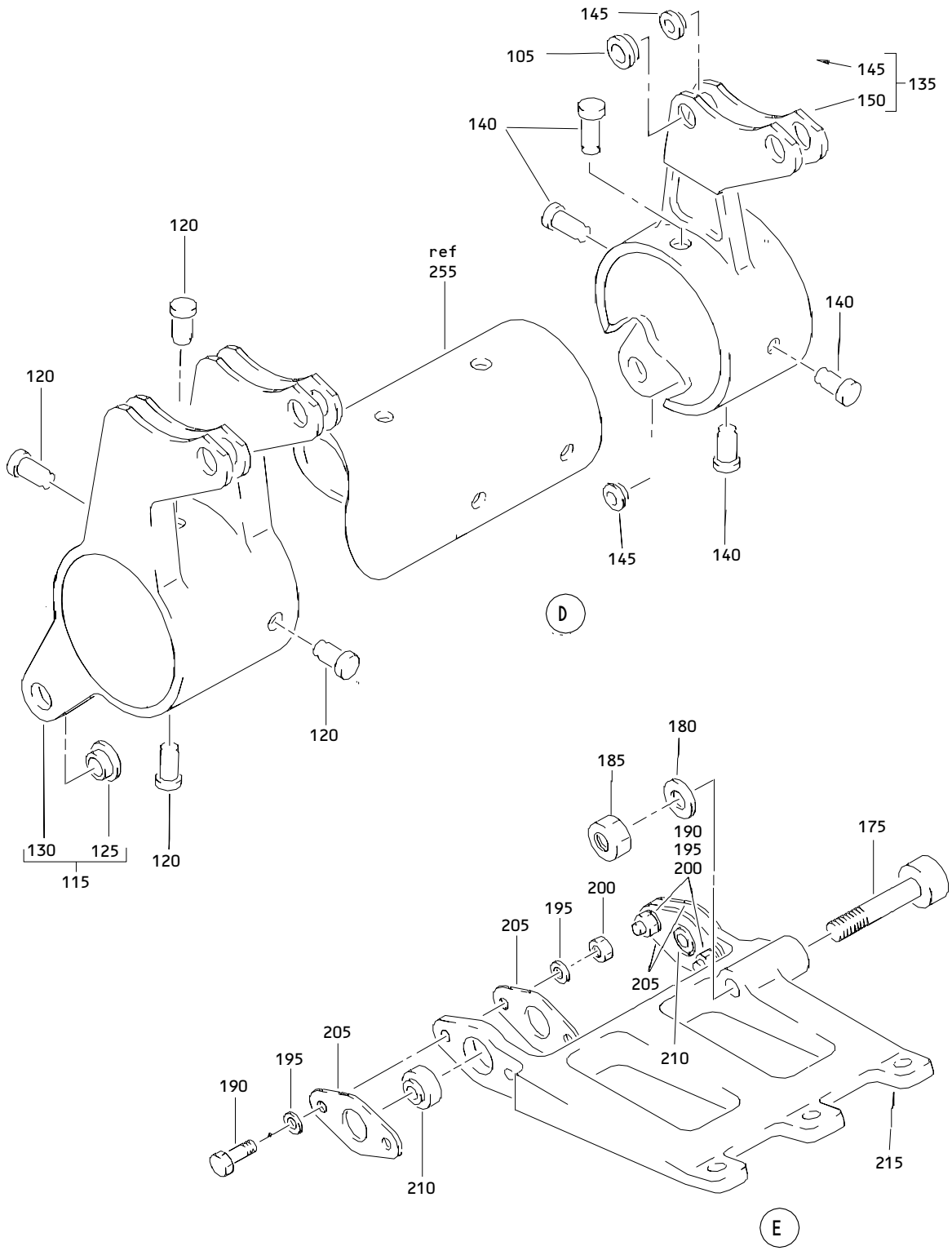


Elevator Control Torque Tube Assembly
Figure 1 (Sheet 1)

T59324



Elevator Control Torque Tube Assembly
Figure 1 (Sheet 2)



Elevator Control Torque Tube Assembly
Figure 1 (Sheet 3)

T59101

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-1	253T2127-1		DELETED		
	-1A	253T2127-2		DELETED		
	-1B	253T2127-3		DELETED		
	-1C	253T2127-4		DELETED		
	-1D	253T2127-5		TUBE ASSY-ELEV CONT TORQUE	A	RF
	-1E	253T2127-6		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	B	RF
	-1F	253T2127-7		TUBE ASSY-ELEV CONT TORQUE	C	RF
	-1G	253T2127-8		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	D	RF
	-1H	253T2127-9		TUBE ASSY-ELEV CONT TORQUE	E	RF
	-1J	253T2127-10		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	F	RF
	-1K	253T2127-11		TUBE ASSY-ELEV CONT TORQUE	G	RF
	-1L	253T2127-12		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	H	RF
	-1M	253T2127-13		TUBE ASSY-ELEV CONT TORQUE	J	RF
	-1N	253T2127-14		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	K	RF
	-1P	253T2127-15		TUBE ASSY-ELEV CONT TORQUE	L	RF
	-1Q	253T2127-16		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	M	RF
	-1R	253T2127-17		TUBE ASSY-ELEV CONT TORQUE	N	RF
	-1S	253T2127-18		TUBE ASSY-ELEV CONT TORQUE	P	RF
	-1T	253T2127-19		TUBE ASSY-ELEV CONT TORQUE	Q	RF
R	-1U	253T2127-21		TUBE ASSY-ELEV CONT TORQUE	R	RF
R	-1V	253T2127-22		TUBE ASSY-ELEV CONT TORQUE (FOR DETAILS SEE FIG. 2)	S	RF
	5	253T2311-1		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	A,C	1
	-5A	253T2311-3		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	G	1
	-5B	253T2311-5		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	J,P	1
	-5C	253T2311-7		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	L,Q	1
	7	253T2317-1		.CRANK ASSY ATTACHING PARTS	E,N	1
	10	MS90354-0807		.RIVET	A,C,E,G,J,L,N,P,Q	6
				-------*-------		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	-10A	BACB30VH08-07		.BOLT-(OVERSIZE- (FOR REPAIR ONLY)	A,C,E ,G,J, L,N, P-R	6
				ATTACHING PARTS		
R	-10B	MS90354U0807		.RIVET	R	6
				-------*-------		
	11	BACB28AM06B020A		..BUSHING	E,N	1
	12	BACB28AP04P020		..BUSHING	E,N	1
	13	BACB28AM07B020A		..BUSHING	E,N	1
	14	BACB28AP05P020		..BUSHING	E,N	1
	14J	253T2317-2		..CRANK	E,N	1
	15	253T2128-1		.FITTING-SPRT	A,C,E ,G,J, L,N-R	1
				ATTACHING PARTS		
	20	MS90354-0806		.RIVET	A,C,E ,G,J, L,N,P ,Q	8
				-------*-------		
R	-20A	BACB30VH08-06		.BOLT-(OVERSIZE- FOR REAPIR ONLY)	A,C,E ,G,J, L,N, P-R	8
				ATTACHING PARTS		
R	-20B	MS90354U0806		.RIVET	R	8
				-------*-------		
	25	C07202-2		DELETED		
	25A	C07202-3		.SHAKER-STICK (V83326)	A,C,E ,G,J, L,N-R	1
				ATTACHING PARTS		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-30	NAS6603-16		.BOLT	A,C,E,G,J,L,N,P,Q	2
R	-30A	BACB30NM3K16		.BOLT	R	2
	35	AN960PD10		.WASHER	A,C,E,G,J,L	2
	-35A	NAS1149D0363J		.WASHER	N-R	2
	40	H10-3BAC		.NUT- (V15653) (SPEC BACN10JC3) (OPT NS202101-02 (V80539)) (OPT RMLH9075-3W (V72962)) (OPT T6S1032J (V71087)) (OPT VN303A02 (V92215)) (OPT 96-02 (V80539)) (OPT BRH10A3 (V52828))	A,C,E,G,J,L,N,P,Q	2
R	-40A	H52732-3CD		.NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554)) -------*-------	R	2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	45	253T2126-1		DELETED		
	-45A	253T2126-3		DELETED		
	45B	253T2126-4		.SUPPORT	A	1
	-45C	253T2126-5		.SUPPORT	C,E,G,J,L,N,P,Q	1
R	-45D	253T2126-6		.SUPPORT	R	1
				ATTACHING PARTS		
	50	MS90354-0605		.RIVET	A,C,E,G,J,L,N,P,Q	4
R	-50A	MS90354U0605		.RIVET	R	4
				-------*-------		
	55	253T2132-1		.SPRING	A,C,E,G,J,L	3
	55A	253T2132-2		.SPRING	N-R	3
R	57	253T4013-2		.CRANK	R	1
				ATTACHING PARTS		
R	58	MS90354U0504		.RIVET	R	3
				-------*-------		
	60	BACB30NR4K10		.BOLT	A,C,E,G,J,L,N-R	2
	65	BACB30NR4K14		.BOLT	A,C,E,G,J,L,N-R	1
	70	253T2154-1		.SPACER	A,C,E,G,J,L,N-R	1
	75	AN960PD416L		.WASHER	A,C,E,G,J,L	3

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
	-75A	NAS1149D0416J		.WASHER	N-R	3
	80	BACB30NR4K12		.BOLT	A,C,E,G,J,L,N-R	2
	85	AN960PD416		.WASHER	A,C,E,G,J,L	2
	-85A	NAS1149D0463J		.WASHER	N-R	2
	90	BACN10JC4		.NUT	A,C,E,G,J,L,N,P,Q	5
R	-90A	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	R	5
	95	BACB28AK04-049		.BUSHING	A,C,E,G,J,L,N-R	2
	100	BACB28AK04-017		.BUSHING	A,C,E,G,J,L,N-R	1
	105	BACB28AM06B014A		.BUSHING	A,C,E,G,J,L,N,P,Q	3
R	-105A	BACB28AT06B014C		.BUSHING	R	3
	110	BACB28AK04-030		.BUSHING	A,C,E,G,J,L,N-R	2
	115	253T2134-1		.ARM ASSY	A,C,E,G,J,L,N-R	1
				ATTACHING PARTS		
	120	MS90354-0805		.RIVET	A,C,E,G,J,L,N,P,Q	4
				-------*-------		

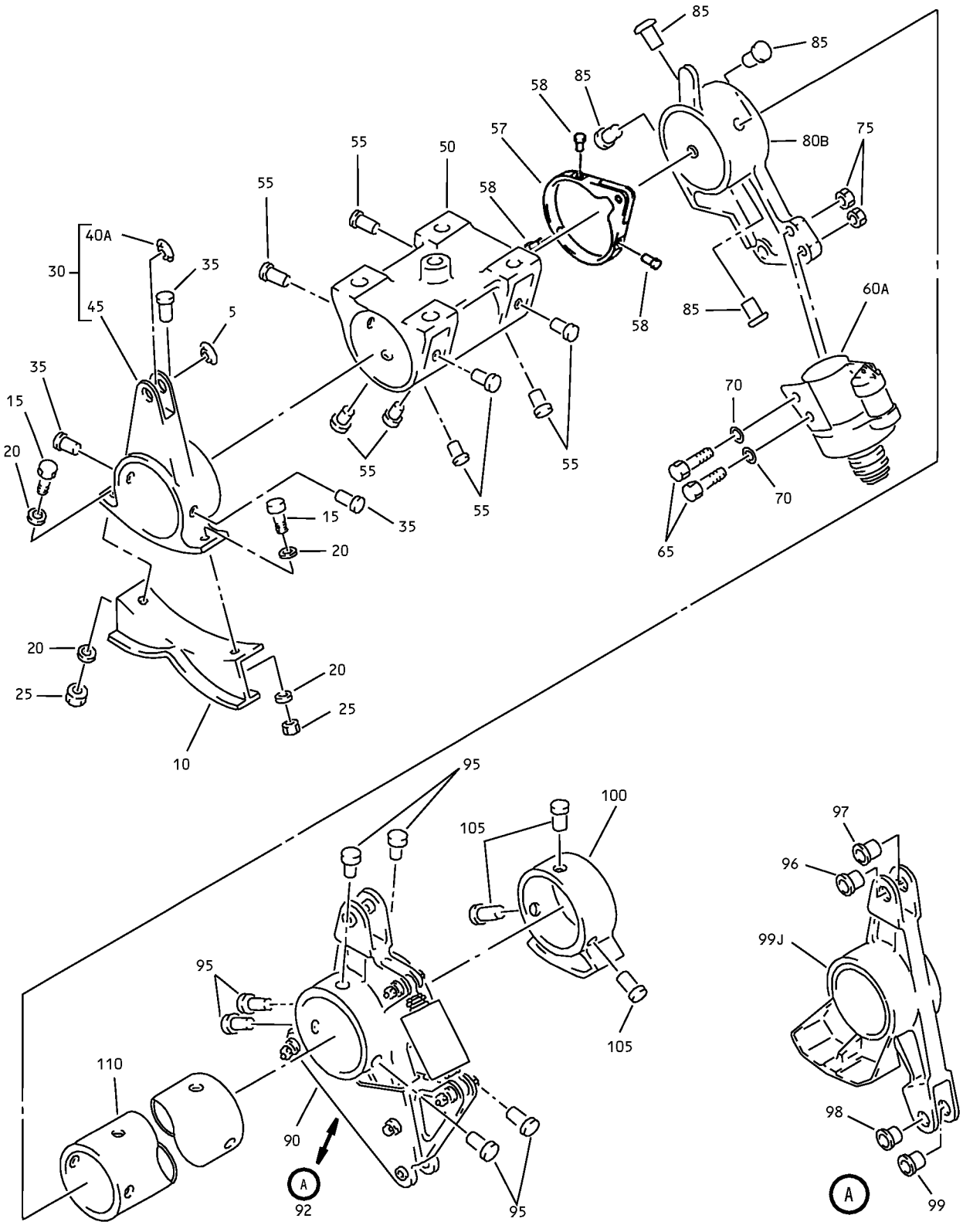
	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	01-					
R	-120A	BACB30VH08-05		.BOLT-(OVERSIZE- FOR REPAIR ONLY)	A,C,E ,G,J, L,N, P-R	4
				ATTACHING PARTS		
R	-120B	MS90354U0805		.RIVET	R	4
				-------*-------		
	125	BACB28AP04-011		..BUSHING	A,C,E ,G,J, L,N-R	1
	130	253T2134-2		..ARM	A,C,E ,G,J, L,N-R	1
	135	253T2131-1		.ARM ASSY	A,C,E ,G,J, L,N-R	1
				ATTACHING PARTS		
	140	MS90354-0805		.RIVET	A,C,E ,G,J, L,N,P ,Q	4
				-------*-------		
R	-140A	BACB30VH08-05		.BOLT-(OVERSIZE- FOR REPAIR ONLY)	A,C,E ,G,J, L,N, P-R	4
				ATTACHING PARTS		
R	-140B	MS90354U0805		.RIVET	R	4
				-------*-------		

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
145	BACB28AP04-011		..BUSHING	A,C,E ,G,J, L,N-R	2
150	253T2131-2		..ARM	A,C,E ,G,J, L,N-R	1
155	BACS12CK5-20		.SCREW- (OPT ITEM 155A)	A,C,E ,G,J, L,N-R	3
-155A	NAS1190E5P20		.SCREW- (OPT ITEM 155)	A,C,E ,G,J, L,N-R	3
160	AN316-5R		.NUT	A,C,E ,G,J, L,N-R	6
165	253T2155-1		.FITTING	A,C,E ,G,J, L,N-R	3
170	253T2130-1		.FOLLOWER ASSY	A,C,E ,G,J, L,N-R	1
175	HRS4CFR6		..ROLLER- (V60380) (SPEC BACB10AF6F26HS) (OPT HRS4CFR26 (V07484)) (OPT HRS4CFR26 (V92563))	A,C,E ,G,J, L,N-R	1
180	AN960PD616		..WASHER	A,C,E ,G,J, L,N-R	1
185	BACN10JC6		..NUT	A,C,E ,G,J, L,N-R	1

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-190	NAS602-9		..BOLT	A,C,E,G,J,L,N-R	4
195	AN960PD8L		..WASHER	A,C,E,G,J,L,N-R	8
200	H10-08BAC		..NUT- (V15653) (SPEC BACN10JC08) (OPT NS202101-82 (V80539)) (OPT RMLH9075-82W (V72962)) (OPT T6S832J (V71087)) (OPT VN303A82 (V92215)) (OPT 96-82 (V80539)) (OPT BRH10A08 (V52828))	A,C,E,G,J,L,N-R	4
205	253T2135-1		..RETAINER	A,C,E,G,J,L,N-R	4
210	KP4AFS428		..BEARING- (V21335) (SPEC BACB10BX4) (OPT KP4A2TS (V43991)) (OPT LLKP4A (V38443)) (OPT KP4AG27 (V30163)) (OPT KP4A (V38443)) (OPT KP4ALY196 (V40920)) (OPT KP4ASD610 (V83086)) (OPT CS204E (VK8455))	A,C,E,G,J,L,N-R	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01- 215	253T2133-1		..FOLLOWER	A,C,E ,G,J, L,N-R	1
255	253T2152-1		.TORQUE TUBE	A,C,E ,G,J, L,N-R	1

- Item Not Illustrated



Elevator Control Torque Tube Assembly
Figure 2

600332

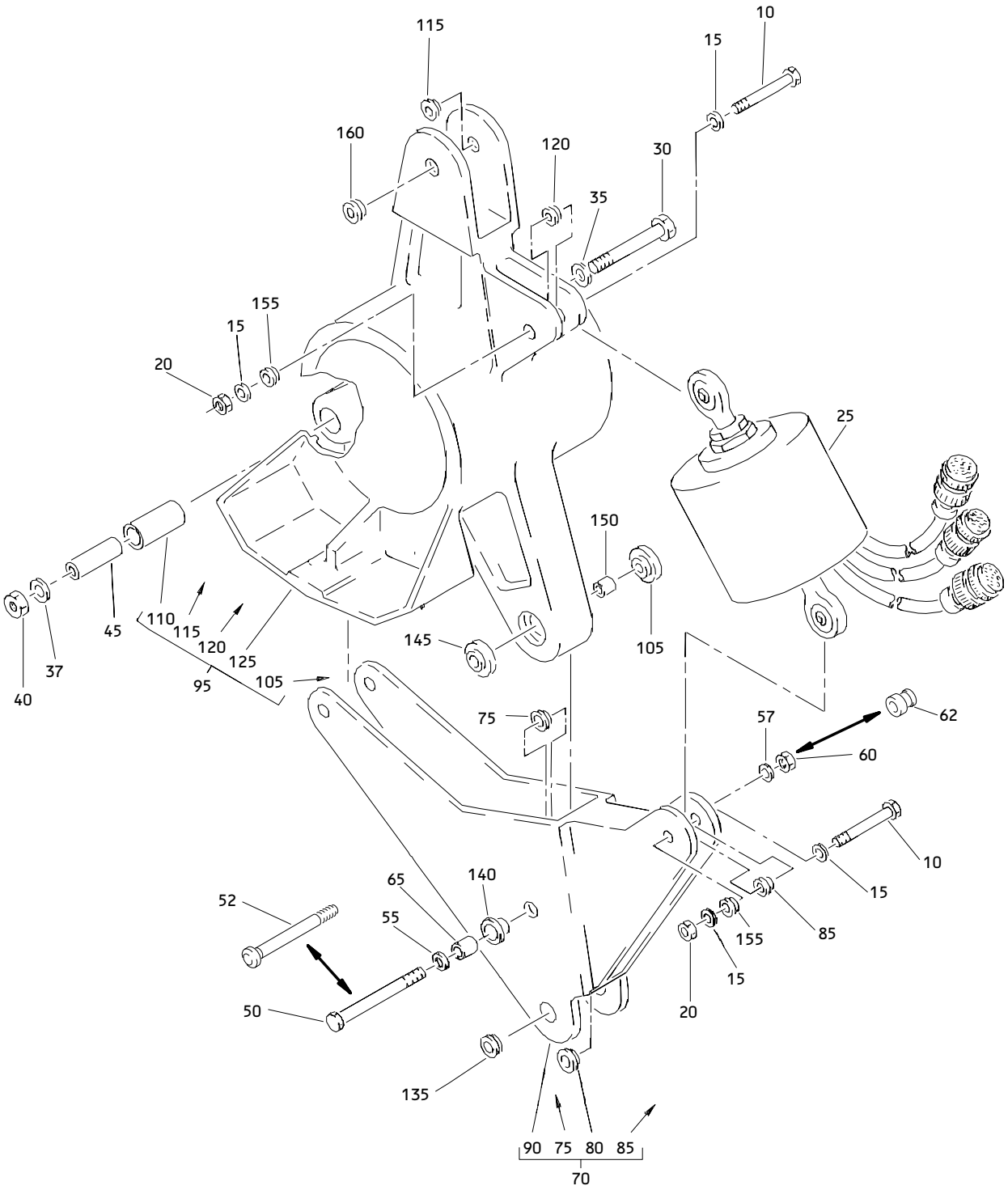
	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	02-					
	-1	253T2127-2		DELETED		
	-1A	253T2127-4		DELETED		
	-1B	253T2127-6		TUBE ASSY-ELEV CONT TORQUE	B	RF
	-1C	253T2127-8		TUBE ASSY-ELEV CONT TORQUE	D	RF
	-1D	253T2127-10		TUBE ASSY-ELEV CONT TORQUE	F	RF
	-1E	253T2127-12		TUBE ASSY-ELEV CONT TORQUE	H	RF
	-1F	253T2127-14		TUBE ASSY-ELEV CONT TORQUE	K	RF
	-1G	253T2127-16		TUBE ASSY-ELEV CONT TORQUE	M	RF
R	-1H	253T2127-22		TUBE ASSY-ELEV CONT TORQUE	S	RF
	5	BACB28AM06B015A		.BUSHING	B,D,F,H,K,M	1
R	-5A	BACB28AT06B015C		.BUSHING	R	1
	10	253T2129-1		.CAM	B,D,F,H,K,M,S	1
				ATTACHING PARTS		
	15	BACB30NR4K6		.BOLT	B,D,F,H,K,M	2
R	-15A	BACB30NR4K4		.BOLT	S	2
	20	AN960PD416		.WASHER	B,D,F,H,K,M	4
R	-20A	NAS1149D0416J		.WASHER	S	4
	25	BACN10JC4		.NUT	B,D,F,H,K,M	2
R	-25A	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554)) -------*-------	S	2
	30	253T2146-1		.CRANK ASSY-OVERRIDE	B,D,F,H,K,M,S	1
				ATTACHING PARTS		
	35	MS90354-0805		.RIVET	B,D,F,H,K,M	3
				-------*-------		
R	-35A	BACB30VH08-05		.BOLT-(OVERSIZE- FOR REPAIR ONLY)	B,D,F,H,K,M,S	3

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	02-					
				ATTACHING PARTS		
R	-35B	MS90354U0805		.RIVET	S	3
				-------*-------		
	40	BACB28AP04-12		DELETED		
	40A	BACB28AP04-012		..BUSHING	B,D,F,H,K,M,S	1
	45	253T2146-2		..CRANK	B,D,F,H,K,M,S	1
	50	253T2128-1		.FITTING	B,D,F,H,K,M,S	1
				ATTACHING PARTS		
	55	MS90354-0806		.RIVET	B,D,F,H,K,M	8
				-------*-------		
R	55A	BACB30VH08-06		.BOLT-(OVERSIZE-FOR REPAIR ONLY)	B,D,F,H,K,M,S	8
				ATTACHING PARTS		
R	-55B	MS90354U0806		.RIVET	S	8
				-------*-------		
R	57	253T4013-2		.CRANK	S	1
				ATTACHING PARTS		
R	58	MS90354U0504		.RIVET	S	3
				-------*-------		
	60	C07202-2		DELETED		
	60A	C07202-3		.SHAKER-STICK (V83326)	B,D,F,H,K,M,S	1
				ATTACHING PARTS		
	65	NAS6603-16		.BOLT	B,D,F,H,K,M	2
R	-65A	BACB30NM3K16		.BOLT	S	2
	70	AN960PD10		.WASHER	B,D,F,H,K,M	2
R	-70A	NAS1149D0363J		.WASHER	S	2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	02-					
	75	H10-3BAC		.NUT- (V15653) (SPEC BACN10JC3) (OPT NS202101-02 (V80539)) (OPT RMLH9075-3W (V72962)) (OPT T6S1032J (V71087)) (OPT VN303A02 (V92215)) (OPT 96-02 (V80539)) (OPT BRH10A3 (V52828))	B,D,F,H,K,M	2
R	-75A	H52732-3CD		.NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554)) -------*-------	S	2
	80	253T2126-1		DELETED		
	-80A	253T2126-1		DELETED		
	80B	253T2126-4		.SUPPORT	B	1
	-80C	253T2126-5		.SUPPORT	D,F,H,K,M	1
R	-80D	253T2126-6		.SUPPORT ATTACHING PARTS	S	1
	85	MS90354-0605		.RIVET	B,D,F,H,K,M	4
R	-85A	MS90354U0605		.RIVET -------*-------	S	4
	90	253T2311-2		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	B,D	1
	-90A	253T2311-4		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	H	1
	-90B	253T2311-6		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	K	1
	-90C	253T2311-8		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	M	1
R	-90D	253T2311-10		.TRANSDUCER ASSY- (FOR DETAILS SEE FIG. 3)	S	1
	92	253T2316-1		.CRANK ASSY	F	1
	93	253T2146-1		DELETED		

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	02-					
				ATTACHING PARTS		
	95	MS90354-0807		.RIVET	B,D,F,H,K,M	6
				-------*-------		
R	-95A	BACB30VH08-07		.BOLT-(OVERSIZE- FOR REPAIR ONLY)	B,D,F,H,K,M,S	6
	96	BACB28AM06B020A		..BUSHING	F	1
	97	BACB28AP04P020		..BUSHING	F	1
	97J	BACB28AP04-012		DELETED		
	98	BACB28AM07B020A		..BUSHING	F	1
	99	BACB28AP05P020		..BUSHING	F	1
	99J	253T2316-2		..CRANK	F	1
	99N	253T2146-2		DELETED		
	100	253T2145-1		.STOP	B,D,F,H,K,M,S	1
				ATTACHING PARTS		
	105	MS90354-0807		.RIVET	B,D,F,H,K,M,S	3
				-------*-------		
R	-105A	BACB30VH08-07		.BOLT-(OVERSIZE FOR REPAIR ONLY)	B,D,F,H,K,M,S	3
				ATTACHING PARTS		
R	-105B	MS90354U0807		.RIVET	S	3
				-------*-------		
	110	253T2152-2		.TUBE	B,D,F,H,K,M,S	1

- Item Not Illustrated



Elevator Control Force Transducer Assembly
Figure 3

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
	-1	253T2311-1		TRANSDUCER ASSY-ELEV CONT FORCE	A,C	RF
	-1A	253T2311-3		TRANSDUCER ASSY-ELEV CONT FORCE	G	RF
	-1B	253T2311-5		TRANSDUCER ASSY-ELEV CONT FORCE	J,P	RF
	-1C	253T2311-7		TRANSDUCER ASSY-ELEV CONT FORCE	L,Q	RF
R	-1D	253T2311-9		TRANSDUCER ASSY-ELEV CONT FORCE	R	RF
	-5	253T2311-2		TRANSDUCER ASSY-ELEV CONT FORCE	B,D	RF
	-5A	253T2311-4		TRANSDUCER ASSY-ELEV CONT FORCE	H	RF
	-5B	253T2311-6		TRANSDUCER ASSY-ELEV CONT FORCE	K	RF
	-5C	253T2311-8		TRANSDUCER ASSY-ELEV CONT FORCE	M	RF
R	-5D	253T2311-10		TRANSDUCER ASSY-ELEV CONT FORCE	S	RF
	10	BACB30NF3-13		.BOLT	A-D, G-M,P ,Q	2
R	-10A	BACB30NM3K13		.BOLT	R,S	2
	15	AN960D10		.WASHER	A-D, G-M,P ,Q	4
R	-15A	NAS1149D0363J		.WASHER	R,S	4
	20	H10-3BAC		.NUT- (V15653) (SPEC BACN10JC3) (OPT NS202101-02 (V80539)) (OPT RMLH9075-3W (V72962)) (OPT T6S1032J (V71087)) (OPT VN303A02 (V92215)) (OPT 96-02 (V80539)) (OPT BRH10A3 (V52828))	A-D, G-M,P ,Q	2

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
R	-20A	H52732-3CD		.NUT- (V15653) (SPEC BACN10YR3CD) (OPT PLH53CD (V62554))	R,S	2
	25	GM6931		.TRANSDUCER ASSY-FORCE (V22863) (SPEC S253T401-1) (FOR DETAILS SEE FIG. 80)	A-D,J,K,P	1
	-25A	10-61072-3		DELETED		
	-25B	GM5341-4		.TRANSDUCER ASSY-FORCE (V22863) (SPEC 10-61072-4) (OPT ITEM 25C)	G,H,L,M,Q	1
	-25C	GM5341-1		.TRANSDUCER ASSY-FORCE (V22863) (SPEC 10-61072-3) (OPT ITEM 25B)	G,H,L,M,Q	1
R	-25D	GM10242		.TRANSDUCER ASSY-FORCE (V22863) (SPEC S253T401-3)	R,S	1
	30	BACB30NR4K24		.BOLT	A-D,G-M,P-S	1
R	35	AN960D416		.WASHER	A-D,G-M,P,Q	1
	-35A	BACWBN4AC		DELETED		
R	-35B	BACW10BN4AC		.WASHER	R,S	1
R	37	AN960D416		.WASHER	A-D,G-M,P,Q	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
R	-37A	NAS1149D0463J		.WASHER	R,S	1
	40	BACN10JC4		.NUT	A-D, G-M,P ,Q	1
R	-40A	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	R,S	1
	45	BACB28Y4C104		.BUSHING	A-D, G-M, P-S	1
	50	BACB30NR4K25		.BOLT	A-D,G ,H	1
	52	HST10AG8-28		.BOLT- (V0PTK6) (SPEC BACB30VT8K28) (OPT HST10AG8-28 (V06725)) (OPT HST10AG8-28 (V56878)) (OPT HST10AG8-28 (V73197))	J-M, P-S	1
	55	AN960D416		.WASHER	A-D,G ,H	1
	-55A	BACW10CT8CU		.WASHER	J-M,P ,Q	1
R	-55B	BACW10BN4AC		.WASHER	R,S	1
	57	AN960D416		.WASHER	A-D,G ,H	1
	-57A	AN960JD416		.WASHER	J-M,P ,Q	1
R	-57B	NAS1149D0463J		.WASHER	R,S	1

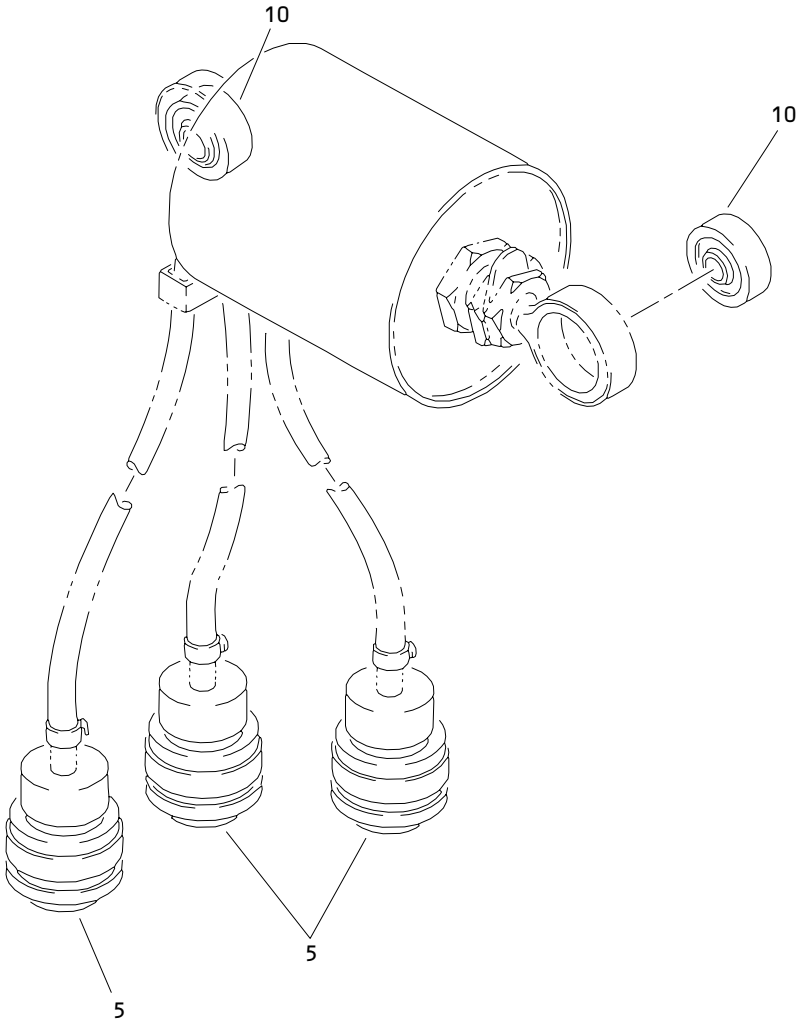
	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
	60	BACN10JC4		.NUT	A-D,G,H	1
R	62	HST79CY8		.COLLAR- (V73197) (SPEC BACC30BL8) (OPT HST79-8 (V56878)) (OPT HST79-8 (V92215)) (OPT HST79-8 (V5M902))	J-M,P-S	1
	65	BACB28AK04-035		.BUSHING	A-D,G-M,P-S	1
	70	253T2312-1		.ARM ASSY	A-D,G-M,P,Q	1
R	-70A	253T2312-4		.ARM ASSY	R,S	1
	75	BACB28AP04-017		..BUSHING	A-D,G-M,P,Q	1
R	-75A	BACB28AP04P017		..BUSHING	R,S	1
	80	BACB28AP05-018		..BUSHING	A-D,G-M,P,Q	1
R	-80A	BACB28AP05P018		..BUSHING	R,S	1
	85	BACB28X3C010		..BUSHING	A-D,G-M,P-S	1
	90	253T2312-2		..ARM	A-D,G-M,P,Q	1
R	-90A	253T2312-5		..ARM	R,S	1
	95	253T2314-1		.CRANK ASSY	A,C,G,J,L,P,Q	1
R	-95A	253T2314-4		.CRANK ASSY	R	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
	-100	253T2313-1		.CRANK ASSY	B,D,H,K,M	1
R	-100A	253T2313-4		.CRANK ASSY	S	1
	105	KP4AFS428		..BEARING- (V21335) (SPEC BACB10BX4) (OPT KP4A2TS (V43991)) (OPT LLKP4A (V38443)) (OPT KP4AG27 (V30163)) (OPT KP4A (V38443)) (OPT KP4ALY196 (V40920)) (OPT KP4ASD610 (V83086)) (OPT CS204E (VK8455))	A-D,G-M,P,Q	1
R	-105A	BACB10FS04J		..BEARING	R,S	1
	110	BACB28Y8C084		..BUSHING	A-D,G-M,P,Q	1
	115	BACB28AP04-020		..BUSHING	A-D,G-M,P,Q	1
R	-115A	BACB28AP04P020		..BUSHING	R,S	1
	120	BACB28X3C011		..BUSHING	A-D,G-M,P,Q	1
R	-120A	BACB28X3C024		..BUSHING	R,S	1
	125	253T2314-2		..CRANK	A,C,G,J,L,P,Q	1
R	-125A	253T2314-5		..CRANK	R	1
	-130	253T2313-2		..CRANK	B,D,H,K,M	1
R	-130A	253T2313-5		..CRANK	S	1
	135	BACB28AM07B018A		.BUSHING	A-D,G-M,P,Q	1

	FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
	03-					
R	-135A	BACB28AT07B018C		.BUSHING	R,S	1
	140	BACB28AM06B017A		.BUSHING	A-D, G-M,P ,Q	1
R	-140A	BACB28AT06B017C		.BUSHING	R,S	1
	145	KP4AFS428		.BEARING- (V21335) (SPEC BACB10BX4) (OPT KP4A2TS (V43991)) (OPT LLKP4A (V38443)) (OPT KP4AG27 (V30163)) (OPT KP4A (V38443)) (OPT KP4ALY196 (V40920)) (OPT KP4ASD610 (V83086)) (OPT CS204E (VK8455))	A-D, G-M, P-S	1
	150	NAS43DD4-24		.SPACER	A-D, G-M,P ,Q	1
R	-150A	NAS43DD4-24FC		.SPACER	R,S	1
	155	BACB28X3C024		.BUSHING	A-D, G-M,P ,Q	2

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
03-160	BACB28AM06B020A		.BUSHING	A-D, G-M, P-S	1

- Item Not Illustrated



Force Transducer Assembly
Figure 80

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
80-					
-1	GM6931		TRANSDUCER ASSY-FORCE (V22863) (SPEC S253T401-1)	A-D,J ,K,P	RF
5	BACC45FT12C12P		.CONNECTOR	A-D,J ,K,P	3
10	KSP3		.BEARING- (V38443) (SPEC BACB10AC3) (OPT KSP3-2TS (V43991)) (OPT KSP3E9440A (V21335)) (OPT KSP3FS428 (V21335)) (OPT HHKSP3 (V38443)) (OPT KSP3G27 (V30163))	A-D,J ,K,P	2

- Item Not Illustrated