

 **BOEING**
COMPONENT
MAINTENANCE MANUAL

TO: ALL HOLDERS OF LEFT HAND LATERAL CENTRAL CONTROL ACTUATOR INPUT CRANK TORQUE
TUBE AND BRACKET ASSEMBLY COMPONENT MAINTENANCE MANUAL 27-11-16

REVISION NO. 13 DATED JUL 01/04

HIGHLIGHTS

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

CHAPTER/SECTION

AND PAGE NO.

DESCRIPTION OF CHANGE

TITLE PAGE

Add top assembly 251T1305-17 per PRR B13232.

1

TR & SB RECORD

1

301

401

501

REPAIR 2-1

601,604

REPAIR 3-1

601,603

REPAIR 4-1

601-603

REPAIR 5-1

601-603

REPAIR 6-1

601-602

702,705

803-805

1002-1013,1017-1025,

1033-1036,1038-1050

REPAIR 1-1

601

1029,1033,1047

Identified bracket-cage 251T1322-9 in REPAIR 1-1 and
IPL Fig. 2 Sheet 3 as Item 57.

REPAIR 2-1

602

Revised refinish requirements for bracket assembly
251T1323-3 in REPAIR 2-1, Fig. 601.

27-11-16

HIGHLIGHTS

01.1

Page 1

Jul 01/04

 **BOEING**
COMPONENT
MAINTENANCE MANUAL

CHAPTER/SECTION
AND PAGE NO.

REPAIR 3-1
602-603

DESCRIPTION OF CHANGE

Revised requirements for bracket assembly 251T1324 in
REPAIR 3-1, Fig. 601 and Fig. 602.

REPAIR 5-1
602

Revised requirements for input crank assembly
251T1346-4, -5, -6 in REPAIR 5-1, Fig. 601 Sheet 1.

27-11-16

HIGHLIGHTS

01.1

Page 2

Jul 01/04

LEFT-HAND LATERAL CENTRAL CONTROL ACTUATOR INPUT CRANK TORQUE TUBE AND BRACKET ASSEMBLY

PART NUMBER 251T1305-9 THRU -17

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

27-11-16

TITLE PAGE

Page 1

Jul 01/04

01.1



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


BOEING
 COMPONENT
 MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
27-128		PRR B10517-1 PRR B12597 PRR B13232	JUL 10/82 MAR 01/95 MAR 01/95 JUL 1/04

27-11-16

TR & SB RECORD

01.1

Page 1

Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PAGE	DATE	CODE	PAGE	DATE	CODE
27-11-16					
TITLE PAGE			REPAIR-GENERAL		
*1	JUL 01/04	01.1	601	MAR 01/95	01.1
2	BLANK		602	JUL 01/99	01.1
REVISION RECORD			603	MAR 01/95	01.101
1	JUL 10/83	01	604	BLANK	
2	BLANK		REPAIR 1-1		
TR & SB RECORD			*601	JUL 01/04	01.1
*1	JUL 01/04	01.1	602	BLANK	
2	BLANK		REPAIR 2-1		
LIST OF EFFECTIVE PAGES			*601	JUL 01/04	01.1
*1	JUL 01/04	01	*602	JUL 01/04	01.1
THRU LAST PAGE			603	JUL 01/99	01.1
CONTENTS			*604	JUL 01/04	01.1
1	JUL 10/83	01	REPAIR 3-1		
2	BLANK		*601	JUL 01/04	01.1
INTRODUCTION			*602	JUL 01/04	01.1
1	JUL 10/83	01	*603	JUL 01/04	01.1
2	BLANK		604	JUL 10/85	01.1
DESCRIPTION & OPERATION			REPAIR 4-1		
1	JUL 10/83	01.1	*601	JUL 01/04	01.1
2	BLANK		*602	JUL 01/04	01.1
DISASSEMBLY			*603	JUL 01/04	01.1
*301	JUL 01/04	01.1	*604	BLANK	
302	BLANK		REPAIR 5-1		
CLEANING			*601	JUL 01/04	01.1
*401	JUL 01/04	01.1	*602	JUL 01/04	01.1
402	BLANK		REPAIR 6-1		
CHECK			*601	JUL 01/04	01.1
*501	JUL 01/04	01.1	*602	JUL 01/04	01.1
502	BLANK		REPAIR 7-1		
			601	JUL 01/99	01.101
			602	BLANK	

* = REVISED, ADDED OR DELETED

27-11-16

EFFECTIVE PAGES
CONTINUED Page 1
01 Jul 01/04

PAGE	DATE	CODE	PAGE	DATE	CODE
ASSEMBLY			ILLUSTRATED PARTS LIST		CONT.
701	JUL 01/99	01.1	*1027	JUL 01/04	01.1
*702	JUL 01/04	01.1	*1028	JUL 01/04	01.1
703	JUL 01/99	01.1	*1029	JUL 01/04	01.1
704	JUL 01/99	01.1	*1030	JUL 01/04	01.1
*705	JUL 01/04	01.1	*1031	JUL 01/04	01.1
706	BLANK		*1032	JUL 01/04	01.1
FITS AND CLEARANCES			*1033	JUL 01/04	01.1
801	JUL 01/99	01.1	*1034	JUL 01/04	01.1
802	JUL 01/99	01.1	*1035	JUL 01/04	01.1
*803	JUL 01/04	01.1	*1036	JUL 01/04	01.1
*804	JUL 01/04	01.1	*1037	BLANK	
*805	JUL 01/04	01.1	*1038	JUL 01/04	01.1
806	BLANK		*1039	JUL 01/04	01.1
ILLUSTRATED PARTS LIST			*1040	JUL 01/04	01.1
1001	JUL 10/83	01	*1041	JUL 01/04	01.1
*1002	JUL 01/04	01.1	*1042	JUL 01/04	01.1
*1003	JUL 01/04	01.1	*1043	JUL 01/04	01.1
*1004	JUL 01/04	01.1	*1044	JUL 01/04	01.1
*1005	JUL 01/04	01.1	*1045	JUL 01/04	01.1
*1006	JUL 01/04	01.1	*1046	JUL 01/04	01.1
*1007	JUL 01/04	01.1	*1047	JUL 01/04	01.1
*1008	JUL 01/04	01.1	*1048	JUL 01/04	01.1
*1009	JUL 01/04	01.1	*1049	JUL 01/04	01.1
*1010	JUL 01/04	01.1	*1050	JUL 01/04	01.1
*1011	JUL 01/04	01.1			
*1012	JUL 01/04	01.1			
*1013	JUL 01/04	01.1			
*1014	JUL 01/04	01.1			
*1015	JUL 01/04	01.1			
*1016	JUL 01/04	01.1			
*1017	JUL 01/04	01.1			
*1018	JUL 01/04	01.1			
*1019	JUL 01/04	01.1			
*1020	JUL 01/04	01.1			
*1021	JUL 01/04	01.1			
*1022	JUL 01/04	01.1			
*1023	JUL 01/04	01.1			
*1024	JUL 01/04	01.1			
*1025	JUL 01/04	01.1			
*1026	BLANK				

* = REVISED, ADDED OR DELETED

27-11-16

EFFECTIVE PAGES
 LAST PAGE Page 2
 01 Jul 01/04



TABLE OF CONTENTS

<u>Paragraph Title</u>	<u>Page</u>
Description and Operation.	1
Testing and Trouble Shooting (not applicable)	
Disassembly.	301
Cleaning	401
Check.	501
Repair	601
Assembly	701
Fits and Clearances.	801
Special Tools (not applicable)	
Illustrated Parts List	1001

27-11-16



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 | 4. List of Effective Pages |
| 2. Record of Revisions | 5. Table of Contents |
| 3. Temporary Revision &
Service Bulletin Record | 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.

27-11-16

INTRODUCTION

01

Page 1

Jul 10/83



LEFT HAND LATERAL CENTRAL CONTROL ACTUATOR INPUT
CRANK TORQUE TUBE AND BRACKET ASSEMBLY

DESCRIPTION AND OPERATION

1. The left hand lateral central control actuator input crank torque tube and bracket assembly consists of a torque tube assembly, two aluminum bracket assemblies and a brace assembly. The torque tube and bracket assembly transmits inputs from the aileron control feel mechanism assembly through control rods to the lateral central control actuators.

2. Leading Particulars (approximate)

Length -- 22 inches

Width -- 10 inches

Height -- 10 inches

Weight -- 6 lbs.

27-11-16

DESCRIPTION & OPERATION

01.1

Page 1

Jul 10/83

**BOEING**
COMPONENT
MAINTENANCE MANUALDISASSEMBLY

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

1. Use standard industry practices to disassemble this component.

NOTE: Do not disassemble bolt assembly (5A, IPL Fig. 1; 5, IPL Fig. 2; 5, IPL Fig. 3), bracket assemblies (60, 75A, IPL Fig. 1; 55, 65, IPL Fig. 2; 55, 65, IPL Fig. 3), brace assembly (90, IPL Fig. 1; 80, IPL Fig. 2; 80, IPL Fig. 3), tube assembly (120H thru 120L, IPL Fig. 1; 120, IPL Fig. 2; 120, IPL Fig. 3), or remove bracket (250, IPL Fig. 1) or grommet (255, IPL Fig. 1) or water shield (260, IPL Fig. 2; 230, IPL Fig. 3) unless necessary for repair or replacement.

27-11-16

DISASSEMBLY

01.1

Page 301

Jul 01/04

CLEANING

1. Clean all parts except bearings using standard industry practices (Ref 20-30-03) and additional procedures in the following steps.
2. Clean all sealed bearings (70, 85, 100, 105A, IPL Fig. 1; 60, 75, 100, 105, 185, IPL Fig. 2; 60, 75, 100, 105, IPL Fig. 3) per manufacturer's instructions. Clean all other bearings per SOPM 20-30-01.

27-11-1601.1
CLEANING
Page 401
Jul 01/04

CHECK

1. Check all parts for obvious defects in accordance with standard industry practices.
2. Magnetic particle check per SOPM 20-20-01 -- Bushing (43, 45, IPL Fig. 1; 45, IPL Fig. 2; 45, IPL Fig. 3).
3. Penetrant check per SOPM 20-20-02 -- Bolt (15A, IPL Fig. 1; 15, IPL Fig. 2; 15, IPL Fig. 3), bracket (65, 80A, IPL Fig. 1; 57, 70, IPL Fig. 2; 57, 70, IPL Fig. 3), brace (97, 98, IPL Fig. 1; 90, 95, IPL Fig. 2; 90, 95, IPL Fig. 3), sleeve (110, 115, IPL Fig. 1; 110, 115, IPL Fig. 2; 110, 115, IPL Fig. 3), fittings (125A, 135A, 165, IPL Fig. 1; 125, 135, 165, IPL Fig. 2; 125, 135, IPL Fig. 3), crank (145, 155, 195A, 200C, IPL Fig. 1; 145, 155, 210, 225, IPL Fig. 2; 140, 145, 180, 195, IPL Fig. 3), tube (215, 220, IPL Fig. 1; 235, 240, IPL Fig. 2; 205, 210, IPL Fig. 3).

27-11-16

CHECK

01.1

Page 501

Jul 01/04

REPAIR – GENERAL1. Content

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

<u>P/N</u>	<u>NAME</u>	<u>REPAIR</u>
251T1322	BRACKET	1-1
251T1323	BRACKET	2-1
251T1324	BRACE	3-1
251T1345	TORQUE TUBE	4-1
251T1346	INPUT CRANK	5-1
- -	MISC PARTS REFINISH	6-1
- -	BUSHING SEALING	7-1

2. Standard Practices

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

20-41-01 Decoding Table for Boeing Finish Codes
 20-41-02 Application of Chemical and Solvent Resistant Finishes
 20-43-01 Chromic Acid Anodizing
 20-50-03 Bearing Installation and Retention

3. Materials

NOTE: Equivalent substitutes may be used.

- A. Grease -- BMS 3-24 (Ref 20-60-03)
 B. Primer -- BMS 10-11, Type 1 (Ref 20-60-02)
 C. Sealant -- BMS 5-95 (Ref 20-60-04)
 D. Deleted.

27-11-16

REPAIR-GENERAL

01.1

Page 601

Mar 01/95

E. Deleted.

| F. Enamel -- BMS 10-60 (Ref 20-60-02)

27-11-16

REPAIR-GENERAL

01.1

Page 602

Jul 01/99

4. Dimensioning Symbols

A. Standard True Position Dimensioning Symbols used in applicable repair procedures are shown in Fig. 601.

—	STRAIGHTNESS	\oplus	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
\square	FLATNESS	\varnothing	DIAMETER
\perp	PERPENDICULARITY (OR SQUARENESS)	BASIC (BSC) OR	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.
//	PARALLELISM	DIM	
\bigcirc	ROUNDNESS	-A-	DATUM
\bigcirc	CYLINDRICITY	\textcircled{M}	MAXIMUM MATERIAL CONDITION (MMC)
\frown	PROFILE OF A LINE	\textcircled{S}	REGARDLESS OF FEATURE SIZE (RFS)
\triangle	PROFILE OF A SURFACE	\textcircled{P}	PROJECTED TOLERANCE ZONE
\odot	CONCENTRICITY		
\equiv	SYMMETRY		
\sphericalangle	ANGULARITY		
\nearrow	RUNOUT		

EXAMPLES

$\boxed{\text{—} \quad 0.002}$	STRAIGHT WITHIN 0.002	$\boxed{\textcircled{C} \quad \varnothing \quad 0.0005}$	CONCENTRIC TO C WITHIN 0.0005 DIAMETER (FULL INDICATOR MOVEMENT)
$\boxed{\perp \quad B \quad 0.002}$	PERPENDICULAR TO B WITHIN 0.002	$\boxed{\equiv \quad A \quad 0.010}$	SYMMETRICAL WITH A WITHIN 0.010
$\boxed{\parallel \quad A \quad 0.002}$	PARALLEL TO A WITHIN 0.002	$\boxed{\sphericalangle \quad A \quad 0.005}$	ANGULAR TOLERANCE 0.005 WITH A
$\boxed{\bigcirc \quad 0.002}$	ROUND WITHIN 0.002	$\boxed{\oplus \quad B \quad \varnothing \quad 0.002 \quad \textcircled{S}}$	LOCATED AT TRUE POSITION WITHIN 0.002 DIA IN RELATION TO DATUM B, REGARDLESS OF FEATURE SIZE
$\boxed{\bigcirc \quad 0.010}$	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER	$\boxed{\perp \quad A \quad \varnothing \quad 0.010 \quad \textcircled{M} \quad 0.510 \quad \textcircled{P}}$	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010-INCH DIAMETER, PERPENDICULAR TO, AND EXTENDING 0.510-INCH ABOVE, DATUM A, MAXIMUM MATERIAL CONDITION
$\boxed{\frown \quad A \quad 0.006}$	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART IN RELATION TO DATUM PLANE A	$\boxed{2.000}$	EXACT DIMENSION IS 2.000
$\boxed{\triangle \quad A \quad 0.020}$	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE	OR 2.000 BSC	

True Position Dimensioning Symbols
 Figure 601

27-11-16

REPAIR-GENERAL

01.101 Page 603

Mar 01/95



BRACKET ASSEMBLY – REPAIR 1-1

251T1322-1, -3, -5, -7, -8

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of bracket (65, IPL Fig. 1; 57, IPL Fig. 2; 57, IPL Fig. 3) which may only require restoration of original finish, refer to Refinish instructions.

1. Bearing Replacement

- A. Remove the bearing (70, IPL Fig. 1; 60, IPL Fig. 2; 60, IPL Fig. 3) from the cage bracket (65, IPL Fig. 1; 57, IPL Fig. 2; 57, IPL Fig. 3).
- B. Install the replacement bearing (70, IPL Fig. 1; 60, IPL Fig. 2; 60, IPL Fig. 3) with BMS 3-24 grease and roller swage (SOPM 20-50-03).

2. Refinish

- A. Bracket (65, IPL Fig. 1) -- Chromic acid anodize and apply one coat of BMS 10-11, Type 1 primer (F-18.13) all over. Omit primer from all holes except in 0.363-0.327 inch diameter hole. Material: Aluminum alloy.
- B. Bracket (57, IPL Fig. 2; 57, IPL Fig. 3) – Boric acid-sulfuric acid anodize (F-17.35) and apply a layer of BMS 10-11, Type 1 primer (F-20.02) and apply a layer of BMS 10-60 enamel (SRF-14.9812) all over. Omit primer (F-20.02) from all the holes. Material: Aluminum alloy.

27-11-16

REPAIR 1-1

01.1

Page 601

Jul 01/04



BRACKET ASSEMBLY – REPAIR 2-1

251T1323-3, -5

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of bracket (80A, IPL Fig. 1; 70, IPL Fig. 2; 70, IPL Fig. 3) which may only require restoration of the original finish, refer to Refinish instructions, Figs. 601 and 602.

1. Bearing Replacement (Fig. 601 and 602)

- A. Remove the bearing (85, IPL Fig. 1; 75, IPL Fig. 2; 75, IPL Fig. 3) from the cage bracket (80A, IPL Fig. 1; 70, IPL Fig. 2).
- B. Install the replacement bearing (85, IPL Fig. 1; 75, IPL Fig. 2; 75, IPL Fig. 3) with BMS 5-95 sealant and roller swage (SOPM 20-50-03).

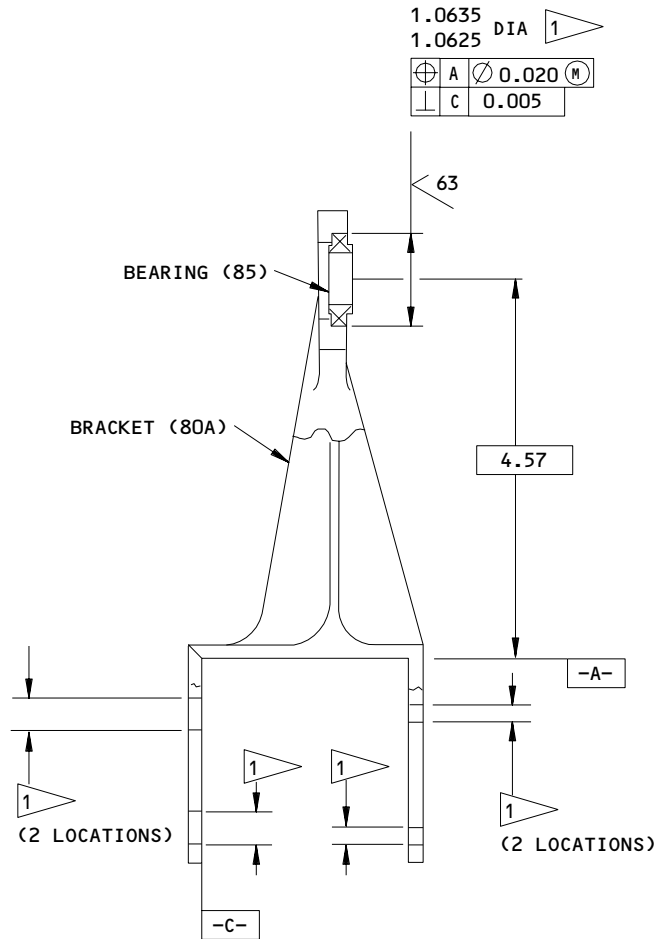
27-11-16

REPAIR 2-1


01.1

Page 601

Jul 01/04



REFINISH

BRACKET (80A) -- CHROMIC ACID ANODIZE (F-17.04) AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.03) ALL OVER EXCEPT AS NOTED 

MATERIAL: AL ALLOY
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

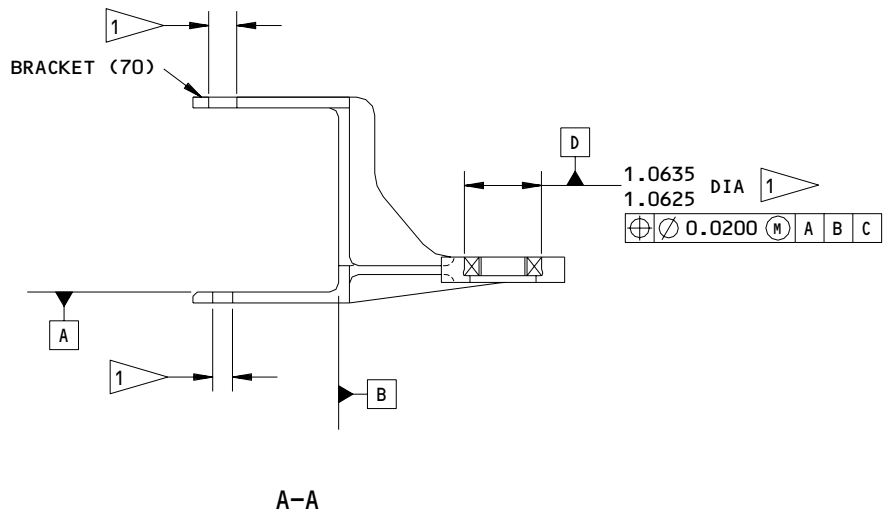
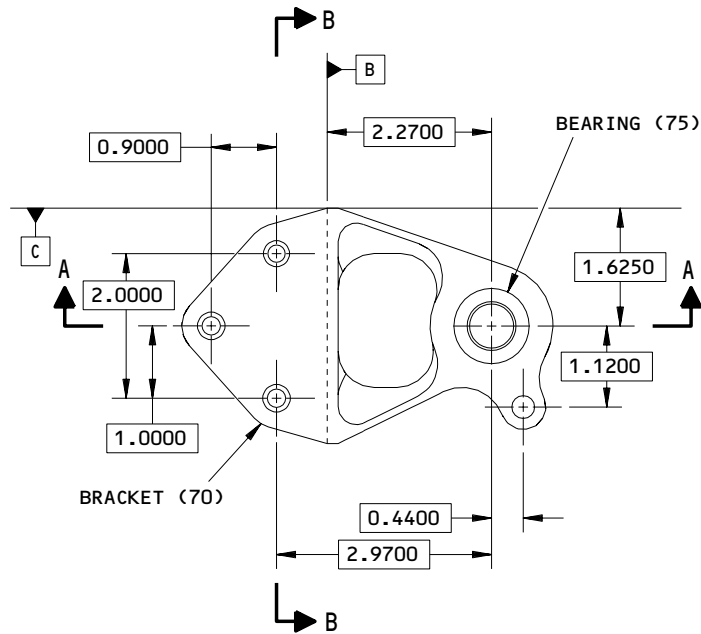
 OMIT PRIMER FROM THIS SURFACE

251T1323-3
 Bracket Assembly - Bearing Replacement
 Figure 601

27-11-16

REPAIR 2-1
 Page 602
 Jul 01/04

01.1



251T1323-5
 Bracket Assembly - Bearing Replacement
 Figure 602 (Sheet 1)

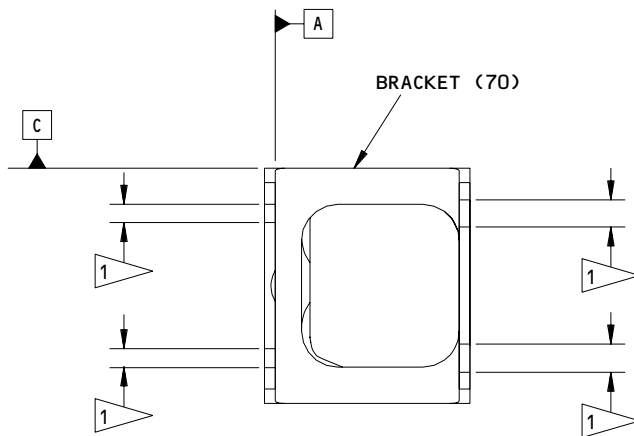
27-11-16

REPAIR 2-1

Page 603


Jul 01/99

01.1



B-B


REFINISH

BRACKET (70) -- BORIC ACID-SULFURIC ACID ANODIZE (F-17.35) AND APPLY A LAYER OF BMS 10-11, TYPE 1 PRIMER (F-20.02) AND APPLY A LAYER OF BMS 10-60 ENAMEL (SRF-14.9813) ALL OVER EXCEPT AS NOTED BY 

MATERIAL: AL ALLOY

ITEM NUMBERS REFER TO IPL FIG. 2,3

ALL DIMENSIONS ARE IN INCHES

 OMIT PRIMER (F-20.02) AND ENAMEL (SRF-14.9813) ON THIS SURFACE

251T1323-5
 Bracket Assembly - Bearing Replacement
 Figure 602 (Sheet 2)

27-11-16

REPAIR 2-1

Page 604

Jul 01/04

01.1

BRACE ASSEMBLY – REPAIR 3-1

251T1324-1, -3, -4, -5

NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of brace (97, 98, IPL Fig. 1; 90, 95, IPL Fig. 2; 90, 95, IPL Fig. 3) which may only require stripping and restoration of the original finish, refer to Refinish instructions, Figs. 601 and 602.

1. Bearing Replacement (Fig. 601 and 602)

- A. Remove the bearings (100, 105A, IPL Fig. 1; 100, 105, IPL Fig. 2; 100, 105, IPL Fig. 3) and sleeves (110, 115, IPL Fig. 1; 110, 115, IPL Fig. 2; 110, 115, IPL Fig. 3) from the brace (97, 98, IPL Fig. 1; 90, 95, IPL Fig. 1; 90, 95, IPL Fig. 2).
- B. Install the new sleeves (110, 115, IPL Fig. 1; 110, 115, IPL Fig. 2) and new bearings (85, IPL Fig. 1; 75, IPL Fig. 2; 75, IPL Fig. 3) into brace (97, 98, IPL Fig. 1; 90, 95, IPL Fig. 2; 90, 95, IPL Fig. 3) with BMS 5-95 sealant and roller swage (SOPM 20-50-03). After roller swage, fill gap in sleeves (110, 115, IPL Fig. 1; 110, 115, IPL Fig. 2; 110, 115, IPL Fig. 3) with BMS 5-95 sealant.

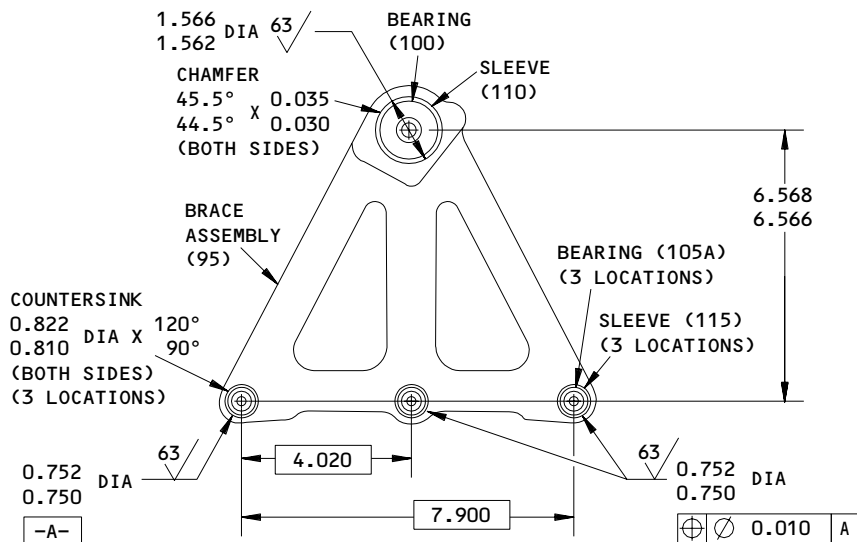
27-11-16

REPAIR 3-1

01.1

Page 601

Jul 01/04



REFINISH

BRACE (97,98) -- CHROMIC ACID ANODIZE AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-18.13) ALL OVER EXCEPT OMIT PRIMER FROM ALL HOLES.

BRACE ASSEMBLY (90) -- APPLY ONE COAT BMS 10-11, TYPE 1 PRIMER (F-14.9961)

MATERIAL: AL ALLOY
 ALL DIMENSIONS ARE IN INCHES
 ITEM NUMBERS REFER TO IPL FIG. 1

251T1324-1,-3
 Brace Assembly - Bearing Replacement
 Figure 601

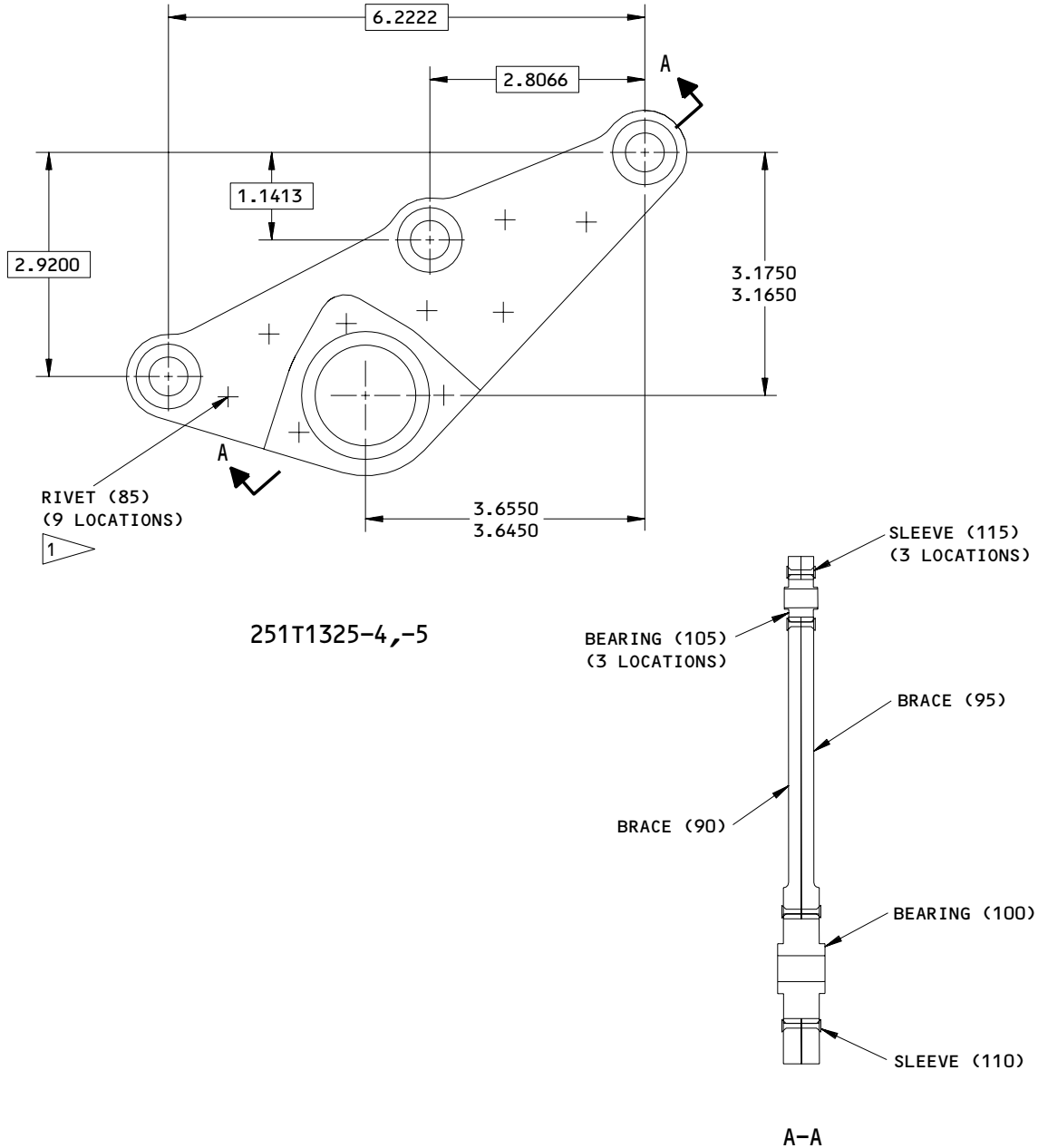
27-11-16

REPAIR 3-1

Page 602

Jul 01/04

01.1



251T1325-4,-5

REFINISH

BRACE (90,95) — BORIC ACID-SULFURIC ACID ANODIZE (F-17.31) AND APPLY A LAYER OF BMS 10-11, TYPE 1 PRIMER (F-20.02) AND APPLY A LAYER OF BMS 10-60 ENAMEL (SRF-14.9813)

MATERIAL: AL ALLOY
 ITEM NUMBERS REFER TO IPL FIG. 2,3
 ALL DIMENSIONS ARE IN INCHES

1 TOUCH UP FINISH WITH BMS 10-11, TYPE 1 PRIMER (F-20.02) AND A LAYER OF BMS 10-60 ENAMEL (SRF-14.9813)

251T1324-4,-5
 Brace Assembly - Bearing Replacement
 Figure 602

27-11-16

REPAIR 3-1

01.1

Page 603

Jul 01/04

TORQUE TUBE ASSEMBLY – REPAIR 4-1

251T1345-9,-10,-11,-12,-13

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

1. Parts Replacement (Fig. 601)

- A. Remove rivets (130, 140, 150, 160, 170, 180, IPL Fig. 1; 130, 140, 150, 160, 170, 180, IPL Fig. 2; 130, IPL Fig. 3) and parts to be replaced as necessary.
- B. Install new part(s) on torque tube. Using holes in fittings (125A, 135A, 165, IPL Fig. 1; 125, 135, 165, IPL Fig. 2; 125, 135, IPL Fig. 3), cranks (145, 155, IPL Fig. 1; 145, 155, IPL Fig. 2; 140, 145, IPL Fig. 3) or crank assembly (175C, IPL Fig. 1; 175, IPL Fig. 2; 150, IPL Fig. 3) as applicable as guides, drill holes, as noted, in replacement.

NOTE: Tube assembly (210, IPL Fig. 1; 230, IPL Fig. 2; 200, IPL Fig. 3) for parts replacement when fittings, cranks or crank assembly are replaced.

- C. Remove parts, deburr and reinstall with BMS 5-95 sealant.
- D. Secure with rivets shown.

2. Hole Repair (Fig. 601)

- A. Machine hole as required, within repair limits shown, to remove defects.
- B. Manufacture repair bushing per Fig. 602.
- C. Install repair bushing using shrink fit method with sealant, BMS 5-95.
- D. Machine bushing I.D. to design dimension and finish shown.

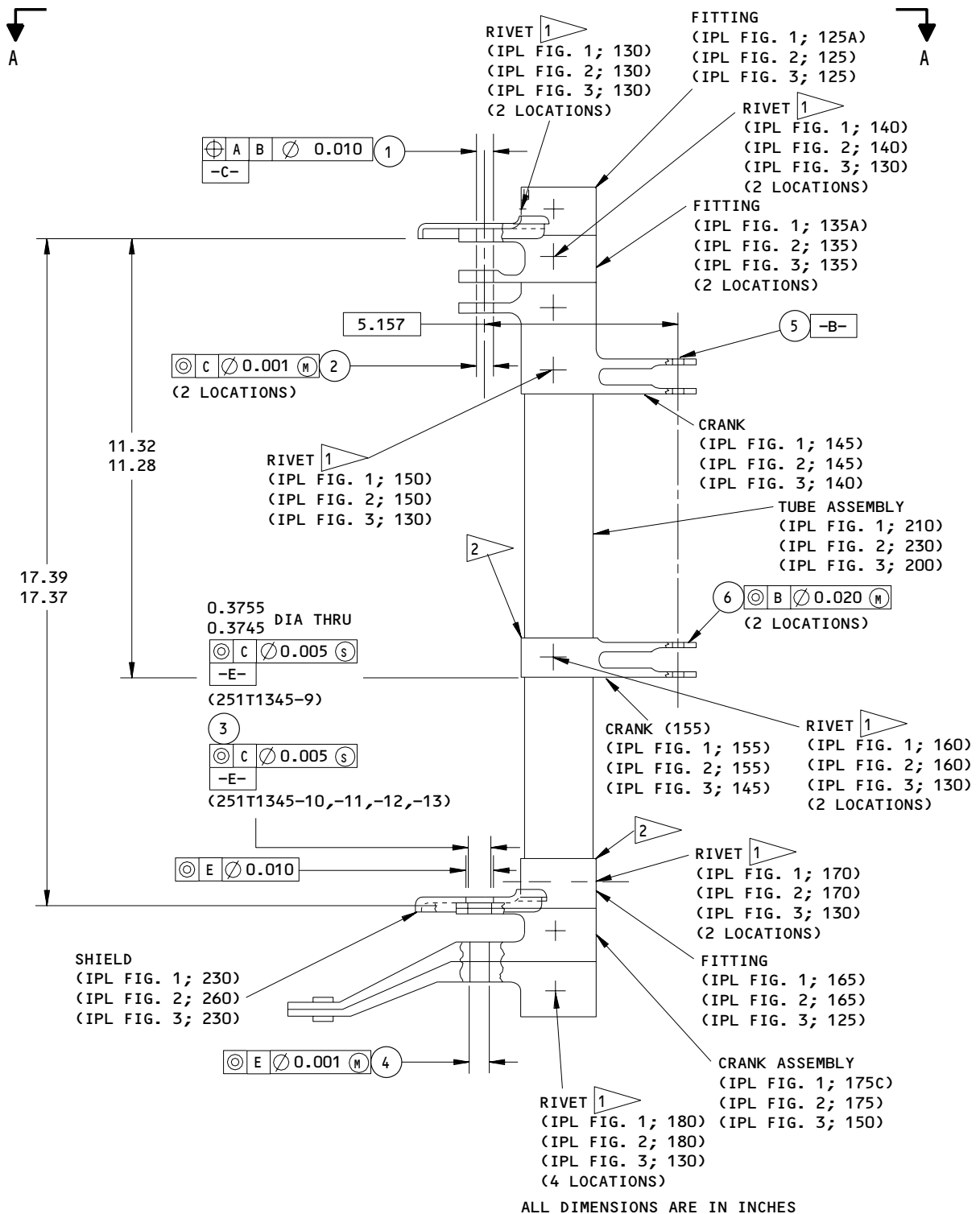
27-11-16

REPAIR 4-1

01.1

Page 601

Jul 01/04



251T1345-9 thru -13
 Torque Tube Assembly - Parts Replacement
 Figure 601 (Sheet 1)

27-11-16

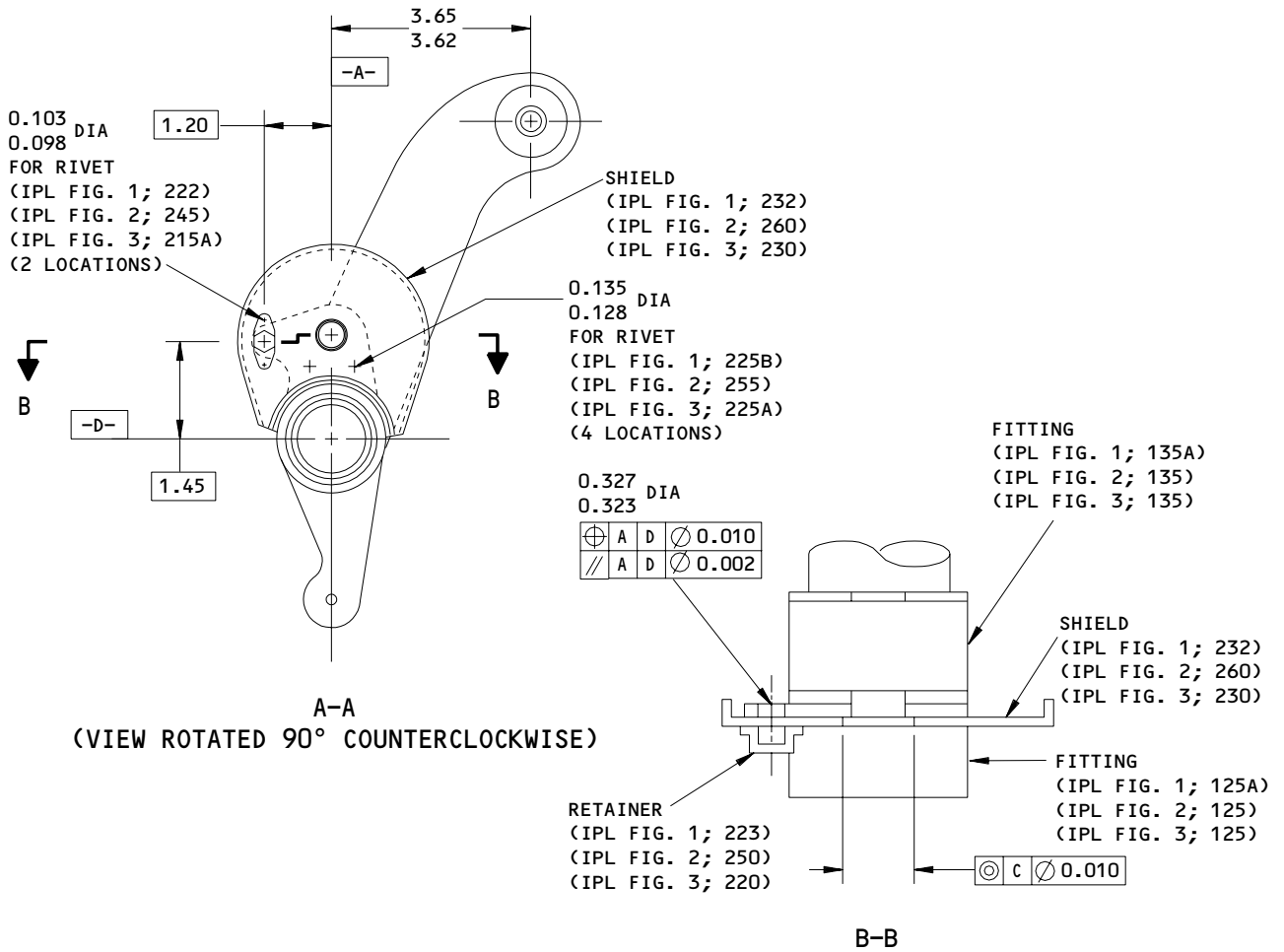
REPAIR 4-1

01.1

Page 602

Jul 01/04

BOEING
COMPONENT
MAINTENANCE MANUAL



HOLE LOCATION	1	2	3	4	5	6
DESIGN DIA	0.6255 0.6245	0.5005 0.4995	0.6255 0.6245	0.5005 0.4995	0.2505 0.2495	0.2505 0.2495
MAX REPAIR DIA 3	0.6411	0.6256	0.6411	0.5161	0.3756	0.3756

1 0.263 DIA FOR RIVETS (IPL FIG. 1; 130,140,150,160,170,180)
 0.260 (IPL FIG. 2; 130,140,150,160,170,180)
 (IPL FIG. 3; 130)

2 FILLET SEAL WITH SEALANT, BMS 5-95 (TYPICAL)

3 REPAIR LIMITS FOR INSTALLATION OF REPAIR BUSHING

125/ ALL MACHINED SURFACES
 MATERIAL: AL ALLOY
 ALL DIMENSIONS ARE IN INCHES

251T1345-9 thru -13
 Torque Tube Assembly - Parts Replacement
 Figure 601 (Sheet 2)

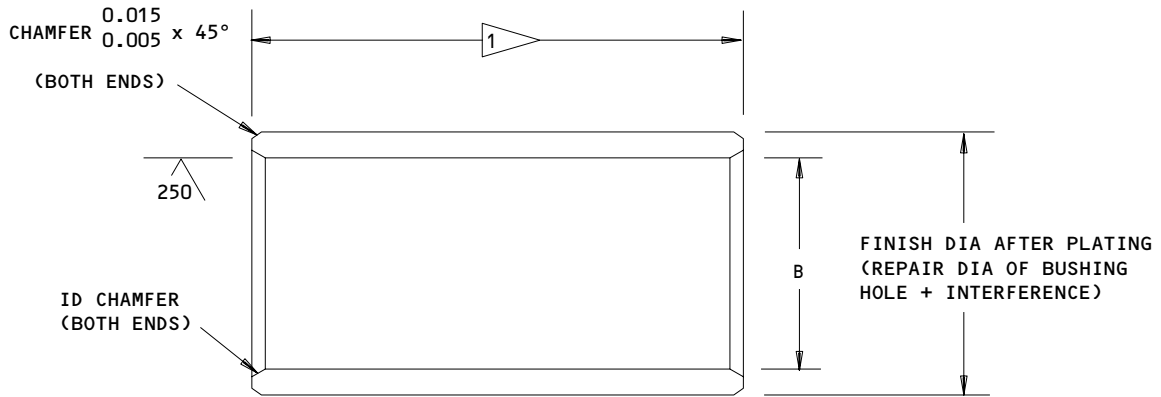
27-11-16

REPAIR 4-1

01.1

Page 603

Jul 01/04



HOLE LOCATION	①	②	③	④	⑤	⑥
B DIA	0.616 0.609	0.491 0.484	0.616 0.609	0.491 0.484	0.243 0.238	0.243 0.238
ID CHAMFER X 45°	0.020 0.010	0.015 0.005	0.020 0.010	0.015 0.005	0.015 MAX	0.015 MAX
INTERFERENCE	0.0017 0.0005	0.0017 0.0005	0.0017 0.0005	0.0017 0.0005	0.0011 0.0003	0.0011 0.0003

MATERIAL: AL-NI-BR PER AMS 4640

63/ ALL MACHINED SURFACES EXCEPT AS NOTED

CADMIUM PLATE (F-15.06), PLATING ON ID OPTIONAL

DIMENSIONS APPLY AFTER PLATING

OD AND ID MUST BE PARALLEL AND CONCENTRIC WITHIN 0.003 TIR

ALL DIMENSIONS ARE IN INCHES

1 LUG THICKNESS +0.000/-0.005

Repair Bushing Details
 Figure 602

27-11-16

REPAIR 4-1

Page 604

Jul 10/85

01.1

INPUT CRANK ASSEMBLY – REPAIR 5-1

251T1346-4,-5,-6,-7

NOTE: Refer to REPAIR-GENERAL for a list of applicable standard practices. For repair of crank assembly (175C, IPL Fig. 1; 175, IPL Fig. 2; 150, IPL Fig. 3) which may only require restoration of original finish, refer to Refinish instructions, Fig. 601.

1. Bearing Replacement (Fig. 601)

- A. Remove the bearing (185A, IPL Fig. 1; 185, IPL Fig. 2; 155, IPL Fig. 3) and sleeve (190, 115, IPL Fig. 1; 190, IPL Fig. 2) from the cranks (195A, 200C, IPL Fig. 1; 210, 225, IPL Fig. 2)
- B. Install new sleeves (190, IPL Fig. 1; 190, IPL Fig. 2; 160, IPL Fig. 3) and new bearing (185A, IPL Fig. 1; 185, IPL Fig. 2) into cranks (195A, 200C, IPL Fig. 1; 210, 225, IPL Fig. 2; 180, 195, IPL Fig. 3) with BMS 5-24 grease and roller swage (SOPM 20-50-03).
- C. Fill gap in sleeve (IPL Fig. 1, 190; IPL Fig. 2, 190) with BMS 5-95 sealant.

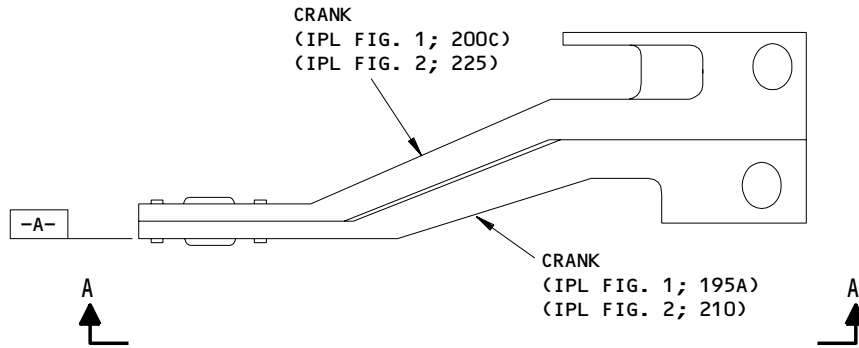
27-11-16

REPAIR 5-1

01.1

Page 601

Jul 01/04



BEARING
 (IPL FIG. 1; 185A)
 (IPL FIG. 2; 185)

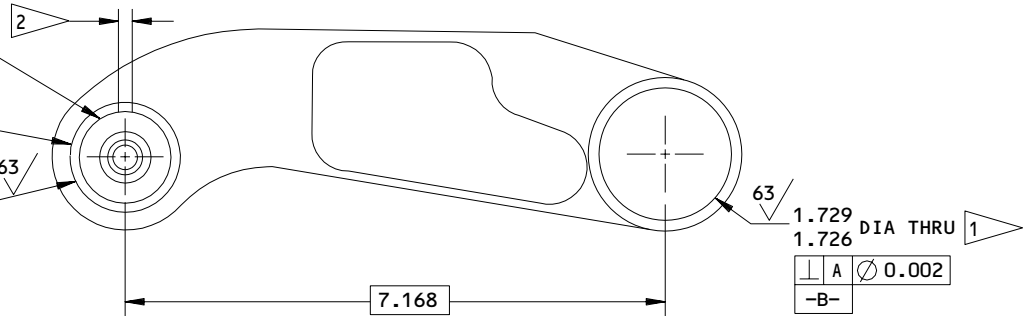
SLEEVE
 (IPL FIG. 1; 190)
 (IPL FIG. 2; 190)

1.5645 DIA THRU
 1.5625

⊕	B	0.01
	A	0.01

CHAMFER

45° X 0.035
 0.030
 (BOTH SIDES)



1.729 DIA THRU
 1.726

⊕	A	0.002
	-B-	

A-A

REFINISH

CRANK ASSEMBLY (IPL FIG. 1; 175C), (IPL FIG. 2; 175) -- CHEMICAL TREAT (F-17.10) AND APPLY 1 COAT OF PRIMER (F-20.02) EXCEPT OMIT PRIMER FROM BEARING AND SLEEVE AND AS NOTED BY 1

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

CRANK (IPL FIG. 1; 195A, 200B), (IPL FIG. 2; 210, 225) CHROMIC ACID ANODIZE AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-18.13) ALL OVER EXCEPT AS SHOWN BY 1

1 OMIT PRIMER FROM THIS HOLE

2 0.062 MAX GAP. FILL GAP WITH BMS 5-95 SEALANT

25IT1346-4,-5,-6
 Input Crank Assembly - Parts Replacement
 Figure 601

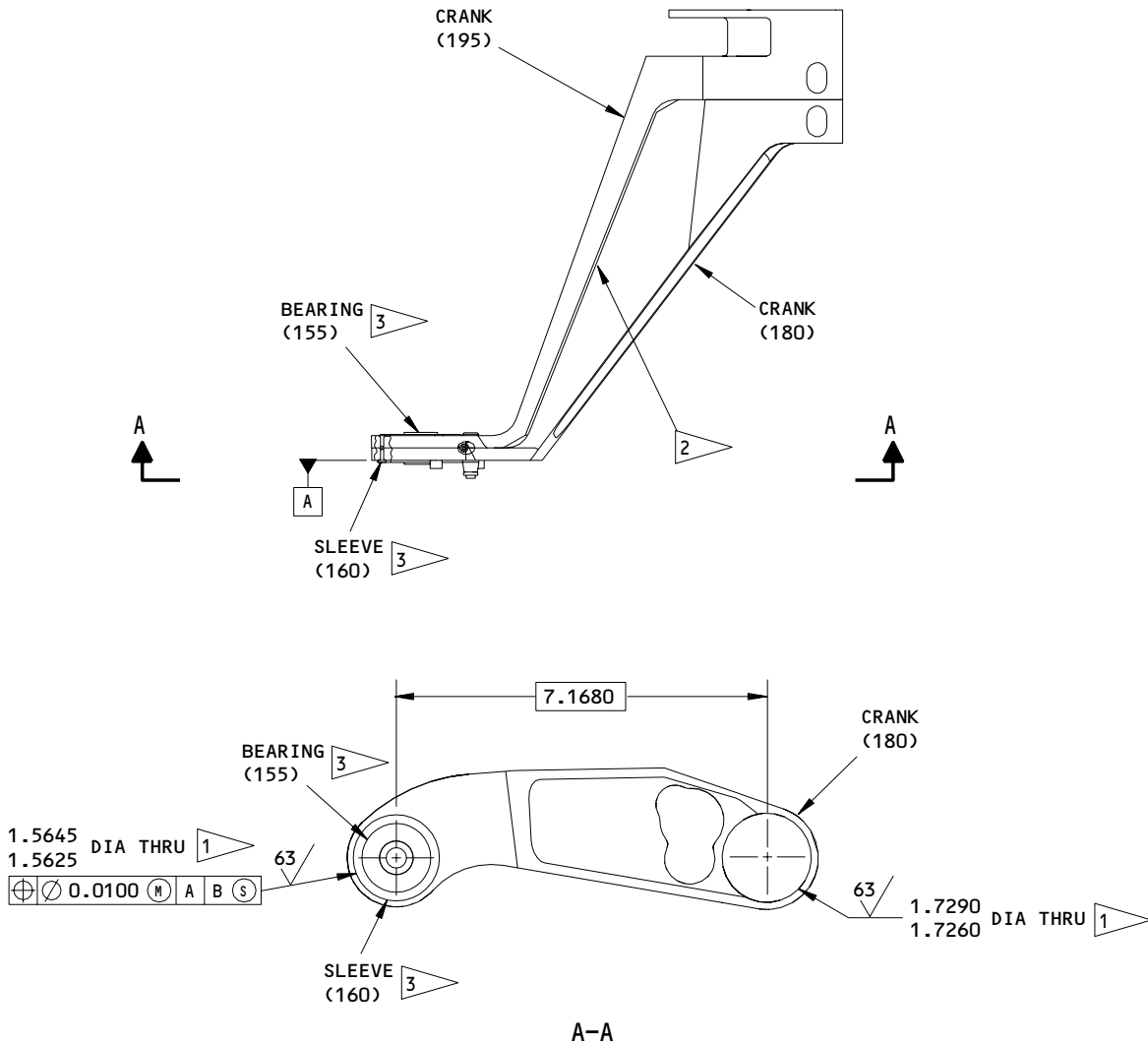
27-11-16

REPAIR 5-1

Page 602

Jul 01/04

01.1



REFINISH

CRANK ASSEMBLY (150) -- CHEMICAL TREAT (F-17.10) AND APPLY ONE COAT OF PRIMER (F-20.02) EXCEPT OMIT PRIMER FROM BEARING AND SLEEVE AND AS NOTED BY 1

CRANK (180,195) BORIC ACID - SULFURIC ACID ANODIZE (F-17.31) AND APPLY ONE COAT OF BMS 10-11, TYPE 1 PRIMER (F-20.02)

- 1 OMIT PRIMER FROM THIS HOLE
- 2 ASSEMBLE AND FILL GAP WITH BMS 5-95 SEALANT
- 3 INSTALL AND ROLLER SWAGE SLEEVE WITH BMS 3-24 GREASE. BMS 3-33 GREASE OPTIONAL

ITEM NUMBERS REFER TO IPL FIG. 3
 ALL DIMENSIONS ARE IN INCHES

25IT1346-7
 Input Crank Assembly - Parts Replacement
 Figure 602

27-11-16

REPAIR 5-1

Page 603

Jul 01/04

01.1

MISCELLANEOUS PARTS REFINISH – REPAIR 6-1

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

IPL FIG. & ITEM	MATERIAL	FINISH
<u>Fig. 1</u>		
Fitting (135A)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over except omit primer from hole.
Fitting (125A,165) Crank (145,155)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over except omit primer from all holes.
Shield (230,232) Bracket (250)	Al alloy	Chemical treat and apply one coat BMS 10-11, type 1 primer (F-18.06) all over.
<u>Fig. 2</u>		
Fitting (135)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over except omit primer from all hole.
Fitting (125,165) Crank (145,155)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over except omit primer from all holes.
Shield (260)	Al alloy	Chemical treat and apply one coat BMS 10-11, type 1 primer (F-18.06) all over.

Refinish Details
 Figure 601 (Sheet 1)

27-11-16

REPAIR 6-1

01.1

Page 601

Jul 01/04

IPL FIG. & ITEM	MATERIAL	FINISH
<u>Fig. 3</u> Fitting (135)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, Type 1 primer (F-18.13) all over except omit primer from all holes.
Fitting (125)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, Type 1 primer (F-18.13) all over except omit primer from all holes.
Crank (140, 145)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, Type 1 primer (F-18.13) all over except omit primer from all holes.
Shield (230)	Al alloy	Chemical treat and apply one coat BMS 10-11, Type 1 primer (F-18.06) all over.

Refinish Details
 Figure 601 (Sheet 2)

27-11-16

REPAIR 6-1

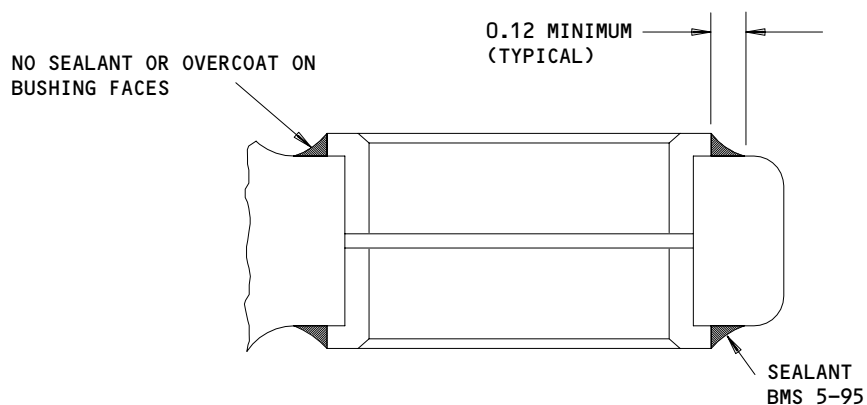
01.1

Page 602

Jul 01/04

BUSHING SEALING – REPAIR 7-1

1. Seal all flanged bushings after installation per Fig. 601



1. CLEAN AREAS OF SEALANT APPLICATION WITH SOLVENT.
2. APPLY FILLET OF SEALANT TO EDGES OF BUSHINGS AS SHOWN.

ALL DIMENSIONS ARE IN INCHES

251T1305
 Bushing Sealing
 Figure 601

13260

27-11-16

REPAIR 7-1

01.101

Page 601

Jul 01/99

ASSEMBLY1. Materials

- A. Grease -- BMS 3-24 (Ref 20-60-03)
- B. Sealant -- BMS 5-95 (Ref 20-60-04)

2. Assembly (Fig. 701, IPL Fig. 1)

- A. Install bushings (43) on torque tube assembly (120H) with wet sealant and fillet seal bushing flange with sealant. On assemblies 251T1305-10 thru -15, install bushing (45) on torque tube assembly (120J thru 120L) with wet sealant and fillet seal bushing flange with sealant.
- B. Install bracket (250) with grommet (255) on bracket assembly (75A) with spacer between bracket (250) and bracket assembly (75A) and secure with bolts (235), spacers (240A), and collars (245).
- C. Position bracket assembly (75A) on torque tube assembly (120H thru 120L) and install bushing (50). Install bushing with grease.

NOTE: After installation of bracket assembly (75A) and bushing (50), a gap of approximately 0.125 inches will exist between bearing (85) and bushing (50). This gap is per design.

CAUTION: DO NOT RE-TIGHTEN NUT (40) AFTER TIGHTENING NUT (35).

- D. Install bracket assembly (60) thru bracket assembly (75A) onto torque tube assembly (120H thru 120L). Install bolt assembly (5A), washer (20A, 25A, 30) and nuts (35, 40). First tighten nut (40) to 60-80 lb-ins. Then tighten nut (35) to 30-40 lb-ins. Do not re-tighten nut (40).

CAUTION: DO NOT RE-TIGHTEN NUT (40) AFTER TIGHTENING NUT (35).

- E. On 251T1305-9 assembly, install bushing (53) on torque tube assembly (120H) with grease. Position brace assembly (90), bushing (45) and washer (42) on torque tube assembly and install bolt assembly (5A), washers (20A, 25A, 30) and nuts (35, 40). First tighten nut (40) to 60-80 lb-ins. Then tighten nut (35) to 30-40 lb-ins. Do not re-tighten nut (40).

27-11-16ASSEMBLY
Page 701
Jul 01/99

CAUTION: DO NOT RE-TIGHTEN NUT (40) AFTER TIGHTENING NUT (35).

F. On assemblies 251T1305-10 thru -15, install bushing (55A) on torque tube assembly (120J, 120K, or 120L) with grease. Position brace assembly (90), bushing (45) and washer (42) on torque tube assembly as shown in Fig. 701 on torque tube assembly and install bolt assembly (5A), washers (20A, 25A, 30) and nuts (35, 40). First tighten nut (40) to 60-80 lb-ins. Then tighten nut (35) to 30-40 lb-ins. Do not re-tighten nut (40).

3. Assembly (Fig. 702, IPL Fig. 2 and Fig. 3)

- A. Install bushing (45) on torque tube assembly (120) with wet sealant and fillet seal bushing flange with sealant.
- B. Position bracket assembly (IPL Fig. 2, 65) on torque tube assembly (120) and install bushing (50). Install bushing with grease.

NOTE: After installation of bracket assembly (65) and bushing (50), a gap of approximately 0.125 inches will exist between the bearing (75) and bushing (50). This gap is per design.

CAUTION: DO NOT RE-TIGHTEN NUT (40) AFTER TIGHTENING NUT (35).

C. Install bracket assembly (55) and bracket assembly (65) onto torque tube assembly (120). Install bolt assembly (5), washers (20, 25, 30) and nuts (35, 40). First tighten nut (40) to 60-80 lb-ins. Then tighten (35) to 30-40 lb-ins. Do not re-tighten nut (40).

CAUTION: DO NOT RE-TIGHTEN NUT (40) AFTER TIGHTENING NUT (35).

D. Install bushing (50) on torque tube assembly (120) with grease. Position brace assembly (80) and bushing (50) on torque tube assembly and install bolt assembly (5), washers (20, 25, 30) and nuts (35, 40). First tighten nut (40) to 60-80 lb. ins. Then tighten (35) to 30-40 lb-ins. Do not re-tighten nut (40).

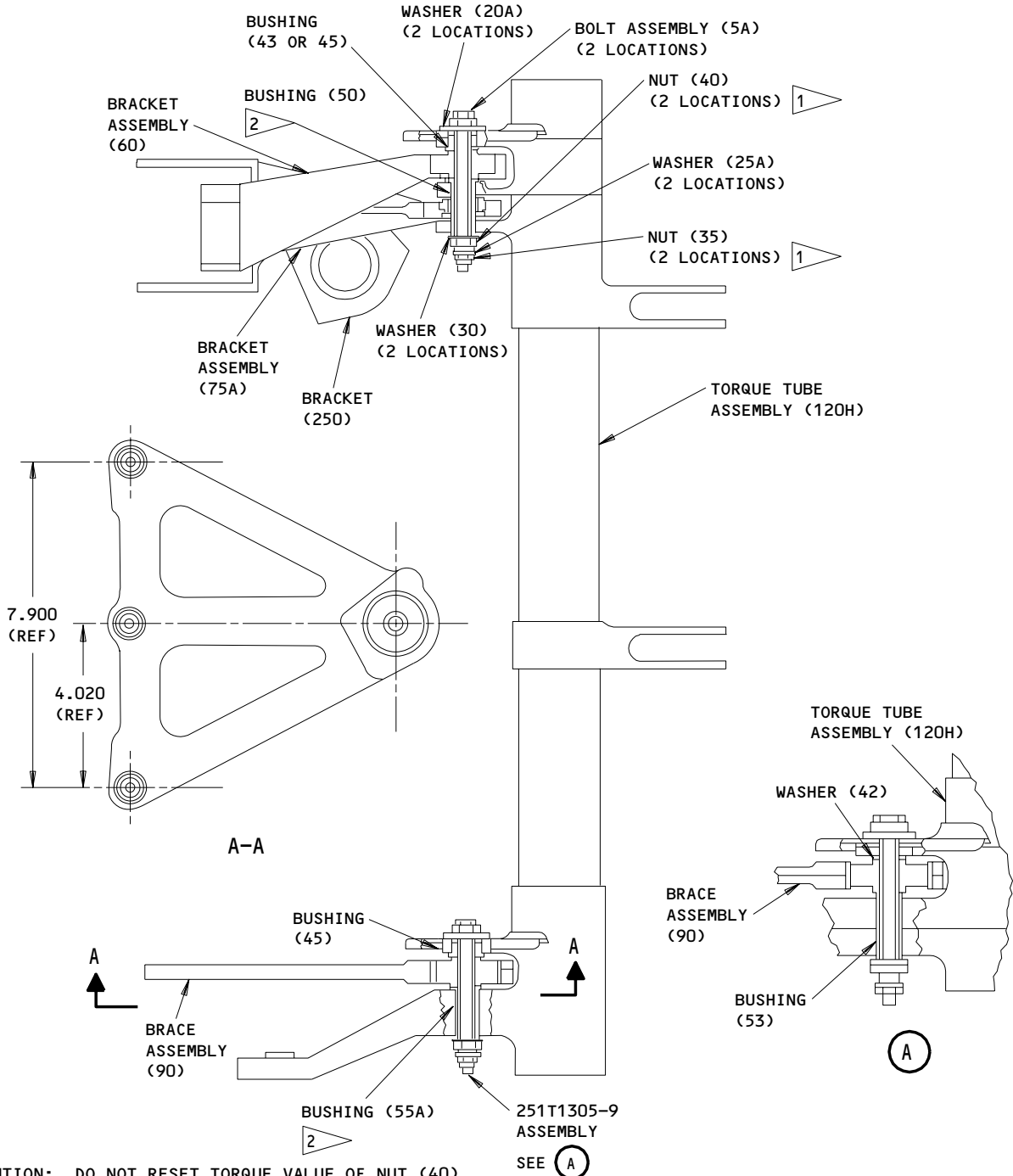
- 4. Use standard industry practices and information contained in 20-44-02 to store this component.

27-11-16

ASSEMBLY
Page 702
Jul 01/04

01.1

BOEING
COMPONENT
MAINTENANCE MANUAL



CAUTION: DO NOT RESET TORQUE VALUE OF NUT (40) OR OVER-TORQUE WILL RESULT.

- 1 FIRST TIGHTEN NUT (40) TO 60-80 POUND-INCHES THEN TIGHTEN NUT (35) TO 30-40 POUND-INCHES
- 2 INSTALL WITH BMS 3-24 GREASE

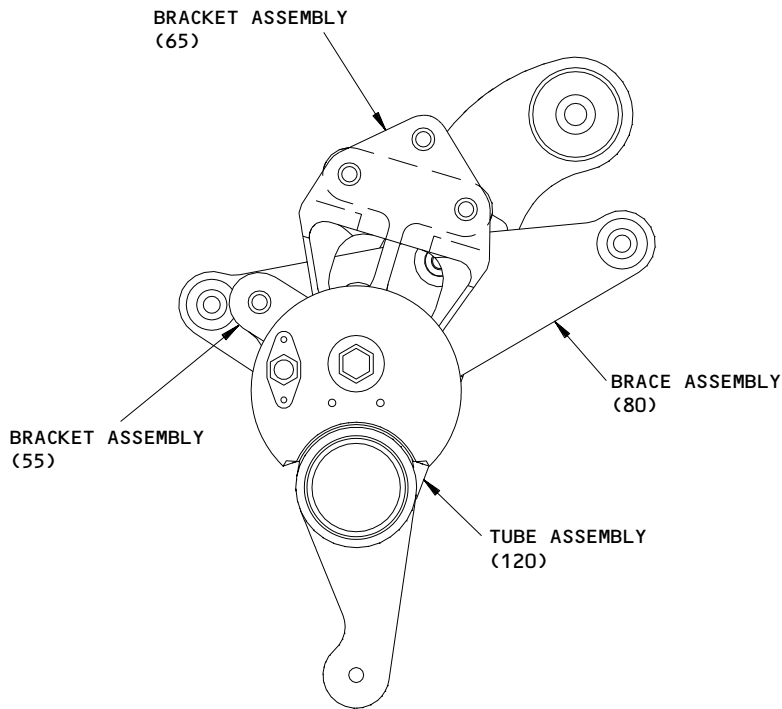
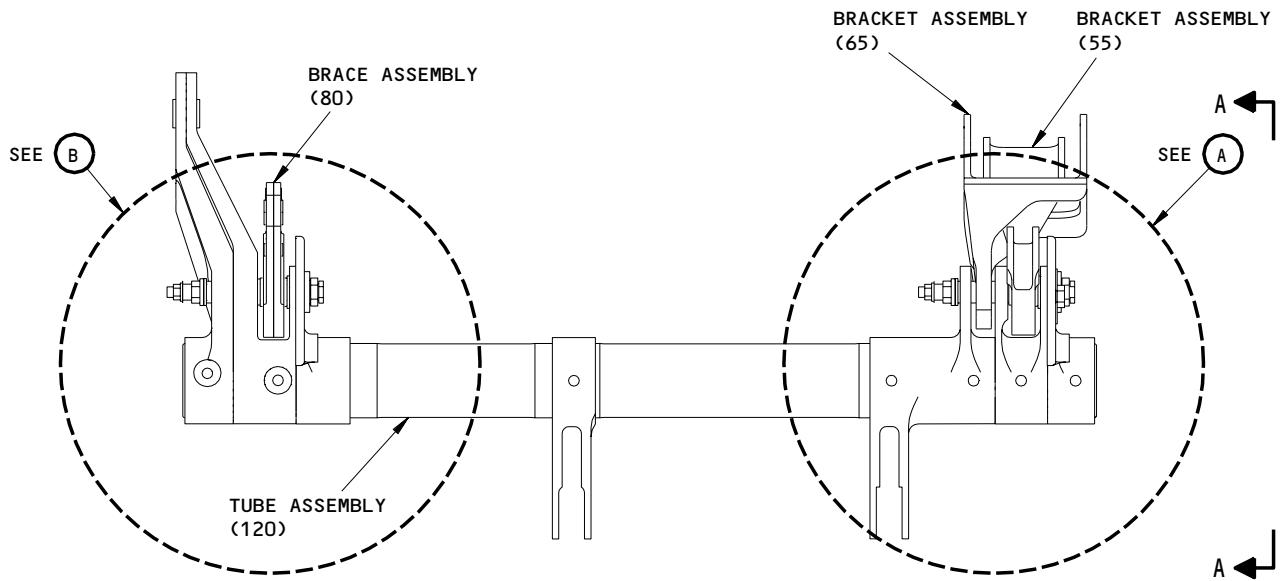
ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

Assembly Details
 Figure 701

27-11-16

ASSEMBLY
 Page 703
 Jul 01/99

01.1



A-A

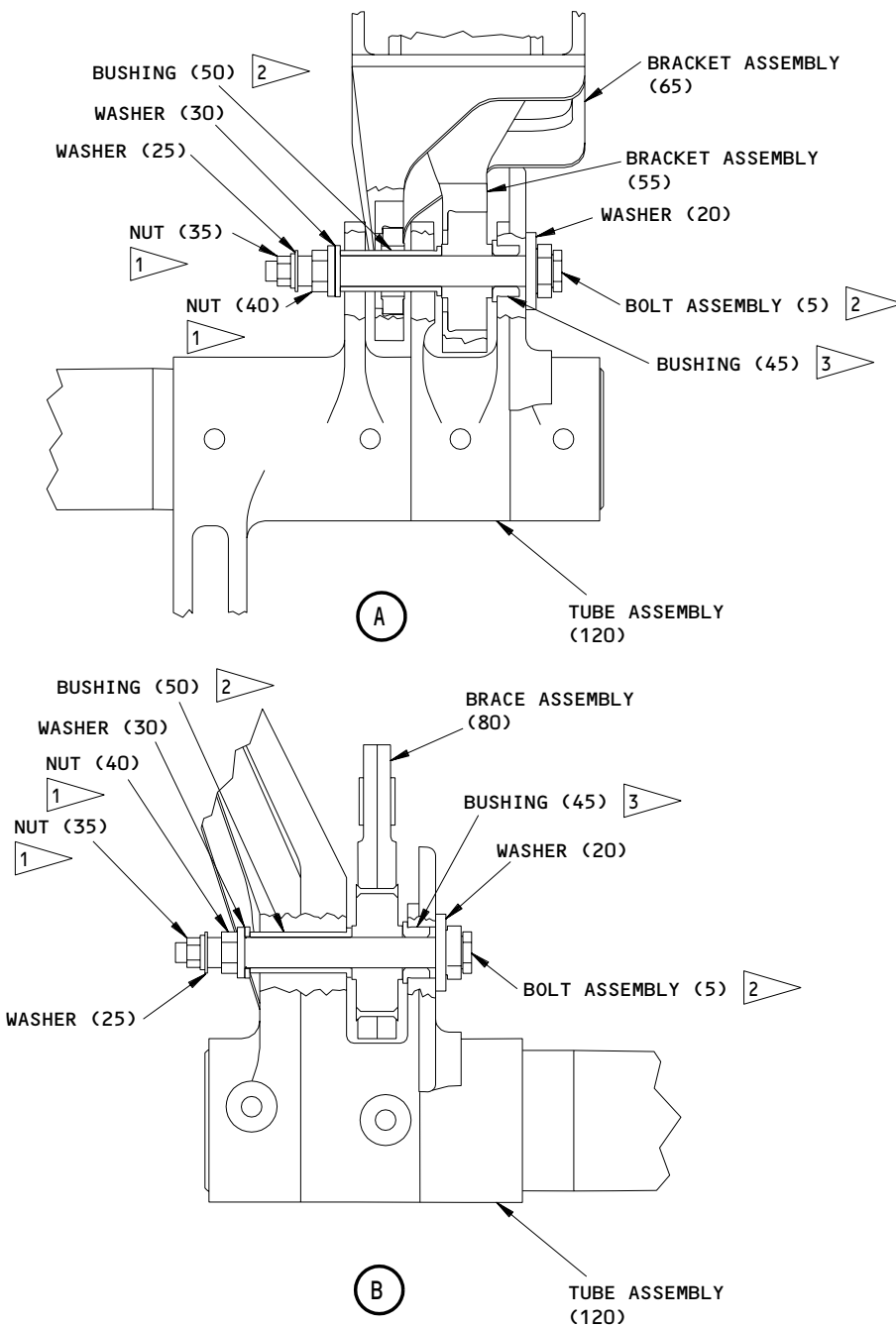
Assembly Details
Figure 702 (Sheet 1)

27-11-16

ASSEMBLY
Page 704
Jul 01/99

01.1

BOEING
COMPONENT
MAINTENANCE MANUAL



CAUTION: DO NOT RESET TORQUE VALVE OF NUT (40) OR OVER-TORQUE WILL RESULT

- 1 FIRST TIGHTEN NUT (40) TO 60-80 POUND-INCHES
 - 2 INSTALL WITH BMS 3-24 GREASE
 - 3 INSTALL WITH BMS 5-95 SEALANT. FILLET SEAL FLANGE WITH BMS 5-95 SEALANT
- ITEM NUMBERS REFER TO IPL FIG. 2,3

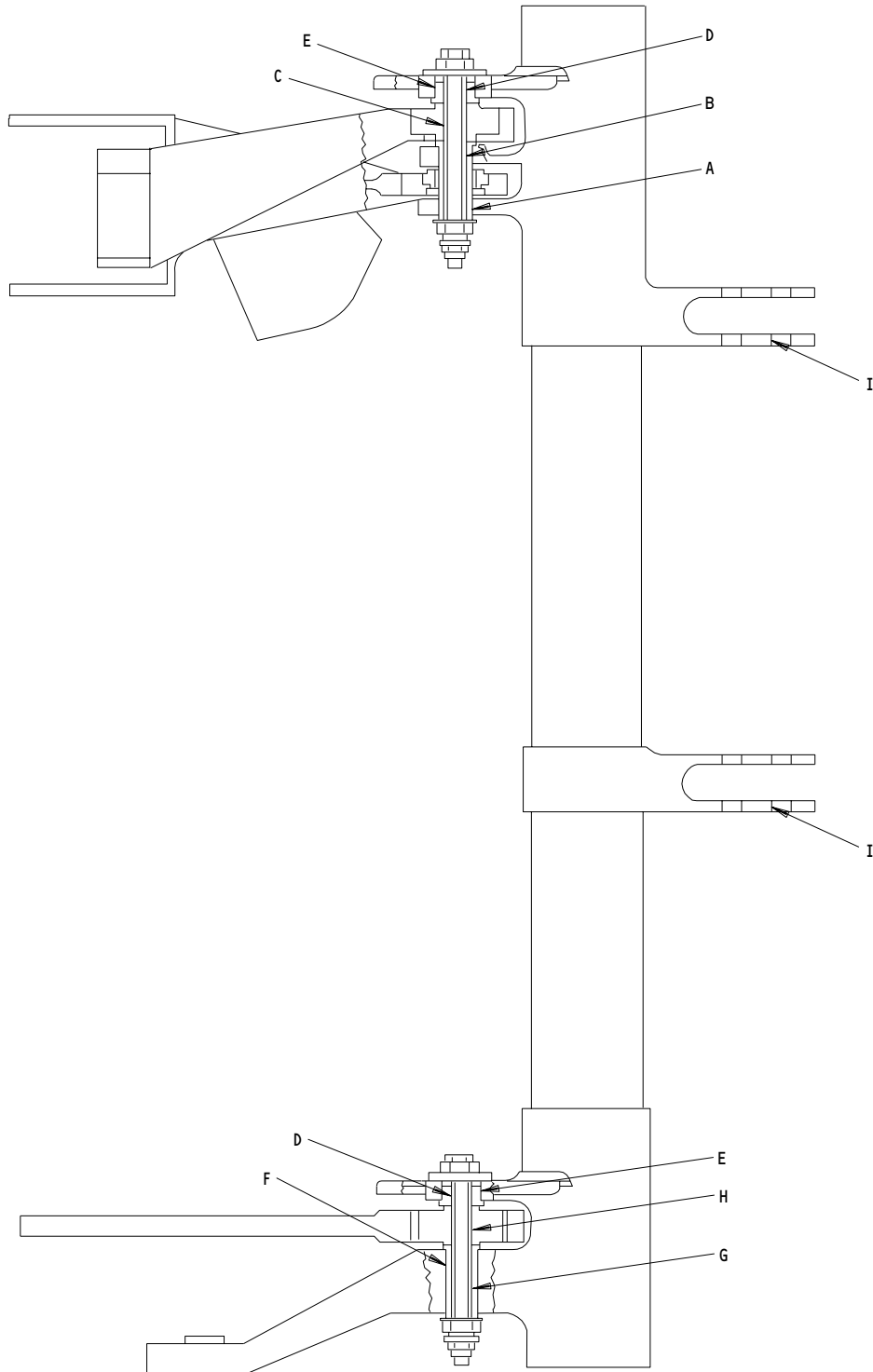
Assembly Details
 Figure 702 (Sheet 2)

27-11-16

ASSEMBLY
 Page 705
 Jul 01/04

01.1

FITS AND CLEARANCES



251T1305-9 SHOWN

Fits and Clearances
Figure 801 (Sheet 1)

27-11-16

FITS AND CLEARANCES
01.1 Page 801
Jul 01/99

Ref Letter Fig.801	Mating Item No. IPL Fig.1	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 120H	0.4995	0.5005	0.0000	0.0015	0.4976	0.5024	0.0029
	OD 50	0.4990	0.4995					
B	ID 50	0.3750	0.3756	0.0005	0.0021	0.3725	0.3776	0.0031
	OD 15A	0.3735	0.3745					
C	ID 70	0.3745	0.3750	0.0000	0.0015	0.3725	0.3770	0.0025
	OD 15A	0.3735	0.3745					
D	ID 43,45	0.3745	0.3755	0.0000	0.0020	0.3725	0.3775	0.003
	OD 15A	0.3735	0.3745					
E	ID 120H	0.6245	0.6255	0.0000	0.0015	0.6225	0.6275	0.003
	ID 43,45	0.6240	0.6245					
F	ID 120H	0.4995	0.5005	0.0000	0.0015	0.4975	0.5025	0.003
	OD 53	0.4990	0.4995					
G	ID 53	0.3750	0.3756	0.0005	0.0021	0.3720	0.3781	0.0036
	OD 15A	0.3735	0.3745					
H	ID 100	0.3745	0.3750	0.0000	0.0015	0.3720	0.3775	0.003
	ID 15A	0.3735	0.3745					
I	ID 120H	0.2495	0.2505				0.2535	

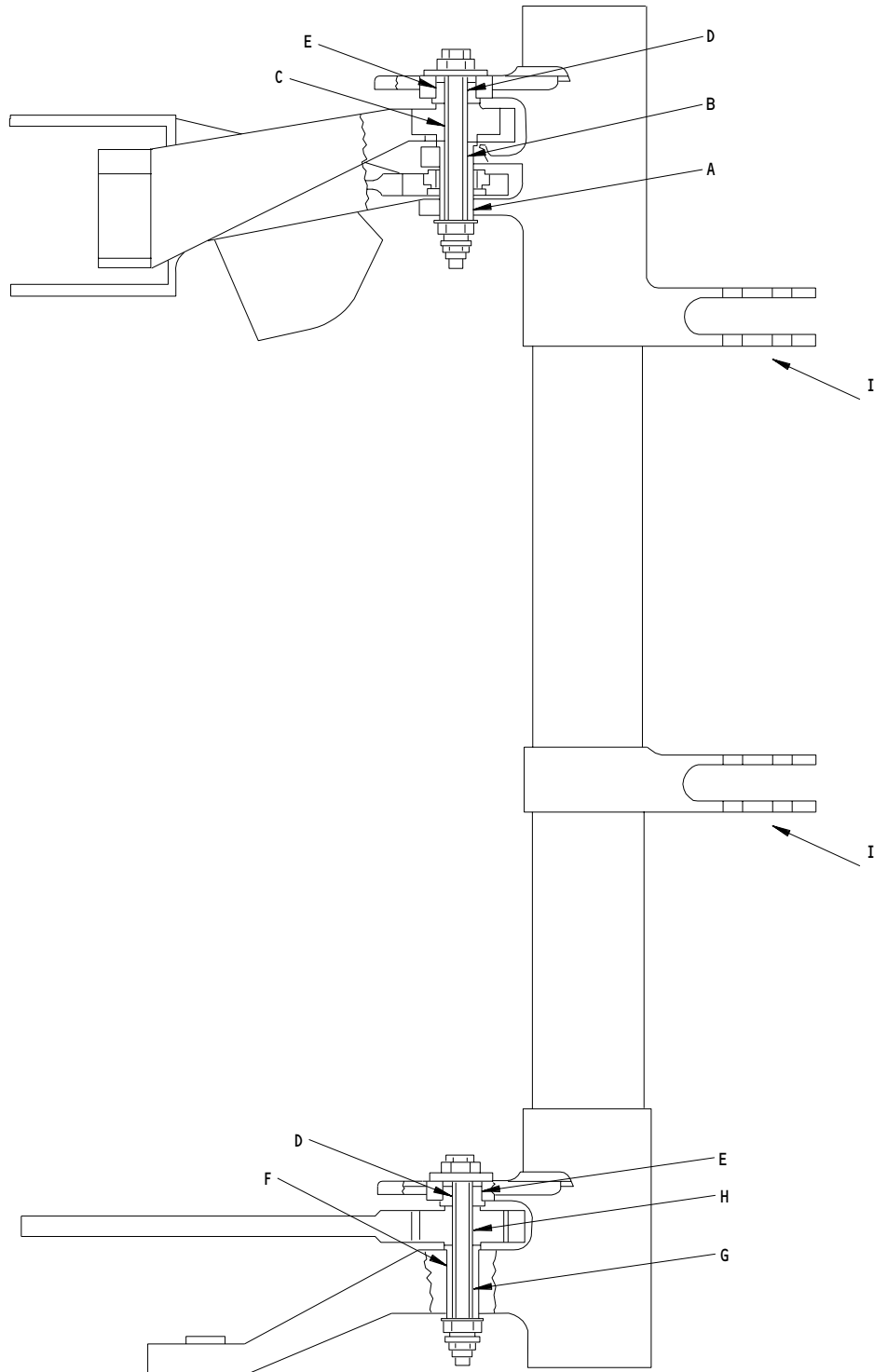
ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
 Figure 801 (Sheet 2)

27-11-16

FITS AND CLEARANCES
 01.1 Page 802
 Jul 01/99

BOEING
COMPONENT
MAINTENANCE MANUAL



251T1305-16,-17 SHOWN

Fits and Clearances
Figure 802 (Sheet 1)

27-11-16

FITS AND CLEARANCES
01.1 Page 803
Jul 01/04

Ref Letter Fig.802	Mating Item No. IPL Fig.2 and 3	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 120	0.4995	0.5005	0.0000	0.0015	0.4976	0.5024	0.0029
	OD 50	0.4990	0.4995					
B	ID 50	0.3750	0.3756	0.0005	0.0021	0.3725	0.3776	0.0031
	OD 15	0.3735	0.3745					
C	ID 60	0.3745	0.3750	0.0000	0.0015	0.3725	0.3770	0.0025
	OD 15	0.3735	0.3745					
D	ID 45	0.3745	0.3755	0.0000	0.0020	0.3725	0.3775	0.003
	OD 15	0.3735	0.3745					
E	ID 120	0.6245	0.6255	0.0000	0.0015	0.6225	0.6275	0.003
	ID 45	0.6240	0.6245					
F	ID 120	0.4995	0.5005	0.0000	0.0015	0.4975	0.5025	0.003
	OD 50	0.4990	0.4995					
G	ID 50	0.3750	0.3756	0.0005	0.0021	0.3720	0.3781	0.0036
	OD 15	0.3735	0.3745					
H	ID 100	0.3745	0.3750	0.0000	0.0015	0.3720	0.3775	0.003
	ID 15	0.3735	0.3745					
I	ID 120	0.2495	0.2505				0.2535	

ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
 Figure 802 (Sheet 2)

27-11-16

FITS AND CLEARANCES
 01.1 Page 804
 Jul 01/04

FOR TORQUE VALUES OF STANDARD FASTENERS, REFER TO 20-50-01			
ITEM NO. IPL FIG.	NAME	TORQUE	
		POUND-INCHES	POUND-FEET
FIG. 1, 35	NUT	30 - 40	
FIG. 1, 40	NUT	60 - 80	
FIG. 2, 35	NUT	30 - 40	
FIG. 2, 40	NUT	60 - 80	
FIG. 3, 35	NUT	30 - 40	
FIG. 3, 40	NUT	60 - 80	

Torque Table
Figure 803

27-11-16

FITS AND CLEARANCES
01.1 Page 805
Jul 01/04



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.

27-11-16

ILLUSTRATED PARTS LIST

01 Page 1001

Jul 10/83

VENDORS

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

S0352 NIPPON MINIATURE BEARING CO LTD
TOKYO, JAPAN

02758 NETWORKS ELECTRONIC CORP U S BEARING DIV
9750 DE SOTO AVENUE
CHATSWORTH, CALIFORNIA 91311-4409
FORMERLY U S BEARING DIV NETWORKS ELEC CORP

06144 INDUSTRIAL TECTONICS BEARING CORP
18301 SOUTH SANTA FE AVENUE
RANCHO DOMINGUEZ, CALIFORNIA 90221
FORMERLY IN COMPTON, CALIFORNIA

09455 RBC TRANSPORT DYNAMICS CORP
3131 W SEGERSTROM AVE
SANTA ANA, CALIFORNIA 92704-5872
FORMERLY TRANSPORT DYNAMICS AEROSPACE DIV; FABROID DIV
TRANSPORT DYNAMICS V17571 & LEAR SEIGLER INC TRANSPORT DIV
V98076; FORMERLY BFM TRANSPORT DYNAMICS

11815 CHERRY AEROSPACE FASTENERS DIV OF TEXTRON
1224 EAST WARNER AVENUE PO BOX 2157
SANTA ANA, CALIFORNIA 92707-0157
FORMERLY IN LOS ANGELES, CALIF , FORMERLY CHERRY FASTENERS
TOWNSEND DIV OF TEXTRON INC V71087

15653 ALOCA GLOBAL FASTEMERS INC DIV KAYNARE PRODUCTS
800 S STATE COLLEGE BLVD
FULLERTON, CALIFORNIA 92831-3001
FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH
FORMERLY FAIRCHILD FASTENERS KAYNAR DIV

15860 NEW HAMPSHIRE BALL BEARINGS, INC ASTRO DIVISION
155 LEXINGTON AVENUE
LACONIA, NEW HAMPSHIRE 03246-2937
FORMERLY ASTRO BEARING CORP, LOS ANGELES, CALIF.

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1002
Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL
VENDORS

16746 SPECLINE INCORPORATED
 2230 MOUTON DR
 CARSON CITY, NV 89706
 FORMERLY IN SUN VALLEY, CAIFORNIA

21335 TORRINGTON CO FAFNIR BEARING DIV
 59 FIELD STREET
 TORRINGTON, CONNECTICUT 06790-1008
 FORMERLY FAFNIR BRG AND TEXTRON INC FAFNIR DIV IN
 NEW BRITAIN, CONNECTICUT

21760 SCHATZ MANUFACTURING CO
 FAIRVIEW AVENUE PO BOX 1191
 POUGHKEEPSIE, NEW YORK 12601
 FORMERLY FEDERAL BRG CO AND SCHATZ MFG CO V53268
 FORMERLY SCHATZ MFG CO

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
 FORMERLY MARLIN-ROCKWELL CORP DIV TRW AND TRW INC

40920 MPB MINIATURE PRECISION BEARING DIV
 PRECISION PARK PO BOX 547
 KEENE, NEW HAMPSHIRE 03431
 FORMERLY MPB CORP AND MINIATURE BRG DIV MPB CORP

43991 FAG BEARING INCORPORATED
 118 HAMILTON AVENUE
 STAMFORD, CONNECTICUT 06904
 FORMERLY NORMA-HOFFMAN BEARING CORPORATION
 FORMERLY NORMA FAG BEARINGS CORPORATION

5M902 FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV
 3016 W LOMITA BLVD
 TORRANCE, CALIFORNIA 90505-5103
 FMLY IN REDONDO BEACH, CALIF

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

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1003
 Jul 01/04

VENDORS

56644 AURORA BEARING CO
970 SOUTH LAKE STREET
AURORA, ILLINOIS 60506-5929

56878 SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV
301 HIGHLAND AVE
JENKINTOWN, PENNSYLVANIA 19046
FORMERLY STANDARD PRESSED STEEL

60516 WEST COAST AEROSPACE INC
812 MIRAFLORES STREET
SAN PEDRO, CALIFORNIA 90731-1439

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

72962 HARVARD INDUSTRIES INC
3 WERNER WAY SUITE 210
LEBANON, NEW JERSEY 08833
FORMERLY AMERACE CORP ESNA DIV
FORMERLY ELASTIC STOP NUT IN UNION, NJ

73134 ROLLER BEARING COMPANY OF AMER DBA HEIM BEARINGS DIV
60 ROUND HILL RD
FAIRFIELD, CONNECTICUT 06430-0000
FORMERLY INCOM INTL HEIM DIV; HEIM UNIVERSAL CORP INCOM;
FORMERLY HEIM DIV INCOM INTL; IMO IND HEIM BEARINGS DIV

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

77896 REXNORD INC BEARING OPERATION
2400 CURTIS STREET
DOWNERS GROVE, ILLINOIS 60515-4005
FORMERLY SHAEFER BEARING DIV REX CHAINBELT
FORMERLY REX CHAINBELT INC BEARING DIV.

80539 SPS TECHNOLOGIES INC DIV AERPSOACE - SANTA ANA
2701 SOUTH HARBOR BOULEVARD
SANTA ANA, CALIFORNIA 92704-5803
FORMERLY NUTT-SHEL DIV OF SPC WESTERN CO V80539
AND STANDARD PRESSED STEEL WESTERN DIV V17279

81376 SMITH ACQUISITION COMPANY
2240 BUENA VISTA
BALDWIN PARK, CALIFORNIA 91706

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1004
Jul 01/04

**BOEING**
COMPONENT
MAINTENANCE MANUALVENDORS

83086 NEW HAMPSHIRE BALL BEARING, INC HITECH DIVISION
172 JAFFREY ROAD
PETERBOROUGH, NEW HAMPSHIRE 03458

92215 FAIRCHILD IND INC FAIRCHILD AEROSPACE FASTENER DIV
3010 W LOMITA BLVD
TORRANCE, CALIFORNIA 90505-5102
FORMERLY VOI-SHAN IN CULVER CITY, CALIF

97613 SARGENT CONTROLS & AEROSPACE/KAHR BEARING DIV
5675 W BURLINGAME RD
TUCSON, ARIZONA 85743
FORMERLY AETNA STEEL PROD KAHR BEARING DIV V96579
FORMERLY SARGENT IND KAHR BEARING DIV, BURBANK, CALIFORNIA

97928 SEE V17446 HUCK INTL
HUCK INTL SEE V17446 HUCK INTL
SEE V17446 HUCK INTL

27-11-16ILLUSTRATED PARTS LIST
01.1 Page 1005
Jul 01/04

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
ABW4-5		1	105A	3
		2	105	3
		3	105	3
ACMB538DDP818LY		2	75	1
		3	75	1
		1	25A	2
AN960-416L		1	30	2
AN960-616		1	42	1
AN960PD616		1	70	1
ASR6-30		1	100	1
		1	185A	1
		2	185	1
ASR6D30		3	155	1
AW4CRG		1	105A	3
		2	105	3
		3	105	3
BACB10CF10PP		1	85	1
BACB10CK6		1	70	1
		1	100	1
		1	185A	1
		2	185	1
BACB10CK6D		3	155	1
BACB10FU10		2	75	1
		3	75	1
		1	105A	3
		2	105	3
		3	105	3
BACB30MY5K13		1	235	2
BACB30MY6K8		1	193	1
		2	200	1
		3	170	1
BACC30M5		1	245	2
BACC30M6		1	194	1
		2	205	1
		3	175	1
BACN10JC4		1	35	2
BACN10JC6		1	40	2
BACN10YR4CD		2	35	2
		3	35	2
		2	40	2
BACN10YR6CD		3	40	2
BACR10G141		1	223	1
		2	250	1
		3	220	1

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1006
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACR15BA4AD		1	225B	4
BACR15BA4AD		3	225A	4
BACR15BA5AD		1	96	16
		2	85	9
		2	255	4
		3	85	9
BACR15BA5D11		1	198	2
		2	220	2
		3	190	2
BACR15BA5D15		1	197	1
		2	215	1
		3	185	2
BACR15BA5D21		1	196	1
BACR15BB3AD		3	215A	2
BACR15BB4AD		1	222	2
		2	245	2
BACW10P20AL		1	20A	2
		2	20	2
		3	20	2
BRH10A4		1	35	2
BRH10A6		1	40	2
BSSR4806		1	105A	3
		2	105	3
		3	105	3
BWP3E115T		1	105A	3
		2	105	3
		3	105	3
B1355-4		1	223	1
		2	250	1
		3	220	1
B30MY5K13		1	235	2
B30MY6K8		1	193	1
		2	200	1
		3	170	1
B538-2TS		1	85	1
HL10VAZ5-13		1	235	2
HL10VAZ6-8		1	193	1
		2	200	1
		3	170	1
HL70-5		1	245	2
HL79-6		1	194	1
		2	205	1
		3	175	1
HU4-136		1	105A	3
		2	105	3
		3	105	3

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1007
 Jul 01/04

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
H10-4BAC		1	35	2
H10-6BAC		1	40	2
H52732-4CD		2	35	2
		3	35	2
H52732-6CD		2	40	2
		3	40	2
KWB4CRG		1	105A	3
		2	105	3
		3	105	3
MS90354-0806		1	130	2
		1	140	2
		1	150	4
		1	160	2
		1	170	2
		1	180	4
		2	130	2
		2	140	2
		2	150	4
		2	160	2
		2	170	2
		2	180	4
		3	130	14
NAS1149D0432J		2	25	2
NAS1149D0432J		3	25	2
NAS1149D0663J		2	30	2
		3	30	2
NAS1368N20H		1	255	1
NAS42DD3-40FC		1	240A	2
NAS516-1A		1	192	1
		2	195	1
		3	165	1
NAS6704U47		1	10A	2
		2	10	2
		3	10	2
NS202101-048		1	35	2
PACMB538DDA3908		2	75	1
		3	75	1
PACMB538DDFS428		2	75	1
		3	75	1
PLH54CD		2	35	2
		3	35	2
PLH56CD		2	40	2
		3	40	2
RMLH9075-4W		1	35	2

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1008
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
RMLH9075-6		1	40	2
SA6-23A1-501		1	70A	1
		1	100A	1
		2	60	1
		2	100	1
		3	60	1
		3	100	1
SA6-23A1-503		3	155	1
SA6-23A4		1	70	1
		1	100	1
		1	185A	1
		2	185	1
SA6-23A51		3	155	1
SSMB538DDSD705		2	75	1
		3	75	1
S012T236-400		1	70A	1
		1	100A	1
		1	185B	1
S012T236-400		2	60	1
		2	100	1
		3	60	1
		3	100	1
T338E		1	85	1
T6S428J		1	35	2
VN303A048		1	35	2
WC4-1		1	105A	3
		2	105	3
		3	105	3
WS4E		1	105A	3
		2	105	3
		3	105	3
251T0200-10		1	15A	2
		2	15	2
		3	15	2
251T0200-65		1	5B	2
		2	5	2
		3	5	2
251T0200-9		1	5A	2
251T1305-10		1	1J	RF
251T1305-11		1	1K	RF
251T1305-12		1	1L	RF
251T1305-13		1	1M	RF
251T1305-14		1	1N	RF
251T1305-15		1	1P	RF

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1009

Jul 01/04

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T1305-16		1	1Q	RF
		2	1	RF
251T1305-17		1	1R	RF
		3	1	RF
251T1305-9		1	1H	RF
251T1322-1		1	60	1
251T1322-2		1	65	1
251T1322-3		1	60A	1
251T1322-4		1	65A	1
251T1322-5		1	60B	1
251T1322-6		1	65B	1
251T1322-7		1	60C	1
251T1322-8		2	55	1
		3	55	1
251T1322-9		2	57	1
		3	57	1
251T1323-3		1	75A	1
251T1323-4		1	80A	1
251T1323-5		2	65	1
251T1323-5		3	65	1
251T1323-6		2	70	1
		3	70	1
251T1324-1		1	90	1
251T1324-2		1	95	1
251T1324-3		1	90A	1
251T1324-4		2	80	1
251T1324-5		3	80	1
251T1325-2		1	195A	1
251T1325-3		1	195B	1
		2	210	1
251T1325-4		3	180	1
251T1326-2		1	200B	1
		2	225	1

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1010
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T1326-3		1	200C	1
251T1326-4		3	195	1
251T1328-1		1	210	1
		2	230	1
251T1328-2		1	215	1
		2	235	1
251T1328-3		1	220	1
		2	240	1
251T1328-4		3	200	1
251T1328-5		3	205	1
251T1328-6		3	210	1
251T1329-1		1	165	1
		2	165	1
251T1330-2		1	135A	1
		2	135	1
		3	135	1
251T1331-1		1	145	1
		2	145	1
		3	140	1
251T1337-1		1	155	1
		2	155	1
251T1337-2		3	145	1
251T1343-1		1	97	1
251T1343-2		1	98	1
251T1343-3		2	90	1
251T1343-4		2	95	1
251T1343-5		3	90	1
251T1343-6		3	95	1
251T1344-1		1	43	1
		1	45	2
		2	45	2

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1011

Jul 01/04

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
251T1344-1		3	45	2
251T1345-10		1	120J	1
251T1345-11		1	120K	1
251T1345-12		1	120L	1
		2	120	1
251T1345-13		3	120	1
251T1345-9		1	120H	1
251T1346-4		1	175C	1
251T1346-5		1	175D	1
251T1346-6		1	175E	1
		2	175	1
251T1346-7		3	150	1
251T1347-2		1	125A	1
		2	125	1
		3	125	1
251T1348-1		1	250	1
251T1348-2		1	230	1
251T1348-3		1	230A	1
		1	232	1
		2	260	2
		3	230	2
251T1362-1		1	115	3
		2	115	3
		3	115	3
251T1362-2		1	110	1
		2	110	1
		3	110	1
251T1377-1		1	190B	1
		2	190	1
		3	160	1
251T3741-25		1	53	1
251T3742-9		1	50	1
		1	55A	1
		2	50	2
		3	50	2

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1012
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
55303		1	105A	3
		2	105	3
		3	105	3
66014-5		1	245	2
66014-6		1	194	1
		2	205	1
		3	175	1
69-38919-18		1	190	1
96-048		1	35	2
96-064		1	40	2

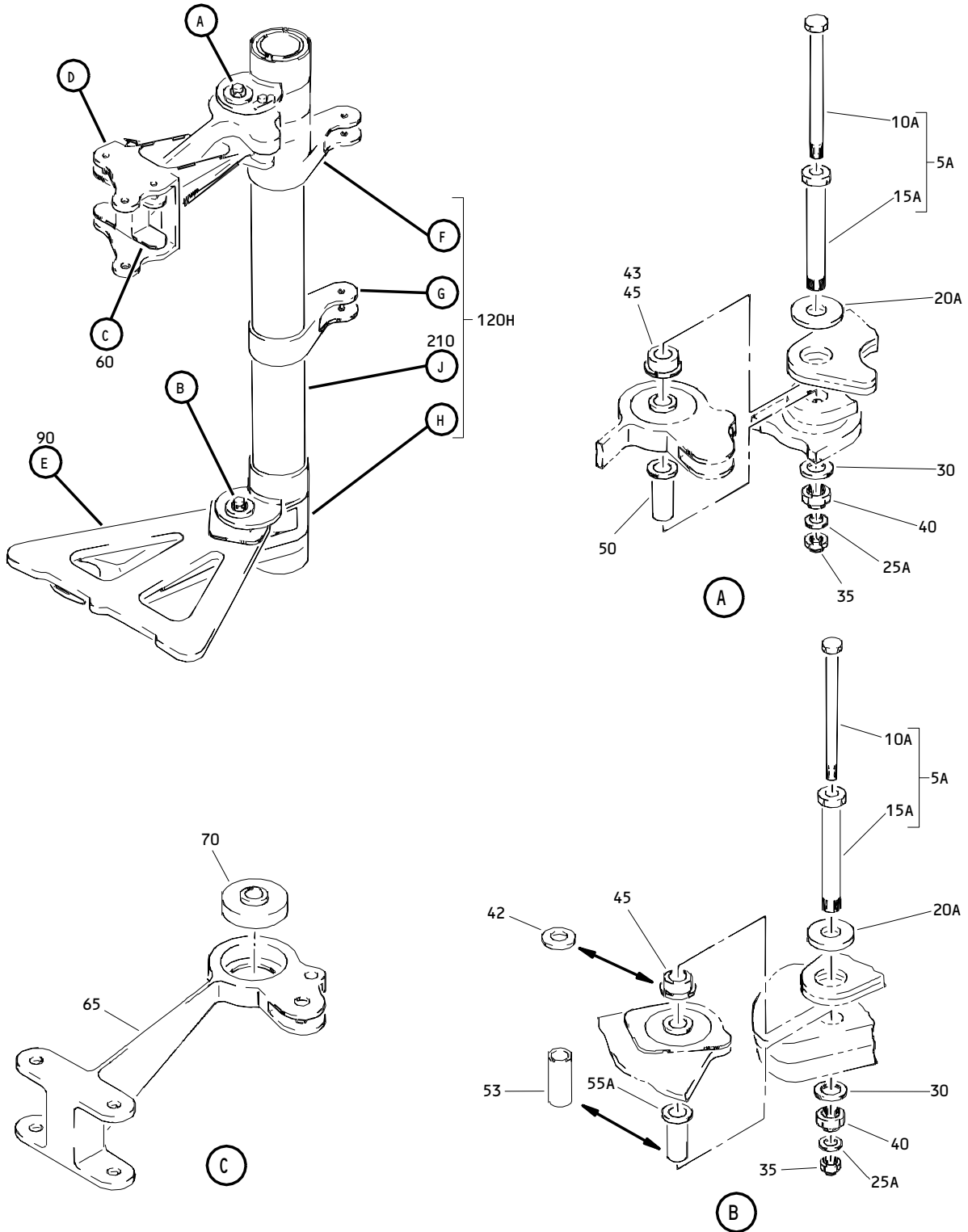
27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1013

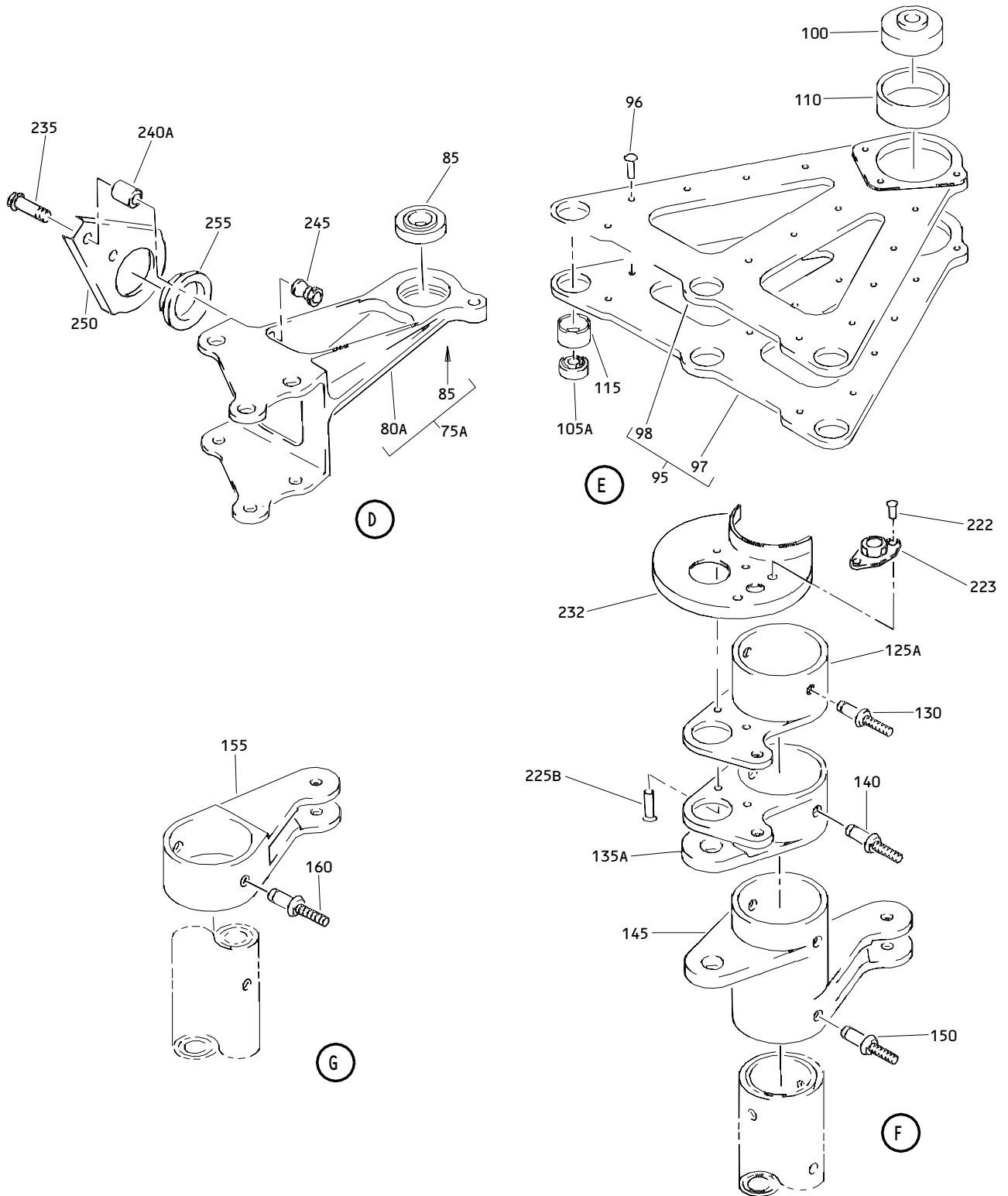
Jul 01/04



Left Hand Lateral Central Control Actuator Input Crank
 Torque Tube And Bracket Assembly
 Figure 1 (Sheet 1)

27-11-16

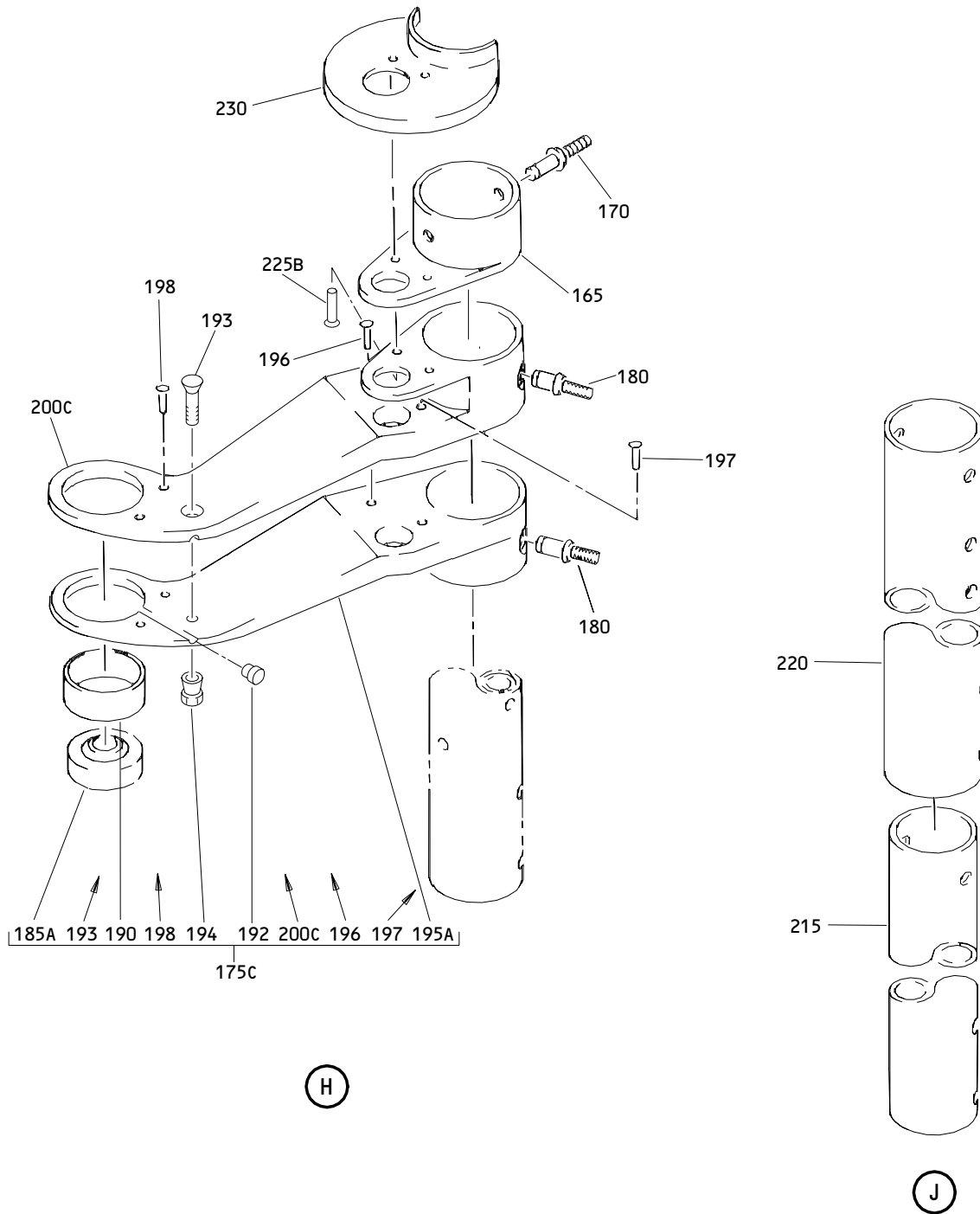
ILLUSTRATED PARTS LIST
 01.1 Page 1014
 Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
 Torque Tube And Bracket Assembly
 Figure 1 (Sheet 2)

27-11-16

ILLUSTRATED PARTS LIST
 01.1 Page 1015
 Jul 01/04



Left Hand Lateral Central Control Actuator Input Crank Torque Tube
 and Bracket Assembly
 Figure 1 (Sheet 3)

27-11-16

ILLUSTRATED PARTS LIST
 01.1 Page 1016
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	251T1305-1		DELETED		
-1A	251T1305-2		DELETED		
-1B	251T1305-3		DELETED		
-1C	251T1305-4		DELETED		
-1D	251T1305-5		DELETED		
-1E	251T1305-6		DELETED		
-1F	251T1305-7		DELETED		
-1G	251T1305-8		DELETED		
-1H	251T1305-9		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	A	RF
-1J	251T1305-10		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	B	RF
-1K	251T1305-11		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	C	RF
-1L	251T1305-12		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	D	RF
-1M	251T1305-13		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	E	RF
-1N	251T1305-14		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	F	RF
-1P	251T1305-15		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	G	RF
-1Q	251T1305-16		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	H	RF
R -1R	251T1305-17		(FOR DETAILS SEE FIG. 2) TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE (FOR DETAILS SEE FIG. 3)	J	RF

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1017
 Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
5	251T0200-39		DELETED		
5A	251T0200-9		.BOLT ASSY	A-E	2
-5B	251T0200-65		.BOLT ASSY	F,G	2
10	NAS6704U46		DELETED		
10A	NAS6704U47		..BOLT	A-E	1
-10B	NAS6704U49		..BOLT	F,G	1
15	251T0200-40		DELETED		
15A	251T0200-10		..BOLT-OUTER HOLLOW	A-G	1
20	BACW10P108A		DELETED		
20A	BACW10P20AL		.WASHER	A-G	2
25	AN960-416		DELETED		
25A	AN960-416L		.WASHER	A-G	2
30	AN960-616		.WASHER	A-G	2
35	BRH10A4		.NUT-	A-G	2
			(V52828)		
			(SPEC BACN10JC4)		
			(OPT T6S428J		
			(V11815))		
			(OPT 96-048		
			(V80539))		
			(OPT VN303A048		
			(V92215))		
			(OPT RMLH9075-4W		
			(V72962))		
			(OPT NS202101-048		
			(V80539))		
			(OPT H10-4BAC		
			(V15653))		
40	BRH10A6		.NUT-	A-G	2
			(V52828)		
			(SPEC BACN10JC6)		
			(OPT 96-064		
			(V80539))		
			(OPT RMLH9075-6		
			(V72962))		
			(OPT H10-6BAC		
			(V15653))		
42	AN960PD616		.WASHER	A	1
43	251T1344-1		.BUSHING	A	1
45	251T1344-1		.BUSHING	B-G	2
50	251T3742-9		.BUSHING	A-G	1
53	251T3741-25		.BUSHING	A	1

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1018

Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
55	251T3742-10		DELETED		
55A	251T3742-9		.BUSHING	B-G	1
60	251T1322-1		.BRACKET ASSY	A-C	1
-60A	251T1322-3		.BRACKET ASSY	D	1
-60B	251T1322-5		.BRACKET ASSY	E,F	1
-60C	251T1322-7		.BRACKET ASSY	G	1
65	251T1322-2		..BRACKET	A-C	1
-65A	251T1322-4		..BRACKET	D	1
-65B	251T1322-6		..BRACKET	E,F,G	1
70	ASR6-30		..BEARING- (VS0352) (SPEC BACB10CK6) (OPT SA6-23A4 (V77896)) (REPLACED BY ITEM 70B) (PRE SB 767-27-0128)	A-F	1
-70A	SA6-23A1-501		..BEARING- (V77896) (SPEC S012T236-400)	G	1
-70B	SA6-23A1-501		..BEARING- (V77896) (REPLACES ITEM 70) (SPEC S012T236-400) (POST 767-SB-27-0128)	A-F	1

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1019

Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
75	251T1323-1		DELETED		
75A	251T1323-3		.BRACKET ASSY	A-G	1
80	251T1323-2		DELETED		
80A	251T1323-4		..BRACKET-CAGE	A-G	1
85	B538DDNJC		..BEARING- (V06144) (SPEC BACB10CF10PP) (OPT B538DDFS101 (V06144)) (OPT T338E (VK8455)) (OPT B538SSG27 (V30163)) (OPT B538DDFS428 (V21335)) (OPT B538DD (V38443)) (OPT B538-2TS (V43991)) (OPT B538FS101 (V06144)) (OPT B538DDP (V21760))	A-G	1
90	251T1324-1		.BRACE ASSY-LWR	A-F	1
-90A	251T1324-3		.BRACE ASSY-LWR	G	1
95	251T1324-2		..BRACE ASSY	A-G	1
96	BACR15BA5AD		...RIVET- (SIZE DETERMINE ON INST)	A-G	16
97	251T1343-1		...BRACE-LWR	A-G	1
98	251T1343-2		...BRACE-UPR	A-G	1

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1020
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-100	ASR6-30		..BEARING- (VS0352) (SPEC BACB10CK6) (OPT SA6-23A4 (V77896)) (REPLACED BY ITEM 100B) (PRE SB 767-27-0128)	A-F	1
-100A	SA6-23A1-501		..BEARING- (REPLACES ITEM 100) (SPEC S012T236-400)	G	1
-100B	SA6-23A1-501		..BEARING- (REPLACES ITEM 100) (SPEC S012T236-400) (POST SB 767-27-0128)	A-F	1
105	HU4-134		DELETED		
105A	BWP3E115T		..BEARING- (V16746) (SPEC BACB10X3T) (OPT AW4CRG (V15860)) (OPT BSSR4806 (V81376)) (OPT HU4-136 (V02758)) (OPT KWB4CRG (V97613)) (OPT WS4E (V73134)) (OPT 55303 (V09455)) (OPT WC4-1 (V56644)) (OPT ABW4-5 (VS0352))	A-G	3
110	251T1362-2		..SLEEVE	A-G	1
115	251T1362-1		..SLEEVE	A-G	3
119	BACROG141		DELETED		
120	251T1345-1		DELETED		
120A	251T1345-2		DELETED		
-120B	251T1345-3		DELETED		
120C	251T1345-4		DELETED		
-120D	251T1345-5		DELETED		
120E	251T1345-6		DELETED		
-120F	251T1345-7		DELETED		
-120G	251T1345-8		DELETED		

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1021

Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
120H	251T1345-9		.TUBE ASSY	A	1
-120J	251T1345-10		.TUBE ASSY	B	1
-120K	251T1345-11		.TUBE ASSY	C	1
-120L	251T1345-12		.TUBE ASSY	D-G	1
125	251T1347-1		DELETED		
125A	251T1347-2		..FITTING ATTACHING PARTS	A-G	1
130	MS90354-0806		..RIVET -----*-----	A-G	2
135	251T1330-1		DELETED		
135A	251T1330-2		..FITTING ATTACHING PARTS	A-G	1
140	MS90354-0806		..RIVET -----*-----	A-G	2
145	251T1331-1		..CRANK-OUTPUT ATTACHING PARTS	A-G	1
150	MS90354-0806		..RIVET -----*-----	A-G	4
155	251T1337-1		..CRANK-OUTPUT ATTACHING PARTS	A-G	1
160	MS90354-0806		..RIVET -----*-----	A-G	2
165	251T1329-1		..FITTING ATTACHING PARTS	A-G	1
170	MS90354-0806		..RIVET -----*-----	A-G	2
175	251T1346-1		DELETED		
175A	251T1346-2		DELETED		
-175B	251T1346-3		DELETED		
175C	251T1346-4		..CRANK ASSY-INPUT	A	1
-175D	251T1346-5		..CRANK ASSY-INPUT	B,C	1
-175E	251T1346-6		..CRANK ASSY-INPUT ATTACHING PARTS	D-G	1

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1022
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-180	MS90354-0806		..RIVET -----*-----	A-G	4
185 185A	KSP6 ASR6-30		DELETED ...BEARING- (VS0352) (SPEC BACB10CK6) (OPT SA6-23A4 (V77896)) (RPLCD BY ITEM 185B)	A-G	1
-185B	S012T236-400		...BEARING- (RPLCS ITEM 185A)	A-G	1
190	69-38919-18		...SLEEVE- (MFD FROM SH AL QQ-A-327 OR 6061-0 PER WW-T-789 OPT 6061-T6 ROD QQ-A-225/8 F2.10 .062 IN .624 IN 4.92 IN)	A-C	1
-190A	251T0377-1		DELETED		
-190B	251T1377-1		...SLEEVE-RETAINING	D-G	1
192	NAS516-1A		...FITTING-LUBE	D-G	1
193	HL10VAZ6-8		...BOLT- (V60516) (SPEC BACB30MY6K8) (OPT B30MY6K8 (V97928))	D-G	1
194	HL79-6		...COLLAR- (V5M902) (SPEC BACC30M6) (OPT HL79-6 (V73197)) (OPT HL79-6 (V92215)) (OPT 66014-6 (V56878)) (OPT HL79-6 (V56878))	D-G	1

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1023
 Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
195	251T1325-1		DELETED		
195A	251T1325-2		...CRANK	A-C	1
-195B	251T1325-3		...CRANK	D-G	1
			ATTACHING PARTS		
196	BACR15BA5D21		...RIVET	A	1
197	BACR15BA5D15		...RIVET	A-G	1
198	BACR15BA5D11		...RIVET	A-G	2
			-----*-----		
200	251T1326-1		DELETED		
200A	251T1326-2		DELETED		
-200B	251T1326-2		...CRANK	B-G	1
200C	251T1326-3		...CRANK	A	1
210	251T1328-1		..TUBE ASSY	A-G	1
215	251T1328-2		...TUBE-INNER	A-G	1
220	251T1328-3		...TUBE-OUTER	A-G	1
222	BACR15BB4AD		..RIVET-	A-G	2
			(SIZE DETERMINE ON INST)		
223	B1355-4		..RETAINER-	A-G	1
			(V80539)		
			(SPEC BACR10G141)		
			(OPT B1355-4		
			(V80539))		
225	BACR15FT4AD		DELETED		
225A	BACR15BB4AD		DELETED		
225B	BACR15BA4AD		..RIVET-	A-G	4
			(SIZE DETERMINE ON INST)		
230	251T1348-2		..SHIELD-WATER	A,B	1
-230A	251T1348-3		..SHIELD-WATER	C-G	1
232	251T1348-3		..SHIELD-WATER	A-G	1
235	HL10VAZ5-13		.BOLT-	A-G	2
			(V60516)		
			(SPEC BACB30MY5K13)		
			(OPT B30MY5K13		
			(V97928))		

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1024
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

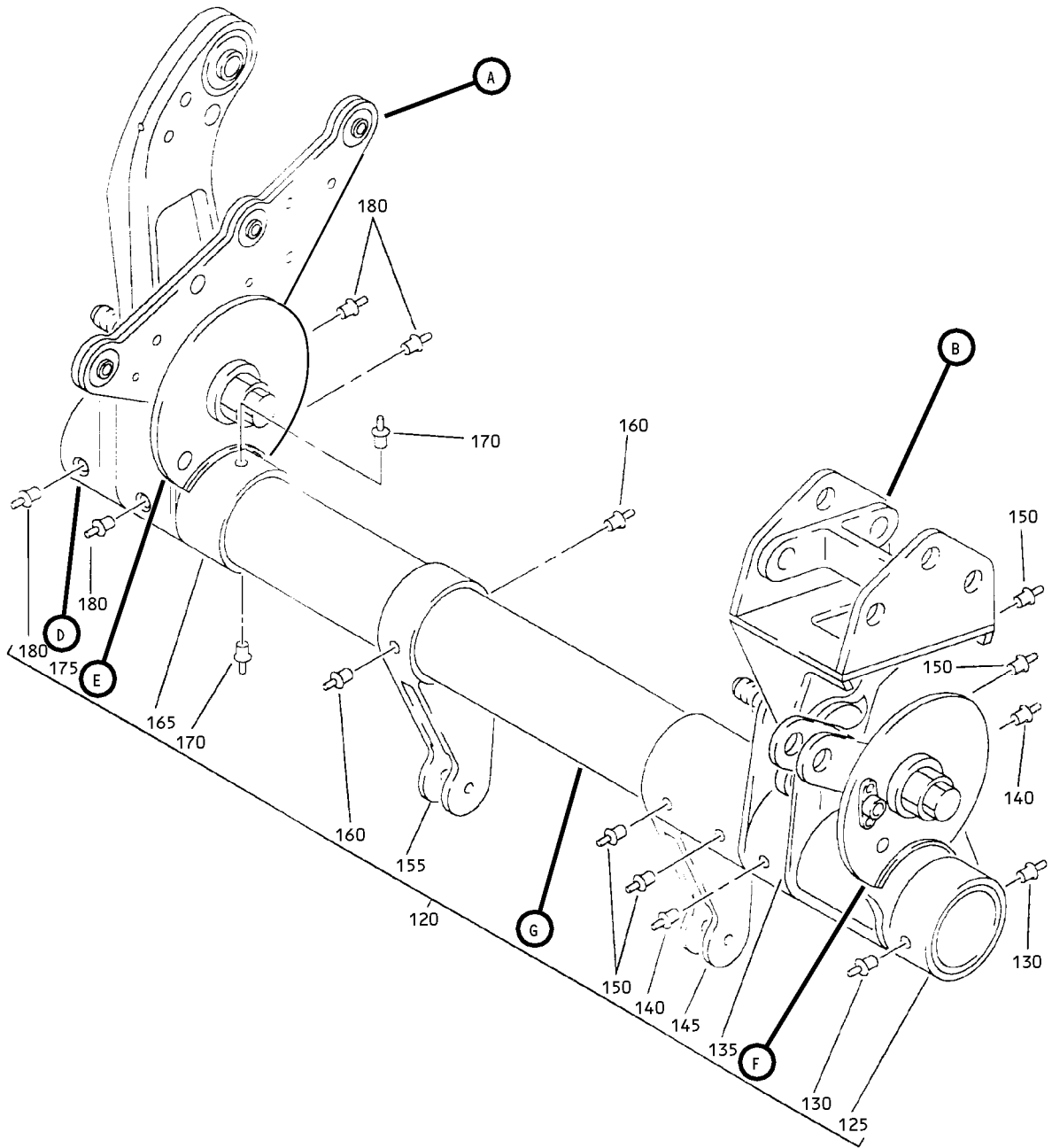
FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE	EFF CODE	QTY PER ASSY
			1234567		
01- 240 240A 245	NAS42DD5-40 NAS42DD3-40FC HL70-5		DELETED . SPACER . COLLAR- (V5M902) (SPEC BACC30M5) (OPT HL70-5 (V73197)) (OPT HL70-5 (V92215)) (OPT 66014-5 (V56878)) (OPT HL70-5 (V56878))	A-G A-G	2 2
250 255	251T1348-1 NAS1368N20H		. BRACKET . GROMMET	A-G A-G	1 1

R

- Item Not Illustrated

27-11-16

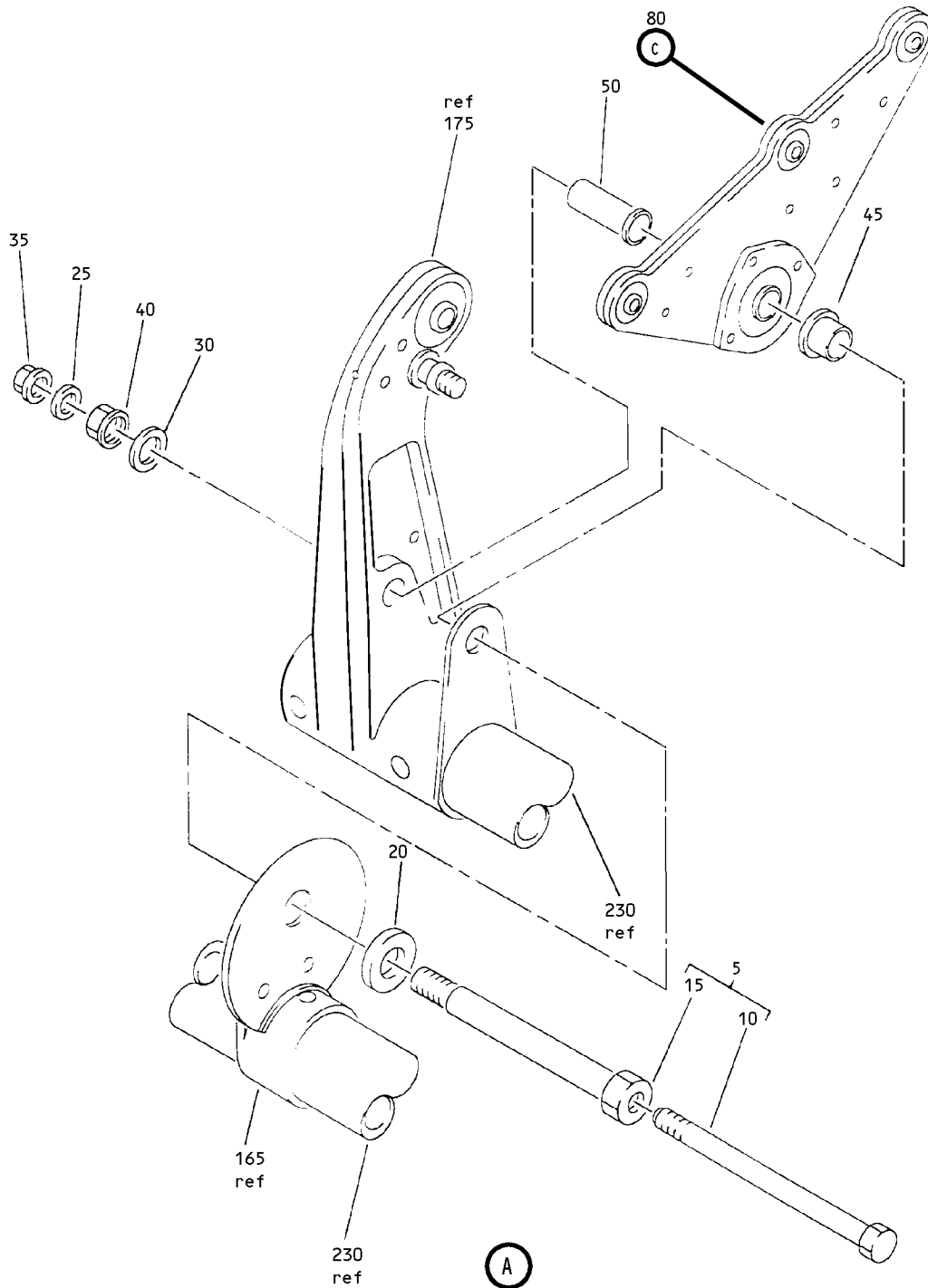
 ILLUSTRATED PARTS LIST
 01.1 Page 1025
 Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 1)

27-11-16

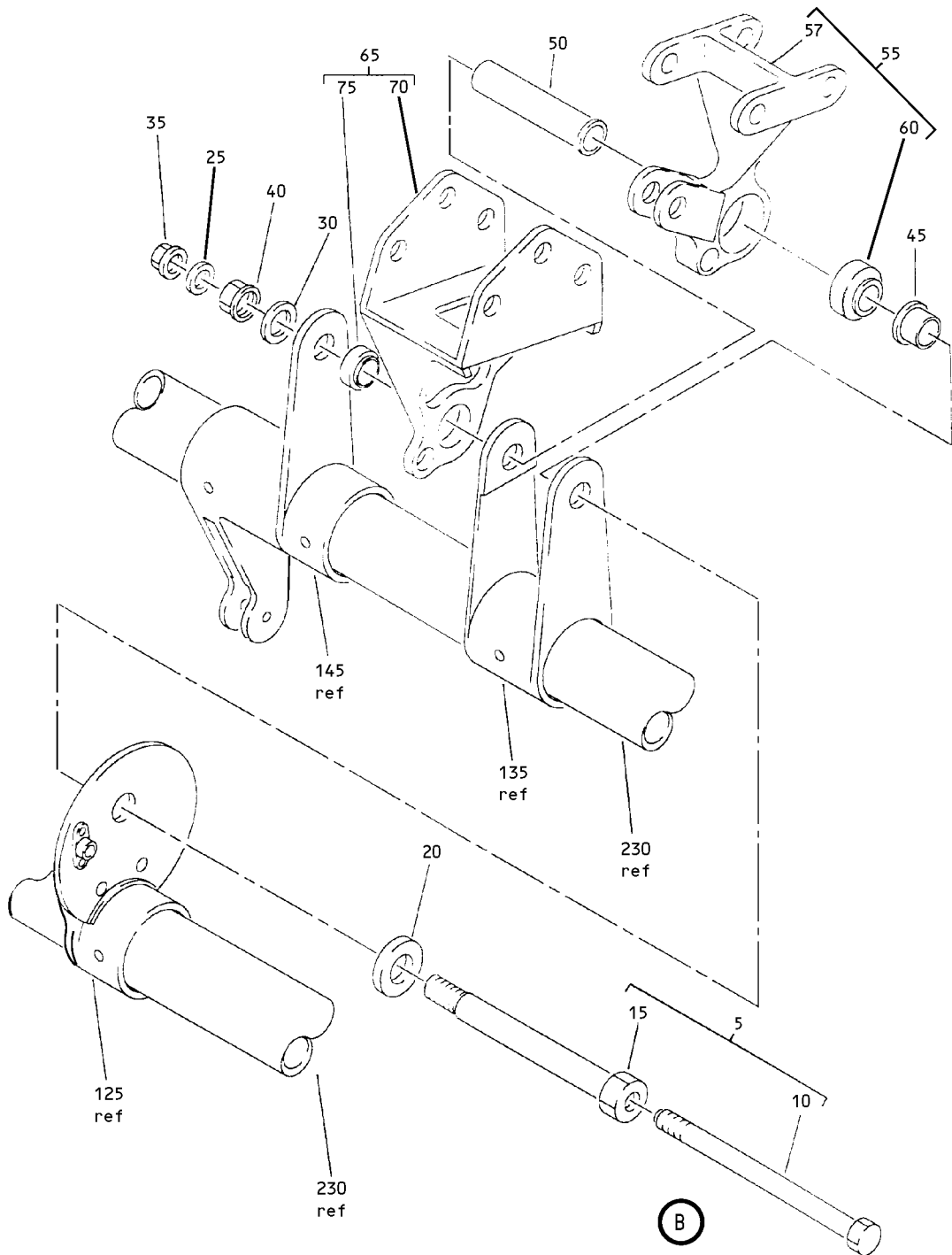
ILLUSTRATED PARTS LIST
01.1 Page 1027
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 2)

27-11-16

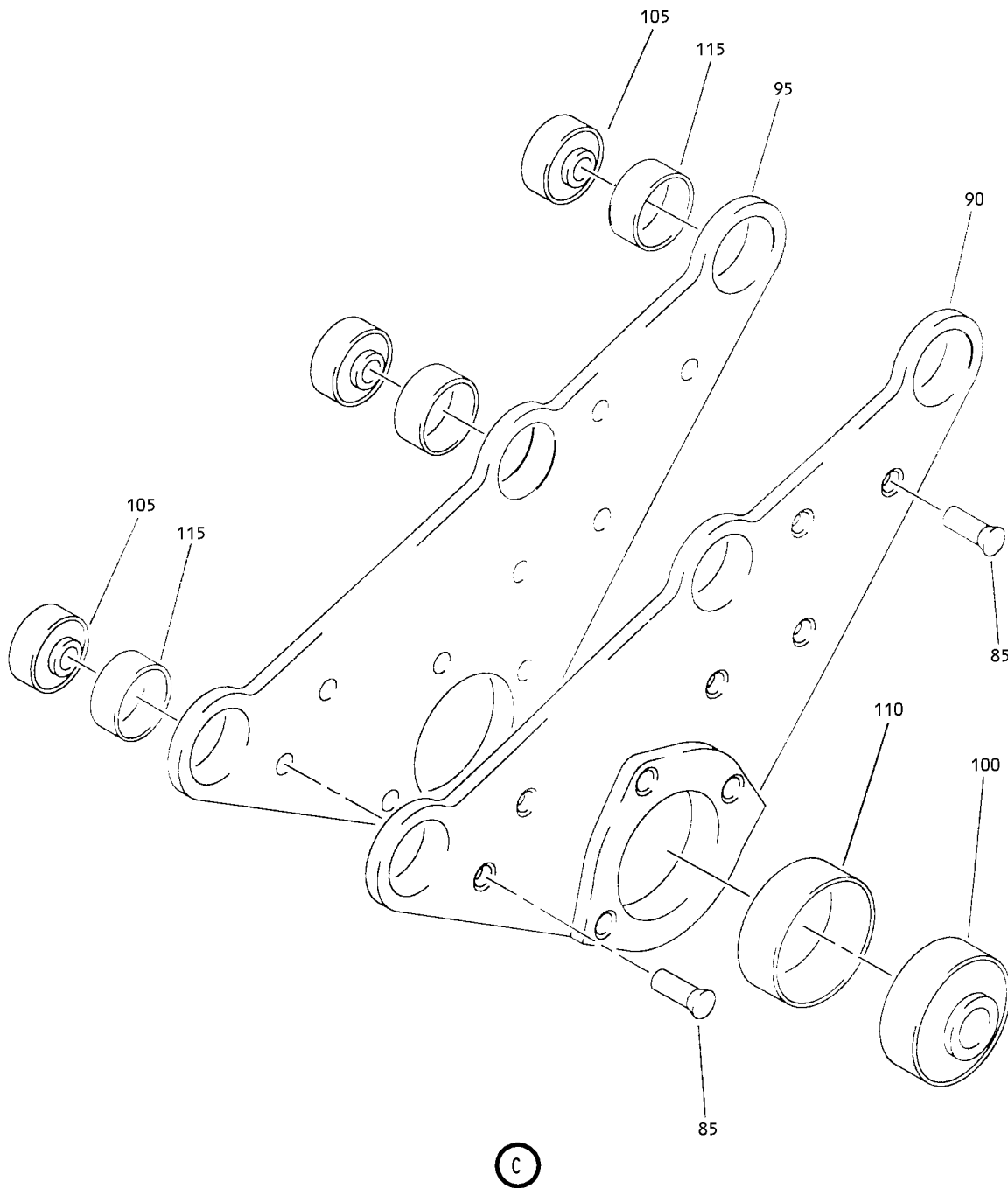
ILLUSTRATED PARTS LIST
01.1 Page 1028
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 3)

27-11-16

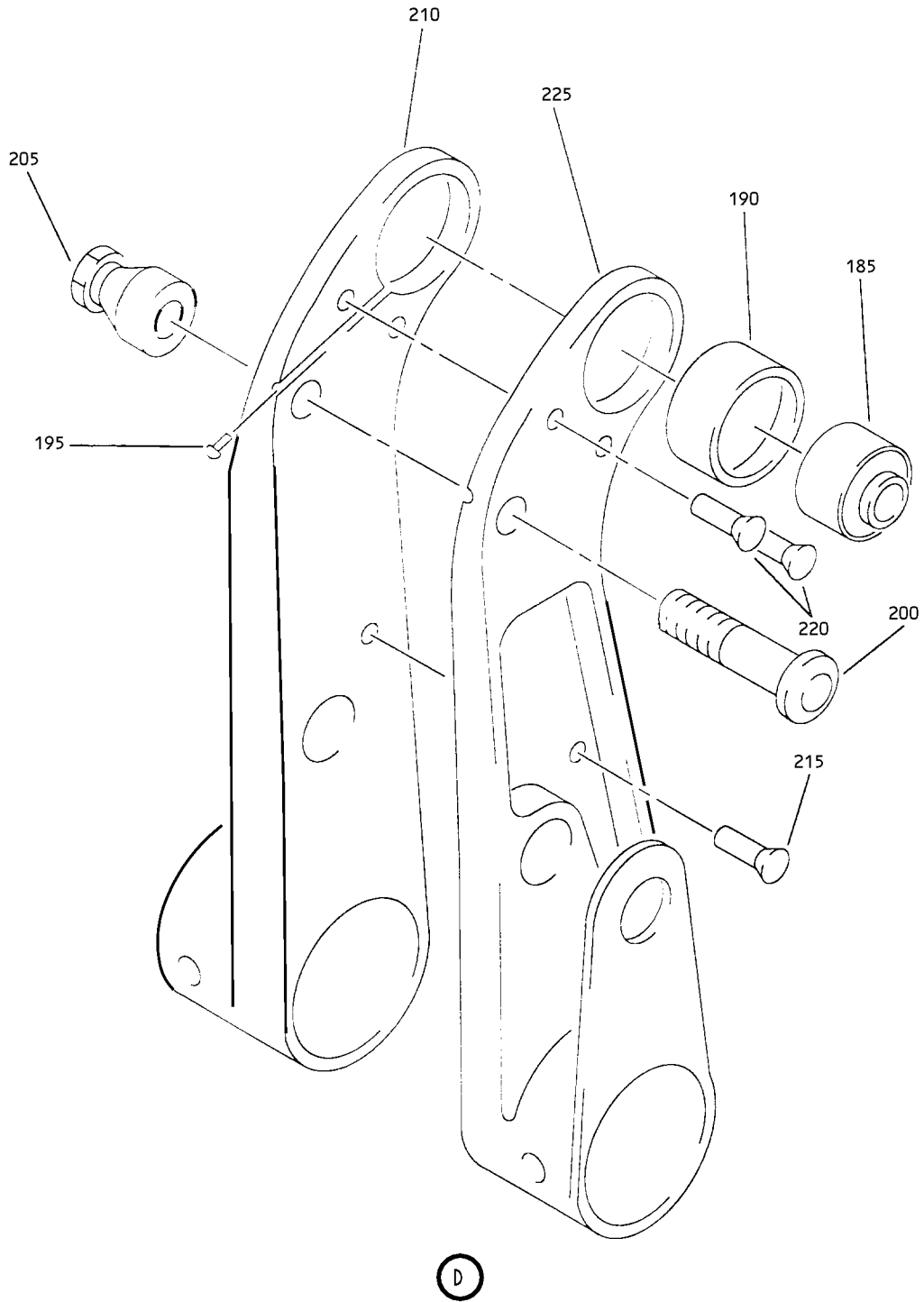
ILLUSTRATED PARTS LIST
01.1 Page 1029
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 4)

27-11-16

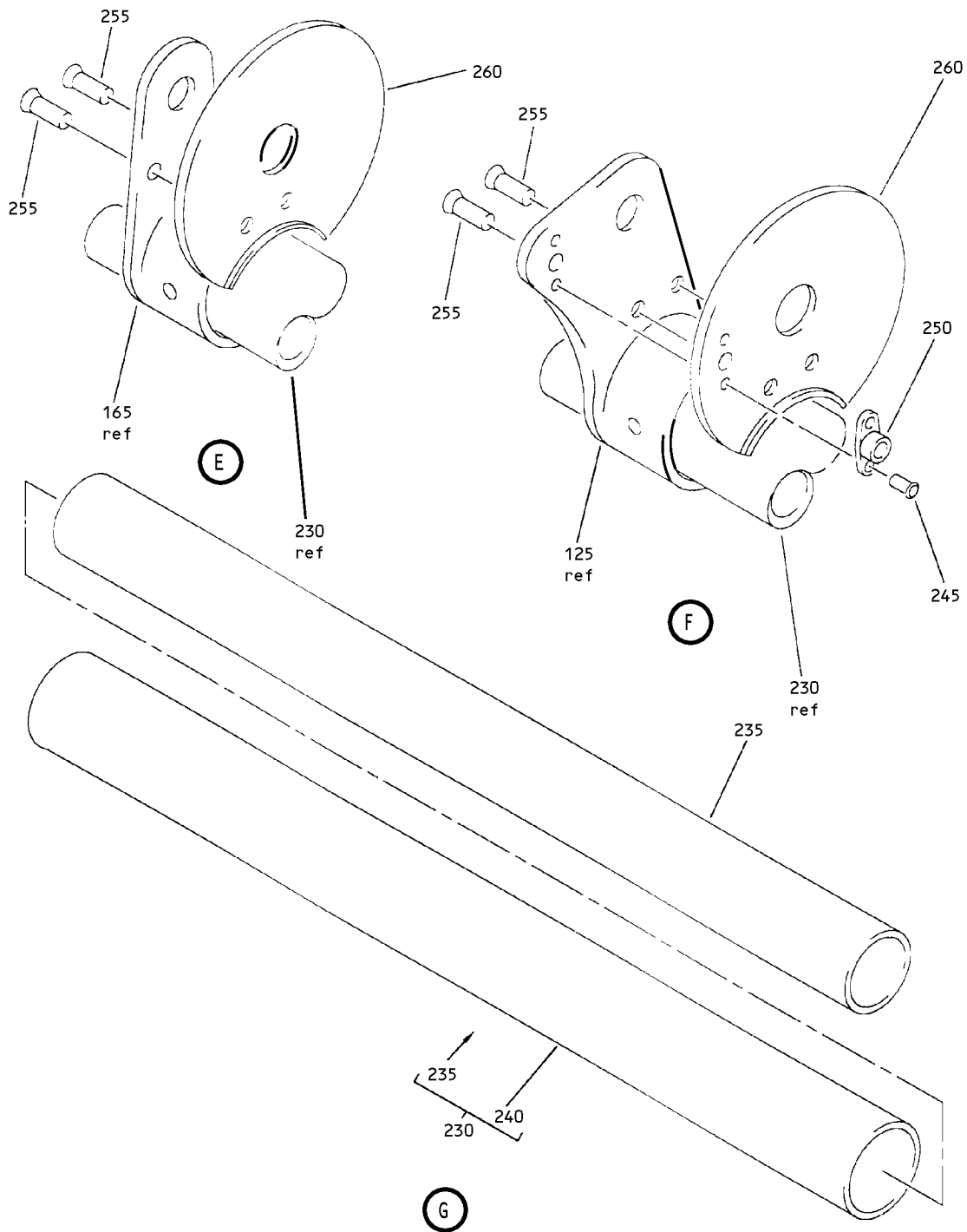
ILLUSTRATED PARTS LIST
01.1 Page 1030
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 5)

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1031
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank
Torque Tube And Bracket Assembly
Figure 2 (Sheet 6)

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1032
Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02- -1	251T1305-16		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	H	RF
5	251T0200-65		.BOLT ASSY	H	2
10	NAS6704U49		..BOLT	H	1
15	251T0200-10		..BOLT-OUTER HOLLOW	H	1
20	BACW10P20AL		.WASHER	H	2
25	NAS1149D0432J		.WASHER	H	2
30	NAS1149D0663J		.WASHER	H	2
35	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	H	2
40	H52732-6CD		.NUT- (V15653) (SPEC BACN10YR6CD) (OPT PLH56CD (V62554))	H	2
45	251T1344-1		.BUSHING	H	2
50	251T3742-9		.BUSHING	H	2
55	251T1322-8		.BRACKET ASSY	H	1
R 57	251T1322-9		..BRACKET	H	1
60	SA6-23A1-501		..BEARING- (V77896) (SPEC S012T236-400)	H	1
65	251T1323-5		.BRACKET ASSY	H	1
70	251T1323-6		..BRACKET-CAGE	H	1
75	PACMB538DDFS428		..BEARING- (V21335) (SPEC BACB10FU10) (OPT SSMB538DDSD705 (V83086)) (OPT PACMB538DDA3908 (V21335)) (OPT ACMB538DDP818LY (V40920))	H	1

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1033

Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
80	251T1324-4		.BRACE ASSY-LWR	H	1
85	BACR15BA5AD		..RIVET- (SIZE DETERMINE ON INST)	H	9
90	251T1343-3		..BRACE-LWR	H	1
95	251T1343-4		..BRACE-UPR	H	1
100	SA6-23A1-501		..BEARING- (SPEC S012T236-400)	H	1
105	BWP3E115T		..BEARING- (V16746) (SPEC BACB10X3T) (OPT AW4CRG (V15860)) (OPT BSSR4806 (V81376)) (OPT HU4-136 (V02758)) (OPT KWB4CRG (V97613)) (OPT WS4E (V73134)) (OPT 55303 (V09455)) (OPT WC4-1 (V56644)) (OPT ABW4-5 (VS0352))	H	3
110	251T1362-2		..SLEEVE	H	1
115	251T1362-1		..SLEEVE	H	3
120	251T1345-12		.TUBE ASSY	H	1
125	251T1347-2		..FITTING ATTACHING PARTS	H	1
130	MS90354-0806		..RIVET -----*	H	2
135	251T1330-2		..FITTING ATTACHING PARTS	H	1
140	MS90354-0806		..RIVET -----*	H	2

27-11-16

 ILLUSTRATED PARTS LIST
 01.1 Page 1034
 Jul 01/04


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-145	251T1331-1		..CRANK-OUTPUT ATTACHING PARTS	H	1
150	MS90354-0806		..RIVET -----*	H	4
155	251T1337-1		..CRANK-OUTPUT ATTACHING PARTS	H	1
160	MS90354-0806		..RIVET -----*	H	2
165	251T1329-1		..FITTING ATTACHING PARTS	H	1
170	MS90354-0806		..RIVET -----*	H	2
175	251T1346-6		..CRANK ASSY-INPUT ATTACHING PARTS	H	1
180	MS90354-0806		..RIVET -----*	H	4
185	ASR6-30		...BEARING- (VS0352) (SPEC BACB10CK6) (OPT SA6-23A4 (V77896))	H	1
190	251T1377-1		...SLEEVE-RETAINING	H	1
195	NAS516-1A		...FITTING-LUBE	H	1
200	HL10VAZ6-8		...BOLT- (V60516) (SPEC BACB30MY6K8) (OPT B30MY6K8 (V97928))	H	1
205	HL79-6		...COLLAR- (V5M902) (SPEC BACC30M6) (OPT HL79-6 (V73197)) (OPT HL79-6 (V92215)) (OPT 66014-6 (V56878)) (OPT HL79-6 (V56878))	H	1
210	251T1325-3		...CRANK ATTACHING PARTS	H	1
215	BACR15BA5D15		...RIVET	H	1
220	BACR15BA5D11		...RIVET -----*	H	2

27-11-16

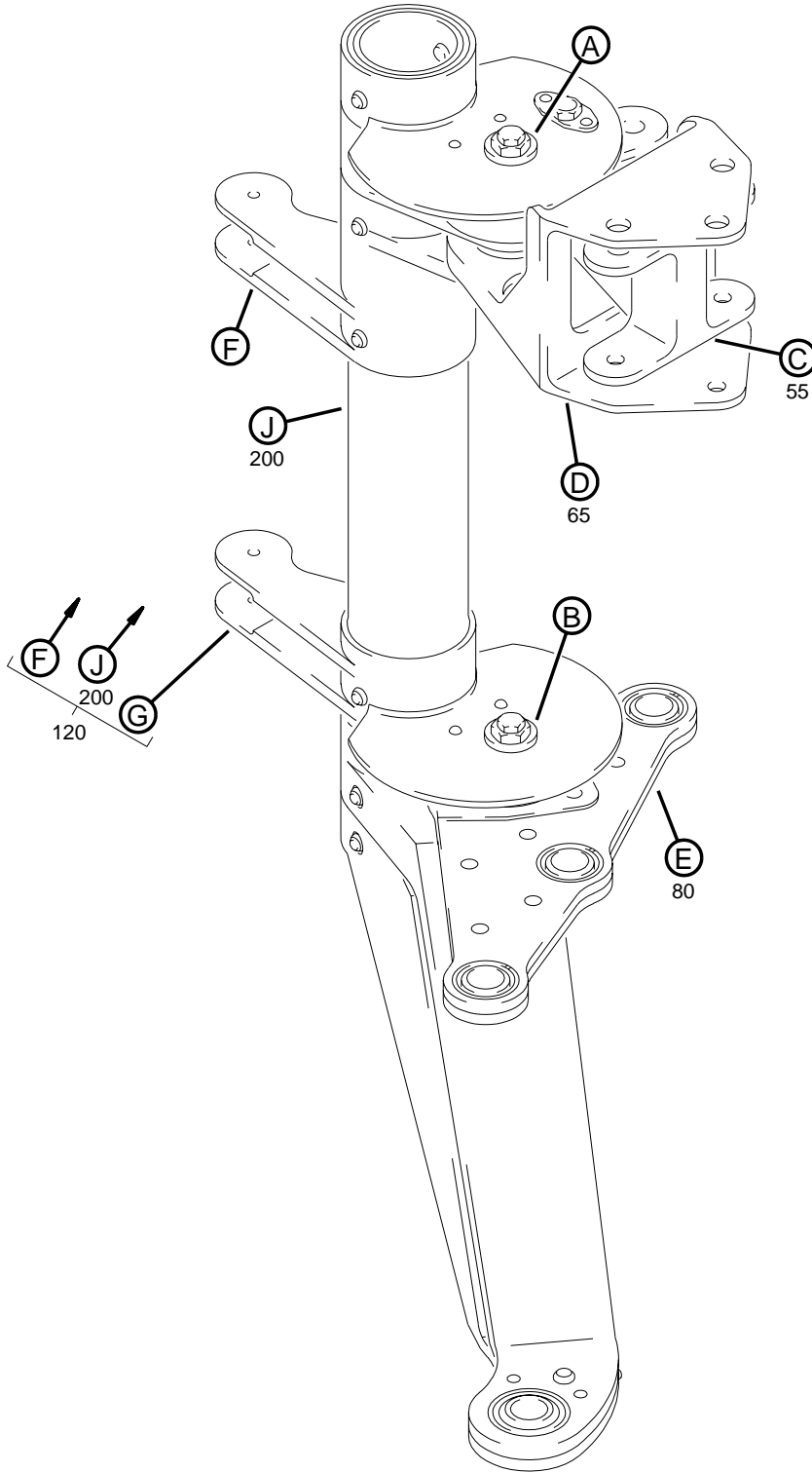
 ILLUSTRATED PARTS LIST
 01.1 Page 1035
 Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
02-					
225	251T1326-2		...CRANK	H	1
230	251T1328-1		..TUBE ASSY	H	1
235	251T1328-2		...TUBE-INNER	H	1
240	251T1328-3		...TUBE-OUTER	H	1
245	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST)	H	2
250	B1355-4		..RETAINER- (V80539) (SPEC BACR10G141) (OPT B1355-4 (V80539))	H	1
255	BACR15BA5AD		..RIVET- (SIZE DETERMINE ON INST)	H	4
260	251T1348-3		..SHIELD-WATER	H	2

- Item Not Illustrated

27-11-16

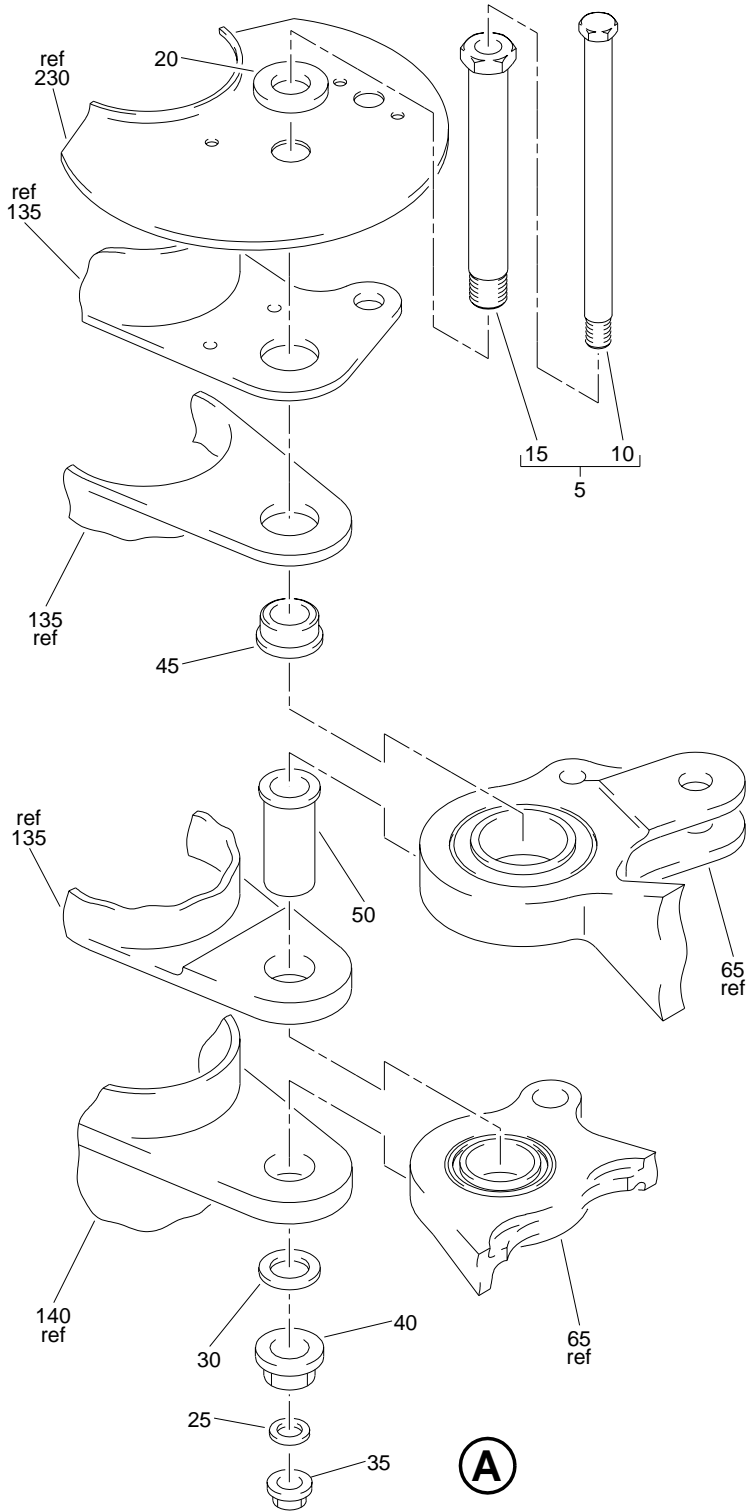
ILLUSTRATED PARTS LIST
 01.1 Page 1036
 Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 1)

27-11-16

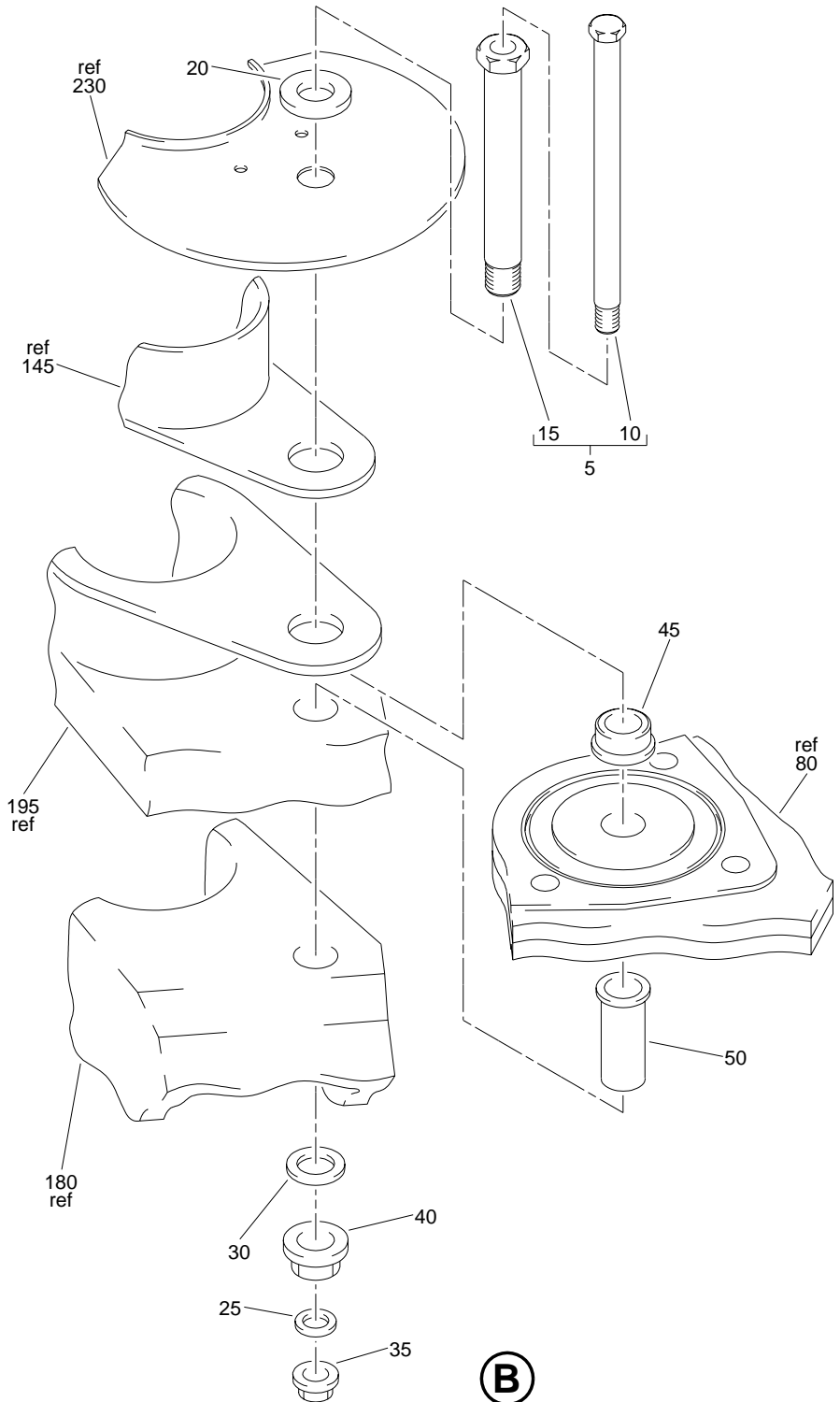
ILLUSTRATED PARTS LIST
01.1 Page 1038
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube
 and Bracket Assembly
 Figure 3 (Sheet 2)

27-11-16

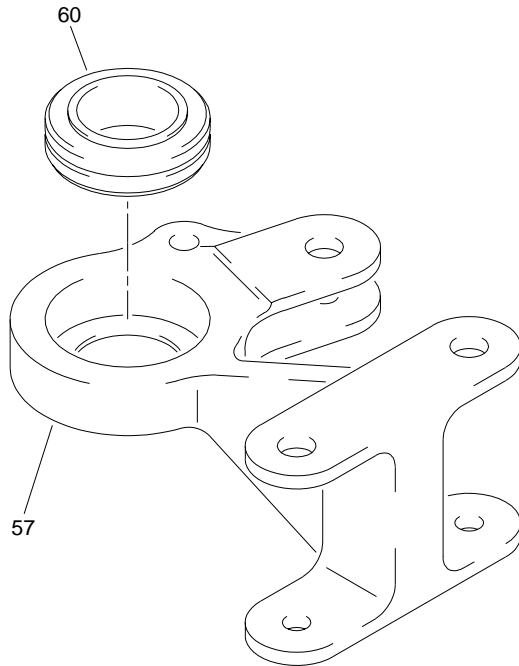
ILLUSTRATED PARTS LIST
 01.1 Page 1039
 Jul 01/04



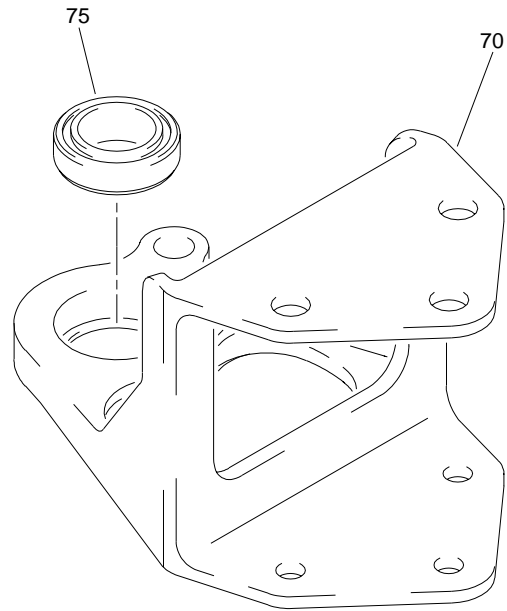
Left Hand Lateral Center Control Actuator Input Crank Torque Tube
 and Bracket Assembly
 Figure 3 (Sheet 3)

27-11-16

ILLUSTRATED PARTS LIST
 01.1 Page 1040
 Jul 01/04



(C)

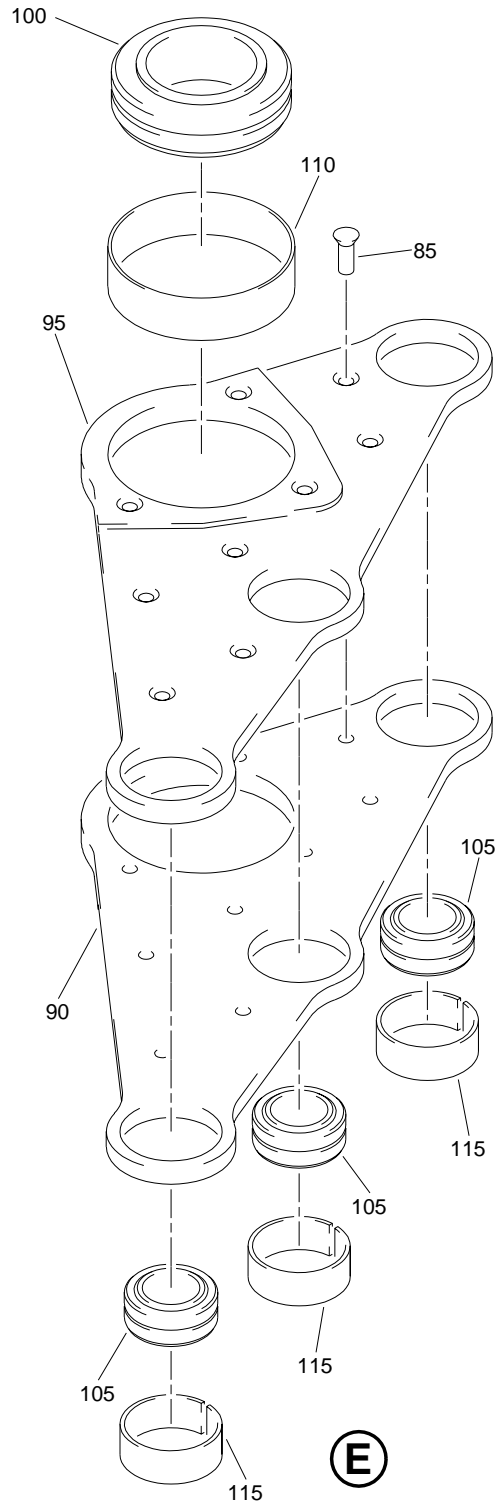


(D)

Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 4)

27-11-16

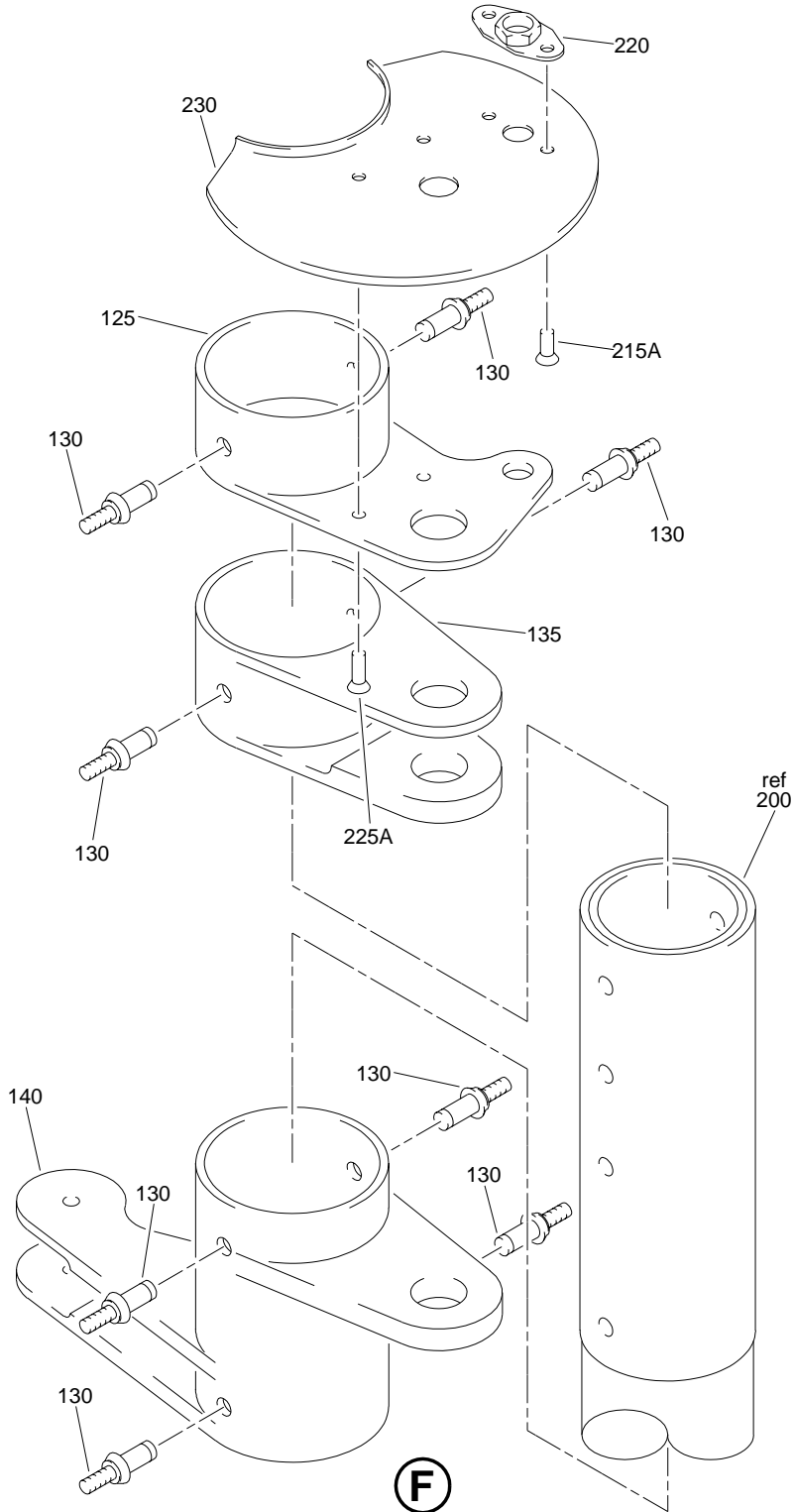
ILLUSTRATED PARTS LIST
01.1 Page 1041
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 5)

27-11-16

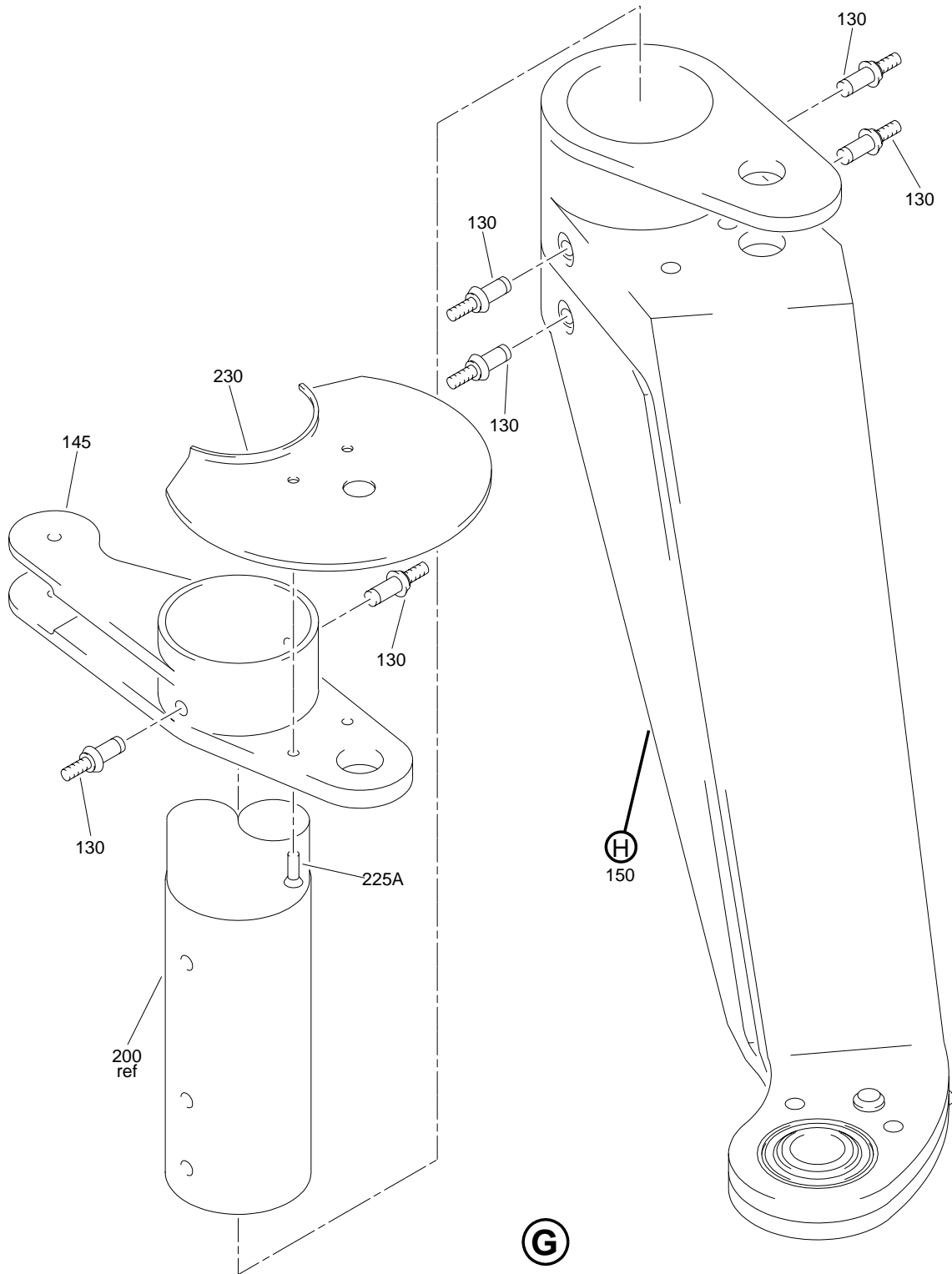
ILLUSTRATED PARTS LIST
01.1 Page 1042
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 6)

27-11-16

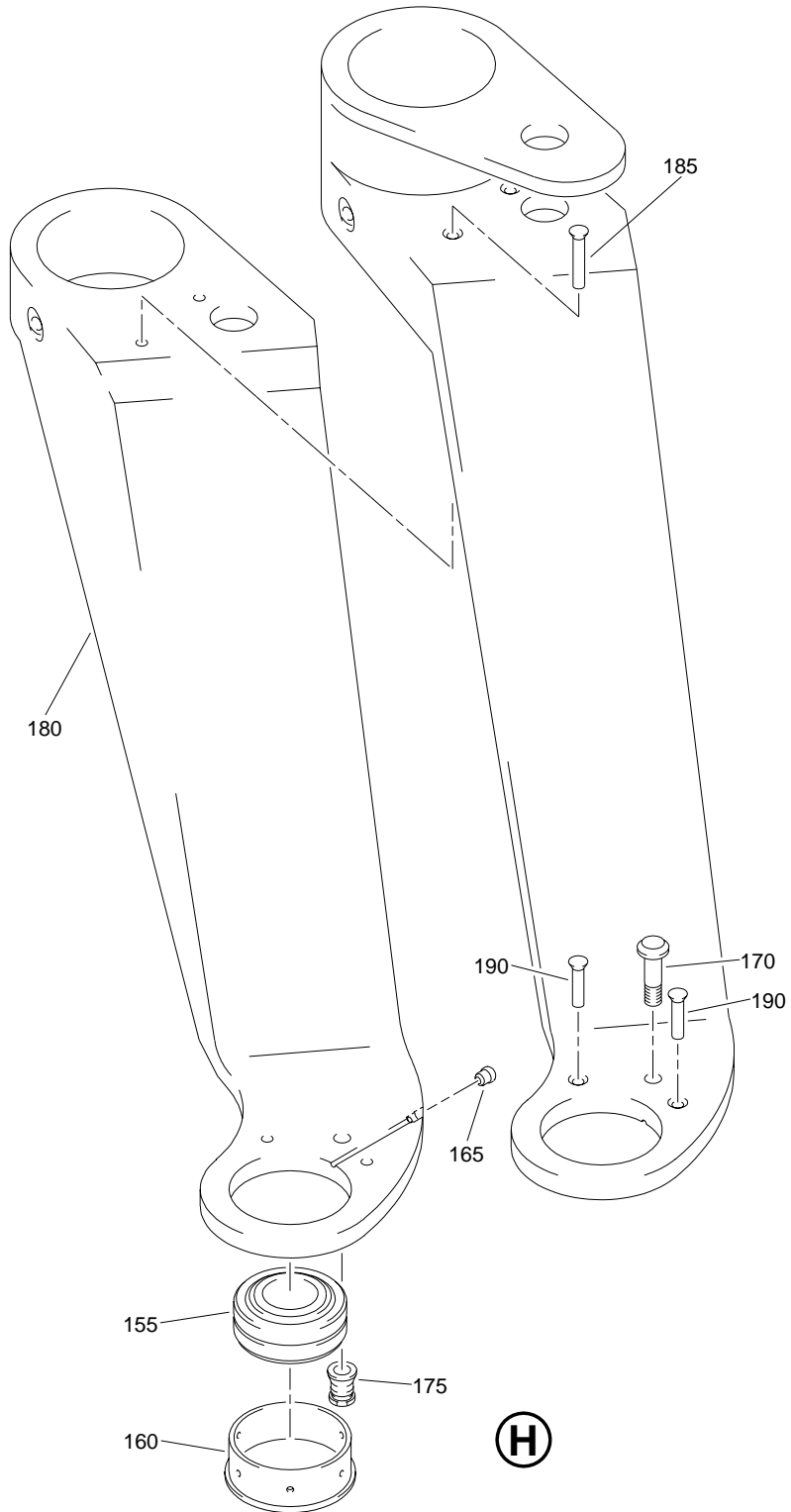
ILLUSTRATED PARTS LIST
01.1 Page 1043
Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube and Bracket Assembly
 Figure 3 (Sheet 7)

27-11-16

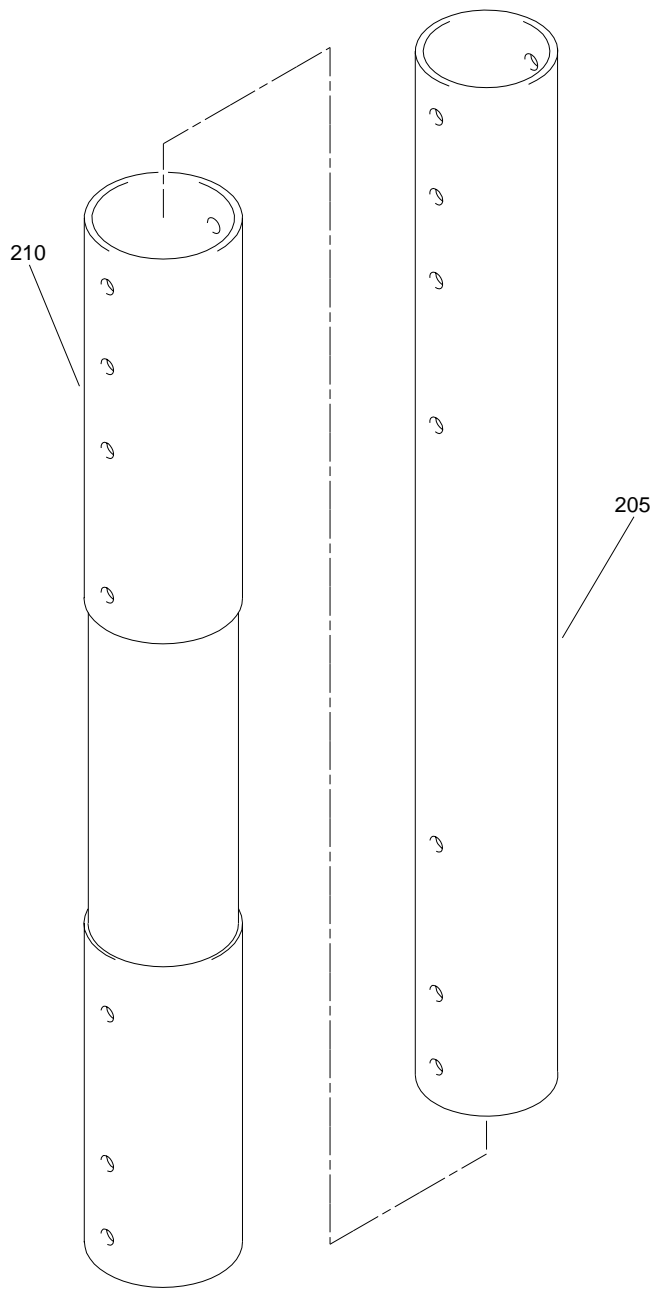
ILLUSTRATED PARTS LIST
 01.1 Page 1044
 Jul 01/04



Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 8)

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1045
Jul 01/04



J

Left Hand Lateral Center Control Actuator Input Crank Torque Tube
and Bracket Assembly
Figure 3 (Sheet 9)

27-11-16

ILLUSTRATED PARTS LIST
01.1 Page 1046
Jul 01/04

BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R 03- -1	251T1305-17		TUBE AND BRACKET ASSY-LH LATERAL CENTRAL CONT ACTR INPUT CRANK TORQUE	J	RF
R 5	251T0200-65		.BOLT ASSY	J	2
R 10	NAS6704U49		..BOLT	J	1
R 15	251T0200-10		..BOLT-OUTER HOLLOW	J	1
R 20	BACW10P20AL		.WASHER	J	2
R 25	NAS1149D0432J		.WASHER	J	2
R 30	NAS1149D0663J		.WASHER	J	2
R 35	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	J	2
R 40	H52732-6CD		.NUT- (V15653) (SPEC BACN10YR6CD) (OPT PLH56CD (V62554))	J	2
R 45	251T1344-1		.BUSHING	J	2
R 50	251T3742-9		.BUSHING	J	2
R 55	251T1322-8		.BRACKET ASSY	J	1
R 57	251T1322-9		..BRACKET-CAGE	J	1
R 60	SA6-23A1-501		..BEARING- (V77896) (SPEC S012T236-400)	J	1
R 65	251T1323-5		.BRACKET ASSY	J	1
R 70	251T1323-6		..BRACKET-CAGE	J	1
R 75	PACMB538DDFS428		..BEARING- (V21335) (SPEC BACB10FU10) (OPT SSMB538DDSD705 (V83086)) (OPT PACMB538DDA3908 (V21335)) (OPT ACMB538DDP818LY (V40920))	J	1
R 80	251T1324-5		.BRACE ASSY-LWR	J	1
R 85	BACR15BA5AD		..RIVET- (SIZE DETERMINE ON INST)	J	9
R 90	251T1343-5		..BRACE-LWR	J	1
R 95	251T1343-6		..BRACE-UPR	J	1

27-11-16

ILLUSTRATED PARTS LIST
 01.1 Page 1047
 Jul 01/04

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R 03-100	SA6-23A1-501		..BEARING- (SPEC S012T236-400)	J	1
R 105	BWP3E115T		..BEARING- (V16746) (SPEC BACB10X3T) (OPT AW4CRG (V15860)) (OPT BSSR4806 (V81376)) (OPT HU4-136 (V02758)) (OPT KWB4CRG (V97613)) (OPT WS4E (V73134)) (OPT 55303 (V09455)) (OPT WC4-1 (V56644)) (OPT ABW4-5 (VS0352))	J	3
R 110	251T1362-2		..SLEEVE	J	1
R 115	251T1362-1		..SLEEVE	J	3
R 120	251T1345-13		.TUBE ASSY	J	1
R 125	251T1347-2		..FITTING ATTACHING PARTS	J	1
R 130	MS90354-0806		..RIVET -----*-----	J	14
R 135	251T1330-2		..FITTING	J	1
R 140	251T1331-1		..CRANK-OUTPUT	J	1
R 145	251T1337-2		..CRANK-OUTPUT	J	1
R 150	251T1346-7		..CRANK ASSY-INPUT	J	1
R 155	SA6-23A1-503		...BEARING- (V77896) (SPEC BACB10CK6D) (OPT SA6-23A51 (V77896)) (OPT SA6-23A53 (V77896)) (OPT ASR6D30 (VS0352))	J	1
R 160	251T1377-1		...SLEEVE-RETAINING	J	1
R 165	NAS516-1A		...FITTING-LUBE	J	1

27-11-16

ILLUSTRATED PARTS LIST

01.1

Page 1048

Jul 01/04

BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
R 03-170	HL10VAZ6-8		...BOLT- (V60516) (SPEC BACB30MY6K8) (OPT B30MY6K8 (V97928))	J	1
R 175	HL79-6		...COLLAR- (V5M902) (SPEC BACC30M6) (OPT HL79-6 (V73197)) (OPT HL79-6 (V92215)) (OPT 66014-6 (V56878)) (OPT HL79-6 (V56878))	J	1
R 180	251T1325-4		...CRANK ATTACHING PARTS	J	1
R 185	BACR15BA5D15		...RIVET	J	2
R 190	BACR15BA5D11		...RIVET -----*-----	J	2
R 195	251T1326-4		...CRANK	J	1
R 200	251T1328-4		..TUBE ASSY	J	1
R 205	251T1328-5		...TUBE-INNER	J	1
R 210	251T1328-6		...TUBE-OUTER	J	1
R 215	BACR15BB4AD		DELETED		
R 215A	BACR15BB3AD		..RIVET- (SIZE DETERMINE ON INST)	J	2
R 220	B1355-4		..RETAINER- (V80539) (SPEC BACR10G141) (OPT B1355-4 (V80539))	J	1

27-11-16

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE	EFF CODE	QTY PER ASSY
			1234567		
R 03-225	BACR15BA5AD		DELETED		
R 225A	BACR15BA4AD		..RIVET- (SIZE DETERMINE ON INST)	J	4
R 230	251T1348-3		..SHIELD-WATER	J	2

- Item Not Illustrated

27-11-16

ILLUSTRATED PARTS LIST
 01.1 Page 1050
 Jul 01/04