COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

AILERON CENTERING MECHANISM ASSEMBLY

PART NUMBER 251A1641–1, –5, –6

PUBLISHED BY BOEING COMMERCIAL AIRPLANES GROUP, SEATTLE, WASHINGTON, USA
A DIVISION OF THE BOEING COMPANY
PAGE DATE: Jul 01/2009

BOEING®

COMPONENT MAINTENANCE MANUAL

Revision No. 8
Jul 01/2009

To: All holders of AILERON CENTERING MECHANISM ASSEMBLY 27-14-22.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

The COMPONENT MAINTENANCE MANUAL is furnished either as a printed manual, on microfilm, or digital products, or any combination of the three. This revision replaces all previous microfilm cartridges or digital products. All microfilm and digital products are reissued with all obsolete data deleted and all updated pages added.

For printed manuals, changes are indicated on the List of Effective Pages (LEP). The pages which are revised will be identified on the LEP by an R (Revised), A (Added), O (Overflow, i.e. changes to the document structure and/or page layout), or D (Deleted). Each page in the LEP is identified by Chapter-Section-Subject number, page number and page date.

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

ATTENTION

IF YOU RECEIVE PRINTED REVISIONS, PLEASE VERIFY THAT YOU HAVE RECEIVED AND FILED THE PREVIOUS REVISION. BOEING MUST BE NOTIFIED WITHIN 30 DAYS IF YOU HAVE NOT RECEIVED THE PREVIOUS REVISION. REQUESTS FOR REVISIONS OTHER THAN THE PREVIOUS REVISION WILL REQUIRE A COMPLETE MANUAL REPRINT SUBJECT TO REPRINT CHARGES SHOWN IN THE DATA AND SERVICES CATALOG.

Location of Change	Description of Change
27-14-22 REPAIR 2-1	Added clarifications.

BOEING®

COMPONENT MAINTENANCE MANUAL

A = Added, R = Revised, D = Deleted, O = Overflow

Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
27-14-22 SPECIAL TOOLS, FIXTURES, AND EQUIPMENT					
901	Mar 01/2006				
902	BLANK				
27-14-22 ILLUSTRATED PARTS LIST					
1001	Nov 01/2008				
1002	Jul 01/2008				
1003	Jul 01/2008				
1004	Jul 01/2008				
1005	Jul 01/2008				
1006	Jul 01/2008				
1007	Jul 01/2008				
1008	Jul 01/2008				
1009	Jul 01/2008				
1010	Jul 01/2008				
1011	Jul 01/2008				
1012	Jul 01/2008				
1013	Jul 01/2008				
1014	Jul 01/2008				
1015	Jul 01/2008				
1016	Jul 01/2008				
1017	Jul 01/2008				
1018	Jul 01/2008				
1019	Nov 01/2008				
1020	Nov 01/2008				
1021	Nov 01/2008				
1022	Nov 01/2008				
1023	Jul 01/2008				
1024	Jul 01/2008				

A = Added, R = Revised, D = Deleted, O = Overflow

TABLE OF CONTENTS

BOEING®

COMPONENT MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38046	NOV 01/98
		PRR 38275-65	MAR 01/05

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

Revision		Filed		Revision		Filed	
Number	Date	Date	Initials	Number	Date	Date	Initials

Revision		Filed		Revision		Filed	
Number	Date	Date	Initials	Number	Date	Date	Initials

BOEING®

COMPONENT MAINTENANCE MANUAL

All temporary revisions to this manual will be accompanied by a cover sheet bearing the temporary revision number. Enter the temporary revision number in numerical order, together with the temporary revision date, the date the temporary revision is inserted and the initials of the person filing.
When the temporary revision is incorporated or cancelled, and the pages are removed, enter the date the pages are removed and the initials of the person who removed the temporary revision.

Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

INTRODUCTION

1. General

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

B. This manual is divided into different parts:

(1) Title Page

(2) Transmittal Letter

(3) Highlights

(4) List of Effective Pages

(5) Table of Contents

(6) Temporary Revision & Service Bulletin Record

(7) Record of Revisions

(8) Record of Temporary Revisions

(9) Introduction

(10) Procedures & IPL Sections

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

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

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

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

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

AILERON CENTERING MECHANISM ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The aileron centering mechanism assembly provides aileron control system centering and artificial feel. It consists of cam, roller arm, support, and two springs.

2. Operation

A. The cam bolts to the control quadrant shaft. The roller arm and attached roller pivot on the support. The springs hold the roller in the cam detent, providing control system centering and artificial feel.

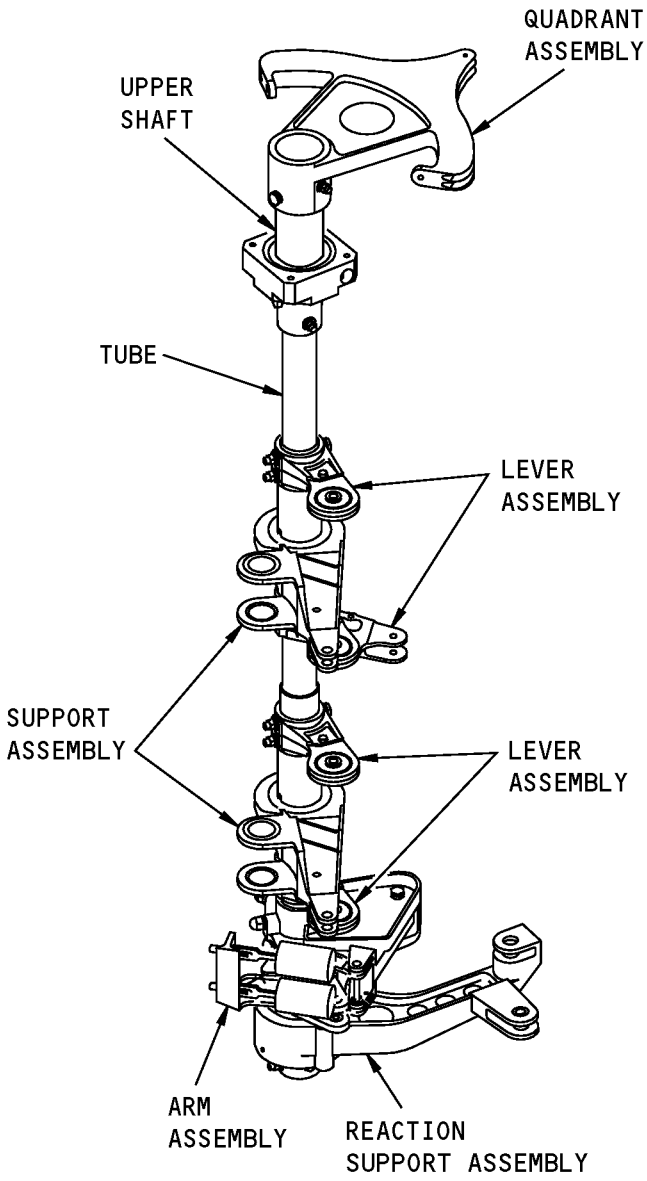
3. Leading Particulars (Approximate)

A. Length – 12 inches

B. Width – 10 inches

C. Height – 28 inches

D. Weight – 10.40 pounds



Aileron Centering Mechanism Assembly
Figure 1

(NOT APPLICABLE)

DISASSEMBLY

1. General

A. This procedure has the data necessary to disassemble the aileron centering mechanism assembly.

B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.

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

D. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION

B. Procedure

NOTE: For bolt and nut installation, refer to SOPM 20-50-01.

(1) Use standard industry procedures and the steps below to dissasemble this component.

(2) Remove the bolts (5), washers (7, 10), nuts (15), quadrant assembly (20), and disc seal (40) from the upper shaft (45) as shown in DISASSEMBLY, Figure 301, Section A-A. Do not disassemble the quadrant assembly (20) unless replacement of the spacer (30) or repair of the quadrant (35) is necessary.

(3) Remove the bolts (60A), washers (62, 65), nuts (70), and upper shaft (45) from the outer tube (440) and inner tube (445) as shown in DISASSEMBLY, Figure 301, Section B-B.

(4) Remove the bearing retainer (110A), bearing housing assembly (75A), and seal ring (50A) from the upper shaft (45).

(5) Remove the packing (55) from the bearing housing assembly (75A). Do not disassemble the bearing housing assembly (75A) unless replacement of the seal (80) and bearing (85) or repair to the housing (90, 95, 105) is necessary.

(6) Remove the bolts (150A), washers (152, 155), nuts (160), the lever assembly (167), and spacer (140) from the sleeve (115A) as shown in DISASSEMBLY, Figure 301, Bubble B. Do not disassemble the lever assembly (167) unless replacement of the bearing (180) and sleeve (185) or repair of the levers (197, 198) is necessary.

(7) Remove the support assembly (120) and the spacer (140) from the sleeve (115A). Do not disassemble the support assembly (120) unless replacement of the bearings (125) and bushings (130) or repair of the support is necessary.

(8) Remove the bolts (150A), washers (152, 155), nuts (160), the lever assembly (165), and the sleeve (115A) from the outer and inner tubings (440, 445). Do not disassemble the lever assembly (165) unless replacement of the bearing (180) and sleeve (185) or repair of the levers (190, 195A) is necessary.

(9) Remove the bolts (150A), washers (152, 155), nuts (160), the lever assembly (167), and spacer (140) from the sleeve (145A). Do not disassemble the lever assembly (167) unless replacement of the bearing (180) and sleeve (185) or repair of the levers (197, 198) is necessary.

(10) Remove the support assembly (120) and the spacer (140) from the sleeve (145A). Do not disassemble the support assembly (120) unless replacement of the bearings (125) and bushings (130) or repair of the support is necessary.

(11) Remove the bolts (150A), washers (152, 155), nuts (160), the lever assembly (167), and the sleeve (145A) from the outer and inner tubings (440, 445). Do not disassemble the lever assembly (167) unless replacement of the bearing (180) and sleeve (185) or repair of the levers (197, 198) is necessary.

(12) Remove the cotter pins (270), pin (275), and washers (280) from the arm assembly (325) as shown in DISASSEMBLY, Figure 301, Section D-D.

(13) Remove the springs (265), eyebolts (245), washers (250), and nuts (255, 260) from the support assembly (225).

(14) On 251A1641-1, -5 assemblies, remove the cotter pin (285), bolt (290), washer (305), nut (310), and arm assembly (325) from support assembly (225) as shown in DISASSEMBLY, Figure 301, Section C-C. Do not disassemble the arm assembly (325) unless replacement of the bearing (330) or repair to arm (335) is necessary.

(15) On 251A1641-6 assemblies, remove the cotter pin (285), bolt (290), washers (302, 303, 304, 305), nut (310), and arm assembly (325) from support assembly (225) as shown in DISASSEMBLY, Figure 301, Section C-C. Do not disassemble the arm assembly (325) unless replacement of the bearing (330) or repair to arm (335) is necessary.

   (a) Note the position of washers (302, 303, 304) for use in ASSEMBLY.

(16) Remove the cotter pin (285), bolt (300), washer (305), nut (310), and bearing (320) from arm assembly (325) as shown in DISASSEMBLY, Figure 301, Section E-E.

(17) Remove the bolts (295), washers (305), nuts (315), and cam (360) from the hub (220) as shown in DISASSEMBLY, Figure 301, Section C-C.

(18) Remove bolts (200A), washers (205), nuts (210), and hub (220) from retainer (215) as shown in DISASSEMBLY, Figure 301, Sections A-A and E-E.

(19) Remove the nut (340), the washer (345), support assembly (225), and spacer (350) from the retainer (215) as shown in DISASSEMBLY, Figure 301, Section A-A. Do not disassemble the support assembly (225) unless replacement of the bushings (230, 235) or repair of the support (240) is necessary.

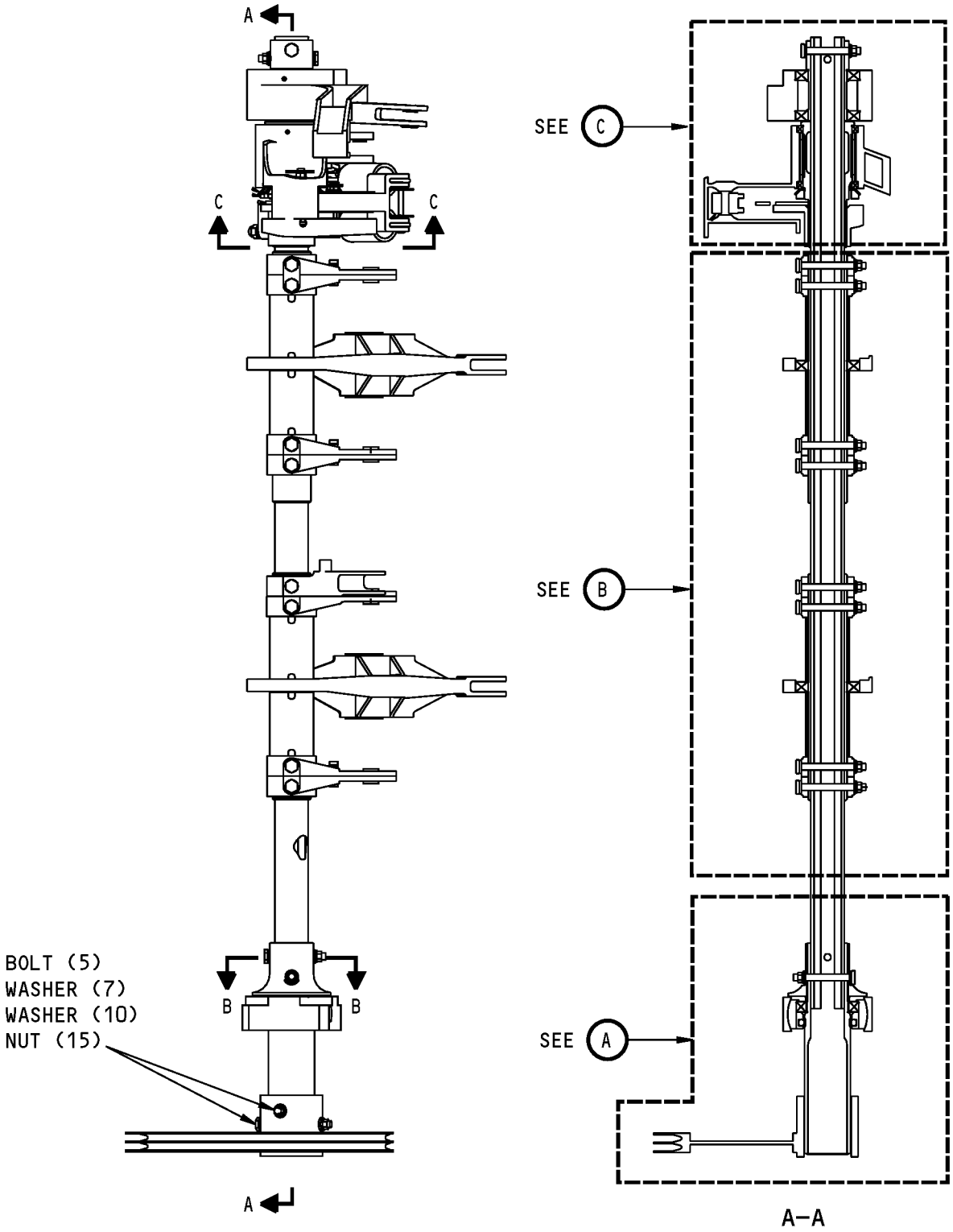
(20) Remove the bearings (355) from the support assembly (225).

(21) Remove the retainer (215) from the outer tubing (440).

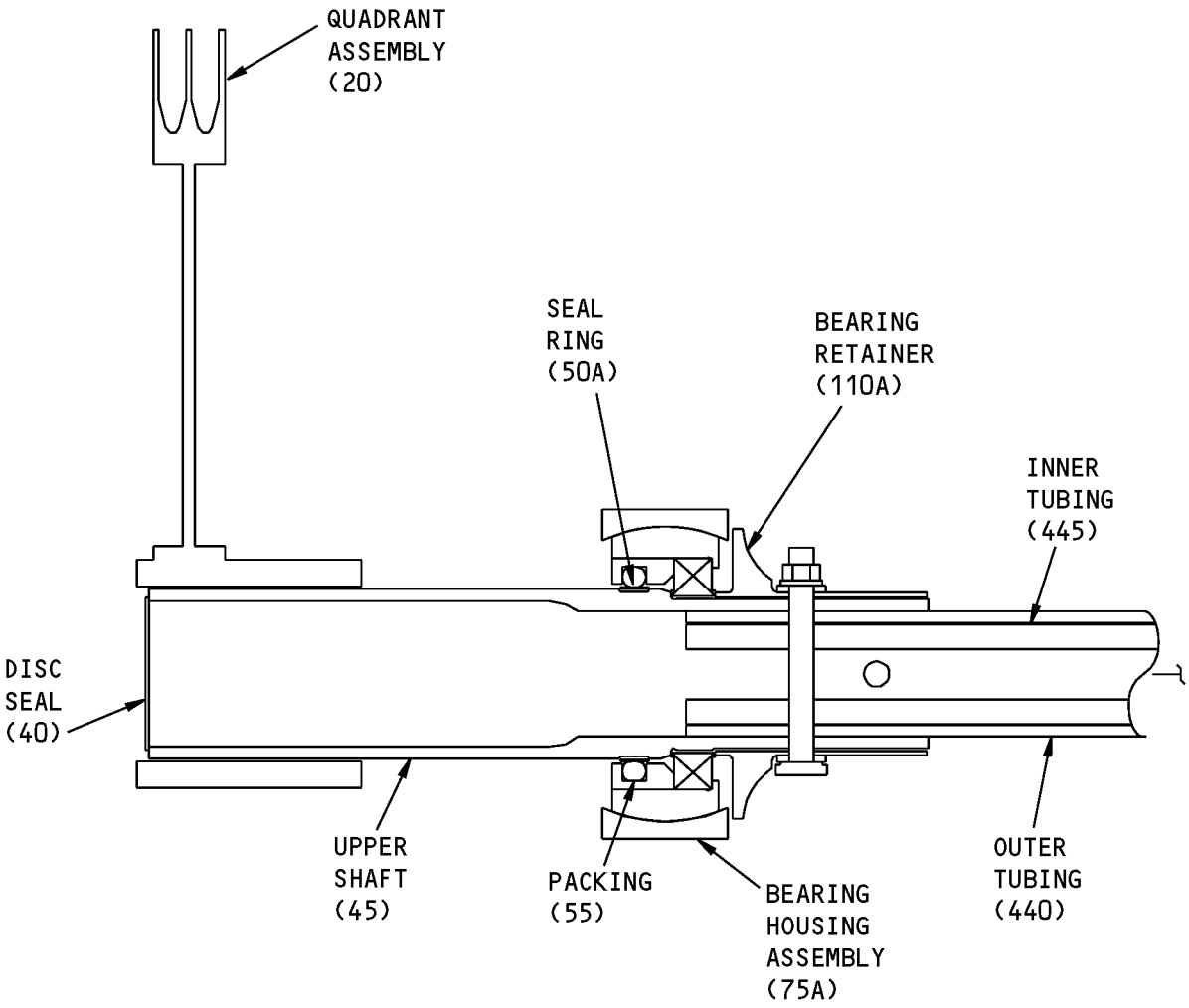
(22) Remove the reaction support assembly (365A) from the bearing retainer (405A). Do not disassemble the reaction support assembly (365A) unless replacement of the bearing(s) (385) and bushing(s) (390, 395A, 397) or repair of the support (400A) is necessary.

(23) Remove the bolts (401), washers (402, 403), nuts (404), and the bearing retainer (405A) from the outer tubing (440).

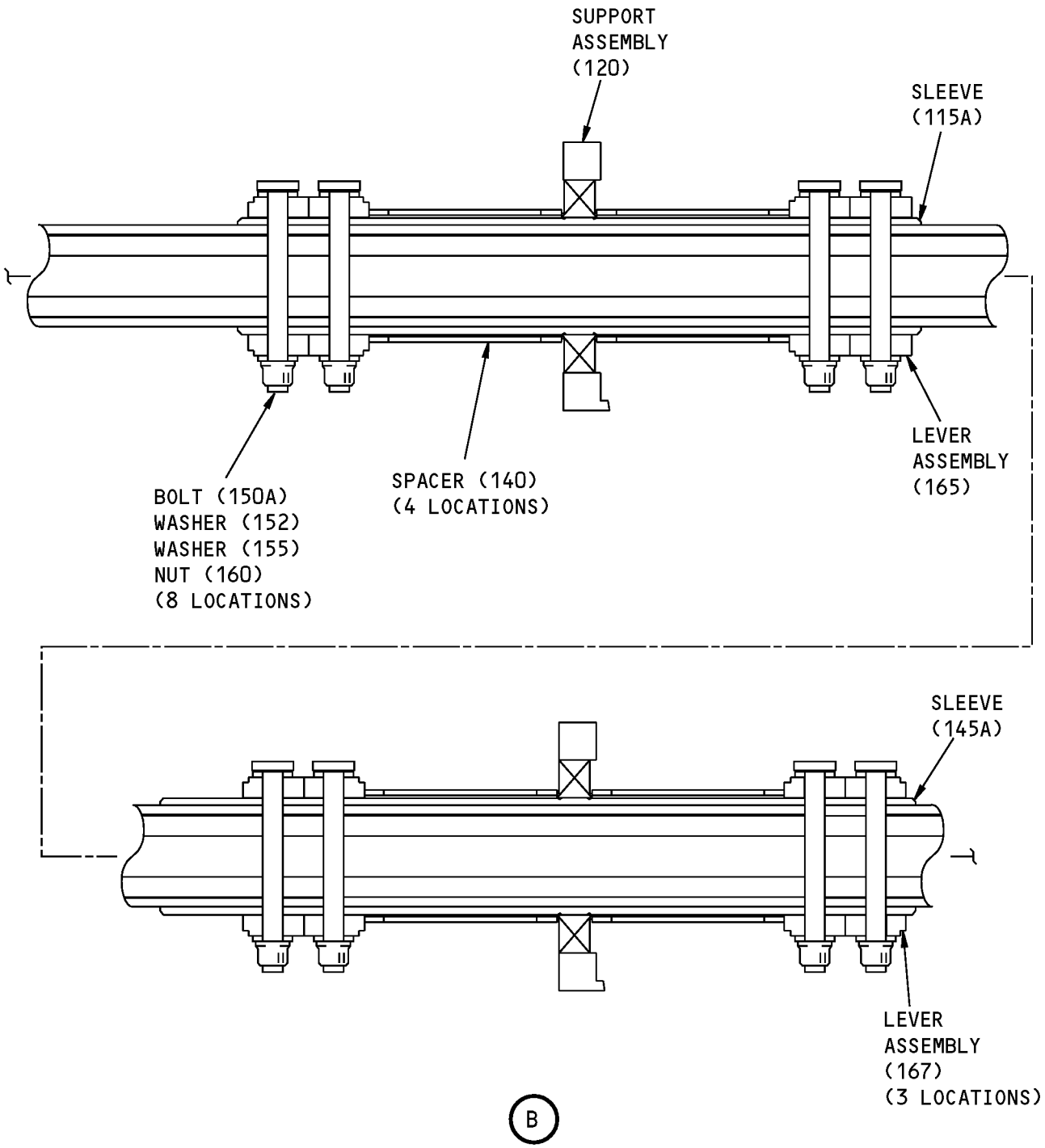
(24) Remove the inner tubing (445) from the outer tubing (440).



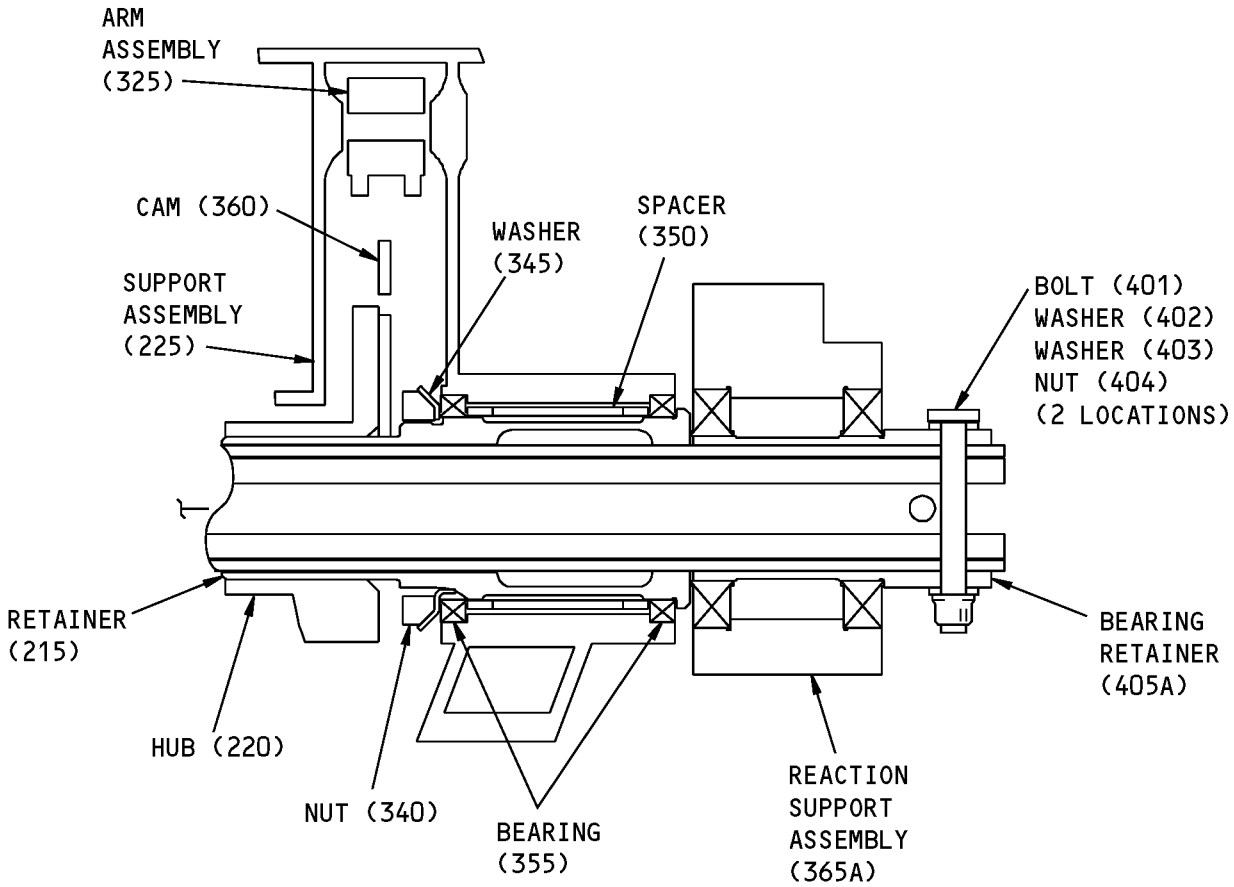
251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 1 of 6)



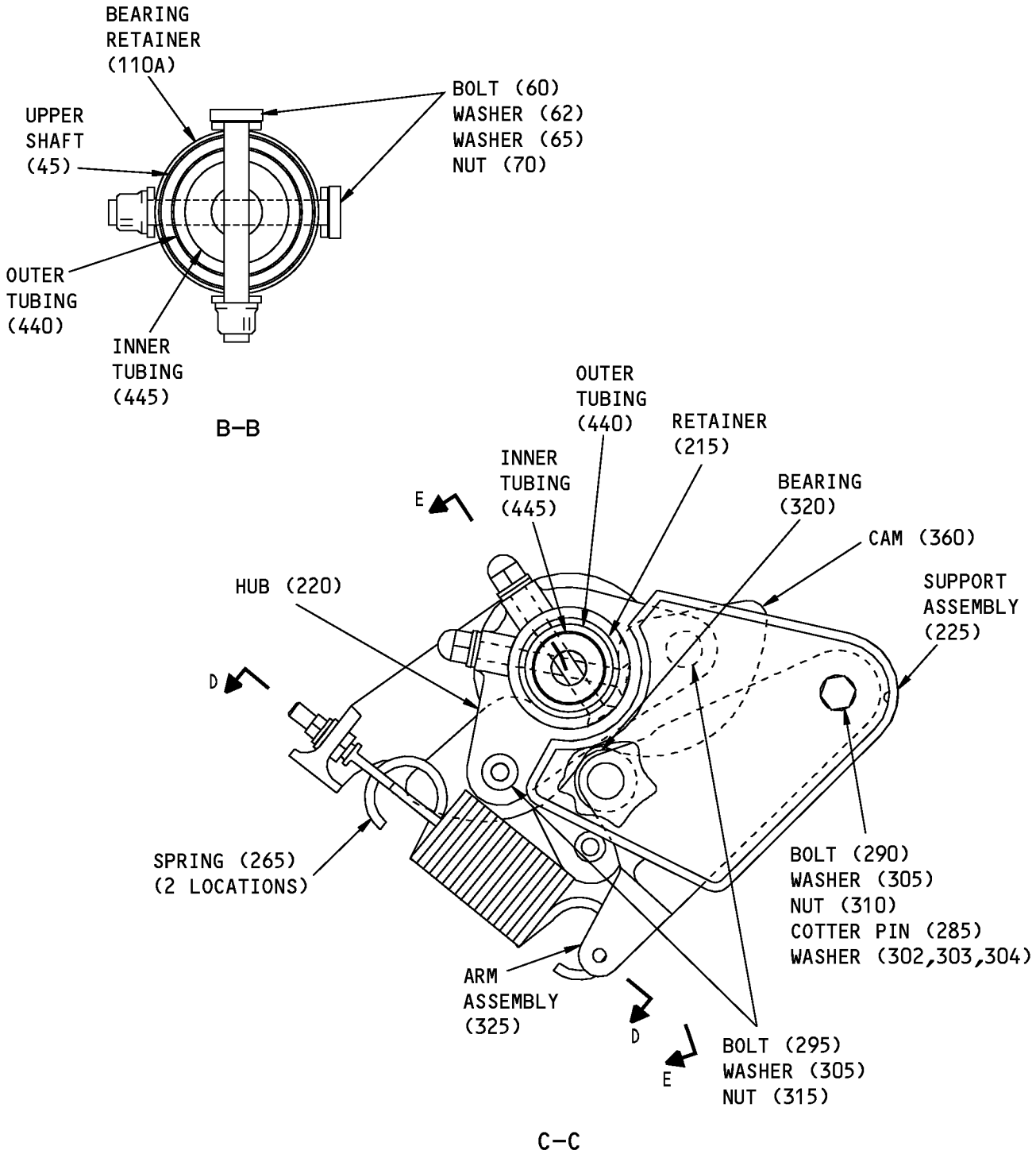
251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 2 of 6)



251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 3 of 6)

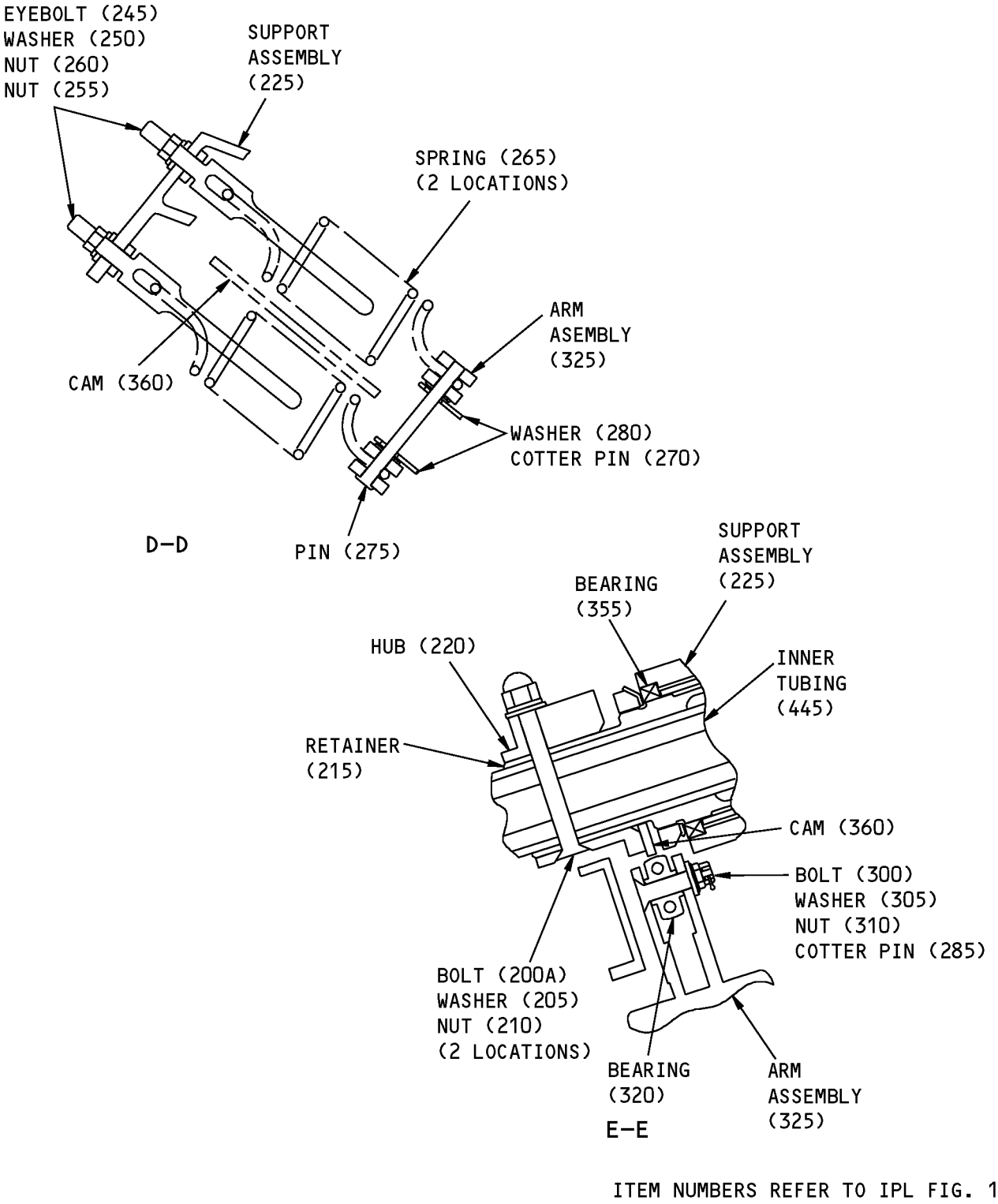


251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 4 of 6)



H76798 S0004991885_V2

251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 5 of 6)



251A1641-1,-5,-6 Centering Mechanism Assembly Disassembly
Figure 301 (Sheet 6 of 6)

CLEANING

1. General

A. This procedure has the data necessary to clean the aileron centering mechanism assembly.

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

C. Refer to IPL Figure 1 for item numbers.

2. Cleaning

A. References

Reference	Title
SOPM 20-30-01	CLEANING AND RELUBRICATING BEARINGS
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

(1) Clean the bearings (85, 125A, 180, 320, 330, 355, 385A) as specified in SOPM 20-30-01.

(2) Use standard industry procedures and refer to SOPM 20-30-03 to clean all other parts.

CHECK

1. General

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

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

C. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

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

B. Procedure

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

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

(a) Cam (360)

(b) Pin (275)

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

(a) Hub (220)

(b) Retainer (110A, 215, 405A)

(c) Quadrant (35)

(d) Shaft (45)

(e) Inner sphere housing (90)

(f) Housing (105)

(g) Sleeve (115A, 145A, 190)

(h) Support (135, 400A)

(i) Lever assy (165, 167)

(j) Arm (335)

(k) Nut (340)

(l) Tubing (440, 445)

(4) Spring check (265)

NOTE: Free length inside hooks is 3.635 inches.

(a) Extend spring to 3.86 inches. Load shall be 6.92-7.92 pounds.

(b) Extend spring to 5.31 inches. Load shall be 51.4-59.4 pounds.

(5) Check cam (360) for roughness or uneven wear. Maximum allowable dent depth is 0.005 inch.

(6) Check bearing (320) for roughness. Outside Diameter shall not be less than 0.896 inch at any point. Maximum radial play 0.002 inch.

REPAIR

1. General

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

Table 601:

PART NUMBER	NAME	REPAIR
—	REFINISH OF OTHER PARTS	1-1
251A1642, 251A1648	LEVER ASSEMBLY	2-1, 2-2
65-52285	SUPPORT ASSEMBLY	3-1, 3-2
65-52286	ARM ASSEMBLY	4-1
251A1645	REACTION SUPPORT ASSEMBLY	5-1, 5-2
251A1639	HOUSING ASSEMBLY	6-1
65-50555	SUPPORT ASSEMBLY	7-1

2. Dimensioning Symbols

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

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

EXAMPLES

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

True Position Dimensioning Symbols
Figure 601

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

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

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Refinish of Other Parts

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00064	Coating - Aluminum Chemical Conversion	BAC5719, Type II, Class A (MIL-C-5541, Class A)
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II
C00958	Coating - Aluminum Pigmented For Fasteners	BMS10-85, Type I

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-43-03	CHEMICAL CONVERSION COATINGS FOR ALUMINUM
SOPM 20-60-02	FINISHING MATERIALS

C. General

(1) Instructions for the repair of the parts listed inREPAIR 1-1, Table 601 is for repair of the initial finish.

D. Procedure

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

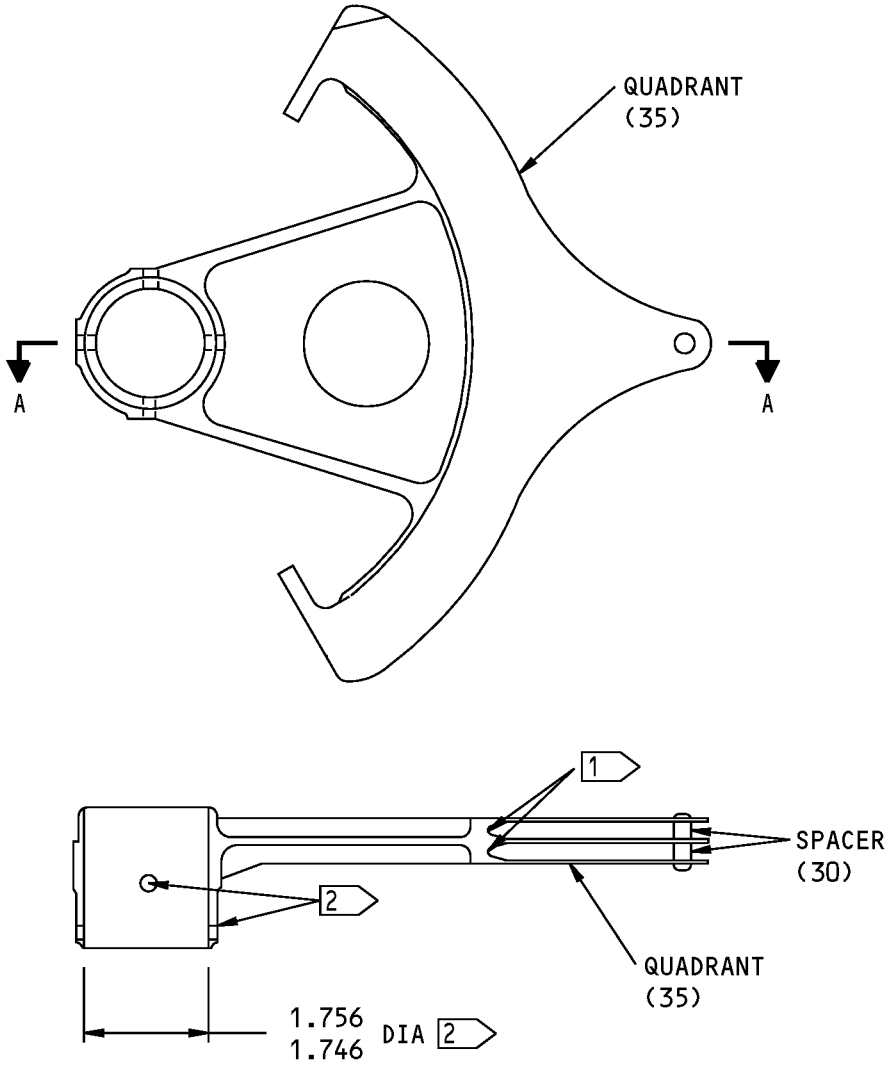
(1) Refer to REPAIR 1-1, Table 601 for the refinish details.

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Quadrant (35)	Aluminum alloy	Anodize and apply primer, C00259 (F-18-04) on all surfaces. Apply primer, C00259 (F-20.03) on cable grooves as identified by flagnote 1. Overspray is permitted. No primer on surfaces identified by flagnote 2 in REPAIR 1-1, Figure 601.
Disc seal (40)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 (F-17.07) solution. Apply primer, C00259 (F-20.02).
Upper Shaft (40)	Aluminum alloy	Chemical treat on inside and outside surfaces with coating, C00064. Apply primer, C00259 (F-18.07). No primer on surfaces identified by flagnote 1 in REPAIR 1-1, Figure 602.
Bearing Housing Assy (75)	Aluminum Alloy	Apply enamel coating, C00260 (F-21.02) on all external surfaces except for no enamel allowed on bearing.
Housing Seal (80)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution. Apply primer, C00259 (F-18.05) except no primer on surfaces identified by flagnote 1 in REPAIR 1-1, Figure 603.
Inner Housing (90)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution. Apply primer, C00259 (F-18.05) except no primer on surfaces identified by flagnote 1 in REPAIR 1-1, Figure 604.
Pin (100)	Aluminum alloy	Cadmium plate (0.0002-0.0004 inch thick), Type 1, class 3 (F-15.02) to dimension shown in REPAIR 1-1, Figure 605.
Outer Housing (105)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution. Apply primer, C00259 (F-18.05) except no primer in 2.950-2.951 inside spherical diameter hole.
Bearing Retainer (110A)	Aluminum alloy	Boric acid-sulfuric acid anodize, class 1 or 5, or chromic acid anodized at 22 volts, class 3 or 5 (F-17.31). Apply primer, C00259 (F-20.02). Apply enamel coating, C00260 (F-21.02). Except no enamel in 1.5320-1.5340 hole.
Sleeve (115A)	Aluminum alloy	Chemical treat on inside and outside tubing surfaces with coating, C00064 (F-17.08). Apply primer, C00259 (F-20.55) to inside and outside surfaces. No primer on surface identified by flagnote 1 in REPAIR 1-1, Figure 606.
Support (135)	Aluminum alloy	Boric acid-sulfuric acid anodize, class 1 or 5, or chromic acid anodized at 22 volts, class 3 or 5 (F-17.31)1. Apply primer, C00259 (F-20.02). Apply enamel coating, C00260 (F-21.02). Except no enamel in bushing and bearing holes.
Spacer (140)	Aluminum alloy	Chemical treat on inside and outside surfaces with coating, C00064. Apply primer, C00259 (F-18.07). Apply enamel coating, C00260 (SRF-14.9812).

Table 601: Refinish Details (Continued)

IPL FIG. & ITEM	MATERIAL	FINISH
Sleeve (145A)	15-5PH, 180-200 KSI	Cadmium plate, Type 2, class 2 (F-16.06). Apply primer, C00259 (F-20.02). No primer on surface identified by flagnote 1 in REPAIR 1-1, Figure 606.
Lever (190,197,198)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 or 1C, class 1 as shown inSOPM 20-43-03. Apply primer, C00259 (SRF-2.30).
Lever (195A)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution as shown in SOPM 20-43-03. Apply primer, C00259 (F-18.05).
Retainer (215)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution. Apply primer, C00259 (F-18.05). Except no primer on surfaces identified by flagnote 1 in REPAIR 1-1, Figure 607.
Hub (220)	Aluminum alloy	Sulfuric acid anodize, Type 2 (F-17.03). Apply primer, C00259 (F-20.02). Apply enamel coating, C00260 (SRF-14.9812). Except no enamel on 1.421-1.423 diameter hole.
Eyebolt (245)	304 Cres Bar	Prepare surface and passivate (F-17.09).
Spring (265)	17-7PH Cres	Prepare surface and passivate (F-17.09).
Pin (275,275A)	4340 Steel, 125-145 KSI	Cadmium plate, Type 2, class 2 (F-15.06).
Pin (275B)	15-5PH CRES	Passivate (F-17.13). Apply coating, C00958 (F-30.010).
Nut (340)	Aluminum alloy	Chemical treat all surfaces with coating, C00064 or chromic acid anodize, Type 1 but seal dilute chromate solution. Apply primer, C00259 (F-18.05). Except no primer primer on threads.
Washer (345)	Steel Alloy	Cadmium plate, Type 2, class 2 (F-15.06).
Spacer (350)	Aluminum alloy	Chemical treat on inside and outside surfaces with coating, C00064. Apply primer, C00259 (F-18.07).
Cam (360)	15-5PH, 180-200 KSI	Prepare surface and passivate (F-17.09). Apply primer, C00259 (F-20.03). Apply enamel coating, C00260 (SRF-14.9812). Except no enamel on surface identified by flagnote 1 in REPAIR 1-1, Figure 608.
Bearing Retainer (405A)	Aluminum alloy	Boric acid-sulfuric acid anodize, class 1 or 5, or chromic acid anodized at 22 volts, class 3 or 5 (F-17.31). Apply primer, C00259 (F-20.02). Apply enamel coating, C00260 (F-21.02). Except as noted by flagnote 1 and 2 in REPAIR 1-1, Figure 609.
Tubing (440, 445)	Aluminum alloy	Chemical treat on inside and outside tubing surfaces with coating, C00064 (F-17.08). Apply primer, C00259 (F-20.55) to inside and outside surfaces.



A–A

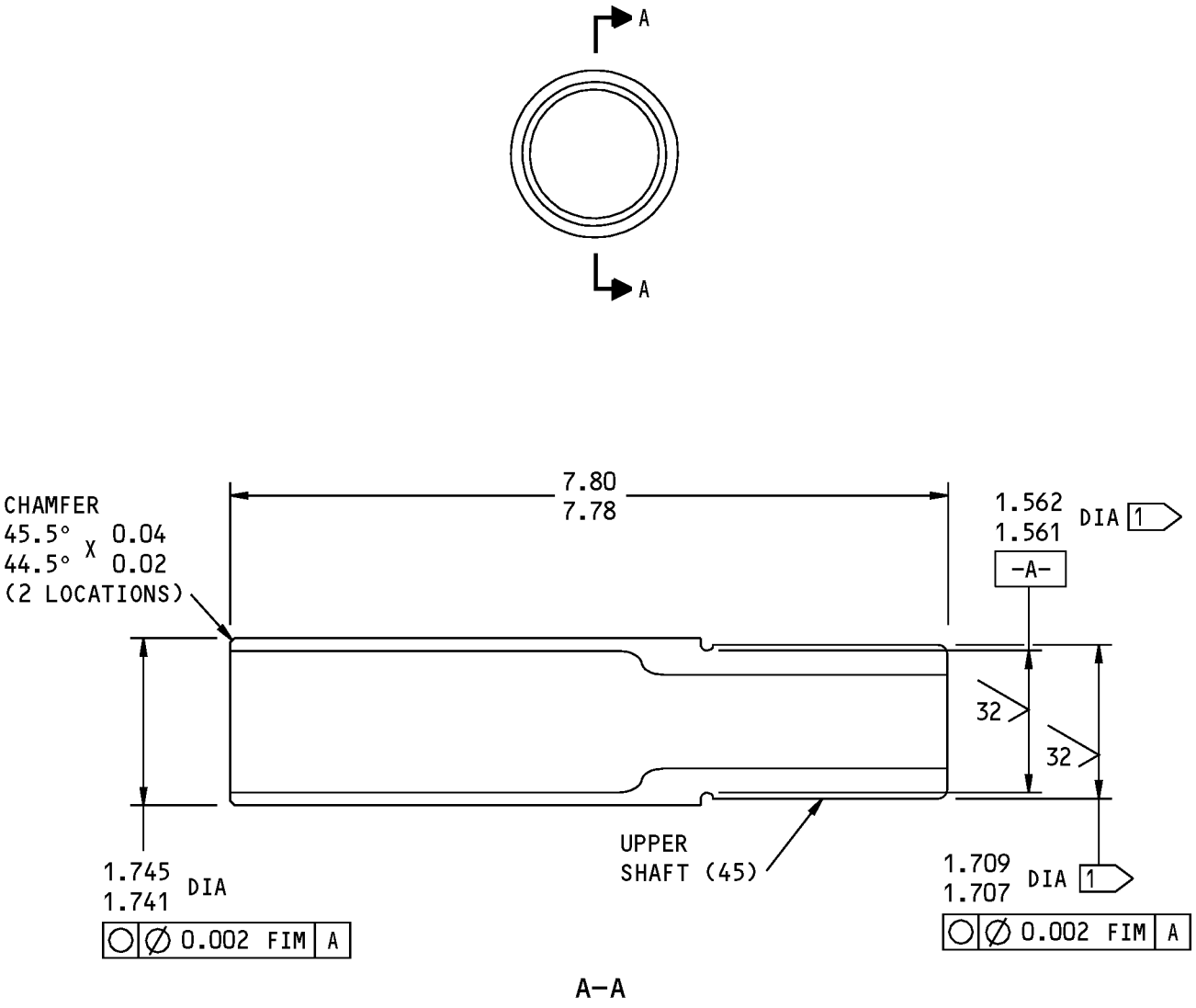
1 APPLY A LAYER OF BMS 10–11, TYPE 1 PRIMER (F–20.03) IN CABLE GROOVES, OVERSPRAY PERMITTED

2 NO PRIMER ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN IN INCHES

65-46992-10 Quadrant Refinish
Figure 601



1 NO PRIMER ON THESE SURFACES

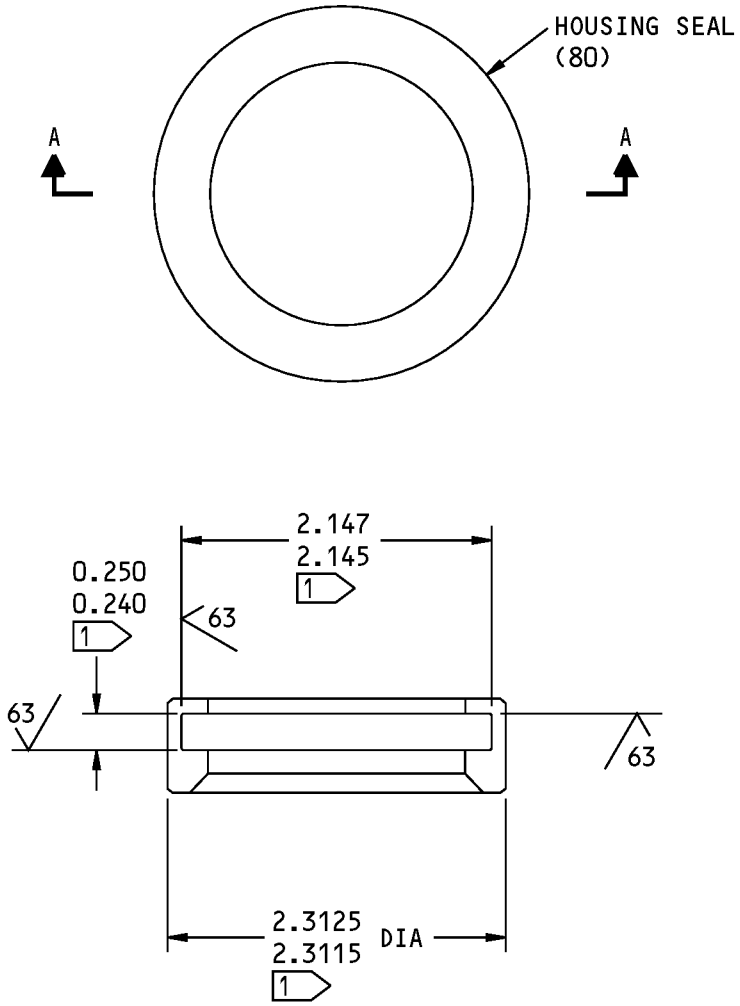
125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

69-40782-2 Upper Shaft Refinish
Figure 602



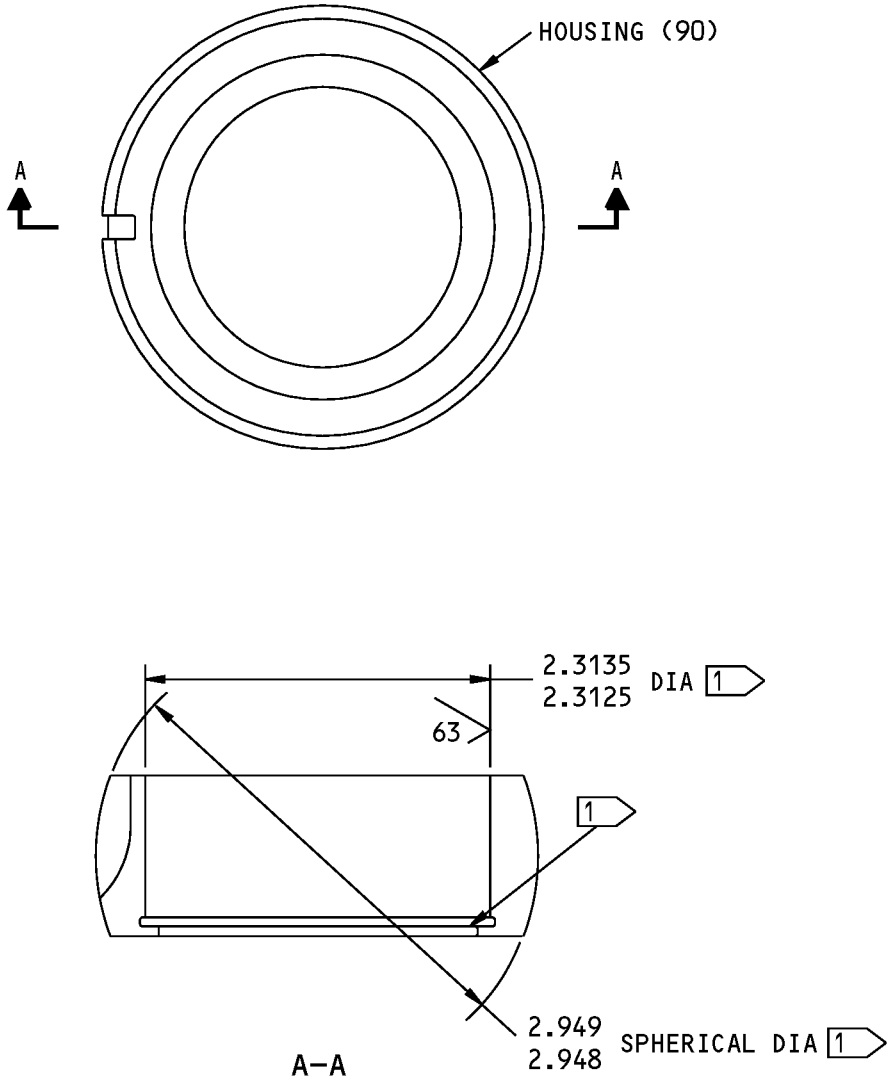
A–A

1 NO PRIMER ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

69-38713-2 Housing Seal Refinsh
Figure 603

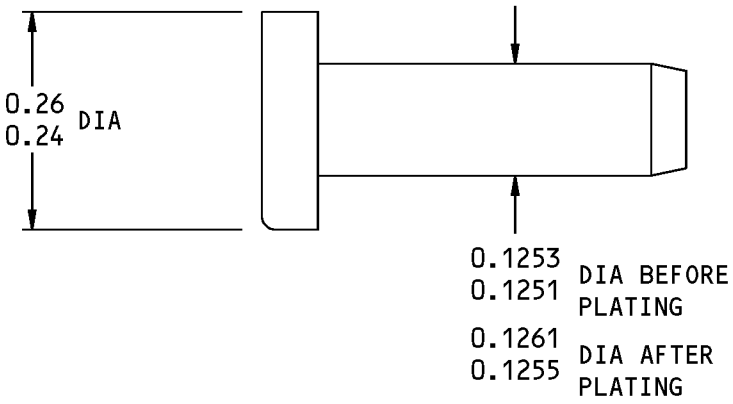


1 NO PRIMER ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

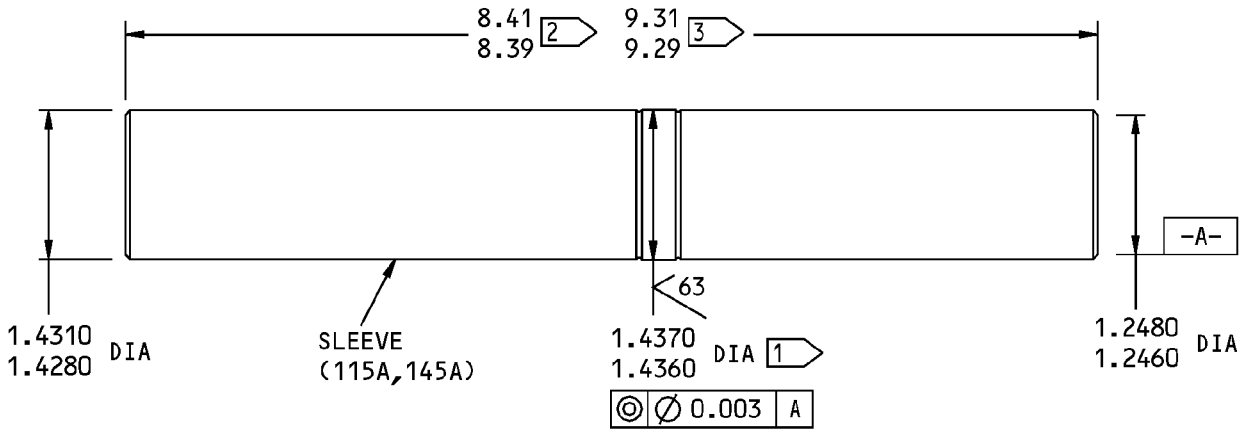
69-38712-1 Inner Housing Refinsh
Figure 604



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN IN INCHES

66-24199-1 Pin Refinish
Figure 605



1 NO PRIMER ON THIS SURFACE

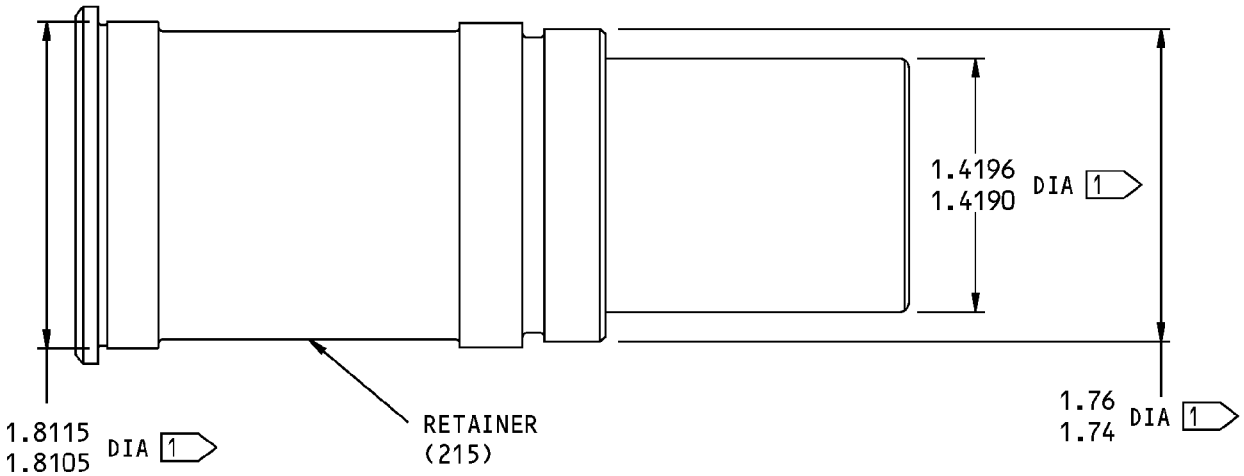
2 251A1643-1

3 251A1643-2

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN IN INCHES

251A1643-1,-2 Sleeve Refinish
Figure 606

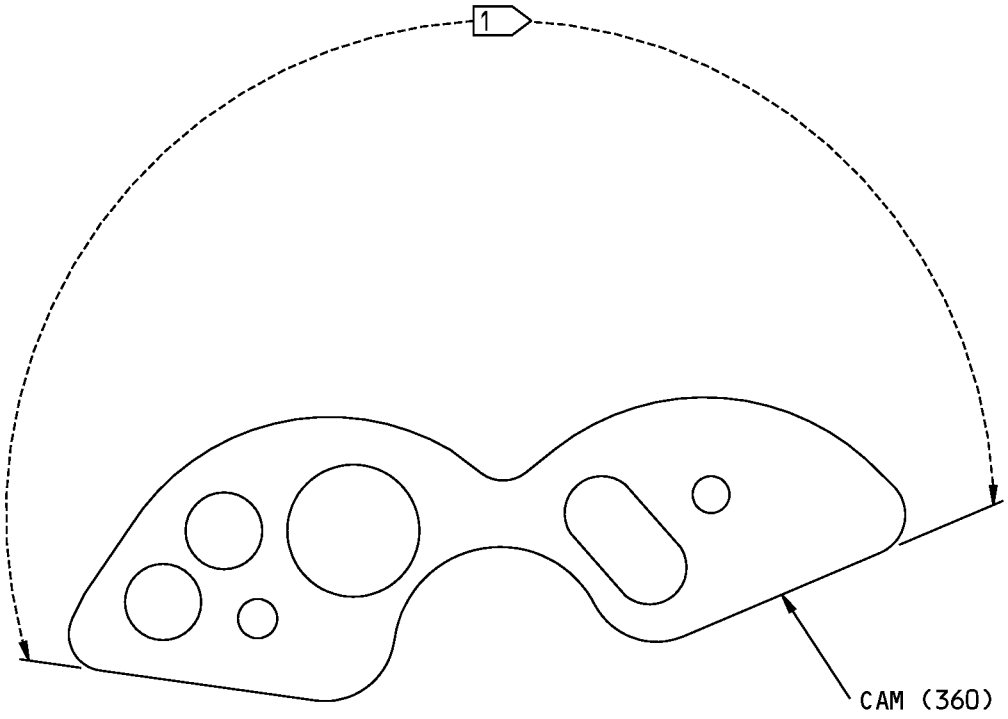


1> NO PRIMER ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

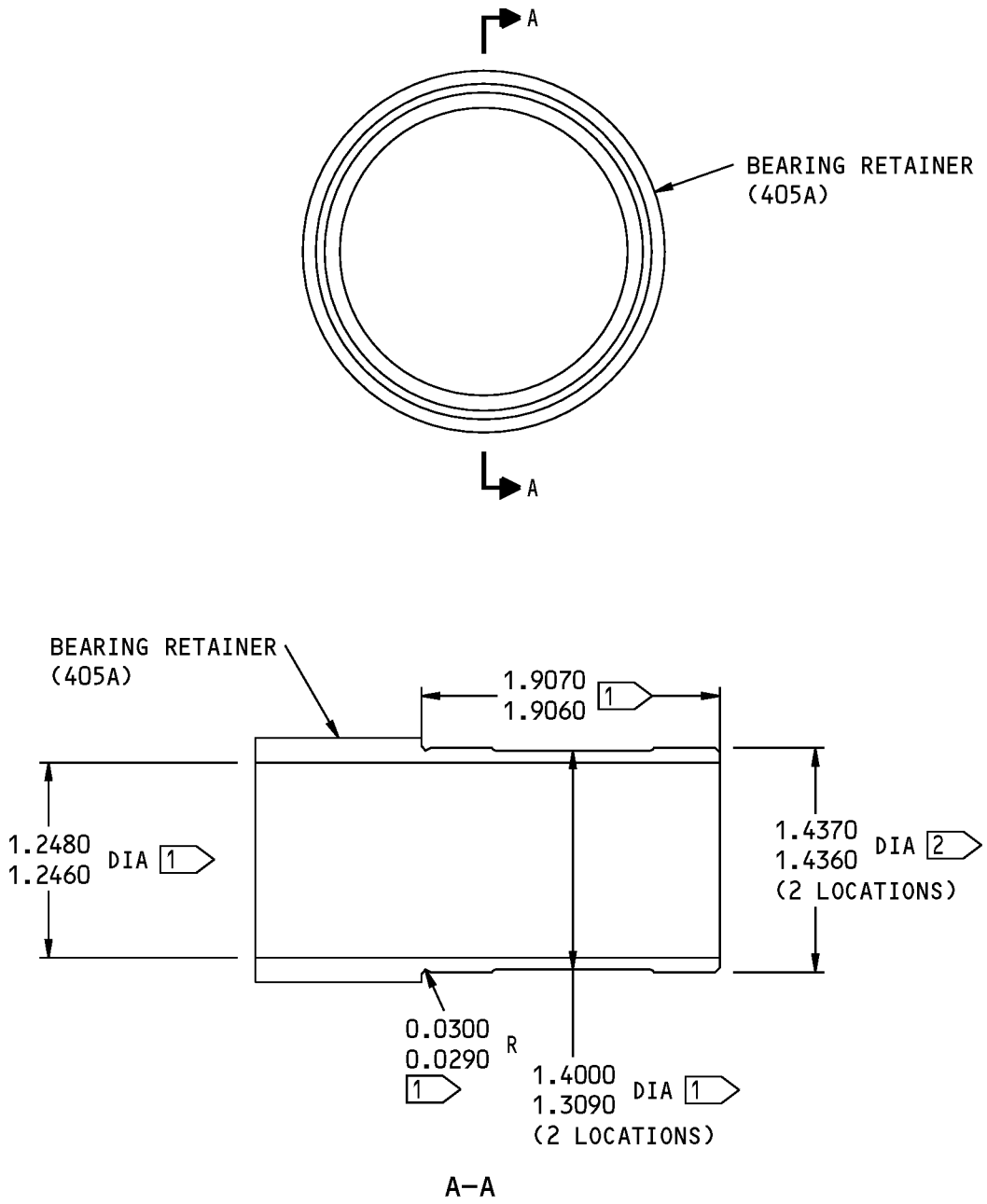
65-75384-1 Retainer Refinish
Figure 607



1 NO ENAMEL ON THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 1

69-39428-5 Cam Refinish
Figure 608



1 NO ENAMEL ON THIS SURFACE

2 NO PRIMER OR ENAMEL ON THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN IN INCHES

251A1647-1 Bearing Retainer Refinish
Figure 609

LEVER ASSEMBLY - REPAIR 2-1

251A1642–1, 251A1648–1

1. General

A. This procedure has the data necessary to repair the lever assembly (165, 167).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bearing and Sleeve Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure (REPAIR 2-1, Figure 601 and REPAIR 2-1, Figure 602)

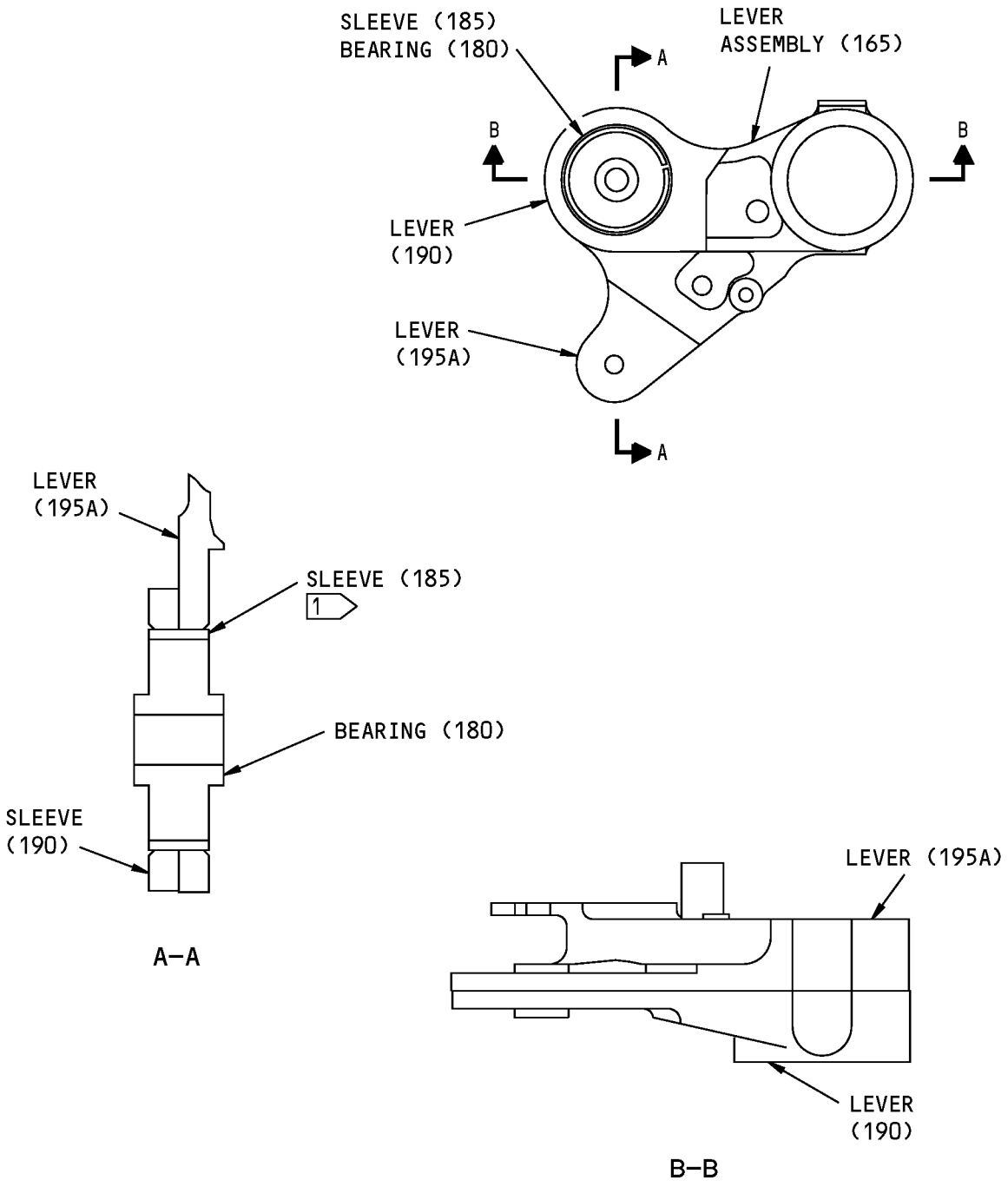
NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove the bearing (180) and the sleeve (185) and the lever assembly (165, 167) (SOPM 20-50-03).

(2) Apply sealant, A00247 onto the inside and outside diameter of the sleeve (185).

(3) Install the bearing (180) into the sleeve (185) and install the sleeve (185) into the lever assembly (165, 167) (SOPM 20-50-03).

(4) Swage the sleeve (185) onto bearing (180) and the lever assembly (165, 167) on both sides by sleeve-swage procedure as shown in SOPM 20-50-03.

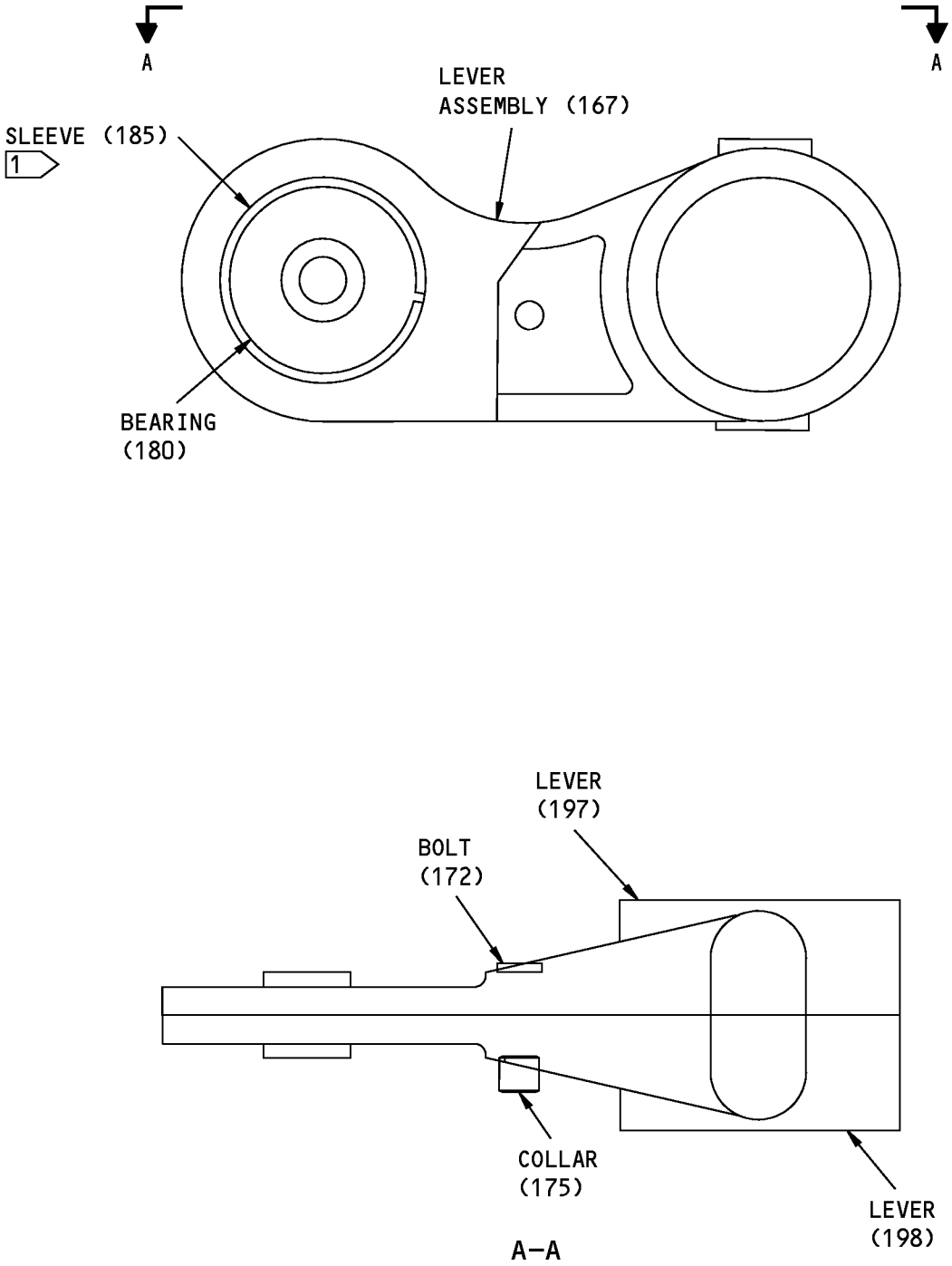


1 INSTALL SLEEVE WITH BMS 5-95 ON O.D. AND I.D. ROLLER SWAGE SLEEVE ON BOTH ENDS

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1642-1 Lever Assembly Repair
Figure 601



1 SWAGE SLEEVE ON BOTH SIDES

ITEM NUMBERS REFER TO IPL FIG. 1

G38501 S0004991912_V2

251A1648-1 Lever Assembly Repair
Figure 602

LEVER ASSEMBLY - REPAIR 2-2

251A1642–1, 251A1648–1

1. General

A. This procedure has the data necessary to refinish the lever assembly (165, 167).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Lever Assembly Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II

B. References

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

C. Procedure

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

(1) For 251A1648-1 lever assembly, apply finish as follows:

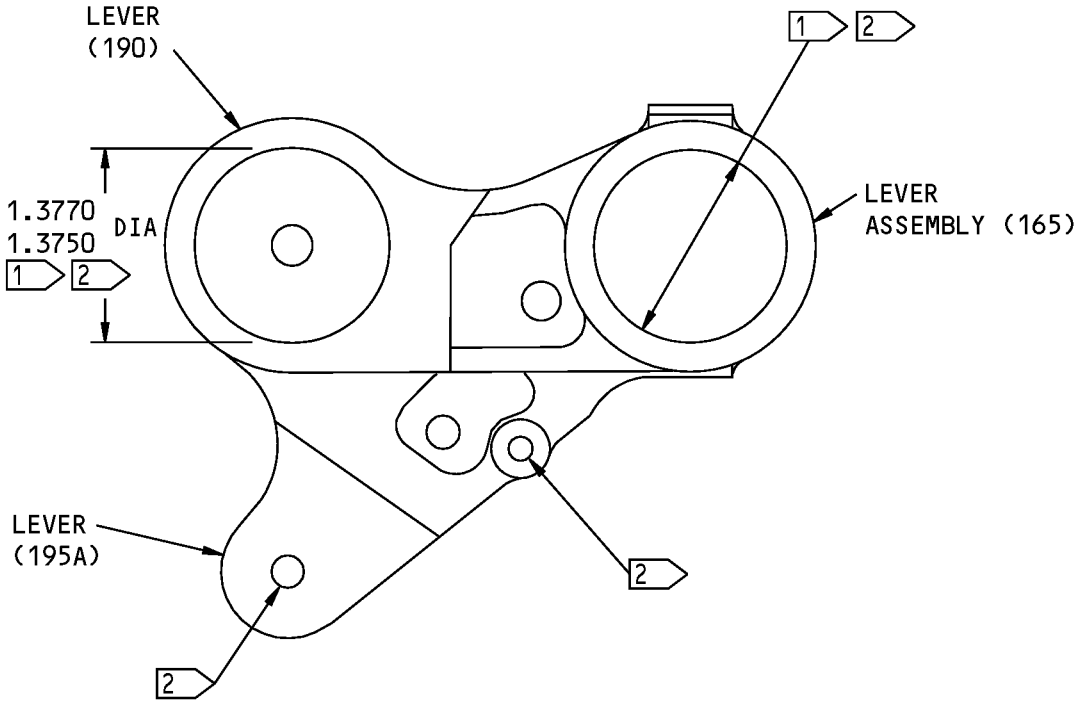
(a) Touch-up surfaces by manual application of colored chemical coating (F-17.10) and primer, C00259 (F-20.02).

(b) Apply enamel coating, C00260 (F-21.02) except as noted by flagnote 1 in REPAIR 2-2, Figure 602.

(2) For 251A1642-1 lever assembly, apply finish as follows:

(a) Touch-up surfaces by manual application of colored chemical coating (F-17.10) and apply primer, C00259 (F-20.02) except as noted by flagnote 1 in REPAIR 2-2, Figure 601.

(b) Apply enamel coating, C00260 (F-21.02) except as noted by flagnote 2 in REPAIR 2-2, Figure 601.



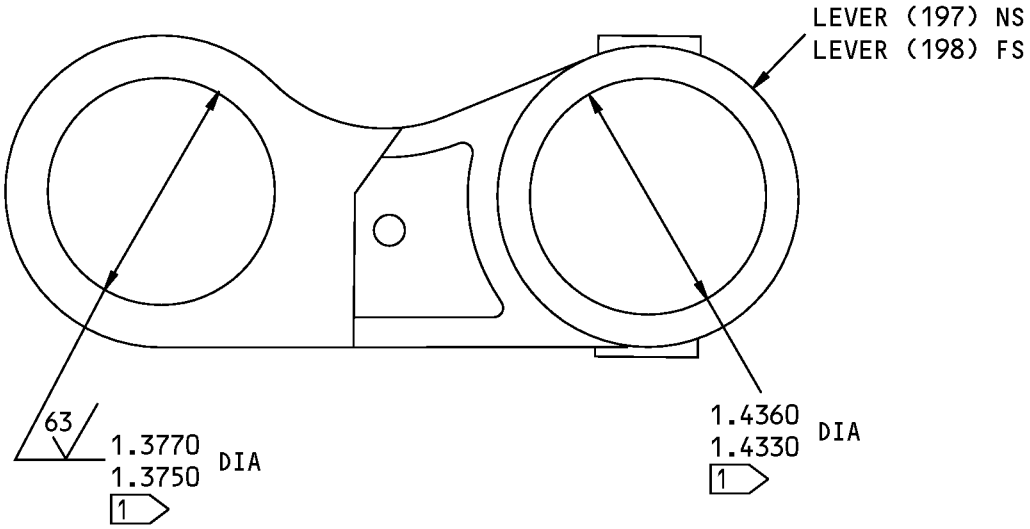
1 NO PRIMER ON THIS SURFACE

2 NO ENAMEL ON THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1642-1 Lever Assembly Refinish
Figure 601



1 NO ENAMEL ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1648-1 Lever Assembly Refinish
Figure 602

SUPPORT ASSEMBLY - REPAIR 3-1

65-52285–15

1. General

A. This procedure has the data necessary to repair the support assembly (225).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bushing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796, Class III

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-41-05	APPLICATION OF CORROSION INHIBITING COMPOUNDS
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-02	FINISHING MATERIALS

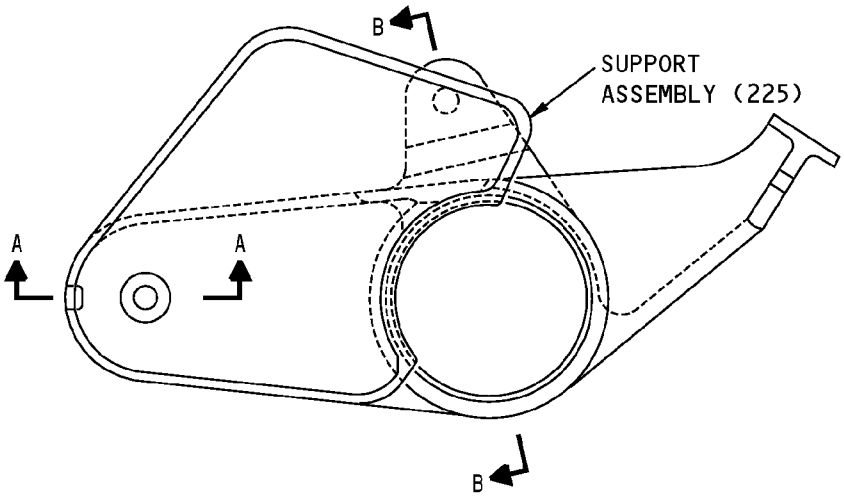
C. Procedure

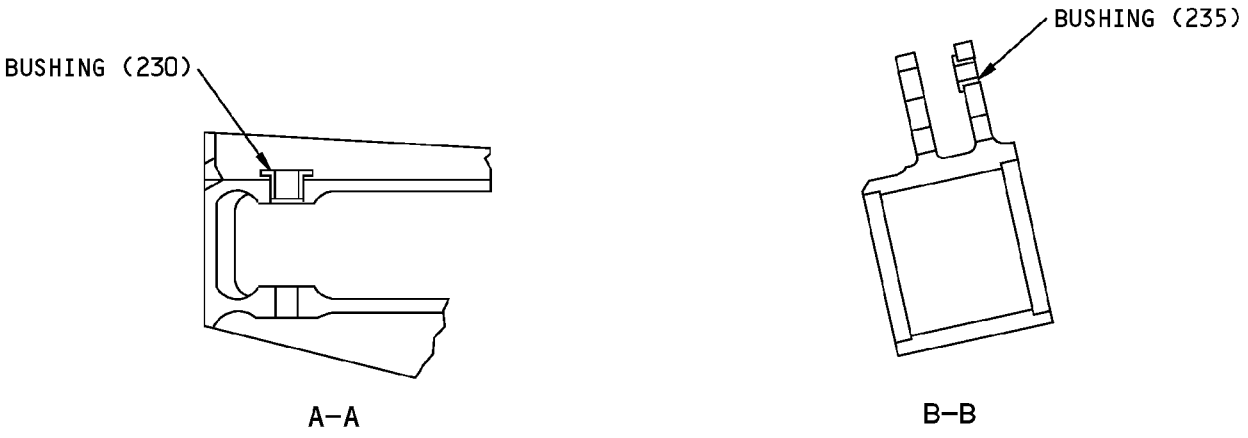
NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Remove the bushings (230, 235) from the support (240) (SOPM 20-50-03).

(2) Apply compound, C00528 to all surfaces (F-19.09) of the bushing(s) (230, 235) (SOPM 20-41-05).

(3) Install the bushing(s) (230, 235) into the support (240) as shown in SOPM 20-50-03 and REPAIR 3-1, Figure 601.





ITEM NUMBERS REFER TO IPL FIG. 1

65-52285-15 Support Assembly Repair
Figure 601

SUPPORT - REPAIR 3-2

65-52285–16

1. General

A. This procedure has the data necessary to refinish the support (240).

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

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

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: Aluminum alloy

2. Support Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II

B. References

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

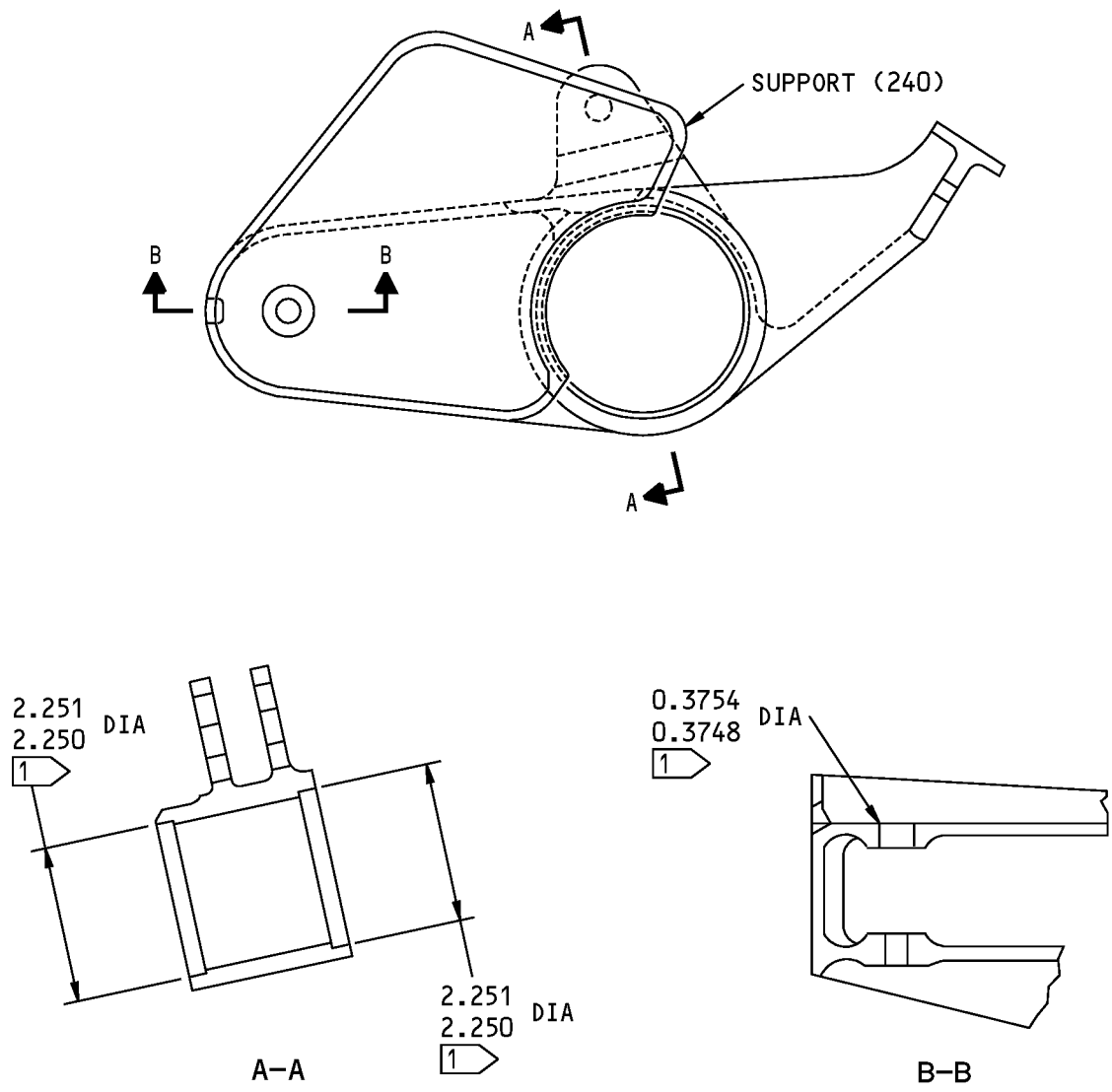
C. Procedure

(1) Procedure

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

(a) Sulfuric acid anodize, type 2 (F-17.03) and apply primer, C00259 (F-20.02).

(b) Apply enamel coating, C00260 (SRF-14.9812) except as noted by flagnote 1 in REPAIR 3-2, Figure 601.



1 NO ENAMEL ON THIS SURFACE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

65-52285-16 Support Refinish
Figure 601

ARM ASSEMBLY - REPAIR 4-1

65-52286–11

1. General

A. This procedure has the data necessary to repair the arm assembly (325).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

NOTE: For decoding table of Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Remove the bearing (330) from the arm (335) as shown in REPAIR 4-1, Figure 601 (SOPM 20-50-03).

(2) Install the bearing (330) with primer, C00259 (F-12.46) (SOPM 20-50-03).

(3) Roller-swage the arm (335) onto the bearing (330) on both sides as shown in SOPM 20-50-03.

3. Arm Refinish (335)

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II

B. References

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

C. General repairs details

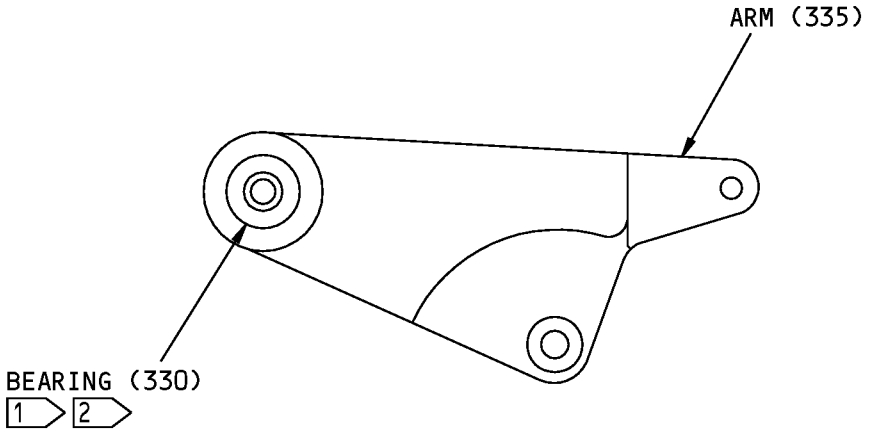
(1) Material: Aluminum alloy

D. Procedure

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

(1) Anodize (F-2.201) and apply primer, C00259 (SRF-12.205). Do not apply primer in the hole for the bearing.

(2) Apply enamel coating, C00260 (F-14.9812, which replaces SRF-14.9812). Do not apply enamel in the hole for the bearing.



1 ROLLER-SWAGE ARM ONTO BEARING ON BOTH SIDES

2 INSTALL BEARING WITH BMS 10-11, TYPE 1 PRIMER (F-12.46)

ITEM NUMBERS REFER TO IPL FIG. 1

65-52286-11 Roller Arm Assembly Repair
Figure 601

REACTION SUPPORT ASSEMBLY - REPAIR 5-1

251A1645–1

1. General

A. This procedure has the data necessary to repair the reaction support assembly (365A).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove the bearing (385) from the support (400A) as shown in REPAIR 5-1, Figure 601 (SOPM 20-50-03).

(2) Install the bearing (385) with sealant, A00247 by the roller-swage procedure as shown in SOPM 20-50-03.

3. Bushing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

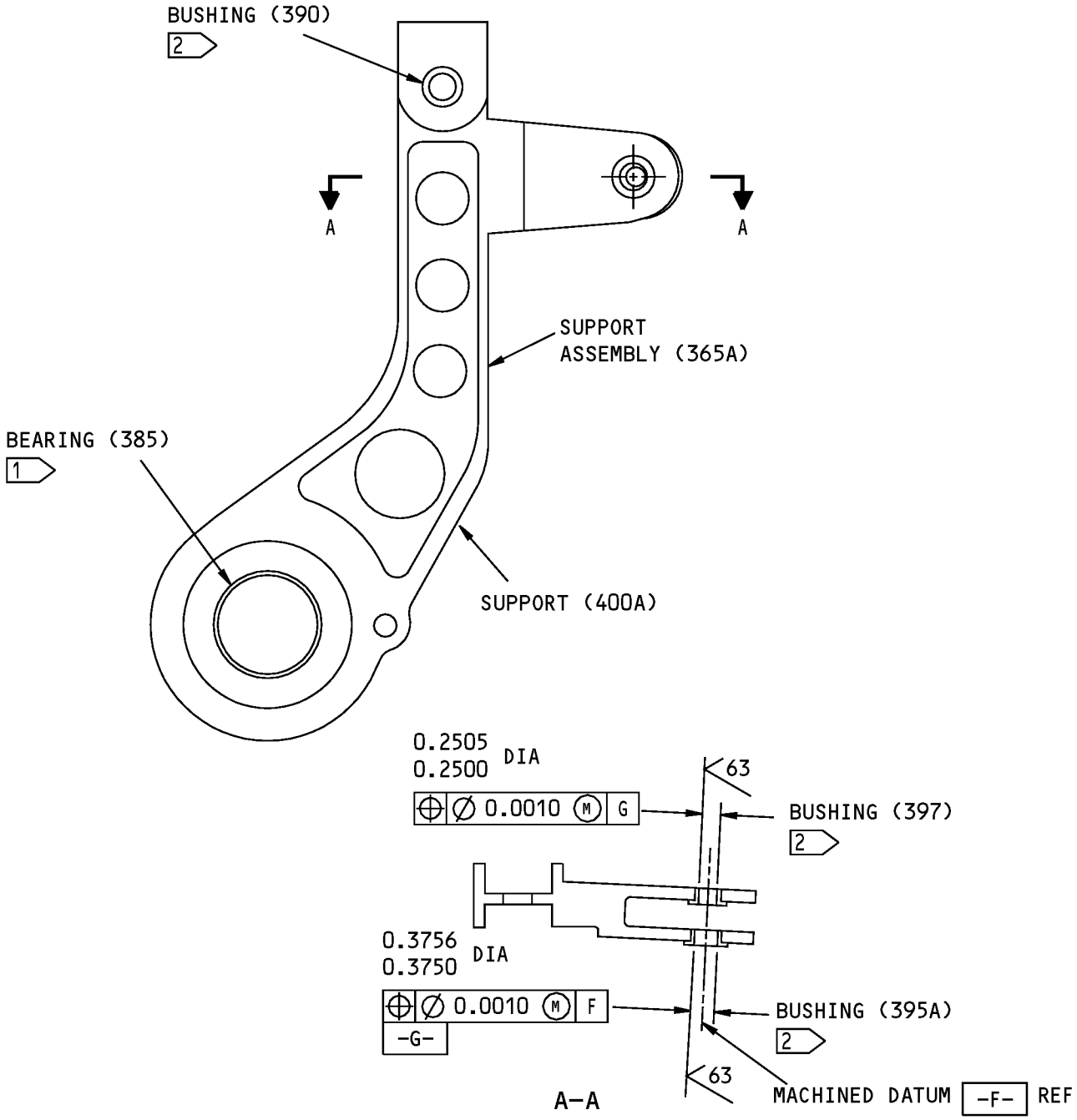
NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Remove the bushing(s) (390, 395A, 397) from support (400A) as shown in REPAIR 5-1, Figure 601 (SOPM 20-50-03).

(2) Install the bushing(s) (390, 395A, 397) with sealant, A00247 by the shrink-fit procedure as shown in SOPM 20-50-03.

(3) Machine the bushing(s) (395A, 397) to dimensions shown on REPAIR 5-1, Figure 601.

(4) Break all sharp edges.



1 INSTALL BEARING WITH BMS 5-95 BY ROLLER-SWAGE PROCEDURE

2 INSTALL BUSHING WITH BMS 5-95 BY SHRINK-FIT PROCEDURE

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1645-1 Reaction Support Assembly Repair
Figure 601

SUPPORT - REPAIR 5-2

251A1645–2

1. General

A. This procedure has the data necessary to refinish the support (400A).

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

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

D. Refer to IPL Figure 1 for item numbers.

E. General repair details:

(1) Material: Aluminum alloy

2. Support Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00260	Coating - Chemical And Solvent Resistant Finish, Epoxy Resin Enamel	BMS10-11, Type II

B. References

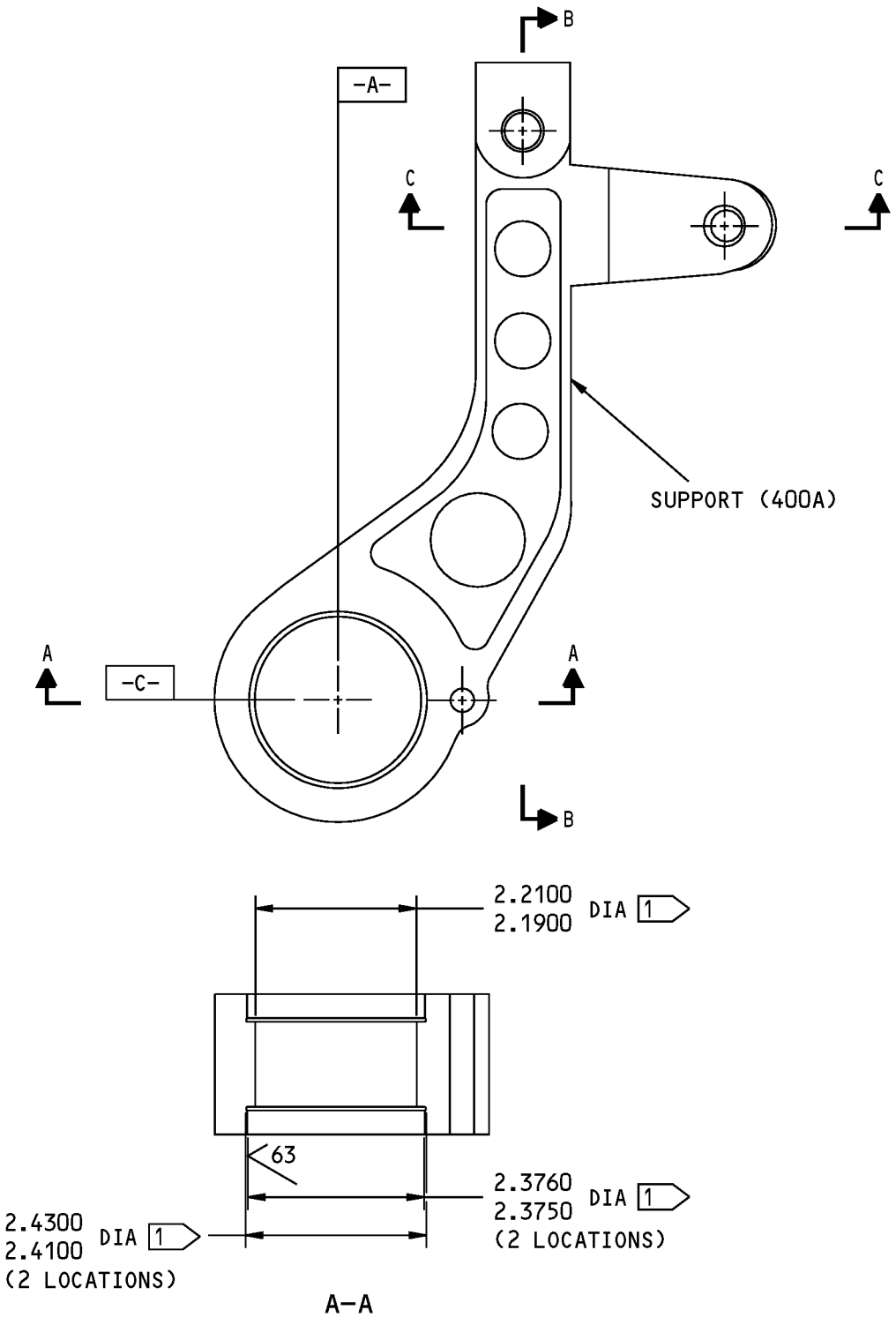
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

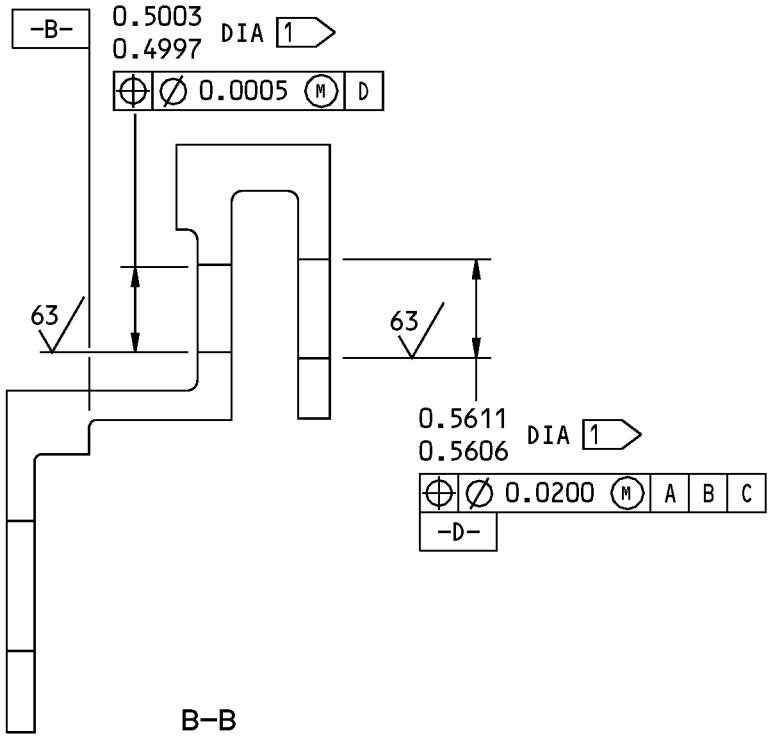
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

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

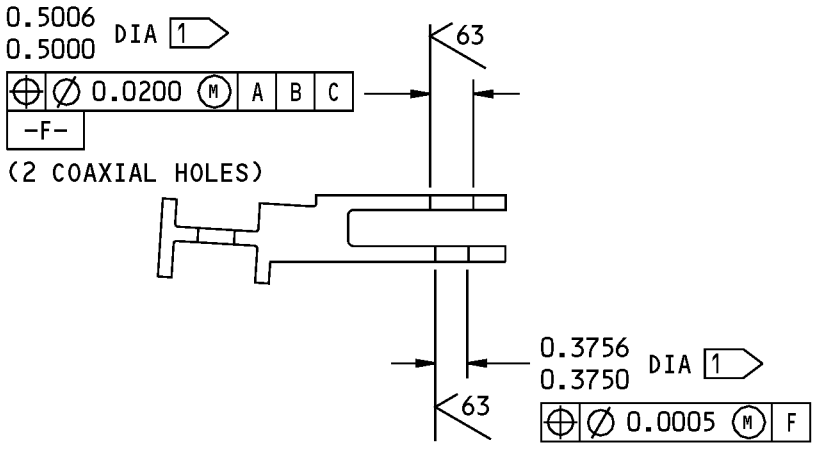
(2) Apply primer, C00259 (F-20.02) and enamel coating, C00260 (F-21.02) except as noted by flagnote 1 in REPAIR 5-2, Figure 601.



251A1645-2 Support Refinish
Figure 601 (Sheet 1 of 2)



B–B



C–C

1 NO PRIMER AND ENAMEL ON THESE SURFACES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A1645-2 Support Refinish
Figure 601 (Sheet 2 of 2)

BEARING HOUSING ASSEMBLY - REPAIR 6-1

251A1639–1

1. General

A. This procedure has the data necessary to repair the bearing housing assembly (75A).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bearing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796, Class III

B. References

Reference	Title
SOPM 20-41-05	APPLICATION OF CORROSION INHIBITING COMPOUNDS
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

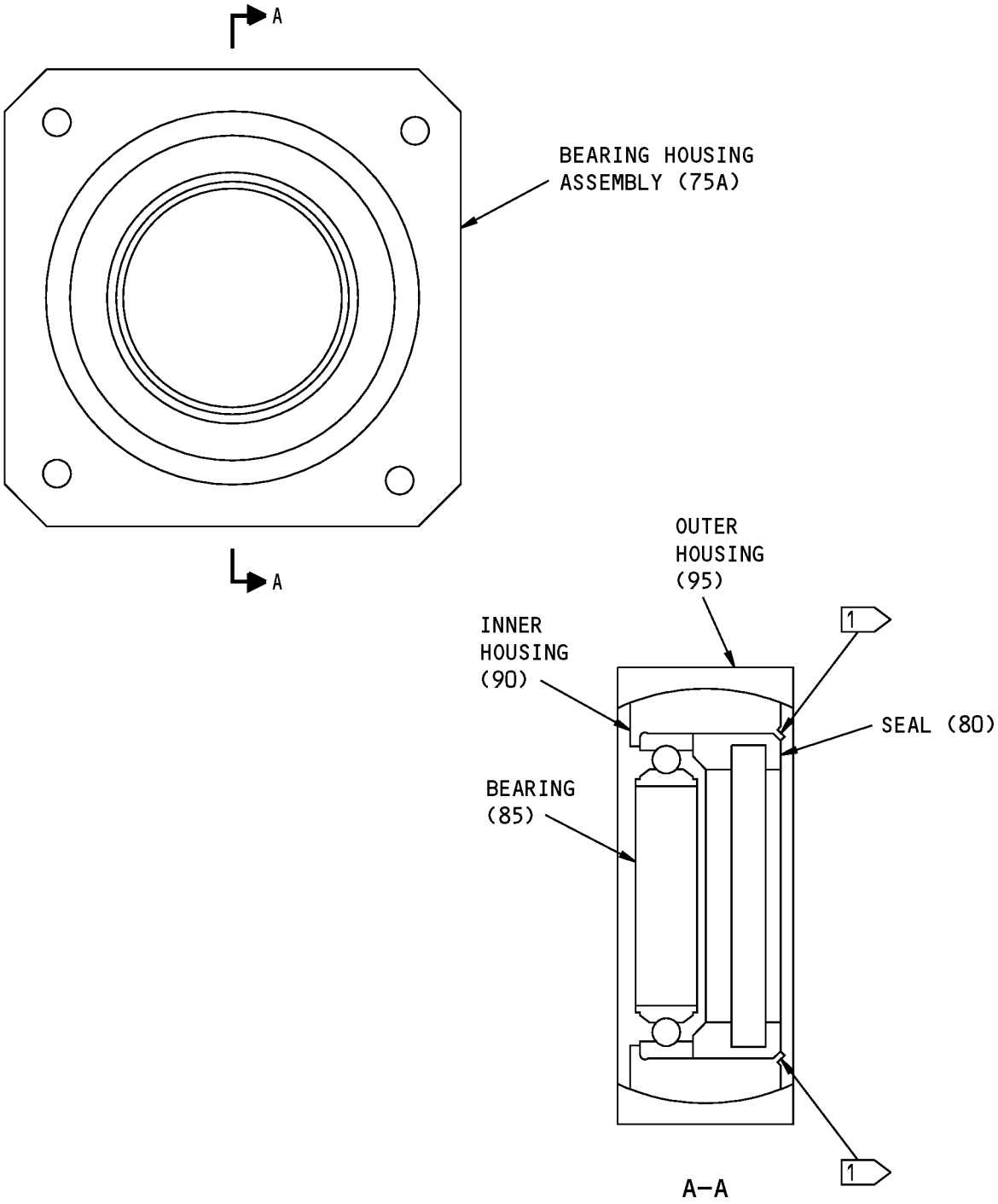
NOTE: For finishing materials, refer to SOPM 20-60-02.

(1) Remove the seal (80) and bearing (85) from inner housing (90) as shown in REPAIR 6-1, Figure 601 (SOPM 20-50-03).

(2) Apply compound, C00528 into the inside diameter of the inner housing (90) (SOPM 20-41-05).

(3) Install the bearing (85) and seal (80) into the inner housing (90) (SOPM 20-50-03).

(4) Roller-swage the inner housing (90) onto the seal (80) as noted by flagnote 1 in REPAIR 6-1, Figure 601.



1 ROLLER–SWAGE INNER HOUSING ONTO SEAL AS SHOWN IN SOPM 20–50–03

ITEM NUMBERS REFER TO IPL FIG. 1

251A1639-1 Bearing Housing Assembly Repair
Figure 601

SUPPORT ASSEMBLY - REPAIR 7-1

65-50555–13

1. General

A. This procedure has the data necessary to repair the support assembly (120).

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

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

D. Refer to IPL Figure 1 for item numbers.

2. Bearing (125) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For miscellaneous finishes, refer to SOPM 20-60-04.

(1) Remove the bearing (125A) from the support (135) as shown in REPAIR 7-1, Figure 601 (SOPM 20-50-03).

(2) Install the bearing (125A) with sealant, A00247.

(3) Roller-swage the support (135) onto the bearing (125) on one side to a depth of 0.003-0.005 inch as shown in SOPM 20-50-03.

3. Bushing (130) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

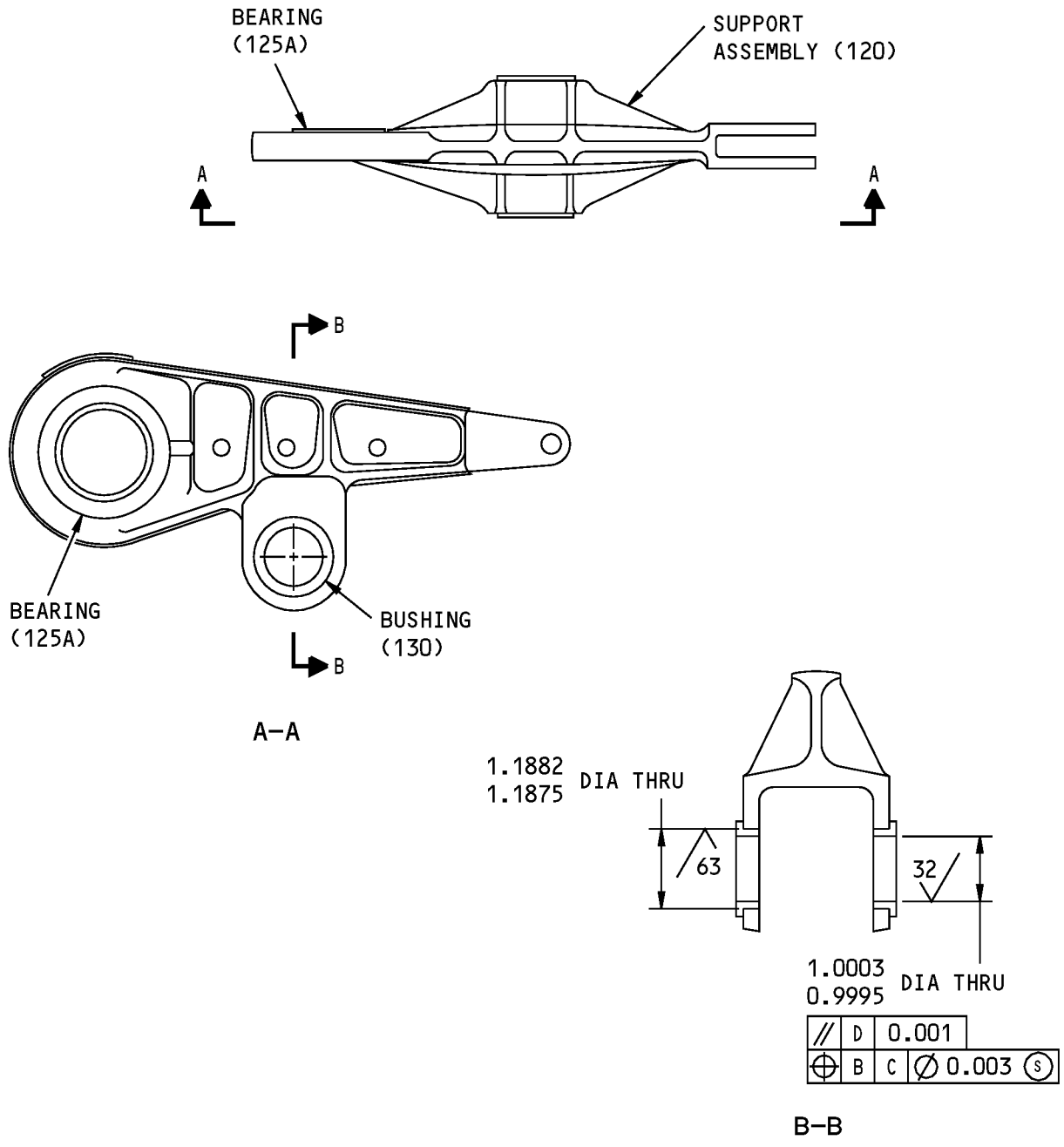
NOTE: For miscellaneous finishes, refer to SOPM 20-60-04.

(1) Remove the bushing (130) from the support assy (120) as shown in REPAIR 7-1, Figure 601 (SOPM 20-50-03).

(2) Install the bushing (130) with sealant, A00247 by the shrink-fit procedure as shown in SOPM 20-50-03.

(3) Machine the bushing to dimensions shown in REPAIR 7-1, Figure 601.

(4) Break all sharp edges.



ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

65-50555-13 Support Assembly Repair
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the aileron centering mechanism assembly.

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

C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

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

(1) Use standard industry procedures and the steps below to assemble this component.

(2) Install the inner tubing (445) into the outer tubing (440) as shown in ASSEMBLY, Figure 701, Section A-A.

(3) Install the bearing retainer (405A) onto the outer tubing (440) with bolts (401), washers (402, 403), and nuts (404) as shown in Bubble D. Tighten the nuts (404) 30-40 pounds-inch of torque.

(4) Install the reaction support assembly (365A) onto the bearing retainer (405A) to dimension given in ASSEMBLY, Figure 701, Section A-A.

(5) Install the retainer (215) onto the outer tubing (440).

(6) Apply sealant, A00247 onto outside diameter of the bearings (355).

(7) Install the bearing (355) into the support assembly (225) by press-fit procedures as shown in SOPM 20-50-03.

(8) Install the spacer (350) and the support assembly (225) onto the retainer (215).

(9) Install the other bearing (355) onto the support assembly (225).

(10) Install the washer (345) and the nut (340) onto the support assembly (225).

(11) Tighten the nut (340) 100-150 pounds-inch of torque. Bend the washer (345) tab into a castellation on nut (340).

(12) Install the cam (360) onto the hub (220) with the bolts (295), washers (305), and nuts (315) as shown in ASSEMBLY, Figure 701, Section C-C.

(13) Install the hub (220) onto the retainer (215) with the bolts (200A), washers (205), and nuts (210) as shown in ASSEMBLY, Figure 701, Section E-E and to dimension shown in ASSEMBLY, Figure 701, Bubble D. Tighten the nuts (210) 30-40 pounds-inch of torque.

(14) Install the bearing (320) onto the arm assembly (325) with the bolt (300), washer (305), nut (310), and cotter pin (285) as shown in ASSEMBLY, Figure 701, Section E-E.

(15) On 251A1641-1, -5 assemblies, install the arm assembly (325) onto the support assembly (225) with the bolt (290), washer (305), nut (310), and cotter pin (285). Install cotter pin (285) as shown in SOPM 20-50-02.

(16) On 251A1641-6 assemblies, install the arm assembly (325) onto the support assembly (225) with the bolt (290), washers (302, 303, 304, 305), nut (310), and cotter pin (285). Install cotter pin (285) as shown in SOPM 20-50-02.

  (a) Install washers (302, 303, 304) in the same position as noted in DISASSEMBLY, Paragraph 2. or as required to center cam (360) on roller (320).

(17) Install the eyebolts (245), washers (250), and nuts (255, 260) onto the support assembly (225) as shown in ASSEMBLY, Figure 701, Section D-D.

(18) Install the pin (275) and washers (280) onto the arm assembly (325) with cotter pins (270) as shown in SOPM 20-50-02.

(19) Install the springs (265) onto the eyebolts (245) and pins (275). Adjust spring (265) as follows:

  (a) Tighten eyebolts (245) until play is eliminated from springs (265). Do not stretch springs (265) from free length.

  (b) The bearing (320) must be in centered position with the cam (360). Hold the eyebolts (245) while nut (255) is adjusted.

  (c) Tighten eyebolts (245) equally within half turn of nut (255) until break out torque measured at outer tubing (440) is 25-33 pounds-inch in both directions.

  (d) Optional procedure to measure the break out torque is at the lever assembly (167). Break out torque must be 8.6-11.2 pounds-inch as measured at self-adjusting bearing in either direction.

  (e) Tighten the nut (260) as shown in SOPM 20-50-01.

  (f) Turn the outer tubing (440) relative to support assembly (225). Full travel in both directions is limited to the stops on the hub (220) contact with the support assembly (225). Motion must be smooth with no binding or interferences.

(20) Install the sleeve (145A) and lever assembly (167) onto the outer tubing (440) with the bolts (150A), washers (152, 155), nuts (160) as shown in ASSEMBLY, Figure 701, Section A-A. Tighten the nuts (160) 30-40 pounds-inch of torque.

(21) Install the spacer (140) and the support assembly (120) to dimension shown in ASSEMBLY, Figure 701, Sheet 1 onto the sleeve (145A).

(22) Install the spacer (140) and the lever assembly (167) onto the sleeve (145A) to dimension shown in ASSEMBLY, Figure 701, Bubble C. Install the bolts (150A), washers (152, 155), and nuts (160). Tighten the nuts (160) 30-40 pounds-inch of torque.

(23) Fillet seal the surfaces identified by flagnote 1 in ASSEMBLY, Figure 701, Section A-A, using sealant, A00247.

(24) Install the sleeve (115A) and lever assembly (165) onto the outer tubing (440) with the bolts (150A), washer (152, 155), and nuts (160). Tighten the nuts (160) 30-40 pounds-inch of torque.

(25) Install the spacer (140) and support assembly (120) to dimension shown in ASSEMBLY, Figure 701, Sheet 1 onto the sleeve (115A).

(26) Install the spacer (140) and lever assembly (167) onto the sleeve (115A) to dimension given in ASSEMBLY, Figure 701, Bubble B. Install the bolts (150A), washers (152, 155), and nuts (160). Tighten the nuts (160) 30-40 pounds-inch of torque.

(27) Install the packing (55) into the bearing housing assembly (75A).

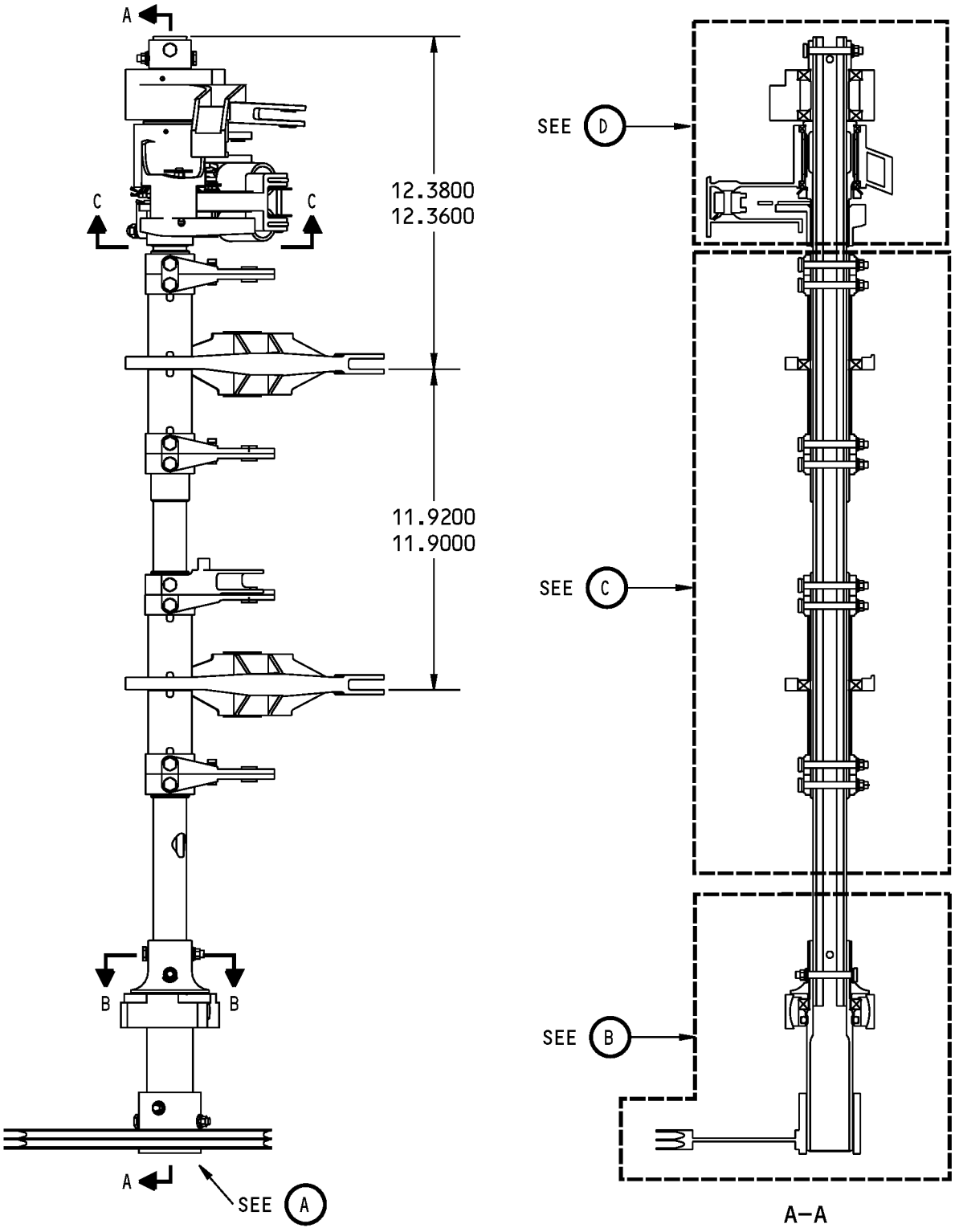
(28) Install the seal ring (50A) and bearing housing assembly (75A) onto the upper shaft (45) with bearing retainer (110A).

(29) Install the upper shaft (45) onto the outer tube (440) with the bolts (60A), washers (62, 65), and nuts (70) as shown in ASSEMBLY, Figure 701, Section B-B. Tighten the nuts (70) 20-25 pounds-inch of torque.

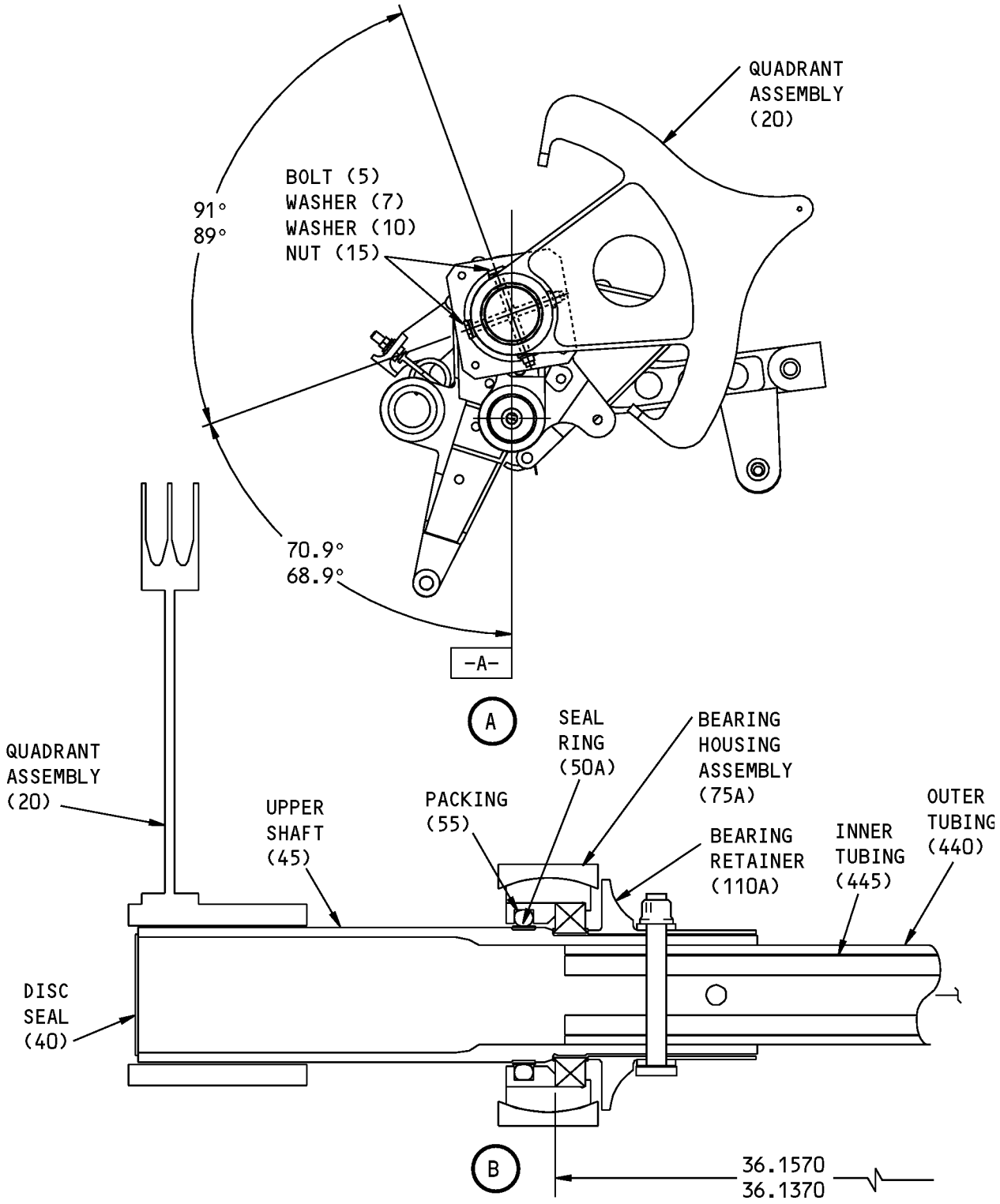
(30) Install the quadrant assembly (20) onto the upper shaft with the bolts (5), washers (7, 10), and nuts (15) as shown in ASSEMBLY, Figure 701, Bubble A.

(31) Tighten the nut (15) by hand. Final torque will be applied at installation of component in the airplane.

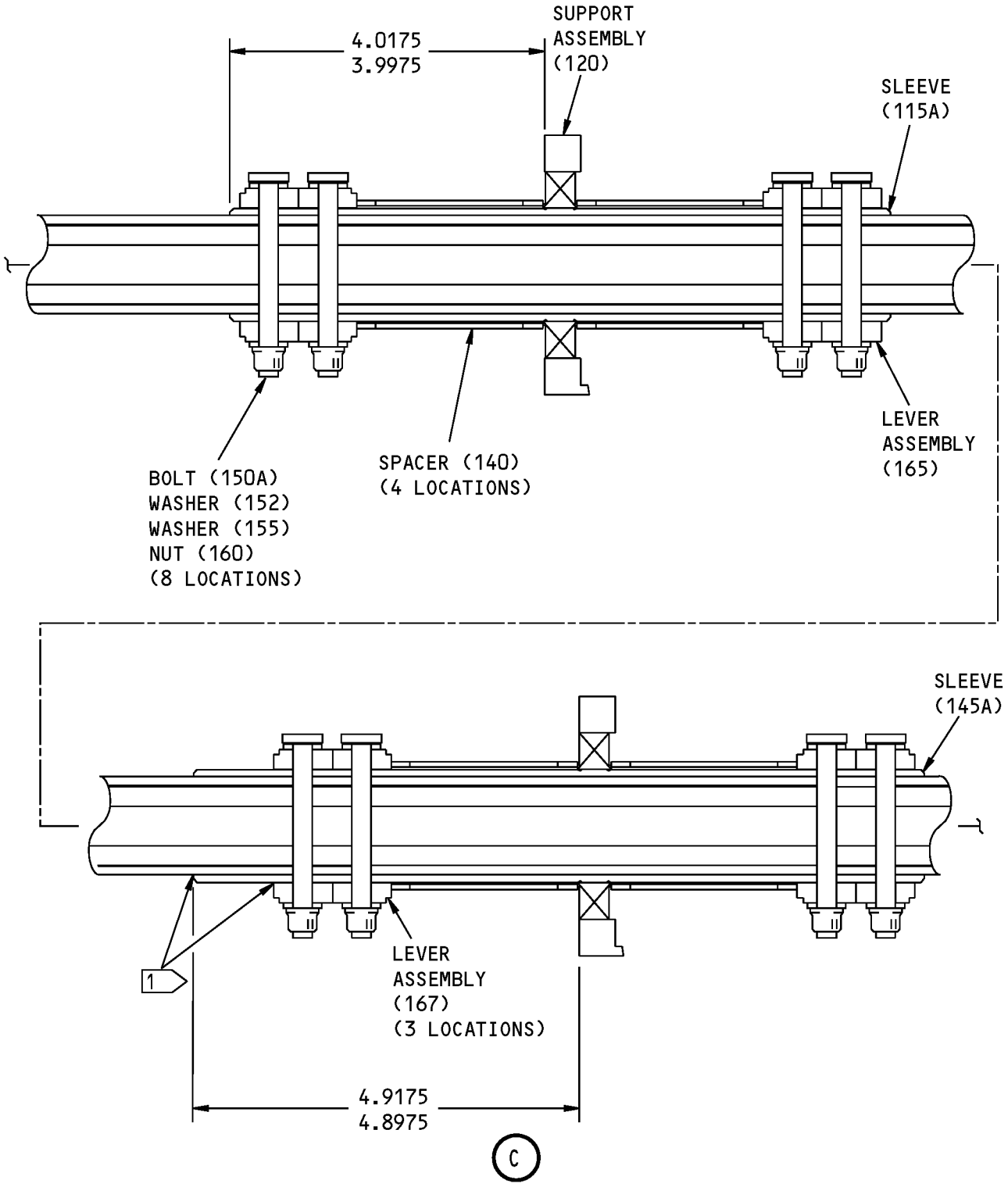
(32) Install the disc seal (40) onto the upper shaft (45) with removable tape or other temporary adhesive.



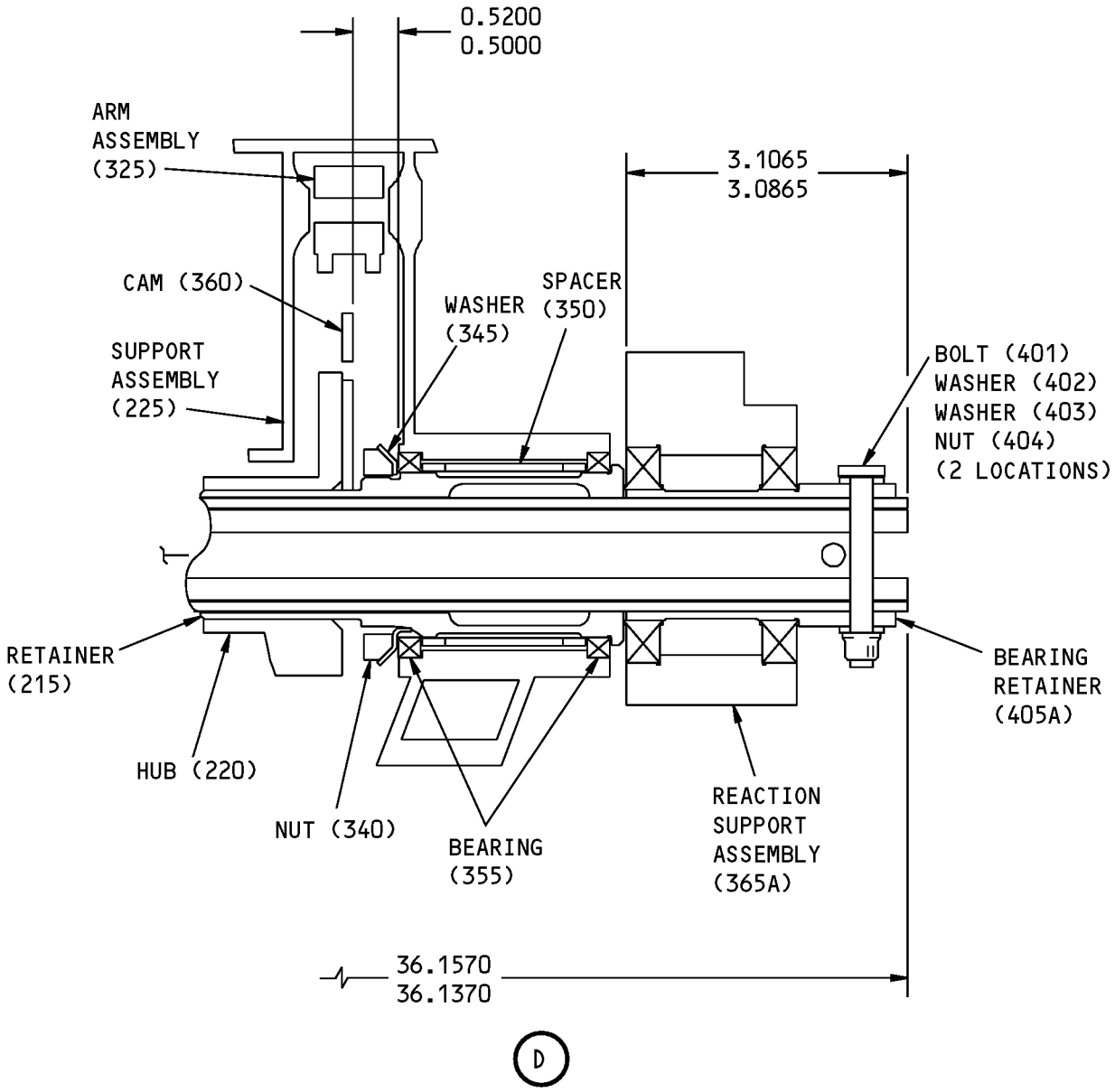
251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 1 of 6)



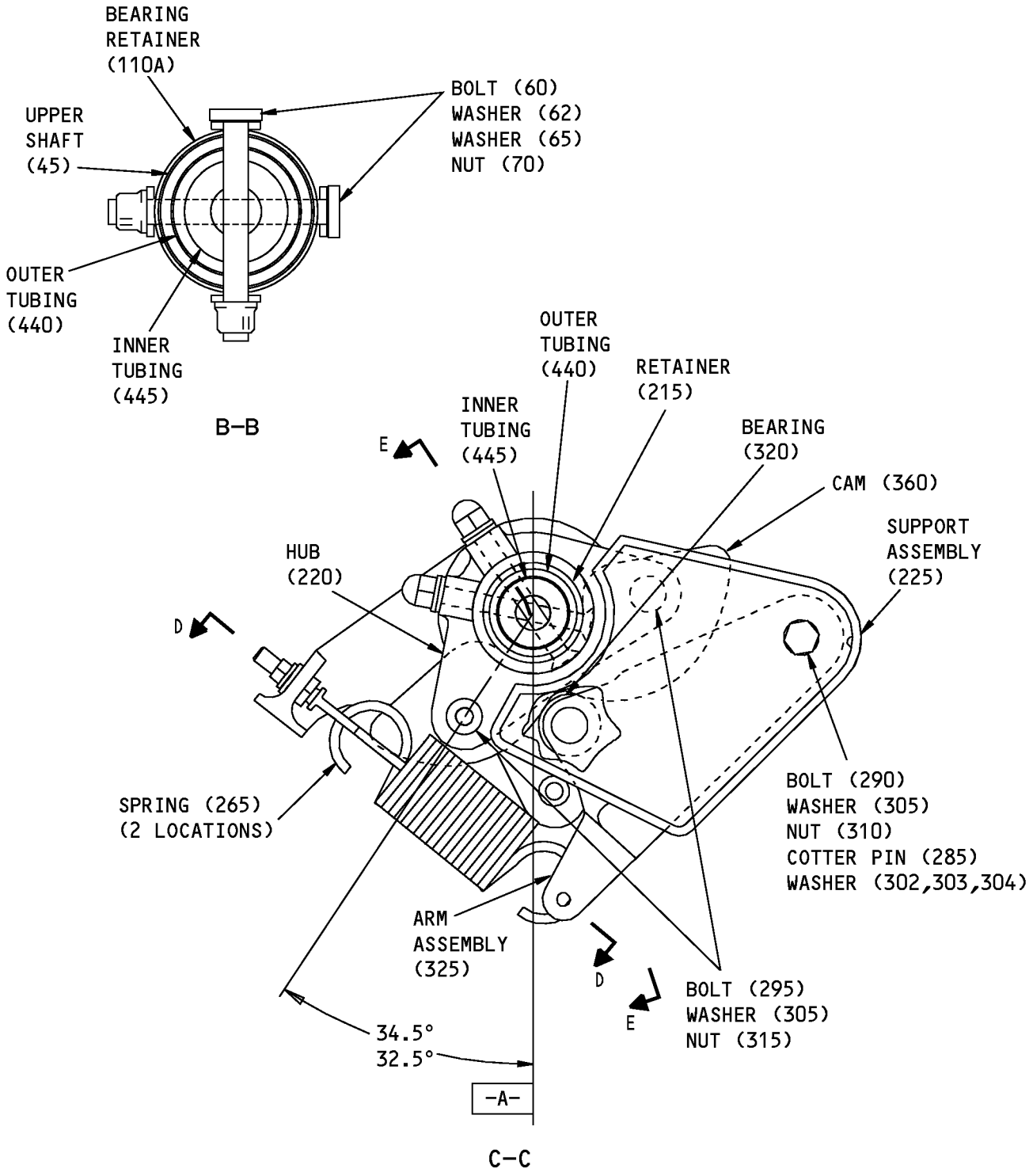
251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 2 of 6)



251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 3 of 6)

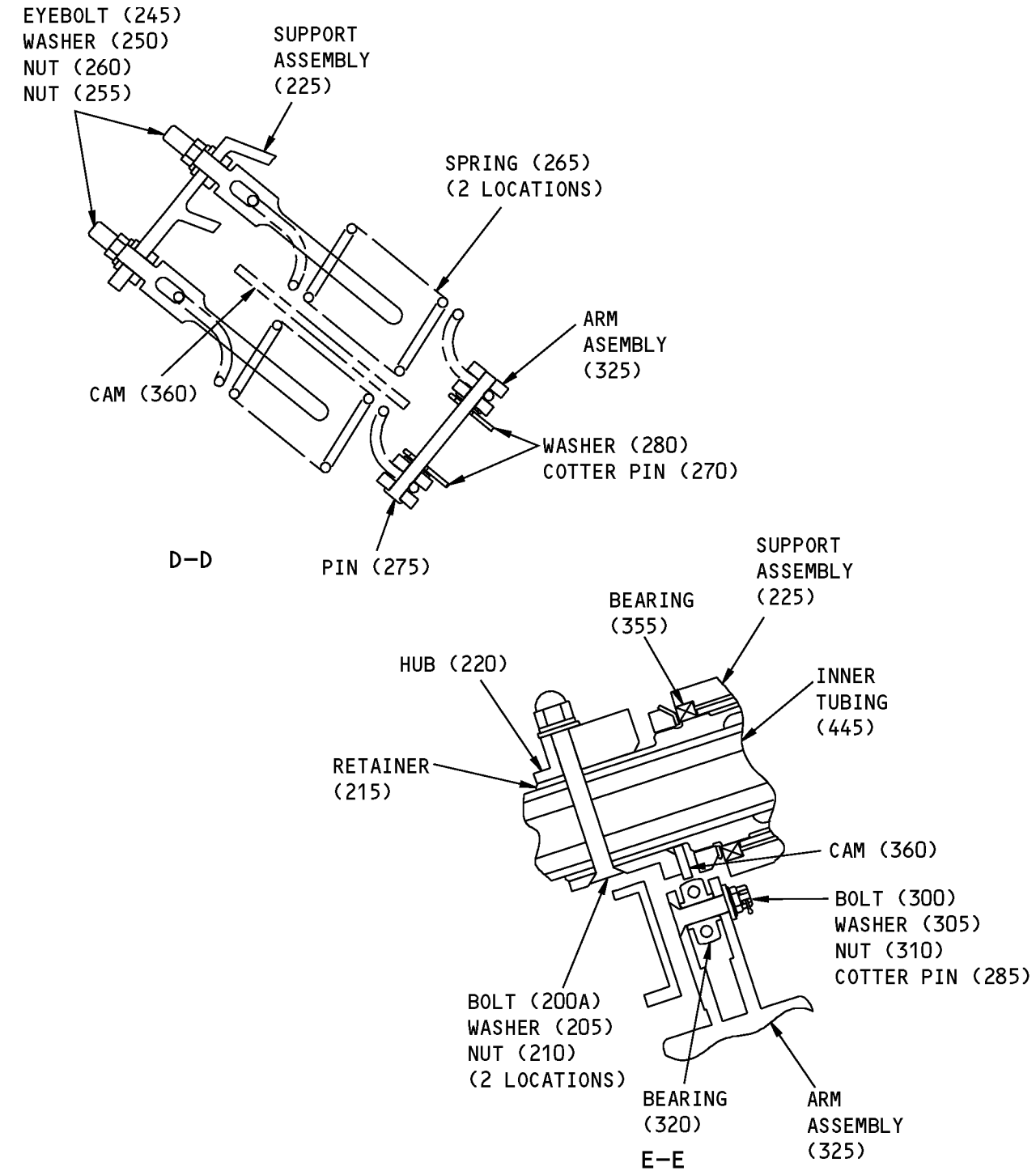


251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 4 of 6)



H77419 S0004991936_V2

251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 5 of 6)



1 FILLET SEAL WITH BMS 5-95
SEALANT AS SHOWN IN SOPM 20-60-04

ITEM NUMBERS REFER TO IPL FIG. 1

251A1641-1,-5,-6 Centering Mechanism Assembly
Figure 701 (Sheet 6 of 6)

BOEING®

COMPONENT MAINTENANCE MANUAL

FITS AND CLEARANCES

(NOT APPLICABLE)

(NOT APPLICABLE)

ILLUSTRATED PARTS LIST

1. Introduction

A. The Illustrated Parts List (IPL) contains an illustration and a list of component parts you can repair or replace. The Illustrated Parts Catalog (IPC) shows how to use the Boeing part number system.

B. This shows how parts are related: The relation of each item to its next higher assembly (NHA) is shown in the NOMENCLATURE column. Use the indenture system that follows:

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

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

C. Each top assembly is given one use code letter (A, B, C, etc.) in the USAGE CODE column. All subsequent component parts in the list can have one or more of the use code letters to show effectivity to top assemblies. A component part without a use code applies to all top assemblies.

D. An alphabetical letter is added after the item number for optional parts, parts changed by a Service Bulletin, configuration differences (except left-handed and right-handed parts), last engineering releases, and parts added between item numbers in a sequence. The alphabetical letter will not be shown on the illustration for equivalent parts of the same part number.

E. Color-coded parts are identified with a single digit alpha following the dash number or with ''SP'' suffix. If the ''SP'' suffix is used, it represents consolidation of all color codes applicable for a given usage which are not separately listed. Orders for color-coded parts should include the registry number of the airplane for which the parts are ordered.

F. If a part number is 15 characters long but will not fit in the part number column, the part number will be displayed with a ''~'' at the end of the line and will be continued on the next line. The ''~'' denotes that the part number continues on the next line.

G. Parts changed by a Service Bulletin are shown by PRE SB XXXX and POST SB XXXX added to the NOMENCLATURE column.

(1) When a new top assembly is added by a Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the top assembly level only. The configuration differences at the detail part level are shown by use code letters.

(2) When the top assembly part number is not changed by the Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the detail level.

H. Interchangeable Parts

Optional (OPT)	The part is optional to and interchangeable with other parts that have the same item number.
Replaces, Replaced by and not interchangeable with (REPLACES, REPLACED BY AND NOT INTCHG/W)	The part replaces and is not interchangeable with the initial part.
Replaces, Replaced by (REPLACES, REPLACED BY)	The part replaces and is interchangeable with, or is an alternative to, the initial part.

VENDOR CODES

Code	Name
06144	INDUSTRIAL TECTONICS BEARING CORP 18301 SOUTH SANTA FE AVENUE RANCHO DOMINGUEZ, CALIFORNIA 90221 FORMERLY IN COMPTON, CALIFORNIA
15653	ALCOA GLOBAL FASTENERS INC DIV KAYNAR PRODUCTS 800 S STATE COLLEGE BLVD FULLERTON, CALIFORNIA 92831-3001 FORMERLY VK6405 MICRODOT AEROSP LTD; FORMERLY KAYNAR TECH FORMERLY FAIRCHILD FASTENERS KAYNAR DIV
17446	HUCK INTL INC AEROSPACE FASTENER DIV 900 WATSON CENTER ROAD CARSON, CALIFORNIA 90745-4201 FORMERLY V32134 REXNORD INC; FORMERLY V97928 HUCK INTL
21335	TIMKEN US CORPORATION DIV FAFNIR 336 MECHANIC STREET LEBANON, NH 03766-0267 FORMERLY FAFNIR BRG AND TEXTRON INC FAFNIR DIV IN NEW BRITAIN, CONNECTICUT ; FORMERLY TORRINGTON CO THE SPECIAL PRODUCTS DIV SUB OF THE INGERSOLL-RAND CO V8D210 FORMERLY TORRINGTON CO FAFNIR BEARING DIV IN TORRINGTON, CT
21760	SCHATZ BEARING CORP 10 FAIRVIEW AVENUE PO BOX 1191 POUGHKEEPSIE, NEW YORK 12601-1312 FORMERLY FEDERAL BRG CO AND SCHATZ MFG CO V53268 FORMERLY SCHATZ MFG CO

Code	Name
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
56878	SPS TECHNOLOGIES INC AEROSPACE AND INDUSTRIAL PRODUCTS DIV 301 HIGHLAND AVE JENKINTOWN, PENNSYLVANIA 19046 FORMERLY STANDARD PRESSED STEEL FORMERLY IN SALT LAKE, UTAH
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 ESNA V7A079 FORMERLY ELASTIC STOP NUT IN UNION, NJ
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

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

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
251A1639-1		1	75A	1
251A1641-1		1	1A	RF
251A1641-2		1	345	1
251A1641-3		1	40	1
251A1641-5		1	1B	RF
251A1641-6		1	1C	RF
251A1642-1		1	165	1
251A1643-1		1	115A	1
251A1643-2		1	145A	1
251A1644-1		1	440	1
251A1644-2		1	445	1
251A1645-1		1	365A	1
251A1645-2		1	400A	1
251A1647-1		1	405A	1
251A1648-1		1	167	3
251A1649-1		1	110A	1
26C048		1	210	2
3SLCC6		1	175	1
		1	175	1
42NKE048		1	210	2
65-46992-10		1	35	1
65-46992-11		1	35A	1
65-46992-9		1	20	1
65-50555-12		1	135	1
65-50555-13		1	120	2
65-51548-10		1	198	1
65-51548-3		1	190	1
65-51548-9		1	197	1
65-52285-15		1	225	1
65-52285-16		1	240	1
65-52285-18		1	225A	1
65-52285-19		1	240A	1
65-52286-11		1	325	1
65-52286-12		1	335	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
65-53390-4		1	220	1
65-75384-1		1	215	1
65C19770-1		1	195A	1
66-24199-1		1	100	1
66-24467-1		1	340	1
69-16695-5		1	50A	1
69-38711-7		1	95	1
69-38711-8		1	105	1
69-38712-1		1	90	1
69-38713-2		1	80	1
69-38919-1		1	185	1
69-39427-1		1	350	1
69-39428-5		1	360	1
69-39429-3		1	265	2
69-40782-2		1	45	1
69-41647-2		1	140	4
69-74646-1		1	245	2
69-76564-1		1	275	1
69-76564-2		1	275A	1
69-76564-3		1	275B	1
		1	275C	1
81669V6K14		1	170A	1
81669V6K8		1	172	1
ACMKP23BSP510LY		1	125	1
		1	385	2
ACMKP4R16FS881		1	320	1
ACMKSP5A3908		1	180	1
ACMKSP5FS428		1	180	1
AMB544DDNJC		1	355B	2
		1	355C	2
AN316-4R		1	260	2
B544-2TS		1	355A	2
B544DD		1	355A	2
B544DDFS101		1	355A	2
B544DDFS428		1	355A	2

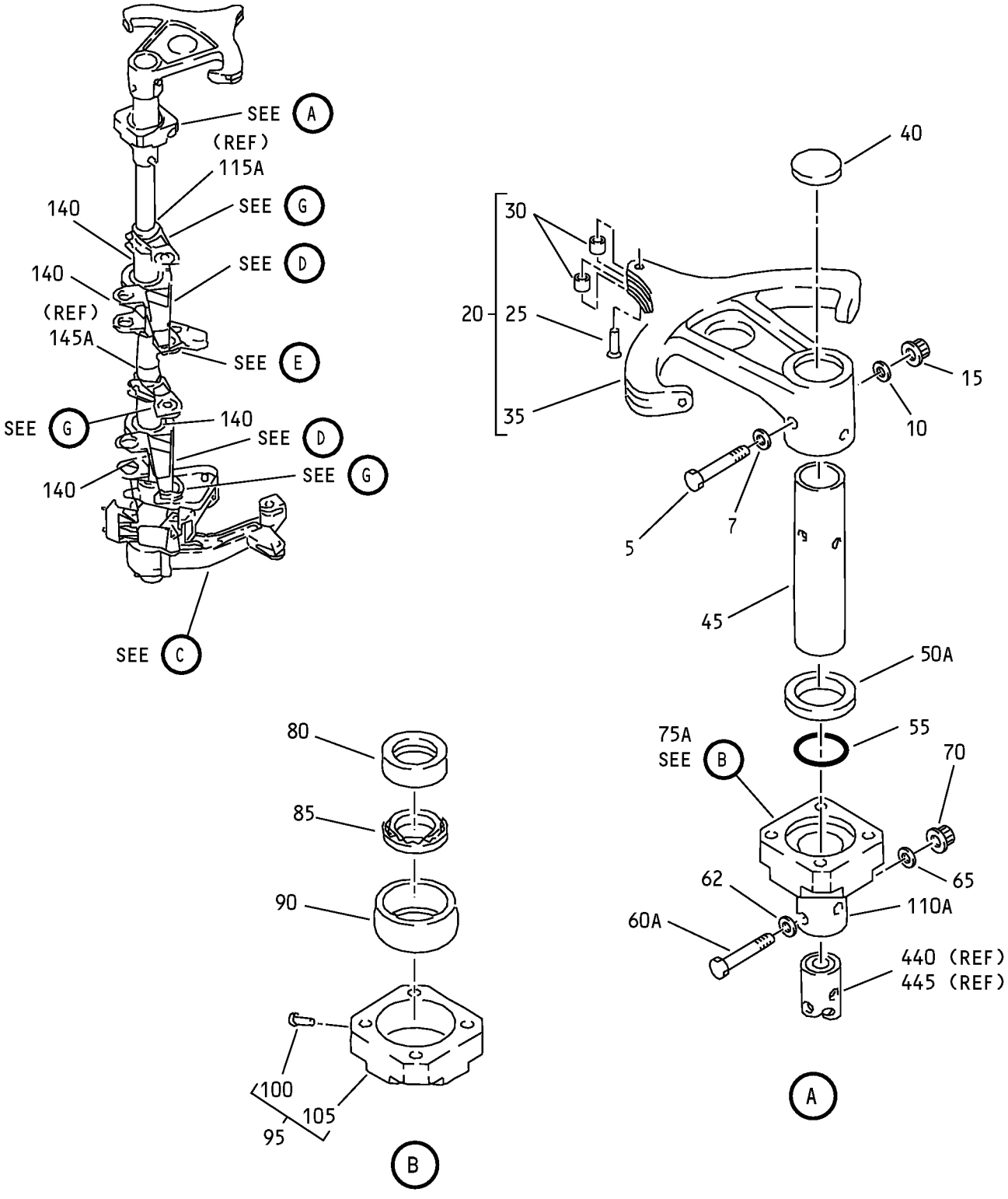
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
B544DDNJC		1	355A	2
B544DDP		1	355A	2
B544FS101		1	355A	2
B544SSG27		1	355A	2
BACB10A671		1	330	1
BACB10BW25		1	85	1
BACB10CF29PP		1	355A	2
BACB10FP5		1	180	1
BACB10FU29G		1	355	2
BACB10FU29J		1	355B	2
		1	355C	2
BACB10FV23		1	125	1
		1	385	2
BACB10FV23G		1	125A	1
BACB28AP04P017		1	397	1
BACB28AT06B017C		1	395A	1
BACB28X4C025		1	235A	1
BACB28X4C25		1	235	1
BACB28X4D038		1	230A	1
BACB28X4D38		1	230	1
BACB28X6C018		1	390	1
BACB30LH4DK11		1	300	1
		1	300C	1
BACB30LU4D11		1	300B	1
BACB30NF4D28		1	290B	1
BACB30NN4K32		1	200A	2
BACB30NN4K5		1	295	2
BACB30NR4DK28		1	290A	1
		1	290C	1
BACB30NR4K27		1	401	2
BACB30NR4K28		1	60A	2
BACB30NR4K33		1	150A	8
BACB30NR4K38		1	5	2
BACB30VN6K14		1	170A	1
BACB30VN6K9		1	172	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
BACC30BK6		1	175	1
BACN10JD104CD		1	310A	2
BACN10R428		1	210	2
BACN10YR4CD		1	15	2
		1	70	2
		1	160	8
		1	255	2
		1	315	2
		1	404	2
BACN10YR4CM		1	15A	2
		1	70A	2
		1	160A	8
		1	210A	2
		1	255A	2
		1	315A	2
		1	404A	2
BACN11N104CD		1	310	2
BACN11N104CS		1	310B	2
BACN11U4CM2N		1	260A	2
BACP18BC02A06P		1	270A	2
		1	285A	2
BACP18BC02C06P		1	270	2
		1	285	2
BACR15BA4D		1	25	1
BACW10BP3NPK		1	280A	2
BACW10BP4CD		1	7	2
		1	62	2
		1	152	8
		1	402	2
BACW10BP4CK		1	7A	2
		1	62A	2
		1	152A	8
		1	402A	2
BACW10BP4PK		1	10A	2
		1	65A	2

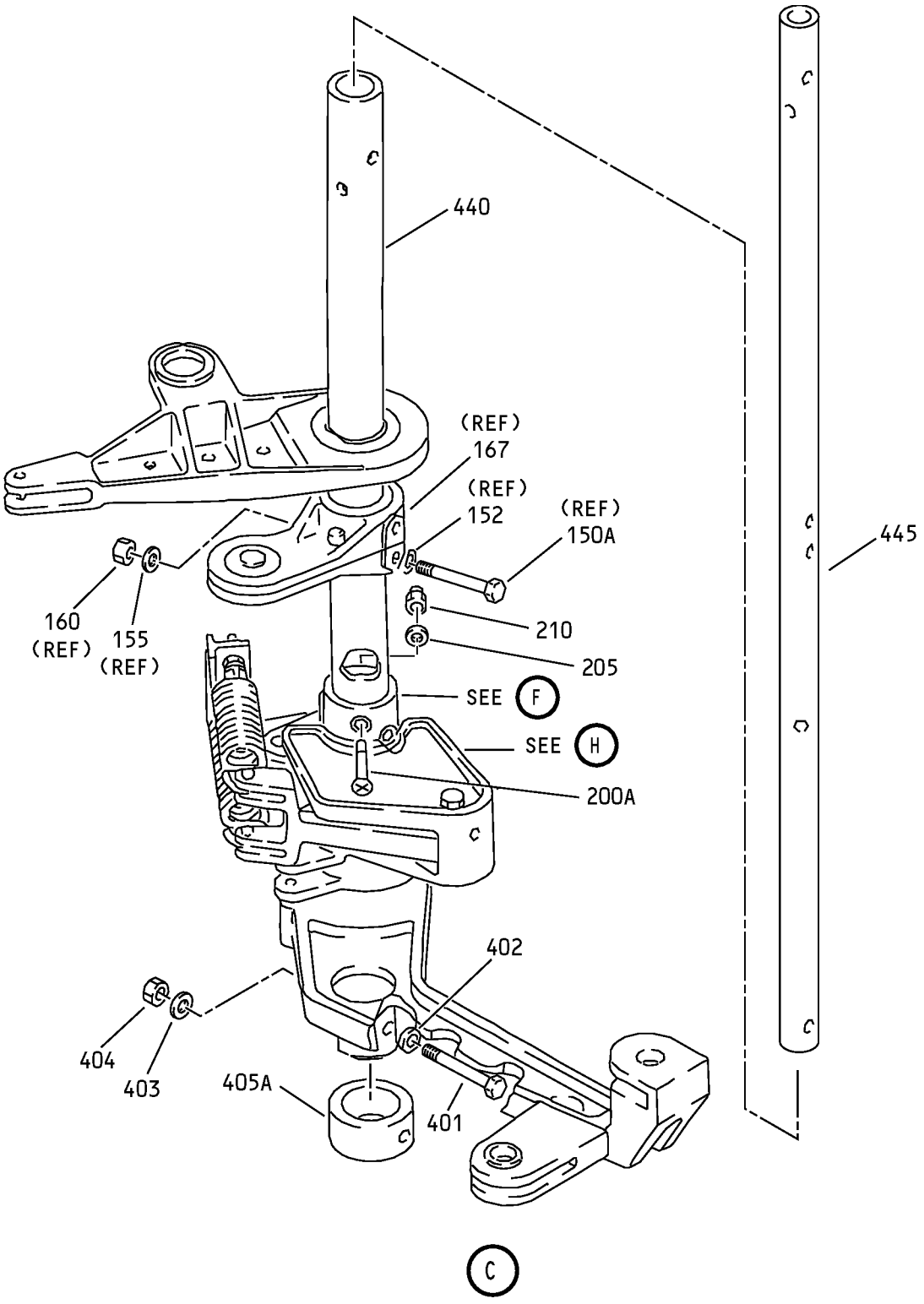
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	155A	8
		1	205A	2
		1	250A	2
		1	305A	4
		1	403A	2
DW4K6		1	330	1
DW4KE6531		1	330	1
F42NKE048		1	210	2
H52732-4CD		1	15	2
		1	70	2
		1	160	8
		1	255	2
		1	315	2
		1	404	2
H52732-4CM		1	15A	2
		1	70A	2
		1	160A	8
		1	210A	2
		1	255A	2
		1	315A	2
		1	404A	2
KP25B		1	85	1
KP25B2TS		1	85	1
KP25BFS428		1	85	1
KP25BG27		1	85	1
KP25BLY196		1	85	1
KP25BSD610		1	85	1
KP4R16FS428		1	320A	1
LGPL2SPV6-14AC		1	170A	1
		1	170A	1
		1	170A	1
LGPL2SPV6-8AC		1	172	1
LGPL2SPV6-9AC		1	172	1
		1	172	1
LLDW4K		1	330	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
LLKP25B		1	85	1
NAS1149D0332J		1	280	2
NAS1149D0416J		1	302	1
NAS1149D0432J		1	303	1
NAS1149D0463J		1	10	2
		1	65	2
		1	155	8
		1	205	2
		1	250	2
		1	304	2
		1	305	4
		1	403	2
NAS1611-327		1	55	1
NAS1611-327A		1	55A	1
NAS42DD4-18		1	30	2
NAS538B16P019		1	130	2
PACMB544DDFS428		1	355B	2
		1	355B	2
		1	355C	2
		1	355C	2
PACMKP23BSA3908		1	125	1
		1	385	2
PACMKP23BSFS428		1	125	1
		1	385	2
PAMKP4R16FS428		1	320B	1
		1	320C	1
PLH54CD		1	15	2
		1	70	2
		1	160	8
		1	255	2
		1	315	2
		1	404	2
PLH54CM		1	15A	2
		1	70A	2
		1	160A	8

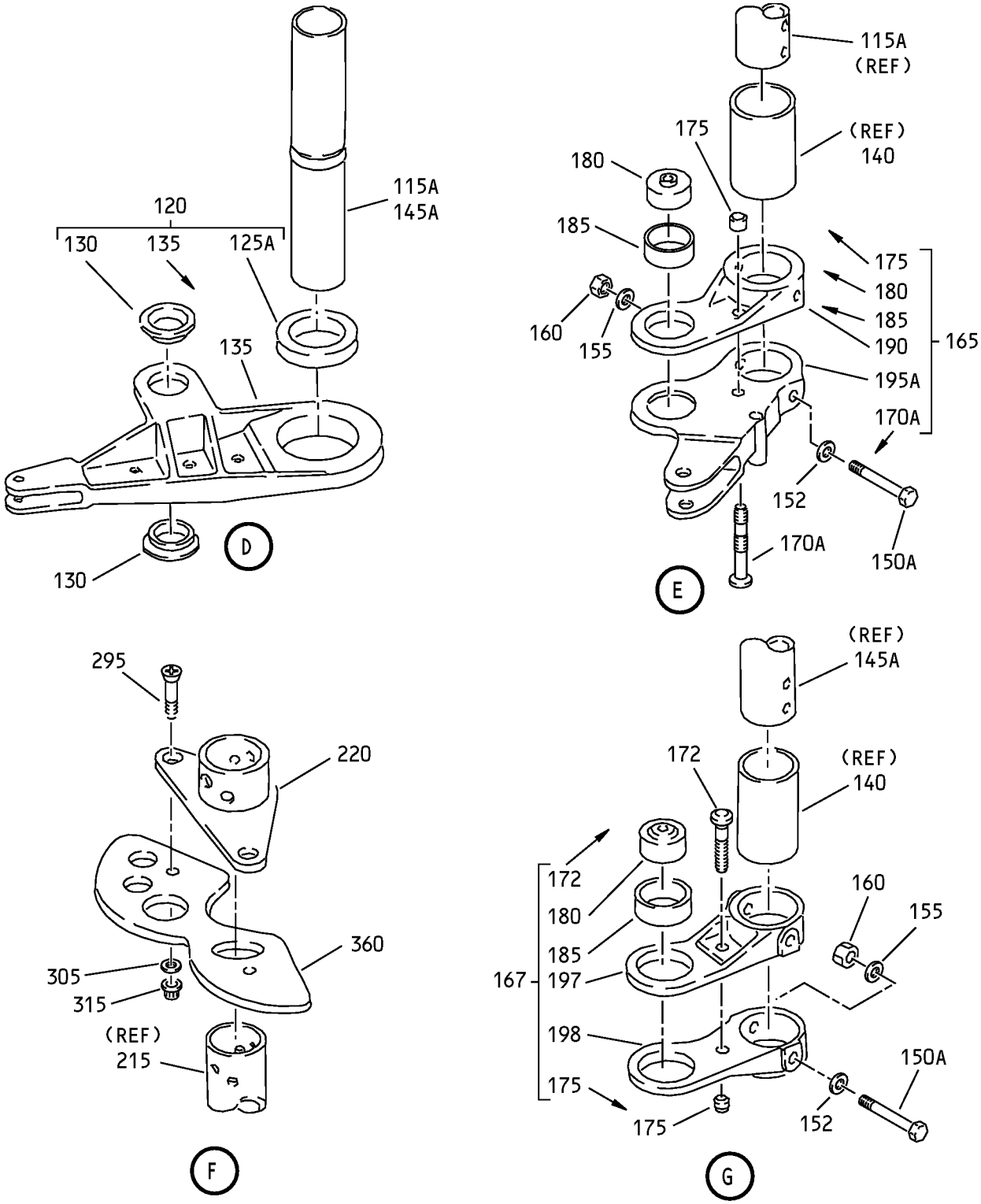
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	210A	2
		1	255A	2
		1	315A	2
		1	404A	2
SSMB544DDSD624		1	355B	2
		1	355C	2
SSMB544DDSD720		1	355	2
SSMKP21BSSD705		1	125	1
		1	385	2
SSMKP23BSSD705		1	125	1
		1	385	2
SSMKSP5SD705		1	180	1
T344E		1	355A	2



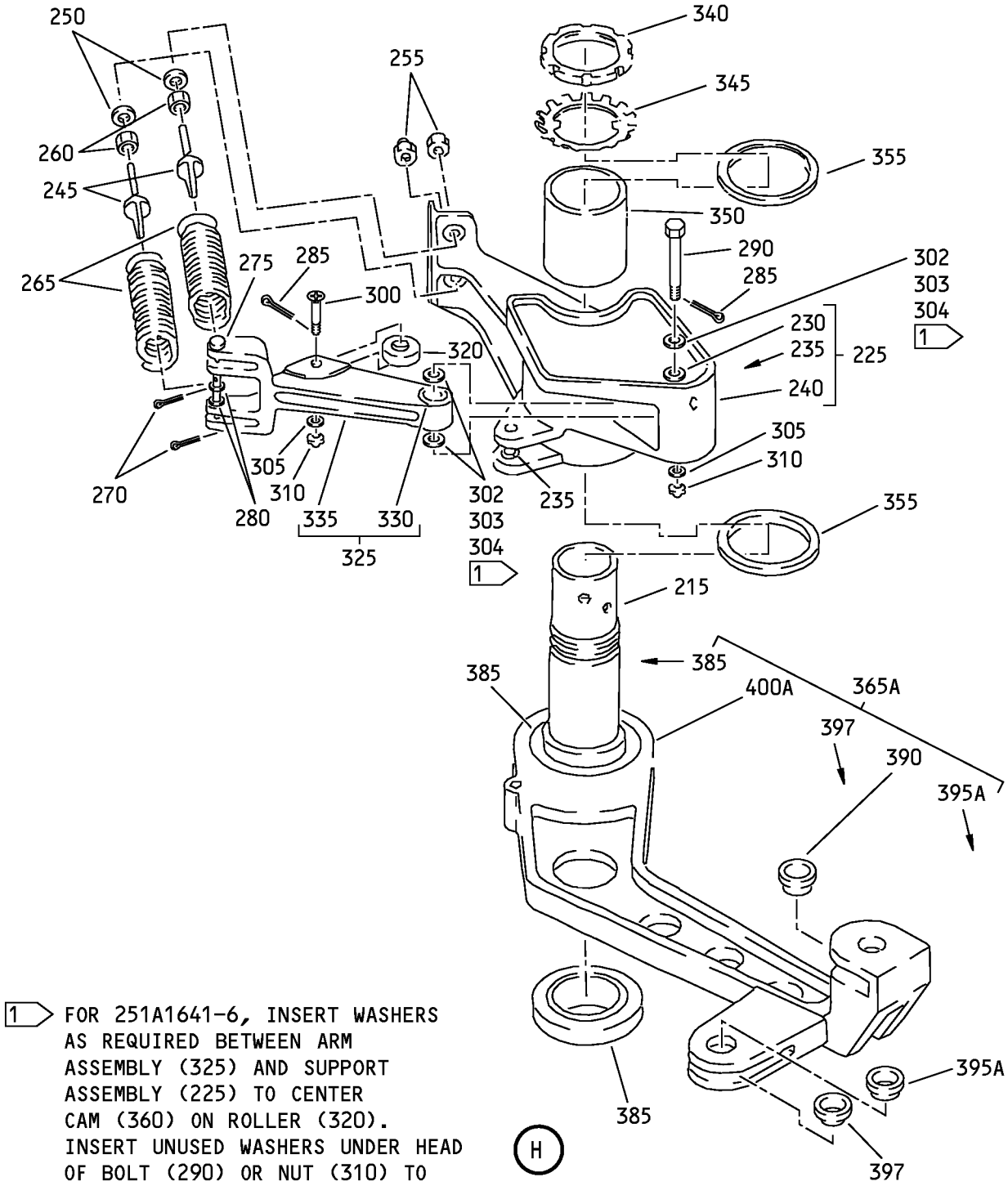
Aileron Centering Mechanism Assembly
IPL Figure 1 (Sheet 1 of 4)



Aileron Centering Mechanism Assembly
IPL Figure 1 (Sheet 2 of 4)



Aileron Centering Mechanism Assembly
IPL Figure 1 (Sheet 3 of 4)



G42835 S0004991943_V2

Aileron Centering Mechanism Assembly
IPL Figure 1 (Sheet 4 of 4)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	251A1641-1		MECHANISM ASSY-AIL. CENTERING STA 664	A	RF
–1B	251A1641-5		MECHANISM ASSY-AIL. CENTERING STA 664	B	RF
–1C	251A1641-6		MECHANISM ASSY-AIL. CENTERING STA 664	C	RF
5	BACB30NR4K38		. BOLT		2
7	BACW10BP4CD		. WASHER	A	2
–7A	BACW10BP4CK		. WASHER	B, C	2
10	NAS1149D0463J		. WASHER	A	2
–10A	BACW10BP4PK		. WASHER	B, C	2
15	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	2
–15A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
20	65-46992-9		. QUADRANT ASSY		1
25	BACR15BA4D		. . RIVET (SIZE DETERMINED ON INST)		1
30	NAS42DD4-18		. . SPACER		2
35	65-46992-10		. . QUADRANT (OPT ITEM 35A)		1
–35A	65-46992-11		. . QUADRANT (OPT ITEM 35)		1
40	251A1641-3		. SEAL-DISC		1
45	69-40782-2		. SHAFT-UPPER		1
50	65-16695-5		DELETED		
50A	69-16695-5		. RING-SEAL		1
55	NAS1611-327		. PACKING	A	1
–55A	NAS1611-327A		. PACKING	B, C	1
60	BACB30NR4K26		DELETED		
60A	BACB30NR4K28		. BOLT		2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
62	BACW10BP4CD		. WASHER	A	2
–62A	BACW10BP4CK		. WASHER	B, C	2
65	NAS1149D0463J		. WASHER	A	2
–65A	BACW10BP4PK		. WASHER	B, C	2
70	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	2
–70A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
75	69-38714-6		DELETED		
75A	251A1639-1		. HOUSING ASSY-BEARING		1
80	69-38713-2		. . SEAL		1
85	KP25BSD610		. . BEARING (V83086) (SPEC BACB10BW25) (OPT KP25B2TS (V43991)) (OPT KP25B (V38443)) (OPT LLKP25B (V38443)) (OPT KP25BG27 (V30163)) (OPT KP25BFS428 (V21335)) (OPT KP25BLY196 (V40920))		1
90	69-38712-1		. . HOUSING-INNER SPHER		1
95	69-38711-7		. . HOUSING ASSY-OUTER SPHER		1
100	66-24199-1		. . . PIN		1
105	69-38711-8		. . . HOUSING		1
110	69-41600-1		DELETED		
110A	251A1649-1		. RETAINER-BEARING		1
115	69-41679-1		DELETED		
115A	251A1643-1		. SLEEVE		1
120	65-50555-13		. SUPPORT ASSY		2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
125	PACMKP23BSF˜ S428		. . BEARING (V21335) (SPEC BACB10FV23) (OPT SSMKP21BSSD705 (V83086)) (OPT ACMKP23BSP510LY (V40920)) (OPT SSMKP23BSSD705 (V83086)) (OPT PACMKP23BSA3908 (V21335)) (OPT ITEM 125A)		1
–125A	BACB10FV23G		. . BEARING (OPT ITEM 125)		1
130	NAS538B16P019		. . BUSHING		2
135	65-50555-12		. . SUPPORT		1
140	69-41647-2		. SPACER		4
145	69-41679-1		DELETED		
145A	251A1643-2		. SLEEVE		1
150	BACB30NR4K31		DELETED		
150A	BACB30NR4K33		. BOLT		8
152	BACW10BP4CD		. WASHER	A	8
–152A	BACW10BP4CK		. WASHER	B, C	8
155	NAS1149D0463J		. WASHER	A	8
–155A	BACW10BP4PK		. WASHER	B, C	8
160	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	8
–160A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	8
165	251A1642-1		. LEVER ASSY		1
167	251A1648-1		. LEVER ASSY		3
170	LGPL2SPV6-7AC		DELETED		

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
170A	LGPL2SPV6-14AC		. . BOLT (V17446) (SPEC BACB30VN6K14) (OPT LGPL2SPV6-14AC (V92215)) (OPT 81669V6K14 (V56878)) (OPT LGPL2SPV6-14AC (V56878)) (USED ON ITEM 165)		1
172	LGPL2SPV6-9AC		. . BOLT (V17446) (SPEC BACB30VN6K9) (OPT LGPL2SPV6-8AC (V92215)) (OPT 81669V6K8 (V56878)) (OPT LGPL2SPV6-9AC (V56878)) (USED ON ITEM 167)		1
175	3SLCC6		. . COLLAR (V17446) (SPEC BACC30BK6) (OPT 3SLCC6 (V92215))		1
180	SSMKSP5SD705		. . BEARING (V83086) (SPEC BACB10FP5) (OPT ACMKSP5A3908 (V21335)) (OPT ACMKSP5FS428 (V21335))		1
185	69-38919-1		. . SLEEVE (MAKE FROM 6061-0 SH PER QQ-A-250/11 OR 6061-0 TUBING PER WW-T-789.OPTL MATRL 6061-T6 ROD PER QQ-A-225/8 OR 6061-T6 TUBING PER WW-T-700/6 ANNEAL TO 6061-0 AFTER MACHINING)		1
190	65-51548-3		. . LEVER (USED ON ITEM 165)		1
195	251A1642-2		DELETED		
195A	65C19770-1		. . LEVER (USED ON ITEM 165)		1
197	65-51548-9		. . LEVER (USED ON ITEM 167)		1
198	65-51548-10		. . LEVER (USED ON ITEM 167)		1
200	BACB30NN4K31		DELETED		
200A	BACB30NN4K32		. BOLT		2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
205	NAS1149D0463J		. WASHER	A	2
–205A	BACW10BP4PK		. WASHER	B, C	2
210	F42NKE048		. NUT (V72962) (SPEC BACN10R428) (OPT 42NKE048 (V72962)) (OPT 26C048 (V80539))	A	2
–210A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
215	65-75384-1		. RETAINER		1
220	65-53390-4		. HUB		1
225	65-52285-15		. SUPPORT ASSY	A, B	1
–225A	65-52285-18		. SUPPORT ASSY	C	1
230	BACB28X4D38		. . BUSHING	A, B	1
–230A	BACB28X4D038		. . BUSHING	C	1
235	BACB28X4C25		. . BUSHING	A, B	1
–235A	BACB28X4C025		. . BUSHING	C	1
240	65-52285-16		. . SUPPORT	A, B	1
–240A	65-52285-19		. . SUPPORT	C	1
245	69-74646-1		. EYEBOLT		2
250	NAS1149D0463J		. WASHER	A	2
–250A	BACW10BP4PK		. WASHER	B, C	2
255	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	2
–255A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
260	AN316-4R		. NUT	A	2
–260A	BACN11U4CM2N		. NUT	B, C	2
265	69-39429-3		. SPRING		2
270	BACP18BC02C06P		. PIN-COTTER	A	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–270A	BACP18BC02A06P		. PIN-COTTER	B, C	2
275	69-76564-1		. PIN (OPT ITEM 275A)	A	1
–275A	69-76564-2		. PIN (OPT ITEM 275)	A	1
–275B	69-76564-3		. PIN	B, C	1
–275C	69-76564-3		. PIN (REPLACES ITEMS 275, 275A)	A	1
280	NAS1149D0332J		. WASHER	A	2
–280A	BACW10BP3NPK		. WASHER	B, C	2
285	BACP18BC02C06P		. PIN-COTTER	A	2
–285A	BACP18BC02A06P		. PIN-COTTER	B, C	2
290	BACB30NR4DK26		DELETED		
290A	BACB30NR4DK28		. BOLT (OPT ITEM 290B)	A	1
–290B	BACB30NF4D28		. BOLT (OPT ITEM 290A)	A	1
–290C	BACB30NR4DK28		. BOLT	B, C	1
295	BACB30NN4K5		. BOLT		2
300	BACB30LH4DK11		. BOLT (OPT ITEM 300B)	A	1
–300A	BACB30LH4D11		DELETED		
–300B	BACB30LU4D11		. BOLT (OPT ITEM 300)	A	1
–300C	BACB30LH4DK11		. BOLT	B, C	1
302	NAS1149D0416J		. WASHER	C	1
303	NAS1149D0432J		. WASHER	C	1
304	NAS1149D0463J		. WASHER	C	2
305	NAS1149D0463J		. WASHER	A	4
–305A	BACW10BP4PK		. WASHER	B, C	4
310	BACN11N104CD		. NUT (OPT ITEM 310A)	A	2
–310A	BACN10JD104CD		. NUT (OPT ITEM 310)	A	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–310B	BACN11N104CS		. NUT	B, C	2
315	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	2
–315A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
320	ACMKP4R16FS881		. BEARING (V21335) (OPT ITEM 320A)	A	1
–320A	KP4R16FS428		. BEARING (V21335) (OPT ITEM 320)	A	1
–320B	PAMKP4R16FS428		. BEARING (V21335)	B, C	1
–320C	PAMKP4R16FS428		. BEARING (V21335) (REPLACES ITEMS 320, 320A)	A	1
325	65-52286-11		. ARM ASSY		1
330	DW4KE6531		. . BEARING (V21335) (SPEC BACB10A671) (OPT LLDW4K (V38443)) (OPT DW4K6 (V38443))		1
335	65-52286-12		. . ARM		1
340	66-24467-1		. NUT		1
345	251A1641-2		. WASHER		1
350	69-39427-1		. SPACER		1
355	SSMB544DDSD720		. BEARING (V83086) (SPEC BACB10FU29G) (OPT ITEM 355A)	A	2

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–355A	B544DDNJC		. BEARING (V06144) (SPEC BACB10CF29PP) (OPT B544-2TS (V43991)) (OPT B544DDFS428 (V21335)) (OPT B544SSG27 (V30163)) (OPT T344E (VK8455)) (OPT B544DDFS101 (V06144)) (OPT B544DD (V38443)) (OPT B544FS101 (V06144)) (OPT B544DDP (V21760)) (OPT ITEM 355)	A	2
–355B	PACMB544DDF˜ S428		. BEARING (V06144) (SPEC BACB10FU29J) (OPT SSMB544DDSD624 (V83086)) (OPT PACMB544DDFS428 (V21335)) (OPT AMB544DDNJC (V06144))	B, C	2
–355C	PACMB544DDF˜ S428		. BEARING (V06144) (SPEC BACB10FU29J) (OPT SSMB544DDSD624 (V83086)) (OPT PACMB544DDFS428 (V21335)) (OPT AMB544DDNJC (V06144)) (REPLACES ITEMS 355, 355A)	A	2
360	69-39428-5		. CAM		1
365	65C25411-9		DELETED		
365A	251A1645-1		. SUPPORT ASSY-REACTION		1
370	NAS1802-08-8P		DELETED		
375	MS21209C0820P		DELETED		
380	69-54335-1		DELETED		
385	PACMKP23BSF˜ S428		. . BEARING (V21335) (SPEC BACB10FV23) (OPT SSMKP21BSSD705 (V83086)) (OPT ACMKP23BSP510LY (V40920)) (OPT SSMKP23BSSD705 (V83086)) (OPT PACMKP23BSA3908 (V21335))		2
390	BACB28X6C018		. . BUSHING		1
395	NAS538B16P019		DELETED		
395A	BACB28AT06B017C		. . BUSHING		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
397	BACB28AP04P017		. . BUSHING		1
400	65C25411-8		DELETED		
400A	251A1645-2		. . SUPPORT		1
401	BACB30NR4K27		. BOLT		2
402	BACW10BP4CD		. WASHER	A	2
–402A	BACW10BP4CK		. WASHER	B, C	2
403	NAS1149D0463J		. WASHER	A	2
–403A	BACW10BP4PK		. WASHER	B, C	2
404	H52732-4CD		. NUT (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))	A	2
–404A	PLH54CM		. NUT (V62554) (SPEC BACN10YR4CM) (OPT H52732-4CM (V15653))	B, C	2
405	65-51548-8		DELETED		
405A	251A1647-1		. RETAINER-BEARING		1
410	KSP5SD610		DELETED		
415	69-38919-1		DELETED		
420	2LPYT10-11		DELETED		
425	NAS1080-6		DELETED		
430	65-51548-9		DELETED		
435	65-51548-10		DELETED		
440	251A1644-1		. TUBING-OUTER		1
445	251A1644-2		. TUBING-INNER		1

–Item not Illustrated