COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

FLAP ACTUATION WHEEL WELL TEE GEARBOX ASSEMBLY

PART NUMBER 256A3650–1, –2, –3, –4, –5, –6

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COMPONENT MAINTENANCE MANUAL

Revision No. 15
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To: All holders of FLAP ACTUATION WHEEL WELL TEE GEARBOX ASSEMBLY 27-55-81.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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

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Location of Change	Description of Change
27-55-81	
ASSEMBLY	Changed the data in the Tools/Equipment list.
SPECIAL TOOLS FIXTURES AND EQUIPMENT	Changed the data in the Tool Supplier Information table.
	Added the Commercial Tools table.
	Added the Special Tools table.
	Added the Tool Supplier Information table.
	Changed the data in the Special Tools table.

COMPONENT MAINTENANCE MANUAL

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

Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
27-55-81 ILLUSTRATED PARTS LIST					
1001	Nov 01/2008				
1002	Jul 01/2006				
1003	Mar 01/2006				
1004	Mar 01/2006				
1005	Mar 01/2006				
1006	Mar 01/2006				
1007	Mar 01/2006				
1008	Mar 01/2006				
1009	Mar 01/2006				
1010	Mar 01/2006				
1011	Mar 01/2006				
1012	Mar 01/2006				
1013	Mar 01/2006				
1014	Mar 01/2006				
1015	Mar 01/2006				
1016	BLANK				

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TABLE OF CONTENTS

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38295-7	MAR 01/00
		PRR 38419	NOV 01/03

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**

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Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
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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.

FLAP ACTUATION WHEEL WELL TEE GEARBOX ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The Flap Actuation Wheel Well Tee Gearbox Assembly has three bevel gears with ball bearings installed in an aluminum housing. The external ends of the gears have splined couplings which attach to the flap drive torque tubes.

2. Operation

A. The flap drive power drive unit (PDU) supplies power to the flap actuators through the torque tubes. The tee gearbox assembly transmits power to the inboard transmission of the flap.

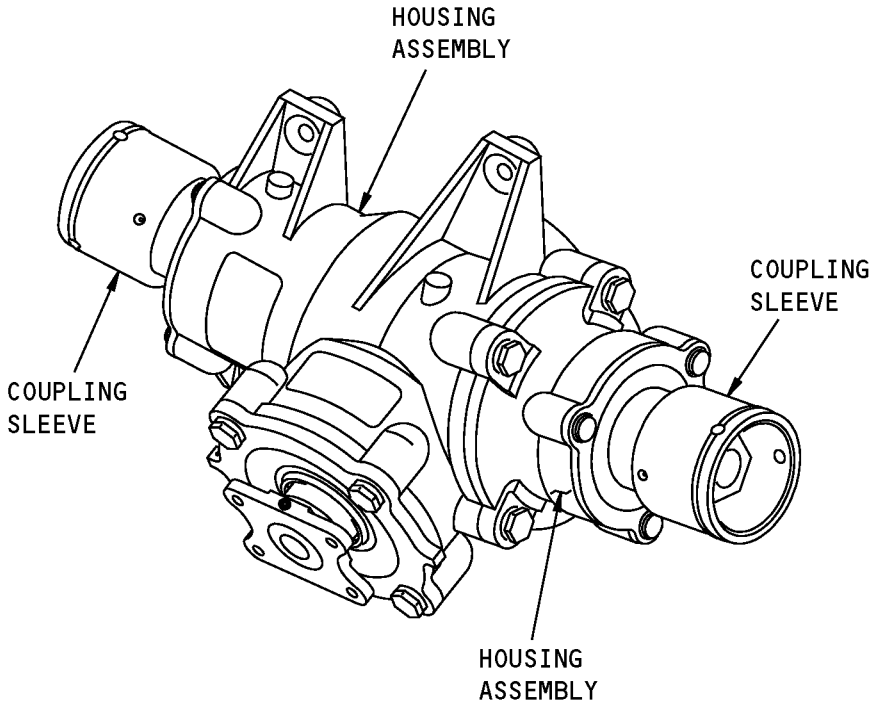
3. Leading Particulars (Approximate)

A. Length – 12.0 inches

B. Width – 6.0 inches

C. Height – 6.4 inches

D. Weight – 30 pounds



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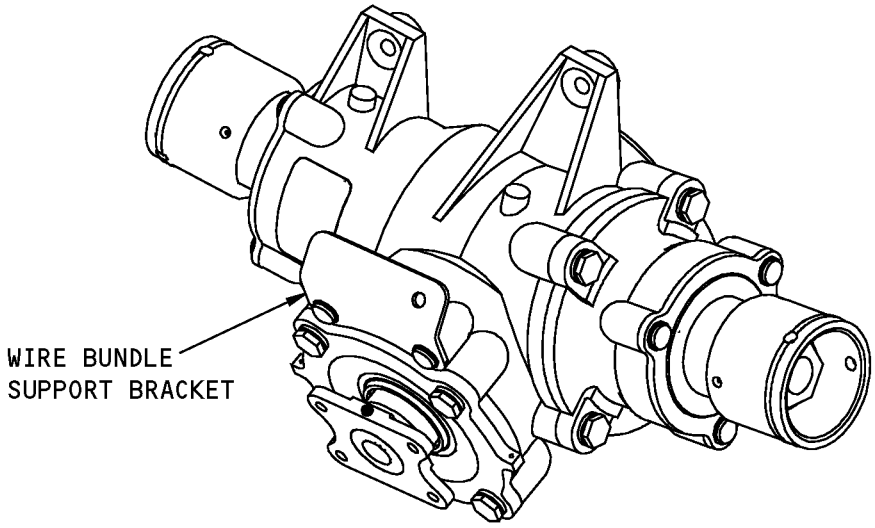


256A3650-3,-4

Flap Actuation Wheel Well Tee Gearbox Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

A. This procedure has the data necessary to do a test of the gearbox assembly after an overhaul or for fault isolation.

B. There are three parts to the procedure:

(1) Gearbox Assembly Test (TESTING AND FAULT ISOLATION, Paragraph 2.)

(2) Fault Isolation (TESTING AND FAULT ISOLATION, Paragraph 3.)

(3) Fault Correction (TESTING AND FAULT ISOLATION, Paragraph 4.)

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

D. Refer to IPL Figure 1 for item numbers.

2. Gearbox Assembly Test

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-4720	Test Equipment - Leakage Test (Part #: J27054-1, Supplier: 81205)
SPL-5384	Wrench - Coupling Sleeve Flap Actuation (Part #: C27041-1, Supplier: 81205)
SPL-5703	Test Equipment - T.E. Flap Drive Gearboxes (Part #: C27068-65, Supplier: 81205)

B. Procedure

(1) Use standard industry practices to examine the gearbox assembly.

(2) Install the gearbox assembly on the T.E. Flap Drive Gearbox Test Equipment, SPL-5703.

(3) Do a bearing test.

(a) Turn the gears (130) thru a minimum of 720 degrees in each direction.

(b) Make sure that the gears turn smoothly.

(4) Do a torque test.

(a) Turn the gears (130) thru a minimum of 8 turns in each direction at a rate 10-20RPM. Use a torque wrench on the retainer bolt (25) on one of the gear shafts.

(b) Make sure that the breakaway and maximum running torque applied at the gear shaft is not more than 10 pound-inches.

(5) Do a backlash test.

(a) Use the coupling sleeve wrench, SPL-5384 to remove the couplings (30), coupling seals (35), coupling sleeves (20), and seal shields (45) from the gear shafts. Remove the seal retainers (40), seals (50), and seal rings (55) from the housing assemblies (DISASSEMBLY).

(b) Apply a 25-35 pound axial load to each gear (130) to move the gear teeth apart. Apply a torque of 10-15 pound-inches to the gear which is not held by the tool. Measure the backlash at a gear pitch diameter of 2.471 inches at three locations approximately 120 degrees apart.

NOTE: Apply the torque to the gear in one direction to get the first position of the gear. Apply the torque in the opposite direction to get the second position of the gear. The backlash is the total clearance between the two gear positions.

(c) Make sure that the backlash in 0.004-0.006 inch.

(6) Remove the gearbox assembly from the T.E. Flap Drive Gearbox Test Equipment, SPL-5703.

(7) Do a pressure test.

(a) Remove the plug (270) and packing (275). Attach the leakage test equipment, SPL-4720 to the gearbox assembly.

(b) Pressurize the gearbox with air to 14-16 PSIG for 15 minutes.

(c) Make sure that there is no sign of leakage of air or grease.

3. Fault Isolation

A. General

(1) Refer to TESTING AND FAULT ISOLATION, Table 101 to do fault isolation with the test results.

Table 101: Fault Isolation Table

TROUBLE	PROBABLE CAUSE	CORRECTIONS
Gears do not turn smoothly or move freely	Defective bearings (65,105,195,265)	Disassemble and replace the defective bearings (65,105,195, 265)
No-load torque exceeds 15 pound- inches	Defective bearings (65,105,195,265)	Disassemble and replace the defective bearings (65,105,195, 265)
Backlash is not correct	Shims (110 thru 125, 200 thru 215, or 245 thru 260) need adjustment	Disassemble and adjust the shims (110 thru 125, 200 thru 215, or 245 thru 260)
	Defective gears (130,220)	Disassemble and replace the defective gears (130,220)
Air or grease leakage during pressure test	Defective seals (50, 185) or packings (60,95,275)	Disassemble and replace the defective seals (50,185) or packings (60,95,275)

4. Fault Correction

A. General

(1) If the gears (130,220) do not move freely or do not turn smoothly, replace the bearing(s) (65,105,195,265) as follows:

(a) Disassemble the gearbox assembly (DISASSEMBLY).

(b) Replace the defective bearing(s) (65,105,195,265) if it is necessary.

(c) Assemble the gearbox assembly (ASSEMBLY).

(d) Do a backlash test on the gearbox assembly.

(2) If the no-load torque is more than 15 pound-inches, replace the bearing(s) (65,105,195,265) as follows:

(a) Disassemble the gearbox assembly (DISASSEMBLY).

(b) Replace the defective bearing(s) (65,105,195,265) if it is necessary.

(c) Assemble the gearbox assembly (ASSEMBLY).

(d) Do a backlash test on the gearbox assembly.

(3) If the backlash is not 0.004-0.006 inch, do the subsequent steps:

(a) Disassemble the gearbox assembly (DISASSEMBLY).

(b) Increase or decrease the quantity of shims (110 thru 125, 200 thru 215, 245 thru 260) as necessary to correct the backlash.

(c) Assemble the gearbox assembly (ASSEMBLY).

NOTE: It is not necessary to measure the bearings (105,195, 265) again to calculate shim thickness.

(d) Do a backlash test on the gearbox assembly again. If the backlash is not 0.004-0.006 inch, repeat steps (a) thru (c). If after many attempts you cannot make the backlash 0.004-0.006 inch, replace the gear assemblies (130, 220).

(4) If air or grease leakage occurs at a seal or any two surfaces that contact, replace the seals (50,185) or packings (60,95,275) as necessary.

DISASSEMBLY

1. General

A. This procedure has the data necessary to disassemble the gearbox 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. Gearbox Disassembly

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-5384	Wrench - Coupling Sleeve Flap Actuation (Part #: C27041-1, Supplier: 81205)

B. Part Replacement

NOTE: These parts are recommended for replacement. Replacement of other parts can be by in-service experience.

(1) Packings (60,95,275)

(2) Seals (50A,185A)

C. Procedure

(1) Remove the plug assembly (150) and the slider assembly (165) from the gearbox assembly.

(2) Remove the couplings (30) at each end of the gearbox assembly.

(a) Apply the coupling sleeve wrench, SPL-5384 to hold the coupling sleeve (20) while the bolt (25) is removed.

(b) Remove the bolt (25), coupling (30), coupling seal (35), coupling sleeve (20), and shield (45).

(3) Remove the bolts (10) and the washers (15) at six locations, then remove the two retainers (40) from the gearbox assembly.

(4) Remove the shaft seals (50A) and the seal rings (55) from the ends of the gearbox assembly.

(5) Remove the lockwire from the bolts (70A, 71) on two sides of the gearbox assembly, then remove the bolts (70A, 71) and the washers (75) from the gearbox assembly.

(6) Remove the housing assembly (80) from the housing assembly (280,285).

(7) Remove the retainer (180), shaft seal (185A), and spacer (190) from the housing assembly (280).

(8) Remove the packings (60,95) from the housing assembly (80), the retainer (180), and the seal rings (55).

(9) Remove the bearing (195) and the shims (200 thru 215) from the housing assembly (280,285). Measure and record the thickness of the shim stack removed. Identify this thickness as S3. Keep the bearing and shims together to help during assembly of the gearbox.

(10) Remove the gear assembly (220) and the shims (245 thru 260) from the housing assembly (280,285). Measure and record the thickness of the shim stack removed. Identify this thickness as S4. Keep the shims with the gear assembly.

(11) Remove the bearings (65) from the housing assemblies (80,280,285).

(12) Remove the gear assemblies (130) with the bearings (105), the shims (110 thru 125), and the spacers (100) from the housing assemblies (80, 280, 285). Measure and record the thickness of the shim stack removed from the gear in housing assembly (80). Identify this thickness as S2 and keep the shims together with the bearing removed from housing assembly (80). Measure and record the thickness of the shim stack removed from the gear in housing assembly (280,285). Identify this thickness as S1 and keep the shims with the bearing that was removed from housing assembly (280,285).

(13) Remove the bearings (105), the shims (110 thru 125), and the spacers (100) from the gear assemblies (130). Keep each set of bearings and shims together with the correct housing assembly to help during assembly of the gearbox.

NOTE: Do not remove the inserts (85,290,295,300) or markers (315,320,325) from the housing assemblies (80,280,285) unless repair or replacement is necessary.

(14) Remove bracket (17 or 18) with bolts (10), washers (15).

CLEANING

1. General

A. This procedure has the data necessary to clean the gearbox 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 (65,105,195,265) as specified in SOPM 20-30-01.

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

CHECK

1. General

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

B. Refer to FITS AND CLEARANCES for design dimension and wear limits.

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. 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 checks if the visual check shows possible defects or if you think there are defects.

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

(a) Coupling sleeve (20)

(b) Seal ring (55)

(c) Coupling half (30)

(d) Shield (45)

(e) Gear (145,240)

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

(a) Seal retainer (40,180)

(b) Housing (90,305,310)

(c) Spacer (100,190)

(4) Examine the gear teeth for pit marks or irregular worn areas.

(5) See if the wear pattern on the gear is in the center of the area of the pitch diameter.

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
256A3651	HOUSING ASSEMBLY	2-1
256A3421	HOUSING ASSEMBLY	3-1
256A3652	GEAR ASSEMBLY	4-1
256A3653	GEAR ASSEMBLY	5-1
256A3657	SLIDER ASSEMBLY	6-1
256A3741	COUPLING	7-1
256W3244	SEAL RETAINER	8-1
256A3654	RETAINER	9-1
256A3658	PLUG	10-1
256A3744	BOLT	11-1

2. Dimensioning Symbols

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

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 other repairs.

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. Refinish of Other Parts

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

C. General

(1) Instructions for the parts in REPAIR 1-1, Table 601 are for replacement of the original finish.

D. Procedure

NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for 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 of other parts.

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
Brackets (17,18)	Al alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31). Apply primer, C00259 (F-20.03).
Shim (245,250,255, 260,110,115, 120,125,200, 205,210, 215)	301 CRES, Full Hard	Passivate (F-17.25).
Seal Shield (45)	15-5PH CRES, 180- 200 KSI	Passivate (F-17.25).
Seal Ring (55)	15.2 CR-1.0M0- 0.40N-(0.28-0.34C) CRES	Passivate (F-17.25).
Spacer (100)	15-5PH CRES, 180- 200 KSI	Passivate (F-17.25).

Table 601: Refinish Details (Continued)

IPL FIG. & ITEM	MATERIAL	FINISH
Spacer (190)	Al alloy	Anodize (F-17.31).
Sleeve (20)	4140 Steel, 150-170 KSI	Cadmium plate (F-15.36) all over. Apply primer, C00259 (F-20.02) all over, but not on spline teeth.

HOUSING ASSEMBLY - REPAIR 2-1

256A3651–1, –2, –11, –12

1. General

A. This procedure has the data necessary to repair and refinish the housing assembly (280).

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.

D. General repair details:

(1) Material: Aluminum alloy

2. Housing Repair

A. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-22	HOW TO INSTALL THREADED INSERTS

B. Procedure (REPAIR 2-1, Figure 601)

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

(1) Machine the bearing seats in the housing (305) as required, within repair limits, to remove defects.

(2) Build up with hard anodize (F-17.06).

NOTE: Maximum thickness of anodize layer is 0.004 after grinding.

(3) Grind the anodized area to design dimensions and finish.

(4) Inserts (290,295,297,300) – Replace per SOPM 20-50-22.

3. Housing 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

B. References

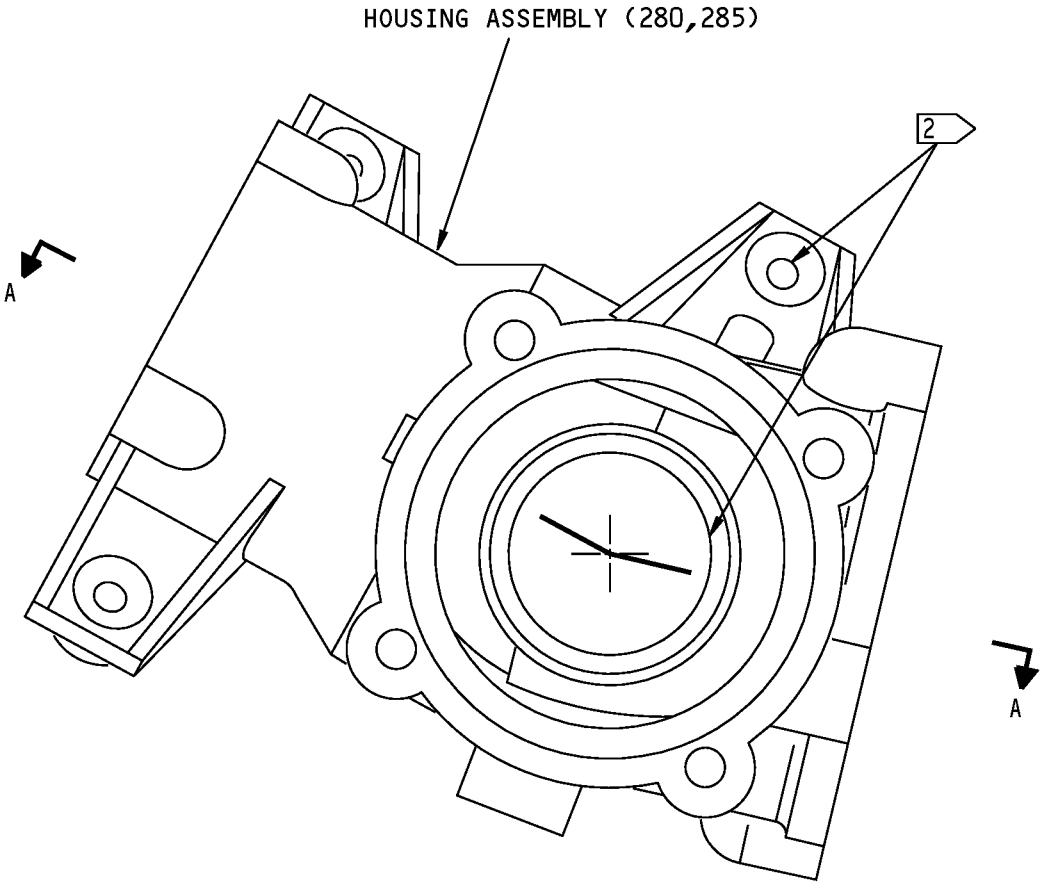
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

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

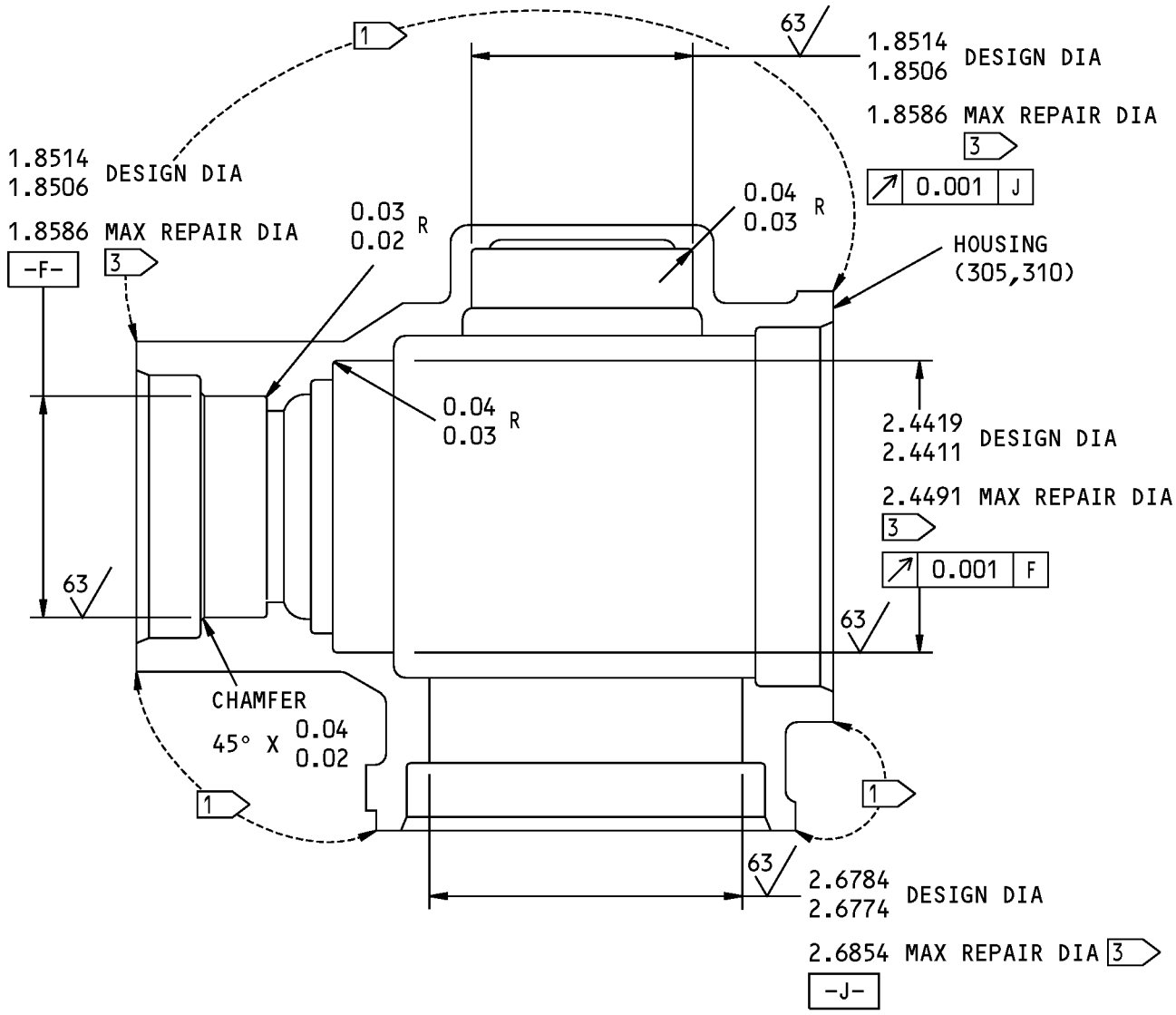
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Anodize (F-17.35) all over.

(2) Apply primer, C00259 (F-20.02) as shown.



256A3651-1,-2,-11,-12 Housing Assembly Repair
Figure 601 (Sheet 1 of 2)



A-A

1 APPLY BMS 10-11, TYPE 1 PRIMER (F-20.02) TO EXTERNAL SURFACES IN THIS AREA.

2 DO NOT APPLY PRIMER (F-20.02) TO HOLES OR INTERNAL SURFACES.

3 HARD ANODIZE (F-17.06) AND GRIND TO DESIGN DIMENSIONS. MAXIMUM ANODIZE THICKNESS 0.004.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3651-1,-2,-11,-12 Housing Assembly Repair
Figure 601 (Sheet 2 of 2)

HOUSING ASSEMBLY - REPAIR 3-1

256A3421–1

1. General

A. This procedure has the data necessary to repair and refinish the housing assembly (80).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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. Housing Repair

A. References

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

B. Procedure

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

(1) Maching the bearing seat in the housing (90) as required, within the repair limits shown in REPAIR 3-1, Figure 601, to remove defects.

(2) Break all sharp edges.

(3) Hard anodize (F-17.06) the machined areas only.

NOTE: Maximum thickness of anodize layer is 0.004 after grinding.

(4) Grind the anodized area to the design dimension shown in REPAIR 3-1, Figure 601. Make sure to keep the surface finish shown in REPAIR 3-1, Figure 601.

3. Housing 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

B. References

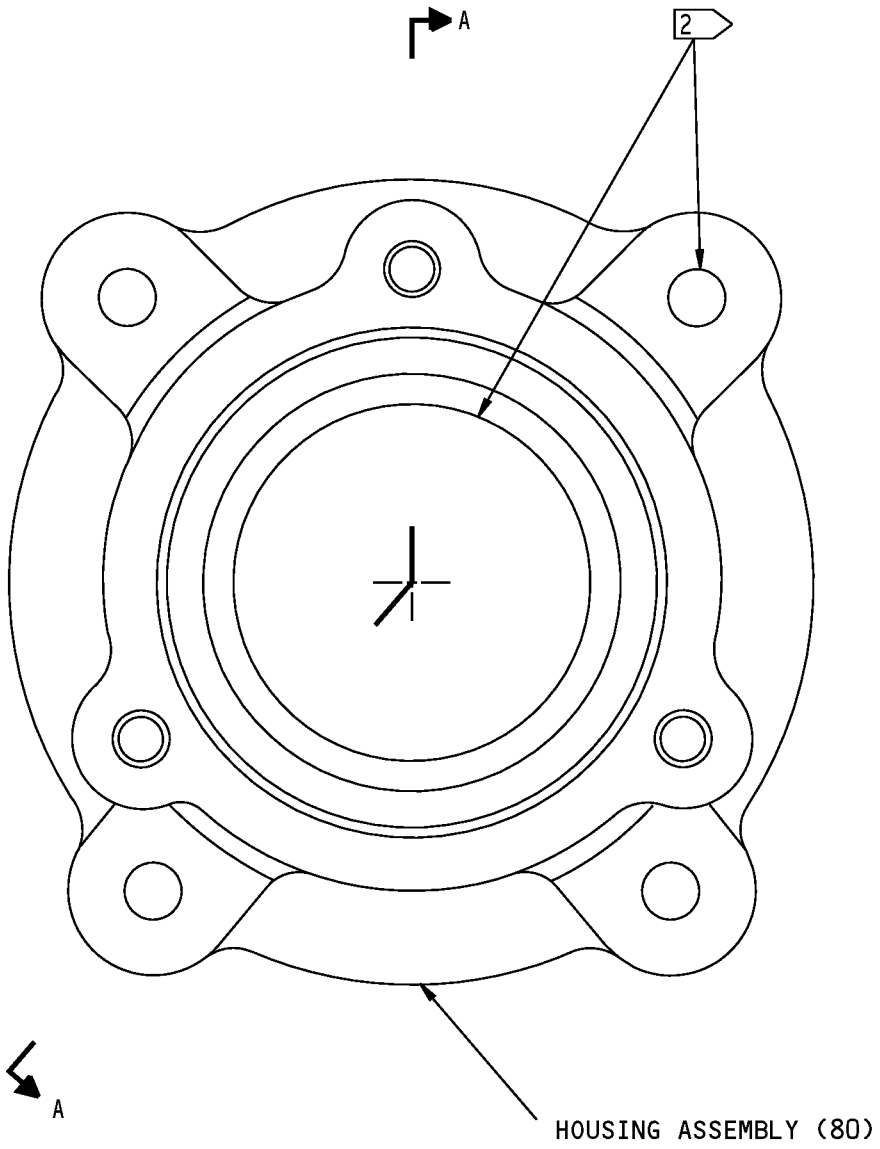
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

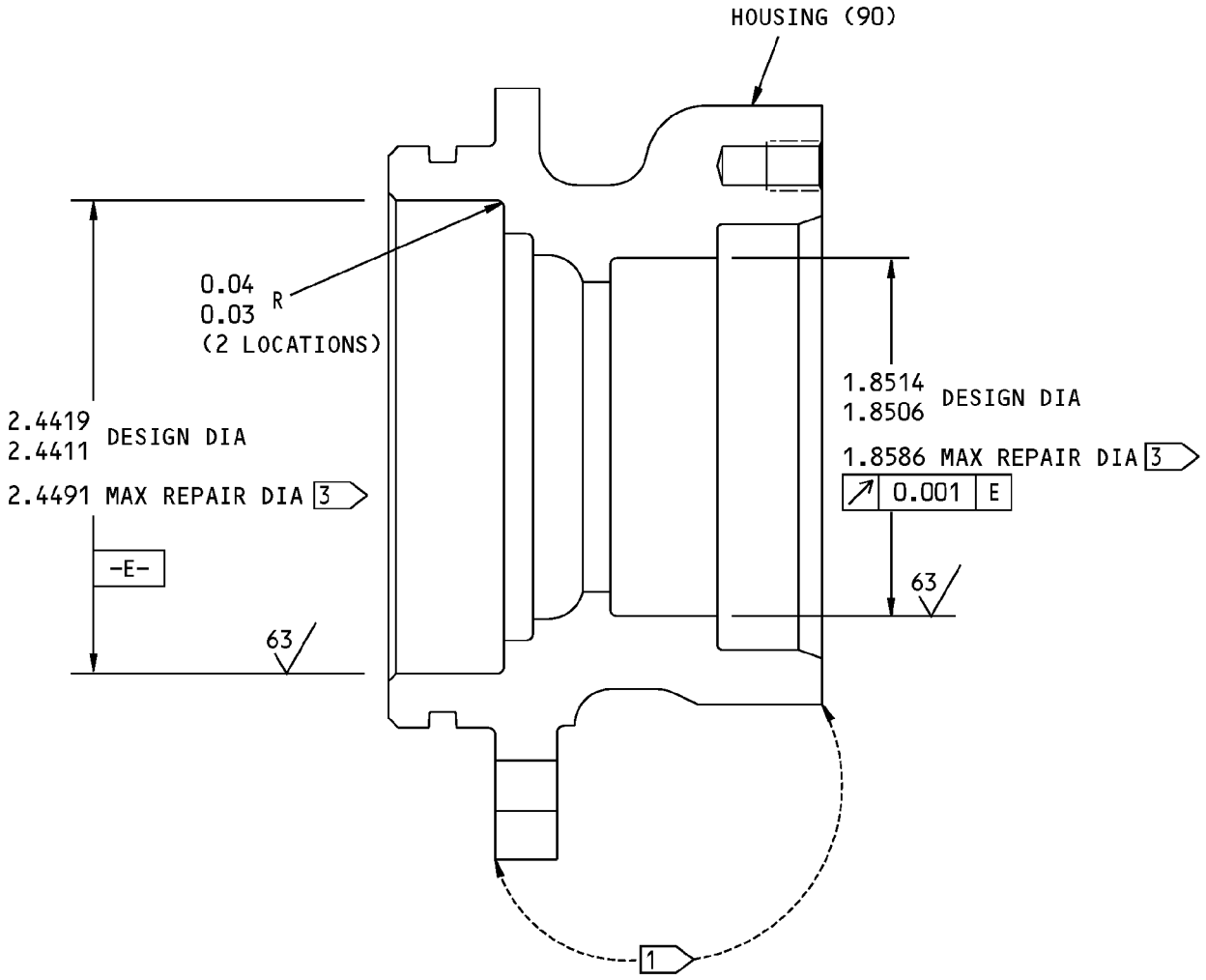
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Anodize (F-17.35) all over.

(2) Apply primer, C00259 (F-20.02) to all the external surfaces other than the holes, as shown in REPAIR 3-1, Figure 601.



256A3421-1 Housing Assembly Repair
Figure 601 (Sheet 1 of 2)



A–A

1 APPLY ONE LAYER OF BMS 10-11, TYPE 1 PRIMER (F-20.02) TO EXTERNAL SURFACES IN THIS AREA.

2 DO NOT APPLY PRIMER (F-20.02) TO HOLES OR INTERNAL SURFACES.

3 HARD ANODIZE (F-17.06) AND GRIND TO DESIGN DIMENSION. MAXIMUM ANODIZE THICKNESS 0.004.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3421-1 Housing Assembly Repair
Figure 601 (Sheet 2 of 2)

GEAR ASSEMBLY - REPAIR 4-1

256A3652–1

1. General

A. This procedure has the data necessary to repair and refinish the gear assembly (130).

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

C. Refer toREPAIR-GENERAL, Paragraph 2. 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: 9310 Steel, AMS 6265, 160-190 ksi

(2) Shot Peen: Surfaces as shown in REPAIR 4-1, Figure 601.

(a) Shot Size = 0.017 - 0.046

(b) Intensity = 0.010A

(c) Coverage = 2.0

2. Gear Repair

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 20-10-01	REPAIR AND REFINISH OF HIGH STRENGTH STEEL PARTS
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
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 the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Machine the gear (145) to the repair dimension shown in REPAIR 4-1, Figure 601 to remove defects at the bearing interfaces (SOPM 20-10-01).

(2) Break all sharp edges.

(3) Do a magnetic particle check of the gear (SOPM 20-20-01).

(4) Shot peen the machined area as shown in REPAIR 4-1, Figure 601 (SOPM 20-10-03).

(5) Apply chrome plate (F-15.03) to the area shown in REPAIR 4-1, Figure 601.

(6) Grind the chrome plate to the design dimension shown in REPAIR 4-1, Figure 601 (SOPM 20-10-04). Make sure to keep the surface finish shown in REPAIR 4-1, Figure 601.

(7) Apply wipe-on primer, C00259 (F-19.45) to the chrome plated surfaces.

3. 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

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 (REPAIR 4-1, Figure 601)

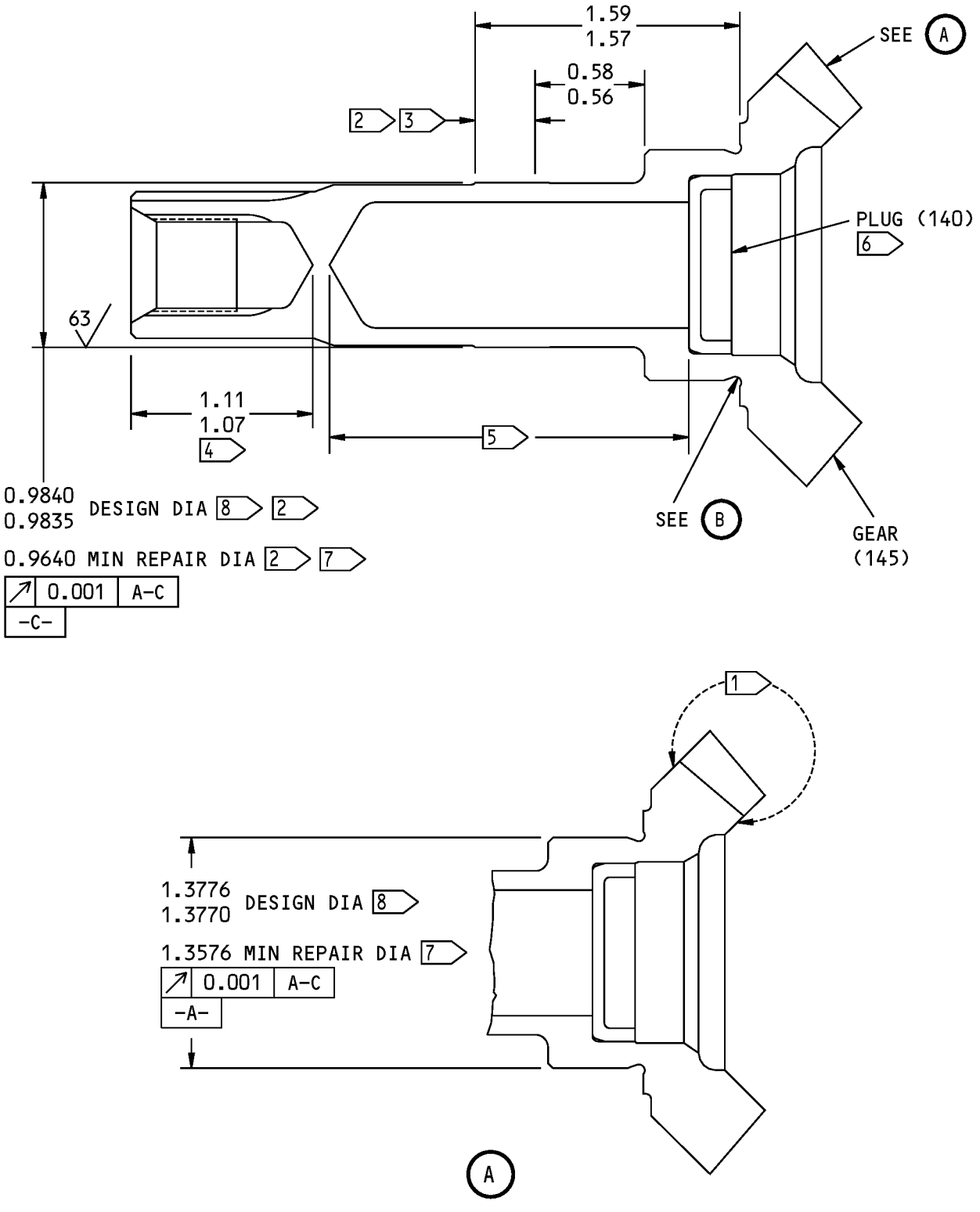
NOTE: For stripping of protective finishes, refer to SOPM 20-30-02. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Apply cadmium plate (F-15.23) on all surfaces other than the surfaces shown in REPAIR 4-1, Figure 601. Plating throw-in is permitted at the mouths of the holes.

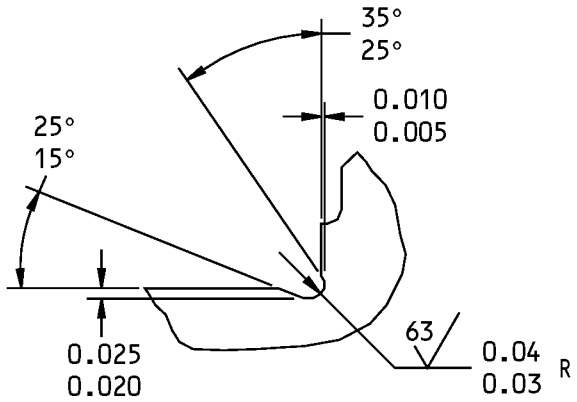
(2) Apply primer, C00259 (F-20.02) to all the internal surfaces in the area shown in REPAIR 4-1, Figure 601.

(3) Apply no finish (F-25.01) to the bearing surfaces, as shown in REPAIR 4-1, Figure 601.

(4) If necessary, install the plug (140) with wet primer, C00259 (F-20.06).



256A3652-1 Gear Assembly Repair
Figure 601 (Sheet 1 of 2)



1 NO FINISH ON THIS AREA (F-25.01).

2 DIAMETER APPLIES OVER THIS AREA.

3 CADMIUM PLATE RUNOUT ON ADJACENT SURFACES MUST BE 0.030 OR LESS.

4 CADMIUM PLATE REQUIRED IN THE BORE, 0.0002 MINIMUM THICKNESS.

5 APPLY PRIMER ON ALL INTERNAL SURFACES IN THE AREA SHOWN (F-20.06).

6 INSTALL WITH WET PRIMER (F-20.06).

7 SHOT PEEN AND BUILD UP WITH CHROME PLATE (F-15.03). GRIND TO DESIGN DIMENSION AND FINISH SHOWN. MAXIMUM CHROME PLATE THICKNESS0.010 AFTER GRINDING. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE. APPLY WIPE-ON PRIMER (F-19.45).

8 NO CADMIUM PLATE (F-15.23) ON THIS SURFACE.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3652-1 Gear Assembly Repair
Figure 601 (Sheet 2 of 2)

GEAR ASSEMBLY - REPAIR 5-1

256A3653–1

1. General

A. This procedure has the data necessary to repair and refinish the gear assembly (220).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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: 9310 Steel, AMS 6265, 160-190 ksi

(2) Shot Peen:

(a) Shot Size = 0.017 - 0.046

(b) Intensity = 0.010A

(c) Coverage = 2.0

2. Gear Repair

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 20-10-01	REPAIR AND REFINISH OF HIGH STRENGTH STEEL PARTS
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
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 the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Machine the gear (240) to the repair dimension shown in REPAIR 5-1, Figure 601 to remove defects at the bearing interfaces (SOPM 20-10-01).

(2) Break all sharp edges.

(3) Do a magnetic particle check of the gear (SOPM 20-20-01).

(4) Shot peen the machined area as shown in REPAIR 5-1, Figure 601 (SOPM 20-10-03).

(5) Apply chrome plate (F-15.03) to the area shown in REPAIR 5-1, Figure 601.

(6) Grind the chrome plate to the design dimension shown in REPAIR 5-1, Figure 601 (SOPM 20-10-04). Make sure to keep the surface finish shown in REPAIR 5-1, Figure 601.

(7) Apply wipe-on primer, C00259 (F-19.45) to the chrome plated surfaces.

3. 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

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 (REPAIR 5-1, Figure 601)

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

(1) Apply cadmium plate (F-15.23) on all surfaces other than the surfaces shown in REPAIR 5-1, Figure 601. Plating throw-in is permitted at the mouths of the holes.

(2) Apply primer, C00259 (F-20.02) to all the internal surfaces in the area shown in REPAIR 5-1, Figure 601.

(3) Apply no finish (F-25.01) to the bearing surfaces, as shown in REPAIR 5-1, Figure 601.

4. Remove and Replace Bushings and Swaging Ring

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 5-1, Figure 601)

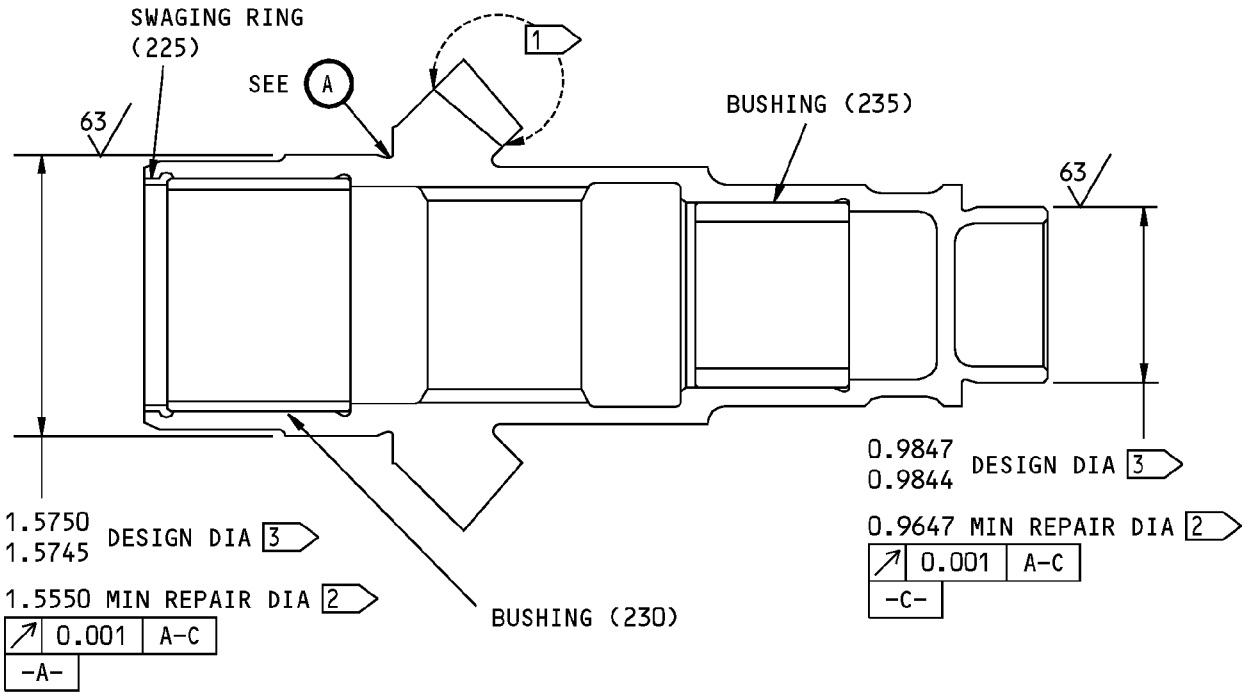
NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

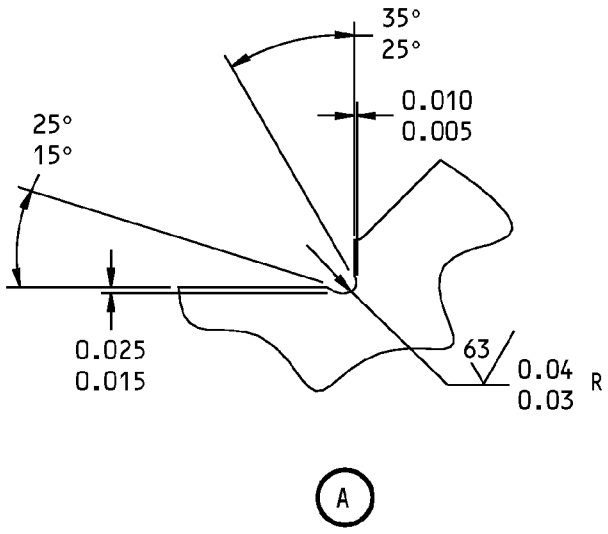
(1) Remove swaging ring (225) from the gear (240).

(2) Remove bushings (230,235) from the gear (240).

(3) Install bushings with sealant, A00247 using shrink fit method SOPM 20-50-03.

(4) Install swaging ring (225) with sealant, A00247 using anvil swage method.





256A3653-1 Gear Assembly Repair
Figure 601 (Sheet 1 of 2)

1 NO FINISH ON THIS AREA (F-25.01).

2 SHOT PEEN AND BUILD UP WITH CHROME PLATE (F-15.03). GRIND TO DESIGN DIMENSION AND FINISH SHOWN. MAXIMUM CHROME PLATE THICKNESS 0.010 AFTER GRINDING. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OR EDGE. APPLY WIPE-ON PRIMER (F-19.45).

3 NO CADMIUM PLATE (F-15.23) ON THIS SURFACE.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3653-1 Gear Assembly Repair
Figure 601 (Sheet 2 of 2)

SLIDER ASSEMBLY - REPAIR 6-1

256A3657–1

1. General

A. This procedure has the data necessary to repair and refinish the slider assembly (165).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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: 15-5PH CRES BAR, AMS 5659, 180-200 KSI

(2) Shot Peen:

(a) Shot Size = 0.017 - 0.046

(b) Intensity = 0.010A

(c) Coverage = 2.0

2. Slider Repair

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 20-10-01	REPAIR AND REFINISH OF HIGH STRENGTH STEEL PARTS
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
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 the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Machine the slider (175) to the repair dimension shown in REPAIR 6-1, Figure 601 to remove defects at the bushing interfaces (SOPM 20-10-01).

(2) Break all sharp edges.

(3) Do a magnetic particle check of the slider (SOPM 20-20-01).

(4) Shot peen the machined area as shown in REPAIR 6-1, Figure 601 (SOPM 20-10-03).

(5) Apply chrome plate (F-15.03) to the area shown in REPAIR 6-1, Figure 601.

(6) Grind the chrome plate to the design dimension shown in REPAIR 6-1, Figure 601 (SOPM 20-10-04). Make sure to keep the surface finish shown in REPAIR 6-1, Figure 601.

(7) Apply wipe-on primer, C00259 (F-19.45) to the chrome plated surfaces.

3. Refinish

A. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 6-1, Figure 601)

NOTE: For the decoding table for Boeing finish codes, refer to SOPM 20-41-01.

(1) Passivate (F-17.25) the slider (175) all over.

4. Remove and Replace the Fittings

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

B. References

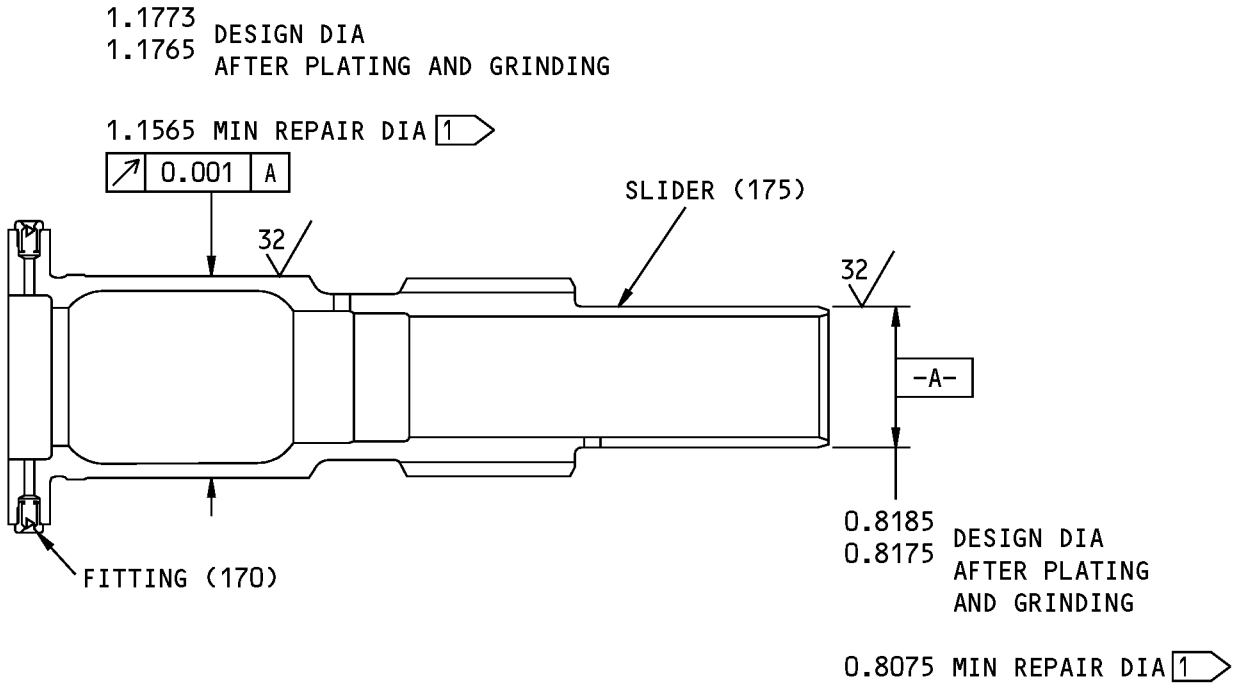
Reference	Title
SOPM 20-60-03	LUBRICANTS

C. Procedure (REPAIR 6-1, Figure 601)

NOTE: For lubricants, refer to SOPM 20-60-03.

(1) Remove the fittings (170) from the slider (175).

(2) Lubricate the fittings (170) with grease, D00633, then push them into the slider (175).



1 SHOT PEEN AND BUILD UP WITH CHROME PLATE (F-15.03). GRIND TO DESIGN DIMENSION AND FINISH SHOWN. MAXIMUM CHROME PLATE THICKNESS 0.010 AFTER GRINDING. CHROME PLATE RUNOUT 0.00-0.08. STOP CHROME PLATE 0.00-0.02 FROM FILLET RADIUS OF EDGE. APPLY WIPE-ON PRIMER (F-19.45).

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3657-1 Slider Assembly Repair
Figure 601

COUPLING - REPAIR 7-1

256A3741–1

1. General

A. This procedure has the data necessary to refinish the coupling (30).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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: 4330M Steel, BMS 7-122, 180-200 ksi

2. Coupling 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

B. References

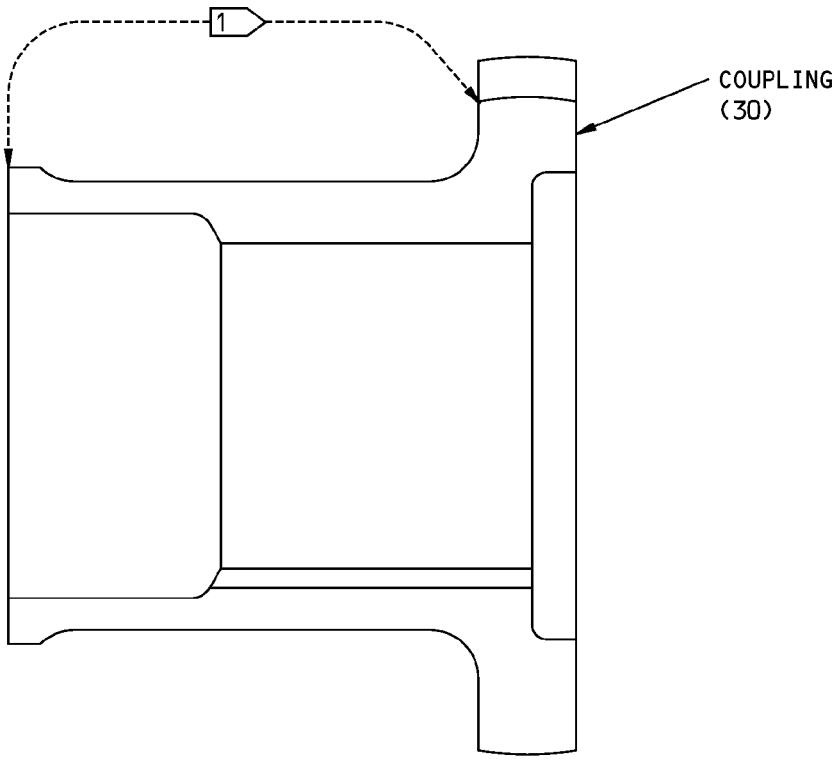
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 7-1, Figure 601)

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

(1) Apply cadmium plate (F-15.23) all over.

(2) Apply primer, C00259 (F-20.02) to the area shown in REPAIR 7-1, Figure 601.



1 APPLY ONE LAYER OF BMS 10-11, TYPE 1 PRIMER (F-20.02) TO THIS AREA.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3741-1 Coupling Refinish
Figure 601

SEAL RETAINER - REPAIR 8-1

256W3244–1

1. General

A. This procedure has the data necessary to refinish the seal retainer (40).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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. Seal Retainer 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

B. References

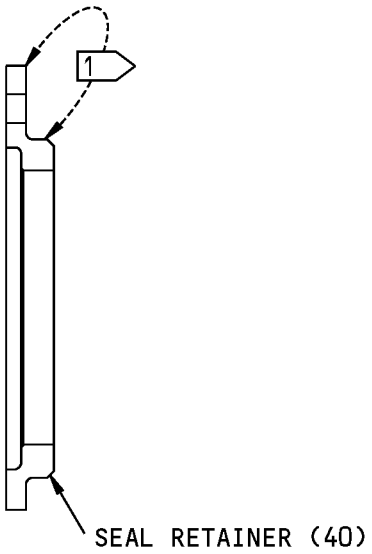
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure (REPAIR 8-1, Figure 601)

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

(1) Anodize (F-17.31) all over.

(2) Apply primer, C00259 (F-20.02) to all the external surfaces, other than the holes and the surfaces shown on REPAIR 8-1, Figure 601 .



1 NO PRIMER ON THIS SURFACE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256W3244-1 Seal Retainer Refinish
Figure 601

RETAINER - REPAIR 9-1

256A3654–1

1. General

A. This procedure has the data necessary to refinish the retainer (180).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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. Retainer Refinish

A. Consumable Materials

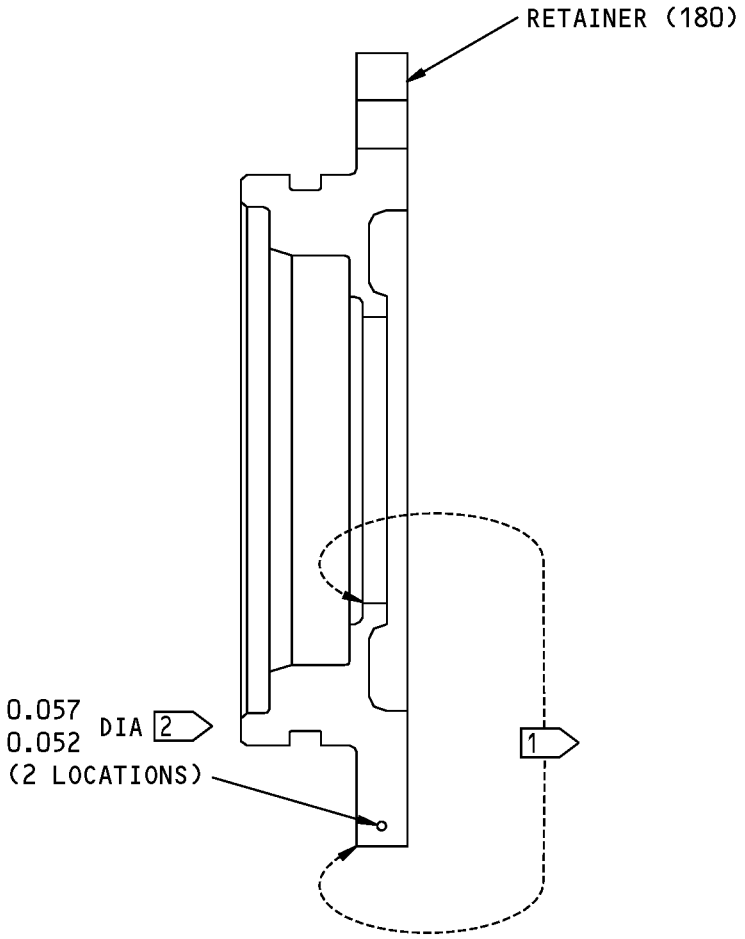
NOTE: Equivalent substitutes may be used.

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

B. Procedure (REPAIR 9-1, Figure 601)

(1) Anodize (F-17.35) all over.

(2) Apply primer, C00259 (F-20.02) to the external surfaces as shown in REPAIR 9-1, Figure 601.



1 APPLY ONE LAYER OF BMS 10-11, TYPE 1 PRIMER (F-20.02) TO THIS AREA.

2 OVERSPARY NOT ALLOWED IN THIS HOLE.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3654-1 Retainer Refinish
Figure 601

PLUG - REPAIR 10-1

256A3658–2

1. General

A. This procedure has the data necessary to refinish the plug (160).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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: 15-5PH CRES BAR, AMS 5659

2. Plug Refinish

A. References

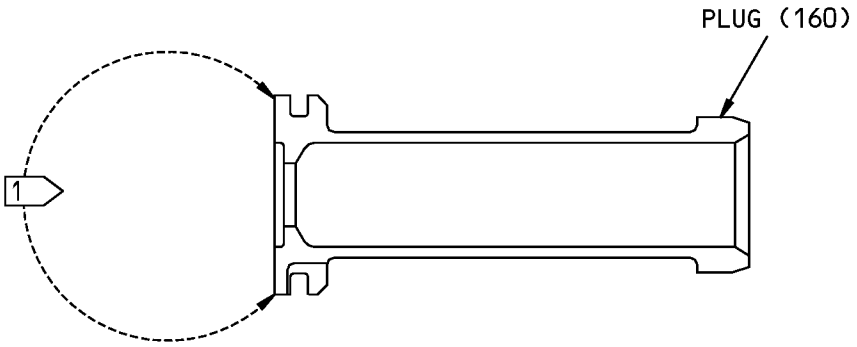
Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 10-1, Figure 601)

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

(1) Passivate (F-17.25) all over.

(2) Apply cadmium plate (F-16.06) to the plug as shown in REPAIR 10-1, Figure 601.



1 CADMIUM PLATE (F-16.06) THIS SURFACE.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3658-2 Plug Refinish
Figure 601

BOLT - REPAIR 11-1

256A3744–1

1. General

A. This procedure has the data necessary to refinish the bolt (25).

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

C. Refer to REPAIR-GENERAL, Paragraph 2. 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: 15-5PH CRES BAR, AMS 5659

2. Bolt Refinish

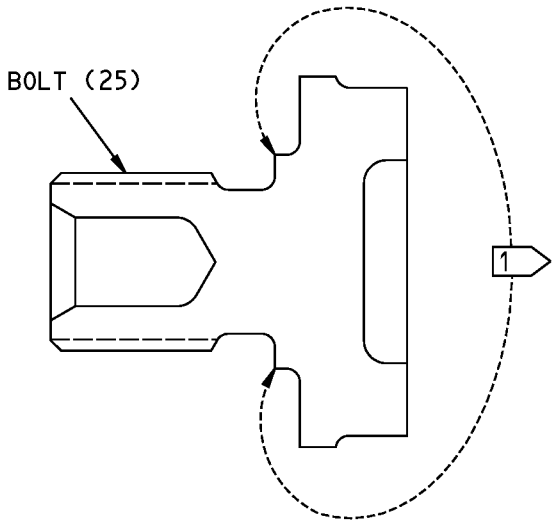
A. References

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

B. Procedure (REPAIR 11-1, Figure 601)

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

(1) Apply cadmium plate (F-16.06) to the bolt as shown in REPAIR 11-1, Figure 601.



1 CADMIUM PLATE (F-16.06) THIS AREA OF THE PART.

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

256A3744-1 Bolt Refinish
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the gearbox 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. Gearbox Assembly

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-4737	Tool Set, Seal Installation (Part #: J27058-1, Supplier: 81205)
SPL-4811	Test Equip - Run-In, Variable Drive (115 VAC) (Opt Part #: J27056-43, Supplier: 81205) (Opt Part #: J27056-45, Supplier: 81205)
SPL-4812	Test Equip - Run-In, Variable Drive (230 VAC) (Opt Part #: J27056-44, Supplier: 81205) (Opt Part #: J27056-46, Supplier: 81205)
SPL-5384	Wrench - Coupling Sleeve Flap Actuation (Part #: C27041-1, Supplier: 81205)
SPL-5385	Seal Installation Equipment, TE Flap Drive (Part #: C27043-16, Supplier: 81205)
SPL-5447	Bearing Width Measurement Equipment (Part #: J27057-22, Supplier: 81205)
SPL-5703	Test Equipment - T.E. Flap Drive Gearboxes (Part #: C27068-65, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
D00633	Grease - Aircraft General Purpose	BMS3-33
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995˜ C32

C. References

Reference	Title
SOPM 20-30-01	CLEANING AND RELUBRICATING BEARINGS
SOPM 20-50-01	BOLT AND NUT INSTALLATION

Reference	Title
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-06	INSTALLATION OF O-RINGS AND TEFLON SEALS

D. Procedure (IPL Figure 1)

(1) Remove grease from the bearings (65,105,195,265) (SOPM 20-30-01)(SOPM 20-30-01).

(2) Find the necessary shim stack thicknesses S1, S2, and S3.

NOTE: Use the same shim thicknesses recorded during disassembly, unless any of the bearings (105,195,265) were replaced. It is only necessary to measure new bearings. Make all measurements to a tolerance of 0.001 inch.

(a) Use the J27057 bearing width Measurement Equipment, SPL-5447 to measure bearing (105) that will be next to shim stack S1. Measure from one side of the inner race to the opposite side of the outer race as shown in ASSEMBLY, Figure 701. Record the value and identify it as H.

(b) Measure the bearing (105) that will be next to shim stack S2. Record the value and identify it as I.

(c) Measure the bearing (195). Record the value and identify it as J. Bearing (195) will be next to shim stack S3.

(d) Measure the bearing (265). Record the value and identify it as K. Bearing (265) will be next to shim stack S4.

(e) Calculate the shim stack S1 thickness, as shown in ASSEMBLY, Figure 701.

(f) Measure the dimension G, as shown in ASSEMBLY, Figure 701.

(g) Calulate the shim stack S2 thickness, as shown in ASSEMBLY, Figure 701.

(h) Assemble the seal (185) and the spacer (190) into the retainer (180).

(i) Temporarily install the retainer (180) into the housing (280,285). This is necessary so you can measure dimensions D and E, as shown in ASSEMBLY, Figure 701.

(j) Measure the dimensions D and E, as shown in ASSEMBLY, Figure 701.

(k) Calculate the shim stack S3 thickness, as shown in ASSEMBLY, Figure 701.

(3) Use the minimum number of different shims (110 thru 125) to get approximately the calculated values S1 and S2.

NOTE: The actual shim stack thicknesses are to be within ± 0.0015 inch of the calculated values.

(4) Before installation, pack all bearings (65, 105, 195, 265) with approximately 2 ounces of grease, D00633.

(5) Assemble the first bearing (105) measured and shim stack S1 onto the gear assembly (130) that was disassembled from the S1 location. Use grease, D00633 to install the bearing.

(6) Assemble the second bearing (105) measured and shim stack S2 onto the gear assembly (130) that was disassembled from the S2 location. Use grease, D00633 to install the bearing.

(7) Mix the minimum number of different shims (200 thru 215) to get approximately the calculated value S3.

NOTE: The actual shim stack thicknesses are to be within ± 0.0015 inch of the calculated values.

(8) Assemble the bearing (195) and the shim stack S3 onto the gear assembly (220). Use grease, D00633 to install the bearing.

(9) Install the bearing (65) into the housing assembly (280,285).

(10) Temporarily install the gear assembly (130) with the shim stack S1, the bearing (105), and the spacer (100) into the housing assembly (280,285).

(11) Install the bearing (265) into the housing assembly (280,285).

(12) Temporarily install the gear assembly (220) with the shim stack S3 and the bearing (195) into the housing assembly (280,285).

(13) Temporarily install the retainer (180), the seal (185), and the spacer (190) onto the gear assembly (220) using the bolts (70) and washers (75). Tighten as needed to seat the retainer (180) against the housing assembly (280,285).

(14) Do a check of the backlash (TESTING AND FAULT ISOLATION) between the gear assembly (130) in housing assembly (280,285) and the gear assembly (220).

(15) Disassemble the gearbox assembly as needed and apply gear marking compound to the gear teeth. Re-assemble and apply 5-15 pound-inches of torque to the gears.

(16) Disassemble and check gear mesh pattern. Adjust shim stacks S1 and S3 to meet the backlash and gear mesh requirements. Re-assemble and repeat adjustment as necessary.

(17) Install the bearing (65) into the housing assembly (80).

(18) Temporarily install the gear assembly (130) with shim stack S2, the bearing (105), and the spacer (100) into the housing assembly (80).

(19) Temporarily assemble housing assembly (80) onto housing assembly (280,285) using bolts (70A, 71) with washers (75). Tighten as needed to seat the housings together.

(20) Do a check of the backlash (TESTING AND FAULT ISOLATION) between the gear assembly (130) in housing assembly (80) and the gear assembly (220).

(21) Disassemble the gearbox assembly as needed and apply gear marking compound to the gear teeth. Re-assemble and apply 5-15 pound-inches of torque to the gears.

(22) Disassemble and check gear mesh pattern. Adjust shim stack S2 to meet the backlash and gear mesh requirements. Re-assemble and repeat adjustment as necessary.

(23) Remove the gear assembly (220) with retainer (180), seal (185A), and spacer (190) still attached. Measure dimension F, as shown in ASSEMBLY, Figure 701.

(24) Disassemble the gearbox and remove all gear marking compound from the gear teeth.

NOTE: Be sure to identify the positions of the parts, because the gearbox will be re-assembled with bearings, shims, and gears in the same locations.

(25) Calculate the shim stack S4 thickness, as shown in ASSEMBLY, Figure 701.

(26) Mix the minimum number of different shims (245 thru 260) to get approximately the calculated value S4.

NOTE: The actual shim stack thicknesses are to be within ±0.0015 inch of the calculated values.

(27) Apply grease, D00633 to the bore of the housing assembly (80) and the housing assembly (280,285).

(28) Install bearings (65) into the housings (80, 280, 285).

CAUTION: BE CAREFUL TO PREVENT DAMAGE TO THE LIP OF THE SEAL (50A).

(29) Apply a thick layer of grease, D00633 to the lip of the seal (50A).

(30) Use the J27058 Installation Tool Set, SPL-4737 or C27043 Seal Installation Tool, SPL-5385 to install the seals (50A) into the housing assembly (80) and housing assembly (280,285) to a depth of 0.17-0.18 inch. If an equivalent tool is used, make sure it applies equal pressure around the outside diameter of the seals.

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(31) Apply a thin layer of corrosion inhibiting compound, C00913 to the faying surface of the seal retainers (40). Apply the corrosion inhibiting compound, C00913 from the outer contour to approximately 0.05 inch from the fillet radius. Remove the unwanted compound from the retainers. Install the seal retainers (40) on the housing assemblies (80,280,285) with the bolts (10) and washers (15). Install the bolts with corrosion inhibiting compound, C00913 (SOPM 20-50-01).

(32) Fill the spaces between the bearings (65) and the seals (50A) with grease, D00633, as shown in ASSEMBLY, Figure 701.

(33) Measure 4.7-5.3 ounces of grease, D00633. Apply some of the grease, D00633 to the outer surface of the spacers (100) to fill the spaces between the spacer and the housings, as shown in ASSEMBLY, Figure 701. Install the gear assemblies (130) with the shims (110 thru 125), bearings (105), and spacers (100) in the housing assemblies (80,280,285).

(34) Put some of the measured quantity of grease, D00633 onto the gear teeth of the gear assemblies (130) just installed, and onto the gear teeth of the gear assembly (220).

(35) Put the remaining grease, D00633 into the housing assembly (280,285), as shown in ASSEMBLY, Figure 701. Install the gear assembly (220) with shim stacks S3 and S4, and bearing (195), into the housing assembly (280,285).

(36) Apply grease, D00633 to the packings (95) and install them onto the housing assembly (80) and the retainer (180).

(37) Assemble the retainer (180), seal (185A), and spacer (190) together and fill the seal (185A) with grease, D00633.

(38) Apply grease, D00633 in the area next to the bearing (195) to fill the space between the bearing (195) and the seal (185).

WARNING: BMS 3-27 CORROSION INHIBITING COMPOUND CONTAINS SOLVENTS, CHROMATES, AND A SMALL AMOUNT OF BOUND ASBESTOS. CONSULT THE APPLICABLE SAFETY STANDARDS FOR APPROVED HANDLING PROCEDURES.

CAUTION: BMS 3-27 COMPOUND IS USED ONLY IN STATIC JOINTS WHERE GREASE CANNOT BE APPLIED. BMS 3-27 COMPOUND IN DYNAMIC JOINTS WILL NOT LET THEM MOVE FREELY.

(39) Apply a thin layer of corrosion inhibiting compound, C00913 to the faying surface of the seal retainer (180). Apply the corrosion inhibiting compound, C00913 from the outer contour to approximately 0.05 inch from the fillet radius. Install the retainer (180) with the seal (185) and spacer (190) into the housing assembly (280,285) with the bolts (70A) and washers (75). Install the bolts with corrosion inhibiting compound, C00913.

(40) Install the plug assembly (150) into the slider assembly (165).

(41) Lubricate the splines of the slider assembly (165) with grease, D00633, then install the slider assembly into the gear assembly (220).

(42) Install the packings (60) in the seal rings (55) with grease, D00633 (SOPM 20-50-06), then install the seal rings on the shafts of the gear assemblies (130).

(43) Fill the spaces between the seal retainers (40) and the seal rings (55) with grease, D00633. Install the seal shields (45) onto the gear shafts.

(44) Install the coupling seals (35) on the couplings (30). Apply a thin layer of grease, D00633 to the splines of the coupling sleeves (20), then install the coupling sleeves on the couplings (30).

(45) Apply grease, D00633 to the splines of the gear assemblies (130), then install the couplings (30) with the coupling seals (35) and coupling sleeves (20) on the gear shafts. Apply grease, D00633 to the threads of the bolts (25), then install the bolts in the gear shafts. Tighten the bolts to 600-720 pound-inches more than the run-on torque. Use the C27041 coupling sleeve wrench, SPL-5384 to hold the coupling sleeves while the bolts are tightened.

(46) Install bracket (17 or 18) on the housing with bolts (10), washers (15).

E. Test the gearbox assembly

(1) Do the pressure test of the gearbox assembly. Refer to TESTING AND FAULT ISOLATION.

(2) Apply grease, D00633 to the packing (275) and install it onto the plug (270), then applygrease, D00633 to the threads of the plug and install it into the threaded port in the housing assembly (280,285). Tighten the plug to a maximum of 110 pound-inches.

(3) Do a run-in test of the gearbox assembly using the J27056 test equip 115 VAC, SPL-4811 or test equip 230 VAC, SPL-4812.

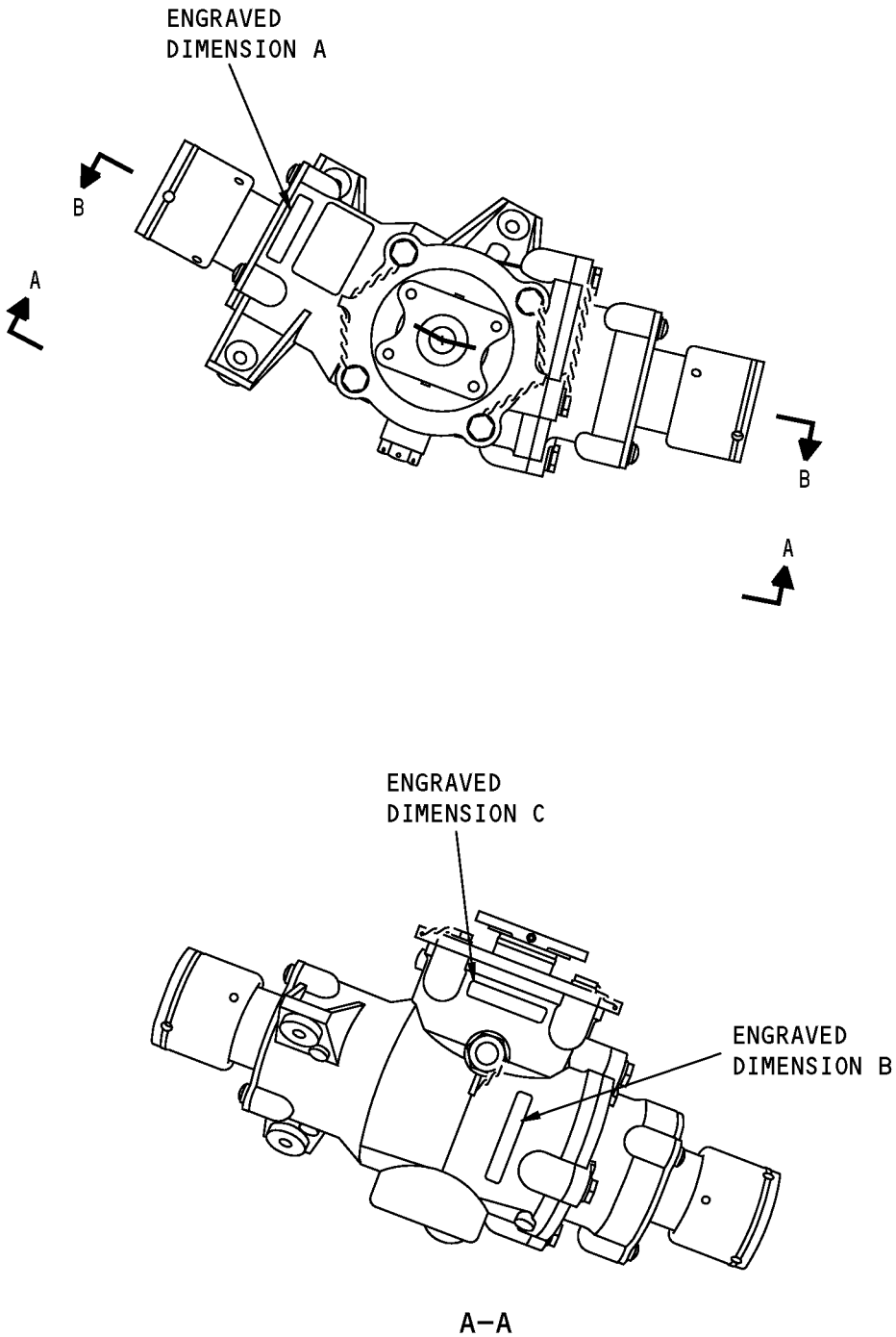
(a) Install the gearbox assembly on the C27068 T.E. Flap Drive Gearbox Test Equipment, SPL-5703 (C27068-65 supersedes C27068-1). Connect the run-in J27056 test equip 115 VAC, SPL-4811 or test equip 230 VAC, SPL-4812.

(b) Operate the gearbox assembly with no load at 600-700 rpm for 1-3 minutes.

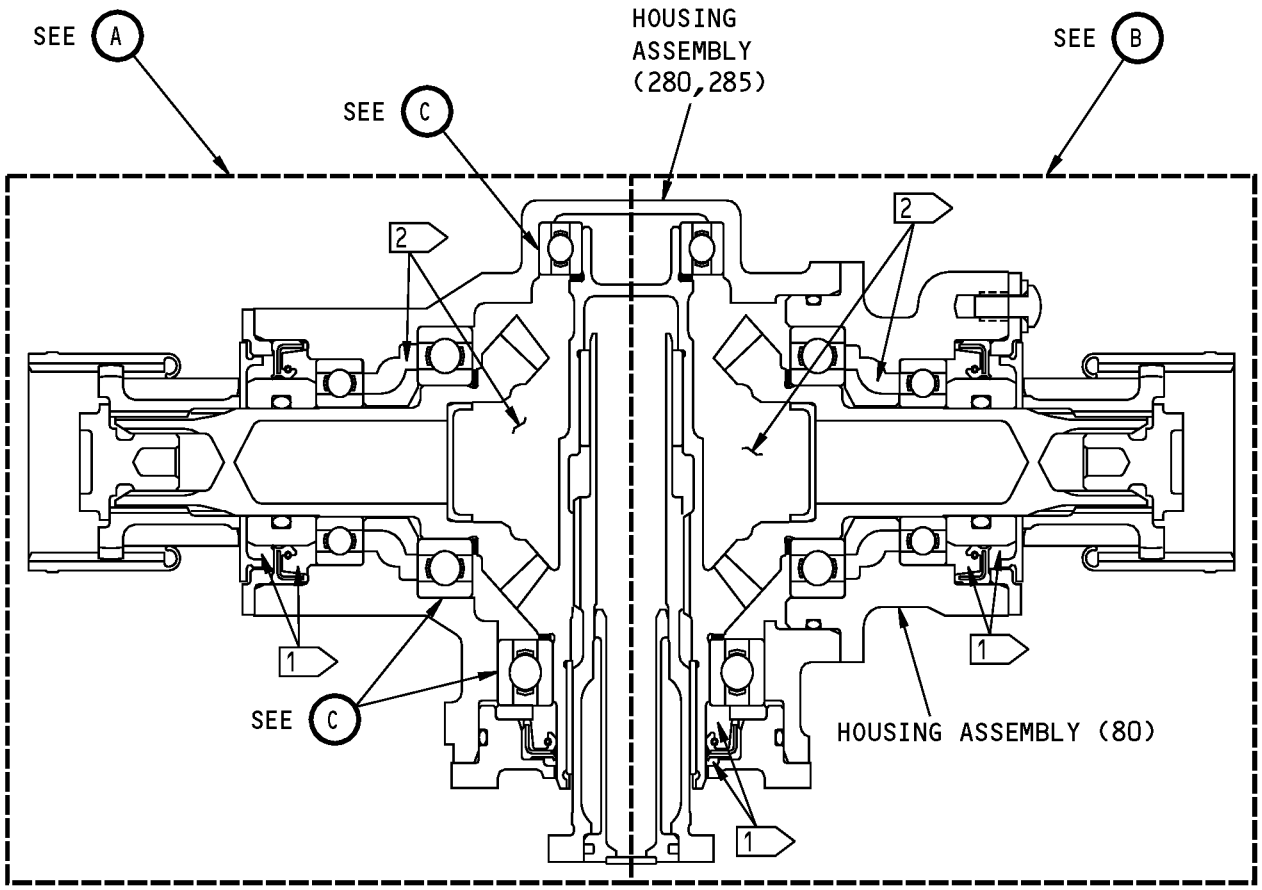
(c) Remove the gearbox assembly from the C27068 T.E. Flap Drive Gearbox Test Equipment, SPL-5703.

(4) Do the bearing test and the torque test of the gearbox assembly. Refer to TESTING AND FAULT ISOLATION.

(5) Install lockwire, G01048 on the bolts (70A, 71) and the plug (270) as shown on ASSEMBLY, Figure 702. Use the double twist procedure (SOPM 20-50-02).

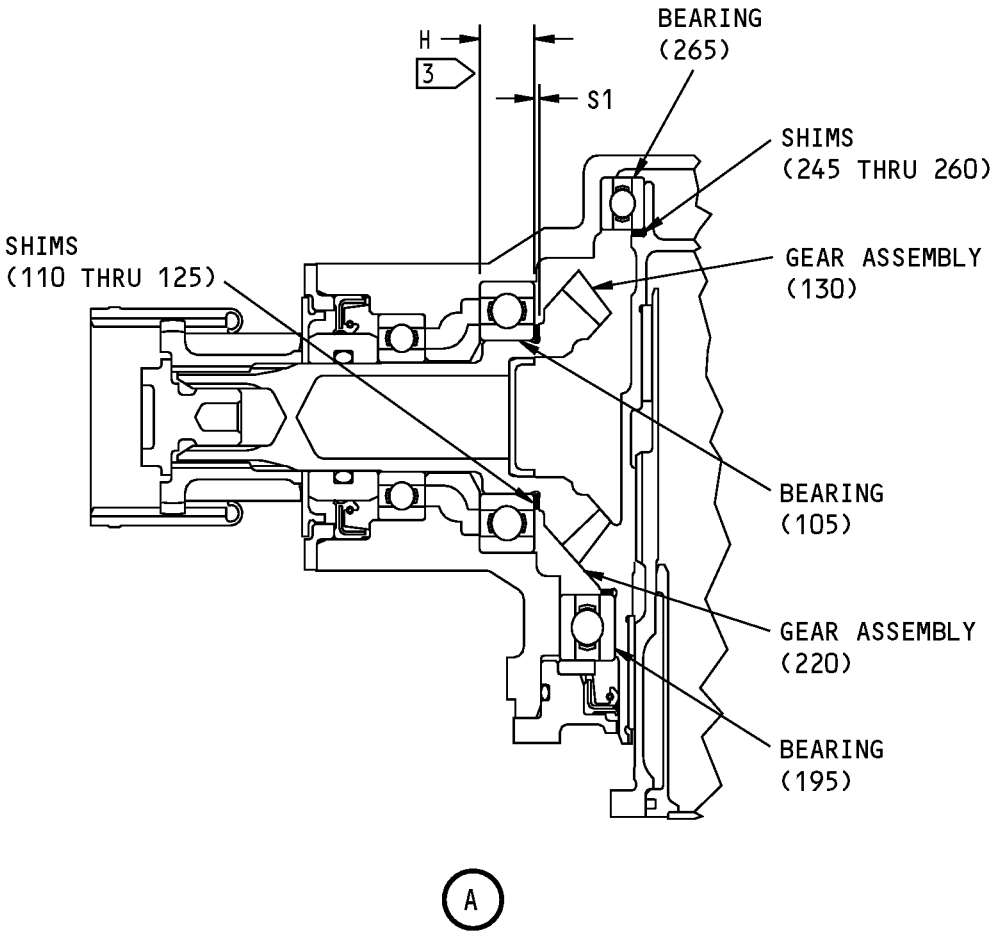


Assembly Details and Shim Adjustment
Figure 701 (Sheet 1 of 6)

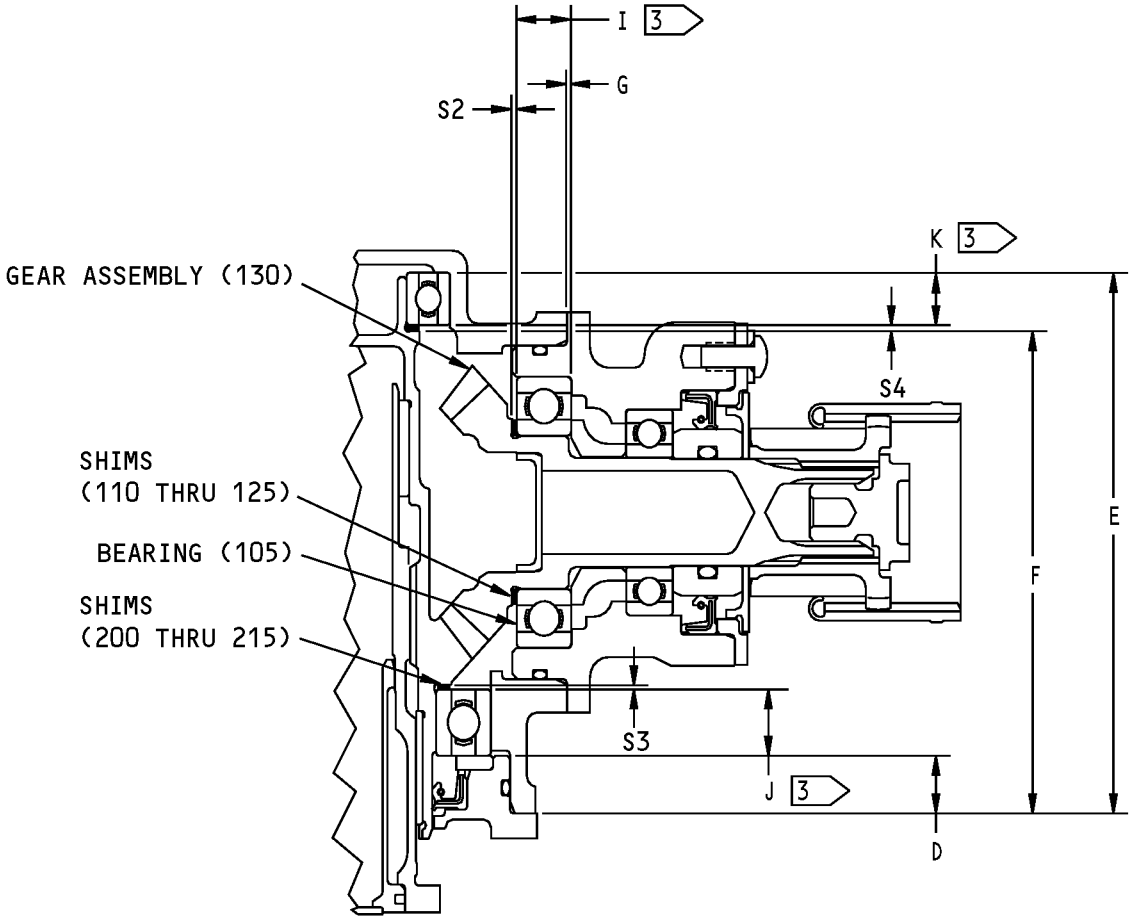


B–B

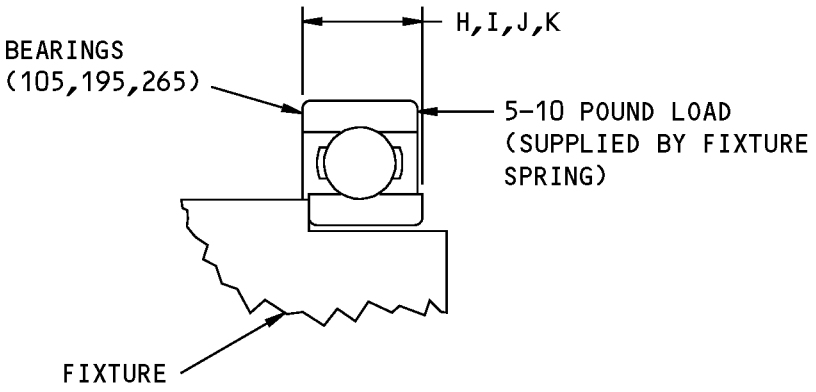
Assembly Details and Shim Adjustment
Figure 701 (Sheet 2 of 6)



Assembly Details and Shim Adjustment
Figure 701 (Sheet 3 of 6)



Assembly Details and Shim Adjustment
Figure 701 (Sheet 4 of 6)



BEARING WIDTH MEASUREMENT

C

1 FILL SPACES WITH GREASE

2 FILL SPACES WITH MEASURED QUANTITY OF GREASE (6.8-7.2 OUNCES TOTAL)

3 SEE DETAIL C FOR BEARING WIDTH MEASUREMENT

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Assembly Details and Shim Adjustment
Figure 701 (Sheet 5 of 6)

SHIM THICKNESS CALCULATION

SHIM STACK S1* = A - H - 1.550

SHIM STACK S2* = B + G - I - 0.550

SHIM STACK S3* = C - D - J - 1.550

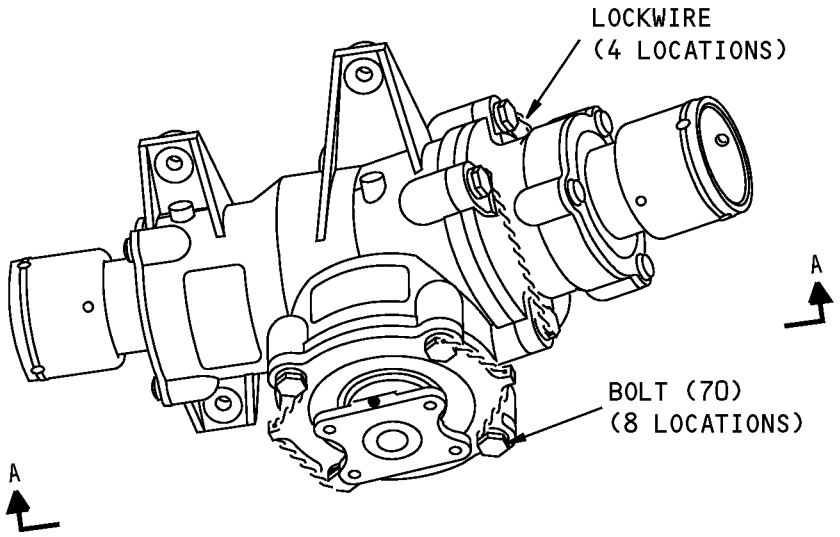
SHIM STACK S4* = E - F - K

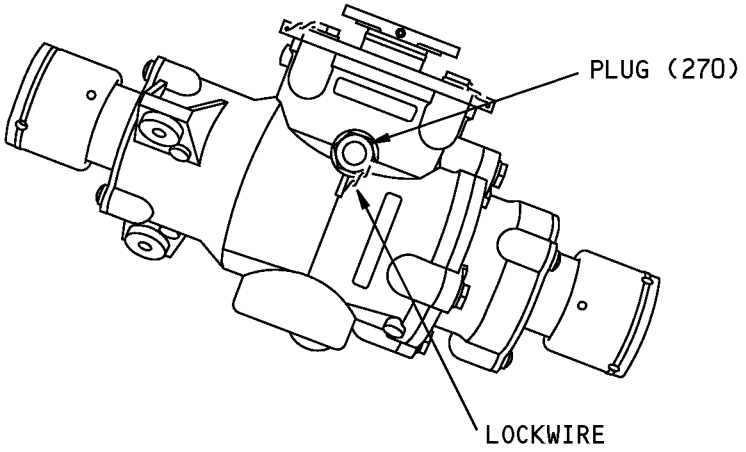
WHERE A = DIMENSION A ENGRAVED ON HOUSING ASSEMBLY (280,285)
B = DIMENSION B ENGRAVED ON HOUSING ASSEMBLY (280,285)
C = DIMENSION C ENGRAVED ON HOUSING ASSEMBLY (280,285)
D = MEASURED DISTANCE FROM THE SURFACE OF THE RETAINER (180) TO THE SURFACE OF THE SPACER (190)
E = MEASURED DISTANCE BETWEEN THE TWO SURFACES ON THE HOUSING ASSEMBLY (280,285)
F = MEASURED DISTANCE FROM THE SURFACE OF THE RETAINER (180) TO THE SURFACE OF THE GEAR ASSEMBLY (220)
G = MEASURED DISTANCE BETWEEN THE TWO SURFACES ON THE HOUSING ASSEMBLY (80)
H = MEASURED WIDTH OF BEARING (105)
I = MEASURED WIDTH OF BEARING (105)
J = MEASURED WIDTH OF BEARING (195)
K = MEASURED WIDTH OF BEARING (265).

ITEM	PART NUMBER	SHIM THICKNESS
110	256A3148-29	0.010 ± 0.0005
115	256A3148-30	0.012 ± 0.0010
120	256A3148-31	0.015 ± 0.0010
125	256A3148-32	0.018 ± 0.0010
200	256A3148-33	0.010 ± 0.0005
205	256A3148-34	0.012 ± 0.0010
210	256A3148-35	0.015 ± 0.0010
215	256A3148-36	0.018 ± 0.0010
245	256A3148-21	0.010 ± 0.0005
250	256A3148-22	0.012 ± 0.0010
255	256A3148-23	0.015 ± 0.0010
260	256A3148-24	0.031 ± 0.0010

* SHIM THICKNESS TO BE WITHIN ±0.0015 OF CALCULATED VALUE

Assembly Details and Shim Adjustment
Figure 701 (Sheet 6 of 6)

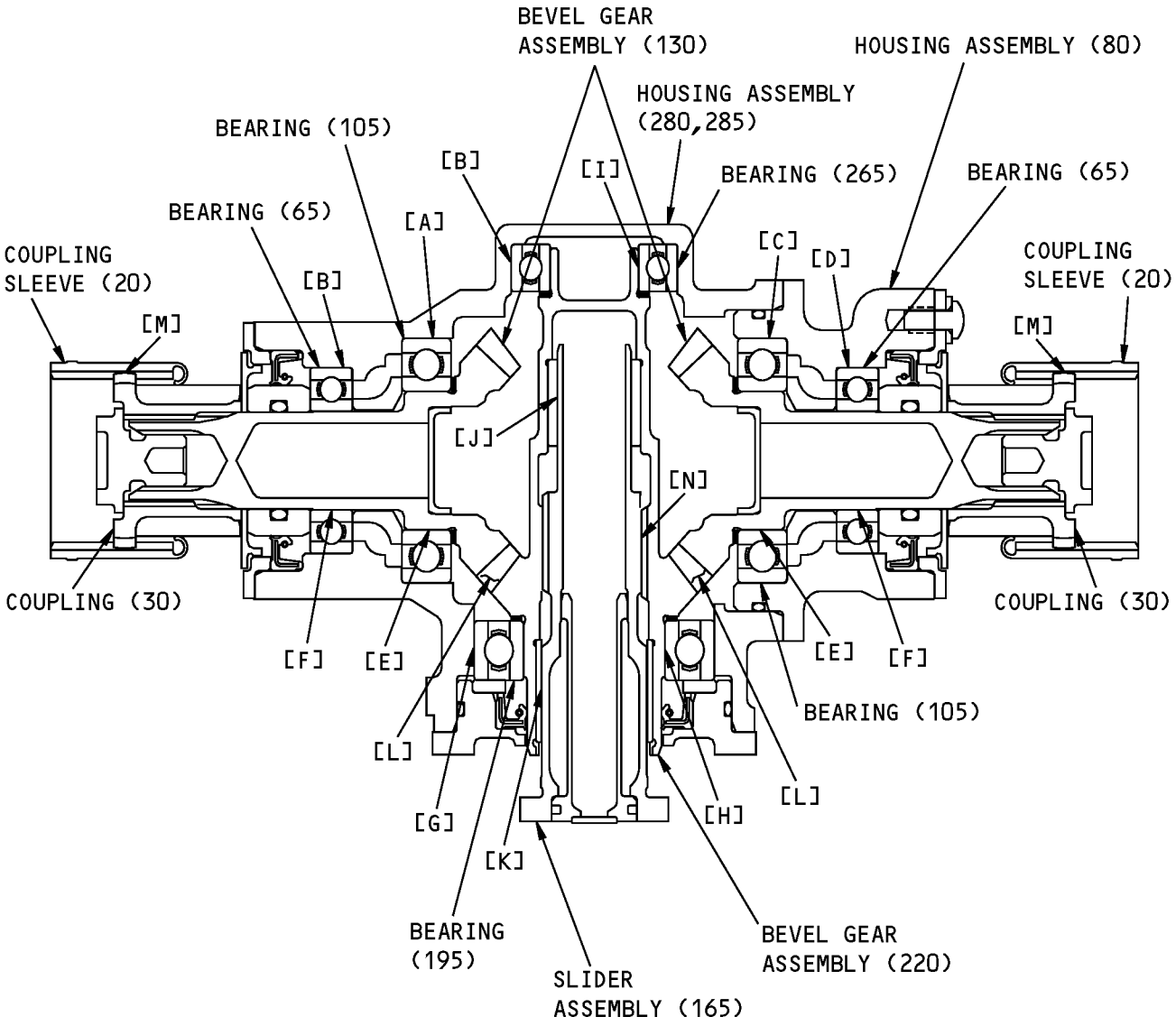




A–A

Lockwire Diagram
Figure 702

FITS AND CLEARANCES



Fits and Clearances
Figure 801 (Sheet 1 of 3)

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION* DIMENSION MIN	DESIGN DIMENSION* DIMENSION MAX	DESIGN DIMENSION* ASSEMBLY CLEARANCE 4 MIN	DESIGN DIMENSION* ASSEMBLY CLEARANCE 4 MAX	SERVICE WEAR LIMIT* DIMENSION MIN	SERVICE WEAR LIMIT* DIMENSION MAX	SERVICE WEAR LIMIT* MAXIMUM CLEARANCE
[A]	ID 280,285	2.4411	2.4419	0.0002	0.0015		2.4422	0.0020
	OD 105	2.4404	2.4409			2.4402		
[B]	ID 280,285	1.8506	1.8514	0.0002	0.0015		1.8517	0.0020
	OD 65,265	1.8499	1.8504			1.8497		
[C]	ID 80	2.4411	2.4419	0.0002	0.0015		2.4422	0.0020
	OD 105	2.4404	2.4409			2.4402		
[D]	ID 80	1.8506	1.8514	0.0002	0.0015		1.8517	0.0020
	OD 65	1.8499	1.8504			1.8497		
[E]	ID 105	1.3775	1.3780	−0.0001	0.0010		1.3782	0.0015
	OD 130	1.3770	1.3776			1.3767		
[F]	ID 265	0.9839	0.9843	−0.0001	0.0008		0.9845	0.0013
	OD 130	0.9835	0.9840			0.9832		
[G]	ID 280,285	2.6774	2.6784	0.0002	0.0017		2.6787	0.0022
	OD 195	2.6767	2.6772			2.6765		
[H]	ID 195	1.5743	1.5748	−0.0007	0.0003		1.5750	0.0007
	OD 220	1.5745	1.5750			1.5743		
[I]	ID 265	0.9839	0.9843	−0.0008	−0.0001		0.9845	0.0003
	OD 220	0.9844	0.9847			0.9842		
[J]	ID 220	0.8218	0.8226	0.0033	0.0051		0.8231	0.0071
	OD 165	0.8175	0.8185			0.8170		
[K]	ID 220	1.1788	1.1796	0.0015	0.0031		1.1801	0.0051
	OD 165	1.1765	1.1773			1.1760		
[L]	ID 130			0.0040 1	0.0060 1			0.0100 1
	OD 220							

Fits and Clearances
Figure 801 (Sheet 2 of 3)

REF LETTER	REF IPL FIG. 1, MATING ITEM NO.	DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
		DIMENSION		ASSEMBLY CLEARANCE 4		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[M]	ID 20 OD 30			0.0000 2	0.0058 2			
[N]	ID 220 OD 165			0.0000 3	0.0096 3			

* ALL DIMENSIONS ARE IN INCHES

1 BACKLASH MEASURED AT PITCH DIAMETER (2.4710)

2 BACKLASH MEASURED AT PITCH DIAMETER (1.6875)

3 BACKLASH MEASURED AT PITCH DIAMETER (1.1000)

4 NEGATIVE VALUES INDICATE INTERFERENCE FIT

Fits and Clearances
Figure 801 (Sheet 3 of 3)

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	25	Bolt	600-720	
1	270	Plug	110 (maximum)	

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

Torque Table
Figure 802

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

1. General

A. This section lists the special tools, fixtures, and equipment necessary for maintenance.

NOTE: Equivalent substitutes may be used.

Special Tools

Reference	Description	Part Number	Supplier
SPL-4720	Test Equipment - Leakage Test	J27054-1	81205
SPL-4737	Tool Set, Seal Installation	J27058-1	81205
SPL-4811	Test Equip - Run-In, Variable Drive (115 VAC)	Opt: J27056-43 Opt: J27056-45	81205 81205
SPL-4812	Test Equip - Run-In, Variable Drive (230 VAC)	Opt: J27056-44 Opt: J27056-46	81205 81205
SPL-5384	Wrench - Coupling Sleeve Flap Actuation	C27041-1	81205
SPL-5385	Seal Installation Equipment, TE Flap Drive	C27043-16	81205
SPL-5447	Bearing Width Measurement Equipment	J27057-22	81205
SPL-5703	Test Equipment - T.E. Flap Drive Gearboxes	C27068-65	81205

Tool Supplier Information

CAGE Code	Supplier Name	Supplier Address
81205	THE BOEING COMPANY	17930 INTERNATIONAL BLVD. SOUTH SEATAC, WA 98188-4321 Telephone: 206-662-6650 Facsimile: 206-662-7145

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

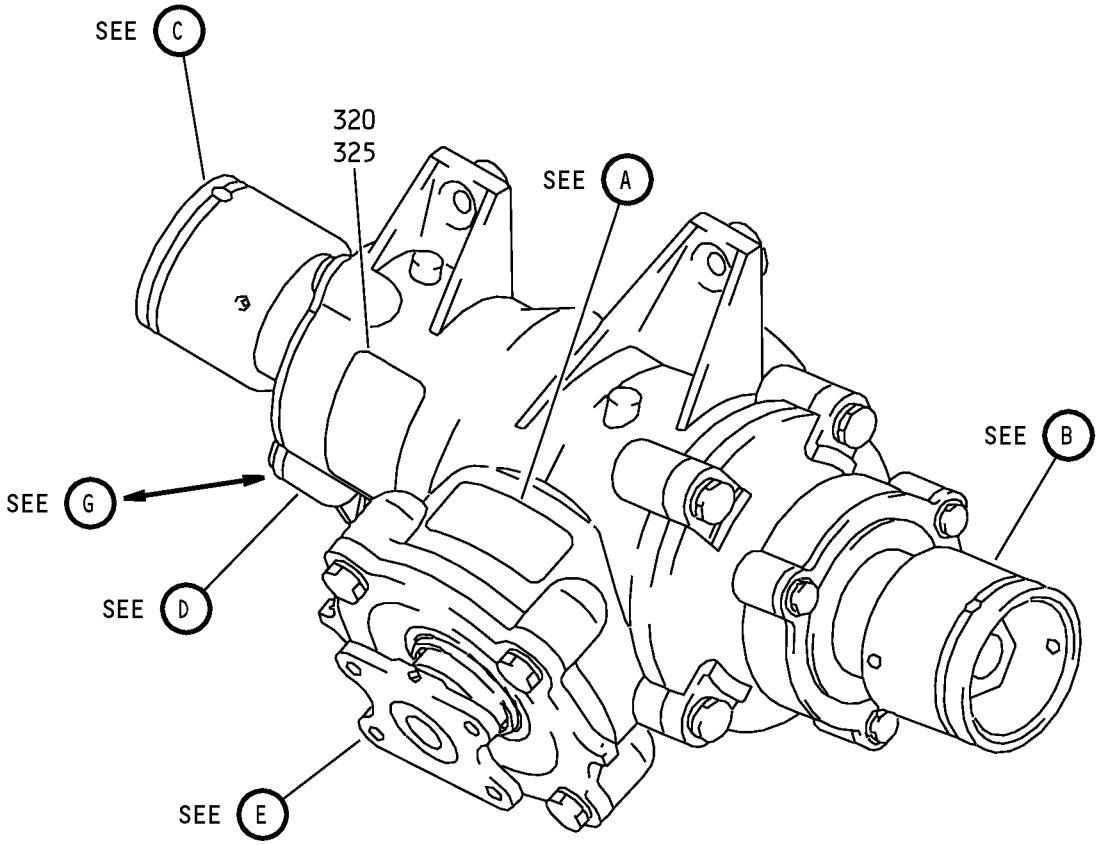
Code	Name
91251	FREUDENBERG-NOK GENERAL PARTNERSHIP PLEASANT STREET PO BOX B BRISTOL, NEW HAMPSHIRE 03222-0501
U1068	DOWTY SEALS LTD ASHCHURCH, TEWKESBURY GLOS GL20 8JS ENGLAND

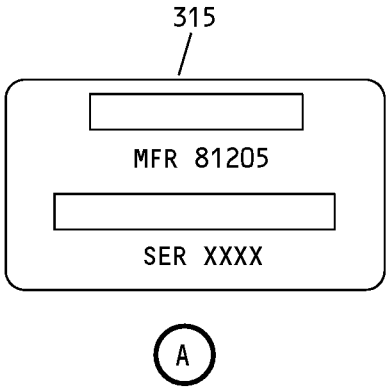
NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
1002423607100		1	50A	2
		1	50C	2
256A3004-1		1	17	1
256A3004-2		1	18	1
256A3148-21		1	245	AR
256A3148-22		1	250	AR
256A3148-23		1	255	AR
256A3148-24		1	260	AR
256A3148-29		1	110	AR
256A3148-30		1	115	AR
256A3148-31		1	120	AR
256A3148-32		1	125	AR
256A3148-33		1	200	AR
256A3148-34		1	205	AR
256A3148-35		1	210	AR
256A3148-36		1	215	AR
256A3182-1		1	45	2
256A3183-10		1	55A	2
		1	55C	2
256A3183-12		1	55D	2
256A3183-5		1	55	2
		1	55B	2
256A3185-3		1	100	2
256A3185-6		1	190	1
256A3195-18		1	315	1
256A3421-1		1	80	1
256A3421-3		1	90	1
256A3650-1		1	1A	RF
256A3650-2		1	5	RF
256A3650-3		1	1B	RF
256A3650-4		1	5A	RF
256A3650-5		1	1C	RF
256A3650-6		1	5B	RF
256A3651-1		1	280	1

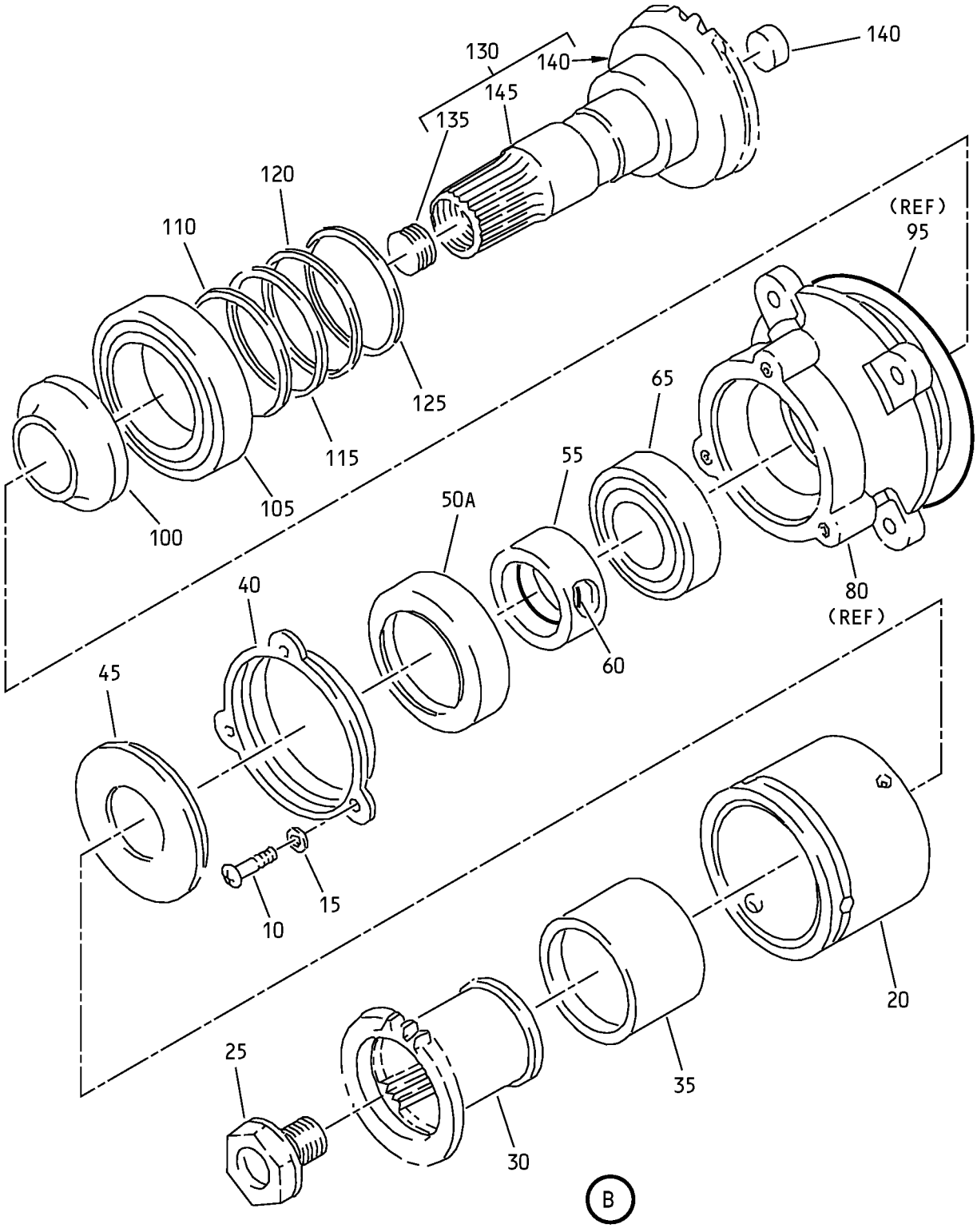
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
256A3651-11		1	282	1
256A3651-12		1	287	1
256A3651-15		1	305B	1
256A3651-16		1	310B	1
256A3651-2		1	285	1
256A3651-3		1	305	1
256A3651-4		1	310	1
256A3651-7		1	305A	1
256A3651-8		1	310A	1
256A3652-1		1	130	2
256A3652-2		1	145	1
256A3653-1		1	220	1
256A3653-2		1	240	1
256A3654-1		1	180	1
256A3656-1		1	230	1
256A3656-2		1	235	1
256A3657-1		1	165	1
256A3657-2		1	175	1
256A3658-1		1	150	1
256A3658-2		1	160	1
256A3659-1		1	155	1
256A3741-1		1	30	2
256A3743-1		1	35	2
256A3744-1		1	25	2
256A3745-1		1	20	2
256W3080-13		1	140	1
256W3244-1		1	40	2
700-857-2272-99		1	50A	2
		1	50C	2
AN814-4DL		1	270	1
BAC27DCT603		1	320	1
BAC27DCT604		1	325	1
BAC27DCT729		1	330	1
BAC27DCT730		1	335	1
BACB10BA25C		1	65	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	265	1
BACB10BA35C		1	105	2
BACB10BA40C		1	195	1
BACB30NM4HK4		1	70A	4
BACB30NM4HK5		1	71	4
BACB30NT3K2		1	10	8
BACR12Y36		1	225	1
M25988-1-110		1	275	1
M25988-1-149		1	95	2
M25988-1-213		1	60	2
MS21209F1-15P		1	85	3
		1	295	3
		1	297	2
MS21209F4-15P		1	290	8
MS21209F7-10P		1	300	1
MS21209F8-10P		1	135	1
NAS1149D0332J		1	15	8
NAS1149D0463J		1	75	8
NAS516M1		1	170	2
S256A410-11		1	185	1
S256W410-11		1	50A	2
		1	50C	2

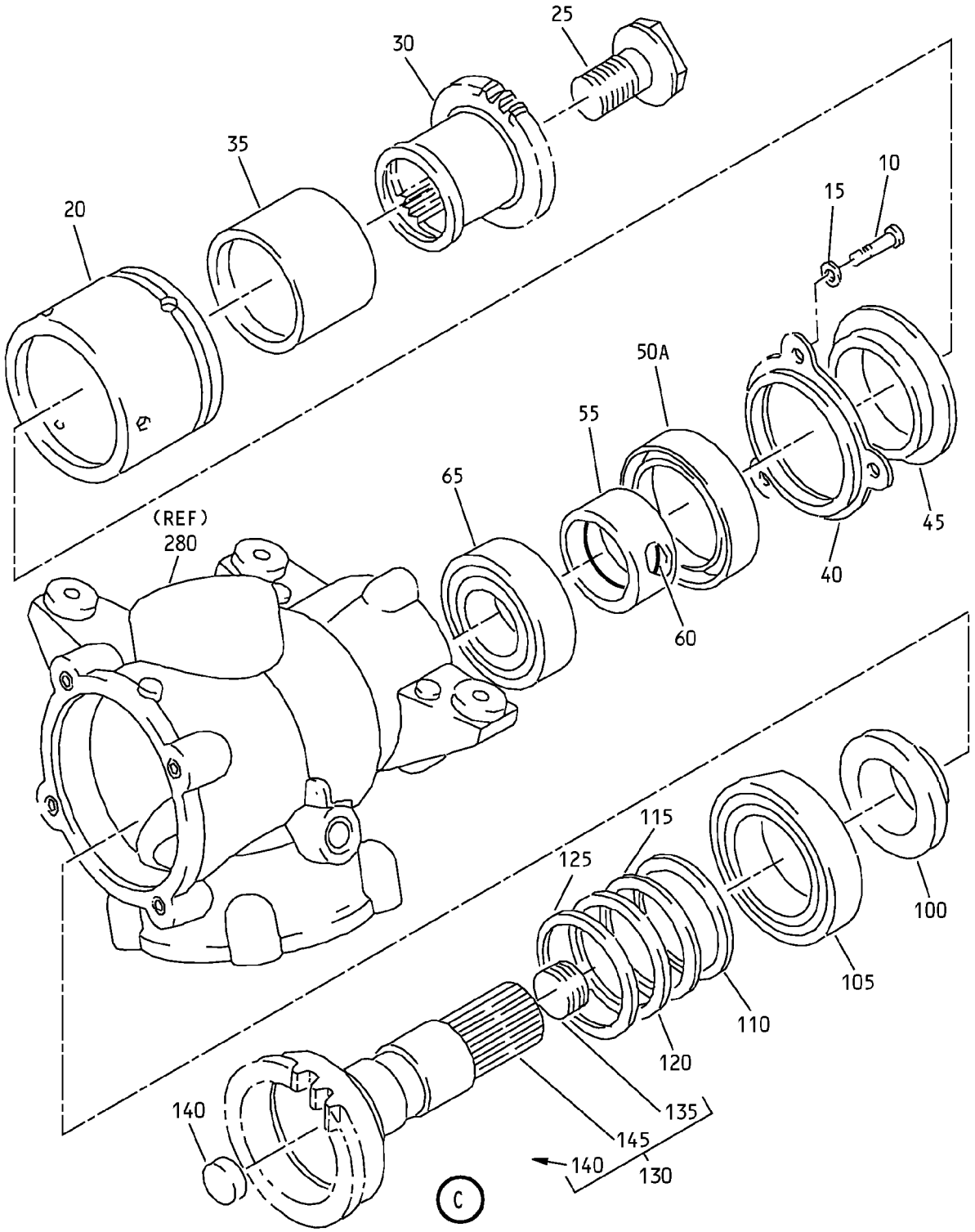




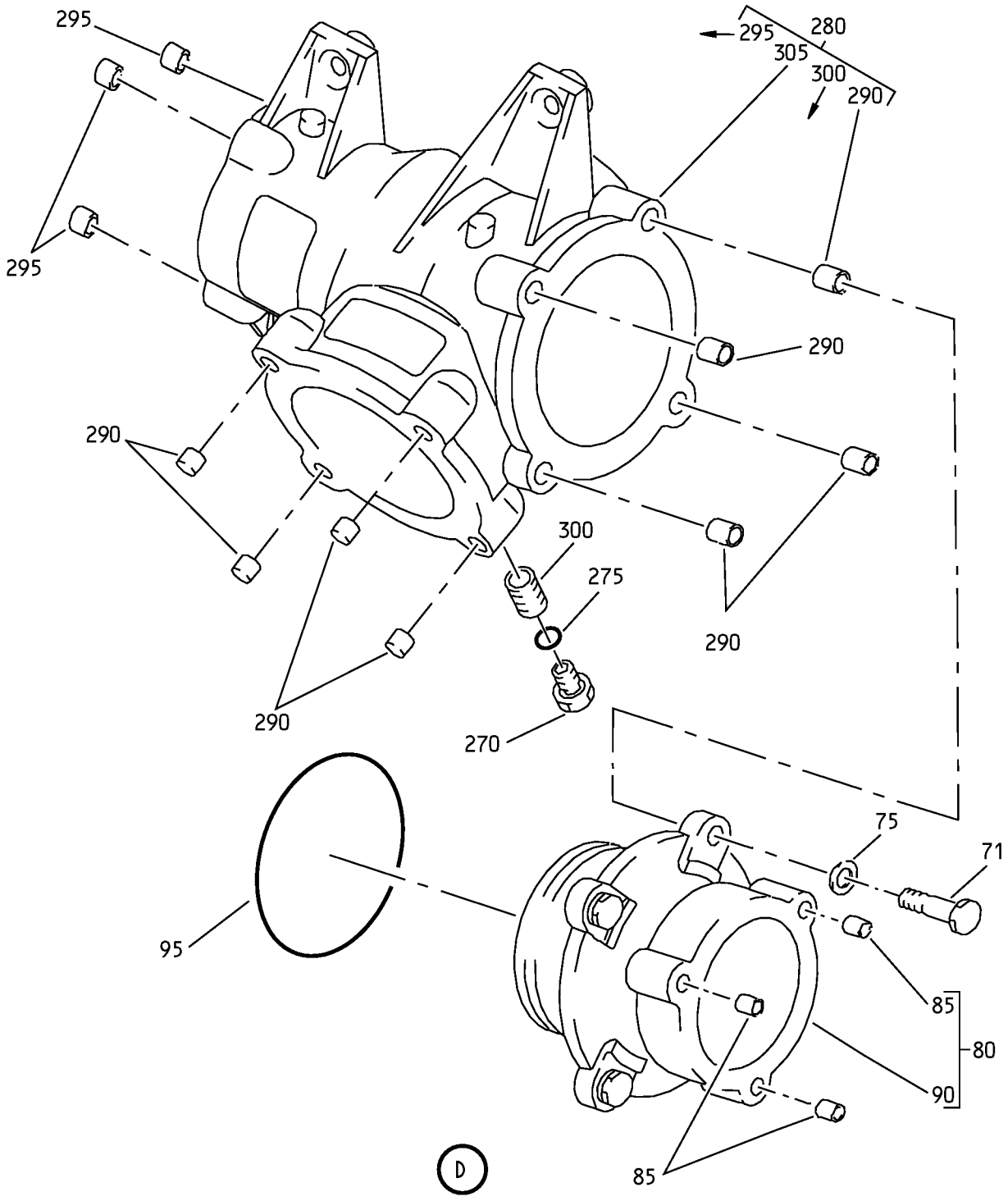
Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 1 of 6)



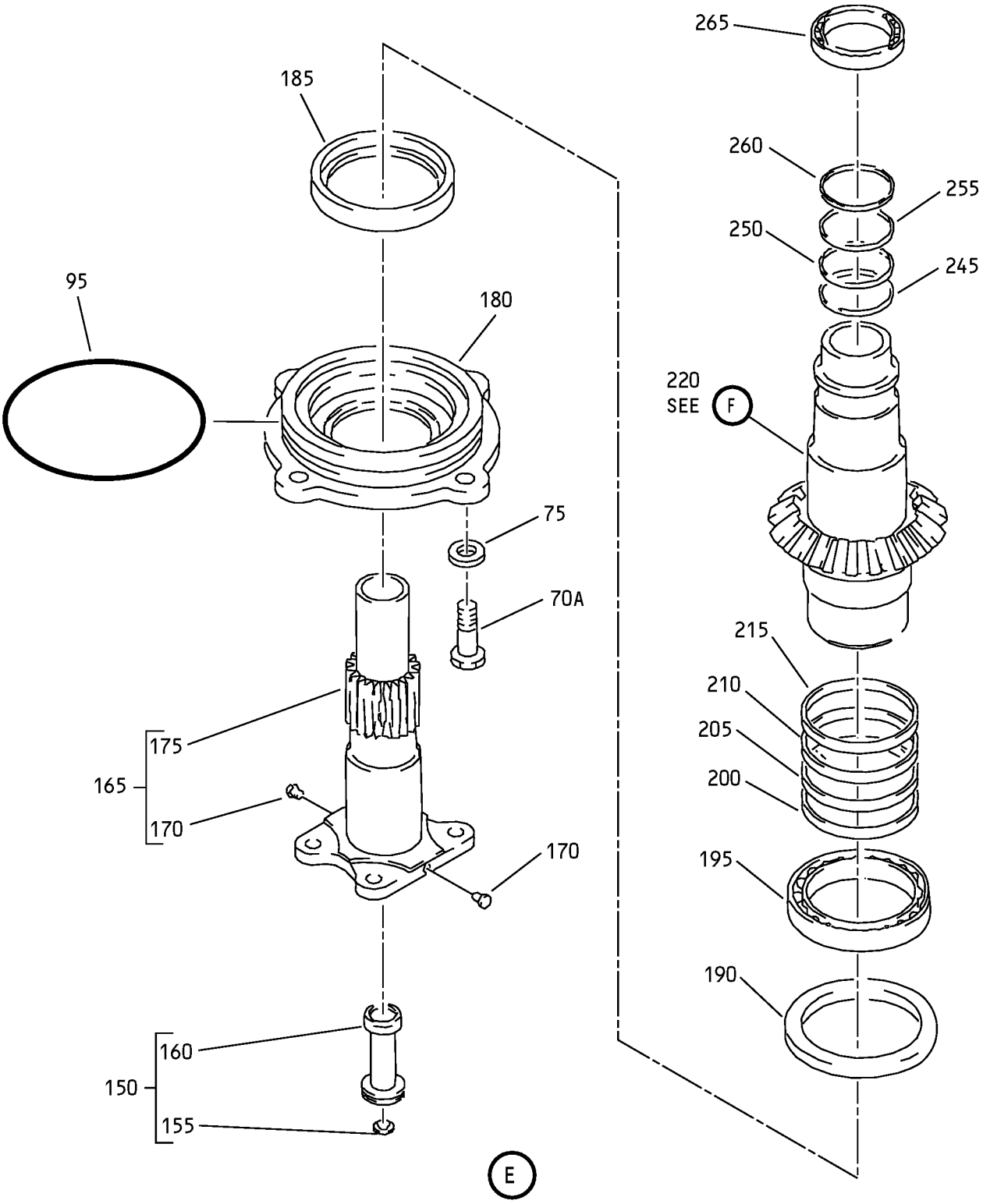
Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 2 of 6)



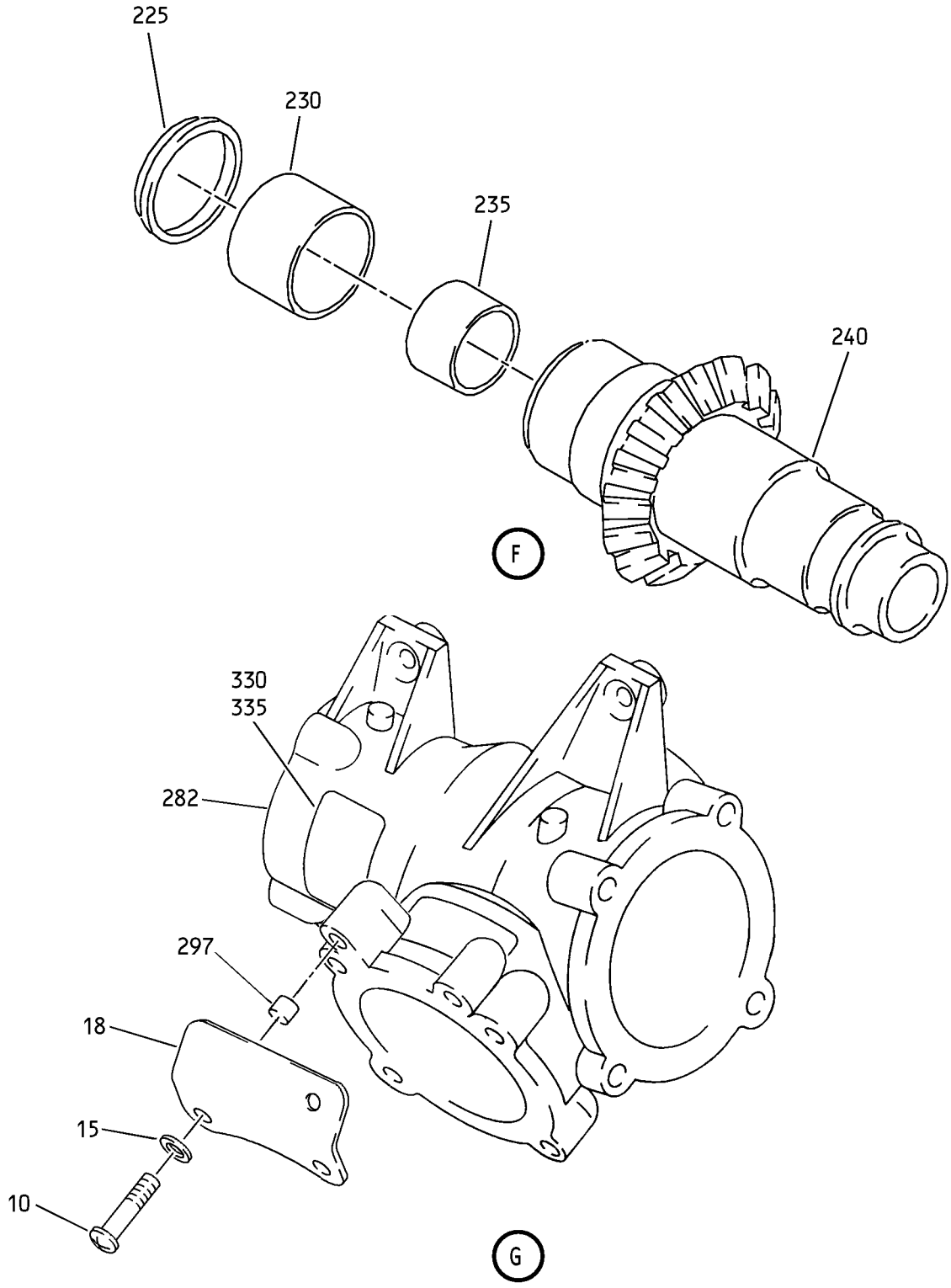
Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 3 of 6)



Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 4 of 6)



Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 5 of 6)



Flap Actuation Wheel Well Tee Gearbox Assembly
IPL Figure 1 (Sheet 6 of 6)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	256A3650-1		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	A	RF
–1B	256A3650-3		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	C	RF
–1C	256A3650-5		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	E	RF
–5	256A3650-2		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	B	RF
–5A	256A3650-4		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	D	RF
–5B	256A3650-6		GEARBOX ASSY-TEE, WHEEL WELL, FLAP ACTUATION	F	RF
10	BACB30NT3K2		. BOLT		8
15	NAS1149D0332J		. WASHER		8
17	256A3004-1		. BRACKET	C	1
–18	256A3004-2		. BRACKET	D	1
20	256A3745-1		. SLEEVE-COUPLING		2
25	256A3744-1		. BOLT		2
30	256A3741-1		. COUPLING HALF		2
35	256A3743-1		. SEAL-COUPLING		2
40	256W3244-1		. RETAINER		2
45	256A3182-1		. SHIELD-SEAL		2
50	S256A410-11		DELETED		
50A	1002423607100		. SEAL (V91251) (SPEC S256W410-11) (OPT 700-857-2272-99 (VU1068))		2
–50B	1002423607100		DELETED		
–50C	700-857-2272-99		. SEAL (VU1068) (SPEC S256W410-11) (OPT 1002423607100 (V91251))		2
55	256A3183-5		. RING-SEAL (OPT ITEM 55A)	A-D	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–					
–55A	256A3183-10		. RING-SEAL (OPT ITEM 55)	A-D	2
–55B	256A3183-5		. RING-SEAL (OPT ITEM 55C, 55D)	E, F	2
–55C	256A3183-10		. RING-SEAL (OPT ITEM 55B, 55D)	E, F	2
–55D	256A3183-12		. RING-SEAL (OPT ITEM 55B, 55C)	E, F	2
60	M25988-1-213		. PACKING		2
65	BACB10BA25C		. BEARING		2
70	BACB30NM4HK6		DELETED		
70A	BACB30NM4HK4		. BOLT		4
71	BACB30NM4HK5		. BOLT		4
75	NAS1149D0463J		. WASHER		8
80	256A3421-1		. HOUSING ASSY		1
85	MS21209F1-15P		. . INSERT		3
90	256A3421-3		. . HOUSING		1
95	M25988-1-149		. PACKING		2
100	256A3185-3		. SPACER		2
105	BACB10BA35C		. BEARING		2
110	256A3148-29		. SHIM (SELECT FROM)		AR
115	256A3148-30		. SHIM (SELECT FROM)		AR
120	256A3148-31		. SHIM (SELECT FROM)		AR
125	256A3148-32		. SHIM (SELECT FROM)		AR
130	256A3652-1		. GEAR ASSY-BEVEL		2
135	MS21209F8-10P		. . INSERT		1
140	256W3080-13		. . PLUG		1
145	256A3652-2		. . GEAR		1
150	256A3658-1		. PLUG ASSY-SLIDER		1
155	256A3659-1		. . BARRIER		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–					
160	256A3658-2		. . PLUG		1
165	256A3657-1		. SLIDER ASSY		1
170	NAS516M1		. . FITTING		2
175	256A3657-2		. . SLIDER		1
180	256A3654-1		. RETAINER		1
185	S256A410-11		. SEAL-SHAFT		1
185A	1002423607100		DELETED		
190	256A3185-6		. SPACER		1
195	BACB10BA40C		. BEARING		1
200	256A3148-33		. SHIM (SELECT FROM)		AR
205	256A3148-34		. SHIM (SELECT FROM)		AR
210	256A3148-35		. SHIM (SELECT FROM)		AR
215	256A3148-36		. SHIM (SELECT FROM)		AR
220	256A3653-1		. GEAR ASSY-BEVEL		1
225	BACR12Y36		. . RING-SWAGING		1
230	256A3656-1		. . BUSHING		1
235	256A3656-2		. . BUSHING		1
240	256A3653-2		. . GEAR		1
245	256A3148-21		. SHIM (SELECT FROM)		AR
250	256A3148-22		. SHIM (SELECT FROM)		AR
255	256A3148-23		. SHIM (SELECT FROM)		AR
260	256A3148-24		. SHIM (SELECT FROM)		AR
265	BACB10BA25C		. BEARING		1
270	AN814-4DL		. PLUG AND BLEEDER		1
275	M25988-1-110		. PACKING		1
280	256A3651-1		. HOUSING ASSY	A	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–					
282	256A3651-11		. HOUSING ASSY	C, E	1
–285	256A3651-2		. HOUSING ASSY	B	1
–287	256A3651-12		. HOUSING ASSY	D, F	1
290	MS21209F4-15P		. . INSERT		8
295	MS21209F1-15P		. . INSERT		3
297	MS21209F1-15P		. . INSERT	C-F	2
300	MS21209F7-10P		. . INSERT		1
305	256A3651-3		. . HOUSING (OPT ITEM 305A)	A	1
–305A	256A3651-7		. . HOUSING (OPT ITEM 305)	A	1
–305B	256A3651-15		. . HOUSING	C, E	1
–310	256A3651-4		. . HOUSING (OPT ITEM 310A)	B	1
–310A	256A3651-8		. . HOUSING (OPT ITEM 310)	B	1
–310B	256A3651-16		. . HOUSING	D, F	1
315	256A3195-18		. MARKER-SERIALIZED		1
320	BAC27DCT603		. MARKER-ALUMINUM FOIL	A	1
325	BAC27DCT604		. MARKER-ALUMINUM FOIL	B	1
330	BAC27DCT729		. MARKER-ALUMINUM FOIL- TEE GEARBOX ASSY BOEING PART NO. 256A3650-3 LUBRICANT: BMS 3-33 OPT: MIL-PRF-23827	C	1
335	BAC27DCT730		. MARKER-ALUMINUM FOIL- TEE GEARBOX ASSY BOEING PART NO. 256A3650-4 LUBRICANT: BMS 3-33 OPT: MIL-PRF-23827	D	1

–Item not Illustrated