COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

MAIN GEAR SHIMMY DAMPER ASSEMBLY

PART NUMBER 273A3610–1, –2, –3, –4, –5

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

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COMPONENT MAINTENANCE MANUAL

Revision No. 14
Jul 01/2009

To: All holders of MAIN GEAR SHIMMY DAMPER ASSEMBLY 32-30-62.

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.

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Location of Change	Description of Change
32-30-62	
REPAIR	Added details for compensator assembly 273A3630-1.
REPAIR-GENERAL	Added details for compensator assembly 273A3630-1.
ILLUSTRATED PARTS LIST	Added clarifications and updated callouts.

COMPONENT MAINTENANCE MANUAL

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

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
32-1312		PRR 38275-6R	MAR 01/00
		PRR 38275-7	MAR 01/00
32-1368		PRR 38275-61	JUL 01/04

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	
Number	Date	Date	Initials

Revision		Filed	
Number	Date	Date	Initials

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

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Temporary Revision		Inserted		Removed	
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Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

Temporary Revision		Inserted		Removed		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.

MAIN LANDING GEAR SHIMMY DAMPER ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The main gear damper assembly includes a piston in a housing, with an attached manifold and compensator with its own piston in a housing.

2. Operation

A. The main gear damper is installed on the torsion links of each main landing gear. The unit is connected to the hydraulic system. The motion of the pistons in the unit increases the rate at which the inner cylinder comes to a stop as it tries to turn from side to side compared to the outer cylinder. This action helps prevent unwanted vibration of the main landing gear during landing.

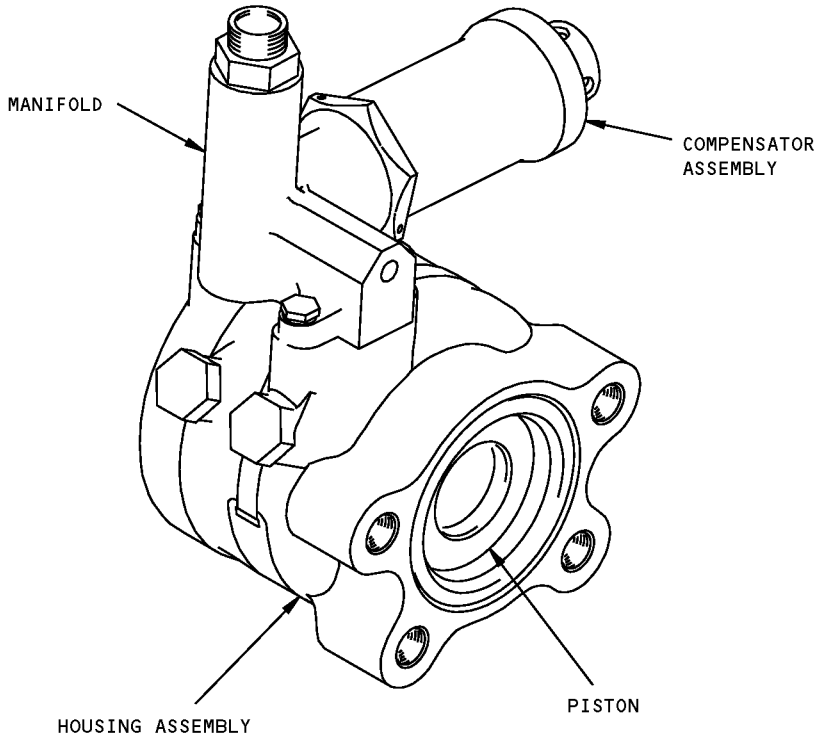
3. Leading Particulars (Approximate)

A. Length – 6 inches

B. Width – 6 inches

C. Height – 6 inches

D. Weight – 6 pounds



Main Gear Shimmy Damper Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

A. Use this procedure to do a test of the unit after an overhaul or for fault isolation.

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. Testing and Fault Isolation

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-10835	Holding Fixture Equipment - Shimmy Damper Assembly, MLG (Part #: C32046-1, Supplier: 81205)

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D50036	Fluid - Hydraulic, Erosion Arresting, Fire Resistant (use at -65 to 275 Degree F)	BMS3-11, Type V (interchgable & intermixable with Type IV)

C. References

Reference	Title
SOPM 20-60-03	LUBRICANTS

D. Test Conditions

(1) Do the test at room temperature 60-100°F (16-38°C).

(2) Use fluid, D50036 at 60-120°F (16-49°C), continuously filtered to 15 microns absolute.

(3) Do not apply compressed air to the ports at any time.

(4) Do the test steps in the sequence given.

E. Procedure (TESTING AND FAULT ISOLATION, Figure 101)

NOTE: For Disassembly, refer to DISASSEMBLY. For Assembly, refer to ASSEMBLY. For lubricants, refer to SOPM 20-60-03

(1) Put the unit in shimmy damper holding fixture, SPL-10835.

(2) Turn the unit to put the bleed port fittings up. Apply 40-60 psi hydraulic pressure to the compensator inlet port. Open one bleed port and keep the other bleed port closed. Let the fluid, D50036 flow out of the open bleed port until the flow has no air bubbles. Then close the port.

(3) Open the other bleed port and let the fluid, D50036 flow out until the flow has no air bubbles. Then close the port.

(4) Low Pressure Seal Leakage Test

(a) Apply 10-14 psi to the inlet port with both bleed ports closed.

(b) Slowly move the piston through the full stroke while you measure the applied force and displacement.

1) The force must not be more than 150 pounds.

2) The full stroke for the piston must be 0.597-0.677 inch.

(c) Hold the pressure for 2 minutes. Make sure there is no external leakage with the piston at each of its extreme positions.

(5) Compensator Proof Pressure Test

(a) With both bleed ports closed, apply 850-950 psi to the inlet port. Hold for 2 minutes.

(b) There must be no external leakage or signs of permanent deformation.

(6) Compensator Test

(a) Connect a pressure gage to one bleed port with the other bleed port closed. Install a manual shutoff valve downstream of the pressure gage. Open the shutoff valve. Slowly apply pressure to the inlet port. Make a note of the pressure when flow starts from the shutoff valve. This pressure must be 10 psi maximum.

(b) Close the manual shutoff valve and increase the supply pressure to 45-50 psi for 1 minute minimum. Then disconnect the pressure source from the inlet port. Bleed off 1-2 cc of fluid, D50036 through the shutoff valve, then close the valve. The pressure gage must read 28-38 psi.

(c) Bleed off 20 cc more fluid, D50036 through the shutoff valve. The pressure gage must now read 15-23 psi (273A3610-1) or 11-23 psi (273A3610-2 thru -5).

(7) Compensator Pressure Relief Valve Test

(a) Connect a pressure source to one bleed port and close the other bleed port. Keep the inlet port open.

(b) Apply 40-60 psi to the bleed port and hold for 2 minutes. Leakage from the inlet port must be not sufficient to make a drop.

(c) Slowly increase the pressure until drops of fluid, D50036 start to come from the inlet port. At this time, the supply pressure must be 190-288 psi.

(d) Increase the supply pressure to 300-325 psi. Make sure the fluid, D50036 flow from the inlet port is continuous.

(e) Now slowly decrease the supply pressure until the flow from the inlet port is 1 drop in 2 minutes or less. The pressure must be 60 psi minimum.

(8) Damper Body Proof Pressure Test

(a) Apply 4400-4600 psi pressure to one bleed port with the other bleed port closed and the inlet port open to return. Do not let the piston hit the end of its travel when you apply the pressure.

(b) Hold the pressure for 2 minutes minimum. There must be no external leakage or sign of permanent deformation with the piston at one end or the other of its travel.

(9) Dynamic Leakage Test

(a) Apply 900-1100 psi to one bleed port with the inlet port open to return. With an external driver, operate the piston through its full travel 25 times. Do not let the piston hit the end glands.

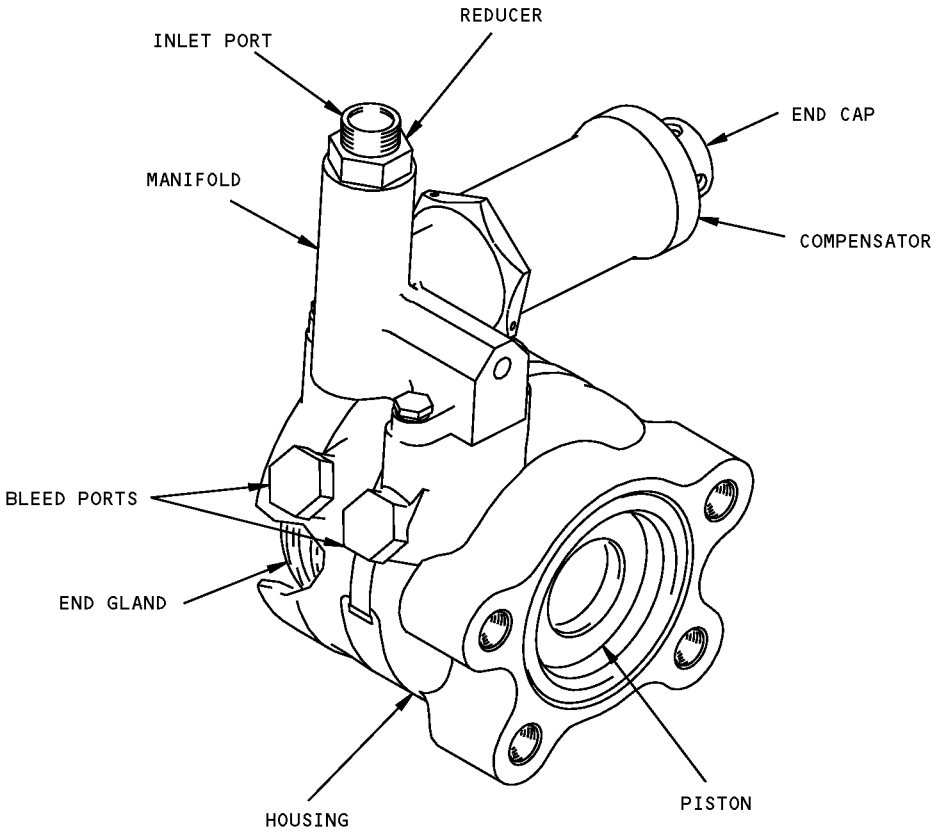
(b) The total leakage at each piston rod seal must not be more than 2 drops.

(10) Drain most of the fluid, D50036 from the unit. Let a small amount of fluid, D50036 stay inside the unit to lubricate the internal seals. Put a seal cap on the inlet port.

F. Troubleshooting

(1) If you do not get the correct results in the tests, completely disassemble the unit and look for defective seals, rings, or defects or unwanted material on mating surfaces.

(2) Then assemble the unit and try again.



Main Gear Shimmy Damper Details
Figure 101

DISASSEMBLY

1. **General**
   A. This procedure has the data necessary to disassemble the main gear shimmy damper.
   B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.
2. **Disassembly**
   A. Use standard industry procedures.
   B. These parts are recommended for replacement. Replacement of other parts can be by in-service experience.
      (1) All packings, backup rings and seals.
      (2) Shear wires
      (3) Scrapers

CLEANING

1. General

A. This procedure has the data necessary to clean the parts of the main landing gear shimmy damper.

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

2. Cleaning

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

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

CHECK

1. General

A. The procedure tells how to find defects in the parts of the shimmy damper.

B. Refer to Fits and Clearances for design dimensions 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 or IPL Figure 2 for item numbers, as indicated.

2. Check

A. References

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

B. Procedure

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

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

(a) IPL Figure 1: Manifold (65), housings (125, 240), piston (200)

(b) IPL Figure 2: Manifolds (65, 200), housings (125, 315, 317), piston (275)

(3) Penetrant check (SOPM 20-20-02):

(a) IPL Figure 1: Tube (30), end cap (90), piston (100), retainers (150), end glands (190, 235)

(b) IPL Figure 2: Tube (25), end cap (90), pistons (100, 175), retainer (225), end gland (265, 310)

(4) Spring (95, IPL Figure 1; 95 or 170, IPL Figure 2)

(a) Compress the spring to 3.29 inches length. The load must be 24.5-30.1 pounds.

(b) Compress the spring to 2.29 inches length. The load must be 43.4-53.2 pounds.

(c) Approximate free length is 4.59 inches.

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
275A2508	NAMEPLATE	2-1
273A3611	PISTON	3-1
273A3612	END GLAND	4-1
273A3613	END GLAND	5-1
273A3614	HOUSING	6-1, 6-2
273A3619	MANIFOLD	7-1, 7-2
273A3621	PISTON	8-1
273A3622	HOUSING	9-1
273A3630	COMPENSATOR	10-1, 10-2

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 specified repairs.

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

C. Refer to IPL Figure 1 and IPL Figure 2 for item numbers.

2. Refinish of Other Parts

A. 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

B. General

(1) Instructions for the repair of the parts listed in REPAIR 1-1, Table 601 are for repair of the initial finish.

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

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Transfer tube (25)	Al alloy	Chromic acid anodize (F-17.04 or F-17.02).
End cap (90)	Al-Ni-Bronze	No finish.
Spring (95)	17-7PH, CH900	No finish.
Retainers (150)	301 CRES	Passivate (F-17.25).
IPL Fig. 2		
Transfer tube (25)	Al alloy	Chromic acid anodize (F-17.04 or F-17.02).
End cap (90,165)	Al-Ni-Bronze	No finish.
Spring (95,170)	17-7PH, CH900	No finish.
Retainers (225)	301 CRES	Passivate (F-17.25).

NAMEPLATE - REPAIR 2-1

273A2508–14

1. General

A. This repair has instructions for the replacement of the nameplate (245).

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. Nameplate Replacement

A. References

Reference	Title
SOPM 20-50-21	HOW TO INSTALL NAMEPLATE STRAPS AND SEALS

B. General

(1) Use a new strap (215) each time.

C. Procedure

(1) Install the replacement nameplate (245) with a new strap (215) by the instructions in SOPM 20-50-21.

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PISTON - REPAIR 3-1

273A3611thru–1, –4

1. General

A. This procedure has the data to repair and refinish the piston (200, IPL Figure 1) or (275, IPL Figure 2).

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. General repair details:

(1) Material: 15-5PH CRES

(a) HT TR: 180-200 ksi

(2) A. Shot peen: All surfaces, unless shown differently (SOPM 20-10-03)

(a) Shot size, 0.016-0.033

(b) Intensity, 0.005-0.010A2

2. Piston Repair

A. References

Reference	Title
32-00-05	Repair of High Strength Steel Landing Gear Parts
SOPM 20-10-01	REPAIR AND REFINISH OF HIGH STRENGTH STEEL PARTS
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

B. Procedure (REPAIR 3-1, Figure 601, REPAIR 3-1, Figure 602, REPAIR 3-1, Figure 603)

NOTE: For repair and refinish of high strength steel parts, refer to SOPM 20-10-01. For machining of alloy steel, refer to SOPM 20-10-02. 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.

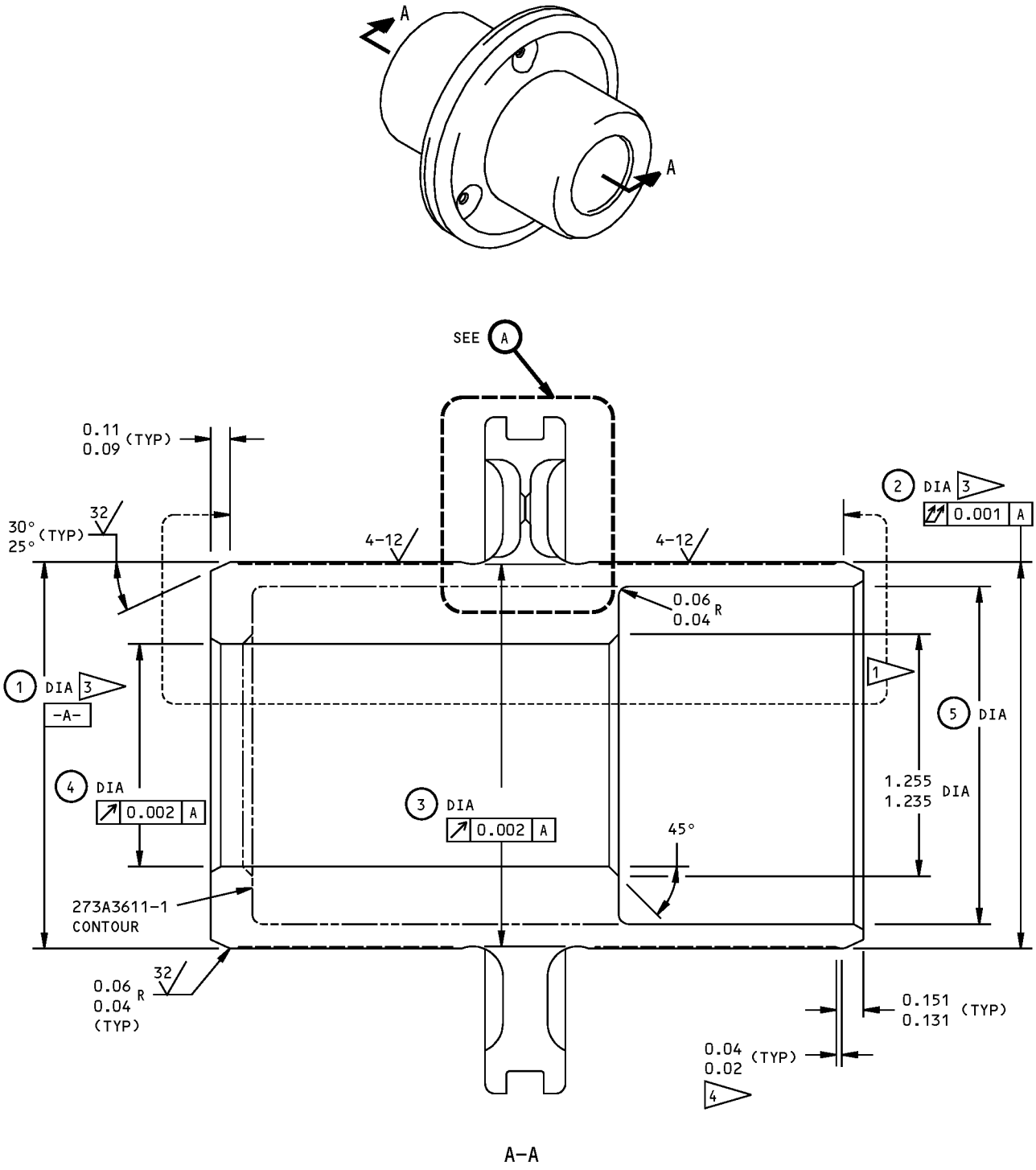
(1) Repair

(a) Repair is only replacement of the original finish. Refer to REPAIR 3-1, Paragraph 2.B.(2) and 32-00-05 for details.

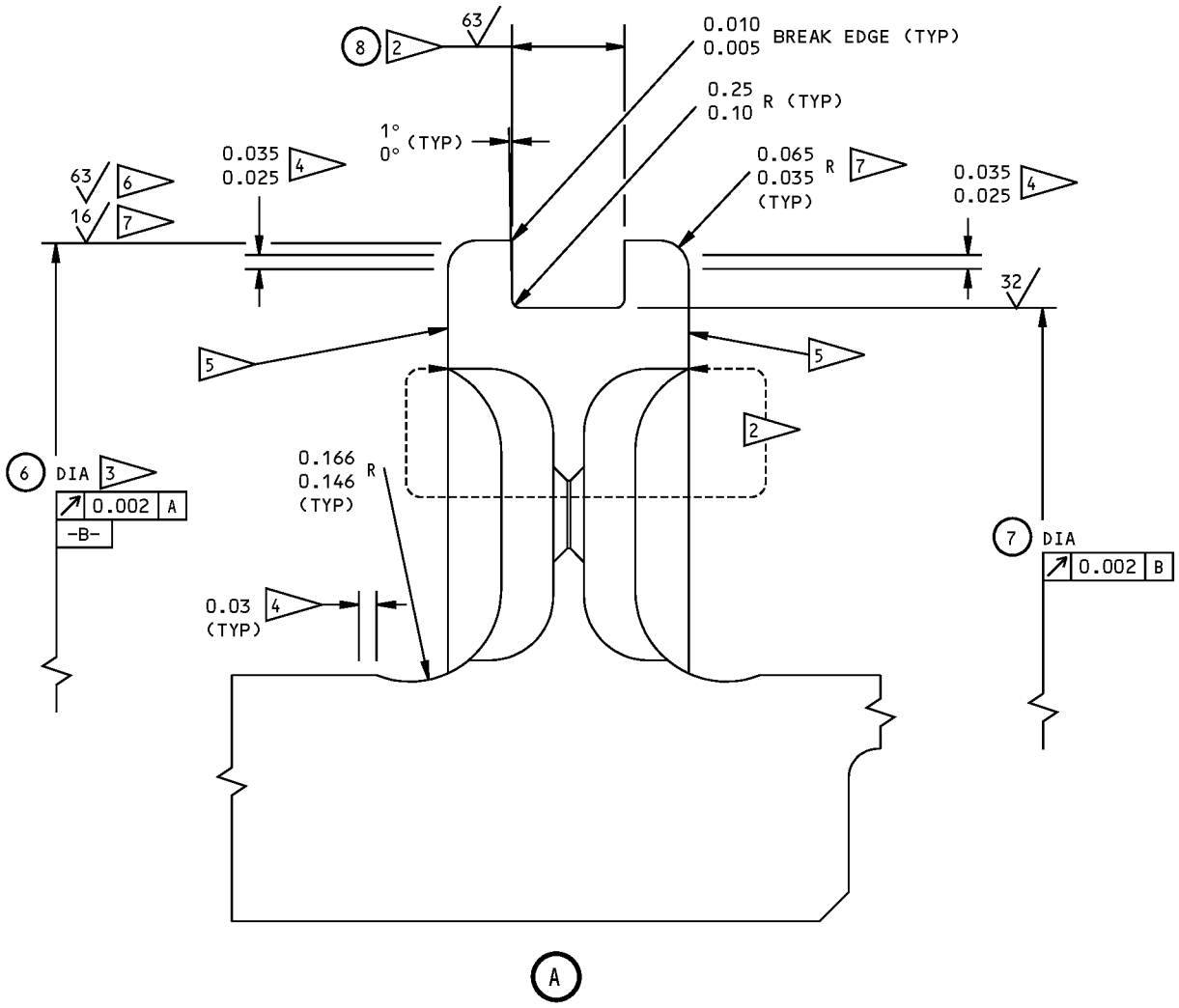
(2) Refinish

(a) Passivate (F-17.25).

(b) Chrome plate as indicated (SOPM 20-42-03). Grind to design dimensions and finish (SOPM 20-10-04).



273A3611-1,-2 Piston Repair and Refinish
Figure 601 (Sheet 1 of 2)



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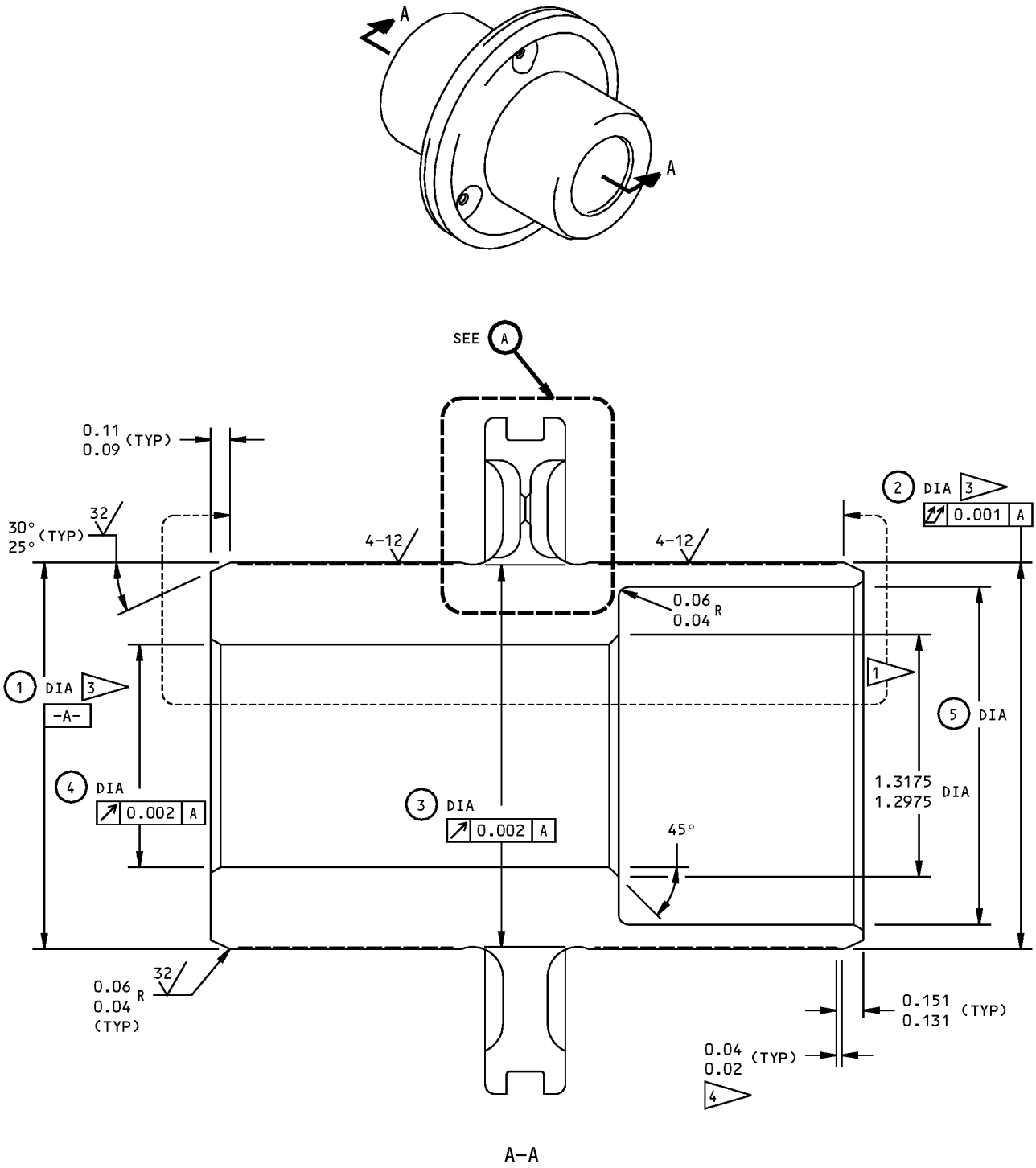
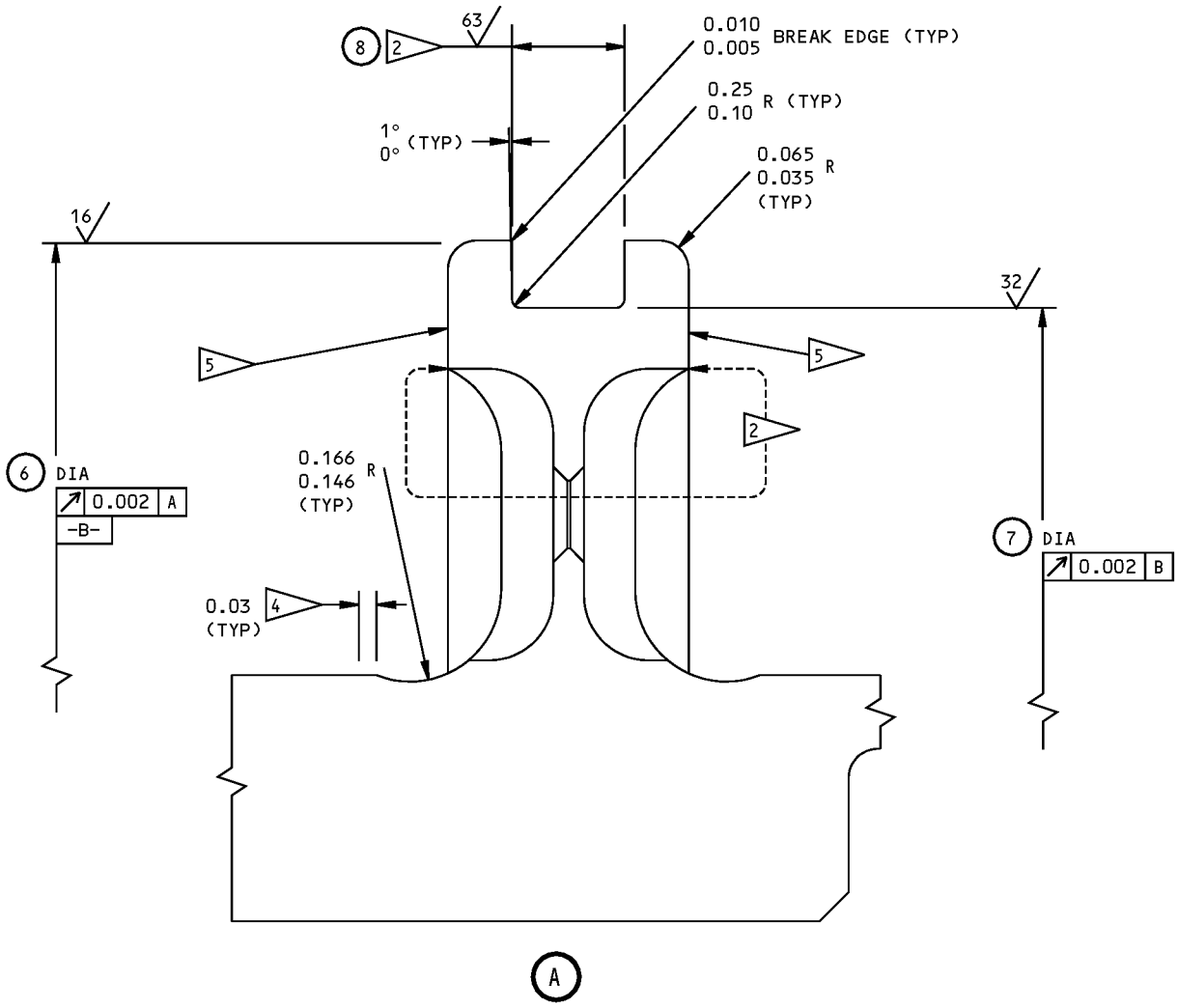
1 SHOT PEEN OPTIONAL
2 NO SHOT PEEN
3 CHROME PLATE (F-15.34 OR F-15.03)
4 CHROME PLATE RUNOUT AREA
5 NO CHROME PLATE
6 BEFORE PLATING
7 AFTER PLATING

ALL DIMENSIONS ARE IN INCHES

273A3611-1,-2 Piston Repair and Refinish
Figure 601 (Sheet 2 of 2)



273A3611-3 Piston Repair and Refinish
Figure 602 (Sheet 1 of 2)



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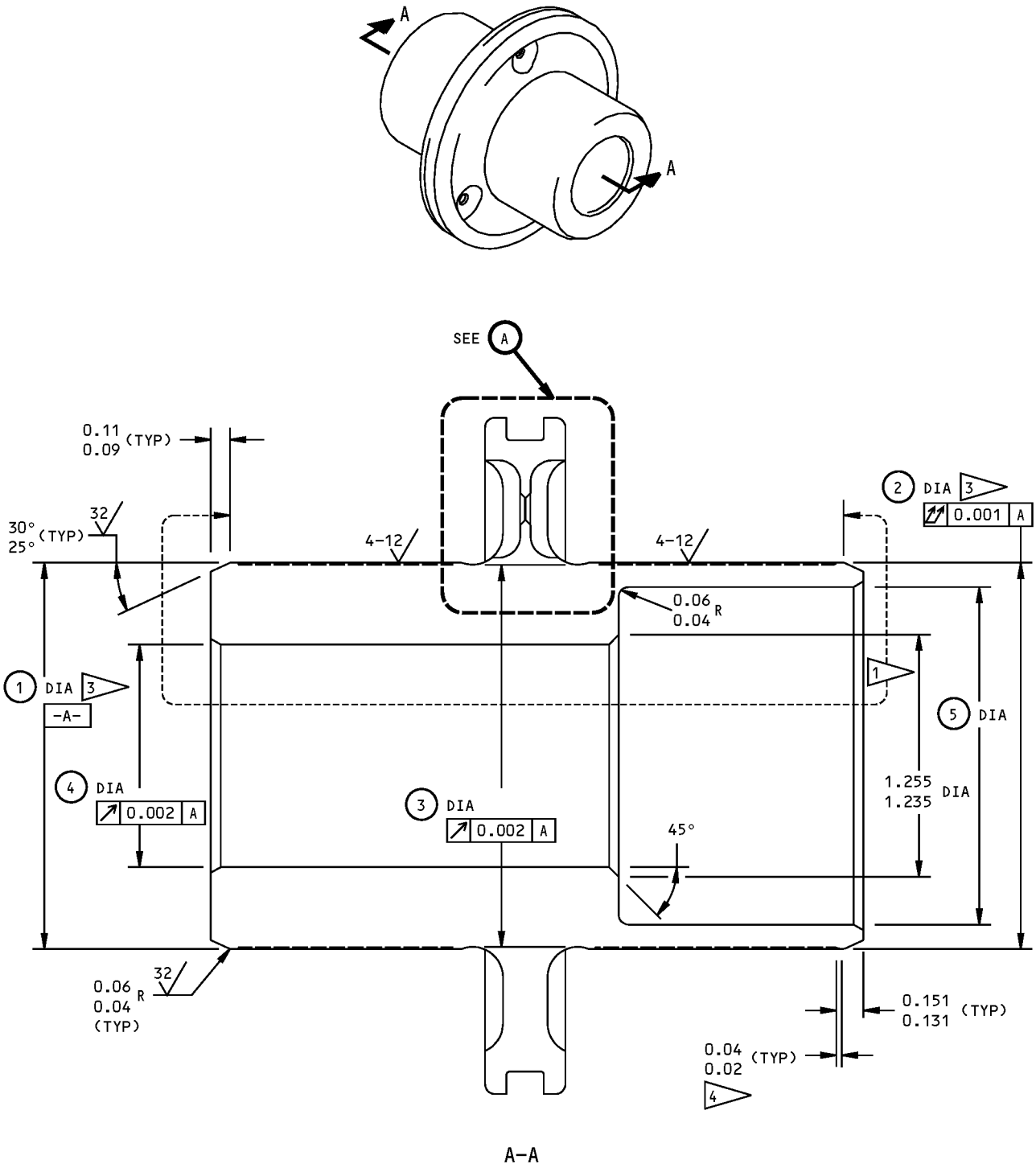
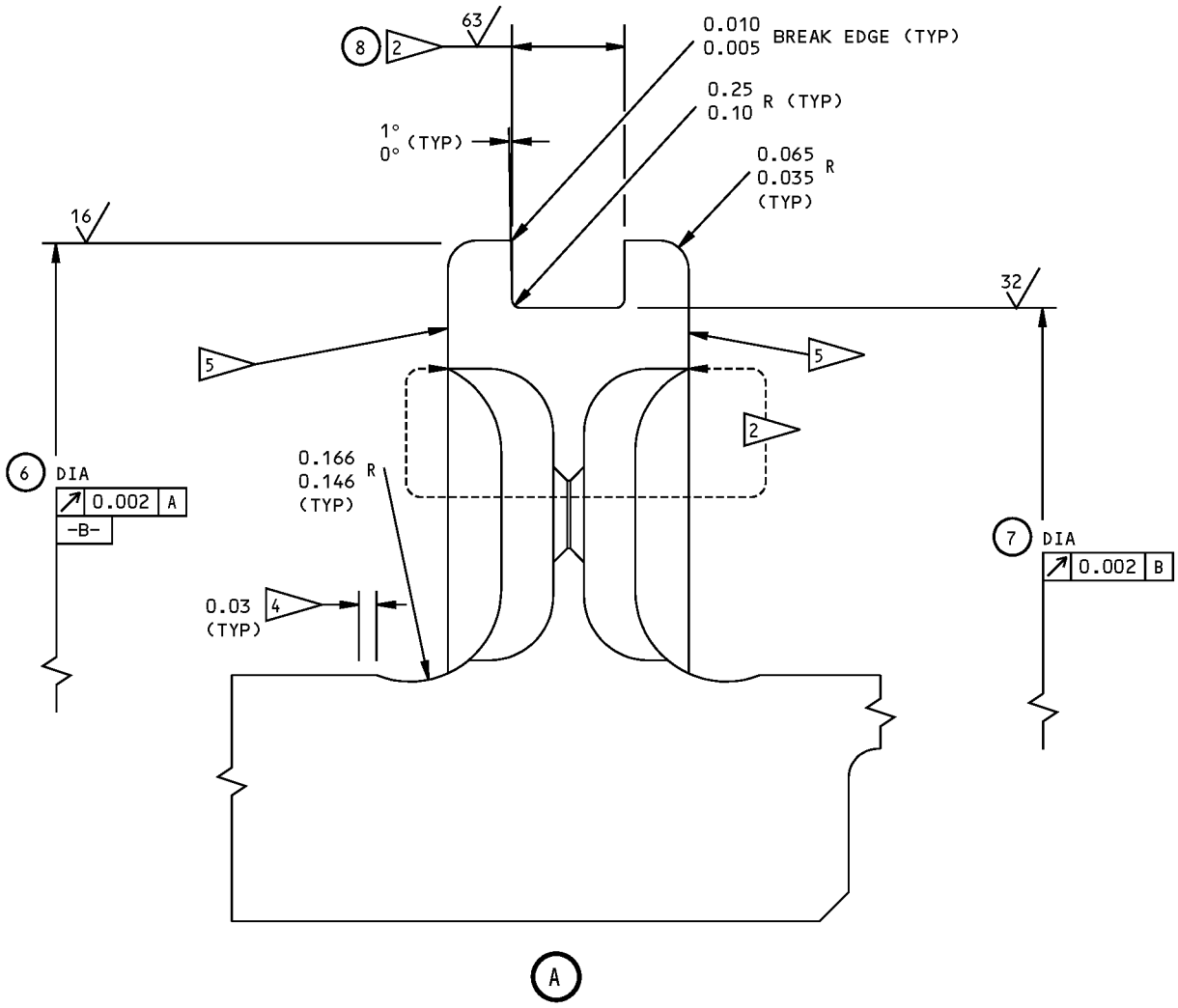
1. SHOT PEEN OPTIONAL
2. NO SHOT PEEN
3. CHROME PLATE (F-15.34 OR F-15.03)
4. CHROME PLATE RUNOUT AREA
5. NO CHROME PLATE
6. BEFORE PLATING
7. AFTER PLATING

ALL DIMENSIONS ARE IN INCHES

273A3611-3 Piston Repair and Refinish
Figure 602 (Sheet 2 of 2)



273A3611-4 Piston Repair and Refinish
Figure 603 (Sheet 1 of 2)



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1. SHOT PEEN OPTIONAL
2. NO SHOT PEEN
3. CHROME PLATE (F-15.34 OR F-15.03)
4. CHROME PLATE RUNOUT AREA
5. NO CHROME PLATE
6. BEFORE PLATING
7. AFTER PLATING

ALL DIMENSIONS ARE IN INCHES

273A3611-4 Piston Repair and Refinish
Figure 603 (Sheet 2 of 2)

END GLAND - REPAIR 4-1

273A3612–1, –2, –3

1. General

A. This procedure has the data necessary to repair and refinish the end gland (235, IPL Figure 1) or (310, IPL Figure 2).

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

Refer to REPAIR-GENERAL, Paragraph 2. for the Standard True Position Dimensioning Symbols shown in the repair.

C. General repair details:

(1) Material: Cu-Be alloy

2. End Gland Repair

A. Procedure (REPAIR 4-1, Figure 601, 602)

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.

(1) Outside diameter

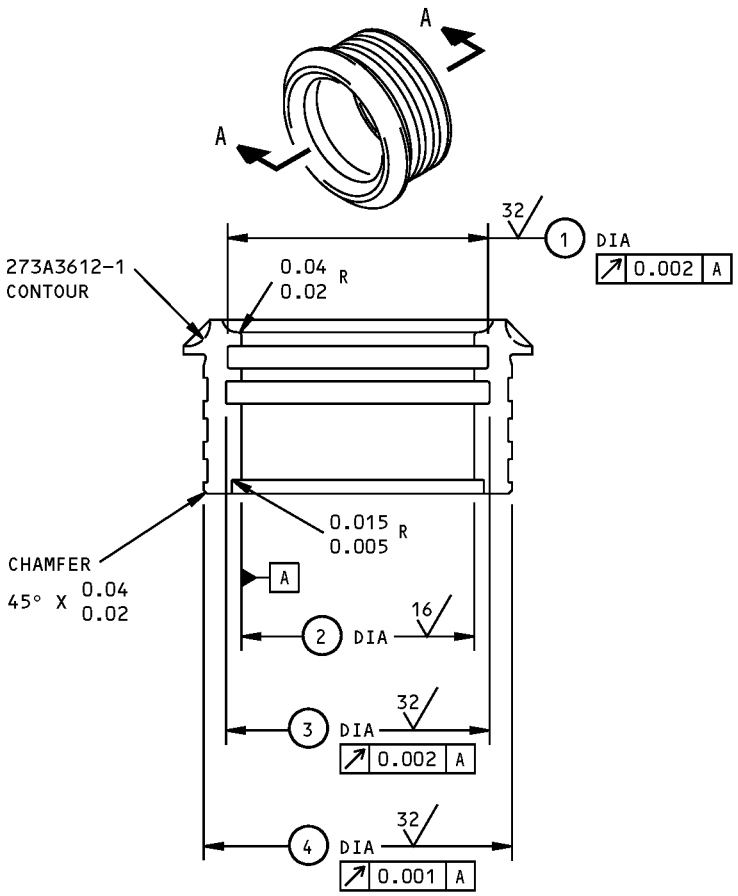
(a) Machine as necessary, within repair limits, to remove defects (SOPM 20-10-09).

(b) Chrome plate the mating bore in the housing (REPAIR 6-1).

(c) Be sure to identify this end gland and housing as matched parts.

(2) Refinish

(a) Apply no finish (F-25.01).



A–A

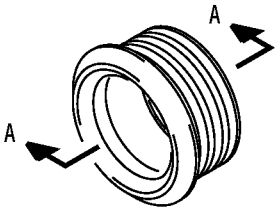
REFERENCE NUMBER	1	2	3	4
DESIGN DIMENSION	2.243 2.241	2.003 2.001	2.268 2.266	2.655 2.651 1
REPAIR LIMIT	---	---	---	2.639 2.635 2

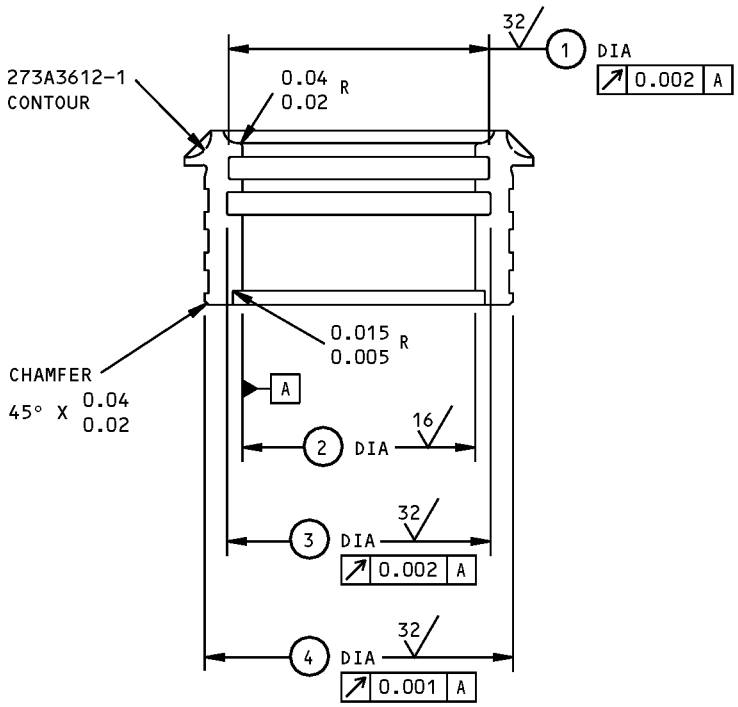
1 DIAMETER BEFORE ADJUSTMENT FOR INSTALLATION IN HOUSING (REPAIR 6-1)

2 RANGE FOR DEFECT REMOVAL. RESTORATION TO DESIGN DIMENSIONS NOT REQUIRED. CHROME PLATE THE MATING BORE IN THE HOUSING (REPAIR 6-1)

ALL DIMENSIONS ARE IN INCHES

273A3612-1,-2 End Gland Details
Figure 601





A-A

REFERENCE NUMBER	1	2	3	4
DESIGN DIMENSION	2.368 2.366	2.128 2.126	2.393 2.391	2.780 2.776 1

1 DIAMETER BEFORE ADJUSTMENT FOR INSTALLATION IN HOUSING (REF REPAIR 6-1)

ALL DIMENSIONS ARE IN INCHES

273A3612-3 End Gland Details
Figure 602

END GLAND ASSEMBLY - REPAIR 5-1

273A3613–1, –3

1. General

A. This procedure has the data necessary to repair and refinish the end gland assembly.

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

Refer to REPAIR-GENERAL, Paragraph 2. for the Standard True Position Dimensioning Symbols shown in the repair.

C. General repair details:

(1) Material: Cu-Be alloy

2. End Gland 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 20-10-09	MACHINING OF COPPER BERYLLIUM ALLOYS
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, REPAIR 5-1, Figure 602)

NOTE: For machining of copper beryllium alloys, refer to SOPM 20-10-09. 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) Insert replacement.

(a) Remove the old insert.

(b) Remove unwanted matter from the hole.

(c) Apply a thin layer of primer, C00259 to the threads of the replacement insert.

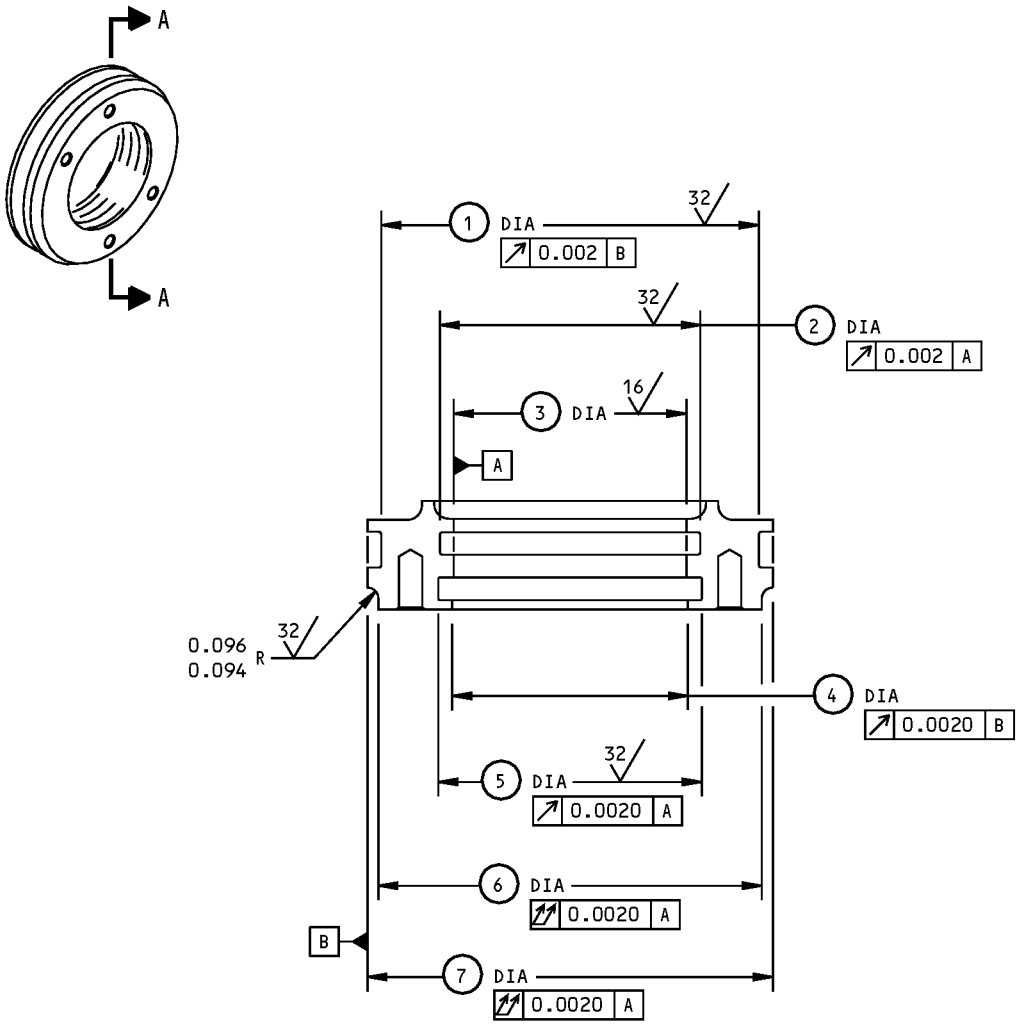
(d) Install the insert 3/4 to 1-1/2 turns below the surface. Remove the tang.

(2) Repair

(a) Repair is only replacement of a worn or defective end gland. See REPAIR 5-1, Figure 601 for details.

(3) Refinish

(a) Apply no finish (F-25.01).

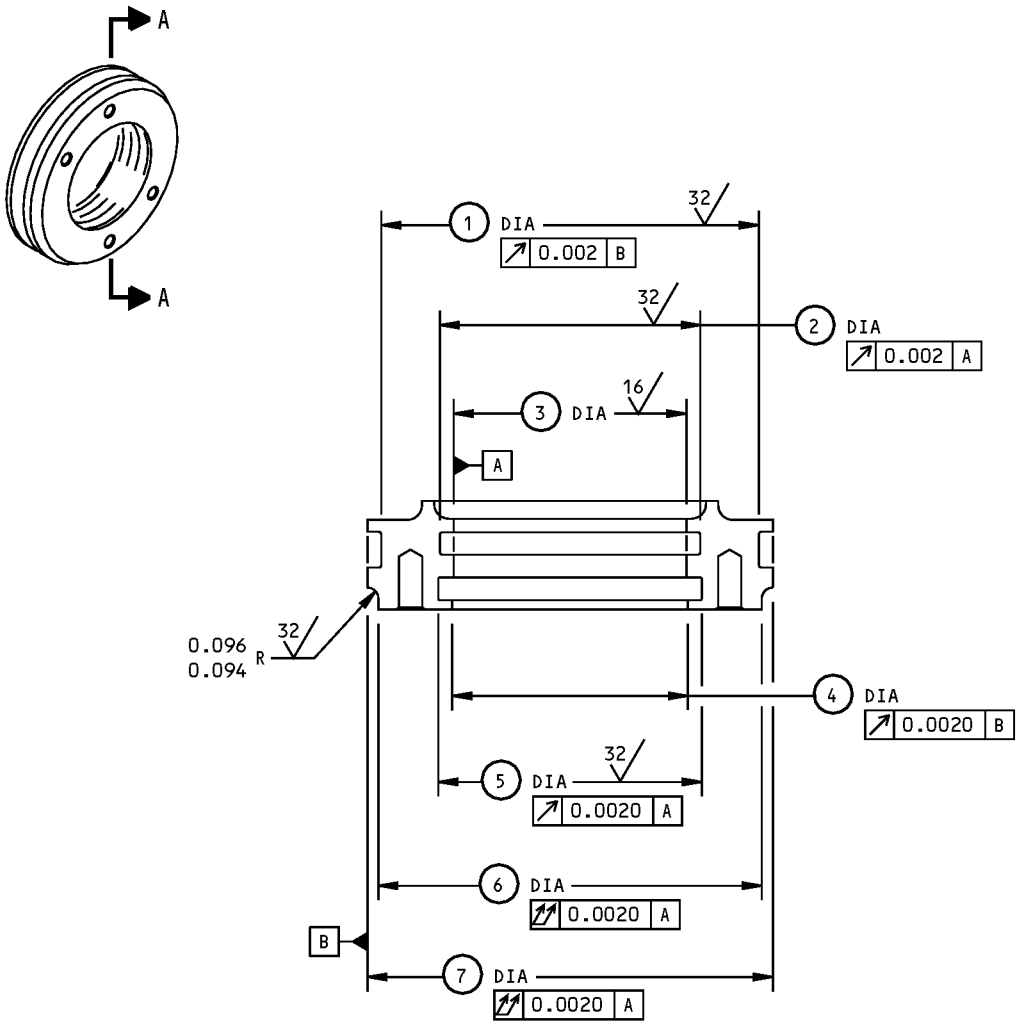


A-A

REFERENCE NUMBER	1	2	3	4	5	6	7
DESIGN DIMENSION	3.250 3.248	2.243 2.241	2.003 2.001	2.038 2.018	2.268 2.266	3.298 3.296	3.490 3.488

ALL DIMENSIONS ARE IN INCHES

273A3613-2 End Gland Details
Figure 601



A-A

REFERENCE NUMBER	1	2	3	4	5	6	7
DESIGN DIMENSION	3.375 3.373	2.368 2.366	2.128 2.126	2.163 2.143	2.393 2.391	3.423 3.421	3.615 3.613

ALL DIMENSIONS ARE IN INCHES

273A3613-4 End Gland Details
Figure 602

HOUSING ASSEMBLY - REPAIR 6-1

273A3614–1, –3, –8, –10

1. General

A. This procedure has the data necessary to replace parts of the housing 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 or IPL Figure 2 for item numbers, as indicated.

E. General repair details:

(1) Material: 15-5PH CRES

(a) HT TR: 150-170 ksi

2. Housing Parts 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 20-30-02	STRIPPING OF PROTECTIVE FINISHES
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 (REPAIR 6-1, Figure 601, REPAIR 6-1, Figure 602, REPAIR 6-1, Figure 603)

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) End gland (235, IPL Figure 1 or 310, IPL Figure 2) replacement.

(a) Remove the old end gland.

(b) If you find defects on housing surfaces, refer to REPAIR 6-2 for repair instructions.

(c) Get a replacement end gland. New ones come with the OD larger than necessary to let you adjust it for a correct fit with the actual bore of the housing. Some end glands can be repaired (REPAIR 4-1). Be sure to use the applicable adjustment procedure (REPAIR 6-1, Paragraph 2.C.(1)(d) or REPAIR 6-1, Paragraph 2.C.(1)(e)) for the condition of the end gland you install.

(d) If you use a standard or new end gland, machine the OD of the replacement end gland to get a 0.0020-0.0025 inch diametrical interference fit with the bore of the housing. Measure the housing bore and the end gland OD at room temperature. Make a note of the final dimensions.

(e) If you use a repaired end gland with the OD machined undersize to remove defects (REPAIR 4-1), build up the mating bore of the housing to get a 0.0020-0.0025 inch diametrical interference fit with the OD of the end gland. Measure the housing bore and the end gland OD at room temperature. Make a note of the final dimensions.

(f) Heat the housing to 393-482°F. Cool the end gland in liquid nitrogen. At these temperatures, there will be a clearance fit between the end gland and the housing.

(g) Install the end gland into the housing (SOPM 20-50-03) until the flange is against the mating shoulder of the housing, as shown. The end gland must go into the housing without resistance. A press fit is not necessary and is not permitted.

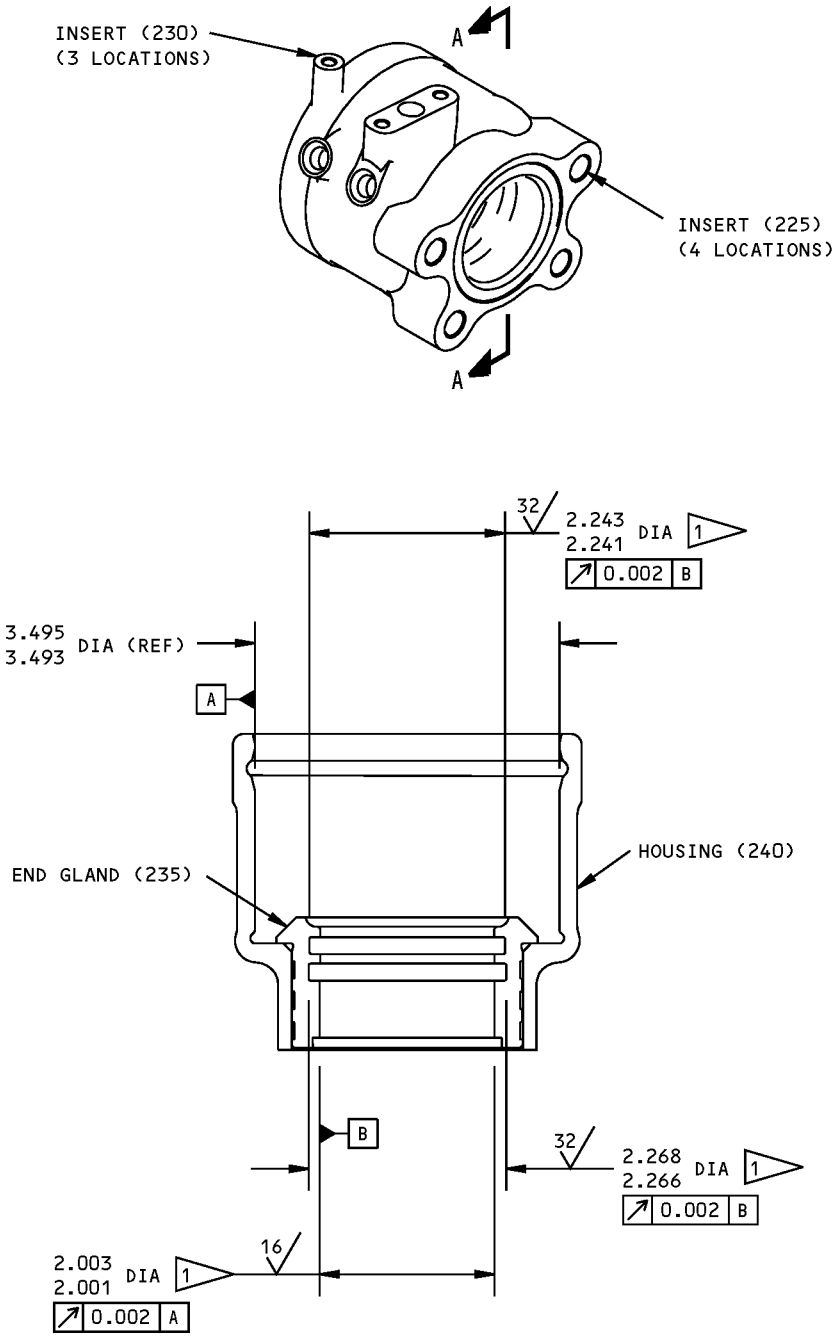
(2) Insert (225, 230, IPL Figure 1 or 300, 305, IPL Figure 2) replacement.

(a) Remove the old insert.

(b) Remove unwanted matter from the hole.

(c) Apply a thin layer of primer, C00259 to the threads of the replacement insert.

(d) Install the insert 3/4 to 1-1/2 turns below the surface. Remove the tang.



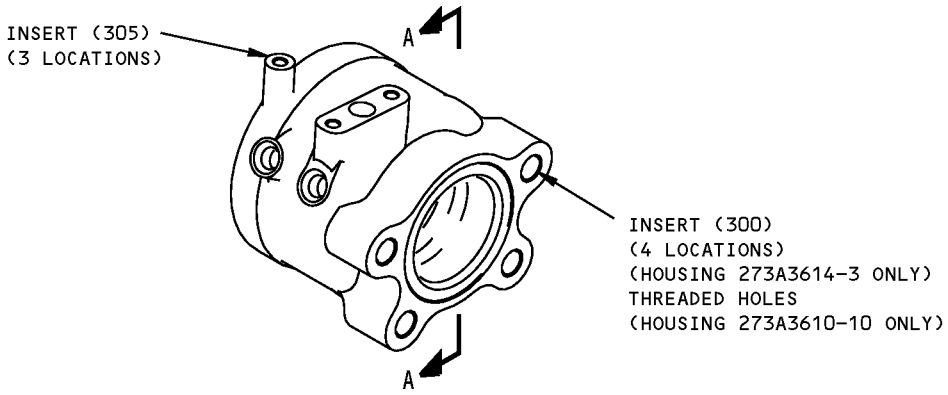
A-A

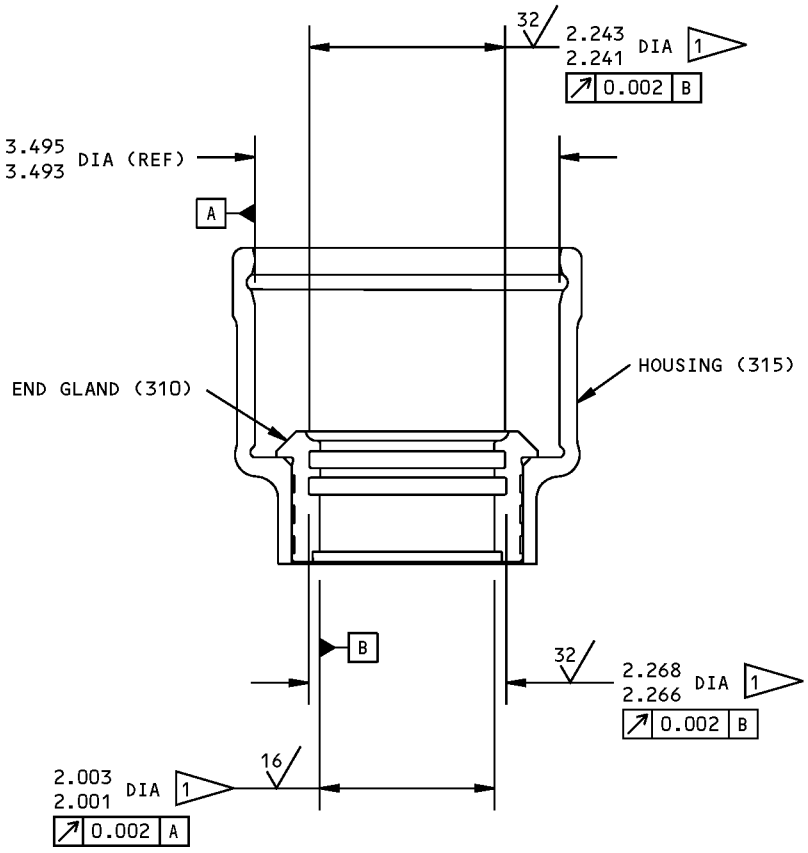
1 AFTER THE ASSEMBLED UNIT IS BACK AT ROOM TEMPERATURE, MAKE A CHECK OF THESE DIMENSIONS. IF NECESSARY, HONE OR LAP THEM

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

273A3614-1 Housing Assembly Parts Replacement
Figure 601





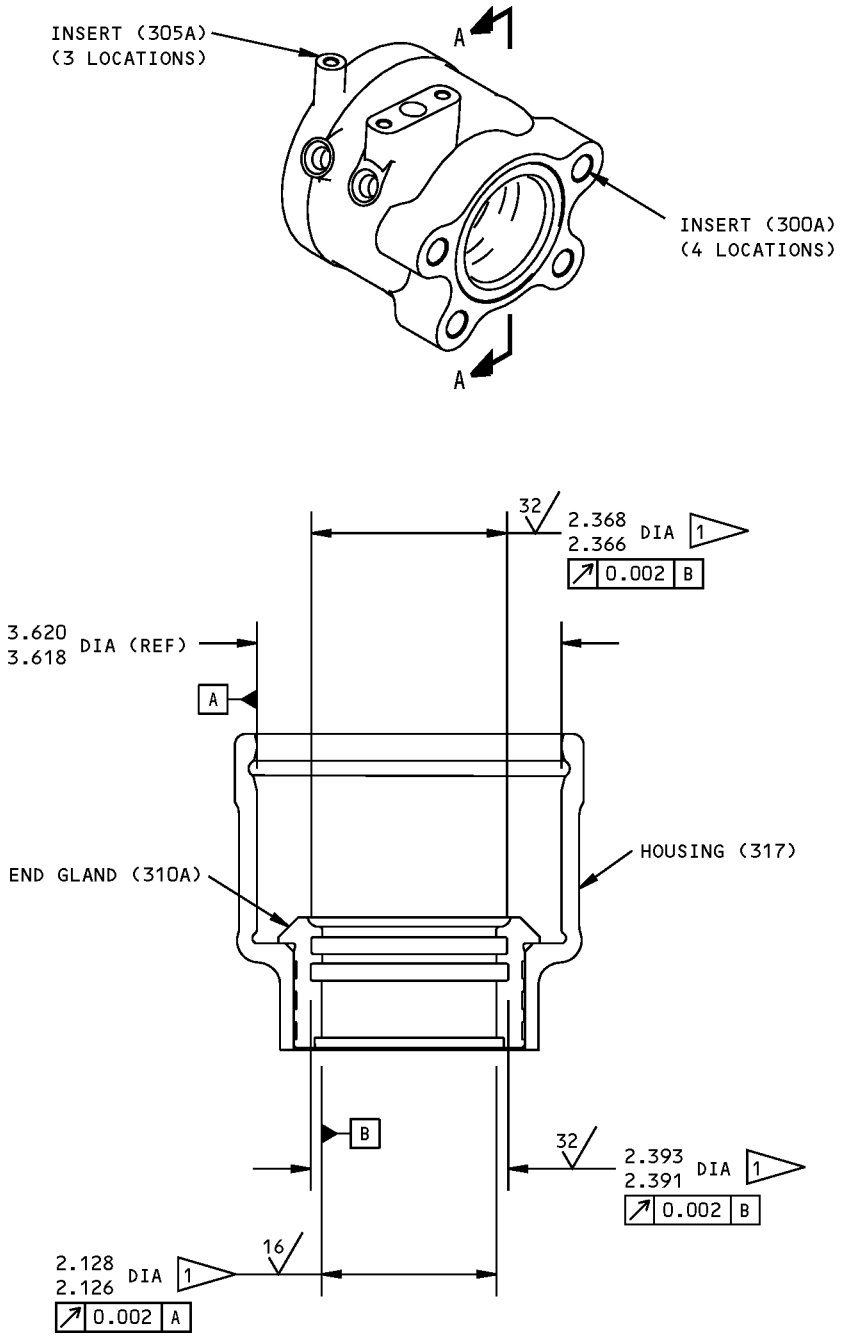
A–A

1 AFTER THE ASSEMBLED UNIT IS BACK AT ROOM TEMPERATURE, MAKE A CHECK OF THESE DIMENSIONS. IF NECESSARY, HONE OR LAP THEM

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

273A3614-3,-10 Housing Assembly Parts Replacement
Figure 602



A-A

1 AFTER THE ASSEMBLED UNIT IS BACK AT ROOM TEMPERATURE, MAKE A CHECK OF THESE DIMENSIONS. IF NECESSARY, HONE OR LAP THEM

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

273A3614-8 Housing Assembly Parts Replacement
Figure 603

HOUSING - REPAIR 6-2

273A3614–2, –4, –5, –7, –9, –11

1. General

A. This procedure tells how to repair and refinish the housing (240).

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) (1) Material: 15-5PH CRES

(a) HT TR: 150-170 ksi

(2) (1) Shot Peen: Repaired surfaces

(a) Shot size 0.017 - 0.046

(b) Intensity 0.012 - 0.017 A2

2. Housing Repair

A. References

Reference	Title
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-02	FINISHING MATERIALS

B. Procedure (REPAIR 6-2, Figure 601, REPAIR 6-2, Figure 602, REPAIR 6-2, Figure 603)

NOTE: For machining of alloy steel, refer to SOPM 20-10-02. 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) Repair – 273A3614-2

(a) Repair is only replacement of the original finish. Refer to REPAIR 6-2, Paragraph 2.B.(4) for details.

(2) Repair – 273A3614-4, -5, -7, -11 (REPAIR 6-2, Figure 601, REPAIR 6-2, Figure 603)

(a) Machine as necessary, within repair limits, to remove defects. Do not etch examine (SOPM 20-10-02).

(b) Restore the adjacent chamfers.

(c) Shot peen as indicated (SOPM 20-10-03).

(d) Build up with chrome plate.

(e) Grind to design dimensions and finish (SOPM 20-10-04).

(f) Refinish other surfaces as indicated.

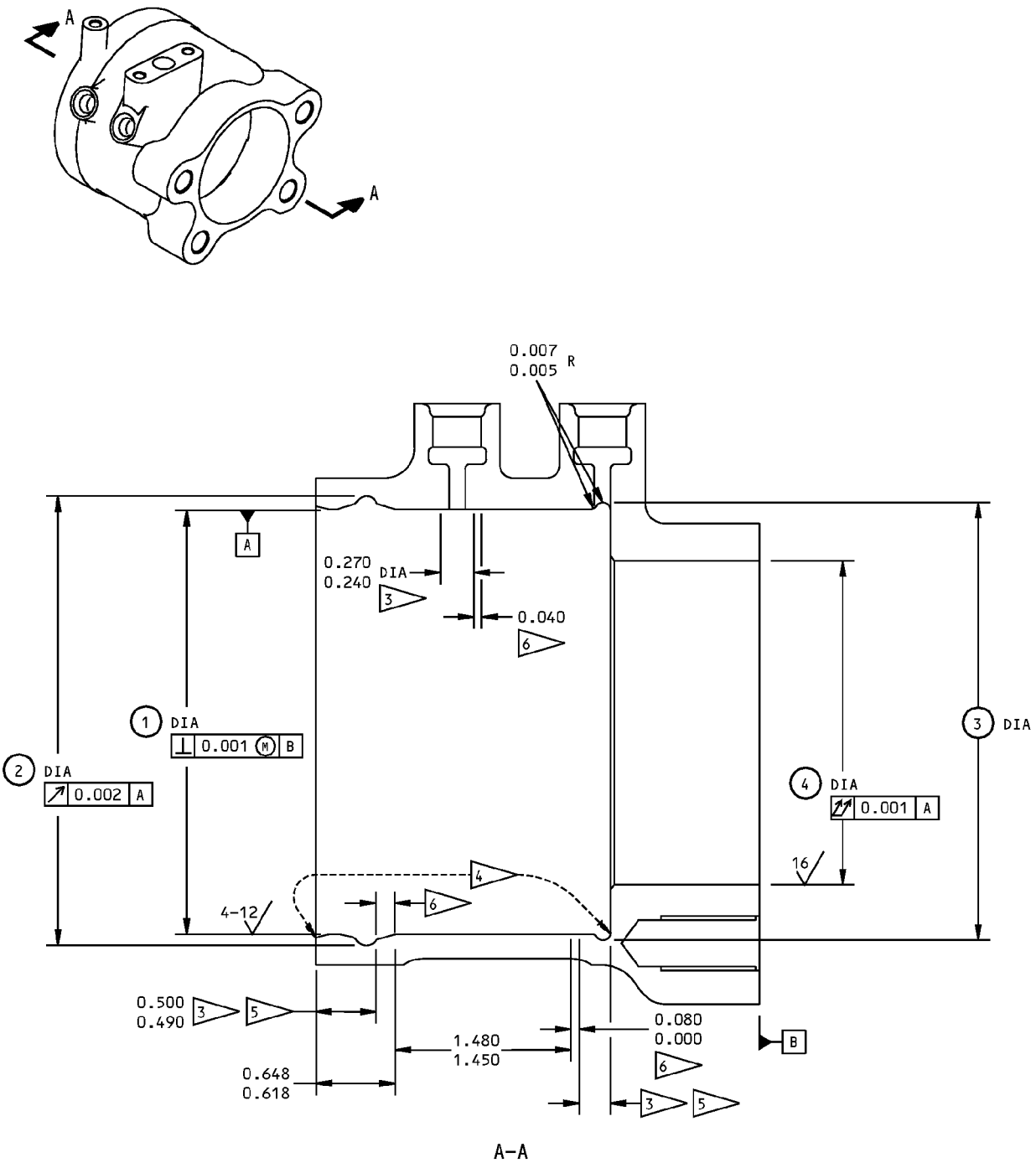
(3) Repair – 273A3614-9 (REPAIR 6-2, Figure 602)

(a) Repair is only replacement of the original finish. Refer to REPAIR 6-2, Paragraph 2.B.(4) for details.

(4) Refinish

(a) Housing 273A3614-11 – Chrome plate (F-15.34) bore Diameter A.

(b) Passivate (F-17.25) other surfaces and other housings.



273A3614-4,-5,-7 Housing Repair and Refinish
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	(1)	(2)	(3)	(4)
DESIGN DIMENSION	3.4950 3.4930	3.685 3.683	3.602 3.598	2.6485 2.6475
REPAIR LIMIT [1]	3.5030 [2]	---	---	2.6535

[1] LIMIT FOR CHROME PLATE BUILDUP (SOPM 20-42-03) AND GRIND TO DESIGN DIMENSIONS AND FINISH. MAKE A CHROME PLATE RUNOUT AT EDGES AND AS SHOWN BY [6]

[2] AREAS WITHOUT CHROME PLATE CAN BE LARGER THAN THE MAXIMUM DESIGN DIAMETER BUT MUST NOT BE LARGER THAN THE REPAIR LIMIT

[3] NO CHROME PLATE

[4] PASSIVATE (F-17.25) THE FINISHED, PLATED BORE

[5] SHOT PEEN OPTIONAL

[6] CHROME PLATE RUNOUT

REPAIR

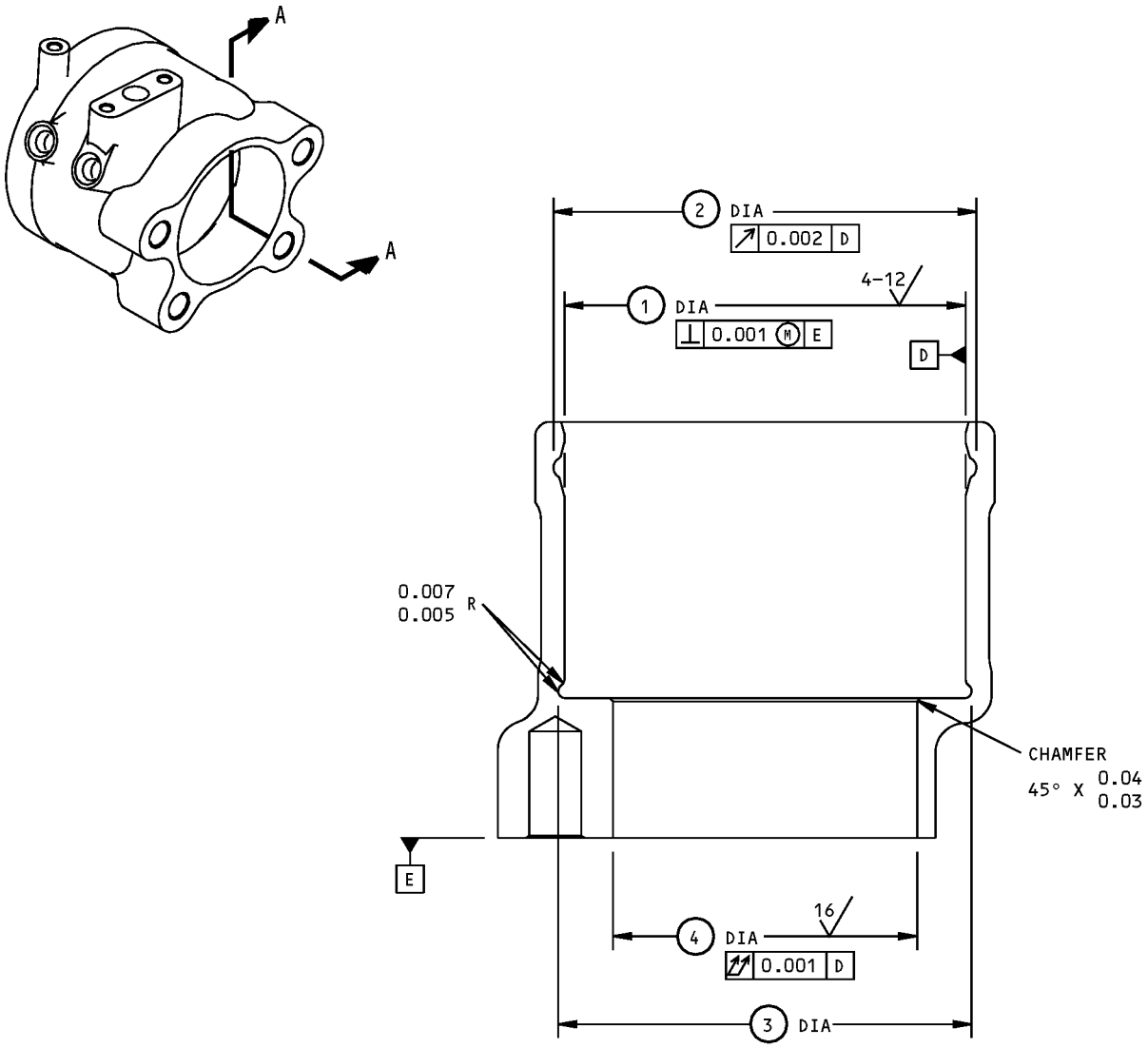
REF [1] THRU [6]

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.02-0.04

ALL DIMENSIONS ARE IN INCHES

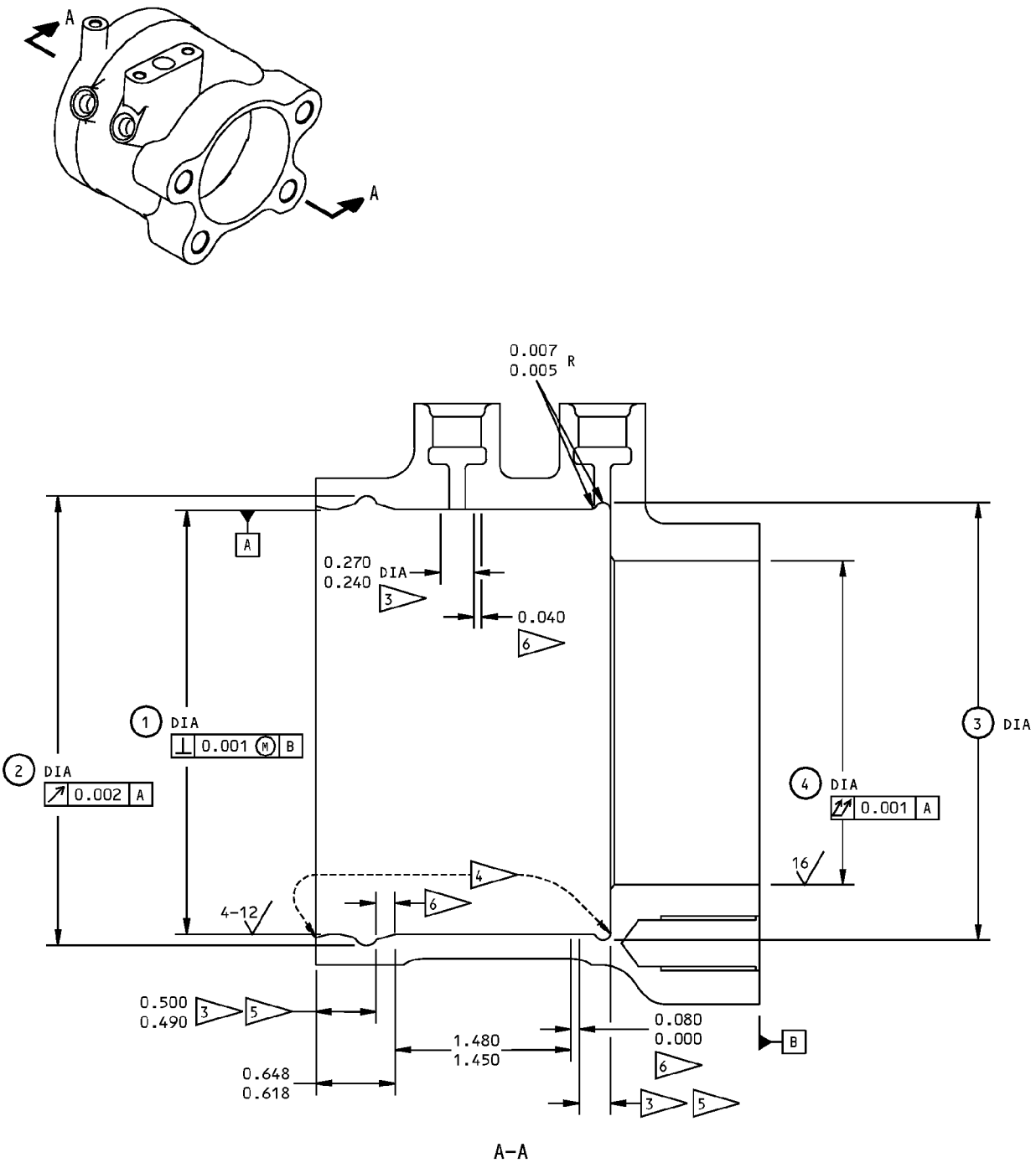
273A3614-4,-5,-7 Housing Repair and Refinish
Figure 601 (Sheet 2 of 2)



REFERENCE NUMBER	1	2	3	4
DESIGN DIMENSION	3.620 3.618	3.810 3.808	3.727 3.723	2.7735 2.7725

ALL DIMENSIONS ARE IN INCHES

273A3614-9 Housing Repair and Refinish
Figure 602



273A3614-11 Housing Repair and Refinish
Figure 603 (Sheet 1 of 2)

REFERENCE NUMBER	(1)	(2)	(3)	(4)
DESIGN DIMENSION	3.4950 3.4930	3.685 3.683	3.602 3.598	2.6485 2.6475
REPAIR LIMIT ▷1	3.5030 ▷2	---	---	2.6535

▷1 LIMIT FOR CHROME PLATE BUILDUP (SOPM 20-42-03) AND GRIND TO DESIGN DIMENSIONS AND FINISH. MAKE A CHROME PLATE RUNOUT AT EDGES AND AS SHOWN BY ▷6

▷2 AREAS WITHOUT CHROME PLATE CAN BE LARGER THAN THE MAXIMUM DESIGN DIAMETER BUT MUST NOT BE LARGER THAN THE REPAIR LIMIT

▷3 NO CHROME PLATE

▷4 PASSIVATE (F-17.25) THE FINISHED, PLATED BORE

▷5 SHOT PEEN OPTIONAL

▷6 CHROME PLATE RUNOUT

REPAIR

REF ▷1 THRU ▷6

125 √ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.02-0.04

ALL DIMENSIONS ARE IN INCHES

273A3614-11 Housing Repair and Refinish
Figure 603 (Sheet 2 of 2)

MANIFOLD ASSEMBLY - REPAIR 7-1

273A3619–1, –3

1. General

A. This procedure has the data necessary to replace parts of the manifold assembly (35).

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

C. Refer to IPL Figure 1 or IPL Figure 2 for item numbers.

D. General repair details:

(1) (1) Material: 15-5PH CRES

(a) HT TR: 150-170 ksi

2. Manifold Parts Replacement

A. References

Reference	Title
SOPM 20-50-04	INSTALLATION OF PERMANENT PINS AND PLUGS IN DRILL PASSAGES

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

(1) Plugs (40, Pins (45)

(a) Replace bad plugs and pins per SOPM 20-50-04.

(2) Valves (50, 55, 60)

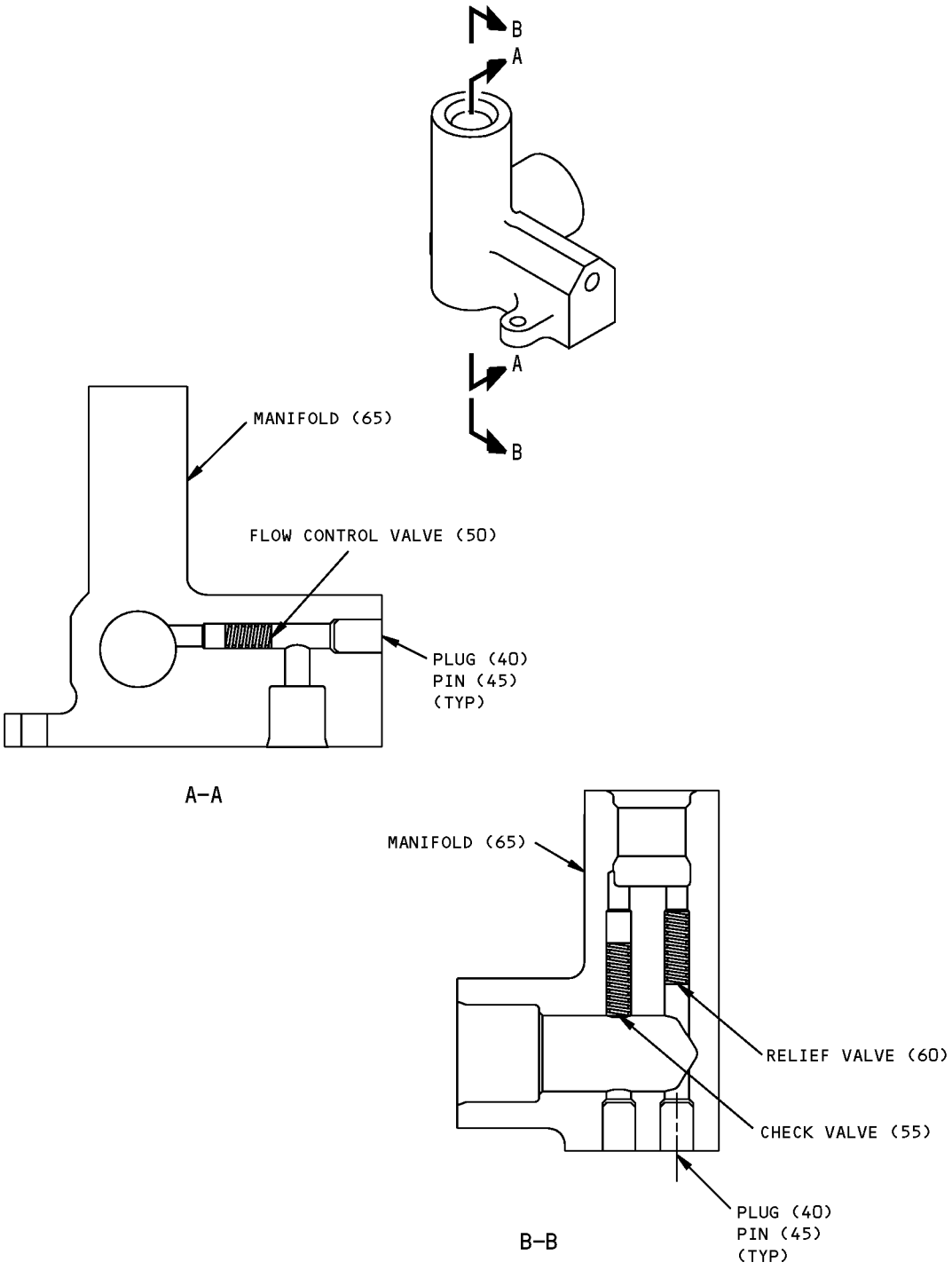
(a) Remove the related pin (45) and plug (40) per SOPM 20-50-04.

(b) Remove the bad valve.

(c) Make a check of the passages to make sure there is no unwanted matter in there.

(d) Install a replacement valve.

(e) Install a replacement pin and plug per SOPM 20-50-04.



273A3619-1,-3 Manifold Parts Replacement
Figure 601

MANIFOLD - REPAIR 7-2

273A3619–2

1. General

A. This procedure has the data necessary to repair and refinish the manifold (65).

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 or IPL Figure 2 for item numbers.

E. General repair details:

(1) (1) Material: 15-5PH CRES

(a) HT TR: 150-170 ksi

2. Manifold Repair

A. References

Reference	Title
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

B. Procedure (REPAIR 7-2, Figure 601)

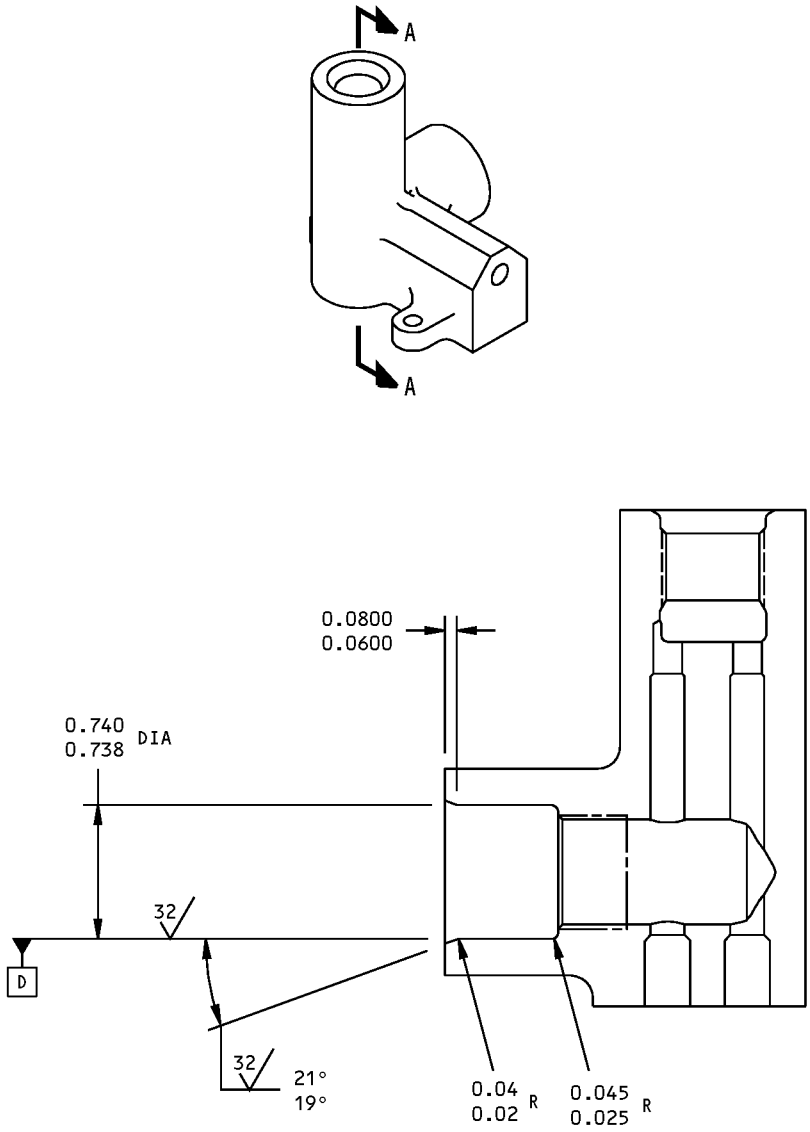
NOTE: For machining of alloy steel, refer to SOPM 20-10-02. For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01.

(1) Repair

(a) Repair is only replacement of the original finish. Refer to REPAIR 7-2, Paragraph 2.B.(2) for details.

(2) Refinish

(a) Passivate (F-17.25).



ALL DIMENSIONS ARE IN INCHES

273A3619-2 Manifold Repair and Refinish
Figure 601

PISTON - REPAIR 8-1

273A3621–1

1. General

A. This procedure has the data necessary to repair and refinish the piston.

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

Refer to REPAIR-GENERAL, Paragraph 2. for the Standard True Position Dimensioning Symbols shown in the repair.

C. General repair details:

(1) Material: Al-Ni-Bronze

2. Piston Repair

A. References

Reference	Title
SOPM 20-10-02	MACHINING OF ALLOY STEEL
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

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

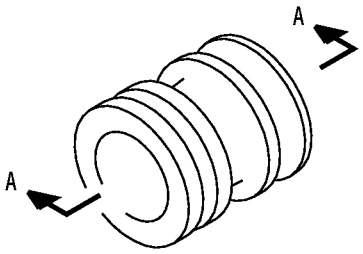
NOTE: For machining of alloy steel, refer to SOPM 20-10-02. For stripping of protective finishes, refer to SOPM 20-30-02. For decoding table for Boeing finish codes, refer to SOPM 20-41-01.

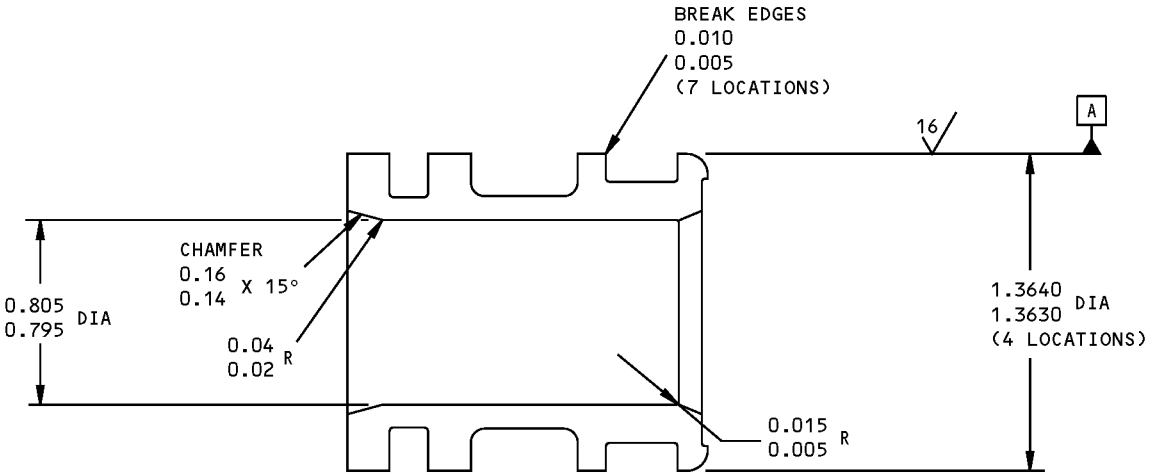
(1) Repair

(a) Repair is only replacement of a worn or defective piston. See REPAIR 8-1, Figure 601 for details.

(2) Refinish

(a) Apply no finish (F-25.01).





A–A

ALL DIMENSIONS ARE IN INCHES

273A3621-1 Piston Repair and Refinish
Figure 601

HOUSING - REPAIR 9-1

273A3622–1, –2

1. General

A. This procedure has the data necessary to repair and refinish the housing.

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. General repair details:

(1) Material: 15-5PH CRES

(a) HT TR: 150-170 ksi

2. Pin Repair

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-50-08	APPLICATION OF BONDED SOLID FILM LUBRICANTS

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

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.

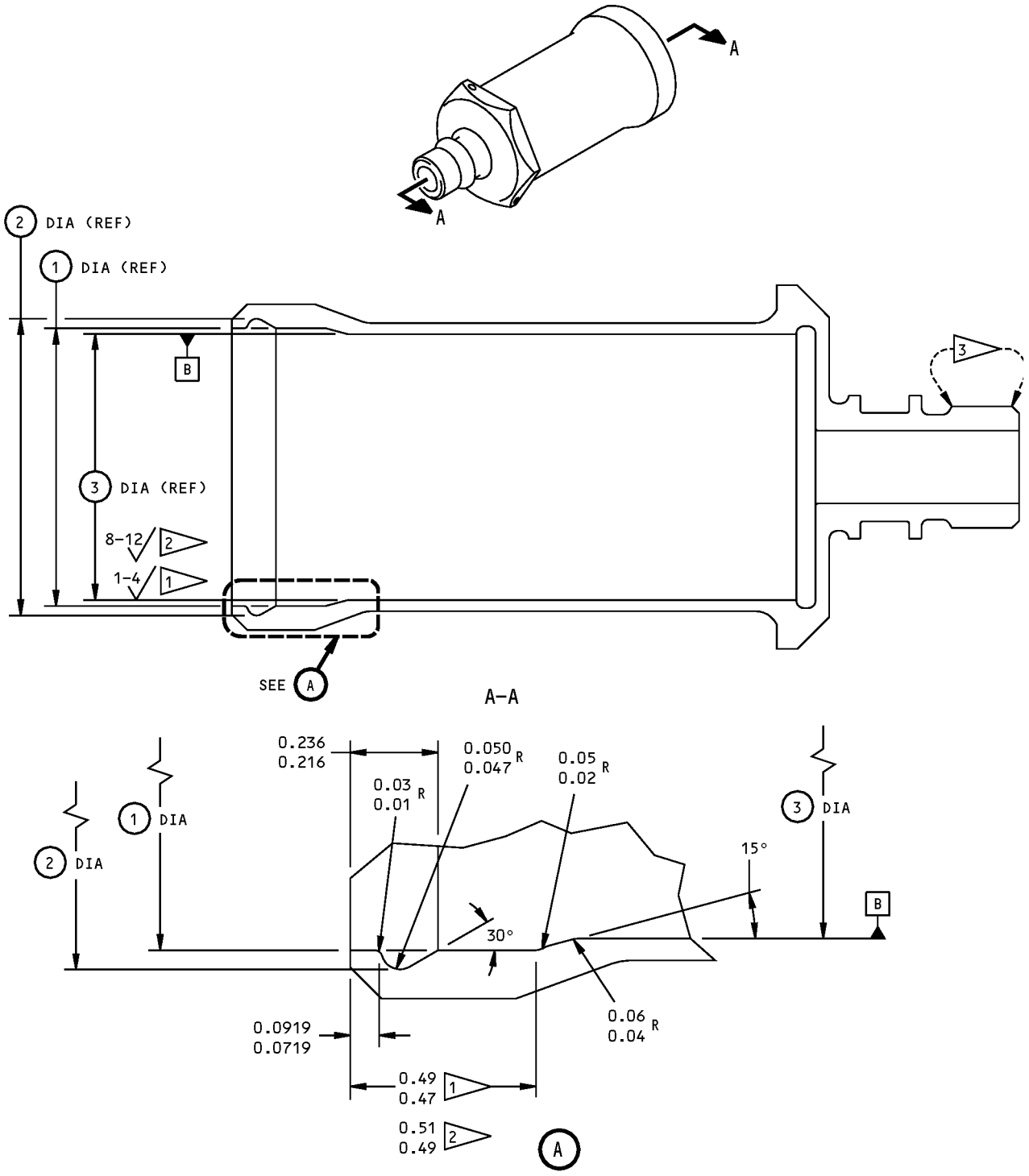
(1) Repair

(a) Repair is only replacement of the original finish. Refer to REPAIR 9-1, Paragraph 2.C.(2) for details.

(2) Refinish

(a) Passivate (F-17.25).

(b) Apply lubricant, D00113 to threads as indicated (SOPM 20-50-08).



273A3622-1,-2 Housing Repair and Refinish
Figure 601 (Sheet 1 of 2)

REFERENCE NUMBER	1	2	3
DESIGN DIMENSION	1.428 1.426	1.5293 1.5253	1.368 1.366

1. 272A3622-1
2. 273A3622-2
3. APPLY TYPE 8 SOLID FILM LUBRICANT (F-19.10)

ALL DIMENSIONS ARE IN INCHES

273A3622-1,-2 Housing Repair and Refinish
Figure 601 (Sheet 2 of 2)

COMPENSATOR ASSEMBLY - REPAIR 10-1

273A3630–1

1. General

A. Use this procedure to replace the parts of compensator assembly (130).

B. Refer to IPL Figure 2 for item numbers.

2. Parts Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)

B. References

Reference	Title
SOPM 20-50-04	INSTALLATION OF PERMANENT PINS AND PLUGS IN DRILL PASSAGES

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

(1) Plugs (135), pins (140)

(a) Replace bad plugs and pins as specified in SOPM 20-50-04.

(2) Valves (145, 150, 155)

(a) Remove the related pin (140) and plug (135) as specified in SOPM 20-50-04.

(b) Remove the bad valve.

(c) Make a check of the passages to make sure there is no unwanted material in there.

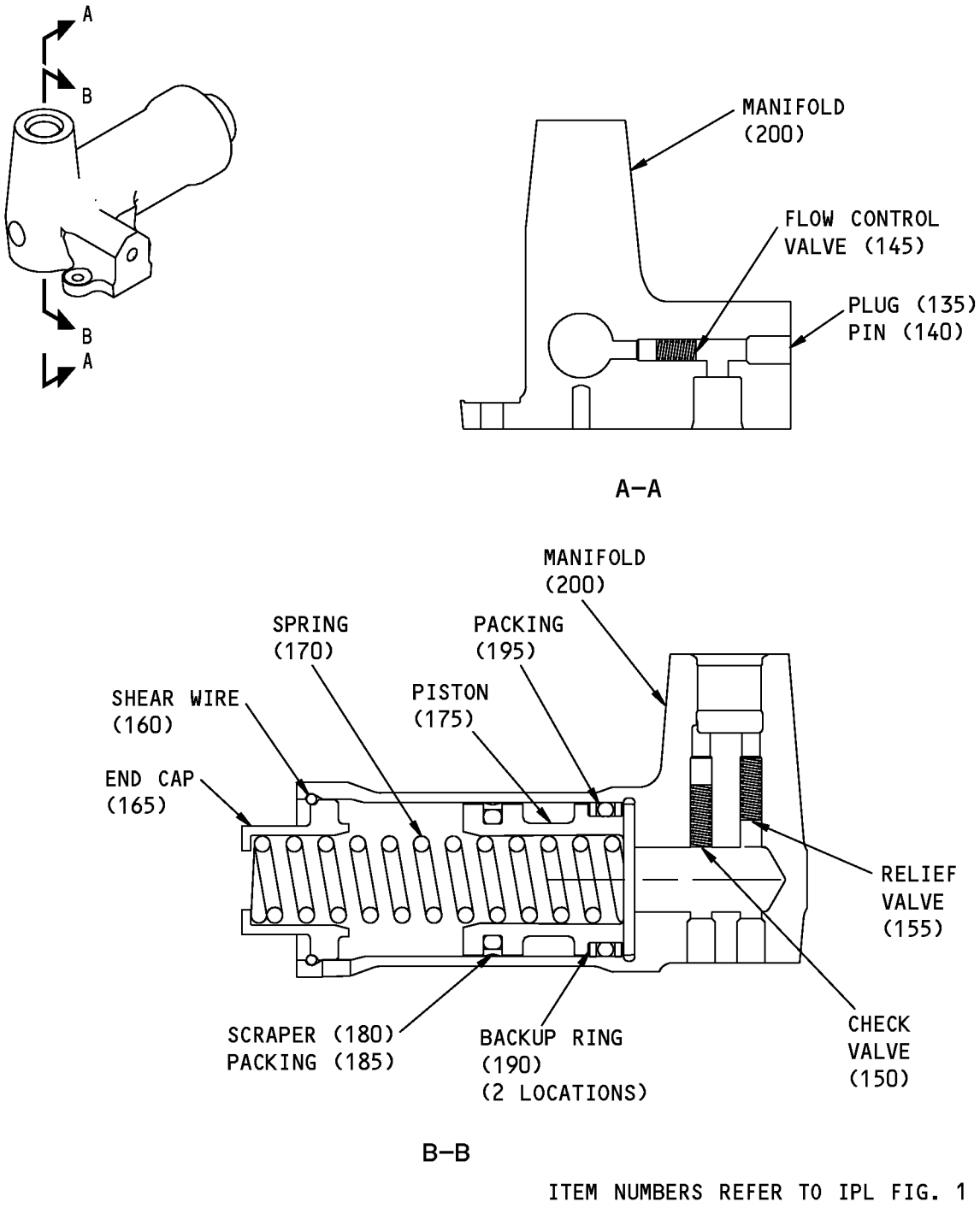
(d) Install a replacement valve.

(e) Install a replacement pin and plug as specified in SOPM 20-50-04.

(3) Other parts

(a) Use standard industry practices and these steps.

(b) Lightly lubricate the packings and rings with hydraulic fluid, D00153 before installation.



1847955 S0000327799_V1

273A3630-1 Compensator Assembly Parts Replacement
Figure 601

MANIFOLD - REPAIR 10-2

273A3630–2

1. General

A. Use this procedure to repair manifold (200).

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 figures.

D. Refer to IPL Figure 2 for item numbers.

E. General repair details:

(1) (1) Material: 15-5PH CRES, 150-170 ksi

(2) Shot peen: Not necessary

2. Repair

A. Procedure (REPAIR 10-2, Figure 601)

(1) Repair is only replacement of the original finish. Refer to REPAIR 10-2, Paragraph 3. for details.

(2) If you think there are defects on important surfaces, see REPAIR 10-2, Figure 601 for dimension details.

3. Refinish

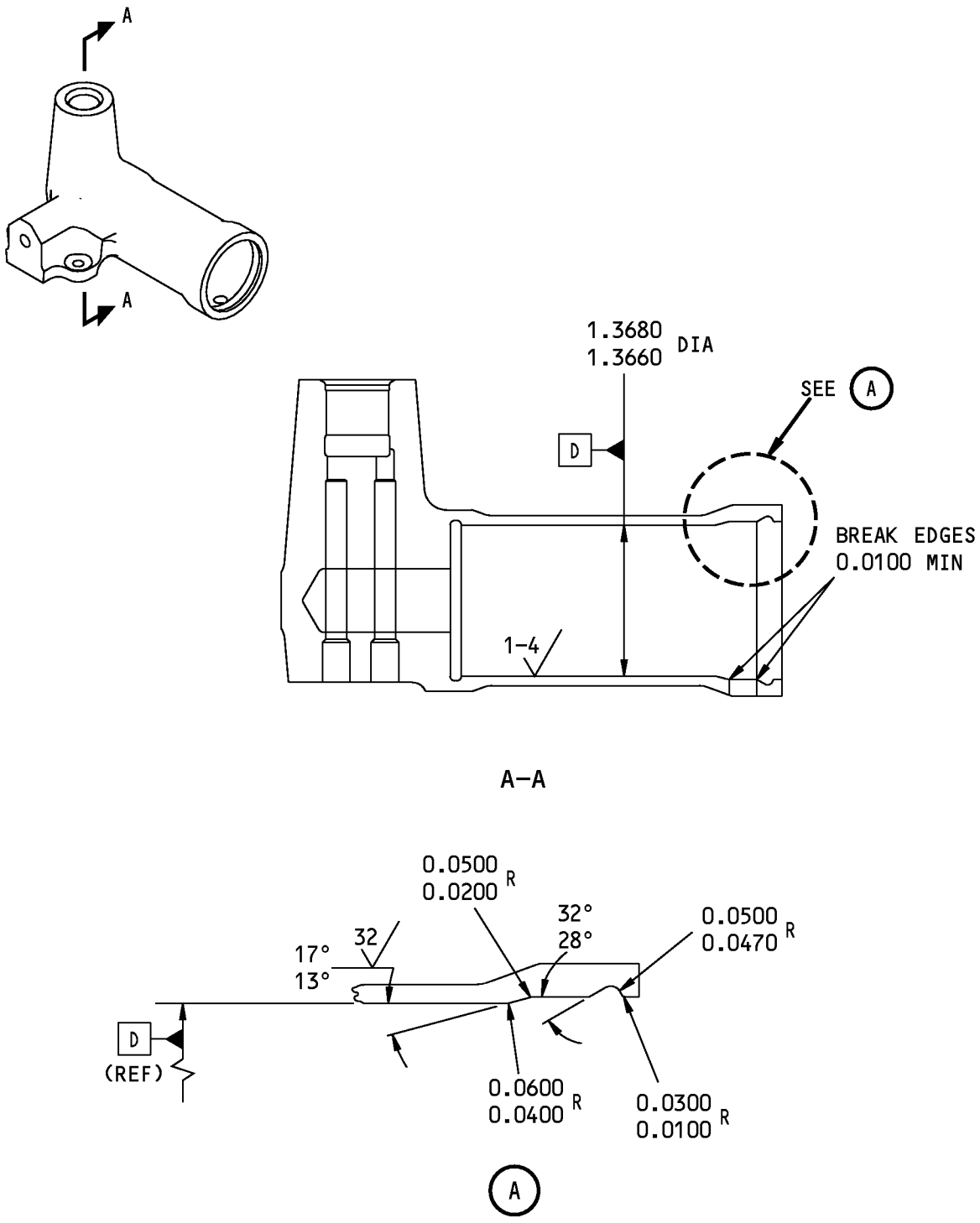
A. References

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

B. Procedure

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

(1) Passivate (F-17.25).



1847976 S0000327798_V1

273A3630-2 Manifold Repair and Refinish
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the main landing gear shimmy damper.

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

C. Refer to IPL Figure 1 or IPL Figure 2 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
G50347	Lockwire - Nickel-copper, 0.032 inch diameter	NASM20995N˜ C32

B. References

Reference	Title
SOPM 20-50-01	BOLT AND NUT INSTALLATION
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-06	INSTALLATION OF O-RINGS AND TEFLON SEALS
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

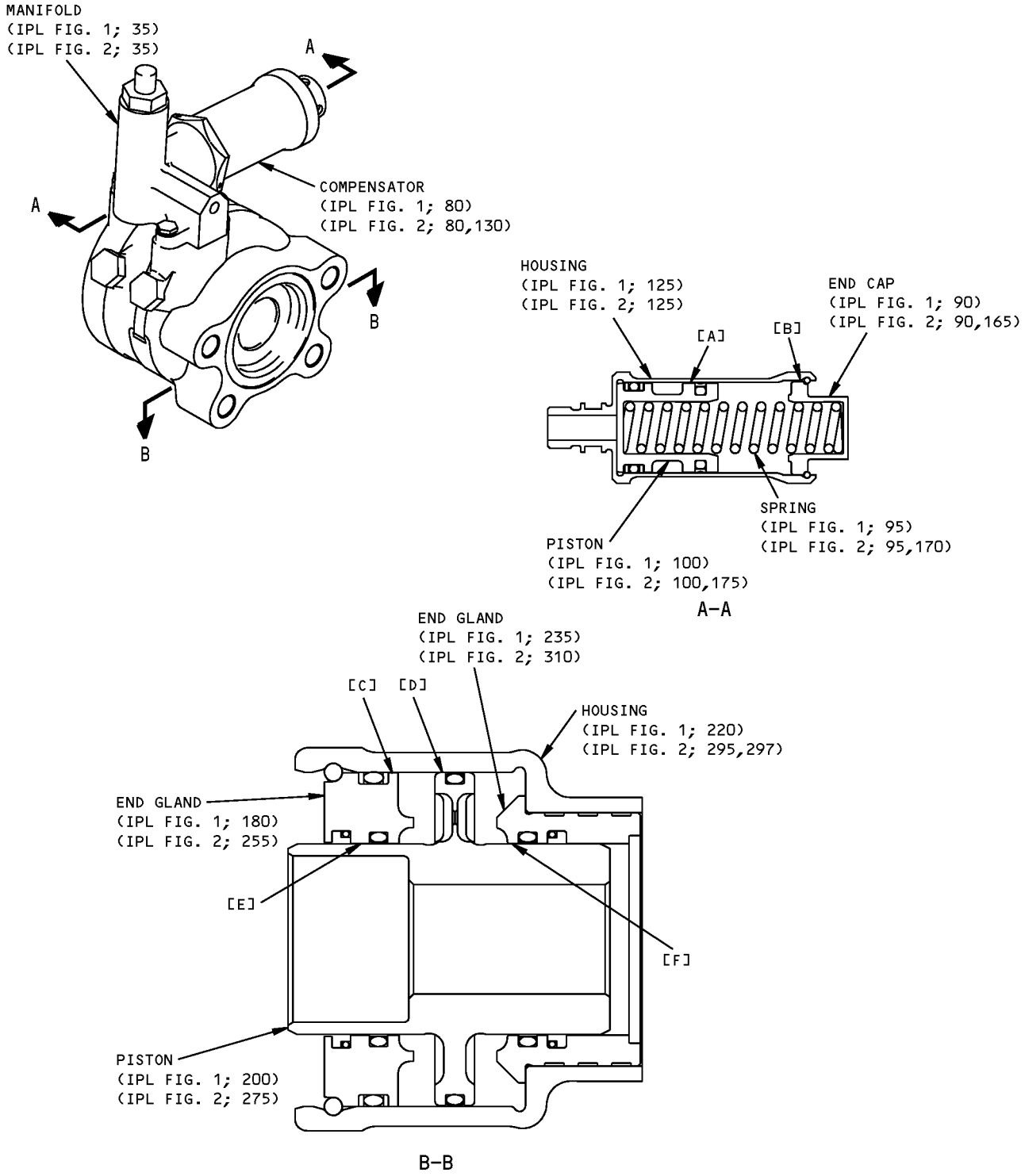
C. Procedure

NOTE: For bolt and nut installation, refer to SOPM 20-50-01. For installation of o-rings and teflon seals, refer to SOPM 20-50-06. For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Use standard industry practices and these steps.

(2) Tighten compensator (80, IPL Figure 1) or (80 or 130, IPL Figure 2) to 366-404 pound-inches.

(3) Lockwire the compensator to the nearest attach bolt using lockwire, G50347. Use the double-twist method (SOPM 20-50-02).



Fits and Clearances
Figure 801 (Sheet 1 of 3)

REF LETTER	REF IPL		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. NO.	MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
[A]	1	ID 125 OD 100	1.3660 1.3630	1.3680 1.3640	0.0020	0.0050			
[A]	2	ID 125 OD 100,175	1.3660 1.3630	1.3680 1.3640	0.0020	0.0050			
[B]	1,2	ID 125 OD 90	1.4260 1.4230	1.4280 1.4250	0.0010	0.0050			
[C]	1	ID 220 OD 180	3.4930 3.4880	3.4950 3.4900	0.0030	0.0070			
[C]	2	ID 295 OD 255	3.4930 3.4880	3.4950 3.4900	0.0030	0.0070			
[C]	2	ID 297 OD 255A	3.6180 3.6130	3.6200 3.6150	0.0030	0.0070			
[D]	1	ID 220 OD 200	3.4930 3.4880	3.4950 3.4900	0.0030	0.0070			
[D]	2	ID 295 OD 275	3.4930 3.4880	3.4950 3.4900	0.0030	0.0070			
[D]	2	ID 297 OD 275A	3.6180 3.6130	3.6200 3.6150	0.0030	0.0070			

Fits and Clearances
Figure 801 (Sheet 2 of 3)

REF LETTER	REF IPL		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. NO.	MATING ITEM NO.	DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
[E]	1	ID 180 OD 200	2.0010 1.9960	2.0030 1.9980	0.0030	0.0070			
[E]	2	ID 255 OD 275	2.0010 1.9960	2.0030 1.9980	0.0030	0.0070			
[E]	2	ID 255A OD 275A	2.1260 2.1210	2.1280 2.1230	0.0030	0.0070			
[F]	1	ID 235 OD 200	2.0010 1.9960	2.0030 1.9980	0.0030	0.0070			
[F]	2	ID 310 OD 275	2.0010 1.9960	2.0030 1.9980	0.0030	0.0070			
[F]	2	ID 310 OD 275A	2.1260 2.1210	2.1280 2.1230	0.0030	0.0070			

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 3 of 3)

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1,2	80	Compensator	366-404	
2	130	Compensator	366-404	

* 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-10835	Holding Fixture Equipment - Shimmy Damper Assembly, MLG	C32046-1	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

BOEING®

COMPONENT MAINTENANCE MANUAL

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
02107	FLOUROCARBON CO OHIO DIV DOVER, OHIO 44622 CANCELLED NO REPLACEMENT FORMERLY SPARTA MANUFACTURING CO
02697	PARKER-HANNIFIN CORP SEAL GROUP O-RING DIV 2360 PALUMBO DRIVE PO BOX 11751 LEXINGTON, KENTUCKY 40509 FORMERLY V17506 IN CLEVELAND, OHIO FORMERLY PARKER SEALS V4J413
07128	TETRAFLUOR INC 2051 EAST MAPLE AVENUE EL SEGUNDO, CALIFORNIA 90245-5009 FORMERLY ROYAL IND TETRAFLUOR DIV V0667B ENGLEWOOD CALIF
09257	BUSAK AND SHAMBAN INC SEALS DIV 2531 BREMER DR PO BOX 176 FORT WAYNE, INDIANA 46801 FORMERLY SHAMBAN, W S AND CO
26303	GREENE TWEED IND INC ADVANTEC DIV 7101 PATTERSON DRIVE PO BOX 5037 GARDEN GROVE, CALIFORNIA 92645-5037 FORMERLY OHIO AIRCRAFT SUPPLIES INC IN INGLEWOOD, CALIFORNIA FORMERLY ADVANTEC DIV OF IFP INC, LOS ANGELES, CA V5P801
26879	CORONADO MFG INC 11069 PENROSE AVENUE SUN VALLEY, CALIFORNIA 90352-2722 FORMERLY CORONADO PLASTICS INC IN BURBANK, CALIFORNIA

Code	Name
5F573	GREENE TWEED AND CO ILP DBA GREENE TWEED AND CO 2075 DETWILER RD KULPSVILLE, PENNSYLVANIA 19443-0305
92555	LEE COMPANY 2 PETTIPAUG ROAD PO BOX 424 WESTBROOK, CONNECTICUT 06498-1543
94878	RAYBESTOS-MANHATTAN INC PACIFIC COAST DIV FULLERTON, CALIFORNIA 92631 BUSINESS DISCONTINUED
95272	STILLMAN SEL CORP 6020 AVENIDA ENCINAS CARLSBAD, CALIFORNIA 92009-1001 FORMERLY SARGENT IND
97820	BUSAK AND SHAMBAN INC BEARING DIV 711 MITCHELL ROAD PO BOX 665 NEWBURY PARK, CALIFORNIA 91320-2214 FORMERLY IN CULVER CITY, CALIF; FORMERLY SHAMBAN W S & CO
S4980	TS CORPORATION 9-18 KAUGAN 1-CHOME, MINATO-KU TOKYO, JAPAN 105-0022 FORMERLY V/C 0606B AND TEIJIN SEIKI CO GIFU PLANT

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
1100400		2	290C	1
		2	290D	1
2100-011		1	25	4
		2	20	4
2100-113		1	75	2
		2	75	2
2100-216		1	115	2
		2	115	2
		2	190	2
2100-236		1	170	2
		2	245	2
2100-237		2	245A	2
273A2508-14		1	245	1
		2	320	1
273A3610-1		1	1A	RF
273A3610-10		2	30	1
273A3610-2		1	1B	RF
		2	1A	RF
273A3610-3		1	1C	RF
		2	1B	RF
273A3610-4		1	1D	RF
		2	1C	RF
273A3610-5		1	1E	RF
		2	1D	RF
273A3611-1		1	200	1
273A3611-2		2	275	1
		2	275C	1
273A3611-3		2	275A	1
273A3611-4		2	275B	1
		2	275D	1
273A3612-1		1	235	1
273A3612-2		2	310	1
273A3612-3		2	310A	1
273A3613-1		1	180	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	255	1
273A3613-2		1	190	1
		2	265	1
273A3613-3		2	255A	1
273A3613-4		2	265A	1
273A3614-1		1	220	1
273A3614-10		2	295A	1
273A3614-11		2	315C	1
273A3614-2		1	240	1
273A3614-3		2	295	1
273A3614-4		2	315A	1
273A3614-5		2	315	1
273A3614-7		2	315B	1
273A3614-8		2	297	1
273A3614-9		2	317	1
273A3615-1		1	155	1
		2	230	1
273A3615-2		2	230A	1
273A3616-1		1	150	2
		2	225	2
273A3616-2		2	225A	2
273A3619-1		1	35	1
273A3619-2		1	65	1
		2	65	1
273A3619-3		2	35	1
273A3620-1		1	80	1
273A3620-2		2	80	1
273A3621-1		1	100	1
		2	100	1
		2	175	1
273A3622-1		1	125	1
		2	125	1
273A3622-2		1	125A	1
273A3623-1		1	90	1
		2	90	1

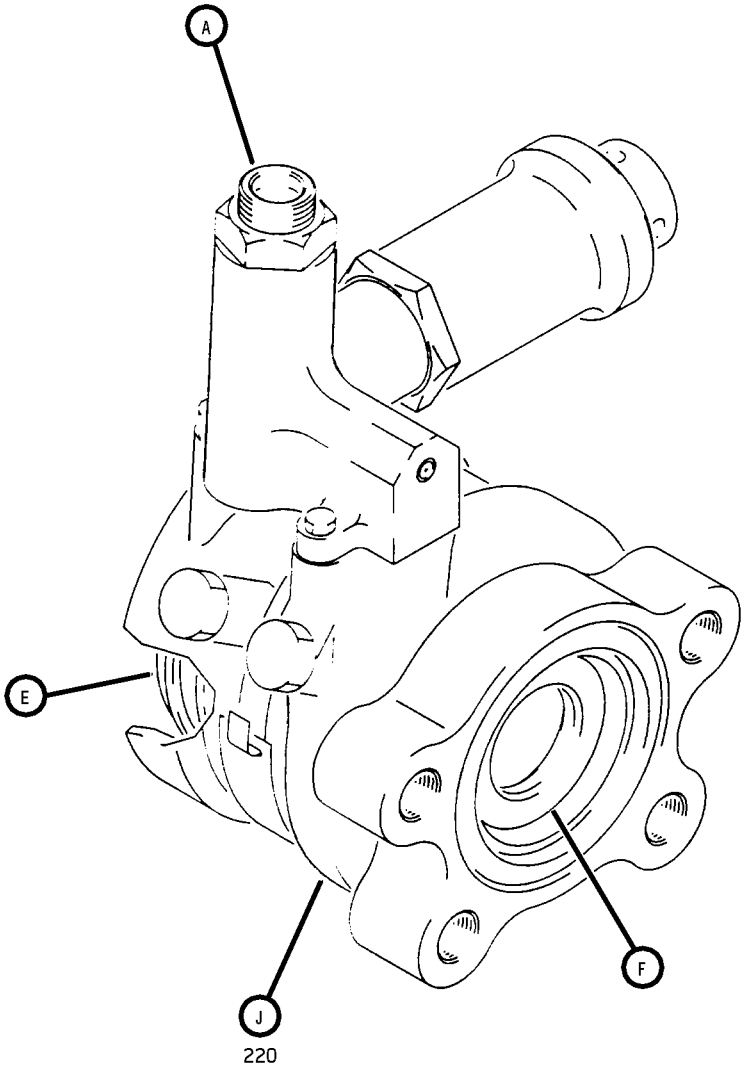
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
273A3623-2		2	90A	1
		2	165	1
273A3624-1		1	85	1
		2	85	1
		2	160	1
273A3630-1		2	130	1
273A3630-2		2	200	1
273T0050-6		2	290A	1
		2	290E	1
273T0050-9		1	215	1
		2	290	1
4150-23700-00954		2	240J	1
69-54508-1		1	95	1
		2	95	1
		2	170	1
69-54528-1		1	30	1
		2	25	1
72180-236		2	240D	1
		2	240F	1
72180-237		2	240H	1
BACB30NM3HK3		1	10	3
		2	5	3
BACB30NM3K1		1	140	4
		2	215	4
BACI12AEF1-15L		2	305A	3
BACI12AEF8-15L		2	300A	4
BACP20AX21		1	40	3
		2	40	3
		2	135	3
BACP20AX21P		1	45	3
		2	45	3
		2	140	3
BACR12BM011		1	25	4
		2	20	4
BACR12BM113		1	75	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	75	2
BACR12BM216		1	115	2
		2	115	2
		2	190	2
BACR12BM236		1	170	2
		2	245	2
BACR12BM237		2	245A	2
BACW10BP32NAPU		1	15	3
		1	145	4
		2	10	3
		2	220	4
BCREF49042		2	240C	1
		2	240E	1
BCREF50332		2	240G	1
BCREF50538		2	240J	1
C11236-011B		1	25	4
		2	20	4
C11236-113B		1	75	2
		2	75	2
C11236-216B		1	115	2
		2	115	2
		2	190	2
C11236-236B		1	170	2
		2	245	2
C11236-237B		2	245A	2
CKRA1875005A		1	55	1
		2	55	1
		2	150	1
E0515-2-236-1W2YB0		2	240C	1
		2	240E	1
E0515-2-237-1W2YB0		2	240G	1
FCRA1875200H		1	50	1
		2	50	1
		2	145	1
MS124699		2	300B	4

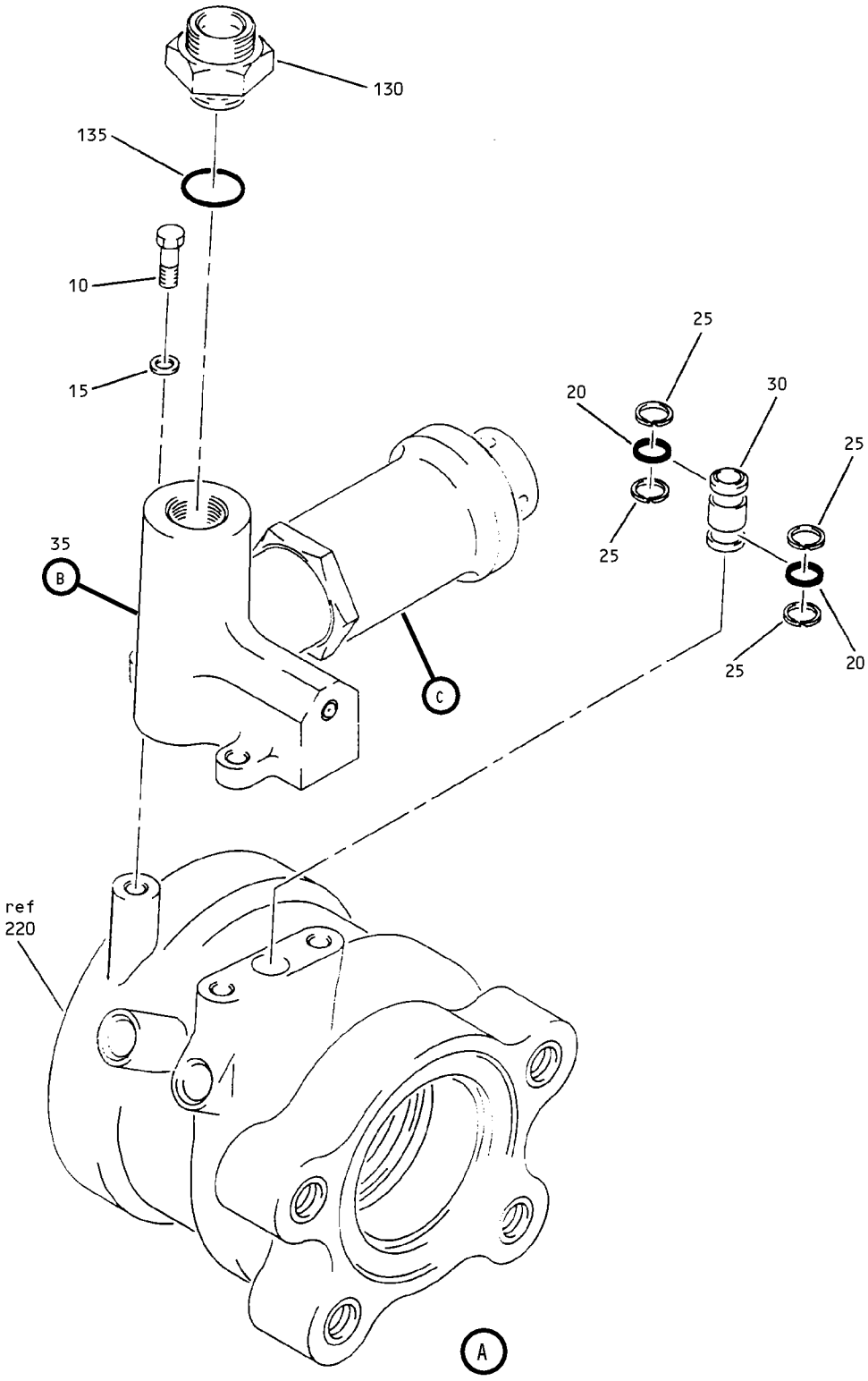
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
MS21209F1-15L		1	185	4
		1	230	3
		2	260	4
		2	305	3
MS21209F7-15L		1	225	4
		2	300	4
MS21916-6-4T		1	130	1
		2	205	1
MS24391J4L		1	205	2
		2	280	2
		2	280C	2
MS24391T4L		2	280A	2
		2	280B	2
NAS1611-011		1	20	2
		2	15A	2
NAS1611-011A		2	15	2
		2	15B	2
NAS1611-113		1	70	1
		2	70A	1
NAS1611-113A		2	70	1
NAS1611-214		1	110	1
		2	110A	1
		2	185A	1
NAS1611-214A		2	110	1
		2	185	1
NAS1611-216		1	120	1
		2	120A	1
		2	195A	1
NAS1611-216A		2	120	1
		2	195	1
NAS1611-236		1	165	1
		2	240A	1
NAS1611-236A		2	240	1
NAS1612-4		1	210	2
		2	285A	2

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
NAS1612-4A		2	285	2
		2	285B	2
NAS1612-6		1	135	1
		2	210A	1
NAS1612-6A		2	210	1
		2	210B	1
PLGA2506020		1	45	3
		2	45	3
		2	140	3
PLGA2507020		1	40	3
		2	40	3
		2	135	3
PP600M237AT99EH		2	270A	1
PRFA1875080L		1	60	1
PRFX0518300B		2	60	1
		2	155	1
RMR12BM011		1	25	4
		2	20	4
RMR12BM113		1	75	2
		2	75	2
RMR12BM216		1	115	2
		2	115	2
		2	190	2
RMR12BM236		1	170	2
		2	245	2
RMR12BM237		2	245A	2
RP550M227AT99EH		2	250A	2
S30294-011-1		1	25	4
		2	20	4
S30294-113-1		1	75	2
		2	75	2
S30294-216-1		1	115	2
		2	115	2
		2	190	2
S30294-236-1		1	170	2

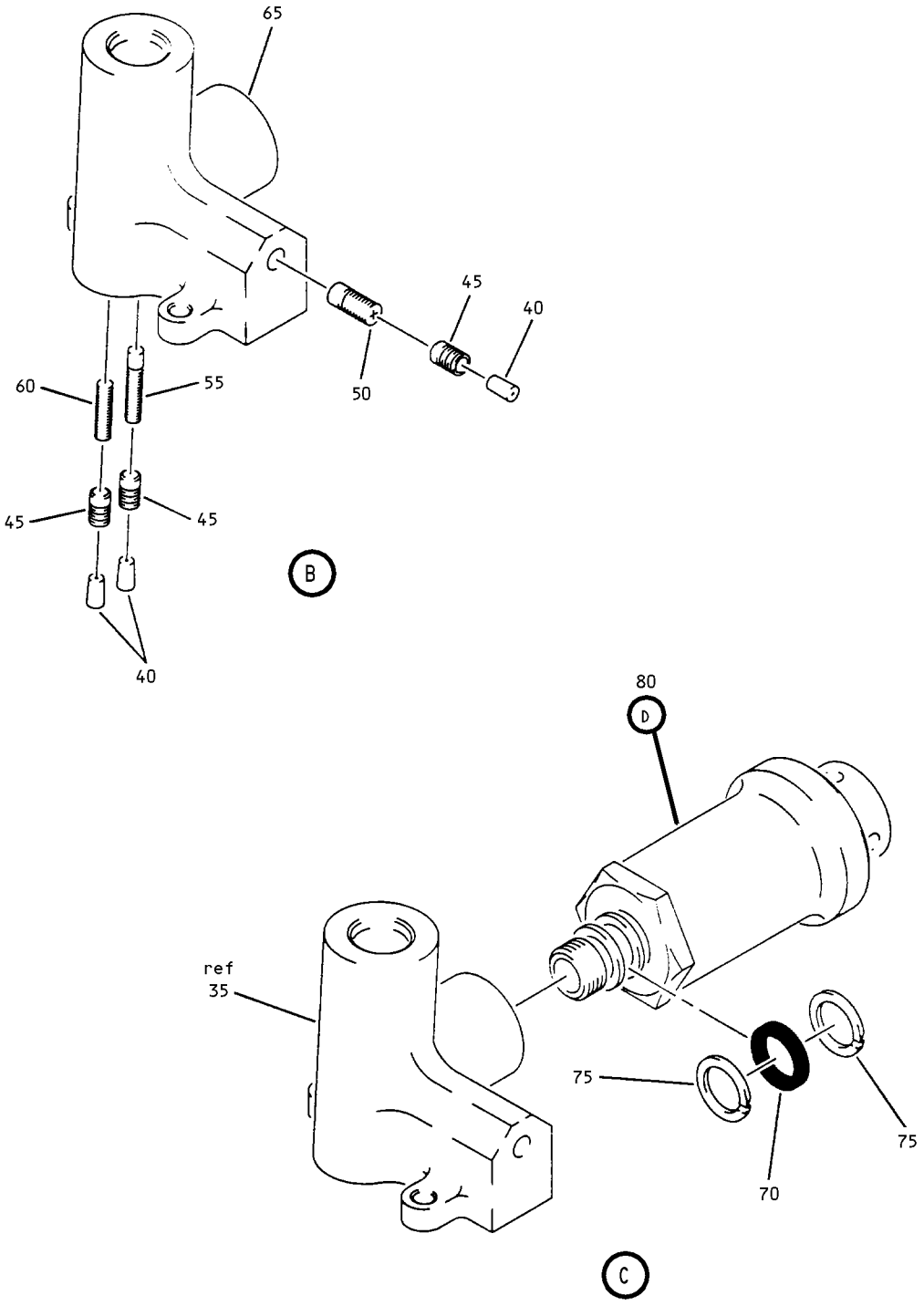
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	245	2
S30294-237-1		2	245A	2
S30855-226H99		1	175	2
		2	250	2
S32925-21H99		1	160	2
		2	235	2
S32934-216-99		1	105	1
		2	105	1
		2	180	1
S34760-236H99N		1	195	1
		2	270	1
STF800-011		1	25	4
		2	20	4
STF800-113		1	75	2
		2	75	2
STF800-216		1	115	2
		2	115	2
		2	190	2
STF800-236		1	170	2
		2	245	2
STF800-237		2	245A	2
TF450-011A		1	25	4
		2	20	4
TF450-113A		1	75	2
		2	75	2
TF450-216A		1	115	2
		2	115	2
		2	190	2
TF450-236A		1	170	2
		2	245	2
TF450-237A		2	245A	2
WE250B022AT99EH		2	235A	2



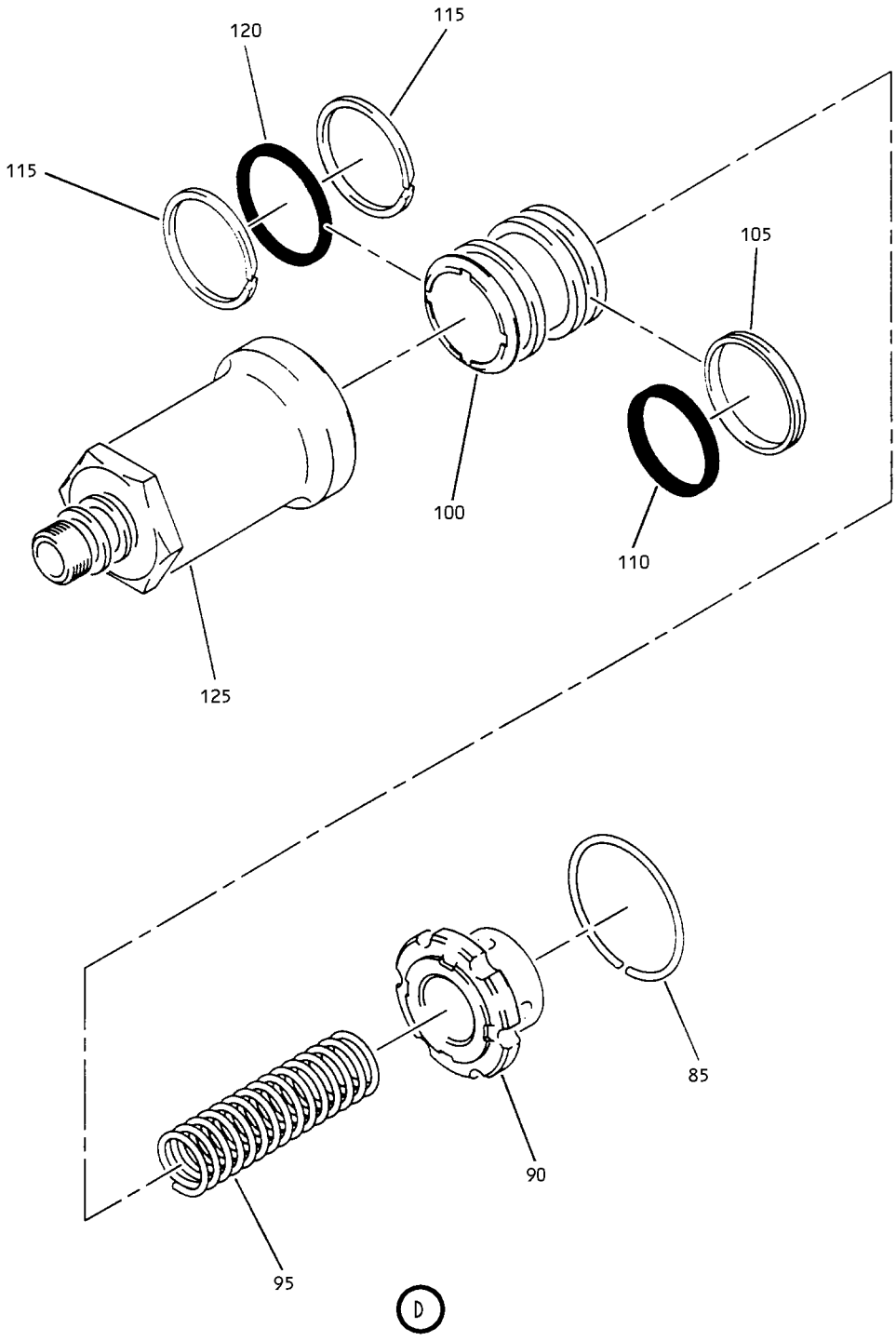
Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 1 of 8)



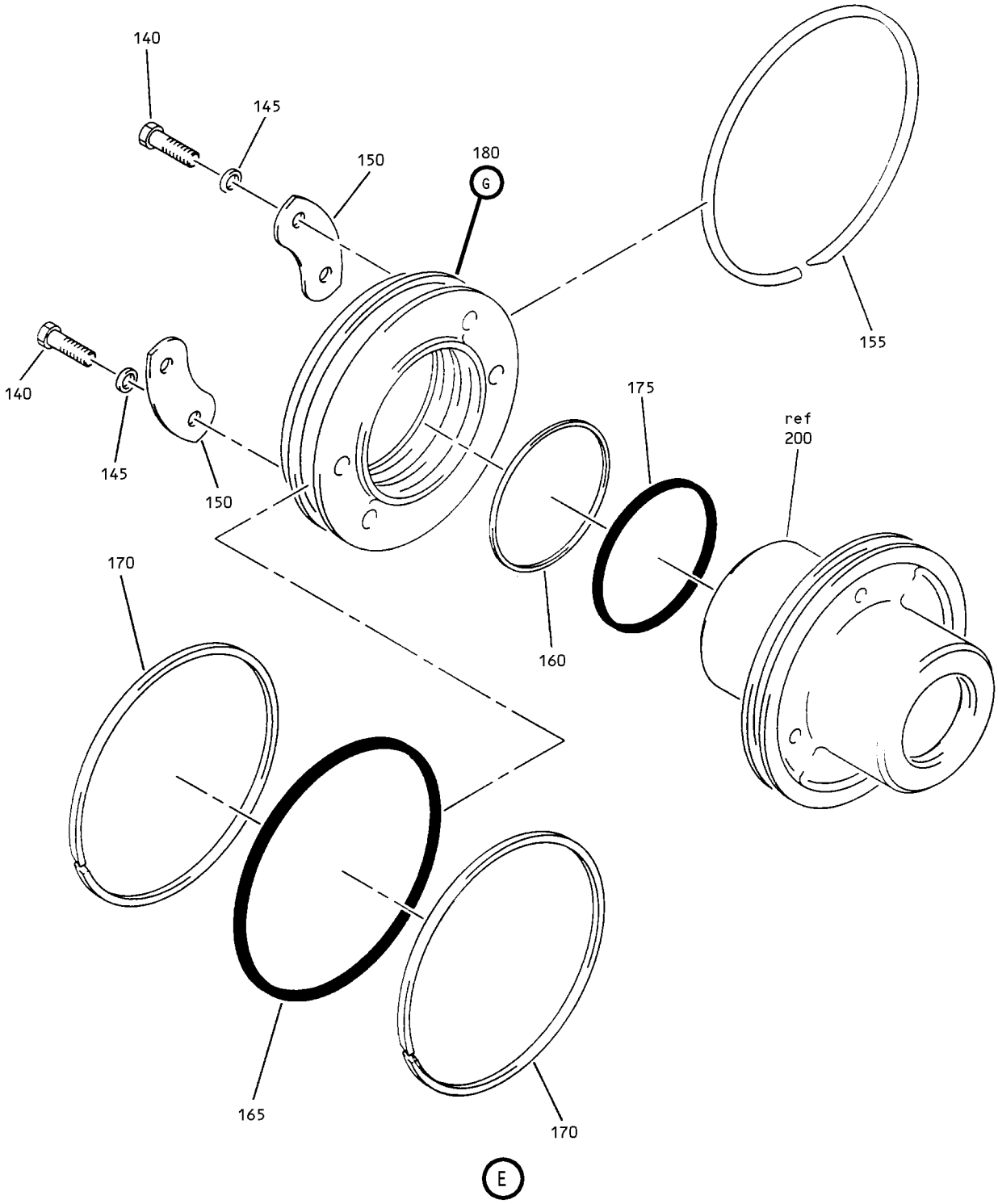
Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 2 of 8)



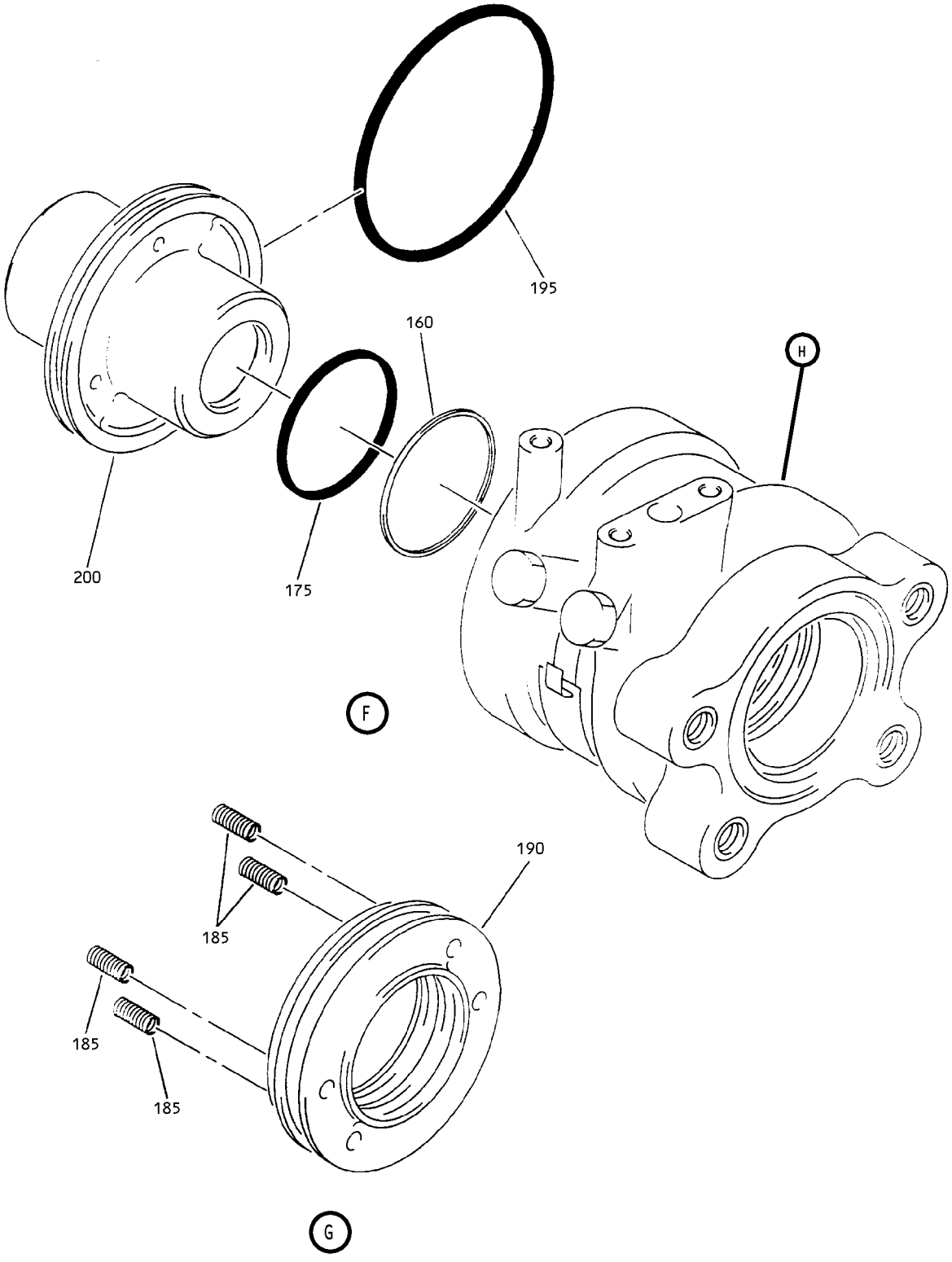
Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 3 of 8)



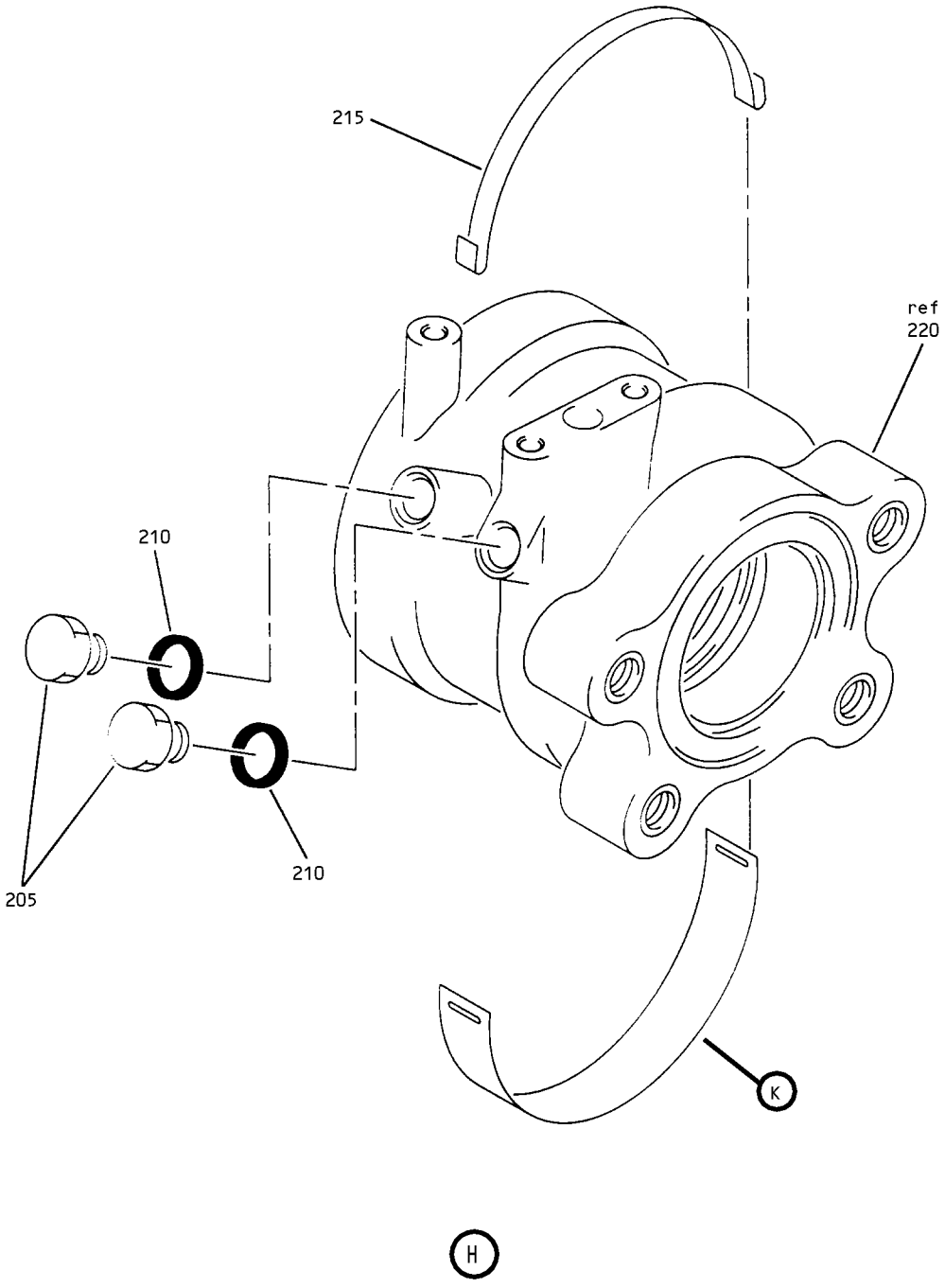
Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 4 of 8)



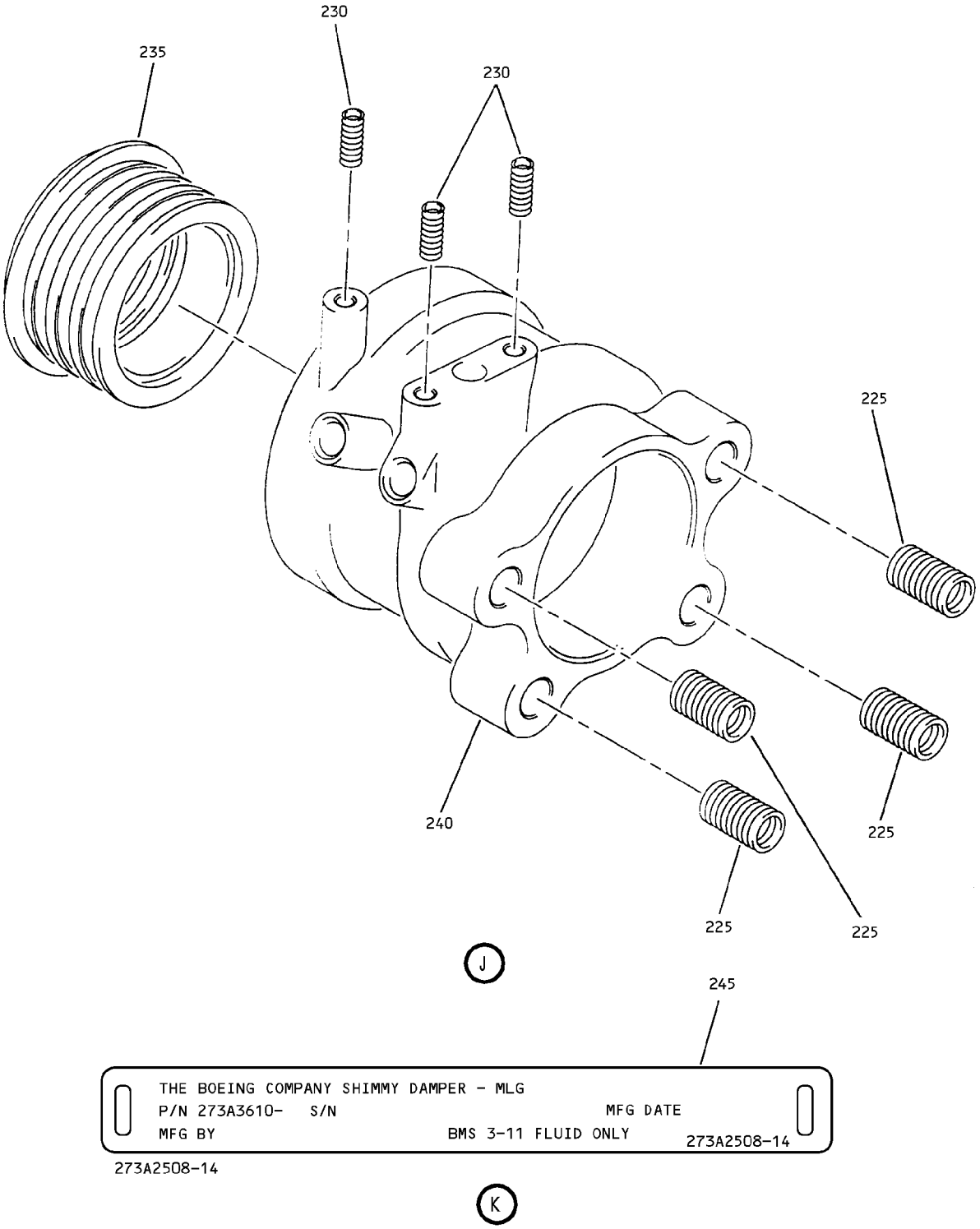
Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 5 of 8)



Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 6 of 8)



Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 7 of 8)



Main Gear Shimmy Damper Assembly
IPL Figure 1 (Sheet 8 of 8)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	273A3610-1		DAMPER ASSY-SHIMMY, MLG	A	RF
–1B	273A3610-2		DAMPER ASSY-SHIMMY, MLG (PRE SB 737-32-1368) (FOR DETAILS SEE IPL Figure 2)	B	RF
–1C	273A3610-3		DAMPER ASSY-SHIMMY, MLG (FOR DETAILS SEE IPL Figure 2)	C	RF
–1D	273A3610-4		DAMPER ASSY-SHIMMY, MLG (FOR DETAILS SEE IPL Figure 2)	D	RF
–1E	273A3610-5		DAMPER ASSY-SHIMMY, MLG (POST SB 737-32-1368) (FOR DETAILS SEE IPL Figure 2)	E	RF
10	BACB30NM3HK3		. BOLT	A	3
15	BACW10BP32NAPU		. WASHER	A	3
20	NAS1611-011		. PACKING	A	2
–20A	NAS1611-011A		DELETED		
–20B	NAS1611-011		DELETED		
25	C11236-011B		. RING (V26879) (SPEC BACR12BM011) (OPT RMR12BM011 (V94878)) (OPT STF800-011 (V02107)) (OPT S30294-011-1 (V97820)) (OPT TF450-011A (V07128)) (OPT 2100-011 (V26303))	A	4
30	69-54528-1		. TUBE	A	1
35	273A3619-1		. MANIFOLD ASSY	A	1
–35A	273A3619-3		DELETED		
40	PLGA2507020		. . PLUG (V92555) (SPEC BACP20AX21)	A	3
45	PLGA2506020		. . PIN (V92555) (SPEC BACP20AX21P)	A	3
50	FCRA1875200H		. . VALVE-FLOW CONT (V92555)	A	1
55	CKRA1875005A		. . VALVE-CHECK (V92555)	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–					
60	PRFA1875080L		. . VALVE-RELIEF (V92555)	A	1
–60A	PRFX0518300B		DELETED		
65	273A3619-2		. . MANIFOLD	A	1
70	NAS1611-113		. PACKING	A	1
–70A	NAS1611-113A		DELETED		
–70B	NAS1611-113		DELETED		
75	C11236-113B		. RING (V26879) (SPEC BACR12BM113) (OPT RMR12BM113 (V94878)) (OPT STF800-113 (V02107)) (OPT S30294-113-1 (V97820)) (OPT TF450-113A (V07128)) (OPT 2100-113 (V26303))	A	2
80	273A3620-1		. COMPENSATOR ASSY	A	1
–80A	273A3620-2		DELETED		
85	273A3624-1		. . SHEAR WIRE	A	1
90	273A3623-1		. . END CAP	A	1
95	69-54508-1		. . SPRING	A	1
100	273A3621-1		. . PISTON	A	1
105	S32934-216-99		. . SCRAPER (V97820)	A	1
110	NAS1611-214		. . PACKING	A	1
–110A	NAS1611-214A		DELETED		
–110B	NAS1611-214		DELETED		
115	C11236-216B		. . RING (V26879) (SPEC BACR12BM216) (OPT RMR12BM216 (V94878)) (OPT STF800-216 (V02107)) (OPT S30294-216-1 (V97820)) (OPT TF450-216A (V07128)) (OPT 2100-216 (V26303))	A	2
120	NAS1611-216		. . PACKING	A	1
–120A	NAS1611-216A		DELETED		
–120B	NAS1611-216		DELETED		

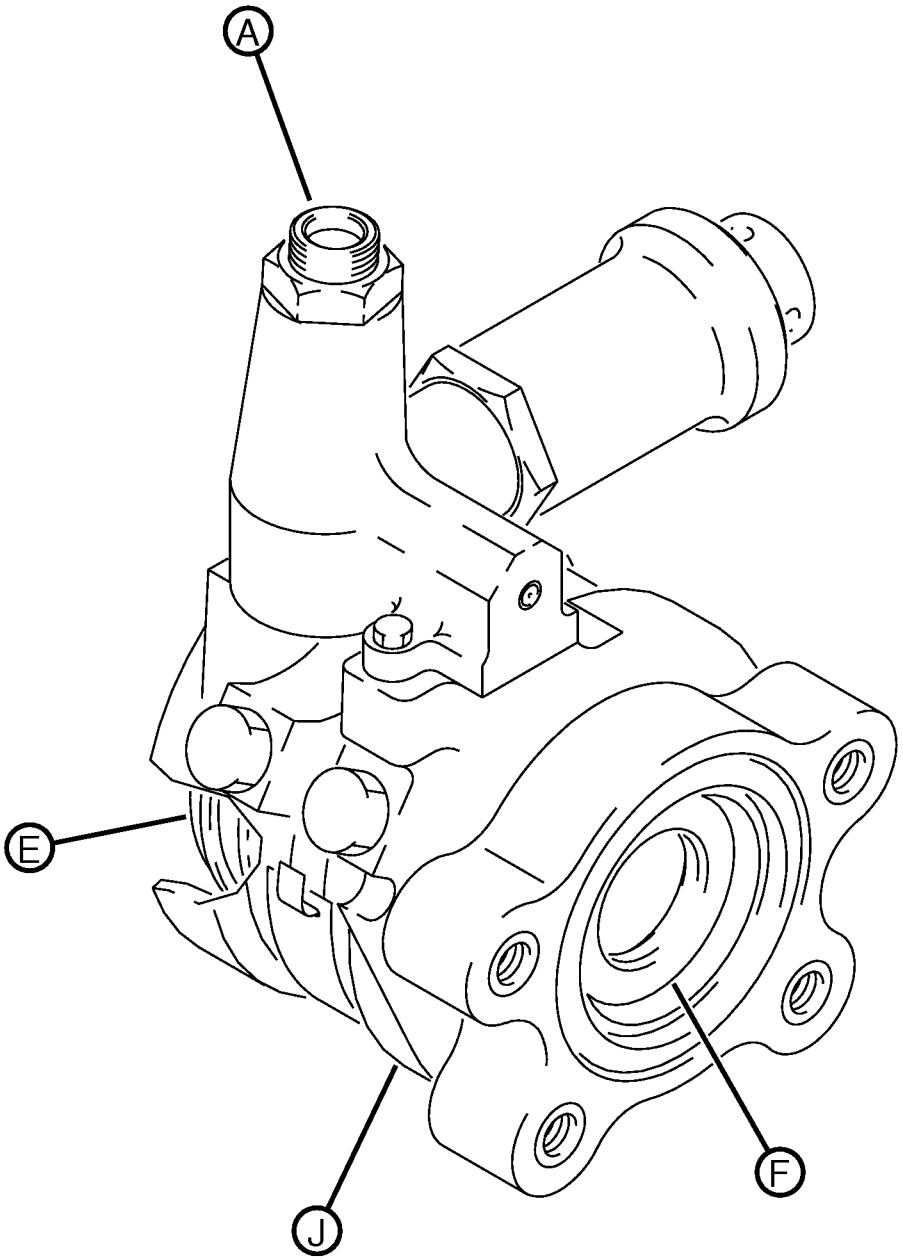
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
125	273A3622-1		. . HOUSING (OPT ITEM 125A)	A	1
–125A	273A3622-2		. . HOUSING (OPT ITEM 125)	A	1
130	MS21916-6-4T		. REDUCER	A	1
135	NAS1612-6		. PACKING	A	1
–135A	NAS1612-6A		DELETED		
–135B	NAS1612-6		DELETED		
140	BACB30NM3K1		. BOLT	A	4
145	BACW10BP32NAPU		. WASHER	A	4
150	273A3616-1		. RETAINER	A	2
155	273A3615-1		. SHEAR WIRE	A	1
160	S32925-21H99		. ROD-EXCLUDER DC (V09257)	A	2
165	NAS1611-236		. PACKING	A	1
–165A	NAS1611-236A		DELETED		
–165B	NAS1611-236		DELETED		
170	C11236-236B		. RING (V26879) (SPEC BACR12BM236) (OPT RMR12BM236 (V94878)) (OPT STF800-236 (V02107)) (OPT S30294-236-1 (V97820)) (OPT TF450-236A (V07128)) (OPT 2100-236 (V26303))	A	2
175	S30855-226H99		. ROD-PLUS SEAL II (V09257)	A	2
180	273A3613-1		. END GLAND ASSY	A	1
185	MS21209F1-15L		. . INSERT	A	4
190	273A3613-2		. . END GLAND	A	1
195	S34760-236H99N		. PLUS SEAL II (V09257)	A	1
200	273A3611-1		. PISTON	A	1
–200A	273A3611-2		DELETED		
205	MS24391J4L		. PLUG	A	2

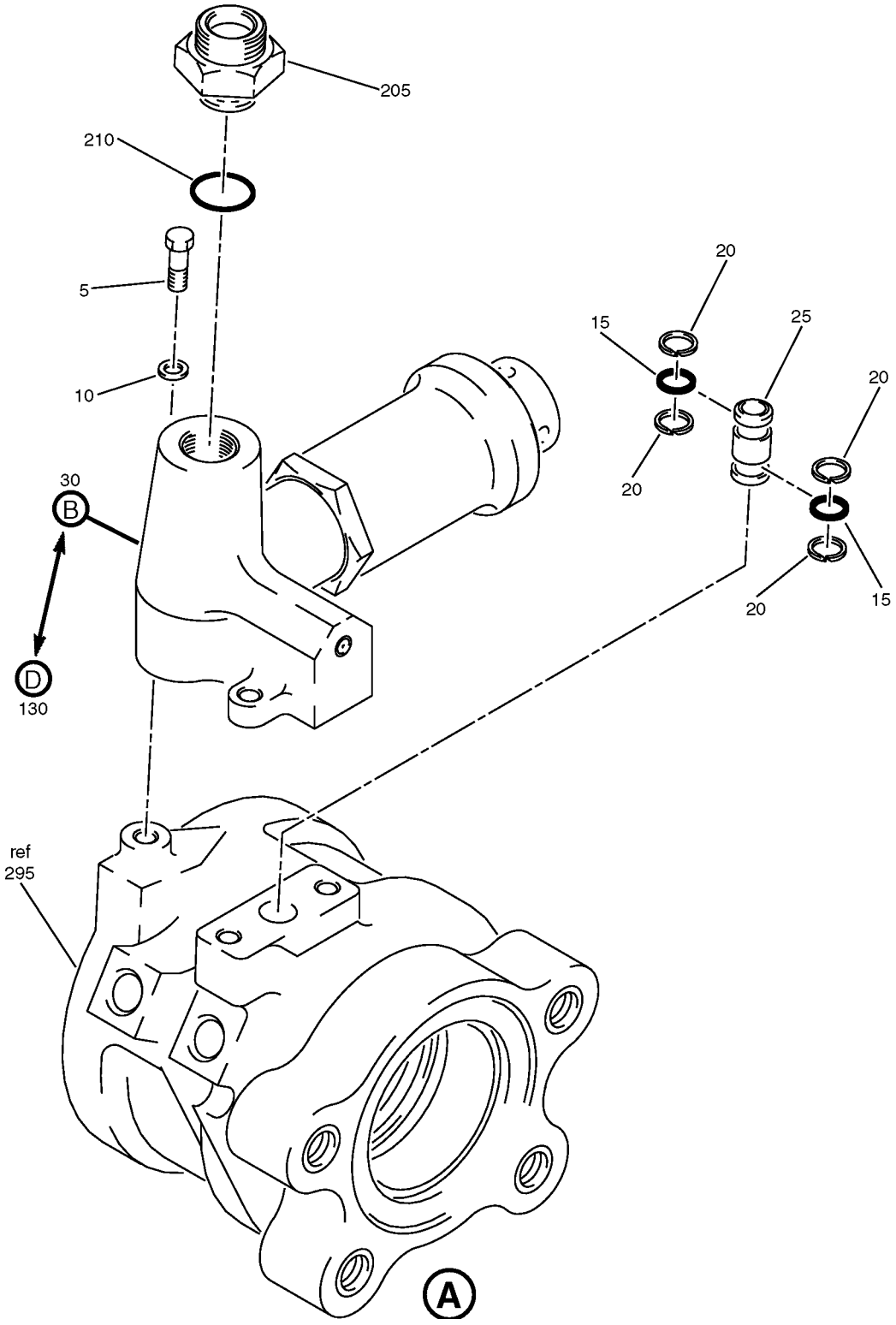
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
210	NAS1612-4		. PACKING	A	2
–210A	NAS1612-4A		DELETED		
–210B	NAS1612-4		DELETED		
215	273T0050-9		. STRAP-NAMEPLATE	A	1
220	273A3614-1		. HOUSING ASSY	A	1
–220A	273A3614-3		DELETED		
225	MS21209F7-15L		. . INSERT	A	4
230	MS21209F1-15L		. . INSERT	A	3
235	273A3612-1		. . END GLAND	A	1
–235A	273A3612-2		DELETED		
240	273A3614-2		. . HOUSING	A	1
–240A	273A3614-4		DELETED		
245	273A2508-14		. NAMEPLATE	A	1

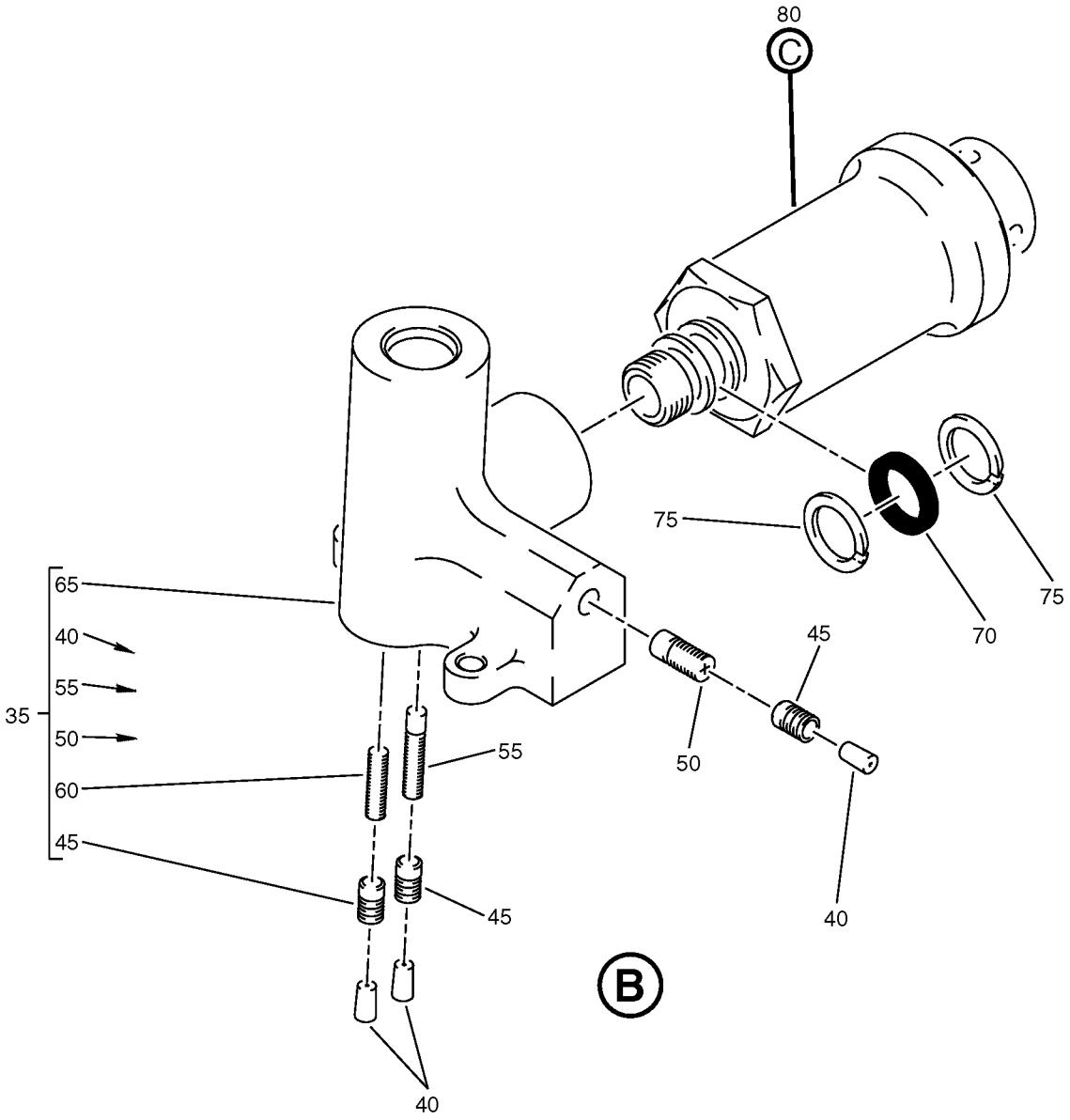
–Item not Illustrated



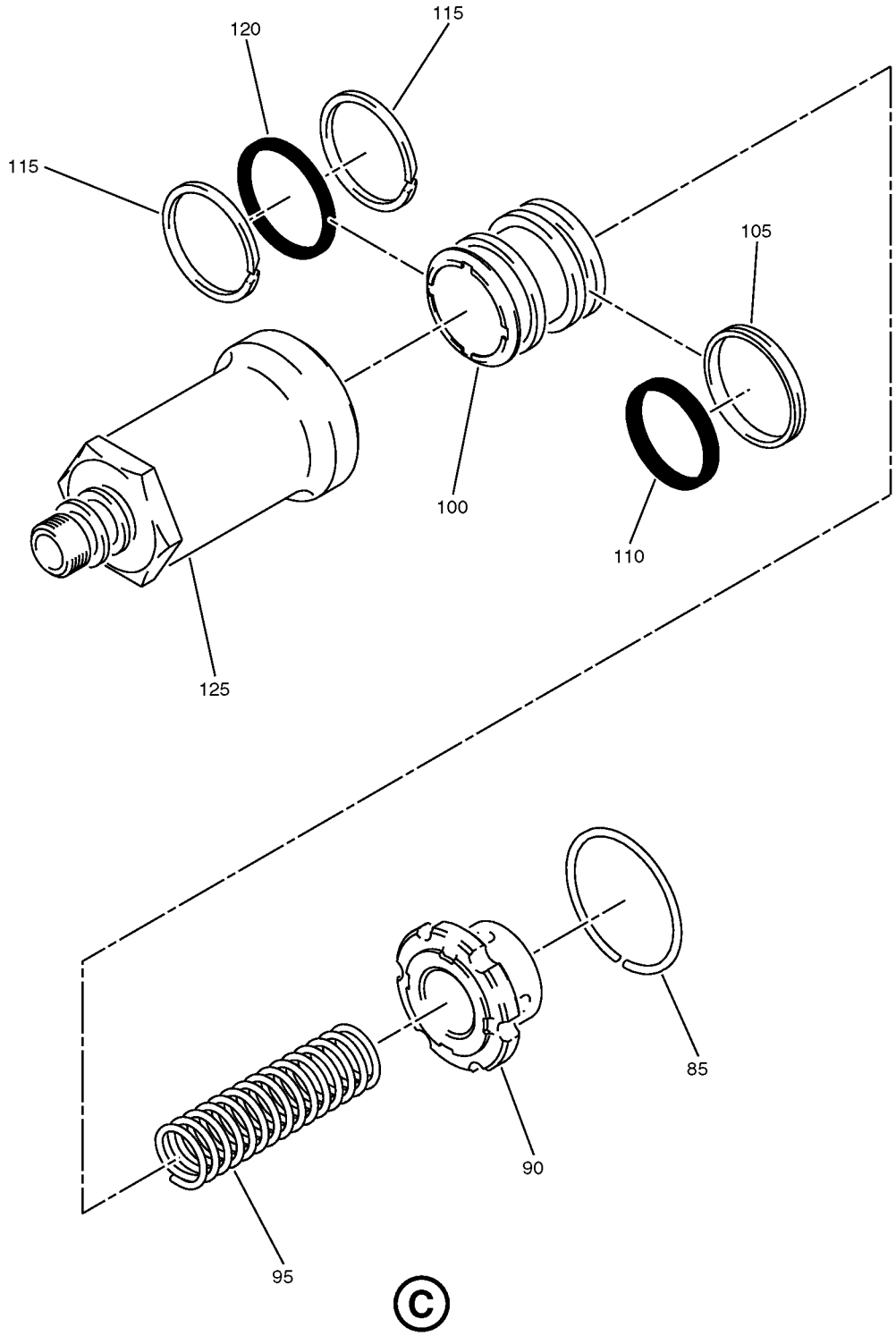
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 1 of 9)



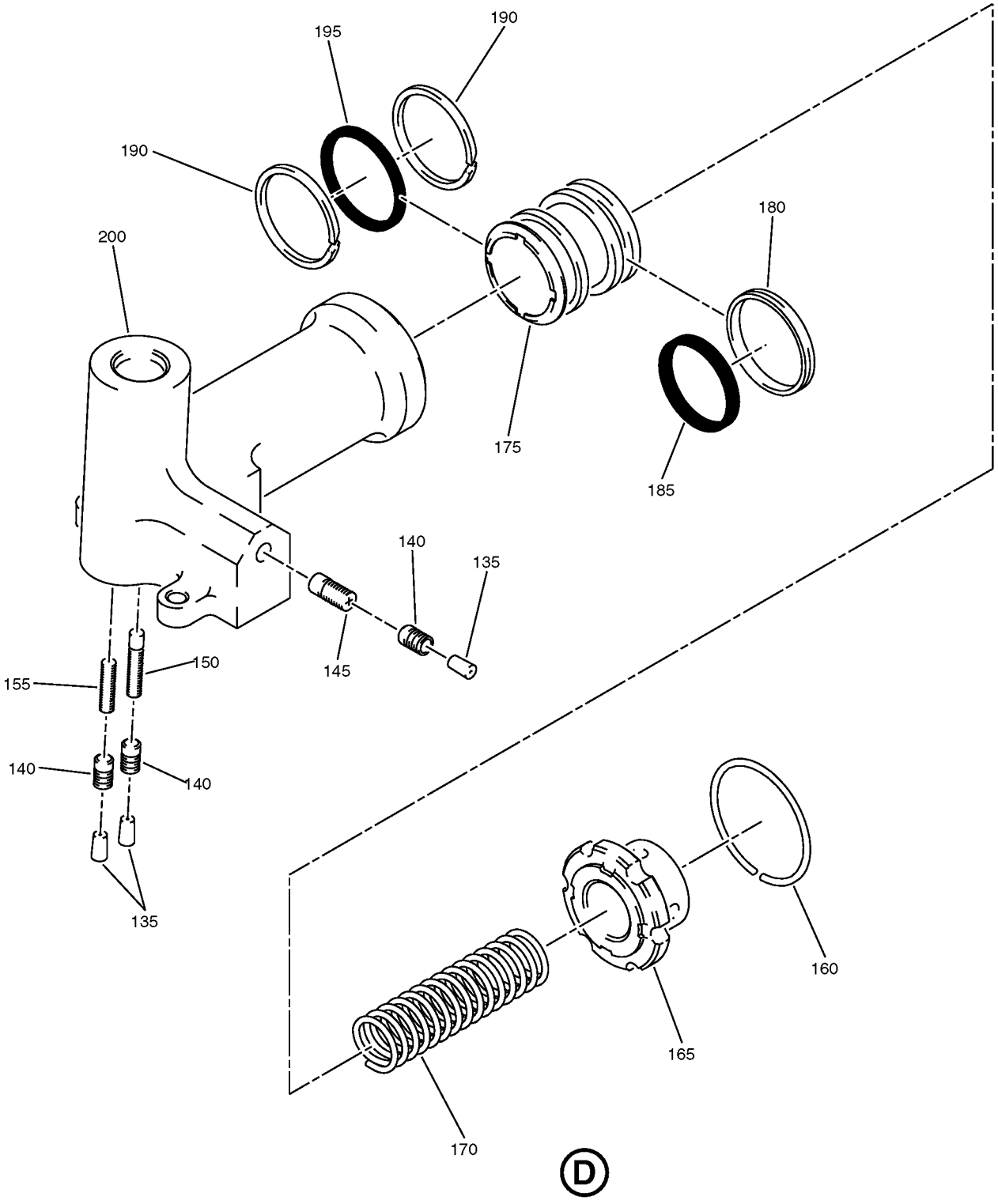
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 2 of 9)



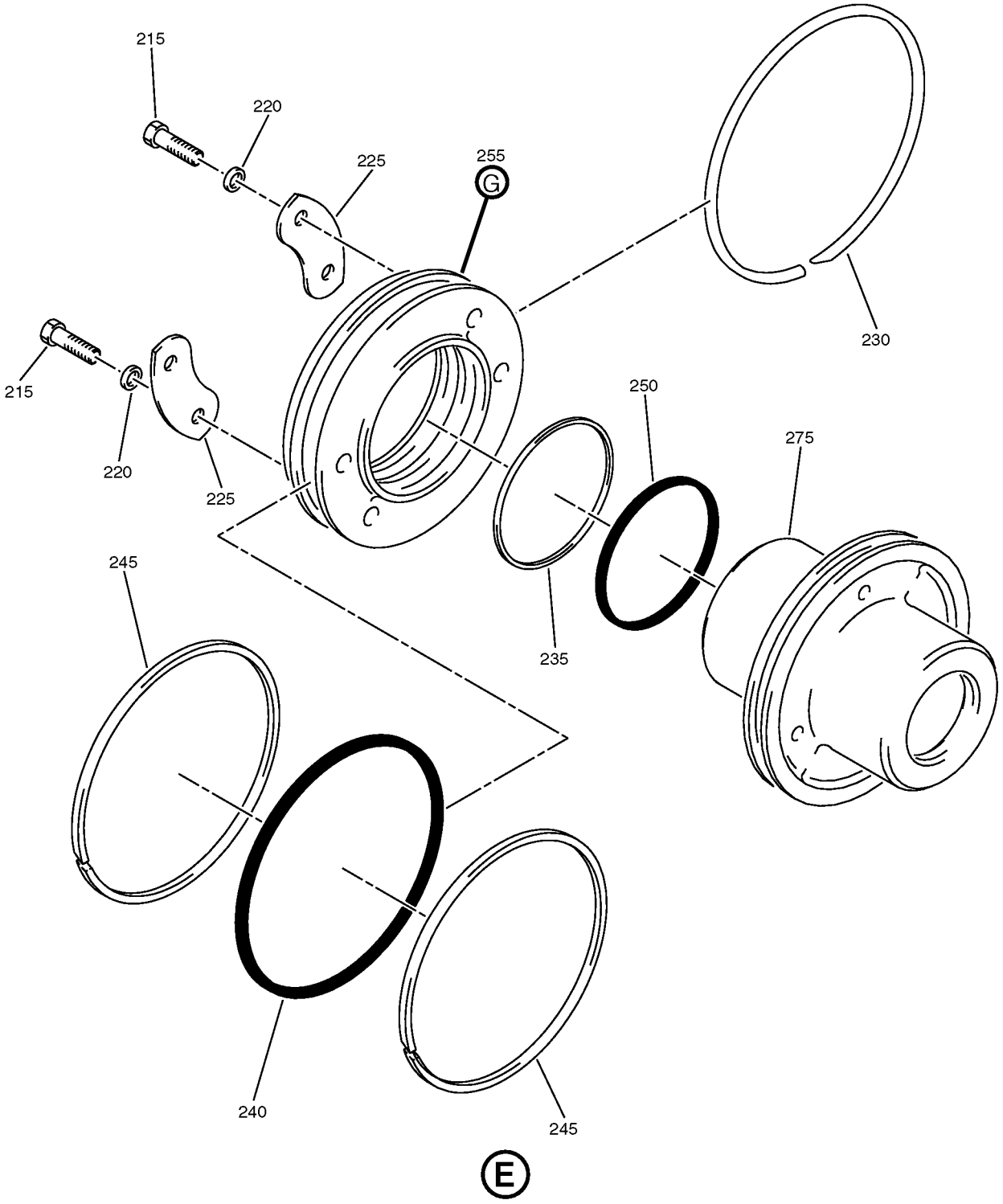
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 3 of 9)



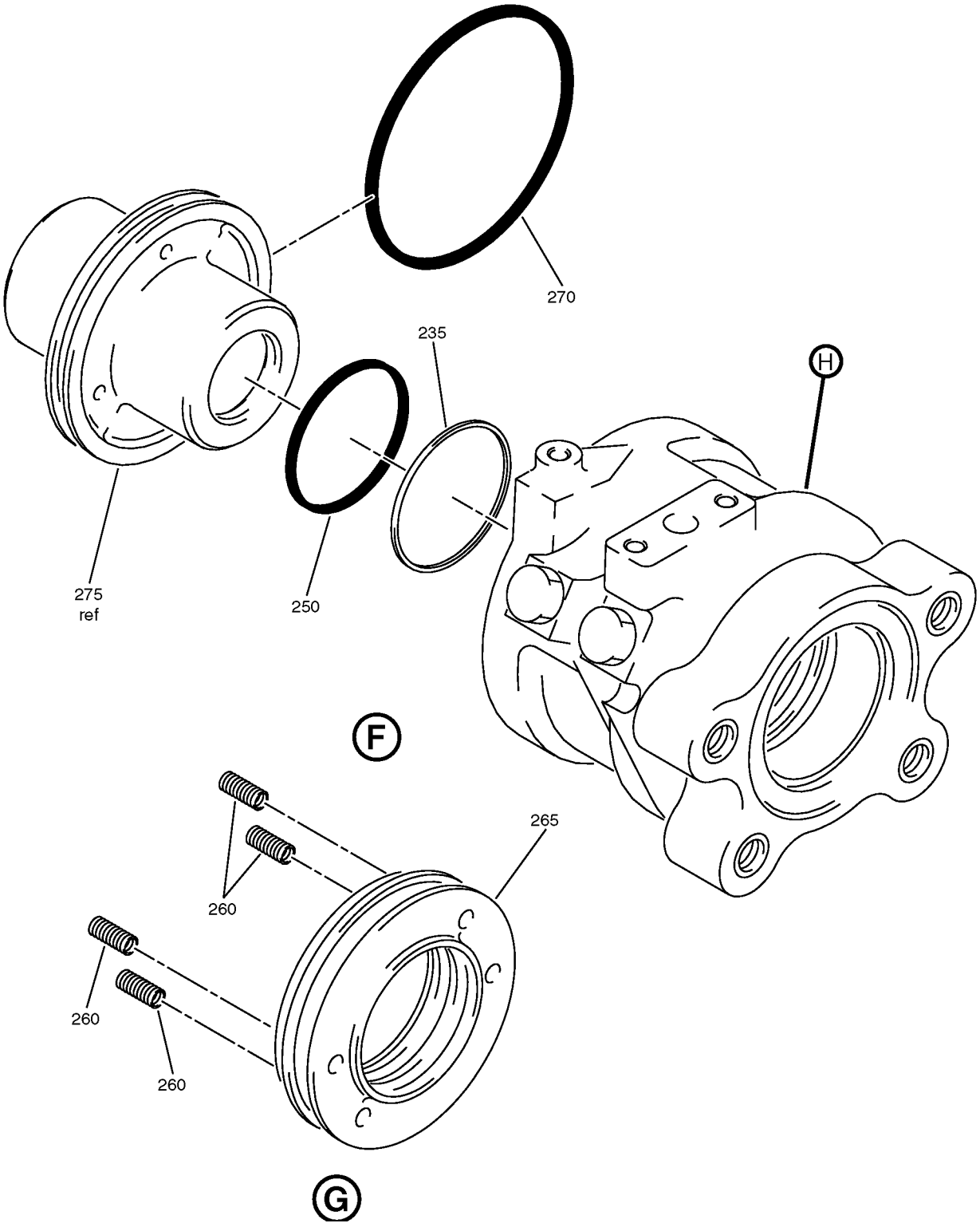
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 4 of 9)



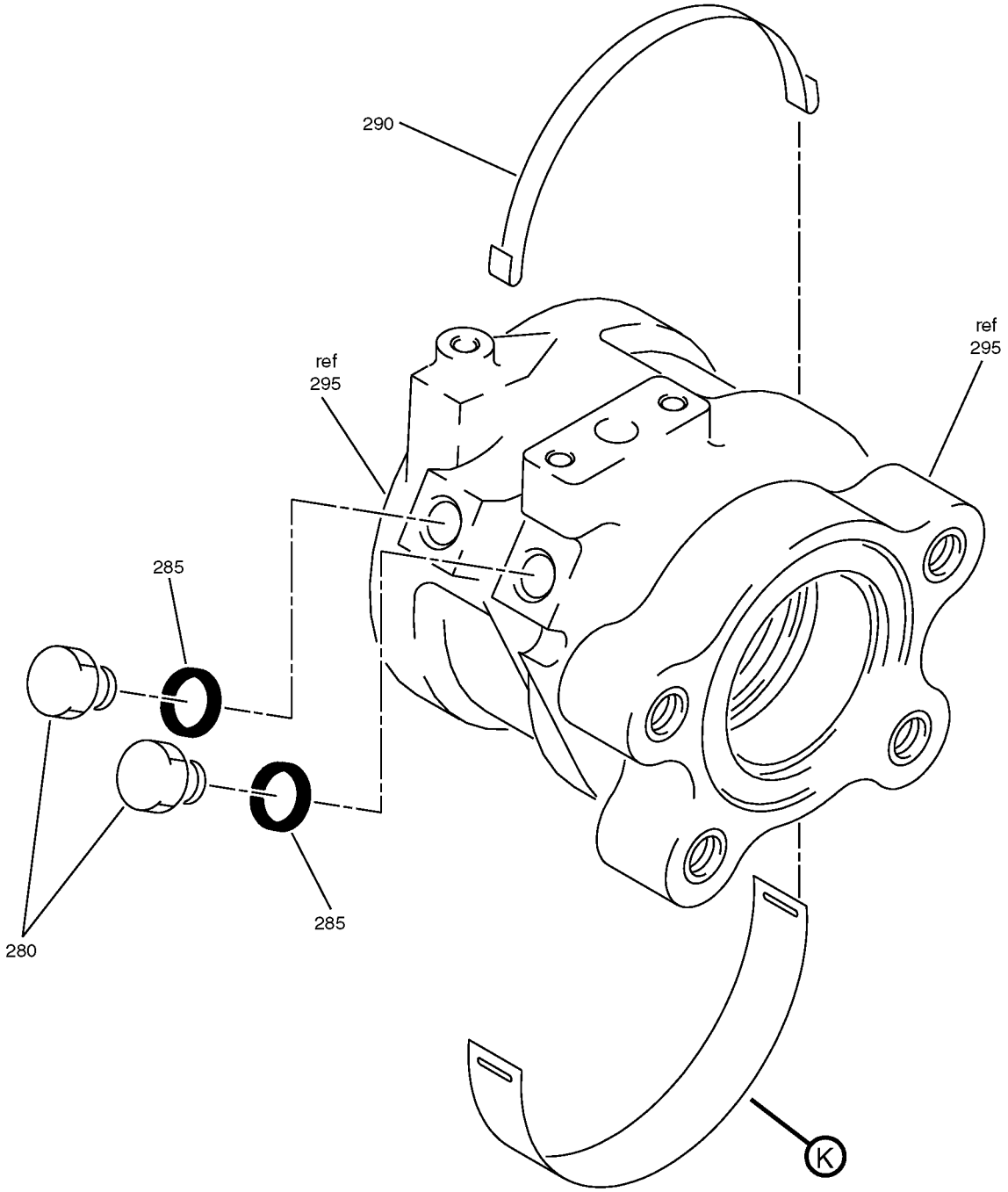
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 5 of 9)



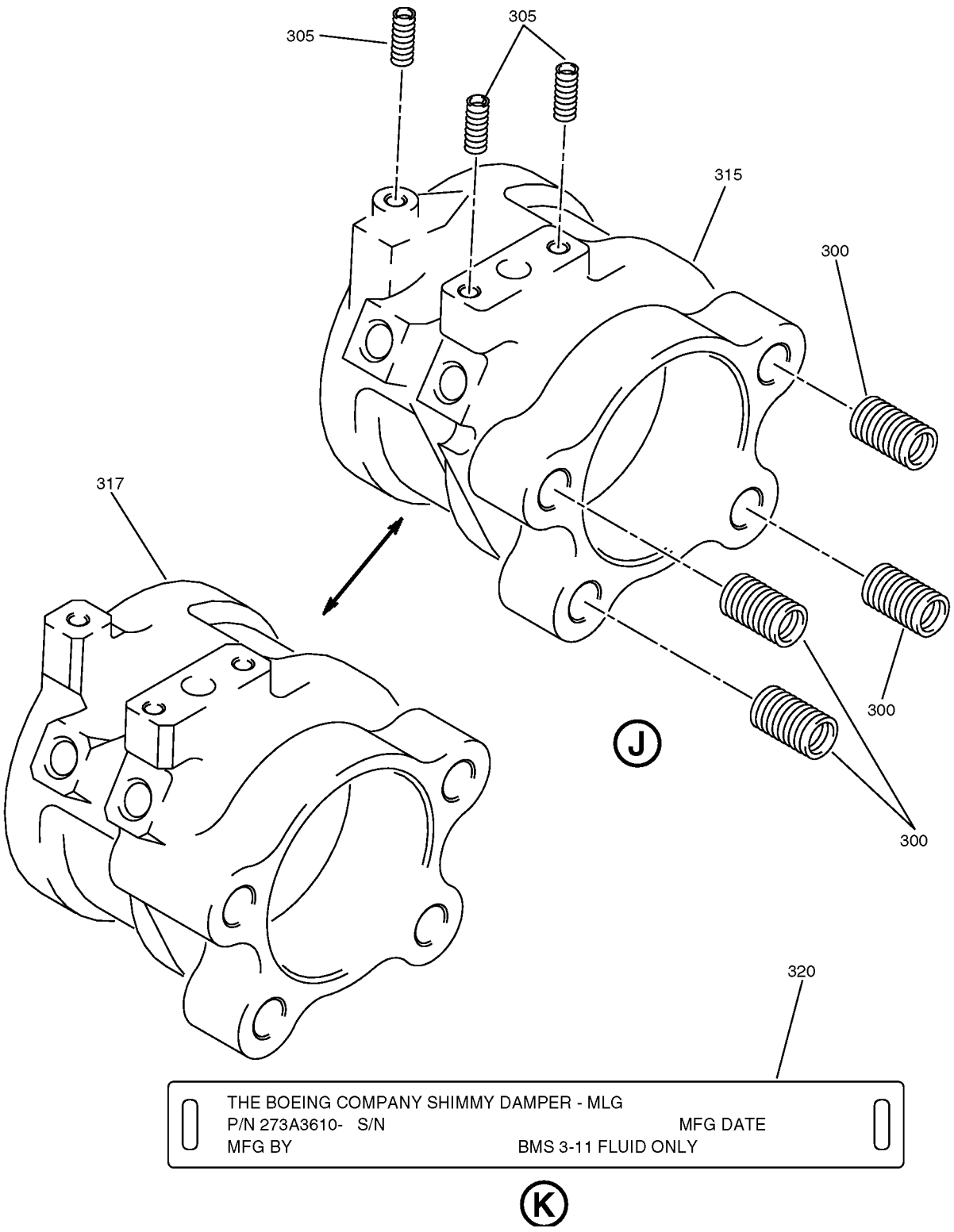
Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 6 of 9)



Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 7 of 9)



Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 8 of 9)



Main Gear Shimmy Damper Assembly
IPL Figure 2 (Sheet 9 of 9)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–1A	273A3610-2		DAMPER ASSY-SHIMMY, MLG (PRE SB 737-32-1368)	B	RF
–1B	273A3610-3		DAMPER ASSY-SHIMMY, MLG	C	RF
–1C	273A3610-4		DAMPER ASSY-SHIMMY, MLG	D	RF
–1D	273A3610-5		DAMPER ASSY-SHIMMY, MLG (POST SB 737-32-1368)	E	RF
5	BACB30NM3HK3		. BOLT	B-E	3
10	BACW10BP32NAPU		. WASHER	B-E	3
15	NAS1611-011A		. PACKING (OPT ITEM 15A)	B, C, E	2
–15A	NAS1611-011		. PACKING (OPT ITEM 15)	B, C, E	2
15B	NAS1611-011A		. PACKING	D	2
20	C11236-011B		. RING (V26879) (SPEC BACR12BM011) (OPT RMR12BM011 (V94878)) (OPT STF800-011 (V02107)) (OPT S30294-011-1 (V97820)) (OPT TF450-011A (V07128)) (OPT 2100-011 (V26303))	B-E	4
25	69-54528-1		. TUBE-TRANSFER	B-E	1
30	273A3610-10		. COMPENSATOR ASSY-MANIFOLD (OPT ITEM 130)	B-E	1
35	273A3619-3		. . MANIFOLD ASSY	B-E	1
40	PLGA2507020		. . . PLUG (V92555) (SPEC BACP20AX21)	B-E	3
45	PLGA2506020		. . . PIN (V92555) (SPEC BACP20AX21P)	B-E	3
50	FCRA1875200H		. . . VALVE-FLOW CONT (V92555)	B-E	1
55	CKRA1875005A		. . . VALVE-CHECK (V92555)	B-E	1
60	PRFX0518300B		. . . VALVE-RELIEF (V92555)	B-E	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
65	273A3619-2		. . . MANIFOLD	B-E	1
70	NAS1611-113A		. . PACKING (OPT ITEM 70A)	B-E	1
–70A	NAS1611-113		. . PACKING (OPT ITEM 70)	B-E	1
75	C11236-113B		. . RING (V26879) (SPEC BACR12BM113) (OPT RMR12BM113 (V94878)) (OPT STF800-113 (V02107)) (OPT S30294-113-1 (V97820)) (OPT TF450-113A (V07128)) (OPT 2100-113 (V26303))	B-E	2
80	273A3620-2		. . COMPENSATOR ASSY	B-E	1
85	273A3624-1		. . . WIRE-SHEAR	B-E	1
90	273A3623-1		. . . END CAP (OPT ITEM 90A)	B-E	1
–90A	273A3623-2		. . . END CAP (OPT ITEM 90)	B-E	1
95	69-54508-1		. . . SPRING	B-E	1
100	273A3621-1		. . . PISTON	B-E	1
105	S32934-216-99		. . . SCRAPER (V97820)	B-E	1
110	NAS1611-214A		. . . PACKING (OPT ITEM 110A)	B-E	1
–110A	NAS1611-214		. . . PACKING (OPT ITEM 110)	B-E	1
115	C11236-216B		. . . RING (V26879) (SPEC BACR12BM216) (OPT RMR12BM216 (V94878)) (OPT STF800-216 (V02107)) (OPT S30294-216-1 (V97820)) (OPT TF450-216A (V07128)) (OPT 2100-216 (V26303))	B-E	2
120	NAS1611-216A		. . . PACKING (OPT ITEM 120A)	B-E	1
–120A	NAS1611-216		. . . PACKING (OPT ITEM 120)	B-E	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
125	273A3622-1		. . . HOUSING	B-E	1
130	273A3630-1		. COMPENSATOR ASSY-MANIFOLD (OPT ITEM 30)	B-E	1
135	PLGA2507020		. . PLUG (V92555) (SPEC BACP20AX21)	B-E	3
140	PLGA2506020		. . PIN (V92555) (SPEC BACP20AX21P)	B-E	3
145	FCRA1875200H		. . VALVE-FLOW CONT (V92555)	B-E	1
150	CKRA1875005A		. . VALVE-CHECK (V92555)	B-E	1
155	PRFX0518300B		. . VALVE-RELIEF (V92555)	B-E	1
160	273A3624-1		. . WIRE-SHEAR	B-E	1
165	273A3623-2		. . CAP-END	B-E	1
170	69-54508-1		. . SPRING	B-E	1
175	273A3621-1		. . PISTON	B-E	1
180	S32934-216-99		. . SCRAPER (V97820)	B-E	1
185	NAS1611-214A		. . PACKING (OPT ITEM 185A)	B-E	1
–185A	NAS1611-214		. . PACKING (OPT ITEM 185)	B-E	1
190	C11236-216B		. . RING (V26879) (SPEC BACR12BM216) (OPT RMR12BM216 (V94878)) (OPT STF800-216 (V02107)) (OPT S30294-216-1 (V97820)) (OPT TF450-216A (V07128)) (OPT 2100-216 (V26303))	B-E	2
195	NAS1611-216A		. . PACKING (OPT ITEM 195A)	B-E	1
–195A	NAS1611-216		. . PACKING (OPT ITEM 195)	B-E	1
200	273A3630-2		. . MANIFOLD	B-E	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
205	MS21916-6-4T		. REDUCER	B-E	1
210	NAS1612-6A		. PACKING (OPT ITEM 210A)	B, C, E	1
–210A	NAS1612-6		. PACKING (OPT ITEM 210)	B, C, E	1
–210B	NAS1612-6A		. PACKING	D	1
215	BACB30NM3K1		. BOLT	B-E	4
220	BACW10BP32NAPU		. WASHER	B-E	4
225	273A3616-1		. RETAINER	B, D, E	2
–225A	273A3616-2		. RETAINER	C	2
230	273A3615-1		. WIRE-SHEAR	B, D, E	1
–230A	273A3615-2		. WIRE-SHEAR	C	1
235	S32925-21H99		. ROD-EXCLUDER DC (V09257)	B, D, E	2
–235A	WE250B022AT99EH		. ROD-EXCLUDER DC (V09257)	C	2
240	NAS1611-236A		. PACKING (OPT ITEM 240A, 240C 240D)	B, E	1
–240A	NAS1611-236		. PACKING (OPT ITEM 240, 240C 240D)	B, E	1
–240B	NAS1611-237A		DELETED		
–240C	BCREF49042		. PACKING (V02697) (E0515-2-236-1W2YB0) (OPT ITEM 240, 240A, 240D)	B, E	1
–240D	72180-236		. PACKING (V95272) (OPT ITEM 240, 240A, 240C)	B, E	1
–240E	BCREF49042		. PACKING (V02697) (E0515-2-236-1W2YB0) (OPT ITEM 240F)	D	1
–240F	72180-236		. PACKING (V95272) (OPT ITEM 240E)	D, E	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–240G	BCREF50332		. PACKING (V02697) (E0515-2-237-1W2YB0) (OPT ITEM 240H, 240J)	C	1
–240H	72180-237		. PACKING (V95272) (OPT ITEM 240G, 240J)	C	1
–240J	BCREF50538		. PACKING (V5F573) (4150-23700-00954) (OPT ITEM 240G, 240H)	C	1
245	C11236-236B		. RING (V26879) (SPEC BACR12BM236) (OPT RMR12BM236 (V94878)) (OPT STF800-236 (V02107)) (OPT S30294-236-1 (V97820)) (OPT TF450-236A (V07128)) (OPT 2100-236 (V26303))	B, D, E	2
–245A	C11236-237B		. RING (V26879) (SPEC BACR12BM237) (OPT RMR12BM237 (V94878)) (OPT STF800-237 (V02107)) (OPT S30294-237-1 (V97820)) (OPT TF450-237A (V07128)) (OPT 2100-237 (V26303))	C	2
250	S30855-226H99		. ROD-PLUS SEAL II (V09257)	B, D, E	2
–250A	RP550M227AT99EH		. SEAL (V97820)	C	2
255	273A3613-1		. GLAND ASSY-END	B, D, E	1
–255A	273A3613-3		. GLAND ASSY-END	C	1
260	MS21209F1-15L		. . INSERT	B-E	4
265	273A3613-2		. . GLAND	B, D, E	1
–265A	273A3613-4		. . GLAND	C	1
270	S34760-236H99N		. PLUS SEAL II (V09257)	B, D, E	1
–270A	PP600M237AT99EH		. SEAL (V97820)	C	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
275	273A3611-2		. PISTON	B, E	1
–275A	273A3611-3		. PISTON	C	1
–275B	273A3611-4		. PISTON	D	1
–275C	273A3611-2		. PISTON (OPT ITEM 275D)	E	1
–275D	273A3611-4		. PISTON (OPT ITEM 275C)	E	1
280	MS24391J4L		. PLUG	C	2
–280A	MS24391T4L		. PLUG	D	2
–280B	MS24391T4L		. PLUG (OPT ITEM 280C)	B, E	2
–280C	MS24391J4L		. PLUG (OPT ITEM 280B)	B, E	2
285	NAS1612-4A		. PACKING (OPT ITEM 285A)	B, C, E	2
–285A	NAS1612-4		. PACKING (OPT ITEM 285)	B, C, E	2
–285B	NAS1612-4A		. PACKING	D	2
290	273T0050-9		. STRAP-NAMEPLATE (OPT ITEM 290A, 290C)	B, C, E	1
–290A	273T0050-6		. STRAP-NAMEPLATE (OPT ITEM 290, 290C)	B, C, E	1
–290B	273T0050-9		DELETED		
–290C	1100400		. STRAP-NAMEPLATE (VS4980) (OPT ITEM 290, 290A)	C	1
–290D	1100400		. STRAP-NAMEPLATE (VS4980) (OPT ITEM 290E)	D	1
–290E	273T0050-6		. STRAP-NAMEPLATE (OPT ITEM 290D)	D	1
295	273A3614-3		. HOUSING ASSY	B	1
–295A	273A3614-10		. HOUSING ASSY	D, E	1
297	273A3614-8		. HOUSING ASSY	C	1
300	MS21209F7-15L		. . INSERT (OPT ITEM 300B)	B	4

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–300A	BACI12AEF8-15L		. . INSERT	C	4
–300B	MS124699		. . INSERT (OPT ITEM 300)	B	4
305	MS21209F1-15L		. . INSERT	B, D, E	3
–305A	BACI12AEF1-15L		. . INSERT	C	3
–310	273A3612-2		. . GLAND-END	B, D, E	1
–310A	273A3612-3		. . GLAND-END	C	1
315	273A3614-5		. . HOUSING (OPT ITEM 315A, 315B)	B	1
–315A	273A3614-4		. . HOUSING (OPT ITEM 315, 315B)	B	1
–315B	273A3614-7		. . HOUSING (OPT ITEM 315, 315A)	B	1
–315C	273A3614-11		. . HOUSING	D, E	1
317	273A3614-9		. . HOUSING	C	1
320	273A2508-14		. NAMEPLATE	B-E	1

–Item not Illustrated