COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

OVERWING EMERGENCY DOOR SNUBBER ASSEMBLY

PART NUMBER 258A4301–1

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COMPONENT MAINTENANCE MANUAL

Revision No. 9
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To: All holders of OVERWING EMERGENCY DOOR SNUBBER ASSEMBLY 52-26-10.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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Location of Change	Description of Change
	NO HIGHLIGHTS

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COMPONENT MAINTENANCE MANUAL

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

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COMPONENT MAINTENANCE MANUAL

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR 38130	MAR 01/98

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

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

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

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All temporary revisions to this manual will be accompanied by a cover sheet bearing the temporary revision number. Enter the temporary revision number in numerical order, together with the temporary revision date, the date the temporary revision is inserted and the initials of the person filing.
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Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
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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.

OVERWING EMERGENCY DOOR SNUBBER ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The overwing-emergency-door snubber assembly is made of a piston rod assembly installed in a barrel filled with hydraulic fluid. A rod end bearing is attached to the piston rod assembly to permit the unit to be installed on the airplane.

B. The barrel increases in diameter at its base to make a reservoir for the hydraulic fluid. A spring-loaded piston assembly is installed in this reservoir. An end cap assembly closes the reservoir.

2. Operation

A. The snubber assembly attaches to airplane structure through a bearing on the end cap assembly. The unit attaches to the overwing exit door through the rod end bearing.

B. One snubber assembly and two counterbalance mechanism assemblies are installed on each overwing exit door. The counterbalance mechanism assemblies lift the door to the open position. The piston rod in the snubber assembly extends as the door opens.

NOTE: Refer to CMM 52-26-09 for data on the counterbalance mechanism assembly.

C. As the overwing exit door opens, the hydraulic fluid in the barrel must move from one side of the piston rod base to the other, through a flow restrictor orifice. The flow through the orifice controls the speed at which the piston rod extends, and thus the speed at which the door opens. The spring-loaded piston assembly keeps pressure on the reservoir fluid and makes the travel of the piston rod smooth.

3. Leading Particulars (Approximate)

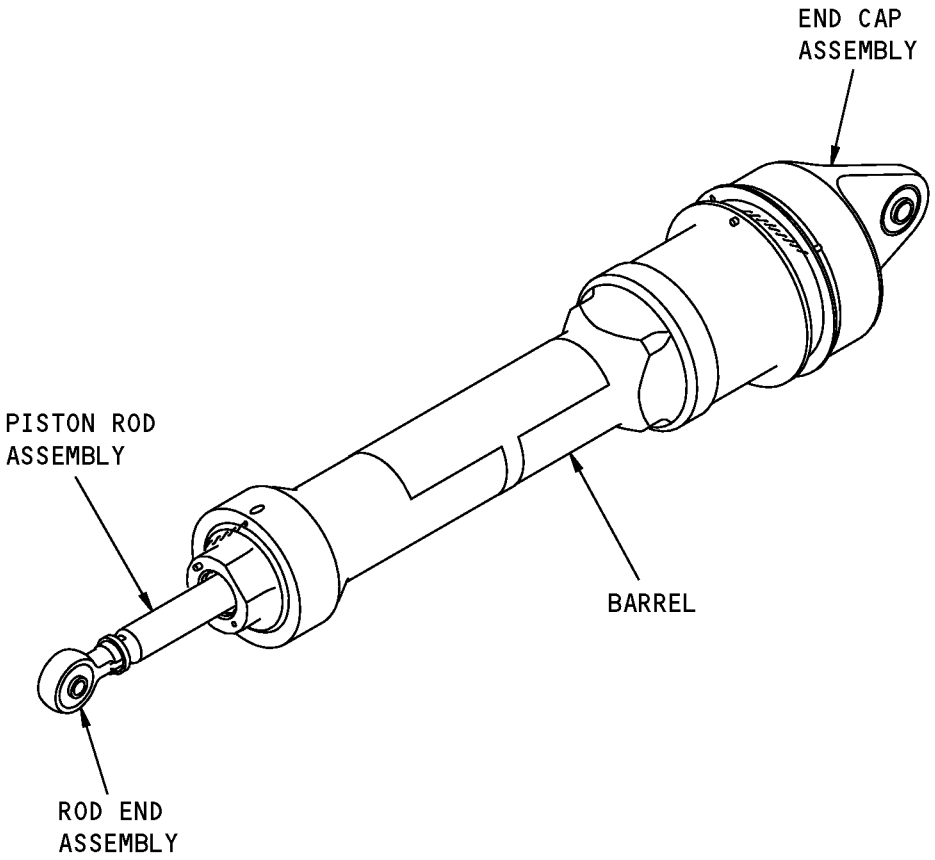
A. Length – 20.432 inches between bearing centers (extended) 15.632 inches between bearing centers (compressed)

B. Diameter – 2.80 inches (maximum)

C. Weight – 6 pounds

D. Stroke – 4.80 inches

E. Operating Fluid – Dow Corning 200 Fluid (viscosity – 100 centistokes)



Overwing Emergency Door Snubber Assembly
Figure 1

TESTING AND FAULT ISOLATION

1. General

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

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

C. Refer to IPL Figure 1 for item numbers.

2. Procedure

A. Do a check for external leakage.

(1) Clean the external surfaces of the snubber assembly (1A).

(2) Operate the unit by hand 25 times, from the retracted to the extended position and back to the retracted position. Use the minimum force necessary to move the piston rod (80).

(3) Make sure that there is no external leakage.

B. Do a check of the friction.

(1) Put the snubber assembly (1A) in the fully retracted position.

CAUTION: DO NOT LET THE PISTON ROD HIT THE INTERNAL STOP UNDER LOAD OR THE UNIT MAY BE DAMAGED. USE AN EXTERNAL STOP TO SET A LIMIT ON THE PISTON ROD TRAVEL.

(2) Make sure that you can extend the piston rod (80) fully with an axial force of not more than 25 pounds.

C. Do a retraction test.

(1) Put the snubber assembly (1A) in an applicable holding fixture, in the fully extended position.

(2) Apply a 110 pound maximum axial compression load to the piston rod (80), and measure the time necessary to retract the piston rod 3.64-3.66 inches.

(3) Make sure that the piston rod (80) can move 3.64-3.66 inches in less than 2 seconds.

CAUTION: DO NOT LET THE PISTON ROD HIT THE END GLAND UNDER LOAD OR THE UNIT MAY BE DAMAGED. USE AN EXTERNAL STOP TO SET A LIMIT ON THE PISTON ROD TRAVEL.

(4) Make sure that the unit operates smoothly during retraction, and makes no unusual sounds.

D. Do an extension test.

(1) Put the snubber assembly (1A) in an applicable holding fixture, in the fully retracted position.

(2) Apply a 1150-1350 pound axial tension load to the piston rod (80), and measure the time necessary to extend the piston rod 3.64-3.66 inches.

NOTE: At low piston rod speeds, the load on the snubber assembly is low. Thus the axial tension load on the unit can be zero pounds during the first 0.75 inch of piston rod travel.

(3) Make sure that the piston rod (80) can move 3.64-3.66 inches in 0.80-1.00 second.

(4) Make sure that the unit operates smoothly during extension, and makes no unusual sounds.

E. Do a check of the length of the unit.

(1) Make sure that the distance between bearing centers is 20.360-20.502 inches when the unit is fully extended.

(2) Make sure that the distance between bearing centers is 15.570-15.692 inches when the unit is fully retracted.

3. Fault Correction

A. Procedures

NOTE: For disassembly, refer to DISASSEMBLY. For assembly, refer to ASSEMBLY.

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

Table 101: Fault Correction

TROUBLE	PROBABLE CAUSE	CORRECTIONS
External leakage at the joint between the end cap assembly (95) and the barrel (145)	Defective seal (120, 125)	Replace the seal
External leakage at the joint between the end gland (35) and the barrel (145)	Defective seal (55) or backup ring (60)	Replace the seal and backup ring
External leakage at the piston rod (80)	Defective seal (45) or packing (50)	Replace the seal and packing
Too much friction	Defective seals (40, 45,85) or packings	Replace the seals and packings as necessary
Time for extension or retraction is not correct	Defective orifice (70) or check valve (75)	Replace the orifice or check valve
Extended or retracted length is not correct	Unit is assembled incorrectly	Tighten the end cap assembly (95), end gland (35), and rod end assembly (5) fully against the barrel (145) or piston rod (80)

DISASSEMBLY

1. **General**

   A. This procedure has the data necessary to disassemble the overwing emergency door snubber assembly (1A).

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

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

   D. Refer to IPL Figure 1 for item numbers.

2. **Disassembly**

   A. Part Replacement

      NOTE: The parts which follow are recommended for replacement. Unless a procedure tells you to replace a part, replacement is optional.

      (1) Scraper (25)

      (2) Safety cable (30)

      (3) Seal (40, 45, 85, 125)

      (4) Packing (50, 55, 90, 120)

      (5) Backup ring (60)

      (6) Procedure

         (a) Hold the unit in a vertical position with the rod end assembly (5) at the bottom.

         (b) Extend the piston rod assembly (65) fully.

         (c) Remove the safety cable (30) between the barrel (145) and the end cap assembly (95).

         (d) Remove the end cap assembly (95) from the barrel (145).

            NOTE: Do not remove the marker (155) or the bearing (100) from the end cap assembly unless necessary for repair or replacement.

         (e) Remove the spring (110) from the reservoir piston assembly (130).

         (f) Remove the screw (115) and the seal (120) from the reservoir piston assembly (130).

         (g) Remove the reservoir piston assembly (130) from the barrel (145).

         (h) Remove the seal (125) from the reservoir piston assembly (130).

            NOTE: Do not remove the insert (135) from the reservoir piston assembly (130) unless necessary for repair or replacement.

         (i) Drain the hydraulic fluid from the barrel (145).

         (j) Remove the rod end assembly (5).

            NOTE: Do not remove the bearing (10) from the rod end assembly (5) unless necessary for repair or replacement.

         (k) Remove the safety cable (30) between the barrel (145) and the end gland (35).

         (l) Remove the end gland (35) and the piston rod assembly (65) from the barrel (145).

            NOTE: Do not remove the nameplate (150) from the barrel (145) unless necessary for repair or replacement.

(m) Remove the scraper (25), seals (40, 45, 55), packing (50), and backup ring (60) from the end gland (35).

(n) Remove the seal (85) and packing (90) from the piston rod assembly (65).

NOTE: Do not remove the orifice (70) or the check valve (75) from the piston rod assembly (65) unless necessary for repair or replacement.

CLEANING

1. General

A. This procedure has the data necessary to clean the snubber assembly (1A).

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 (10, 100) 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 material of the specified parts.

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

C. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

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

B. Procedure

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

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

(a) Rod end (15)

(b) Piston rod (80)

(c) End cap (105)

(d) Spring (110)

(e) Barrel (145)

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

(a) End gland (35)

(b) Reservoir piston (140)

(4) Do a load check of the spring (110).

(a) Free length – 3.950 inches (for reference only)

(b) Load at 2.750 inches – 27-33 pounds

(c) Load at 1.750 inches – 50-60 pounds

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
258A4303	PISTON ROD ASSEMBLY	2-1
258A4304	ROD END ASSEMBLY	3-1
258A4307	END CAP ASSEMBLY	4-1
258A4309	NAMEPLATE	5-1
BAC27DHY392	MARKER	6-1

2. Dimensioning Symbols

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

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

EXAMPLES

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

True Position Dimensioning Symbols
Figure 601

REFINISH OF OTHER PARTS - REPAIR 1-1

1. General

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

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

C. Refer to IPL Figure 1 for item numbers.

2. Refinish of Other Parts

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00110	Lubricant - Solid Film, Heat Cured, Corrosion Inhibiting	MIL-PRF-46010
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-03	LUBRICANTS

C. Procedures

NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For lubricants, refer to SOPM 20-60-03.

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

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
IPL Fig. 1		
Spring (110)	CRES, CH900 condition	Passivate (F-17.25)
Barrel (145)	CRES, 180-200 ksi	Passivate (F-17.25) and apply lubricant, D00113 or lubricant, D00110 to the external threads only.

PISTON ROD ASSEMBLY - REPAIR 2-1

258A4303–1

1. General

A. This procedure has the data necessary to repair the piston rod assembly (65).

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: CRES, 180-200 ksi

2. Orifice (70) and Check Valve (75) Replacement

A. References

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

B. Procedure

(1) Remove the orifice (70) or the check valve (75) from the piston rod assembly (65) (SOPM 20-50-04).

(2) Install the new orifice (70) or check valve (75) in the piston rod assembly (65) (SOPM 20-50-04).

3. Piston Rod (80) Refinish

A. References

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

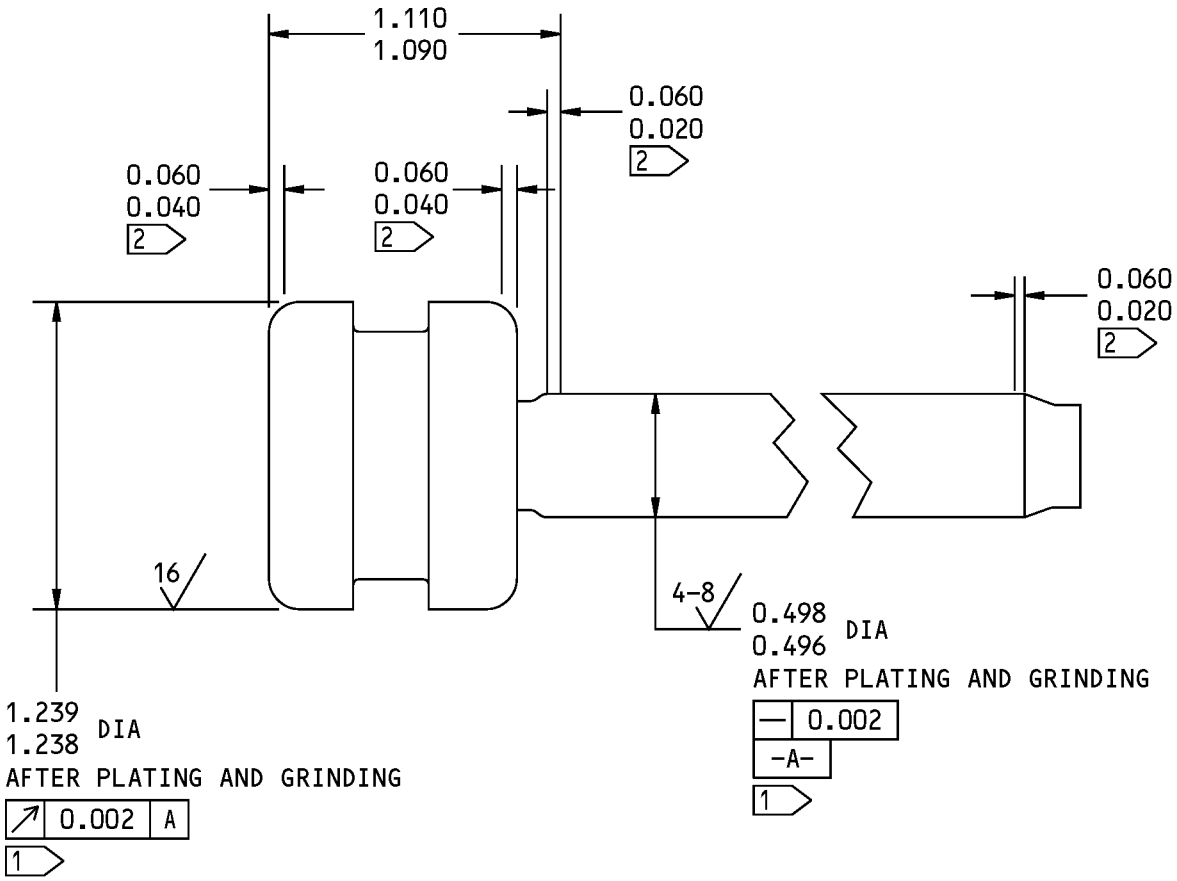
B. Procedures

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

(1) Passivate (F-17.25).

(2) Apply chrome plate (F-15.34) on the surfaces shown in REPAIR 2-1, Figure 601.

(3) Grind the chrome plate to the design dimensions. Make sure that the thickness of the chrome plate is 0.003 to 0.005 inch



1 APPLY CHROME PLATE THIS SURFACE

2 CHROME PLATE RUNOUT

ALL DIMENSIONS ARE IN INCHES

258A4303-2 Piston Rod Refinish
Figure 601

ROD END ASSEMBLY - REPAIR 3-1

258A4304–1

1. General

A. This procedure has the data necessary to repair the rod end assembly (5).

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: CRES, 180-200 ksi

2. Bearing (10) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedures

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

(1) Remove the bearing (10) from the rod end assembly (5).

(SOPM 20-50-03)

(2) Install the new bearing (10) with sealant, A00247.

(SOPM 20-50-03)

(3) Roller swage the bearing (10) outer race over the rod end (15). Use the Type 1 groove configuration.

3. Rod End (15) Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00110	Lubricant - Solid Film, Heat Cured, Corrosion Inhibiting	MIL-PRF-46010
D00113	Lubricant - Liquid Dispersed Solid Film Lubricant	BMS3-8, BAC 5811, TYPE VIII

B. References

Reference	Title
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-60-03	LUBRICANTS

C. Procedures

NOTE: For decoding table for Boeing finish codes, refer to SOPM 20-41-01. For lubricants, refer to SOPM 20-60-03.

(1) Passivate (F-17.25).

(2) Apply lubricant, D00113 or lubricant, D00110 to the threads.

END CAP ASSEMBLY - REPAIR 4-1

258A4307–1

1. General

A. This procedure has the data necessary to repair the end cap assembly (95).

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: CRES, 180-200 ksi

2. Bearing (100) Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

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

C. Procedure

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

(1) Remove the bearing (100) from the end cap assembly (95) (SOPM 20-50-03).

(2) Install the new bearing (100) with sealant, A00247 (SOPM 20-50-03).

(3) Roller swage the bearing (100) outer race over the end cap (105). Use the Type 1 groove configuration.

3. End Cap (105) Refinish

A. Procedures

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

(1) Passivate (F-17.25).

NAMEPLATE - REPAIR 5-1

258A4309—1

1. General

A. This procedure has the data necessary to replace the nameplate (150).

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. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00551	Sealant - Fuel Tank	BAC5010, Type 44 (BMS5-44, BMS5-45)

B. References

Reference	Title
SOPM 20-50-10	APPLICATION OF STENCILS, INSIGNIA, SILK SCREEN, PART NUMBERING AND IDENTIFICATION MARKINGS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedures

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

(1) Remove the damaged or defective nameplate (150).

(2) Clean the surface of the barrel (145).

(3) Get the assembly dash number, serial number, manufacture date, and manufacturer name from the old nameplate (150). Steel stamp this data on the new nameplate (SOPM 20-50-10).

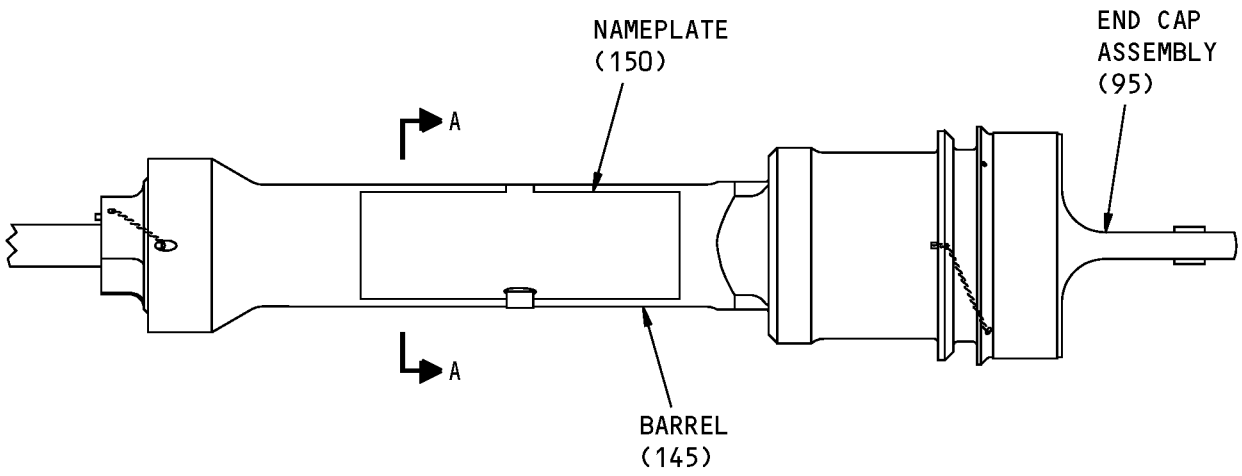
(4) Bend the nameplate (150) to the contour of the barrel (145).

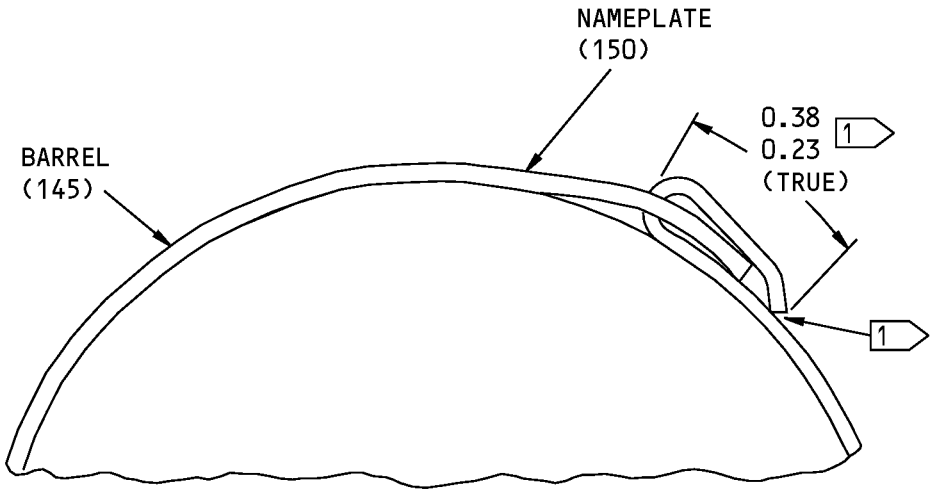
(5) Apply sealant, A00551 to the back of the nameplate (150) and its strap to get a 100 percent fay surface seal.

(6) Install the nameplate (150) on the barrel (145). Put the strap through the slot in the nameplate and bend back the strap to get a tight fit.

(7) Make sure that the sealant, A00551 fills the slot in the nameplate (150).

(8) Fillet seal the edges of the nameplate (150) and the strap with the sealant, A00551.





A–A

1 CUT THE END OF THE STRAP TO GET THE DIMENSION SHOWN. MAKE SURE THE STRAP HAS A TIGHT FIT.

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

258A4309-1 Nameplate Replacement
Figure 601

MARKER - REPAIR 6-1

BAC27DHY392

1. General

A. This procedure has the data necessary to replace the marker (155).

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. Marker Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
B00571	Coating - Clear Hydraulic Fluid Resistant Topcoat	BAC5710, Type 41

B. References

Reference	Title
SOPM 20-44-01	APPLICATION OF SPECIAL PURPOSE COATINGS AND FINISHES
SOPM 20-50-05	APPLICATION OF ALUMINUM FOIL AND OTHER MARKERS
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

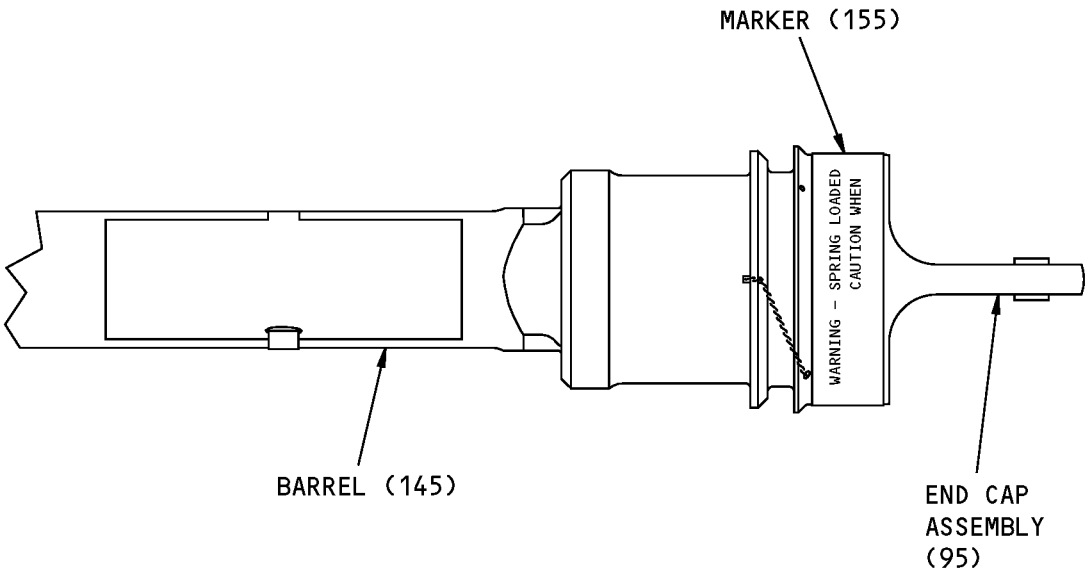
NOTE: For finishing materials, refer to SOPM 20-60-02.

(1) Remove the damaged or defective marker (155).

(2) Clean the surface of the end cap assembly (95).

(3) Install the marker (155) approximately in the location shown in REPAIR 6-1, Figure 601 (SOPM 20-50-05).

(4) Apply coating, B00571 to the edges of the marker (155) (SOPM 20-44-01).



ITEM NUMBERS REFER TO IPL FIG. 1

BAC27DHY392 Marker Replacement
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the snubber assembly (1A).

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

C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00551	Sealant - Fuel Tank	BAC5010, Type 44 (BMS5-44, BMS5-45)
B00571	Coating - Clear Hydraulic Fluid Resistant Topcoat	BAC5710, Type 41
D00050	Lubricant - 10,000 CS Viscosity - Dow Corning 200	

B. References

Reference	Title
SOPM 20-44-01	APPLICATION OF SPECIAL PURPOSE COATINGS AND FINISHES
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-06	INSTALLATION OF O-RINGS AND TEFLON SEALS
SOPM 20-50-10	APPLICATION OF STENCILS, INSIGNIA, SILK SCREEN, PART NUMBERING AND IDENTIFICATION MARKINGS
SOPM 20-60-02	FINISHING MATERIALS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

C. Procedure

NOTE: For finishing materials, refer to SOPM 20-60-02. For miscellaneous materials, refer to SOPM 20-60-04.

(1) Apply a small quantity of Dow Corning 200 lubricant, D00050 to the seals before you install them.

(2) Install the seal (85) and packing (90) on the base of the piston rod assembly (65) (SOPM 20-50-06).

(3) Install the seals (40, 45), packings (50, 55), backup ring (60), and scraper (25) on the end gland (35) (SOPM 20-50-06).

(4) Install the end gland (35) over the piston rod assembly (65).

(5) Install the piston rod assembly (65) and the end gland (35) in the barrel (145). Tighten the end gland to 730-750 pound-inches.

(6) Put the cup lockwasher (20) on the rod end assembly (5), then install the rod and assembly on the piston rod assembly (65). Tighten the rod end assembly to 140-160 pound-inches. Use a square punch or applicable swaging tool to break locally the flange of the cup lockwasher into the slot in the rod end (15).

(7) Fill the snubber assembly (1A) with hydraulic fluid. Refer to ASSEMBLY, Figure 701.

(a) Hold the assembled parts in a vertical position with the rod end assembly (5) pointed down and fully extended.

(b) Fill the barrel (145) with Dow Corning 200 lubricant, D00050 approximately to the level of the bottom of the reservoir cavity in the barrel.

(c) Slowly push the piston rod assembly (65) to the fully retracted position in the barrel (145), then slowly pull the piston rod assembly back to the fully extended position.

(d) Continue to do step 2.C.(7)(c) until no air bubbles come out of the orifice (70) in the piston rod assembly (65).

(e) Push the piston rod assembly (65) to the fully retracted position.

(f) Add Dow Corning 200 lubricant, D00050 to the barrel (145) until the fluid level is 1.990 inches, or less, from the top edge of the barrel.

(g) Install the seal (125) on the reservoir piston assembly (130) (SOPM 20-50-06).

(h) Remove the screw (115) and the seal (120) from the reservoir piston assembly (130) if they are installed.

(i) Install the reservoir piston assembly (130) in the barrel (145) so that it touches the fluid surface and there is no air pocket. Make sure that the end of the reservoir piston assembly is 0.000-0.030 inch below the top edge of the barrel.

(j) Hold the reservoir piston assembly (130) in the correct position and install the screw (115) and the seal (120) in the bottom of the reservoir piston assembly (130). Tighten the screw to 20-25 pound-inches more than the run-on torque.

(k) Remove all spilled fluid from the back of the reservoir piston assembly (130).

(l) Make sure again that the end of the reservoir piston (140) is 0.000-0.030 inch below the top edge of the barrel (145).

(m) Install the spring (110) in the back of the reservoir piston assembly (130).

(n) Install the end cap assembly (95) on the barrel (145). Tighten the end cap assembly to 1100-1150 pound-inches.

(8) Weigh the snubber assembly (1A). Make sure that the weight of the unit is not more than 6.3 pounds.

(9) Do the functional test (52-26-10/101) .

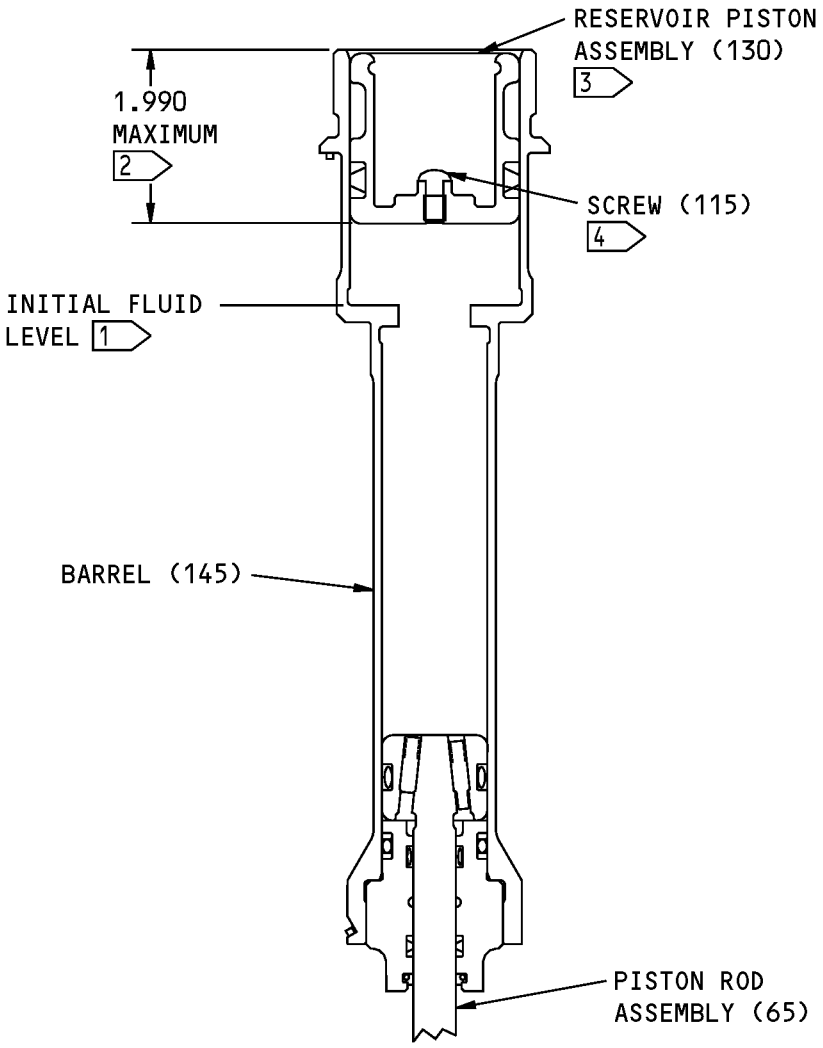
(10) After you do the functional test, use a rubber stamp to write "FT" and the day of the test on the snubber assembly (1A) (SOPM 20-50-10). Apply coating, B00571 over the marks (SOPM 20-44-01).

(11) Install the safety cable (30) between the barrel (145) and the end gland (35) (SOPM 20-50-02).

(12) Install the safety cable (30) between the barrel (145) and the end cap assembly (95) (SOPM 20-50-02).

(13) Seal the joint between the barrel (145) and the end gland (35) with sealant, A00551. Apply coating, B00571 over the sealant, A00551t (SOPM 20-44-01).

(14) Seal the joint between the barrel (145) and the end cap assembly (95) with sealant, A00551. Apply coating, B00571 over the sealant, A00551(SOPM 20-44-01).



1 FILL TO THIS LEVEL FOR THE BLEED PROCEDURE.

2 FILL TO THIS LEVEL BEFORE YOU INSTALL THE RESERVOIR PISTON ASSEMBLY.

3 SET THE RESERVOIR PISTON 0.000-0.030 BELOW THE END OF THE BARREL.

4 INSTALL AFTER YOU SET THE POSITION OF THE RESERVOIR PISTON.

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Assembly Details
Figure 701

3. Storage

A. References

Reference	Title
SOPM 20-44-02	TEMPORARY PROTECTIVE COATINGS

B. Procedure

(1) Use standard industry procedures to store this component. Refer to SOPM 20-44-02 for more data.

FITS AND CLEARANCES

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	5	Rod End Assembly	140-160	
1	35	End Gland	730-750	
1	95	End Cap Assembly	1100-1150	
1	115	Screw	20-25 1>	

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

1> MORE THAN RUN-ON TORQUE

Torque Table
Figure 801

(NOT APPLICABLE)

ILLUSTRATED PARTS LIST

1. Introduction

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

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

1 2 3 4 5 6 7

. Assembly

. Attaching parts for assembly

. . Detail parts for assembly

. . Subassembly

. . Attaching parts for subassembly

. . . Detail parts for subassembly

. . . Sub-subassembly

. . . Attaching parts for subassembly

. . . . . Details parts for sub-subassembly

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

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

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

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

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

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

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

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

H. Interchangeable Parts

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

VENDOR CODES

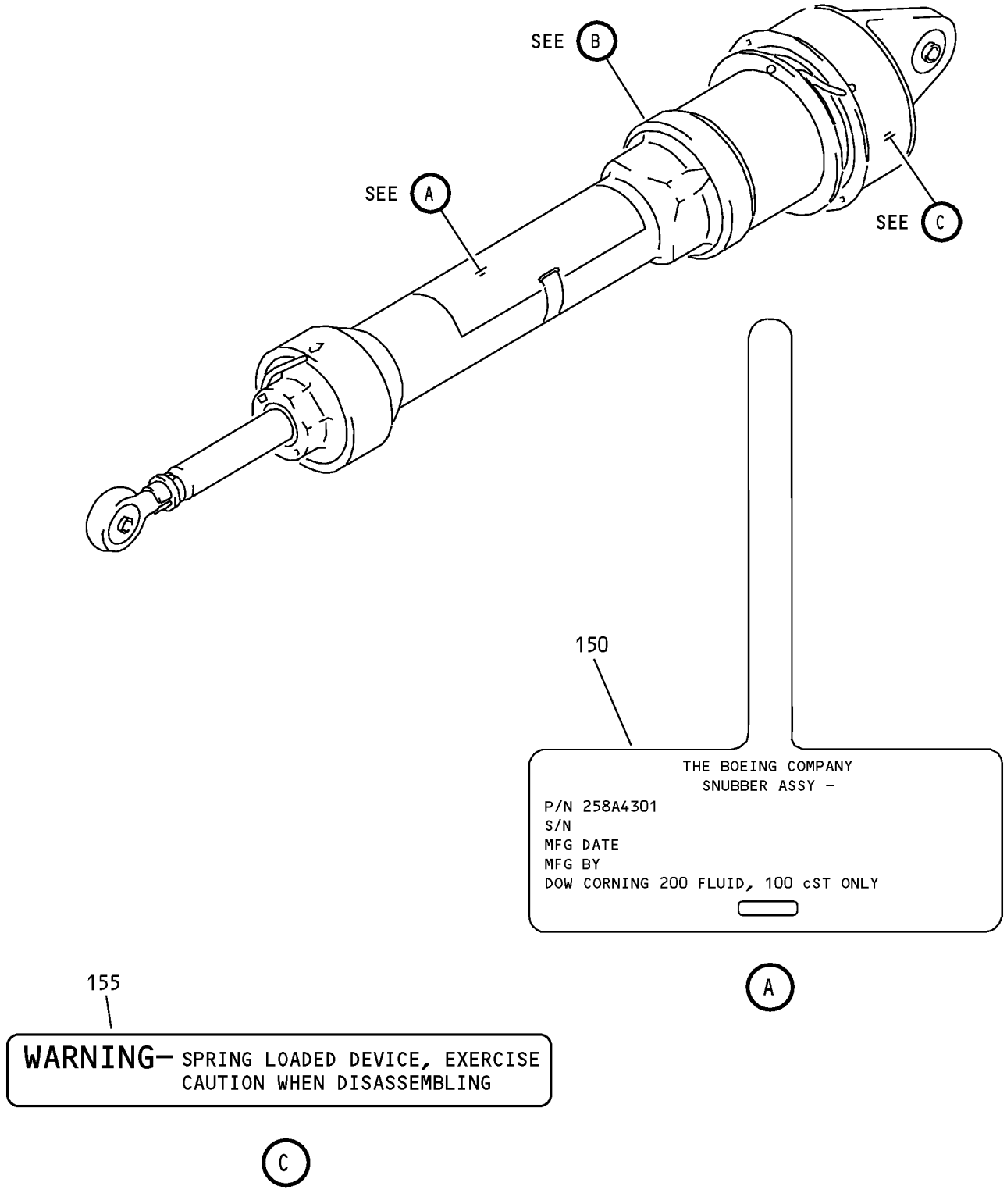
Code	Name
02107	FLOUROCARBON CO OHIO DIV DOVER, OHIO 44622 CANCELLED NO REPLACEMENT FORMERLY SPARTA MANUFACTURING CO
07128	TETRAFLUOR INC 2051 EAST MAPLE AVENUE EL SEGUNDO, CALIFORNIA 90245-5009 FORMERLY ROYAL IND TETRAFLUOR DIV V0667B ENGLEWOOD CALIF
15860	NEW HAMPSHIRE BALL BEARINGS, INC ASTRO DIVISION 155 LEXINGTON AVENUE LACONIA, NEW HAMPSHIRE 03246-2937 FORMERLY ASTRO BEARING CORP, LOS ANGELES, CALIF.
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
50632	KAMATICS CORP SUB OF KAMAN CORP 1335 BLUE HILLS ROAD BLOOMFIELD, CONNECTICUT 06002-1304

Code	Name
73134	ROLLER BEARING COMPANYOF AMER DBA HEIM BEARINGS DIV 60 ROUND HILL RD FAIRFIELD, CONNECTICUT 06430-0000 FORMERLY INCOM INTL HEIM DIV; HEIM UNIVERSAL CORP INCOM; FORMERLY HEIM DIV INCOM INTL; IMO IND HEIM BEARINGS DIV
81376	SMITH ACQUISITION COMPANY 2240 BUENA VISTA BALDWIN PARK, CALIFORNIA 91706
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
97613	SARGENT CONTROLS & AEROSPACE/KAHR BEARING DIV 5675 W BURLINGAME RD TUCSON, ARIZONA 85743 FORMERLY AETNA STEEL PROD KAHR BEARING DIV V96579 FORMERLY SARGENT IND KAHR BEARING DIV, BURBANK, CALIFORNIA
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
S0352	NIPPON MINIATURE BEARING CO LTD TOKYO, JAPAN

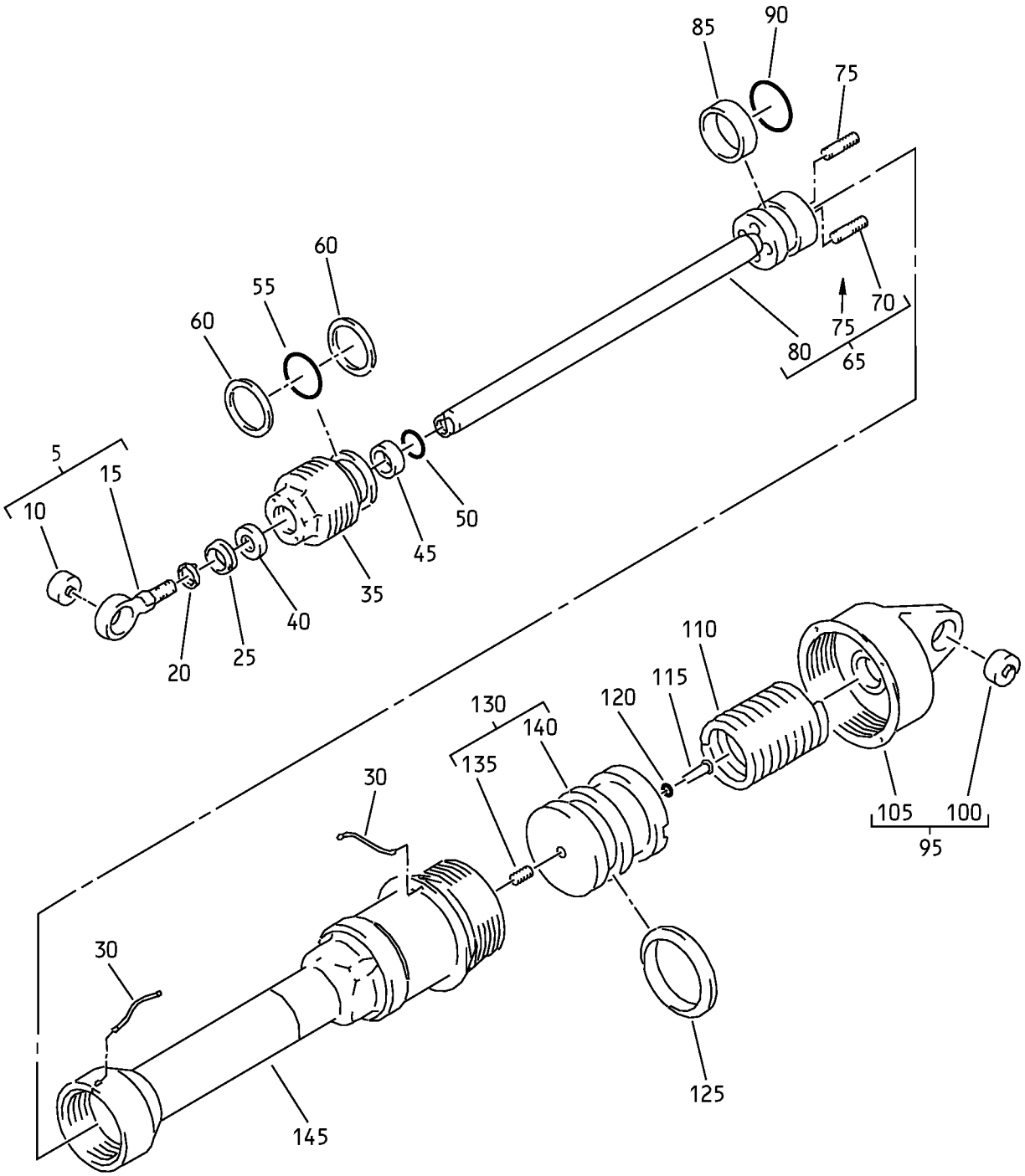
NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
2100-214		1	60	2
258A4301-1		1	1A	RF
258A4302-1		1	145	1
258A4303-1		1	65	1
258A4303-2		1	80	1
258A4304-1		1	5	1
258A4304-2		1	15	1
258A4305-1		1	130	1
258A4305-2		1	140	1
258A4306-1		1	110	1
258A4307-1		1	95	1
258A4307-2		1	105	1
258A4308-1		1	35	1
258A4309-1		1	150	1
5-125E515-80		1	120	1
66-12156-38		1	20	1
ADW4VN		1	10	1
ADW4VNC		1	10A	1
ADW5VN		1	100	1
ADW5VNC		1	100A	1
AS3510-0206L		1	30	2
BAC27DHY392		1	155	1
BACB10FE04		1	10	1
BACB10FE04C		1	10A	1
BACB10FE05		1	100	1
BACB10FE05C		1	100A	1
BACB30LK3U2		1	115	1
BACR12BM214		1	60	2
BACS34A1C		1	25	1
C11236-214B		1	60	2
CKFA1876205A		1	75	1
JEHA1875500L		1	70	1
KR4CWGBZ		1	10	1
KR4CWGBZC		1	10A	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
KR5CWGBZ		1	100	1
KR5CWGBZC		1	100A	1
KWDB4-38		1	10	1
KWDB4-39		1	10A	1
KWDB5-38		1	100	1
KWDB5-39		1	100A	1
MS14103-4		1	10B	1
MS14103-5		1	100B	1
MS21209F1-15		1	135	1
NAS1611-112		1	50	1
NAS1611-214		1	55	1
		1	90	1
RMR12BM214		1	60	2
S30294-214-1		1	60	2
S30652-112-99		1	45	1
S30662-214-99		1	85	1
S34772-112H99C		1	40	1
S34782-326H99C		1	125	1
STF800-214		1	60	2
SWKRS04-3405		1	10	1
SWKRS05-3405		1	100	1
TF450-214A		1	60	2
WES04B10G		1	10	1
WES04B10GC		1	10A	1
WES05B10G		1	100	1
WES05B10GC		1	100A	1
WHT04VSB		1	10	1
WHT04VSBC		1	10A	1
WHT05VSB		1	100	1
WHT05VSBC		1	100A	1
WRRS04B10G		1	10	1
WRRS04B10GC		1	10A	1
WRRS05B10G		1	100	1
WRRS05B10GC		1	100A	1



Overwing Emergency Door Snubber Assembly
IPL Figure 1 (Sheet 1 of 2)



Overwing Emergency Door Snubber Assembly
IPL Figure 1 (Sheet 2 of 2)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1A	258A4301-1		SNUBBER ASSY-OVERWING EMER. DOOR		RF
5	258A4304-1		. END ASSY-ROD		1
10	WES04B10G		. . BEARING (V73134) (SPEC BACB10FE04) (OPT SWKRS04-3405 (V81376)) (OPT WHT04VSB (VS0352)) (OPT ADW4VN (V15860)) (OPT KR4CWGBZ (V50632)) (OPT KWDB4-38 (V97613)) (OPT WRRS04B10G (V73134)) (OPT ITEM 10A, 10B)		1
–10A	WES04B10GC		. . BEARING (V73134) (SPEC BACB10FE04C) (OPT ADW4VNC (V15860)) (OPT KR4CWGBZC (V50632)) (OPT KWDB4-39 (V97613)) (OPT WRRS04B10GC (V73134)) (OPT WHT04VSBC (VS0352)) (OPT ITEM 10, 10B)		1
–10B	MS14103-4		. . BEARING (OPT ITEM 10, 10A)		1
15	258A4304-2		. . END		1
20	66-12156-38		. LOCKWASHER-CUP		1
25	BACS34A1C		. SCRAPER		1
30	AS3510-0206L		. CABLE-SAFETY		2
35	258A4308-1		. END GLAND		1
40	S34772-112H99C		. SEAL (V97820)		1
45	S30652-112-99		. SEAL (V97820)		1
50	NAS1611-112		. PACKING		1
55	NAS1611-214		. PACKING		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	C11236-214B		. RING-BACK-UP (V26879) (SPEC BACR12BM214) (OPT RMR12BM214 (V94878)) (OPT STF800-214 (V02107)) (OPT S30294-214-1 (V97820)) (OPT TF450-214A (V07128)) (OPT 2100-214 (V26303))		2
65	258A4303-1		. ROD ASSY-PISTON		1
70	JEHA1875500L		. . ORIFICE-HIGH WATT (V92555)		1
75	CKFA1876205A		. . VALVE-CHECK (V92555)		1
80	258A4303-2		. . PISTON ROD		1
85	S30662-214-99		. SEAL (V97820)		1
90	NAS1611-214		. PACKING		1
95	258A4307-1		. CAP ASSY-END		1
100	WES05B10G		. . BEARING (V73134) (SPEC BACB10FE05) (OPT SWKRS05-3405 (V81376)) (OPT WHT05VSB (VS0352)) (OPT ADW5VN (V15860)) (OPT KR5CWGBZ (V50632)) (OPT KWDB5-38 (V97613)) (OPT WRRS05B10G (V73134)) (OPT ITEM 100A, 100B)		1
–100A	WES05B10GC		. . BEARING (V73134) (SPEC BACB10FE05C) (OPT ADW5VNC (V15860)) (OPT KR5CWGBZC (V50632)) (OPT KWDB5-39 (V97613)) (OPT WRRS05B10GC (V73134)) (OPT WHT05VSBC (VS0352)) (OPT ITEM 100, 100B)		1
–100B	MS14103-5		. . BEARING (OPT ITEM 100, 100A)		1
105	258A4307-2		. . END CAP		1
110	258A4306-1		. SPRING		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–					
115	BACB30LK3U2		. BOLT		1
120	5-125E515-80		. PACKING		1
125	S34782-326H99C		. SEAL (V97820)		1
130	258A4305-1		. PISTON ASSY-RSVR		1
135	MS21209F1-15		. . INSERT		1
140	258A4305-2		. . PISTON		1
145	258A4302-1		. BARREL		1
150	258A4309-1		. NAMEPLATE		1
155	BAC27DHY392		. MARKER		1

–Item not Illustrated