



**COMPONENT MAINTENANCE
MANUAL
WITH
ILLUSTRATED PARTS LIST**

**ELEVATOR PCU CONTROL POGO ROD
ASSEMBLY**

**PART NUMBER
251A2131-1, -2**

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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. 5
Jul 01/2009

To: All holders of ELEVATOR PCU CONTROL POGO ROD ASSEMBLY 27-31-07.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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

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

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Location of Change

Description of Change

NO HIGHLIGHTS

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HIGHLIGHTS

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COMPONENT MAINTENANCE MANUAL

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.

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INTRODUCTION

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ELEVATOR CONTROL VERNIER POGO ROD ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

- A. The pogo venier rod assembly consists of spring-loaded clevis assemblies housed in a tube assembly.

2. Operation

- A. Clevis assemblies at each end of the tube connect the assembly to the actuating units in the elevator power control system.

3. Leading Particulars (Approximate)

- A. Length – 12.12 inches
- B. Diameter – 1.35 inches
- C. Weight – 2.5 pounds

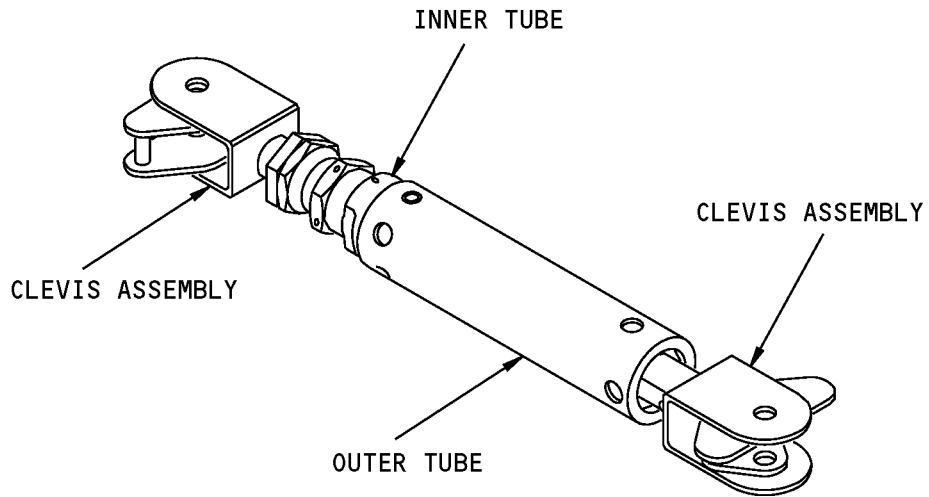
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DESCRIPTION AND OPERATION

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251A2131-1 SHOWN
251A2131-2 SIMILAR

Elevator PCU Control Pogo Rod Assembly
Figure 1

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DESCRIPTION AND OPERATION

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COMPONENT MAINTENANCE MANUAL

TESTING AND FAULT ISOLATION

1. General

- A. This procedure has the data necessary to do a test of the pogo rod assembly 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. Testing and Fault Isolation

A. Procedure

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

- (1) Operate the pogo rod assembly (1A, 1B) and measure the load and the relative travel of the clevis assembly (55, 55A) with respect to the tube (125, 125A).
 - (a) Full extension and collapsing travel to be 0.32-0.36 inch.
 - (b) For travel of 0.005 to 0.020 inch in extension and collapsing directions, the load is to be 111-121 lbs.
 - (c) For travel of 0.005 to 0.020 inch from the fully extended or fully collapsed position, the load is to be 126-146 lbs.
 - (d) After completing steps 1 through 3, do a free play check. Maximum travel is to be 0.001 inch after applying a reversing load of 2 pounds.
 - (e) All operations shall be smooth and free from binding.

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TESTING AND FAULT ISOLATION

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DISASSEMBLY

1. General

- A. This procedure has the data necessary to disassemble the pogo rod assembly (1A, 1B).
- B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.
- C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- D. Refer to IPL Figure 1 for item numbers.

2. Disassembly

A. References

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

B. Procedure

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

- (1) Use standard industry procedures and the steps shown below to disassemble this component.
- (2) If necessary, remove the lockwire from the nut (10) as shown in DISASSEMBLY, Figure 301 and DISASSEMBLY, Figure 302.
- (3) For pogo rod assembly 251A2131-1, loosen the nuts (5, 10) from the clevis assembly (20) and the sleeve (15) as shown in DISASSEMBLY, Figure 301, Section B-B.
- (4) For pogo rod assembly 251A2131-2, loosen the nut (5) from the clevis assembly (20A) as shown in DISASSEMBLY, Figure 302, Section B-B.
- (5) For pogo rod assembly 251A2131-1, remove the clevis assembly (20), the sleeve (15) and the nuts (5, 10) from the inner tube (130) as shown in DISASSEMBLY, Figure 301, Section B-B.
- (6) For pogo rod assembly 251A2131-2, remove the clevis assembly (20A) and the nut (5) from the inner tube (130B) as shown in DISASSEMBLY, Figure 302, Section B-B.
- (7) Remove the rivet (50) from the clevis assembly (55, 55A) and the bolt (85) as shown in DISASSEMBLY, Figure 301 and 302, Section A-A.

CAUTION: INNER TUBE (130, 130B) IS HEAVILY LOADED. REMOVE THE RIVETS (80) WITH CARE.

- (8) Remove the rivets (80) and the inner tube (130, 130B) from the outer tube (125, 125A) as shown in DISASSEMBLY, Figure 301 and 302, Section C-C.
- (9) Slide the bolt (85), the bushings (105, 110, 115), the spacer (95), the spring (120), the washer (90), and the nut (100) from the outer tube (125, 125A) as shown in DISASSEMBLY, Figure 301 and 302, Bubble A.
- (10) Remove the lockwire from the bolt (85) and the nut (100).

CAUTION: THE SPRING (120) IS HEAVILY LOADED. REMOVE THE NUT (100), THE WASHER (90), AND THE BUSHING (105) WITH CARE.

- (11) Remove the nut (100), the washer (90), the bushings (105, 110, 115), the spring (120), and the spacer (95) from the bolt (85).

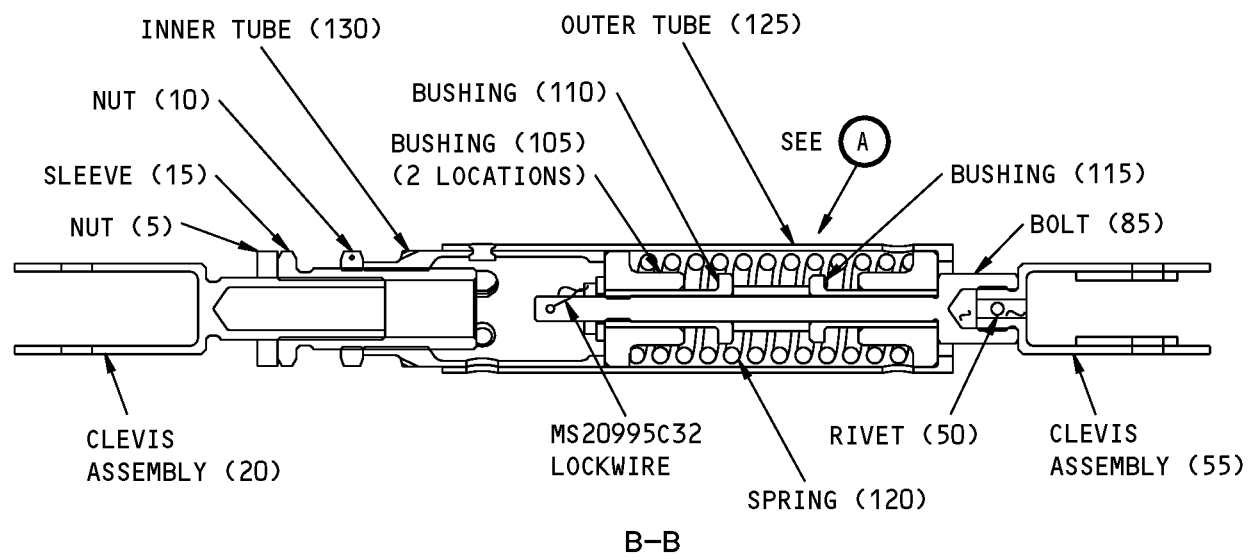
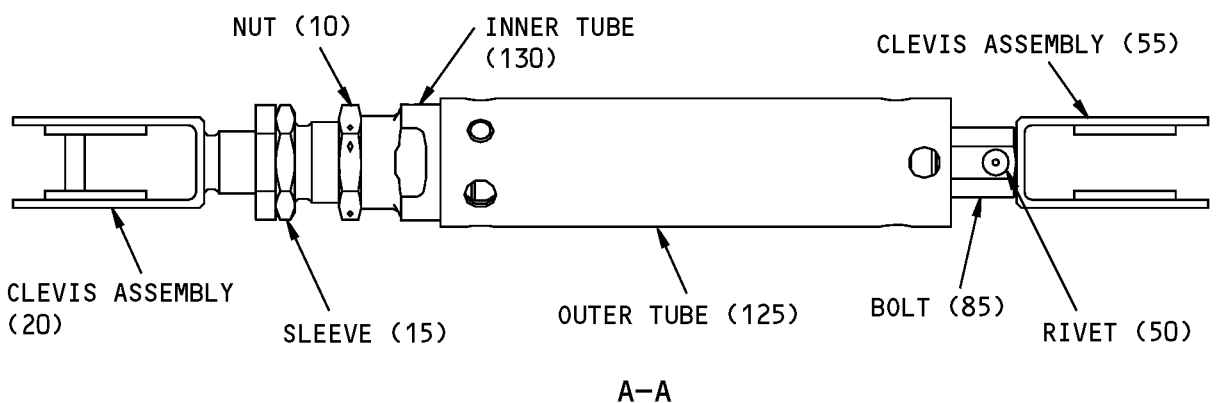
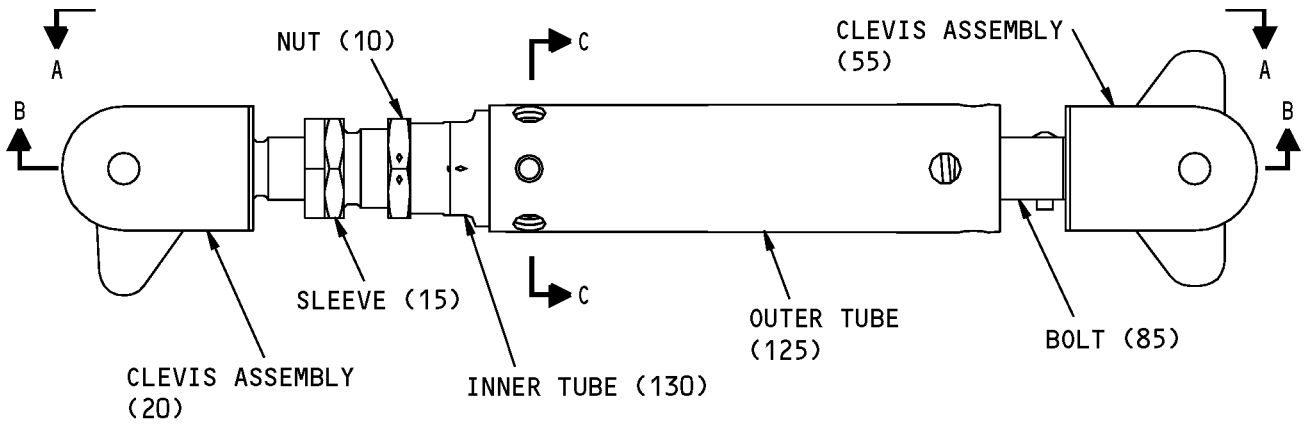
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DISASSEMBLY

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251A2131-1 Pogo Rod Assembly Disassembly
Figure 301 (Sheet 1 of 2)

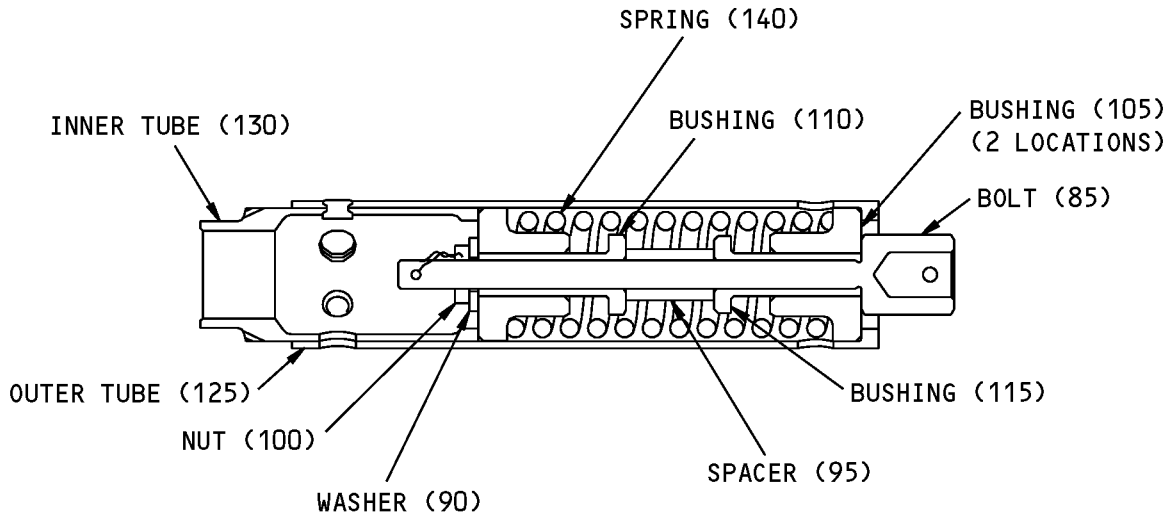
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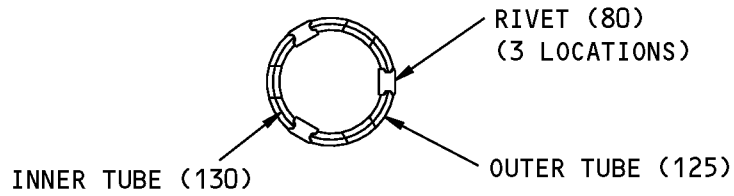
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A



C-C

ITEM NUMBERS REFER TO IPL FIG. 1

251A2131-1 Pogo Rod Assembly Disassembly
Figure 301 (Sheet 2 of 2)

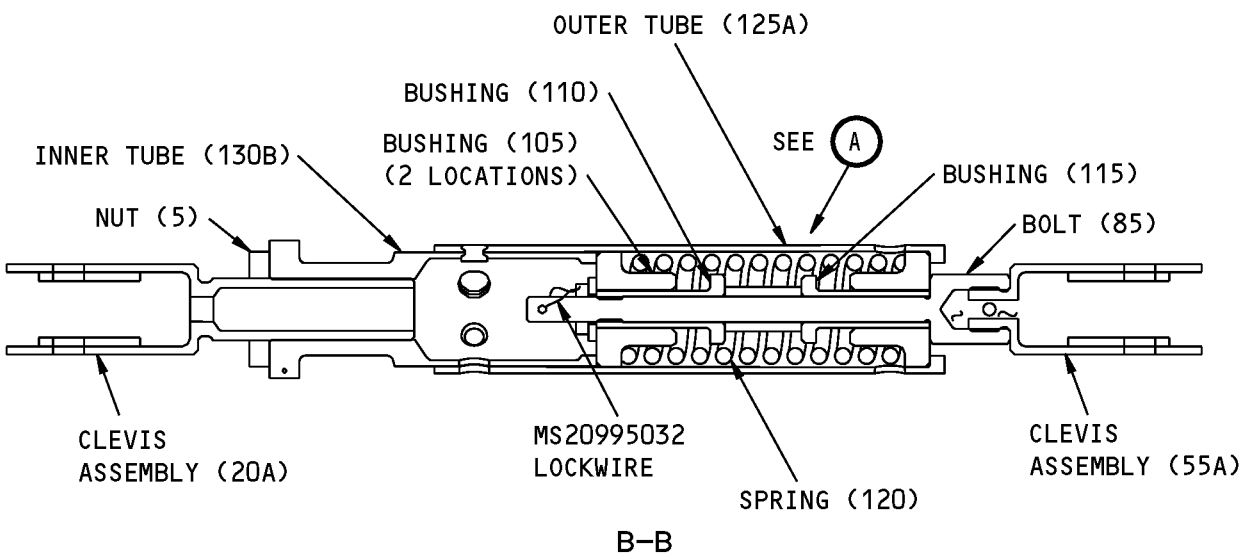
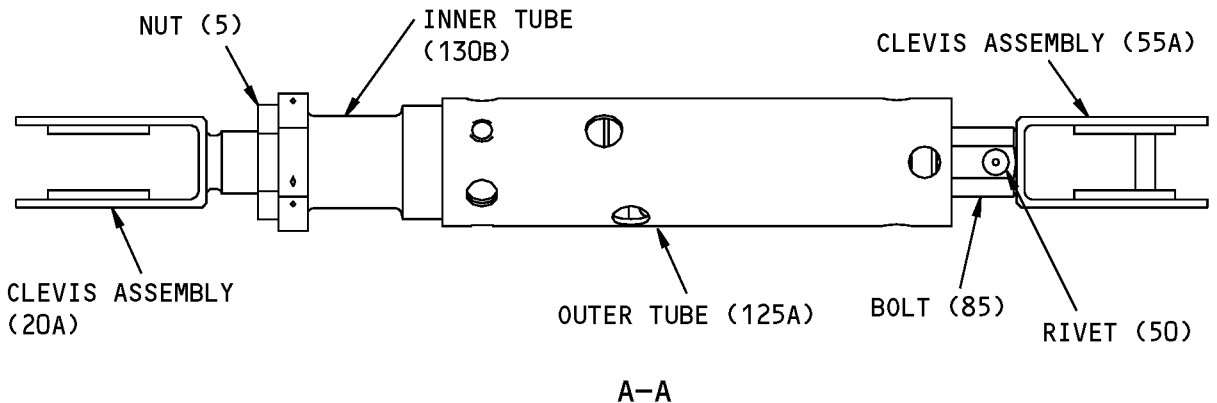
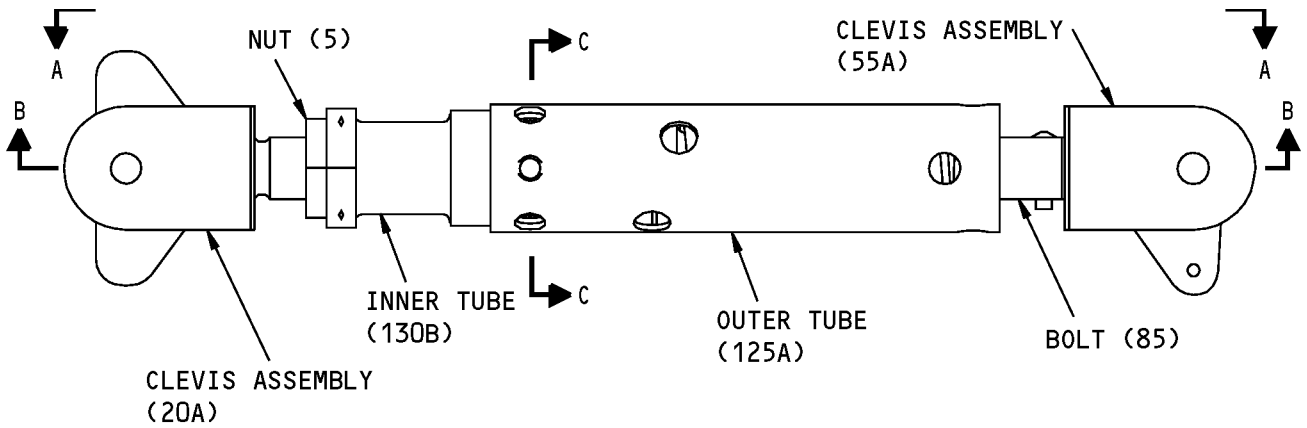
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DISASSEMBLY

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251A2131-2 Pogo Rod Assembly Disassembly
Figure 302 (Sheet 1 of 2)

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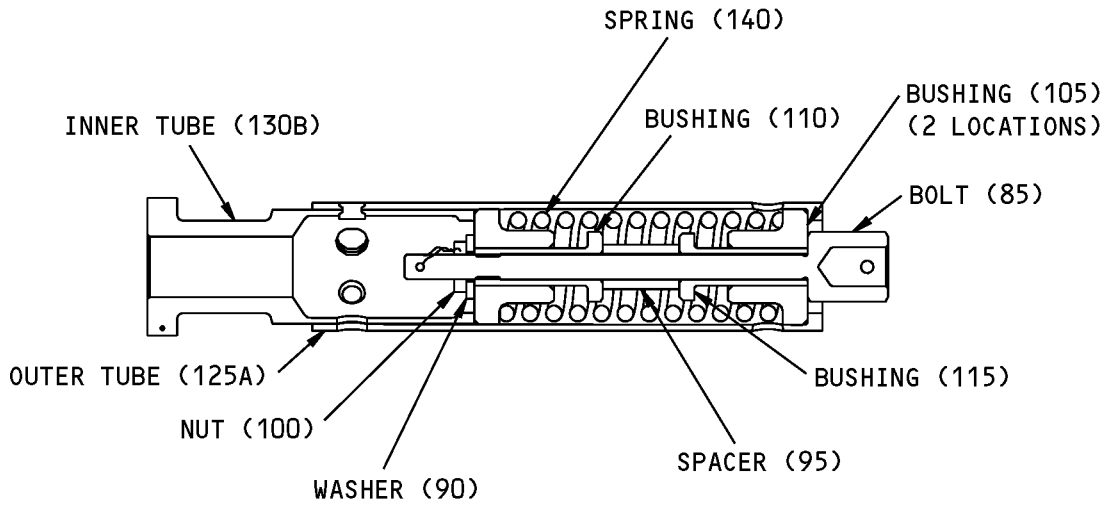
DISASSEMBLY

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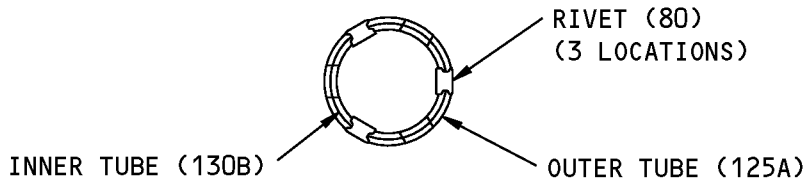
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A



C-C

ITEM NUMBERS REFER TO IPL FIG. 1

251A2131-2 Pogo Rod Assembly Disassembly
Figure 302 (Sheet 2 of 2)

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DISASSEMBLY

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CLEANING

1. General

- A. This procedure has the data necessary to do cleaning.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subject identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Cleaning

A. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES

B. Procedure

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

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CLEANING

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CHECK

1. General

- A. This procedure has the data necessary to find defects in the material of the specified parts.
- B. Refer to FITS AND CLEARANCES for the design dimension and wear limits.
- C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subject identified in this procedure.
- D. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

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

B. Procedure

- (1) Use standard industry procedures to do a visual check of all the parts for defects. Do the penetrant or magnetic particle 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) Nut (10)
 - (b) Sleeve (15)
 - (c) Clevis (45, 75)
 - (d) Bolt (85)
- (3) Do a penetrant check (SOPM 20-20-02) of these parts:
 - (a) Bushing (110, 115)
 - (b) Spring (120)
 - (c) Tube (125, 130) except threads

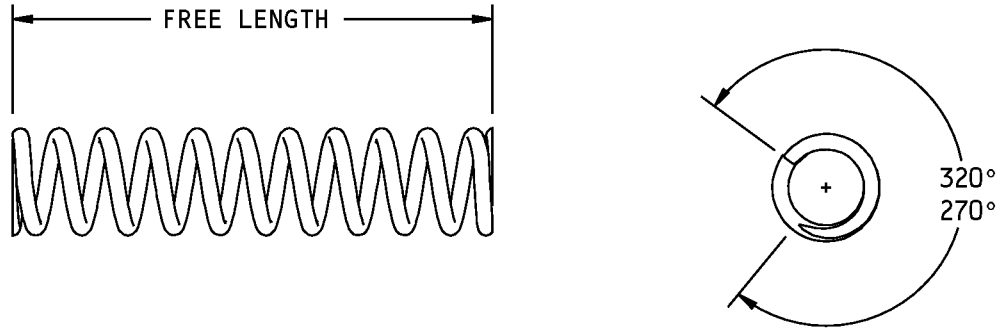
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CHECK

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SPRING DATA	
TOTAL NUMBER OF COILS	11.9
FREE LENGTH	4.903 INCHES
SPRING RATE	58.82 LB/IN
DIRECTION OF COIL	OPTIONAL
CHECK LOAD 1	106-126 POUNDS
CHECK LOAD 2	121-151 POUNDS

1 AT 2.75-2.95 INCHES

2 AT 2.41-2.61 INCHES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

251A2140-1 Spring - Compression, Pogo, Elevator Control
Figure 501

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CHECK
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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

2. Dimensioning Symbols

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

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REPAIR - GENERAL

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

EXAMPLES

$\boxed{\text{—}} \boxed{0.002}$	STRAIGHT WITHIN 0.002	$\boxed{\text{◎}} \boxed{\text{∅}} \boxed{0.0005} \boxed{C}$	CONCENTRIC TO DATUM C WITHIN 0.0005 DIAMETER
$\boxed{\text{⊥}} \boxed{0.002} \boxed{B}$	PERPENDICULAR TO DATUM B WITHIN 0.002	$\boxed{\text{≡}} \boxed{0.010} \boxed{A}$	SYMMETRICAL WITH DATUM A WITHIN 0.010
$\boxed{\text{//}} \boxed{0.002} \boxed{A}$	PARALLEL TO DATUM A WITHIN 0.002	$\boxed{\text{∠}} \boxed{0.005} \boxed{A}$	ANGULAR TOLERANCE 0.005 WITH DATUM A
$\boxed{\text{○}} \boxed{0.002}$	ROUND WITHIN 0.002	$\boxed{\text{⊕}} \boxed{\text{∅}} \boxed{0.002} \boxed{\text{Ⓢ}} \boxed{B}$	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
$\boxed{\text{⊘}} \boxed{0.010}$	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER	$\boxed{\text{⊥}} \boxed{\text{∅}} \boxed{0.010} \boxed{\text{Ⓜ}} \boxed{A}$	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
$\boxed{\text{⌒}} \boxed{0.006} \boxed{A}$	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM A	$\boxed{0.510} \boxed{\text{Ⓟ}}$	
$\boxed{\text{⌒}} \boxed{0.020} \boxed{A}$	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE	$\boxed{2.000}$	THEORETICALLY EXACT DIMENSION IS 2.000
		OR	
		2.000	
		BSC	

True Position Dimensioning Symbols
Figure 601

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REPAIR - GENERAL

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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
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00802	Coating - Nylon	BAC5710, Type 49
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 20-60-02	FINISHING MATERIALS

C. Procedure

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

- (1) 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. 1	MATERIAL	FINISH
Clevis (45,75)	15-5 PH, 150-170 Ksi	Cadmium plate (F-15.06). Apply primer, C00259 (F-20.02), except no primer on threads.
Clip (40,65,70)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.31) and primer, C00259 (F-20.02).
Nut (10)	15-5PH, 150-170 Ksi	Cadmium plate (F-15.06) and apply lubricant, D00113 (F-19.10).
Bolt (85)	15-5PH, 150-170 Ksi	Cadmium plate (F-15.06) and apply primer, C00259 (F-20.02), except no primer on threads.
Spring (120)	Titanium alloy wire	Apply nylon coating, C00802 (F-21.14).

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REPAIR 1-1

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Table 601: Refinish Details (Continued)

IPL Fig. 1	MATERIAL	FINISH
Sleeve (15)	15-5PH, 150-170 Ksi	Cadmium plate (F-15.06) and apply lubricant, D00113 (F-19.10).
Tube (130,130A)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35) and apply primer, C00259 to the inside and outside surfaces (F-20.48). No primer on threads.
Tube (125)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35) and apply primer, C00259 to the inside and outside surfaces (F-20.48). No primer on threads. Add additional finish indicated by flagnotes 1 and 2, REPAIR 1-1, Figure 601.
Bushing (110,115)	Aluminum alloy	Boric acid-sulfuric acid anodize or chromic acid anodize (F-17.35) and apply additional finish primer, C00259 to the inside and outside surfaces (F-20.48). No primer on threads. Add additional finish indicated by flagnotes 1, REPAIR 1-1, Figure 602.

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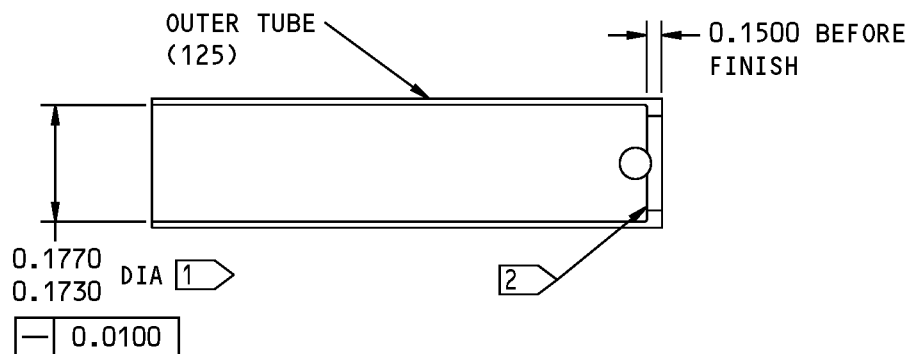
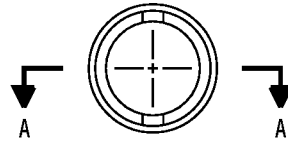
REPAIR 1-1

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COMPONENT MAINTENANCE MANUAL



A-A

251A2135-2 SHOWN
251A2135-4 SIMILAR

1 DIMENSION SHOWN IS PRIOR TO FINISH. APPLY ADDITIONAL BMS 10-86, TYPE 1 OR TYPE 2 TEFLON COATING (SRF-14.9625) TO INDICATED SURFACE ADDITIONAL FINISH THICKNESS SHOULD BE 0.0005 TO 0.0015

2 ADDITIONAL FINISH (SRF-14.9625) IS PERMITTED ON THIS SURFACE. FINISH THICKNESS SHOULD BE 0.0005 TO 0.0015

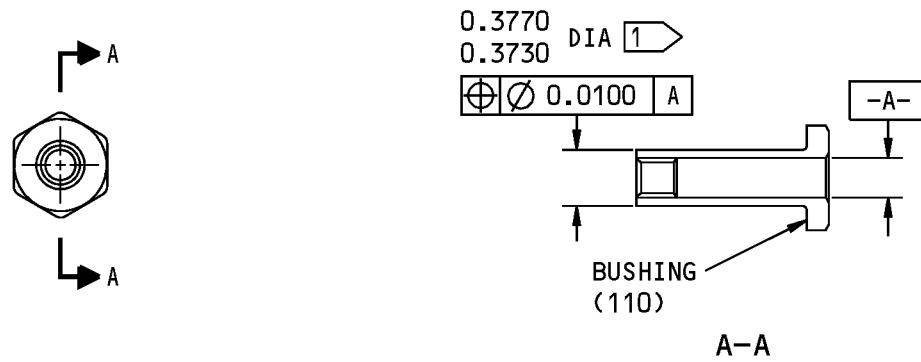
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

251A2135-2,-4 Elevator Control Vernier Pogo Tube - Refinish
Figure 601

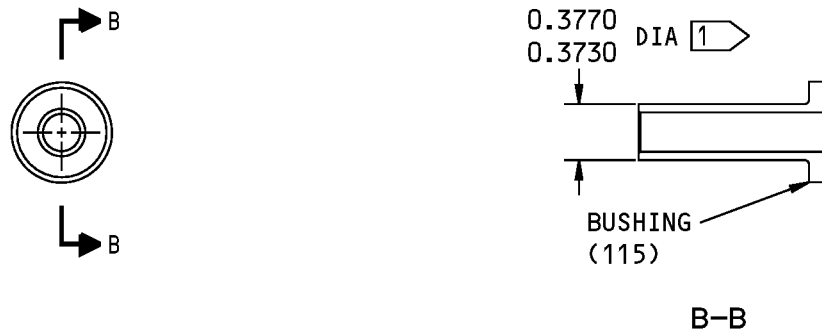
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REPAIR 1-1
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COMPONENT MAINTENANCE MANUAL



251A2133-1



251A2133-2

1 APPLY ADDITIONAL BMS 10-86, TYPE 1 OR TYPE 2 TEFLON COATING (SRF-14.9625) TO THIS SURFACE. DIMENSION SHOWN IS AFTER FINISH APPLICATION. ADDITIONAL FINISH THICKNESS TO BE 0.0005 TO 0.0015 OVERSPRAY ON FILLET AND FLANGE PERMITTED

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

Elevator Control Pogo Bushing - Refinish
Figure 602

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REPAIR 1-1
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COMPONENT MAINTENANCE MANUAL

ASSEMBLY

1. General

- A. This procedure has the data necessary to assemble the elevator control pogo rod assembly.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142
C00064	Coating - Aluminum Chemical Conversion	BAC5719, Type II, Class A (MIL-C-5541, Class A)
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS 3-27
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995~C32

B. References

Reference	Title
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-43-03	CHEMICAL CONVERSION COATINGS FOR ALUMINUM
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-60-02	FINISHING MATERIALS

C. Procedure

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

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

CAUTION: MAKE SURE THAT NO FOREIGN MATERIALS GET INTO THE WORKING PARTS.

- (2) Install the bushings (115), the spacer (95), the bushing (110), the spring (120), the bushings (105), the washer (90), and the nut (100) onto the bolt (85) as shown in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Section A-A.

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ASSEMBLY

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- (3) Apply 114-118 pound-load to the bushing (105) and the spring (120) to get the dimension shown in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Bubble A. Trim the spacer (95) to get the dimension range of 3.08-3.62 inches.
- (4) Tighten the bushing (110) to 40-55 pounds-inch of torque as identified by flagnote 1 in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Bubble A.
- (5) Manually apply coating, C00064 onto trimmed spacer (95) as shown in SOPM 20-43-03.
- (6) Tighten the nut (100) to 50-70 pounds-inch of torque as identified by flagnote 2 in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Bubble A. Install lockwire, G01048 to nut (100) by double-twist procedure as shown in SOPM 20-50-02.
- (7) Slide the bolt (85) with the bushings (105, 110, 115), the spacer (95), the spring (120), the washer (90), and the nut (100) into the outer tube (125, 125A) as shown in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Bubble A.
- (8) If required, manually apply coating, C00064 (F-17.10) and primer, C00259 (F-20.02) in the rivet holes of the inner tube (130, 130B) and the outer tube (125, 125A).
- (9) Slide the inner tube (130, 130B) into the outer tube (125, 125A) and apply 40-60 pound-load. Install the inner tube (130, 130B) into the outer tube (125, 125A) with rivets (80) as shown in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Section B-B.
- (10) Install the clevis assembly (55, 55A) onto the bolt (85). Tighten the clevis assembly (55, 55A) to 90-120 pounds-inch as identified by flagnote 3 in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Section A-A.
- (11) Install the rivet (50) onto the clevis assembly (55, 55A) and the bolt (85) as shown in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702.
- (12) Fill the cavities on the clevis assembly (55, 55A) and the bolt (85) with sealant, A02315 as identified by flagnote 4 in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Section A-A.
- (13) Apply compound, C00913 onto the sleeve (15) threads as identified by flagnote 6 in ASSEMBLY, Figure 701 and ASSEMBLY, Figure 702, Section A-A.
- (14) For pogo assembly 251A2131-1, install the nut (10), the sleeve (15), the nut (5), and the clevis assembly (20) into the inner tube (130) as shown in ASSEMBLY, Figure 701, Section A-A.
- (15) For pogo rod assembly 251A2131-1, tighten the nuts (5, 10) as identified by flagnote 5 in ASSEMBLY, Figure 701, Section A-A.
- (16) For pogo rod assembly 251A2131-2, install the clevis assembly (20A) and the nut (5) into the inner tube (130B) as shown in ASSEMBLY, Figure 702, Section A-A.
- (17) For pogo rod assembly 251A2131-2, tighten the nut (5) as identified by flagnote 4 in ASSEMBLY, Figure 702, Section A-A.
- (18) Install lockwire, G01048 onto the nuts (5, 10) as shown in SOPM 20-50-02.

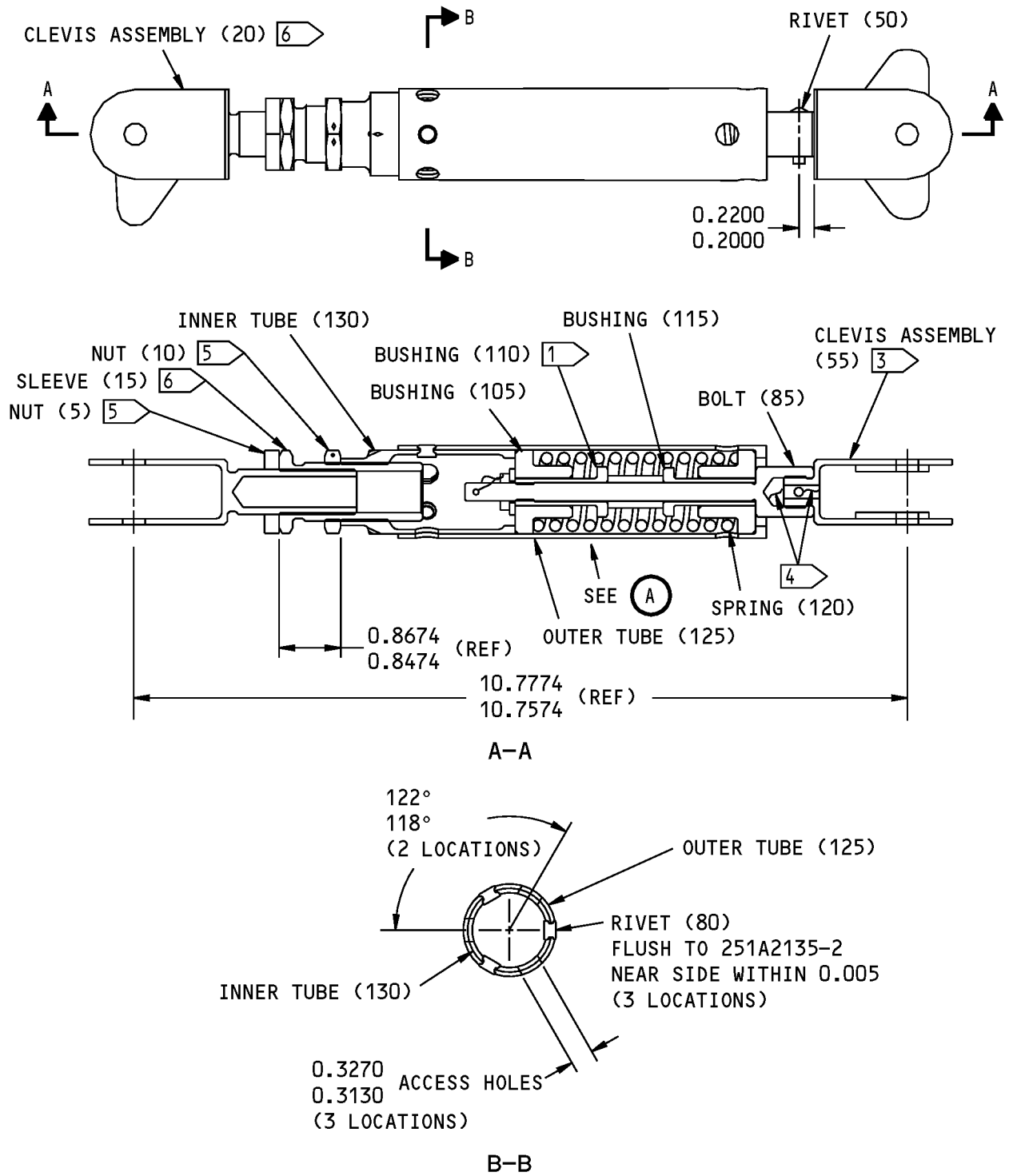
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ASSEMBLY

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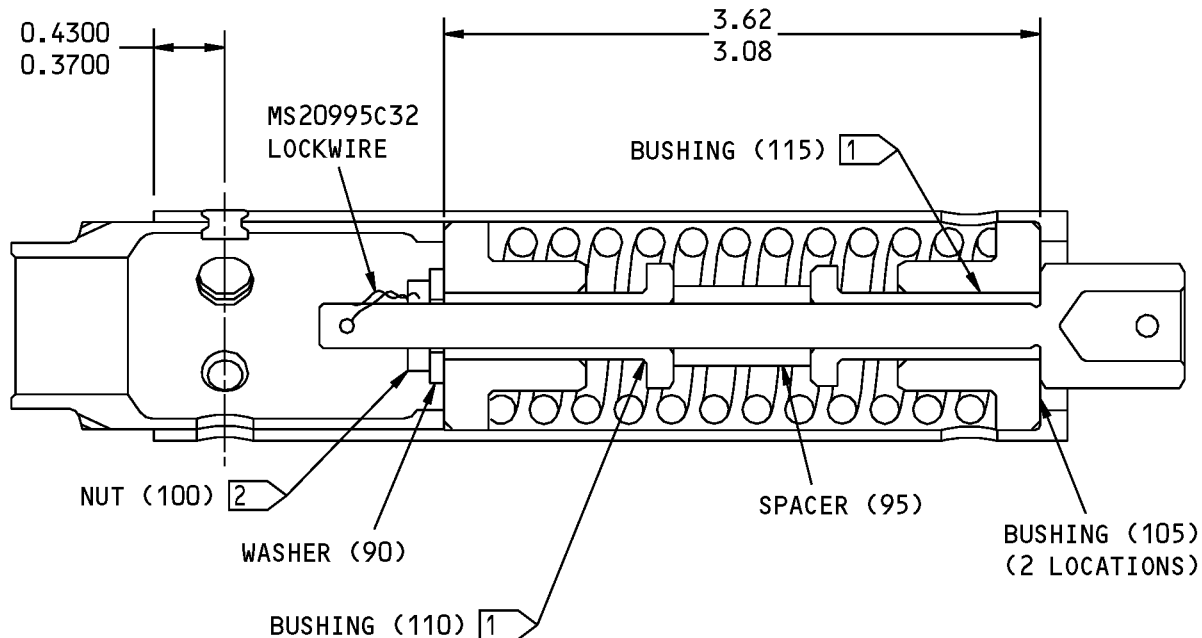


Pogo Rod Assembly
Figure 701 (Sheet 1 of 2)

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ASSEMBLY
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251A2131-1 SHOWN

(A)

NOTE: SOME PARTS ARE REMOVED FOR CLARITY

- 1 TIGHTEN TO 40-55 INCH-POUNDS TORQUE
- 2 TIGHTEN TO 50-70 INCH-POUNDS TORQUE
- 3 TIGHTEN TO 90-12 INCH-POUNDS TORQUE
- 4 FILL CAVITIES WITH BMS 5-142 SEALANT
- 5 HAND TIGHTEN ONLY. FINAL TORQUE WILL BE AT RIGGING AND INSTALLATION
- 6 APPLY BMS 3-27 COMPOUND ON THREADS

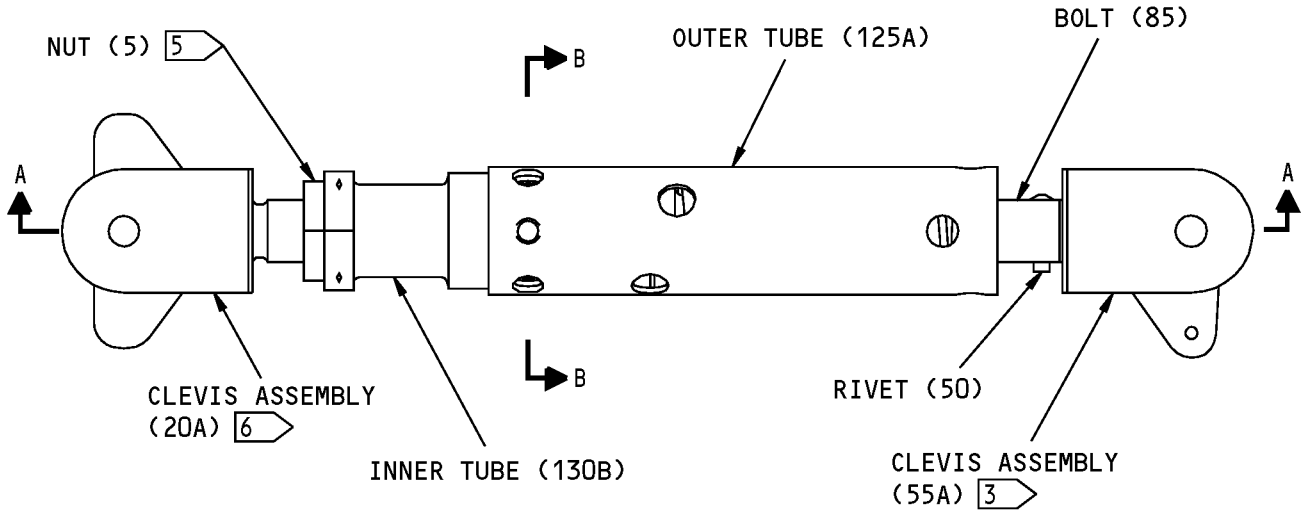
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

Pogo Rod Assembly
Figure 701 (Sheet 2 of 2)

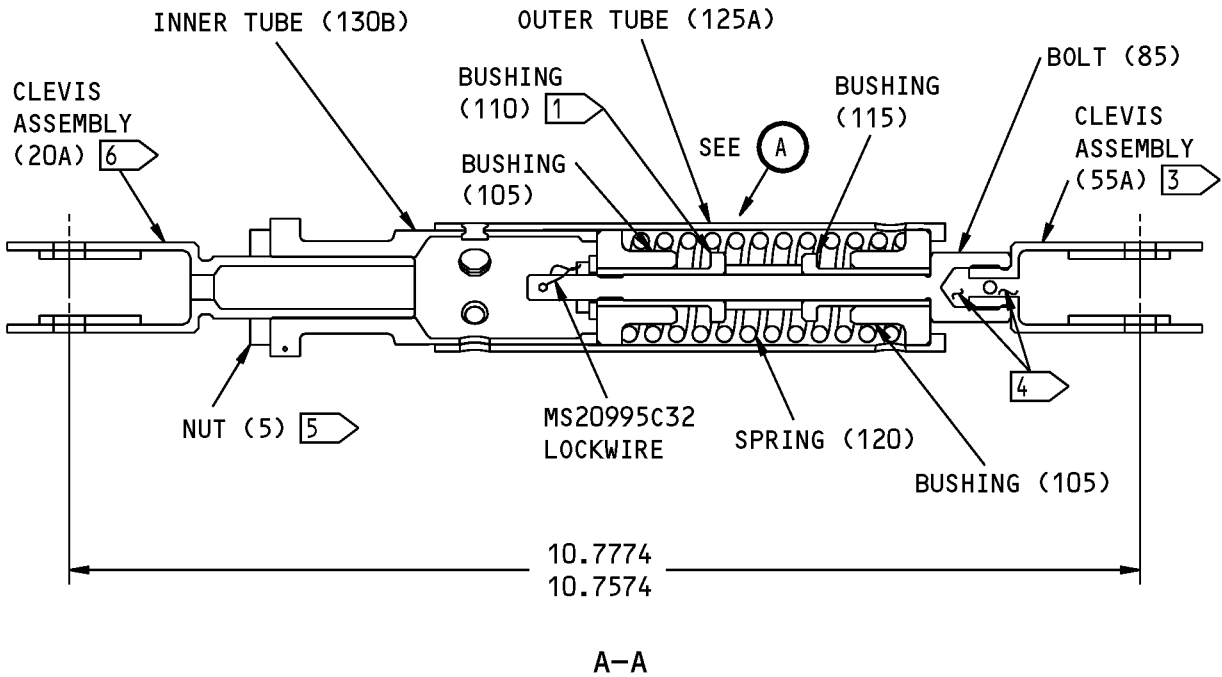
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251A2131-2 SHOWN

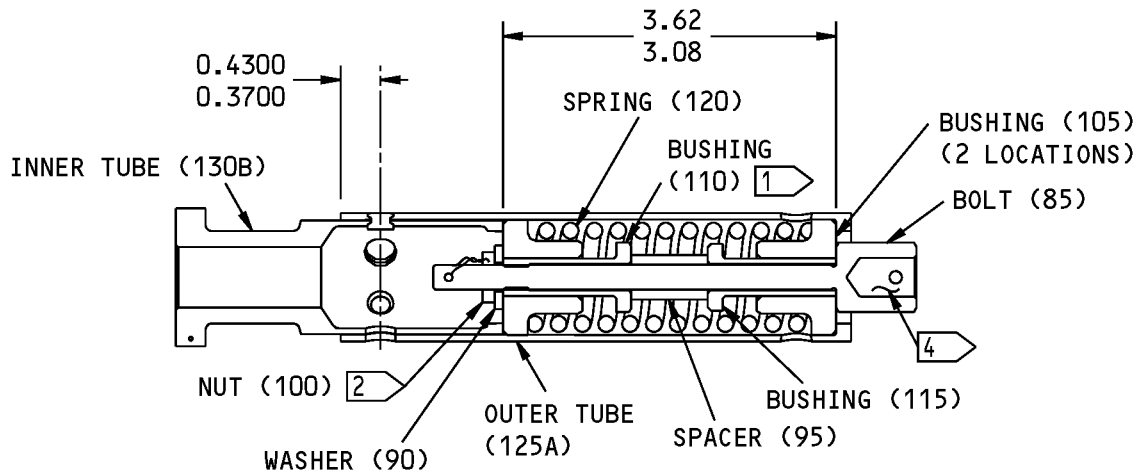


Pogo Rod Assembly
Figure 702 (Sheet 1 of 2)

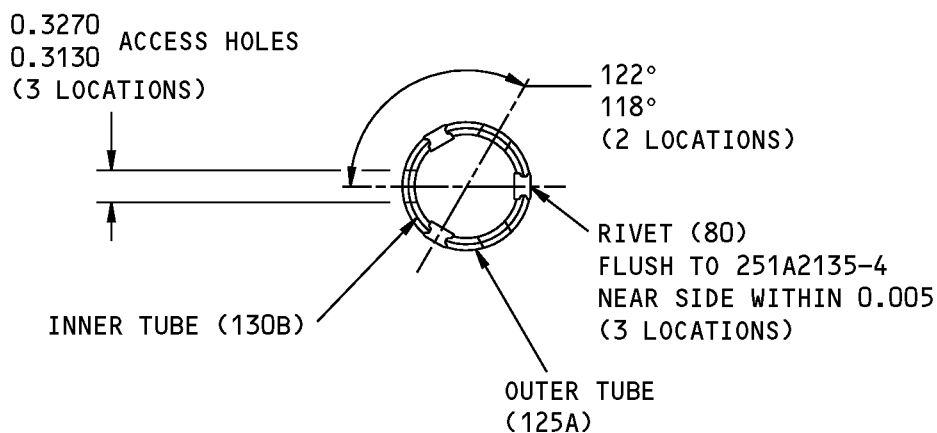
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A



B-B

- 1 TIGHTEN TO 40-50 INCHES-POUNDS TORQUE
- 2 TIGHTEN TO 50-70 INCHES-POUNDS TORQUE
- 3 TIGHTEN TO 90-120 INCHES-POUNDS TORQUE
- 4 FILL CAVITIES WITH BMS 5-142 SEALANT

- 5 HAND TIGHT ONLY. FINAL TORQUE WILL BE AT RIGGING AND INSTALLATION
- 6 APPLY BMS 3-27 COMPOUND ON THREADS

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

Pogo Rod Assembly
Figure 702 (Sheet 2 of 2)

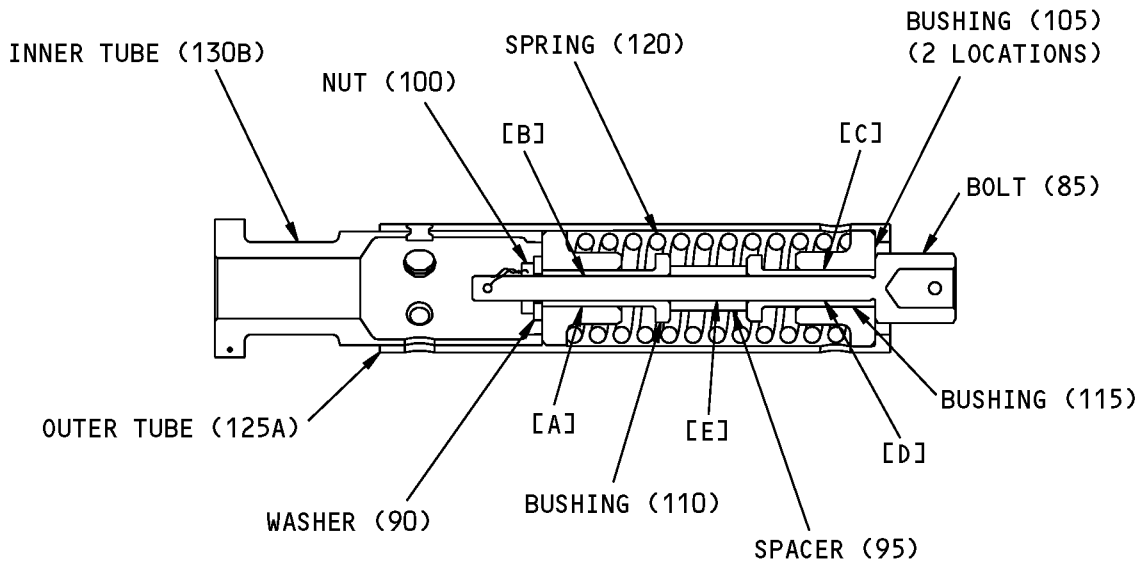
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ASSEMBLY
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FITS AND CLEARANCES



ITEM NUMBERS REFER TO IPL FIG. 1

Fits and Clearances
Figure 801 (Sheet 1 of 2)

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FITS AND CLEARANCES

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REF LETTER	REF IPL		DESIGN DIMENSION*				SERVICE WEAR LIMIT*		
	FIG. 1, MATING ITEM NO.		DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
			MIN	MAX	MIN	MAX	MIN	MAX	
[A]	ID	105	0.3810	0.3830	0.0100	0.0040			
	OD	110	0.3730	0.3770					
[B]	ID	110	0.2630	0.2670	0.0235	0.0130			
	OD	85	0.2435	0.2500					
[C]	ID	105	0.3810	0.3830	0.0100	0.0040			
	OD	115	0.3730	0.3770					
[D]	ID	115	0.2560	0.2630	0.0195	0.0060			
	OD	85	0.2435	0.2500					
[E]	ID	95	0.2560	0.2630	0.0195	0.0060			
	OD	85	0.2435	0.2500					

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
Figure 801 (Sheet 2 of 2)

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FITS AND CLEARANCES
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REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	55,55A	Clevis Assembly	90-120	
1	100	Nut	50-70	
1	110	Bushing	40-55	

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

Torque Table
Figure 802

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FITS AND CLEARANCES
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SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

(NOT APPLICABLE)

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SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

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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

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ILLUSTRATED PARTS LIST

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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.

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ILLUSTRATED PARTS LIST

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NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
251A2131-1		1	1A	RF
251A2131-2		1	1B	RF
251A2132-1		1	20	1
251A2132-2		1	55	1
251A2132-3		1	20A	1
251A2132-4		1	55A	1
251A2133-1		1	110	1
251A2133-2		1	115	1
251A2134-1		1	45	1
251A2134-2		1	75	1
251A2135-1		1	130A	1
251A2135-2		1	125	1
251A2135-3		1	130	1
251A2135-4		1	125A	1
251A2135-5		1	130B	1
251A2136-1		1	10	1
251A2137-1		1	85	1
251A2138-1		1	40	2
251A2138-2		1	65	1
251A2138-3		1	70	1
251A2139-1		1	105A	2
251A2139-2		1	105	2
251A2140-1		1	120	1
251A2141-1		1	15	1
BACR15BB3AD12C		1	30	1
BACR15FV6KE3		1	80	3
MS15795-810		1	90	1
MS20427M3C5		1	25	4
		1	60	4
MS206154MP14		1	50	1
NAS1423-10		1	5	1
NAS1423-4		1	100	1
NAS42DD3-36FC		1	35	1
NAS42DD8-68FC		1	95	1

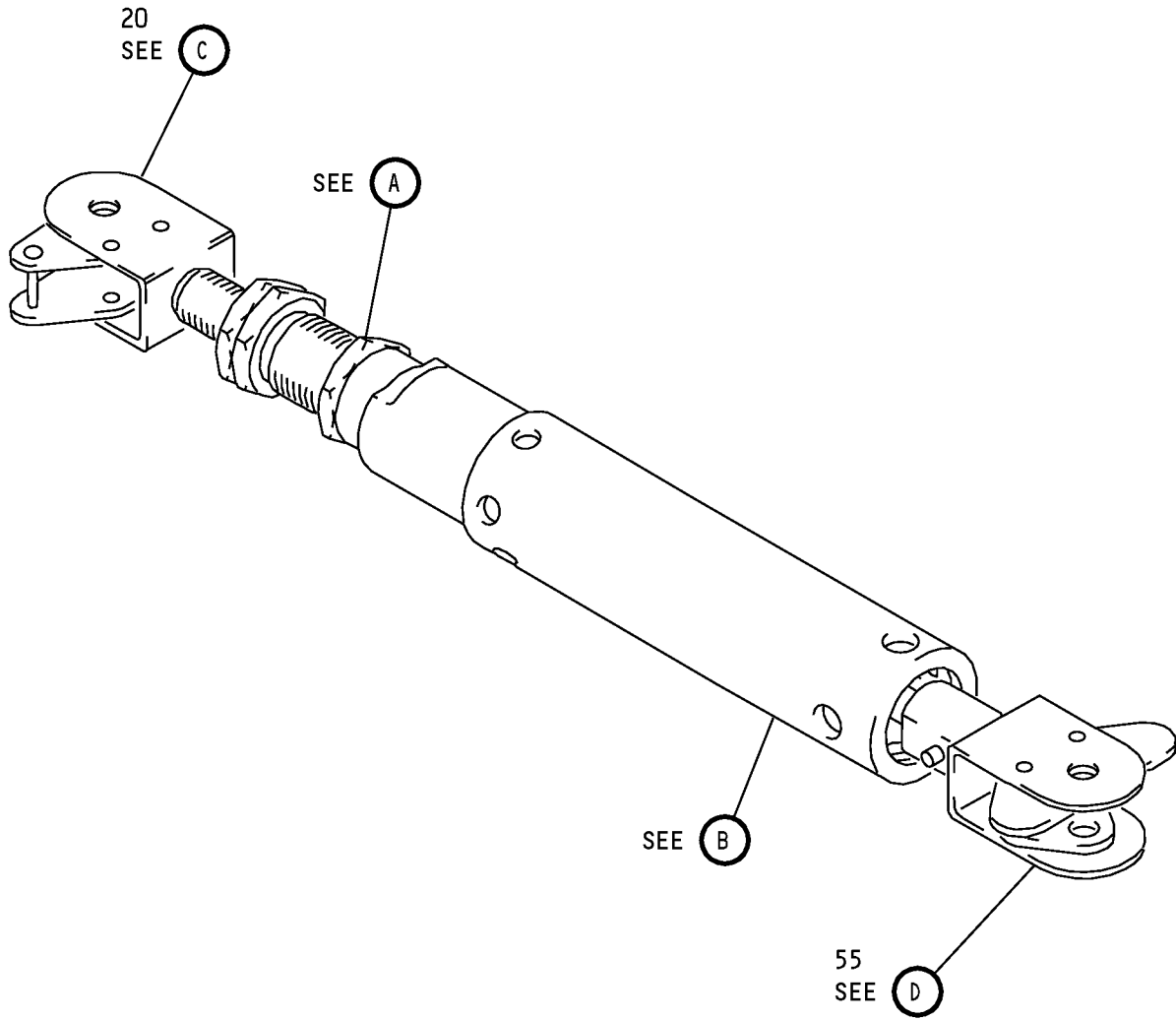
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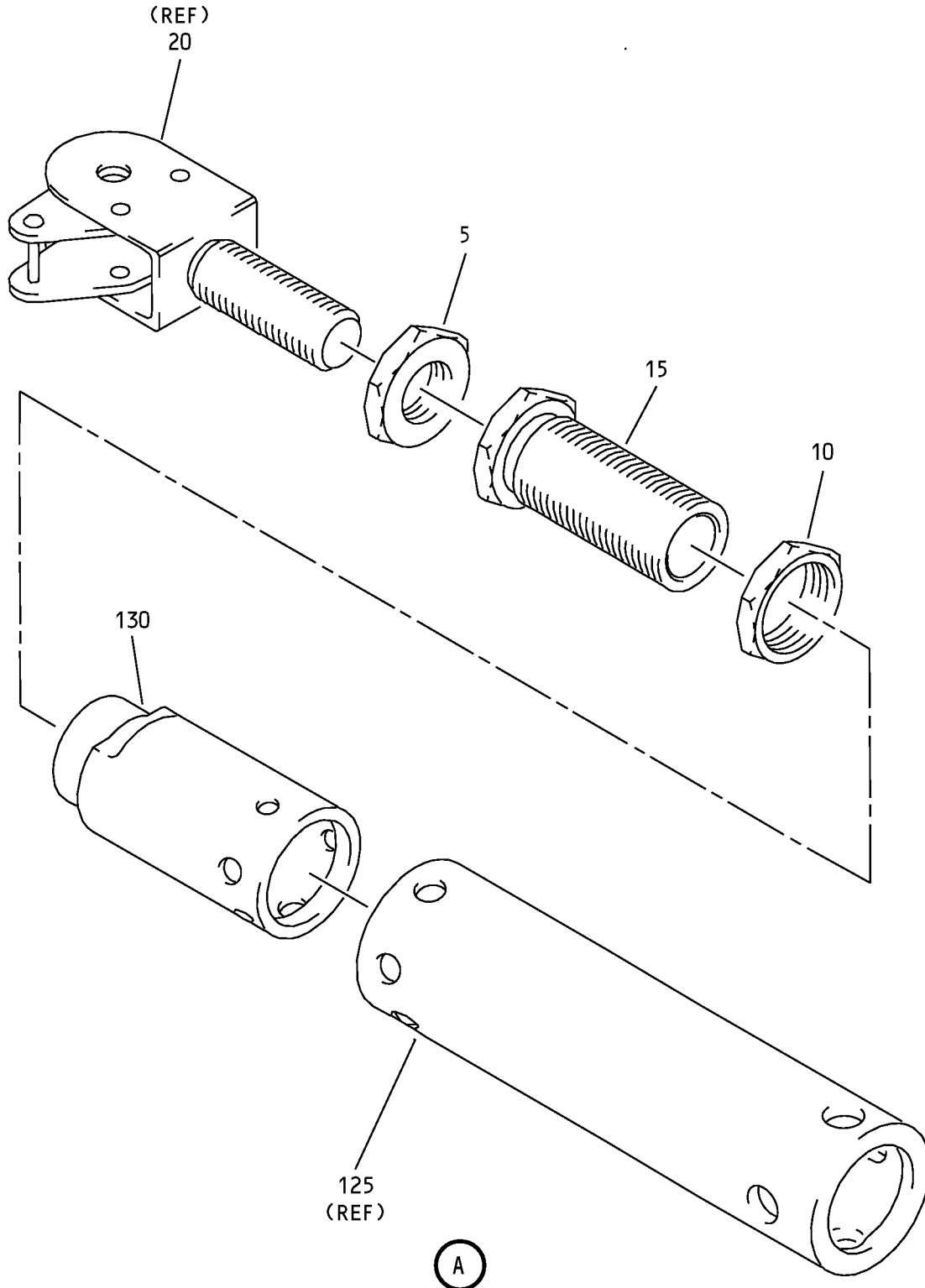
COMPONENT MAINTENANCE MANUAL



Elevator Control Vernier Pogo Rod Assembly
IPL Figure 1 (Sheet 1 of 4)

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Elevator Control Vernier Pogo Rod Assembly
IPL Figure 1 (Sheet 2 of 4)

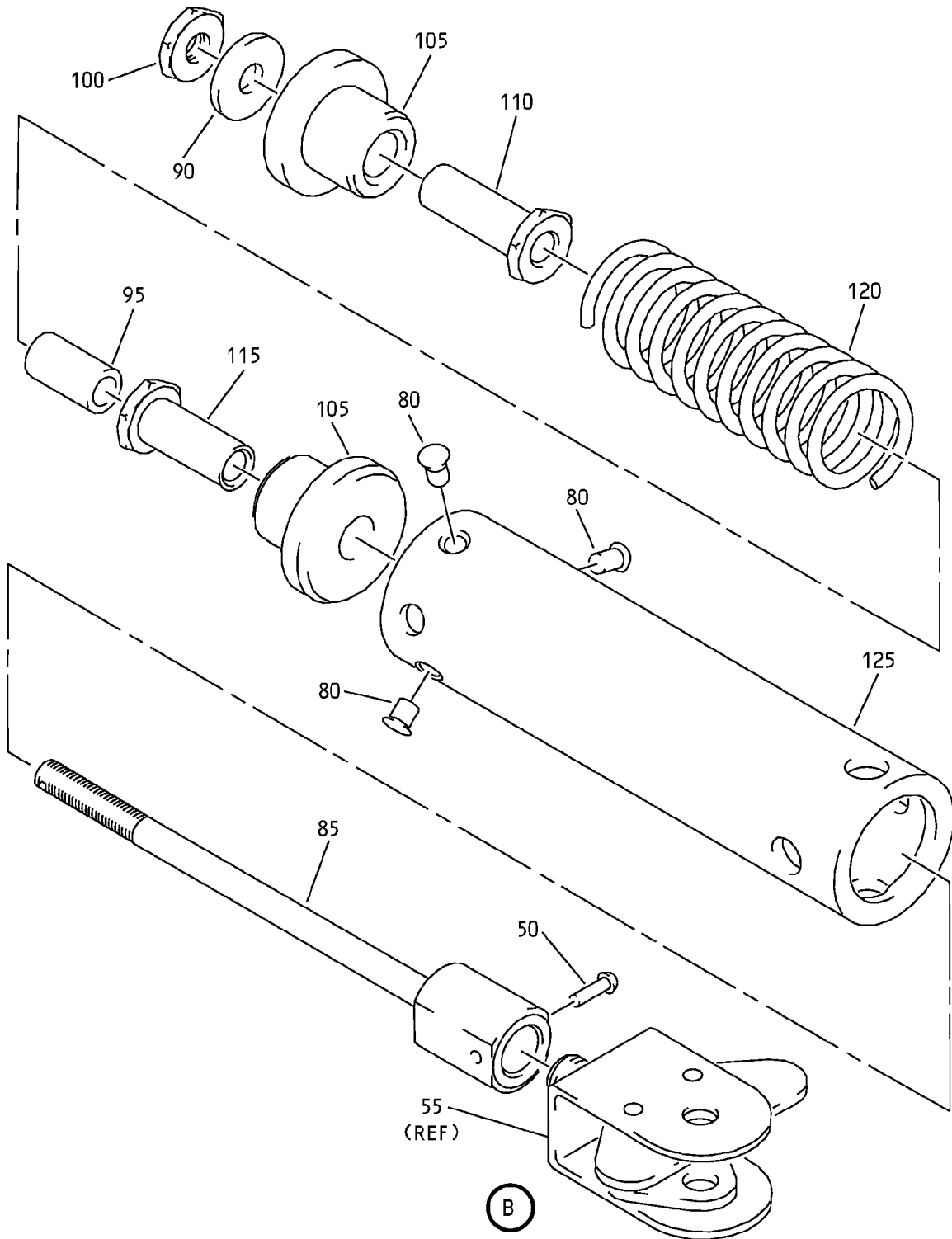
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Elevator Control Vernier Pogo Rod Assembly
IPL Figure 1 (Sheet 3 of 4)

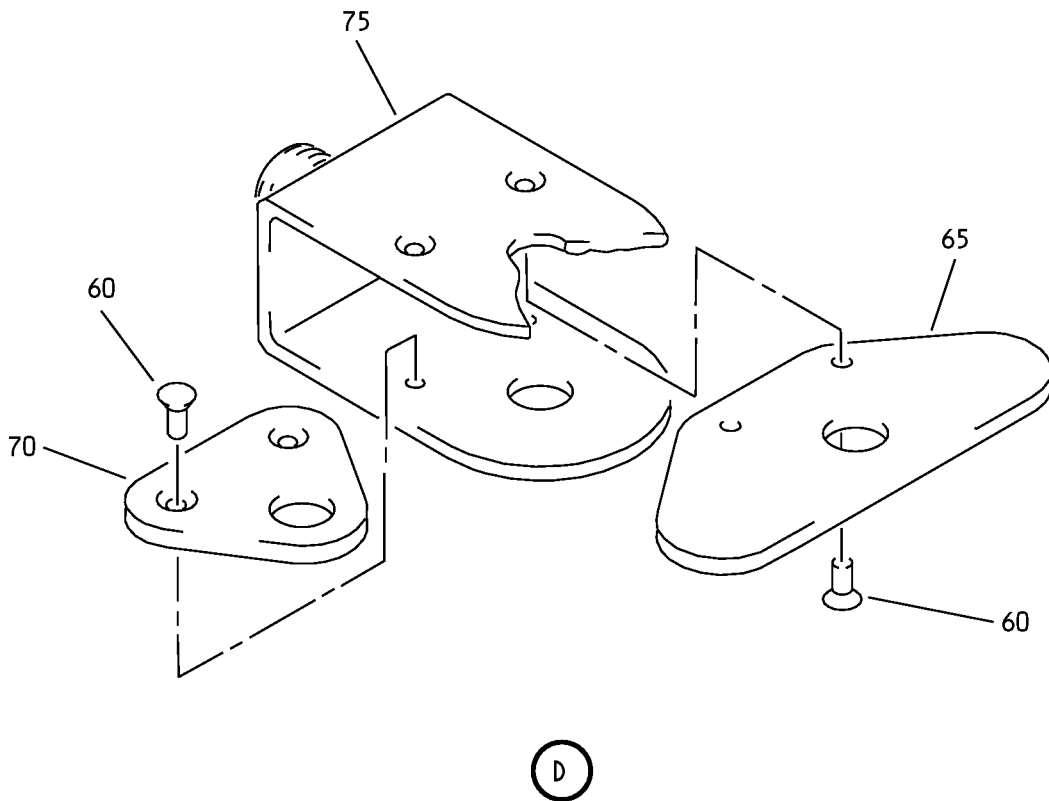
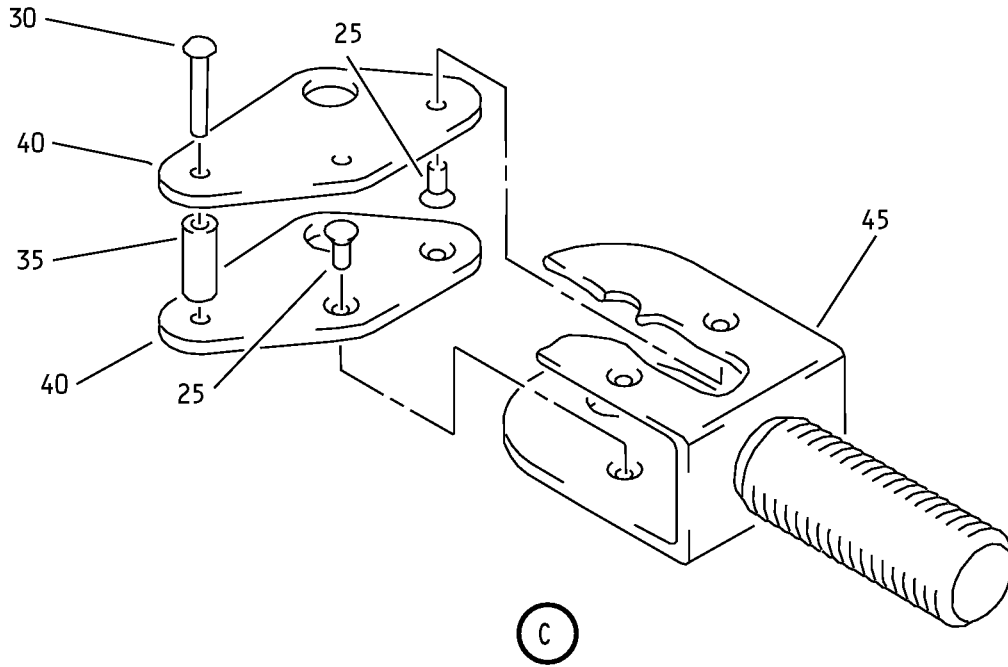
27-31-07

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Elevator Control Vernier Pogo Rod Assembly
IPL Figure 1 (Sheet 4 of 4)



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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-1A	251A2131-1									A	RF
-1B	251A2131-2									B	RF
5	NAS1423-10										1
10	251A2136-1									A	1
15	251A2141-1									A	1
20	251A2132-1									A	1
-20A	251A2132-3									B	1
25	MS20427M3C5										4
30	BACR15BB3AD12C										1
35	NAS42DD3-36FC										1
40	251A2138-1										2
45	251A2134-1										1
50	MS206154MP14										1
55	251A2132-2									A	1
-55A	251A2132-4									B	1
60	MS20427M3C5										4
65	251A2138-2										1
70	251A2138-3										1
75	251A2134-2										1
80	BACR15FV6KE3										3
85	251A2137-1										1
90	MS15795-810										1
95	NAS42DD8-68FC										1
100	NAS1423-4										1
105	251A2139-2										2
-105A	251A2139-1										2
110	251A2133-1										1
115	251A2133-2										1
120	251A2140-1										1

-Item not Illustrated

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FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
125	251A2135-2		.							A	1
-125A	251A2135-4		.							B	1
130	251A2135-3		.							A	1
-130A	251A2135-1		.							A	1
-130B	251A2135-5		.							B	1

-Item not Illustrated