

# COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

# MAIN LANDING GEAR INSTALLATION COMPONENTS

#### PART NUMBER

161A0101-1, 161A1191-1, -2, -3, 161A1192-1, -3, -5, -7, 161A2125-2, -4, 161A2318-1, -2, 161A2330-1, -2, -3, -4, -5, -6, 161A2331-1, -2, 161A2332-1, -2, -3,

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32-11-09



### **PART NUMBER (Cont.)**

161A2333 161A2333-1



Revision No. 13 Jul 01/2009

To: All holders of MAIN LANDING GEAR INSTALLATION COMPONENTS 32-11-09.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

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

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

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

#### **ATTENTION**

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161A0101, 161A1191, 161A1192, 161A2125, 161A2318, 161A2330, 161A2331, 161A2332, 161A2333



#### **COMPONENT MAINTENANCE MANUAL**

#### **Location of Change**

32-11-09 REPAIR 3-1 ILLUSTRATED PARTS LIST

#### **Description of Change**

Added clarification to the end chamfer on pins 161A1192-series. Changed the data in the NUMERICAL INDEX list.

Added explanation of the direction of pin 162A1192-series.



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

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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
		PRR 3800A-3	JUL 01/08

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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.

Rev	Revision		led	Rev	vision	Filed		
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#### **COMPONENT MAINTENANCE MANUAL**

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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.

When the temporary revision is incorporated or cancelled, and the pages are removed, enter the date the pages are removed and the initials of the person who removed the temporary revision.

Temporary	Revision	Ins	erted	Rei	noved	Tempora	ary Revision	Inser	ted	Ren	noved
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RECORD OF TEMPORARY REVISION



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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 alphavariant. 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.



#### **TESTING AND FAULT ISOLATION**

## (NOT APPLICABLE)

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#### **DISASSEMBLY**

## (NOT APPLICABLE)

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DISASSEMBLY
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#### **CLEANING**

## (NOT APPLICABLE)

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#### **CHECK**

#### 1. General

- A. This identifies inspections to find defects in the specified parts.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.

#### 2. Check

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

#### B. Procedure

- (1) Examine all parts by standard industry practices.
- (2) Magnetic particle examine (SOPM 20-20-01) pins 161A1191-series, 161A1192-series, 161A2330-series, 161A2331-series, 161A2332-series, 161A2318-series, washer 161A2127-1, nuts 161A2125-series.



#### **REPAIR**

#### 1. General

A. This Component Maintenance Manual has repairs for the components of the main landing gear installation.

#### **Table 601:**

PART NUMBER	NAME	REPAIR
_	REFINISH OF OTHER PARTS	1-1
161A1191-1,-2,-3	AFT TRUNNION CROSSBOLT PIN	2-1
161A1192-1,-3,-5,-7	AFT TRUNNION PIN ASSEMBLY	3-1
161A2125-2,-4	SIDE STRUT NUT	4-1
161A2330-1 THRU -6	BODY JOINT PIN	5-1
161A2331-1,-2	SIDE STRUT PIN	6-1
161A2332-1,-2,-3	REACTION LINK PIN	7-1
161A2318-1,-2	DOWNLOCK ACTUATOR PIN	8-1

#### 2. Dimensioning Symbols

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



— STRAIGHTNESS	Ø	DIAMETER
☐ FLATNESS	s Ø	SPHERICAL DIAMETER
	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 PERMIS-
○ CONCENTRICITY	DIM	SIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR
		NOTES.
∠ ANGULARITY	-A-	DATUM
✓ RUNOUT	(M)	MAXIMUM MATERIAL CONDITION (MMC)
17 TOTAL RUNOUT	Ū	LEAST MATERIAL CONDITION (LMC)
	<u>(3)</u>	REGARDLESS OF FEATURE SIZE (RFS)
√ COUNTERSINK	P	PROJECTED TOLERANCE ZONE
THEORETICAL EXACT POSITION	FIM	FULL INDICATOR MOVEMENT
OF A FEATURE (TRUE POSITION)		THE THE TAX TO THE TENT

#### **EXAMPLES**

<u>=-</u> -	(///// EEO
- 0.002 STRAIGHT WITHIN 0.002	◎ Ø 0.0005 C CONCENTRIC TO DATUM C
	= 0.010 A SYMMETRICAL WITH DATUM A
// 0.002 A PARALLEL TO DATUM A WITHIN 0.002	WITHIN 0.010  O.005 A ANGULAR TOLERANCE 0.005
O.002 ROUND WITHIN 0.002	WITH DATUM A
0.010 CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER	⊕ Ø 0.002 ③ B LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
O.006 A EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES O.006 INCH APART RELATIVE TO DATUM 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
O.020 A SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE	2.000 THEORETICALLY EXACT OR DIMENSION IS 2.000 2.000 BSC

True Position Dimensioning Symbols Figure 601

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REPAIR - GENERAL Page 602 Mar 01/2006



#### **REFINISH OF OTHER PARTS - REPAIR 1-1**

#### 1. General

- A. Use this procedure to refinish the parts which are not in the other repairs.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

#### 2. Refinish

#### A. References

Reference	Title	
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES	
SOPM 20-30-03	GENERAL CLEANING PROCEDURES	
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 in REPAIR 1-1, Table 601 are for replacement of the original finish.

#### C. Procedure

**NOTE**: For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For finishing materials, refer to SOPM 20-60-02.

(1) Refer to REPAIR 1-1, Table 601 for refinish of the other parts.

Table 601: Refinish Details

PART NAME AND NUMBER	MATERIAL	FINISH
Rings 161A0101-2, -3	17-7PH CRES 180-200 ksi	F-17.25
Washer 161A0102-2	15-5PH CRES 180-200 ksi	F-16.06
Ring 161A1194-1, -2	17-7PH CRES 180-200 ksi	F-17.25
Washer 161A2126-1, -2	15-5PH CRES 180-200 ksi	F-16.06 + F-20.02
Washer 161A2127-1	15-5PH CRES 180-200 ksi	F-17.25
Spacer 161A2303-1	Al-Ni-Bronze	F-15.380 on OD; F-25.01 on other surfaces
Cap 161A2333-1	15-5PH CRES 180-200 ksi	F-17.25
Washer 273A2208-1, -2,-3	Delrin Plastic	F-25.01



#### PIN - REPAIR 2-1 161A1191-1, -2, -3

#### 1. General

- A. This procedure tells how to repair and refinish pin (5A series).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material: 4340M steel, 275-300 ksi
  - (2) Shot peen: As shown in REPAIR 2-1, Figure 601

#### 2. Repair and Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

#### B. 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

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

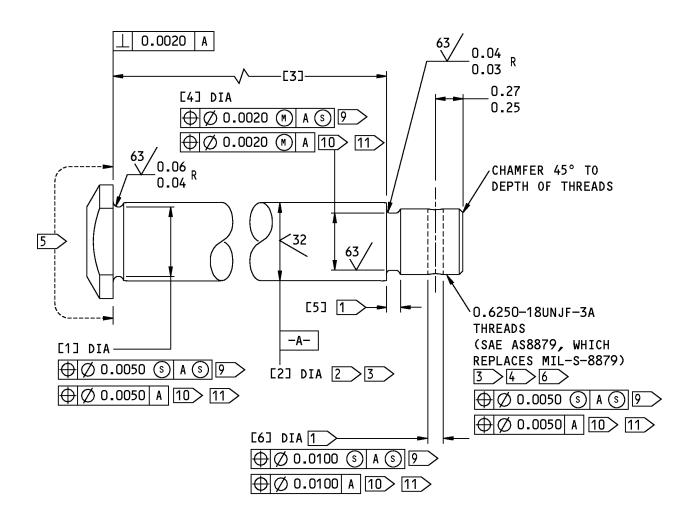
NOTE: For repair and refinish of high strength steel parts, refer to SOPM 20-10-01. For machining of alloy steel, refer to SOPM 20-10-02. For shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For finishing materials, refer to SOPM 20-60-02. For repair of high strength steel landing gear parts, refer to 32-00-05.

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- (1) Repair
  - (a) Machine as necessary, within repair limits, to remove defects.
  - (b) Build up with chrome plate. Grind to design dimensions and finish.
- (2) Refinish
  - (a) Chrome plate as indicated.
  - (b) Cadmium-titanium plate other surfaces as shown.
  - (c) Apply primer, C00175 and enamel coating, C00033 as shown.



REFERENCE NUMBER	[1]	[2]	[3] 9	[3] [10] [11]	[4]	[5]	[6]
DESIGN DIMENSION	0.6645 0.6545	0.7490 0.7480 7		5.2150 5.2050			
REPAIR LIMIT		0.71808					

391312 S0004996732\_V4

161A1191-1, -2, -3 Pin Repair and Refinish Figure 601 (Sheet 1 of 2)

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## BOEING

#### **COMPONENT MAINTENANCE MANUAL**

- 1 SHOT PEEN NOT NECESSARY. OVERSPAY IS PERMITTED
- 2 CHROME PLATE (F-15.34), 0.003 MIN THICK AFTER GRINDING
- 3 WIPE PLATING WITH PRIMER (F-19.451)
- 4 > CADMIUM-TITANIUM PLATE (F-15.32)
- 5 CADMIUM-TITANIUM PLATE (F-15.01).
  APPLY BMS 10-79 TYPE 3 PRIMER
  (F-19.47) AND BMS 10-60 TYPE 2
  ENAMEL (F-19.39-707)
- 6 > NO SHOT PEEN
- 7 DIMENSION AFTER PLATING
- 8 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 9 > 161A1191-1
- 10>161A1191-2
- 11> 161A1191-3

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.04 SHOT PEEN (SOPM 20-10-03) Rc 55-65 SHOT HEAT TREAT 0.016-033 SHOT SIZE 0.014-0.018 A2 INTENSITY

MATERIAL: 4340M STEEL, 275-300 KSI
DIMENSIONS ARE BEFORE PLATING UNLESS
SHOWN BY 7

ALL DIMENSIONS ARE IN INCHES

391319 S0004996733 V3

161A1191-1, -2, -3 Pin Repair and Refinish Figure 601 (Sheet 2 of 2)

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Jul 01/2008



#### **PIN ASSEMBLY - REPAIR 3-1**

161A1192-1, -3, -5, -7

#### 1. General

ı

- A. Use this procedure to repair pin assembly (10B, IPL Figure 1) (1A, IPL Figure 2).
  - B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
  - C. Refer to IPL Figure 1 and IPL Figure 2 for item numbers.
  - D. General repair details:
    - (1) Material: 4340M steel, 275-300 ksi
    - (2) Shot peen: All surfaces, unless shown in REPAIR 3-1, Figure 601

Shot Size 0.016-0.033

Intensity 0.014-0.018A2

Hard Shot Rc 55-65

Coverage 2.0

#### 2. Bushing Replacement

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

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

C. Procedure (REPAIR 3-1, Figure 601)

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

**NOTE**: Equivalent material can be used.

- (1) Remove the old bushing from the pin (SOPM 20-50-03).
- (2) If you find defects on the pin surfaces, refer to REPAIR 3-1, Paragraph 3. below for repair instructions.
- (3) Install a replacement bushing by the shrink-fit method (SOPM 20-50-03) with sealant, A00247.
- (4) Make a check of the dimensions and machine them as necessary.

#### 3. Repair and Refinish

A. Consumable Materials

**NOTE**: Equivalent substitutes may be used.

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REPAIR 3-1 Page 601 Jul 01/2009



Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I

#### B. 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-41-05	APPLICATION OF CORROSION INHIBITING COMPOUNDS
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

#### C. Procedure (REPAIR 3-1, Figure 601)

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 shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For application of corrosion inhibiting compounds, refer to SOPM 20-41-05. For hard chrome plating, refer to SOPM 20-42-03. For finishing materials, refer to SOPM 20-60-02. For repair of high strength steel landing gear parts, refer to 32-00-05.

#### (1) Shank OD

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Build up with chrome plate. Grind to design dimensions and finish.

#### (2) Crossbolt Hole

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Refinish as necessary.
- (c) Make an oversize bushing (REPAIR 3-1, Figure 602) to adjust for the material removed.
- (d) Install the bushing (REPAIR 3-1, Paragraph 2. above).
- (3) Refinish

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161A0101, 161A1191, 161A1192, 161A2125, 161A2318, 161A2330, 161A2331, 161A2332, 161A2333

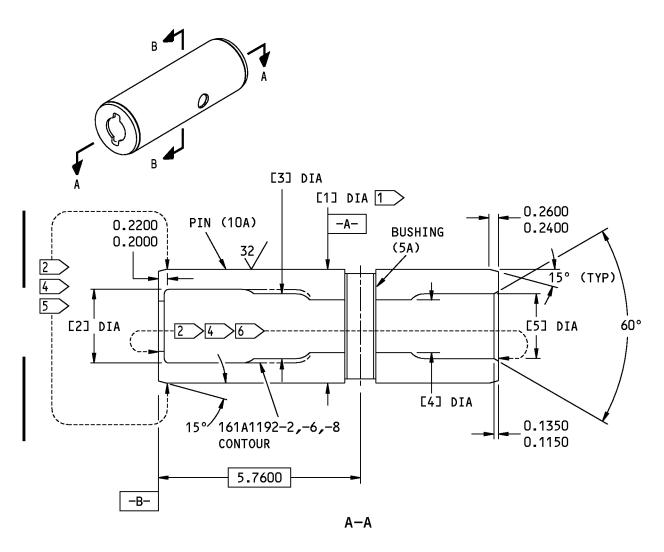


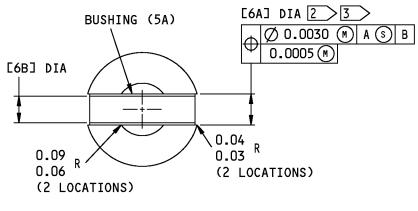
- (a) Chrome plate as indicated.
- (b) Cadmium-titanium plate other surfaces.
- (c) Apply primer, C00175, enamel coating, C00033, and corrosion preventive compound, C50001 as indicated.

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## ( BOEING

#### **COMPONENT MAINTENANCE MANUAL**





161A1192-1,-3,-5,-7 Pin Repair and Refinish Figure 601 (Sheet 1 of 2)

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391384 S0004996735\_V5

REPAIR 3-1 Page 604 Jul 01/2009

B-B



REFERENCE NUMBER	[1] <u>10</u> 11 <u>12</u>	[1] [13]	[2] <u>10</u> 11>	[2] [12>	[2] [13>	[3] [1]>	[4] [10>	[4] [1]
DESIGN DIMENSION	3.2490 3.2480	3.4990 3.4980	2.1100 2.0900	2.1950 2.1750	2.2100 2.1900	1.8600 1.8400	1.8600 1.8400	1.5100 1.4900
REPAIR LIMIT	3.21809	3.4680 9						

REFERENCE NUMBER	[4] [12>	[4] [13>	[5] 10>	[5] [1]	[5] [12>	[5] [13>	[6A]	[6B]
DESIGN DIMENSION	2.0100 1.9900	2.0800 2.0600	2.1100 2.0900	1.8600 1.8400	2.1950 2.1750	2.2100 2.1900	0.8848 0.8840	0.7588 0.7580
REPAIR LIMIT							0.9140 14>	

- 1 > CHROME PLATE (F-15.34), 0.003 MINIMUM THICK. WIPE WITH PRIMER (F-19.451)
- 2 CADMIUM-TITANIUM PLATE (F-15.01), 0.0005-0.0010 THICK
- 3 APPLY BMS 10-79 TYPE 3 PRIMER (F-19.47)
- 4 APPLY BMS 10-79 TYPE 3 PRIMER (F-19.66)
- 5 APPLY BMS 10-60 TYPE 2 ENAMEL (F-19.39-707)
- 6 APPLY MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOND (F-19.03)
- 7 PART AND SERIAL NUMBER LOCATION
- 8 > AFTER PLATING
- 9 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

#### **REPAIR**

125 ALL MACHINED SURFACES UNLESS
SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.03 R UNLESS SHOWN DIFFERENTLY

DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN BY 8

ITEM NUMBERS REFER TO IPL FIG. 2
ALL DIMENSIONS ARE IN INCHES

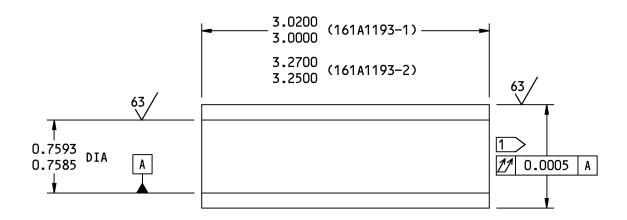
- 10>161A1192-2
- 11> 161A1192-4
- 12> 161A1192-6
- 13 > 161A1192-8
- 14 LIMIT FOR INSTALLATION OF OVERSIZE BUSHING (FIG. 602)

161A1192-1,-3,-5,-7 Pin Repair and Refinish Figure 601 (Sheet 2 of 2)

32-11-09

REPAIR 3-1 Page 605 Jul 01/2007





1 THE OUTSIDE DIAMETER OF THE BUSHING IS EQUAL TO THE INSIDE DIAMETER OF THE LUG HOLE PLUS THE INTERFERENCE OF 0.0006-0.0021

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK SHARP EDGES 0.01-0.02 R

MATERIAL: AL-NI-BRONZE (AMS 4640)

FINISH: CADMIUM PLATE (F-15.06)

ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

HOLE LOCATION [6A] FIG. 601 - REPLACES BUSHING (5A,5B) 161A1193-1,-2

Oversize Bushing Details Figure 602

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REPAIR 3-1 Page 606 Jul 01/2007



#### **SIDE STRUT NUT - REPAIR 4-1**

#### 161A2125-2, -4

#### 1. General

- A. This procedure tells how to refinish nuts (210, 215).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material: 4330M steel, 220-240 ksi
  - (2) Shot peen: All surfaces, unless shown in REPAIR 4-1, Figure 601

Shot Size 0.016-0.033

Intensity 0.014-0.018A2

Hard Shot Rc 55-65

Coverage 2.0

#### 2. Refinish

#### A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III

#### B. 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS



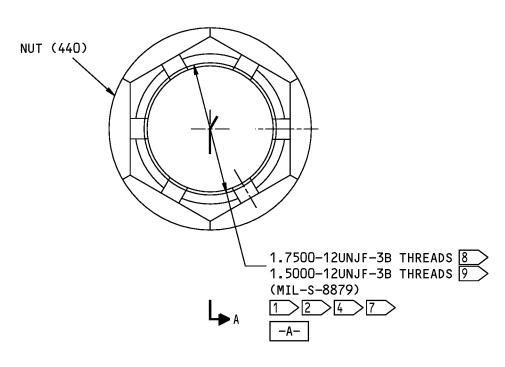
C. Procedure (REPAIR 4-1, Figure 601)

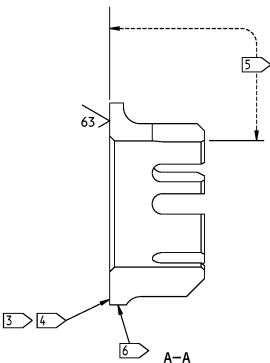
NOTE: For repair and refinish of high strength steel parts, refer to SOPM 20-10-01. For machining of alloy steel, refer to SOPM 20-10-02. For shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For finishing materials, refer to SOPM 20-60-02. For repair of high strength steel landing gear parts, refer to 32-00-05.

- (1) Chrome plate as shown.
- (2) Cadmium-titanium plate other surfaces.
- (3) Apply primer, C00175 and enamel coating, C00033 as shown.









161A2125-2,-4 Nut Refinish Figure 601 (Sheet 1 of 2)

## 32-11-09

REPAIR 4-1 Page 603 Mar 01/2006 161A0101, 161A1191, 161A1192, 161A2125, 161A2318, 161A2330, 161A2331, 161A2332, 161A2333



	ON THIS SURFACE
2	AFTER PLATING
3	CHROME PLATE (F-15.43, WHICH REPLACES F-14.892), 0.0003-0.0005 THICK. DO NOT GRIND
4	WIPE WITH PRIMER (F-19.451)

5 CADMIUM-TITANIUM PLATE (F-15.01). APPLY BMS 10-79 TYPE 3 PRIMER (F-19.47) AND BMS 10-60 TYPE 2

ENAMEL (F-19.39-707)

7 DO NOT SHOT PEEN THE THREADS

6 > PART NUMBER LOCATION

1 CADMIUM-TITANIUM PLATE (F-15.32)

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

SHOWN DIFFERENTLY

125 / ALL MACHINED SURFACES UNLESS

9 161A2125-4

8 161A2125-2

161A2125-2,-4 Nut Refinish Figure 601 (Sheet 2 of 2)

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REPAIR 4-1 Page 604 Mar 01/2006



#### **BODY JOINT PIN - REPAIR 5-1**

161A2330-1, -2, -3, -4, -5, -6

#### 1. General

- A. This procedure tells how to repair and refinish pins (15A-series).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material: 4340M Steel, 275-300 ksi
  - (2) Shot peen: All surfaces, unless shown in REPAIR 5-1, Figure 601

Shot Size 0.016-0.033

Intensity 0.014-0.018A2

Hard Shot Rc 55-65

Coverage 2.0

#### 2. Repair and Refinish

#### A. Consumable Materials

**NOTE**: Equivalent substitutes may be used.

Reference	Description	Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use	BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot Application (Hard Film)	MIL-C-11796, Class I

#### B. 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-41-05	APPLICATION OF CORROSION INHIBITING COMPOUNDS
SOPM 20-42-03	HARD CHROME PLATING
SOPM 20-60-02	FINISHING MATERIALS

32-11-09

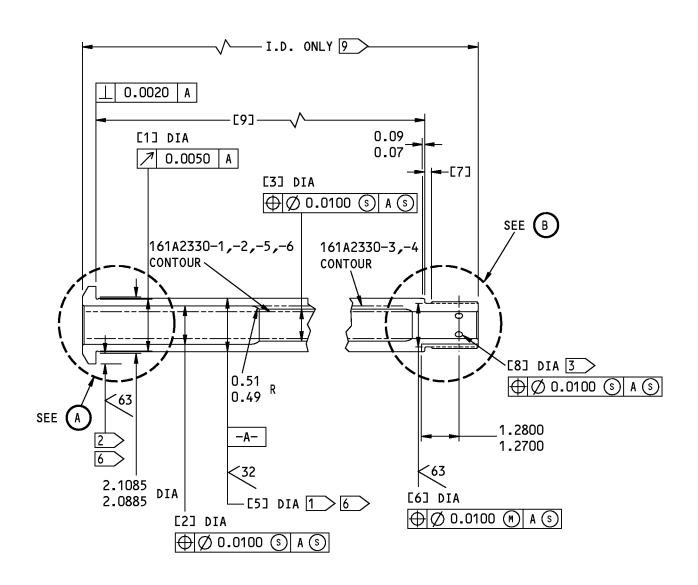
REPAIR 5-1 Page 601 Jul 01/2008



C. Procedure (REPAIR 5-1, Figure 601)

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 shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For application of corrosion inhibiting compounds, refer to SOPM 20-41-05. For finishing materials, refer to SOPM 20-60-02. For repair of high strength steel landing gear parts, refer to 32-00-05.

- (1) Repair
  - (a) Machine as necessary, within repair limits, to remove defects.
  - (b) Build up with chrome plate. Grind to design dimensions and finish.
- (2) Refinish
  - (a) Chrome plate as indicated.
  - (b) Cadmium-titanium plate other surfaces.
  - (c) Apply primer, C00175, enamel coating, C00033, and corrosion preventive compound, C50001 as indicated.



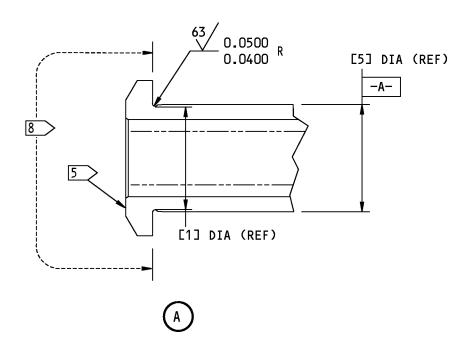
394717 S0004996742\_V3

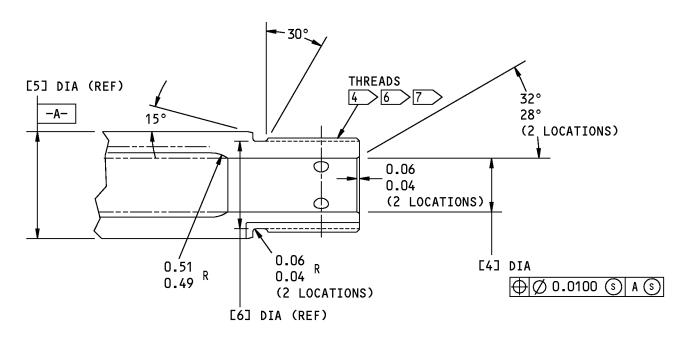
161A2330-1 thru -6 Body Joint Pin Repair and Refinish Figure 601 (Sheet 1 of 3)

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161A2330-1 thru -6 Body Joint Pin Repair and Refinish Figure 601 (Sheet 2 of 3)

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REPAIR 5-1 Page 604 Jul 01/2008



REFERENCE NUMBER	[1]	[2] [12]	[2] [14][15]	[3] [15]	[4] [12][3] [14][5]	[4] [16] [17]	[5]	[6]
DESIGN DIMENSION	1	1.2100 1.2000	1.4450 1.4350	1.3100 1.3000	1.0000 0.9900	0.7600 0.7400	1.9990 10 1.9980	1.6350 1.6250
REPAIR LIMIT							1.9680 11>	

REFERENCE NUMBER	[7]	[8]	[9]
DESIGN DIMENSION	0.2600 0.2400	0.2770 0.2670	13.6930 13.6730
REPAIR LIMIT			

- 1 CHROME PLATE (F-15.34), 0.003 MINIMUM THICK AFTER GRIND
- 2 CHROME PLATE (F-15.34), 0.001-0.002 THICK. DO NOT GRIND
- 3 SHOT PEEN NOT NECESSARY. OVERSPRAY PERMITTED
- 4 > DO NOT SHOT PEEN
- 5 PART AND SERIAL NUMBER LOCATION
- 6 > WIPE WITH PRIMER (F-19.451)
- 7 CADMIUM-TITANIUM PLATE (F-15.32)
- 8 CADMIUM-TITANIUM PLATE (F-15.01).
  APPLY BMS 10-79 TYPE 3 PRIMER
  (F-19.47) AND BMS 10-60 TYPE 2
  ENAMEL (F-19.39-707)
- 9 CADMIUM-TITANIUM PLATE (F-15.01).
  APPLY BMS 10-79 TYPE 3 PRIMER
  (F-19.66) AND MIL-C-11796 CLASS 1
  CORROSION PREVENTIVE COMPOUND
- 10 > AFTER PLATING

- 11 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH
- 12>161A2330-1
- 13 > 161A2330-2
- 14>161A2330-3
- 15 > 161A2330-4
- 16 > 161A2330-5
- 17 > 161A2330-6

#### **REPAIR**

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.03-0.06 UNLESS SHOWN DIFFERENTLY

DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

394858 S0004996744\_V4

161A2330-1 thru -6 Body Joint Pin Repair and Refinish Figure 601 (Sheet 3 of 3)

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REPAIR 5-1 Page 605 Jul 01/2008



# PIN - REPAIR 6-1 161A2331-1, -2

#### 1. General

- A. This procedure tells how to repair and refinish pin (20A series).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material: 4340M Steel, 275-300 ksi
  - (2) Shot peen: All surfaces, unless shown in REPAIR 6-1, Figure 601

Shot Size 0.016-0.033

Intensity 0.014-0.018A2

Hard Shot Rc 55-65

Coverage 2.0

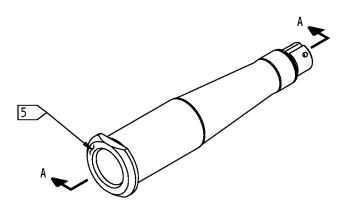
#### 2. Repair and Refinish

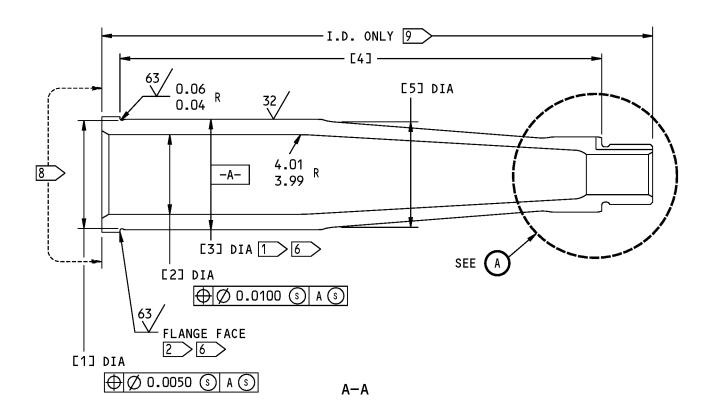
A. Procedure (REPAIR 6-1, Figure 601)

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 shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For application of corrosion inhibiting compounds, refer to SOPM 20-41-05. For finishing materials, refer to SOPM 20-60-02. For repair of high strength steel landing gear parts, refer to 32-00-05.

- (1) Repair
  - (a) Machine as necessary, within repair limits, to remove defects.
  - (b) Build up with chrome plate. Grind to design dimensions and finish.
- (2) Refinish
  - (a) Chrome plate (F-15.34) as indicated.
  - (b) Cadmium-titanium plate other surfaces.
  - (c) Apply primer, C00175, enamel coating, C00033, and corrosion preventive compound, C50001 as indicated.





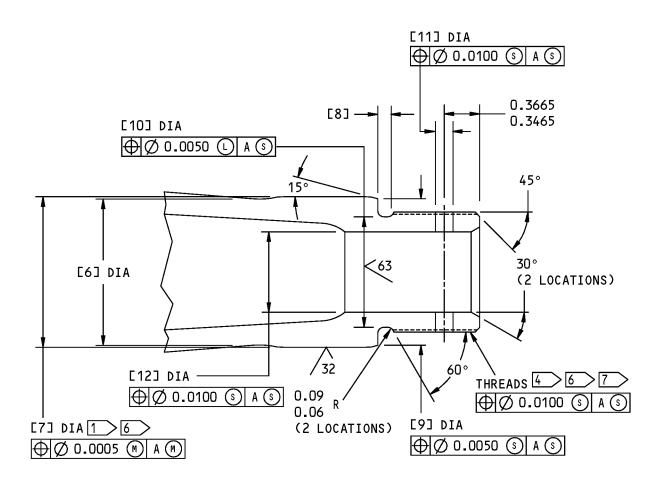


161A2331-1, -2 Side Strut Pin Repair and Refinish Figure 601 (Sheet 1 of 3)

# 32-11-09

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161A2331-1, -2 Side Strut Pin Repair and Refinish Figure 601 (Sheet 2 of 3)

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]	[7]
DESIGN DIMENSION	2.7000 2.6900	1.9850 1.9750	2.7490 2.7480 10>	11.9897 11.9797	2.6291 2.6191	1.8264 1.8164	1.8740 1.8730
REPAIR LIMIT			2.7180 11>				1.8480 11>

REFERENCE NUMBER	[8]	[9]	[10]	[11]	[12]
DESIGN DIMENSION	0.1769 0.1569	1.8279 1.8176	1.3800 1.3690	0.2706 0.2606	1.0050 0.9950
REPAIR LIMIT					

1	> CHROME I	PLATE	(F-15.3	34),	0.003
	MINIMUM	THICK	AFTER	GRIN	ND .

- 2 CHROME PLATE (F-15.34), 0.001-0.002 MINIMUM THICK. DO NOT GRIND
- 3 SHOT PEEN NOT NECESSARY.
  OVERSPRAY PERMITTED
- 4 > DO NOT SHOT PEEN
- 5 PART AND SERIAL NUMBER LOCATION
- 6 > WIPE WITH PRIMER (F-19.451)
- 7 CADMIUM-TITANIUM PLATE (F-15.32)
- 8 CADMIUM-TITANIUM PLATE (F-15.01).
  APPLY BMS 10-79 TYPE 3 PRIMER
  (F-19.47) AND BMS 10-60 TYPE 2
  ENAMEL (F-19.39-707)
- 9 CADMIUM-TITANIUM PLATE (F-15.01).

  APPLY BMS 10-79 TYPE 3 PRIMER

  (F-19.66) AND MIL-C-11796 CLASS 1

  CORROSION PREVENTIVE COMPOUND

  (F-19.03)
- 10 > AFTER PLATING

11 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

#### **REPAIR**

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.030-0.060 R UNLESS SHOWN DIFFERENTLY

DIMENSIONS ARE BEFORE PLATING UNLESS SHOWN DIFFERENTLY

ALL DIMENSIONS ARE IN INCHES

161A2331-1, -2 Side Strut Pin Repair and Refinish Figure 601 (Sheet 3 of 3)

32-11-09

REPAIR 6-1 Page 604 Jul 01/2008



# <u>PIN - REPAIR 7-1</u> 161A2332-1, -2, -3

#### 1. General

- A. This procedure tells how to repair and refinish pin (25A series).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material:
    - (a) Pin (25A): 15-5PH CRES, 180-200 ksi
    - (b) Pin (25B, 25C): 4340M Steel, 275-300 ksi
  - (2) Shot peen: All surfaces, unless shown in REPAIR 7-1, Figure 601

Shot Size 0.016-0.033

Intensity 0.008-0.013A2

Hard Shot Rc 55-65

Coverage 2.0

#### 2. Repair and Refinish

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description Specification
C00033	Coating - Exterior Protective Enamel, Flexibility Use BMS10-60, Type II
C00175	Primer - Urethane Compatible, Corrosion Resistant BMS10-79, (Less Than 1% Aromatic Amines) Type III
C50001	Compound - Corrosion Preventive, Petroleum Hot MIL-C-11796, Application (Hard Film) Class I

#### B. 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES

32-11-09

REPAIR 7-1 Page 601 Jul 01/2008



Reference Title
SOPM 20-42-03 HARD CHROME PLATING

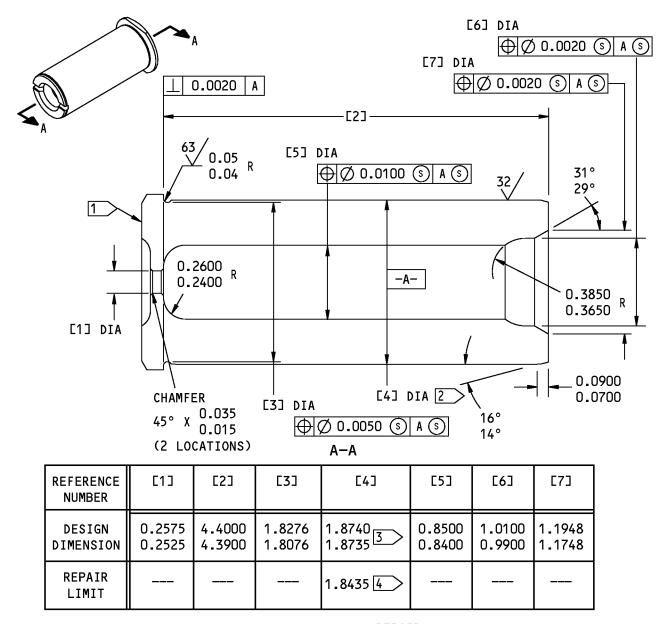
C. Procedure (REPAIR 7-1, Figure 601) and REPAIR 7-1, Figure 602

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 shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For magnetic particle inspection, refer to SOPM 20-20-01. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For repair of high strength steel landing gear parts, refer to 32-00-05.

- (1) Repair
  - (a) Machine as necessary, within repair limits, to remove defects.
  - (b) Build up with chrome plate. Grind to design dimensions and finish.
- (2) Refinish
  - (a) Chrome plate as indicated.
  - (b) Passivate (F-17.25) other surfaces.
  - (c) On pin 161A2332-2, apply compound, C50001, primer, C00175 and enamel coating, C00033 as shown.

# BOEING

#### **COMPONENT MAINTENANCE MANUAL**



1 > PART AND SERIAL NUMBER LOCATION

2 CHROME PLATE (F-15.34), 0.003-0.005 THICK

3 > AFTER PLATING

4 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

#### <u>REPAIR</u>

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.030-0.060 R UNLESS SHOWN BY 3

ALL DIMENSIONS ARE IN INCHES

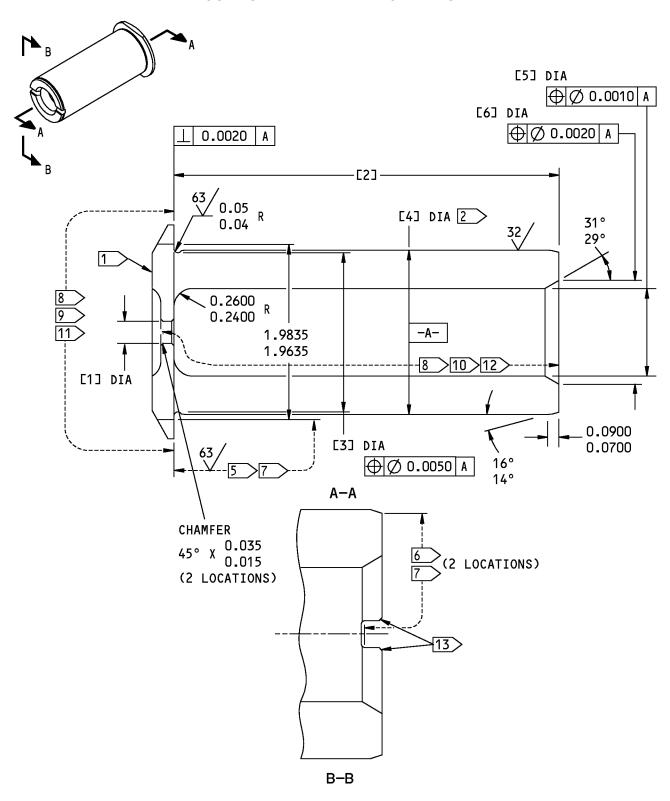
161A2332-1 Reaction Link Pin Repair and Refinish Figure 601

# 32-11-09

REPAIR 7-1 Page 603 Nov 01/2006

# ( BOEING®

#### **COMPONENT MAINTENANCE MANUAL**



161A2332-2, -3 Reaction Link Pin Repair and Refinish Figure 602 (Sheet 1 of 2)

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# BOEING

#### COMPONENT MAINTENANCE MANUAL

REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]	[6]
DESIGN DIMENSION	0.2575 0.2525	4.4000 4.3900	1.8276 1.8076	1.8740 1.8735 3	1.0100 0.9900	1.1948 1.1748
REPAIR LIMIT				1.8435 4		

- 1 PART AND SERIAL NUMBER LOCATION
- 2 CHROME PLATE (F-15.34), 0.003-0.005 THICK
- 3 > AFTER PLATING
- AND GRIND TO DESIGN DIMENSIONS
  AND FINISH
- 5 CHROME PLATE (F-15.34), 0.001-0.002 THICK
- 6 > THIN DENSE CHROME PLATE (F-15.43)
- 7 WIPE PLATING WITH PRIMER (F-19.451)
- 8 CADMIUM-TITANIUM PLATE (F-15.01)
- 9 APPLY BMS 10-79 TYPE 3 PRIMER (F-19.47)
- 10 APPLY BMS 10-79, TYPE 3 PRIMER (F-19.66)
- 11 APPLY BMS 10-60 ENAMEL (F-19.39-707)
- 12 APPLY MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03)
- 13 CADMIUM-TITANIUM PLATING AND PRIMER ARE OPTIONAL TO CHROME PLATING ON THE CHAMFER ONLY

#### **REPAIR**

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.02-0.03 R UNLESS SHOWN BY 3

ALL DIMENSIONS ARE IN INCHES

161A2332-2, -3 Reaction Link Pin Repair and Refinish Figure 602 (Sheet 2 of 2)

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## PIN - REPAIR 8-1 161A2318-1, -2

### 1. General

- A. This procedure tells how to repair and refinish pin (35A series).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the standard practices shown in the repair.
- C. Refer to IPL Figure 1 for item numbers.
- D. General repair details:
  - (1) Material: 15-5PH CRES, 180-200 ksi
  - (2) Shot peen: All surfaces, but not on threads

Shot Size 0.016-0.033

Intensity 0.008-0.013A2

Coverage 2.0

Hard Shot Rc 55-65

#### 2. Repair and Refinish

#### 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 20-10-03	SHOT PEENING
SOPM 20-10-04	GRINDING OF CHROME PLATED PARTS
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-30-02	STRIPPING OF PROTECTIVE FINISHES
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-41-01	DECODING TABLE FOR BOEING FINISH CODES
SOPM 20-42-03	HARD CHROME PLATING

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

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 shot peening, refer to SOPM 20-10-03. For grinding of chrome plated parts, refer to SOPM 20-10-04. For magnetic particle inspection, refer to SOPM 20-20-01. For stripping of protective finishes, refer to SOPM 20-30-02. For general cleaning procedure, refer to SOPM 20-30-03. For the decoding table for Boeing finish codes, refer to SOPM 20-41-01. For hard chrome grinding, refer to SOPM 20-42-03. For repair of high strength steel landing gear parts, refer to 32-00-05.

#### (1) Repair

- (a) Machine as necessary, within repair limits, to remove defects.
- (b) Build up with chrome plate. Grind to design dimensions and finish.

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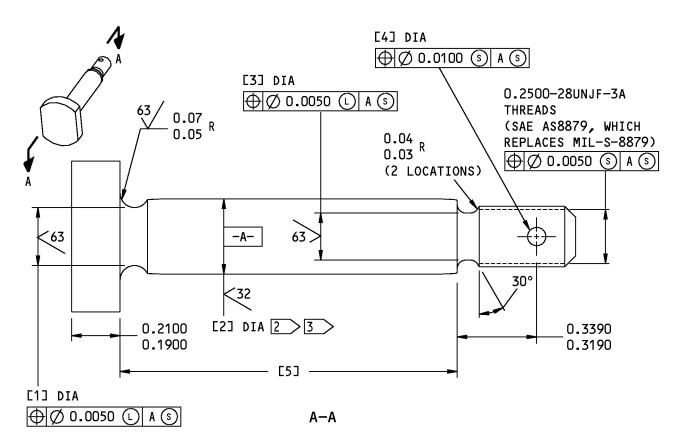
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- (2) Refinish
  - (a) Chrome plate as indicated.
  - (b) Passivate (F-17.25) other surfaces.

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REFERENCE NUMBER	[1]	[2]	[3]	[4]	[5]
DESIGN DIMENSION	0.2450 0.2350	0.3115 0.3105 3	0.2000 0.1900	0.0810 0.0760	1.4010 1.3910
REPAIR LIMIT		0.2805 4			

1 > PART AND SERIAL NUMBER LOCATION

2 CHROME PLATE (F-15.34), 0.003-0.005 THICK

3 > AFTER PLATING

4 LIMIT FOR CHROME PLATE BUILDUP AND GRIND TO DESIGN DIMENSIONS AND FINISH

#### **REPAIR**

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.030-0.060 R UNLESS SHOWN BY  $\boxed{3}$ 

ALL DIMENSIONS ARE IN INCHES

485056 S0004996755\_V3

161A2318-1, -2 Downlock Actuator Pin Repair and Refinish Figure 601

# 32-11-09

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#### **ASSEMBLY**

# (NOT APPLICABLE)

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#### **FITS AND CLEARANCES**

# (NOT APPLICABLE)

#### **SPECIAL TOOLS, FIXTURES, AND EQUIPMENT**

# (NOT APPLICABLE)

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#### **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		
	Assemb	ly						
	Attaching parts for assembly							
		Detail pa	arts for a	ssembly				

- . Attaching parts for subassembly
- . . . Detail parts for subassembly
- . . . Sub-subassembly

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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#### **COMPONENT MAINTENANCE MANUAL**

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

Replaces, Replaced by (REPLACES, REPLACED BY)

The part replaces and is interchangeable with, or is an alternative to, the initial part.



### **NUMERICAL INDEX**

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
1		1		6
161A0101-1		1	30A	RF
		3	1A	RF
161A0101-2		3	5B	1
161A0101-3		3	10A	1
161A0102-2		1	200	RF
161A1191-1		1	5A	RF
161A1191-2		1	5B	RF
161A1191-3		1	5C	RF
161A1192-1		1	10B	RF
		2	1A	RF
161A1192-2		2	10A	1
161A1192-3		1	10C	RF
		2	1B	RF
161A1192-4		2	10B	1
161A1192-5		1	10D	RF
		2	1C	RF
161A1192-6		2	10C	1
161A1192-7		1	10E	RF
		2	1D	RF
161A1192-8		2	10D	1
161A1193-1		2	5A	1
161A1193-2		2	5B	1
161A1194-1		1	205	RF
161A1194-2		1	205A	RF
161A2125-2		1	210	RF
161A2125-4		1	215	RF
161A2126-1		1	220	RF
161A2126-2		1	225	RF
161A2127-1		1	240	RF
161A2303-1		1	230	RF
161A2318-1		1	35A	RF
161A2318-2		1	35B	RF
161A2330-1		1	15A	RF

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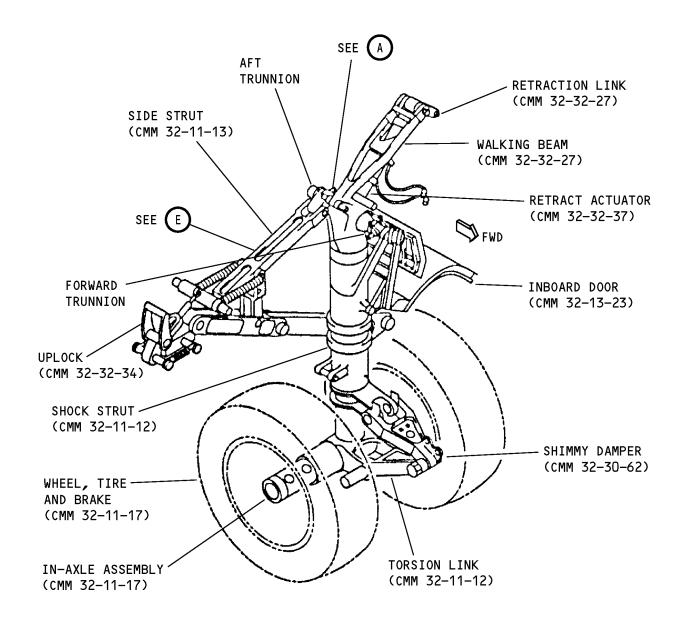
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## **COMPONENT MAINTENANCE MANUAL**

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
161A2330-2		1	15B	RF
161A2330-3		1	15C	RF
161A2330-4		1	15D	RF
161A2330-5		1	15E	RF
161A2330-6		1	15F	RF
161A2331-1		1	20A	RF
161A2331-2		1	20B	RF
161A2332-1		1	25A	RF
161A2332-2		1	25B	RF
161A2332-3		1	25C	RF
161A2333-1		1	235	RF
273A2208-1		1	245	RF
273A2208-2		1	250	RF
273A2208-3		1	255	RF

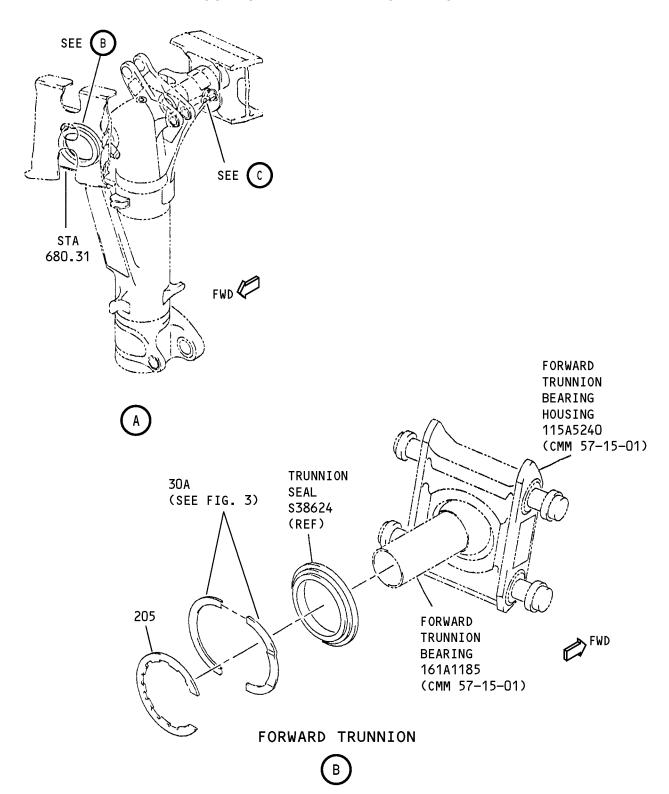




Main Landing Gear Installation Components IPL Figure 1 (Sheet 1 of 7)

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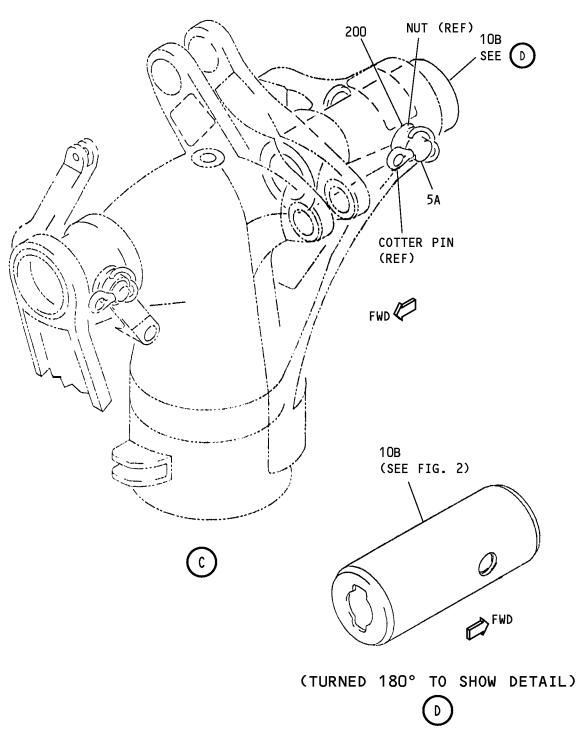




Main Landing Gear Installation Components IPL Figure 1 (Sheet 2 of 7)

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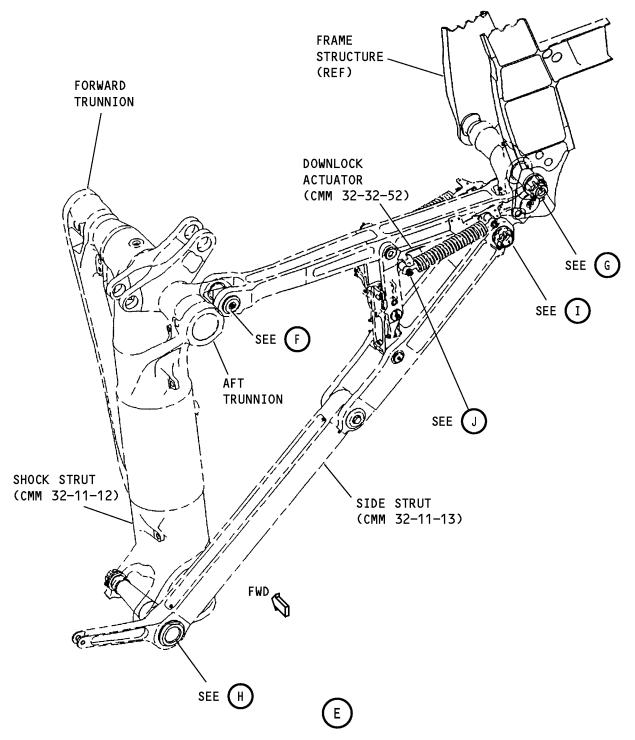
395689 S0004996760\_V3

Main Landing Gear Installation Components IPL Figure 1 (Sheet 3 of 7)

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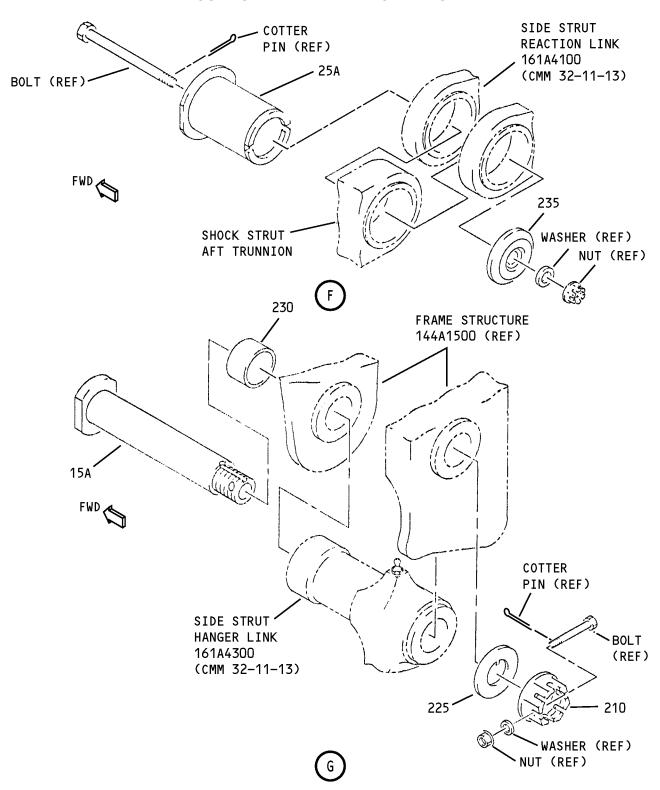


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Main Landing Gear Installation Components IPL Figure 1 (Sheet 4 of 7)

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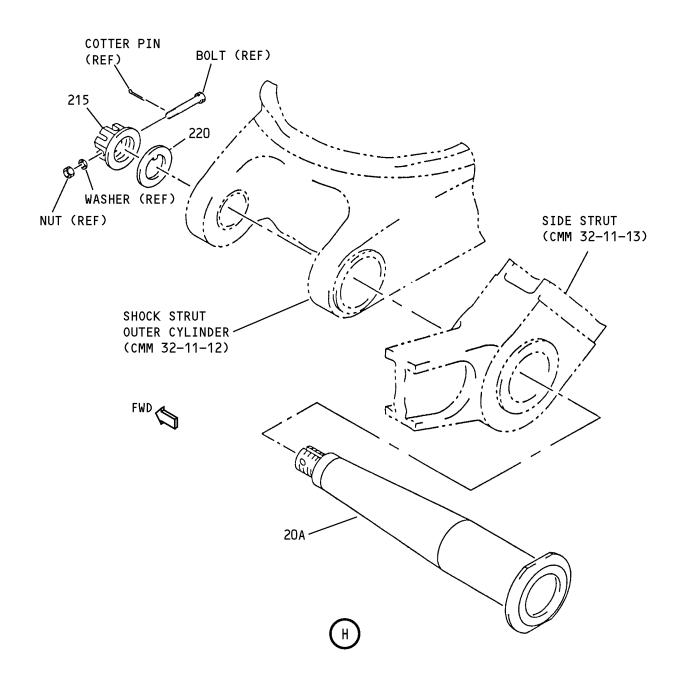


Main Landing Gear Installation Components IPL Figure 1 (Sheet 5 of 7)

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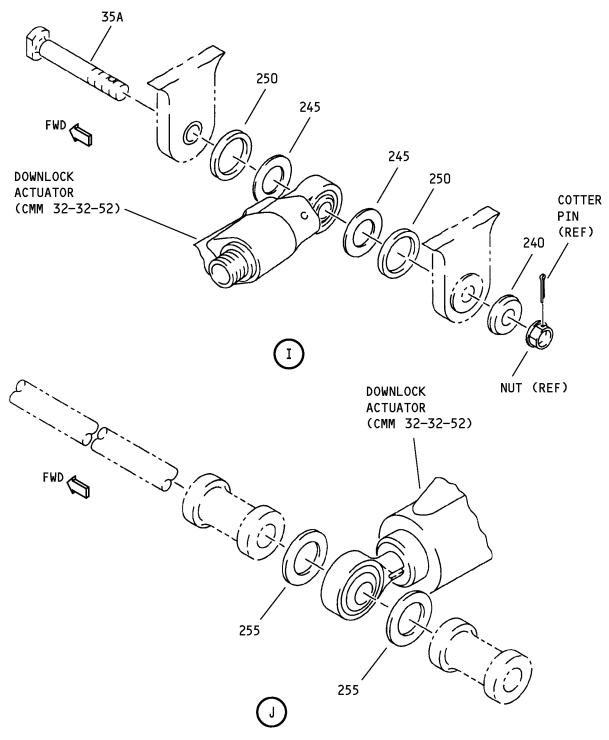




Main Landing Gear Installation Components IPL Figure 1 (Sheet 6 of 7)

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485072 S0004996764\_V2

Main Landing Gear Installation Components IPL Figure 1 (Sheet 7 of 7)

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FIG/	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
			MAIN LANDING GEAR INSTALLATION COMPONENTS		
1A	161A6301-1		DELETED		
5	161A6302-1		DELETED		
5A	161A1191-1		PIN-AFT TRUNNION CROSSBOLT		RF
–5B	161A1191-2		PIN-AFT TRUNNION CROSSBOLT		RF
-5C	161A1191-3		PIN-AFT TRUNNION CROSSBOLT		RF
10	161A6303-1		DELETED		
10A	161A6303-2		DELETED		
10B	161A1192-1		PIN ASSY-AFT TRUNNION BEARING (FOR DETAILS SEE FIG. 2)		RF
-10C	161A1192-3		PIN ASSY-AFT TRUNNION BEARING (FOR DETAILS SEE FIG. 2)		RF
-10D	161A1192-5		PIN ASSY-AFT TRUNNION BEARING (FOR DETAILS SEE FIG. 2)		RF
-10E	161A1192-7		PIN ASSY-AFT TRUNNION BEARING (FOR DETAILS SEE FIG. 2)		RF
-15	161A1500-1		DELETED		
15A	161A2330-1		PIN-BODY JOINT		RF
-15B	161A2330-2		PIN-BODY JOINT		RF
-15C	161A2330-3		PIN-BODY JOINT		RF
-15D	161A2330-4		PIN-BODY JOINT		RF
-15E	161A2330-5		PIN-BODY JOINT		RF
-15F	161A2330-6		PIN-BODY JOINT		RF
-20	161A1500-2		DELETED		
20A	161A2331-1		PIN-SIDE STRUT		RF
20B	161A2331-2		PIN-SIDE STRUT		RF
-25	161A6300-1		DELETED		
25A	161A2332-1		PIN-SIDE STRUT		RF
–25B	161A2332-2		PIN-SIDE STRUT		RF
-25C	161A2332-3		PIN-SIDE STRUT		RF
-30	115A5260-1		DELETED		

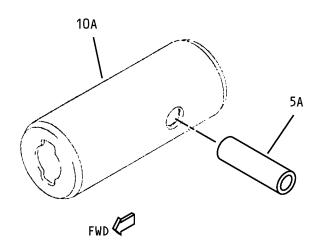
-Item not Illustrated

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FIG/	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
30A	161A0101-1		RING ASSY-SUPPORT (FOR DETAILS SEE FIG. 3)		RF
-35	115A5280-1		DELETED		
35A	161A2318-1		PIN-DOWNLOCK ACTUATOR		RF
–35B	161A2318-2		PIN-DOWNLOCK ACTUATOR		RF
-40	115A5281-1		DELETED		
<b>-45</b>	115A5282-1		DELETED		
<b>-</b> 50	115A5283-1		DELETED		
<b>-</b> 55	115A5284-1		DELETED		
-60	115A5240-1		DELETED		
<del>-</del> 65	161A1185-1		DELETED		
–65A	161A1185-3		DELETED		
–65B	161A1185-5		DELETED		
200	161A0102-2		WASHER		RF
205	161A1194-1		RING-FWD TRUNNION BEARING RET		RF
–205A	161A1194-2		RING-FWD TRUNNION BEARING RET		RF
210	161A2125-2		NUT-SIDE STRUT		RF
215	161A2125-4		NUT-SIDE STRUT		RF
220	161A2126-1		WASHER-SIDE STRUT		RF
225	161A2126-2		WASHER-SIDE STRUT		RF
230	161A2303-1		SPACER-SIDE STRUT		RF
235	161A2333-1		CAP-SIDE STRUT END		RF
240	161A2127-1		WASHER-DOWNLOCK ACTUATOR		RF
245	273A2208-1		WASHER-DOWNLOCK ACTUATOR		RF
250	273A2208-2		WASHER-DOWNLOCK ACTUATOR		RF
255	273A2208-3		WASHER-DOWNLOCK ACTUATOR		RF





Aft Trunnion Bearing Pin Assembly IPL Figure 2

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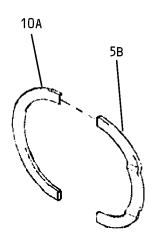


FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
<b>-1</b>	161A1500-1		DELETED		
-1A	161A1192-1		PIN ASSY-AFT TRUNNION BEARING	А	RF
–1B	161A1192-3		PIN ASSY-AFT TRUNNION BEARING	В	RF
-1C	161A1192-5		PIN ASSY-AFT TRUNNION BEARING	С	RF
–1D	161A1192-7		PIN ASSY-AFT TRUNNION BEARING	D	RF
<b>-</b> 5	161A1500-2		DELETED		
5A	161A1193-1		. BUSHING	ABC	1
–5B	161A1193-2		. BUSHING	D	1
10	NAS6703U14		DELETED		
10A	161A1192-2		. PIN	Α	1
-10B	161A1192-4		. PIN	В	1
-10C	161A1192-6		. PIN	С	1
-10D	161A1192-8		. PIN	D	1
15	NAS1149C0363R		DELETED		
20	H01-31BAC		DELETED		
25	BACB28AK03-035		DELETED		
30	161A1504-1		DELETED		
35	NAS1802-4D8		DELETED		
40	NAS1149C0463R		DELETED		
45	161A1505-1		DELETED		
50	161A1503-1		DELETED		
<b>-</b> 55	161A1503-2		DELETED		
60	161A1502-1		DELETED		
65	161A1502-2		DELETED		
70	161A1502-3		DELETED		
75	161A1501-1		DELETED		
80	MS15001-1		DELETED		
80A	MS15004-1		DELETED		
85	161W7010-1		DELETED		
90	161A1501-2		DELETED		

-Item not Illustrated

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Support Ring Assembly IPL Figure 3

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FIG/	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
3–					
-1	161A6300-1		DELETED		
-1A	161A0101-1		RING ASSY-SUPPORT		RF
5	S012T235-17-79		DELETED		
5A	S012T235-17		DELETED		
5B	161A0101-2		. RING HALF		1
10	NAS509-8C		DELETED		
10A	161A0101-3		. RING HALF		1
15	NAS1193K8CP		DELETED		
20	BCREF10585		DELETED		
25	161A6300-2		DELETED		



FIGURE DELETED

Deleted IPL Figure 4

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FIG/	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
4–					
1A	115A5260-1		DELETED		
5	115A5280-1		DELETED		
10	115A5281-1		DELETED		
15	115A5282-1		DELETED		
20	115A5283-1		DELETED		
-25	115A5284-1		DELETED		



FIGURE DELETED

Deleted IPL Figure 5

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## **COMPONENT MAINTENANCE MANUAL**

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
5–					
-1A	115A5240-1		DELETED		
5	115A5230-1		DELETED		
10	115A5240-3		DELETED		



FIGURE DELETED

Deleted IPL Figure 6

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FIG/	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
6–					
-1A	161A1185-1		DELETED		
-1B	161A1185-3		DELETED		
-1C	161A1185-5		DELETED		
5	161A1203-1		DELETED		
10	161A1187-1		DELETED		
15	161A1187-2		DELETED		
20	161A1187-3		DELETED		
25	161A1188-1		DELETED		
–25A	161A1188-3		DELETED		
–25B	161A1188-5		DELETED		
30	161A1189-1		DELETED		
–30A	161A1189-2		DELETED		
35	161A1188-2		DELETED		
–35A	161A1188-4		DELETED		
–35B	161A1188-6		DELETED		