

 **BOEING**
COMPONENT
MAINTENANCE MANUAL

TO: ALL HOLDERS OF MAIN LANDING GEAR DRAG STRUT ASSEMBLY COMPONENT MAINTENANCE
MANUAL 32-11-63.

REVISION NO. 1 DATED MAR 01/00

HIGHLIGHTS

Pages which have been added or revised are outlined below together with the highlights of the revision. Remove and insert the affected pages as listed and enter Revision No. and date on the Record of Revision Sheet.

CHAPTER/SECTION

AND PAGE NO.

DESCRIPTION OF CHANGE

ALL PAGES

Reissued all pages without technical change.

TR & SB RECORD

1

Incorporated latest engineering changes that clarify the description and dimensions of the component detail parts.

CONTENTS

1

INTRODUCTION

1

DESCRIPTION & OPERATION

1

101-103

301

401

501

REPAIR-GEN

601

REPAIR 1-1

601-603,605-606

REPAIR 2-1

601-606

REPAIR 2-2

601-604

REPAIR 3-1

601-606

32-11-63

HIGHLIGHTS

01.1

Page 1

Mar 01/00

 **BOEING**
COMPONENT
MAINTENANCE MANUAL

CHAPTER/SECTION
AND PAGE NO.

DESCRIPTION OF CHANGE

REPAIR 3-2
601-604
REPAIR 4-1
601-603
REPAIR 5-1
601-605
REPAIR 5-2
601-604,608
REPAIR 6-1
601-606
REPAIR 6-2
601-607,610
701-705
802,804
1001-1004,1007,
1012-1017

HIGHLIGHT CONTINUED FROM PREVIOUS PAGE

32-11-63

HIGHLIGHTS

01.1

Page 2

Mar 01/00



MAIN LANDING GEAR DRAG STRUT ASSEMBLY

PART NUMBERS 161T6100-1,-2

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

32-11-63

TITLE PAGE

Page 1

Jul 01/99

01

K10977



REVISION RECORD

- Retain this record in front of manual. On receipt of revision, insert revised pages in the manual, and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY

32-11-63

REVISION RECORD

01.1

Page 1

Mar 01/00



TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL

32-11-63

TR & SB RECORD

01.1

Page 1

Mar 01/00


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PAGE	DATE	CODE	PAGE	DATE	CODE
32-11-63			CLEANING		
			*401	MAR 01/00	01.1
			402	BLANK	
TITLE PAGE			CHECK		
1	JUL 01/99	01	*501	MAR 01/00	01.1
2	BLANK		502	BLANK	
REVISION RECORD			REPAIR-GENERAL		
*1	MAR 01/00	01.1	*601	MAR 01/00	01.1
2	BLANK		*602	MAR 01/00	01.1
TR & SB RECORD			REPAIR 1-1		
*1	MAR 01/00	01.1	*601	MAR 01/00	01.1
2	BLANK		*602	MAR 01/00	01.1
LIST OF EFFECTIVE PAGES			*603	MAR 01/00	01.1
*1	MAR 01/00	01	*604	MAR 01/00	01.1
THRU LAST PAGE			*605	MAR 01/00	01.1
CONTENTS			*606	MAR 01/00	01.1
*1	MAR 01/00	01.1	*607	MAR 01/00	01.1
2	BLANK		608	BLANK	
INTRODUCTION			REPAIR 2-1		
*1	MAR 01/00	01.1	*601	MAR 01/00	01.1
2	BLANK		*602	MAR 01/00	01.1
DESCRIPTION & OPERATION			*603	MAR 01/00	01.1
*1	MAR 01/00	01.1	*604	MAR 01/00	01.1
*2	MAR 01/00	01.1	*605	MAR 01/00	01.1
TESTING & FAULT ISOLATION			*606	MAR 01/00	01.1
*101	MAR 01/00	01.1	REPAIR 2-2		
*102	MAR 01/00	01.1	*601	MAR 01/00	01.1
*103	MAR 01/00	01.1	*602	MAR 01/00	01.1
*104	BLANK		*603	MAR 01/00	01.1
DISASSEMBLY			*604	MAR 01/00	01.1
*301	MAR 01/00	01.1	*605	MAR 01/00	01.1
302	BLANK		*606	MAR 01/00	01.1
			REPAIR 3-1		
			*601	MAR 01/00	01.1
			*602	MAR 01/00	01.1
			*603	MAR 01/00	01.1
			*604	MAR 01/00	01.1

* = REVISED, ADDED OR DELETED

32-11-63
 EFFECTIVE PAGES
 CONTINUED Page 1
 01 Mar 01/00

PAGE	DATE	CODE	PAGE	DATE	CODE
REPAIR 3-1		CONT.	REPAIR 6-1		CONT.
*605	MAR 01/00	01.1	*605	MAR 01/00	01.1
*606	MAR 01/00	01.1	*606	MAR 01/00	01.1
REPAIR 3-2			REPAIR 6-2		
*601	MAR 01/00	01.1	*601	MAR 01/00	01.1
*602	MAR 01/00	01.1	*602	MAR 01/00	01.1
*603	MAR 01/00	01.1	*603	MAR 01/00	01.1
*604	MAR 01/00	01.1	*604	MAR 01/00	01.1
*605	MAR 01/00	01.1	*605	MAR 01/00	01.1
606	BLANK		*606	MAR 01/00	01.1
			*607	MAR 01/00	01.1
REPAIR 4-1			*608	MAR 01/00	01.1
*601	MAR 01/00	01.1	*609	MAR 01/00	01.1
*602	MAR 01/00	01.1	*610	MAR 01/00	01.1
*603	MAR 01/00	01.1			
*604	MAR 01/00	01.1	ASSEMBLY		
*605	MAR 01/00	01.1	*701	MAR 01/00	01.1
606	BLANK		*702	MAR 01/00	01.1
			*703	MAR 01/00	01.1
REPAIR 5-1			*704	MAR 01/00	01.1
*601	MAR 01/00	01.1	*705	MAR 01/00	01.1
*602	MAR 01/00	01.1	706	BLANK	
*603	MAR 01/00	01.1			
*604	MAR 01/00	01.1	FITS AND CLEARANCES		
*605	MAR 01/00	01.1	*801	MAR 01/00	01.1
606	BLANK		*802	MAR 01/00	01.1
			*803	MAR 01/00	01.1
REPAIR 5-2			*804	MAR 01/00	01.1
*601	MAR 01/00	01.1			
*602	MAR 01/00	01.1	ILLUSTRATED PARTS LIST		
*603	MAR 01/00	01.1	*1001	MAR 01/00	01.1
*604	MAR 01/00	01.1	*1002	MAR 01/00	01.1
*605	MAR 01/00	01.1	*1003	MAR 01/00	01.1
*606	MAR 01/00	01.1	*1004	MAR 01/00	01.1
*607	MAR 01/00	01.1	*1005	MAR 01/00	01.1
*608	MAR 01/00	01.1	1006	BLANK	
			*1007	MAR 01/00	01.1
REPAIR 6-1			*1008	MAR 01/00	01.1
*601	MAR 01/00	01.1	*1009	MAR 01/00	01.1
*602	MAR 01/00	01.1	*1010	MAR 01/00	01.1
*603	MAR 01/00	01.1	*1011	MAR 01/00	01.1
*604	MAR 01/00	01.1	*1012	MAR 01/00	01.1

* = REVISED, ADDED OR DELETED

32-11-63

 EFFECTIVE PAGES
 CONTINUED Page 2
 01 Mar 01/00

PAGE	DATE	CODE	PAGE	DATE	CODE
ILLUSTRATED PARTS LIST		CONT.			
*1013	MAR 01/00	01.1			
*1014	MAR 01/00	01.1			
*1015	MAR 01/00	01.1			
*1016	MAR 01/00	01.1			
*1017	MAR 01/00	01.1			
*1018	BLANK				

* = REVISED, ADDED OR DELETED

32-11-63

EFFECTIVE PAGES
 LAST PAGE Page 3
 01 Mar 01/00



TABLE OF CONTENTS

<u>Paragraph Title</u>	<u>Page</u>
Description and Operation	1
Testing and Fault Isolation	101
Disassembly	301
Cleaning.	401
Check	501
Repair.	601
Assembly.	701
Fits and Clearances	801
Special Tools*[1]	
Illustrated Parts List.	1001
*[1] Not Applicable.	

32-11-63

CONTENTS

Page 1

Mar 01/00

01.1

INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions ranging from simple checks and replacement to complete shop-type repair.

This manual is divided into separate sections:

- | | |
|--|------------------------------|
| 1. Title Page | 4. List of Effective Pages |
| 2. Record of Revisions | 5. Table of Contents |
| 3. Temporary Revision &
Service Bulletin Record | 6. Introduction |
| | 7. Procedures & IPL Sections |

Refer to the Table of Contents for the page location of applicable sections.

The beginning of the REPAIR section includes a list of the separate repairs, a list of applicable standard Boeing practices, and an explanation of the True Position Dimensioning symbols used.

An explanation of the use of the Illustrated Parts List is provided in the Introduction to that section.

All weights and measurements used in the manual are in English units, unless otherwise stated. When metric equivalents are given they will be in parentheses following the English units.

Design changes, optional parts, configuration differences and Service Bulletin modifications create alternate part numbers. These are identified in the Illustrated Parts List (IPL) by adding an alphabetical character to the basic item number. The resulting item number is called an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless otherwise indicated.

Verification:

32-11-63

INTRODUCTION

01.1

Page 1

Mar 01/00

DESCRIPTION AND OPERATION| 1. Description

A. The main landing gear drag strut assembly consists of a titanium upper drag strut assembly, a titanium lower drag strut assembly, an aluminum alloy inboard lock link assembly, and an aluminum alloy outboard lock link assembly.

| 2. Operation

A. The drag strut assembly braces and supports the main landing gear. The lock link assemblies lock the drag strut assembly in the extended position. During the main landing gear extension, the drag strut assembly extends and locks in position to support the main landing gear.

| 3. Leading Particulars (Approximate)

A. Length -- 98.0 inches

B. Width -- 35.0 inches

C. Weight -- 222 pounds

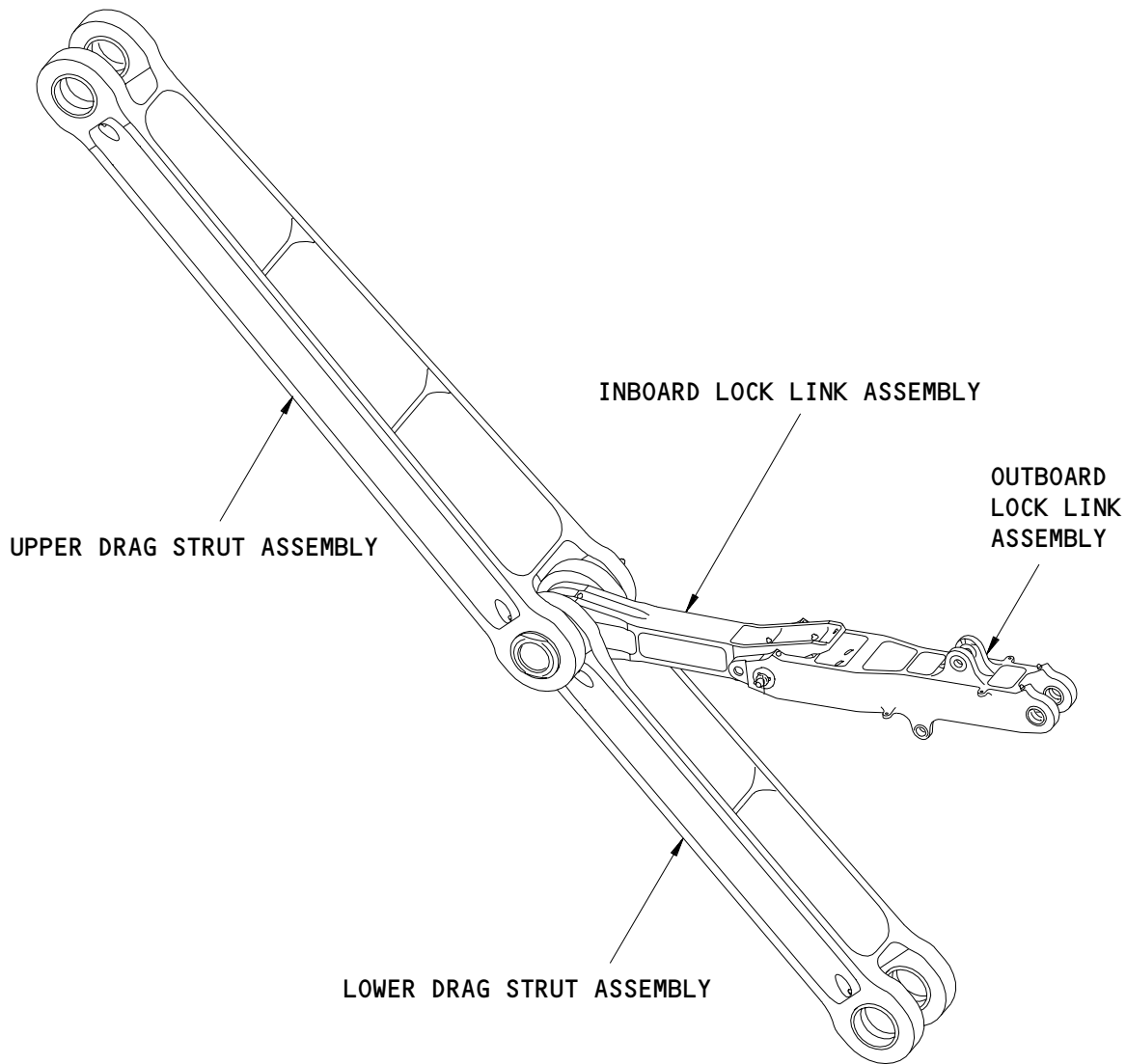
32-11-63

DESCRIPTION & OPERATION

01.1

Page 1

Mar 01/00



Drag Strut Assembly
Figure 1

32-11-63

DESCRIPTION & OPERATION

01.1

Page 2

Mar 01/00

TESTING AND FAULT ISOLATION1. General

- A. This procedure has the data necessary to do a test of the main landing gear (MLG) drag strut assembly after an overhaul or for fault isolation.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to IPL Fig. 1 for item numbers.

2. MLG Drag Strut Assembly Test

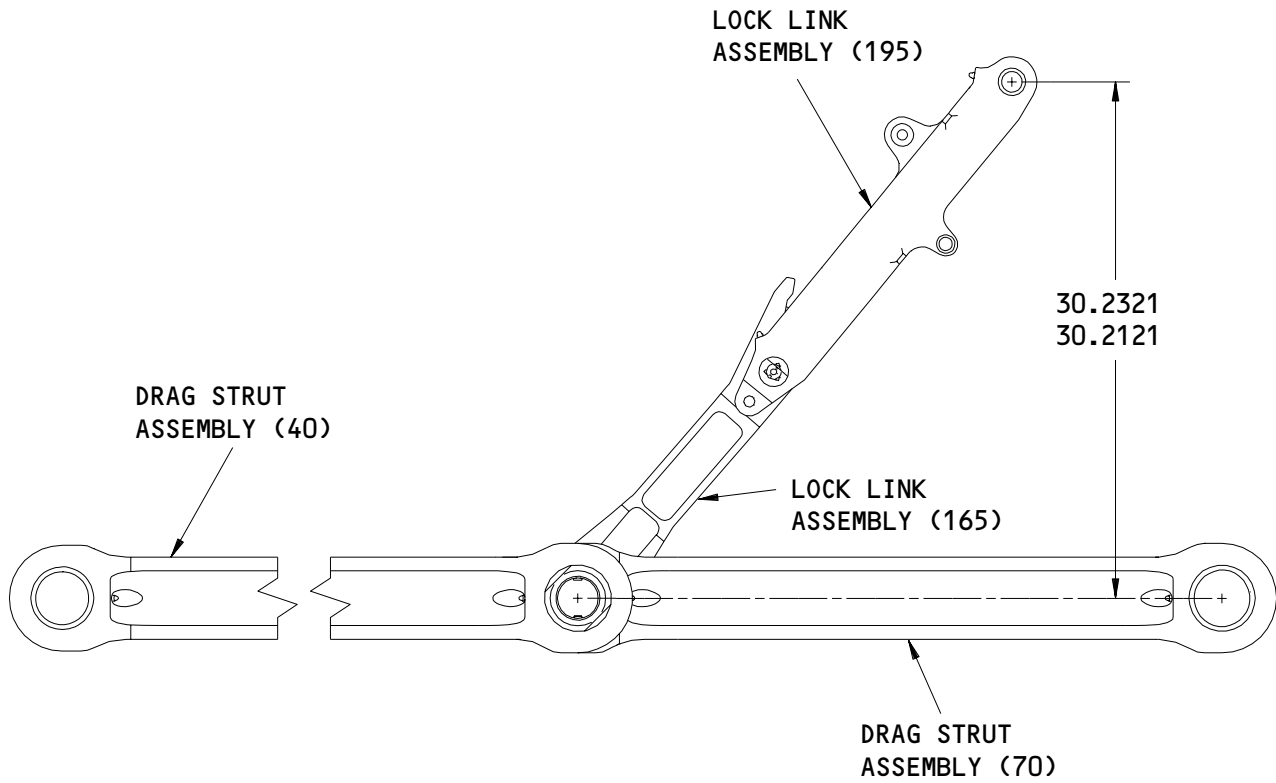
A. References

- (1) 32-11-63/301, Disassembly
- (2) 32-11-63/701, Assembly

B. Procedures

- (1) Do a drag strut (1) functional test.
 - (a) With the drag strut assembly (1) in the gear down position, fold the drag strut assembly (1) to the dimension shown in Fig. 101.
 - (b) There must be no binding or interference of any part.
 - (c) Unfold the drag strut assembly (1) to the gear down position.
 - (d) There must be no binding or interference of any part.

32-11-63TESTING & FAULT ISOLATION
01.1 Page 101
Mar 01/00

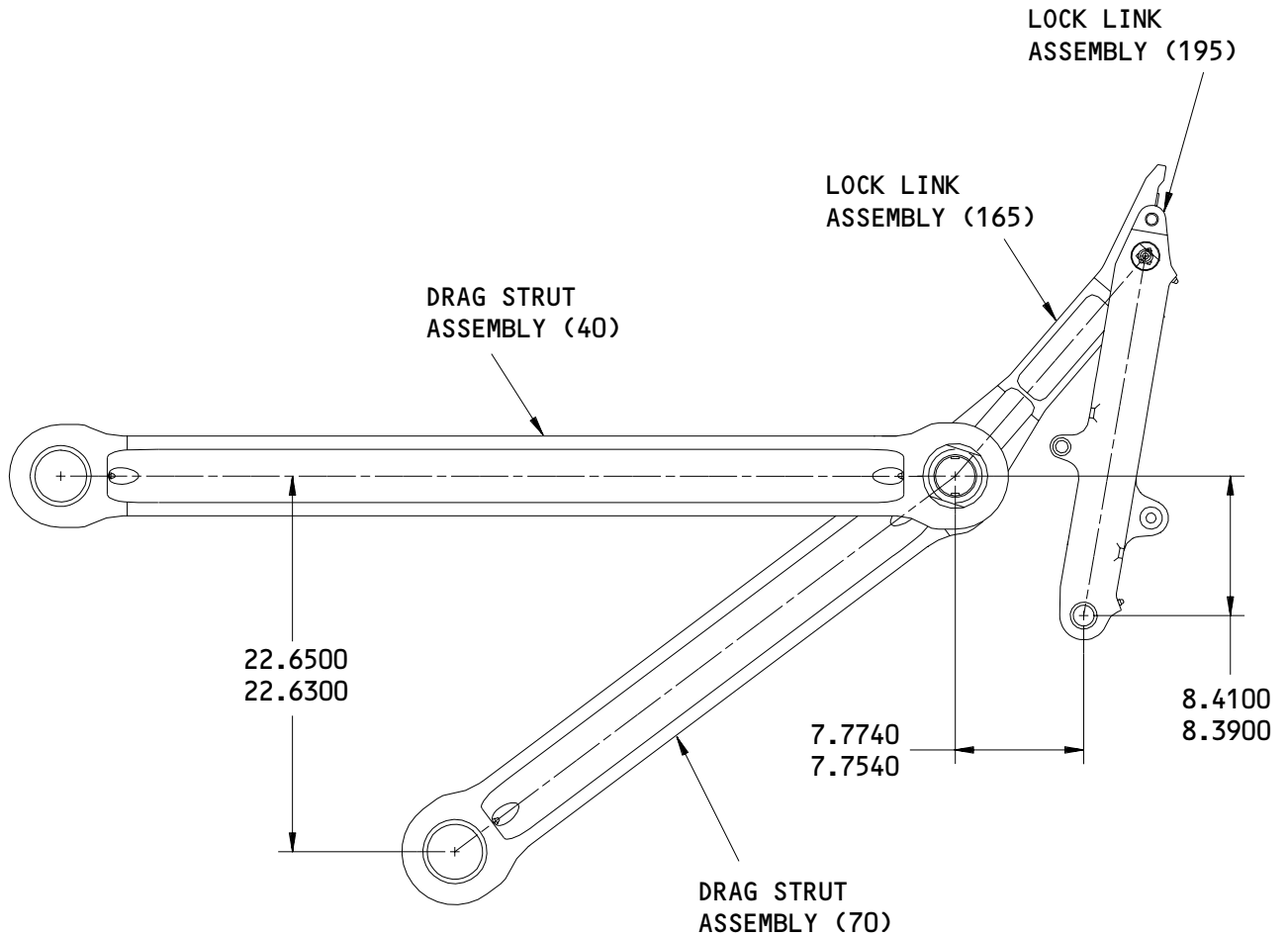


GEAR DOWN POSITION SHOWN

Drag Strut Assembly Testing
Figure 101 (Sheet 1)

32-11-63

TESTING & FAULT ISOLATION
01.1 Page 102
Mar 01/00



GEAR UP POSITION SHOWN

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

Drag Strut Assembly Testing
 Figure 101 (Sheet 2)

32-11-63

TESTING & FAULT ISOLATION
 01.1 Page 103
 Mar 01/00

DISASSEMBLY1. General

- A. This procedure has the data necessary to disassemble the main landing gear drag strut assembly.
- B. Disassemble this component sufficiently to isolate the defects, do the necessary repairs, and put the component back to a serviceable condition.
- C. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- D. Refer to IPL Fig. 1 for item numbers.

2. Disassembly

A. References

- (1) SOPM 20-50-01, Bolt and Nut Installation

B. Procedure

- (1) Use standard industry procedures and the steps shown below to disassemble this component.
- (2) Remove the bolts (10), the washers (15), and the nuts (20) from the apex pin (35).
- (3) Remove the nut (25), the washer (30), and the apex pin (35A) from the drag strut assemblies (40, 70) and the lock link assembly (165).
- (4) Remove the cotter pin (95), the bolt (100), the washer (105), and the nut (110) from the link lock pin (120).
- (5) Remove the end caps (115) and the link lock pin (120) from the lock link assemblies (165, 195).
- (6) Remove the bolts (125), the washers (130), the nuts (135), and the plate (140) from the lock link assembly (165).
- (7) Remove the bolts (145), the washers (150), the nuts (155), the plate (157) and the shim (160) from the lock link assembly (195).

32-11-63

DISASSEMBLY

01.1

Page 301

Mar 01/00

CLEANING| 1. General

- | A. This procedure has the data necessary to clean the main landing gear drag strut assembly.
- | B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- | C. Refer to IPL Fig. 1 for item numbers.

| 2. Cleaning

| A. References

- | (1) SOPM 20-30-03, General Cleaning Procedures

| B. Procedure

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

32-11-63CLEANING
Page 401
Mar 01/00

01.1

CHECK1. 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 details of the SOPM chapters identified in this procedure.
- D. Refer to IPL Fig. 1 for item numbers.

2. Check

A. References

- (1) SOPM 20-20-01, Magnetic Particle Inspection
- (2) 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:
 - (a) Washer (30, 105)
 - (b) Bolt (100)
 - (c) End cap (115)
- (2) Do a magnetic particle check (SOPM 20-20-01) of these parts:
 - (a) Washer (30, 105)
 - (b) Bolt (100)
 - (c) End cap (115)
- (3) Do a penetrant check (SOPM 20-20-02) of these parts:
 - (a) Link (190, 225)

32-11-63

CHECK

01.1

Page 501

Mar 01/00

REPAIR – GENERAL
1. General

- A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

<u>PART NUMBER</u>	<u>NAME</u>	<u>REPAIR</u>
---	REFINISH OF OTHER PARTS	1-1
161T6101	UPPER DRAG STRUT ASSEMBLY	2-1, 2-2
161T6103	LOWER DRAG STRUT ASSEMBLY	3-1, 3-2
161T6110	DRAG STRUT PIN	4-1
161T6111	LOCK LINK ASSEMBLY	5-1, 5-2
161T6112	LOCK LINK ASSEMBLY	6-1, 6-2

2. Dimensioning Symbols

- A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in Fig. 601.

32-11-63

REPAIR-GENERAL

01.1

Page 601

Mar 01/00

—	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 PERMISS-
◎	CONCENTRICITY	DIM	SIBLE VARIATIONS ARE ESTABLISHED BY
≡	SYMMETRY		TOLERANCES ON OTHER DIMENSIONS OR
∠	ANGULARITY		NOTES.
↗	RUNOUT	-A-	DATUM
↗↗	TOTAL RUNOUT	(M)	MAXIMUM MATERIAL CONDITION (MMC)
⊔	COUNTERBORE OR SPOTFACE	(L)	LEAST MATERIAL CONDITION (LMC)
∇	COUNTERSINK	(S)	REGARDLESS OF FEATURE SIZE (RFS)
⊕	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)	(P)	PROJECTED TOLERANCE ZONE
		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	$\boxed{\text{⊕}} \boxed{\text{∅}} \boxed{0.002} \boxed{\text{(S)}} \boxed{B}$	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	$\boxed{\text{⊥}} \boxed{\text{∅}} \boxed{0.010} \boxed{\text{(M)}} \boxed{A}$ $\boxed{0.510} \boxed{\text{(P)}}$	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	$\boxed{2.000}$	THEORETICALLY EXACT DIMENSION IS 2.000
$\boxed{\text{⌒}} \boxed{0.020} \boxed{A}$	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE	OR $\boxed{2.000}$ BSC	

True Position Dimensioning Symbols
Figure 601

32-11-63

REPAIR-GENERAL

01.1

Page 602

Mar 01/00

REFINISH OF OTHER PARTS – REPAIR 1-11. General

- A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to IPL Fig. 1 for item numbers.

2. Refinish of Other Parts

A. General

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

B. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00033 Coating -- BMS 10-60, Type 2 enamel 707 (SOPM 20-60-02)
- (2) C00175 Coating -- BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (3) C00259 Coating -- BMS 10-11, Type 1 primer (SOPM 20-60-02)
- (4) C00308 Compound -- MIL-C-11796, class 1 (SOPM 20-41-03)
- (5) G00034 Fabric -- BMS 15-5 Cheesecloth (SOPM 20-60-04)

C. References

- (1) SOPM 20-30-03, General Cleaning Procedures
- (2) SOPM 20-41-03, Application of Corrosion Preventives to Interior of Closed End Tubes
- (3) SOPM 20-42-01, Low Hydrogen Embrittlement Cadmium Plating
- (4) SOPM 20-42-02, Low Hydrogen Embrittlement Cadmium-Titanium Alloy Plating
- (5) SOPM 20-44-01, Application of Special Purpose Coatings and Finishes

32-11-63

REPAIR 1-1

01.1

Page 601

Mar 01/00

- (6) SOPM 20-50-07, Lubrication
- (7) SOPM 20-50-08, Application of Bonded Solid Film Lubricants
- (8) SOPM 20-60-02, Finishing Materials
- (9) SOPM 20-60-03, Lubricants
- (10) SOPM 20-60-04, Miscellaneous Materials

D. Procedure

IPL FIG. & ITEM	MATERIAL	FINISH
<u>IPL Fig. 1</u>		
Nut (25)	4340 Steel 275-300 ksi	Cadmium-titanium, minimum 0.00005 inch thick (F-15.01) to outside surfaces. Cadmium-titanium plate (F-15.32) on threads. Wipe primer (F-19.451) to thread. Apply two layers of BMS 10-79, type 3 primer (F-19.47) to all surfaces as shown in SOPM 20-44-01. Apply a layer of BMS 10-60 enamel 707 (SRF-14.9813) to outside surfaces only.
Washer (30)	4130 Steel 180-200 ksi	Cadmium plate (F-16.13) to all surfaces. Wipe plate finish with BMS 10-11, type 1 primer (F-19.451) and BMS 15-5 cheesecloth. Wipe unwanted primer with clean cheesecloth.
Bolt (100)	15-5 PH CRES 180-200 ksi	Passivate (F-17.25).
Washer (105)	15-5 PH CRES 180-200 ksi	Passivate (F-17.25).
End Cap (115)	15-5 PH CRES 180-200 ksi	Cadmium plate (F-15.06) to all surfaces. Apply BMS 3-8, type 8, dry film lubricant as shown in SOPM 20-50-08 to surfaces identified by flagnote 1 in Fig. 601.

 Refinish Details
 Table 601 (Sheet 1)

32-11-63

REPAIR 1-1

01.1

Page 602

Mar 01/00


BOEING
 COMPONENT
 MAINTENANCE MANUAL

IPL FIG. & ITEM	MATERIAL	FINISH
<u>IPL Fig. 1</u> (Cont) Lock Pin (120) Plate (140) Shim (160)	Aluminum alloy 275-300 ksi 15-5 PH CRES 180-200 ksi BMS 7-335, Type V CRES	Cadmium-titanium plate (F-15.01) and apply a layer of BMS 10-79, type 3 primer (F-19.66) but not on surfaces noted. Apply 0.003-0.005 inch thick of chrome plate (F-15.34) to surfaces identified by flagnote 3 in Fig. 602. Apply a layer of MIL-C-11796 class 1 corrosion preventive compound (F-19.03) after finish (F-15.01 + F-19.66) to inside diameter as identified by flagnote 4 in Fig. 602. Obey flagnote 5 in Fig. 602. Passivate (F-17.25) all surfaces. Apply two layers of BMS 10-79, type 3 primer (F-19.47) to surfaces identified by flagnote 1 in Fig. 603 and as shown in SOPM 20-44-01. Apply two layers of BMS 10-79, type 3 primer (F-19.47) to the solid as shown in SOPM 20-44-01.

Refinish Details
 Table 601 (Sheet 2)

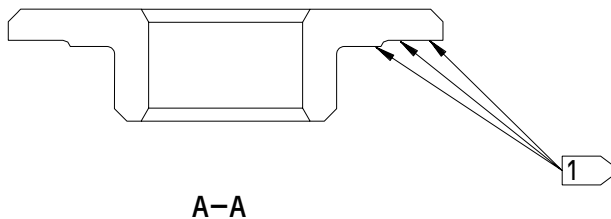
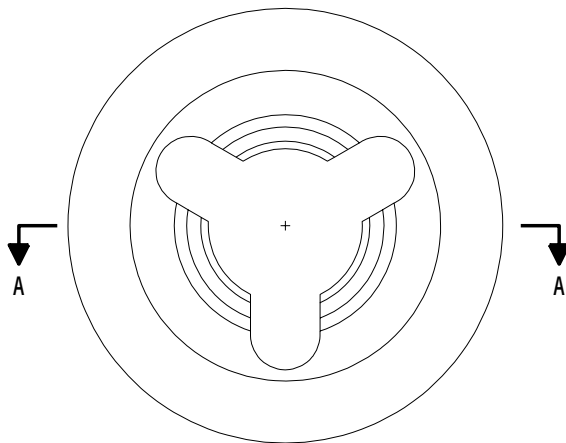
32-11-63

REPAIR 1-1

01.1

Page 603

Mar 01/00



1 APPLY TYPE 8, DRY FILM LUBRICANT
AS SHOWN IN SOPM 20-50-08

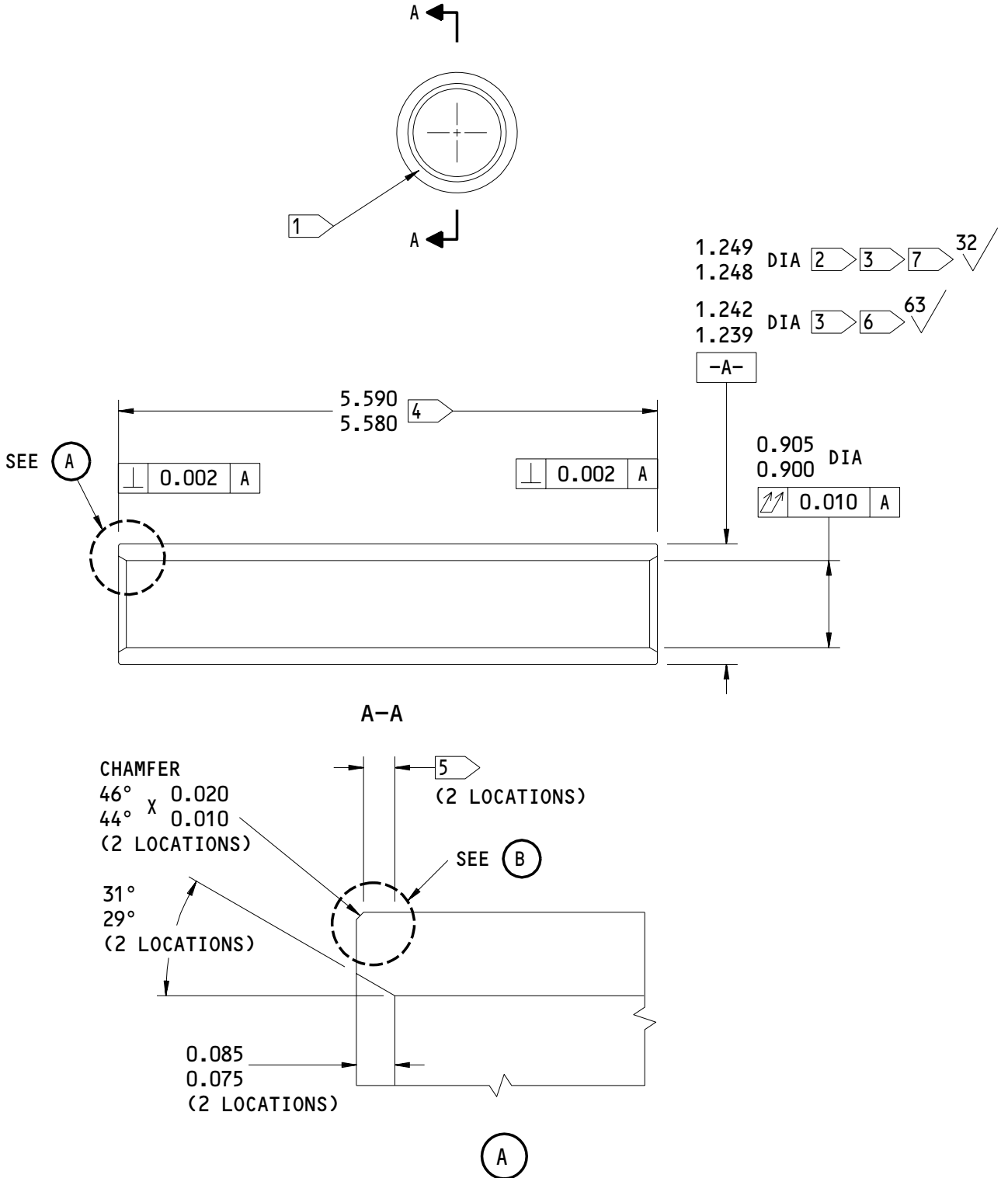
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

161W3130-1
End Cap Refinish
Figure 601

32-11-63

REPAIR 1-1
Page 604
Mar 01/00

01.1



161W4018-1
Link Pin Refinish
Figure 602 (Sheet 1)

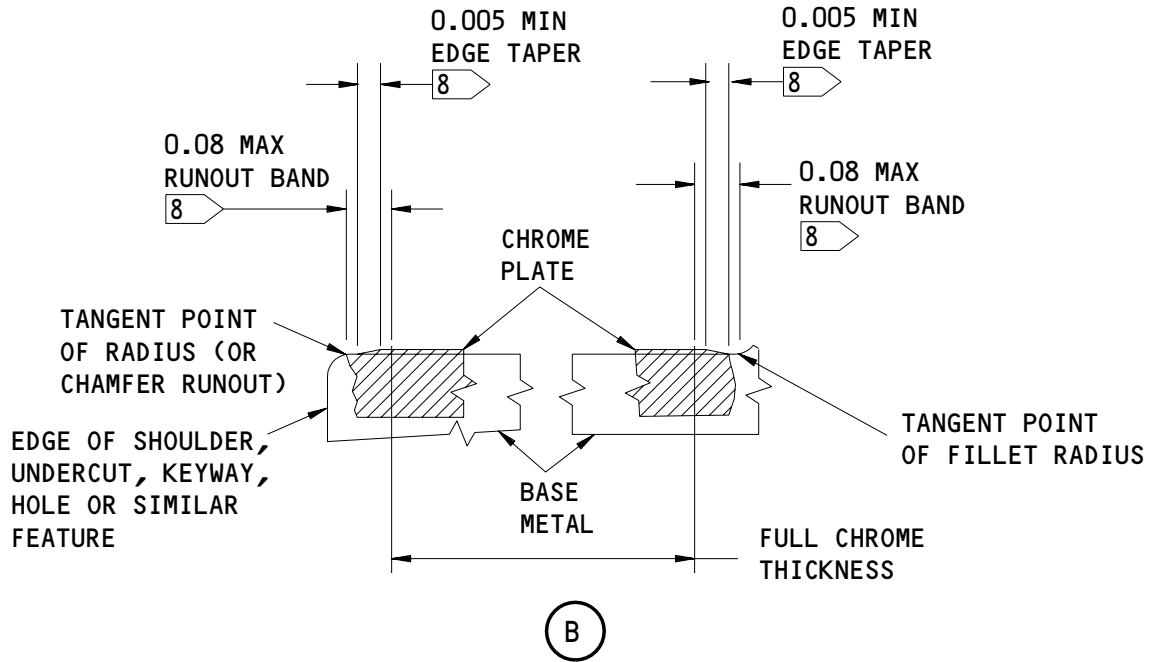
32-11-63

REPAIR 1-1

01.1

Page 605

Mar 01/00



- 1 PART NUMBER AND SERIAL NUMBER ARE FOUND HERE
- 2 MAXIMUM DECARBURATION IS D1
- 3 APPLY 0.003-0.005 INCH THICK OF CHROME PLATE (F-15.34)
- 4 APPLY A LAYER OF MIL-C-11796 CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) AFTER FINISH (F-15.01 + F-19.66) TO THE INSIDE DIAMETER
- 5 CHROMIUM PLATE RUNOUT AREA HERE. WIPE BMS 10-11, TYPE 1 PRIMER (F-19.451) HERE
- 6 BEFORE PLATING
- 7 AFTER PLATING

- 8 THE CHROME PLATE SHALL END WITH A TAPER FROM FULL TO ZERO THICKNESS OVER A 0.005 INCH MINIMUM LENGTH. DO NOT END THE CHROME PLATE WITH A SQUARE EDGE. THE CHROME SHOULD BE WITHIN A 0.05 WIDE BAND. THIS BAND SHOULD START AT A TANGENT POINT OF A SHOULDER, CHAMFER OR UNDERCUT

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161W4018-1
 Link Pin Refinish
 Figure 602 (Sheet 2)

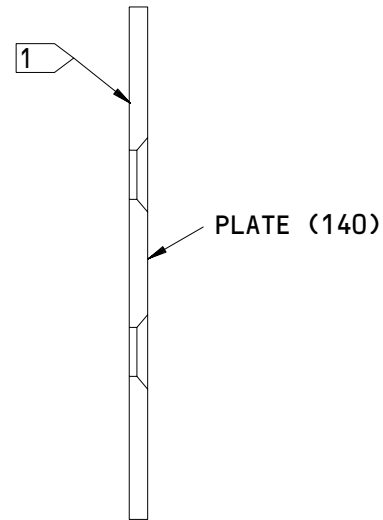
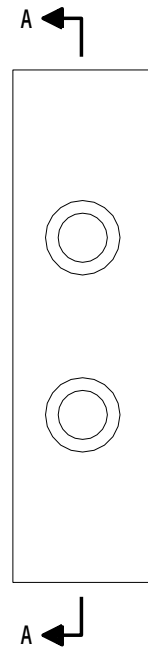
32-11-63

REPAIR 1-1

01.1

Page 606

Mar 01/00



A-A

1 APPLY TWO LAYERS OF BMS 10-79,
TYPE 3 PRIMER (F-19.47) AS SHOWN
IN SOPM 20-44-01

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

161W4021-1
Plate Refinish
Figure 603

32-11-63

REPAIR 1-1

01.1

Page 607

Mar 01/00

UPPER DRAG STRUT ASSEMBLY – REPAIR 2-1

161T6101-1

1. General

- A. This procedure has the data necessary to repair the upper drag strut assembly (40).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.

2. Bushing Replacement**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

- (1) SOPM 20-50-03, Bushing and Bearing Replacement
- (2) SOPM 20-50-07, Lubrication
- (3) SOPM 20-60-03, Lubricants

C. Procedures

- (1) Remove the bushing(s) (45, 50) from the drag strut (65) as shown in Fig. 601.
- (2) Install the bushing(s) (45, 50) onto the drag strut (65) with BMS 3-33 grease by the shrink-fit procedure as shown in SOPM 20-50-03.
- (3) Size the bushing(s) (45, 50) to dimension identified by flagnote 2 in Fig. 601.

32-11-63

REPAIR 2-1

01.1

Page 601

Mar 01/00

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

(1) SOPM 20-50-01, Bolt and Nut Installation

(2) SOPM 20-50-07, Lubrication

(3) SOPM 20-60-03, Lubricants

C. Procedures

(1) Remove the lube fitting(s) (55) from the drag strut (65) as shown in Fig. 601.

(2) Install the lube fitting(s) (55) onto the drag strut (65) with BMS 3-33 grease. Tighten the lube fitting(s) (55) to 25-30 pound-inches of torque.

(3) Make sure that the lube fitting(s) (55) passage is not blocked. Apply BMS 3-33 grease to the lube fitting(s) (55) until grease appears in the inside diameter of the bushing(s) (45, 50).

4. Threaded Insert Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

(1) SOPM 20-50-03, Bushing and Bearing Replacement

(2) SOPM 20-50-07, Lubrication

(3) SOPM 20-60-03, Lubricants

32-11-63

REPAIR 2-1

01.1

Page 602

Mar 01/00

C. Procedures

- (1) Remove the threaded insert(s) (60) from the drag strut (65) as shown in Fig. 601.
- (2) Install the threaded insert(s) (60) into the drag strut (65) with BMS 3-33 grease by the shrink-fit procedure as shown in SOPM 20-50-03.
- (3) Threaded insert(s) (60) must be installed flush to the machined surface of drag strut (65) surface to within ± 0.02 inch.

5. Drag Strut Assembly Refinish

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00175 Coating -- BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (2) C00033 Coating -- BMS 10-60 enamel 702 (SOPM 20-60-02)

B. References

- (1) SOPM 20-30-03, General Cleaning Procedure
- (2) SOPM 20-44-04, Application of Urethane Compatible Primer
- (3) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings
- (4) SOPM 20-60-02, Finishing Materials

C. Procedures

- (1) Clean surface area identified by flagnote 4 in Fig. 601 and shown in SOPM 20-30-03.
- (2) Apply touch-up layer of BMS 10-79, type 3 primer (F-19.47) and a layer of BMS 10-60 gloss enamel (SRF-14.9815-702) to the word "UP" and the indicator arrow as shown in SOPM 20-50-10.

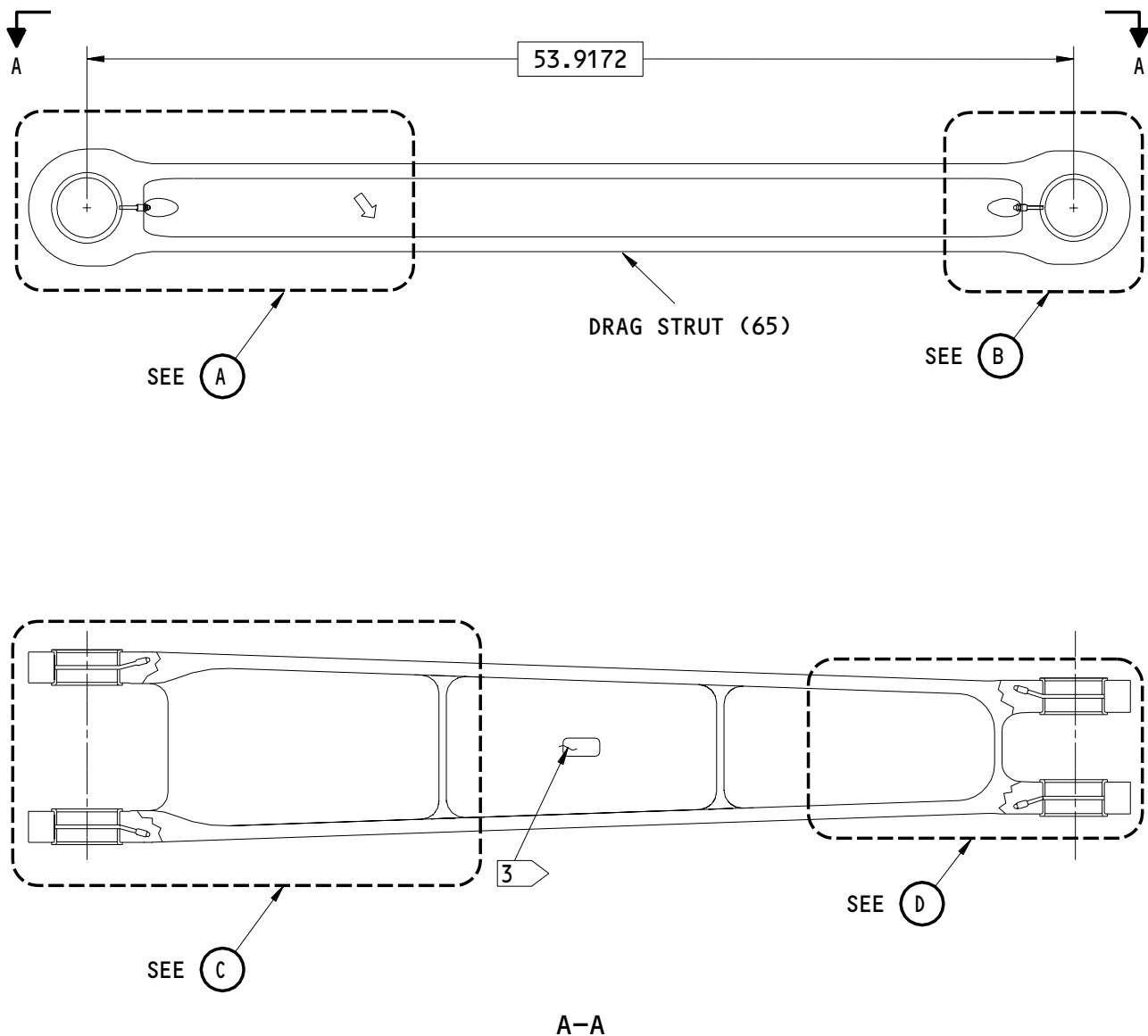
32-11-63

REPAIR 2-1

01.1

Page 603

Mar 01/00

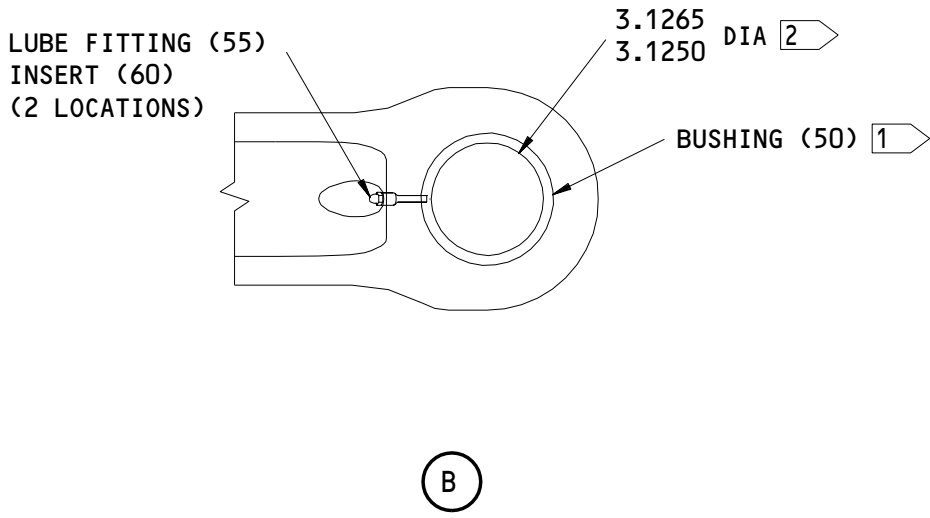
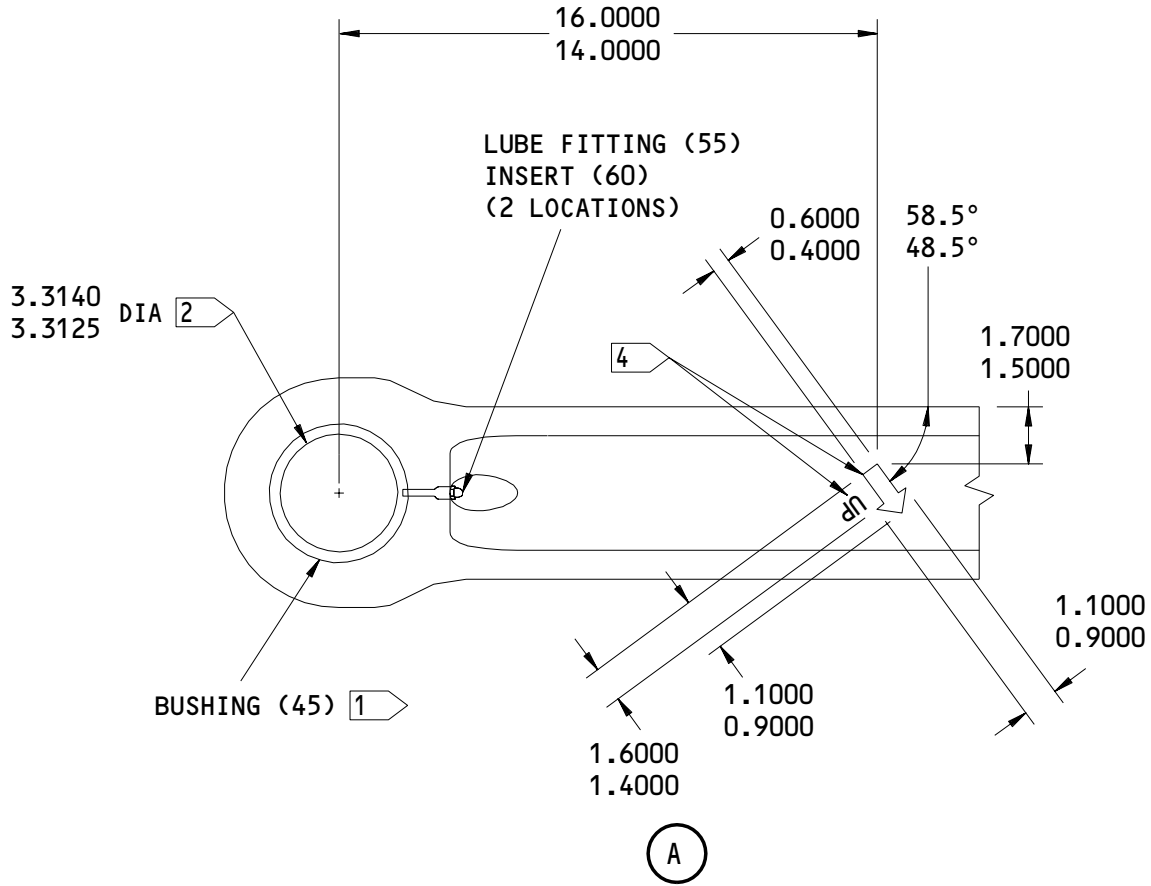


161T6101-1
Upper Drag Strut Assembly Repair
Figure 601 (Sheet 1)

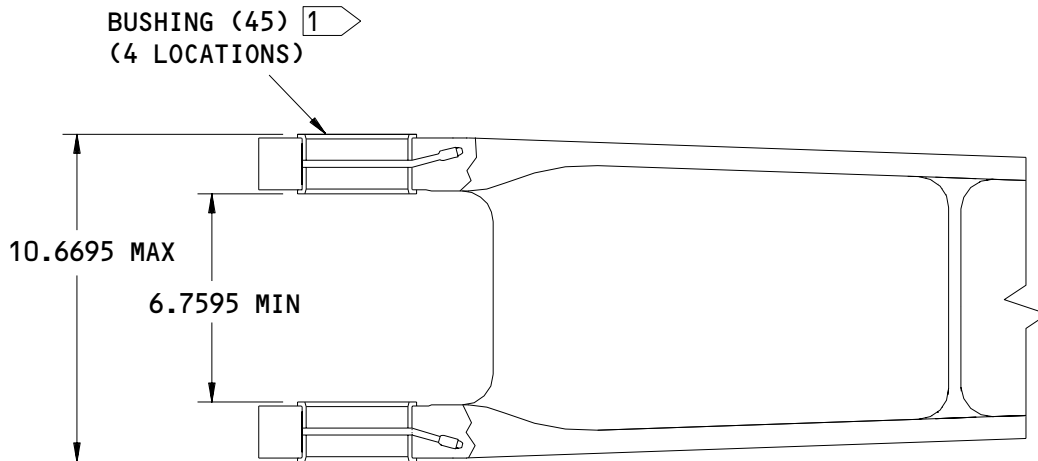
32-11-63

REPAIR 2-1
Page 604
Mar 01/00

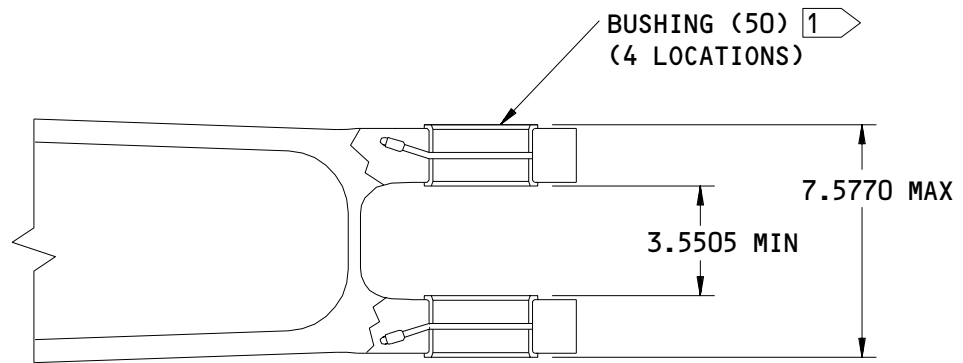
01.1



161T6101-1
Upper Drag Strut Assembly Repair
Figure 601 (Sheet 2)



(C)



(D)

- 1 INSTALL BUSHING WITH BMS 3-33 GREASE BY SHRINK-FIT PROCEDURE AS SHOWN IN SOPM 20-50-03
- 2 INSTALLED DIMENSION. SIZE IF NECESSARY WITH SURFACE ROUGHNESS OF 32 MICROINCHES
- 3 PART NUMBER AND SERIAL NUMBER ARE FOUND HERE

- 4 STENCIL THE WORD "UP" AND THE INDICATOR ARROW WITH BMS 10-79, TYPE 3 PRIMER (F-19.47) PLUS BMS 10-60 GLOSS ENAMEL (SRF-14.9815-702) AS SHOWN IN SOPM 20-50-10

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

161T6101-1
 Upper Drag Strut Assembly Repair
 Figure 601 (Sheet 3)

32-11-63

REPAIR 2-1

Page 606

Mar 01/00

01.1

UPPER DRAG STRUT – REPAIR 2-2

161T6101-2

1. General

- A. This procedure has the data necessary to repair and refinish the drag strut (65).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.
- E. General repair details:
 - (1) Material: Titanium alloy

2. Drag Strut Repair

- A. References
 - (1) SOPM 20-10-03, Shot Peening
 - (2) SOPM 20-30-03, General Cleaning Procedures
 - (3) SOPM 20-41-01, Decoding Table For Boeing Finish Codes
- B. Procedures
 - (1) Machine as necessary, within the repair limits shown in Fig. 601 to remove the defects.
 - (2) Apply no finish (F-25.01) but that temporary coatings may be applied for protection during handling, transportation, and storage.
 - (3) Obey the flagnotes in Fig. 601.

32-11-63

REPAIR 2-2

01.1

Page 601

Mar 01/00

| 3. Manufacturing of Oversized Bushings

- | A. Manufacture the bushings (Fig. 602), as necessary to compensate for the amount of material removed in step 2.C.(1).
- | B. Install the bushings as shown in Repair 2-1.

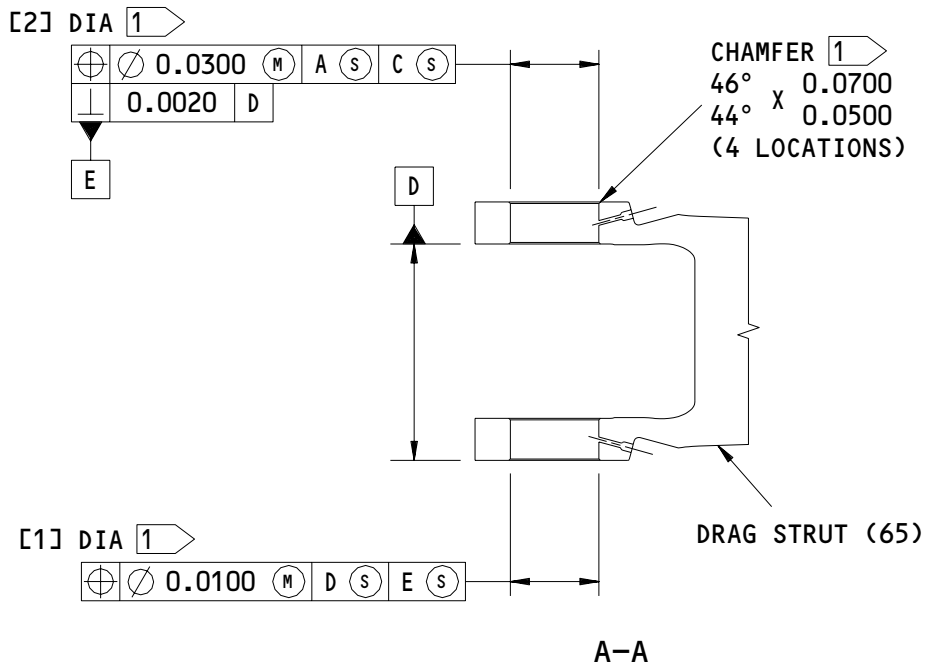
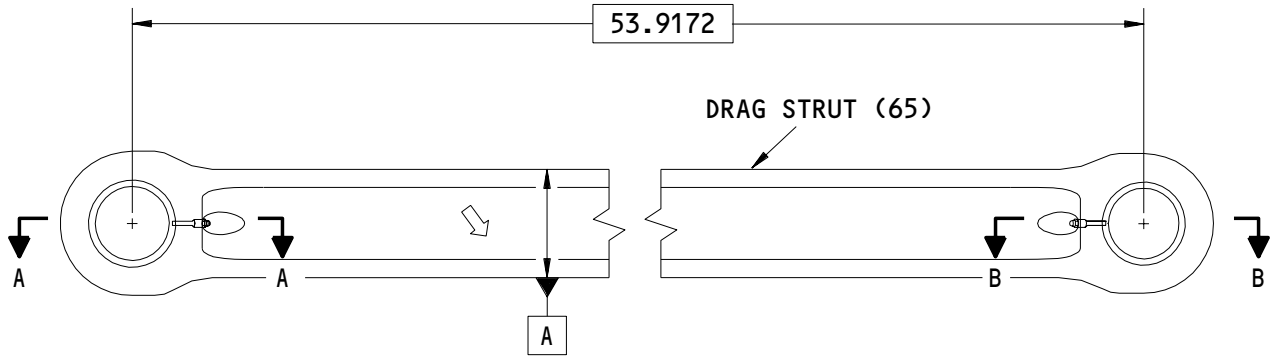
32-11-63

REPAIR 2-2

Page 602

Mar 01/00

01.1

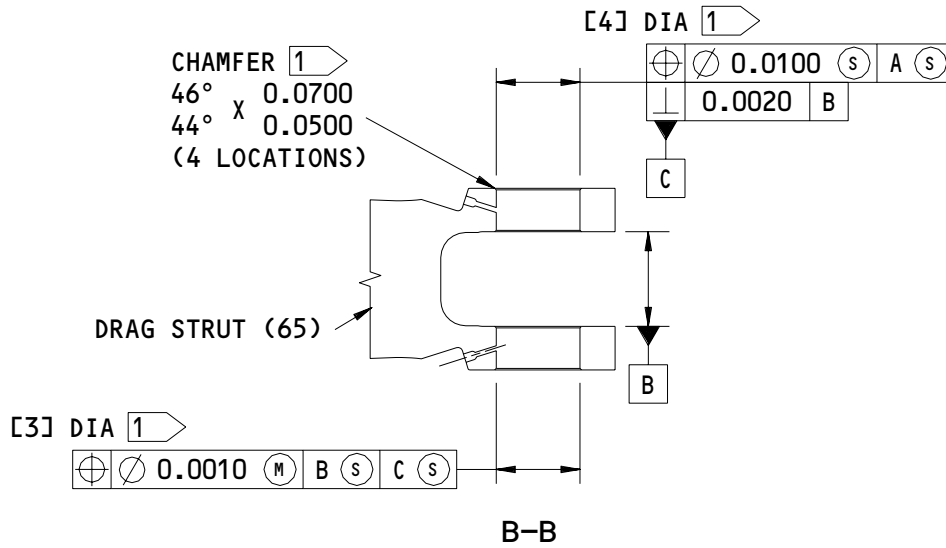


161T6101-1
 Upper Drag Strut Repair
 Figure 601 (Sheet 1)

32-11-63

REPAIR 2-2
 Page 603
 Mar 01/00

01.1



REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	3.5640	3.5640	3.3765	3.3764
	3.5625	3.5625	3.3750	3.3749
REPAIR LIMIT 2 MAX	3.6240	3.6240	3.4365	3.4364

1 MACHINE AS SHOWN IN SOPM 20-10-07, CLASS 1. SURFACE ROUGHNESS OF 63 MICROINCHES RA

2 REPAIR LIMIT FOR OVERSIZE BUSHING INSTALLATION

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

161T6101-1
 Upper Drag Strut Repair
 Figure 601 (Sheet 2)

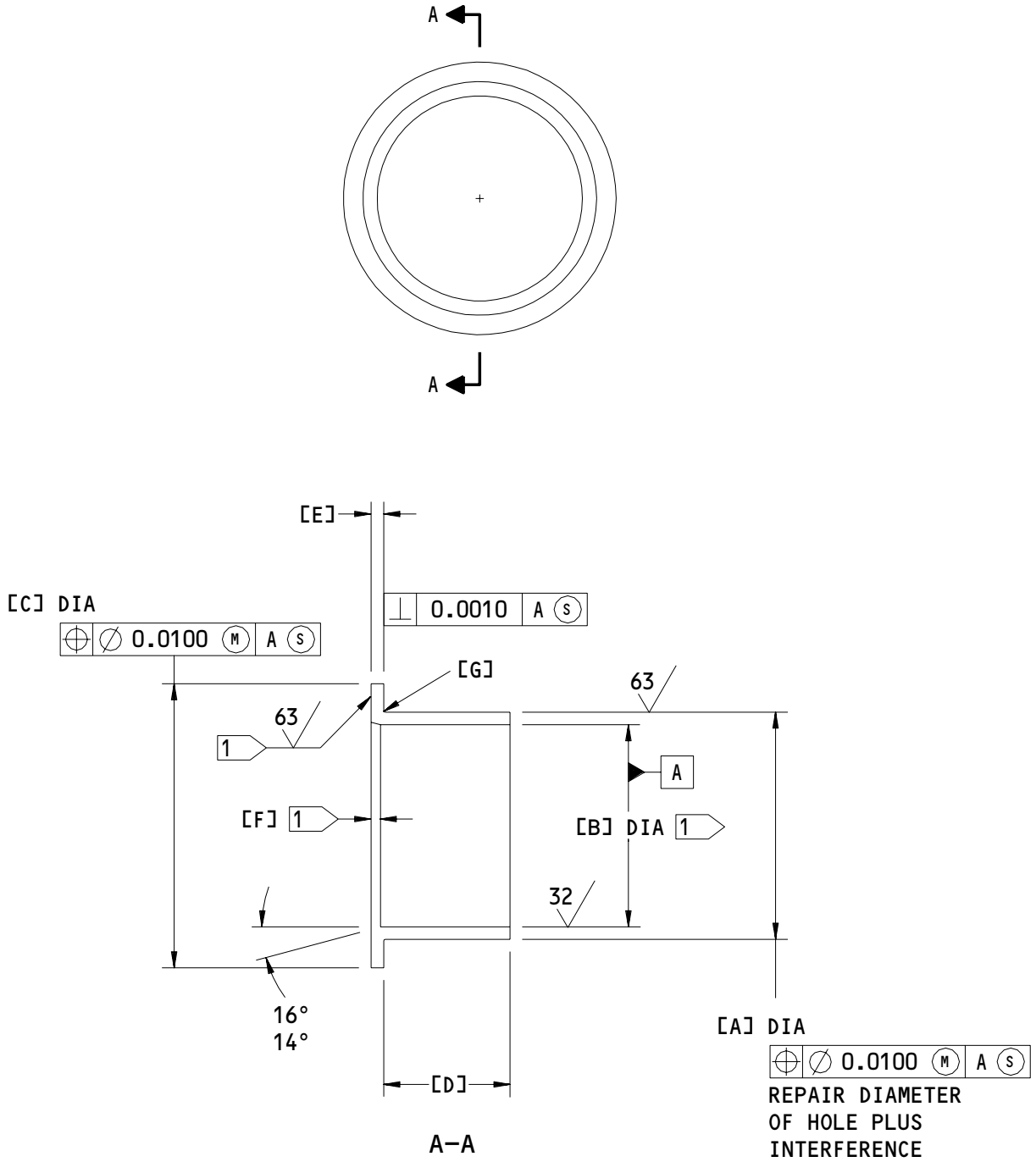
32-11-63

REPAIR 2-2

Page 604

Mar 01/00

01.1



OVERSIZE REPLACEMENT FOR BUSHINGS (45,50)

Oversize Bushing Details
 Figure 602 (Sheet 1)

32-11-63

REPAIR 2-2

01.1

Page 605

Mar 01/00

HOLE LOCATION (FIG. 601)	BUSHING REPLACES (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]	[G]	INTER-FERENCE
[1],[2]	161T2874-2 (50)	3.5684 3.5668	3.3160 3.3145	3.8845 3.8645	0.7350 0.7150	0.1260 0.1250	0.1600 0.1400	0.0300 0.0200	0.0059 0.0028
[3],[4]	161T2874-1 (45)	3.3807 3.3792	3.1288 3.1273	3.6970 3.6770	0.7600 0.7400	0.1260 0.1250	0.1600 0.1400	0.0300 0.0200	0.0058 0.0027

1 DO NOT PUT FINISH (F-25.01) IN THIS SURFACE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BR AS IN AMS 4640

BREAK ALL SHARP EDGES 0.01-0.02 R
ITEM NUMBERS REFER TO IPL FIG. 1

ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 2)

32-11-63

REPAIR 2-2

01.1 Page 606

Mar 01/00

LOWER DRAG STRUT ASSEMBLY – REPAIR 3-1

161T6103-1

1. General

- A. This procedure has the data necessary to repair the lower drag strut assembly (70).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.

2. Bushing Replacement**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

- (1) SOPM 20-50-03, Bushing and Bearing Replacement
- (2) SOPM 20-50-07, Lubrication
- (3) SOPM 20-60-03, Lubricants

C. Procedures

- (1) Remove the bushing(s) (75) from the drag strut (90) as shown in Fig. 601.
- (2) Install the bushing(s) (75) onto the drag strut (65) with BMS 3-33 grease by the shrink-fit procedure as shown in SOPM 20-50-03.
- (3) Size the bushing(s) (75) to dimension identified by flagnote 2 in Fig. 601.

32-11-63

REPAIR 3-1

01.1

Page 601

Mar 01/00

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

(1) SOPM 20-50-01, Bolt and Nut Installation

(2) SOPM 20-50-07, Lubrication

(3) SOPM 20-60-03, Lubricants

C. Procedures

(1) Remove the lube fitting(s) (80) from the drag strut (90) as shown in Fig. 601.

(2) Install the lube fitting(s) (80) onto the drag strut (90) with BMS 3-33 grease. Tighten the lube fitting(s) (80) to 25-30 pound-inches of torque.

(3) Make sure that the lube fitting(s) (80) passage is not blocked. Apply BMS 3-33 grease to the lube fitting(s) (80) until grease appears in the inside diameter of the bushing(s) (75).

4. Threaded Insert Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

(1) D00633 Grease -- BMS 3-33 (SOPM 20-60-03)

B. References

(1) SOPM 20-50-03, Bushing and Bearing Replacement

(2) SOPM 20-50-07, Lubrication

(3) SOPM 20-60-03, Lubricants

32-11-63

REPAIR 3-1

01.1

Page 602

Mar 01/00

C. Procedures

- (1) Remove the threaded insert(s) (85) from the drag strut (90) as shown in Fig. 601.
- (2) Install the threaded insert(s) (85) into the drag strut (90) with BMS 3-33 grease by the shrink-fit procedure as shown in SOPM 20-50-03.
- (3) Threaded insert(s) (85) must be installed flush to the machined surface of drag strut (90) surface to within ± 0.02 inch.

5. Drag Strut Assembly Refinish

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00175 Coating -- BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (2) C00033 Coating -- BMS 10-60 enamel 702 (SOPM 20-60-02)

B. References

- (1) SOPM 20-30-03, General Cleaning Procedure
- (2) SOPM 20-44-04, Application of Urethane Compatible Primer
- (3) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings
- (4) SOPM 20-60-02, Finishing Materials

C. Procedures

- (1) Clean surface area identified by flagnote 4 in Fig. 601 and shown in SOPM 20-30-03.
- (2) Apply touch-up layer of BMS 10-79, type 3 primer (F-19.47) and a layer of BMS 10-60 gloss enamel (SRF-14.9815-702) to the word "UP" and the indicator arrow as shown in SOPM 20-50-10.

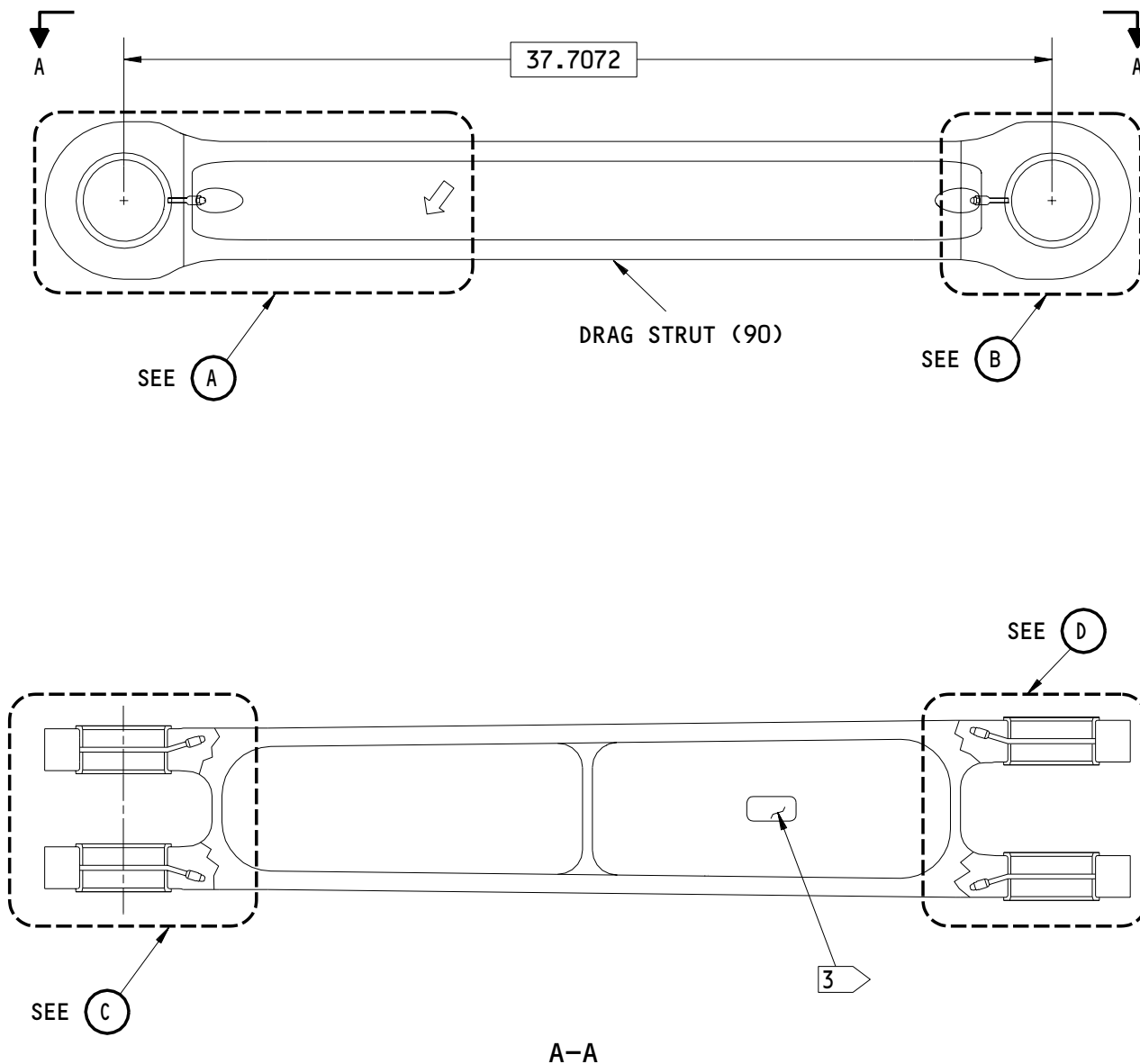
32-11-63

REPAIR 3-1

01.1

Page 603

Mar 01/00

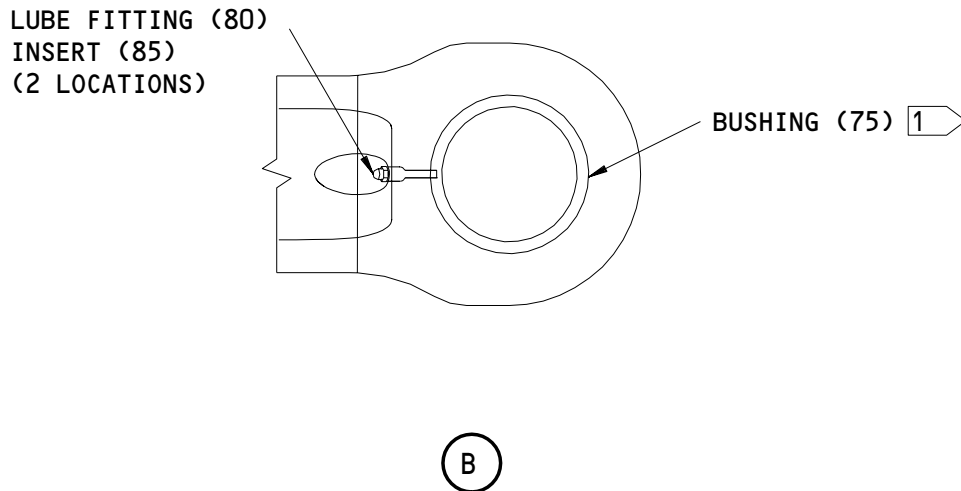
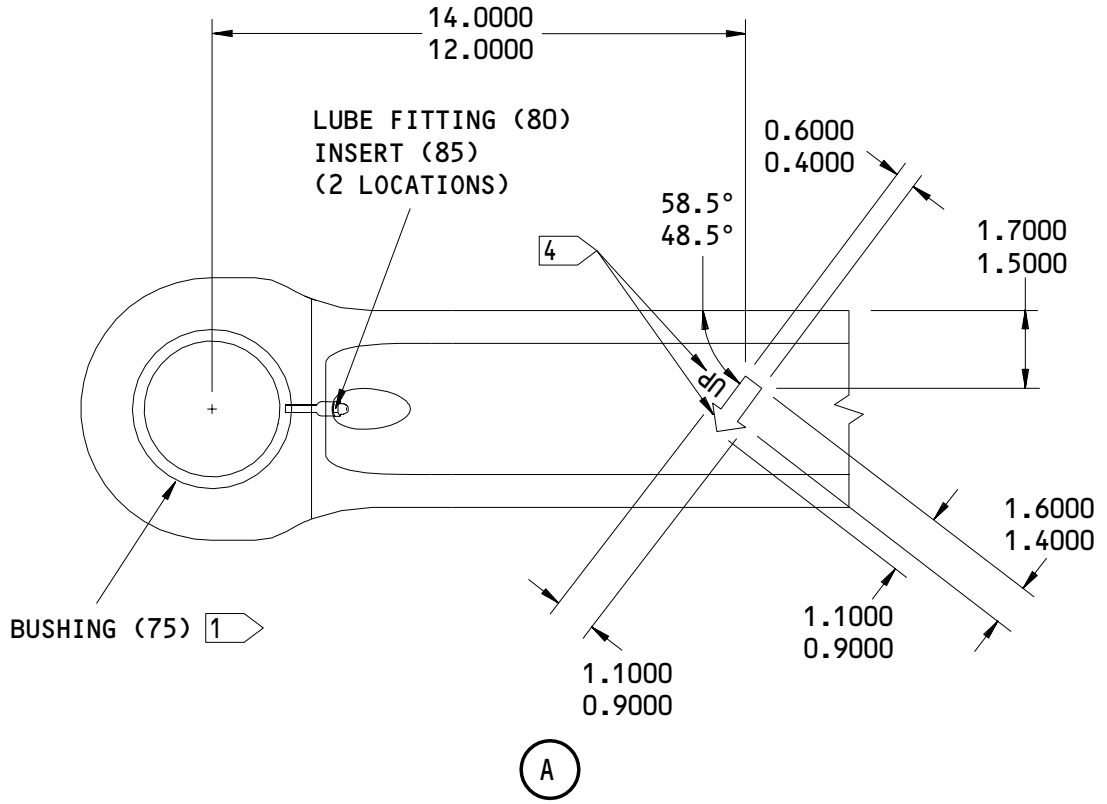


161T6103-1
Lower Drag Strut Assembly Repair
Figure 601 (Sheet 1)

32-11-63

REPAIR 3-1
Page 604
Mar 01/00

01.1



161T6103-1
Lower Drag Strut Assembly Repair
Figure 601 (Sheet 2)

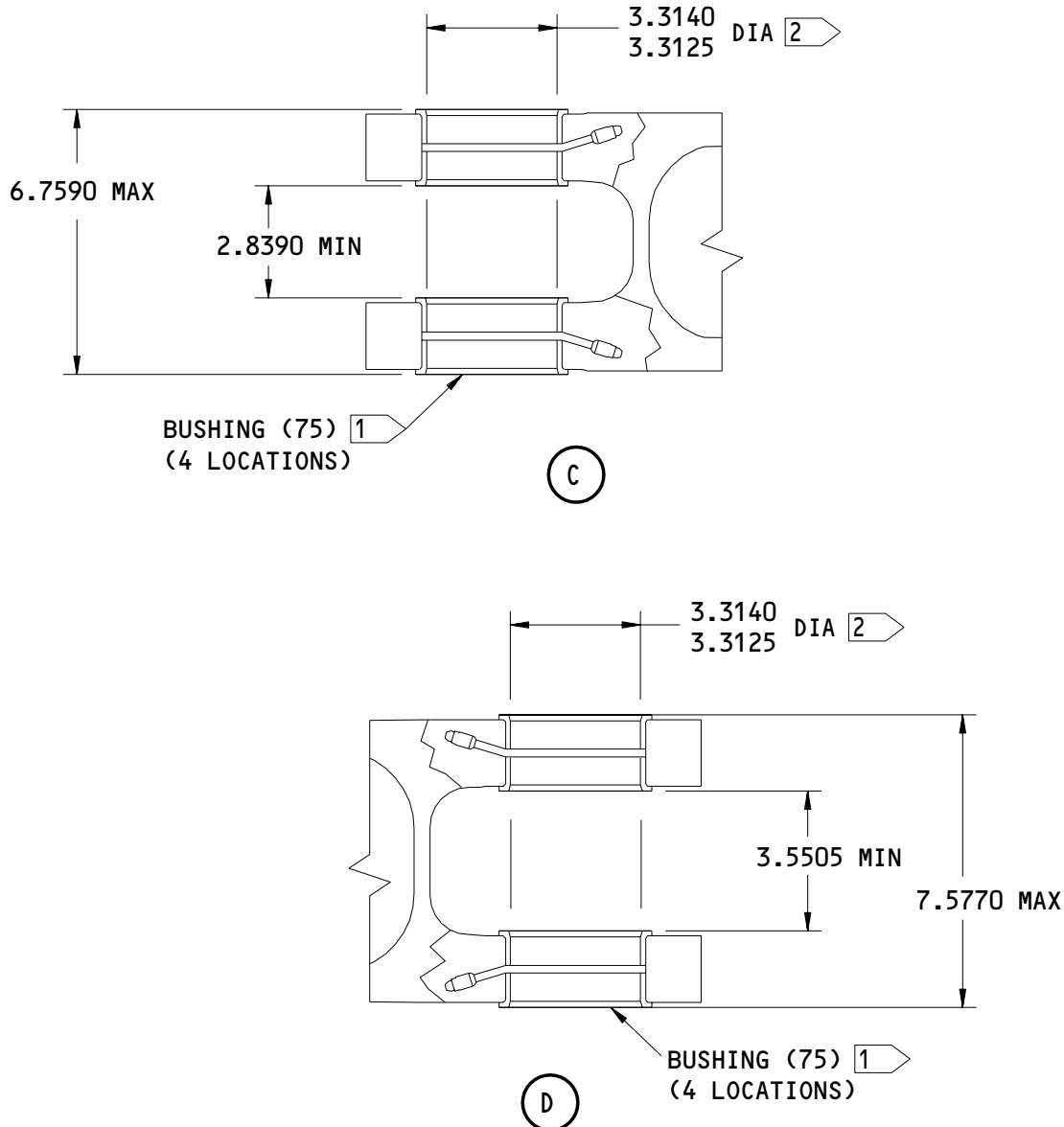
32-11-63

REPAIR 3-1

01.1

Page 605

Mar 01/00



- 1 INSTALL BUSHING WITH BMS 3-33 GREASE BY SHRINK-FIT PROCEDURE AS SHOWN IN SOPM 20-50-03
- 2 INSTALLED DIMENSION. SIZE IF NECESSARY WITH SURFACE ROUGHNESS OF 32 MICROINCHES
- 3 PART NUMBER AND SERIAL NUMBER ARE FOUND HERE

- 4 STENCIL THE WORD "UP" AND THE INDICATOR ARROW WITH BMS 10-79, TYPE 3 PRIMER (F-19.47) PLUS BMS 10-60 GLOSS ENAMEL (SRF-14.9815-702) AS SHOWN IN SOPM 20-50-10

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

161T6103-1
 Lower Drag Strut Assembly Repair
 Figure 601 (Sheet 3)

32-11-63

REPAIR 3-1

01.1

Page 606

Mar 01/00

LOWER DRAG STRUT – REPAIR 3-2

161T6103-2

1. General

- A. This procedure has the data necessary to repair and refinish the Lower drag strut (90).
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.
- E. General repair details:
 - (1) Material: Titanium alloy

2. Drag Strut Repair

- A. References
 - (1) SOPM 20-10-03, Shot Peening
 - (2) SOPM 20-30-03, General Cleaning Procedures
 - (3) SOPM 20-41-01, Decoding Table For Boeing Finish Codes
- B. Procedures
 - (1) Machine as necessary, within the repair limits shown in Fig. 601 to remove the defects.
 - (2) Apply no finish (F-25.01) but that temporary coatings may be applied for protection during handling, transportation, and storage.
 - (3) Obey the flagnotes in Fig. 601.

32-11-63

REPAIR 3-2

01.1

Page 601

Mar 01/00

| 3. Manufacturing of Oversized Bushings

- | A. Manufacture the bushings (Fig. 602), as necessary to compensate for the amount of material removed in step 2.C.(1).
- | B. Install the bushings as shown in Repair 3-1.

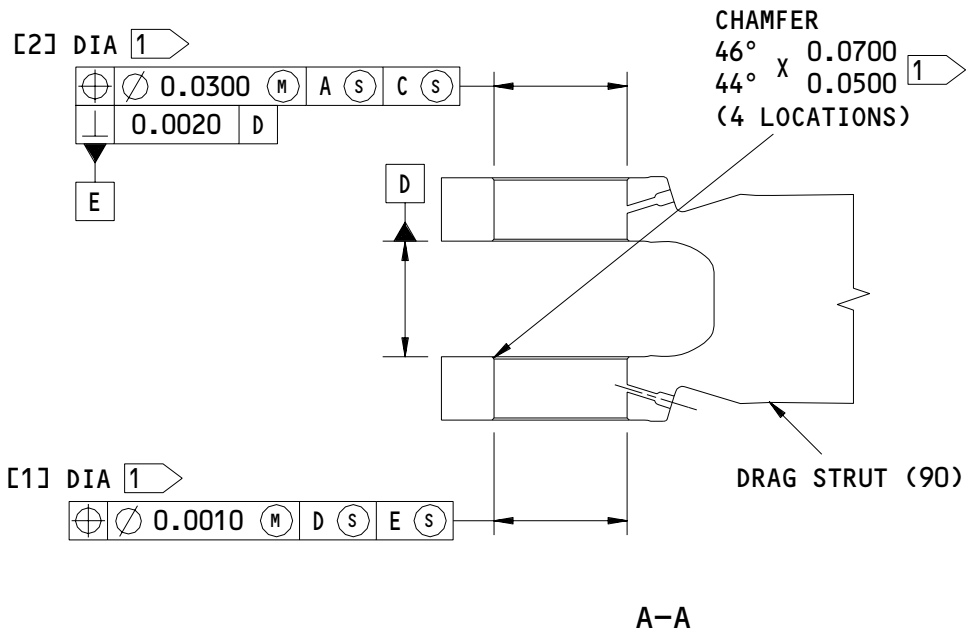
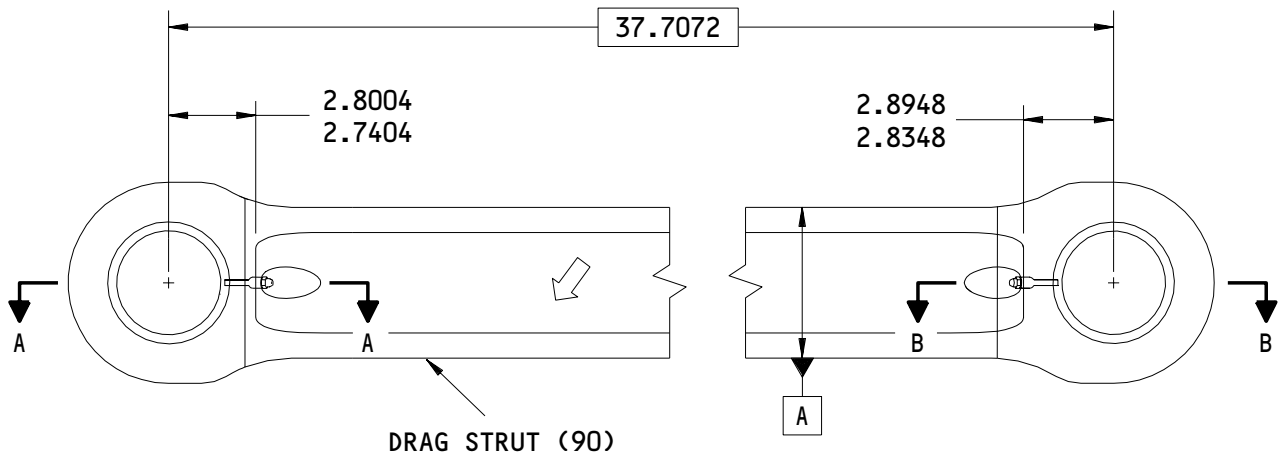
32-11-63

REPAIR 3-2

Page 602

Mar 01/00

01.1



161T6103-2
 Lower Drag Strut Repair
 Figure 601 (Sheet 1)

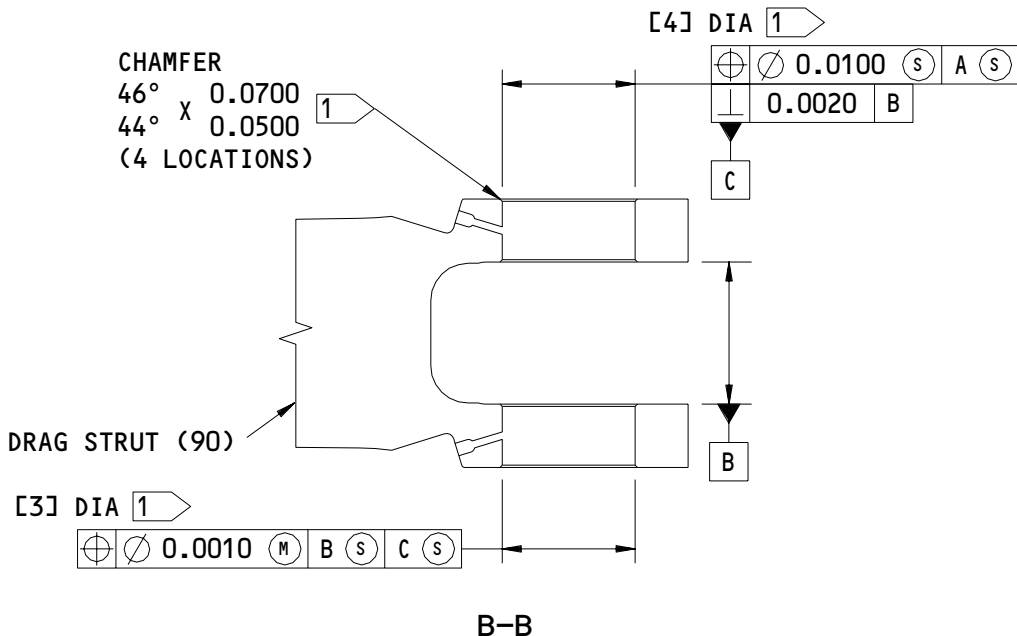
32-11-63

REPAIR 3-2

Page 603

Mar 01/00

01.1



REFERENCE NUMBER	[1]	[2]	[3]	[4]
DESIGN DIMENSION	3.5640 3.5625	3.5640 3.5625	3.5640 3.5625	3.5640 3.5625
REPAIR LIMIT [2]	3.6240 MAX	3.6240 MAX	3.6240 MAX	3.6240 MAX

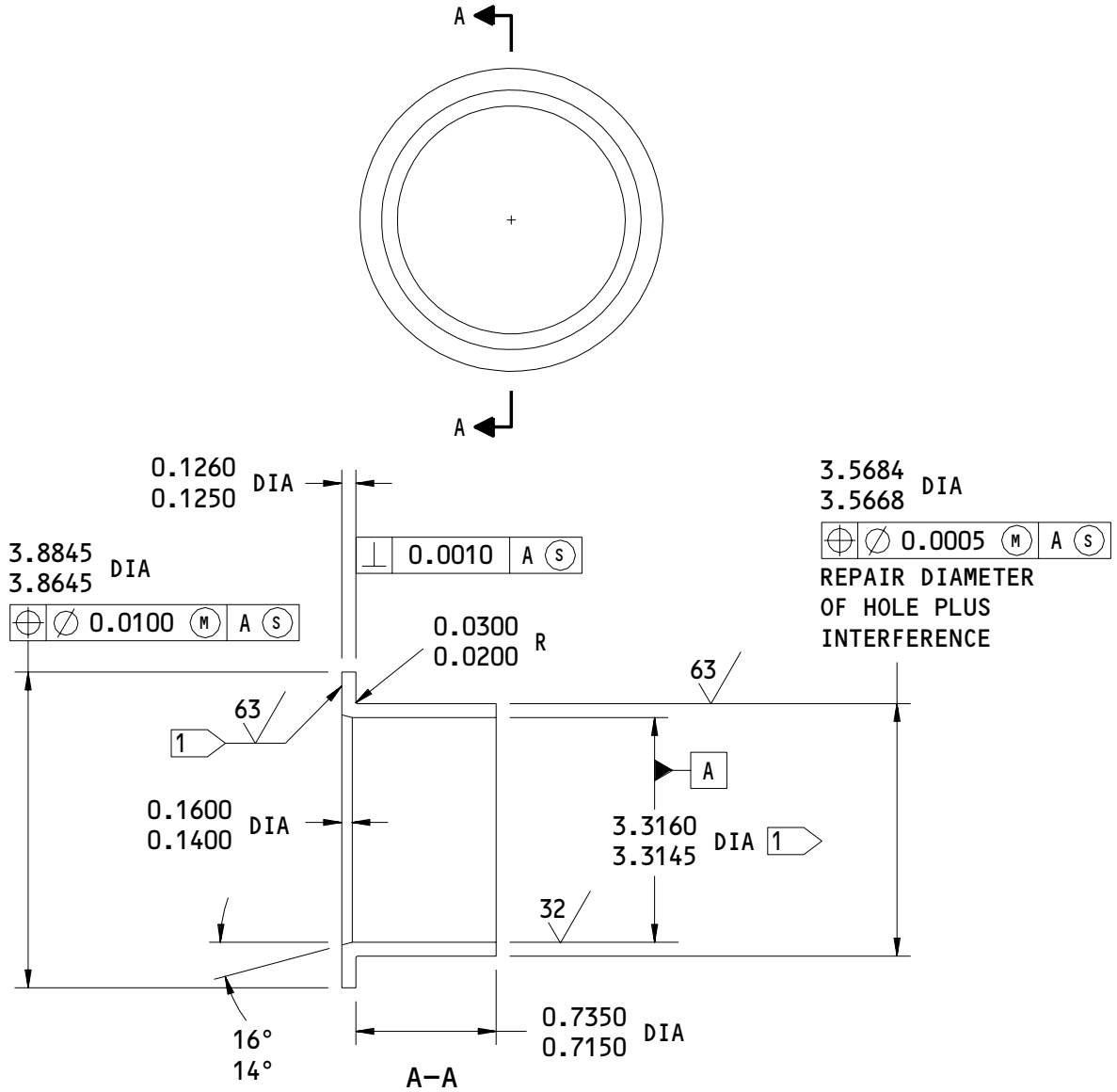
[1] MACHINE AS SHOWN IN SOPM 20-10-07, CLASS 1. SURFACE ROUGHNESS OF 63 MICROINCHES RA

[2] REPAIR LIMIT FOR OVERSIZE BUSHING INSTALLATION

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

161T6103-2
 Lower Drag Strut Repair
 Figure 601 (Sheet 2)

32-11-63
 REPAIR 3-2
 Page 604
 Mar 01/00



OVERSIZE REPLACEMENT FOR BUSHING (75) 2

1 DO NOT PUT FINISH (F-25.01) IN THIS SURFACE

2 HOLE LOCATION

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BR AS IN AMS 4640

BREAK ALL SHARP EDGES 0.01-0.02 R
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
 Figure 602

32-11-63

REPAIR 3-2

01.1

Page 605

Mar 01/00

DRAG STRUT PIN – REPAIR 4-1

161T6110-1

1. General

- A. This procedure has the data necessary to repair and refinish the drag strut pin (35A).
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for details of the SOPM chapters identified in the procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.
- E. General repair details:
 - (1) Materials: Steel alloy
 - (2) HT TR: 275-300 Ksi

2. Drag Strut Pin Repair

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00033 Coating BMS 10-60, Type 2 enamel 707 (SOPM 20-60-02)
- (2) C00175 Coating BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (3) C00308 Compound MIL-C-11796, Class 1 (SOPM 20-60-04)
- (4) G00034 Fabric BMS 15-5, cheesecloth (SOPM 20-60-04)

B. References

- (1) CMM 32-00-05, Repair of High Strength Steel Landing Gear Parts
- (2) SOPM 20-30-03, Stripping of Protective Finishes
- (3) SOPM 20-40-01, Decoding Table for Boeing Finish Codes

32-11-63

REPAIR 4-1

01.1

Page 601

Mar 01/00

(4) SOPM 20-41-03, Application of Corrosion Preventives to Interior of Closed End Tubes

(5) SOPM 20-60-02, Finishing Materials

(6) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

(1) Repair the drag strut pin (35A).

- (a) If required, machine the part within the repair limits to remove defects as shown in Fig. 601.
- (b) Do not grind the threads. Do not shot peen surfaces identified by flagnote 8 in Fig. 601.
- (c) Apply 0.003 inch minimum thickness of chrome plate (F-15.34) to the machined surfaces as identified by flagnote 2 in Fig. 601.
- (d) Apply BMS 10-79, type 3 primer (F-19.451) with BMS 15-5 cheesecloth. Remove unwanted primer with clean cheesecloth.
- (e) Obey flagnote 3 in Fig. 601.

(2) Put a finish on the drag strut pin (35A).

- (a) Apply cadmium-titanium plate (F-15.01), two layers of BMS 10-79, type 3 primer (F-19.66), and a layer of BMS 10-60, type 2 enamel (F-19.39-707) to surfaces identified by flagnote 5 in Fig. 601.
- (b) Apply cadmium-titanium plate (F-15.01), two layers of BMS 10-79, type 3 primer (F-19.66), and a layer of MIL-C-11796, class 1 corrosion preventive compound (F-19.03) to surfaces identified by flagnote 9 in Fig. 601.
- (c) Apply cadmium-titanium plate (F-15.32), a layer of chromate-post treatment, (F-19.451) to surfaces identified by flagnote 10 in Fig. 601.
- (d) Apply 0.002-0.003 inch thick of chrome plate (F-15.34) and a layer of BMS 10-79, type 3 primer (F-19.451) to surfaces identified by flagnote 11 in Fig. 601.

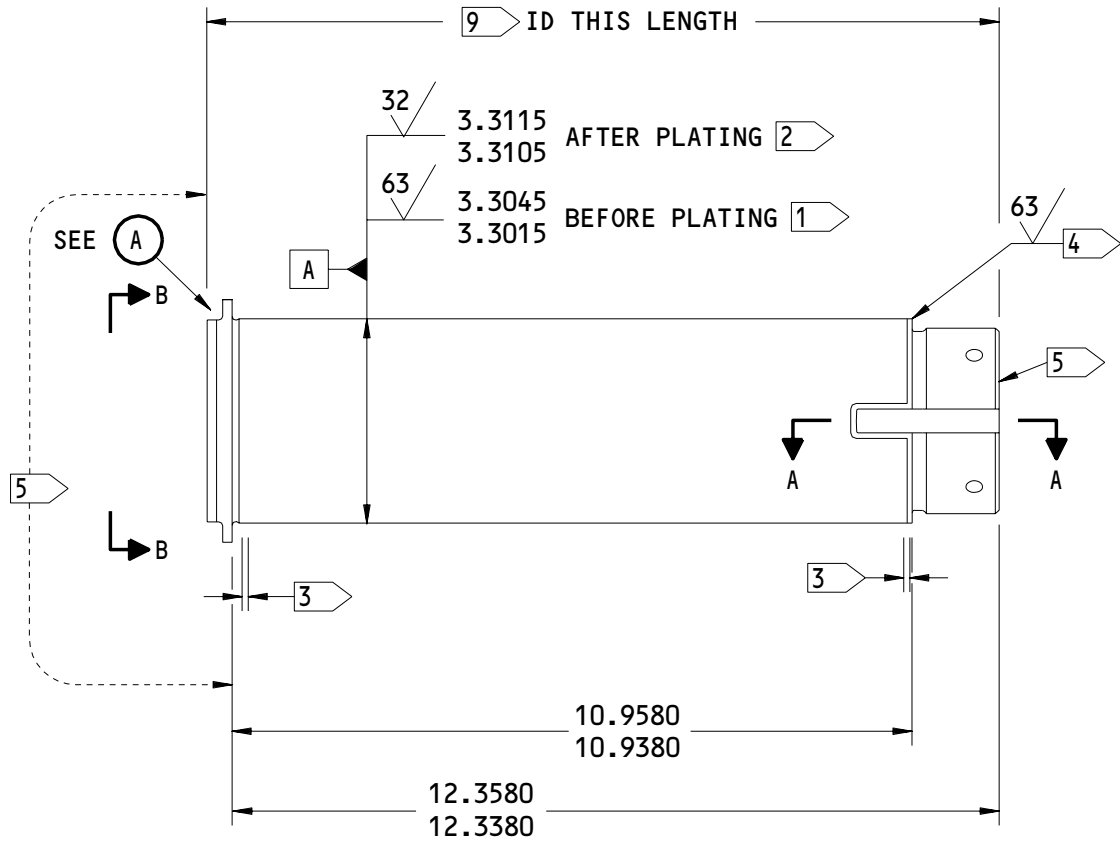
32-11-63

REPAIR 4-1

01.1

Page 602

Mar 01/00



161T6110-1
 Drag Strut Pin Repair
 Figure 601 (Sheet 1)

32-11-63

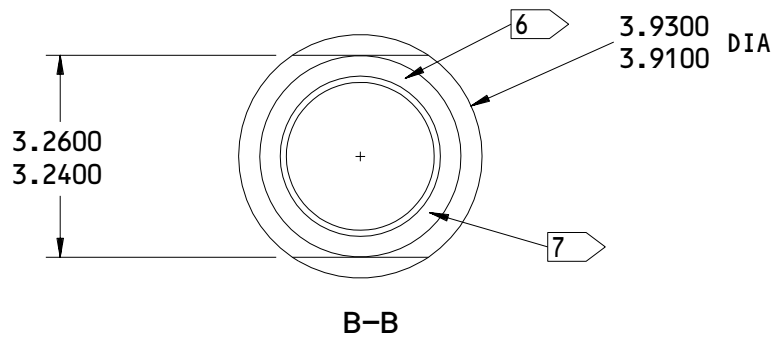
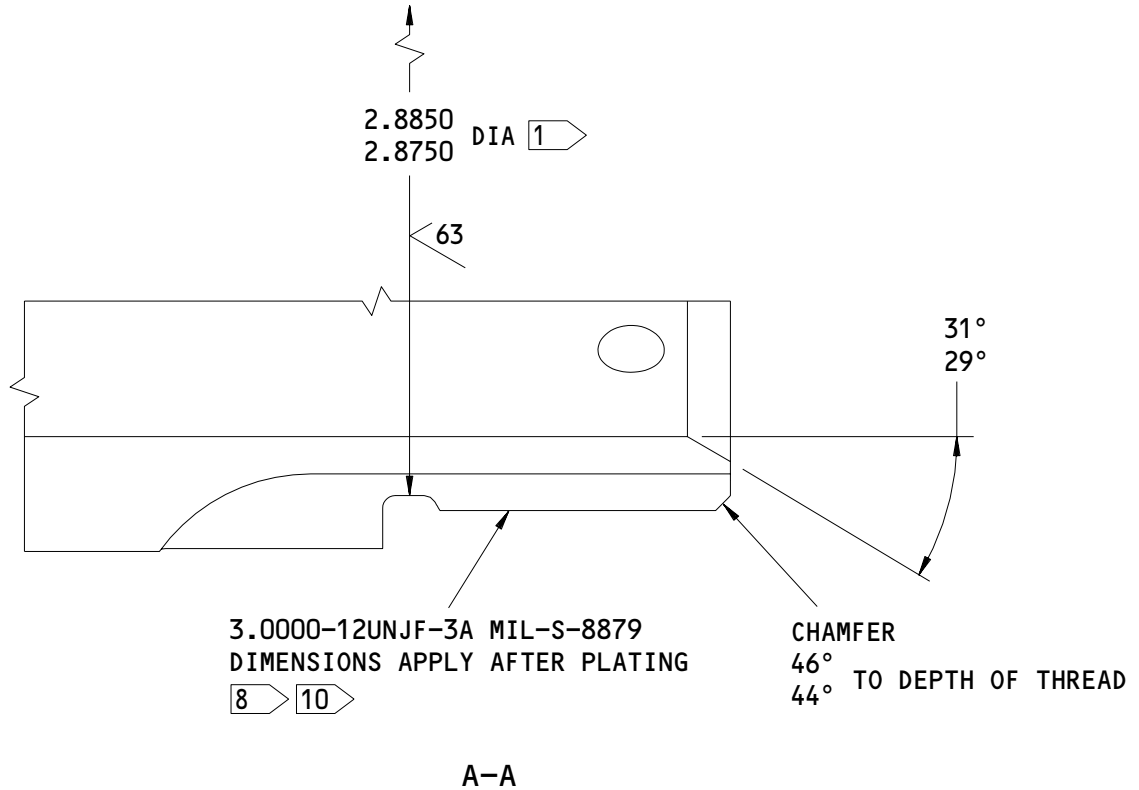
REPAIR 4-1

Page 603

Mar 01/00

01.1

K11738



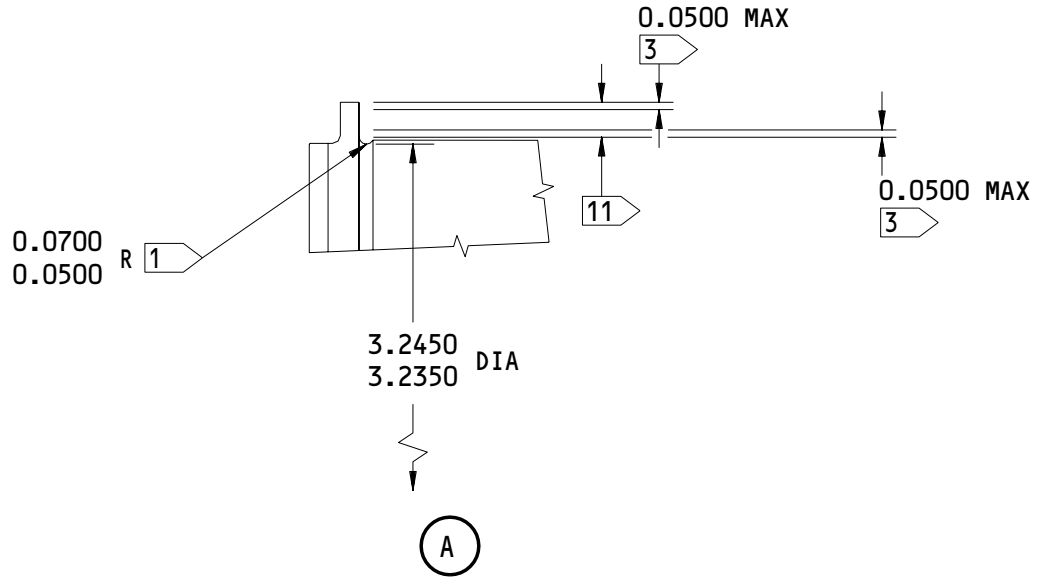
161T6110-1
 Drag Strut Pin Repair
 Figure 601 (Sheet 2)

32-11-63

REPAIR 4-1
 Page 604
 Mar 01/00

01.1

BOEING
 COMPONENT
 MAINTENANCE MANUAL



- 1 MAXIMUM DECARBURATION ALLOWED ON THIS SURFACE IS D1
- 2 APPLY PLATE (F-15.34), 0.003 INCH MINIMUM THICKNESS. APPLY BMS 10-79, TYPE 3 PRIMER (F-19.451) WITH BMS 15 CHEESECLOTH TO THIS SURFACE
- 3 CHROME PLATE RUNOUT IN THIS LOCATION
- 4 BREAK SHARP EDGE EQUIVALENT TO 0.03-0.06 INCH
- 5 APPLY CADMIUM-TITANIUM PLATE (F-15.01) PLUS TWO LAYERS OF BMS 10-79, TYPE 3 PRIMER AND A LAYER OF BMS 10-60, TYPE 2 ENAMEL (F-19-39.707) TO THIS SURFACE
- 6 PART NUMBER AND SERIAL NUMBER IN THIS AREA
- 7 RUBBER STAMPED WORDS "THIS END FORWARD" IN THIS AREA
- 8 DO NOT SHOT PEEN
- 9 APPLY CADMIUM-TITANIUM PLATE (F-15.01) PLUS TWO LAYERS OF BMS 10-79 TYPE 3 PRIMER (F-19.66) AND A LAYER OF MIL-C-11796, CLASS 1 CORROSION PREVENTIVE COMPOUND (F-19.03) TO THIS INSIDE SURFACE
- 10 APPLY CADMIUM-TITANIUM PLATE (F-15.32) AND A LAYER OF CHROMATE POST PLATE TREATMENT PLUS BMS 10-79 TYPE PRIMER (F-19.451) HERE
- 11 APPLY 0.002-0.003 INCH THICK OF CHROME PLATE (F-15.34) PLUS A LAYER OF BMS 10-79, TYPE 3 PRIMER (F-19.451) HERE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
 BREAK ALL SHARP EDGES
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

161T6110-1
 Drag Strut Pin Repair
 Figure 601 (Sheet 3)

32-11-63
 REPAIR 4-1
 Page 605
 Mar 01/00

01.1

K11769

LOCK LINK ASSEMBLY – REPAIR 5-1

161T6111-1

1. General

- A. This procedure has the data necessary to repair and refinish the Lock link assembly (165).
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for details of the SOPM chapters identified in the procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.

2. Bushing Replacement**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) A00247 Sealant BMS 5-95 (SOPM 20-60-04)
- (2) C00913 Compound BMS 3-27 (SOPM 20-60-04)
- (3) G00034 Fabric BMS 15-5 Cheesecloth (SOPM 20-60-04)

B. References

- (1) SOPM 20-50-03, Bushing and Bearing Replacement
- (2) SOPM 20-41-05, Application of Corrosion Inhibiting Compound
- (3) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

- (1) Remove the bushing(s) (170, 175, 180) from the link (190) as shown in Fig. 601.
- (2) Install the bushing(s) (170, 180) into the link (190) with BMS 3-27 corrosion inhibiting compound by shrink-fit procedure as identified by flagnote 1 in Fig. 601 and shown in SOPM 20-50-03.

32-11-63

REPAIR 5-1

01.1

Page 601

Mar 01/00

- (3) Install the bushing(s) (175) into the link (190) with BMS 3-27 corrosion inhibiting compound by shrink-fit and swage procedures as identified by flagnote 2 in Fig. 601 and shown in SOPM 20-50-03.
- (4) If necessary, size the bushing(s) (170, 175, 180) to dimensions identified by flagnote 3 in Fig. 601, section views B-B, C-C, and D-D.
- (5) Fillet seal the bushing(s) (170, 175, 180) with BMS 5-95 sealant as shown in SOPM 20-60-04. Wipe clean unwanted sealant with clean BMS 15-5 cheesecloth.

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) D00633 Grease BMS 3-33 (SOPM 20-60-03)

B. References

- (1) SOPM 20-50-01, Bolt and Nut Installation
- (2) SOPM 20-50-07, Lubrication
- (3) SOPM 20-60-03, Lubricants

C. Procedures

- (1) Remove the lube fitting(s) (185) from the link (190) as shown in Fig. 601.
- (2) Install the lube fitting(s) (185) into the link (190) with BMS 3-33 grease. Apply 25-30 pounds-inch of torque onto the lube fitting(s) (185).
- (3) Make sure that the lube fitting(s) (185) passage is not blocked. Apply BMS 3-33 grease to the lube fitting(s) (185) until grease appears in the inside diameter bores common to bushing(s) (170, 180).

32-11-63

REPAIR 5-1

01.1

Page 602

Mar 01/00

4. Lock Link Assembly Refinish**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) C00175 Coating BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (2) C00033 Coating BMS 10-60 enamel 707 (SOPM 20-60-02)
- (3) C00033 Coating BMS 10-60 enamel 701 (SOPM 20-60-02)
- (4) C00501 Coating Type 41, Skydrol Resistant (SOPM 20-60-02)
- (5) G00270 Tape General Purpose Masking (SOPM 20-60-04)

B. References

- (1) SOPM 20-30-03, General Cleaning Procedure
- (2) SOPM 20-44-01, Application of Special Purpose Coatings and Finishes
- (3) SOPM 20-44-04, Application of Urethane Compatible Primer
- (4) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings
- (5) SOPM 20-60-02, Finishing Materials
- (6) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

- (1) Mask all lube fittings, bushings, and bores with general purpose masking tape.
- (2) Apply touch-up BMS 10-60, type 2 enamel (F-20.56-707) with dry film thickness of 10.0-12.0 mils. Do not put enamel on surface identified by flagnote 5 in Fig. 601.
- (3) Apply touch-up BMS 10-60, type 2 enamel (F-19.39-707) to surface identified by flagnote 6 in Fig. 601. When enamel dries, apply BMS 10-60, type 2 enamel (F-19.39-701) to identification characters.
- (4) Apply a layer of type 41 clear coating to surface identified by flagnote 6 in Fig. 601 equal to surfaces that surround it.

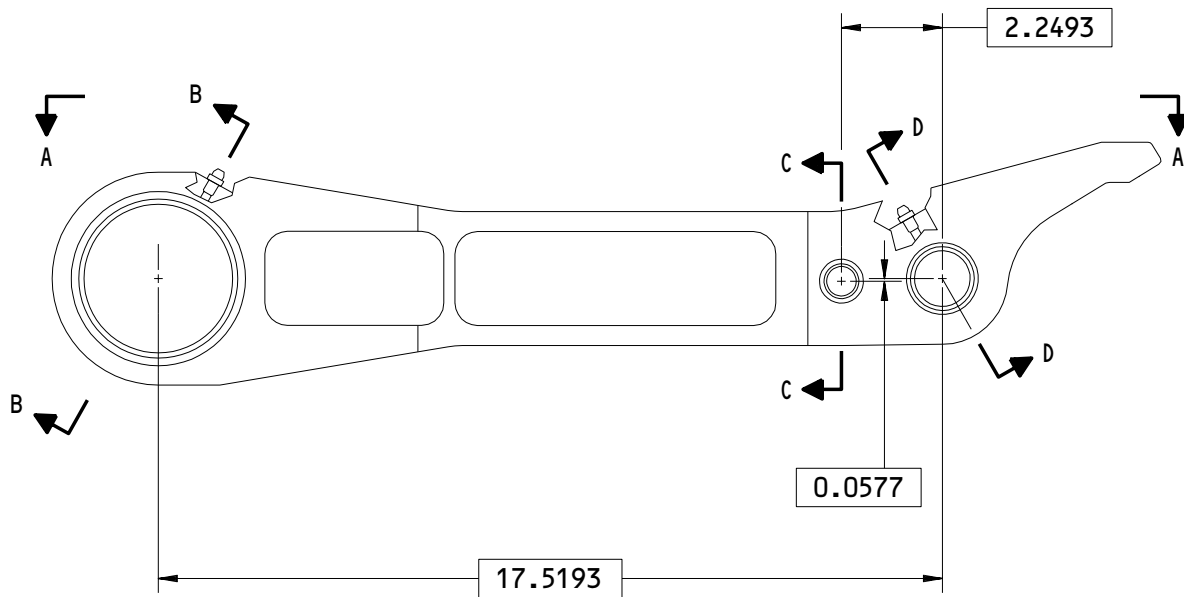
32-11-63

REPAIR 5-1

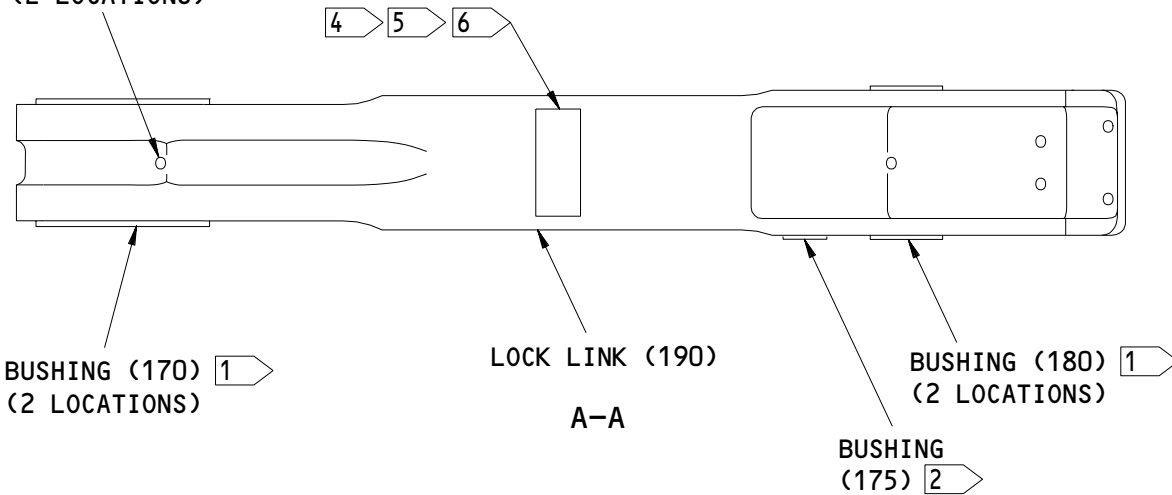
01.1

Page 603

Mar 01/00



LUBE FITTING (185)
 (2 LOCATIONS)

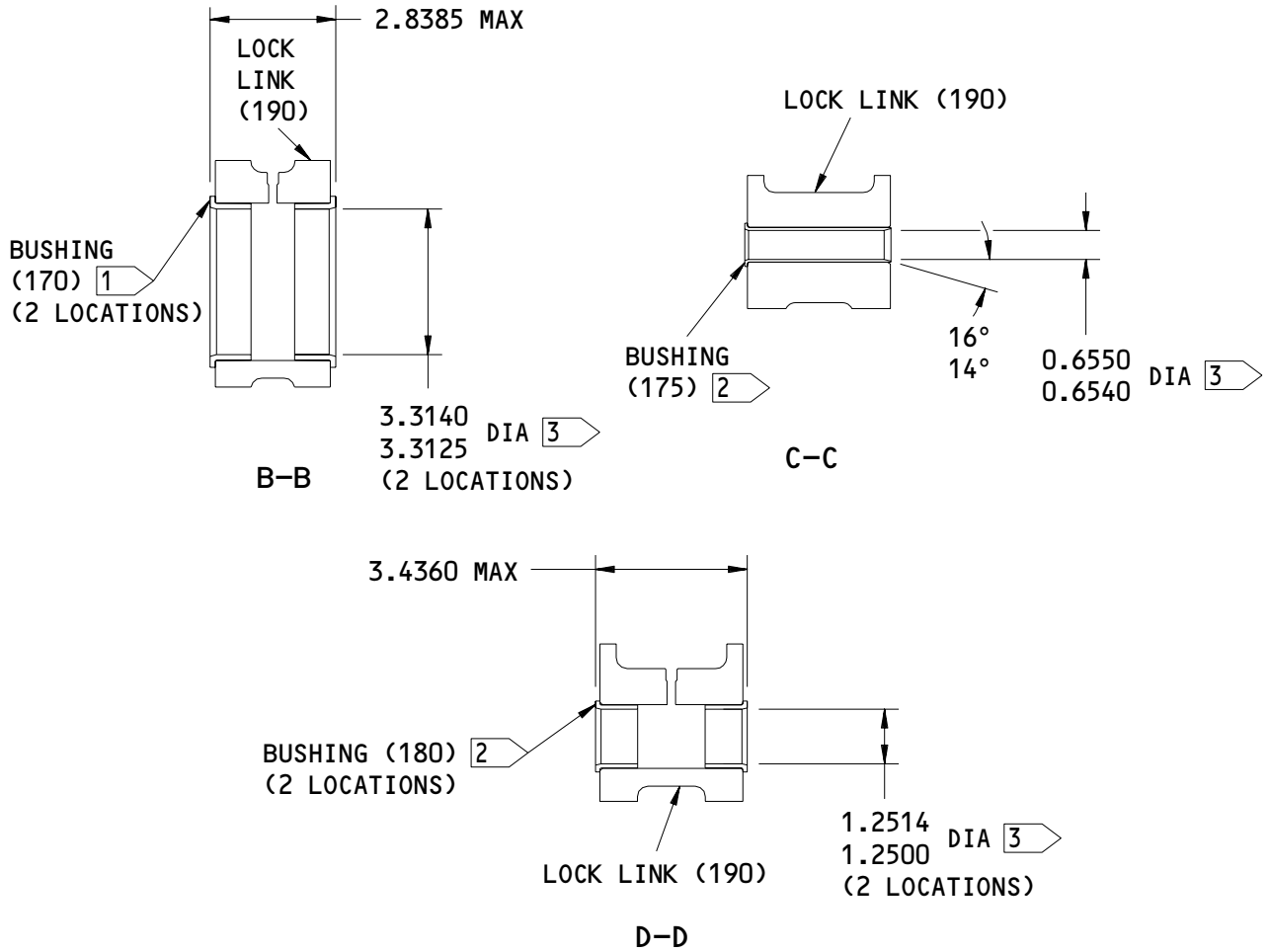


161T6111-1
 Lock Link Assembly Repair
 Figure 601 (Sheet 1)

32-11-63

REPAIR 5-1
 Page 604
 Mar 01/00

01.1



- 1 INSTALL BUSHING WITH BMS 3-27 COMPOUND BY SHRINK-FIT PROCEDURE AS SHOWN IN SOPM 20-50-03. FILLET SEAL BUSHING FLANGE WITH BMS 5-95 SEALANT
 - 2 INSTALL BUSHING WITH BMS 3-27 COMPOUND BY SHRINK-FIT AND SWAGE PROCEDURE AS SHOWN IN SOPM 20-50-03. SOLVENT CLEAN AND FILLET SEAL FLANGE WITH BMS 5-95 SEALANT
 - 3 INSTALLED DIMENSION. SIZE IF NECESSARY
 - 4 PART NUMBER AND SERIAL NUMBER IN THIS AREA
 - 5 DO NOT PUT ENAMEL (F-20.56-707) HERE. MASK AS REQUIRED
 - 6 APPLY A LAYER OF TYPE 41 CLEAR COATING HERE EQUAL TO LAYER OF ENAMEL THAT SURROUNDS THIS AREA
- 125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
- BREAK ALL SHARP EDGES
- ITEM NUMBERS REFER TO IPL FIG. 1
- ALL DIMENSIONS ARE IN INCHES

161T6111-1
 Lock Link Assembly Repair
 Figure 601 (Sheet 2)

LINK - REPAIR 5-2

161T6111-2

1. General

- A. This procedure has the data necessary to repair and refinish the link (190).
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for details of the SOPM chapters identified in the procedure.
- C. Refer to the REPAIR - GENERAL (32-11-63/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.
- E. General repair details:
 - (1) Materials: Aluminum alloy
 - (2) Shot Peen: Intensity 0.014A

2. Link Repair

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00175 Coating BMS 10-79, Type 3 primer (SOPM 20-60-02)

B. References

- (1) SOPM 20-10-03, Shot Peening
- (2) SOPM 20-30-02, Stripping of Protective Finishes
- (3) SOPM 20-30-03, General Cleaning Procedures
- (4) SOPM 20-41-01, Decoding Table for Boeing Finish Codes
- (5) SOPM 20-43-01, Chromic Acid Anodizing
- (6) SOPM 20-44-04, Application of Urethane Compatible Primer

32-11-63

REPAIR 5-2

01.1

Page 601

Mar 01/00

(7) SOPM 20-60-02, Finishing Materials

C. Procedures

(1) Machine as necessary, within the repair limits shown in Fig. 601 to remove the defects.

(2) Chromic acid - sulfuric acid anodize, class 1 or 3, or chromic acid anodize at 22 volts, class 3 or 5 (F-17.31) as shown in SOPM 20-43-01.

(3) Apply a layer of BMS 10-60, type 3 primer (F-19.47) but not on surfaces identified by flagnote 1 in Fig. 601.

(4) Obey the flagnotes in Fig. 601.

3. Manufacturing of Oversized Bushings

A. Manufacture the bushings (Fig. 602), as necessary to compensate for the amount of material removed in step 2.C.(1).

B. Install the bushings as shown in Repair 5-1.

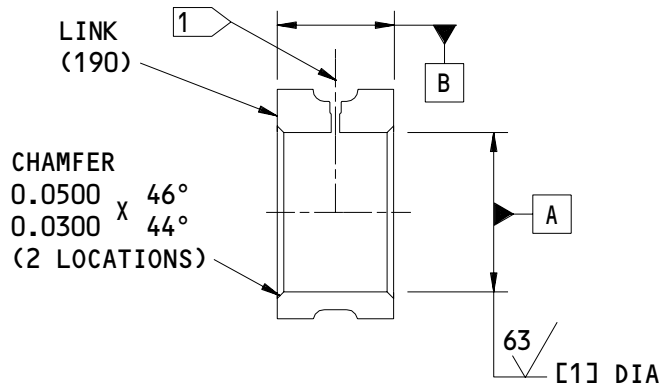
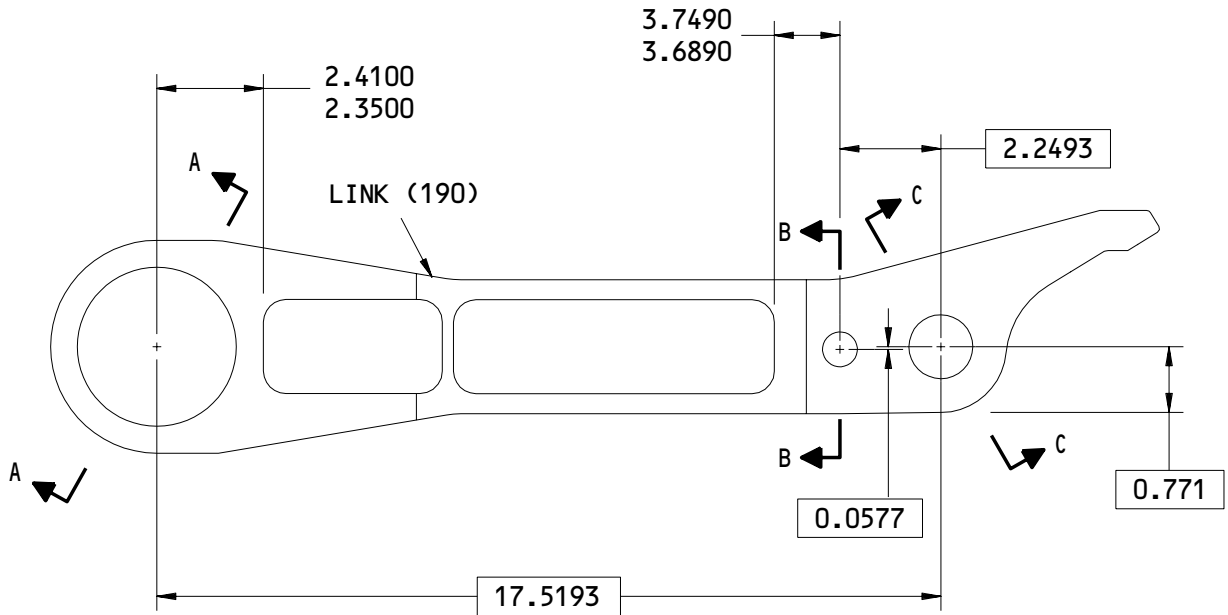
32-11-63

REPAIR 5-2

01.1

Page 602

Mar 01/00



VIEW ROTATED 30° COUNTER CLOCKWISE
A-A

161T6111-2
Link Refinish
Figure 601 (Sheet 1)

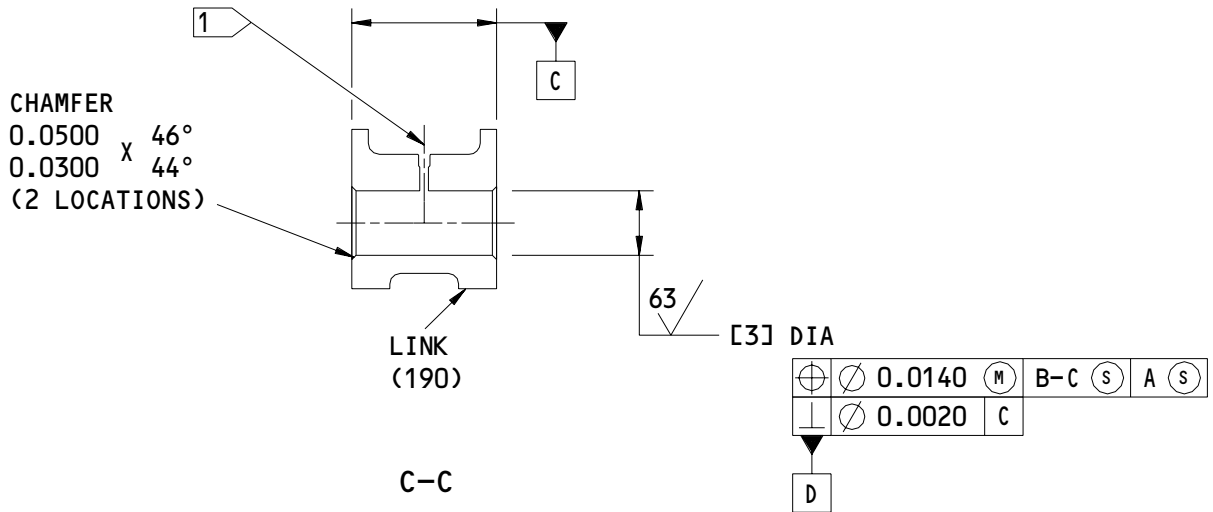
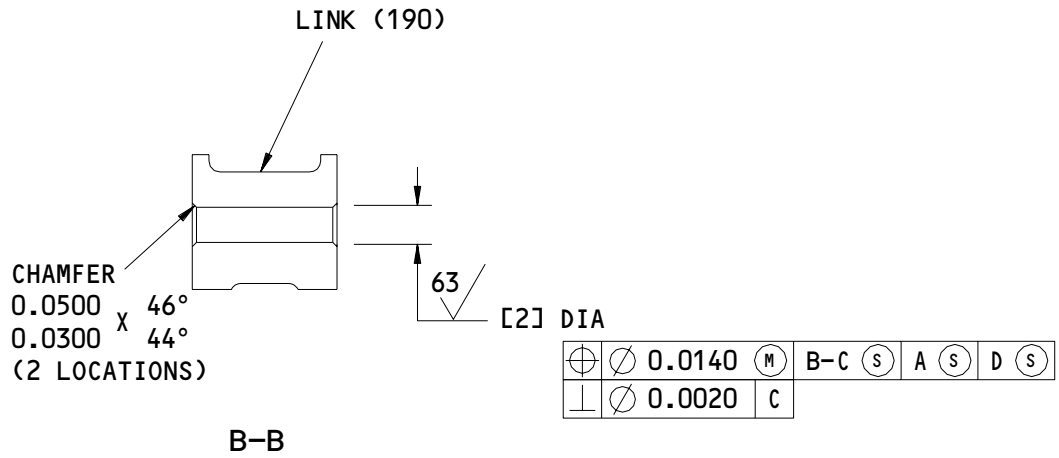
32-11-63

REPAIR 5-2

Page 603

Mar 01/00

01.1



161T6111-2
 Link Refinish
 Figure 601 (Sheet 2)


32-11-63



REPAIR 5-2


Page 604

Mar 01/00

01.1

REFERENCE NUMBER	[1]	[2]	[3]
DESIGN DIMENSION	3.5640 3.5626	0.7810 0.7800	1.4394 1.4380
REPAIR LIMIT 	3.6240 MAX	0.8410 MAX	1.4994 MAX

-  BORIC ACID-SULFURIC ACID ANODIZE (F-17.31) IN THIS SURFACE
-  REPAIR LIMIT FOR OVERSIZE BUTHING INSTALLATION

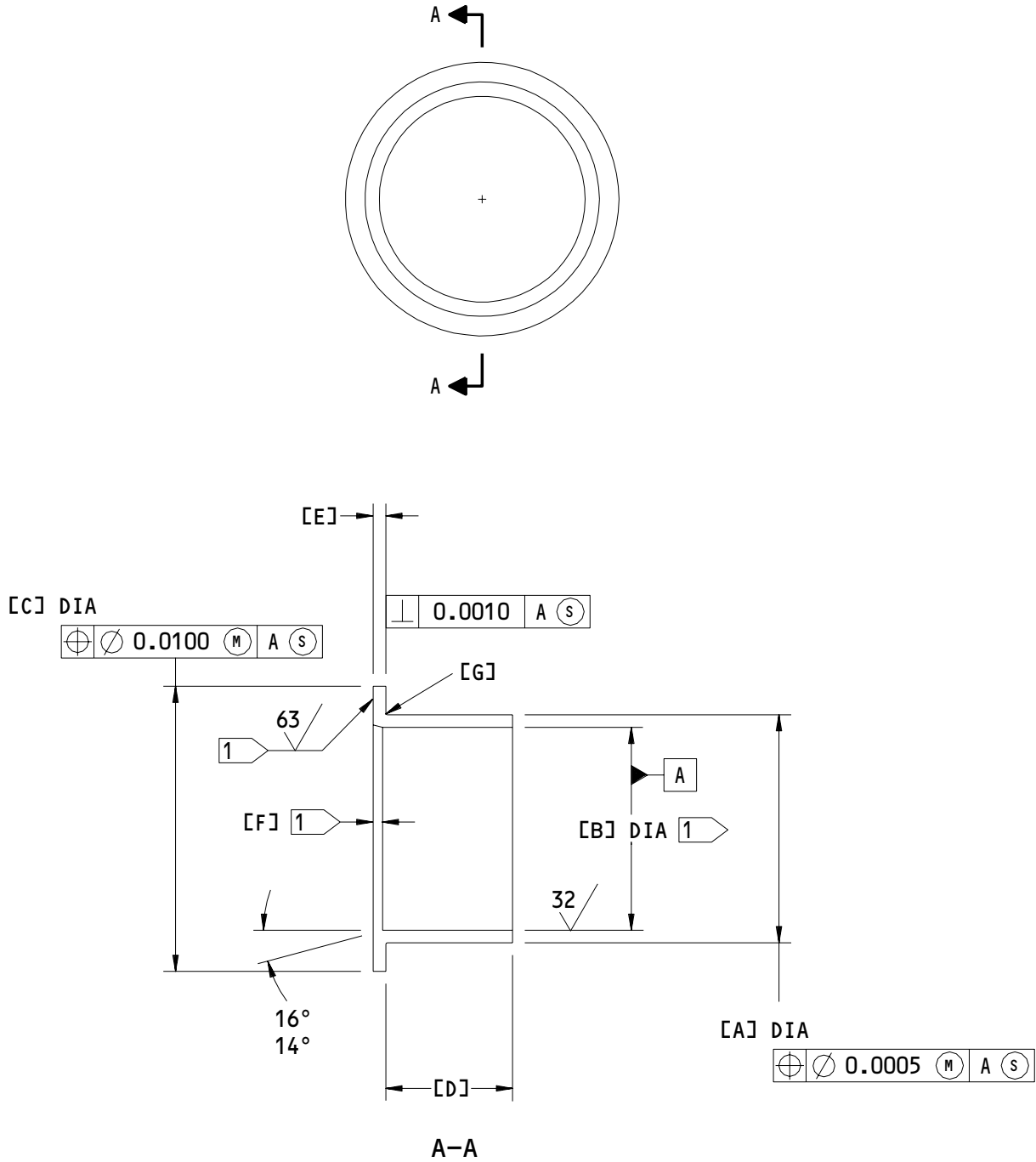
125  ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
 BREAK ALL SHARP EDGES
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

161T6111-2
 Link Refinish
 Figure 601 (Sheet 3)

32-11-63
 REPAIR 5-2
 Page 605
 Mar 01/00

01.1

K11974



OVERSIZE REPLACEMENT FOR BUSHINGS (170,180)

Oversize Bushing Details
 Figure 602 (Sheet 1)

32-11-63

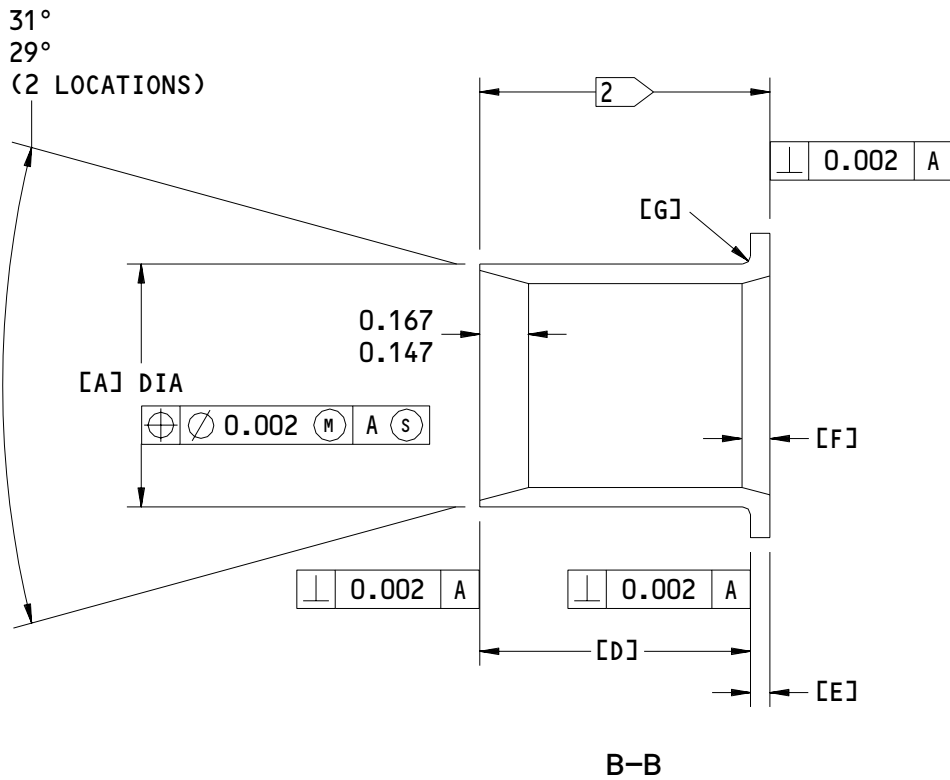
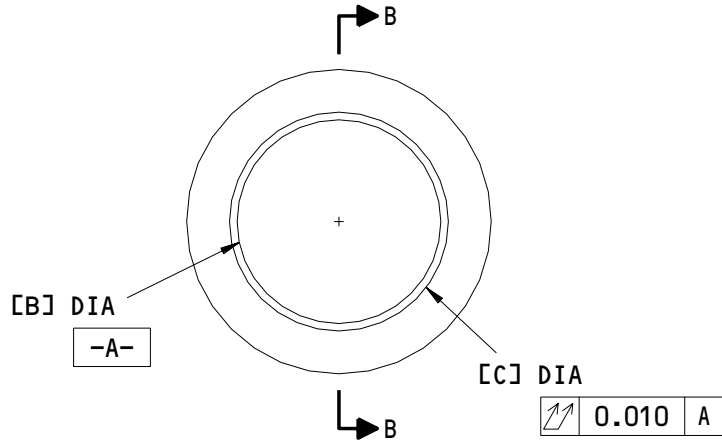
REPAIR 5-2

Page 606

Mar 01/00

01.1

K17423



OVERSIZE REPLACEMENT FOR BUSHINGS (175)

Oversize Bushing Details
 Figure 602 (Sheet 2)

32-11-63

REPAIR 5-2

Page 607

Mar 01/00

01.1

HOLE LOCATION (FIG. 601)	BUSHING REPLACES (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]	[G]	INTER-FERENCE
[1]	161T2874-81 (170)	3.5684 3.5668	3.3159 3.3144	3.8845 3.8645	0.8150 0.7950	0.1260 0.1250	0.1600 0.1400	0.0300 0.0200	0.0058 0.0028
[2]	161W4035-2 (175)	0.7821 0.7816	0.6565 0.6555	0.9900 0.9700	3.2600 3.2500	0.0640 0.0630	0.1000 0.0800	0.0300 0.0200	0.0021 0.0006
[3]	161T2874-82 (180)	1.4415 1.4405	1.2520 1.2508	1.6300 1.6100	0.8650 0.8450	0.0950 0.0940	0.1300 0.1100	0.0300 0.0200	0.0035 0.0011

1 DO NOT PUT FINISH (F-25.01) IN THIS SURFACE

2 DO NOT PUT FINISH (F-25.01) IN THE INSIDE DIAMETER ONLY

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BR AS IN AMS 4640

BREAK ALL SHARP EDGES 0.01-0.02 R
 ITEM NUMBERS REFER TO IPL FIG. 1
 ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
 Figure 602 (Sheet 3)

32-11-63

REPAIR 5-2

Page 608

Mar 01/00

01.1

LOCK LINK ASSEMBLY – REPAIR 6-1

161T6112-1

1. General

- A. This procedure has the data necessary to repair and refinish the Lock link assembly (195).
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for details of the SOPM chapters identified in the procedure.
- C. Refer to the REPAIR – GENERAL (32-11-63/601, REPAIR – GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.

2. Bushing Replacement**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) A00247 Sealant BMS 5-95 (SOPM 20-60-04)
- (2) C00913 Compound BMS 3-27 (SOPM 20-60-04)
- (3) G00034 Fabric BMS 15-5 Cheesecloth (SOPM 20-60-04)

B. References

- (1) SOPM 20-50-03, Bushing and Bearing Replacement
- (2) SOPM 20-41-05, Application of Corrosion Inhibiting Compound
- (3) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

- (1) Remove the bushing(s) (200, 205, 210, 215) from the link (225) as shown in Fig. 601.
- (2) Install the bushing(s) (205, 210, 215) into the link (225) with BMS 3-27 corrosion inhibiting compound by shrink-fit procedure as identified by flagnote 1 in Fig. 601 and shown in SOPM 20-50-03.

32-11-63

REPAIR 6-1

01.1

Page 601

Mar 01/00

- (3) Install the bushing(s) (200) into the link (190) with BMS 3-27 corrosion inhibiting compound by shrink-fit and swage procedures as identified by flagnote 2 in Fig. 601 and shown in SOPM 20-50-03.
- (4) If necessary, size the bushing(s) (200, 205, 210, 215) to dimensions identified by flagnote 3 in Fig. 601, section views B-B, C-C, D-D, E-E, and F-F.
- (5) Fillet seal the bushing(s) (200, 205, 210, 215) with BMS 5-95 sealant as shown in SOPM 20-60-04. Wipe clean unwanted sealant with clean BMS 15-5 cheesecloth.

3. Lube Fitting Replacement

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) D00633 Grease BMS 3-33 (SOPM 20-60-03)

B. References

- (1) SOPM 20-50-01, Bolt and Nut Installation
- (2) SOPM 20-50-07, Lubrication
- (3) SOPM 20-60-03, Lubricants

C. Procedures

- (1) Remove the lube fitting(s) (220) from the link (225) as shown in Fig. 601.
- (2) Install the lube fitting(s) (220) into the link (225) with BMS 3-33 grease. Apply 25-30 pounds-inch of torque onto the lube fitting(s) (220).
- (3) Make sure that the lube fitting(s) (220) passage is not blocked. Apply BMS 3-33 grease to the lube fitting(s) (220) until grease appears in the inside diameter bores common to bushing(s) (200, 205, 210, 215).

32-11-63

REPAIR 6-1

01.1 Page 602

Mar 01/00

4. Lock Link Assembly Refinish

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) C00175 Coating BMS 10-79, Type 3 primer (SOPM 20-60-02)
- (2) C00033 Coating BMS 10-60 enamel 707 (SOPM 20-60-02)
- (3) C00033 Coating BMS 10-60 enamel 701 (SOPM 20-60-02)
- (4) C00501 Coating Type 41, Skydrol Resistant (SOPM 20-60-02)
- (5) G00270 Tape General Purpose Masking (SOPM 20-60-04)

B. References

- (1) SOPM 20-30-03, General Cleaning Procedure
- (2) SOPM 20-44-01, Application of Special Purpose Coatings and Finishes
- (3) SOPM 20-44-04, Application of Urethane Compatible Primer
- (4) SOPM 20-50-10, Application of Stencils, Insignia, Silk Screen, Part Numbering and Identification Markings
- (5) SOPM 20-60-02, Finishing Materials
- (6) SOPM 20-60-04, Miscellaneous Materials

C. Procedures

- (1) Mask all lube fittings, bushings, and bores with general purpose masking tape.
- (2) Apply touch-up BMS 10-60, type 2 enamel (F-20.56-707) with dry film thickness of 10.0-12.0 mils. Do not put enamel on surface identified by flagnote 5 in Fig. 601.
- (3) Apply touch-up BMS 10-60, type 2 enamel (F-19.39-707) to surface identified by flagnote 6 in Fig. 601. When enamel dries, apply BMS 10-60, type 2 enamel (F-19.39-701) to identification characters.
- (4) Apply a layer of type 41 clear coating to surface identified by flagnote 6 in Fig. 601 equal to surfaces that surround it.

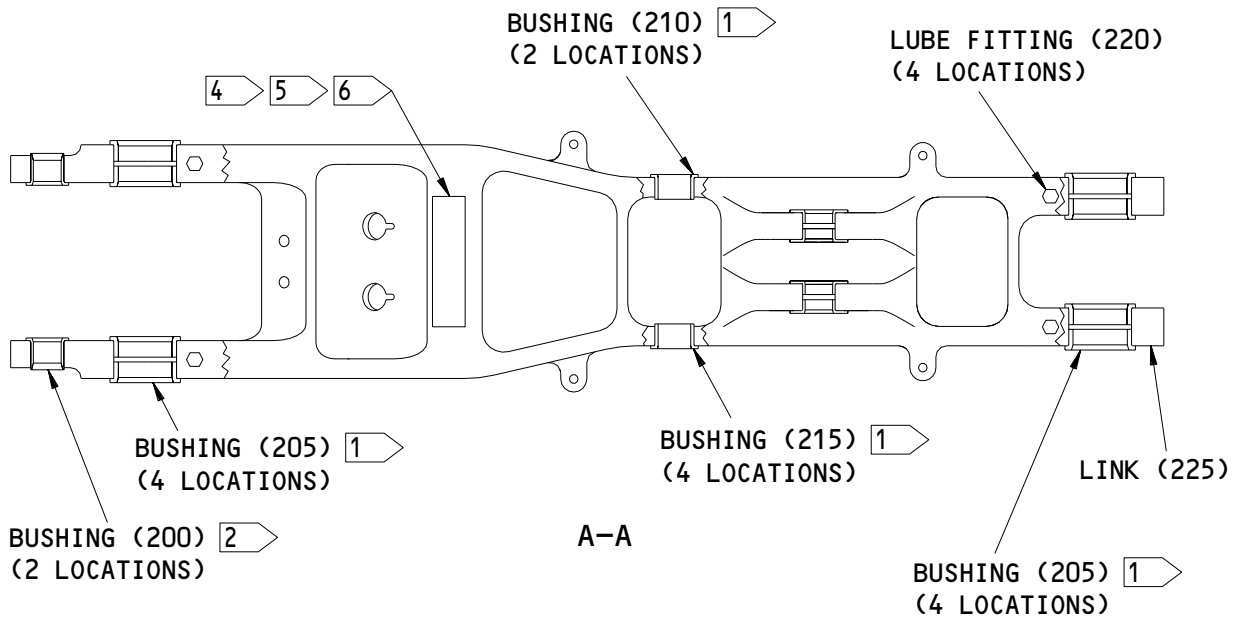
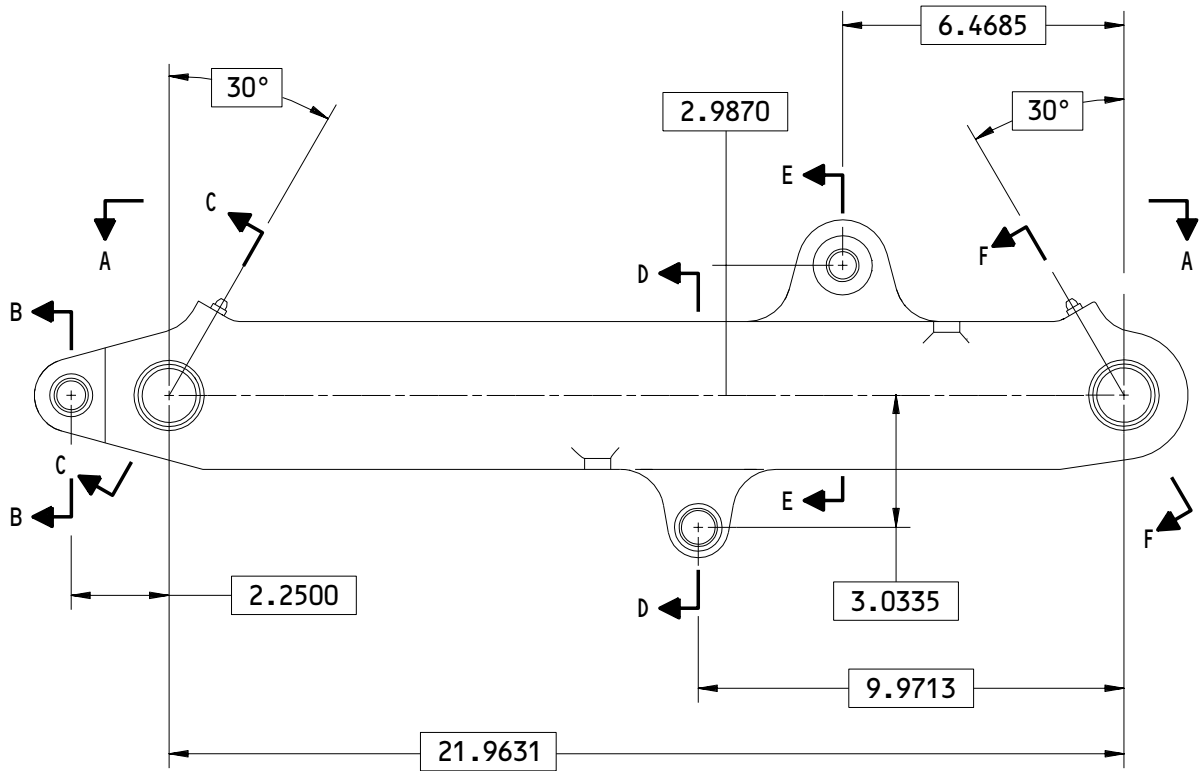
32-11-63

REPAIR 6-1

01.1

Page 603

Mar 01/00



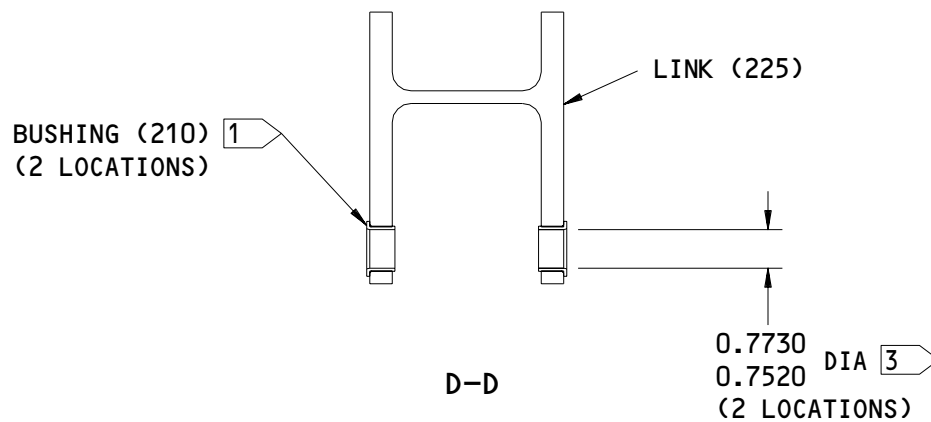
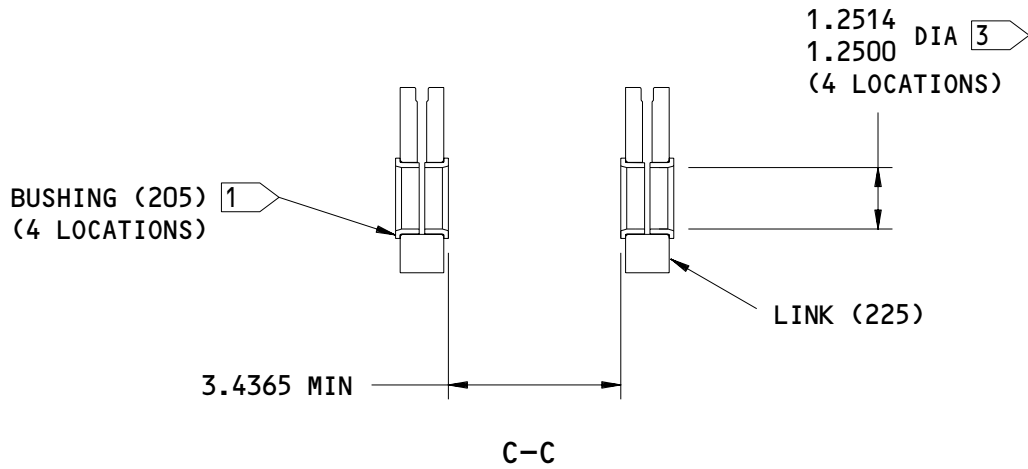
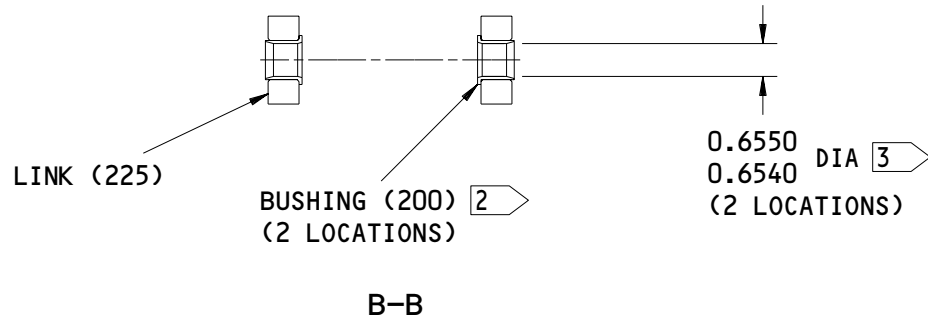
161T6112-1
 Lock Link Assembly Repair
 Figure 601 (Sheet 1)

32-11-63

REPAIR 6-1
 Page 604
 Mar 01/00

01.1

BOEING
COMPONENT
MAINTENANCE MANUAL



VIEW ROTATED 30° COUNTER CLOCKWISE

161T6112-1
Lock Link Assembly Repair
Figure 601 (Sheet 2)

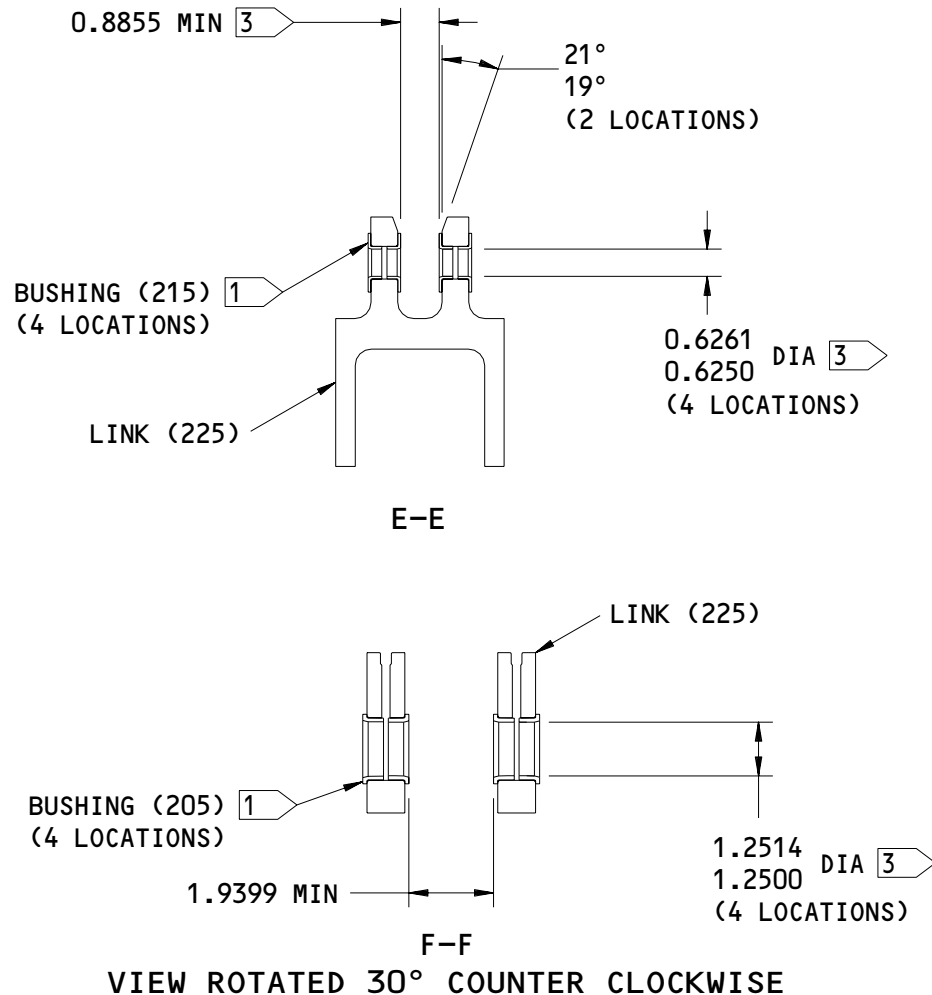
32-11-63

REPAIR 6-1

01.1

Page 605

Mar 01/00



- | | |
|---|---|
| <p>1 INSTALL BUSHING WITH BMS 3-27 COMPOUND BY SHRINK-FIT PROCEDURE AS SHOWN IN SOPM 20-50-03. SOLVENT CLEAN AND FILLET SEAL FLANGE WITH BMS 5-95 SEALANT AS SHOWN IN SOPM 20-60-04.</p> <p>2 INSTALL BUSHING WITH BMS 3-27 COMPOUND BY SHRINK-FIT AND SWAGE PROCEDURES AS SHOWN IN SOPM 20-50-03. SOLVENT CLEAN AND FILLET SEAL WITH BMS 5-95 SEALANT AS SHOWN IN SOPM 20-50-03.</p> <p>3 INSTALLED DIMENSION. SIZE IF NECESSARY TO DIMENSION SHOWN.</p> | <p>4 PART NUMBER AND SERIAL NUMBER IN THIS LOCATION.</p> <p>5 DO NOT PUT ENAMEL (F-20.56-707) HERE. MASK AS REQUIRED.</p> <p>6 APPLY A LAYER OF TYPE 41 CLEAR COATING HERE EQUAL TO LAYER OF ENAMEL THAT SURROUNDS THIS AREA.</p> |
|---|---|

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

161T6112-1
 Lock Link Assembly Repair
 Figure 601 (Sheet 3)

32-11-63

REPAIR 6-1

01.1 Page 606

Mar 01/00

LINK - REPAIR 6-2

161T6112-2

1. General

- A. This procedure has the data necessary to repair and refinish the Link (225).
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for details of the SOPM chapters identified in the procedure.
- C. Refer to the REPAIR - GENERAL (32-11-63/601, REPAIR - GENERAL) for the Standard True Position Dimensioning Symbols shown in the repair.
- D. Refer to IPL Fig. 1 for item numbers.
- E. General repair details:
 - (1) Materials: Aluminum alloy

2. Link Repair**A. Consumable Materials**

NOTE: Equivalent material can be used.

- (1) C00175 Coating BMS 10-79, Type 3 primer (SOPM 20-60-02)

B. References

- (1) Deleted
- (2) SOPM 20-10-03, Shot Peening
- (3) SOPM 20-30-02, Stripping of Protective Finishes
- (4) SOPM 20-30-03, General Cleaning Procedures
- (5) SOPM 20-41-01, Decoding Table for Boeing Finish Codes
- (6) SOPM 20-43-01, Chromic Acid Anodizing
- (7) SOPM 20-44-04, Application of Urethane Compatible Primer
- (8) SOPM 20-60-02, Finishing Materials

32-11-63

REPAIR 6-2

01.1

Page 601

Mar 01/00

| C. Procedures

- | (1) Machine as necessary, within the repair limits shown in Fig. 601 to remove the defects.
- | (2) Chromic acid - sulfuric acid anodize, class 1 or 3, or chromic acid anodize at 22 volts, class 3 or 5 (F-17.31) as shown in SOPM 20-43-01.
- | (3) Apply a layer of BMS 10-60, type 3 primer (F-19.47).
- | (4) Obey the flagnotes in Fig. 601.

| 3. Manufacturing of Oversized Bushings

- | A. Manufacture the bushings (Fig. 602), as necessary to compensate for the amount of material removed in step 2.C.(1).
- | B. Install the bushings as shown in REPAIR 6-1.

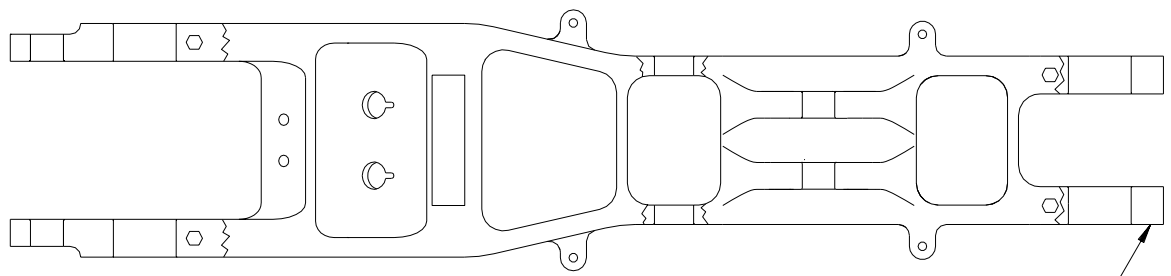
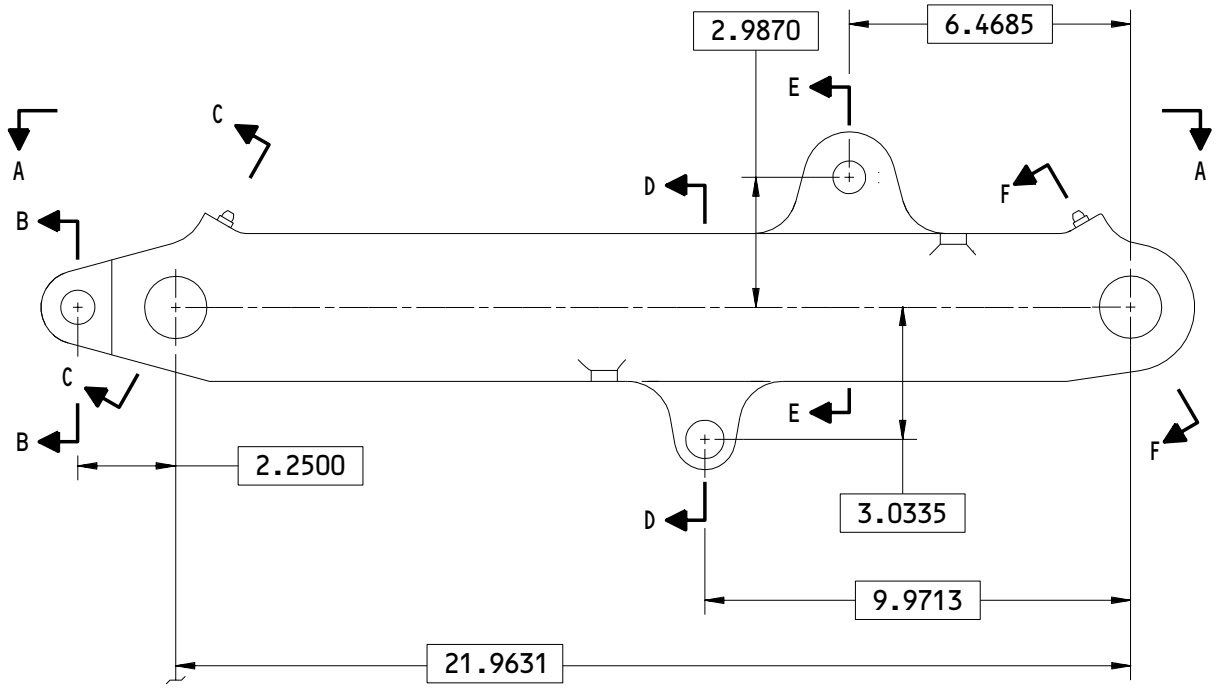
32-11-63

REPAIR 6-2

01.1

Page 602

Mar 01/00



LINK (225)

A-A

161T6112-2
Link Repair
Figure 601 (Sheet 1)

32-11-63

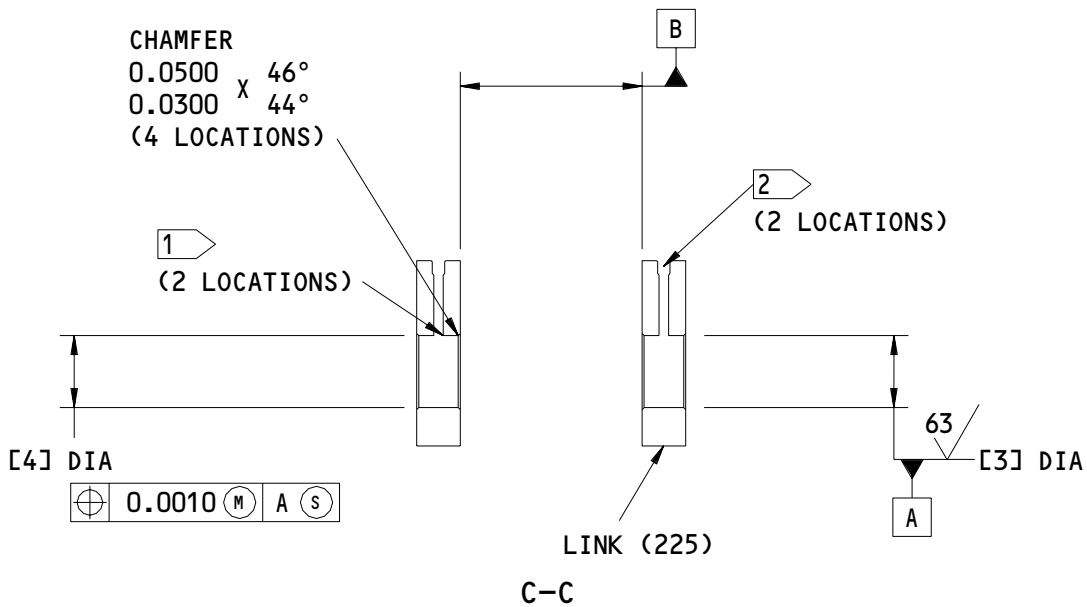
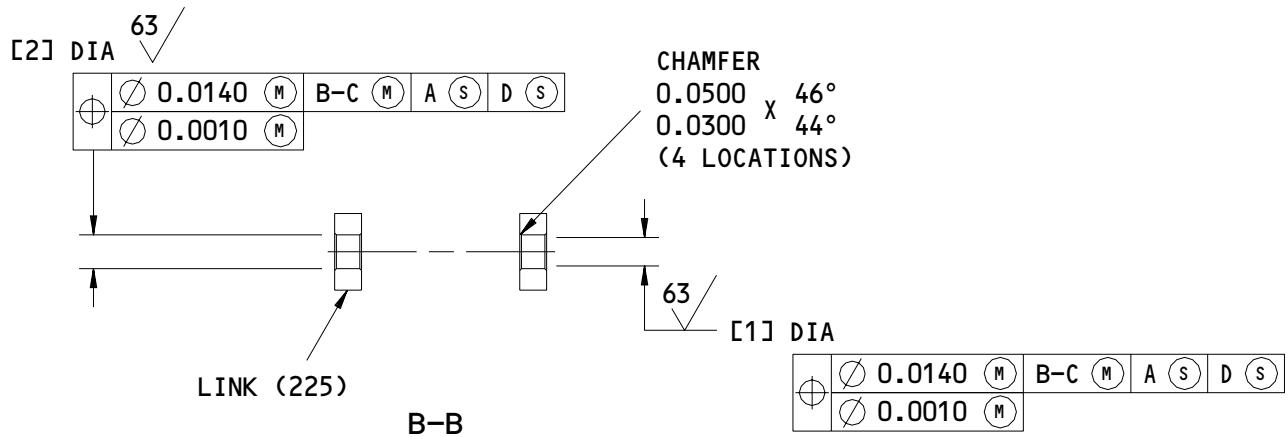
REPAIR 6-2

Page 603

Mar 01/00

01.1

K12311



VIEW ROTATED 30° COUNTER CLOCKWISE

161T6112-2
 Link Repair
 Figure 601 (Sheet 2)

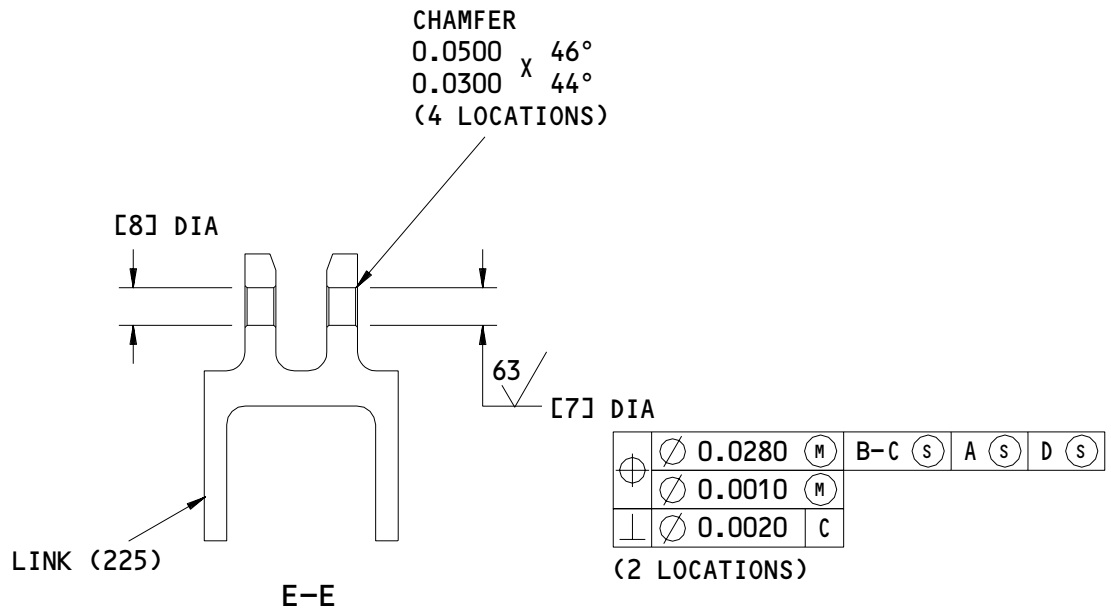
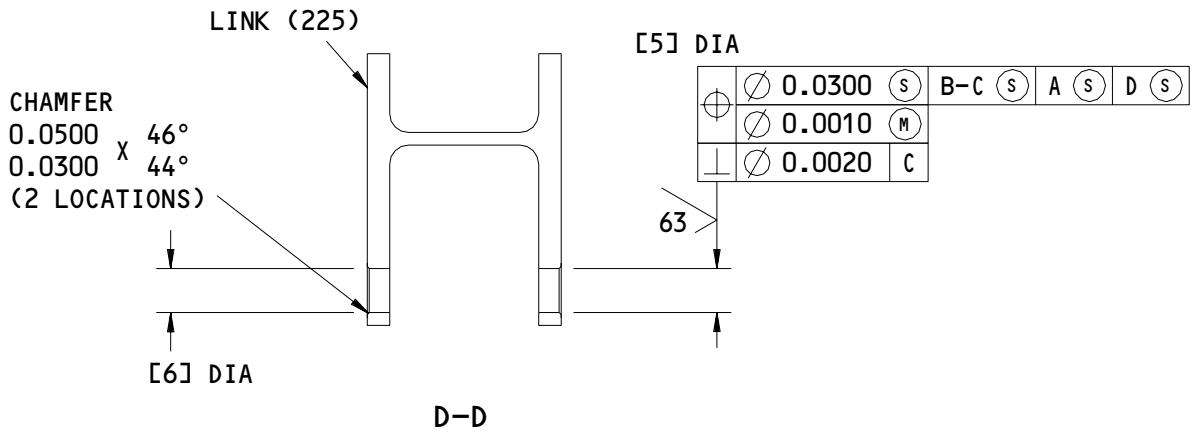
32-11-63

REPAIR 6-2

Page 604

Mar 01/00

01.1

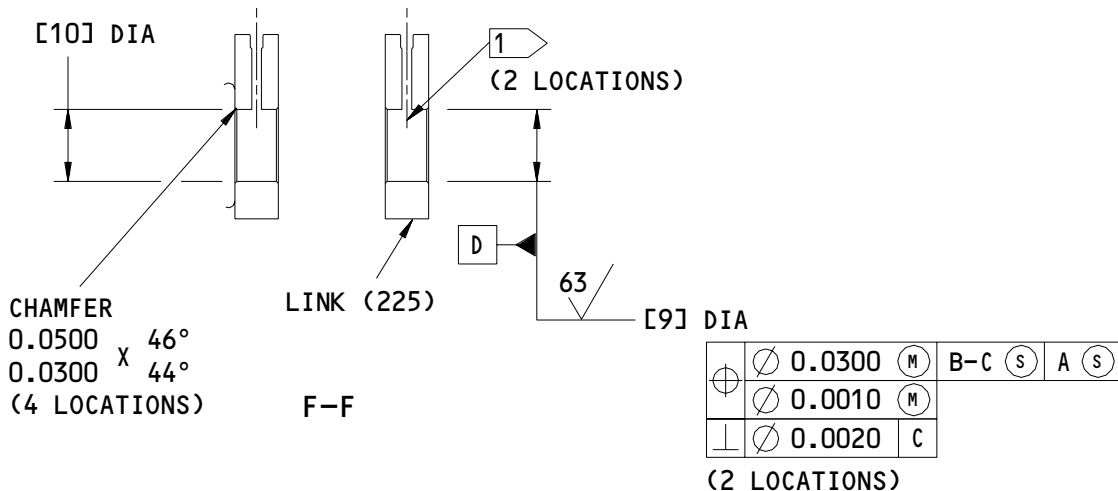


161T6112-2
 Link Repair
 Figure 601 (Sheet 3)

32-11-63

REPAIR 6-2
 Page 605
 Mar 01/00

01.1

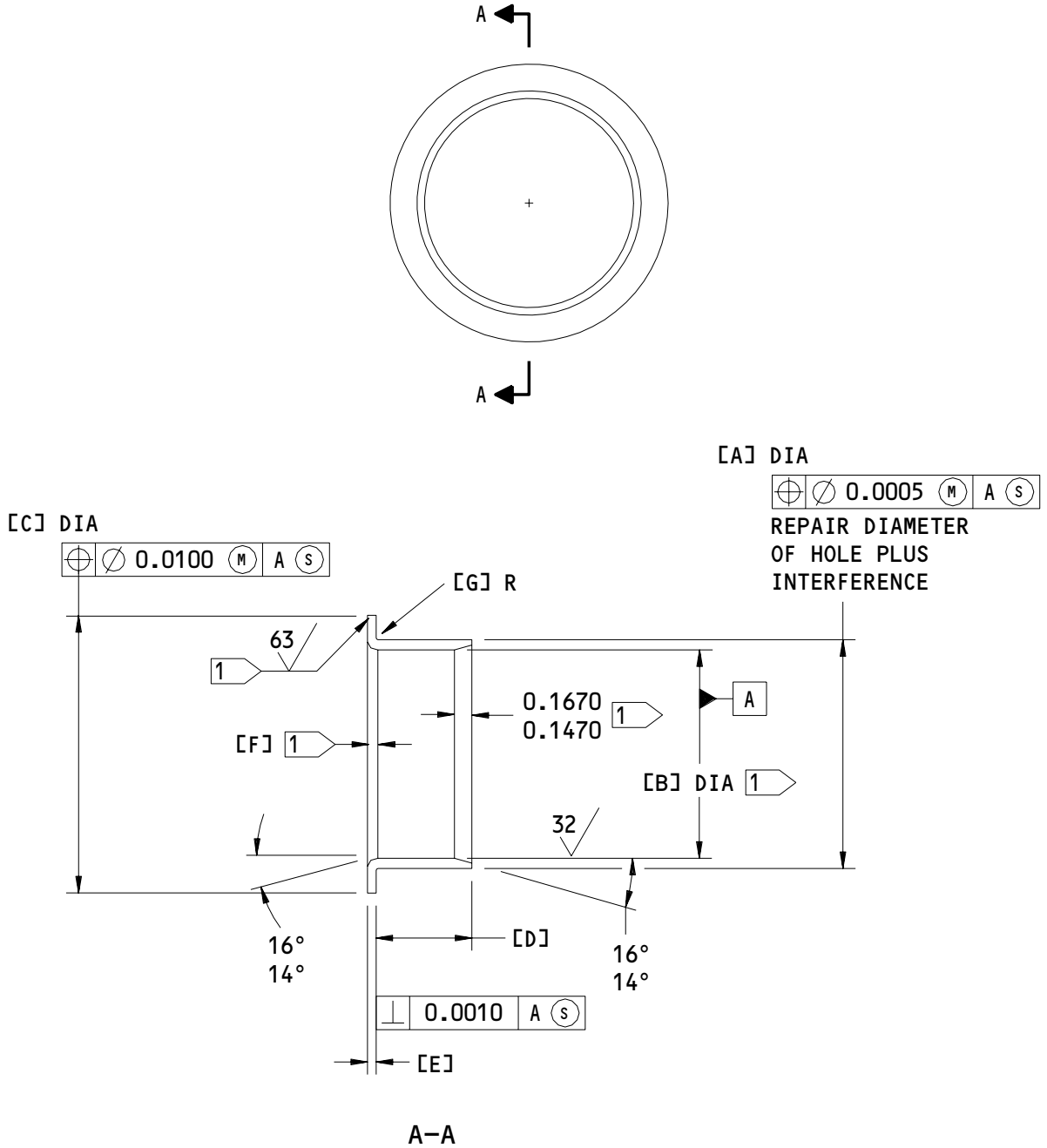


REFERENCE NUMBER	[1] [2]	[3] [4]	[5] [6]	[7] [8]	[9] [10]
DESIGN DIMENSION	0.7810 0.7800	1.4394 1.4380	0.8990 0.8982	0.7523 0.7516	1.4394 1.4380
REPAIR LIMIT ³	0.8410 MAX	1.4994 MAX	0.9590 MAX	0.8123 MAX	1.4994 MAX

- ¹ BREAK EDGES EQUIVALENT TO 0.06-0.09 INCH RADIUS.
- ² BORIC ACID - SULFURIC ACID ANODIZE (F-17.31) IN THIS SURFACE.
- ³ REPAIR LIMIT FOR OVERSIZED BUSHING INSTALLATION.

- 125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY
- BREAK ALL SHARP EDGES
- ITEM NUMBERS REFER TO IPL FIG. 1
- ALL DIMENSIONS ARE IN INCHES

161T6112-2
 Link Repair
 Figure 601 (Sheet 4)



OVERSIZE REPLACEMENT FOR BUSHING (200)

Oversize Bushing Details
 Figure 602 (Sheet 1)

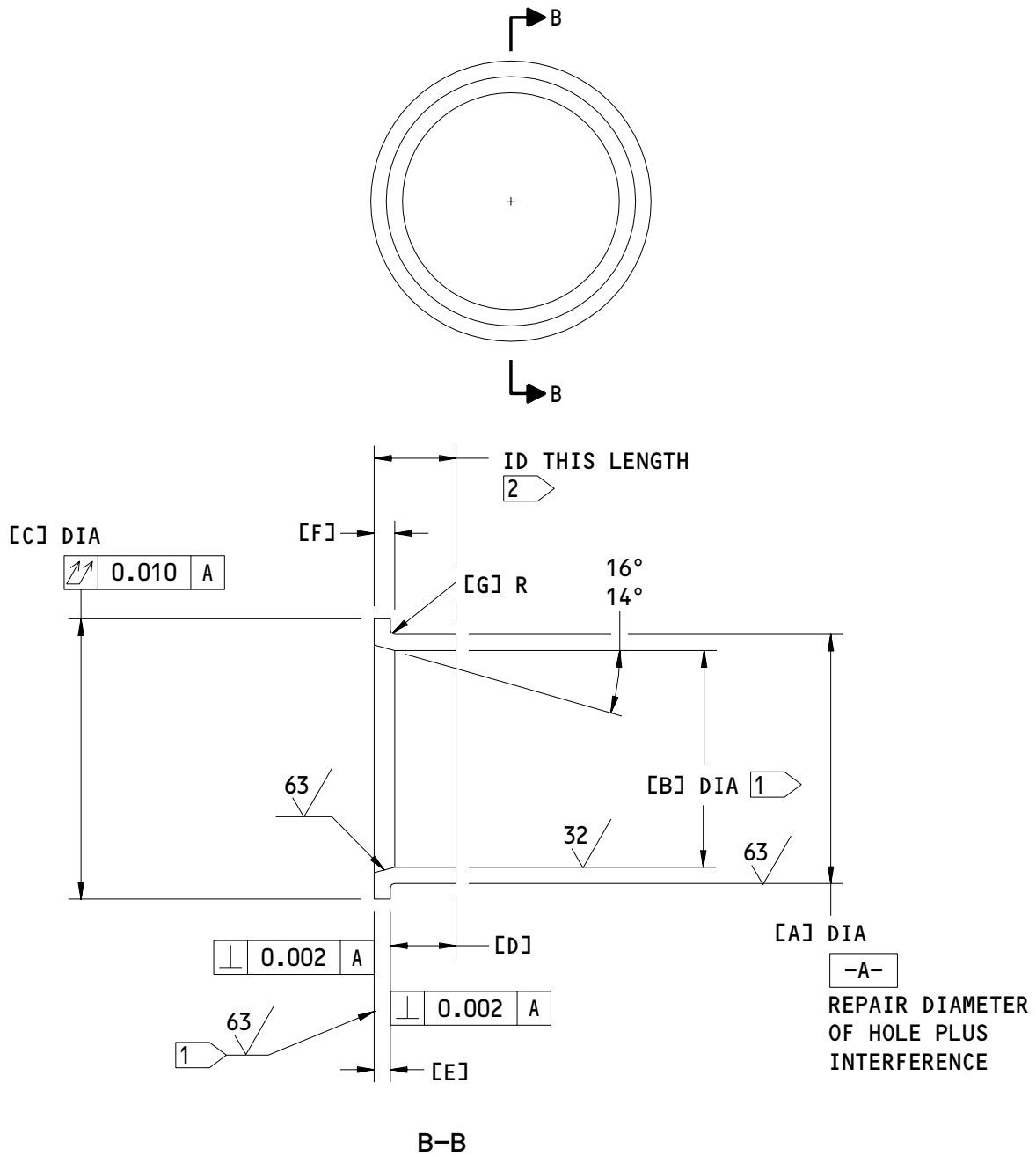
32-11-63

REPAIR 6-2

Page 607

Mar 01/00

01.1



OVERSIZE REPLACEMENT FOR BUSHING (205)

Oversize Bushing Details
 Figure 602 (Sheet 2)

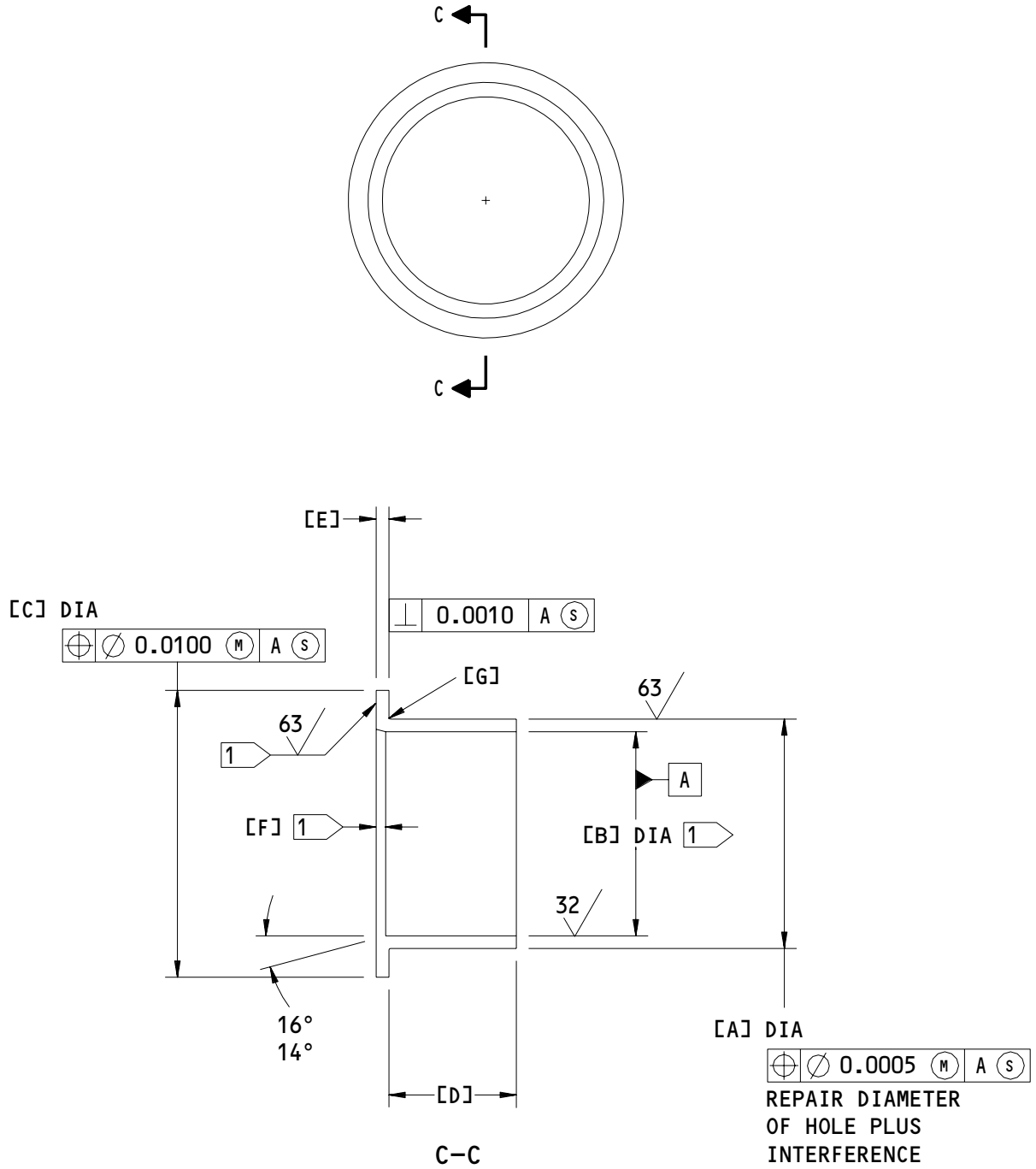
32-11-63

REPAIR 6-2

Page 608

Mar 01/00

01.1



OVERSIZE REPLACEMENT FOR BUSHINGS (210,215)

Oversize Bushing Details
 Figure 602 (Sheet 3)

32-11-63

REPAIR 6-2

01.1

Page 609

Mar 01/00

HOLE LOCATION (FIG. 601)	BUSHING REPLACES (IPL FIG. 1)	[A]	[B]	[C]	[D]	[E]	[F]	[G]	INTER-FERENCE
[1],[2]	161T2874-83 (200)	0.7821 0.7816	0.6565 0.6555	0.9900 0.9700	0.6310 0.6210	0.0640 0.0630	0.1000 0.0800	0.0300 0.0200	0.0021 0.0006
[3],[4]	161W4031-2 (205)	1.4415 1.4405	1.2533 1.2519	1.6300 1.6100	0.3900 0.3700	0.0950 0.0940	0.1300 0.1100	0.0300 0.0200	0.0035 0.0011
[5],[6]	161T2874-4 (210)	0.9003 0.8996	0.7735 0.7505	1.1082 1.0882	0.4650 0.4450	0.0640 0.0630	0.1000 0.0800	0.0300 0.0200	0.0021 0.0006
[7],[8]	161T2874-80 (215)	0.7520 0.7515	0.6253 0.6245	0.9600 0.9400	0.2600 0.2400	0.0640 0.0630	0.1000 0.0800	0.0300 0.0200	0.0008 0.0004
[9],[10]	161W4031-2 (205)	1.4415 1.4405	1.2533 1.2519	1.6300 1.6100	0.3900 0.3700	0.0950 0.0940	0.1300 0.1100	0.0300 0.0200	0.0035 0.0011

FINISH: APPLY CAD PLATE (F-15.36) BUT NOT WHEN NOTED BY FLAGNOTES.

1 DO NOT PUT FINISH (F-25.01) IN THIS SURFACE

2 DO NOT PUT FINISH (F-25.01) IN THE INSIDE DIAMETER AND FLANGE

125 ✓ ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: AL-NI-BR AS IN AMS 4640

BREAK ALL SHARP EDGES 0.01-0.02 R
ITEM NUMBERS REFER TO IPL FIG. 1
ALL DIMENSIONS ARE IN INCHES

Oversize Bushing Details
Figure 602 (Sheet 4)

32-11-63

REPAIR 6-2

01.1 Page 610

Mar 01/00

ASSEMBLY1. General

- A. This procedure has the necessary data to assemble the main landing gear drag strut assembly.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for details of the SOPM chapters identified in this procedure.
- C. Refer to IPL Fig. 1 for item numbers.

2. Assembly

A. Consumable Materials

NOTE: Equivalent material can be used.

- (1) A00247 Sealant BMS 5-95 (SOPM 20-60-04)
- (2) C00913 Compound BMS 3-27 Corrosion Inhibiting (SOPM 20-60-04)
- (3) D00633 Grease BMS 3-33 (SOPM 20-60-03)

B. References

- (1) SOPM 20-41-05, Application of Corrosion Inhibiting Compounds
- (2) SOPM 20-50-01, Bolt and Nut Installation
- (3) SOPM 20-50-02, Installation of Safetying Devices
- (4) SOPM 20-50-07, Lubricant
- (5) SOPM 20-60-03, Lubricants
- (6) SOPM 20-60-04, Miscellaneous Materials

C. Procedure

- (1) Use standard industry procedures and the steps shown below to assemble this component.
- (2) Apply BMS 5-95 fay surface sealant between the mating surfaces of the lock link assembly (195), the shim (160), and the plate (157).

32-11-63ASSEMBLY
Page 701
Mar 01/00

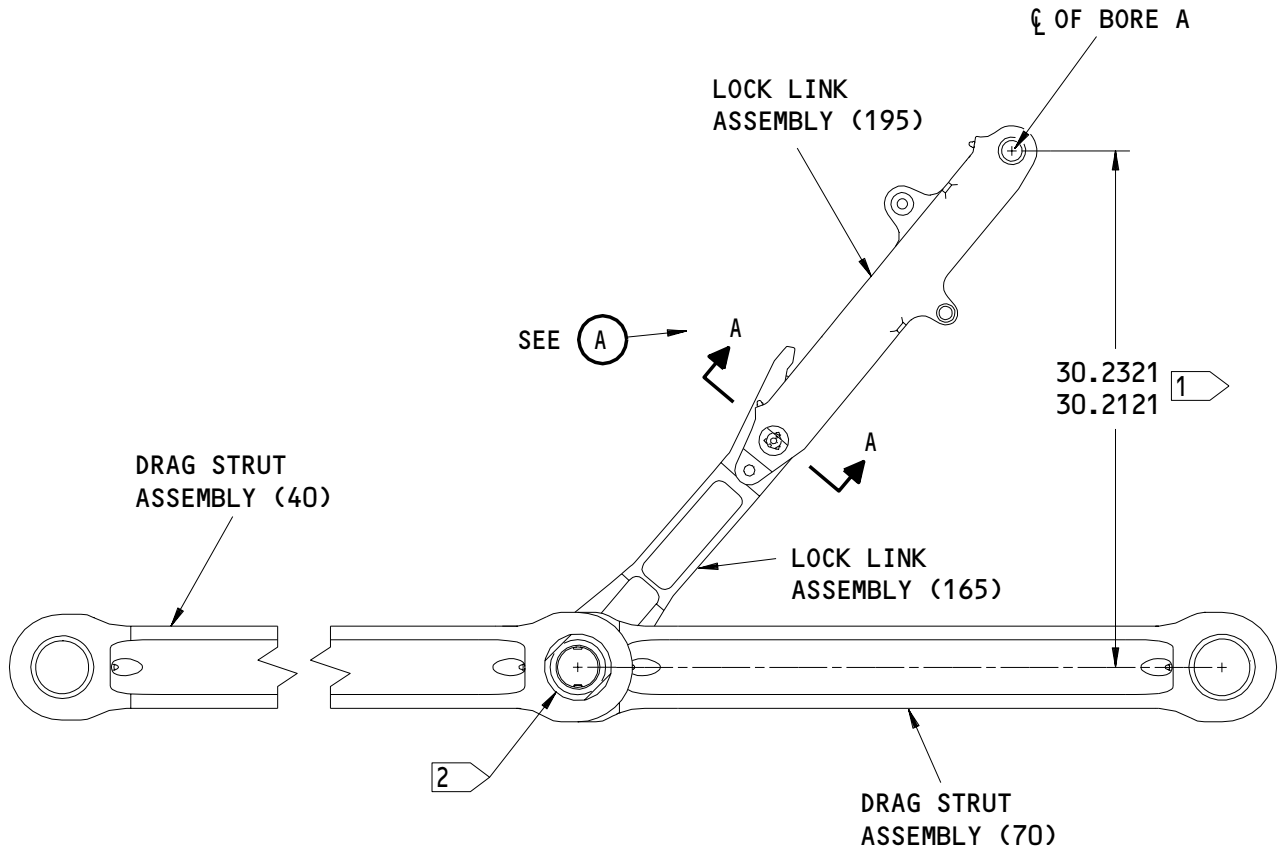
01.1

- (3) Apply BMS 5-95 sealant onto the bolts (125, 145) as shown in SOPM 20-60-04.
- (4) Install the shim (160) and the plate (157) onto the lock link assembly (195) with the bolts (145), the washers (150), and the nuts (155) as shown in Fig. 701, bubble A.
- (5) Apply BMS 5-95 fay surface sealant between the mating surfaces of the lock link assembly (165) and the plate (140).
- (6) Install the plate (140) onto the lock link assembly (165) with the bolts (125), the washers (130), and the nuts (135).
- (7) Apply BMS 3-33 grease to the chrome plated surfaces of the link lock pin (120).
- (8) Install the link lock pin (120) and the end caps (115) into the lock link assemblies (165, 195) as shown in Fig. 701, section A-A.
- (9) Install the bolt (100), the washer (105), and the nut (110) into the link lock pin (120).
- (10) Tighten the nut (110) to within 100-125 inch-pounds of torque. Back off to the nearest castellation and install the cotter pin (95).
- (11) Apply a thin layer of BMS 3-27 corrosion inhibiting compound to bolt shanks, thread relieves, threads, and washer faces. Wipe off unwanted BMS 3-27 compound.
- (12) Apply BMS 3-33 grease to the chrome plated surfaces of the apex pin (35).

NOTE: Observe critical pin installation direction. Failure to observe pin direction may cause damage to gear door.
- (13) Install apex pin (35A) into the drag strut assemblies (40, 70) and the lock link assembly (165) with the washer (30) and the nut (25) as shown in Fig. 701, section B-B.
- (14) Tighten the nut (25) to within 50-58 foot-pounds of torque. Back off to the nearest castellation.
- (15) Install the bolts (10), the washers (15), and the nuts (20) into the apex pin (35A).

32-11-63ASSEMBLY
Page 702
Mar 01/00

01.1



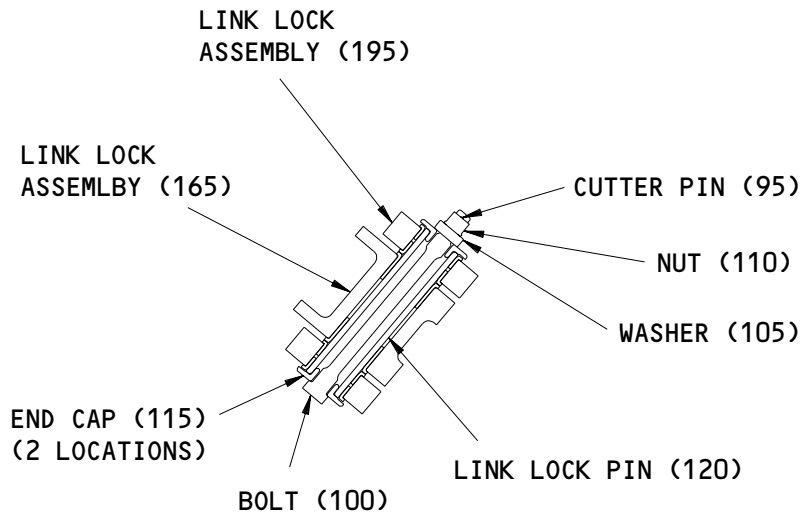
161T6100-1 SHOWN
161T6100-2 OPPOSITE

Drag Strut Assembly
Figure 701 (Sheet 1)

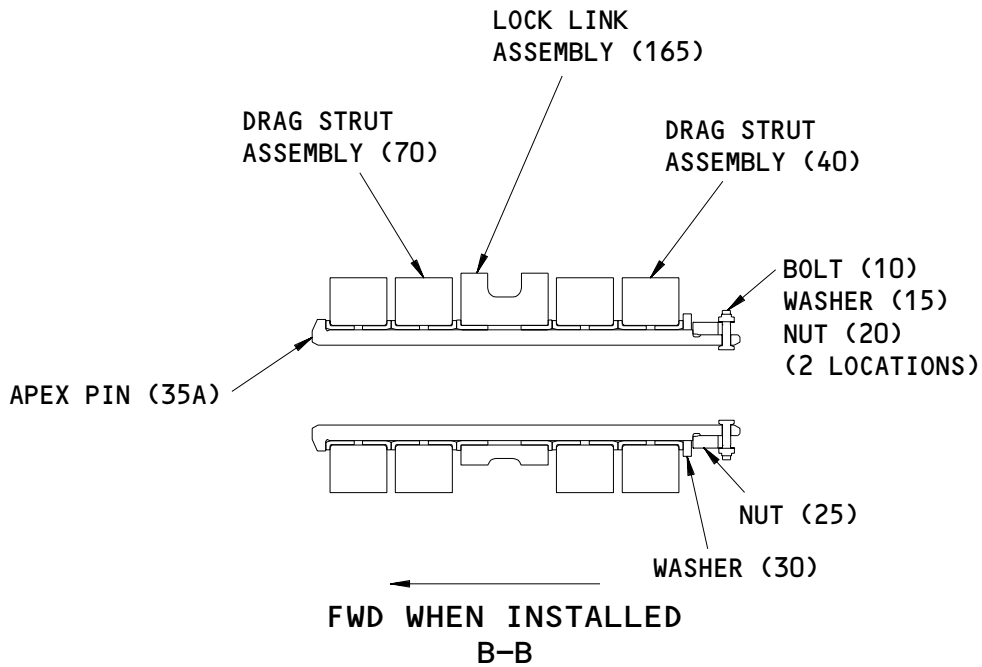
32-11-63

ASSEMBLY
Page 703
Mar 01/00

01.1



A-A

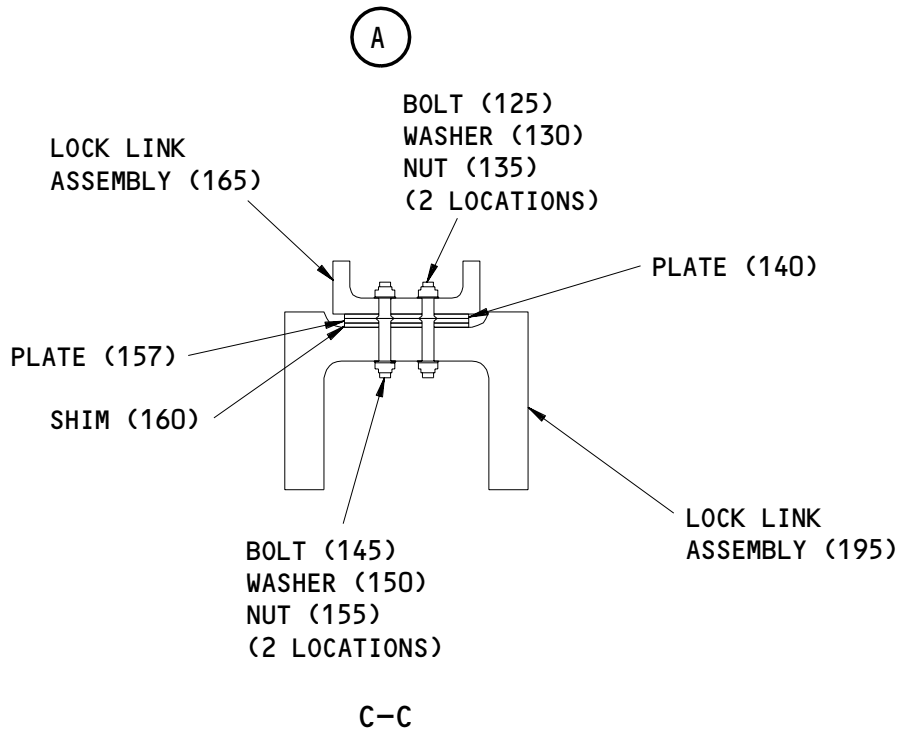
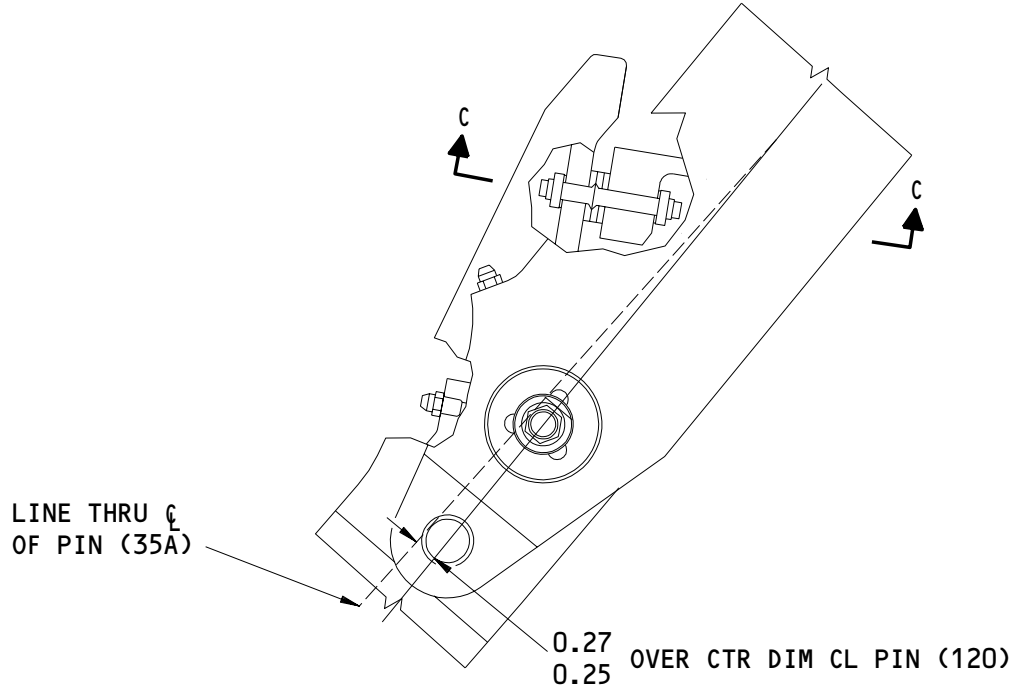


Drag Strut Assembly
 Figure 701 (Sheet 2)

32-11-63

ASSEMBLY
 Page 704
 Mar 01/00

01.1



1 GEAR DOWN POSITION.

2 CRITICAL PIN INSTALLATION DIRECTION.

ITEM NUMBERS REFER TO IPL FIG. 1

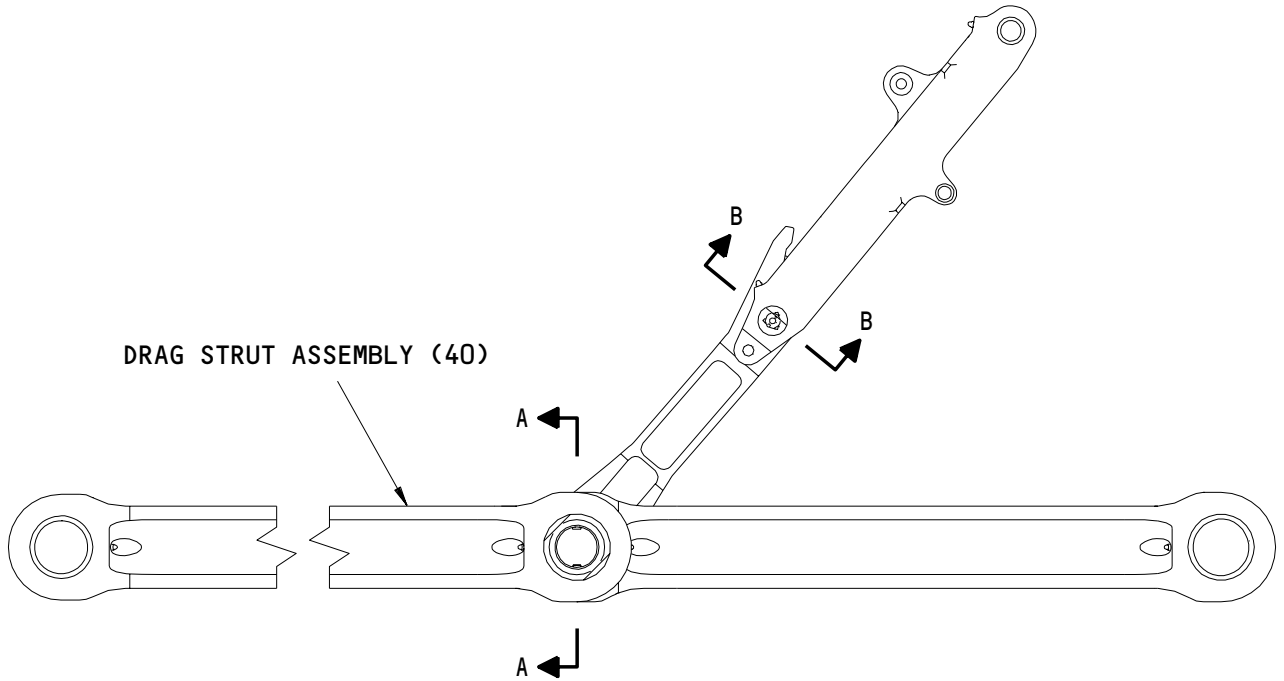
Drag Strut Assembly
 Figure 701 (Sheet 3)

32-11-63

ASSEMBLY
 Page 705
 Mar 01/00

01.1

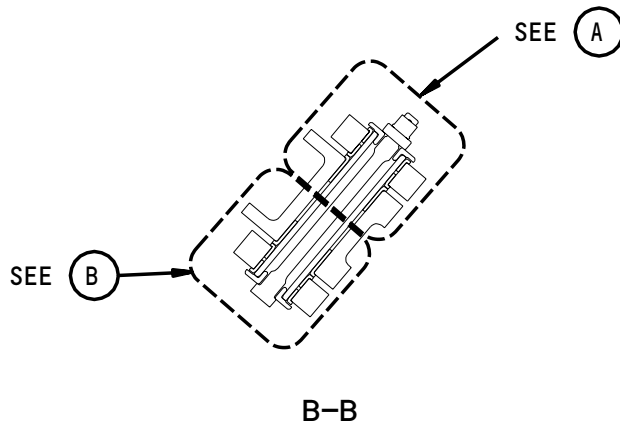
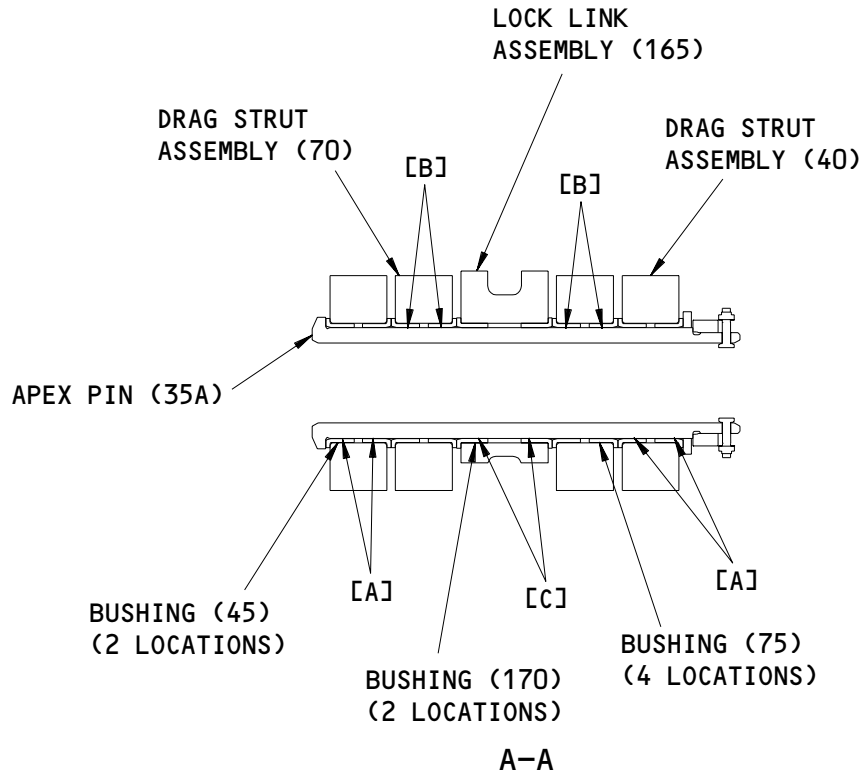
BOEING
COMPONENT
MAINTENANCE MANUAL
FITS AND CLEARANCES



Fits and Clearances
Figure 801 (Sheet 1)

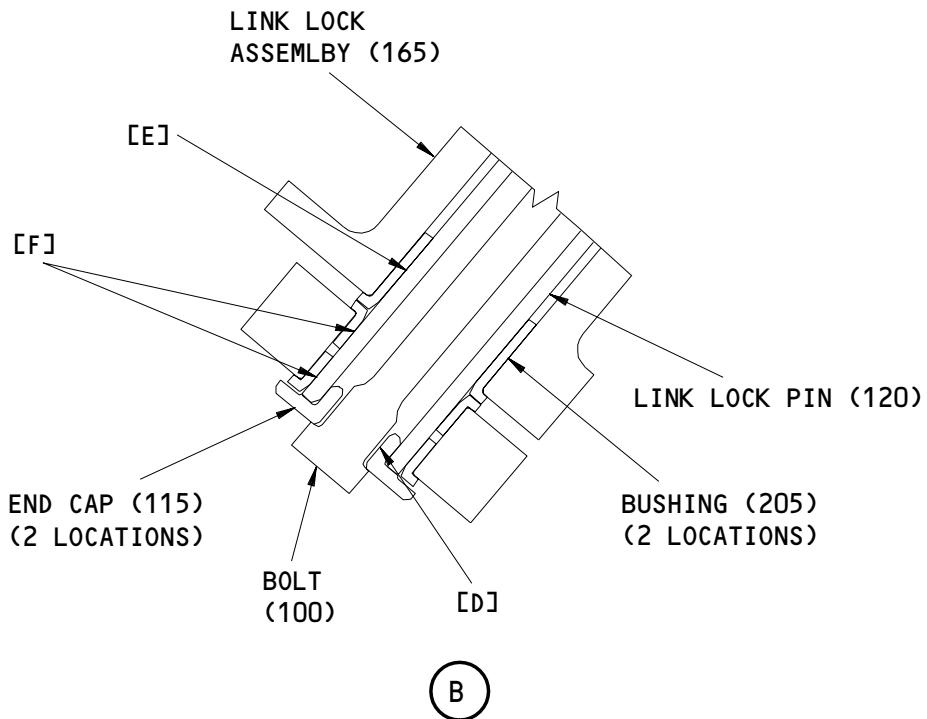
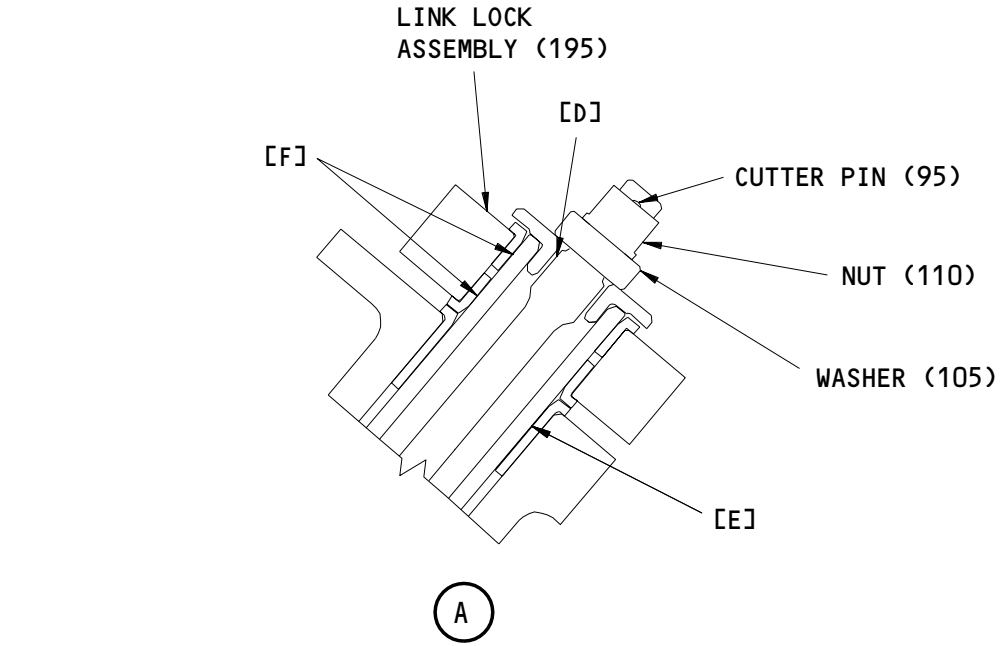
32-11-63

FITS AND CLEARANCES
01.1 Page 801
Mar 01/00



Fits and Clearances
 Figure 801 (Sheet 2)

32-11-63



Fits and Clearances
Figure 801 (Sheet 3)

32-11-63

FITS AND CLEARANCES
01.1 Page 803
Mar 01/00

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 45	3.3125	3.3140		0.0035		3.3186	0.0071
	OD 35A	3.3105	3.3115	0.0010		3.3069		
[B]	ID 75	3.3125	3.3140		0.0035		3.3186	0.0071
	OD 35	3.3105	3.3115	0.0010		3.3069		
[C]	ID 170	3.3125	3.3140		0.0035		3.3186	0.0071
	OD 35	3.3105	3.3115	0.0010		3.3069		
[D]	ID 115	0.6150	0.6250		0.0800		0.6366	0.0816
	OD 100	0.5450	0.5550	0.0600		0.5434		
[E]	ID 180	1.2500	1.2514		0.0034		1.2546	0.0056
	OD 120	1.2480	1.2490	0.0010		1.2458		
[F]	ID 205	1.2500	1.2514		0.0034		1.2546	0.0056
	OD 120	1.2480	1.2490	0.0010		1.2458		
[G]	ID 120	0.9000	0.9050		0.0160		0.9169	0.0179
	OD 115	0.8890	0.8990	0.0010		0.8871		

* ALL DIMENSIONS ARE IN INCHES

Fits and Clearances
 Figure 801 (Sheet 4)

32-11-63

FITS AND CLEARANCES
 01.1 Page 804
 Mar 01/00

ILLUSTRATED PARTS LIST

1. This section lists and illustrates replaceable or repairable component parts. The Illustrated Parts Catalog contains a complete explanation of the Boeing part numbering system.
2. Indentures show parts relationships as follows:
 - Assembly
 - Detail Parts for Assembly
 - Subassembly
 - Attaching Parts for Subassembly
 - Detail Parts for Subassembly
 - Detail Installation Parts (Included only if installation parts may be returned to shop as part of assembly)
3. One use code letter (A, B, C, etc.) is assigned in the EFF CODE column for each variation of top assembly. All listed parts are used on all top assemblies except when limitations are shown by use code letter opposite individual part entries.
4. Letter suffixes (alpha-variants) are added to item numbers for optional parts, Service Bulletin modification parts, configuration differences (Except left- and right-hand parts), product improvement parts, and parts added between two sequential item numbers. The alpha-variant is not shown on illustrations when appearance and location of all variants of the part is the same.
5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.
 - A. When a new top assembly part number is assigned by Service Bulletin, the notations appear at the top assembly level only. The configuration differences at detail part level are then shown by use code letter.
 - B. When the top assembly part number is not changed by the Service Bulletin, the notations appear at the detail part level.
6. Parts Interchangeability

Optional (OPT)	The parts are optional to and interchangeable with other parts having the same item number.
Supersedes, Superseded By (SUPSDS, SUPSD BY)	The part supersedes and is not interchangeable with the original part.
Replaces, Replaced By (REPLS, REPLD BY)	The part replaces and is interchangeable with, or is an alternate to, the original part.

32-11-63

ILLUSTRATED PARTS LIST
 01.1 Page 1001
 Mar 01/00

I

32-11-63

ILLUSTRATED PARTS LIST
01.1 Page 1002
Mar 01/00

VENDORS

15653 KAYNAR TECHNOLOGY KAYNAR DIV
800 SOUTH STATE COLLEGE BLVD PO BOX 3001
FULLERTON, CALIFORNIA 92634-3001

62554 SIMMONDS MECAERO FASTENERS INC
1734 SEQUOIA AVENUE
ORANGE, CALIFORNIA 92668

32-11-63

ILLUSTRATED PARTS LIST

01.1 Page 1003

Mar 01/00

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
BACB28Y12E122		1	895	2
BACN10YR4CD		1	20	2
		1	135	2
		1	155	2
BACN11N110CD		1	900	1
BACN11N7CS		1	110	1
		1	870	1
BACP18BC04A06P		1	95	1
		1	855	1
BACP18BC04A12P		1	880	1
BACW10BP4NDP		1	15	2
		1	130	2
		1	150	2
		1	815	4
H52732-4CD		1	20	2
		1	135	2
		1	155	2
		1	820	2
MS15001-1		1	185	2
		1	220	4
MS15004-1		1	55	4
		1	80	4
NAS6704-10		1	10	2
		1	805	2
NAS6704-12		1	810	2
NAS8704-15		1	145A	2
NAS8704-7		1	125	2
NAS8714-15		1	145	
PLH54CD		1	20	2
		1	135	2
		1	155	2
161A2128-2		1	105	1
		1	865	1
161T2874-1		1	50	4
161T2874-2		1	45	4
		1	75	8
161T2874-4		1	210	2
161T2874-80		1	215	
161T2874-81		1	170	2
161T2874-82		1	180	2
161T2874-83		1	200	2
161T2874-85		1	215A	4
161T6039-1		1	890	1
161T6100-1		1	1A	RF
161T6100-2		1	5	RF
161T6101-1		1	40	1
161T6101-2		1	65	1

32-11-63

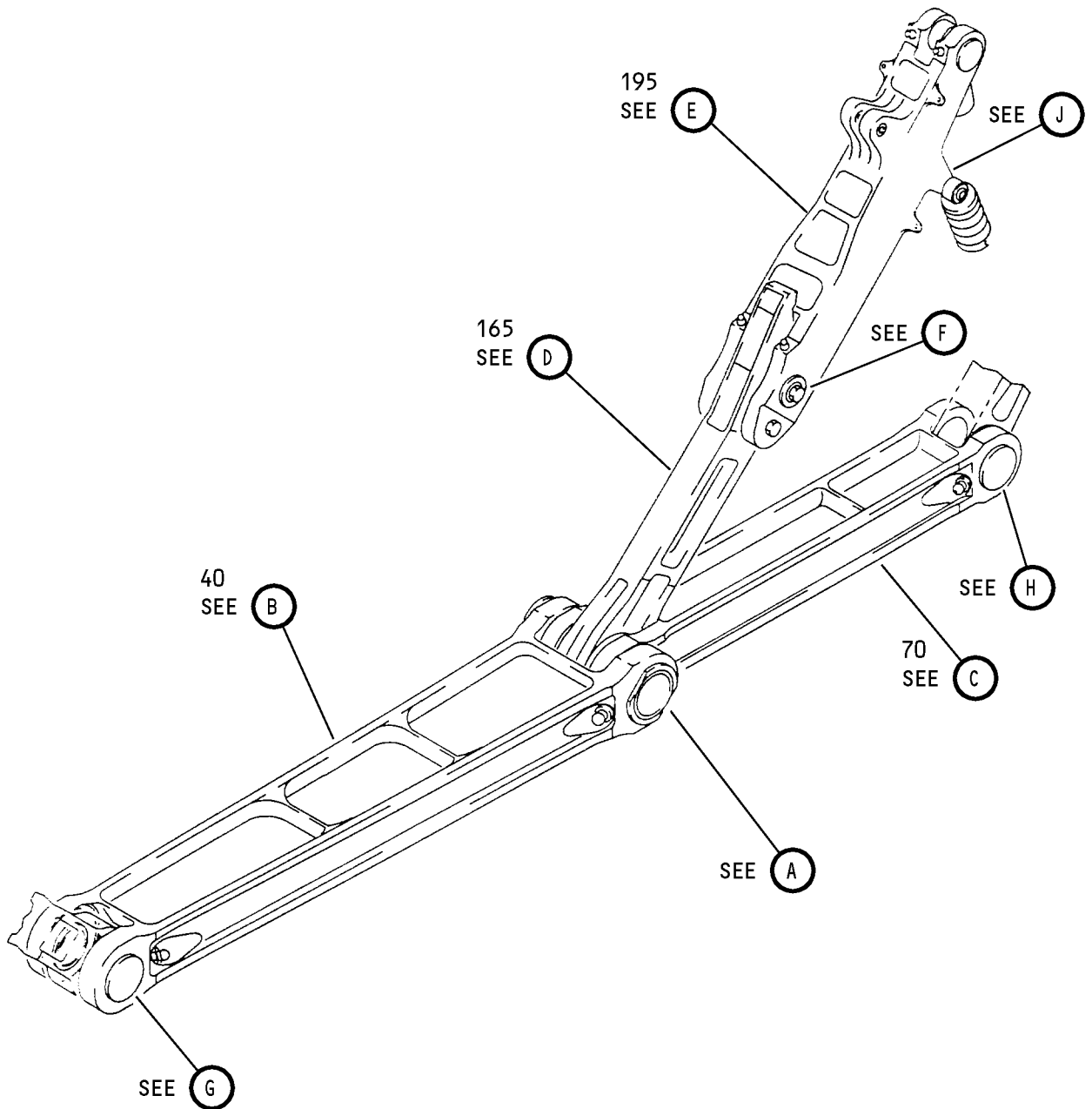
 ILLUSTRATED PARTS LIST
 01.1 Page 1004
 Mar 01/00


BOEING
 COMPONENT
 MAINTENANCE MANUAL

PART NUMBER	AIRLINE PART NO.	FIG.	ITEM	TTL REQ
161T6103-1		1	70	1
161T6103-2		1	90	1
161T6110-1		1	35A	1
161T6110-2		1	840	1
161T6111-1		1	165	1
161T6111-2		1	190	1
161T6112-1		1	195	1
161T6112-2		1	225	1
161T6116-3		1	860	1
161T6116-4		1	100	1
161T6133-1		1	825	1
161T6134-1		1	835	1
161T6135-1		1	830	1
161T6142-1		1	885	1
161T6143-1		1	910	2
161W3130-1		1	115	2
		1	905	2
161W4016-1		1	30	
		1	845	1
161W4016-2		1	30A	1
161W4017-1		1	25	1
		1	850	1
161W4018-1		1	120	1
161W4018-2		1	875	1
161W4021-1		1	140	1
		1	157	1
161W4022-1		1	160	1
161W4031-2		1	205	8
161W4035-2		1	175	1
161W6110-1		1	35	
161W7010-1		1	60	4
		1	85	4

32-11-63

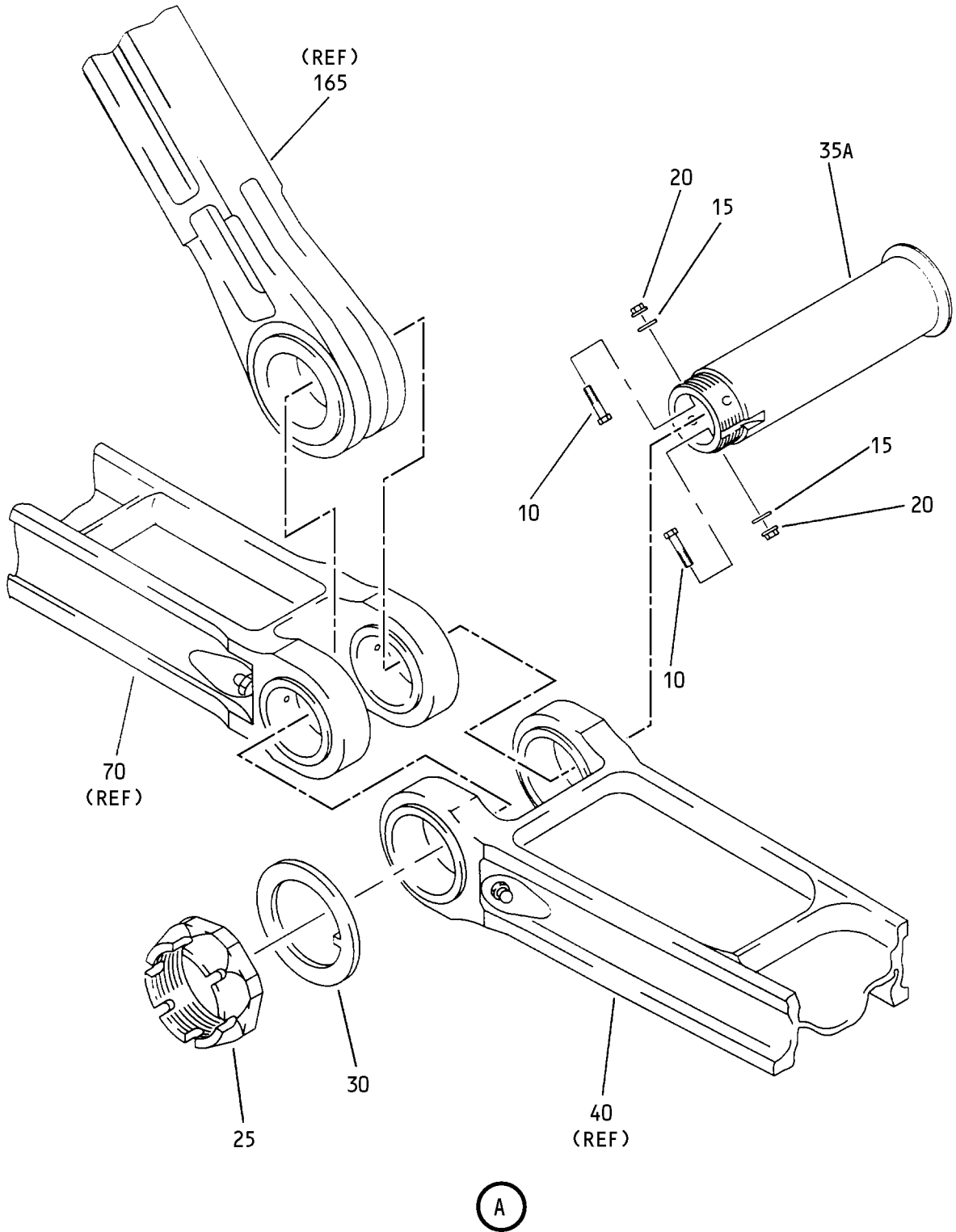
 ILLUSTRATED PARTS LIST
 01.1 Page 1005
 Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 1)

32-11-63

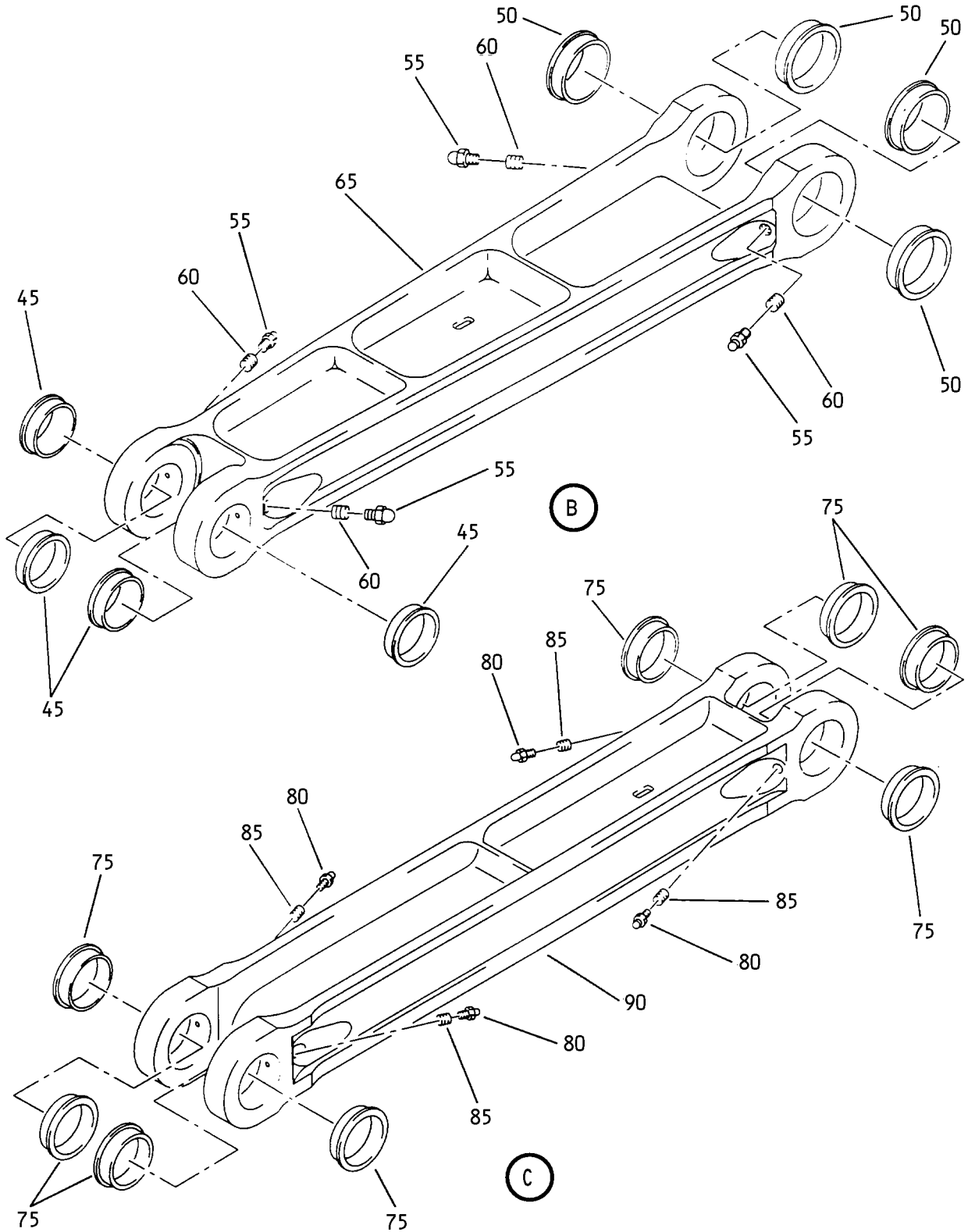
ILLUSTRATED PARTS LIST
01.1 Page 1007
Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 2)

32-11-63

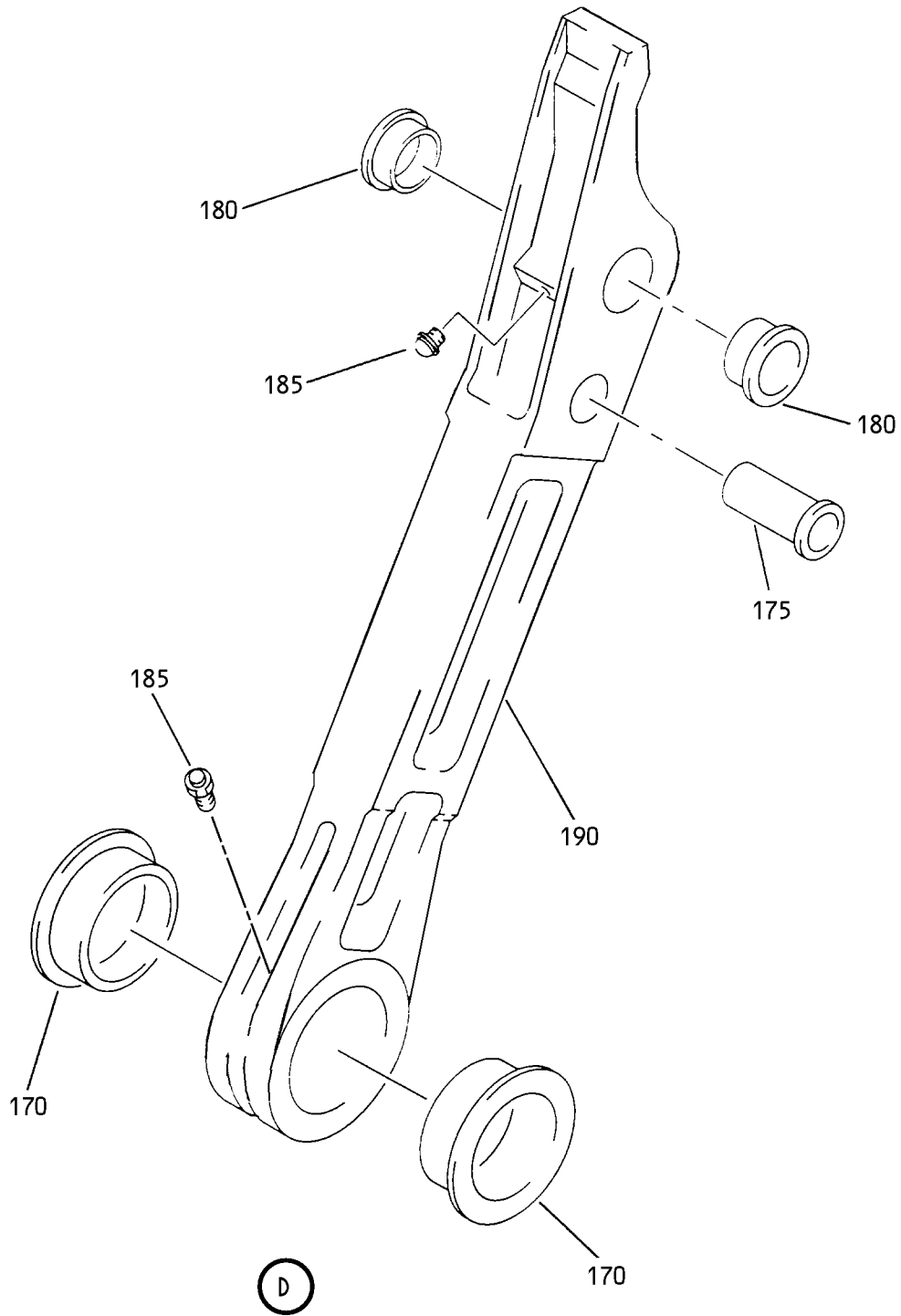
ILLUSTRATED PARTS LIST
01.1 Page 1008
Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 3)

32-11-63

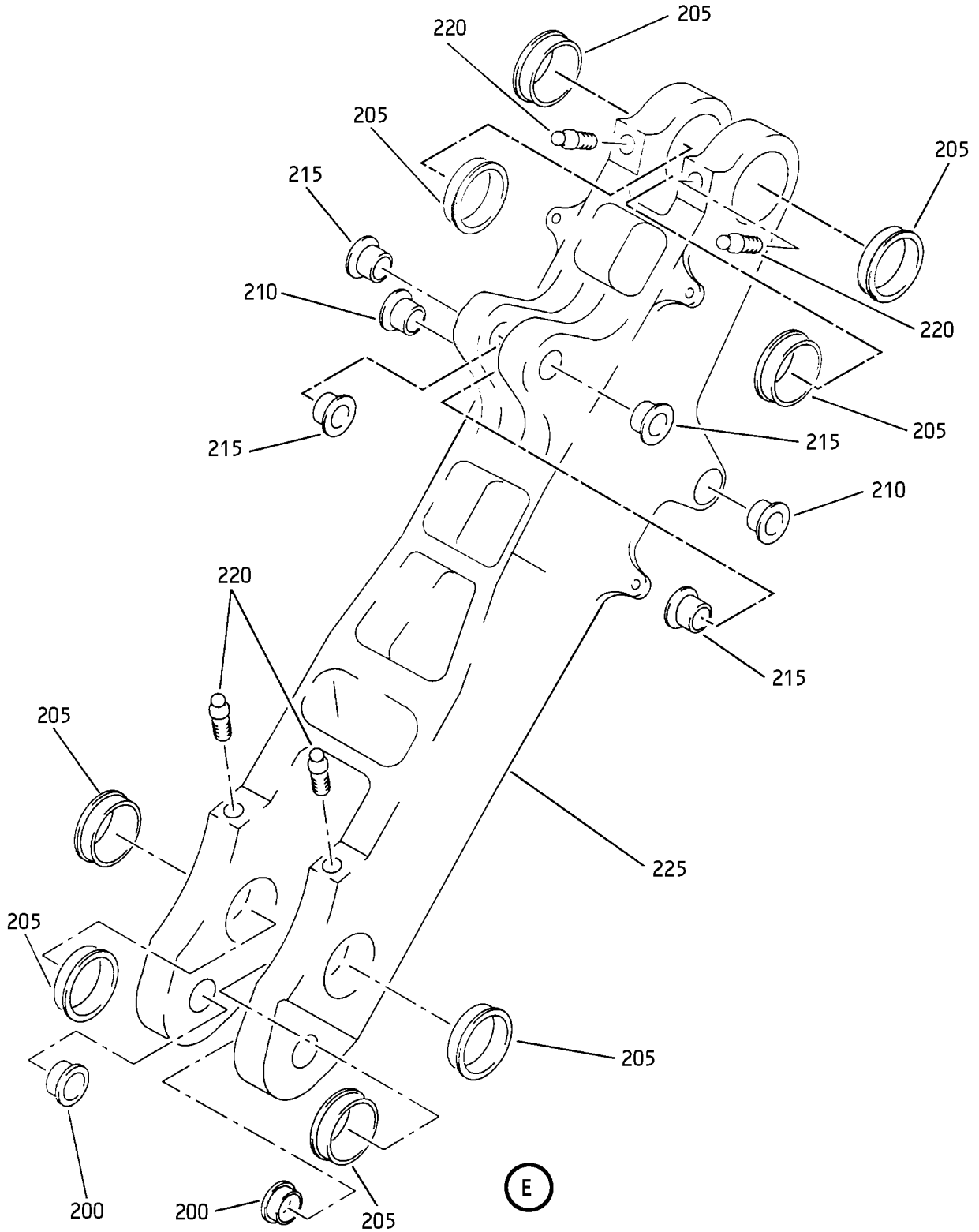
ILLUSTRATED PARTS LIST
01.1 Page 1009
Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 4)

32-11-63

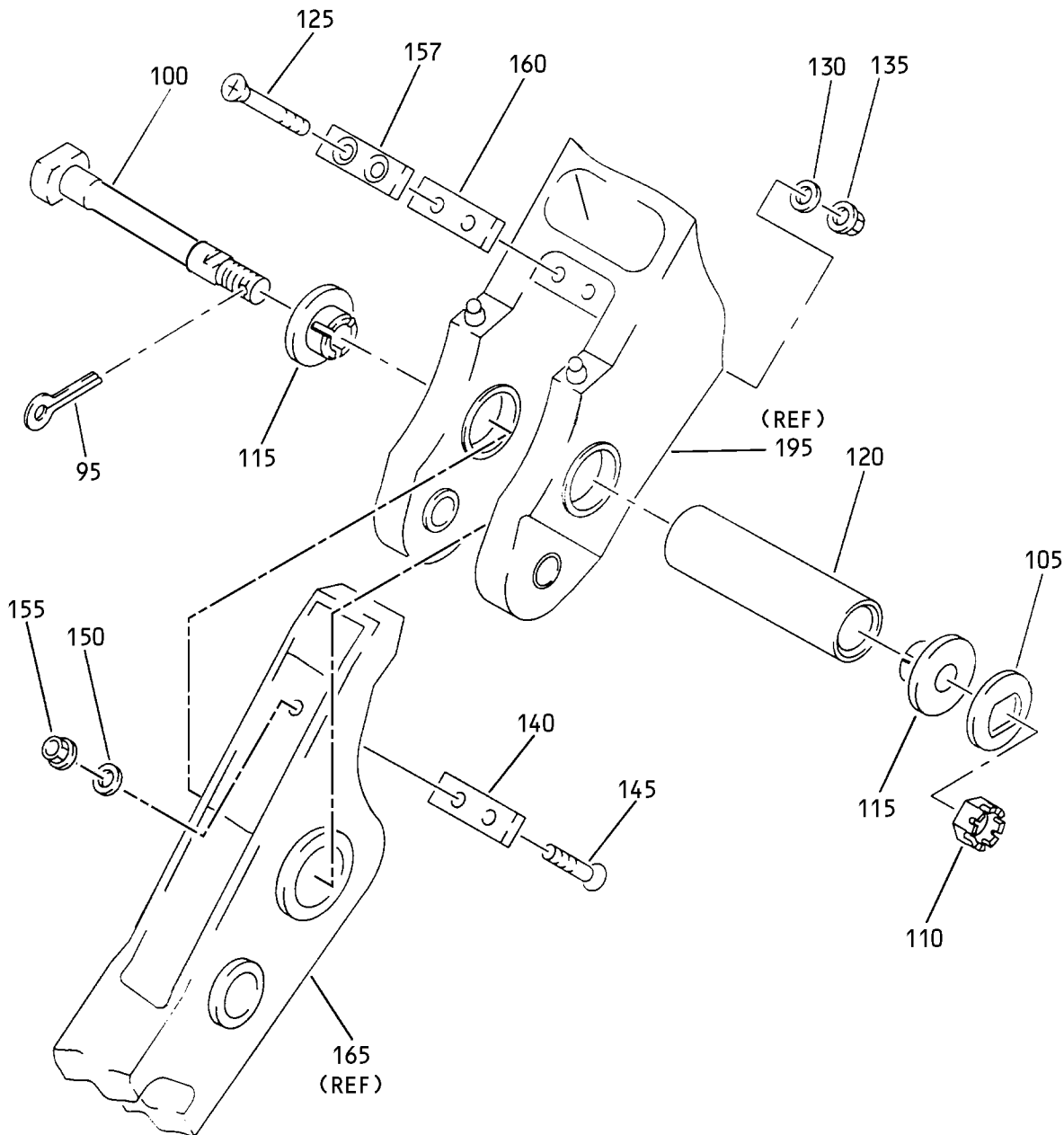
ILLUSTRATED PARTS LIST
01.1 Page 1010
Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 5)

32-11-63

ILLUSTRATED PARTS LIST
01.1 Page 1011
Mar 01/00

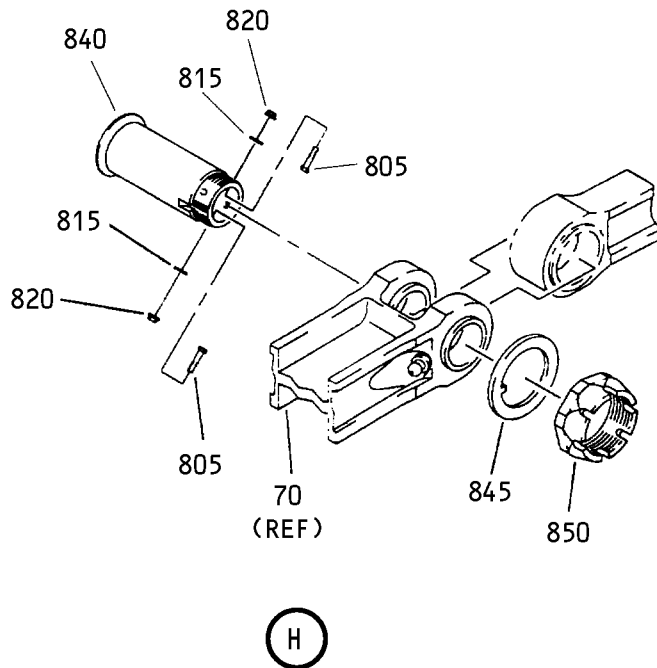
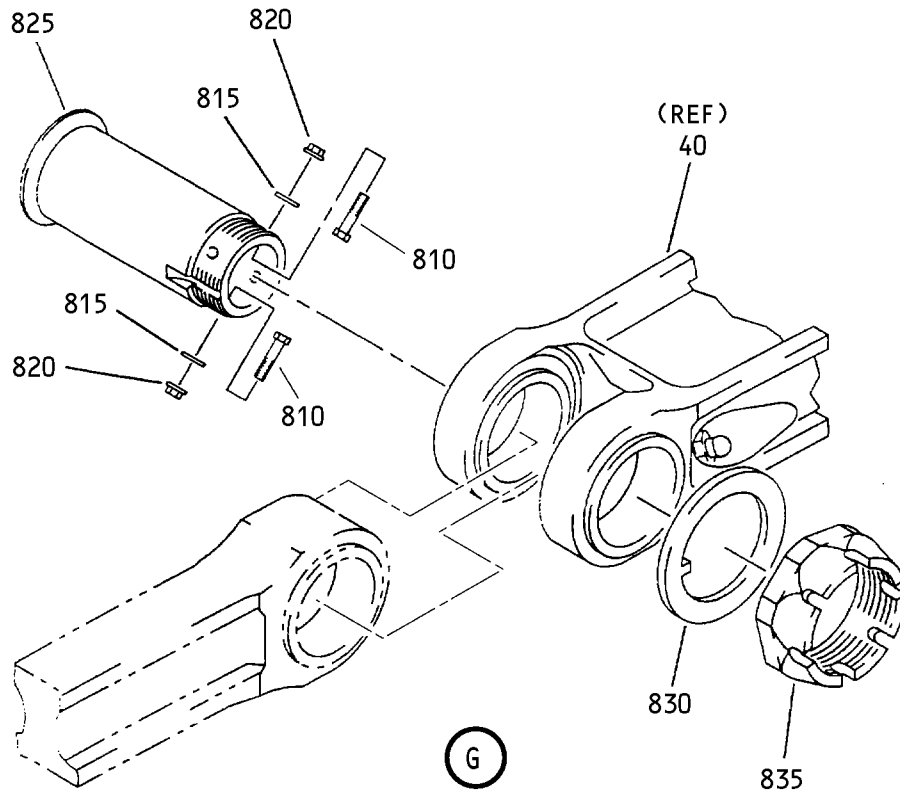


(F)

Main Landing Gear Drag Strut Assembly
 Figure 1 (Sheet 6)

32-11-63

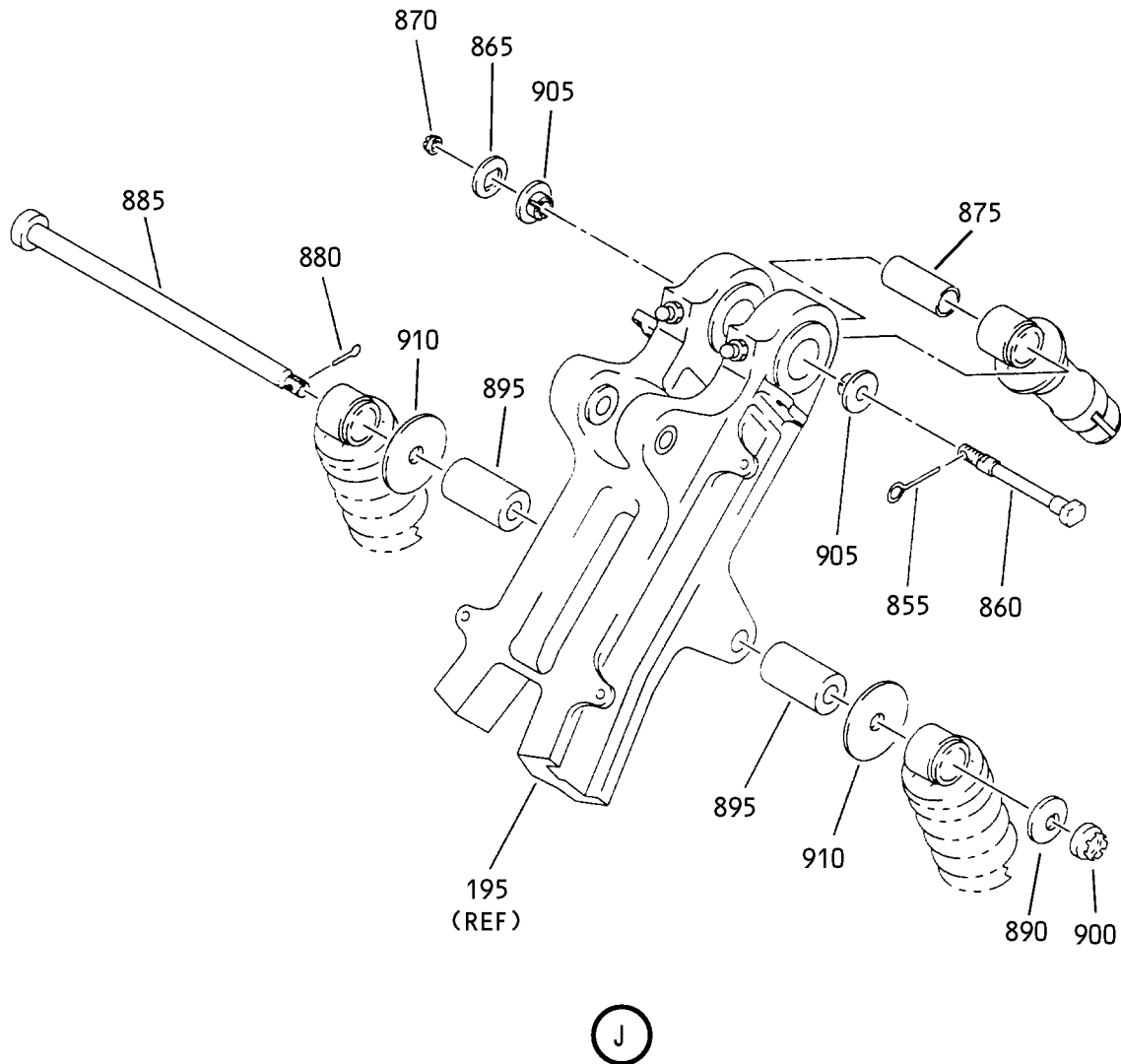
ILLUSTRATED PARTS LIST
 01.1 Page 1012
 Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 7)

32-11-63

ILLUSTRATED PARTS LIST
01.1 Page 1013
Mar 01/00



Main Landing Gear Drag Strut Assembly
Figure 1 (Sheet 8)

32-11-63

ILLUSTRATED PARTS LIST
01.1 Page 1014
Mar 01/00


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1A	161T6100-1		STRUT ASSY-DRAG MLG	A	RF
-5	161T6100-2		STRUT ASSY-DRAG MLG	B	RF
10	NAS6704-10		.BOLT		2
15	BACW10BP4NDP		.WASHER		2
20	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		2
25	161W4017-1		.NUT- LIFE-LIMITED PART		1
30	161W4016-1		DELETED		
30A	161W4016-2		.WASHER		1
35	161W6110-1		DELETED		
35A	161T6110-1		.PIN-DRAG STRUT APEX LIFE-LIMITED PART		1
40	161T6101-1		.DRAG STRUT ASSY		1
45	161T2874-2		..BUSHING		4
50	161T2874-1		..BUSHING		4
55	MS15004-1		..FITTING-LUBE		4
60	161W7010-1		..INSERT-THREADED		4
65	161T6101-2		..DRAG STRUT- LIFE-LIMITED PART		1
70	161T6103-1		.DRAG STRUT ASSY		1
75	161T2874-2		..BUSHING		8
80	MS15004-1		..FITTING-LUBE		4
85	161W7010-1		..INSERT-THREADED		4
90	161T6103-2		..DRAG STRUT- LIFE-LIMITED PART		1
95	BACP18BC04A06P		.PIN-COTTER		1
100	161T6116-4		.BOLT-END CAP LL		1
105	161A2128-2		.WASHER-SLOTTED		1
110	BACN11N7CS		.NUT		1
115	161W3130-1		.END CAP		2
120	161W4018-1		.PIN-LOCK LINK		1
125	NAS8704-7		.BOLT		2

32-11-63

ILLUSTRATED PARTS LIST

01.1

Page 1015

Mar 01/00

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
130	BACW10BP4NDP		.WASHER		2
135	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		2
140	161W4021-1		.PLATE-STOP FTG		1
145	NAS8714-15		DELETED		
145A	NAS8704-15		.SCREW		2
150	BACW10BP4NDP		.WASHER		2
155	H52732-4CD		.NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		2
157	161W4021-1		.PLATE-STOP FTG		1
160	161W4022-1		.SHIM-PLATE STOP		1
165	161T6111-1		.LINK ASSY-DOWNLOCK INB		1
170	161T2874-81		..BUSHING		2
175	161W4035-2		..BUSHING		1
180	161T2874-82		..BUSHING		2
185	MS15001-1		..FITTING-LUBE		2
190	161T6111-2		..LINK- LIFE-LIMITED PART		1
195	161T6112-1		.LINK ASSY-DOWNLOCK OUT		1
200	161T2874-83		..BUSHING		2
205	161W4031-2		..BUSHING		8
210	161T2874-4		..BUSHING		2
215	161T2874-80		DELETED		
215A	161T2874-85		..BUSHING		4
220	MS15001-1		..FITTING-LUBE		4
225	161T6112-2		..LINK- LIFE-LIMITED PART		1
			INSTALLATION PARTS		
805	NAS6704-10		BOLT		2

32-11-63

ILLUSTRATED PARTS LIST

01.1 Page 1016

Mar 01/00


BOEING
 COMPONENT
 MAINTENANCE MANUAL

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
810	NAS6704-12		BOLT		2
815	BACW10BP4NDP		WASHER		4
820	H52732-4CD		NUT- (V15653) (SPEC BACN10YR4CD) (OPT PLH54CD (V62554))		2
825	161T6133-1		PIN-FUSE		1
830	161T6135-1		WASHER		1
835	161T6134-1		NUT		1
840	161T6110-2		PIN-DRAG STRUT		1
845	161W4016-1		WASHER		1
850	161W4017-1		NUT		1
855	BACP18BC04A06P		PIN-COTTER		1
860	161T6116-3		BOLT		1
865	161A2128-2		WASHER-SLOTTED		1
870	BACN11N7CS		NUT		1
875	161W4018-2		PIN-LOCK LINK		1
880	BACP18BC04A12P		PIN-COTTER		1
885	161T6142-1		PIN		1
890	161T6039-1		WASHER-TANG		1
895	BACB28Y12E122		SPACER		2
900	BACN11N110CD		NUT		1
905	161W3130-1		END CAP		2
910	161T6143-1		WASHER		2

- Item Not Illustrated

32-11-63

ILLUSTRATED PARTS LIST

01.1

Page 1017

Mar 01/00