TO: ALL HOLDERS OF LANDING GEAR ALTERNATE EXTEND CONTROL ROD ASSEMBLY
COMPONENT MAINTENANCE MANUAL 32-35-11

REVISION NO. 2 DATED JUL 10/83

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. 2 dated JUL 10/83 to the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
ALL PAGES	We are incorporating an improved computer program with this revision cycle which makes it necessary to reissue all previously issued pages, whether or not any significant changes have been made to those pages. In some cases revision bars appear on lines containing no changes; however, such anomalies can be quickly resolved by referring to the specific highlights. Pages unchanged in this revision cycle bear Jul 10/83 dates, irrespective of when the last significant changes were made. Please remove and destroy all previously issued pages and insert these pages in their place.

LANDING GEAR ALTERNATE EXTEND CONTROL ROD ASSEMBLY

PART NUMBER 257T3103-1,-2

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

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

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

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

PAGE	DATE	CODE
32-35-41		
TITLE PAGE		
*1	JUL 10/83	01
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REVISION RECORD		
*1	JUL 10/83	01
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TR & SB RECORD		
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LIST OF EFFECTIVE PAGES		
*1	JUL 10/83	01
THRU LAST PAGE		
CONTENTS		
*1	JUL 10/83	01
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INTRODUCTION		
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DESCRIPTION & OPERATION		
*1	JUL 10/83	01
*2	BLANK	
DISASSEMBLY		
*301	JUL 10/83	01
*302	BLANK	
CHECK		
*501	JUL 10/83	01
*502	BLANK	
REPAIR-GENERAL		
*601	JUL 10/83	01.1
*602	BLANK	
REPAIR 1-1		
*601	JUL 10/83	01.1
*602	BLANK	
REPAIR 2-1		
*601	JUL 10/83	01
*602	BLANK	
ASSEMBLY		
*701	JUL 10/83	01
*702	BLANK	
ILLUSTRATED PARTS LIST		
*1001	JUL 10/83	01
*1002	JUL 10/83	01.1
*1003	JUL 10/83	01.1
*1004	BLANK	

* = REVISED, ADDED OR DELETED

TABLE OF CONTENTS

*[1] Special instructions not required. Use standard industry practices.

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

Refer to the Table of Contents for the page location of applicable sections. An asterisked flagnote *[ ] in place of the page number indicates that no special instructions are provided since the function can be performed using standard industry practices.

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:

Disassembly
Assembly

LANDING GEAR ALTERNATE EXTEND CONTROL ROD ASSEMBLY

DESCRIPTION AND OPERATION

1. The landing gear alternate extend control rod assembly consists of an aluminum alloy tube attached to a cylinder with rod end bearings at both ends. A cable-transmitted input from the cockpit moves a quadrant which in turn extends the rod assembly. Extension of rod assembly 257T3103-1 results in compression of assembly 257T3103-2 and vice-versa.

2. Leading Particulars (approximate)

   Length - 257T3103-1 -- 14 inches
   - 257T3103-2 -- 30 inches
   Diameter (cylinder) -- 1 inch
   Weight -- To be provided

DISASSEMBLY

1. Loosen nut (5, IPL Fig. 1) on tube (85) end and remove rod end (25) and washer (15). Remove nut (5) from rod end (25).

2. Loosen nut (5) on plunger (60) end and slowly unscrew rod end (20) from plunger (60). Remove washer (10), spring (30) and spring seat (35). Remove nut (5) from rod end (20).

   NOTE: Do not remove lockbolt (40), collar (45) and rivet (65) unless necessary for repair or replacement.

CHECK

1. Check all parts for obvious defects in accordance with standard industry practices.

2. Penetrant check per 20-20-02 -- Plunger (60), cylinder (80) and tube (85).

3. Check Spring (30)

   A. Extend spring to 1.60 inches and check that load is 2.60-3.20 lbs.

   B. Extend spring to 2.30 inches and check that load is 16.0-19.0 lb.

REPAIR - GENERAL

1. Content

   A. Repair, refinish and replacement procedures are included in separate repair sections as follows:

P/N	NAME	REPAIR
257T3119	TUBE	1-1
257T3125	CYLINDER	1-1
- -	MISCELLANEOUS PARTS REFINISH	2-1

2. Standard Practices

   A. Refer to the following standard practices as applicable, for details of procedures in individual repairs.

   20-30-02 Stripping of Protective Finishes
   20-30-03 General Cleaning Procedures
   20-41-01 Decoding Table for Boeing Finish Codes
   20-42-03 Hard Chrome Plating
   20-43-01 Chromic Acid Anodizing
   20-42-05 Bright Cadmium Plating

3. Materials

   NOTE: Equivalent substitutes may be used.

   A. Primer -- BMS 10-11, type 1 (Ref 20-60-02)

   B. Enamel -- BMS 10-86, type 1 (Ref 20-60-02)

TUBE AND CYLINDER - REPAIR 1-1

257T3119-1, -2
257T3125-1

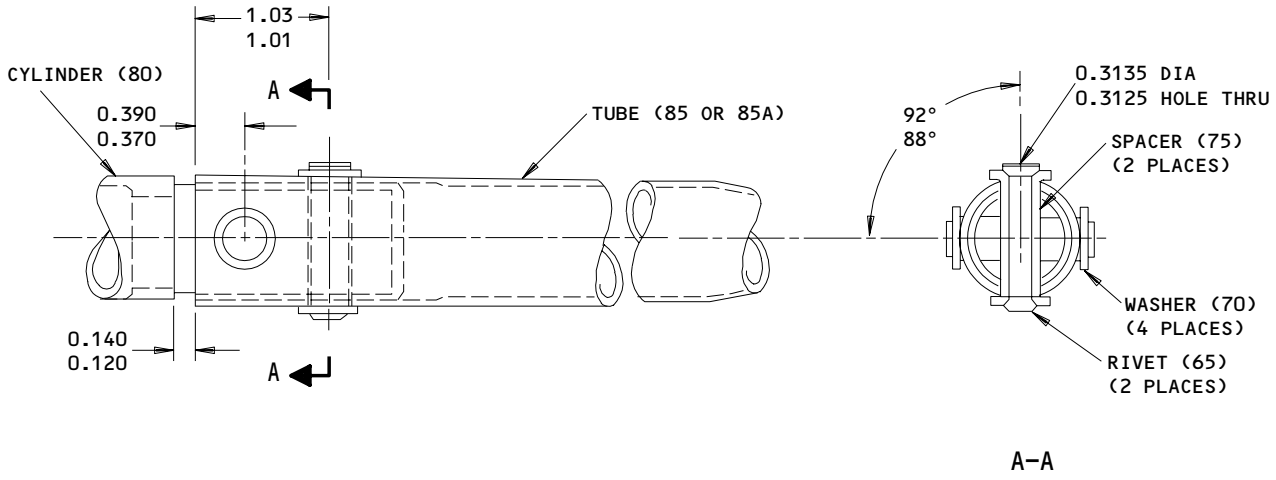
1. Tube and Cylinder Replacement (Fig. 601)

NOTE: Refer to REPAIR-GEN for list of applicable standard practices.

A. Remove rivet (65), washer (70) and spacer (75) and separate tube (85) from cylinder (80).

B. Drill 0.3125-0.3135 diameter holes thru replacement parts as shown.

C. Install tube (85 or 85A), spacer (75) and washer (70) on cylinder (80) and rivet as shown.



ALL DIMENSIONS ARE IN INCHES

Tube and Cylinder Replacement
Figure 601

14347

MISCELLANEOUS PARTS REFINISH - REPAIR 2-1

1. Repair of parts listed in Fig. 601 consists of restoration of the original finish.

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Spring (30)	Steel wire	Cadmium plate, followed by one coat primer, BMS 10-11, type 1 (F-16.01).
Spring Seat (35)	304 CRES	Cadmium plate, followed by one coat primer, BMS 10-11, type 1 (F-16.01).
Plunger (60)	Al alloy	Chromic acid anodize and apply one coat primer, BMS 10-11, type 1 (F-18.13). Apply BMS 10-86, type 1 color white (SRF 14.9624).

Refinish Details
Figure 601

ASSEMBLY

1. Materials

NOTE: Equivalent substitutes may be used.

A. Corrosion Preventive Compound -- MIL-C-16173, grade 2 (Ref 20-60-03).

2. Assembly (IPL Fig. 1)

NOTE: Coat the threaded surfaces of rod ends (20, 25) and interior threaded surfaces of plunger (60) and tube (85) with MIL-C-16173, grade 2, corrosion preventive compound, before assembly.

A. Install spring seat (35) and spring (30) on plunger (60).

B. Install nut (5) on rod ends (20, 25).

C. Install rod ends (20, 25) and washers (10, 15) on plunger (60) and on tube (85).

D. Tighten nuts (5) to 90-125 lb-in.

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.

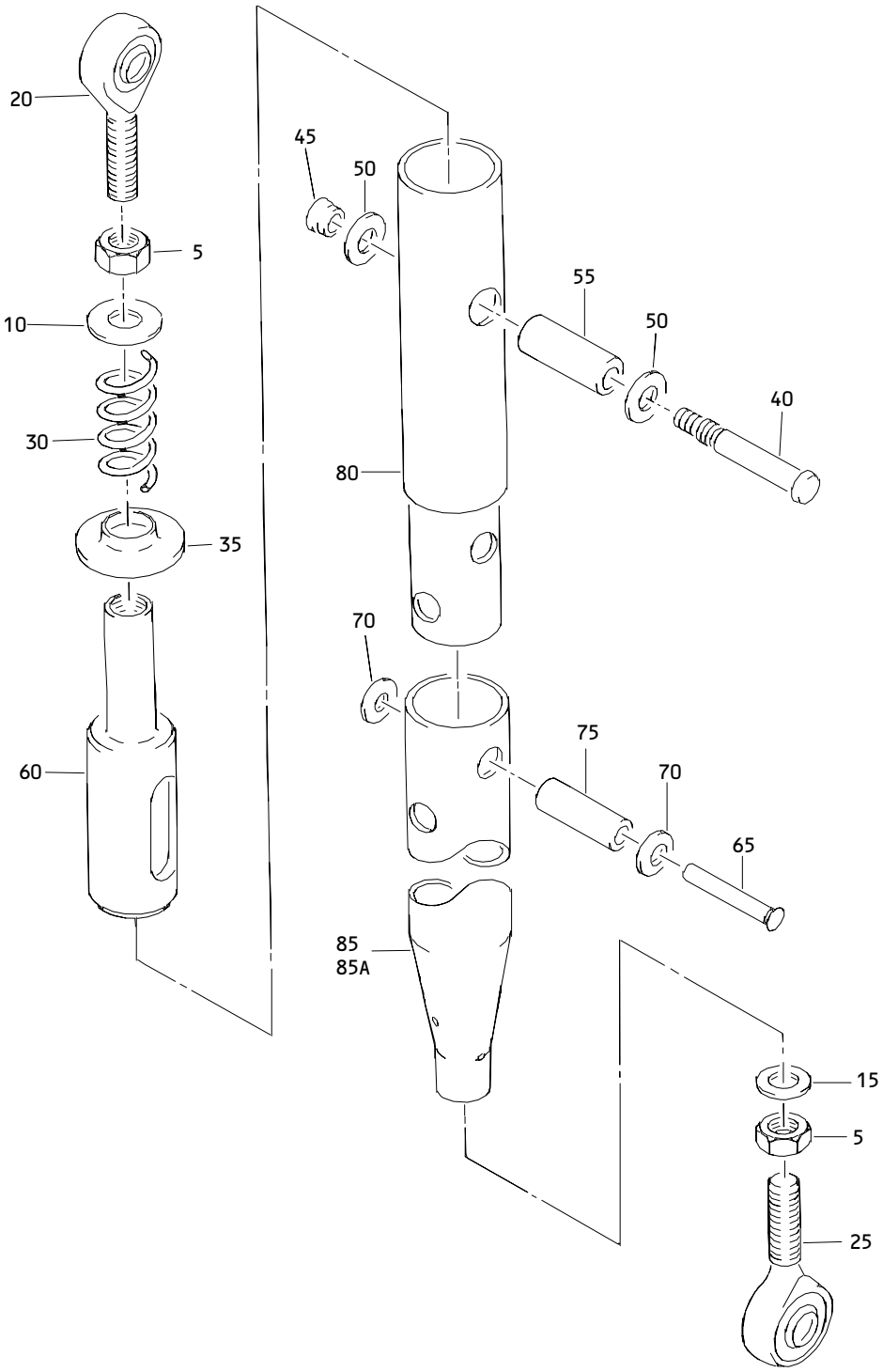
5. Service Bulletin modifications are shown by the notations PRE SB XXXX and POST SB XXXX.

    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.



Alternate Extend Landing Gear Control Rod Assembly
Figure 1

T55866

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	257T3103-1		ROD ASSY-ALTERNATE EXTEND LG CONT	A	RF
-1A	257T3103-2		ROD ASSY-ALTERNATE EXTEND LG CONT	B	RF
5	AN316-5R		.NUT-JAM		2
10	BACW10P115S		.WASHER		1
15	AN960-516L		.WASHER		1
20	MS21242S04		.BEARING-ROD END		1
25	MS21242S05		.BEARING-ROD END		1
30	MS24585-1492		.SPRING		1
35	257T3117-1		.SEAT-SPR		1
40	BACB30W18		.BOLT-LOCK		1
45	NAS1080C6		.COLLAR		1
50	BACW10P136AL		.WASHER		2
55	NAS42DD6-64		.SPACER		1
60	257T3116-1		.PLUNGER		1
65	BACR15A6DD20		.RIVET		2
70	BACW10BN3C		.WASHER		4
75	257T3105-12		.BUSHING		2
80	257T3125-1		.CYLINDER		1
85	257T3119-1		.TUBE-CONT ROD	A	1
-85A	257T3119-2		.TUBE-CONT ROD	B	1