TO: ALL HOLDERS OF MAIN GEAR ALTERNATE EXTEND LOAD LIMITER ASSEMBLY, COMPONENT MAINTENANCE MANUAL 32-35-30

REVISION NO. 1 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. 1 dated Jul 10/83 on 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.
DESCRIPTION & OPERATION 1 401 701 1002,1005	Simplified presentation of information.

MAIN LANDING GEAR ALTERNATE EXTEND LOAD LIMITER ASSEMBLY

PART NUMBER 257T3011-1

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
32-35-30		
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		
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*1	JUL 10/83	01.1
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CLEANING		
*401	JUL 10/83	01.1
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CHECK		
*501	JUL 10/83	01
*502	BLANK	
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*601	JUL 10/83	01.1
*602	JUL 10/83	01
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*602	BLANK	
REPAIR 2-1		
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*602	BLANK	
REPAIR 3-1		
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*1001	JUL 10/83	01
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* = REVISED, ADDED OR DELETED

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Special Tools (not applicable)	
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*[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 Revisions & 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:

Testing/TS
Disassembly
Assembly

MAIN GEAR ALTERNATE EXTEND LOAD LIMITER ASSY

DESCRIPTION AND OPERATION

1. The MLG alternate extend load limiter assembly consists of a shaft connected to a crushable cartridge, housed in an aluminum alloy housing.

2. The load limiter assembly connects to the torque shaft and control lever. In event of hydraulic failure, the load transmitted by the control lever crushes the cartridge, enabling the quadrant to rotate.

3. Leading Particulars (Approximate)

   A. Length -- 8 inches

   B. Width -- 2 inches

   C. Weight -- TBP

CLEANING

1. Clean all parts except cartridge (50, IPL Fig. 1) using standard industry practices and the information contained in 20-30-03.

2. Clean cartridge (50) according to manufacturer's instructions.

CHECK

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

2. Magnetic particle check per 20-20-01 -- washers (45).

3. Penetrant check per 20-20-02 -- end cap (25), housing (55).

REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
257T3012	HOUSING	1-1
257T3013	END CAP	2-1
257T3016	BOLT	3-1
--	MISCELLANEOUS PARTS REFINISH	4-1

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
20-41-02 Application of Chemical and Solvent Resistant Finishes

4. Dimensioning Symbols

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

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
⌯	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE FROM WHICH PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE

EXAMPLES

— 0.002	STRAIGHT WITHIN 0.002
⊥ B 0.002	PERPENDICULAR TO B WITHIN 0.002
// A 0.002	PARALLEL TO A WITHIN 0.002
○ 0.002	ROUND WITHIN 0.002
⌭ 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
⌒ A 0.006	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART IN RELATION TO DATUM PLANE A
⌓ A 0.020	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.02 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
◎ C ∅ 0.0005	CONCENTRIC TO C WITHIN 0.0005 DIAMETER (FULL INDICATOR MOVEMENT)
⌯ A 0.010	SYMMETRICAL WITH A WITHIN 0.010
∠ A 0.005	ANGULAR TOLERANCE 0.005 WITH A
⌖ B ∅ 0.002 Ⓢ	LOCATED AT TRUE POSITION WITHIN 0.002 DIA IN RELATION TO DATUM B, REGARDLESS OF FEATURE SIZE
⊥ A ∅ 0.010 Ⓜ 0.510 Ⓟ	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010-INCH DIAMETER, PERPENDICULAR TO, AND EXTENDING 0.510-INCH ABOVE, DATUM A, MAXIMUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	EXACT DIMENSION IS 2.000

True Position Dimensioning Symbols
Figure 601

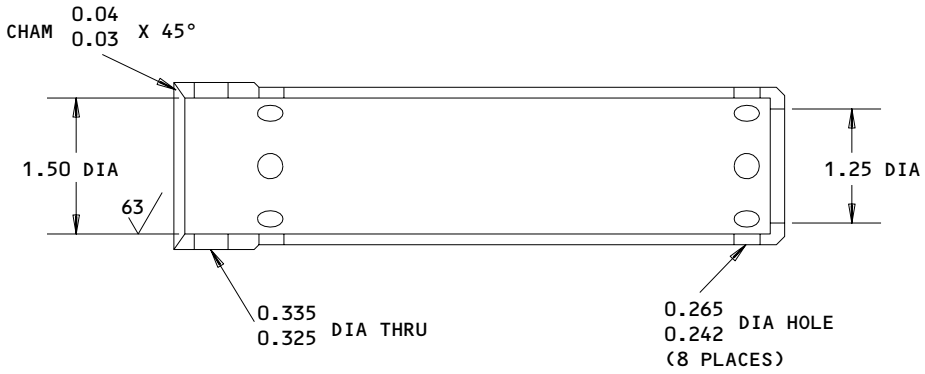
81001

HOUSING - REPAIR 1-1

257T3012-1

1. Plating Repair

NOTE: Repair consists of restoration of original finish. Refer to refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.



REFINISH

CHROMIC ACID ANODIZE (F-17.04) ALL OVER. ON EXTERIOR, APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-18.13). FOLLOWED BY ONE COAT BMS 10-11, TYPE 2, COLOR BAC702, WHITE GLOSS ENAMEL (F-21.03)

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

Housing Repair
Figure 601

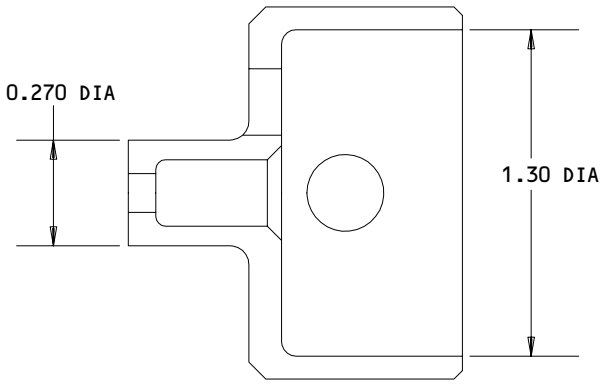
80996

END CAP - REPAIR 2-1

257T3013-1

1. Plating Repair

NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.



REFINISH

CHROMIC ACID ANODIZE (F-17.04) & APPLY ONE COAT BMS 10-11, TYPE 1, PRIMER (F-18.13). APPLY ONE COAT BMS 10-11, TYPE 2, COLOR BAC702 WHITE GLOSS ENAMEL (F-21.03).

MATERIAL: AL ALLOY

ALL DIMENSIONS ARE IN INCHES

End Cap Repair
Figure 601

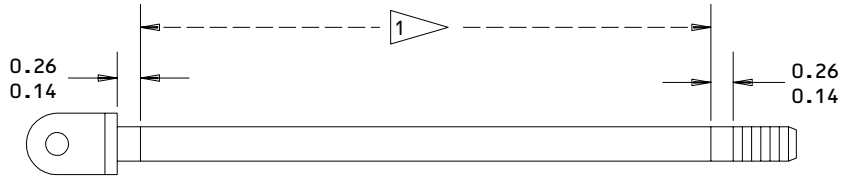
80997

BOLT - REPAIR 3-1

257T3016-1

1. Plating Repair

NOTE: Repair consists of restoration of original finish. Refer to Refinish instructions, Fig. 601 and to REPAIR-GEN for list of applicable standard practices.



REFINISH

APPLY ONE COAT OF BMS 10-11, TYPE 1, PRIMER (F-20.02) ON AREA NOTED 1, FOLLOWED BY ONE COAT BMS 10-11, TYPE 2, GLOSS ENAMEL (SRF-14.905-101) ALL OVER.

MATERIAL: STEEL

ALL DIMENSIONS ARE IN INCHES

Bolt Repair
Figure 601

80998

MISCELLANEOUS PARTS REFINISH - REPAIR 4-1

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

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1 Washer (45)	4130 Steel, 125-145 ksi	Cadmium plate and apply one coat of BMS 10-11, Type 1, primer (F-16.01)

Refinish Details
Figure 601

ASSEMBLY

1. Install washers (45), cartridge (50), nut (35) on bolt (40). Tighten nut (35), enough to provide 0.01-0.03 clearance between bolt (40) and washer (45). Install cotter pin (30) on bolt.

2. Slide bolt (40) and attached parts into housing (55).

3. Install end cap (25) into housing and check that bolt hole is aligned. Slide bushing (20) into bolt hole. Install bolt (5), washers (10), nut (15).

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 are 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.

VENDORS

04621 HEXCEL CORPORATION
11711 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA 94566

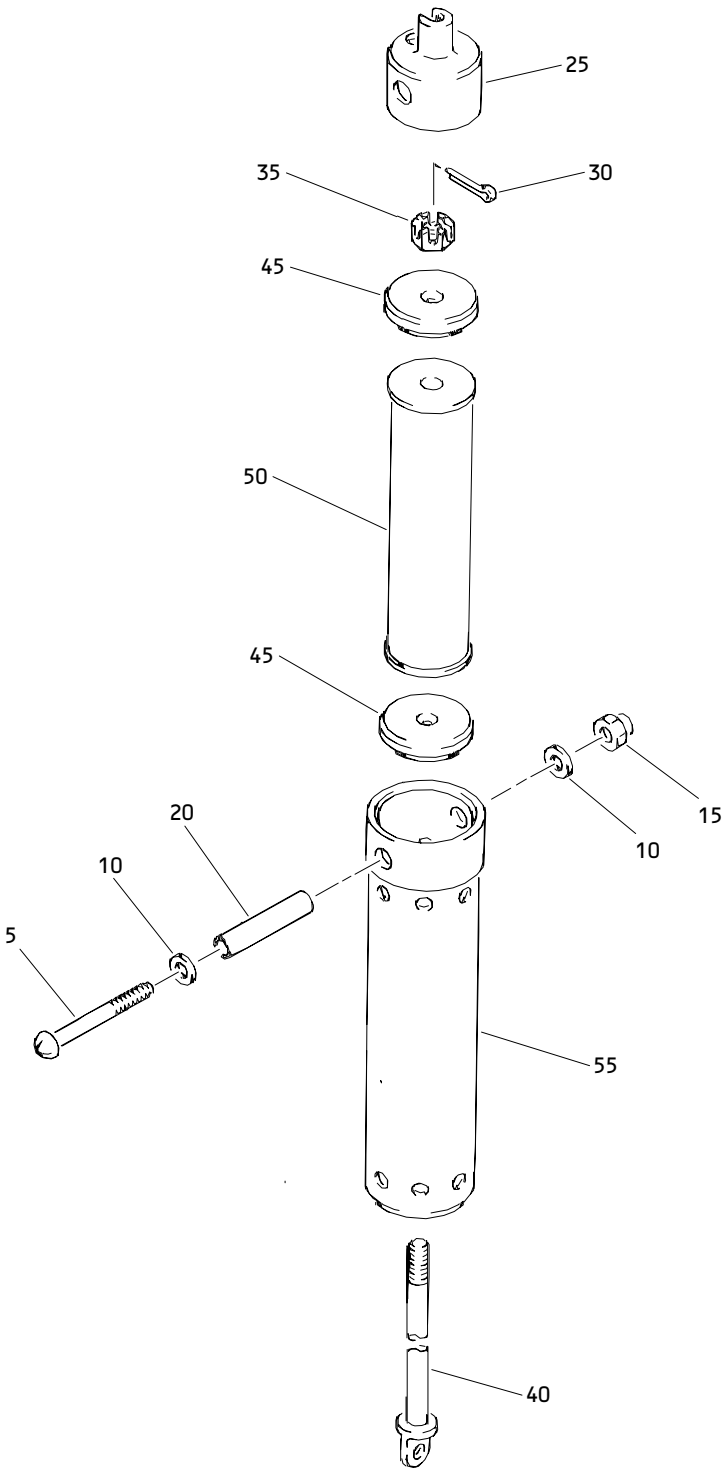
15653 KAYNAR MFG COMPANY INC KAYLOCK DIV
PO BOX 3001 800 SOUTH STATE COLLEGE BLVD
FULLERTON, CALIFORNIA 92634

52828 REPUBLIC FASTENER MFG CORP
1300 RANCHO CONEJO BLVD
NEWBURY PARK, CALIFORNIA 91320

56878 SPS TECHNOLOGIES INC
HIGHLAND AVENUE
JENKINTOWN, PENNSYLVANIA 19046

72962 AMERACE CORP ESNA DIV
2330 VAUXHALL ROAD
UNION, NEW JERSEY 07083

92595 AUTOMATIC SCREW MACHINE PRODUCTS CO
PO BOX 1608 709 2ND AVENUE SE
DECATUR, ALABAMA 35602



Alternate Extend Main Landing Gear Load Limiter Assembly
Figure 1

T73101

FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	257T3011-1		LIMITER ASSY-ALTERNATE EXTEND MLG LOAD		RF
5	NAS623-3-28		.SCREW		1
10	AN960KD10L		.WASHER		2
15	BRH10A3		.NUT- (V52828) (SPEC BACN10JC3)		1
20	NAS43HT3-111		.BUSHING		1
25	257T3013-1		.CAP-END		1
30	MS24665-172		.PIN-COTTER		1
35	BACN10JD104		.NUT- (V15653) (SPEC BACN10JD104) (V56878,V72962,V92595)		1
40	257T3016-1		.BOLT-SPECIAL		1
45	257T3014-1		.WASHER		2
50	HD4-3003-1		.CARTRIDGE- (V04621) (SPEC S257T301-1)		1
55	257T3012-1		.HOUSING		1