TO: ALL HOLDERS OF ENTRY/SERVICE DOORS HANDLE MECHANISM SPRING/HYDRAULIC SNUBBER ASSEMBLY COMPONENT MAINTENANCE MANUAL 52-11-82

REVISION NO. 4 DATED JAN 01/92

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 to the Record of Revision Sheet.

CHAPTER/SECTION AND PAGE NO.	DESCRIPTION OF CHANGE
REPAIR-GEN 601 REPAIR 2-1 601 REPAIR 3-1 601	Added optional duration nylon finish for tube assembly P/N 141T6211-1, pin P/N 141T6217-1 and clamp P/N 141T6212-2.

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BOEING

COMPONENT
MAINTENANCE MANUAL

ENTRY/SERVICE DOORS HANDLE MECHANISM SPRING/HYDRAULIC SNUBBER ASSEMBLY

PART NUMBER 141T6561-3,-4

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

30716

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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

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TEMPORARY REVISION AND SERVICE BULLETIN RECORD

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVE	DATE OF INCORPORATION INTO MANUAL
		PRR B10370-1	APR 10/82

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PAGE	DATE	CODE
52-11-82		
TITLE PAGE		
1	APR 10/86	01.1
2	BLANK	
REVISION RECORD		
1	JUL 10/83	01
2	BLANK	
TR & SB RECORD		
1	JUL 10/83	01
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LIST OF EFFECTIVE PAGES		
*1	JAN 01/92	01
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1	JUL 10/83	01
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REPAIR 1-1		
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602	BLANK	
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701	JUL 10/83	01
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703	JUL 10/83	01
704	JUL 10/83	01
ILLUSTRATED PARTS LIST		
1001	JUL 10/83	01
1002	JUL 10/83	01
1003	BLANK	
1004	JUL 10/83	01.1
1005	APR 10/86	01.1
1006	JUL 10/83	01.1

* = REVISED, ADDED OR DELETED

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TABLE OF CONTENTS

*[1] Special instructions not required. Use standard industry practices and information contained in 20-30-03.

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INTRODUCTION

The instructions in this manual provide the information necessary to perform maintenance functions ranging form 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	SEP 16/82
Assembly	SEP 16/82

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ENTRY/SERVICE DOORS HANDLE MECHANISM SPRING/HYDRAULIC SNUBBER ASSEMBLY

DESCRIPTION AND OPERATION

1. The entry/service doors handle mechanism spring/hydraulic snubber assembly consists of inner and outer sliding tubes, an internally-mounted hydraulic snubber assembly, and an external compression spring. The unit is attached to the fuselage and door handle through bearing rod ends. It provides a load to keep the door handle in the fully-open or fully-closed position. The snubber decelerates the handle as it approaches its travel limits.

2. Leading Particulars (approximate)

   A. Length -- 20 in.

   B. Diameter -- 2 in.

   C. Weight -- 3 lbs

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DISASSEMBLY

1. Remove lockwire from nuts (5). Loosen nuts and remove rod ends (15), nuts, and washers (10).

WARNING: USE CARE WHEN REMOVING BUSHING (20) AND RELEASING SPRING PRELOAD TO AVOID INJURY TO PERSONNEL.

CAUTION: DO NOT COMPRESS SPRING TO LESS THAN 5.5 IN. LENGTH OR PERMANENT SET MAY RESULT.

2. Compress spring (25) approximately 1/2 in. to permit removal of split bushing (20), then slowly release spring preload. Remove spring.

3. Insert hex drive tool (allen wrench) in end of tube (55) and back out bolt (65) sufficiently to permit removal of pin (30). Remove pin, then separate tube assembly (35) and tube (55).

   NOTE: Do not remove collar (45) from tube assembly unless necessary for repair or replacement.

4. Remove lockwire from tube (55) then remove snubber (90) and clamp assembly (60) from tube.

   NOTE: Refer to manufacturer's instructions for repair of snubber.

5. Remove bolt (65) from clamp assembly and separate parts (70 thru 85).

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CHECK

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

2. Magnetic particle check the following parts (Ref IPL Fig. 1) per 20-20-01.

   A. Clamp (85)

   B. Bushing (20)

   C. Pin (30)

   D. Spring (25)

   E. Collar (45)

3. Penetrant check the following parts (Ref IPL Fig. 1) per 20-20-02.

   A. Tube (50)

   B. Tube (55)

4. Check spring (25, IPL Fig. 1).

   A. Compress spring to 7.34-7.36 in. and check that load is 65-75 lbs.

   B. Compress spring to 8.74-8.76 in. and check that load is 50-60 lbs.

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REPAIR - GENERAL

1. Content

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

P/N	NAME	REPAIR
141T6209	TUBE	1-1
141T6211	TUBE	2-1
- - -	MISC PARTS REFINISH	3-1

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
   20-42-05 Bright Cadmium Plating
   20-44-01 Application of Special Purpose Coatings and Finishes

3. Materials

   NOTE: Equivalent substitutes may be used.

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

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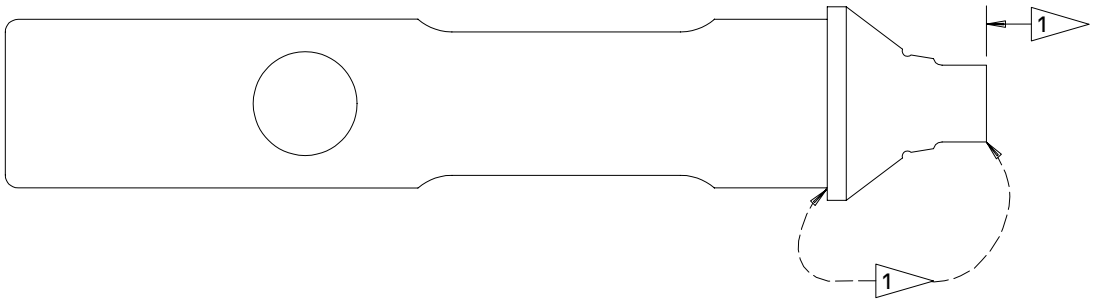
TUBE - REPAIR 1-1

141T6209-1, -2

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

SULFURIC ACID ANODIZE (F-17.03) PLUS ONE COAT PRIMER, BMS 10-11, TYPE 1 (F-20.02) AS NOTED

MATERIAL: AL ALLOY

1 APPLY PRIMER THESE SURFACES ONLY. ENSURE THAT DRAIN HOLES ARE NOT PLUGGED ON 141T6209-2 TUBE

141T6209-1,-2

Tube Refinish
Figure 601

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TUBE ASSEMBLY - REPAIR 2-1

141T6211-1

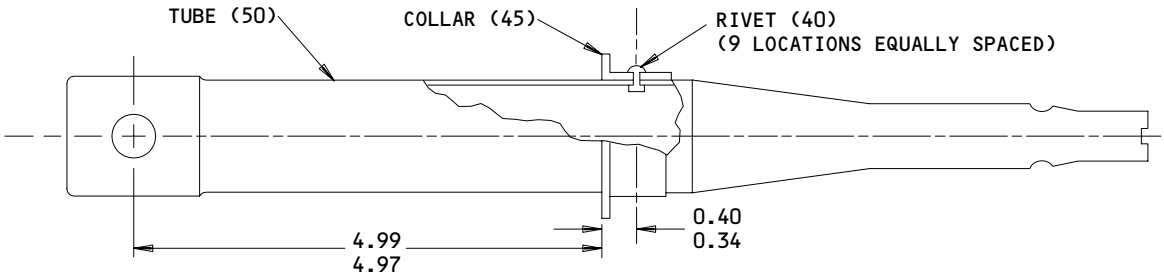
NOTE: Refer to REPAIR-GEN for list of applicable standard practices. For repair of surfaces which may only require stripping and restoration of original finish, refer to Refinish instruction, Fig. 601.

1. Collar Replacement (Ref IPL Fig. 1)

   A. Remove collar (45).

   B. Position replacement collar on tube (50) as shown in Fig. 601. Note locations of rivet holes in tube and drill holes in collar to match.

   C. Install rivets (40) to secure collar. Check that rivets do not project more than 0.080 in. into tube ID.



REFINISH

TUBE (50) -- PASSIVATE (F-17.09)
COLLAR (45) -- PASSIVATE (F-17.09)

ASSEMBLY (35) -- FINISH COAT 1.195-1.205 ID TO 6.0 MINIMUM DEPTH AND ENTIRE OUTSIDE SURFACE WITH A DURALON NYLON COATING (F21.14, COLOR-BLACK). MACHINE EXCESS DURALON COATING ON INSIDE DIAMETER TO ACHIEVE A FINAL DIMENSION OF 1.183 MINIMUM. AFTER MACHINING INSPECT DURALON COATING TO INSURE CONTINUITY.

OPTIONAL - APPLY FINISH COAT 1.195-1.205 ID TO 6.0 MINIMUM DEPTH AND ENTIRE OUTSIDE SURFACE WITH AMIDINE FLUOROTON MT TO 0.0005-0.0010 THICKNESS.

MATERIAL: TUBE (50) -- 304 CRES, 1/8H
COLLAR (45) -- 15-5PH CRES, 150-170 KSI

ALL DIMENSIONS ARE IN INCHES

Tube Assembly Repair
Figure 601

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MISCELLANEOUS PARTS REFINISH - REPAIR 3-1

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

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Spring (25)	17-7PH CRES wire	Passivate (F-17.09).
Bushing (20)	15-5PH CRES, 180-200 ksi	Cadmium plate and apply one coat primer, BMS 10-11, type 1 (F-16.01).
Clamp (85)	15-5PH CRES, 180-200 ksi	Finish coat OD including radiused edges with duralon nylon coating (F21.14, color-black)(optional to use Amidine Fluoroton MT) 0.0005-0.0010 inch thick. Coating of remainder of part optional.
Pin (30)	15-5PH CRES, 180-200 ksi	Finish coat entire part with duralon nylon coating (F21.14, color-black) (optional to use Amidine Fluoroton MT) 0.0005-0 0010 inch thick (holes optional).

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ASSEMBLY

1. Materials

NOTE: Equivalent substitutes may be used.

A. Grease -- BMS 3-24 (Ref 20-60-03)

B. Sealant -- BMS 5-95 (Ref 20-60-04)

C. Lockwire -- MS20995AB32, MS20995NC32

2. Assembly (IPL Fig. 1)

A. Install stop (80) in clamp (85) with wet BMS 5-95 sealant. Check that 1/2-in. dia holes are aligned and are not obstructed by sealant. Ensure that a 0.497 in. dia pin can pass freely through the holes.

B. Install bolt (65), washer (70), and nut (75) in clamp. Leave 0.18-0.21 in. gap between bolt head and end of clamp.

NOTE: End of bolt will not protrude into 1/2-in. dia hole in stop with this temporary setting.

C. Insert clamp assembly (60) in tube (55), bolt end first as shown in Fig. 701.

D. Apply a light coat of grease to threads of snubber (90) and mating threads in tube, then install snubber in tube. Position as shown in Fig. 701, with wrenching flats on snubber aligned with 0.625 in. dia holes in tube.

CAUTION: TWISTED ENDS OF LOCKWIRE MUST LIE FLAT AGAINST SNUBBER TO ENSURE PROPER OPERATION OF ASSEMBLY.

E. Install MS20995AB32 lockwire as shown in the figure. Check that twisted ends of lockwire lie at least 0.03 in. below outer surface of tube.

NOTE: Lockwire passes through grooves cut into the internal threads of the tube.

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F. Position outer tube assembly (35) on tube (55). Align 0.499-0.501 in. dia hole in tube assembly with slots in tube and hole in clamp assembly. Install pin (30) using 3/16 in. dia ball lock quick-release pin. Rotate pin to align 1/4 in. dia hole with bolt in clamp assembly. Use hex drive tool as shown to tighten bolt and secure pin in place. Sight through hole in pin to verify that bolt has locked pin. Check that unit strokes freely at least 1.40 in. with only resistance from snubber.

WARNING: USE CARE WHEN INSTALLING AND PRELOADING SPRING TO AVOID INJURY TO PERSONNEL.

CAUTION: DO NOT COMPRESS SPRING TO LESS THAN 5.5 IN. LENGTH OR PERMANENT SET MAY RESULT.

G. Install spring on tube assembly and compress spring approximately 1/2 in. beyond shoulder of tube (55). Install two halves of split bushing (20) and slowly release spring load until spring is seated on bushing.

H. Run nut (5) fully up shank of rod end (15), then install rod end and washer (10) in tube (55), using BMS 5-95 sealant. Position rod end so bearing centerline is 1.43-1.49 in. from tube end and oriented as shown. Tighten nut to secure rod end and install MS20995NC32 lockwire per 20-50-02.

I. Install rod end (15), nut (5), and washer (10) on tube assembly (35) with a light coat of grease applied to mating threads. Adjust to provide approximately 18.0 in. spacing between rod end bearing centers with bearing centerlines parallel, as shown. Tighten nut, but do not install lockwire.

3. Storage

A. Use standard industry practices and information contained in 20-44-02 to store this component.

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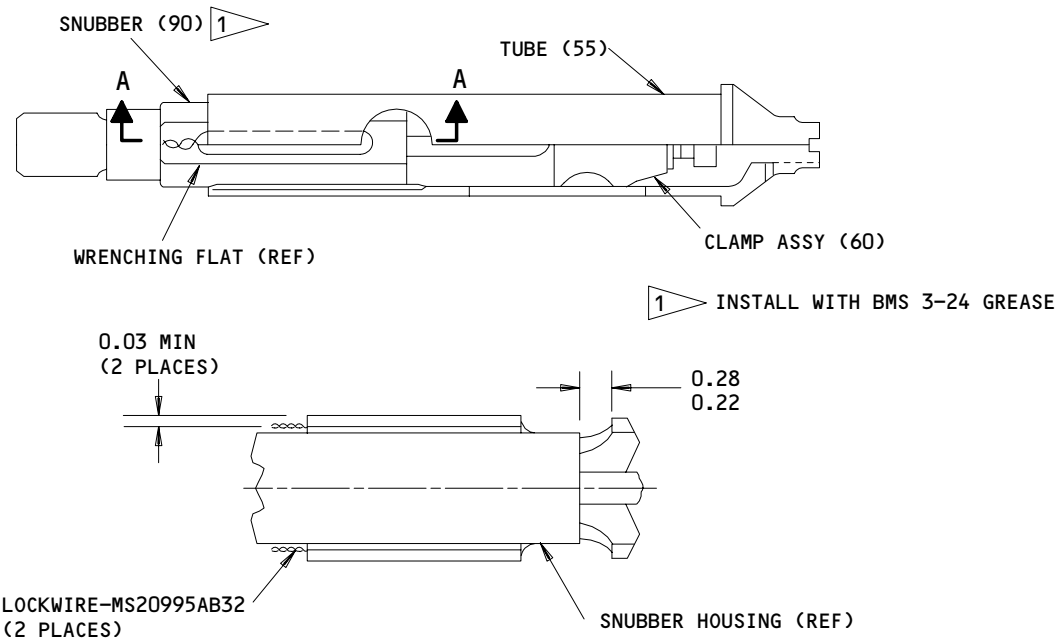
STEP 1:



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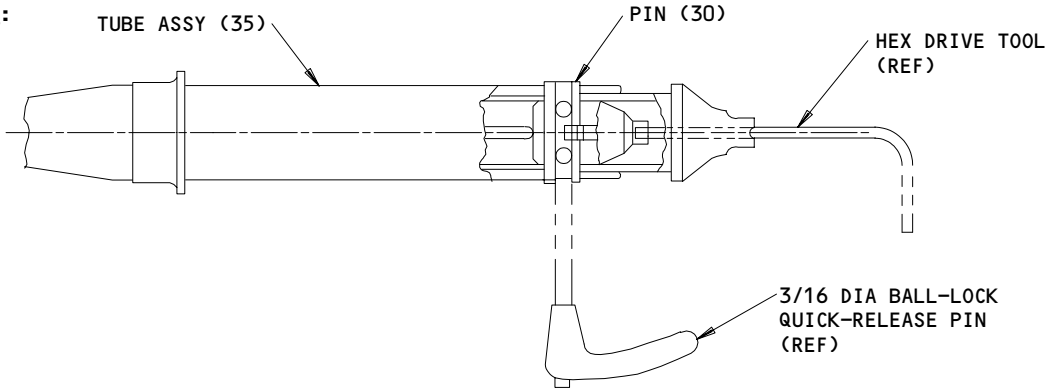

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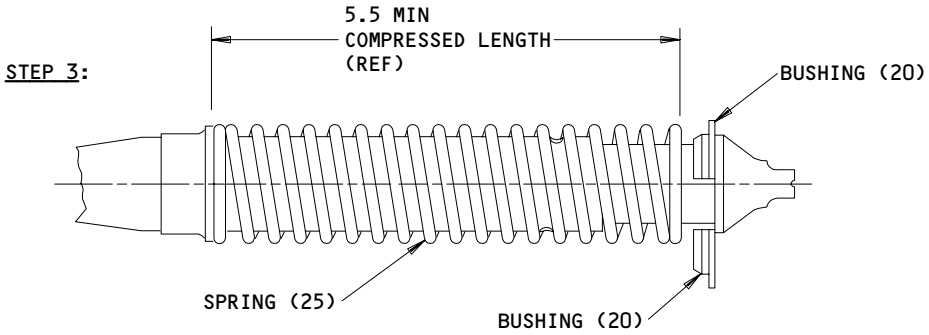

Assembly Procedure
Figure 701 (Sheet 1)

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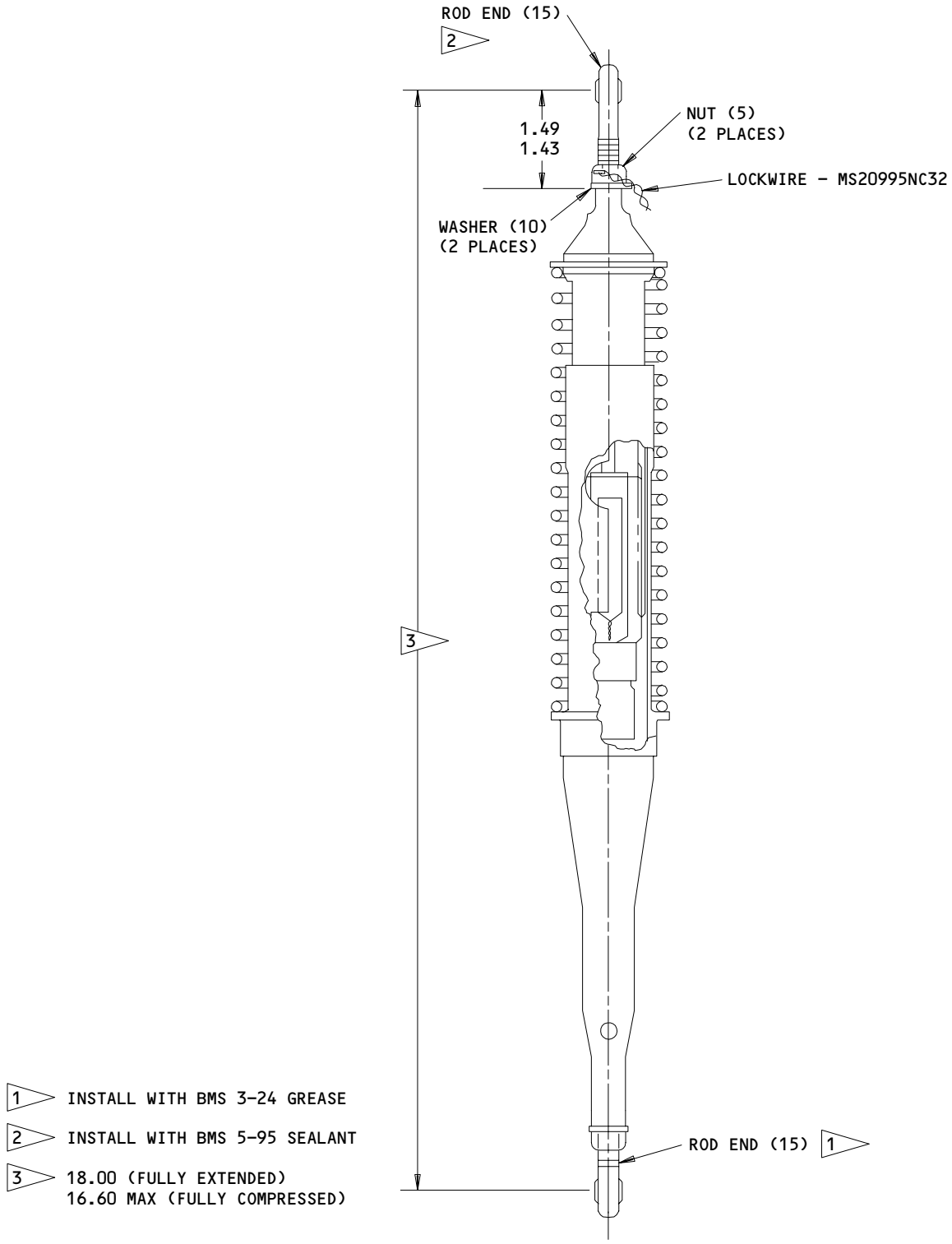

Assembly Procedure
Figure 701 (Sheet 2)

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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.

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VENDORS

09790 CONSOLIDATED CONTROLS CORPORATION
2338 ALASKA AVENUE
EL SEGUNDO, CALIFORNIA 90245

11815 TOWNSEND DIV OF TEXTRON INC CHERRY FASTENER UNIT
BOX 2157 1224 EAST WARNER AVENUE
SANTA ANA, CALIFORNIA 92707

53551 ALLFAST INC
15252 DON JULIAN RD PO BOX 3166
CITY OF INDUSTRY, CA 91744

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

77896 REXNORD INC. BEARING DIVISION
2400 CURTIS STREET
DOWNERS GROVE, ILLINOIS 60515

97393 SHUR-LOK CORPORATION
2541 WHITE ROAD
IRVINE, CALIFORNIA 92713

98996 OLYMPIC FASTENING SYSTEMS INC SUB OF ARMCO INC
11445 S DOLAN ST
DOWNEY CA 90241

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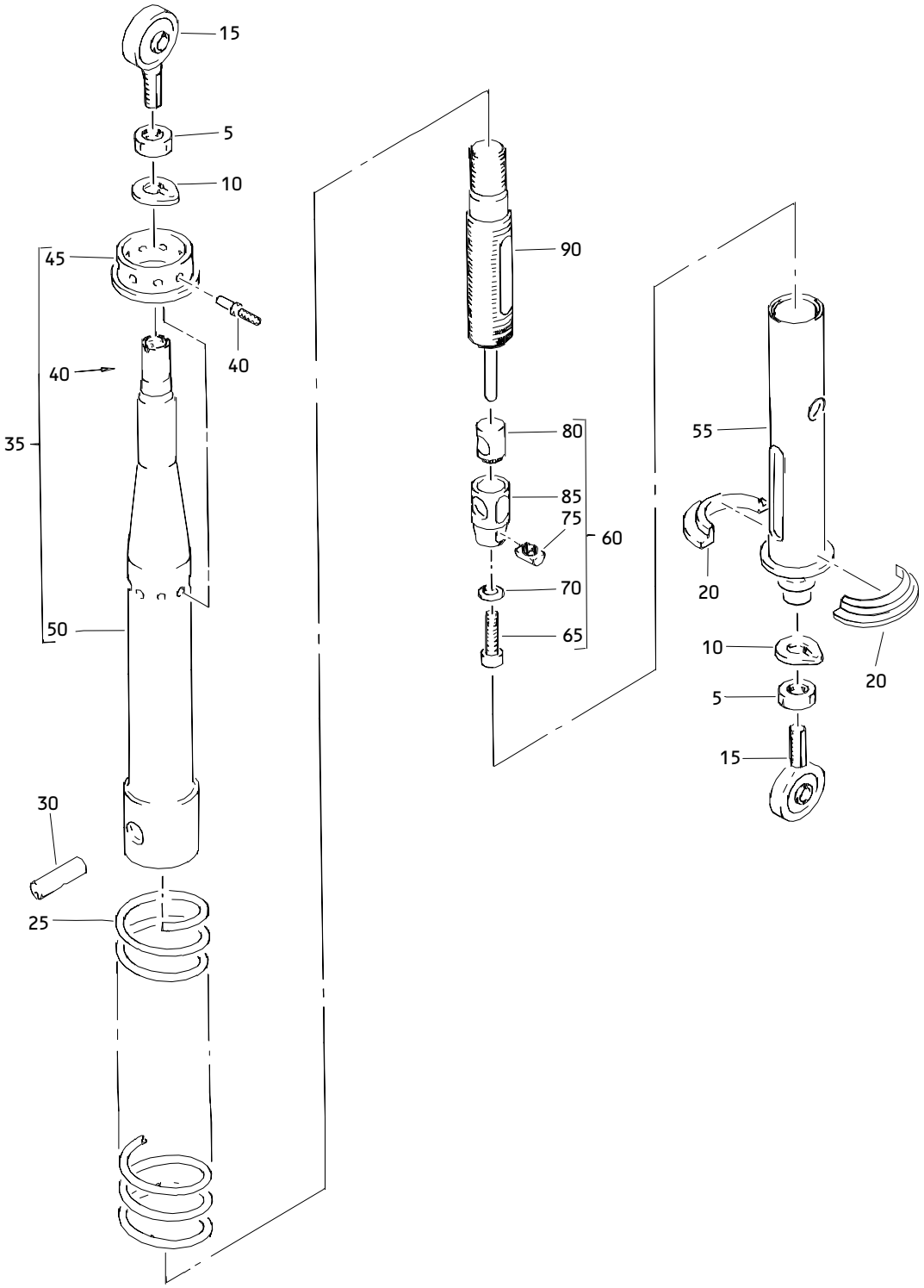

Entry/Service Doors Handle Mechanism Spring/Hydraulic Snubber Assembly
Figure 1

T59073

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
-1	141T6561-3		SNUBBER ASSY-ENTRY/SVCE DOORS HANDLE MECH SPR/ HYDR	A	RF
-1A	141T6561-4		SNUBBER ASSY-ENTRY/SVCE DOORS HANDLE MECH SPR/ HYDR	B	RF
5	NAS509-6		.NUT		2
10	NAS513-6		.TAB-LOCKING		2
15	SM4-6AR1-501		.ROD END- (V77896) (SPEC S012T236-100)		2
20	141T6216-1		.BUSHING		2
25	141T6595-1		.SPRING		1
30	141T6217-1		.PIN		1
35	141T6211-1		.TUBE ASSY		1
40	AF5140-3-2		..RIVET- (V53551) (SPEC BACR15DR3PA2) (OPT CCR274CS3-2 (V11815)) (OPT RV540A3-2 (V98996)) (OPT ITEM 40A)		9
-40A	AF5140-3C2		..RIVET- (V53551) (SPEC BACR15DR3PAC2) (OPT CCR274CS3-2IT (V11815)) (OPT RV540A3C2 (V98996)) (OPT ITEM 40)		9
45	141T6211-3		..COLLAR		1
50	141T6211-2		..TUBE		1
55	141T6209-1		.TUBE	A	1
-55A	141T6209-2		.TUBE	B	1
60	141T6212-1		.CLAMP ASSY		1
65	NAS1351-4-14P		..BOLT		1
70	AN960-416L		..WASHER		1
75	LH8065-048		..NUT- (V72962) (SPEC BACN10HC4) (OPT SL414-4 (V97393))		1

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FIG. & ITEM	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1234567	EFF CODE	QTY PER ASSY
01-					
80	141T6212-3		..STOP		1
85	141T6212-2		..CLAMP		1
90	78695-1		.SNUBBER- (V09790) (SPEC S141T612-1)		1

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