



LANDING GEAR CONTROL LEVER QUADRANT ASSEMBLY

PART NUMBER 257T1102-5

COMPONENT MAINTENANCE MANUAL
WITH
ILLUSTRATED PARTS LIST

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TITLE PAGE

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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



TEMPORARY REVISION AND SERVICE BULLETIN RECORD

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

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TR & SB RECORD

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			602	BLANK	
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2	BLANK		702	OCT 01/87	01
REVISION RECORD			ILLUSTRATED PARTS LIST		
1	OCT 01/87	01	1001	OCT 01/87	01
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* [1] Special instructions not required. Use standard industry practices and the information contained in 20-30-01 and 20-30-03.	

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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 Section |

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

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INTRODUCTION

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LANDING GEAR CONTROL LEVER QUADRANT ASSEMBLY

DESCRIPTION AND OPERATION

1. The Nose Landing Gear Control Lever Quadrant Assembly consist of shaft, quadrant and crank, supported in a housing by bearings. It carries a cable which controls the up or down position of the landing gear. The quadrant is fully enclosed in the housing to prevent interference with surrounding wire bundles.

2. Leading Particulars (Approximate)

Length -- 11 inches

Width -- 7 inches

Height -- 8 inches

Weight -- 5 pounds

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DESCRIPTION & OPERATION

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DISASSEMBLY

1. Remove nuts (60), washers (50), screws (45) and bushings (55).
2. Remove nut (35) and spacer (40).
3. Remove nuts (25), washers (20) and screws (10). Remove bearing housings (5) and bearings (30).

CAUTION: SHAFT (75), CRANK (70), AND QUADRANT (65) COMPRISE A MATCHED SET. DO NOT REPLACE ANY COMPONENT OF A MATCHED SET EXCEPT WITH ANOTHER COMPLETE MATCHED SET, OR DAMAGE TO PARTS MAY RESULT.

4. Remove shaft (75). Remove crank (70) and quadrant (65). Keep together shaft, crank and quadrant as a matched set.

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DISASSEMBLY

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CHECK

1. Check all parts for obvious defects in accordance with standard industry practices.
2. Penetrant check per 20-20-02 the following listed items:
 - A. Crank (70)
 - B. Quadrant (65)
 - C. Shaft (75)
 - D. Housing (5)

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REPAIR – GENERAL

1. Content

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

<u>P/N</u>	<u>NAME</u>	<u>REPAIR</u>
- - -	MISC PARTS REFINISH	1-1

2. Standard Practices

- A. For details of procedures in individual repairs, refer to the following standard practices:

20-41-01 Decoding Table for Boeing Finish Codes

3. Materials

NOTE: Equivalent substitutes may be used.

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

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REPAIR-GENERAL

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MISC PARTS REFINISH - REPAIR 1-1

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

IPL FIG. & ITEM	MATERIAL	FINISH
<u>Fig. 1</u>		
Crank (70)	Al alloy	Anodize (F-17.05) and apply one coat BMS 10-11, type 1 primer (F-20.02) all over except omit primer in 0.3120-0.3130 in., 0.1895-0.1905 in. and 1.129-1.131 in. diameter holes.
Quadrant (65)	Al alloy	Anodize (F-17.05) and apply one coat BMS 10-11, type 1 primer (F-20.02) all over, except omit primer from groove and 1.129-1.131 in. diameter hole. Apply two coats BMS 10-11, type 1 primer (F-20.03) to groove.
Shaft (75)	Al alloy	Chromic acid anodize (F-17.04) all over. Apply one coat BMS 10-11, type 1, primer (F-20.02) on bore ID.
Housing (5)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over, except omit primer in 1.500-1.501 in. diameter hole.
Bushing (55)	Al alloy	Chromic acid anodize (F-17.04) all over.
Angle (145) Zee (180,185)	Al alloy	Chromic acid anodize and apply one coat BMS 10-11, type 1 primer (F-18.13) all over.
Cover (95) Strip (135,178) Shroud (125) Bracket (190,195) Clip (179)	Al alloy	Chemical treat and apply one coat BMS 10-11, type 1 primer (F-18.06) all over.

Refinish Details
Figure 601

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REPAIR 1-1

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ASSEMBLY1. Materials

NOTE: Equivalent substitutes may be used.

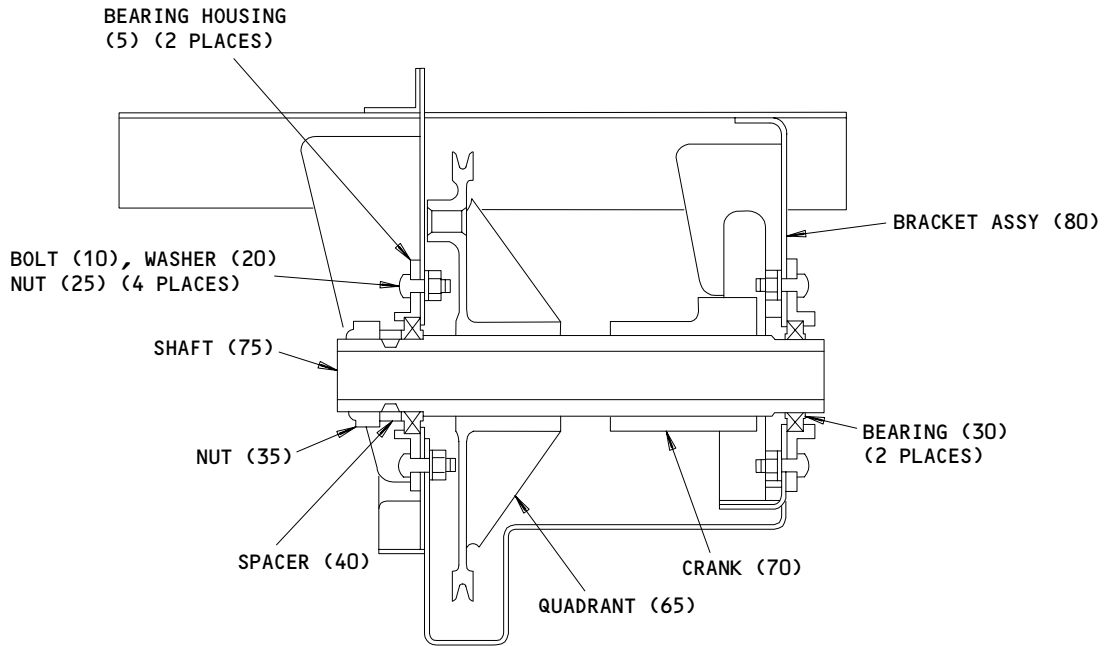
A. Corrosion Preventive Compound -- MIL-C-11796 (Ref 20-60-03)

2. Assembly (Fig. 701)

CAUTION: SHAFT (75), CRANK (70) AND QUADRANT (65) COMPRISE A MATCHED SET. DO NOT REPLACE ANY COMPONENT OF A MATCHED SET EXCEPT WITH ANOTHER COMPLETE MATCHED SET, OR DAMAGE TO PARTS MAY RESULT.

- A. Place crank (70) and quadrant (65) inside bracket (80), and insert shaft (75) thru housing, quadrant, crank, and opposite side of housing, as shown.
- B. Attach crank (70) and quadrant (65) to shaft using bushings (55), bolts (45), washers (50), and nuts (60). Tighten nuts.
- C. Coat ID of bearings (30) with MIL-C-11796 corrosion preventive compound and install per 20-50-03. Secure bearings with housings (5), screws (10), washers (20) and nuts (25).
- D. Install spacer (40) and nut (35). Tighten nut to 175-200 lb-in.

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257T1102

Assembly Details
Figure 701

24487

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ASSEMBLY
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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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ILLUSTRATED PARTS LIST

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VENDORS

03296 HERBERT MARTIN KAROL INDUSTRIES INC NYLON MOLDING CO DIV
260 SCHUYLER AVENUE
KEARNY, NEW JERSEY 07032

04169 WESTERN SKY INDUSTRIES A DIVISION OF ATLAS CORPORATION
21300 CLOUD WAY
HAYWARD, CALIFORNIA 94545

11897 PLASTIGLIDE MANUFACTURING CORP
2701 WEST EL SEGUNDO BLVD
HAWTHORNE, CALIFORNIA 90250

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

21335 TEXTRON INC FAFNIR BEARING DIVISION
37 BOOTH STREET
NEW BRITAIN, CONNECTICUT 06050

22599 ESNA DIV OF AMERACE CORPORATION
16150 STAGG STREET
VAN NUYS, CALIFORNIA 91407

38443 TRW INC BEARING DIV
402 CHANDLER STREET
JAMESTOWN, NEW YORK 14701

43991 FAG BEARING INCORPORATED
HAMILTON AVENUE
STAMFORD, CONNECTICUT 06904

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

71087 BOOTS ACFT NUT DIV TOWNSEND CO SEE TEXTRON INC CHERRY
FASTENER TOWNSEND DIV V11815

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

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VENDORS

80539 SPS TECHNOLOGIES INC AEROSPACE PRODUCTS DIV
2701 SOUTH HARBOR BOULEVARD
SANTA ANA, CALIFORNIA 92702

92215 VOI-SHAN DIV OF VSI CORP
8463 HIGUERA STREET
CULVER CITY, CALIFORNIA 90230

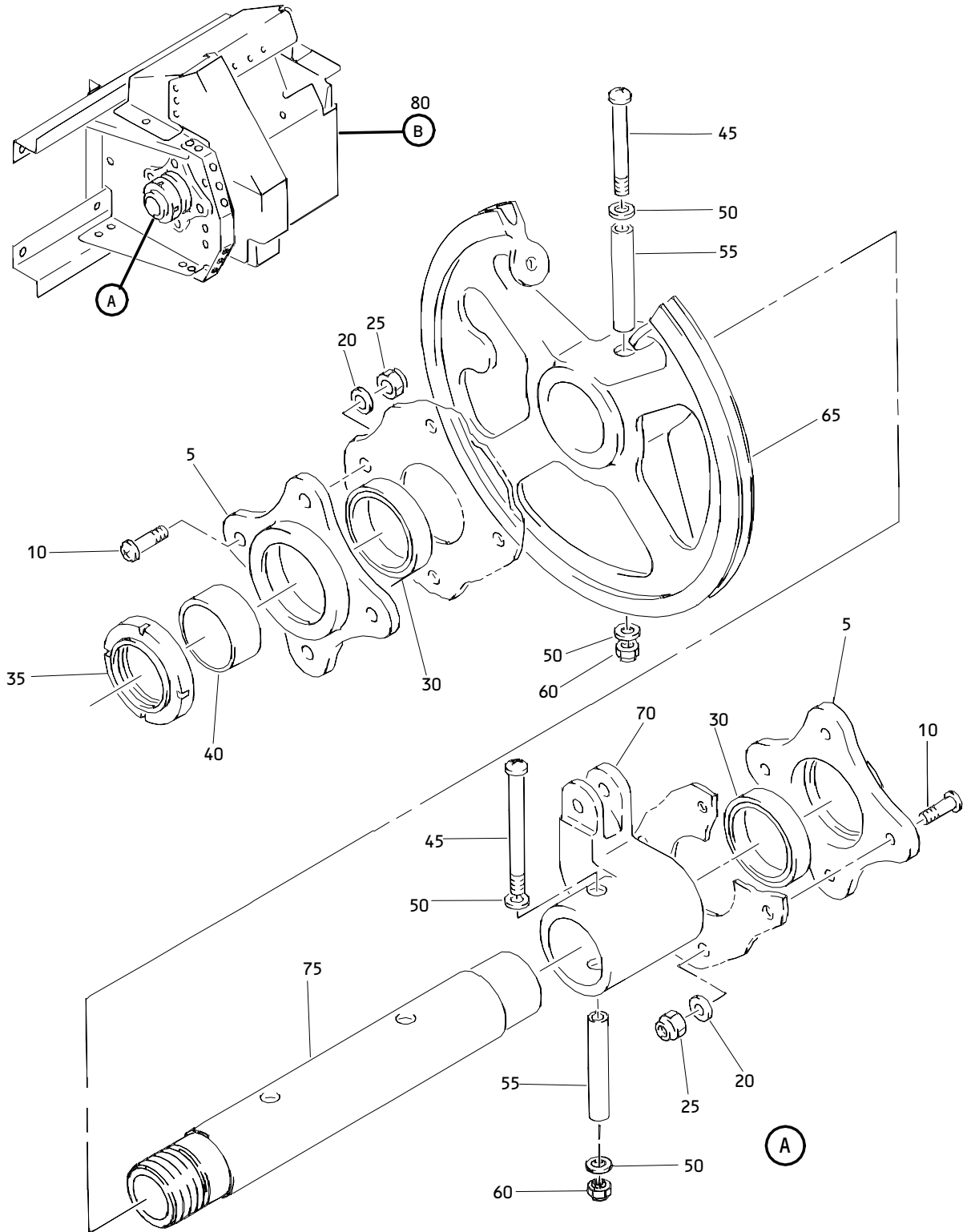
97393 SHUR-LOK CORPORATION
2541 WHITE ROAD
IRVINE, CALIFORNIA 92713

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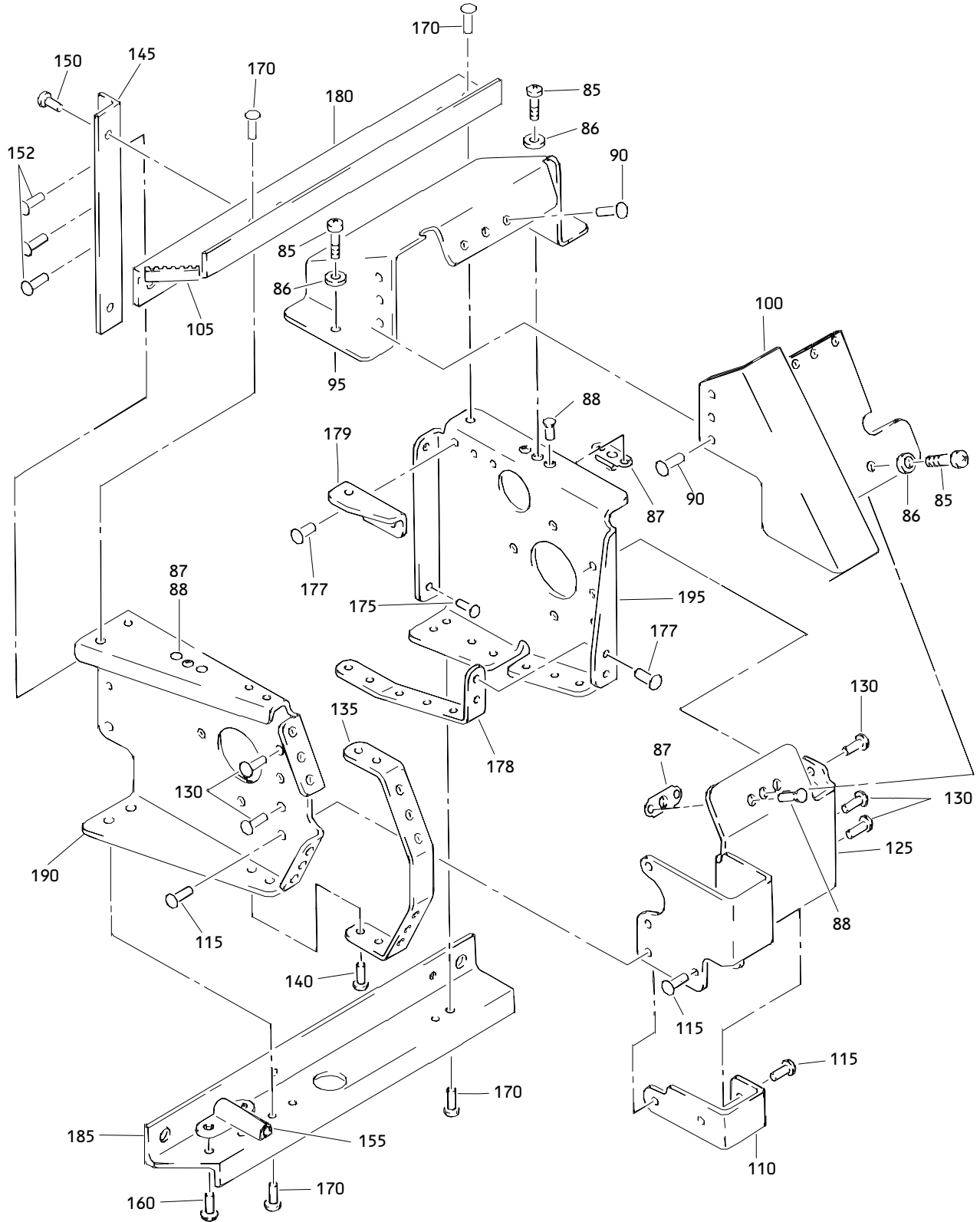
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Landing Gear Control Lever Quadrant Assembly
Figure 1 (Sheet 1)

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Landing Gear Control Lever Quadrant Assembly
 Figure 1 (Sheet 2)

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FIG. & ITEM	PART NO.	AIRPLANE PART NUMBER	NOMENCLATURE 1234567	EFF COD	QTY PER ASSY
01-					
-1	257T1102-3		DELETED		
-1A	257T1102-5		QUADRANT ASSY-LG CONT LEVER		RF
5	257T1117-1		.HOUSING-BRG ATTACHING PARTS		2
10	NAS623-3-3		.SCREW		8
20	AN960PD10L		.WASHER		8
25	BRH10A3		.NUT- (V52828) (SPEC BACN10JC3) (OPT H10-3BAC (V15653)) (OPT NS202101-02 (V80539)) (OPT RMLH9075-3W (V72962)) (OPT T6S1032J (V71087)) (OPT VN303A02 (V92215)) (OPT 96-02 (V80539))		8
30	B541DD		-----*----- .BEARING- (V38443) (SPEC BACB10CF17PP) (OPT B541-2TS (V43991)) (OPT B541DDFS428 (V21335))		2
35	SL2822-16		.NUT- (V97393) (SPEC BACN10RF16) (OPT BR9080-16 (V72962))		1
40	NAS43DD16-22		.SPACER		1
45	NAS623-3-25		.SCREW		2
50	AN960PD10L		.WASHER		4
55	257T3105-14		.BUSHING		2

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FIG. & ITEM	PART NO.	AIRPLANE PART NUMBER	NOMENCLATURE 1234567	EFF COD	QTY PER ASSY
01-60	BRH10A3		.NUT- (V52828) (SPEC BACN10JC3) (REFER TO ITEM 25 FOR OPTIONAL PARTS)		2
65	257T1113-3		.QUADRANT-(MATCHED PART)		1
70	257T1112-1		.CRANK-(MATCHED PART)		1
75	257T1115-2		.SHAFT-(MATCHED PART)		1
80	257T1104-24		DELETED		
80A	257T1104-26		.BRACKET ASSY		1
85	NAS623-3-1		..SCREW		3
86	AN960PD10L		..WASHER		3
87	F171-3		..NUTPLATE- (V22599) (SPEC BACN10JB3) (OPT F171-3 (V72962)) (OPT 43600-02 (V80539)) ATTACHING PARTS		3
88	BACR15BA3AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		6
90	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST)		6
95	257T1104-18		..COVER		1
100	257T1104-20		..SHROUD		1
105	BACG20ZA1275		DELETED		
105A	BACG20ZA120B		..GROMMET		1
110	257T1104-19		..STRAP ATTACHING PARTS		1
115	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		3
125	257T1104-17		..SHROUD ATTACHING PARTS		1

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FIG. & ITEM	PART NO.	AIRPLANE PART NUMBER	NOMENCLATURE 1234567	EFF COD	QTY PER ASSY
01-130	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		5
135	257T1104-7		..STRIP ATTACHING PARTS		1
140	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		10
145	257T1104-10		..ANGLE ATTACHING PARTS		1
150	BACR15BB5AD		..RIVET- (SIZE DETERMINE ON INST)		2
152	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		3
155	WS1-332A10		..NUTPLATE-SPACER (V04169) (SPEC BACN10GH3A10) ATTACHING PARTS		1
160	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST) -----*-----		2
170	BACR15BB6AD		..RIVET- (SIZE DETERMINE ON INST)		8
175	BACR15BB5AD		..RIVET- (SIZE DETERMINE ON INST)		2
177	BACR15BB4AD		..RIVET- (SIZE DETERMINE ON INST)		10
178	257T1104-14		..STRIP		1
179	257T1104-5		..CLIP		1
180	257T1104-22		..ZEE		1
185	257T1104-21		..ZEE		1
190	257T1104-23		..BRACKET		1
195	257T1104-15		..BRACKET		1

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