TO: ALL HOLDERS OF RUDDER CONTROL QUADRANT ASSEMBLY OVERHAUL MANUAL, 27-27-03

REVISION NO. 1, DATED NOV 1/07

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D & O	D / Assy	Cleaning	Insp/Chk	Repair	Assy	F/C	Test	T/Shooting	S/Tools	Storage	IPL	L/Overhaul
Added top assembly 65-45150-4 Added clarification and updated callouts													

RUDDER CONTROL QUADRANT ASSEMBLY

27-27-03

BOEING P/N 65-45150-2, -4

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT

LIST OF EFFECTIVE PAGES

* Indicates pages revised, added or deleted in latest revision
F Indicates foldout pages - print one side only

PAGE	DATE	PAGE	DATE	PAGE	DATE
27-27-03					
* T-1	Nov 1/07				
T-2	BLANK				
* LEP-1	Nov 1/07				
LEP-2	BLANK				
T/C-1	Feb 15/69				
T/C-2	BLANK				
* 1	Nov 1/07				
2	Feb 15/69				
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4	Feb 15/69				
5	Feb 15/69				
* 6	Nov 1/07				

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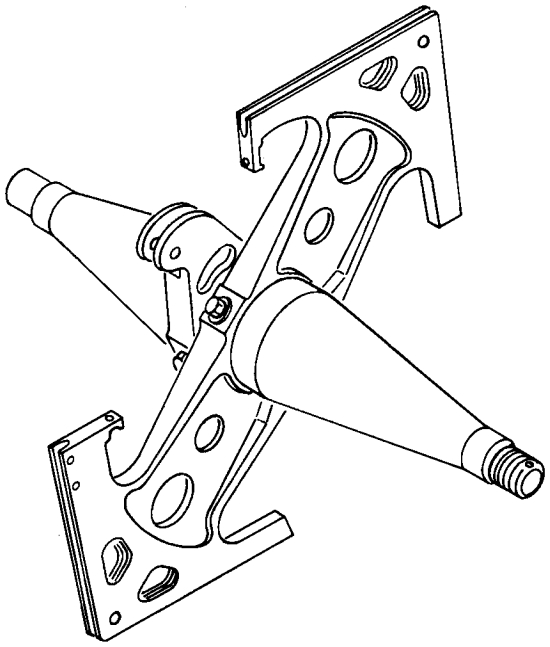
RUDDER CONTROL QUADRANT ASSEMBLY

Boeing Part Number: 65-45150-2, -4



Rudder Control Quadrant Assembly
Figure 1

1. DESCRIPTION AND OPERATION

A. Description

(1) The rudder control quadrant assembly consists of a quadrant bolted to a shaft.

B. Operation

(1) The quadrant assembly is part of the rudder control quadrant installation. When a force is applied to the connecting control cables, the assembly rotates. A resulting force is applied to a push-pull rod connecting the quadrant and the rudder control torque tube.

C. Leading Particulars

Length -- 11.20 inches (approximately)
Width -- 20.75 inches (approximately)
Height -- 20.50 inches (approximately)
Weight -- 4.8 pounds

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2. DISASSEMBLY

A. Procedures (See figure 3.)

(1) Remove nuts (1), washers (2), bolts (3) and spacers (4).

(2) Remove shaft (5) from quadrant assembly (6).

(3) Do not remove rivets (7) or spacers (8) from quadrant (9) unless repair or replacement is necessary.

3. CLEANING

A. General

(1) Wash all metal parts with clean solvent, Specification P-D-680, or equivalent.

(2) Remove stubborn accumulations of dirt or foreign matter using a stiff-bristle brush.

(3) Dry parts with clean, lint-free cloth or clean, moisture-free air.

(4) For further information, refer to "General Cleaning Procedures," Subject 20-30-03.

4. INSPECTION/CHECK

A. Visual Check (See figure 3.)

(1) Examine all metal parts for pits, scratches, cracks, corrosion, and damage. Use a strong light and 10-power magnification.

NOTE: Carefully check cable grooves, rivets (7) and spacers (8) for wear and corrosion.

(2) Examine all spacers, bolts and bolt holes for excessive or eccentric wear.

(3) Examine entire assembly for general condition of paint and finish.

(4) Check that the two drain holes in shaft (5) are free of foreign matter.

B. Special Check (See Figure 3.)

(1) If visual examination discloses evidence of defects in any of the listed parts, perform penetrant check on shaft (5) and quadrant (9).

NOTE: The centerbore area and the area extending approximately 2 inches along each arm from the centerbore edge of shaft (5) is a critically stressed area.

(2) Check shaft for wear in areas shown in figure 2 (Fits and Clearances). Discard shaft if diameter of mating area is less than 0.997 inch.

5. REPAIR

A. Repair

(1) Remove corrosion and minor defects by polishing lightly with abrasive cloth, 220 grit or finer. Do not exceed limits given in figure 2 (Fits and Clearances). Refinish as necessary for protection against corrosion.

(2) Repair minor defects in threaded areas with a small triangular file or thread chaser.

B. Refinish (See figure 3.)

NOTE: Refer to SOPM 20-30-02 for stripping of protective finishes, and to SOPM 20-41-01 for decoding of F and SRF finish symbols and their BAC equivalents.

(1) If plated or painted surfaces are worn or chipped, refinish the following parts as indicated:

(a) Rudder Quadrant Spacers (4) -- Apply F-2.157 all over.

(b) Shaft (5) -- Apply SRF-2.901 on interior and exterior surface, except omit primer in areas on end of shaft which mate with bearing assemblies (overspray on ends permitted).

(c) Quadrant (9), P/N 65-45151-2 -- Apply F-2.26 plus SRF-12.205 to all areas except the 2.943-inch diameter bore.

(d) Quadrant (9), P/N 65-45151-4 -- Chromic acid anodize (F-17.02) and apply BMS 10-11, Type 1 primer (F-20.02) to all areas except the 2.943-inch diameter bore.

C. Replacement (See figure 3.)

(1) Replace all parts found unserviceable or damaged beyond simple repair.

(2) Replace shaft (5) if wear limits given in figure 2 (Fits and Clearances) is exceeded.

(3) If spacer (8) requires replacement, drill out rivet (7), being careful to avoid enlarging hole in quadrant (9). Install new spacer (8) with new rivet (7).

6. ASSEMBLY (See figure 3.)

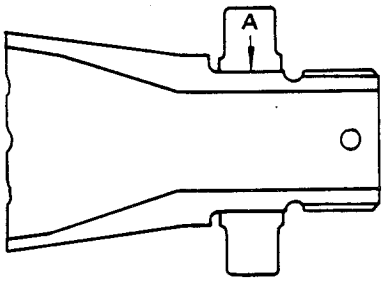
A. Install quadrant assembly (6) on shaft (5) so that bolt holes are aligned.

B. Install spacers (4), washers (2), bolts (3) and nuts (1).

7. FITS AND CLEARANCES

A. The "Fits and Clearances" table, figure 2, lists original design limits and service wear limits for certain close tolerance parts of the assembly. The original design dimensions are to be used as a guide for rework of parts which fail to meet the wear tolerance requirements. Unless otherwise specified in the rework procedure, a part should be returned to the design dimensions whenever rework is accomplished.

B. Clearances are given to aid assembly of the component. The value given in the "Maximum Allowable Clearance" column is the maximum permitted to ensure proper functioning until the next overhaul cycle of the component. If assembled parts fail to meet this requirement, one or more of the parts must be rejected. Parts that are rejected should be reworked within limits given in the repair procedure; if not within rework limits, parts should be scrapped. It is recommended that whenever newly reworked parts are assembled, the design clearances be used as the guiding assembly criteria.



Fits and Clearances
Figure 2 (Sheet 1)

Ref. Letter Fig.2	Mating Index No. Fig.3		Original Design Limits: Dimension (inches) Min.	Original Design Limits: Dimension (inches) Max.	Original Design Limits: Assembly Clearance (inches) Min.	Original Design Limits: Assembly Clearance (inches) Max.	Service Wear Limits: Dimension Limits (inches) Min.	Service Wear Limits: Dimension Limits (inches) Max.	Service Wear Limits: Maximum Allowable Clearance (inches)
A	ID	▷	0.9990	1.0000	0.0000	0.0020		1.0030	0.0040
	OD	5	0.9980	0.9990			0.9970		

▷ BACB10A827

Fits and Clearances
Figure 2 (Sheet 2)

8. TESTING

A. None

9. TROUBLE SHOOTING

A. None

10. STORAGE INSTRUCTIONS

A. Wrap assembly in vapor barrier paper and seal securely. Tag or mark assembly for identity.

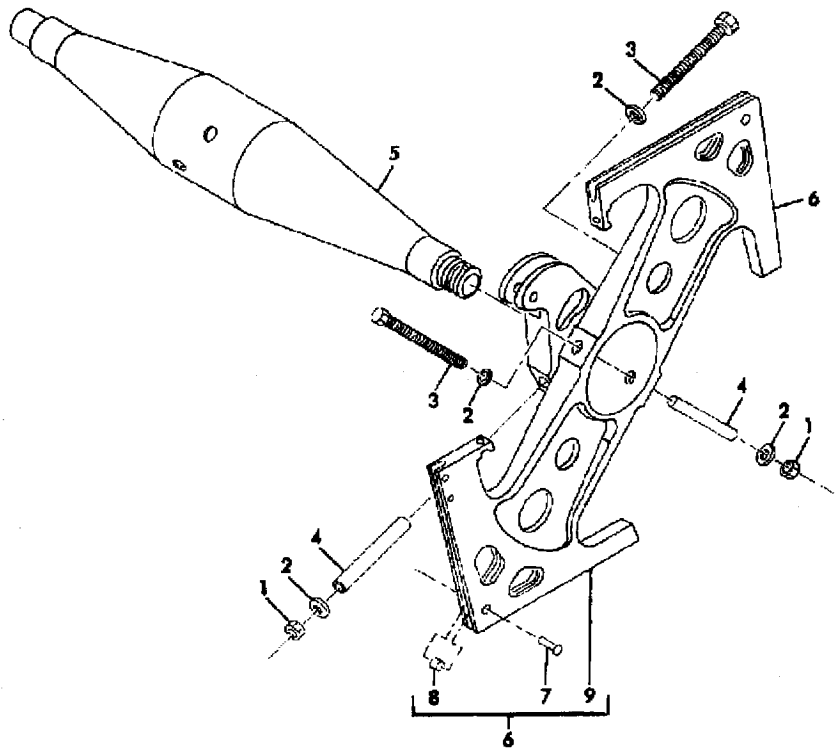
B. For further information, refer to "Temporary Protective Coatings," Subject 20-44-02.

11. SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

A. None

12. ILLUSTRATED PARTS LIST

A. Exploded View



Rudder Control Quadrant Assembly
Figure 3

B. Group Assembly Parts List

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
2-					
	65-45150-2		RUDDER CONTROL QUADRANT ASSEMBLY	A	RF
	65-45150-4		RUDDER CONTROL QUADRANT ASSEMBLY	B	RF
1	BACN10JC4		. NUT (REPLS NAS679A4W)	A	2
1	NAS679A4W		. NUT (OBSOLETE)	A	2
1	BACN10JC4CD		. NUT	B	2
2	AN960PD416L		. WASHER		4
3	BACB30NF4-56		. BOLT (REPLS NAS1104-56W)	A	2
3	NAS1104-56W		. BOLT (OBSOLETE)	A	2
3	BACB30LJ4-56		. BOLT	B	2
4	66-14200-1		. SPACER		2
5	65-38545-1		. SHAFT		1
6	65-45151-1		. QUADRANT ASSEMBLY	A	1
6	65-45151-4		. QUADRANT ASSEMBLY	B	1
7	MS20470B4		. . RIVET		2
8	NAS42DD4-18		. . SPACER	A	2
8	NAS42DD4-18FC		. . SPACER	B	2
9	65-45151-2		. . QUADRANT	A	1
9	65-45151-5		. . QUADRANT	B	1

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