TO: ALL HOLDERS OF ELEVATOR BUSS ASSEMBLY OVERHAUL MANUAL, 27-37-08

REVISION NO. 18, DATED MAR 1/05

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
Revised IPL items (4) and (4A) to add use code (P)												X	

ELEVATOR BUSS ASSEMBLY
27-37-08

BOEING P/N 65-65310-2 thru -5, -7 thru -19

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
27-1045		PRR 30632	Dec 10/70
27-1057		PRR 31967	Mar 10/72
		PRR 32113	Jun 25/73
		PRR 32900-1	Jan 5/82
		PRR 32912-1	Jan 5/82
		PRR 32912-8	Jan 5/82
		PRR 33239	Jul 5/83
		PRR 33180	Dec 5/83
		PRR 34103-1	Sep 5/87
		PRR 34369	Mar 5/88
		PRR 34447	Mar 5/89

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
27-37-08						
	T-1	Mar 1/95				
	T-2	BLANK				
*	LEP-1	Mar 1/05				
	LEP-2	BLANK				
	T/C-1	Sep 5/85				
	T/C-2	BLANK				
	1	Jan 5/82				
	2	Sep 5/85				
	3	Mar 1/01				
	4	Dec 5/84				
	5	Mar 1/01				
	6	Mar 1/01				
	7	May 15/69				
	8	Mar 1/95				
	9	Mar 1/01				
	10	Mar 5/91				
	10A	Mar 1/01				
	10B	Mar 1/01				
	11	Mar 5/91				
	12	Mar 1/95				
*	13	Mar 1/05				
	14	Mar 1/01				
	15	Mar 1/01				
	16	Mar 1/00				

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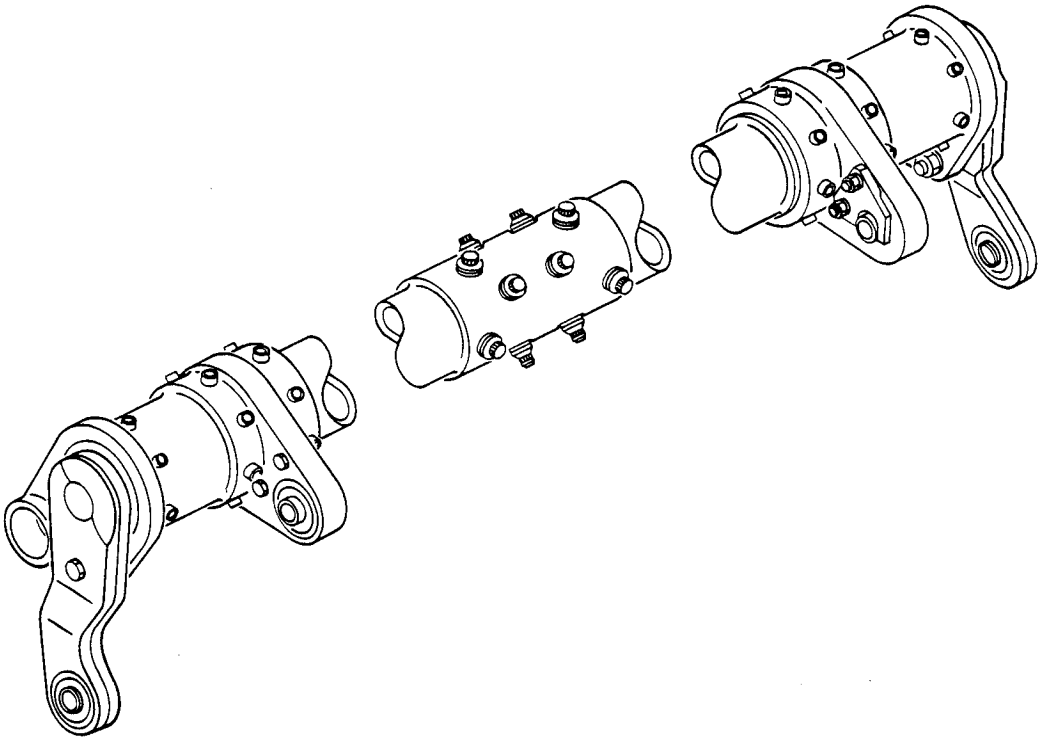
*[1] Special instructions not required. Use standard industry practices and information contained in 20-30-01 and 20-30-03.

*[2] Special instructions not required. Use standard industry practices and information contained in 20-44-02.

ELEVATOR BUSS ASSEMBLY



Elevator Buss Assembly
Figure 1

1. DESCRIPTION AND OPERATION

A. Description

(1) The elevator buss assembly consists of a torque tube assembly and a crank assembly mounted at each end of the tube. The two crank assemblies are bolted at the center of the torque tube by eight bolts. The torque tube assembly is a dual load path.

B. Operation

(1) The elevator buss assembly is part of the elevator controls system. Actuation of the control columns aft or forward will result in a torque transmitted from the power control unit to the torque tube, and subsequently to the elevator, moving it up or down.

C. Leading Particulars

Length -- 44.00 inches (approximately)
Weight -- 49.50 pounds (approximately)

2. DISASSEMBLY (Fig. 4)

A. Remove fasteners (1, 2, 4) and bushings (3).

B. Remove fasteners (5 thru 8) and bracket assembly (6B), if applicable.

NOTE: Do not remove nutplate (6C) unless necessary for repair or replacement.

C. Remove crank assemblies (9, 20).

NOTE: Do not remove bushings (31) unless repair or replacement is necessary.

D. Remove sleeve (13) and pins (19).

NOTE: Do not remove bearing (11) and sleeve (10), or foil marker (11A), unless repair or replacement is necessary.

E. Remove cranks (15, 16) as a unit.

F. Separate torque tubes (17, 18).

G. Remove sleeve (24) and pins (30).

NOTE: Do not remove bearing (21) and sleeve (22), or foil marker (21A), unless repair or replacement is necessary.

H. Remove cranks (26, 27) as a unit.

J. Separate torque tubes (28, 29).

K. Remove bushings (36), spacers (37), lockbolts (38, 39), collars (40), end fittings (41, 42), only if repair or replacement is necessary. Sleeve (35) is bonded to torque tube (34) and cannot be removed.

L. Remove fasteners (43, 44, 45).

M. Remove plates (46, 47 or 47A).

NOTE: Do not remove bearings (48 or 49) and sleeves (50) unless repair or replacement is necessary.

3. INSPECTION/CHECK

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

B. Penetrant check per SOPM 20-20-02 -- Torque tubes (17, 18, 28, 29, 34), sleeve (35), end fittings (41, 42), and anti-rotation plate (47A).

C. Magnetic particle check per SOPM 20-20-01 -- Sleeves (13, 24), cranks (15, 16, 26, 27), and pins (19, 30).

4. REPAIR

A. Repair

(1) Repair minor defects using standard industry practices.

(2) Oversize bolt/hole repair for bolts (7, 7A).

(a) First oversize

1) Machine hole thru, at existing hole locations, to 0.4514-0.4519 inch diameter. Break sharp edges 0.008R.

2) Secure parts during assembly using bolt BACB30LE7U46X in place of bolt (7) and bolt BACB30LE7U48X in place of bolt (7A). Use washer BACW10BN71AP in place of washer (6), washer BACW10BN71UP in place of washer (6A), washer BACW10BN71P in place of washer (6F) and washer BACW10BN71C in place of washer (8).

(b) Second oversize

1) Machine hole thru, at existing hole locations, to 0.4670-0.4675 inch diameter. Break sharp edges 0.008R.

2) Secure parts during assembly using bolt BACB30LE7U46Y in place of bolt BACB30LE7U46X and bolt BACB30LE7U48Y in place of bolt BACB30LE7U48X. Use washer BACW10BN72AP in place of washer BACW10BN71AP, washer BACW10BN72UP in place of washer BACW10BN71UP, washer BACW10BN72P in place of washer BACW10BN71P and washer BACW10BN72C in place of washer BACW10BN71C.

B. Refinish (Fig. 4)

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

(1) Sleeves (13, 24), cranks (16, 27), torque tubes (17, 18, 28, 29) -- Passivate (F-8.07) all over. Material: 17-4PH CRES, 180-200 ksi; optional torque tubes (28, 29) 15-5PH CRES, 180-200 ksi.

(2) Cranks (15 and 26) -- Passivate (F-8.07) all over. Material: 17-4PH CRES, 180-200 ksi; optional 15-5PH CRES, 180-200 ksi.

(3) Pins (19 and 30) -- 69-50558-1 Hard chrome plate all over and bake 3 hours minimum at 375 ± 25°F (F-1.842). Material is 17-4PH CRES, 180-200 ksi; Optional 4390 Steel 180-200 ksi.

Pin (19 and 30) -- 69-50558-2 Chrome plate all over per 20-42-03. Material is 15-5PH CRES, 180-200 ksi; optional 4340 steel 180-200 ksi.

(4) End Fittings (41 and 42) -- Chemical treat and apply 1 coat of BMS 10-11, type 1 primer (SRF-2.901) all over except chemical treat and apply 1 coat of BMS 10-11, type 1 primer (SRF-2.114) to holes, spot face areas, and fillet radius. Material: Al alloy.

(5) Spacers (37) and plates (46,47,47A) -- Chemical treat or anodize and apply 1 coat of BMS 10-11, type 1 primer (SRF-2.30) all over. Material: Al alloy.

(6) Torque tube (34) -- Chemical treat and apply 1 coat of BMS 10-11, type 1 primer (SRF-2.901) all over, except omit primer on 2.4504 to 2.4514 inch inside diameter at each end of torque tube. Material: Al alloy.

(7) Elevator buss assembly -- For final finish after assembly, chemical treat and apply 1 coat of primer, BMS 10-11, type 1 (SRF-2.114) all over, except omit primer on all machined surfaces unless otherwise noted in Fig. 3.

(8) Bracket (6E) -- Passivate (F-17.09) all over. Material: 301 CRES.

C. Replacement (Fig. 4)

(1) Bearings (11, 21) and sleeves (10, 22) -- Install bearings and sleeves and roller swage per SOPM 20-50-03. Maximum breakout torque after bearing installation must not exceed 2.0 lb-in. If new cranks (15, 16, 26, 27) are used, drill holes per Fig. 2.

(2) Bearings (48, 49) and sleeves (50) -- Install bearings and sleeves and roller swage per SOPM 20-50-03. Maximum breakout torque after bearing installation must not exceed 0.50 lb-in. If new end fittings (41, 42) are used, drill holes per Fig. 2.

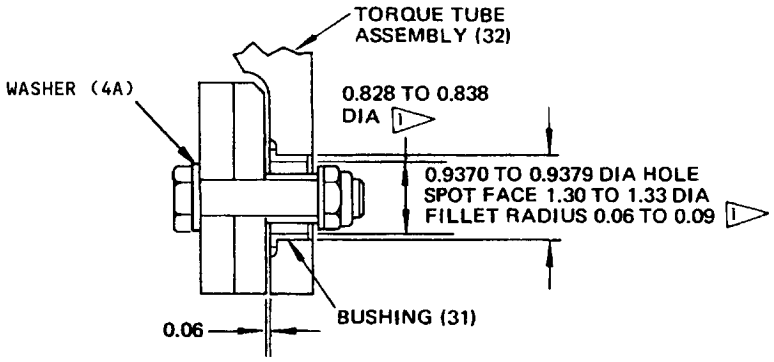
(3) Bushings (31) -- Install using shrink-fit method per SOPM 20-50-03. Machine bushing, P/N NAS77A12-38P per Fig. 2, if used. If new end fittings (41, 42) are used, drill holes per Fig. 2 and finish spot face areas per refinish section.

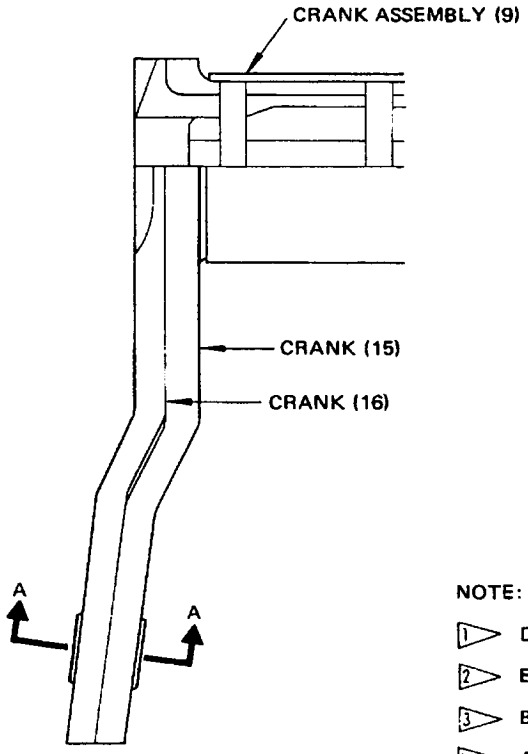
(4) End fittings (41, 42) -- Remove bushings (36), spacer (37), and lockbolts (38, 39) and install new fittings per Fig. 2.

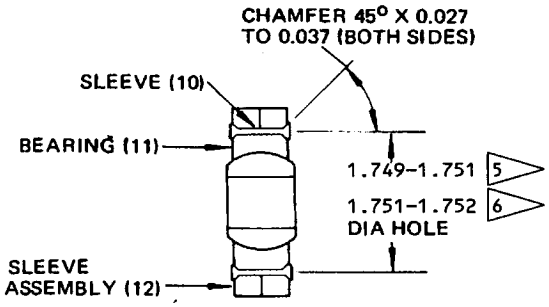
(5) Bushings (36) and spacer (37) -- Install new parts using shrink-fit method per SOPM 20-50-03, as shown in Fig. 2.

(6) Sleeve (35) -- Bond new sleeve in place with Type 38 adhesive per SOPM 20-50-12 and Fig. 2.

(7) Labels (11A, 21A) --Install new parts per SOPM 20-50-05.







SECTION A-A

NOTE: ALL DIMENSIONS IN INCHES

1 DIAMETERS CONCENTRIC WITHIN 0.005 TIR

2 ECCENTRICITY WITHIN 0.010 DIA

3 BOND IN PLACE WITH TYPE 38 ADHESIVE

4 ALIGN HOLES IN END FITTINGS (41 AND 42) WITHIN 0.005

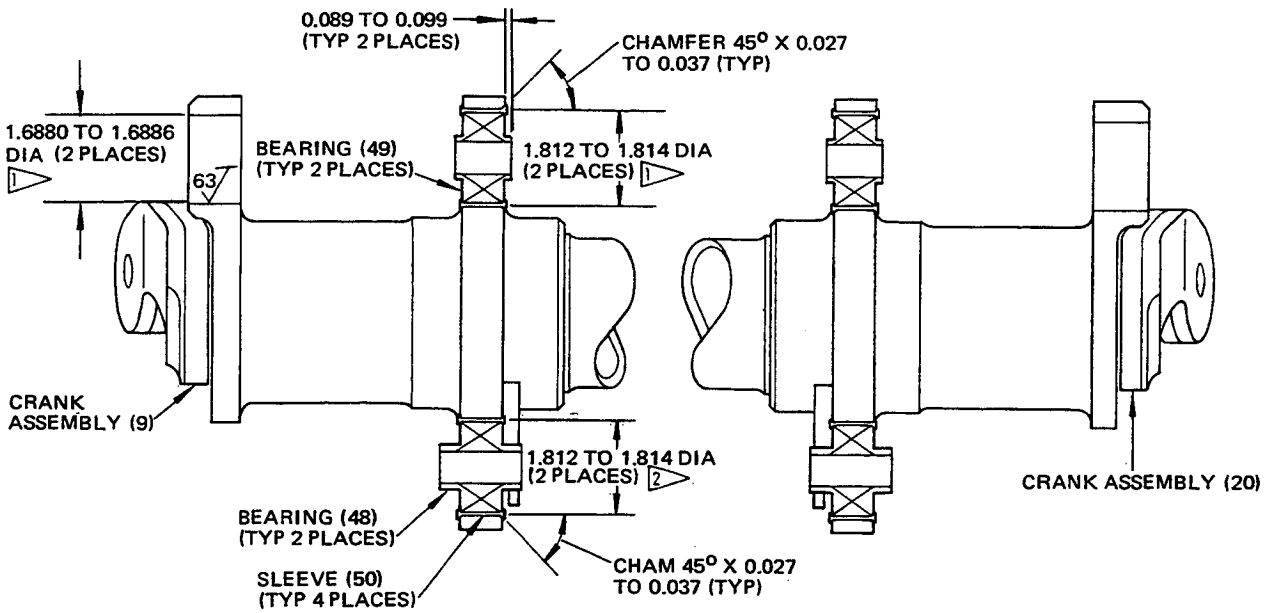
5 CRANK ASSEMBLY 65-65309-1,-2,-7,-8,-9,-10,-11,-12,-15,-16

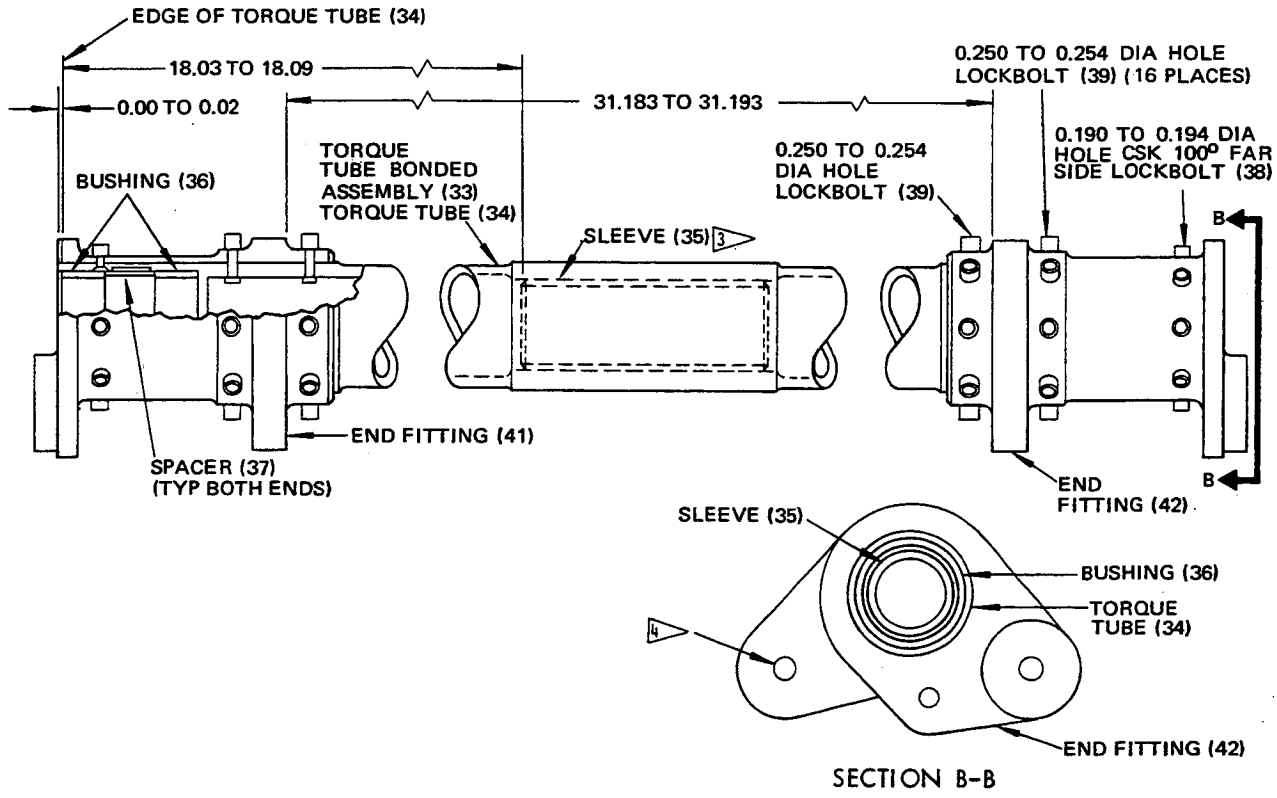
6 CRANK ASSEMBLY 65-65309-21,-22,-27,-28,-29,-30,-31,-32,-33,-34

CRANK ASSEMBLY (9) (CRANK ASSEMBLY (20) OPPOSITE)

Replacement Details
Figure 2 (Sheet 1)

E79604





TORQUE TUBE ASSEMBLY (32)

5. ASSEMBLY

A. Install plates (46 and 47 or 47A, Fig. 4) with bolts (45), washers (44), and nuts (43).

NOTE: If new end fittings (41 and 42) are installed on torque tube assembly (32), drill 0.1895 to 0.1905 inch diameter holes as shown in Fig. 3.

B. Assemble torque tubes (28 and 29) and cranks (26 or 27).

C. Install pins (30) 69-50558-1 per 20-50-03. Install pins (30) 69-50558-2 per 20-50-03 shrink fit method.

NOTE: If new torque tubes (28 or 29) and cranks (26 or 27) are installed, drill holes per Fig. 3.

D. Install sleeve (24) and machine (if a new sleeve) per Fig. 3.

E. Assemble torque tubes (17 and 18) and cranks (15 and 16).

F. Install pins (19) 69-50558-1 per 20-50-03. Install pins (19) 69-50558-2 per 20-50-03 shrink fit method.

NOTE: If new torque tubes (17 and 18) or cranks (15 and 16) are installed, drill holes per Fig. 3.

CAUTION: OUTSIDE DIAMETER OF SLEEVE MUST BE WITHIN THE LIMITS SHOWN IN FIG. 3 OR DAMAGE TO BUSHING LINERS MAY OCCUR.

G. Install sleeve (13) and machine per Fig. 3 if a new sleeve is used, or as required on an existing sleeve.

H. Install crank assemblies (9 and 20) on torque tube assembly (32).

J. Install bolts (4), washers (4A) if applicable, bushings (3), washers (2), and nuts (1).

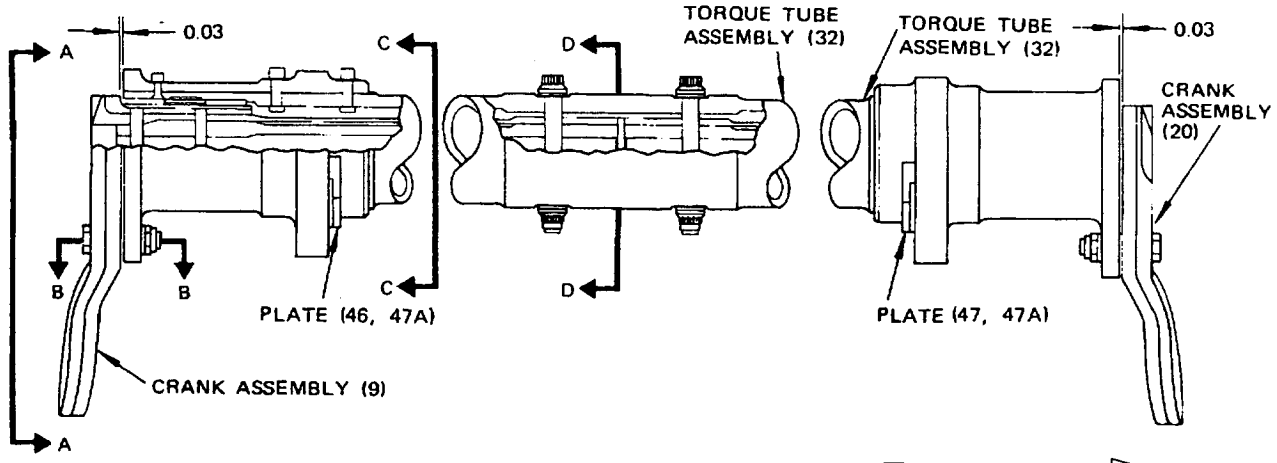
NOTE: Do not tighten nuts (1) until assembly is completed. If new cranks (15, 16, 26, or 27) are installed on crank assemblies (9 and 20), drill hole per Fig. 3.

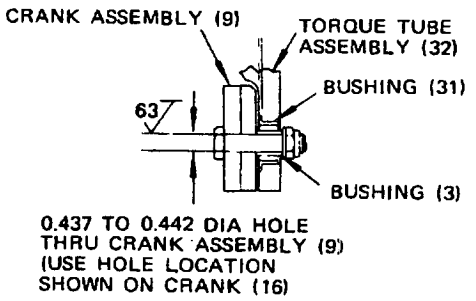
K. Install washers (8), bolts (7), washers (6), and nuts (5). On 65-65310-7 assembly, install bracket assembly (6B) and bolts (7A), washers (6A, 6B) and nuts (5). Tighten nuts (5) to 100-130 pound-inches.

NOTE: If new torque tube (34) or sleeve (35) are installed on torque tube assembly (32), drill holes and spot face per Fig. 3. Finish spot face areas and fillet radius per Refinish in REPAIR section.

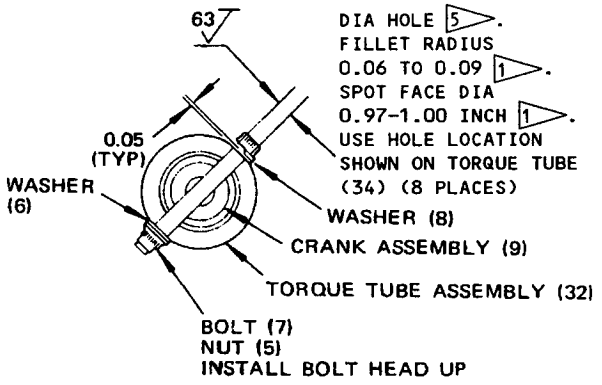
L. Tighten nuts (1).

M. Finish assembly per Refinish in REPAIR section.

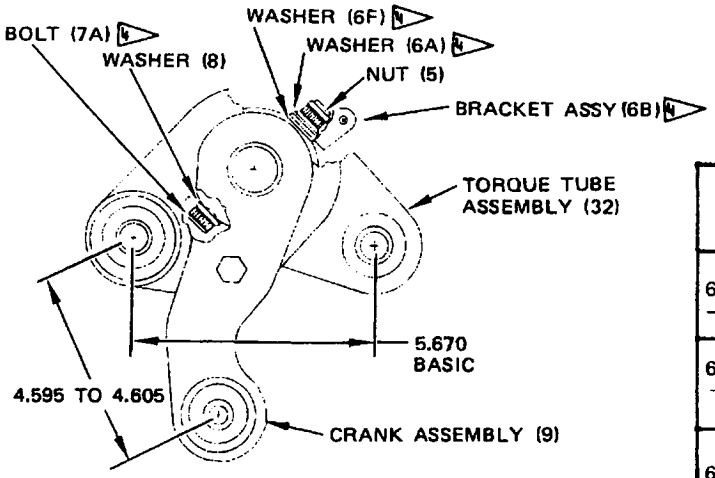




SECTION B-B



SECTION D-D



SECTION A-A

NOTE: ALL DIMENSIONS IN INCHES

PART NO.	5 DIA HOLE	BOLT
65-65310-2, -3	0.4370/0.4380	(7)-BACB30MT7-46
65-65310-4, -5, -7	0.4365/0.4370	(7)--BACB30LE7U46 (7A)--BACB30LE7U48
65-65310-8 THRU-19	0.4358/0.4363	(7)--BACB30LE7U46 INSTALL PER 20-50-03 SHRINK FIT METHOD

1 FINISH PER ASSEMBLY INSTRUCTIONS

2 MACHINE NEW SLEEVE TO DIMENSION SHOWN OR AS REQUIRED ON AN EXISTING SLEEVE. DIAMETERS CONCENTRIC WITHIN 0.003 TIR

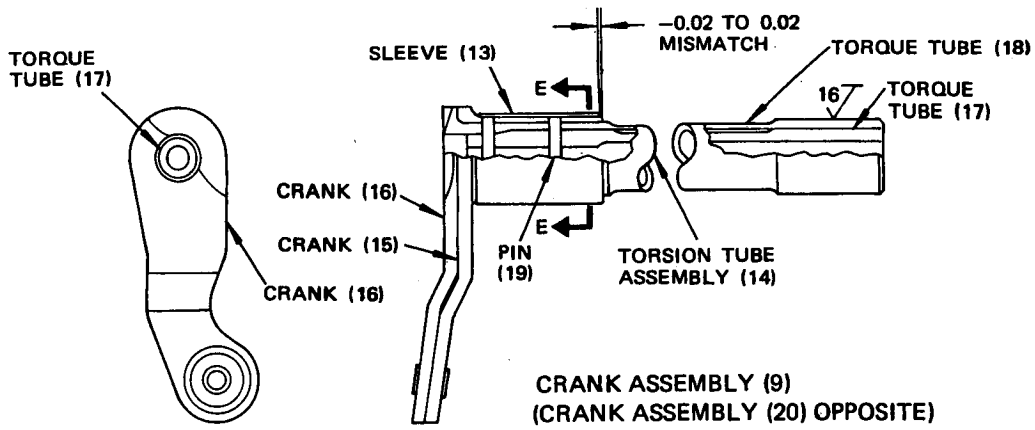
3 ± 0.02 TOLERANCE THESE DIMENSIONS

4 65-65310-7 ONLY

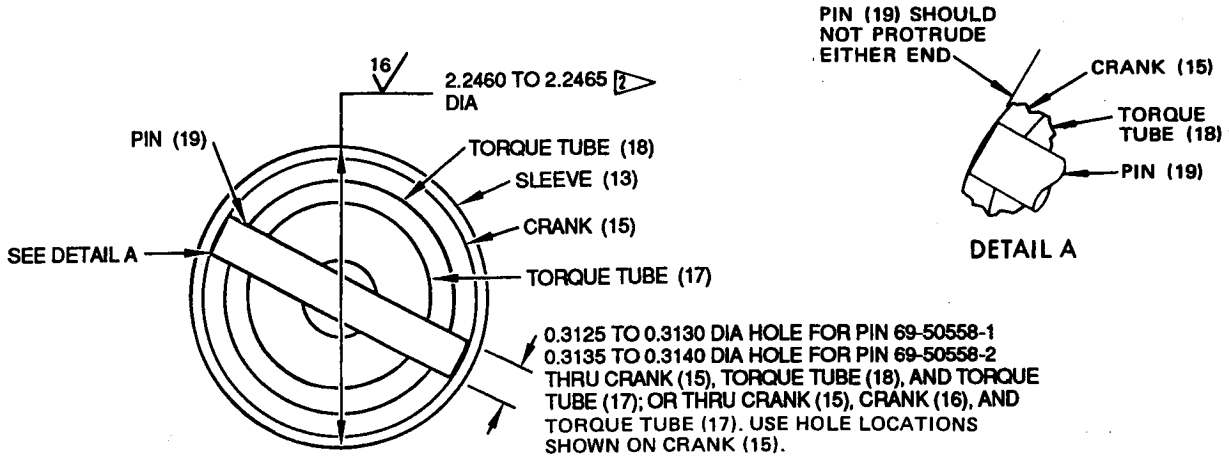
5 HOLE DIAMETER PER TABLE

Assembly Details
Figure 3 (Sheet 1)

K99179

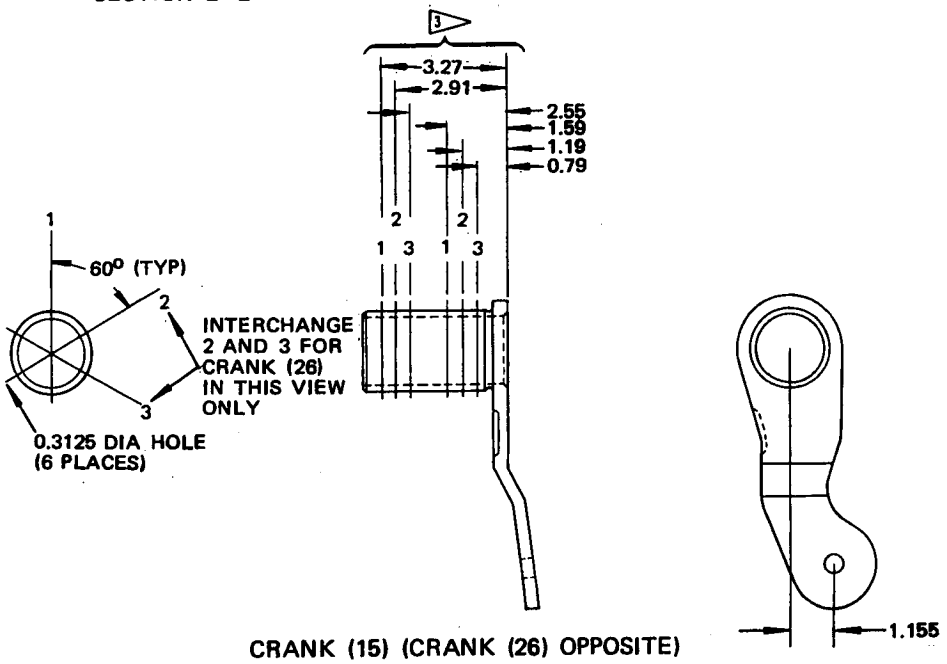


CRANK ASSEMBLY (9)
(CRANK ASSEMBLY (20) OPPOSITE)



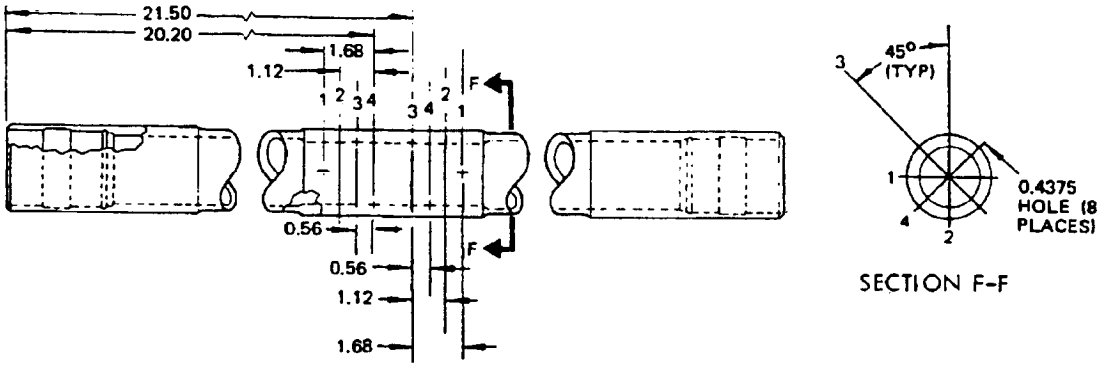
DETAIL A

SECTION E–E



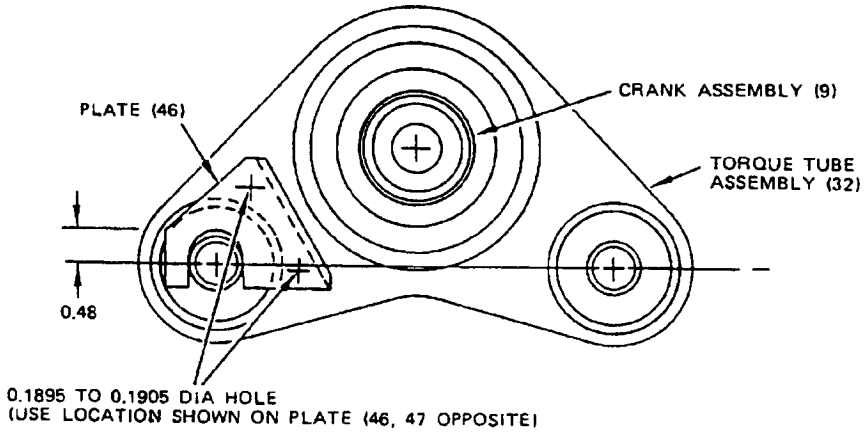
CRANK (15) (CRANK (26) OPPOSITE)

Assembly Details
Figure 3 (Sheet 2)

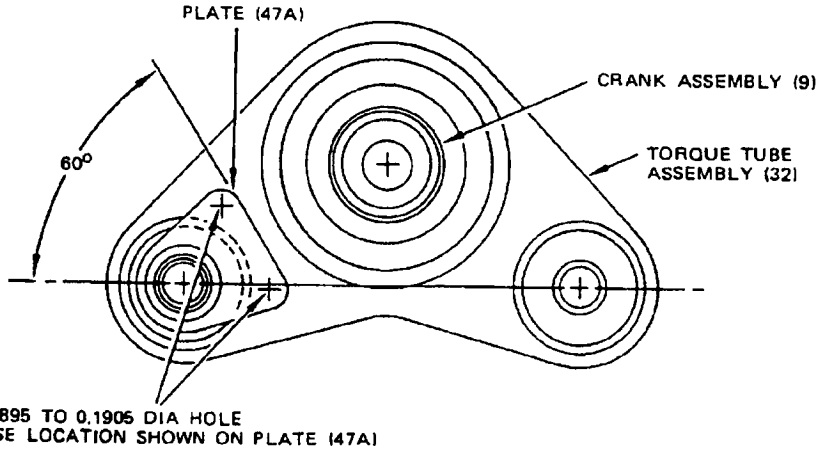


TORQUE TUBE (34)

SECTION F-F



ELEVATOR BUSS ASSEMBLY 65–65310–2 THRU –5, –7, –8, –10, –13, –16

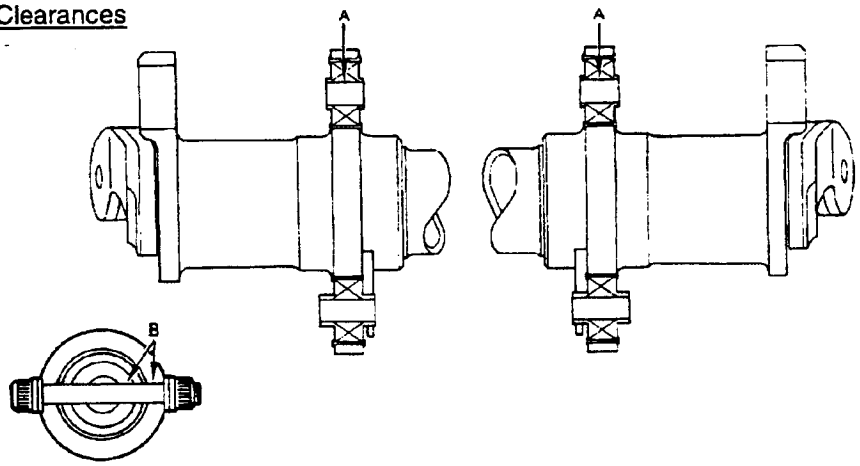


ELEVATOR BUSS ASSEMBLY 65-65310-9, -11, -12, -14, -15, -17, -18, -19

SECTION C-C

Assembly Details
Figure 3 (Sheet 3)

6. Fits and Clearances



Ref Letter Fig.	Mating Item No. Fig.	Design Dimensions				Service Wear Limits		
		Dimensions (inches)		Assembly Clearance (inch)		Dimension Limits (inch)		Maximum Allowable Clearance (inch)
		Min	Max	Min	Max	Min	Max	
A	ID 49 OD *[1]	0.6245 0.6230	0.6250 0.6240	0.0005	0.0020	0.6226	0.6280	0.0040
B *[9]	ID 9, 32 OD 7 *[2]	0.4370 0.4360	0.4380 0.4370	0.0000	0.0020	0.4359	0.4381	0.0010
B *[10]	ID 9, 32 OD 7 *[3]	0.4365 0.4365	0.4370 0.4370	-0.0005 *[4]	0.0005	0.4360	0.4375	0.0010
B *[11]	ID 9, 32 OD 7 *[3]	0.4358 0.4365	0.4363 0.4370	-0.0012 *[4]	-0.0002 *[4]	0.4365	0.4363	0.0000
B	ID 9, 32 *[5] OD *[7]	0.4514 0.4521	0.4519 0.4526	-0.0012 *[4]	-0.0002 *[4]	0.4521	0.4519	0.0000
B	ID 9, 32 *[6] OD *[8]	0.4670 0.4677	0.4675 0.4682	-0.0012 *[4]	-0.0002 *[4]	0.4677	0.4675	0.0000

*[1] INSTALLATION PART
*[2] BACB30MT7-46
*[3] BACB30LE7U46
*[4] INTERFERENCE FIT
*[5] FIRST OVERSIZE
*[6] SECOND OVERSIZE
*[7] BACB30LE7U46X (FIRST OVERSIZE)
*[8] BACB30LE7U46Y (SECOND OVERSIZE)
*[9] 65-65310-2, -3 ASSY
*[10] 65-65310-4, -5, -7 ASSY
*[11] 65-65310-8 thru -19 ASSY

Fits and Clearances
Figure 3A

L83744

7. ILLUSTRATED PARTS LIST

VENDORS

V09455 BFM TRANSPORT DYNAMICS CORP., P.O. BOX 1953, 3131 WEST SEGERSTROM STREET, SANTA ANA, CALIFORNIA 92702-1953

FORMERLY TRANSPORT DYNAMICS AEROSPACE DIVISION, FABROID DIVISION TRANSPORT DYNAMICS V17571 AND LEAR SEIGLER, INC., TRANSPORT DIVISION V98076

V21335 TORRINGTON CO., FAFNIR BEARING DIVISION, 59 FIELD STREET, TORRINGTON, CONNECTICUT 06790-4942

FORMERLY FAFNIR BEARING AND TEXTRON, INC., FAFNIR DIVISION IN NEW BRITAIN, CONNECTICUT

V77896 REXNORD, INC., BEARING OPERATION, 2400 CURTIS STREET, DOWNERS GROVE, ILLINOIS 60515-4005

FORMERLY SHAEFER BEARING DIVISION REX CHAINBELT

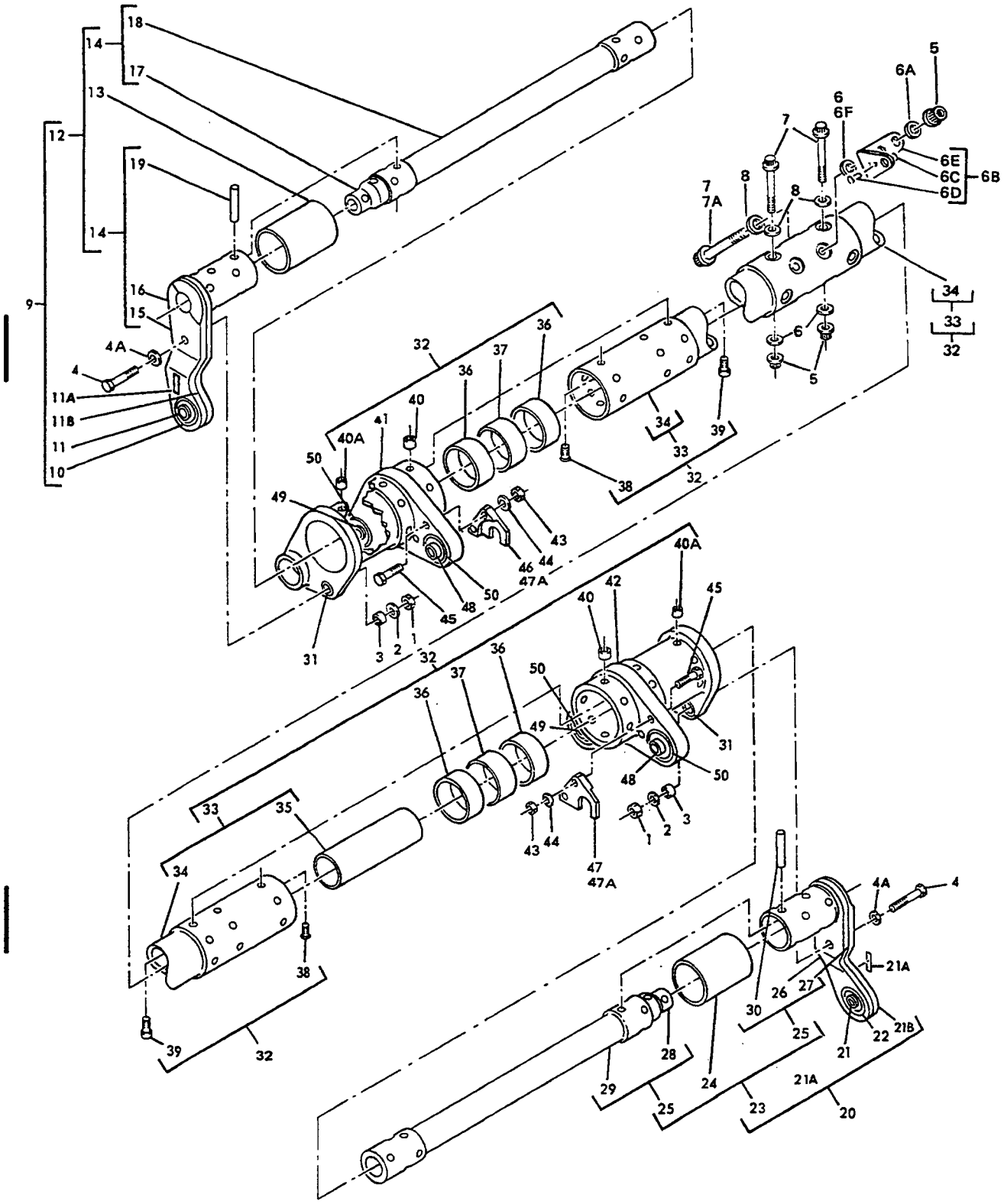
FORMERLY REX CHAINBELT, INC., BEARING DIVISION

V81376 SOUTHWEST PRODUCTS CO., 2240 BUENA VISTA STREET, IRVINDALE, CALIFORNIA 91706

FORMERLY IN MONROVIA, CALIFORNIA 91016

V97613 SARGENT INDUSTRIES, KAHR BEARING DIVISION, 3010 NORTH SAN FERNANDO BOULEVARD, BURBANK, CALIFORNIA 91504-2524

FORMERLY AETNA STEEL PROD., KAHR BEARING DIVISION V96579



Elevator Buss Assembly
Figure 4

E79597

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
4-					
	65-65310-2		ELEVATOR BUSS ASSY	A	RF
	65-65310-3		ELEVATOR BUSS ASSY	B	RF
	65-65310-4		ELEVATOR BUSS ASSY	C	RF
	65-65310-5		ELEVATOR BUSS ASSY (SB 27-1057)	D	RF
	65-65310-7		ELEVATOR BUSS ASSY	E	RF
	65-65310-8		ELEVATOR BUSS ASSY	F	RF
	65-65310-9		ELEVATOR BUSS ASSY	G	RF
	65-65310-10		ELEVATOR BUSS ASSY	H	RF
	65-65310-11		ELEVATOR BUSS ASSY	I	RF
	65-65310-12		ELEVATOR BUSS ASSY	J	RF
	65-65310-13		ELEVATOR BUSS ASSY	K	RF
	65-65310-14		ELEVATOR BUSS ASSY	L	RF
	65-65310-15		ELEVATOR BUSS ASSY	M	RF
	65-65310-16		ELEVATOR BUSS ASSY	N	RF
	65-65310-17		ELEVATOR BUSS ASSY	O	RF
	65-65310-18		ELEVATOR BUSS ASSY	P	RF
	65-65310-19		ELEVATOR BUSS ASSY	Q	RF
1	MS21042L7		. NUT (REPLS BACN10JC7)	A-O	2
1	BACN10JC7		. NUT (REPLS NAS679A7)	A-O	2
1	BACN10JC7CM		. NUT (REPLS MS21042L7)	PQ	2
1	BACN10YR7CM		. NUT (OPT)	PQ	2
2	NAS1149C0763R		. WASHER (REPLS AN960C716)		2
3	69-50563-1		. BUSHING		2
4	NAS1107-21		. BOLT	A-O	2
4	BACB30LJ7U23		. BOLT	PQ	2
4A	BACW10DS7S		. WASHER	PQ	2
5	BACN10HR7		. NUT	AB	8
5	BACN10HR7C		. NUT	C-Q	8
6	NAS1149D0763J		. WASHER (REPLS AN960PD716)	A-D F-Q	8
6	NAS1149D0763J		. WASHER (REPLS AN960PD716)	E	6
6	BACW10BN71AP		. WASHER (OVERSIZE)	A-D F-Q	8
6	BACW10BN71AP		. WASHER (OVERSIZE)	E	6
6	BACW10BN72AP		. WASHER (OVERSIZE)	A-D F-Q	8
6	BACW10BN72AP		. WASHER (OVERSIZE)	E	6
6A	NAS1149C0732R		. WASHER (REPLS AN960C716L)	E	2
6A	BACW10BN71UP		. WASHER (OVERSIZE)	E	2
6A	BACW10BN72UP		. WASHER (OVERSIZE)	E	2
6B	69-71700-1		. BRACKET ASSY	E	1
6C	BACN10JP3B		. . NUTPLATE		1
6D	MS20427M3		. . RIVET		2
6E	69-71700-2		. . BRACKET		1
6F	NAS1149F0763P		. WASHER (REPLS AN960-716)	E	2
6F	BACW10BN71P		. WASHER (OVERSIZE)	E	2
6F	BACW10BN72P		. WASHER (OVERSIZE)	E	2
7	BACB30MT7-46		. BOLT (REPLD BY BACB30US7K46)	AB	8
7	BACB30US7K46		. BOLT (REPLS BACB30MT7-46)	AB	8
7	BACB30LE7U46		. BOLT	CDF-Q	8

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
4-					
7	BACB30LE7U46		. BOLT	E	6
7	BACB30LE7U46X		. BOLT (OVERSIZE)	A-D F-Q	8
7	BACB30LE7U46X		. BOLT (OVERSIZE)	E	6
7	BACB30LE7U46Y		. BOLT (OVERSIZE)	A-D F-Q	8
7	BACB30LE7U46Y		. BOLT (OVERSIZE)	E	6
7A	BACB30LE7U48		. BOLT	E	2
7A	BACB30LE7U48X		. BOLT (OVERSIZE)	E	2
7A	BACB30LE7U48Y		. BOLT (OVERSIZE)	E	2
8	MS20002C7		. WASHER		8
8	BACW10BN71C		. WASHER (OVERSIZE)		8
8	BACW10BN72C		. WASHER (OVERSIZE)		8
9	65-65309-1		. CRANK ASSY	A	1
9	65-65309-7		. CRANK ASSY	B	1
9	65-65309-9		. CRANK ASSY	CE	1
9	65-65309-11		. CRANK ASSY	D	1
9	65-65309-15		. CRANK ASSY	F-J	1
9	65-65309-21		. CRANK ASSY	KL	1
9	65-65309-27		. CRANK ASSY	M	1
9	65-65309-29		. CRANK ASSY	N	1
9	65-65309-31		. CRANK ASSY	OP	1
9	65-65309-33		. CRANK ASSY	Q	1
10	69-38919-14		. . SLEEVE	AB	1
10	69-63523-1		. . SLEEVE	C-M	1
10	69-63523-2		. . SLEEVE	NOPQ	1
11	YD134		. . BEARING, V77896	ABD	1
11	DAS10-26A1-4		DELETED		
11	DAS10-26B1-4		. . BEARING, V77896	CE	1
11	DAS10-26B1-7		. . BEARING, V77896	F-M	1
11	DAS10-26B1-502		. . BEARING, V77896	NOPQ	1
11A	BAC27DCT184		. . MARKER, FOIL	BD	1
11B	NAS516-1		. . FITTING, LUBE	C-M	1
11B	NAS516-1A		. . FITTING, LUBE	NOPQ	1
12	65-65309-3		. . SLEEVE ASSY	AB	1
12	65-65309-13		. . SLEEVE ASSY	CDE	1
12	65-65309-17		. . SLEEVE ASSY	F-LN	1
12	65-65309-25		. . SLEEVE ASSY	MOP	1
12	65-65309-35		. . SLEEVE ASSY	Q	1
13	69-50559-1		. . . SLEEVE		1
14	65-65309-5		. . . TUBE ASSY, TORSION	A-E	1
14	65-65309-19		. . . TUBE ASSY, TORSION	F-LN	1
14	65-65309-23		. . . TUBE ASSY, TORSION	MOP	1
14	65-65309-37		. . . TUBE ASSY, TORSION	Q	1
15	65-61753-1		. . . . CRANK		1
16	65-65306-1		. . . . CRANK	A-LN	1
16	65-65306-3		. . . . CRANK	MOPQ	1
17	65-65307-1		. . . . TUBE, TORQUE		1
18	65-65308-1		. . . . TUBE, TORQUE		1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
4-					
19	69-50558-1		. . . . PIN	A-E	6
19	69-50558-2		. . . . PIN	F-Q	6
20	65-65309-2		. CRANK ASSY (OPP 65-65309-1)	A	1
20	65-65309-8		. CRANK ASSY (OPP 65-65309-7)	B	1
20	65-65309-10		. CRANK ASSY (OPP 65-65309-9)	CE	1
20	65-65309-12		. CRANK ASSY (OPP 65-65309-11)	D	1
20	65-65309-16		. CRANK ASSY (OPP 65-65309-15)	F-J	1
20	65-65309-22		. CRANK ASSY (OPP 65-65309-21)	KL	1
20	65-65309-28		. CRANK ASSY (OPP 65-65309-27)	M	1
20	65-65309-30		. CRANK ASSY (OPP 65-65309-30)	N	1
20	65-65309-32		. CRANK ASSY (OPP 65-65309-32)	OP	1
20	65-65309-34		. CRANK ASSY (OPP 65-65309-33)	Q	1
21	YD134		. . BEARING, V77896	ABD	1
21	DAS10-26B1-4		. . BEARING, V77896	CE	1
21	DAS10-26B1-7		. . BEARING, V77896	F-M	1
21	DAS10-26B1-502		. . BEARING, V77896	NOPQ	1
21A	BAC27DCT184		. . MARKER, FOIL	BD	1
21B	NAS516-1		. . FITTING, LUBE	C-M	1
21B	NAS516-1A		. . FITTING, LUBE	NOPQ	1
22	69-38919-14		. . SLEEVE	AB	1
22	69-63523-1		. . SLEEVE	C-M	1
22	69-63523-2		. . SLEEVE	NOPQ	1
23	65-65309-4		. . SLEEVE ASSY (OPP 65-65309-3)	AB	1
23	65-65309-14		. . SLEEVE ASSY (OPP 65-65309-13)	CDE	1
23	65-65309-18		. . SLEEVE ASSY (OPP 65-65309-17)	F-LN	1
23	65-65309-26		. . SLEEVE ASSY (OPP 65-65309-25)	MOP	1
23	65-65309-36		. . SLEEVE ASSY (OPP 65-65309-35)	Q	1
24	69-50559-1		. . . SLEEVE		1
25	65-65309-6		. . . TUBE ASSY, TORSION (OPP 65-65309-5)	A-E	1
25	65-65309-20		. . . TUBE ASSY, TORSION (OPP 65-65309-19)	F-LN	1
25	65-65309-24		. . . TUBE ASSY, TORSION (OPP 65-65309-23)	MOP	1
25	65-65309-38		. . . TUBE ASSY, TORSION (OPP 65-65309-37)	Q	1
26	65-61753-2		. . . . CRANK (OPP 65-61753-1)		1
27	65-65306-2		. . . . CRANK (OPP 65-65306-1)	A-LN	1
27	65-65306-4		. . . . CRANK (OPP 65-65306-3)	MOPQ	1
28	65-65307-1		. . . . TUBE, TORQUE	A-P	1
28	65-65307-2		. . . . TUBE, TORQUE	Q	1
29	65-65308-1		. . . . TUBE, TORQUE	A-P	1
29	65-65308-2		. . . . TUBE, TORQUE	Q	1
30	69-50558-1		. . . . PIN	A-E	6
30	69-50558-2		. . . . PIN	F-Q	6
31	NAS77A12-38P		. BUSHING	A-O	2
31	69-78745-1		. BUSHING	PQ	2

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
4-					
31	NAS77A12-38P		. BUSHING (OPT)	PQ	2
32	65-61751-1		. TUBE ASSY, TORQUE	A-GI	1
32	65-61751-3		. TUBE ASSY, TORQUE	HJKLN	1
32	65-61751-4		. TUBE ASSY, TORQUE	MO	1
32	65-61751-5		. TUBE ASSY, TORQUE	PQ	1
33	65-61751-2		. . BONDED ASSY, TORQUE TUBE		1
34	65-61750-1		. . . TUBE, TORQUE		1
35	69-48962-1		. . . SLEEVE		1
36	BJC72TF8A32		. . BUSHING, V21335 (BOEING 10-60516-53) (OPT)		4
36	KJN36-12		. . BUSHING, V97613 (BOEING 10-60516-53) (OPT)		4
36	YTS-175A		. . BUSHING, V77896 (BOEING 10-60516-53) (OPT)		4
36	DBA-36-001		. . BUSHING, V81376 (BOEING 10-60516-53) (OPT)		4
36	90238		. . BUSHING, V09455 (BOEING 10-60516-53) (OPT)		4
37	69-50560-1		. . SPACER		2
38	BACB30DY6-8		. . LOCKBOLT		16
39	BACB30DX8-10		. . LOCKBOLT		32
39	NAS1468-10		. . LOCKBOLT (OPT)		32
39	NAS6968-10		. . LOCKBOLT (OPT)		32
40	NAS1080-08		. . COLLAR		32
40A	NAS1080-06		. . COLLAR		16
41	65-61752-1		. . FITTING, END (OPP 65-61752-2)	A-GI	1
41	65-61752-3		. . FITTING, END (OPP 65-61752-4)	HJKLN	1
41	65-61752-5		. . FITTING, END (OPP 65-61752-6)	MOPQ	1
42	65-61752-2		. . FITTING, END (OPP 65-61752-1)	A-GI	1
42	65-61752-4		. . FITTING, END (OPP 65-61752-3)	HJKLN	1
42	65-61752-6		. . FITTING, END (OPP 65-61752-5)	MOPQ	1
43	BACN10JC3		. NUT (REPLS NAS679A3W)		4
43	MS21042L3		. NUT (REPLS BACN10JC3)		4
44	NAS1149D0363J		. WASHER (REPLS AN960PD10)		4
45	NAS1103-18		. BOLT		4
46	69-50562-1		. PLATE (OPP 69-50562-2)	A-FHKN	1
47	69-50562-2		. PLATE (OPP 69-50562-1)	A-FHKN	1
47A	69-73335-1		. PLATE, ANTI-ROTATION	G	2
47A	69-73335-2		. PLATE, ANTI-ROTATION	IJLMOPQ	2
48	BR8N		. BEARING, V77896	A-E	2
48	DAS8-27B		. BEARING, V77896 (OPT)	A-E	2
48	DAS8-27B7		. BEARING, V77896	F-Q	2
49	BR8S		. BEARING, V77896	A-E	2
49	DAS10-27A1-501		. BEARING, V77896 (OPT)	A-E	2
49	BR8P		. BEARING, V77896 (OPT)	A	2
49	DAS10-27A1-502		. BEARING, V77896	F-Q	2
50	69-38919-13		. SLEEVE		4