TO: ALL HOLDERS OF TRAILING EDGE FLAP DRIVE POWER UNIT ASSEMBLY OVERHAUL MANUAL, 27-55-32

REVISION NO. 17, DATED JUL 1/03

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 repair section to add heat treat and material specifications per latest engineering					X								

TRAILING EDGE FLAP DRIVE POWER UNIT ASSEMBLY

27-55-32

BOEING P/N 65-63851-1 thru -9, -12, -13

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 30492	Mar 10/70
27-1041		PRR 31940	Mar 10/71
		PRR 32069	Sep 10/71
		PRR 32116	Mar 10/72
		PRR 32121-10	Mar 10/72
27-1076			Dec 25/75
		PRR 32897	Jul 5/79
		PRR 32900-1	Jul 5/79
		PRR 32912-1	Jul 5/79
		PRR 33310-1	Mar 5/84
		PRR 33341	Mar 5/84
		PRR 33410-53	Sep 5/85

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
	27-55-32					
	T-1	Sep 5/85				
	T-2	BLANK				
*	LEP-1	Jul 1/03				
	LEP-2	BLANK				
	T/C-1	Mar 5/84				
	T/C-2	BLANK				
	1	Mar 5/84				
	2	Mar 5/87				
*	3	Jul 1/03				
*	4	Jul 1/03				
*	5	Jul 1/03				
*	6	Jul 1/03				
	7	Jul 1/01				
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	9	Jul 1/01				
	10	BLANK				
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	12	Mar 1/01				
	13	Jul 1/01				
	14	Mar 1/01				
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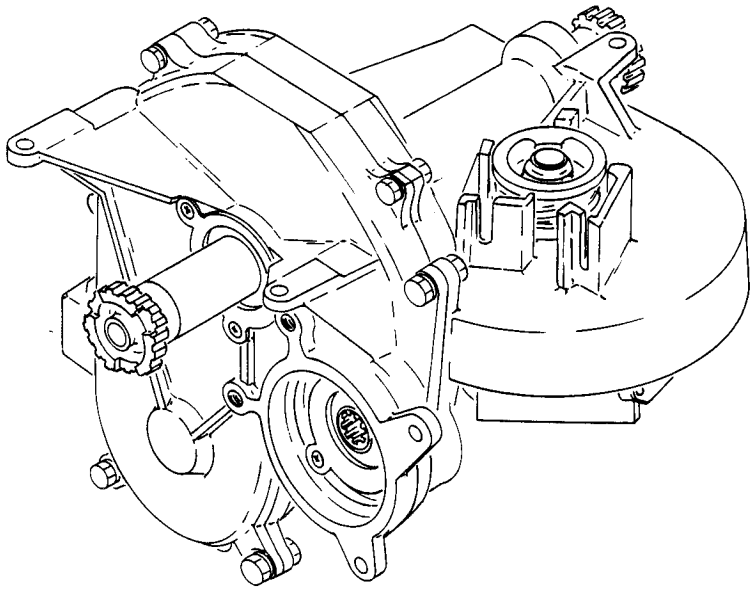
*[1] Special instructions not required. Use standard industry practices.

*[2] Use applicable procedures contained in 20-44-02 and standard industry practices.

TRAILING EDGE FLAP DRIVE POWER UNIT ASSEMBLY



Trailing Edge Flap Drive Power Unit Assembly
Figure 1

1. DESCRIPTION AND OPERATION

A. The power unit assembly consists of two input pinions, an output shaft with a worm gear drive, a spur gear, a worm gear, and a cable drum, enclosed in a housing. The input pinions, output shaft and the drum shaft are bearing mounted. The input pinions mate with the spur gear, which is splined to the output shaft. The worm gear is splined to the drum shaft. On some assemblies, a position switch actuating cam or an asymmetry drum may also be mounted on the shaft. Couplings are provided at each end of the output shaft.

B. The power unit assembly transfers mechanical energy from the flap hydraulic motor, or from an alternate electric motor, to the flap drive system. During normal operation, power from the motor is transmitted through the applicable pinion gear to the reduction gear, which drives the flap system.

C. Rotation of the shaft also drives the worm gear and the flap follow-up drum which is linked by cables to the flap shutoff mechanism.

D. Leading Particulars (Approximate)

Length -- 11.5 inches
Width -- 11.4 inches
Height -- 10.3 inches
Weight -- 11.5 pounds

2. DISASSEMBLY (Fig. 3.)

A. Hold coupling half (3) with Wrench F71228 and remove parts (1, 2, 3).

B. Remove spacer (4) from shaft (31).

C. Remove nuts (5, 11), washers (6, 9, 12) and bolts (7, 8, 13). Carefully separate cover (14) and attached parts from housing (15).

D. Remove screws (20), retainers (21) and bearings (22, 23, 24) from cover (14).

E. Remove gears (25, 26, 27) from housing (15).

F. Remove screws (28), retainer (29) and bearings (30, 31) from housing (15).

G. Remove shaft (32) and bearing (33) from housing (15). Rotate and tilt shaft while removing, to clear gear assembly (40).

H. Remove spacer (34) from shaft (32).

I. Remove nuts (35), washers (36), drum (39), and drum (38) or cam (38A), as applicable.

CAUTION: GEAR ASSEMBLY (40) WILL BE UNRESTRAINED WHEN SHAFT (37) IS REMOVED. EXERCISE CARE TO AVOID DAMAGE.

J. Remove shaft (37), then remove gear assembly (40) from housing (15).

NOTE: Do not disassemble rim (42) from hub (41), unless refinish is required. Note hub (41) and rim (42) relationship for reference during reassembly.

K. Remove lockwiring. Remove bolts (45), washers (46), retainer (47) or bracket (47A), bearing (48), spacer (49 or 61), and shim(s) (62). Note number and thickness of shims to facilitate assembly.

L. Remove bolts (50, 53), washers (51, 54) and cover and drain (52, 55, 55A) from housing (15).

M. Remove screw (56), washer (57) and cable guard (58) from housing (15).

NOTE: Do not remove inserts (16, 17, 18 19), screws (59) or nameplate (60) unless repair or replacement is required.

Cover (14) and housing (15) are a matched set. Do not interchange with covers or housings from other assemblies.

3. INSPECTION/CHECK

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

B. Magnetic particle check per SOPM 20-20-01 -- Coupling half (3), gears (25, 26, 27), shafts (32, 37), spacers (34).

C. Penetrant check per SOPM 20-20-02 -- Cover (14), housing (15), retainers (21, 29, 47), gear (40), drums (38, 39), cam (38A), drain (55, 55A), spacers (4, 49).

D. Check worm gear teeth (42), for deformation, secondary grooving and excessive wear (SB 27-1076).

4. REPAIR

A. Repair minor defects using standard industry practices.

B. Refinish (Fig. 3).

NOTE: Refer to SOPM 20-30-02 for stripping of protective finishes, and to SOPM 20-41-01 for explanation of F and SRF finish codes.

(1) Coupling half (3) -- Cadmium plate 0.0002 to 0.0004 in. per SOPM 20-42-05 (F-1.1926). Material: 4340 steel (150-170 ksi).

(2) Spacer (4), retainers (21, 29) (69-51847-1) (47) and cover (52) -- Chromic acid anodize (F-2.26) followed by one coat of BMS 10-11, Type 1 primer (SRF-12.205). Material -- Al alloy.

(3) Retainers (21, 29) (69-51847-2) - Chromic acid anodize (F-2.26) followed by one coat of BMS 10-11, Type 1, primer (SRF-12.205) plus one coat of BMS 10-60 enamel (SRF-14.9813). Material: Alum alloy.

(4) Spacer (49) -- Chromic acid anodize (F-2.26). Material: Alum alloy.

(5) Spacer (34) -- Cadmium plate 0.0002 to 0.0004 in. per SOPM 20-42-05 (F-15.02). Material: 4130 normalized.

(6) Cover (14) housing (15) -- Chromic acid anodize (F-2.26) followed by one coat of primer, BMS 10-11, Type 1 (SRF-12.205) on all external surfaces except no primer on bearing seats. For assys 65-63852-7, -8, add one coat of enamel, BMS 10-60 (SRF-14.9813). Material: Alum alloy.

(7) Gears (25, 26, 27), shafts (32, 37), and worm gear assembly (40) -- Refinish as shown in Fig. 2.

(8) Drums (38, 39) -- Chromic acid anodize (F-2.26) followed by one coat of BMS 10-11, Type 1, primer (SRF-12.205) all over except no primer on splines. Material: Alum alloy.

(9) Hub (41) -- Sulfuric acid anodize all over (F-2.201). Material: Alum alloy.

(10) Rim (42) -- Cadmium plate per SOPM 20-42-05 (F-4.202) all over. Material: Alum-bronze.

(11) Drain (55, 55A) -- Chromic acid anodize all over (F-2.26) followed by one coat of BMS 10-11, Type 1, primer (SRF-12.205) and one coat of BMS 10-60 enamel (SRF-14.9813) on external surfaces (Fig. 2).

(12) Cam (38A) -- Chromic acid or sulfuric acid anodize (F-17.05) all over, except sulfuric acid hard anodize (F-17.06) cam profile. Apply one coat of BMS 10-11, Type 1 primer (F-20.02) and BMS 10-60 enamel (SRF-14.9812) all over except on splines, bore, and cam profile. Apply BMS 10-60 black gloss enamel (SRF-14.9815-701) to index mark. Material: Alum alloy.

(13) Bracket (47A) -- Chromic acid anodize (F-17.02) followed by one coat of BMS 10-11, Type 1 primer (F-20.02) and BMS 10-60 enamel (SRF-14.9812) all over. Apply BMS 10-60 black gloss enamel (SRF-14.9815-701) to index mark. Material: Alum alloy.

(14) Cover (55A) -- Chromic acid anodize; apply one coat BMS 10-11, Type 1 primer (F-18.13) plus one coat BMS 10-60 enamel (SRF-14.9813) all over, except omit enamel from attachment holes. Material: Alum alloy.

C. Replacement (Fig. 3).

(1) Replace all unserviceable parts.

(2) Replace all lockwiring.

(3) If inserts (16 thru 19) require replacement, proceed as follows:

(a) Remove damaged insert.

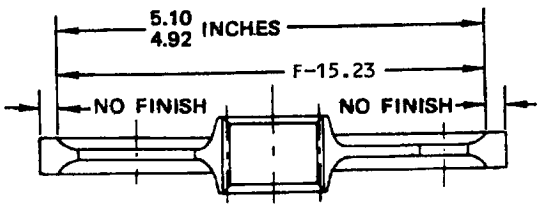
(b) Clean and check threads in bore of cover (14) or housing (15).

(c) Apply primer, BMS 10-11, Type 1 to bore of cover or housing and to insert. Install insert 3/4-to 1-1/2-turns below surface in countersunk holes or 1/4- to 1/2-turn below surface of housing or cover in holes not countersunk, while primer is wet. Remove tang.

(4) If worm gear hub (41) or worm gear rim (42) requires replacement, replace worm gear assembly (40) as a unit.

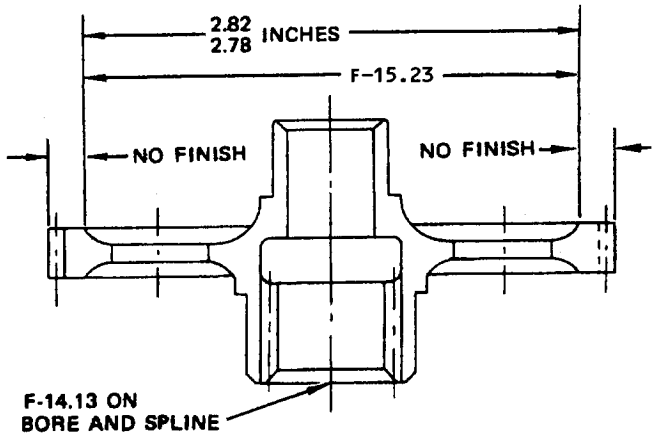
NOTE: Hub (41) spline and rim (42) worm gear teeth are machined upon assembly into worm gear assembly (40).

(5) If nameplate (60) requires replacement, steel stamp assembly no. and serial no. on new nameplate. Apply sealant, BMS 5-79, Class B (SOPM 20-60-04) under nameplate before installation. Apply sealant, BMS 5-95 (SOPM 20-60-04) to screws (59) and install. Apply sealant, BMS 5-79, Class B around edges of nameplate.



F-15.23 AS NOTED, EXCEPT 0.0002 TO 0.0003 INCH THICK ON SPLINE. MATERIAL: 9310 STEEL (150-190 KSI)

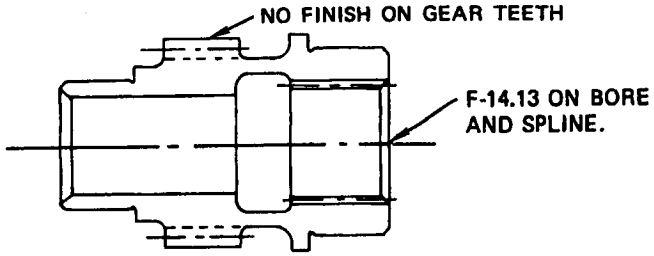
GEAR (25)



F-15.23 AS NOTED, EXCEPT 0.0002 TO 0.0003 INCH THICK ON SPLINE AND BEARING SEATS. F-14.13 AS NOTED. MATERIAL: 9310 STEEL (150-190 KSI)

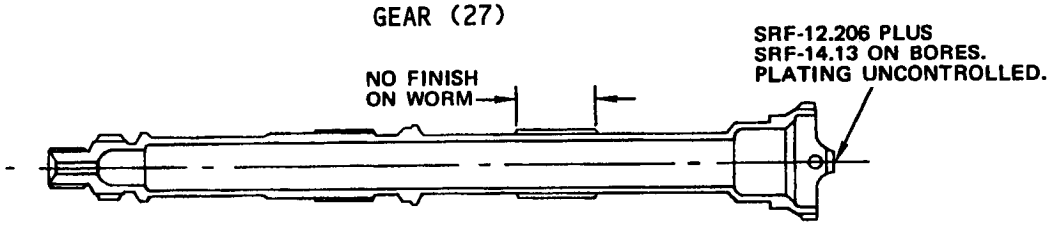
GEAR (26)

Refinish Diagram
Figure 2 (Sheet 1)



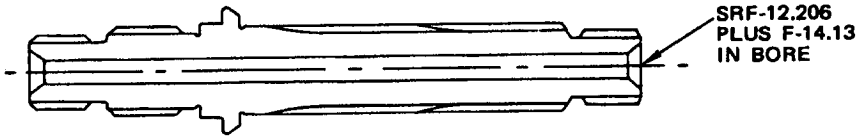
F-15.23 ALL OVER, EXCEPT ON GEAR TEETH. PLATING MUST BE 0.0002 TO 0.0003 INCH THICK ON SPLINE AND BEARING SEATS. F-14.13 AS NOTED. MATERIAL: 9310 STEEL (150-190 KSI)

GEAR (27)



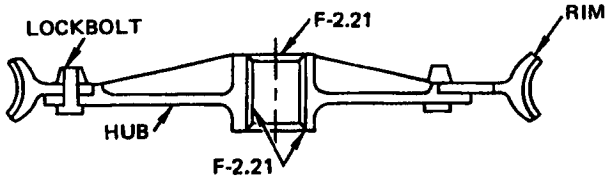
F-15.23 ALL OVER, EXCEPT ON WORM. PLATING THICKNESS ON SPLINES, THREADS AND BEARING SEATS TO BE 0.0002 TO 0.0003 INCH. SRF-12.206 AND F-14.13 AS NOTED. MATERIAL: 4340 STEEL (150-170 KSI)

SHAFT (32)



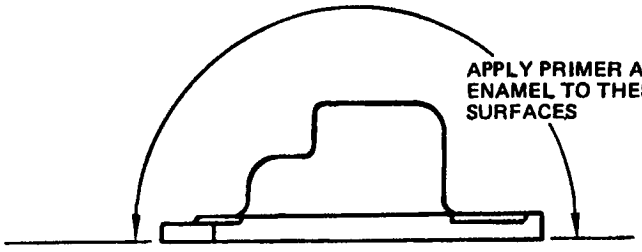
F-15.02 ALL OVER, EXCEPT ON 0.0002 TO 0.0003 INCH THICK ON SPLINES, THREADS AND BEARING SEATS. SRF-12.206 AND F-14.13 AS NOTED. MATERIAL: 4340 STEEL (150-200 KSI)

SHAFT (37)



F-2.21 ON FACES AND SPLINE, AS SHOWN.

WORM GEAR ASSEMBLY (40)



DRAIN (55, 55A)

Refinish Diagram
Figure 2 (Sheet 2)

5. ASSEMBLY

A. Materials

(1) Deleted

(2) Grease -- MIL-G-21164 (SOPM 20-60-03)

(3) Lubriplate, Low-Temp -- Fiske Brothers Refining Co., 129 Lockwood St., Newark, New Jersey 07105 (optional)

(4) Grease -- MIL-G-23827 (SOPM 20-60-03)

(5) Lockwire -- MS20995C32, MS20995N32, or MS20995NC32

(6) Sealant -- BMS 5-95 (SOPM 20-60-04)

B. Worm gear and output shaft tooth pattern check (Fig. 3).

NOTE: This procedure is applicable only if a check of tooth mating characteristics of worm gear (40) and output shaft (32) is desired.

(1) Apply coating of blueing compound to worm teeth of output shaft (32). Assemble parts in gear housing.

(2) Apply 15-20 lb-in. load to asymmetry drum (38) in counterclockwise direction or to cable drum (39) in clockwise direction. Rotate output shaft (32) approximately five revolutions in each direction.

(3) Disassemble and check that tooth bearing pattern is centered on gear teeth and indicates good contact across entire tooth face. If pattern is not centered, adjust shim(s) (62) to change position of worm gear and recheck pattern.

NOTE: One or two shims (62) may be installed to obtain proper alignment. Remove 0.003 in. laminations, as required.

C. General

NOTE: Cover (14) and housing (15) are a matched set. Do not interchange with covers or housings from other assemblies.

CAUTION: DO NOT APPLY GREASE TO ANY SURFACES COATED WITH CORROSION PREVENTIVE COMPOUND, MIL-C-16173.

(1) Apply a film of grease, MIL-G-21164 to all surfaces of spur gears (25), worm gear assembly (40) and spacers (34, 49, 61).

(2) Coat the bore of shafts (32, 37) with MIL-G-16173 corrosion preventive compound. Apply a film of grease MIL-G-21164 on shafts (32, 37) except on surfaces coated with corrosion preventive compound and on the external splines.

(3) Apply sealant BMS 5-95 (SOPM 20-60-04) sealant per SOPM 20-50-03 to the inside and outside diameters of bearings (22, 23, 24, 30, 31, 33, 48), the external surfaces of shafts (32, 37) and splined coupling half (3), and the inside diameters of housing assembly (10). Make sure to remove excess sealant after installations.

(4) Apply sealant BMS 5-95 (SOPM 20-60-04) on the internal splines of splined coupling half (3), spur gears (25), asymmetry drum (38), cam (38A), cable drum (39), and worm gear assembly (40).

(5) Apply a film of grease MIL-G-21164 to faying surfaces of cover (14), housing (15), drains (55, 55A), covers (52), and retainers (21, 29, 47).

(6) Install all bolts and screws with sealant BMS 5-95.

D. Install bearing (48), retainer (47) or bracket (47A), bolts (45), and washers (46) in housing (15). Install lockwire on bolts (45) and retainer (47) or bracket (47A) with the double twist method per SOPM 20-50-02. Lockwire options: MS20995C32, MS20995N32, MS20995NC32.

E. Install rim (42) on hub (41) per orientation noted in disassembly. Pack teeth of gear assembly (40) with grease and position gear, spacer (49 or 61), and shim (62) in housing (15).

F. Install drum (38) or cam (38A) on end of shaft (37). Apply BMS 5-95 (SOPM 20-60-04) to threads of nut (35). Install one washer (36) and nut (35).

G. Insert shaft through housing (15) and spacer (49 or 61), mating splines with gear assembly (40). Install bearing (48) and drum (39). Apply BMS 5-95 (SOPM 20-60-04) to threads of nut (35). Install washer (36), and nut (35). Tighten nuts to 250-300 lb-in.

H. Install bearing (33) and insert shaft (32) through bearing (33) into housing (15). Tilt and rotate shaft while inserting in order to clear gear (40).

I. Pack teeth of gear (25) with grease and position spacer (34) and gear (25) on shaft (32).

J. Install bearings (30, 31) in housing (15) and install retainer (29) and screws (28).

K. Pack teeth of pinion (26) with grease and position pinion in bearing (30).

L. Pack teeth of gear (27) with grease and position gear in bearing (31).

M. Install bearings (22, 23, 24), retainers (21), and screws (20) in cover (14). Install cover (14) on housing (15), mating gear (26, 27) shafts into bearing (23, 24) inside diameters, and shaft (32) into bearing (22).

N. Install bolts (7, 8, 13), washers (6, 9, 12), and nuts (5, 11).

O. Install spacer (4), coupling half (3), washer (2), and nut (1) on shaft (32). Hold coupling half (3) with splined coupling wrench F71228, and tighten nut to 250-300 lb-in.

P. Install drain (55, 55A) or cover (55A). Position power unit assembly with worm gear (40) vertical and above shaft (32). Fill power unit with grease, MIL-G-21164, to level of opening for cover (52) (approx 2 pounds required). Do not fill completely. Stamp letter "G" after serial number on nameplate (60).

Q. Install cover (52) and cable guard (58).

6. TESTING

A. Test Equipment (Equivalent tools may be used)

(1) Splined Coupling Wrench: F71228

(2) Dial Indicator: calibrated to 0.001 inch

B. Check backlash (Fig. 3)

(1) Check gears and bearings. Gears and bearings shall be free running with no evidence of binding in any position.

(2) Secure the flap drive PCU to the bench. Apply torque of 5-10 lb-in. to worm gear shaft (37) and check that backlash is 0.002-0.008 inch, measured at radius of 2.8 inches from centerline of shaft (37).

7. TROUBLE SHOOTING

	Trouble	Possible Cause	Correction
(1)	Binding or rough movement	Improperly installed parts	Disassemble and check
		Defective bearings	Replace bearings
(2)	Improper backlash	Excessively worn gear teeth or splines	Replace worn parts
		Nuts on the worm gear shaft not torqued down	Tighten nuts (1, 35) to Correct torque per assembly instructions
		Defective bearings	Replace bearings

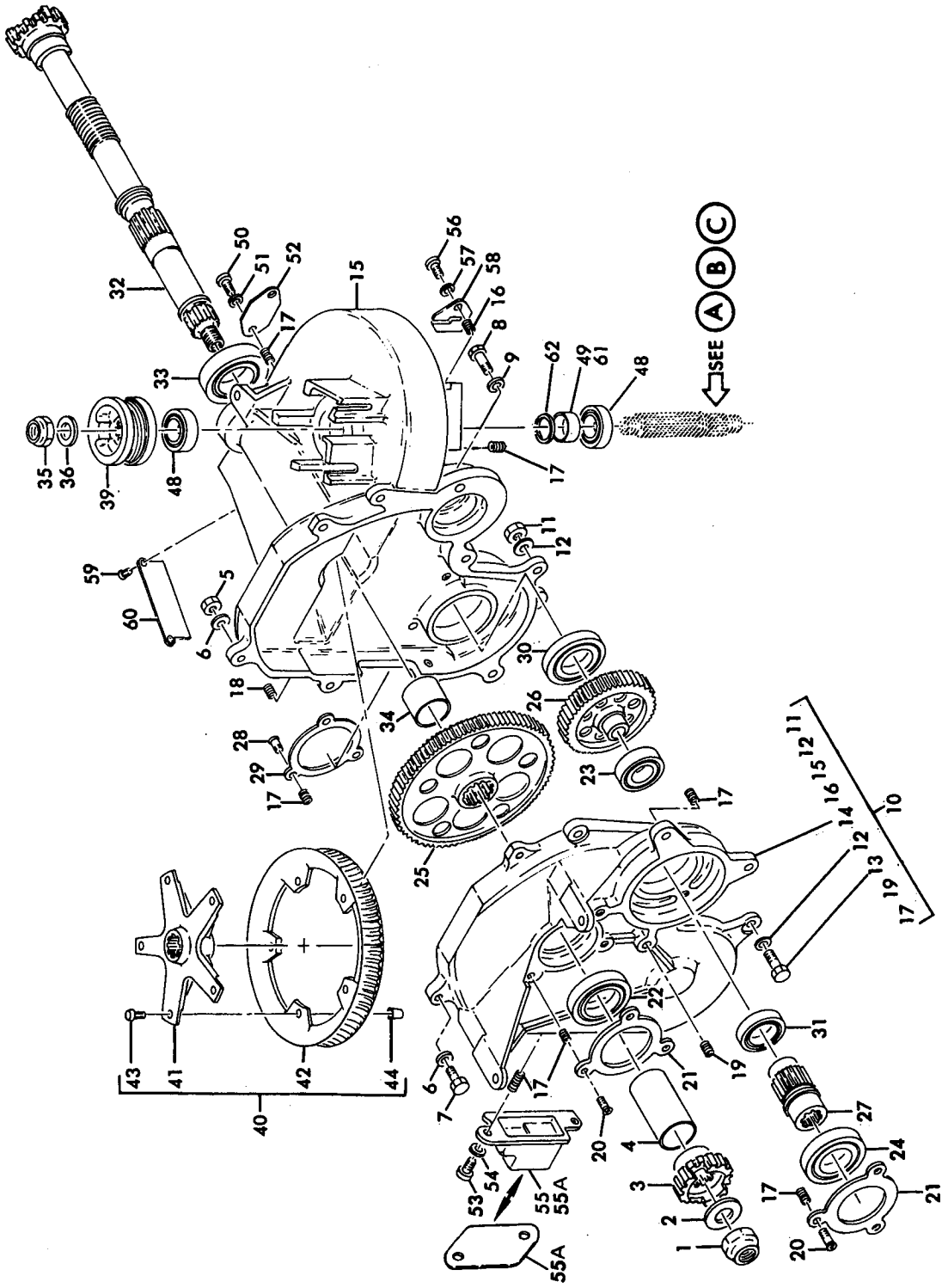
8. SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

A. F71228 -- Splined Coupling Wrench

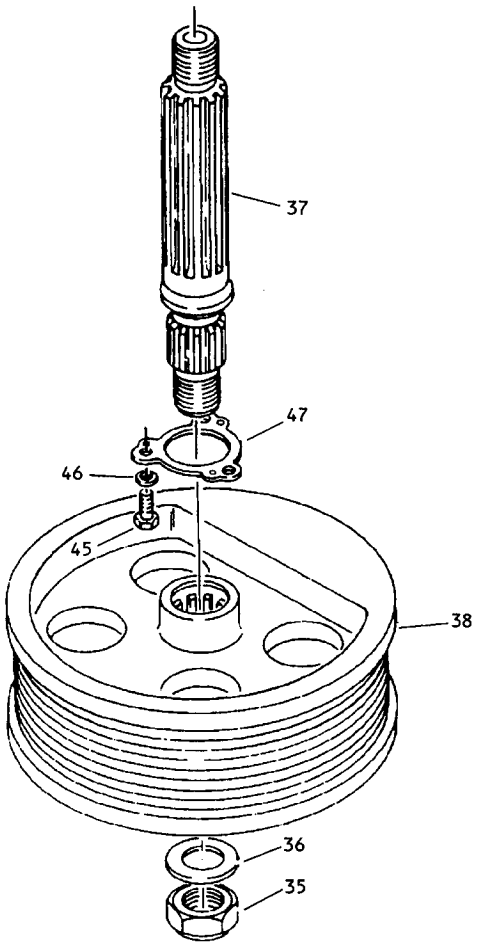
B. Dial Indicator, calibrated to 0.001 inch

NOTE: Listed items are recommended. Equivalent substitutes may be used.

9. ILLUSTRATED PARTS LIST

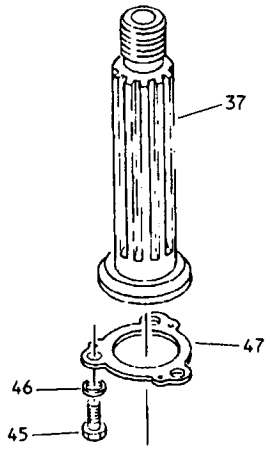


Trailing Edge Flap Drive Power Unit Assembly
Figure 3 (Sheet 1)



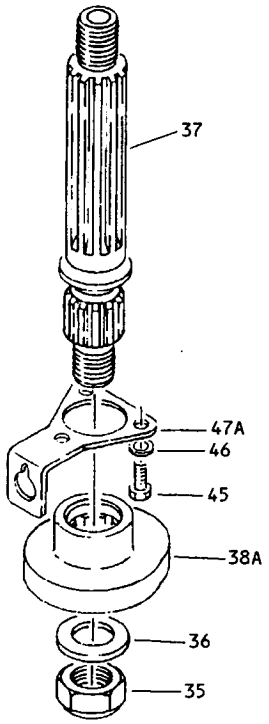
A

65-63851-1 THRU -6



B

65-63851-7, -13



C

65-63851-8, -9, -12

Trailing Edge Flap Drive Power Unit Assembly
Figure 3 (Sheet 2)

K36570

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
	65-63851-1		POWER UNIT ASSY, TE FLAP DRIVE	A	RF
	65-63851-2		POWER UNIT ASSY, TE FLAP DRIVE (SB 27-1041)	B	RF
	65-63851-3		POWER UNIT ASSY, TE FLAP DRIVE	C	RF
	65-63851-4		POWER UNIT ASSY, TE FLAP DRIVE	D	RF
	65-63851-5		POWER UNIT ASSY, TE FLAP DRIVE	E	RF
	65-63851-6		POWER UNIT ASSY, TE FLAP DRIVE	F	RF
	65-63851-7		POWER UNIT ASSY, TE FLAP DRIVE	G	RF
	65-63851-8		POWER UNIT ASSY, TE FLAP DRIVE	H	RF
	65-63851-9		POWER UNIT ASSY, TE FLAP DRIVE	I	RF
	65-63851-12		POWER UNIT ASSY, TE FLAP DRIVE	J	RF
	65-63851-13		POWER UNIT ASSY, TE FLAP DRIVE	K	
1	BACN10JC9		. NUT (REPLS BACN10BY59)		1
2	AN960-916		. WASHER		1
3	69-46619-1		. COUPLING HALF, SPLINED		1
4	69-52005-2		. SPACER		1
5	MS21042L3		. NUT (REPLS BACN10JC3, NAS679A3W)		5
6	AN960D10L		. WASHER		10
7	BACB30NE3-6		. BOLT (REPLS NAS1303-6)		5
8	BACB30NE3-3		. BOLT (REPLS NAS1303-3)		1
9	AN960D10L		. WASHER		1
10	65-63852-1		. HOUSING ASSY	AB	1
10	65-63852-4		. HOUSING ASSY	CD	1
10	65-63852-7		. HOUSING ASSY *[1]	EF	1
10	65-63852-8		. HOUSING ASSY	GHI	1
10	65-63852-10		. HOUSING ASSY	JK	1
11	MS21042L5		. . NUT (REPLS BACN10JC5, NAS679A5)		2
12	AN960D516L		. . WASHER		4
13	NAS6605-6		. . BOLT (REPLS BACB30NE5-6, NAS1305-6)		2
14	65-63852-2		. . COVER *[4]	A-I	1
14	65-63852-11		. . COVER *[4]	JK	1
15	65-63852-3		. . HOUSING *[4]	AB	1
15	65-63852-5		. . HOUSING (OPT) *[4]	C-F	1
15	65-63852-6		. . HOUSING (PREF) *[4]	C-F	1
15	65-63852-9		. . HOUSING *[4]	GHI	1
15	65-63852-12		. . HOUSING *[4]	JK	1
16	MS21209C0815		. . INSERT	A-F	1
17	MS21209F1-15		. . INSERT		17
18	MS21209F4-15		. . INSERT		2
19	MS21209F5-20		. . INSERT		2
20	BACB30LU3-2		. SCREW		6
21	69-51847-1		. RETAINER, BEARING	A-D	2
21	69-51847-2		. RETAINER, BEARING	E-K	2

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3					
22	BACB10BA25PP		. BEARING (REPLS BACB10A117H)		1
23	BACB10BA17PP		. BEARING (REPLS BACB10A330H)		1
24	BACB10BA25PP		. BEARING (REPLS BACB10A117H)		1
25	69-50989-1		. GEAR, SPUR	A-I	1
25	69-73367-1		. GEAR, SPUR	JK	1
26	69-50988-1		. GEAR, PINION	A-I	1
26	69-73368-1		. GEAR, PINION	JK	1
27	69-50987-1		. GEAR, PINION	A-I	1
27	69-73366-1		. GEAR, PINION	JK	1
28	BACB30LU3-2		. SCREW		3
29	69-51847-1		. RETAINER, BEARING	A-D	1
29	69-51847-2		. RETAINER, BEARING	E-K	1
30	BACB10BA25PP		. BEARING (REPLS BACB10A117H)		1
31	BACB10BA17PP		. BEARING (REPLS BACB10A330H)		1
32	65-63857-1		. SHAFT	A	1
32	65-63857-2		. SHAFT	B-K	1
33	BACB10BA30PP		. BEARING (REPLS BACB10A95H)		1
34	69-52005-1		. SPACER		1
35	BACN10JC8		. NUT (REPLS BACN10BY58)	A-F H-K	2
35	BACN10JC8		. NUT	G	1
36	AN960D816		. WASHER	A-F H-K	2
36	AN960D816		. WASHER	G	1
37	65-63861-1		. SHAFT, WORM GEAR	A-FHI J	1
37	65-63861-2		. SHAFT, WORM GEAR	GK	1
38	65-51507-1		. DRUM, ASYMMETRY *[3]	ABCE	1
38	65-51507-3		. DRUM, ASYMMETRY *[3]	DF	1
38A	65C19830-1		. CAM	HI	1
38A	65C25582-1		. CAM	J	1
39	65-51508-1		. DRUM, CABLE	A-FHIJ1	
39	65C33176-1		. DRUM, CABLE (PREF)	GK	1
39	65-51508-1		. DRUM, CABLE (OPT)	GK	1
40	65-63858-1		. GEAR ASSY, WORM *[2]	A	1
40	65-63858-2		. GEAR ASSY, WORM *[2]	B-K	1
41	65-63859-1		. . HUB *[2]		1
42	65-63860-1		. . RIM *[2]	A	1
42	65-63860-3		. . RIM *[2]	B-K	1
43	BACB30DX5-4		. . BOLT		5
44	NAS1080-5		. . COLLAR		5
45	BACB30NE3H2		. BOLT (REPLS NAS1303-2H)		3
46	AN960D10L		. WASHER		3

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
3-					
47	69-51846-1		. RETAINER, BEARING	A-F	1
47	69-51846-2		. RETAINER, BEARING	GK	1
47A	69-71042-1		. BRACKET, SWITCH	HIJ	1
48	BACB10AT10PP		. BEARING (REPLS BACB10A518H)		2
49	69-52005-3		. SPACER	A	1
50	BACB30NE3-2		. BOLT (REPLS NAS1303-2)		2
51	AN960D10L		. WASHER		2
52	66-24139-1		. COVER, ACCESS		1
53	BACB30NE3-2		. BOLT (REPLS NAS1303-2)		2
54	AN960D10L		. WASHER		2
55	69-50939-1		. DRAIN	A-D	1
55	69-50939-3		. DRAIN	EFHI	1
55A	69-50939-3		. DRAIN	GJK	1
55A	69-75944-1		. COVER (OPT)	GJK	1
56	NAS623-2-1		. SCREW	ABCE	1
57	AN960D8L		. WASHER	ABCE	1
58	69-51848-1		. GUARD, CABLE	ABCE	1
59	MS35206-225		. SCREW		2
60	69-38154-1		. NAMEPLATE		1
61	69-52005-5		. SPACER	B-K	1
62	69-20153-22		. SHIM	B-K	2

*[1] 65-63852-7 HOUSING ASSEMBLY IDENTICAL TO 65-63852-4 HOUSING ASSEMBLY, EXCEPT FOR FINISH

*[2] HUB 65-63859 AND RIM 65-63860 ARE MACHINED UPON ASSEMBLY INTO WORM GEAR ASSEMBLY 65-63858; ORDER WORM GEAR ASSEMBLY AS UNIT WHEN REPLACEMENT REQUIRED

*[3] DRUM 65-51507-1 HAS CABLE GROOVES. DRUM 65-51507-3 DOES NOT HAVE CABLE GROOVES

*[4] COVER (14) AND HOUSING (15) ARE A MATCHED SET