TO: ALL HOLDERS OF STABILIZER TRIM FORWARD MECHANISM ASSEMBLY OVERHAUL MANUAL, 27-44-01

REVISION NO. 12, DATED MAR 1/02

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 P/N BACB30LU3-13 as optional to P/N NAS517-3-13 item 94												X	

STABILIZER TRIM FORWARD MECHANISM ASSEMBLY

27-44-01

BOEING P/N 65-22732-2 thru -7, -9, -10, -11, -15 thru -18, -20, -21, -22

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
27-98		PRR 22198	May 15/80
		PRR 22680-5	May 15/68
		PRR 32774	Jan 5/78
		PRR 24223	Jan 5/78
		PRR 32796	Jul 5/78
		PRR 24257	Jul 5/78

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
	27-44-01					
	T-1	Dec 5/92				
	T-2	BLANK				
*	LEP-1	Mar 1/02				
	LEP-2	BLANK				
	T/C-1	Jul 5/80				
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	1	Jan 5/78				
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	301	Jul 5/80				
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	401	Jul 5/80				
	402	Jul 5/80				
	501	Mar 5/85				
	502	Dec 5/92				
	701	Nov 1/98				
	702	BLANK				
	1101	Aug 15/67				
	1102	Mar 5/89				
	1103	Dec 5/92				
	1104	Dec 5/92				
	1105	Dec 5/92				
	1106	Mar 1/02				

TABLE OF CONTENTS

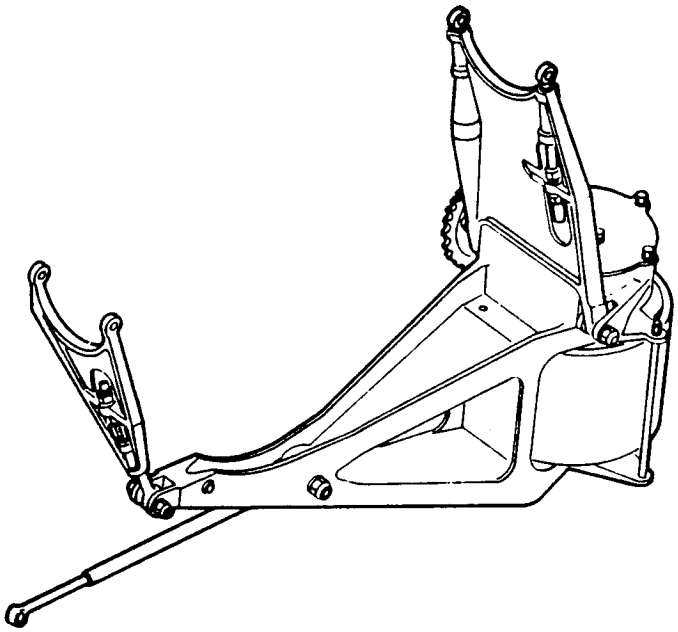
Paragraph Title	Page
Description and Operation	1
Disassembly	101
Cleaning	*[1]
Inspection/Check	301
Repair	401
Assembly	501
Fits and Clearances (not applicable)	
Testing	701
Trouble Shooting (not applicable)	
Storage Instructions	*[2]
Special Tools, Fixtures, and Equipment *[3]	
Illustrated Parts List	1101

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

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

*[3] Ref Testing.

STABILIZER TRIM FORWARD MECHANISM ASSEMBLY



Stabilizer Trim Forward Mechanism Assembly
Figure 1

DESCRIPTION AND OPERATION

1. The stabilizer trim forward mechanism assembly consists of a gear housing, two adjustable support linkages and a turnbuckle. A chain sprocket is connected to a cable drum through a bevel gear located in the gear housing.

2. Rotation of the chain sprocket rotates the cable drum. The adjustable support linkages and turnbuckle provide for proper positioning of the sprocket and drum in relation to the drive and driven components.

3. Leading Particulars (Approximate)

   Length -- 24 in.
   Width -- 11 in.
   Height -- 12 in.
   Weight -- 23 lbs

DISASSEMBLY

NOTE: Do not remove staked bearings, bushings or heli-coil sleeves unless repair or replacement is necessary.

1. Remove parts (2 thru 21) from gear housing (95).

2. Remove parts (22 thru 25). Remove support link (29) with attached parts from gear housing and disassemble parts (26 thru 31).

3. Remove parts (32 thru 36) from gear housing.

4. Remove bolts (44). Pull sprocket (43) with attached parts from gear housing. Disassemble parts (40 thru 50).

5. Remove parts (55 thru 62, 64 thru 70) from gear housing.

6. Remove parts (71 thru 73) from shaft of bevel gear (76). Remove screws (79) and bearing retainer (80) from gear housing. Push bevel gear with attached parts out of gear housing.

7. Remove bearings (81, 83) from shaft (76).

8. Drive pin (74) out of bevel gear shaft. Remove splined shaft (75).

9. Remove parts (77, 78, 82 and 84 thru 87) from gear housing. Use socket wrench with universal joint extension to remove nuts (77) through web holes of cable drum.

   NOTE: Record thickness of shim (84), if any, to facilitate assembly.

10. Remove parts (88 thru 94) from gear housing (95).

    NOTE: Do not disassemble guard assembly (90) unless repair or replacement is necessary.

11. Remove bolts (53), nuts (51) and washers (52) to detach cable guard from gear housing.

    NOTE: Record thickness of shim (63), if any, to facilitate assembly.

INSPECTION/CHECK

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

2. Examine teeth for abnormal wear pattern. Wear pattern must be smooth and centered on the tooth. If sprocket (43) exhibits abnormal wear, it must be discarded.

3. Magnetic particle check sprocket (43), pinion (50), shaft (75), gear (76) per 20-20-01.

4. Penetrant check drum (87) per 20-20-02.

REPAIR

1. Repair minor defects using standard industry practices. Other repair consists of restoration of original finish. Refer to Refinish for details.

2. Refinish

NOTE: Refer to 20-30-02 for stripping of protective finishes and to 20-41-0 for explanation of F and SRF finish codes.

A. Support link (13,31), gear housing (97)(65-20686-2) -- Dow 17 anodize or Dow 7 treat and apply primer, BMS 10-11, type 1 (SRF-3.30) all over, except no primer in machined holes (13, 31, 97), or in helicoil threads (97). Material: Magnesium alloy.

B. Fitting (35), cover (39), plate (45, 80), spacers (48 82, 85)), bracket (57(69-15325-3), 60, 90), guard (62), washer (73)(30-1445), -- Alodize or chromic acid anodize and apply primer, BMS 10-11, type 1 (SRF-2.30) all over, except no primer in holes of parts (35, 39, 45, 80), or on threads of fitting (35). Material: Alum alloy.

C. Drum (87)(65-20790-1, -3) -- Dow 17 anodize or Dow 7 treat and apply primer, BMS 10-11, type 1 (SRF-3.30) all over, except no primer on spline. Apply primer, BMS 10-11, type 1 and enamel, BMS 10-11, type 2 (SRF-3.72) on cable grooves and drum O.D., except masking of grooves not required. Material: Magnesium alloy.

D. Drum (87) (65-20790-4) -- Anodize (F-17.05) and apply primer, BMS 10-11, type 1 (F-20.02) except no primer on spline or cable grooves. Material: Aluminum alloy.

E. Turnbuckle eyebolt (19, 20), eyebolt (28) -- Cadmium plate (F-1.20) all over. Material: 4340 steel, 125-145 ksi.

F. Turnbuckle (21) -- Cadmium plate (F-1.70) all over. Material: 8630 or 4130 steel, 125-145 ksi.

G. Threaded stud (25), pin (74) -- Cadmium plate (F-1.20) all over. Material: 8630 or 4130 steel, 125-145 ksi.

H. Sprocket (43) -- Cadmium plate (F-1.20) all over, except on splines. Material: 4130 steel, 125-145 ksi.

I. Pinion (50) -- Cadmium plate all over and apply primer, BMS 10-11, type 1 on interior surfaces (SRF-1.611) except no finish on gear teeth. Material: 4340 steel, 150-180 ksi (9-66038), 180-200 ksi (69-70417-1).

J. Bracket (57) (69-70420-1) -- Chemical treat or chromic acid anodize and apply primer, BMS 10-11, type 1 (F-18.05). Material: Aluminum alloy.

K. Splined shaft (75) -- Cadmium plate all over plus and apply two coats of primer, BMS 10-11, type 1 on interior surfaces (SRF-1.611). Material: 4130 or 8630 steel, 150-180 ksi.

L. Bevel gear (76) -- Cadmium plate (F-1.1913) except on teeth. Apply primer, BMS 10-11, type 1 (SRF-12.206) on interior surfaces only. Material: 4340, 8630 or 4130 steel, 150-180 ksi.

M. Drum bearing washer (73, BACW10P283AZ) -- Chemical treat or chromic acid anodize (F-2.25) Material: Aluminum alloy.

N. Gear housing (97)(65-20686-6) -- Dow 17 anodize or Dow 7 treat and apply primer, BMS 10-11, type 1 (F-18.10) except no primer in machined holes or helicoil threads. Material: Magnesium alloy.

3. Replace bearings and bushings per 20-50-03, using wet primer, BMS 10-11, type 1, in bushing installation.

ASSEMBLY

1. Apply a light film of grease MIL-G-21164 to all spline teeth, plain bearings, turnbuckle threads, and gear teeth.

2. Install parts (94 thru 88) on gear housing (95).

3. Place shim (84) if required, and bearing (83) in housing bore. Secure with parts (80 thru 77). Check that distance from upper face of ball bearing (83) to centerline of horizontal bore in gear housing is 1.130-1.135 inches. Adjust if necessary by changing thickness of laminated shim (84).

4. Install cable guard (62), bolts (53), washers (52), nuts (51) and shim (63).

5. Position drum (87), spacer (85) and shim (86) in housing.

6. Attach splined shaft (75) to bevel gear (76) with pin (74), and install in housing through cable drum bore.

7. Install parts (82, 81, 73, 72) on shaft of bevel gear. Tighten nut (72) finger-tight.

8. Check that drum (87) clears heads of bolts (53). Adjust shim (86) if necessary for clearance.

9. Check clearance between cable guard (62) and drum (87) by inserting a 0.135 inch pin into cable groove. If clearance between pin and cable guard (62) is not 0.01-0.03 inch, remove drum and adjust thickness of shim (63) to obtain proper gap. Reinstall drum.

10. Install parts (70 thru 64 and 61 thru 54). The same 0.01-0.03 inch gap must be obtained between all other cable guards and the check pin by adjusting location of bolts (56).

11. Tighten nut (72) to 500-700 lb-in. and install cotter pin (71).

12. Preassemble parts (50 thru 45, 43 thru 40). Tighten nut (41) to 500-700 lb-in. Install preassembly in gear housing. Secure with bolts (44). Check backlash (Ref Testing).

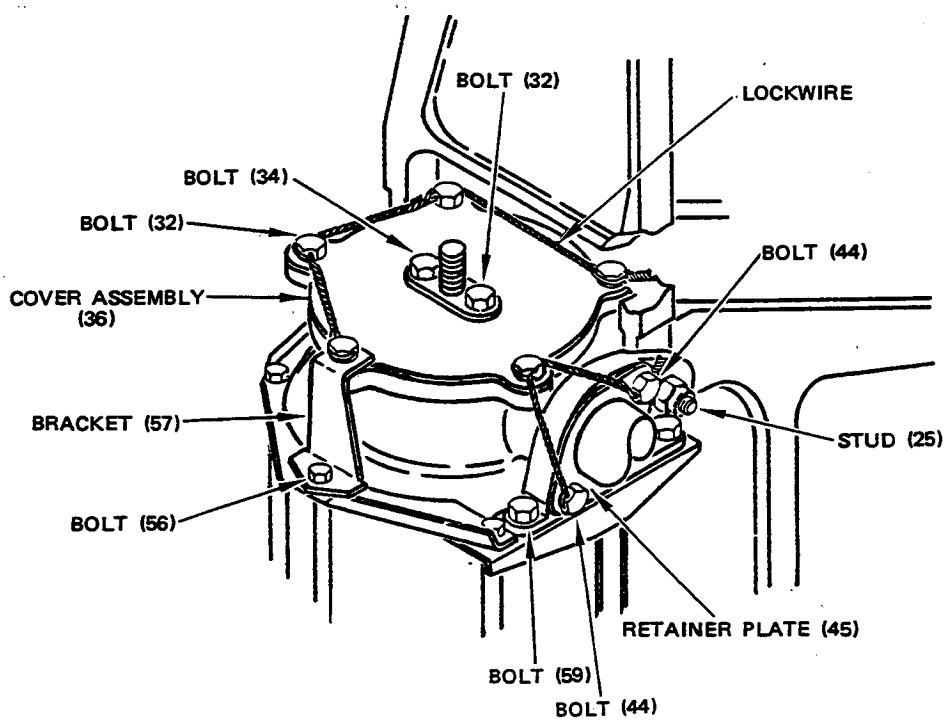
13. Install parts (36 thru 32) on gear housing.

14. Install parts (28 thru 26) on support link assembly (29), and position on gear housing. Secure with parts (25 thru 22).

15. Install parts (9 thru 6) on support link assembly (10), and position on gear housing. Secure with parts (5 thru 2).

16. Assemble parts (21 thru 18). Position on gear housing and secure with parts (17, 16, 15).

17. Lockwire bolts (44 and 32) per Fig. 501.



Lockwire Diagram
Figure 501

TESTING

1. Test Equipment

   A. Suitable holding fixture.

   B. Calibrated dial indicator.

2. Test (Fig 1101).

   A. Install unit in a suitable holding fixture.

   B. Check backlash between bevel gear (76) and sprocket (43).

      (1) Secure gear (76) against rotation.

      (2) Measure backlash on 10.506-inch sprocket pitch diameter (assys thru 65-22732-11) and on 6.688-inch sprocket pitch diameter (assys 65-22732-15 and on).

      (3) Check that total backlash is 0.016-0.040 inch (assys thru 65-22732-11) and 0.010-0.030 (assys 65-22732-15 and on). Adjust backlash, as necessary, by changing thickness of shim (47).

   B. Rotate cable drum. Gear and bearings should be free running with no evidence of binding in either direction of rotation. If binding occurs, check for defective bearings or gear teeth, or contact between drum and cable guards.

   C. Check that link (29) is free to rotate a minimum of 12 degrees in either direction.

   D. Check that link (10) and turnbuckle (21) together with turnbuckle eyebolts (19,20) free to rotate around bolts.

ILLUSTRATED PARTS LIST

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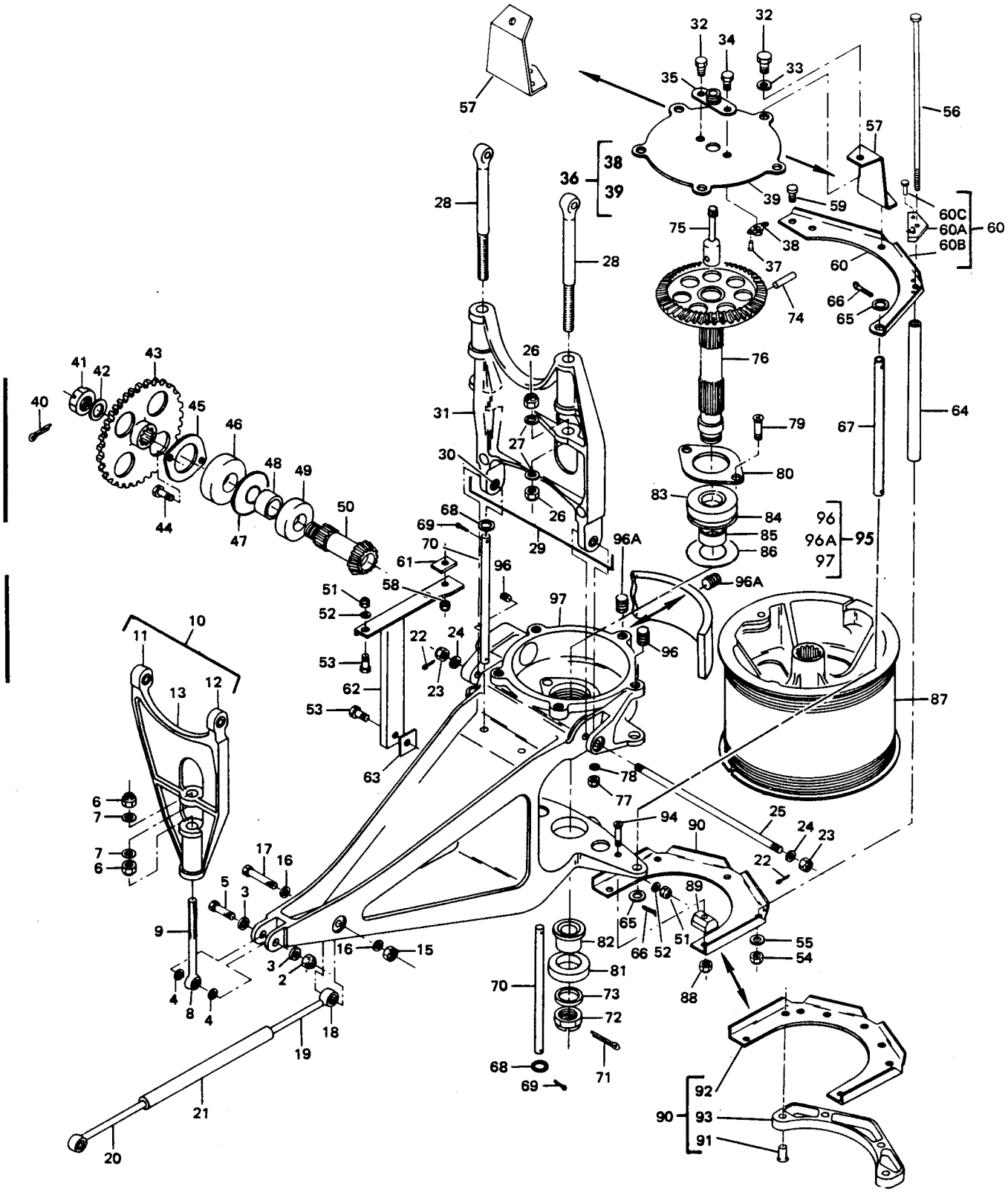

Stabilizer Trim Forward Mechanism Assembly
Figure 1101

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
1101-					
	65-22732-2		MECHANISM ASSY, STAB TRIM FWD	A	RF
	65-22732-3		MECHANISM ASSY, STAB TRIM FWD	B	RF
	65-22732-4		MECHANISM ASSY, STAB TRIM FWD	C	RF
	65-22732-5		MECHANISM ASSY, STAB TRIM FWD	D	RF
	65-22732-6		MECHANISM ASSY, STAB TRIM FWD	E	RF
	65-22732-7		MECHANISM ASSY, STAB TRIM FWD	F	RF
	65-22732-9		MECHANISM ASSY, STAB TRIM FWD	G	RF
	65-22732-10		MECHANISM ASSY, STAB TRIM FWD	H	RF
	65-22732-11		MECHANISM ASSY, STAB TRIM FWD	I	RF
	65-22732-12		DELETED		
	65-22732-13		DELETED		
	65-22732-15		MECHANISM ASSY, STAB TRIM FWD	J	RF
	65-22732-16		MECHANISM ASSY, STAB TRIM FWD	K	RF
	65-22732-17		MECHANISM ASSY, STAB TRIM FWD	L	RF
	65-22732-18		MECHANISM ASSY, STAB TRIM FWD	M	RF
	65-22732-20		MECHANISM ASSY, STAB TRIM FWD	N	RF
	65-22732-21		MECHANISM ASSY, STAB TRIM FWD	O	RF
	65-22732-22		MECHANISM ASSY, STAB TRIM FWD	P	RF
1	MS24665-132		DELETED		
2	BACN10JC4		. NUT (REPLS AN320-4)		1
3	NAS1197-416		. WASHER		2
4	NAS1197-616		. WASHER		2
5	NAS1104-18		. BOLT (REPLS NAS1104-18DW)		1
6	BACN10JC6		. NUT (REPLS NAS679A6)		2
7	NAS1197-616		. WASHER		2
8	NAS75-4-020		. BUSHING		1
9	6-84580		. EYEBOLT		1
10	5-97275		. LINK ASSY, SUPPORT		1
11	NAS75-7-012		. . BUSHING		1
12	NAS75-7-016		. . BUSHING		1
13	5-97275-1		. . LINK		1
14	MS24665-132		DELETED		
15	BACN10JC4		. NUT (REPLS AN320-4)		1
16	NAS1197-416L		. WASHER		2
17	NAS1104-21		. BOLT (REPLS NAS1104-21DW)		1
18	NAS75-4-024		. BUSHING		1
19	6-84532-1		. BOLT, TRNBKL EYE		1
20	6-84532		. BOLT, TRNBKL EYE		1
21	6-84540		. TURNBUCKLE		1
22	MS24665-132		. PIN, COTTER		2
23	BACN10JD105		. NUT (REPLS AN320-5)		2
24	NAS1197-516L		. WASHER		2
25	6-84589		. STUD, THREADED		1
26	BACN10JC6		. NUT (REPLS NAS679A6)		4

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
1101-					
27	NAS1197-616		. WASHER		4
28	6-84580		. EYEBOLT		2
29	5-97220		. LINK ASSY, SUPPORT		1
30	NAS75-5-016		. . BUSHING		2
31	5-97220-1		. . LINK		1
32	BACB30NE4H3		. BOLT (REPLS AN4H3A)		6
33	AN960D416		. WASHER		5
34	BACB30NE4-3		. BOLT (REPLS AN4-3A)		1
35	6-83852		. FITTING, POSITION IND SHAFT		1
36	9-66008		. COVER ASSY, GEAR HOUSING	A-I	1
36	9-66008-2		. COVER ASSY, GEAR HOUSING	J-P	1
37	AN426D3		. . RIVET		4
38	NAS680A4		. . NUTPLATE		2
39	9-66008-1		. . COVER (USED ON 9-66008)		1
39	9-66008-3		. . COVER (USED ON 9-66008-2)		1
40	MS24665-355		. PIN, COTTER		1
41	BACN10JD112		. NUT (REPLS AN320-12)		1
42	AN960-D1216		. WASHER		1
43	65-72062		. SPROCKET	A-I	1
43	69-70419-1		. SPROCKET	J-P	1
44	BACB30NE4H3		. BOLT (REPLS AN4H3A)		2
45	60-1450-1		. PLATE, BRNG RET		1
46	BACB10A353		. BEARING	A-I	1
46	BACB10AZ25MM		. BEARING	J-P	1
47	9-61297-14		. SHIM	A-K	1
47	9-61297-14		. SHIM (OPT TO 9-61297-21)	LM	1
47	9-61297-21		. SHIM	L-P	1
48	30-1517		. SPACER		1
49	9105PP		DELETED		
49	BACB10A117		. BEARING	A-I	1
49	BACB10BA25PP		. BEARING	J-P	1
50	9-66038		. PINION	A-I	1
50	69-70417-1		. PINION	J-P	1
51	BACN10JC4		. NUT (REPLS NAS679A4W)		3
52	NAS1197-416L		. WASHER		3
53	NAS1104-5W		. BOLT		3
53	BACB30NF4-4		. BOLT	OP	3
54	BACN10JC3		. NUT (REPLS NAS679A3W)		3
55	AN960D10		. WASHER		3
56	BACB30NE3-77		. BOLT (REPLS AN3-77A)	A-I	3
56	BACB30NE3-119		. BOLT	J-P	3
57	69-15325-3		. BRACKET	A-I	1
57	69-70420-1		. BRACKET	J-P	1
58	BACN10JC4		. NUT (REPLS NAS679A4W)		1
59	NAS1104-6W		. BOLT		1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
1101-					
60	69-15325-1		. BRACKET	ABCD GIJ L	1
60	69-15325-1		. BRACKET (737 USAGE ONLY)	E	1
60	69-15325-5		. BRACKET ASSY (727 USAGE ONLY)	E	1
60	69-15325-5		. BRACKET ASSY	FHKMNO P	1
60A	69-55079-1		. . BLOCK, RUBBER (USED ON 69-15325 -5)		1
60B	69-15325-1		. . BRACKET (USED ON 69-15325-5)		1
60C	MS20470A		. . RIVET (USED ON 69-15325-5)		2
61	50-3361-53		. FILLER		1
62	66-14594-1		. GUARD ASSY, CABLE		1
62A	66-14597-1		. . BRACKET		1
62B	6-84597-2		. . GUARD		1
63	BACS40A16-17		. SHIM		1
64	NAS43DD3-472		. SLEEVE, RETAINER		3
65	NAS1197-416L		. WASHER		2
66	MS24665-132		. PIN, COTTER		2
67	BACP18C4-740		. PIN		1
68	NAS1197-416L		. WASHER		4
69	MS24665-132		. PIN, COTTER		4
70	BACP18C4-725		. PIN		2
71	MS24665-357		. PIN, COTTER		1
72	MS21025-15		. NUT (OPT)		1
72	69-70330-1		. NUT (OPT)	C-P	1
73	30-1445		. WASHER, DRUM BRG	A-I	1
73	BACW10P283AZ		. WASHER, DRUM BRG	J-P	1
74	30-1587		. PIN		1
75	3-94358		. SHAFT (OPT TO 3-94358-1) (727 USAGE ONLY)	E	1
75	3-94358-1		. SHAFT (OPT TO 3-94358-2) (727 USAGE ONLY)	E	1
75	3-94358-2		. SHAFT (OPT TO 69-40895-1) (727 USAGE ONLY)	E	1
75	3-94358		. SHAFT (OPT TO 3-94358-1)	AC	1
75	3-94358-1		. SHAFT (OPT TO 3-94358-2)	AC	1
75	3-94358-2		. SHAFT (OPT TO 69-40895-1)	AC	1
75	69-40895-1		. SHAFT (PREF) (SB 27-98)	ACE	1
75	69-40895-1		. SHAFT	BDF-P	1
76	69-15282-1		. GEAR, BEVEL	A-I	1
76	69-70418-1		. GEAR, BEVEL	J-P	1
77	BACN10JC4		. NUT (REPLS NAS679A4W)		2
78	NAS1197-416L		. WASHER		2
79	NAS514P428-16		. SCREW		2
80	60-1450		. PLATE, BRG RET.		1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
1101-					
81	9105PP		DELETED		
81	BACB10A117		. BEARING	A-I	1
81	BACB10BA25PP		. BEARING	J-P	1
82	30-1446		. SPACER, DRUM BRG		1
83	9106PP		DELETED		
83	BACB10A95		. BEARING	A-I	1
83	BACB10BA30PP		. BEARING	J-P	1
84	9-61297-10		. SHIM	A-K	1
84	9-61297-10		. SHIM (OPT TO 69-61297-20)	L-P	1
84	9-61297-20		. SHIM	L-P	1
85	30-1447		. SPACER, DRUM		1
86	9-61297-11		. SHIM, LAMINATED		1
86	9-61297-4		. SHIM (OPT TO 9-61297-11)		1
87	65-20790-1		. DRUM	A-G	1
87	65-20790-3		. DRUM	H-K	1
87	65-20790-4		. DRUM	L-P	1
88	BACN10JC3		. NUT (REPLS NAS679A3W)		2
89	66-14588-1		. SPACER		2
90	69-15325-2		. BRACKET	AB	1
90	69-52828-1		. GUARD ASSY	C-P	1
91	MS20426A5-12		. . RIVET		4
92	69-15325-4		. . BRACKET		1
93	69-52827-1		. . GUARD		1
94	NAS517-3-13		. SCREW		2
94	BACB30LU3-13		. SCREW (OPT TO NAS517-3-13)		2
95	65-20686-1		. HOUSING ASSY, GEAR	A-I	1
95	65-20686-7		. HOUSING ASSY, GEAR	J-P	1
95	65-20686-5		. HOUSING ASSY, GEAR (OPT TO 65-20686-7)	J-N	1
95	65-20686-10		. HOUSING ASSY, GEAR (OPT TO 65-20686-7)	O	1
96	MS21208F4-10		. . INSERT		6
96	1191-40Nx1/4		DELETED		
96A	MS21208F4-10		. . INSERT (USED ON 65-20686-1)		1
96A	MS21209F1-10		. . INSERT (USED ON 65-20686-5,-7,-10)		1
97	65-20686-2		. . HOUSING (USED ON 65-20686-1)		1
97	65-20686-6		. . HOUSING (USED ON 65-20686-5)		1
97	65-20686-8		. . HOUSING (USED ON 65-20686-7)		1
97	65-20686-11		. . HOUSING (USED ON 65-20686-10)		1