

OVERHAUL MANUAL

TO: ALL HOLDERS OF KRUEGER FLAP AND TAILGATE ASSEMBLIES NO. 2 AND NO. 3
OVERHAUL MANUAL, 57-56-41

REVISION NO. 3, DATED SEP 1/94

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D & O	D / A s s y	C l e a n i n g	I n s p / C h k	R e p a i r	A s s y	F / C	T e s t	T / S h o o t i n g	S / T o o l s	S t o r a g e	I P L	L / O v e r h a u l
Added wear limits for flap actuator lug of flap assembly					X								

BOEING 
COMMERCIAL JET
OVERHAUL MANUAL

**KRUEGER FLAP AND TAILGATE ASSEMBLIES
 NO. 2 AND NO. 3**

57-56-41

BOEING P/N 65-46425-1, -2, -5, -6, -19, -20

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
57-1077		PRR 31212 PRR 30720 PRR 31960-1 PRR 32070-15 PRR 32070-16	May 15/69 Sep 10/72 Sep 10/72 Sep 10/72 Dec 25/73 Jul 5/79

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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
57-56-41		1114	Jul 5/79		
T-1	Jul 5/79	1115	Jan 5/81		
T-2	BLANK	1116	Jul 5/79		
* LEP-1	Sep 1/94	1117	Jan 5/81		
* LEP-2	BLANK	1118	BLANK		
T/C-1	Sep 10/72				
T/C-2	BLANK				
1	Sep 10/72				
2	Dec 10/70				
101	Sep 10/72				
102	Sep 10/72				
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301	Jul 5/79				
302	BLANK				
* 401	Sep 1/94				
* 402	Sep 1/94				
* 403	Sep 1/94				
* 404	Sep 1/94				
501	Sep 10/72				
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604	BLANK				
901	May 15/69				
902	BLANK				
1101	Jul 5/79				
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1104	Jul 5/79				
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1113	Jul 5/79				

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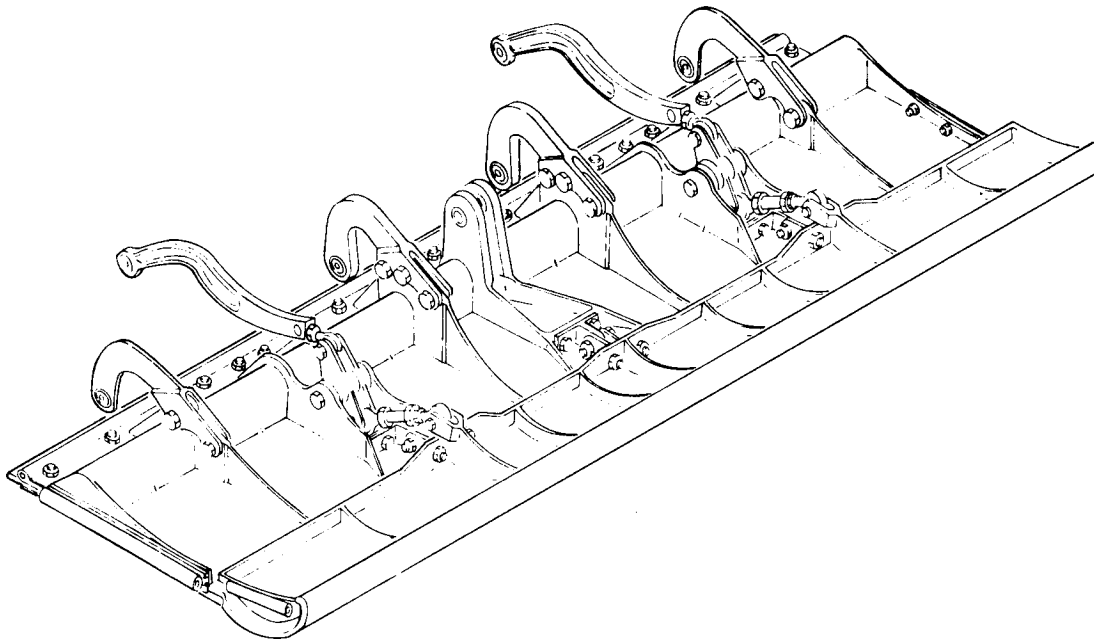
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KRUEGER FLAP AND TAILGATE ASSEMBLIES NO. 2 AND NO. 3

Boeing Part Numbers: 65-46425-1, -2, -5, -6, -19, and -20



Krueger Flap and Tailgate Assemblies No. 2 and No. 3
Figure 1

DESCRIPTION AND OPERATION

1. Description

- A. The lift capability of the 737 wing is supplemented by a set of three slats, and two Krueger type flaps, which are installed on the leading edge of each wing. These lightweight leading edge devices work in coordination with the trailing edge flaps to improve operation of the airplane at low speeds, and enable takeoff in minimum distance.

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- B. Flap No. 2 is installed on the leading edge of the left wing, just outside the fuselage; flap No. 3 occupies an identical position on the right wing. The flaps are identical, except that they are opposites.
- C. Each flap is basically an aluminum alloy casting, with integral stiffeners and ribs. It is reinforced at attach points with steel bushings. A trailing edge, or tailgate structure, also of cast aluminum alloy, is attached to the aft edge to fair the assembly in with the wing structure. The entire assembly is attached to the front spar of the wing with steel, gooseneck hinge fittings. The main flap holds a linkage assembly which moves the tailgate into position when the flap is operated.

2. Operation

- A. Each leading edge flap is actuated by a two-position, cylinder-type, hydraulic actuator. An integral part of each actuator is a locking mechanism which locks the flap in either the fully extended or the fully closed position. This precludes the possibility of the flap being blown open or closed if hydraulic power fails.

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DISASSEMBLY

1. Place flap assembly in a suitable holding fixture, and disassemble as follows:

A. Removal of Linkage (See figure 1102.)

- (1) Remove cotter pins (1), nuts (2), washers (3), and bolts (4). Remove link assemblies (5).
- (2) Remove rod end bearing (7), jamnut (9), washer (10), and cylindrical nut (11) from each link (6).

NOTE: Do not remove bearing (8) from link (6) unless replacement is necessary.

- (3) Remove cotter pins (12 and 16), nuts (13 and 17), washers (14), bolts (15 and 18), and clamp-up bushings (19). Remove rod assemblies (20 and 24).

- (4) Remove rod end bearings (23, 23A, 27 and 27A) and jamnuts (22, 22A, 26 and 26A) from rods (21, 21A, 25 and 25A).

CAUTION: ONE END OF ROD (21 AND 25), JAMNUT (22A AND 26A), AND ROD END BEARING (23A AND 27A) HAVE LEFT-HAND THREADS.

- (5) Remove cotter pins (28), nuts (29), bolts (30), and washers (31). Remove crank assemblies (32).

NOTE: Do not remove bearings (35) or bushings (34) from crank assemblies (32) unless replacement is necessary.

B. Removal of Tailgate and Lug Assemblies (See figure 1103.)

NOTE: If shims are bonded in place, do not remove unless replacement is necessary.

- (1) Remove nuts (1), washers (2), and bolts (3 and 4). Remove tailgate assembly (5) and shims (9). Measure and record thickness and location of shims for fabrication of new shims if replacement is necessary.

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- (2) Remove cotter pins (10), nuts (11), washers (12), and bolts (13). Remove lug assemblies (14 and 17).
- (3) Remove nuts (20), washers (21), and bolts (22 and 23). Remove lug assemblies (24) and shims (27). Measure and record thickness and location of shims for fabrication of new shims if replacement is necessary.

C. Removal of Hinges (See figure 1104.)

NOTE: If shims are bonded in place, do not remove unless replacement is necessary.

Note respective location of hinges and, if shims are to be removed, record thickness and location to aid in reassembly.

Do not remove bearings (6 or 16) unless replacement is necessary.

- (1) Remove nuts (1), washers (2), and bolts (3). Remove hinge fitting assemblies (4) and shims (7).

NOTE: Do not remove sensor actuators (8, 9, and 10) from hinge fitting unless replacement is necessary.

- (2) Remove nuts (11), washers (12), and bolts (13). Remove hinge fitting assemblies (14) and shims (17).

D. Removal of Aerodynamic Seals (See figure 1105.)

- (1) Cut lockwire and remove seal (1A).
- (2) Remove nuts (2), washers (3), and bolts (4). Remove retainer (5).
- (3) Remove nuts (6) and bolts (7). Remove retainers (8 through 13) and seal (14), and seal (15), if installed.
- (4) Cut lockwire and remove seal (16). Remove three bolts (20), nuts (18), and washers (19). Remove retainer (21).
- (5) Cut lockwire and remove seal (17) from tailgate. Remove two bolts (20), nuts (18), and washers (19).
- (6) Remove rub strip (27) from flap (24) by scraping off with a sharp-edged wooden or plastic tool.

NOTE: Do not remove bushings (25 and 26) unless replacement is necessary.

CLEANING

1. General

- A. Clean all metal parts except antifriction bearings in solvent, Specification P-D-680, or equivalent.
- B. Remove stubborn accumulations of dirt with a stiff-bristle brush. Do not use a metallic brush.
- C. Dry all parts thoroughly with clean, lint-free cloth, or with dry, clean, compressed air.

2. Bearings

- A. Clean all bearings per 20-30-01, Cleaning and Relubricating Antifriction Bearings.

CAUTION: BEARINGS (7, 8, 23, 23A, 27, 27A, FIGURE 1102); (26, FIGURE 1103); AND (16, FIGURE 1104) ARE TEFLON LINED. CLEAN ONLY BY SPECIAL METHOD GIVEN IN REFERENCE SUBJECT.

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INSPECTION/CHECK

1. Visual Check

- A. Examine all metal parts for pits, scratches, cracks, corrosion, and damage. Use a strong light and 10-power magnification.
- B. Examine entire basic assembly for corrosion, damage, and general condition of paint and finish.
- C. Examine all bearings for excessive radial or axial play.
- D. Examine all bushing and bolt holes for eccentric or excessive wear.
- E. Examine all bushings for eccentric or excessive wear.

2. Special Check

- A. If visual examination discloses evidence of defects in any of listed parts, perform following checks to verify defect exists.

(1) Dye Penetrant

- (a) Link (6, figure 1102)
- (b) Crank (33, figure 1102)
- (c) Tailgate (6, figure 1103)
- (d) Flap (24, figure 1105)
- (e) Hinge fittings (5 and 15, figure 1104)

REPAIR

1. Repair

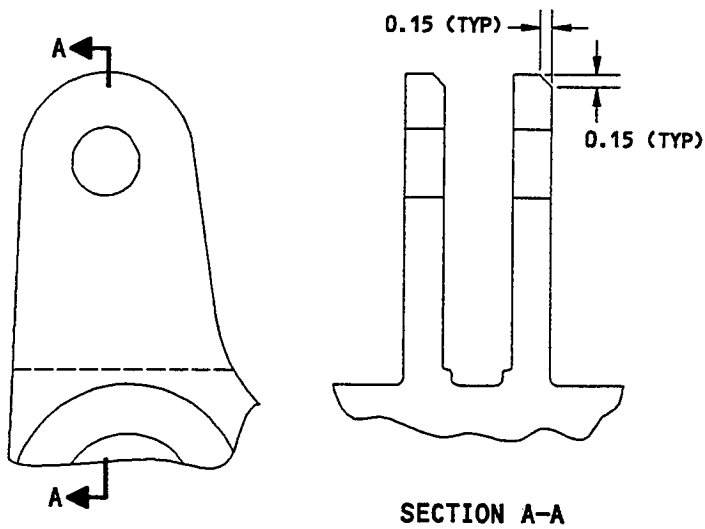
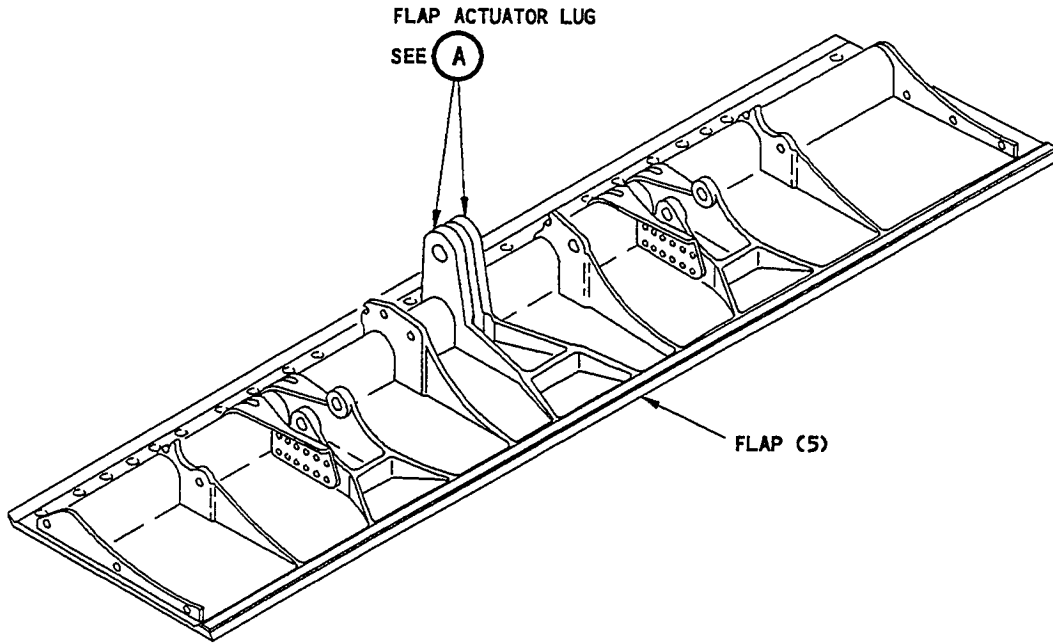
- A. Remove corrosion and minor defects from metal parts by polishing lightly with abrasive cloth, 200 grit or finer. Do not exceed limits given in Fig. 601, Fits and Clearances. Refinish as necessary for protection against corrosion.
- B. Remove minor surface defects from the flap actuator lug by blending and polishing. One edge of each lug half may be worn to limits shown in Fig. 401. Refinish polished areas, as necessary, for protection against corrosion.

2. Refinish

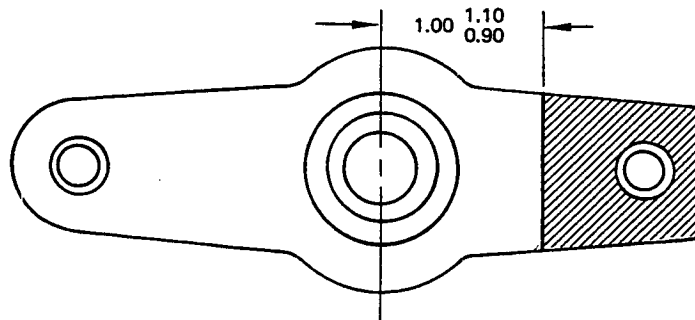
NOTE: Refer to 20-30-02 for stripping of protective finishes, and to 20-41-01 for explanation of F and SRF finish codes.

A. Deleted.

- (1) Link (6, Fig. 1102) -- Apply SRF-2.30 all over except in bearing holes. Material: Al Alloy.
- (2) Link assembly (5, Fig. 1102) -- Apply SRF-14.9814 all over except in holes and on bearing surface. Apply SRF-14.9815-701 on 2-inch area at end of link with hole for cylindrical nut.
- (3) Crank (33, Fig. 1102) -- Refinish as shown in Fig. 402. Material: Al Alloy.
- (4) Tailgate (6, Fig. 1103) -- Apply F-2.20 all over except in holes, followed by SRF-12.205. Material: Al Alloy.



Flap Actuator Lug - Allowable Wear
Figure 401



SRF-149814 ALL OVER FOLLOWED BY
SRF-14.9815-701 ALL OVER SHADED AREA
NO FINISH IN HOLES

Finishing Data
Figure 402

- (5) Tailgate assembly (5, Fig. 1103) -- Apply SRF-12.63 all over except on bushings.
 - (6) Lug (15, 18, or 25, Fig. 1103) -- Apply SRF-2.30 all over except in bushing or bearing bore. Material: Al Alloy.
 - (7) Lug assembly (14, 17, or 24, Fig. 1103) -- Apply SRF-14.9814 all over except on bearings or bushings.
 - (8) Hinge fittings (5, or 15, Fig. 1104) -- Apply SRF-2.30 all over except in bearing bore. Material: Al Alloy.
 - (9) Hinge assembly (4 or 14, Fig. 1104) -- Apply SRF-12.63 all over except on bearing surfaces.
 - (10) Flap (24, Fig. 1105) -- Apply F-2.20 followed by SRF-12.205 all over except in holes. Material: Al Alloy.
 - (11) Flap assembly (23, Fig. 1105) -- Apply SRF-14.9814 all over except on bushings.
- B. Coat all seal retainers (5, 8 thru 13, 21, and 22, Fig. 1105) with primer, BMS 10-11, type 1.
3. Replacement
- A. Replace all parts worn or damaged beyond simple repair.
 - B. Replace all cotter pins at each overhaul.

- C. Replace all rubber or fabric seals at each overhaul.
- D. Replace rub strip (27, Fig. 1105) at each over haul. Bond new rub strip in place as directed in 20-50-12, using type 38, special method 2.
- E. Replace defective bearing (8 or 35, Fig. 1102; 26, Fig. 1103; 6 or 16, Fig. 1104) as follows:
- (1) Remove old bearing. Coat new bearing with a light film of grease, MIL-G-23827. Roller swage per 20-50-03.
- F. Replace defective bushings as follows:
- (1) Press old bushing out of housing with a mandrel.
 - (2) Coat faying surfaces of bushing and housing with primer, BMS 10-11, type 1. Press bushing into housing per 20-50-03 while primer is wet.
 - (3) Line machine bushings (25) after installation, if necessary, to design ID of 0.6250-0.6265 inch.
- NOTE: All other bushings are predrilled to correct nominal size.
- G. Replace damaged shims (9 or 27, Fig. 1103) and (7 or 17, Fig. 1104) as follows:
- (1) Adjust thickness of basic shim to dimension recorded when shim was removed by removing 0.003-inch laminations.
 - (2) Drill holes through shim to match holes in adjacent parts.
 - (3) Deburr and coat shim with primer, BMS 10-11, type 1.
- H. Replace defective sensor actuators (8, 9, and 10) by bonding new actuators in place as directed in 20-50-12, type 38. Rivet in place with MS20470D rivets.
- I. Replace flap (24, Fig. 1105) or tailgate (6, Fig. 1103) as follows:
- NOTE: Flap and tailgate become a matched set when drilled for attaching parts during initial assembly.
- (1) Replacement of either part requires drilling the new part, using the mating part and master tooling, or by drilling the new part using the old part as a pattern.
 - (2) It is recommended that assemblies be returned to Boeing for repair when replacement of either a flap or a tailgate is required.

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ASSEMBLY

1. Place basic flap assembly in a suitable holding fixture, and build up as follows:
 - A. Installation of Aerodynamic Seals (See figure 1105.)
 - (1) Install retainer (22) with two bolts (20), washers (19), and nuts (18).
 - (2) Install seal (17) in retainer (22). Drill hole through end of seal with No. 50 drill, using existing hole in retainer as pilot. Touch up hole with primer, and install lockwire through seal and retainer. Trim excess material as required.
 - (3) Install retainer (21) with three bolts (20), washers (19), and nuts (18).
 - (4) Install seal (16) in retainer (21). Drill hole through end of seal with No. 50 drill, using existing hole in retainer as pilot. Touch up hole with primer, and install lockwire through seal and retainer. Trim excess material as required.
 - (5) Locate seals (14 and 15), as applicable, and retainers (8 through 13). Install with bolts (7) and nuts (6).
 - (6) Install retainer (5) with bolts (4), washers (3), and nuts (2).
 - (7) Install seal (1A) in retainer (5). Drill hole through end of seal with No. 50 drill, using existing hole in retainer as pilot. Touch up hole with primer, and install lockwire through seal and retainer.
 - B. Installation of Hinges (See figure 1104.)
 - (1) Locate hinge fitting assemblies (14) and fit shims (17) in location from which disassembled to eliminate gap between hinge and flap structure. If additional thickness is required, build up each side equally within 0.003 inch, or as required to maintain interchangeability dimension shown in figure 501. Coat shims with primer, BMS 10-11, type 1, after delamination.

NOTE: Maximum allowable shim thickness is 0.18 inch. Maximum allowable gap is 0.005 inch.

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- (2) Coat bolts (13) with primer, BMS 10-11, type 1. While primer is wet, install bolts with washers (12) and nuts (11).
- (3) Locate hinge fitting assemblies (4) and fit shims (7) in location from which disassembled to eliminate gap between hinge and flap structure. If additional thickness is required, build up each side equally within 0.003 inch.

NOTE: Maximum allowable shim thickness is 0.09 inch. Maximum allowable gap is 0.005 inch.

- (4) Coat bolts (3) with primer, BMS 10-11, type 1. While primer is wet, install bolts with washers (2) and nuts (1).

C. Installation of Lug and Tailgate Assemblies (See figures 1103, and 501.)

- (1) Locate lug assemblies (24) and shims (27). Coat bolts (22 and 23), with BMS 10-11, type 1 primer and install while wet, with washers (21), and nuts (20).
- (2) Attach lug assemblies (14 and 17) to lug assemblies (24) with bolts (13), coated with MIL-C-11796, class 3, corrosion preventive compound, washers (12), and nuts (11). Tighten nuts within torque range of 5 to 10 pound-inches, and install cotter pins (10).
- (3) Locate tailgate assembly (5) and shims (9). Apply BMS 10-11, type 1 primer to bolts (3 and 4), attach tailgate assembly to flap with bolts (3 and 4), washers (2), and nuts (1) while primer is wet.

D. Installation of Linkage (See figure 1102.)

- (1) Install crank assemblies (32) with bolts (30), coated with MIL-C-11796, class 3, corrosion preventive compound, washers (31), and nuts (29). Tighten nuts within torque range of 5 to 10 pound-inches, and install cotter pins (28).
- (2) Install rod end bearings (27 or 27A) and jamnuts (26 or 26A) on applicable rod (25 or 25A) to make up rod assembly (24). Adjust length of rod assembly to 4.92 inches between centerlines of bearings, and tighten jamnuts against rod end bearings.

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- (3) Install rod end bearings (23 or 23A) and jamnuts (22 or 22A) on applicable rod (21 or 21A) to make up rod assembly (20). Adjust length of rod assembly to 4.51 inches between centerlines of bearings.
- (4) Install rod assemblies (20 and 24) with clamp-up bushings (19), bolts (15 and 18), coated with MIL-C-11796, class 3 corrosion preventive compound, washers (14), and nuts (13 and 17). Tighten nuts within torque range of 5 to 10 pound-inches, and install cotter pins (12 and 16).
- (5) Install rod end bearing (7), washer (10), and jamnut (9) on each link (6) to make up two link assemblies (5). Adjust length of each link assembly to 9.15 inches between centerlines of bearings. Tighten jamnuts against links.

NOTE: Install spacers (35) between link and crank on inboard link only.

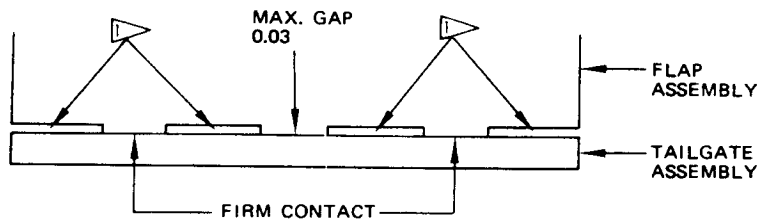
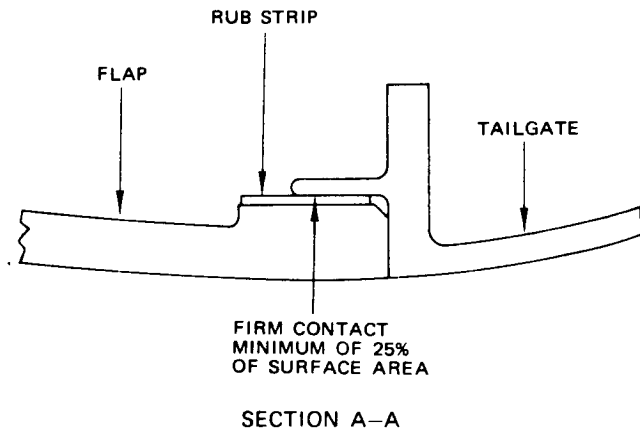
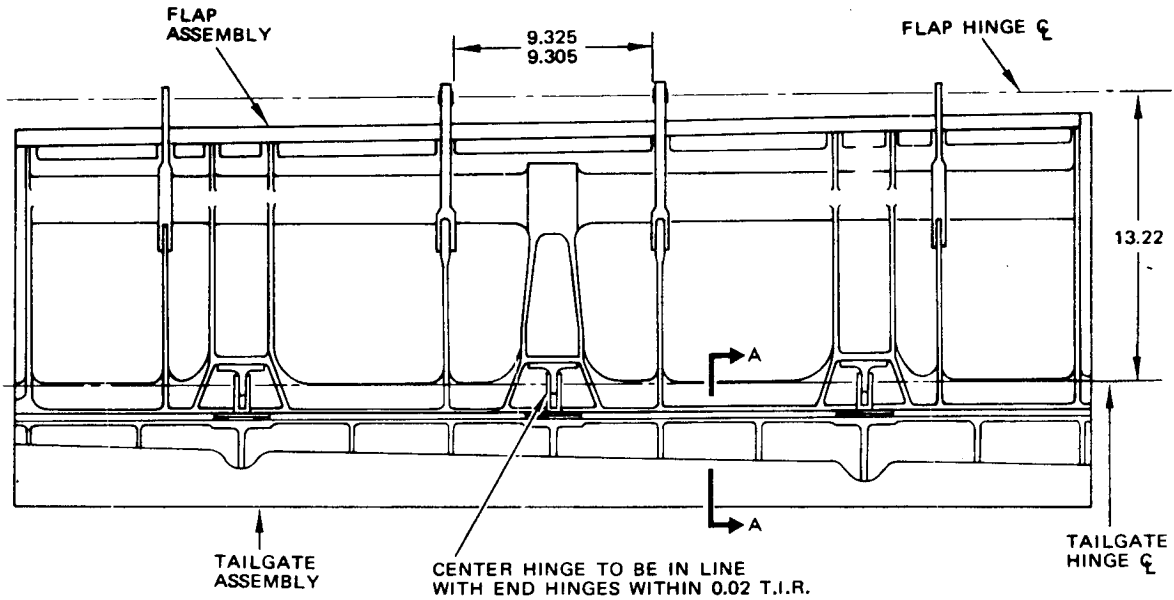
- (6) Match black painted end of link assemblies (5) with black end of crank (33) and install link assemblies (5) with bolts (4), coated with MIL-C-11796, class 3, corrosion preventive compound, washers (3), and nuts (2). Tighten nuts (2) within torque range of 5 to 10 pound-inches, and install cotter pins (1).
- (7) Check that tailgate operates freely and contacts flap pads and rub strip as shown in Fig. 501. Surface of rub strip may be dressed if necessary.


NOTE: Do not install lockwire on link assemblies (5) or rod assemblies (20 or 24) at this time. Final adjustment and wire locking to be accomplished on installation of flap on airplane.

- E. Touch up finish on flap and tailgate as necessary after completion of buildup.
- F. Coat all bushing and bearing surfaces with a light film of grease.
- G. For convenience of installation, install bolt (34), pin (37), washer (35) and nut (36) in link assembly (5). Install spacers (38) on inboard link assembly only.

2. Materials

- A. Primer -- Specification BMS 10-11, type 1
- B. Corrosion Preventive Compound -- Specification MIL-C-11796, Class 3
- C. Grease -- Specification MIL-G-23827

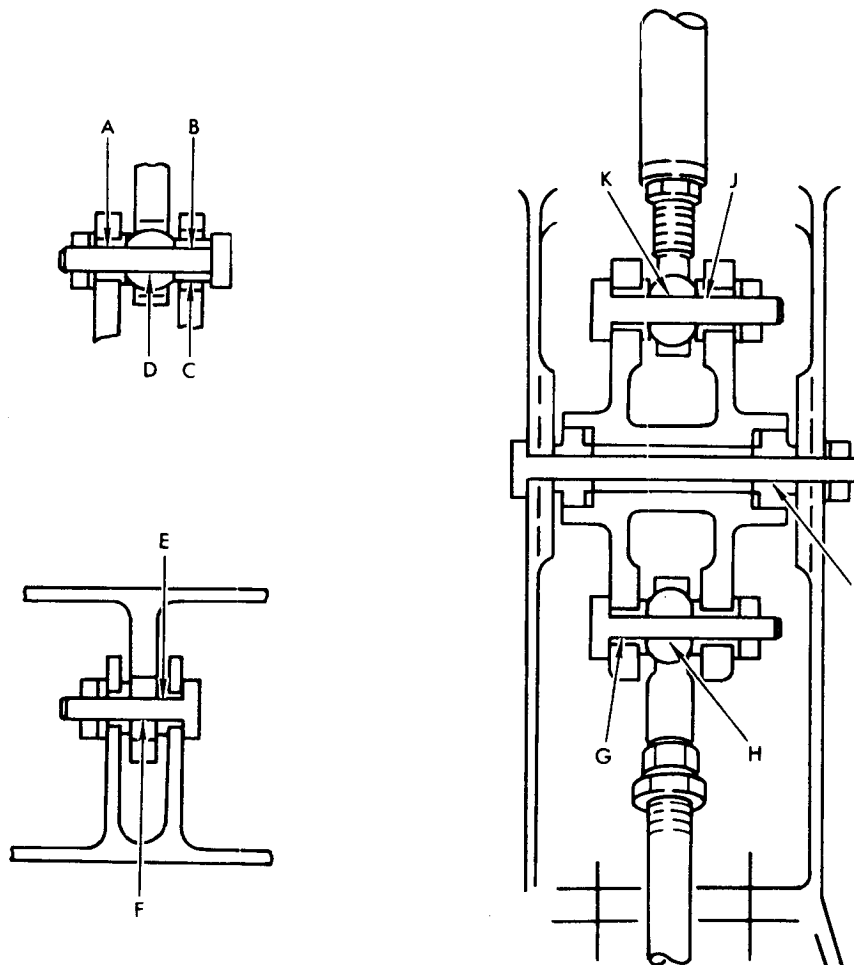


 MAX GAP 0.06

ALL DIMENSIONS ARE IN INCHES

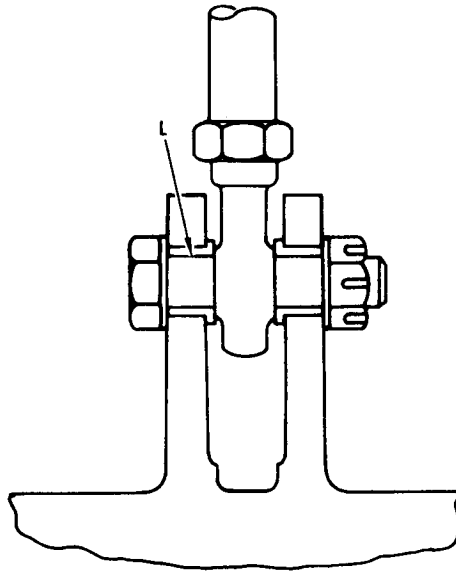
FITS AND CLEARANCES

1. The fits and clearances table lists design dimensions and service wear limits for close tolerance parts of the assembly that are subject to wear or corrosion. Unless otherwise specified, parts should be returned to the design dimensions whenever rework is accomplished.
2. Clearances are given to aid assembly of the components. The values given in the Maximum Allowable Clearance column are the maximum permitted to ensure proper functioning of the unit. If assembled parts fail to meet this requirement, one or more of the parts must be rejected. Parts that are rejected should be reworked if within the rework limits given in the Repair procedure; if not within rework limits, the parts should be scrapped. It is recommended that the design clearances be used as the guiding assembly criteria when newly reworked parts are assembled.



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		Design Dimensions				Service Wear Limits		
Ref Letter Fig. 601	Mating Item No. Fig.	Dimensions (inches)		Assembly Clearance (inch)		Dimension Limits (inches)		Maximum Allowable Clearance (inch)
		Min	Max	Min	Max	Min	Max	
A	ID 1103-7	0.2500	0.2515	0.0005	0.0025	0.2450	0.2545	0.0050
	OD 1102-18	0.2490	0.2495					
B	ID 1102-19	0.2495	0.2510	0.0000	0.0020	0.2455	0.2535	0.0040
	OD 1102-18	0.2490	0.2495					
C	ID 1103-8	0.4375	0.4390	0.0020	0.0055	0.4285	0.4445	0.0090
	OD 1102-19	0.4335	0.4355					

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		Design Dimensions				Service Wear Limits		
Ref Letter Fig. 601	Mating Item No. Fig.	Dimensions (inches)		Assembly Clearance (inch)		Dimension Limits (inches)		Maximum Allowable Clearance (inch)
		Min	Max	Min	Max	Min	Max	
D	ID 1102-23 -27	0.2495	0.2500	0.0000	0.0010	0.2475	0.2515	0.0020
	OD 1102-18	0.2490	0.2495					
E	ID 1103-16 -19	0.2500	0.2515	0.0005	0.0025	0.2450	0.2545	0.0050
	OD 1103-13	0.2490	0.2495					
F	ID 1103-26	0.2495	0.2500	0.0000	0.0010	0.2475	0.2515	0.0020
	OD 1103-13	0.2490	0.2495					
G	ID 1102-34	0.2500	0.2515	0.0005	0.0025	0.2450	0.2545	0.0050
	OD 1102-15	0.2490	0.2495					
H	ID 1102-23 -27	0.2495	0.2500	0.0000	0.0010	0.2475	0.2515	0.0020
	OD 1102-15	0.2490	0.2495					
I	ID 1102-35	0.2495	0.2500	0.0000	0.0010	0.2475	0.2515	0.0020
	OD 1102-30	0.2490	0.2495					
J	ID 1102-34	0.2500	0.2515	0.0005	0.0025	0.2450	0.2545	0.0050
	OD 1102-4	0.2490	0.2495					
K	ID 1102-7	0.2495	0.2500	0.0000	0.0010	0.2475	0.2515	0.0020
	OD 1102-4	0.2490	0.2495					
L	ID 1105-25	0.6250	0.6265	0.0010	0.0035	0.6180	0.6310	0.0070
	OD (REF)	0.6230	0.6240					

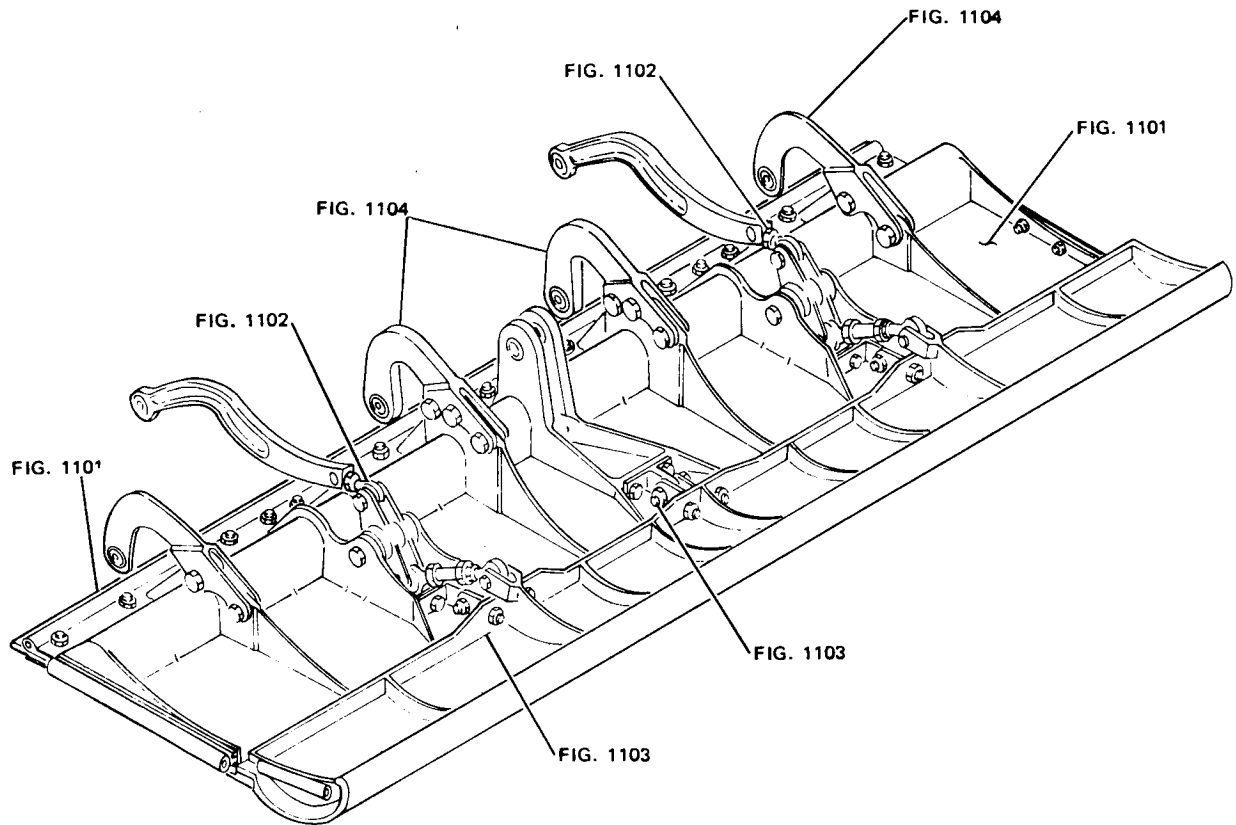
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STORAGE INSTRUCTIONS

1. Coat all bushing and bearing surfaces with grease, Specification MIL-G-23827.
2. Wrap entire assembly in nonabsorbent material, and store in a cool, dry area, preferably humidity controlled. Place package where it will not be moved frequently, or handled roughly.
3. For further storage instructions, refer to Subject 20-44-02, "Temporary Protective Coatings," and Subject 20-70-01, "Protection, Storage, and Handling of Airplane Components."

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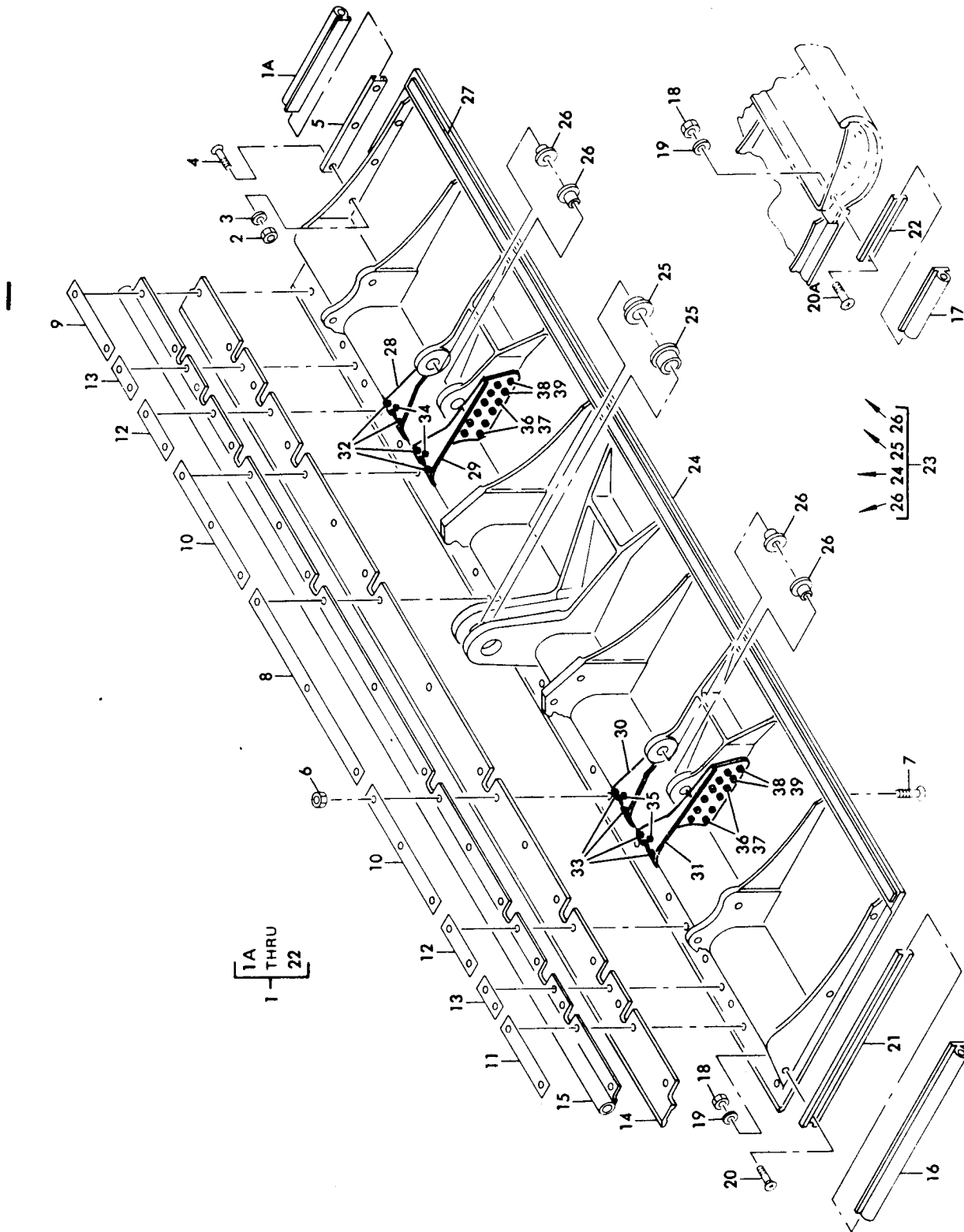
ILLUSTRATED PARTS LIST



FLAP ASSEMBLY NO. 2 SHOWN
FLAP ASSEMBLY NO. 3 OPPOSITE

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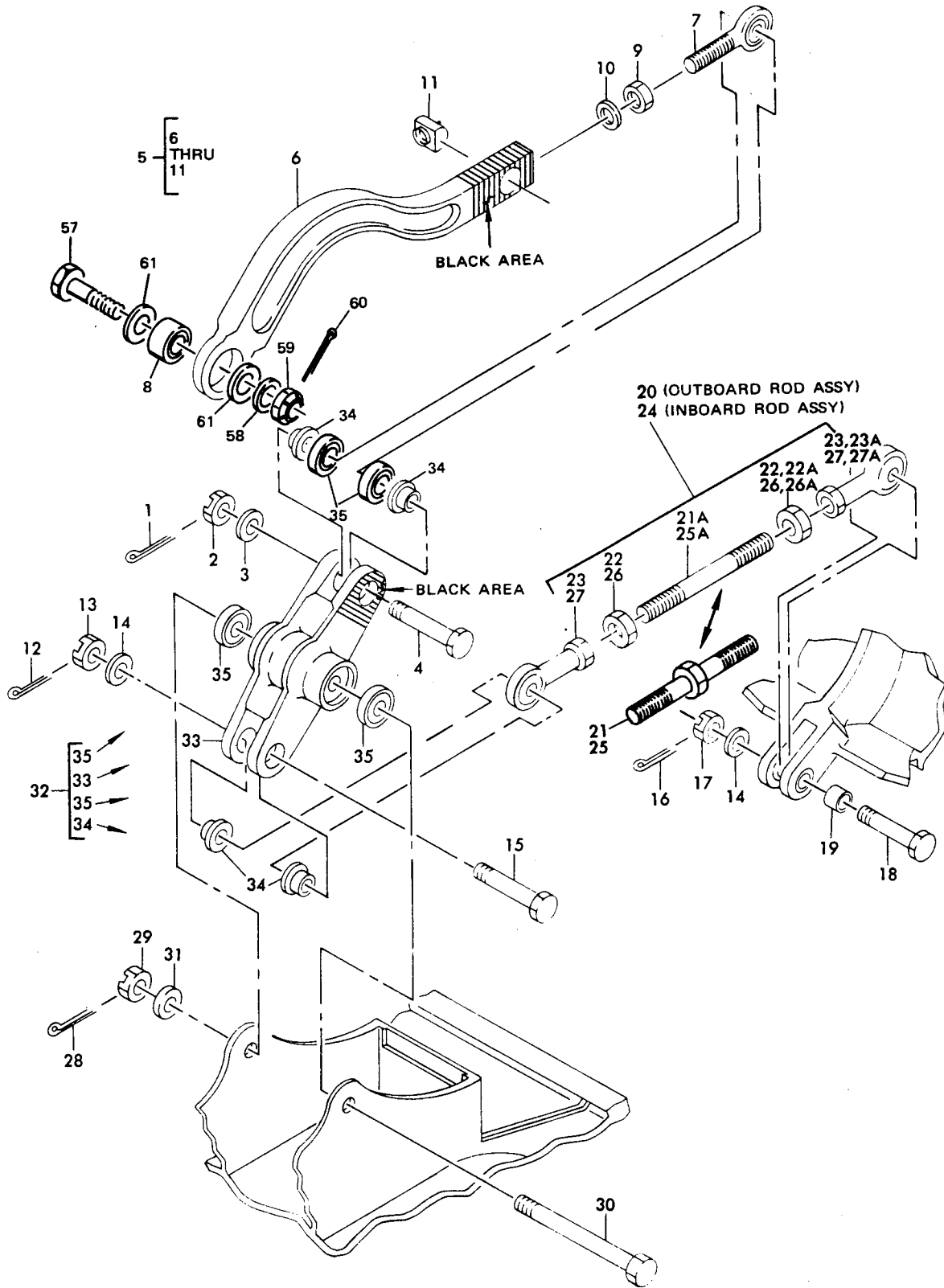
Krueger Flap and Tailgate Assembly
 Figure 1101 (Sheet 2)

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FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1101	65-46425-1									A	RF
	65-46425-5									B	RF
	65-46425-19									C	RF
	65-46425-2									N	RF
	65-46425-6									O	RF
	65-46425-20									P	RF
1	65-67101-1									AB	1
1	65-67101-2									NO	1
1	65-67101-21									C	1
1	65-67101-22									P	1
1A	69-44908-1										1
2	BACN10JC3										3
3	AN960PD10L										3
4	BACB30LU3-2										3
5	69-44909-1										1
6	BACN10JC3										21
7	BACB31LU3-6									ABNO	21
7	BACB30LU3-5									CP	21
8	69-43513-25										1
9	69-43513-27										1
10	69-43513-28										2
11	69-43513-29										1
12	69-43513-30										2
13	69-43513-31										2
14	69-54943-1									AB	1
14	69-54943-2									NO	1
14	69-54943-5									AB	1
14	69-54943-6									NO	1
14	69-54943-9									C	1
14	69-54943-9									AB	1
14	69-54943-10									P	1
14	69-54943-10									NO	1
15	69-43512-11									AB	1
15	69-43512-12									NO	1
16	69-43512-5										1
17	69-43512-6										1
18	BACN10JC3										5
19	AN960PD10L										5
20	BACB30LU3-2										3
20A	BACB30FN6-2										2
21	69-43513-10										1
22	69-43513-11										1
23	65-49533-1									A	1

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Linkage
 Figure 1102

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FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1102			USE CODES ASSIGNED IN FIG. 1101								
			LINKAGE								
1	MS24665-134									2	
2	BACN10JD104									2	
3	AN960PD416L									2	
4	BACB30LJ4DU18									2	
5	69-37841-12									2	
5	69-37841-8									2	
5	69-37841-2									DELETED	
6	69-37841-14									LINK (USED ON 69-37841-12)	1
6	69-37841-10									LINK (USED ON 69-37841-8)	1
6	69-37841-4									DELETED	
7	177144									BEARING, ROD END, V09455	1
7	NHNE4-205									BEARING, ROD END, V15860	1
7	REMSATC10-6									BEARING, ROD END, V21335	1
7	ART4E129									BEARING, ROD END, V50294	1
7	MSSR45-14BAF									BEARING, ROD END, V73134	1
7	YTML87									BEARING, ROD END, V77896	1
7	DREM4-292									BEARING, ROD END, V81376	1
7	KBDE4-37									BEARING, ROD END, V97613	1
			ALL ITEM 7 BOEING 10-60779-124								
8	03-728-0250									BEARING, V09455	1
8	SBS8ATC21									BEARING, V21335	1
8	YTA118									BEARING, V77896	1
8	BLFN4-061									BEARING, V81376	1
8	KSBG4N5									BEARING, V97613	1
			ALL ITEM 8 BOEING 10-60545-111S								
8	MS21232-4									BEARING (OPT TO 10-60545-111S)	1
9	NAS509-5									JAMNUT *[3]	1
9	135930									NUT, V73168 *[3]	1
10	AN960PD516L									WASHER	1
11	BACN10CP5L									NUT, CYLINDRICAL	1
12	MS24665-134									PIN, COTTER	2
13	BACN10JD104									NUT (REPLS AN320-4)	2
14	AN960PD416L									WASHER	4
15	BACB30LJ4DU18									BOLT	2
16	MS24665-134									PIN, COTTER	2
17	BACN10JD104									NUT (REPLS AN320-4)	2
18	BACB30LJ4DU16									BOLT	2
19	NAS74A4-005P									BUSHING, CLAMP-UP	2
20	69-61262-1									ROD ASSY	1
20	69-37244-1									ROD ASSY (OPT TO 69-61262-1)	1
21	69-61262-6									ROD (USED ON 69-61262-1)	1
21A	NAS354-5-270									ROD (USED ON 69-37244-1)	1
22	NAS509-5									JAMNUT	*[1]
22A	NAS509L5									JAMNUT (USED ON 65-61262-1) *[2]	1

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FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1102											
23	02-727-0250									*[1]	
23	NHN4-201									*[1]	
23	REF8ATC10									*[1]	
23	ART4-106									*[1]	
23	FSSR45-14BAC									*[1]	
23	YTF124A									*[1]	
23	DREF4-055									*[1]	
23	KBD4-46									*[1]	
			ALL ITEM 23 BOEING 10-60779-201								
23A	12-727-0250									1	
23A	NHN14-201									1	
23A	REF18ATC10									1	
23A	ART14-106									1	
23A	FSSLR45-14BAC									1	
23A	YTF124AL									1	
23A	DREFLH4-055									1	
23A	KBDL4-46									1	
			ALL ITEM 23A BOEING 10-60779-201L (USED ON 65-61262-2) *[2]								
24	69-61262-2									1	
24	69-37244-2									1	
25	69-61262-7										
25A	NAS5354-5-310									1	
26	NAS509-5									*[1]	
26A	NAS509L5									1	
27	02-727-0250									*[1]	
27	NHN4-201									*[1]	
27	REF8ATC10									*[1]	
27	ART4-106									*[1]	
27	FSSR45-14BAC									*[1]	
27	YTF124A									*[1]	
27	DREF4-055									*[1]	
27	KBD4-46									*[1]	
			ALL ITEM 27 BOEING 10-60779-201								
27A	12-727-0250									1	
27A	NHN14-201									1	
27A	REF18ATC10									1	
27A	ART14-106									1	
27A	FSSLR45-14BAC									1	
27A	YTF124AL									1	
27A	DREFLH4-055									1	
27A	KBDL 4-46									1	

BOEING 
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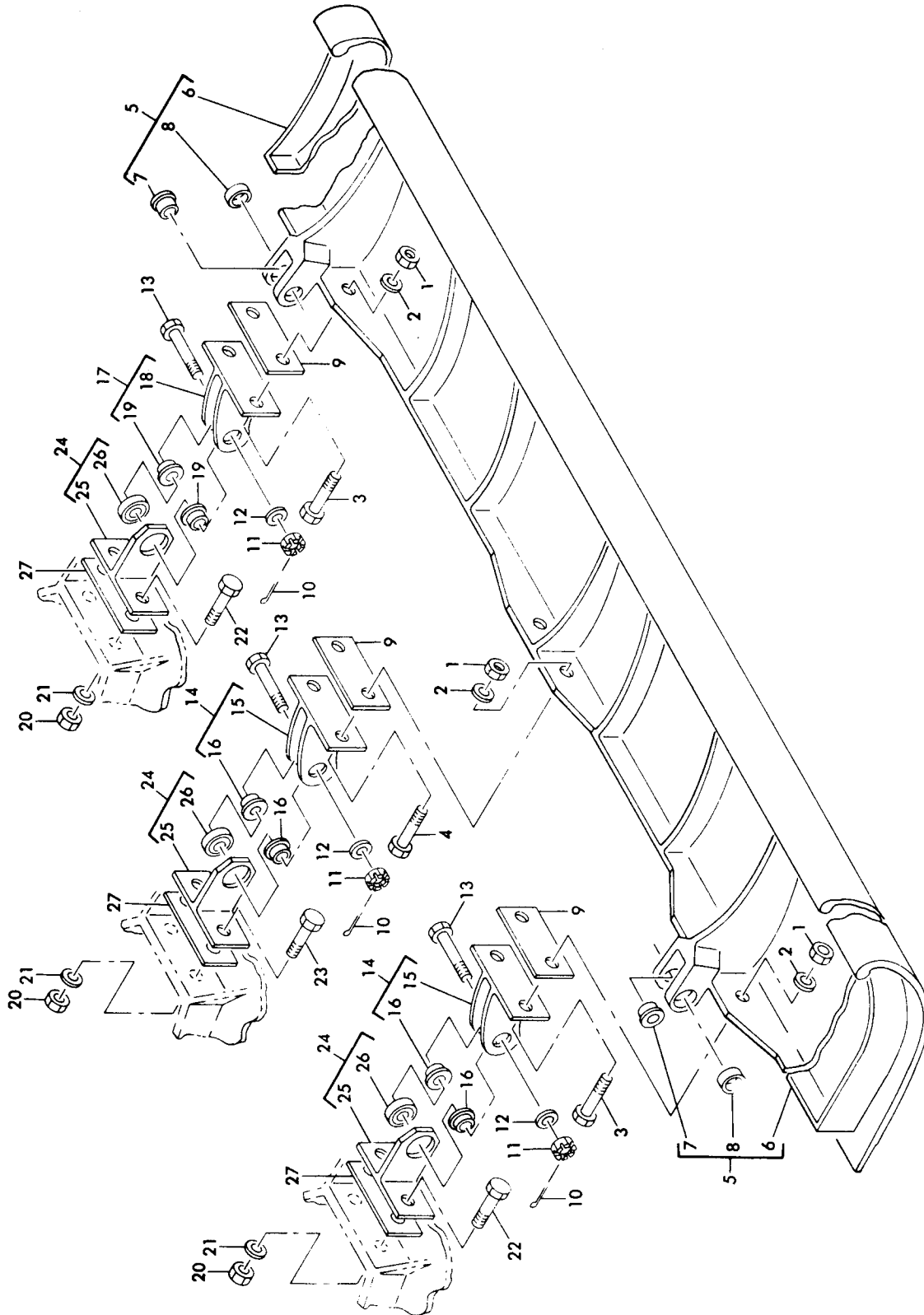
FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1102			ALL ITEM 27A BOEING 10-60779-201L (USED ON 65-61262-2) *[2]								
28	MS24665-134		. PIN, COTTER								2
29	BACN10JD104		. NUT (REPLS AN320-4)								2
30	BACB30LJ4DU44		. BOLT								2
31	AN96OPD416L		. WASHER								2
32	65-49528-13		. CRANK ASSY (REPLS 65-49528-9)								2
32	65-49528-9		. CRANK ASSY (REPLD BY 65-49528-13)								2
33	65-49528-14		. . CRANK (USED ON 65-49528-13)								1
33	65-49528-10		. . CRANK (USED ON 65-49528-9)								1
34	BACB38X4B25		. . BUSHING								4
35	BACB10A661		. . BEARING								2
36	NAS1515M10		. . WASHER *[4]								2
			INSTALLATION PARTS								
57	BACB30LJ4D419		BOLT								1
58	AN96OPD416L		WASHER								1
59	AN320-4		NUT								1
60	MS24665-134		PIN, COTTER								1
61	69-55450-1		SPACER *[4]								2

*[1] Use 1 on 69-61262-1, -2; use 2 on 69-37244-1, -2.

*[2] Left-hand thread. Use nut (22A) with bearing (23A), nut (26A) with bearing (27A)

*[3] Limited Use

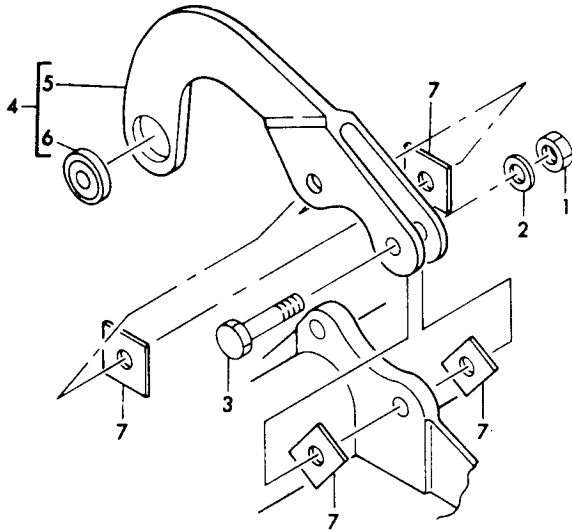
*[4] Install on inboard link assembly only



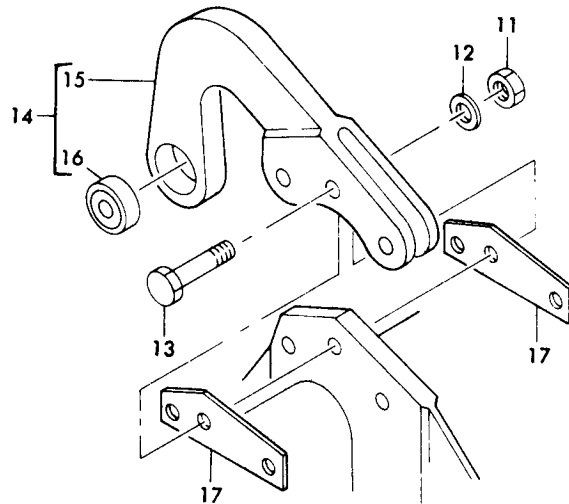
Tailgate and Lug Assemblies
Figure 1103

BOEING 
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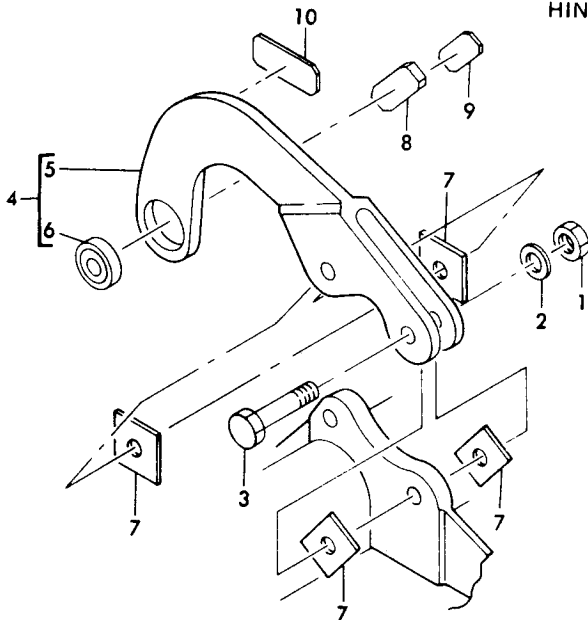
FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1103			USE CODES ASSIGNED IN FIG. 1101 TAILGATE AND LUG ASSY								
1	BACN10JC4		. NUT (REPLS NAS679A4W)								6
2	AN960PD416L		. WASHER								6
3	BACB30NF4-8		. BOLT (REPLS NAS1104-8)								4
4	BACB30NF4-6		. BOLT (REPLS NAS1104-6)								2
5	69-37807-1		. TAILGATE ASSY							ABC	1
5	69-37807-2		. TAILGATE ASSY							NOP	1
6	69-37807-3		. . TAILGATE (USED ON 69-37807-1)								1
6	69-37807-4		. . TAILGATE (USED ON 69-37807-2)								1
7	BACB28X4B16		. . BUSHING								2
8	BACB28Y7B16		. . BUSHING								2
9	BACS40R10E26F		. SHIM								AR
10	MS24665-134		. PIN, COTTER								3
11	BACN10JD104		. NUT (REPLS AN32D-4)								3
12	AN960PD416L		. WASHER								3
13	BACB30LJ4DUL1		. BOLT								3
14	69-37842-3		. LUG ASSY								2
15	69-37842-9		. . LUG								1
16	BACB28X4B11		. . BUSHING (REPLS NAS77A4-11P)								2
17	69-37842-4		. LUG ASSY								1
18	69-37842-10		. . LUG								1
19	BACB28X4B11		. . BUSHING (REPLS NAS77A4-11P)								2
20	BACN10JC4		. NUT (REPLS NAS679A4W)								6
21	AN960PD416L		. WASHER								6
22	BACB30NF4-8		. BOLT (REPLS NAS1104-8)								4
23	BACB30NF4-7		. BOLT (REPLS NAS1104-7)								2
24	69-37842-5		. LUG ASSY								3
25	69-37842-11		. . LUG								1
26	03-728-0250		. . BEARING, V09455								1
26	SBS8ATC21		. . BEARING, V21335								1
26	YTA118		. . BEARING, V77896								1
26	BLFN-4-061		. . BEARING, V81376								1
26	KSBG4N5		. . BEARING, V97613								1
			ALL ITEM 26 BOEING 10-60545-111S								
26	MS21232-4		. . BEARING (OPT TO 10-60545-111S)								1
27	BACS40R10E23F		. SHIM								AR



HINGE FITTING AT LE STATION 162.00



HINGE FITTING AT LE STATION 149.00 AND 139.00



HINGE FITTING AT LE STATION 126.00

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FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E							USE CODE	QTY PER ASSY
			1	2	3	4	5	6	7		
1104			USE CODES ASSIGNED IN FIG. 1101								
			HINGES								
1	BACN10JC4		. NUT								4
2	AN960PD416L		. WASHER								4
3	NAS1104-7		. BOLT								4
4	69-37845-1		. FTG ASSY, HINGE								2
5	69-37845-2		. . FTG, HINGE								1
6	03-728-0375		. . BEARING, V09455								1
6	SBS12ATC26		. . BEARING, V21335								1
6	TFA6A		. . BEARING, V77896								1
6	BLFN-6-043		. . BEARING, V81376								1
6	KSBG6N5		. . BEARING, V97613								1
6	MS21232-6		ALL ITEM 6 BOEING 10-60545-113S								1
7	BACS40R10D10F		. . BEARING (OPT TO 10-60545-113S)								1
8	66-24198-3		. SHIM								AR
9	66-24198-7		. BLOCK, SUPPORT								1
10	66-24198-9		. ACTUATOR, SENSOR								1
11	BACN10JC4		. ACTUATOR, SENSOR								1
12	AN960PD416L		. NUT								6
13	NAS1104-13		. WASHER								6
14	69-37846-1		. BOLT								6
15	69-37846-2		. FITTING ASSY, HINGE								2
16	03-730-0500		. . FITTING, HINGE								1
16	NHSB8V202		. . BEARING, V09455								1
16	SBS16ATC32-2		. . BEARING, V15860								1
16	ABWT8V103		. . BEARING, V21335								1
16	WRG8BACH		. . BEARING, V50294								1
16	YTA-145		. . BEARING, V73134								1
16	BLFR-8-026		. . BEARING, V77896								1
16	KSBN8-21		. . BEARING, V81376								1
16			. . BEARING, V97613								1
17	65-46425-4		ALL ITEM 16 BOEING 10-60545-140S								
			. SHIM								4

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VENDORS

V09455 LEAR SIEGLER INCORPORATED, TRANSPORT DYNAMICS DIVISION, 3131 WEST
SEGERSTROM AVENUE, SANTA ANA, CALIFORNIA 92702

V15860 NEW HAMPSHIRE BALL BEARINGS, INC., ASTRO DIV., 155 LEXINGTON AVE.,
LACONIA, NEW HAMPSHIRE 03246

V21335 THE FAFNIR BEARING COMPANY, DIVISION OF TEXTRON, INCORPORATED,
37 BOOTH STREET, NEW BRITAIN, CONNECTICUT 06050

V50294 NMB CORP., 9730 INDEPENDENCE AVE., CHATSWORTH, CALIFORNIA 91311

V73134 HEIM UNIVERSAL CORP., ICOM INT, INC., 60 ROUND HILL RD., FAIRFIELD,
CONNECTICUT 06430

V73168 FENWALL INCORPORATED, 400 MAIN STREET, ASHLAND MASSACHUSETTS 01721

V77896 REXNORD INC., BEARING DIV., 2400 CURTIS ST., DOWNERS GROVE,
ILLINOIS 60515

V81376 SOUTHWEST PRODUCTS COMPANY, 1705 SOUTH MOUNTAIN AVENUE, MONROVIA,
CALIFORNIA 91016

V97613 SARGENT INDUSTRIES, KAHR BEARING DIVISION, 3010 NORTH SAN FERRANDO
BLVD., BURBANK, CALIFORNIA 91503

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Part No.	Fig. and Index No.	Qty. per Assy.	Part No.	Fig. and Index No.	Qty. per Assy.
ABWT8V103	1104-16	1	BACN10JC4	1103-1	6
ARTL4-106	1102-23A	1	BACN10JC4	1103-20	6
ARTL4-106	1102-27A	1	BACN10JC4	1104-1	4
ART4-106	1102-23	*[1]	BACN10JC4	1104-11	6
ART4-106	1102-27	*[1]	BACN10JD104	1102-2	2
ART4E129	1102-7	1	BACN10JD104	1102-13	2
AN320-4	1102-59	1	BACN10JD104	1102-17	2
AN96OPD10L		AR	BACN10JD104	1102-29	2
AN96OPD416L		AR	BACN10JD104	1103-11	3
AN96OPD516L		AR	BACN10JD104	1104-7	AR
BACB10A661	1102-35	2	BACS40R10D10F	1103-27	AR
BACB28X10C45	1101-25	2	BACS40R10E23F	1103-9	AR
BACB28X4B11	1103-16	2	BLFN-4-061	1102-8	1
BACB28X4B11	1103-19	2	BLFN-4-061	1103-26	1
BACB28X4B16	1103-7	2	BLFN-6-043	1104-6	1
BACB28X4B19	1101-26	4	BLFR8-026	1104-16	1
BACB28X4B25	1102-34	4	DREFT4-055	1102-23	*[1]
BACB28Y7B16	1103-8	2	DREFT4-055	1102-27	*[1]
BACB30FM5-3	1101-38	16	DREFLH-4-055	1102-23A	*[1]
BACB30FM6-3	1101-36	32	DREFLH-4-055	1102-27A	*[1]
BACB30FN6-2	1101-20A	2	DREM-4-292102-7		1
BACB30LB6-4	1101-33	8	FSSLR45-14BAC	1102-23A	1
BACB30LB6-5	1101-32	8	FSSLR45-14BAC	1102-27A	1
BACB30LB8-4	1101-35	2	FSSR45-14BAC	1102-23	*[1]
BACB30LB8-5	1101-34	2	FSSR45-14BAC	1102-27	*[1]
BACB30L4DU11	1103-13	3	KBDE4-37	1102-7	1
BACB30LJ4DU16	1102-18	2	KBDL4-46	1102-23A	1
BACB30LJ4DU18	1102-4	2	KBDL4-46	1102-27A	1
BACB30LJ4DU18	1102-15	2	KSBG4N5	1102-8	1
BACB30LJ4D419	1102-57	1	KSBG4N5	1103-26	1
BACB30LJ4DU44	1102-30	2	KSBG6N5	1104-6	1
BACB30LU3-2	1101-4	3	KSBN8-21	1104-16	1
BACB30LU3-2	1101-20	5	KBD4-46	1102-23	*[1]
BACB30LU3-5	1101-7	21	MSSR45-14BAF	1102-7	1
BACB30LU3-6	1101-7	21	MS21232-4		AR
BACB30NF4-13	1104-13	6	MS21232-6		AR
BACB30NF4-6	1103-4	2	MS24665-134		AR
BACB30NF4-7	1103-23	2	NAS1515M10		AR
BACB30NF4-7	1104-3	4	NHNE4-205	1102-7	1
BACB30NF4-8	1103-3	4	NHNL4-201	1102-23A	1
BACB30NF4-8	1103-22	4	NHNL4-201	1102-27A	1
BACC30M5	1101-39	16			
BACC30M6	1101-37	32			
BACN10CP5L	1102-11	1			
BACN10JC3	1101-2	3			
BACN10JC3	1101-6	21			
BACN10JC3	1101-18	5			

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Part No.	Fig. and Index No.	Qty. per Assy.	Part No.	Fig. and Index No.	Qty. per Assy.
NHSB8V202	1104-16	1	10-60545-111S	1102-8	1
NHN4-201	1102-23	*[1]	10-60545-111S	1103-26	1
NHN4-201	1102-27	*[1]	10-60545-140S	1104-16	1
NAS1104-13		AR	10-60779-124	1102-7	1
NAS1104-7		AR	10-60779-201	1102-23	*[1]
NAS354-5-270		AR	10-60779-201	1102-27	*[1]
NAS354-5-310		AR	10-60779-201L	1102-23A	*[1]
NAS509-5		AR	10-60779-201L	1102-27A	*[1]
NAS509L5		AR	12-727-0250	1102-23A	*[1]
NAS5354-5-310		AR	12-727-0250	1102-27A	*[1]
NAS679A3W		AR	135930	1102-9	1
NAS74A4-005P		AR	177144	1102-7	1
NAS77A4-11P		AR			
REFL8ATC10	1102-23A	*[1]	65-46425-1	1101	
REFL8ATC10	1102-27A	*[1]	65-46425-19	1101	
REF8ATC10	1102-23	*[1]	65-46425-2	1101	
REF8ATC10	1102-27	*[1]	65-46425-20	1101	
REM8ATC10-6	1102-7	1	65-46425-3	1101-27	1
			65-46425-4	1104-17	4
SBS12ATC26	1104-6	1	65-46425-5	1101	
SBS16ATC32-2	1104-16	1	65-46425-6	1101	
SBS8ATC21	1102-8	1	65-49528-10	1102-33	1
SBS8ATC21	1103-26	1	65-49528-13	1102-32	2
			65-49528-14	1102-33	1
TFA6A	1104-6	1	65-49528-9	1102-32	2
WRG8BACH	1104-16	1	65-49533-1	1101-23	1
			65-49533-2	1101-23	1
YTA-118	1102-8	1	65-49533-3	1101-24	1
YTA-118	1103-26	1	65-49533-4	1101-24	1
YTA145	1104-16	1	65-49533-5	1101-23	1
YTF124A	1102-23	*[1]	65-49533-6	1101-23	1
YTF124A	1102-27	*[1]	65-49533-7	1101-24	1
YTF-124-AL	1102-23A	*[1]	65-49533-8	1101-24	1
YTF-124-AR	1102-27A	*[1]	65-67101-1	1101-1	1
YTM187	1102-7	1	65-67101-2	1101-1	1
			65-67101-21	1101-1	1
02-727-0250	1102-23	*[1]	65-67101-22	1101-1	1
02-727-0250	1102-27	*[1]	65-86048-5	1101-30	1
03-728-0250	1102-8	1	65-86048-5	1101-31	1
03-728-0250	1103-26	1	65-86048-6	1101-30	1
03-728-0375	1104-6	1	65-86048-6	1101-31	1
03-730-0500	1104-16	1	65-86048-7	1101-28	1
			65-86048-7	1101-29	1

BOEING 
COMMERCIAL JET
OVERHAUL MANUAL

Part No.	Fig. and Index No.	Qty. per Assy.
65-86048-8	1101-28	1
65-86048-8	1101-29	1
66-24198-3	1104-8	1
66-24198-7	1104-9	1
66-24198-9	1104-10	1
69-37244-1	1102-20	1
69-37244-2	1102-24	1
69-37807-1	1103-5	1
69-37807-2	1103-5	1
69-37807-3	1103-6	1
69-37807-4	1103-6	1
69-37841-10	1102-6	1
69-37841-12	1102-5	2
69-37841-14	1102-6	1
69-37841-2	1102-5	2
69-37841-4	1102-6	1
69-37841-8	1102-5	1
69-37842-10	1103-18	1
69-37842-11	1103-25	1
69-37842-3	1103-14	2
69-37842-4	1103-17	1
69-37842-5	1103-24	3
69-37842-9	1103-15	1
69-37845-1	1104-4	2
69-37845-2	1104-5	1
69-37846-1	1104-14	2
69-37846-2	1104-15	1
69-43512-11	1101-15	1
69-43512-12	1101-15	1
69-43512-5	1101-16	1
69-43512-6	1101-17	1
69-43513-10	1101-21	1
69-43513-11	1101-22	1
69-43513-16	1101-8	1
69-43513-18	1101-9	1
69-43513-19	1101-10	2
69-43513-20	1101-11	1
69-43513-21	1101-12	2
69-43513-22	1101-13	2
69-43513-25	1101-8	1
69-43513-27	1101-9	1
69-43513-28	1101-10	2

Part No.	Fig. and Index No.	Qty. per Assy.
69-43513-29	1101-11	1
69-43513-30	1101-12	2
69-43513-31	1101-13	2
69-44908-1	1101-1A	1
69-44909-1	1101-5	1
69-54943-1	1101-14	1
9-54943-10	1101-14	1
69-54943-2	1101-14	1
69-54943-5	1101-14	1
69-54943-6	1101-14	1
69-54943-9	1102-20	1
69-55450-1	1102-61	2
69-61262-1	1102-20	1
69-61262-2	1102-24	1
69-61262-6	1102-21	1
69-61262-7	1102-25	1