

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY

25-57-12

BOEING P/N 65-63630-1 thru -8

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 31458	Mar 10/70

Mar 10/70

25-57-12
Page T-1

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

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
25-57-12					
T-1	Mar 10/70				
T-2	BLANK				
* LEP-1	Dec 25/75				
LEP-2	BLANK				
T/C-1	Mar 10/70				
T/C-2	BLANK				
1	Mar 10/70				
2	Mar 10/70				
3	Mar 10/70				
* 4	Dec 25/75				
* 5	Dec 25/75				
6	Mar 10/70				
7	Mar 10/70				
8	Mar 10/70				
9	Mar 10/70				
10	Mar 10/70				
11	Mar 10/70				
12	Mar 10/70				
13	Mar 10/70				
14	Mar 10/70				
15	Mar 10/70				
16	BLANK				

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

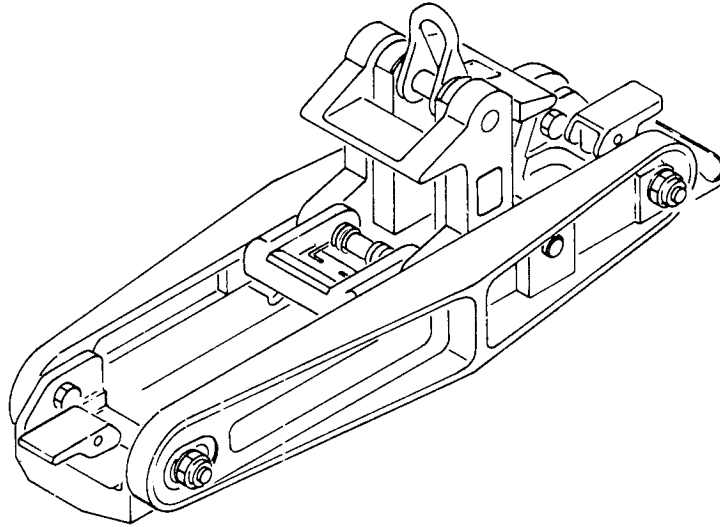
TABLE OF CONTENTS

<u>Paragraph Title</u>	<u>Page</u>
Description and Operation	1
Disassembly	2
Cleaning.	2
Inspection/Check.	2
Repair.	4
Assembly.	6
Fits and Clearances	7
Testing	10
Trouble Shooting.	10
Storage Instructions.	11
Special Tools, Fixtures, and Equipment.	None
Illustrated Parts List.	12
Numerical Parts List Index.	None

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY

Boeing Part Numbers: 65-63630-1 through -8



Palletized Cargo System Canted Track Pallet Lock Assembly
Figure 1

1. DESCRIPTION AND OPERATION

A. Description

- (1) The palletized cargo system canted track pallet lock assembly consists of a frame and body assembly, rail assemblies, and lock body assemblies.

B. Operation

- (1) The palletized cargo system canted track pallet lock assembly locks into the seat tracks and is used to secure cargo pallets in the airplane.

C. Leading Particulars

Length -- 12.64 inches
Width -- 4.25 inches
Height -- 2.00 inches (in retracted position)
Weight -- 4.30 pounds

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

65-63630

2. DISASSEMBLY

A. Procedures (See figure 5.)

- (1) Remove nuts (1), washers (2), and bolts (3).
- (2) Remove aft foot (4) and forward foot (5) from rail assemblies (19 and 20).
- (3) Remove nuts (6), washers (7), attachment studs (8), pins (9), tubular rivets (10), levers (11), springs (12), washers (13), springs (14), and studs (15) from aft foot (4) and forward foot (5).
- (4) Remove pins (16), shaft (17), washers (18), and rail assemblies (19 and 20).

NOTE: Do not remove bushings (21) or Metal-Cals (37 and 38) from rails (22 and 23), unless repair or replacement is required.

- (5) Remove shaft (25), track shoes (26), shaft (27), handle (28) and spring (29) from frame and body assembly (30).

NOTE: Do not remove pin (31), reflectors (35), or shackle (36) from frame and body assembly (30), unless repair or replacement is required.

3. CLEANING

- A. Clean metal parts with solvent, Specification P-D-680 or equivalent. Use a stiff-bristle brush to remove stubborn accumulations of foreign matter. Dry thoroughly with clean, lint-free cloth or with clean, moisture-free air.
- B. For further information, refer to "General Cleaning Procedures," Subject 20-30-02.

4. INSPECTION/CHECK

A. Visual Check

- (1) Examine all parts for pits, scratches, cracks, corrosion, and damage, using a strong light and a minimum of 10-power magnification.
- (2) Examine threaded areas for evidence of cross-threading and stripping.
- (3) Examine plated and painted surfaces for blisters, flaking, and continuity of finish.

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

B. Special Check (See figure 5.)

- (1) If visual examination of parts listed below reveals indication of damage, perform following checks:
 - (a) Dye penetrant check -- aft foot (4), forward foot (5), lever (11), rails (22 and 23), shaft (25), track shoes (26), handle (28), frame (32), and lock body (34).
 - (b) Magnetic particle check -- attachment studs (8), shafts (17 and 27), and pin (31).
- (2) Examine Metal-Cals for legibility and security of installation.
- (3) Check springs (14) for distortion by rolling on a flat surface. There must be no wobble. Check spring as follows:
 - (a) Apply a compression load of 7.389 pounds and verify test length of 0.363 to 0.443 inches.
 - (b) Release compression load and verify a free length of approximately 0.81 inch.
- (4) Check springs (12 and 29) in accordance with figure 2.

Index Number	Test Load (pound-inches)	Angular Displacement (degrees)
12	0.011 to 0.013	22
12	0.070 to 0.090	147
27	0.50 to 0.64	30
27	2.00 to 2.60	120

NOTE: Free angular position of spring ends is 180 degrees for spring (12), and 22 degrees for spring (29).

Spring Check Data
Figure 2

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

65-63630

5. REPAIR

A. Repair (Fig. 5)

- (1) Deleted.
- (2) Deleted.
- (3) Rebuild worn shoe slots in rails (22 and 23) with hard chrome plate per 20-42-03. Grind to restore design dimensions shown in Fig. 4.

B. Refinish (Fig. 5)

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

- (1) Deleted.
 - (a) Washers (2), Aft Foot (4), Forward Foot (5), and Handle (28) -- Apply F-2.20 all over. Material: Al Alloy.
 - (b) Attachment Studs (8) -- Apply F-1.1913 all over. Material: Steel, AMS 4140, 160-180 ksi.
 - (c) Lever (11) -- Apply F-2.20 all over. Apply SRF-14.903-701 to depressed letters. Material: Al Alloy.
 - (d) Springs (12, 29) -- Apply F-1.923 all over. Material: Music wire.
 - (e) Studs (15) -- Apply F-2.22 all over. Material: Al Alloy.
 - (f) Pivot Shaft (17), Guide Shaft (27), and Pin (31) -- Apply F-1.1928 all over. Apply BMS 3-8, class A, dry lubricant per 20-50-08. Material: Steel, AMS 4330, 220-240 ksi.
 - (g) Rail Assemblies (19 and 20) -- Apply F-2.20 all over. Paint strip as specified in Fig. 3. Material: Al Alloy.
 - (h) Bushing (21) -- Apply F-8.07 all over. Material: CRES 17-4PH, 180-200 ksi.
 - (i) Shaft (25) -- Apply BMS 3-8, Class A, dry lubricant per 20-50-08. Material: CRES 17-4PH, 180-200 ksi.
 - (j) Shoes (26) -- Apply BMS 3-8, class A, dry lubricant per 20-50-08. Material: CRES 15-7PH, 225-245 ksi.

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

(k) Frame (32, P/N 65-56966-2) and Lock Body (34, P/N 65-56966-3) -- Apply F-8.07 all over plus SRF-14.905-101, color red, as noted in Fig. 3. Material: CRES 17-4PH, 180-200 ksi.

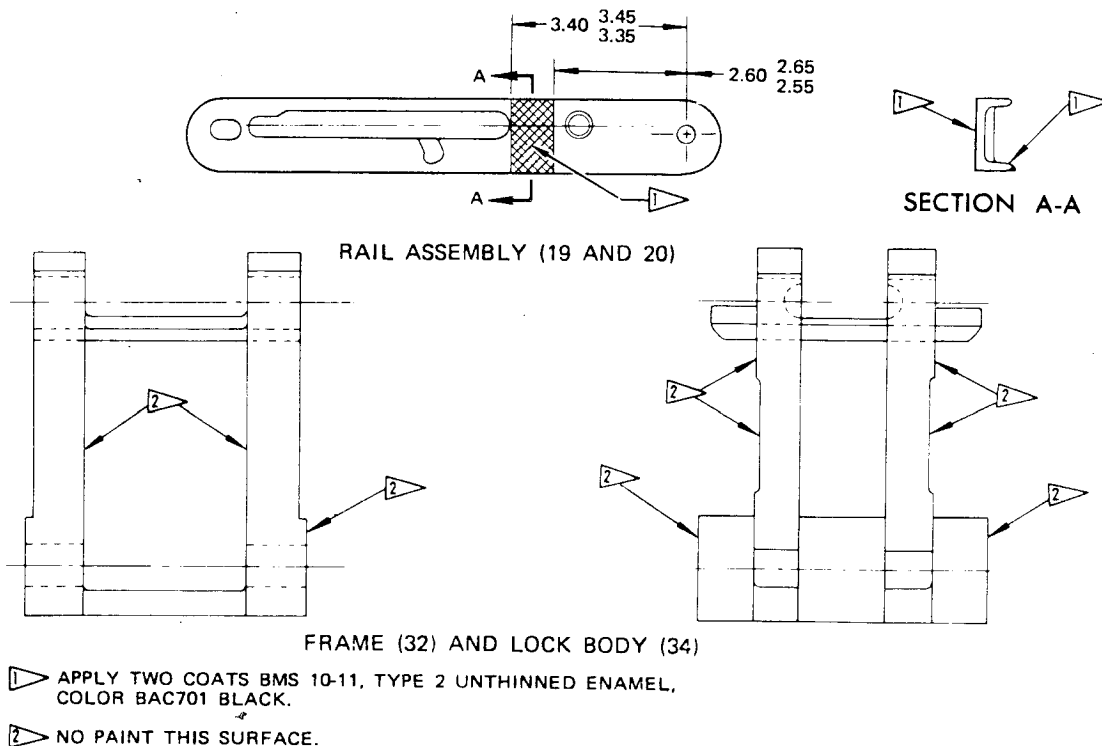
(l) Frame (32, P/N 65-56966-6) and Lock Body (34; P/N 65-56966-7) -- Apply F-2.201 all over. Material: Al Alloy.

C. Replacement (Fig. 5)

- (1) Replace parts damaged beyond minor repair.
- (2) Replace pin (9) at each overhaul.
- (3) If bushing (21) requires removal, press out old bushing, clean faying surfaces, and apply primer BMS 10-11, type 1, to ID of hole and OD of new bushing. Press bushing in place while primer is wet.
- (4) If components of frame and body assembly (30) require replacement, drill out old staking and remove pin (31); clean faying surfaces, apply dry lubricant BMS 3-8, class A, to pin (31) per 20-50-08, and reassemble components. Stake pin (31) in six places equidistant between old stake marks.

D. Material

- (1) Primer, BMS 10-11, type 1
- (2) Dry Lubricant, BMS 3-8, class A



Refinish Diagram
 Figure 3

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

65-63630

6. ASSEMBLY

A. General

- (1) Protect dry-lubricant-coated parts during assembly.
- (2) Do not apply oil, grease, or other lubricants to any part of assembly.

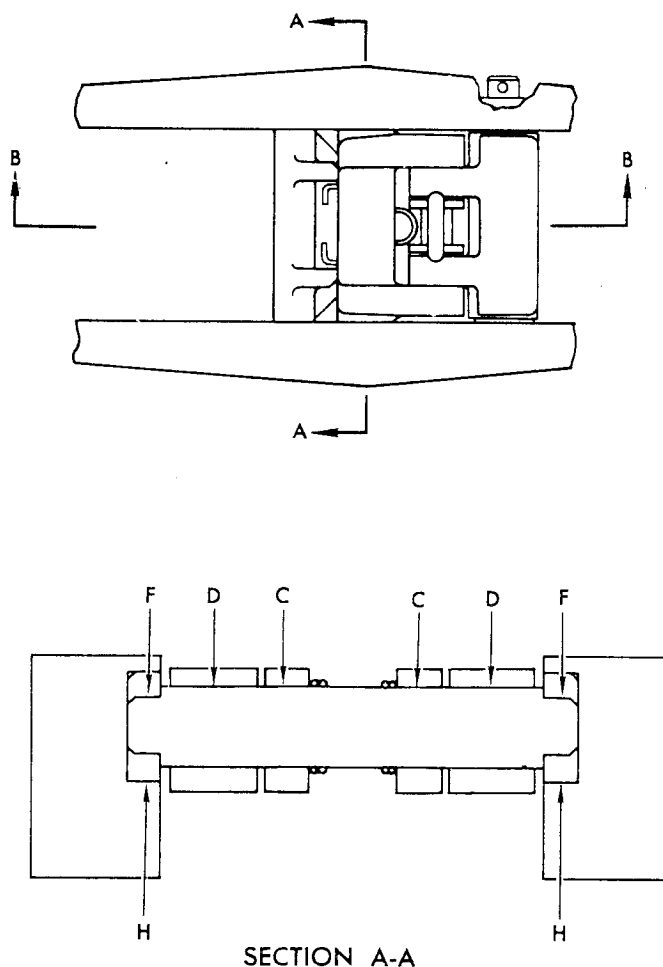
B. Reassembly (See figure 5.)

- (1) Position shaft (27), track shoes (26), spring (29), handle (28), and shaft (25) on frame and body assembly (30).
- (2) Install pin (9) with wet primer, BMS 10-11, type 1 so that 0.25 inch protrudes.
- (3) Position rail assemblies (19 and 20) on frame and body assembly (30) and install washers (18), shaft (17), and pins (16).
- (4) Position attachment studs (8) on aft foot (4) and forward foot (5) and install washers (7) and nuts (6).
- (5) Position springs (14) on studs (15) and position studs (15) on aft foot (4) and forward foot (5); install washers (13), springs (12), levers (11), and tubular rivets (10).
- (6) Position aft foot (4) and forward foot (5) on rail assemblies (19 and 20) and install bolts (3), washers (2), and nuts (1).

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

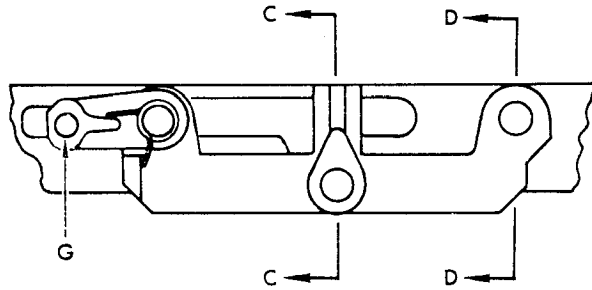
7. FITS AND CLEARANCES

- A. The Fits and Clearances table lists original design dimensions and service wear limits for certain close tolerance parts of the assembly. The original design dimensions are to be used as a guide for rework of parts which fail to meet the wear tolerance requirements. Unless otherwise specified in the rework procedure, a part should be returned to the design dimensions whenever rework is accomplished.
- B. Clearances are given to aid assembly of the component. The value given in the "Maximum Allowable Clearance" column is the maximum permitted to ensure proper functioning of the component. If assembled parts fail to meet these requirements, 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 whenever newly reworked parts are assembled, the design clearances be used as the guiding assembly criteria.

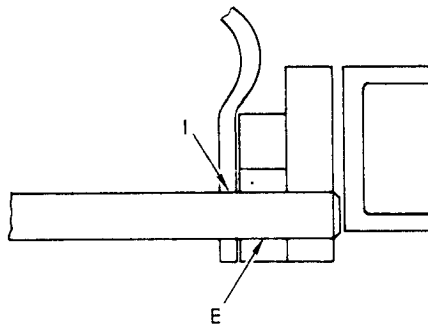


Fits and Clearances
 Figure 4 (Sheet 1)

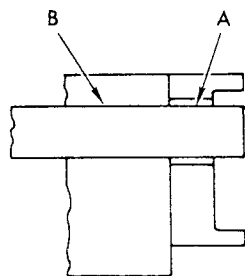
Mar 10/70



SECTION B-B



SECTION C-C



SECTION D-D

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

			Original Design Limits				Service Wear Limits		
Ref. Letter Fig.4	Mating Index No. Fig.5		Dimension (inches)		Assembly Clearance (inches)		Dimension Limits (inches)		Maximum Allowable Clearance (inch)
			Min.	Max.	Min.	Max.	Min.	Max.	
A	ID	21	0.4375	0.4390	0.0015	0.0040	0.4310	0.4430	0.0080
	OD	17	0.4350	0.4360					
B	ID	33	0.4375	0.4400	0.0015	0.0050	0.4300	0.4450	0.0100
	OD	17	0.4350	0.4360					
C	ID	28	0.4060	0.4100	0.0013	0.0063	0.3974	0.4163	0.0126
	OD	27	0.4037	0.4047					
D	ID	32	0.4062	0.4080	0.0015	0.0043	0.3994	0.4123	0.0086
	OD	27	0.4037	0.4047					
E	ID	33	0.4072	0.4082	0.0010	0.0030	0.4022	0.4112	0.0060
	OD	31	0.4052	0.4062					
F	ID	26	0.3438	0.3442	0.0016	0.0030	0.3382	0.3472	0.0060
	OD	27	0.3412	0.3422					
G	ID	28	0.3125	0.3165	0.0005	0.0055	0.3055	0.3220	0.0110
	OD	25	0.3110	0.3120					
H		19,20	0.4950	0.5020	0.0040	0.0130	0.4850	0.5060	0.0170
		26	0.4890	0.4910					
I	ID	36	0.4080	0.4120	0.0018	0.0068	0.3984	0.4188	0.0136
	OD	31	0.4052	0.4062					

 Vertical dimension of track slot

 Vertical dimension of track shoe

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

65-63630

8. TESTING

A. General

- (1) All moveable parts shall move without binding.

B. Functional Test (See figure 5.)

- (1) Fully retract and extend frame and body assembly (30) through 10 complete cycles to check for freedom of motion. Detent shaft (25) should snap down completely when locking in the extended position.
- (2) Check that the force required to lift handle (28) out of detent is not less than 1.75 pounds nor more than 4.00 pounds, applied on a 1.10- to 1.30-inch radius of handle pivot point.
- (3) Check studs (15) for freedom of motion by raising and lowering lever (11) through not less than three cycles.
- (4) Check shackle (36) for interference with lock body or frame actuation. Check travel of shackle. Shackle should travel 176 degrees.

9. TROUBLE SHOOTING

NOTE: Trouble shooting is keyed to individual steps of the test procedure. Referenced paragraphs show test procedure step in which the noted trouble would appear.

<u>Trouble</u>	<u>Possible Cause</u>	<u>Correction</u>
A. Binding or irregular motion, paragraph 8.A.(1)	Foreign matter between parts	Remove, clean, and reinstall
B. Handle (11) does not operate within specified limits, paragraph 8.B.(1) and (2)	Spring tension out of tolerance	Replace spring (12)
	Foreign matter between parts	Remove, clean, and reinstall

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

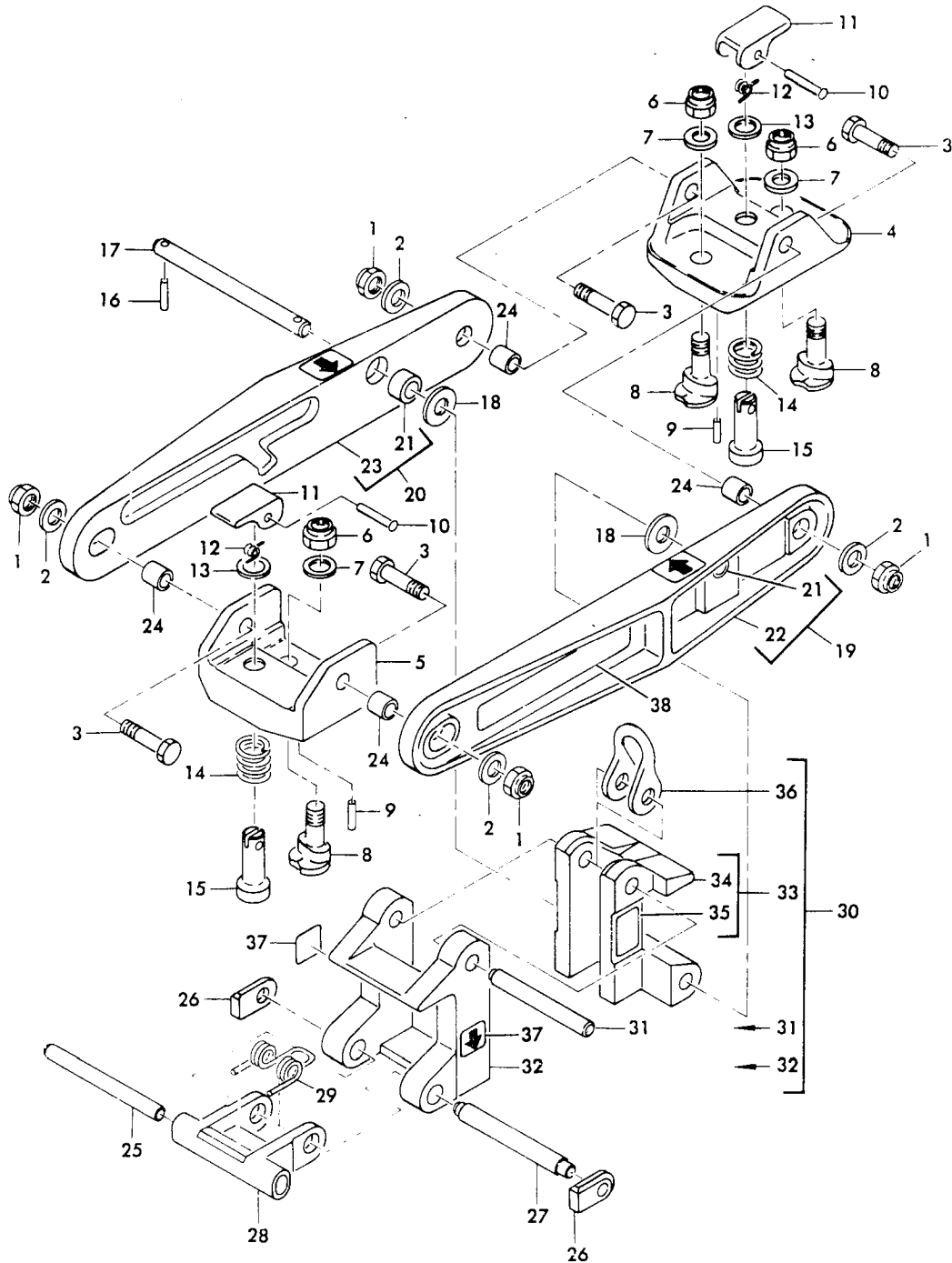
<u>Trouble</u>	<u>Possible Cause</u>	<u>Correction</u>
C. Binding or irregular motion of studs (15), paragraph 8.B.(3)	Spring tension out of tolerance	Replace spring (14)
	Foreign matter between parts	Remove, clean, and reinstall
D. Shackle does not travel specified limits, paragraph 8.B.(4)	Defective part	Disassemble and reassemble with serviceable parts

10. STORAGE INSTRUCTIONS

- A. Wrap assembly in vapor barrier paper.
- B. Tag with identification number and test date.
- C. For further information, refer to "Temporary Protective Coatings," Subject 20-44-02.

11. ILLUSTRATED PARTS LIST

A. Exploded View



Palletized Cargo System Canted Track Pallet Lock Assembly
 Figure 5

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

B. Group Assembly Parts List

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	N O M E N C L A T U R E 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
5-	65-63630-1		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-2		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-3		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-4		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-5		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-6		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-7		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
	65-63630-8		PALLETIZED CARGO SYSTEM CANTED TRACK PALLET LOCK ASSEMBLY		
1	BACN10JC4		. NUT (replaces NAS679A4W)		4
2	66-20972-1		. WASHER.		4
3	NAS1104-8		. BOLT.		4
4	65-63643-1		. FOOT, Aft	ae	1
4	65-63643-2		. FOOT, Aft	bf	1
4	65-63643-3		. FOOT, Aft	cg	1
4	65-63643-4		. FOOT, Aft	dh	1
5	65-63644-4		. FOOT, Forward	ae	1
5	65-63644-3		. FOOT, Forward	bf	1
5	65-63644-2		. FOOT, Forward	cg	1
5	65-63644-1		. FOOT, Forward	dh	1
6	BACN10JC6		. NUT (replaces NAS679A6)		3
7	AN960PD616L		. WASHER.		3
8	69-29654-1		. STUD, Attachment.		3
9	MS16562-25		. PIN		2
10	MS16535-189		. RIVET, Tubular.		2
11	69-39931-1		. LEVER		2
12	66-20981-1		. SPRING.		2
13	BACW10AT36		. WASHER.		2
14	MS24585C358		. SPRING.		2
15	66-20783-1		. STUD.		2
16	MS16562-214		. PIN		2

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

65-63630

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		
5-17	69-29666-1		.	S	H	A	F	T	, P		1
18	66-20970-1		.	W	A	S	H	E	R.		2
19	65-37228-17		.	R	A	I	L	A	S		1
20	65-37228-18		.	R	A	I	L	A	S		1
21	66-21163-2		.	.	B	U	S	H	I		1
22	65-37228-19		.	.	R	A	I	L	(u		1
23	65-37228-20		.	.	R	A	I	L	(u		1
24	NAS75-4-011		.	B	U	S	H	I	N		4
25	69-29643-4		.	S	H	A	F	T	, D		1
26	69-29655-2		.	S	H	O	E	, T	r		2
27	69-29666-6		.	S	H	A	F	T	, G		1
28	69-31206-2		.	H	A	N	D	L	E.		1
29	66-20982-1		.	S	P	R	I	N	G.		1
30	69-29624-4		.	F	R	A	M	E	A		1
30	69-50900-3		.	F	R	A	M	E	A		1
31	69-29666-7		.	.	P	I	N	.	.		1
32	65-56966-2		.	.	F	R	A	M	(u		1
32	65-56966-6		.	.	F	R	A	M	(u		1
33	65-56966-1		.	.	L	O	C	K	B		1
33	65-56966-5		.	.	L	O	C	K	B		1
34	65-56966-3		.	.	L	O	C	K	B		1
34	65-56966-7		.	.	L	O	C	K	B		1
35	66-20794-1		.	.	R	E	F	L	E		2
36	12197-1		.	.	S	H	A	C	K		1
37	BACM10S35R		.	M	E	T	A	L	-C		4
38	BAC27DCA5		.	M	E	T	A	L	-C		1
38	BAC27DCA6		.	M	E	T	A	L	-C		1
38	BAC27DCA7		.	M	E	T	A	L	-C		1
38	BAC27DCA8		.	M	E	T	A	L	-C		1
38	BAC27DCA159		.	M	E	T	A	L	-C		1
38	BAC27DCA160		.	M	E	T	A	L	-C		1
38	BAC27DCA161		.	M	E	T	A	L	-C		1
38	BAC27DCA162		.	M	E	T	A	L	-C		1

65-63630

BOEING
COMMERCIAL JET
OVERHAUL MANUAL

a used on 65-63630-1
b used on 65-63630-2
c used on 65-63630-3
d used on 65-63630-4
e used on 65-63630-5
f used on 65-63630-6
g used on 65-63630-7
h used on 65-63630-8

VENDOR CODE

<u>Code</u>	<u>Name and Address</u>
V96603	Eastern Rotorcraft Corp. Box 110 Doylestown, Pennsylvania