



**BOEING**  
OVERHAUL MANUAL

TO: ALL HOLDERS OF ELEVATOR TAB CONTROL MECHANISM ASSEMBLY OVERHAUL MANUAL,  
27-34-02

REVISION NO. 6, DATED NOV 1/03

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 |
| Revised items (45) P/N 65-79426-5 and item (46) P/N 65-79426-6 to add effectivity code "E" |                 |             |                 |                 |             |         |       |         |                     |               |               | X     |                     |

**BOEING**   
**COMMERCIAL JET**  
OVERHAUL MANUAL

# ELEVATOR TAB CONTROL MECHANISM ASSEMBLY

## 27-34-02

BOEING P/N 65-79425 -2 thru -6

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT:

| BOEING<br>SERVICE<br>BULLETIN            | BOEING<br>TEMPORARY<br>REVISION | OTHER<br>DIRECTIVES  | DATE DIRECTIVE<br>INCORPORATED<br>INTO TEXT                              |
|--|---------------------------------|--|--|
| 27-1052<br><br>27-1082<br>27-1084, Rev 1 |                                 | PRR 31844<br>PRR 32070-9<br>PRR 32043<br>PRR 32099<br>PRR 32352<br>PRR 32657 | Sep 10/71<br>Sep 10/71<br>Dec 10/71<br>Dec 10/71<br>Jan 5/77<br>Jul 5/77 |

## 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 |
|----------|-----------|------|------|------|------|
| 27-34-02 |           |      |      |      |      |
| T-1      | Jul 5/77  |      |      |      |      |
| T-2      | BLANK     |      |      |      |      |
| * LEP-1  | Nov 1/03  |      |      |      |      |
| LEP-2    | BLANK     |      |      |      |      |
| T/C-1    | Dec 25/75 |      |      |      |      |
| T/C-2    | BLANK     |      |      |      |      |
| 1        | Jun 25/74 |      |      |      |      |
| 2        | Jan 5/77  |      |      |      |      |
| 3        | Jan 5/77  |      |      |      |      |
| 4        | Jan 5/77  |      |      |      |      |
| 4A       | Jan 5/77  |      |      |      |      |
| 4B       | BLANK     |      |      |      |      |
| 5        | Jan 5/77  |      |      |      |      |
| 6        | Mar 5/93  |      |      |      |      |
| 7        | Jul 5/77  |      |      |      |      |
| * 8      | Nov 1/03  |      |      |      |      |

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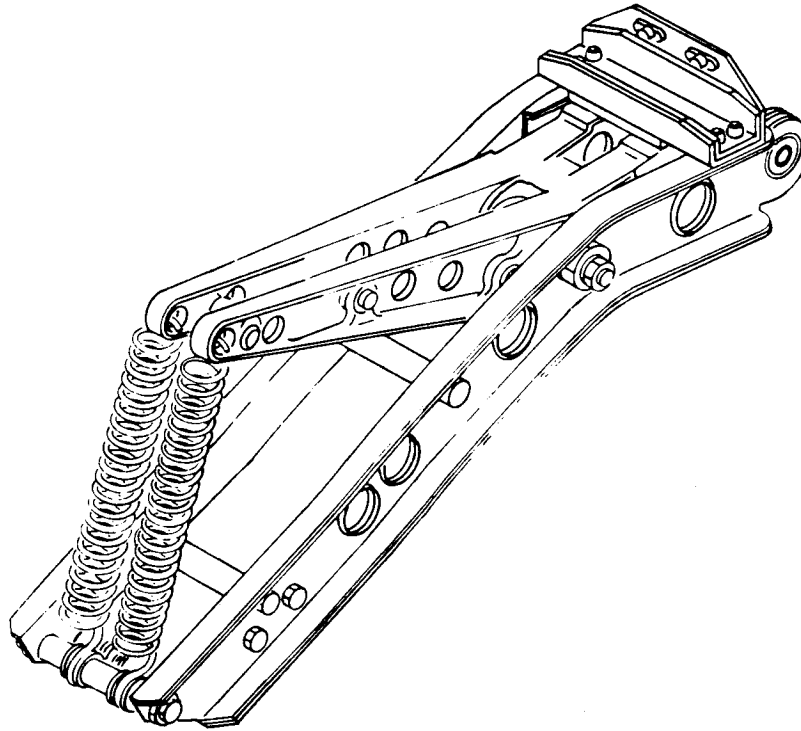
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\*[1] Special instructions not required. Use standard industry practices.

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ELEVATOR TAB CONTROL MECHANISM ASSEMBLY



Elevator Tab Control Mechanism Assembly  
Figure 1

1. DESCRIPTION AND OPERATION

A. Description

- (1) The elevator tab control mechanism is composed of bellcrank assembly, stop assembly, bolt assembly and frame assembly.

B. Operation

- (1) Hydraulic power input to a tab lock actuator (not part of this assembly) causes the bellcrank assembly to rotate about a bolt assembly. Rotary movement of the bellcrank assembly transmits fore and aft movement through tab pushrods to position an elevator tab (not part of this assembly).

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C. Leading Particulars (Approx)

Length -- 18.5 inches  
 Width -- 4.5 inches  
 Height -- 8.0 inches  
 Weight -- 7.0 pounds

2. INSPECTION/CHECK (Fig. 5)

- A. Check all parts for obvious defects in accordance with standard industry practices.
- B. Check springs (1) for load limits per Fig. 2
- C. Perform penetrant examination per 20-20-02 on spacer (6), bellcranks (24, 25) and fitting (34).
- D. Perform magnetic particle examination per 20-20-01 on bolts (8, 9, 15, 16).

| Item No.<br>Fig. 3 | Test Length<br>(inches) | Allowable<br>Load Limit<br>(pounds) |
|--------------------|-------------------------|-------------------------------------|
| 1, 69-61723-1      | 8.20                    | 88-98                               |
| 1, 69-68953-1      | 8.10                    | 75.09-83.09                         |

Spring Check Data  
Figure 2

3. REPAIR

A. 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.

- (1) Spring (1) (69-61723-1) -- Apply two coats primer BMS 10-11, type 1 (SRF-12.206). Material: Chrome/silicon steel.
- (2) Spring (1) (69-68953-1) -- Passivate (F-17.09). Material: 17-4PH CRES heat treated to CH900 condition.
- (3) Spacer (6, 23), link (33), fitting (34), bracket (40, 41, 50, 51), frames (53, 54), and fillers (55, 56) -- Alodize and apply one coat primer BMS 10-11, type 1 (SRF-2.30). Material: Al alloy.

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- (4) Bolt (8) -- Cadmium plate (F-15.06) exterior surfaces only.  
Material: Alloy steel, 160-180 ksi.
- (5) Bolt (15) -- Cadmium plate (F-1.1926) on 0.57-inch diameter.  
Material: Alloy steel, 160-180 ksi.
- (6) Bolt (16) -- Cadmium plate (F-15.02) exterior surfaces. Apply two coats primer BMS 10-11, type 1 (SRF-12.206) to interior surface.  
Material: 4340 steel, 140 ksi.

B. Replacement

- (1) Bearings (17, 20, 47), bushing (21) -- Install and roller swage per 20-50-03.

4. ASSEMBLY (Fig. 5)

A. Use standard industry practices for assembly of this component, and additional procedures in steps B. thru C.

B. Tighten nut (4) to 110-140 lb-in. then tighten nut (2) to 75-105 lb-in.

CAUTION: DO NOT ATTEMPT TO RESET TORQUE VALUE ON NUT (4) WITHOUT FIRST LOOSENING NUT (2).

C. Tighten nut (12) to 450-500 lb-in. then tighten nut (10) to 110-140 lb-in.

CAUTION: DO NOT RESET NUT (12) AFTER TIGHTENING TO TORQUE VALUE WITHOUT FIRST LOOSENING NUT (10).

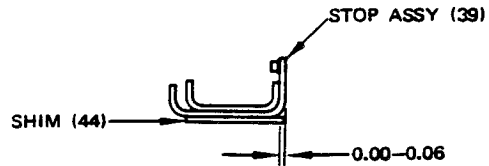
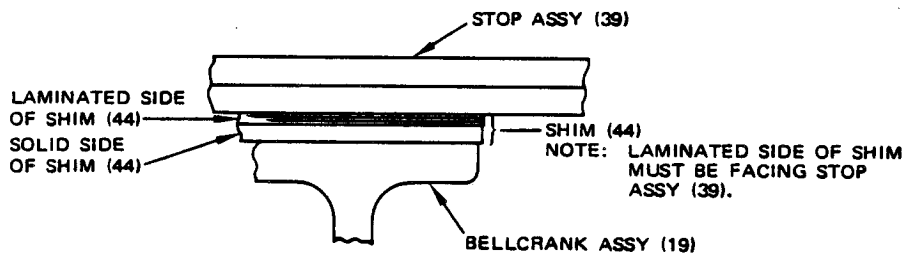
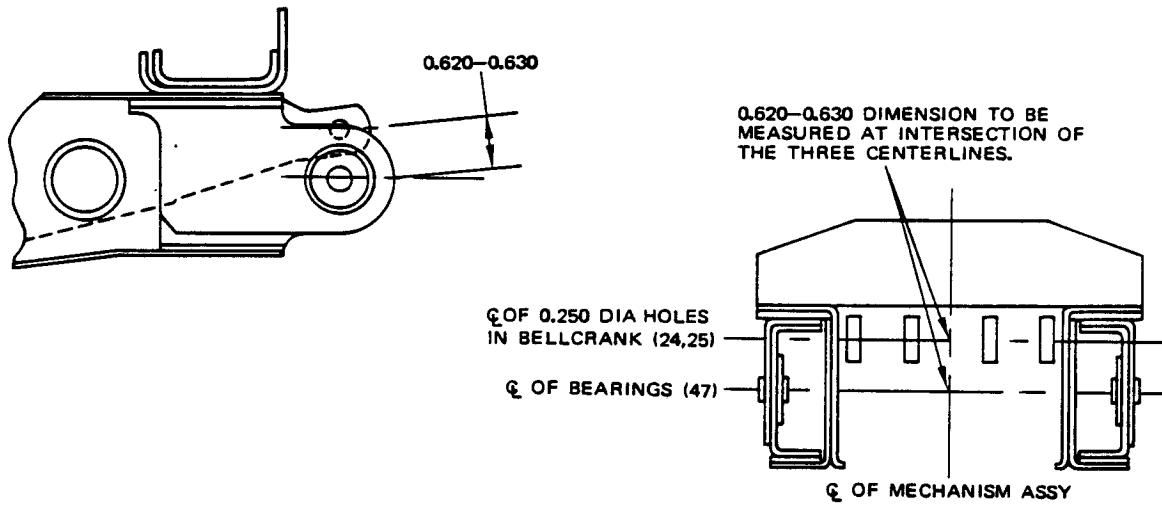
D. Bellcrank stop adjustment (Fig. 3)

(1) Adjust quantity of shims (44) to provide 0.620-0.630-inch dimension between centerline of bearings (47) and centerline of 0.250-inch diameter holes in bellcrank assemblies (19). Dimension is to be taken at center of the mechanism assembly.

(2) Apply one coat primer, BMS 10-11, type 1, to shim after delaminating.

(3) Install shim with rivets (44A, 44B).

CAUTION: LAMINATED SIDE OF SHIM MUST BE POSITIONED AGAINST STOP ASSEMBLY (39) SO THAT SOLID PORTION OF SHIM WILL BE CONTACTED BY BELLCRANK ASSEMBLIES (19), OTHERWISE SHIM MAY BE DAMAGED.



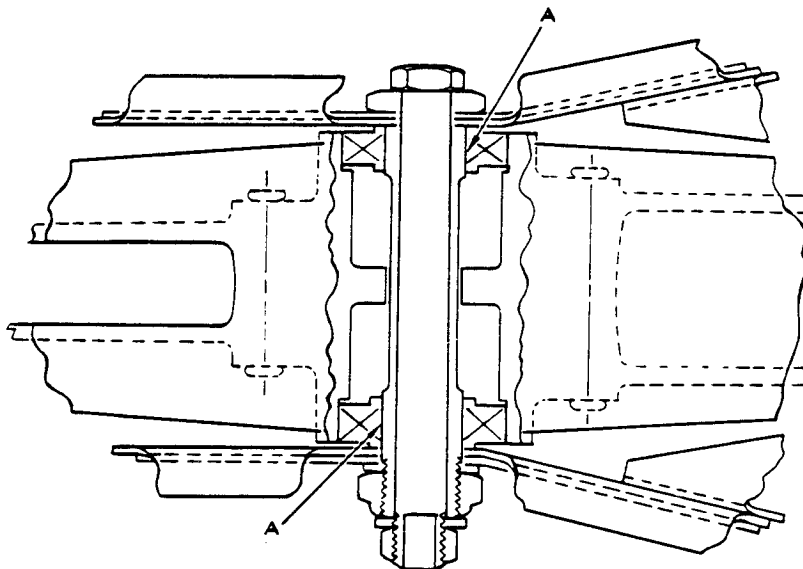
ALL DIMENSIONS ARE IN INCHES

Bellcrank Stop Adjustment and Shim Installation  
 Figure 3



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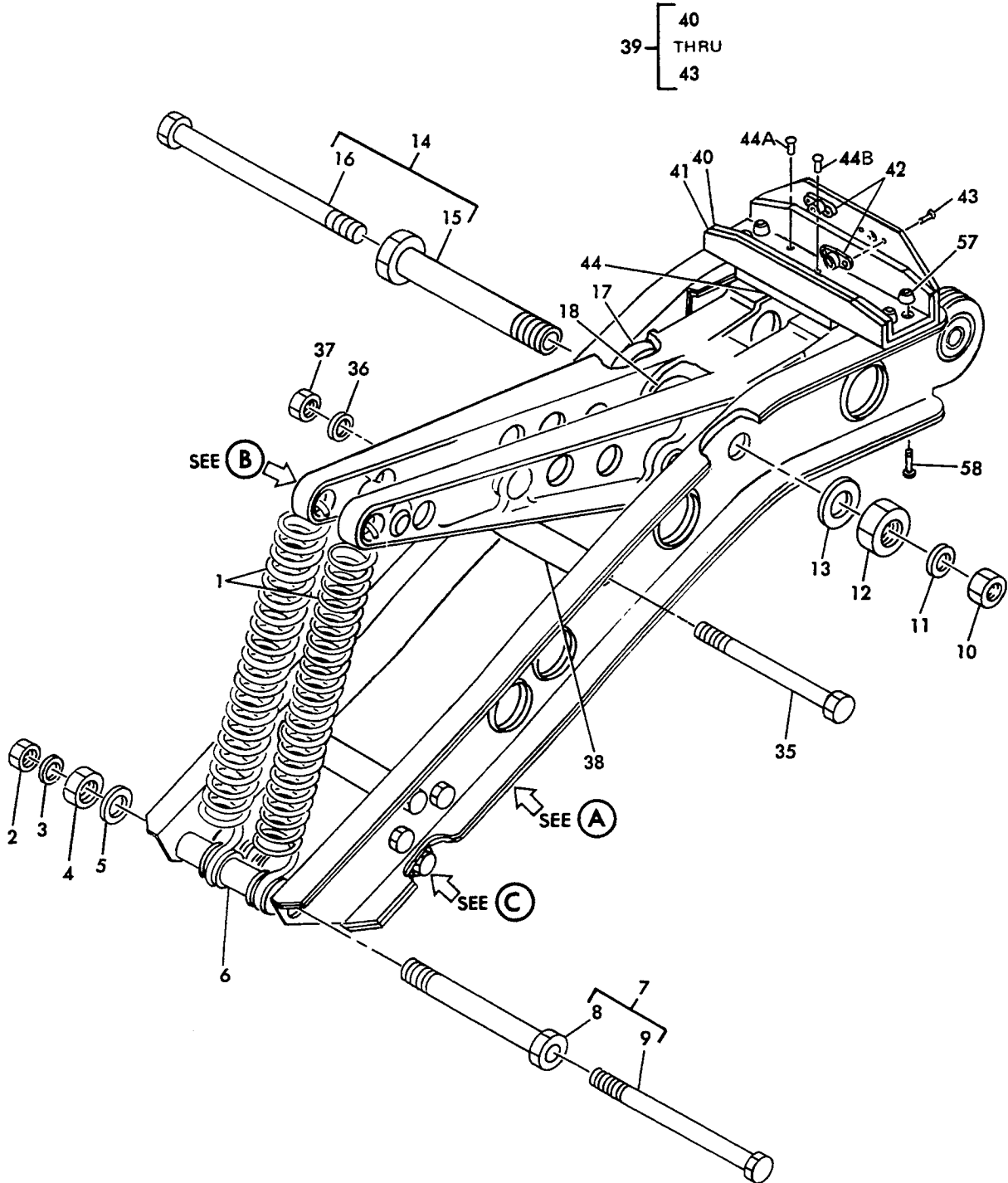
5. FITS AND CLEARANCES



|                      |                           | Design Dimensions   |        |                           |        | Service Wear Limits       |        |                                    |
|----------------------|---------------------------|---------------------|--------|---------------------------|--------|---------------------------|--------|------------------------------------|
| Ref Letter<br>Fig. 4 | Mating Item No.<br>Fig. 5 | Dimensions (inches) |        | Assembly Clearance (inch) |        | Dimension Limits (inches) |        | Maximum Allowable Clearance (inch) |
|                      |                           | Min                 | Max    | Min                       | Max    | Min                       | Max    |                                    |
| A                    | ID 17,20                  | 0.7495              | 0.7500 | 0.0005                    | 0.0020 | 0.7476                    | 0.7530 | 0.0040                             |
|                      | OD 15                     | 0.7480              | 0.7490 |                           |        |                           |        |                                    |

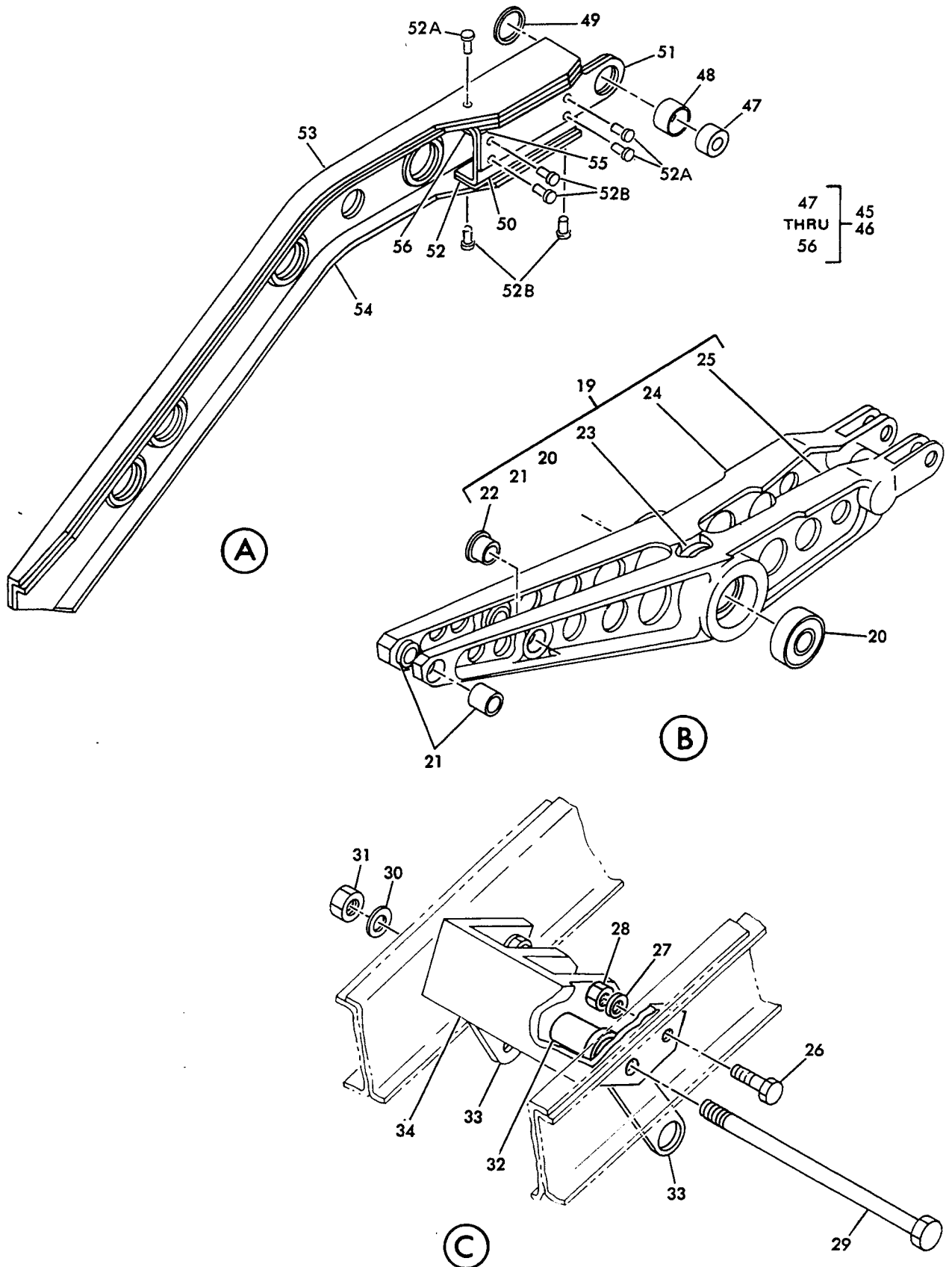
Fits and Clearances  
 Figure 4

6. ILLUSTRATED PARTS LIST



Elevator Tab Control Mechanism Assembly  
Figure 5 (Sheet 1)

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Elevator Tab Control Mechanism Assembly  
 Figure 5 (Sheet 2)

| 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-              | 65-79425-2    |                     | MECHANISM ASSY, ELEVATOR TAB CONTROL                 |          |   |   |   |   |   | A        | RF           |
|                 | 65-79425-3    |                     | MECHANISM ASSY, ELEVATOR TAB CONTROL<br>(SB 27-1052) |          |   |   |   |   |   | B        | RF           |
|                 | 65-79425-4    |                     | MECHANISM ASSY, ELEVATOR TAB CONTROL                 |          |   |   |   |   |   | C        | RF           |
|                 | 65-79425-5    |                     | MECHANISM ASSY, ELEVATOR TAB CONTROL<br>(SB 27-1082) |          |   |   |   |   |   | D        | RF           |
|                 | 65-79425-6    |                     | MECHANISM ASSY, ELEVATOR TAB CONTROL<br>(SB 27-1084) |          |   |   |   |   |   | E        | RF           |
|                 | 1             | 69-61723-1          |  | . SPRING |   |   |   |   |   |          | A-D          |
| 1               | 69-68953-1    |                     | . SPRING   |          |   |   |   |   |   | E        | 2            |
| 2               | BACN10JC5     |                     | . NUT  |          |   |   |   |   |   |          | 1            |
| 3               | AN96OPD516L   |                     | . WASHER   |          |   |   |   |   |   |          | 1            |
| 4               | BACN10JC7     |                     | . NUT  |          |   |   |   |   |   |          | 1            |
| 5               | AN96OPD716    |                     | . WASHER   |          |   |   |   |   |   |          | 1            |
| 6               | 69-43403-3    |                     | . SPACER   |          |   |   |   |   |   |          | 1            |
| 7               | 69-43401-1    |                     | . BOLT ASSY  |          |   |   |   |   |   |          | 1            |
| 8               | 69-38918-2    |                     | . . BOLT   |          |   |   |   |   |   |          | 1            |
| 9               | NAS1105-62    |                     | . . BOLT   |          |   |   |   |   |   |          | 1            |
| 10              | BACN10JC7     |                     | . NUT  |          |   |   |   |   |   |          | 1            |
| 11              | AN96OPD716    |                     | . WASHER   |          |   |   |   |   |   |          | 1            |
| 12              | BACN10JC12    |                     | . NUT  |          |   |   |   |   |   |          | 1            |
| 13              | AN96OPD1216   |                     | . WASHER   |          |   |   |   |   |   |          | 1            |
| 14              | 69-41234-3    |                     | . BOLT ASSY  |          |   |   |   |   |   |          | 1            |
| 15              | 69-41608-3    |                     | . . BOLT   |          |   |   |   |   |   |          | 1            |
| 16              | 69-38918-3    |                     | . . BOLT   |          |   |   |   |   |   |          | 1            |
| 17              | BACB10EX12    |                     | . BEARING (REPLS BACB10A685)                         |          |   |   |   |   |   |          | 1            |
| 18              | BACB28Y12D212 |                     | . BUSHING  |          |   |   |   |   |   |          | 1            |
| 19              | 65-51676-11   |                     | . BELLCRANK ASSY                                     |          |   |   |   |   |   | A        | 1            |
| 19              | 65-51676-17   |                     | . BELLCRANK ASSY (REPLS 65-51676-11)                 |          |   |   |   |   |   | A        | 1            |
| 19              | 65-51676-26   |                     | . BELLCRANK ASSY                                     |          |   |   |   |   |   | B-E      | 1            |
| 20              | BACB10EX12    |                     | . . BEARING (REPLS BACB10A685)                       |          |   |   |   |   |   |          | 1            |
| 21              | BACB28B4-415P |                     | . . BUSHING  |          |   |   |   |   |   |          | 2            |
| 22              | NAS538B5P45   |                     | . . BUSHING (USED ON 65-51676-17)                    |          |   |   |   |   |   |          | 1            |
| 23              | 69-62231-1    |                     | . . SPACER (USED ON 65-51676-17)                     |          |   |   |   |   |   |          | 1            |
| 24              | 65-51676-13   |                     | . . BELLCRANK (USED ON 65-51676-11)                  |          |   |   |   |   |   |          | 1            |
| 24              | 65-51676-15   |                     | . . BELLCRANK (USED ON 65-51676-17)                  |          |   |   |   |   |   |          | 1            |
| 24              | 65-51676-27   |                     | . . BELLCRANK (USED ON 65-51676-26)                  |          |   |   |   |   |   |          | 1            |
| 25              | 65-51676-14   |                     | . . BELLCRANK (USED ON 65-51676-11)                  |          |   |   |   |   |   |          | 1            |
| 25              | 65-51676-16   |                     | . . BELLCRANK (USED ON 65-51676-17)                  |          |   |   |   |   |   |          | 1            |
| 25              | 65-51676-28   |                     | . . BELLCRANK (USED ON 65-51676-26)                  |          |   |   |   |   |   |          | 1            |
| 26              | BACB30NF3-4   |                     | . BOLT   |          |   |   |   |   |   |          | 2            |
| 27              | AN96OPD10     |                     | . WASHER   |          |   |   |   |   |   |          | 2            |
| 28              | BACN10JC3     |                     | . NUT  |          |   |   |   |   |   |          | 2            |
| 29              | BACB30NF4-52  |                     | . BOLT   |          |   |   |   |   |   |          | 1            |
| 30              | AN96OPD416L   |                     | . WASHER   |          |   |   |   |   |   |          | 1            |

| FIG. & ITEM NO. | PART NO.     | AIRLINE PART NUMBER | NOMENCLATURE |   |   |   |   |   |   | USE CODE | QTY PER ASSY |   |
|-----------------|--------------|---------------------|--------------|---|---|---|---|---|---|----------|--------------|---|
|                 |              |                     | 1            | 2 | 3 | 4 | 5 | 6 | 7 |          |              |   |
| 5-31            | BACN10JC4    |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 32              | BACB28Y4D301 |                     | .            |   |   |   |   |   |   | AB       |              | 1 |
| 32              | NAS75-4-300  |                     | .            |   |   |   |   |   |   | CDE      |              | 1 |
| 33              | 69-43291-2   |                     | .            |   |   |   |   |   |   | AB       |              | 2 |
| 33              | 69-43291-4   |                     | .            |   |   |   |   |   |   | CD       |              | 2 |
| 34              | 69-61722-1   |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 35              | BACB30NF4-52 |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 36              | AN960PD416L  |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 37              | BACN10JC4    |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 38              | NAS43DD4-192 |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 39              | 69-61724-1   |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 40              | 69-61721-1   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 41              | 69-61721-2   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 42              | BACN10JP3A   |                     | .            | . |   |   |   |   |   |          |              | 3 |
| 43              | BACR15BA3AD  |                     | .            | . |   |   |   |   |   |          |              | 6 |
| 44              | BACS40R16E24 |                     | .            | . |   |   |   |   |   |          |              | 1 |
|                 |              |                     | .            |   |   |   |   |   |   |          |              | 4 |
| 44A             | BACR15BA5AD  |                     | .            |   |   |   |   |   |   |          |              | 1 |
| 44B             | BACR15BB5AD  |                     | .            |   |   |   |   |   |   |          |              | 1 |
|                 |              |                     | -----*       |   |   |   |   |   |   |          |              |   |
| 45              | 65-79426-3   |                     | .            |   |   |   |   |   |   | A-C      |              | 1 |
| 45              | 65-79426-5   |                     | .            |   |   |   |   |   |   | DE       |              | 1 |
| 46              | 65-79426-4   |                     | .            |   |   |   |   |   |   | A-C      |              | 1 |
| 46              | 65-79426-6   |                     | .            |   |   |   |   |   |   | DE       |              | 1 |
| 47              | BACB10AC5A   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 48              | 69-38919-31  |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 49              | 69-57923-2   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 50              | 69-61720-1   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 50              | 69-61720-2   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 51              | 69-61720-3   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 51              | 69-61720-4   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 52              | BACS40R7E16  |                     | .            | . |   |   |   |   |   |          |              | 1 |
|                 |              |                     | .            |   |   |   |   |   |   |          |              | 3 |
| 52A             | BACR15BA5AD  |                     | .            |   |   |   |   |   |   |          |              | 4 |
| 52B             | BACR15BB5AD  |                     | .            |   |   |   |   |   |   |          |              | 4 |
|                 |              |                     | -----*       |   |   |   |   |   |   |          |              |   |
| 53              | 69-61718-1   |                     | .            | . |   |   |   |   |   | A-C      |              | 1 |
| 53              | 69-61718-2   |                     | .            | . |   |   |   |   |   | A-C      |              | 1 |
| 53              | 69-61718-3   |                     | .            | . |   |   |   |   |   | DE       |              | 1 |
| 53              | 69-61718-4   |                     | .            | . |   |   |   |   |   | DE       |              | 1 |
| 54              | 69-61719-1   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 54              | 69-61719-2   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 55              | 69-61729-1   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 56              | 69-61729-2   |                     | .            | . |   |   |   |   |   |          |              | 1 |
| 57              | BACC30X      |                     | .            |   |   |   |   |   |   |          |              | 4 |
| 58              | BACR15BB5AD  |                     | .            |   |   |   |   |   |   |          |              | 4 |
| 58              | BACB30MB8-10 |                     | .            |   |   |   |   |   |   |          |              | 4 |