

TECHNICAL BULLETIN

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SHINJUKU, TOKYO, JAPAN

~~JCAB APPROVED~~

NO. 200-016 DATE May. 9.1985 (SUPERSEDES NO.)
REV. A DATE Sep.26.2005 (SUPERSEDES NO.)

REASON Clarify classification of this bulletin.

1. SUBJECT : Elevator Stop, Addition of
2. AIRCRAFT AFFECTED : All FA-200 series aircraft S/N 12 through 201
3. PRIORITY : Optional
4. REASON : During parking, the elevator horn fitting may be damaged due to gust or other forces. To prevent such damages, install new elevator stop that ensures positive limit of elevator travel.
5. DESCRIPTION : Accomplish partial modification of the bulkhead at STA 6779, and install the elevator stop on the bulkhead.
6. ACCOMPLISHMENT : At customer's option
7. APPROVAL : JCAB Approval not required
- 7A. CLASSIFICATION : Minor repair
8. PARTS REQUIRED: Refer to the attached parts list.
9. SPECIAL TOOL : None required

10. WEIGHT AND BALANCE:

| | |
|--------------------|------------------------|
| <u>Weight (kg)</u> | <u>Moment Arm (mm)</u> |
| + 0.166 | STA 6779 |

11. REFERENCE : Not applicable

12. DETAILED INSTRUCTIONS:

- (1) Place aircraft in a safe place, and ground aircraft to approved ground rod.
- (2) Provide suitable support stand to prevent tail from lowering.



- (3) Remove covers to gain access to the inside of aft fuselage.
- (4) Conduct inspection of structural dimensions of stabilizers in accordance with Service Manual, Figure 3-7.
- (5) Remove rudder in accordance with Service Manual, Paragraph 8-4-1
- (6) Remove elevators in accordance with Service Manual, Paragraph 8-5-1
- (7) Remove vertical stabilizer in accordance with Service Manual, Paragraph 7-13-1
- (8) Remove horizontal stabilizer in accordance with Service Manual, Paragraph 7-14-1
- (9) Remove elevator bellcrank in accordance with Service Manual, Paragraph 8-5-5
- (10) Accomplish structural modifications of the bulkhead at STA 6779 as follows: (See Figure 1)
 - a. Remove screws MS35206-249 and remove the existing stop P/N 200-440055-15 at **A** in Figure 1
 - b. Drill out rivets and remove channel P/N 200-440055-5 at **B** in Figure 1. (Use corner drill as required.)
- (11) Install new elevator stop as follows: (See Figure 1.)
 - a. Position and install bracket P/N 200-440059-3 in place of the channel removed in the previous step
 - b. Temporarily install stop bolt NAS428-4-14 on stop P/N 200-440059-13.
 - c. Position stop P/N 200-440059-13 on bracket P/N 200-440059-3, and drill holes in the stop and bracket to the dimensions shown on the drawing.
 - d. Remove burrs and metal chips, apply zinc chromate primer, and then install with bolts AN3-11A, nuts NAS679A3W and washers AN960-10. (Use one each washer under bolt head and nut.)
 - e. If washers interfere with "radius" of bracket, washers may be reworked.
- (12) Install elevator bellcrank in accordance with Service Manual, Paragraph 8-5-6.
- (13) Install horizontal stabilizer in accordance with Service Manual, Paragraph 7-14-1.
- (14) Install vertical stabilizer in accordance with Service Manual, Paragraph 7-13-1.
- (15) Install elevators in accordance with Service Manual, Paragraph 8-5-2.
- (16) Install rudder in accordance with Service Manual, Paragraph 8-4-2.

- (17) Conduct inspection of structural dimensions of stabilizers in accordance with Service Manual, Figure 3-7, and verify that measured data conform with the data obtained in the above step (4)
- (18) Rig control systems as follows:

Rudder system rigging

- a. Rig rudder system in accordance with Service Manual, Paragraph 8-4-3.
- b. Conduct inspections as specified in FA 200 SB 200-002B, Step 5, substeps 1) and 3).

Elevator tab system rigging

- a. Rig elevator tab system in accordance with Service Manual, Paragraph 8-6-3.

Elevator system rigging

- a. Adjust bellcrank stop \textcircled{V} s follows:
 - (a) With elevators set to UP $30^\circ \pm 1^\circ$, adjust rod so that bellcrank contacts fixed stop $\boxed{V_2}$.
 - (b) With elevators set to DN $15^\circ \pm 1^\circ$, adjust adjustable stop $\boxed{V_1}$ so that bellcrank contacts the stop.
- b. Align hole in actuating rod with hole in bearing at instrument panel, and then insert rig pin (A) to lock control stick.
- c. Connect cables between control stick and bellcrank, and adjust turnbuckles (K) so that control surface is set to the neutral position. Tighten upper cable to $43 \text{ lbs} \pm 5$ ($19.3 \text{ kg} \pm 2.3$). Tighten lower cable to $37 \text{ lbs} \pm 5$ ($16.8 \text{ kg} \pm 2.3$). (Identification: upper cable – green; lower cable – red).

The turnbuckles (K) are located below baggage compartment. Remove access door at the center of baggage room.
- d. With control stick set free, adjust each stop (L) to obtain clearance of 0 to 0.5 mm while bellcrank is contacting each of stops \textcircled{V} , $\boxed{V_1}$ and $\boxed{V_2}$.

When making the above adjustment, make sure the position of control stick as follows:

 - (A) Control surface “Down Position”: the position which tends to move control stick forward.
 - (B) Control surface “UP Position”: the position in which control stick is maintained with minimum force to required to make control surface contact stop $\boxed{V_2}$.
- e. Ensure that elevators move “UP” when control stick is pulled, and elevators move “DOWN” when control stick is pulled.
- f. Safety turnbuckles with clip MS 21256-2 or safety wire.

(19) Reinstall covers and other items removed for access..

(20) Remove stand and grounding wire.

13. (Deleted)

REQUIRED PARTS LIST

| No. | P/N | DESCRIPTION | UNITS PER ASSY |
|-----|----------------|-------------|----------------|
| 1 | MS24665-134 | PIN | 10 |
| 2 | NAS679A4W | NUT | 15 |
| 3 | NAS679A5W | NUT | 2 |
| 4 | 200-440059-003 | BRACKET | 1 |
| 5 | 200-440059-013 | STOPPER | 1 |
| 6 | NAS428-4-14 | BOLT | 1 |
| 7 | AN316-4 | NUT | 1 |
| 8 | AN3-11A | BOLT | 4 |
| 9 | NAS679A3W | NUT | 4 |
| 10 | AN960-10 | WASHER | 8 |
| 11 | MS20470AD4 | RIVET | AR |
| 12 | MS20426AD4 | RIVET | AR |
| 13 | MS20470AD5 | RIVET | AR |

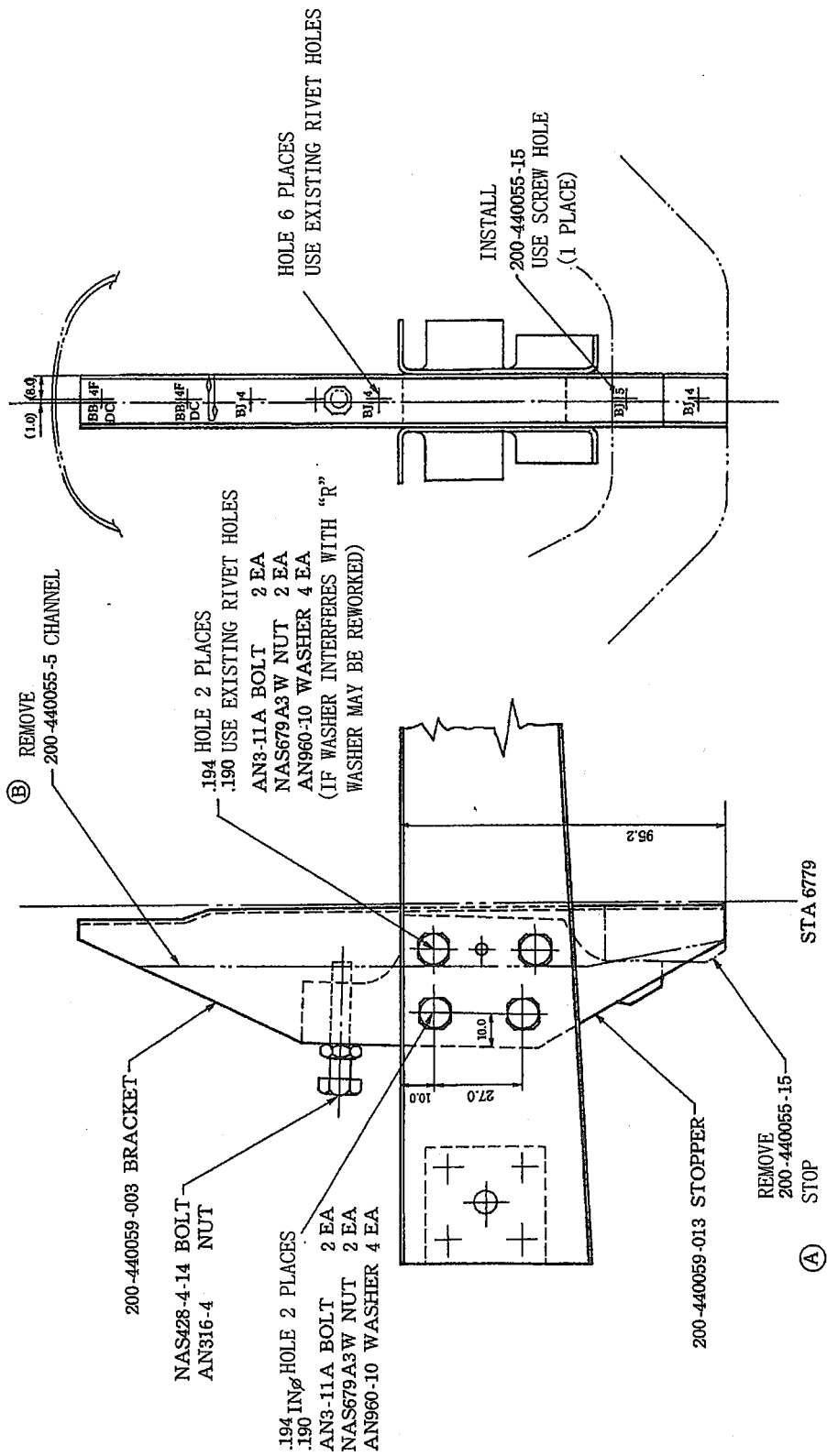


Figure 1 Elevator Stop Installation

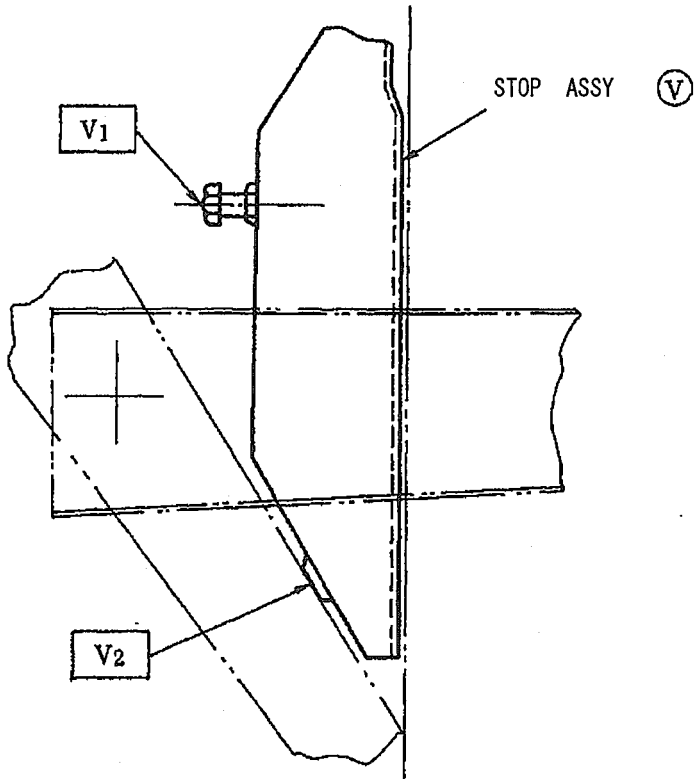


Figure 1 Elevator Stops