

REVO, INC.
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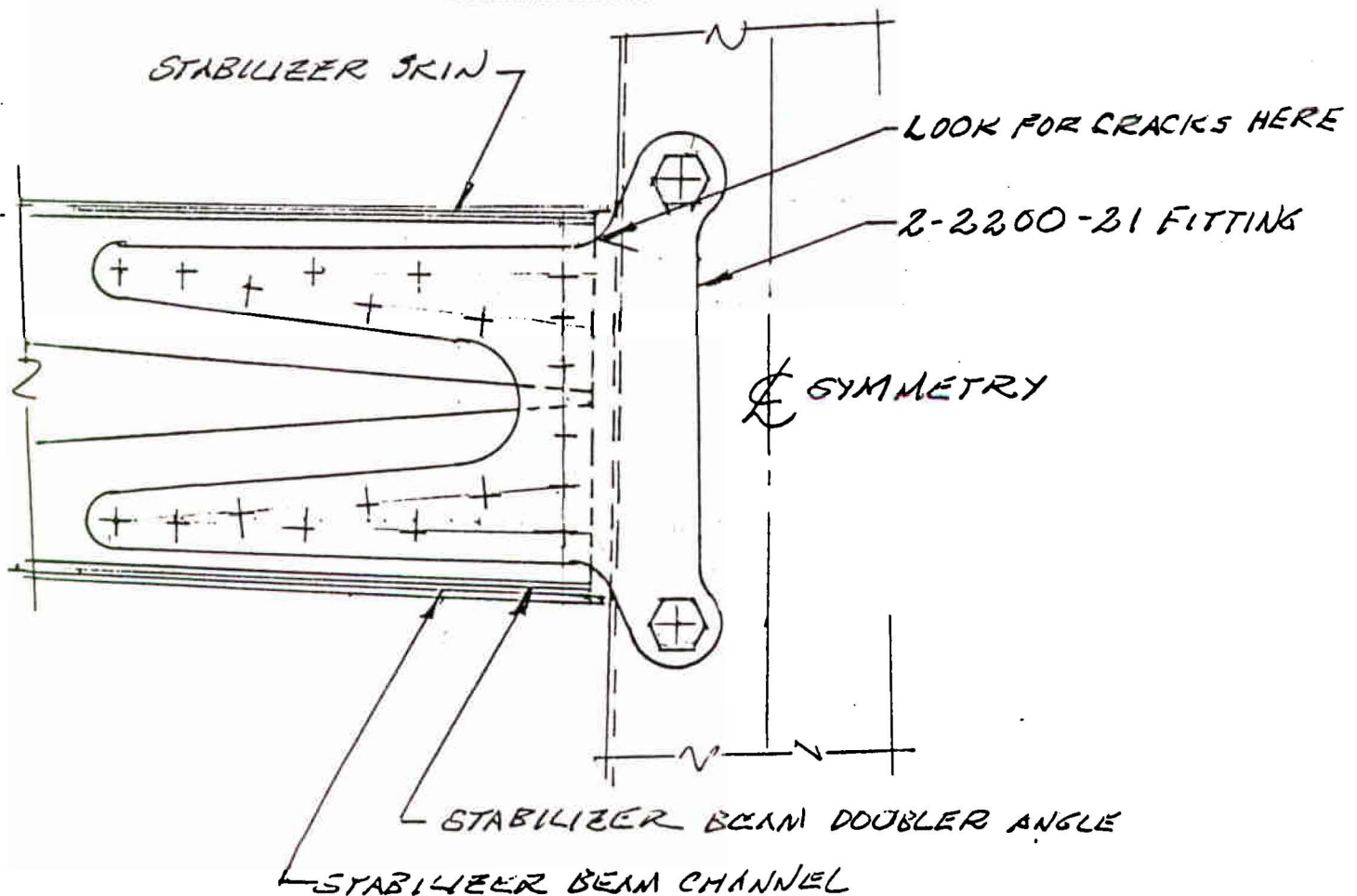
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ENGINEERING APPROVAL

SUBJECT: Horizontal Tail Attachment Fittings

Airplanes Affected: All Colonial C-2, Lake LA-4 & LA-4-200 Models

Compliance: Within next 5 hours of flight time

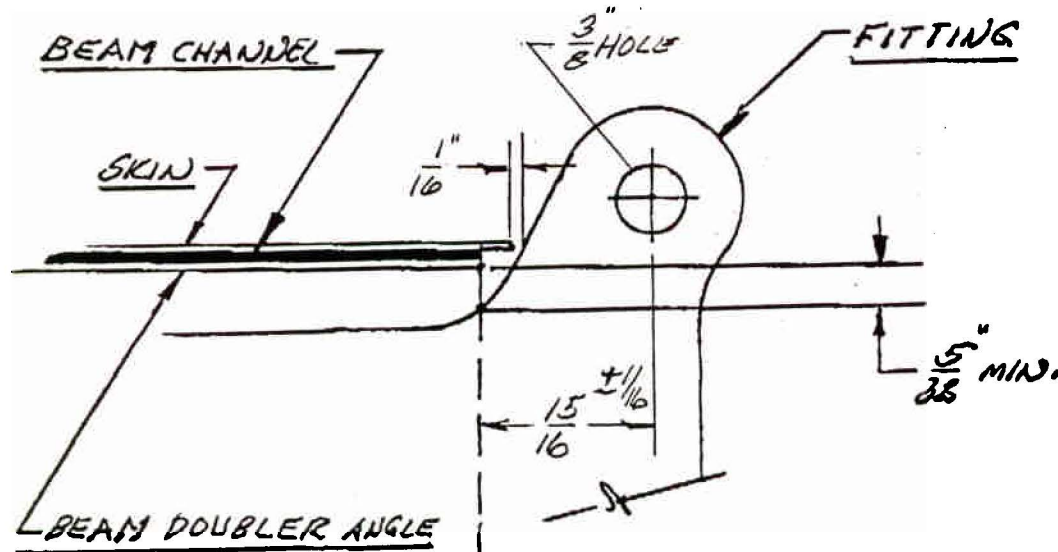
Description: A recent incident involving failure of the attachment fitting of the left-hand horizontal stabilizer to the vertical fin has shown that a cause for initiation of a crack in the fitting can exist. The area in questions is shown below.



VIEW IS OF LEFT SIDE, LOOKING FORWARD

PROCEDURE:

The fitting in the area of its attachment to the horizontal stabilizer rear beam may be initially inspected by raising the elevator and determining the distance between the fitting and the flanges of the beam doubler angle, and any contact of the fitting with the skin. (See below). Both left and right stabilizer halves, top and bottom, must be checked.



The shank of a 5/32 drill bit may be used to check the gap.

1. If the gap is at least 5/32", and the stabilizer skin is not contacting the fitting, no further action is necessary.
2. If the gap is at least 5/32", but the skin has less than 1/16" clearance, simply trim off the skin edge to provide at least 1/16" clearance.
3. If the gap is less than 5/32", at any fitting, it will be necessary to remove the fitting in order to properly inspect it. This entails removal of the horizontal tail half from the airplane. (A guide to this procedure is in the appendix to this Bulletin.)

INSPECTION and REPAIR:

With the fitting removed, inspect its forward face for evidence of actual contact with the stabilizer beam or any adjacent structure. If contact has been present, the fitting will show signs of fretting or possibly the start of a crack . Removal of paint (by light sanding) will be necessary for this inspection. Inspect the area with a magnifying glass. Dye checking, per MIL-I-6866B or equivalent, is also recommended. If cracks, fretting, or corrosion are present, the fitting must be replaced with a new 2-2200-21 fitting.

Before installing any new fitting, trim the end of the stabilizer beam doubler flange and bend radius area to provide positive clearance for the fitting. Also, use brush Alodine and primer on all areas where metal has been removed before re-assembly and re-installation of the horizontal tail. Check these before riveting the fitting in place.

When installing a new fitting, center the fitting midway between the upper and lower beam and doubler flanges, with the 3/8" bolt hole 15/16" (+- 1/16") inboard of the beam end.

APPENDIX

Removal of horizontal tail halves:

1. Disconnect the pushrod from the elevator horn inside the vertical tail.
Allow the pushrod to lower out of the way.
2. Disconnect the trim surface torque tubes near the inboard end of the horizontal tail.
3. Unbolt the elevator from the elevator horn welded assembly.
4. Remove the elevator from the stabilizer by pulling the hinge pin.
5. With the horizontal tail supported, remove the AN4 bolt from the forward beam attach point, and remove the two AN6 bolts from the rear beam attach fitting.
6. Remove the fitting from the stabilizer by carefully drilling out the AN470AD6 rivets. (Provide adequate support to the forward side of the aft beam when driving out the old rivet shanks.)
7. Repeat the procedures 2 through 6 for the other stabilizer half if necessary.
8. After installing a new or corrected fitting onto the stabilizer rear beam, reverse the above procedure for reinstallation of the horizontal tail. (Existing bolts and hinges may be re-used.)
9. Install all seals and access covers. (Existing parts may be re-used.)
10. Check travels and operation of elevator, trim surfaces, and rudder.

Elevator:	up 26 deg. +1 deg.	down 23 deg. +1 deg.
Trim Surfaces:	up 36 deg. +2 deg. -1 deg.	down 24 deg. +2 deg. -1 deg.
Rudder:	left 25 deg. +1 deg.	right 25 deg. +1 deg.