

IMMEDIATE ACTION

SERVICE



BULLETIN

NUMBER 7

Rev. Date: 2-18-46

SUBJECT: Reinforcement of Stabilizer Yokes

MODELS AFFECTED: J2 Cubs

It has come to our attention that the stabilizer adjustment yoke in a certain Model J2 was found to have a crack in one of the tubular stubs to which the stabilizers are attached. The location of the crack was just at the outside of the weld which joins the diagonal tube to this member. The crack was on the upper side and passed part way around the tube. It was probably due to fatigue of the welded metal, caused by vibration.

To guarantee against a possible hazard arising from this condition, we recommend immediate inspection and reinforcement of the stabilizer adjustment yokes of all Model J2 "Cubs" now in service.

A satisfactory reinforcement may be provided by inserting into the arm of the yoke a liner tube of the proper diameter to provide a tight fit.

The procedure for installing the liners is as follows:

1. Remove both stabilizers from the airplane by disconnecting the tie rods, removing the elevator hinge pins and removing the bolts at the fuselage.
2. Thoroughly examine the yoke arms at the above-mentioned welded joint for signs of cracks. If none is found it will not be necessary to remove the yoke.

Note: In case the inspection of the yoke should reveal any cracks, the yoke should be removed from the ship and the crack welded before proceeding with the reinforcement.

3. Insert one of the liner tubes into each end of the yoke. The liner will pass freely until the welded joint is reached after which it may have to be driven by hammering. Do not use a steel hammer directly on the tube. Use a hammer of some non-abrasive material such as rawhide or a block of wood. Also, while hammering one end of the yoke, a heavy block of wood should be held against the opposite end to "buck up" against the hammering so that the hammer blows will not be transmitted directly to the adjusting screw and the fuselage.

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In case the liner is excessively hard to start past the weld, it may be necessary to first clean out the inside of the yoke arm at the weld with a round file.

4. When the liner is all the way in, it should be flush, or nearly so, with the end of the arm. The stabilizers may then be replaced. Be sure that the right and left stabilizers do not become interchanged.

5. Replace the bolts at the rear stabilizer support. Next, run the stabilizer **adjustment** clear to the bottom of its travel, or to the full "nose up" position.

6. Line up the front bolt holes with those in the yoke, and using a No. 11 drill, drill through the liner tube. The upper hole should be drilled from above and the lower one from below rather than attempting to drill clear through from either side.

7. Next, run the stabilizer adjustment to the top of its travel, or to the full "nose down" position, and repeat the drilling, as above.

8. Insert the front bolts, replace and re-rig the tie rods and replace and safety the elevator hinge pins.

9. Safety all bolts and safety the tie rods by tightening the lock nuts.