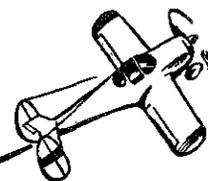


Ercoupe BULLETIN

ERCOUPE
SERVICE
BULLETIN

No. **25**

**SUBJECT: Inspection of Rudder Horn
Attachment**



July 31, 1953

1. C.A.A. has advised us that there have been four cases of partial failure of the rudder horn attachments on Ercoupes reported during the past year. Since this failure will not prevent normal lateral control of the Ercoupe, except that it will somewhat reduce the effectiveness of the ailerons at low speeds, it is possible that there are Ercoupes flying having partial or almost complete loss of rudder control of one or both rudders due to similar unreported failures.

2. It is our considered opinion that these failures are caused by improper handling of the aircraft on the ground. We, therefore, recommend that all persons handling Ercoupes on the ground be instructed not to push on the movable control surfaces in moving the airplanes and to be particularly careful to avoid pushing on the rudders. We further recommend that all Ercoupe rudders be checked at 100 hours or relicense intervals by loading the trailing edge while the controls are in neutral position. A load of ten pounds (the force an average person can exert with one extended finger) should be used. The deflection of the trailing edge should be measured to be sure that it does not exceed one half inch with the above loading. If the ten pound load deflects the rudder more than one half inch, the cause of the excessive deflection should be investigated. Further, if the skins of the rudder deform abnormally when exerting this load, the reason for this deformation should also be investigated.

3. If excessive deflections, as indicated in Paragraph 2, are present, the control system should be checked to be sure that the deflection is in the rudder. If it is, the rudder should be removed and the main spar of the rudder inspected for cracks. The outboard skin should also be removed sufficiently to inspect the structure to which the control horn is attached. It should be noted that Service Bulletin No. 23 called for two through bolts to reinforce the attachment of the rudder horns on certain of the Ercoupe serial numbers. These bolts should also be checked for possible failures. Any cracks or serious deformations of the spar or internal structure of the rudder is cause for replacement of the damaged part.

4. Parts removed, including skins, should be reinstalled with the same rivets size unless the holes were damaged in removal, in which case oversize rivets can be used. It is to be noted that rudders made after Ercoupe serial No. 3335 have explosive rivets (2DR134A-8 and 4DR134A-4) attaching outer skin to center rib in lieu of the special bolts described in Bulletin No. 23. Service Bulletin No. 23 shows the internal structure of, and instructions for, removal and reinstallation of rudders.