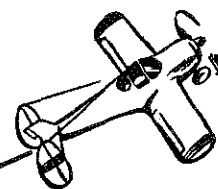


Ercoupe BULLETIN

SUBJECT: Rudder—Modification of



It has been found desirable to increase the strength of the rudder at the control horn attachment. As is our policy, the information necessary to incorporate the improvement in delivered Ercoupes is presented in this Bulletin. The modification required to obtain added service life of the rudders, is the addition of a rudder reinforcement plate to each rudder. Effective at Ercoupe Serial No. 3336, the rudder was redesigned at the rudder control horn attachment, therefore, the affected Ercoupes are Serial Nos. 113 to 3335, inclusive. It is recommended that this Bulletin be complied with no later than the next 100 hour check, except where visual inspection shows the immediate need of the repair.

1. Removal of Rudder Assemblies:

a. Remove rudder (415-24001 L/R) as follows:

- (1) Remove stabilizer access door (415-21014 L/R), located at each end of the lower side of the stabilizer, by removing the truss head screw (415-21001-5).
- (2) Disconnect the pushrod (415-52022) from rudder control horn (415-24002 L/R) by removing cotter pin (415-20010-12), shear nut (415-20010-9) and bolt (415-20010-4).
- (3) Disconnect middle rudder hinge from rudder by removing the two cotter pins (415-24001-9), shear nuts (415-24001-2), plain washers (415-24001-8), clevis bolts (415-24001-1), and spacers (415-24001-17).
- (4) Disconnect lower hinge from rudder by removing the two self-locking nuts (415-24001-3) and truss head screws (415-24001-5 and 415-24001-4). (The longer truss head screw, part number 415-24001-4 is used to allow for thickness of bonding jumper, part number 415-22030).
- (5) Remove rudder by removing the two self-locking nuts (415-24001-3) and truss head screws (415-24001-5) from upper hinge attachment to rudder.

2. Removal of Rudder Control Horns:

a. Remove rudder control horn as follows:

- (1) Remove self-locking nut (415-24001-3) and truss head screw (415-24001-6) from forward end of control horn.
- (2) Remove control horn by unscrewing the two remaining truss head screws (415-24001-6).

3. Installation of Rudder Reinforcement Plates:

a. Install rudder reinforcement plate as follows:

- (Ref. Page 2, Figures 1 and 2).
- (1) Clean the area adjacent to the removed horn and a similar area on the outer side of the rudder.
 - (2) Drill relief holes at the end of any cracks in rudder skin.
 - (3) Mark with a punch the location of two holes, to be drilled in the rudder outer skin opposite the rearmost horn attaching bolt holes, by inserting a punch through each bolt hole and then centering it in the .196" hole existing in the reinforcement plate (415-24007) under the skin to be drilled.
 - (4) Drill No. 40 (.098) holes at these marks.
 - (5) Compare these holes with a rudder control horn for alignment and then enlarge holes with a No. 27 (.144) drill accordingly.
 - (6) Install rudder reinforcement plate, on hinge side of rudder, between existing reinforcement plate (415-24007) and rudder channel and align the reinforcement plate to match holes.
 - (7) Install rudder horn by screwing in the two special bolts (415-24014-1 and 415-24014-2) until tight and then lock with self-locking nuts (415-24014-5). The longer screw (415-24014-2) must be installed in the middle control horn attaching hole. Reinstall the original truss head screw at horn attachment to rudder channel.
 - (8) Drill two No. 9 (.196) holes in reinforcement plate to match hinge holes.

4. Installation of Rudder Assemblies:

- a. Reinstall rudder assemblies in reverse order of paragraph 1. The bolt used to attach the pushrod to the rudder horn requires careful

adjustment of the nut to prevent binding of the clevis part and still have no looseness that will result in rattling. Check rigging in accordance with Service Department Memorandum Number 35.

The Rudder Modification Kit, Part No. 415-24014, is available for this modification and consists of the following:

<i>Nomenclature</i>	<i>Part Number</i>	<i>No. Req. Per Airplane</i>
Nut; Self-locking (AN365-632).....	415-24014-5	4
Plate; Rudder Reinforcement.....	415-24014-3	2
Screw; Truss Head (Special).....	415-24014-1	2
Screw; Truss Head (Special).....	415-24014-2	2
Washer; Plain (AN960-A6L).....	415-24014-4	4

