

Tuesday, May 09, 2000

Murphy Aircraft Mfg. Ltd.

WORLD HEADQUARTERS

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Service Bulletin 080520Reb

Urgency: High

Re. Rebel Vertical Tailpost Spar Attachment

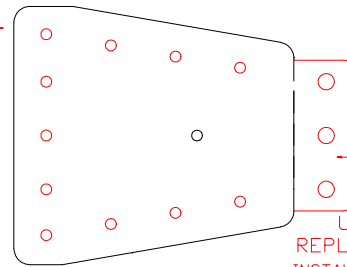
The Vertical Fin Spar ST-24 is held to the tail cone of the aircraft by a series of rivets connecting it to the FUS-31 horizontal bulkhead and the FUS-30 tail wrap skin. It has been found during routine maintenance inspections that several Rebel aircraft had the 1/8 rivets sheared or loose where the ST-24 fin spar is joined to the end tab of the FUS-31 horizontal bulk head. This attachment consists of three 1/8 diameter rivets passing through the aft flange of the FUS-31 and the center web of the ST-23 fin spar. A resolution to the problem is the attached fix. Builders are advised to carry out this modification to their aircraft whether or not there is any evidence sheared or loose rivets in the area of concern.

- 1) Drill out and remove the three 1/8 diameter rivets attaching the aft end of the FUS-31 bulkhead to the ST-24 fin spar.
- 2) Manufacture a bulkhead to spar reinforcement plate as shown on the attached figure # 1. The plate is to be made from .032 6061-T6 aluminum sheet stock. A 4" by 3" piece of stock will suffice for this process. The included 1to1 scale template will assist in the manufacture of this piece.
- 3) After completing the cutting, drilling, trimming, and deburring of this piece it should be bent along the illustrated bend line, with a bend radius approaching 1/8"
- 4) Lay the plate over the FUS-31 bulkhead and butt it up against the web of the ST-24 fin spar. Back drill the 3 holes remaining from the previously removed 1/8 rivets in this area. At this same time you can drill the holes for the twelve, 1/8 rivets that will attach the plate to the FUS-31 horizontal bulkhead.
- 5) After laying out all the holes enlarge the 3, 1/8 holes common to the FUS-31 aft flange, the plate you just made and the ST-24 fin spar to 3/16"
- 6) Chromate the bonding surfaces and rivet them together. 12 X RV-1410 or RV-1412 rivets fasten the new plate to the FUS-31 bulkhead and 3 X RV-1612 rivets are used to fasten the plate to the ST-24 fin spar.

With thanks to : Wayne O'Shea /Rebel 386R/Rebel/243R
Technical Services Department

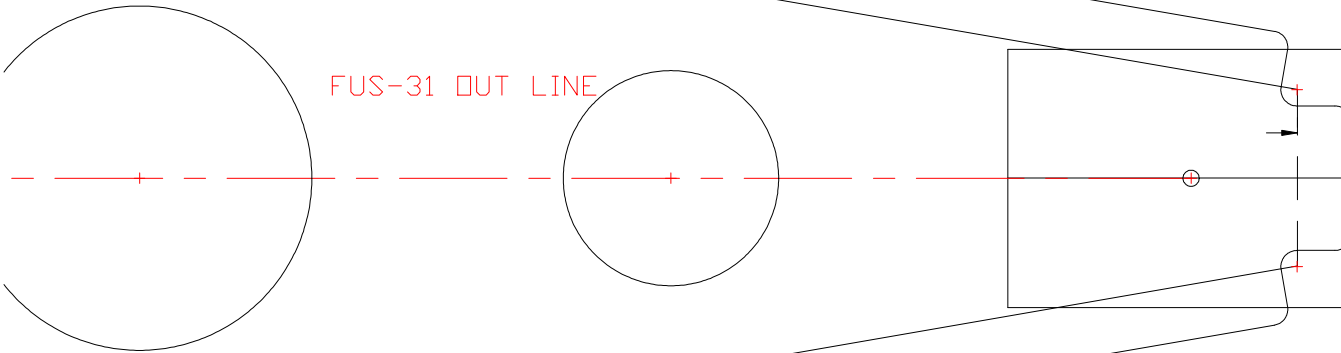
FINISHED BULKHEAD TO SPAR
REINFORCEMENT PLATE
OUTLINE

USE 12 RV-1410 OR RV1412 RIVETS TO ANCHOR PLATE TO
FUS-31 BULKHEAD



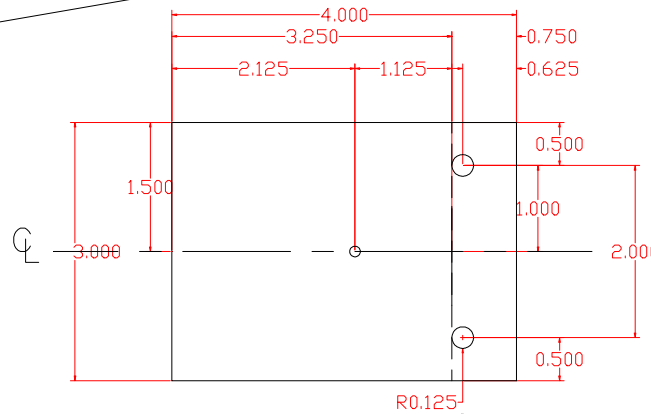
USE RV-1612 TO
REPLACE 1/8 RIVETS
INSTALLED IN VERTICAL FIN
POST SPAR

FUS-31 OUT LINE



0.6275

USE A 4"X3" PLATE OF .032/6061-T6
ALUM. TO MANUFACTURE REINFORCEMENT
PLATE. PLOT THE POINTS ON THE PLATE
DRILL AND TRIM AS SHOWN BEND AFTER
COMPLETION OF TRIMMING TO SUIT FUS-31



SIDEVIEW

Figure one

