

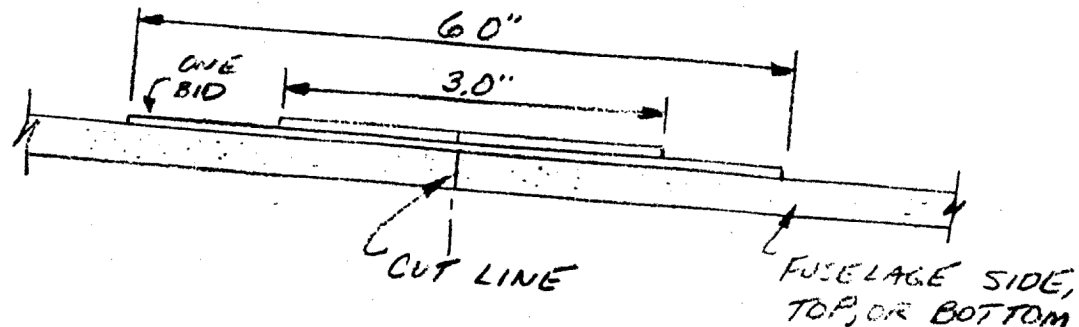
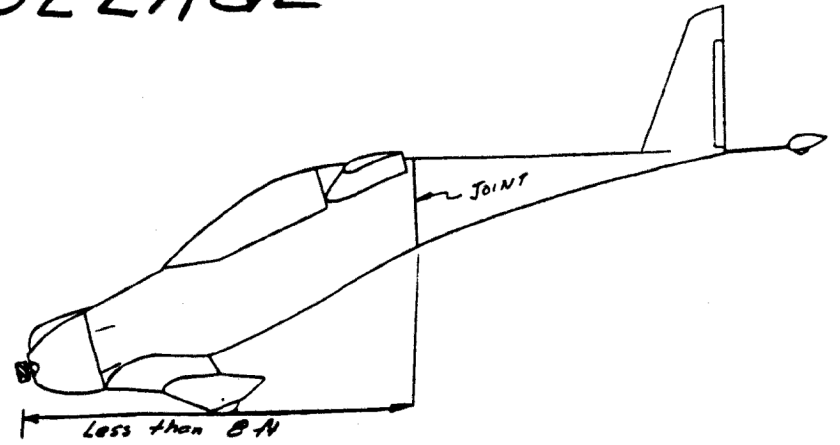
# CUTTING THE FUSELAGE

## STEP 1: Determining the Location

The purpose of the fuselage cut is to reduce the length of the Quickie to 8 feet, so that it may be trailered along the highway with the wings pointing in the direction of travel, and without requiring special towing permits.

The sketch indicates the approximate location of the fuselage cut. Note that the fuselage must be allowed to tilt forward in order to reduce the "length" to eight feet.

Obviously, there are limits to how far forward the joint can be. At the bottom of the fuselage, it must be aft of the STA 89 bulkhead. At the top of the fuselage, the cut line must be aft of the aileron torque tubes and the phenolic bearings. Using a tape measure and some friends to help hoist the aircraft, lay out the fuselage cut line all of the way around.



## STEP 2

Sand the fiberglass dull for three inches on either side of the cut line around the entire circumference of the fuselage.

Layup one six inch wide strip of BID and one three inch wide strip of BID around the entire fuselage. The BID should be at 45 deg to the cut line. (See sketch)

Use a one inch overlap on the segments.

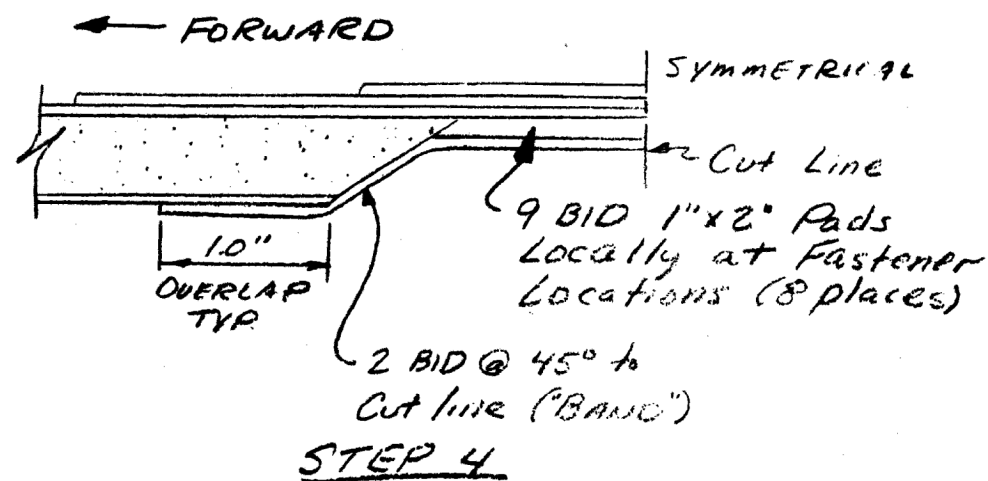
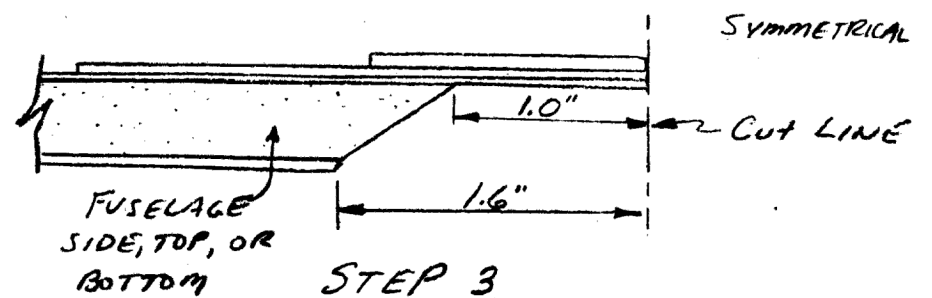
## STEP 3: Cutting the Fuselage

Using a hacksaw, cut the fuselage along the cut line. Be careful not to damage anything inside the fuselage, like control system components.

Cut the rudder cables (with the tailwheel in the neutral position) about half way between the FS89 and FS110 bulkheads.

On each piece of the fuselage, mark a line 1.6 inches from the cut line. Carefully saw through the inside fiberglass, and then taper the foam as shown in the sketch so that there is a one inch band (on either side of the cut line) at the outside fiberglass.

Sand that one inch band of fiberglass dull (on the inside of the fuselage). Also sand dull one inch of glass on the inside of the fuselage (see sketch for STEP 4; the overlap area).

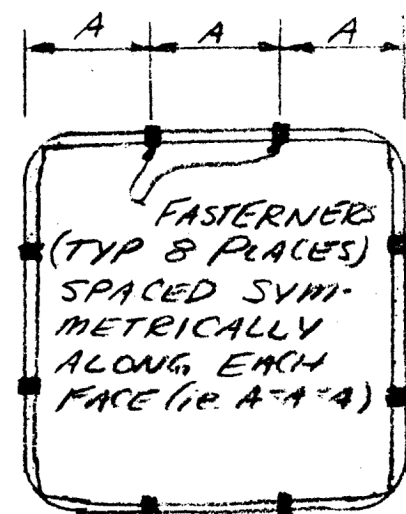


## STEP 4: Local Reinforcements

Eight fasteners will be used to join the fuselage pieces back together again. There will be two fasteners on each face of the fuselage, spaced symmetrically along each face (see sketch). Mark the fastener locations on the inside of the fuselage pieces.

At each fastener location, you will do a layup of 9 BID pads 1" x 2" on each fuselage piece. Study the sketches carefully. The BID is oriented 45 deg to the cut line.

Next a band of two BID is laid up around the inside at 45 deg to the cut line. This band should overlap at least 1" onto the inside fuselage skin as shown. Do not permit kinks in the layup; use some dry or wet micro if necessary to smooth the transition around the eight pads.



FUSELAGE SECTION  
LOOKING AFT AND  
SHOWING FASTENER  
LOCATION

**STEP 5: Installing the Fasteners**

Make eight FC1 out of 063" thick 2024T3 Aluminum. Use the sketch as a full size pattern.

Bolt them to the forward fuselage piece with AN525-10R10 screws at the pad locations.

Next, use Bondo to hold the rear fuselage piece jiggled in position to the forward fuselage.

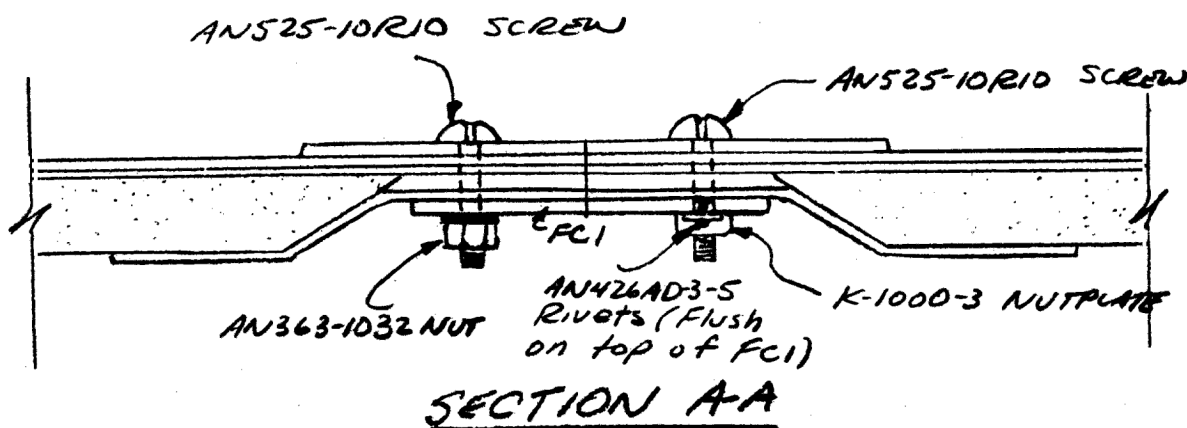
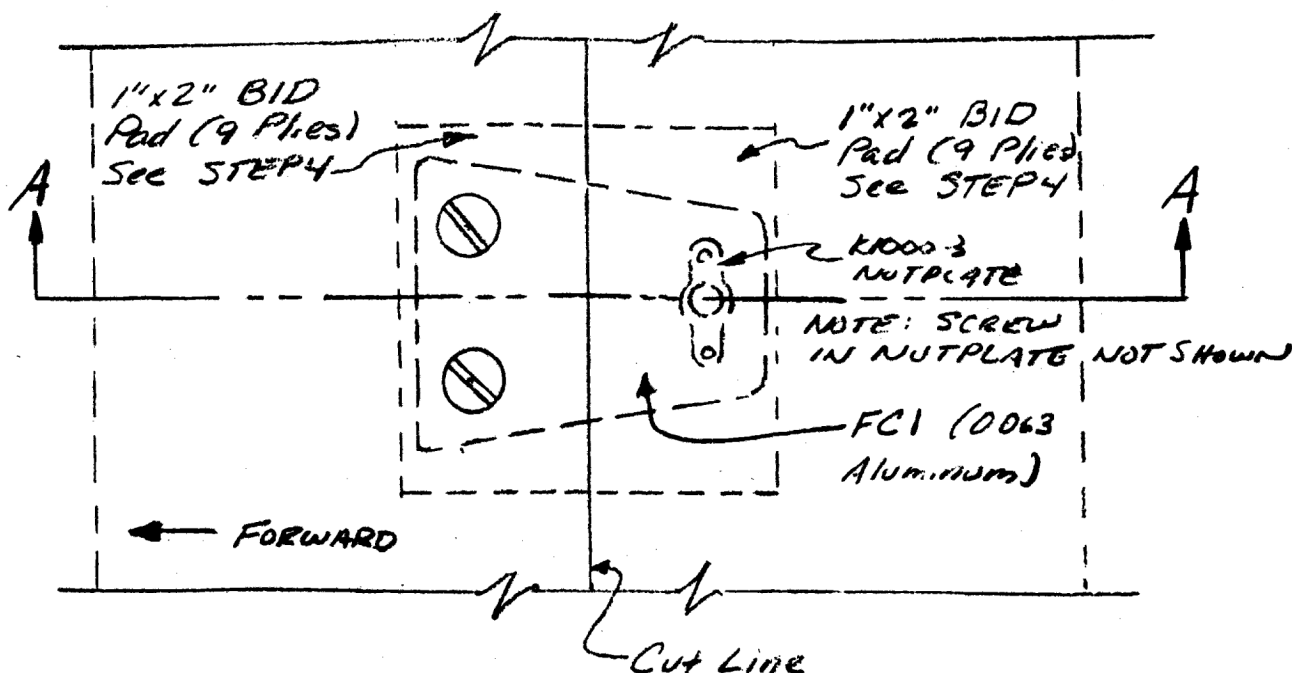
By shining a light inside the fuselage at each fastener location, you should be able to see the FC1 pieces from the outside of the fuselage well enough to drill in #12 holes (eight places) for the K-1000-3 nutplates.

Then, you can mount the nutplates to the FC1 pieces with the AN426AD-3-5 rivets, countersinking them flush from the side of FC1 closest to the pads.

Finally, install the AN525-10R10 screws to join the fuselage pieces together.

**Bill of Material for Fuselage cut**

Item	Quantity
AN525-10R10 Screw	24
K1000-3 Nutplates	8
AN363-1032 Nut	20
AN426AD-3-5 Rivets	16
0.063" thick 2024T3 Aluminum Sheet	6" x 12"
AN115-16 Shackles	4
AN3-5A Bolts	4
AN100-4 Thimbles	4
18-2-G Micropress Sleeves	4
AN960-10 Washers	25
RA5177BID Bidirectional 38" width	3 yds.
RAEF Fast Cure Epoxy Kit	1 pt.



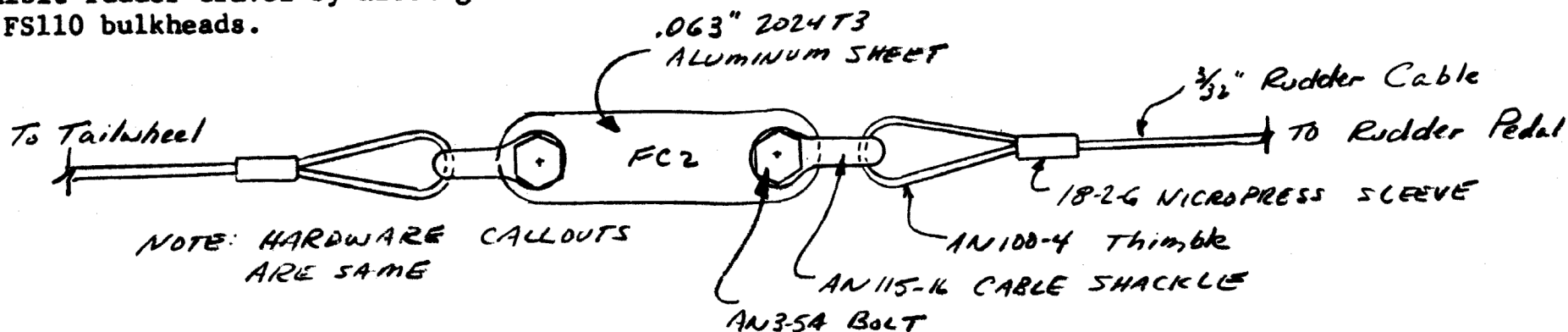
**STEP 6: Rudder Cable Disconnects**

The sketch shows a simple, inexpensive way to make the rudder cables detachable.

Make the FC2 pieces (2) out of .063" 2024T3 Aluminum. Use the sketch as a full-size pattern.

To detach the rudder cables, remove one of the AN3-5A bolts from each side.

Verify that the hardware does not inhibit rudder travel by hitting the FS89 or FS110 bulkheads.



**STEP 6**

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