PROCEDURE 4.170

Seat Supports

In this procedure…
The construction and installation of the seats will be completed. This procedure is written for one front seat and one rear seat. Repeat the steps for the second set of seats.

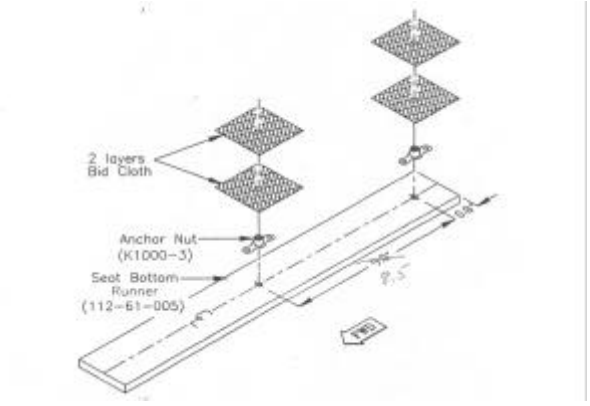
Supplied Materials

Part Number.	Qty.	Description
112-14-026-01	8	Hard point, glass panel,
112-61-004	4	Rib, forward seat
112-61-005	4	Runner, seat bottom
112-61-009	4	Rib, rear seat
AN3-12A	8	Bolt
AN365-428	8	Nut, self-locking
AN4-10A	8	Bolt
AN960-416	16	Washer
AN970-3	8	Washer
K1000-3	8	Nut, anchor
NAS43DD3-32	8	Spacer *

Procedure:

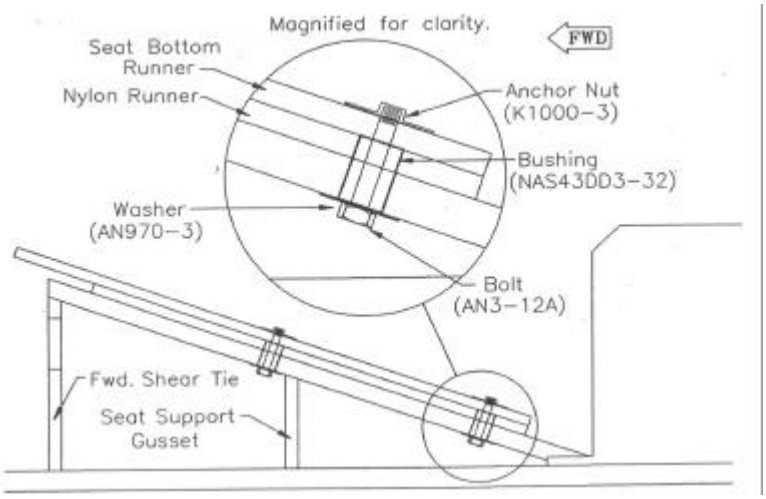
Step 1 <u>Prepare front seat ribs and runners for installation.</u>

Draw a centerline on each of the two seat bottom runners (112-61-005). Drill 3/16" holes centered 0.8" and 9.0" from one end of each runner, on its CL. Prep the area around each hole on the peel-ply side (the rough surface) for bonding. Insert a bolt (AN3-12A) through each hole from the glassy side, and finger tighten an anchor nut (K1000-3) onto it. Hot glue the anchor nut in place and remove the bolts.

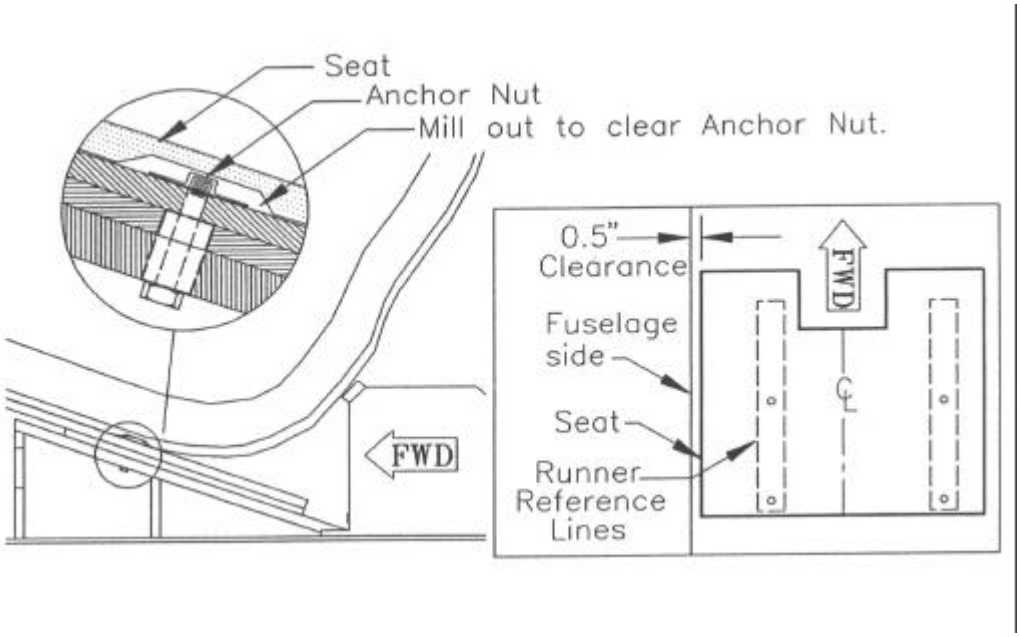


Cut eight 2.0" square pieces of bid cloth. Punch a hole through the center of each square with a hole punch for bolt openings. Apply milled fiber to the anchor nuts, avoiding the threads. Laminate two pieces of bid cloth over each anchor nut, centering the holes over the boltholes. Allow it to cure.

Place a seat bottom runner, anchor nut side up, on each set of nylon runners. Bolt each in place with a bolt (AN3-12A), washer (AN970-3) and spacer (NAS43DD3-32). Do not fully tighten the bolts at this time. Correct any binding or rough spots with sandpaper so the runners slide easily.



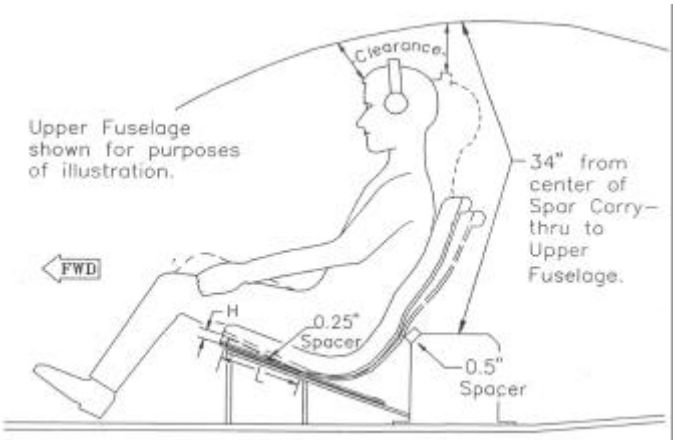
Move the seat bottom runners to their full aft position. Put the seat on the runners with its back against a 0.5" spacer temporarily taped to the spar carry-thru. Leave 0.5" clearance between the seat and the fuselage wall. On the edges of the seat bottom runners, mark the points of contact between the anchor nuts and the seat bottom. Also draw marks on the seat bottom, showing the position of the runner. Take the seat out.

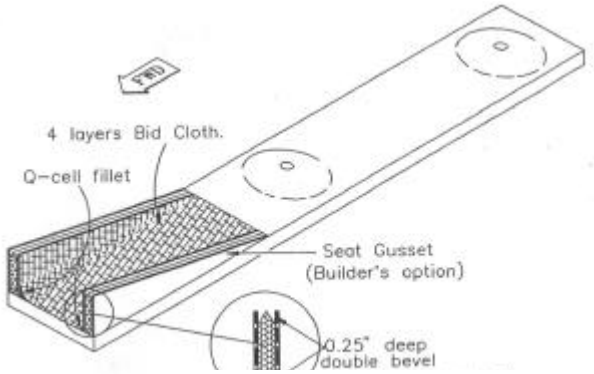


To create more headroom for taller pilots, add gussets to tilt the seatback

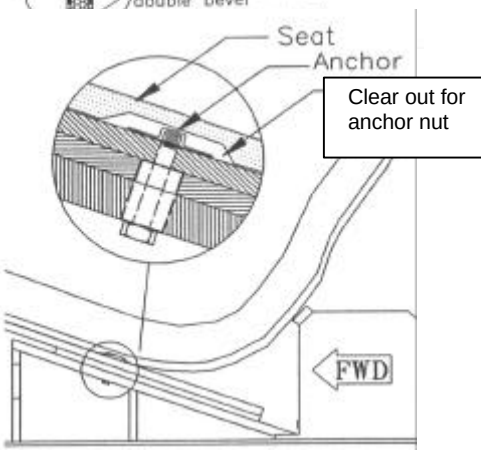
Note: For shorter builders, tipping the seat back may cause pressure on the backs of the legs.

Allow about an inch for seat cushions and for a headset when making your measurements. (The distance from the spar carry-through to the upper fuselage is about 34"). Slip a 0.25" thick spacer between the seat front and each seat bottom runner, then slide it aft until the desired angle is achieved. Measure the height and the length of the gap. Using the height and length make a triangular gussets from the material removed to clear the control stick. Remove a 0.25" deep double bevel from the upper and lower edges of each gusset (similar to that made in the wing ribs before closeout). Fill the lower bevel with milled fiber, and bond the gussets to the top of the runners. Apply four layers of bid cloth inside the channel.

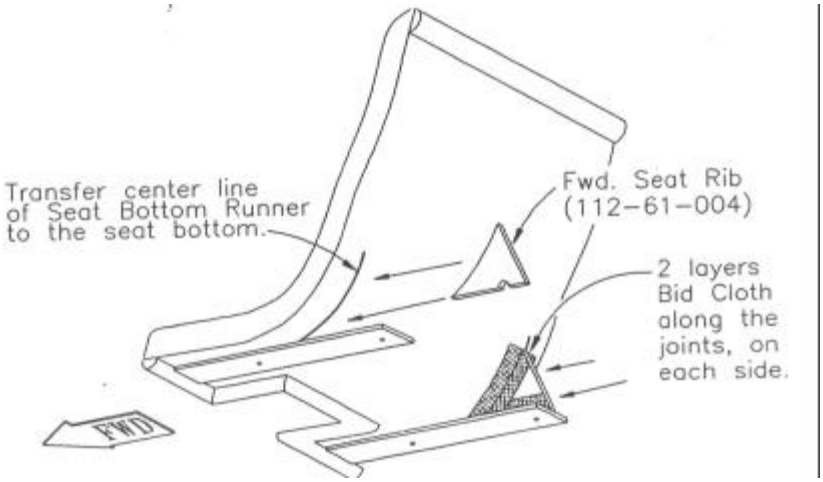




With a hole saw, motto-tool, or sandpaper, remove enough of the seat bottom to clear the anchor nut for 0.5" around each mark (see Fig. 5.150-4). Apply a layer of milled fiber on the seat bottom runners where they contact the seat.

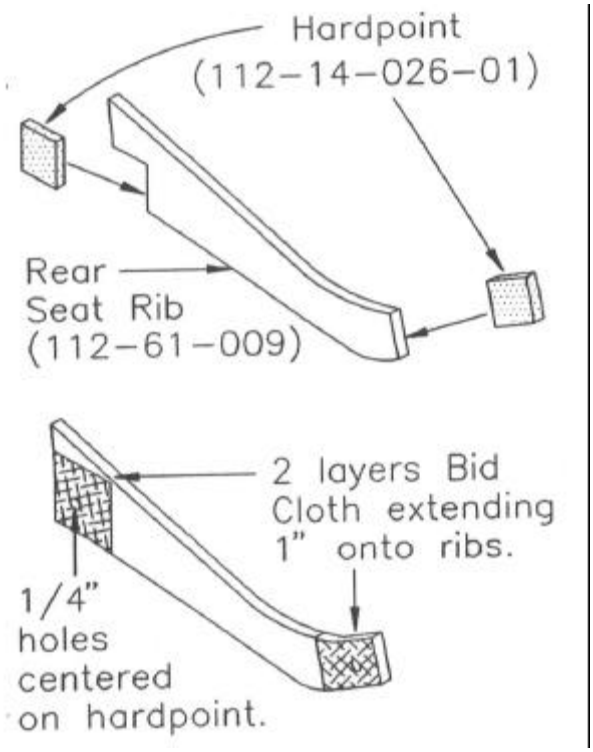


Place the seat, within the reference marks drawn earlier, with the seat back resting against the 0.5" spacer. Weight the seat so that it presses tightly on the runners, and let the mixture cure undisturbed. When fully cured, undo the four bolts under the seat and remove the seat from the fuselage. Draw extensions of the runner center-lines along the curve of the seat. Following normal lamination procedures, prep the area, hot glue the seat ribs (112-61-004) along the lines, apply a Q-cell fillet along the joints, and laminate two layers of 2.0" wide bid cloth over the four joints. Let it cure.



Step 3. <u>Position and install the rear seat ribs</u>.

Fit the hard-points (112-14-026-01) to the rear seat ribs (112-61-009). After prep sanding, laminate two plies of bid cloth over both faces of each hard-point, extending the cloth at least 1.0" onto the ribs. Allow to fully cure. Drill a 1 /4" hole through the center of the forward or aft hard-point of each seat rib, accordingly.



The rear seat ribs (112-61-009) are placed between the floor-mounted fuseslage ribs for the right and left rear seats.
and check the alignment. Leave about 0.5" clearance between the seats and the fuselage wall for upholstering. Adjust the seat ribs to fit without wobbling, then re-clamp the ribs and remove the seat.

Drill a 1/4" hole through the remaining hard-point of each rib, using the hole in the fuselage rib as a guide. Put a bolt (AN4-10) through each hole, as it is drilled, but hold aside the washers (AN960-416) and self-locking nuts (AN365-428) for final assembly.

Tack glue the seats to the seat ribs. Remove the bolts, and remove the seats from the fuselage. Hot glue the seat and ribs together securely and recheck them in the fuselage.

Remove the seats and apply a Q-cell fillet along the joints on both sides of the ribs. Laminate two layers of 2" wide bid cloth on each side along the joints.