

### 22.1 Seat Panels

1) Trim two upright seat panels (SA-47) as in figure 22.1.1. Also layout and drill #30 holes.

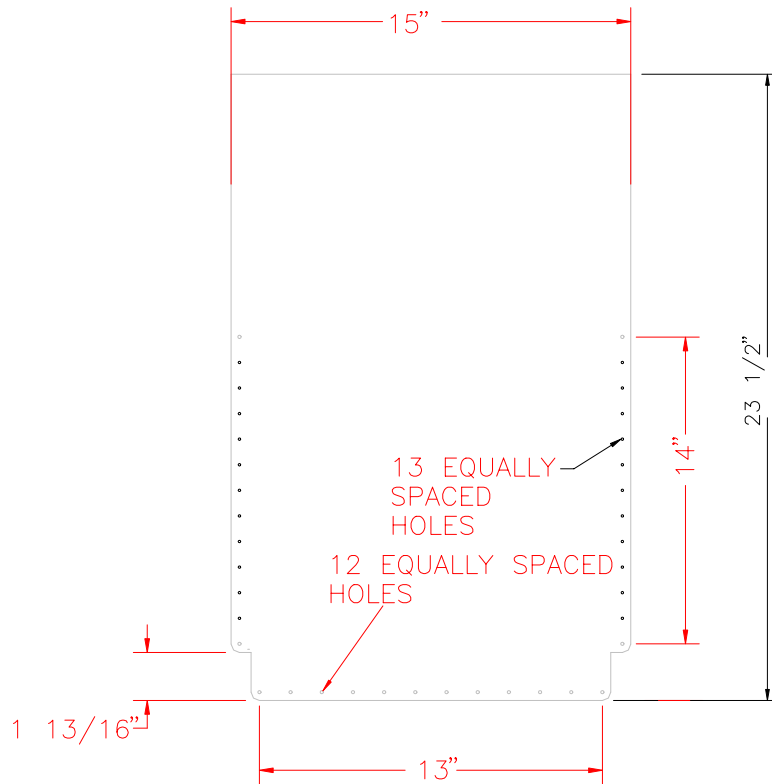


Figure 22.1.1

2) Lay a seat back frame over one trimmed SA-47 panel. Mark the back of the seat panel for trimming.

**NOTE:** Where the line marked for trimming intersects with the edge of the material draw a 2" radius circle.

This is to be trimmed also. Layout and drill 7 #30 holes along each top edge of the panel. Make sure you leave 5/16" edge distance around the holes. Figure 22.1.2.

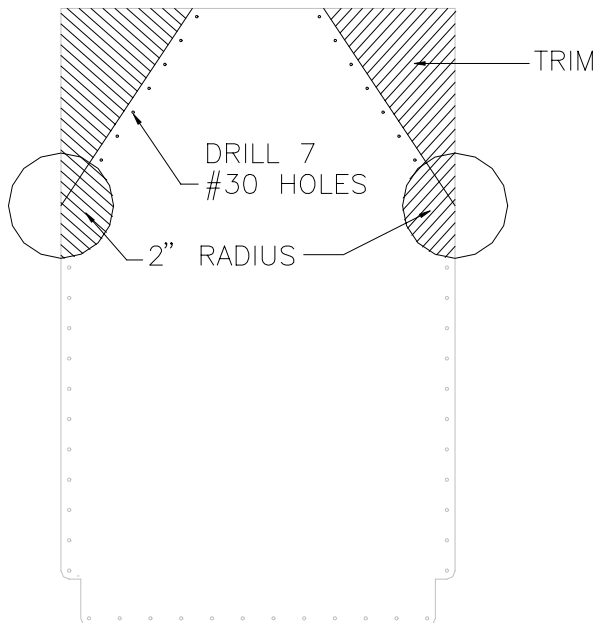


Figure 22.1.2

3) Trim two SA-28's to make bottom seat panels (SA-29) as in figure 22.1.3. Layout and drill #30 holes around the edges.

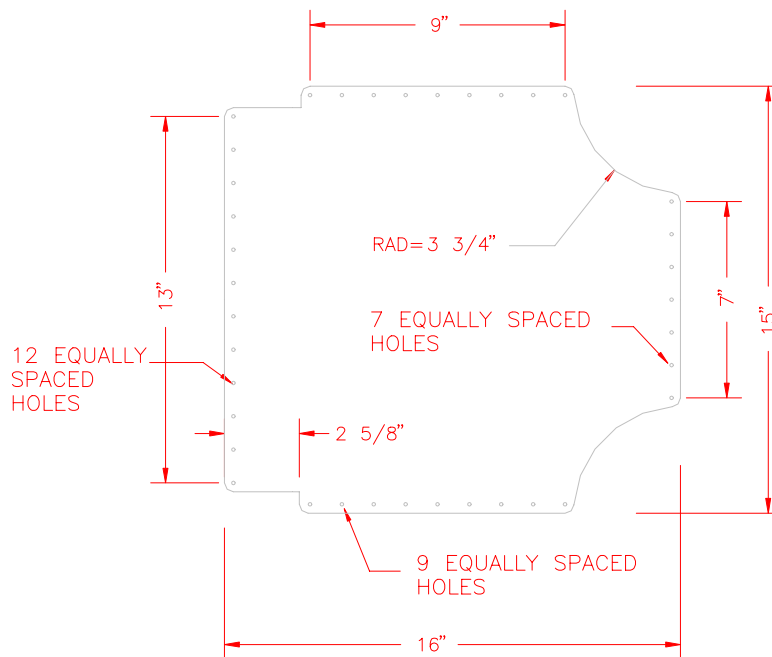


Figure 22.1.3

4) Place a bottom seat panel onto a seat bottom (SA-19) and drill four #30 holes into the seat bottom using SA-28 as a drill guide. Cleco. Figure 22.1.4.

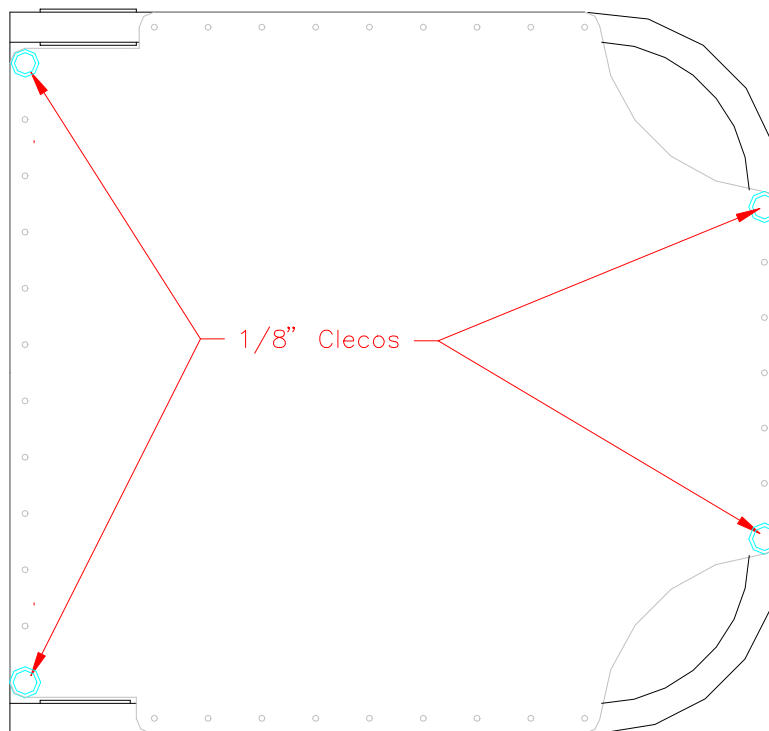


Figure 22.1.4

- 5) Drill the rest of the #30 holes into the top of the seat bottom. Remove the bottom seat panel and debur.
- 6) Repeat for the other bottom seat panel.

7) Chromate mating surfaces. Rivet with 1/8" rivets (RV-1410).

8) Place the upright seat panel (SA-47) onto the seat back frame (SA-100). Drill four #30 holes into the seat back frame. Cleco. Figure 22.1.5.

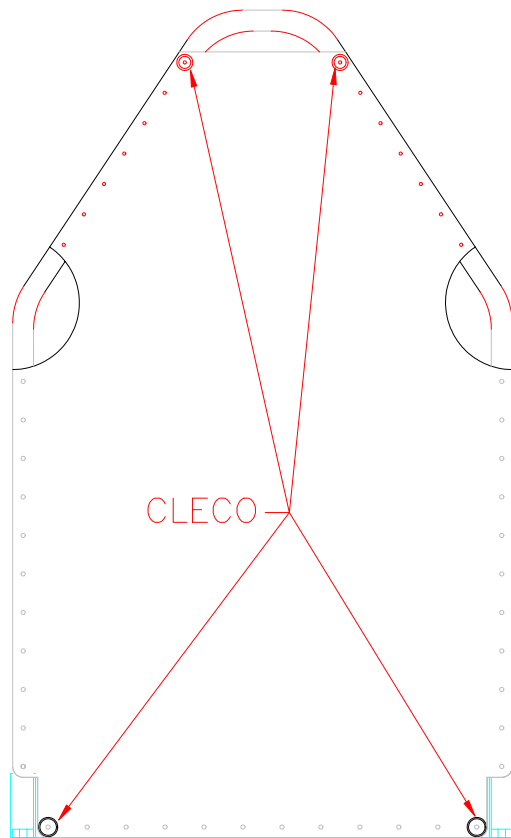


Figure 22.1.5

9) Drill the rest of the #30 holes into the top of the seat back frame. Remove the seat back and debur.

10) Repeat for the other seat back panel

11) Chromate mating surfaces. Rivet together with 1/8" rivets (RV-1410).

12) Install two 5/16" UNC course thread bolts and 5/16" UNC jam nuts into the seat back assembly.

Figure 22.1.6.

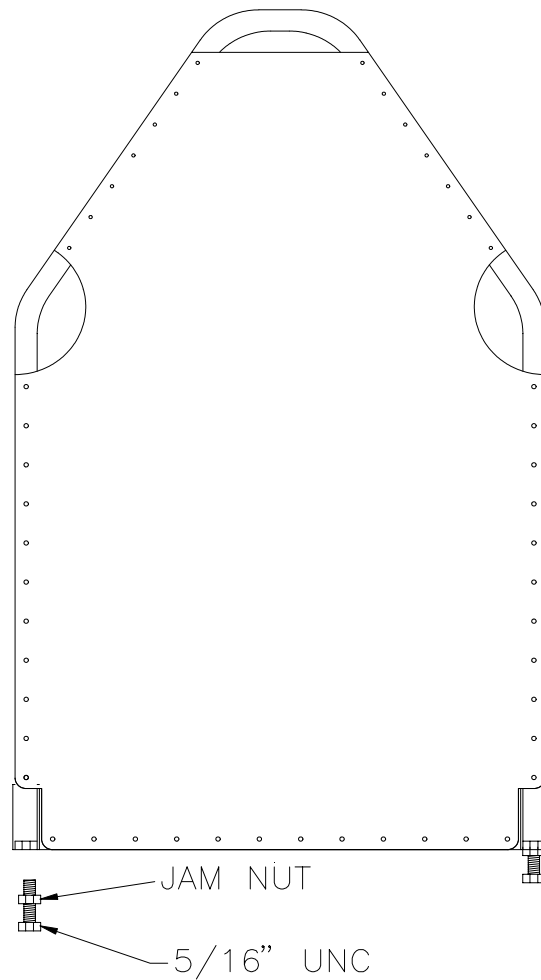


Figure 22.1.6

## 22.2 Seat Base

- 1) In the Seat Base SA-19, drill out the eight tabs to 1/4". Figure 22.2.1.

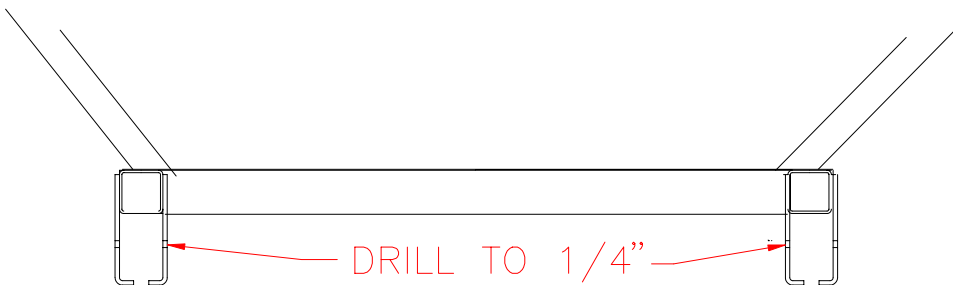


Figure 22.2.1

- 2) Bolt in the SA-12 Seat Rollers with AN4-11 bolts, AN960-416 washers, AN310-4 castle nuts and cotter pins.
- 3) Assemble the seat locking pin into the seat base with SA-30, SA-32, SA-33 and SA-34 as in figure 22.2.2.

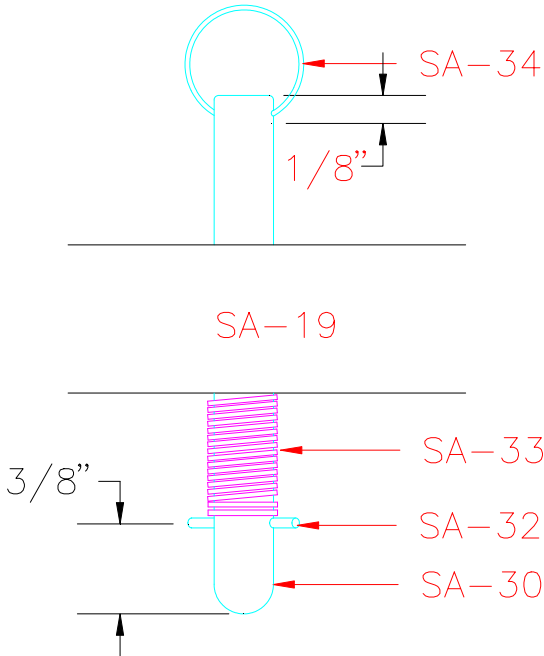


Figure 22.2.2

- 4) Repeat for the other side.
- 5) Drill two #11 holes in each of the release levers (SA-31). Figure 22.2.3.

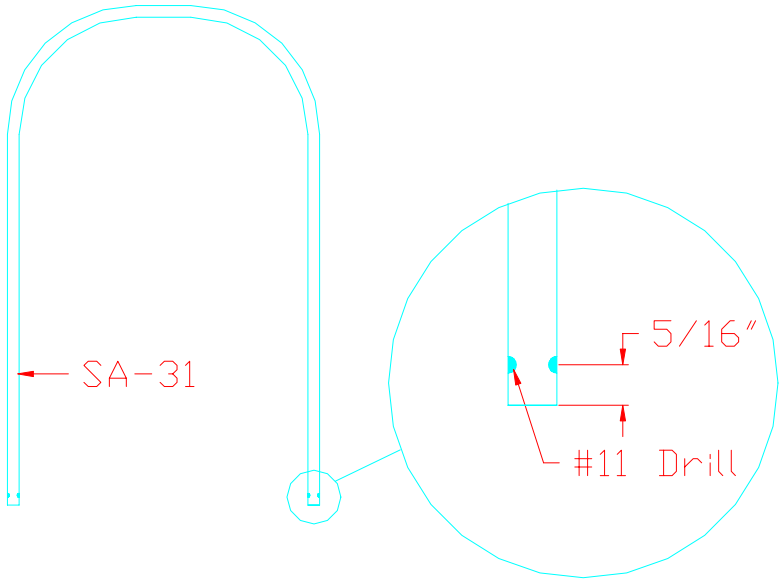


Figure 22.2.3

- 6) Cut two slots in the ends with a hacksaw. Figure 22.2.4.

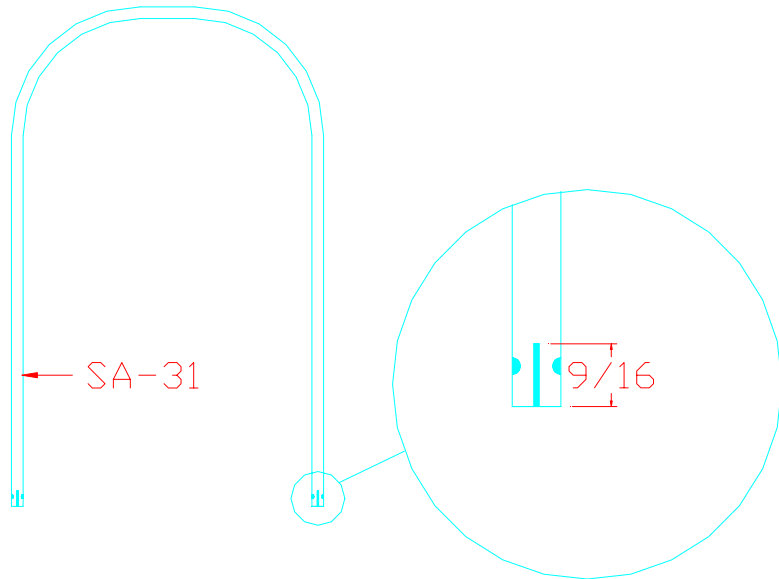


Figure 22.2.4

7) Slip SA-31 through the split rings (SA-34) and bolt SA-31 to the tabs at the rear of SA-19 with AN3-6A bolts. Do not over tighten. Figure 22.2.5.

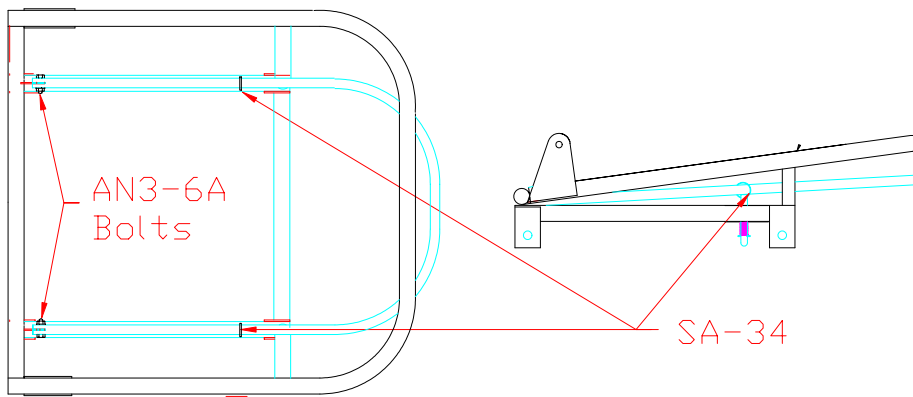


Figure 22.2.5

8) Position seat back SA-100 inside pivot brackets, so the adjustment bolts contact the rear corners of the SA-19 base. Mark through the pivot holes onto the seat back frame and drill to 1/4".

9) Attach the seat back to the bottom with AN4-12A bolts. Do not over tighten fiber nuts. Figure 22.2.6.

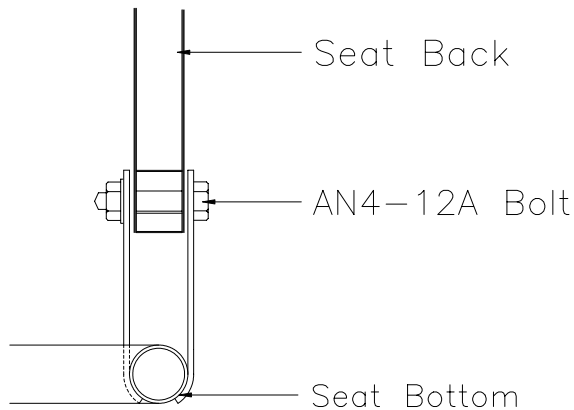


Figure 22.2.6

10) Repeat for the other seat.

### 22.3 Seat Rails

1) Slide seat rails (SA-27's) into their position under the seat.

**NOTE:** Exact measurement from the control column to seat rails depends on the customer. Also note the pilot side seat rail must be moved inboard 1" to accommodate the push pull tube that runs to the mixer horn.

2) Lock the rail in the same positions on the seat.

3) Position the seat so that the outer flange of the SA-27 track should be aligned with the support channels that were located in the fuselage section. The inside fuselage wrap by the door should be right above the outer channel. (Passenger side only) Figure 22.3.1.

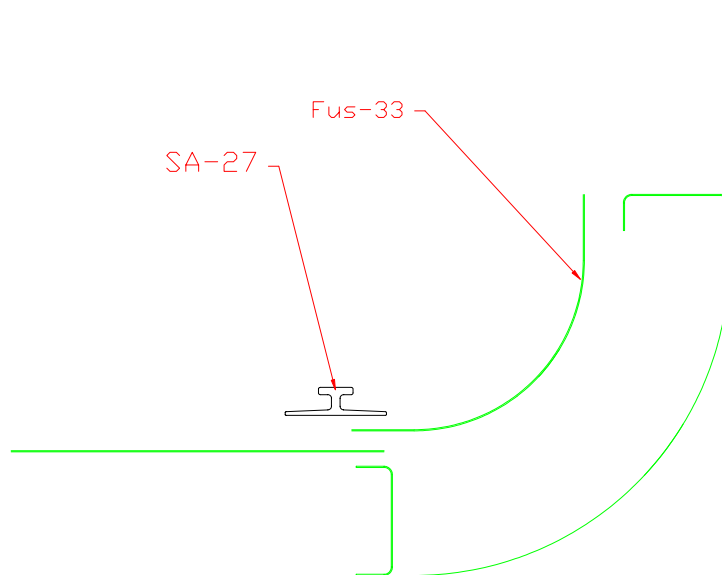


Figure 22.3.1

4) Drill a #30 hole at the front outside flange of SA-27. Cleco. Figure 22.3.2.

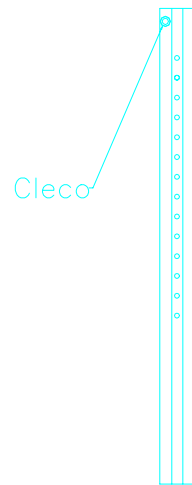


Figure 22.3.2

**NOTE:** Seat left out for clarity.

5) Keep the track parallel to the fuselage. Drill and cleco next to where the track will bend with the floor. Figure 22.3.3. **NOTE:** You will have to mark where the bend will start on the seat rail and bend part in a vise.

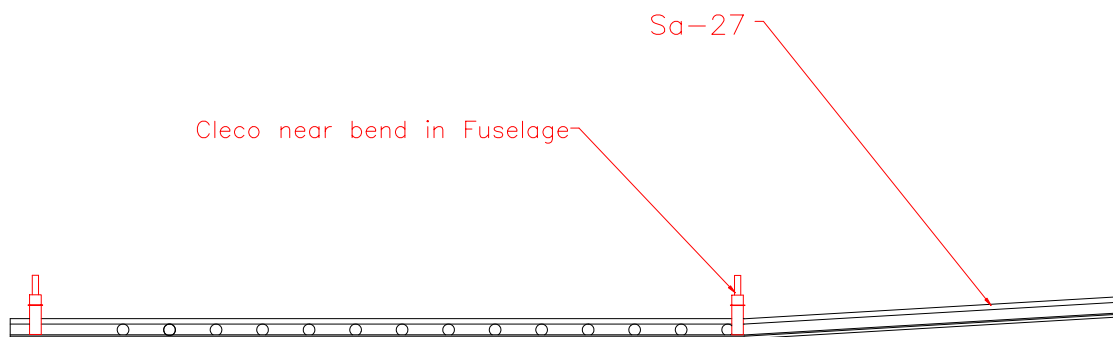


Figure 22.3.3

6) Drill #30 holes into the other track, same as the first track.

**NOTE:** Drilled holes must go through the channels in the floor.

7) Remove tracks and seats.

8) Replace tracks only and cleco into place. Drill #30 holes at 1 1/4" spacing along both flanges of both SA-27 tracks. Figure 22.3.4.

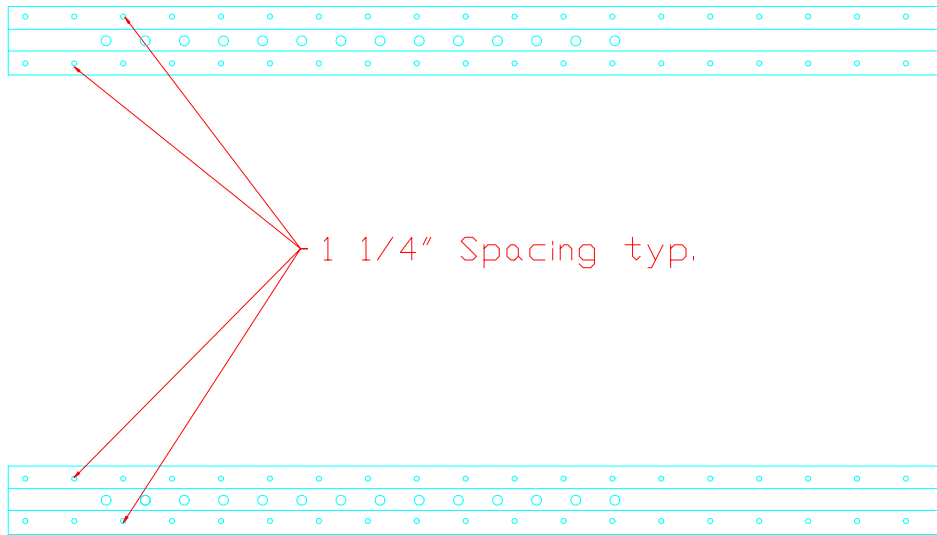


Figure 22.3.4

- 9) Cut SA-35 into eight 3/4" long pieces.
- 10) Trim one side off of the SA-35's so that they fit snug on top of the seat rail. Figure 16.
- 11) Slip four SA-35's over the ends of the rail and butt them up against the backs of the seat frames. Drill a #11 hole through the SA-35 and just mark the top of the rail. Also put four SA-35's over the front of the rails to keep the seats from sliding too far forward. Drill and mark. Figure 22.3.5.

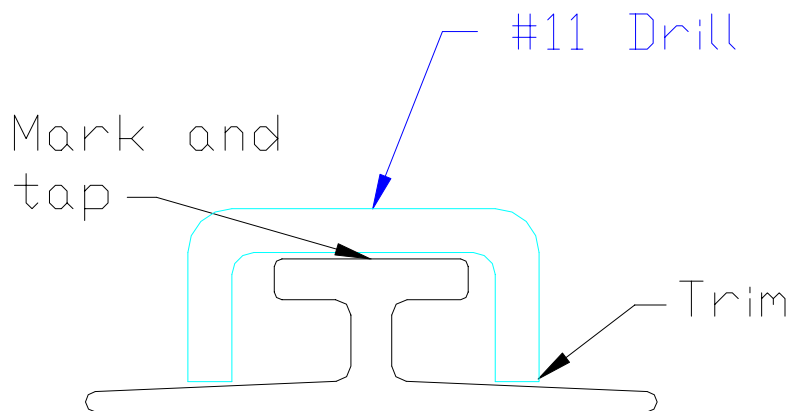


Figure 22.3.5

- 12) Remove and debur all the SA-35's. Drill and tap the top of the seat rails to take an AN3 bolt.
- 13) Remove, debur rails and re-install.
- 14) Bolt the front SA-35's on with AN3-4A bolts and AN960-10 washers.
- 15) Bolt rear SA-35 when seats are in.

**NOTE:** At this time you can finish riveting down the floor and the seat rails if you do not have any other work to be done under the floor (wiring, fuel lines etc.). If you do have more work to be done you can rivet down the floor any time after it is done.

## 22.4 Seat Belts

**SPECIAL NOTE:** Even though some pre-made holes in the steel seat belt attachments are 3/8", all bolts used to attach to the airframe are 1/4". This is because it would be impossible to use 3/8" holes in some areas of the airframe without compromising strength or violating minimum edge distances. There should be no concern using 1/4" bolts as the bolts would be under shock loads rather than long term wear. Therefore elongation of the holes or wear of the bolts is not a problem.

Please note however that the larger AN970-4 washers are used as noted at each bolt connection.

The seat belt kit provided with your *Rebel* includes pre-assembled seat belts complete with all latches and adjusters. Therefore only the installation is performed by the builder. Each seat has three separate belt segments as seen in Figure 22.4.1.

Figure 22.4.1

1) Lay the belt harness assembly across the seat as in Figure 22.4.1 to become familiar with the orientation of all fittings.

- 2) First place the seat in the middle of its range of adjustment. The seat belts have a wide range of adjustment so they should fit any individual.
- 3) Locate the end fitting for segment #1 on the outside of the gusset at the lower rear of the pilots door. Attach using a AN4-5A bolt. See Figure 22.4.2.

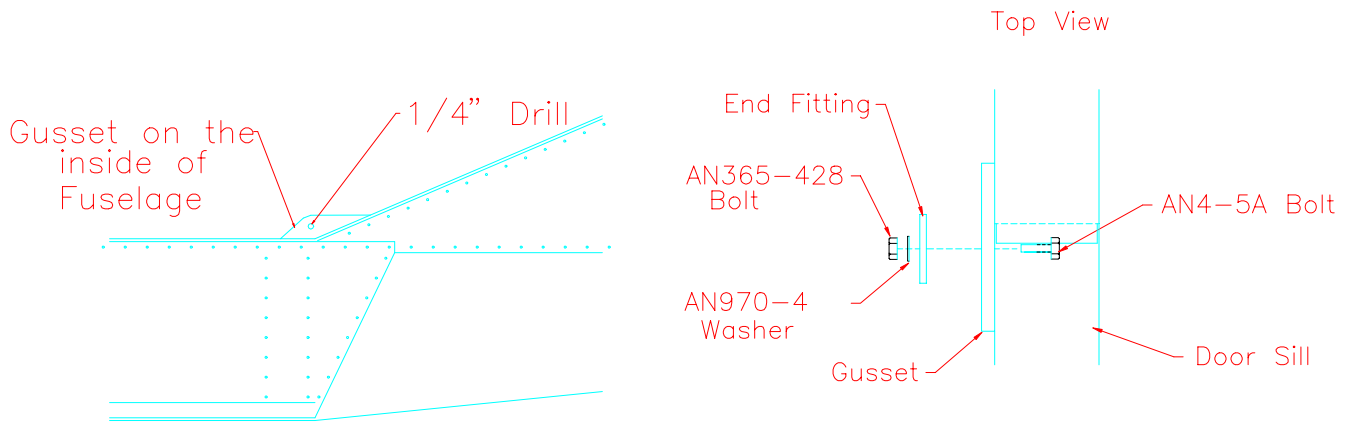


Figure 22.4.2

- 4) Repeat steps for the passenger seat harness.
- 5) Secure the end fittings of segment #2 for both sides to the lap belt anchor fitting (FUS-57) which protrudes from the floor just behind the seats. Use a AN4-6A bolt. See figure 22.4.3.

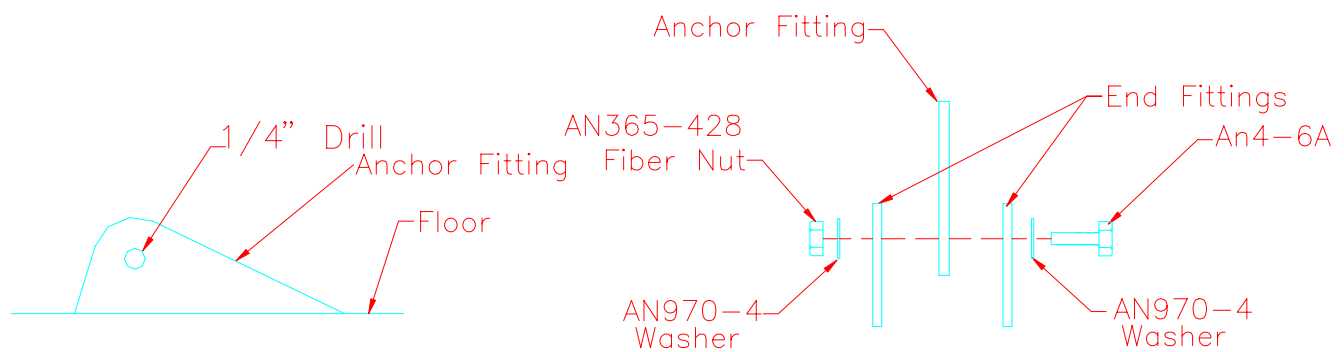


Figure 22.4.3

- 6) Secure the end fitting for segment #1 (shoulder strap) to the gusset at the top rear of the pilot's door. Use a AN4-5A bolt. See Figure 22.4.4.

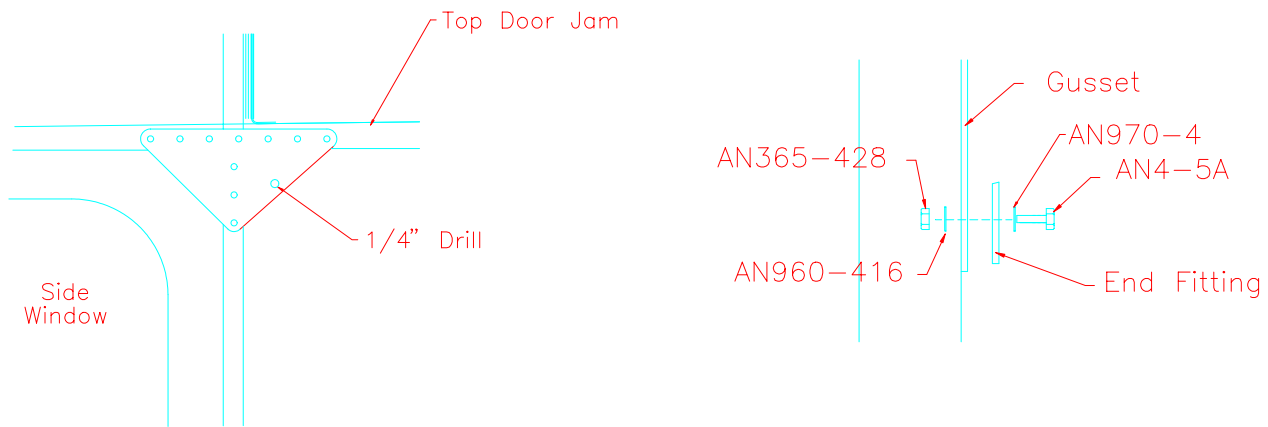


Figure 22.4.4

7) Repeat step for the passenger side.

8) Large adjustments in the lap belt can be made both at the slide adjuster and at the latch buckle. It can be adjusted for a snug fit by adjusting the buckle.

9) Large adjustments in the shoulder harness can be made at the slide adjuster. When getting into the airplane, the shoulder harness is pulled snug by using the spring adjuster.