

## Section 5.3 – Template/Side Construction

### Introduction

You may decide not to prepare and use a template. The advantage to using the template is that if you make mistakes in cutting out the pieces, the mistake will be made to the template. You have not ruined the side sheet, and the mistake can most likely be corrected on the template without having to buy another sheet of plywood. I made a template for both that reason, and for the future possibility of building a TTT for someone else if the opportunity came along. If you choose to not to make a template, follow these instructions, but cutting out the sides rather than a template, and then you will skip the steps for cutting the sides from the finished template, as your sides will have already been cut. In following all of these instructions, you will be working and viewing the plywood sheets from the bottom of the cabin side. Whenever a diagram or photo is pictured in the instructions, you can refer to the full sized version in the JPEG folders.

### Template Preparation Steps.

- 1 The template should be made from three 4' x 8' sheets of 1/4" thick material (I used 1/4" moisture resistant Luan plywood for my template, which is also a good choice for the sides). This will allow you to use a router to cut the sides using a template bushing. You need at least 1/4" thickness for the template in order to have an adequate thickness for the bushing to ride against.
- 2 Layout the three 4' x 8' template sheets, or one set of three side skin sheets, side by side. If you are working on the sides, rather than a template, place the first set of three sheets face down so that the outline is drawn on the back sides of the sheets, not the face.
- 3 Align the sheets top and bottom and fasten the sheets together to prevent movement. You can use clamps, but it's better to place 8'-10' strips of 1x2 under the sheets at the top and bottom edges, and screw the sheets to the strips with two or more screws per sheet, top and bottom, so that the strip cannot shift and get the sheets out of alignment. The screw holes at the top won't matter, and if you place the ones at the bottom 1 3/8" from the bottom, they can later be used to secure the 1" x 3/4" strip that will be installed later in Section 5.4, Cabin Construction Steps.
- 4 Carefully measure the length of your chassis side rail as it may be a little under or over 9' depending on the accuracy of the cuts made by your frame manufacturer or steel supplier. I did my own cutting and welding, and my length was exactly 9'. If your chassis length is a little under or over 9', then you must compensate for the difference throughout these instructions.
- 5 Begin the profile outline by marking outline reference point F2 21" from the right edge and 2" above the bottom of the right most template sheet as shown on Diagram S-1, and to the right. Mark Reference point F1 1 1/2" to the left of F2 and 2" above the bottom of the sheet of plywood.
- 6 Mark outline point R1 exactly the length of your chassis side rail to the left of outline point F1, and 2" above the bottom of the template sheet. If your side rail is exactly 9' long, then the outline points F1 and R1 should be exactly 9' apart. Mark Reference point R2 exactly 1 1/2" to the left of R1, both 2" above the bottom of the sheet.

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- 7 Mark the remaining outline points on your template sheets, using the measurements on Diagram TS-1, Profile Reference Points.
- 8 Using a pencil and a straightedge, draw a straight line from point T11 to reference point F3, then from F3 through reference point F2 to the bottom of the template sheet. Do the same for the rear, with lines from T1 to R4, then, from R3 to and through reference point R2 to the bottom of the template sheet. The trapezoidal shapes formed by the lines between F1, F2, and the bottom of the sheet, and by the lines between R1, R2, and the bottom of the sheet will be the front and rear spars that will attach to the chassis end rails.
- 9 Measure and mark reference points at 3' intervals, , exactly 2  $\frac{3}{4}$ " above the bottom of the sheets, from the left edge of the left sheet, to the right edge of the right sheet. Using a straightedge, draw lines through these reference points from edge to edge. This line represents the top of the floor, for the installation of the  $\frac{3}{4}$ " x 1" strip you will install after the template/sides are cut out. That strip will be used to join the side to the floor in Section 5.4, Cabin Construction Steps.

- 10 Tack a single 2-3" finishing nails into all of the reference points along the top, from T1 to T11. To draw the curve, use a thin strip flexible molding or rip a  $\frac{3}{16}$ " thick strip from a piece of  $\frac{3}{4}$ " wide lumber, at least 10' long. If you do the latter, make sure the piece has no knots in it, as they will cause the curve to be "warped". Place the strip on edge, on top of the reference points T7 and T8 and tack in another nail at the top side of the strip at those reference points to hold the strip in place. These reference points are the spars between which the fan framing will be placed.

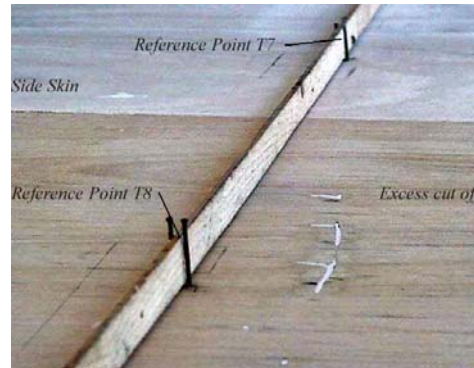


Photo 5.1-3 - Reference Points T7 and T8  
(viewed from the top of the sheet)

- 11 You should have about 2 feet of the strip extending out over reference point T11. Bend the end of the strip down to reference points T9 and T10, hold it against the nail at T11, and draw the curve along the bottom of the strip.
- 12 Then, leaving the strip of molding between the nails at points T7 and T8, slide the strip of molding towards the rear if necessary until it extends just past the nail at measurement point T1, and the other end is still between the nails at points T7 and T8. Bring the strip down to touch reference point T1. It should touch each of the other nails between T1 and T7, but if it fails to touch one or two, don't force it, as you will alter the curve formed by the strip.



Photo 5.1-4 – Drawing Curve for Roof

## **Section 5.3 – Template/Side Construction**

**This is just a sample file. There are 5 more pages of instructions for this sub-section in the actual plans. The graphic TS-1 referenced above provides all of the measurements for the reference points to draw the profile and is also provided as an oversized printout to better show the detail.**