

FLEXIGLASS CHALLENGE PTY LTD

BUILDING A CANOPY FROM MEASUREMENTS (Panel models only)

OCCUPATIONAL SAFETY and HEALTH REQUIREMENTS

PPE – Hearing and eye protection		
Tools	Drill – Electric / Compressed air	Unit 1/3 or 2/2
	Rivet Gun – Air / Hand	Unit 2/1
	Angle Grinder	Unit 2/3
	Hacksaw – Air / Hand	Unit 2/4
General O S & H		

First off either measure the ute or tray.

Make sure that you measure outside to outside both front and back checking to see if the unit is square (parallel sides) or wedge shaped (like old Navara's). From behind the headboard for trays and overall length of a tub for utes.

The cab height for utes is from the flat top of the well body to the top of the cab roof and for trays the top of the sides boards to the top of the cab roof.

The angle of the cab back needs to be measured. This is usually done by checking the slope of the back of the cab with the Angle templates we have for marking out the shells. For Tray canopies the angle of the headboard is usually 90°.

We now have Ute or tray length
 width front } If parallel sides these two will be the same.
 width rear }
 cab height

Ute cab angle

These are measurements that are written on the Canopy Production Order.

From these measurements we are going to custom build a canopy for either a tray or a ute that there is not a National drawing.

Note: There are two methods of plug making.

The first method of mould making was to build a plug as per a keel design of a boat. This is the method that most of our plugs have been made. The major consideration is that each side is made from templates and can vary side to side as can the height of the flange.

The second method is by graphic design on a computer and this image is sent graphically to a 5 axis router. The plug is made by bread & butter slices, then pinned together.

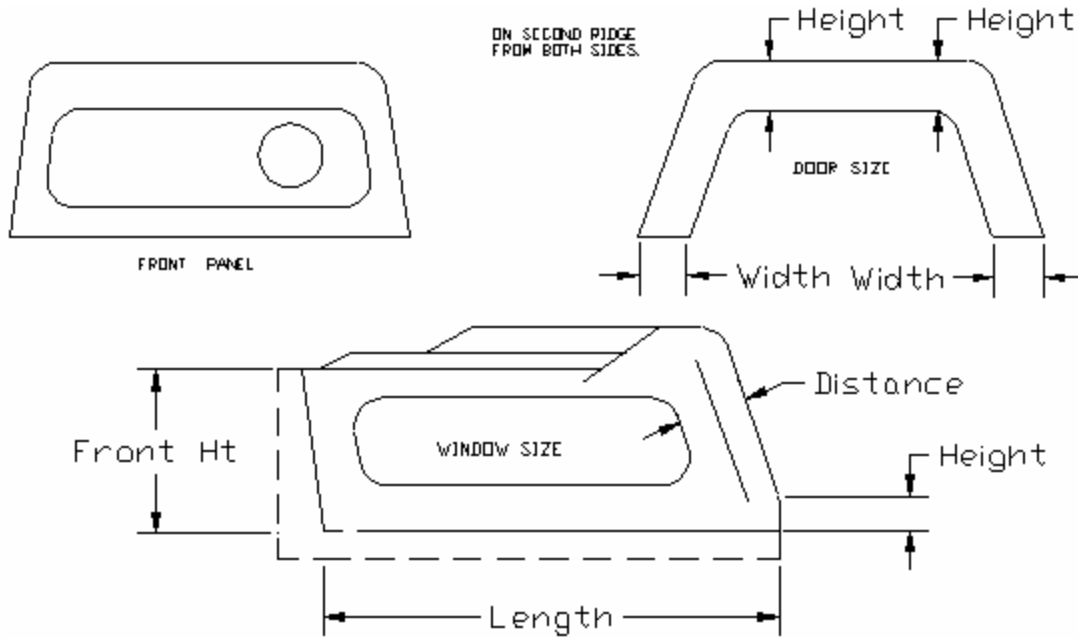
The advantage of this is speed and that the base line or flange and each side is accurate to the drawing.

At present the plugs made from this method is the Series II shells and Holden Crewmen. It is expected that all plugs made after this time will be made in the same fashion unless otherwise stated.

For each method of plug making there are two different ways to mark up the shell from measurement.

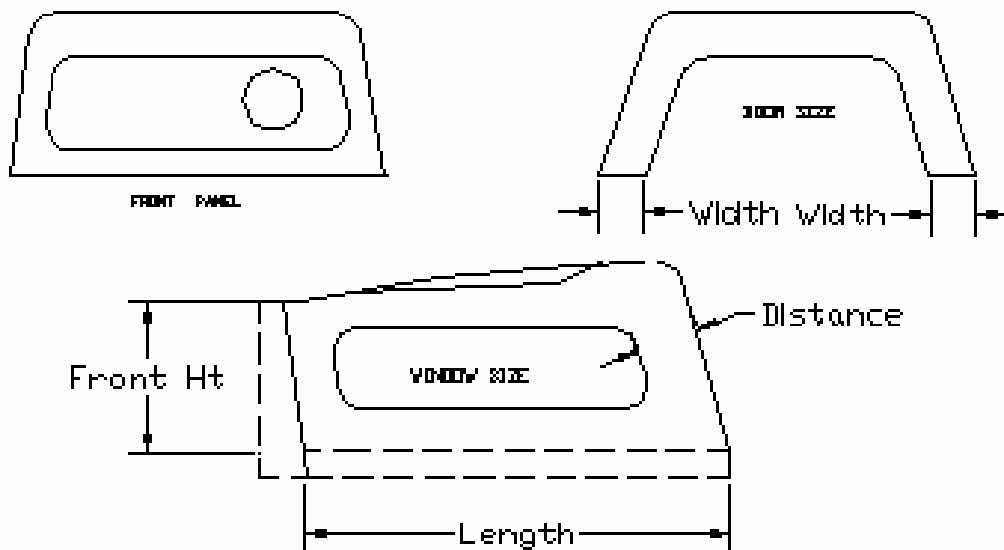
Method One (old style plug)

This method requires the panel height to determine the front height. The rear door height down from the ribs determines the rear end height. The cut line is then the joining of these two points.



Method Two (modern style – Series II)

This method requires the panel height to determine the front height. Then rear door height is a parallel line off the flange to the rear end. This is the major difference in the two cut line of marking up.



Step One Identify the type of shell that you are going to use.

TRAY Tray top Standard, Medium or Dual Cab
Tray top Landcruiser (higher than std)
Tray top 2 Metre

UTE NR or Narrow shell
Hi Pro or Cabin Hi is not important at this stage.

Step Two Once the shell type has been chosen then the appropriate panel is Selected.

There is a relationship between the height of the front panel and width of the canopy. Custom shells are governed by the shape at the front of the canopy for their fit.

Each panel will have a different relationship between Height and Width.

NOTE: This is especially true for Tray Top Canopies. Some tray widths and height will not be possible. The Tray Top Panels have been designed to suit our trays. However they will fit most standard sized trays made by other manufacturers.

In cases where the height and the width of a Tray Top Canopy can not be achieved the Production/State Manager must be notified. Sales department or a delegate will liaise with the customer to find a compromise.

Either the height (ignore width), width (ignore height) or a compromise between the two measurements will be used.

Step Three Find the height on the panel selected and measure the corresponding width. If this matches then carry on. If not inform Production Manager for instructions.

Step Four Mark the length and the height on the shell and the appropriate angle / curve at the front.

NOTE: Tray Top Canopies will have an altered length measurement from the tray length. Your Production Manager will have already have taken between 5 and 15 mm off the length to allow the canopy to sit just behind the headboard without fouling.

Step Five Clamp or rivet the front panel in at the appropriate position. Trim shell if it is needed.

Step Seven The Canopy clamp is now used. Place it at the front to find the front width. Make sure clamp is securely locked into position.

Step Eight Move clamp to the rear of the canopy. The clamp will ensure that the front and the back are the same width. Make sure the canopy shell is not twisted. This will give us parallel sides on the canopy.

Step Nine Using the correct door template mark the door cut out.

Step Ten These measurements must now be documented as well as any corrections made along the way.

Step Eleven Once the shell has been cut out correctly the canopy can be built as per the standard methods.

Step Twelve After the canopy has been fitted to the vehicle note the corrections needed on the shell cutting drawing so other builds can be correctly made.

NOTE: This information is handed to the Production Manager.