

Body Shell Preparation & Trimming

First stage rough trimming & cut outs:

Tools required:

1. Angle grinder with Diamond blade (air or electric, air is the safest, if it jams when cutting it will just stop, where an electric will not as easily)
2. Die grinder and Diamond router cutter or cobalt rotary Burr, or rougher and burr
3. Power sander or flexi disc for angle grinder and rubber backing disc.
4. 40 & 60 grit sand paper rubber hand sanding block, selection of files.
5. Dust mask, gloves, goggles, overalls (paper painters disposable are good!), and masking tape.
6. Vacuum cleaner. Can be used to blow dust if no air line, as well as clean up dust.
7. Air compressor & blow gun (not essential).

Step 1

***Note:** If you have purchased the **body and the chassis** at the same time it's best to fit the body back on the chassis, and trim the holes for the rollover bars at the same time as the rest of the trimming, it is easy to mark the holes from underneath without the fuel tank in position. Please refer to the following pictures.*

Before you commence the build up of the chassis!

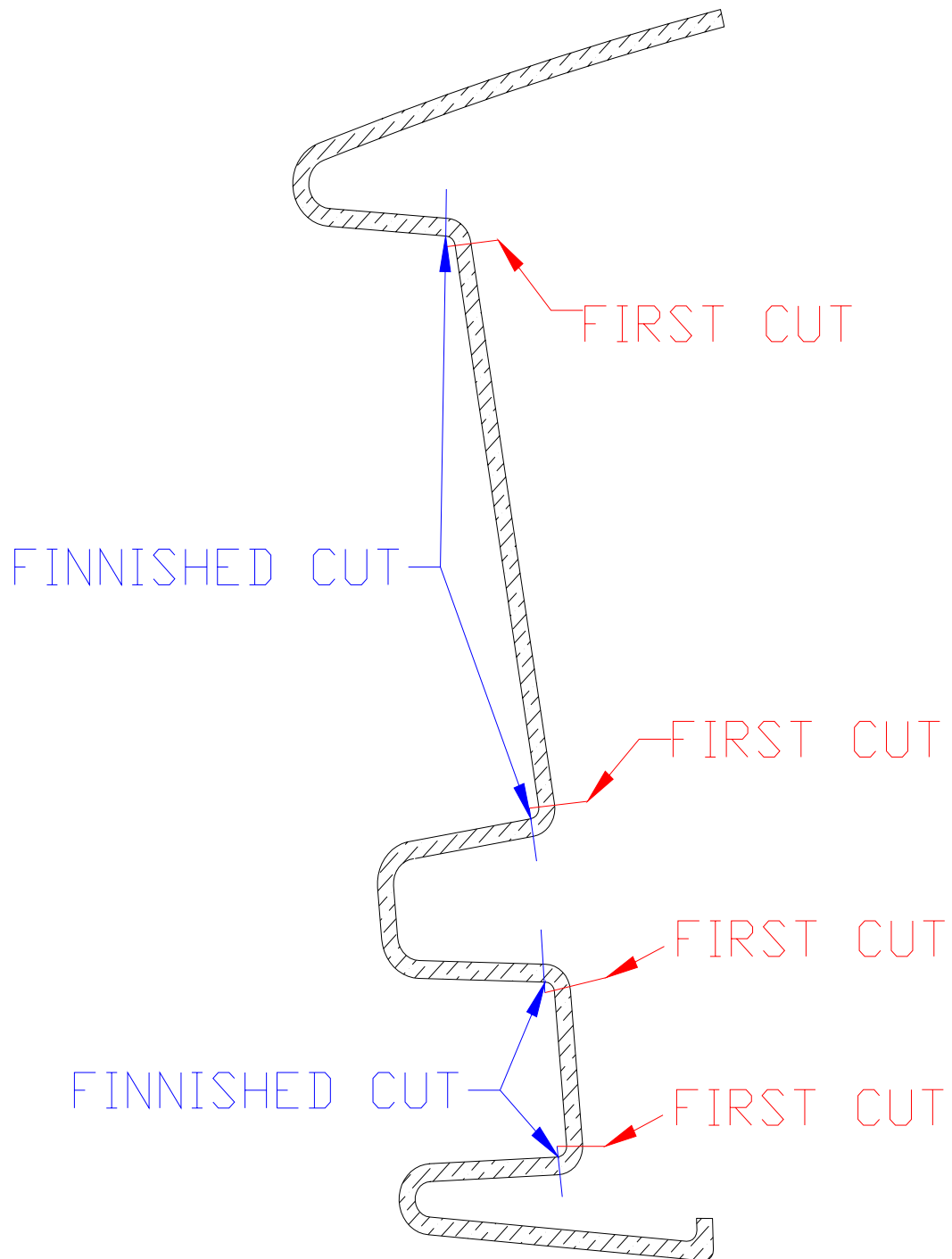
*Please mark the matting areas where the GRP fits to the chassis as these areas need to be sanded to give a “**Key**” for the bonding compound you will use to attach the body. Also mark the position of all the chassis rails and matting faces. This will save a “trial” fit later when fitting the body.*

1. Enlist the help of some friends to move your body shell onto some trestles or stands or some type of workmates. First, however clamp the 4x2s or 4x4s that you stored the body on to the top of the stands. Place the stands under the points stated in the Body Storage and Removal Section of this manual.
2. With the body shell well supported so that can not fall or wobble around you are ready to begin trimming with power tools.
3. **Note:** When trimming **GRP** it makes large amounts of fine dust that contains very small glass strands that will **STICK** into your skin. Make sure you always wear good gloves, long sleeve shirt and long pants or overalls, a dust mask and protective eye wear. If you get dust on your skin and **rub** it, the microscopic needles will be pushed into your skin and can cause a very uncomfortable rash. It is best to “**Blow**” the dust off with an air line **blow gun**, or wash off with water.
4. **Warning:** **NEVER** put a blow gun **DIRECTLY ON TO YOUR SKIN!** As this can blow air into you blood system and in sever cases can cause **A HEART ATTACK** and lack of oxygen to the brain resulting in **BRAIN DAMAGE!** **Please NEVER PLAY WITH AIR GUNS!** High pressure air (90 PSI) can cause damage and even death. There have been too many tragic accidents in the past. Please be very careful.

5. Make sure that the wind will not take the dust all over the place if you are cutting outside and not in a workshop. You will not be popular if you cover the next door's car or house in dust! If you cannot get the body somewhere that the dust will not cause a problem, then it's best to hang some old bed sheets around the car and dampen them to catch the dust and prevent it migrating.
6. Make sure that you have room to move freely around the body and no tripping hazards are present. An angle grinder and a Diamond blade can remove bits of a human at great speed and needs to be handled with a great care. Always wear your protective cloths and gloves. If the sleeves and neck of your overalls do not have elastic around them, it is best to get your friend or wife to tape up the sleeves and the collar so it stays up. A baseball cap, worn the "wrong way" will help stop dust down the back your neck and an old tea towel under a hat and down your back will do the same. ***Now check that know one has a camera!***
7. Start with some "practice" cuts if this is the first time you have cut GRP, the nose "hole" is a good place to start. Practice cutting a 12" x 6" slot in the center of the flat sheet to be removed. Practice makes perfect can not be over emphasized too much here.
8. **NOTE:** It is always best to cut to within 6mm ¼" from the final trim line/point and then take a thin final cut near to the lines but not on or over! **NEVER TRY to cut to the finished/exact line on the first cut!** Once close, **SAND the rest away or you can always CUT BACK MORE.** It is much harder to **PUT IT BACK** if you cut **TOO MUCH OUT!** It is also hard to make a flat blade cut round curves, especially when waste GRP is preventing you from twisting the blade!
9. Once you are happy with the tools and your skills, trim out the nose hole section,



10. Next you will need the Die grinder and Burr/ Diamond router to remove the section for the oil cooler air intake. Again practice cutting a straight line in the center of the sheet and work your way out. **DO NOT LET THE CUTTER CUT INTO THE SIDE FACES OF THE INTAKE,** only the flat rear section
11. Use a flexi pad sander and sand back to the finished cut line. They use a hand rubber block with 40 grit sand paper and round off the sharp edges.



- 12.** Now use the die grinder to cut out the two brake duct holes in each side as with the oil cooler opening. Then sand back from the rear to a square edge as you did above.
- 13.** Then use the die grinder to cut out the head light holes as marked on the body
- 14.** Trim the side vent holes in the same manner as you have on similar openings.



- 15.** You should now have the large cutouts removed and sanded. Now trim the wheel arches, and the bonnet, boot, door returns and sand smooth.
- 16.** The boot bonnet and door returns are pre-marked in the mould. Trim close to the line first, keeping away from the radiuses with the straight blade angle grinder. Complete the radiuses with the die grinder, or a file and sand paper.



- 17.** Mark the front and rear wheel arch lips at around 16 to 19 mm. This can be done with a scribing block or a wood working mortise gauge or with a spacer block and a scribe. You will also need to trim the lower edge of the inner wheel arch to clear the lower thrust arm, (this can be measured from the chassis or marked from a card pattern and trimmed on final fitting of the body to the chassis).
- 18.** Next trim the front and rear valance up standing lip, to around 12 to 16 mm.
- 19.** Check all edges and remove any remaining sharp edges with first 40 grit and then 60 grit papers. To obtain neat straight edges around all the openings and arches, sand the lower sill edges and then round off edges.
- 20.** If you purchased the **body & chassis** at the same time, you can cut the hole(s) out for the rollover bars. **If not** and your chassis is complete then you need to go to the **“Fitting the body”** section and then return to this point after fitting the body.

Fitting the Rollover Bars (RVD offers a variety of high quality and very strong rollover bars)

1. Make sure that the body is back as far as it will go on the chassis and the rear bulkhead is making contact with the chassis, and that it is central on the chassis and not over to one side.
2. With a long drill bit around 5-6mm drill up from underneath as close to the center of the hole to be cut out as you can. **DO NOT** drill the outer edge first as if it is wrong you will have a problem!



3. Now drill down from the top surface, through the hole, and see how close you are to the center of the rollover bar socket.





4. With a rotary burr or diamond cutter remove the center of the hole, Use a steel rule on the inside of the socket, and remove the GRP as required to allow the rule to stand up right on the inside wall of the socket all the way around.
5. With a marker pen, mark points all the way round the hole with the pen flat on the side of the rule and the rule flat on the inside of the socket.
6. Now you have a set of marks that are central to the socket below as the rollover bar will only fit square and true on the socket. Therefore, it is important that the holes in the body are correct to the socket on the chassis.



7. Place the end of the rollover bar on the points you have marked and draw round the end of the bar, then slowly remove more of the GRP out towards the lines you have just marked.



8. Keep trimming out until you can push the rollover bar through the hole and on to the socket below, you need around 3mm clearance around the rollover bar on final finishing, allowing for paint and any movement of the body when on the road.
9. Repeat steps 24 to 30 for the opposite end of the rollover bar, if you have double hoops you will have to repeat the on all for holes. Or if you have opted for one double with bar then you will only need to use the two outer sockets only.



10. Now blow all the dust off of yourself and hit the shower or bath before you scratch all your skin off. *Reminder; if you are not used to GRP cutting, you may/will itch, but please try not to rub yourself, it will only make it WORSE!*

Cut Out Option (75 pound) - We will ROUGH cut all the opening, including holes for the rollover bars you ordered. We also have stainless steel trim for most openings. This gives your car a very professional touch and can hide mistakes.