Rear Quarter Panel Cut

Written By Dwayne and Evan for Team MudRhino

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For those of you who are interested in cutting away your vehicle's rear quarter panels to gain greater departure angle (or just to remove those unsightly bent panels), then this document in the series of Team MudRhino (TMR) Do-It-Yourself (DIY) documents is for you.

In this particular case, we undertook the work on Dwayne's vehicle, a Nissan Patrol GQ LWB in preparation for the Piranha Pursuit. Though all vehicles vary in how their rear quarters are built, it is imaginable that the procedure would be almost identical for most vehicles.

Most people feel paranoid about cutting their vehicle up in pieces, which is completely understandable; but rest assured the entire quarter cut process is quiet simple - in fact, depending on how anal you are about final appearances, the entire thing can be done in one afternoon (if on the other hand you're like Evan and believe everything should look absolutely perfect, it may take up to 2 days).

Okay, before you can begin, you will need access to some very basic tools. Obviously high quality tools will make the job easier, but even very basic tools are suitable enough to provide a decent end product.

Required Tools & Materials: *Cutting device (angle grinder/hacksaw/jigsaw), pliers, masking tape, rivet gun and rivets, drill, rubber sealant, vehicle putty, sandpaper, primer and top coat paint.*

Step 1: Preparation

To begin with, you need to prepare your vehicle for the procedure. This includes removing your bumper bar, tail lights and any extra wiring that will be in the way.

Step 2: Cutting

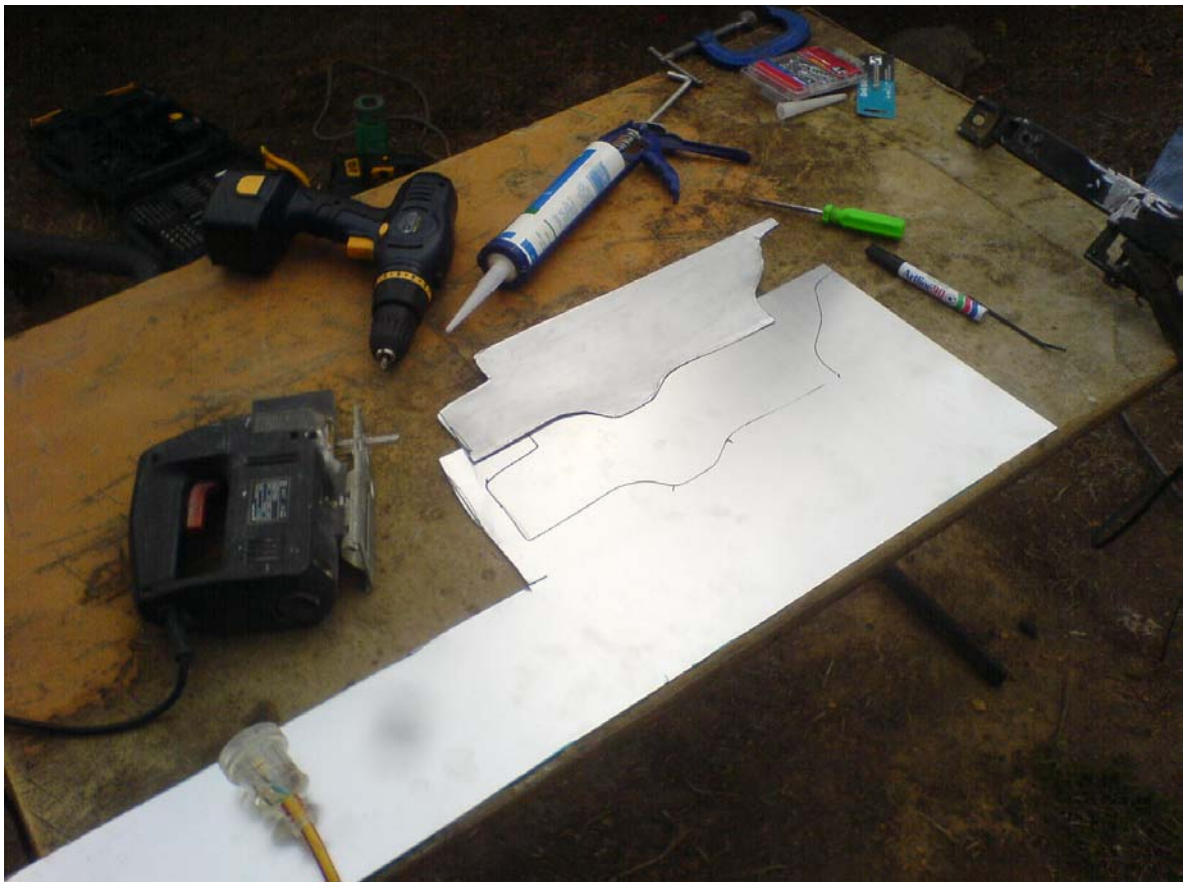
Before cutting, determine the height of the cut that is required. On the Patrols, we highly recommend that you cut just below the bottom line of the natural indentation (see pictures).

To help cut a straight line, we ran a strip of tape along the panel as a guide – it is recommended you do the same. Once you have done this, proceed to cut along the bottom of the tape with a 4" angle grinder (or what ever else you're going to use – we used an angle grinder and Daniel's (4WD_Haggis) steady hand). This provides about 15mm extra metal that you will use to fold over and make a lip. Please beware that your wiring loom for the rear lights will need to be disconnected and pulled free before cutting or else you will tear it to pieces.

The extra 15 mm of left over metal needs to be cut into tabs, and then folded up to the correct height (you bend the extra metal into the panel so that it is horizontal). With a set of pliers or multi grips, slowly bend the tabs back under the vehicle, so that they can be used as an anchor point for the base plate to be riveted to.

Step 3: Panel design and attachment

The base plate we designed was very simple and straight forward. By placing a bit of flat cardboard under the already cut quarters, and tracing around the panel, we created a stencil to use for shaping the metal plate (see below).



We used a bit of tin sheet purchased from Bunning's, but you could use just about anything.

To prepare the sheet, we first cut it into shape using a jigsaw (you could use tin snips if the sheet is thin enough) then went back and forth to the vehicle to determine correct size. The sheet metal was then sanded completely on all sides and primed; once the primer was dried, we ran a bead of silicone around

the edge that was to be attaching to the tabs we bent inward earlier. From that point on, it was a simple job of drilling and riveting the plate into place.



Oh, and for the record, if the plate doesn't fit perfectly to the underside of the vehicle, be sure to add some extra silicone to fill any holes – otherwise water will eventually find its way in and start to rust the vehicle from the inside out.

Step 4: Sealing, and painting

Next you need to seal your new panels using car putty. When mixing car putty, do not use too much hardner – sure the putty will dry much faster, making the entire job faster, but there's a good chance it will also reduce the strength of the putty, causing it to eventually crack and fall out.

After applying liberal amounts of putty to the joints, then smoothing the excess away, Evan went to town with a file and some sand paper, sculpting the putty and creating a perfectly smooth finish, devoid of bumps and imperfections. Once completed, it was time to under coat the exposed metal, and finally give the vehicle a few good top coats of colour.

First we covered all the adjoining areas of the vehicle that we didn't want paint on with some newspaper and masking tape. When doing this, be sure to cover your tyres, bars and any lights floating around because there is nothing worse than a vehicle that's been over sprayed.

We applied two even coats of primer and let them dry completely before continuing with 4 top coats of paint. The paint we chose, and the paint we recommend for priming is an etch primer. There are several brands, but we utilised an Australian product named 'Knight', firstly because it was a quality product, secondly because etch primer holds onto metal better, and thirdly because we are patriotic – 'Knight' being an Australian product. As to the top coat paint, well that comes down to personal preference, but we highly recommend you stay away from those cheap paints, as they are the same quality and consistency as using liquid paper to paint your vehicle.

Once the paint dried completely, its was time to pull the masking tape and newspaper off, and begin to reassemble everything we originally took off in the preparation stage.

Important things to keeping mind

There are a number of things worth keeping in mind when it comes to cutting panels:

- All exposed metal needs to be primed or painted immediately, otherwise it will end up rusting; and
- The wiring loom for the lights on the driver's side rear quarter will need to be relocated higher in the panel.

Well that's about it. I hope this guide is somewhat helpful in assisting you with your own project, and remember – above all else, don't be afraid to experiment.
