

Installing Rust Repair Panels

Before repairing a rusted area on a car, a "battle plan" must be carefully worked out. If there is any body filler or damage nearby, consider replacing more than just the rusted area. If adjoining panels are also rusted, a logical sequence of operations must be planned. Above all, have your Moss repair panels in hand before cutting rusted/damaged areas out of your car. This not only makes planning the job easier, but it lets you see exactly

how the repair panel will fit. It's also a good way to prevent cutting out an area larger than the repair panel, a potentially costly mistake. Careful measurements and marking are essential.

Plan with care. Start from the inside out. Floors and sills (always before removing the body from the frame if the car has a separate frame) are followed by inner fender and door pillars, after which come rocker panels and then fender patches. This is, of course, a very general outline.

Equipment needed to produce professional quality repairs is generally beyond the tool inventory of the average enthusiast's garage, but it is often cheaper to purchase needed tools and equipment than to take the car to a body shop, especially if only "skin" repairs are required. The most expensive item required for this is most likely a M.I.G. welder or oxy-acetylene torch set-up to do the actual welding. (If only non-stressed areas are to be repaired, pop-riveting is usually adequate.) A few years back, an "inexpensive" M.I.G. welder cost just under \$1,000. Recently there have been "tabletop" models available starting under \$300, which puts these invaluable devices within the reach of many.

For cutting the rust out of your car, I have found a hand-held 4" grinder with a cut-off disc to be quick, clean, and accurate. These have the added advantages of producing virtually no distortion in the metal, and can be used with grinding discs for grinding welds. Chisels, hand shears, and cutting torches should not be

used on most external panels, as they produce too much distortion in the surrounding metal. Cutting torches are great for rough or preliminary work. Nibblers may be used, but are generally slow and leave a slightly ragged edge. They are good for cutting small radius curves, however.

Spot-welded panels such as rocker panels can usually be removed by carefully drilling the spot welds with a drill of slightly larger diameter than the welds. If the welds are drilled out through the entire assembly, the new panel may be plug welded from the "back" of the holes. If done carefully, appearance of the original spot-welds can be approximated. In any case, once the spot welds are drilled, the old panel may be separated from the piece it was welded to with a thin sharp chisel and vise-grips. Rocker panels are easy to remove if the main part is cut away from the welded flanges, and the flanges removed separately. Repair panels may be mated to the cuts made in the car by overlapping or with butt-joints. Overlaps are easily made, and may be welded or pop-riveted, but they leave a grossly uneven surface unless the edges of the "hole" are joggled, so that the surface of the patch and any rivet beads are slightly below the surface of the main panel. The time and effort to do this properly makes this method more difficult than butt-welding. Butt-welding is the joining of two pieces by their edges, and demands careful matching of the edges. Whichever method is used depends on equipment available and what sort of panel is being installed. Floorboards and trunk pans can be installed with lapped edges, while exterior "patch panels" should be butt-joined if a minimum of body filler and finishing is to be used.

Plan where to run the joint. Fox example, some MGB lower fender repair panels run just above the waist line (where the chrome trim goes). It is much easier for many reasons to trim the repair panel so the weld is along the bottom of the original joint line, and will be hidden by the chrome trim.

Plan for drainage - there was a reason the car rusted where it did. Figure out why, and add inconspicuous improvements such as extra drain holes where required.

To install a panel, mark on the body of the car approximately where you think the edge of the repair panel will be. Remove all of the original pieces to be replaced except for an inch or so along where the main joint or weld will be. It should then be possible to scribe an accurate line on the body for the final cut where the two panels will join. Cut this carefully with as little distortion and with as smooth an edge as possible.

Hold the repair panel in place, and note any areas which need attention. These could be unfair mating flanges, ragged surfaces (remnants of old welds, barbs left from rough chisel work, or slag from cutting with a torch), or poorly mating edges. Look for imperfections in the repair panel itself. Trim, grind, hammer (gently) or do whatever is required for a perfect fit all over.

With the repair panel held or lightly clamped in place, place a small "tack" weld at the center of the major joint. In the case of a lower fender repair panel, especially when the weld will not be covered by trim and the joint is straight, allow the contraction of this "tack" to pull the bottom of the panel away from the car slightly - when later "tack" is made and the bottom of the panel pushed into place, the joint will (usually) be slightly below the "correct" surface. The idea is to have the finished (ground-off) weld slightly "low", so a light coat of body putty or lead is all that is needed to bring the repaired area to smooth perfection.

With the first tack in place, wiggle the panel around a bit for perfect alignment, and place more tacks at 2-3 inch intervals from the center outwards in both directions, one on one side of center, the next on the other side, and so on.

By leaving a small gap between the two pieces to be butt-welded (about 1/32" is fine), a small thin screwdriver or other object may be used as a lever to pry the two pieces as required to perfectly align the two surfaces at each tack.

With the "cosmetic" joint(s) well tacked, weld the flanges and other edges of the panel, being careful not to allow enough heat to build up to cause any distortion. The best way to do this is by "skip-welding", in which short welds are made at long intervals around the work until it is finished. Now go back and put a tack weld between each of the previous ones on the "cosmetic" or "exposed" joint, aligning the surfaces as before. Do it again - a tack between the ones just made and the original ones. If the resulting gaps are more than about 1/2" long, do it again. With a hand grinder, carefully grind off the tops of all these little tack welds.

After aligning the surfaces as before, use the skip-welding procedure mentioned earlier, to carefully weld in the gaps, again being careful not to cause adverse heat distortion.

Grind off the excess weld carefully, without hitting the body panels. If you find the weld to be in a slight depression, congratulations! If the ground weld is still slightly raised, do not try to grind it and the edges of the now joined panels flat - you will make the metal too thin, and cause the weld to crack. Careful hammer work or heat shrinking is the only cure - consult an experienced body man and/or a good book on bodywork.

Common questions about repair panels are: (1) Why not braze them?, (2) Why not sell galvanized panels?, and (3) Why aren't all the repair panels supplied in primer? Brazing can be used, but causes paint adhesion problems unless proper preparation and primers are used. Galvanized panels should not be used, as the fumes from welding these are highly toxic. Furthermore, as the zinc is burned off at the welds, protection is lost where it is most needed. All body panels should be stripped to the bare metal before finishing, and properly prepared for paint. It is easier to work with an oil-covered or even slightly rusty panel than one already covered with primer that must be removed, as it must be thoroughly cleaned anyway.

Eric Wilhelm
Moss Motors Staff

Damp Starting Problems

If your car is still slow starting, or won't start in wet/damp weather, and you have checked and convinced yourself that your battery is strong, the grounds and hot connections are all good, timing, plugs, and points are all up to specs, it is now time to go to the next step. You should

seriously consider replacing your old, probably weak and/or worn out stock 25k coil with a new, high voltage 35k or 40k volt coil. They are available at reasonable prices. If you are a purist, rest assured that the Sports Coil (Moss #143-201), is available, although not originally fitted at the factories. Most likely if all the other electrical stuff is working well, you will solve your wet/damp starting problems with a high voltage coil.

Try it, and if you are like me, you will wonder why you or Lucas didn't do it 20 years ago.

Tom K'Burg
Salem, NJ

