

## Final Surface Preparation: Using Body Fillers

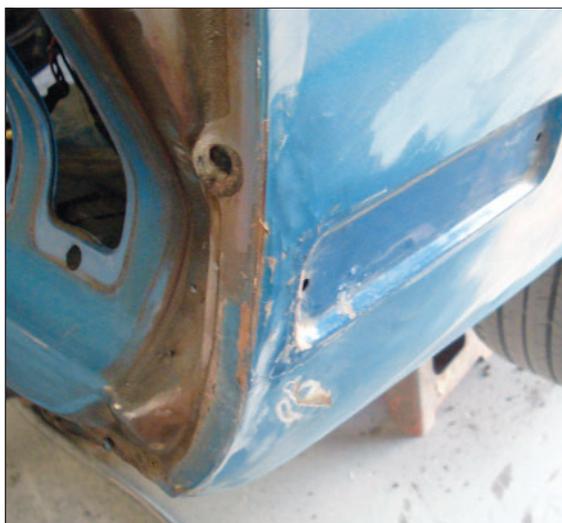
In Chapter 3, I discussed how to repair rusted and damaged body panels prior to their final surface preparation and painting. The goal was to restore a solid, relatively smooth surface to work with. High-build/sandable primers and other coatings or sealers sometimes provide the necessary level of smoothness required prior to painting, but this is generally the case for less visible areas, such as under the car or underhood. Larger areas such as main body panels, the hood, trunk lid, etc., generally need additional finishing. This requires using body filler to mask any remaining surface irregularities and to achieve the final desired shape of the panel.

There are different types of body fillers for different stages of the process, but I will discuss only the regular filler used to cover the damaged area and the glazing/spot putty skim coat that is used to fill in smaller imperfections like pinholes. I will only deal with two-part so-called plastic body fillers that are mixed just prior to application. (I will not get into more exotic fillers such as lead, which require heating with a torch. The skill required with these techniques and materials is beyond what most shops are capable of; their use is gradually becoming a lost art.)

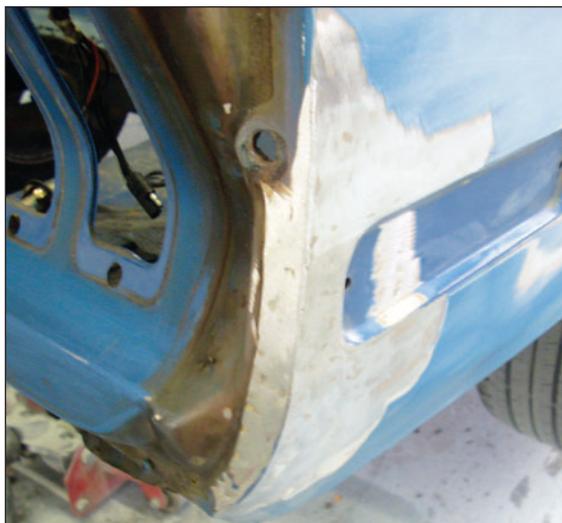
While some may say the use of lead and similar technologies provides a superior result, this has become less true as the technology of conventional fillers has improved. When you consider the potential toxicity of working with lead, plus the additional safety considerations and equipment involved, there generally isn't a compelling argument to use it for anything but authenticity. That's not likely to be a concern with first-generation Mustangs.

After the underlying material (metal or otherwise) is as close to the final shape

## Body Filler Application



**1** Before applying body filler, metal in the damaged area needs to be worked as close to its final shape as possible. As noted in Chapter 3, there are many different of tools that can apply pressure from behind the panel and bring it close to the final shape. If it's possible to access the panel and area from behind, there are also things like stud welders, slide hammers, picks, and so forth to pull the area into shape from the front side.



**2** After the metal has been worked into the final desired shape, it must be ground or sanded to abrade the surface and then cleaned to remove any dust or other residue. This helps ensure proper adhesion of the filler to the metal body panels. The paint on the adjacent metal should be "feathered" to provide a gradual transition between the areas. Make sure the area is fully dry before proceeding.



**3** The body filler must first be mixed to activate the hardening process. When mixed, you have limited time to apply the filler, so you need to work fast. All layers should be relatively thin, but the first layer should also be applied with firm pressure to push the filler into the surface irregularities. The filler should be applied in

overlapping layers with smooth, constant strokes. Apply as little filler as possible to cover the damaged area and fill in all irregularities. Applying too much is a waste of time and material because you just have to remove it anyway.



**4** *After allowing the filler to fully dry/harden (usually about 15 to 20 minutes, depending on conditions), it can be sanded to shape using a series of progressively finer-grit abrasive sheets. The initial sanding should remove material quickly, but not too much. In the latter stages, you should achieve the desired final shape and surface smoothness, and all visible scratches from the sanding should virtually disappear. A thin coat of special glazing/spot putty is used as a top layer before priming.*

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**5** *Those with some experience and a feel for doing bodywork can often use a handheld sander to make removal of the filler easier and quicker. Take great care to not remove too much material; this equipment can easily remove too much. In that case, reapply filler and repeat the sanding step more carefully.*



**6** *After sanding is complete and the necessary amount of filler has been removed, the area often looks stratified from the removed layers of paint and filler. These different-colored layers should all be relatively thin and smooth. You shouldn't feel any edges, scratches, or other imperfections. The surface should also be free from any waviness or other localized unevenness.*

as possible, clean it before applying any type of body filler. First wash the area with soapy water, and then thoroughly dry it with lint-free towels and/or compressed air. Next wipe down the area with a suitable solvent remover to eliminate any unwanted residue, such as oily

films, adhesives, etc., Then sand the area with a relatively rough (40–80 grit) abrasive to provide a better surface for the filler to adhere to.

You should remove all paint within 1 or 2 inches of the damaged area to be filled. Then mix the components of the

body filler on a suitable pallet. When mixed, you must work fast because the filler begins to harden as soon as the components meet. Use a putty spreader to apply the first layer of the filler to the area being worked on. Use firm pressure for the initial layer to help force the filler into the surface. Make all layers thin and don't use any more filler than is necessary; you'll only have to sand it off later.

Drying time is about 20 minutes or so, depending upon temperature, humidity, and the specific mixture of the filler. Make sure the filler is fully hard and dry.

Choose a sanding block that's suitable for the size and shape of the area being repaired and attach a 40-grit abrasive sheet. Sand the area to a rough approximation of the final shape. With care you can also use a handheld rotary sander at this stage, again using 40-grit for the disc. You are simply trying to remove material quickly; you do not want to remove too much or you'll have a low spot, which will require more filler. Just take it slow and remove only enough filler to yield the shape you want; you want it just a bit larger than the final shape.

Change the sanding sheet/disc to 80-grit to take the area down to the final shape and to remove the deepest surface scratches. You want the surface to be smooth and level, with a gradual transition to the surrounding areas (a feathered edge).

Next, change the abrasive sheet to 180-grit and lightly sand to remove visible scratches and to provide a smooth transition to the surrounding painted areas. At this point, you should be working with a hand-held sanding block only and should make sure there is minimal filler thickness at the edges of the repair area. You do not want filler on top of the surrounding paint if you can help it; you want the filler and the paint to be level.