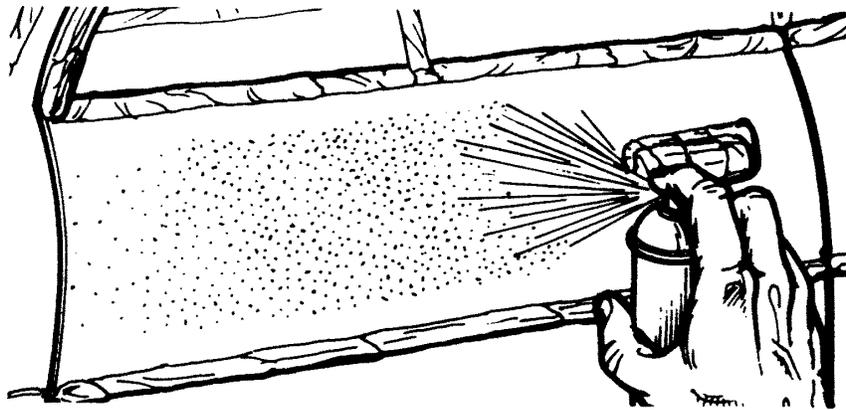




HOW - TO SCRATCH & DENT REPAIRS



Tool And Material Checklist

- | | |
|--|--|
| <input type="checkbox"/> Wax and Grease Remover | <input type="checkbox"/> Dent Puller |
| <input type="checkbox"/> Sandpaper Assortment
and Sanding Block | <input type="checkbox"/> Air Filtering Mask |
| <input type="checkbox"/> Tack Cloth and Lint-free
Cloths | <input type="checkbox"/> Body Hammer |
| <input type="checkbox"/> Glazing Putty | <input type="checkbox"/> Multipurpose Dolly |
| <input type="checkbox"/> Rubber Contour Squeegee | <input type="checkbox"/> Plastic Spreader |
| <input type="checkbox"/> Body Filler | <input type="checkbox"/> Body File |
| | <input type="checkbox"/> Sanding Board |
| | <input type="checkbox"/> Safety Glasses or Goggles |

** This How-To Guide is designed as a general overview of a vehicle repair procedure. You should always refer to a service manual designed for your vehicle for detailed instructions. Parts Plus assumes no liability for an incorrect procedure.*

Keeping up your car's appearance is important for more than just cosmetic reasons; it has practical value as well. It prevents general deterioration and large body shop bills. Even the smallest scratch or dent can turn into an unsightly defect and a costly repair if left untreated. By following the procedures in this booklet, you can repair minor surface damage on your car quickly, easily, and with long-lasting results.

CLEANING: THE CRUCIAL FIRST STEP

Before starting, it is very important that the repair area is thoroughly cleaned.

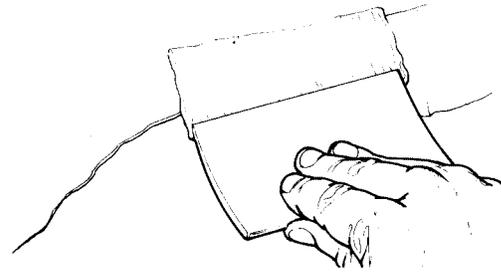
1. Move the vehicle to a shaded area. Wash with water and soap or mild detergent. Wipe dry with a clean, lint-free cloth.
2. Clean the repair area with a wax and grease remover. This eliminates any built-up wax, grease, road tar, etc., that could cause paint failure.
3. If the car was polished with a silicone-based cleanser, use a remover specifically designed to take off silicones.

You're now ready to do the repair.

REPAIRING SCRATCHES

1. Lightly sand the scratches using 400-grit paper to "rough-up" the finish coat. Do not press hard on the sandpaper; excessive pressure can result in low spots.
2. Clean the area with a lint-free cloth and wipe with a tack cloth.
3. Apply a daub of glazing putty to the edge of a clean rubber contour squeegee. Working with small amounts, spread the putty using a fast scraping motion and moderate pressure in only one direction. Never pass the squeegee over the same area more than once.
4. Allow the putty to dry completely before sanding-preferably overnight.
5. Wet sand the repair area with 400-grit paper. Use a sanding block to avoid making low spots.
6. Rinse the sanding dust away, wipe the surface

dry, and clean with a tack cloth. If additional applications of putty are needed, repeat the above procedure as often as necessary.



Spreading putty

7. Use water, a sanding block, and 600-grit paper to finish sanding the puttied area. Sand with light pressure and long strokes across the surface. Any low spots must be filled with additional glazing putty or body filler.

8. When satisfied with the smoothness of the repair, rinse away the sanding dust, wipe the surface dry, and clean with a tack cloth.

9. Spray a medium coat of finishing primer over the repair area. Let dry about five minutes, then wet sand with 600-grit paper. Repeat several times until the repair area is glassy smooth. The surface is now ready for painting.

NOTE: Always wear safety glasses or goggles and an air filtering mask when spraying primer or paint.



Wet sanding

REPAIRING STONE CHIPS

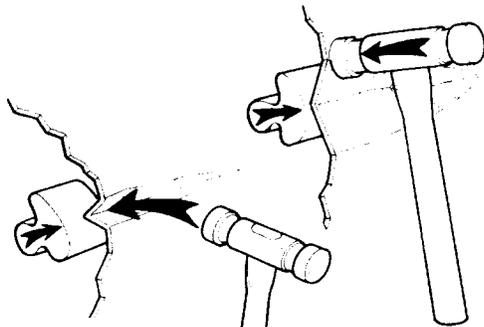
Stone chips and nicks are repaired in the same manner as scratches, except that the damaged area must be sanded and primed before the putty is applied. Rust formation must be inhibited with primer before finishing. Two types of primer are needed for this repair: zinc chromate primer for rust retardation and finishing primer for use as a final protective undercoating. A special air respirator is required when working with zinc chromate or similar patterns.

BUMPING DENTS

A body or dinging hammer is used with a multipurpose dolly block to repair dents and creases. The hammer has two faces: one round for striking concave surfaces, the other flat for striking flat or high spots. The dolly block has several rounded surfaces that fit a variety of contours. The two methods of bumping dents are:

- Off-dolly method. Press the dolly against a low spot while striking an adjacent high spot with the hammer. The hammer blow drives the high spot down, while the rebounding dolly drives the low spot up.

- On-dolly method. Place the dolly directly behind the high spot. Press it against the metal as hard as you can while striking the opposite side with light hammer blows. This method is used less frequently; the off-dolly method is easier to do.



Bumping out dents

To bump a dent back into position:

1. Make sure all dirt, undercoating, etc., has been removed from the backside of the panel.

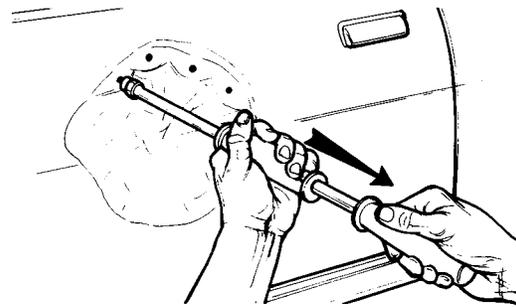
2. Choose a surface of the dolly that best conforms to the contour panel, and match the hammer face to the contour of the surface to be struck.

3. Use either the on- or off-dolly method to tap the dent back into position, always bumping in the opposite direction of the impact. First hammer from the inside to achieve the rough contour. Then switch the position of the hammer and dolly, and hammer from the outside.

4. Run your hand across the repair area to check for any remaining high and low spots and carefully bump these areas flat.

PULLING OUT DENTS

When interior trim or body panels prevent access to the backside of the damaged panel, the hammer and dolly method is ineffective. In such cases, a dent puller must be used to pull the metal back into position.



Pulling out a dent

1. Examine the area to determine the point and angle of impact.

2. Drill holes 1" apart along the length of the initial crease. Use a drill bit approximately one-half the diameter of the screw at the tip of the dent puller.

NOTE: Always wear safety glasses or goggles when drilling, grinding, or using any type of power tool.

3. Starting at the shallowest point and working toward the deepest, insert the tip of the screw into

the first hole. Hold the handle of the dent puller in one hand and forcefully slide the weight straight back against the handle.

4. Work out the crease slowly, in the opposite direction of the initial impact. Pull out the first hole slightly, go on to the next, and repeat the process.

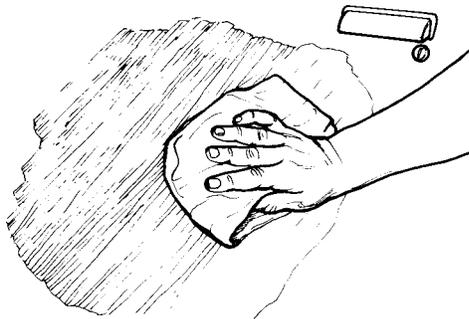
5. Work the surface as close to the original contour as possible without pulling the metal beyond the original surface. Any low spots can be filled with body filler.

6. The filler will begin to harden after a few minutes. Use the following table to determine how much working time you will have:

Temperature	Working Time
100°F	3 to 4 minutes
85°F	4 to 5 minutes
77°F	6 to 7 minutes
70°F	8 to 9 minutes

USING BODY FILLERS

The key to successful dent repair is proper use of body filler. After a dent has been bumped or pulled close to its original condition, body filler is used to achieve the finished contour.



Removing dust with a tack cloth

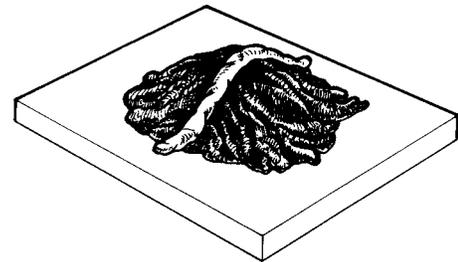
1. Sand the repair area with a 36- or 80-grit paper on a disc sander or a wire brush attachment. For hard-to-reach or large areas, a paint stripper can be used. Remove approximately 4" of paint around the dent.

2. Featheredge the old finish, using 220-grit paper to rough up the metal.

3. Clean the sanded area, dry, then wipe with a tack cloth to remove all sanding dust.

4. Place the desired amount of resin on a mixing board. Knead the tube of hardener thoroughly, then squeeze a narrow ribbon across the glob of resin. This will give the correct proportion of resin to hardener.

5. Use a plastic spreader to mix the resin and hardener together with a firm, flat wiping motion. Do not stir, stirring will trap air in the filler and form pinholes

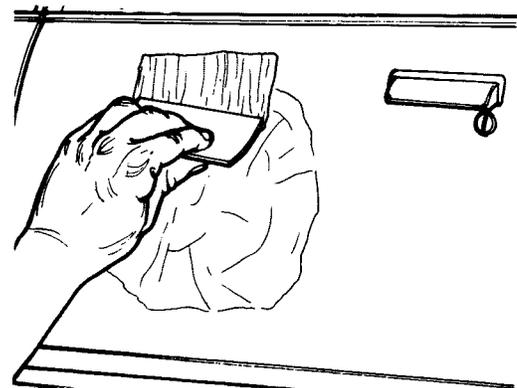


Correct proportion of resin to hardener

7. Mix until the filler is a uniform color. Use the color guide on the package to judge the accuracy of the mixture. If it is too light, add more hardener, if it is too dark, add more resin.

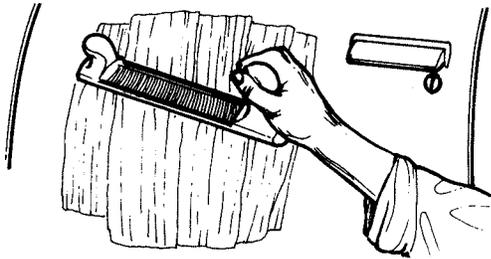
8. Apply a thin tinning coat of filler over the repair area using a plastic spreader. Use moderate pressure to force out any air bubbles.

9. Apply the rest of the filler, working from the edges toward the center in smooth strokes. Build up the filler higher than the surrounding surface, but do not make any application thicker than 1/4". Use a minimum number of strokes and work quickly, before the filler starts to set up.



Applying the first coat of filler

10. When the filler becomes rubbery, use a 10” half-round “cheese grater” body file to remove the high spots. Pull the file diagonally across the repair area and press lightly.

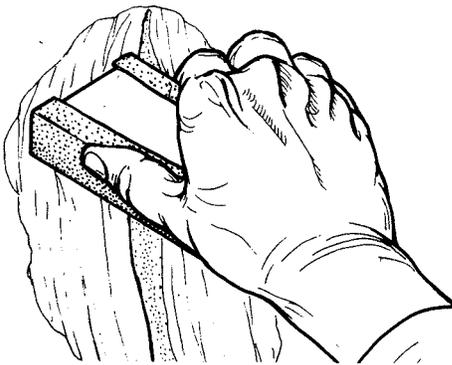


A half-round cheese grater body file

11. Allow the filler to harden (approximately 15 to 25 minutes). Use a sanding block and 50-grit paper to remove high spots.

12. Examine the filler. Do not be alarmed if low spots are found; even professional body technicians usually need more than one application before they are satisfied.

13. Apply as many coats of filler as needed to bring the level of the repair area above the surrounding metal, using the same procedure of applying, filling, and sanding.



Removing high spots with a sanding block

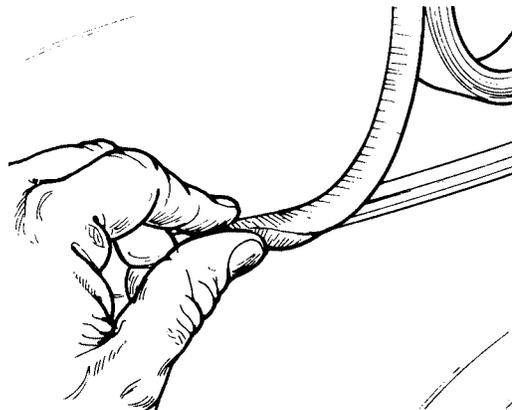
14. With 50-grit paper and a sanding board, sand the final coat of filler to within 1/16” of the desired level.

15. Use 80-grit paper to sand the filler even with the original surface. Never trust your eyes when checking for evenness. The repair area should *feel* even. Keep in mind that paint does not hide imperfections, it highlights them.

16. When satisfied with the smoothness of the surface, clean with a tack cloth.

NOTE: Depending on the quality of the filler application, use either finishing primer or filler/finishing primer. If only minimal filling is necessary, use finishing primer; the filler/finishing type is best when imperfections in the filler must be hidden. Filler /finishing primer is also useful for filling low spots, hiding sandpaper scratches, and smoothing featheredges.

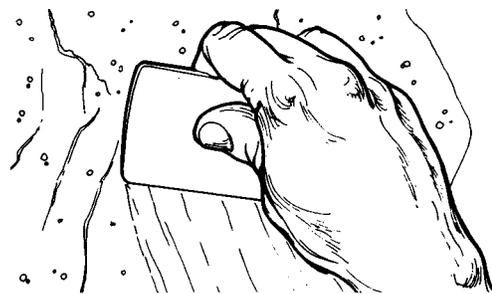
17. Before priming, do all necessary masking. Spray a light coat of primer over the filler and any metal surfaces.



Applying masking tape

18. When the primer has dried, any pinholes and scratches can be filled with glazing putty. Squeeze a small amount onto a clean plastic spreader and apply a thin covering over the filler.

19. Let dry, then wet sand the glazing with 240-grit paper and sanding block. Lightly sand until most of the glazing is gone.



Filling pinholes and scratches

20. Clean the repair area again with a tack cloth. Use additional putty to fill in any remaining imperfections. Your goal is a smooth, flawless surface; repeat as often as needed to achieve it.

21. Wet sand with 400-grit paper, using long strokes.

22. When satisfied with the smoothness of the surface, rinse and wipe dry. Use a tack cloth to remove any sanding dust that might have collected in pinholes, scratches, etc.

23. Spray the repair with finish primer, completely covering the filler, bare metal surfaces, and several inches of the old finish surrounding the repair.

24. Allow the primer to flash for five minutes, and then wet sand lightly with 400-grit paper. Prime one or two more times, wet sanding after each application.

The dent has now been filled, glazed, primed, and sanded smooth, and is ready to be painted.

REFINISHING

With the surface preparation satisfactorily completed, the refinishing job can take one of three forms: spot repair, panel repair, or overall repainting of the vehicle.

Spot and panel repair are small surface jobs where either an isolated spot or a complete panel is painted. Overall refinishing is just what it says – the entire vehicle is painted. Spot and panel repairs can be made with a spray can or spray gun; overall repainting must be done with a gun.