METAL REPAIR AND PAINTING 3B

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METAL REPAIR

The information contained herein provides instructions for bulge, crease and dent repair. The terms are defined as follows:

- Bulge—An impression in the metal from inside to outside.
- Crease—A depression in the metal up to 1/2 inch to 2 inches long or longer.
- Dent—A depression in the metal larger than 1/4 inch by 1/4 inch.

(1) Wash damaged area with mild detergent and water to remove dirt.

(2) Clean repair area using wax and silicone remover, such as DuPont Prep-Sol, Ditzler Acryli-Clean, 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

(3) Use grinder to remove paint and to outline damaged area.

(a) Use grade 24 disc for initial grinding.

(b) Follow up with grade 50 disc to prevent coarse scratches from showing up in final finish.

(4) A bulge may require application of heat to shrink the metal.

(a) Heat metal bulge with an oxygen-acetylene torch and immediately upset bulge area with dolly and hammer.

(b) Do not attempt to hammer bulge completely away while metal is hot or metal will be overshrunk.

(5) To restore metal contour of bulge, crease or dent after straightening and grinding, apply plastic body filler, such as Ditzler 999 Body Filler, 3M Plastic Filler, or equivalent. For best results, mix plastic body filler and hardener according to manufacturer's instructions.

(6) Apply plastic filler with rubber or plastic spreader. Use firm pressure to aid in removing air bubbles which will show up as pinholes.

(7) Use an air file or hand file board for shaping of plastic filler.

(a) For initial sanding of plastic filler, use grade 36 or 40 paper.

(b) For finish sanding plastic filler, use grade 80 paper on hand file board or air file.

(8) Featheredge paint into bare metal area as described in following steps.

(a) For rough featheredging, use grade 80 disc on dual action sander.

(b) For final featheredging, use grade 180 disc on dual action sander or 220 grade paper on hand sanding block.

NOTE: *If heat has been applied or holes have been drilled in the repaired body panel, it will be necessary to replace the anti-corrosion material as described below under Anti-Corrosion Protection.*

ANTI-CORROSION PROTECTION

AMC Galvicon Coating

If it is necessary to apply heat or drill holes in original or replacement body panels that are galvinized, the galvinized coating will be removed. It will be necessary to apply AMC Galvicon Coating to these areas using the following procedure:

(1) Repair or replace body panel.

NOTE: *The inner surface of a replacement panel should be cleaned before installation.*

(2) Clean inner surface of panel using Dupont Prep Sol, Ditzler Acryli-Clean, or equivalent, and allow to dry.

(3) Stir Galvicon Coating thoroughly and brush two or three coats over heated or drilled areas of panel.

Extend coating at least three inches beyond heated or drilled areas and allow to dry.

AMC Rustproofing

Whenever the factory petroleum base wax has been removed from a body panel, it is necessary to apply AMC Rustproofing to these areas using the following procedure:

(1) Shake aerosol container to mix contents thoroughly.

(2) Hold aerosol container 10 to 14 inches from panel area to be coated and spray panel until desired coverage is achieved.

NOTE: *Apply the rustproofing material in a coating that is thick enough to cover the panel repair area completely. Metal must not show through the coating.*

(6) Invert aerosol container and spray to clean aerosol container valve.

PAINT REPAIR WITH ACRYLIC ENAMEL

Recent advancements in acrylic enamels have produced a repair procedure which can be used to effectively spot repair a panel or an area where panels join. This procedure should be used only on secondary surfaces of the vehicle (all surfaces below the level of the top of the wheel openings). If repair of a panel requires more than one-half the total panel area, the entire panel should be refinished.

(1) Using mild detergent and water, wash complete panel and rinse thoroughly.

(2) Clean repair area with wax and silicone remover, such as DuPont Prep-Sol, Ditzler Acryli-Clean, 3M General Purpose Adhesive Cleaner and Wax Remover, or equivalent.

(3) Remove loose paint and featheredge area with sandpaper.

(4) Wash area to be painted.

(5) Mask area to be painted.

(6) If bare metal is showing through paint in repair area, use following steps to prime area.

(a) Apply appropriate metal conditioner to bare metal according to manufacturer's instructions.

(b) Mix primer following manufacturer's instructions.

(c) Apply primer and allow to air dry.

(d) Remove masking and wet sand repair area.

(e) If scratches or pin holes appear in surface, apply glazing putty according to the manufacturer's instructions.

(f) After glazing putty dries, wet sand and clean area. Apply final coat of primer and allow to air dry.

(g) Wet sand and wash area.

(h) Clean repair area with wax and silicone remover and wipe with tack rag.

(7) Wash complete area.

(8) Mask area to be painted.

(9) Mix acrylic enamel color using a paint shaker and following manufacturer's mixing instructions.

(10) Adjust air pressure at air regulator to obtain 55 to 60 psi (379 to 414 kPa) at spray gun and spray test panel. Adjust gun to obtain desired pattern and color match.

(11) Apply one medium color coat to primed area and allow paint to set up for 25 minutes.

(12) Apply three or more medium color coats. Overlap edges of each coat to produce tapered edge. Allow each coat to flash completely.

(13) Spray one full wet color coat over entire repair area. Overlap edges of previous coat.

(14) Empty gun and fill cup with enamel reducer. Reduce air pressure at air regulator to obtain up to 20 psi (138 kPa) at spray gun.

(15) Spray blend-coat over edges of old and new paint.

(16) Spray one or two medium coats over entire area.

(17) Remove all masking when paint has tacked up.

FINISHING METAL REPLACEMENT PARTS

Metal body service replacement panels or assemblies are painted with a black factory primer. For proper adhesion of acrylic enamel color coats in service, the following refinish steps are necessary.

NOTE: *If replacement aluminum, body parts require a two part conversion coating before color coat is applied.*

(1) Wash part with paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(2) Scuff sand part with 220 grade dry sandpaper. Avoid cutting through and rewash part.

(3) Mix primer/sealer following manufacturer's instructions.

(4) Apply primer/sealer and allow to air dry.

(5) Wet sand smooth and clean with DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent cleaner.

(6) Apply acrylic enamel color coats as required.

(7) Clean inside of replacement panel and apply anti-corrosive material as described above under Anti-Corrosion Protection.

Painting Tips

- Use only one brand of refinish materials on each repair.
- Follow manufacturing instruction for use of refinish materials.
- Use recommended reducer according to shop temperature and humidity conditions.
- Mix paint thoroughly.
- Spray a test panel and adjust gun to obtain desired color before attempting to spray vehicle.
- When matching colors:
  - A given color can be darkened by:
    1. decreasing air pressure
    2. increasing fluid setting on gun
    3. moving gun closer to surface
  - A given color can be lightened by:
    1. increasing air pressure
    2. decreasing fluid setting on gun
    3. moving gun farther from surface

Metallic Color Guide

To Lighten a Metallic Color:

- Use a Fast-Drying Thinner
- Add More Reducer
- Raise Air-Pressure
- Apply Dryer Coats
- Wait Longer Between Coats
- Mist Coat
- Adjust Fluid Valve on Gun (Close)
- Adjust Air Valve on Gun (Open)
- Hold Gun Further From the Surface

To Darken a Metallic Color:

- Use a Slow-Drying Thinner
- Use Less Reducer than Normal
- Lower Air-Pressure
- Apply Wetter Coats
- Allow Less Waiting Time Between Coats
- Use Retarder in Paint
- Open Fluid Adjustment on Gun
- Close Air Adjustment on Gun
- Hold Gun Closer to the Surface

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FINISHING TWO-SIDED GALVINIZED PANELS

Spot repairs using Ditzler or equivalent materials are as follows:

(1) Using mild detergent and water, wash complete panel and rinse thoroughly.

(2) Clean repair area with wax and silicone remover, such as DuPont Pre-Sol, Ditzler Acryli-Clean, or equivalent.

(3) Using grinder, remove paint and outline damaged area.

(a) Use grade 24 disc for initial grinding.

(b) Follow up with grade 50 disc to prevent coarse scratches from showing up in final finish.

(4) Restore metal contour to as close to original as possible.

(5) Clean repair area with wax and silicone remover, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(6) Apply Ditzler Metalprep 79 (DX-579), or equivalent, following manufacturer's instructions over bare metal.

(7) Apply Ditzler Galvaprep S.G. (DX-520), or equivalent, following manufacturer's instructions over bare metal.

(8) Mask area to be painted.

(9) Mix and apply Ditzler (DP 40/401), or equivalent epoxy primer, follow manufacturer's instructions and allow to air dry.

(10) Remove masking.

(11) Apply plastic filler.

(12) Use an air file or hand file board for shaping plastic of plastic filler.

(a) For initial sanding of plastic filler, use grade 36 or 40 paper.

(b) For finish sanding plastic filler, use grade 80 paper on hand file board or air file.

(13) Apply Ditzler Metalprep 70 (DX-579), or equivalent, following manufacturer's instructions over bare metal.

(14) Apply Ditzler Galvaprep S.G. (DX-520), or equivalent, following manufacturer's instructions over bare metal.

(15) Mask area to be painted.

(16) Mix and apply Ditzler (DP 40/401), or equivalent epoxy primer, following manufacturer's instructions and allow to air dry.

(17) Wipe repair area using tack rag.

(18) Mix acrylic enamel color using paint shaker and following manufacturer's instructions.

(19) Adjust air pressure at air regulator to obtain 55 to 60 psi (379 to 414 kPa) at spray gun and spray test panel. Adjust gun to obtain desired pattern and color match.

(20) Apply one medium color coat to primed area and allow paint to set up for 25 minutes.

(21) Apply three or more medium color coats. Overlap edges of each coat to produce tapered edge. Allow each coat to flash completely.

(22) Spray one full wet color coat over entire repair area. Overlap edges of previous coat.

(23) Empty gun and fill cup with enamel reducer. Reduce air pressure at air regulator to obtain up to 20 psi (138 kPa) at spray gun.

(24) Spray blend-coat over edges of old and new paint.

(25) Spray one or two medium coats over entire area.

(26) Remove all masking when paint has tacked up.

FINISHING INTERIOR PLASTIC TRIM PARTS

General

Paintable plastic interior trim parts can be divided into three general types:

- Polypropylene plastic (Rigid)
- ABS plastic
- Vinyl plastic (Flexible)

It is important to be able to identify each plastic in order to paint it satisfactorily.

The purpose of the following test is to determine the identity of a given plastic so that proper paint procedures and materials can be used.

Test for Polypropylene and ABS Plastic

To determine if a service part to be painted is Polypropylene or ABS plastic, perform the following burn test:

(1) From hidden backside of part, remove sliver of plastic with sharp knife.

(2) Hold sliver of plastic with needlenose pliers and ignite plastic.

(3) Observe burning plastic closely.

(a) Polypropylene burns with clear blue flame which has yellow tip and no readily visible smoke. When extinguished it gives off white smoke with odor of paraffin.

(b) ABS plastic burns with an orange flame and readily visible black, sooty smoke which hangs temporarily in air.

Test for Vinyl Plastic

To determine if a part to be painted is vinyl plastic, a copper wire test may be performed as follows:

(1) Heat copper wire in suitable flame such as propane torch until wire glows (a red color).

(2) Touch heated wire to backside or hidden surface of part being tested in manner so as to retain some of plastic on wire.

(3) Return wire and retained plastic to flame and observe for green turquoise blue flame. A flame in this color range indicates that plastic being tested is vinyl.

Procedure for Painting Rigid Polypropylene Plastic Parts

The system for painting polypropylene parts involves the use of a special primer. Since polypropylene plastic is rigid, it can be color coated after priming with the appropriate color American Motors interior spray paint (plastic and vinyl), or equivalent.

CAUTION: *It is essential that the service part be primed first with a coat of AMC aerosol polypropylene primer, or equivalent, according to the label instructions. Failure to use the required primer as directed will result in the color coat lifting or peeling.*

(1) Wash part thoroughly with paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(2) Apply thin, wet coat of polypropylene primer according to instructions on label. Wetness of primer is determined best by observing gloss reflection of spray application in adequate lighting.

NOTE: *Be sure the primer application includes all edges to ensure proper color coat adhesion.*

(3) Allow primer to flash completely.

(4) Apply appropriate color coat of interior spray paint and allow to air dry before installing part.

Procedure for Painting ABS Plastic Parts

ABS plastic requires no primer. American Motors color interior spray paint (plastic and vinyl), or equivalent, will adhere satisfactorily to ABS plastics.

(1) Wash part thoroughly with paint finish cleaning solvent, such as DuPont Prep-Sol, Ditzler Acryli-Clean, or equivalent.

(2) Color coat part using appropriate color American Motors interior spray paint (plastic and vinyl), or equivalent.

(3) Allow to dry and install part.

NOTE: *Apply only sufficient color for proper hiding to avoid wash out of grain effect.*

Procedure for Painting Flexible Vinyl Plastic Parts

The paint system for flexible vinyl plastic involves the use of American Motors interior spray paint (plastic and vinyl), Ditzler UCV Lacquer Vinyl paint, or equivalent.

NOTE: *No special primer is required when painting flexible vinyl plastic parts.*

(1) Wash part thoroughly with vinyl cleaner. Wipe off cleaner while still wet with clean, lint-free cloth.

(2) Immediately after wiping surface dry, apply appropriate color American Motors interior spray paint (plastic and vinyl), or equivalent, in wet coats allowing sufficient flash time between coats.

NOTE: *Low gloss paint such as Ditzler Low Gloss UCV 69, or equivalent, must be used for instrument panel components.*

(3) Allow to dry completely before installing part.

NOTE: *Apply only sufficient color for proper hiding to avoid wash out of grain effect.*

FINISHING FLEXIBLE EXTERIOR PANELS

General

The system for painting flexible exterior replacement panels such as front air dam, fender extensions, rocker panel extensions, and flexible bumper filler panels involves the use of a special primer. After the primer has had sufficient time to flash off the part can be painted using either the DuPont Dexlar or Ditzler Delthane flexible base systems. Parts that require touch-up need not be primed if the original paint/primer is still intact.

WARNING: *The following kits contain isocyanates. Use only with adequate ventilation. Do not take internally. Do not use if you have chronic (long-term) lung or breathing problems, or if you have ever had a reaction to isocyanates. If controls of air contaminants are not feasible, use a vapor/particulate respirator that is recommended for isocyanate vapors and mists. Follow manufacturer's directions for respirator use. Wear respirator for entire spray time and until vapors and mists are gone. Avoid breathing vapor or mist. Avoid contact with eyes and skin.*

Ditzler Kit

The Ditzler Delthane paints use Delstar acrylic enamel color (DAR) base plus modifiers which give the paint its elastomeric properties. Mix only as much as needed as the mix must be discarded after 8 hours.

DAR	*DXR-80	DX-1798	Yields
Quart (8)	4 ounces (1)	Quart (8)	2-1/8 quarts
Pint	2 ounces	Pint	1-1/16 quart
8 ounces	1 ounce	8 ounces	1-1/16 pint

*Available in pint cans (16 ounces)

Follow manufacturer's application instructions.

DuPont Kit

The DuPont Kit consists of Dexlar (DuPont jobber mix of Lucite color and Dexlar 365B Clear).

Dexlar	792S Hardener	3608S Thinner
Quart (4)	8 ounces (1)	Quart (4)
Pint	4 ounces	Pint
8 ounces	2 ounces	8 ounces

Pot-life is 2-3 hours.

Paint Repair Procedure

(1) Scuff sand entire area to be painted.

NOTE: *Avoid sanding through original paint and primer.*

(2) Featheredge damaged area with sandpaper.

NOTE: *Some parts may require stripping by scuff sanding the surface and carefully brushing with lacquer thinner, or equivalent.*

(3) Wipe area to be painted with DuPont Prep-Sol, Ditzler DX-330 Acrylic-Clean, or equivalent.

(4) Spot prime sand through area only, with thin coat of AMC Non-Lifting Propylene Primer 8993756.

NOTE: *This primer is designed to minimize lifting or wrinkling of color coat.*

(5) Spot color coat spot primed area.

(6) Color coat complete part.

NOTE: *Apply two or three medium color coats to complete panel.*

Painting Replacement Parts

(1) Wipe replacement panel with DuPont Prep-Sol, Ditzler DX-330 Acrylic-Clean, or equivalent.

(2) Prime replacement panel with thin coat of AMC Non-Lifting Propylene Primer 8993756.

(3) Color coat complete part.

WARNING: ***Materials descsribed above are designed for application by qualified personnel only using the proper equipment. Products mentioned may be hazardous and should be used according to the manufacturer's instructions. All precaution and warning statements on the labels should be followed.***

NOTES