

REPAIR PROCEDURE FOR SMC

GM9233P

1 SCOPE. This procedure describes the requirements of repair systems for SMC.

2 REFERENCED STANDARDS.

9981062	9982117	9984829
9982116	9982118	9985681

3 EQUIPMENT REQUIRED.

- 3.1 VM&P naphtha (9981062).
- 3.2 Clean white cheesecloth.
- 3.3 Sander.
- 3.4 320 grit paper.
- 3.5 Mechanical pencil.
- 3.6 Clean air line, oil free.
- 3.7 Procedure 1 only.
 - 3.7.1 Two component polyester body putty and peroxide catalyst per 9985681.
- 3.8 Procedure 2 only.
 - 3.8.1 Epoxy adhesive (9982116).
- 3.9 Procedure 3 only.
 - 3.9.1 Epoxy Coating (9984829).
 - 3.9.2 Small roller pan (optional).
 - 3.9.3 Firm roller.

4 PROCEDURES.

4.1 Procedure 1. Used for the cosmetic repair of scratches, gouges, large pits, chips, etc. using a 2 component polyester body putty.

4.1.1 Wipe defect area with 9981062 and cheesecloth. Dry off with clean (oil free) air for 20 s.

4.1.2 Use engineering approved material per 9985681. A ratio color chart should be developed so that operators can validate correct mixing techniques.

4.1.3 Apply repair material with a flexible plastic applicator into defect from two directions using medium to hard hand pressure to displace air trapped in the defect.

4.1.4 The final coat of repair material should have a thin (less than 1 mm) layer of material covering the defect area.

4.1.5 The material at the proper ratio will cure in 5 minutes at 25°C. If a heat gun is used, sanding should not be started until the defect area is at room temperature (never sand hot).

4.1.6 Sanding of repaired area must be done with 320 grit paper. If an orbital sander is used, caution should be taken to not tip the sander.

4.2 PROCEDURE 2. Cosmetic repair for very small pits and scratches that require a less viscous material to flow in and seal using a 2 component epoxy material.

4.2.1 Wipe the defect area using 9981062 and a cheesecloth. Dry off with clean (oil free) air for 20 s.

4.2.2 Use 9982116 (comprised of 9982117 and 9982118) epoxy material.

4.2.3 Heat defect area to approximately 80°C and apply adhesive to defect area. The lower viscosity of the epoxy provides better penetration into the defect area.

4.2.4 A final coat of approved epoxy material should be spread over the defect and heat cured at approximately 105°C for 15 minutes.

4.2.5 After the panel has cooled to room temperature, sand with 320 grit paper. If an orbital sander is used, caution should be taken to not tip the sander.

4.3 PROCEDURE 3. Edge sealing of SMC. This is required in areas of the part where there are reversed shears in the tool, or excessive sanding occurs during deflashing operations.

NOTE: Use rubber gloves and work in a well ventilated area while performing this procedure.

4.3.1 Blow dust off the edge to be air sealed using clean dry oil free compressed air.

4.3.2 Preheat edge of part to about 150°C.

4.3.3 Mix the 9984829 epoxy resin and curative at a 2:1 volumetric ratio and place it in a small roller pan. After mixing allow the material to stabilize for ten minutes prior to usage. The mixture's pot life is 1.5 to 2.0 h. The material will become very leggy just before it becomes unusable.

4.3.4 Pick up the mixture by rolling a firm roller applicator in the sealant and rolling off the excess in the ramp section of the pan.

4.3.5 Apply the mixture to the edge of the SMC part using the firm roller and a firm back and forth rolling action to press the epoxy into the small voids and pits in the substrate edge.

4.3.6 Wipe off all of the excess material with a clean dry cloth leaving the sealant in the holes and pits only.

4.3.7 Cure the material 30 minutes @ 135°C.

4.3.8 DO NOT SAND THE EDGE OF THE PART AFTER THE EDGE SEALING PROCESS.

4.3.9 Paint the panel and inspect for "popping".

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5 INSPECTION AND FINISH TECHNIQUE FOR BOTH PROCEDURES.

5.1 Final check to make sure the repair is satisfactory will be to use a mechanical pencil to lightly run over the defect. If the pencil does not fall into the defect it is acceptable. If pencil falls into the defect, check to make sure color ratio is correct.

5.2 Reject any panel if the repairs do not meet 5.1.

5.3 If the repaired area passes the test in 5.1, prime the part. Whole part priming is preferable using Sherwin Williams E67BC17 or E67BC2401 and baking 30 minutes at 120°C. However, spot priming is permitted under the following conditions.

5.3.1 Freshly mixed E67BC17 paint is delivered to the repair area at the beginning of each 8 h shift. No mixed paint shall be used after it has reached an 8 h pot life.

5.3.2 All spot primed areas must be heated to a part temperature of 115°C for a minimum of 4 minutes.

5.3.3 All spot primed areas must be scuff sanded with "Scotch-Brite" or sanding paper using a minimum of 400 grit to remove all overspray. Do not sand hot!

6 SAFETY. This method may involve hazardous materials, operations and equipment. This method does not propose to address all the safety problems associated with its use. It is the responsibility of the user of this method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

7 GENERAL INFORMATION. This specification was originated by CPC in January 1988. The latest revisions include:

Rev	Date	Description	Div
A	1/92	Add Procedure 3	
B	12/93	Add Preheat, 4.3.2	PL