

4C•4B (4-Coat•4-Bake) Paint

Refinishing Procedures (cont'd)

6. Air Blowing/Degreasing

Air blow the surface to be repaired, then degrease with a wax and grease remover (for USA usage-DuPont 38125 Enamel Reducer).

NOTE: Also clean and degrease the surfaces where masking tape will be attached.

7. Masking

Mask the areas surrounding the damage to prevent overspray from the primer surfacer.

NOTE: Use masking tape and paper to cover the undamaged areas.

8. Application of Undercoating (Primer Surfacer)/Drying

⚠ WARNING

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.
- Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.
- Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.
- Spray the primer surfacer over the filler and surface (use epoxy or urethane 2-part primer surfacer).
Spray : 2-3 coats.
- Use the following materials:
 - 615S Primer Surfacer (DuPont)
 - Primer Surfacer EP (Akzo)
 - NPS735 Urethane Primer Surfacer (R-M)
- Let the primer surfacer air dry for 5-10 minutes, then force dry with an infrared lamp.

NOTE: Keep the dryer 40-50 cm (16~20 in) from the surface.

9. Application of Polishing Undercoat

- Remove the masking paper and tape.
- Check that the undercoat is dried thoroughly, then dry or wet sand the surface with a #280 or #320 paper.

NOTE:

- Use a rubber block and sand flat and smooth.
- Sand the entire surface to be refinished.

10. Air Blowing/Degreasing

⚠ WARNING

- Do not use high air pressure: use only an approved, 210 kPa (2.1 kg/cm², 30 psi) air nozzle.
- Wear goggles or safety glasses to prevent eye injury.

Air blow all the surfaces, then degrease with a wax and grease remover (for USA usage-DuPont 38125 Enamel Reducer).

NOTE: Also degrease the surfaces where masking tape will be attached.

11. Masking

Mask the undamaged areas surrounding the damage to prevent overspraying of primer surfacer (intermediate coat).

NOTE: Use masking tape and paper to mask the body. A vinyl cover may also be used to effectively mask the body.

12. Application of Intermediate Coat 1 (Primer surfacer is used for this purpose) spraying/drying

⚠ WARNING

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.
- Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.
- Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.
- Spray either 2-part epoxy or urethane primer surfacer to polished primed surface as intermediate coat.
- Let the paint coat air dry for 5-10 minutes, then force dry with an infrared lamp.

NOTE: Keep the dryer 40-50 cm (16-20 in) from the surface.

For replacement parts:

Spray intermediate coat 2 on over the surface.

NOTE:

- For the back faces, you may start with Step 16 "Application of Intermediate Coat 2."
- Top coat enamel is used for this purpose

13. Polishing of Intermediate Coat 1

Check that the undercoat is dried thoroughly, then dry or wet sand the surface with a #400 or #600 paper.

NOTE: Use a rubber block and sand flat and smooth, covering entire surface.

14. Air Blowing/Degreasing

⚠ WARNING

- Do not use high air pressure; use only an approved, 210kPa (2.1 kg/cm², 30 psi) air nozzle.
- Wear goggles or safety glasses to prevent eye injury.

Air blow all the surface, then degrease with a wax and grease remover (for USA usage-DuPont 38125 Enamel Reducer).

15. Masking

Check the masking paper (Step 11) for tears or fouling, and repair or reinforce as necessary.

16. Application of Intermediate Coat 2 (same color as enamel) top coat spraying/drying

⚠ WARNING

- Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.
- Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.
- Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.
- Use the same color paint as the top coat, and spray it over the surface until the intermediate coat (primer surfacer) is fully covered.
- Spray the paint slightly thicker than normal to allow for loss during subsequent polishing.
- Super ponacle II (R-M)
- Super Centari (Du Pont)
- Auto cryl (Akzo)

17. Polishing of Intermediate Coat 2

- Check that the paint coat has been dried thoroughly, then dry or wet sand the surface with a #600, #800, or #1000 paper.

NOTE: Use a rubber block and sand flat and smooth, being careful not to expose the intermediate coat 1.

Polishing of Top Coat (if damaged):

- Use the same technique described above.

⚠ WARNING

- Do not use high air pressure; use only an approved, 210kPa (2.1 kg/cm², 30 psi) air nozzle.
- Wear goggles or safety glasses to prevent eye injury.

(cont'd)

4C•4B (4-Coat•4-Bake) Paint

Refinishing Procedures(cont'd)

18. Air Blowing/Degreasing

- Air blow the entire surface, then degrease with wax and grease remover (for USA usage-DuPont 38125 EnamelReducer).
- For shading or spot painting, polish the area with a polishing compound. Sand with a #2000 paper to give a better bonding surface for the subsequent paint.

19. Masking

- Remove all existing masking papers, then mask with new papers.
- Use a heat resistant type masking tape (SCOTCH TAPE) where tape is attached directly to the body.
- Use brown paper or masking roll paper to cover.

NOTE:

- Mask the area surrounding the damage sufficiently to prevent overspray. It is also a good practice to use a vinyl cover to protect other areas.
- Protect resin parts with aluminum foil under the brown paper or masking paper to prevent damage due to heat during baking.

20. Application of Top Coat Spraying/drying

NOTE: Black painting of roof panel.

- Prior to putting the car in the painting booth, thoroughly clean the interior and spray water over the floor. Be careful about air-blow dust and dirt.

⚠ WARNING

- **Do not use high air pressure; use only an approved, 210kPa (2.1 kg/cm², 30 psi) air nozzle.**
- **Wear goggles or safety glasses to prevent eye injury.**
- Air dry and degrease the surface before spraying the paint. Also clean the surface with a tack cloth.

⚠ WARNING

- **Ventilate when spraying paint. Most paint contains substances that are harmful if inhaled or swallowed. Read the paint label before opening paint container.**
- **Avoid contact with skin. Wear an approved respirator, gloves, eye protection and appropriate clothing when painting.**
- **Paint is flammable. Store in a safe place, and keep it away from sparks, flames or cigarettes.**
- Spray color matched top coat over the prepared surface. Apply 2-3 coats in two directions until the intermediate coat 2 is fully covered.

NOTE: For application of the top coat, refer to Step 16 "Application of Intermediate Coat 2."

Solid color: Color enamel + color clear coat

Metallic color: Metallic enamel + clear coat

Pearl color: Pearl enamel + clear coat

⚠ WARNING

Body parts being dried with an industrial dryer can get hot enough to burn. Do not touch parts being dried.

- After spraying, allow the paint to settle for about 10 minutes, then force dry with an infrared lamp.

NOTE: Follow the paint manufacturer's instructions.

21. Polishing/buffing

- Let the paint dry gradually, then polish the surface carefully using a polishing compound and sponge buff.
- To remove lint or dirt, wet sand the surface with #2000 paper or finer first, then polish with compound.

NOTE: Polish all roughness caused by sanding thoroughly. To do this, first polish with very fine compound, then with ultra fine compound.

- After polishing, remove the masking paper and tape and wash the entire vehicle thoroughly.

Soft Chipping Guard Primer Coat

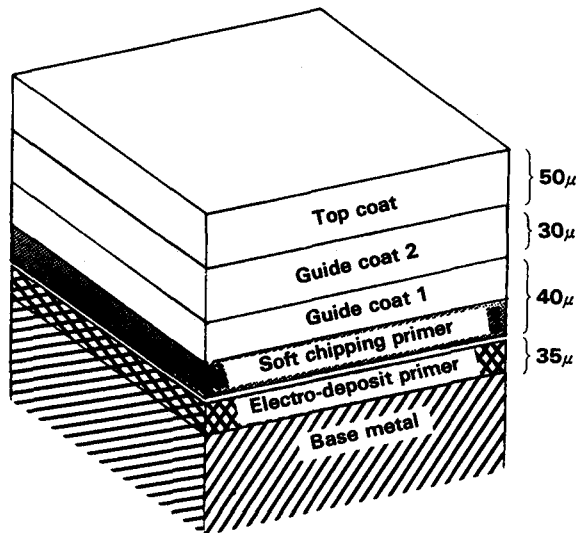
General

The removal of paint and Undercoating by stones and gravel immediately exposes metal to the atmosphere, causing it to rust. The thickness of this rust increases if the process continues unchecked. The soft chipping guard primer protects against damage due to the impact of flying objects. The purpose of this guide is to provide information you will find useful when repairing damage to the protective coating. Refer to the Soft Chipping Guard Primer Undercoating Diagram.

| Type | Composition | Physical properties | Drying time |
|-----------------|--|---|---|
| Polyester resin | <div>Polyester resin Pigment Additive Solvent</div> 100% | <div>Color Gray Viscosity 26sec/68°F (20°C) at painting Non volatile 40~45% at painting</div> | <div>302~320°F (150~160°C) x 30 minutes</div> |

The soft chipping guard primer is applied over the E.D. (Electrostatically Deposited) primer. It is followed by guide coating and top coating.

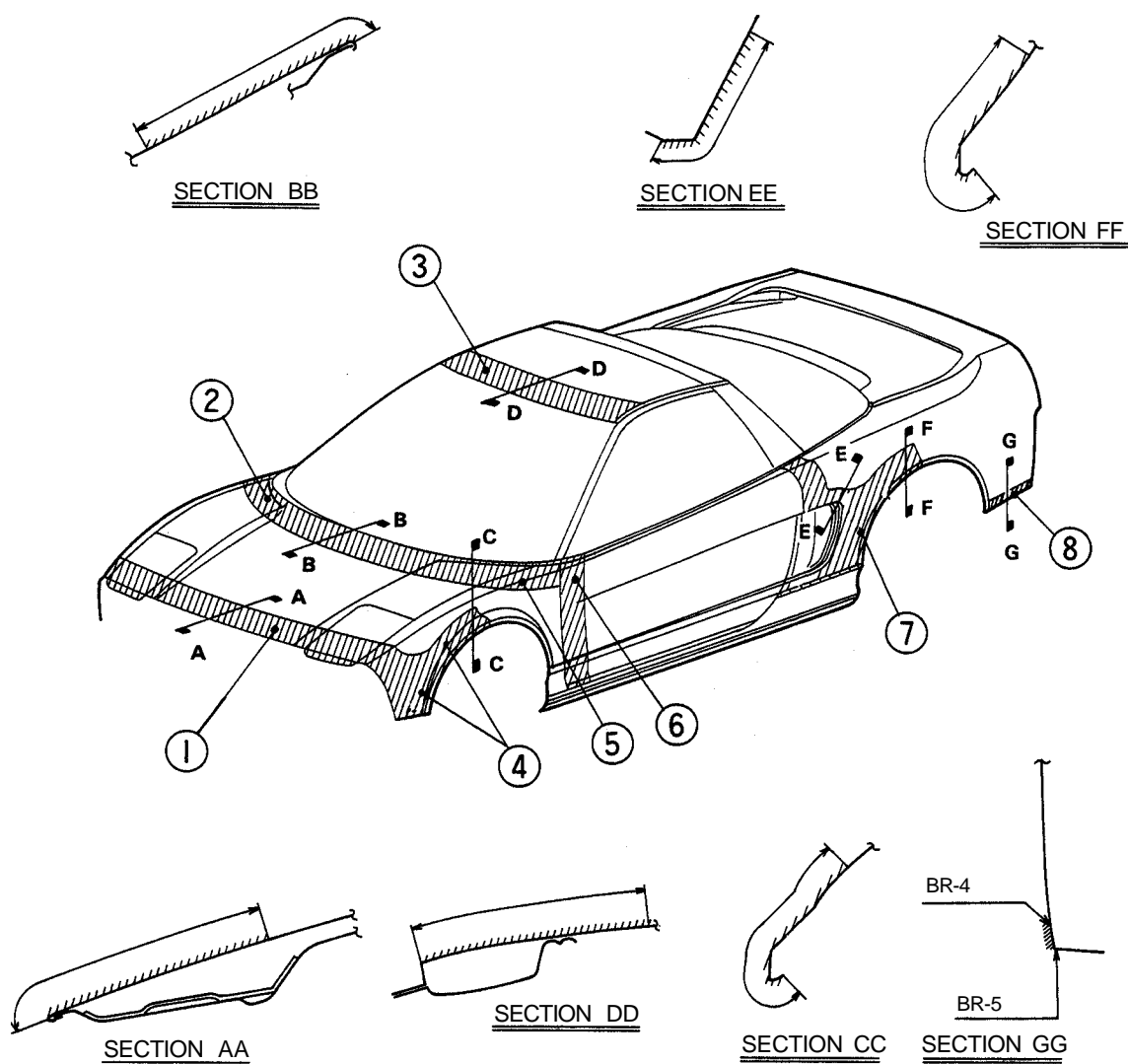
The soft chipping guard primer produces a smooth surface when dry. It should be sprayed so the thickness of the protective film is 20 microns.



Soft Chipping Guard Primer Coat

Coating Diagram

| | | | |
|---|-------------------------------|---|-------------------|
| ① | Front of the hood | 150 mm (6.0 in) from the front edge | Class 2 Thin coat |
| ② | Rear of the hood | 150 mm (6.0 in) from the rear edge | ↑ |
| ③ | Front of the roof panel | 150 mm from the front edge | ↑ |
| ④ | Front of the front fender | From forward edge of wheelarch to the center | ↑ |
| ⑤ | Rear of the front fender | Upper rear of the front fender | ↑ |
| ⑥ | Front of the doors | 100 mm (4.0 in) from the front edge | ↑ |
| ⑦ | Front of the rear fender | From forward edge of wheelarch to the center | ↑ |
| ⑧ | Lower rear of the rear fender | From the rear tip of the rear wheelarch to the rear edge of the rear fender. (BR-4 line to BR-5 line) | ↑ |



NOTE:

- The diagram shows the areas to which soft chipping primer is to be applied.
- Make sure to coat the flange on front and rear wheel arches.

Types of Soft Chipping Guard Primer (Reference)

| Type | Application | Composition | Physical property | Drying time |
|---|--|---|--|---|
| Dual liquid synthetic resin | Room temperature Baked at 176°F (80° C) for 40 minutes | Pigment: 12% Calcic pigment: 37% Epoxy poliole resin: 15% Additive, Solvent 36% ----- 100% | Color: Gray Viscosity: 68°F (20°) Non volatile: 65% mini. Specific gravity: 68°F (20°C), 1.378 | Room temperature: 68°F (20°C), 3 days Baked: 176°F (80°C), 40 minutes (to harden thoroughly) |
| Dual liquid Acrylic } resin Urethane } | Room temperature Baked at 176°F (80° C) for 30 minutes. | Pigment: 40% Acrylic resin: 37% Additive, Solvent 23% ----- 100% | Color: Gray Viscosity: 68°F (20°) 4-6 Poiseuille Non volatile: 65% mini. Specific gravity: 68°F (20°C), 1.35 | Room temperature: 68°F (20°C), a day Baked: 176°F (80°C), 30 minutes (to harden thoroughly) |

Repair Materials and Tools (Example)

Gun and brushes:

- Spray gun

NOTE: Any gun having a tip of more than 1.0 mm (0.04 in) in diameter may be used for spraying the primer.

- Viscosity measure
Iwata-type (IMS) cup, Ford cup
- Beaker
1-2 liter in (1.05-2.10 U.S.qt) in capacity
- Stirring stick

Tools:

- Air or double action sander
- Sandpaper (#240-#400)

Materials:

- Use primers equivalent to the ones shown in Types of Chipping Guard Primer (Reference).
- Make sure to keep the thickness of the coat at 20 micros.

Masking:

- Masking tape, paper, vinyl sheet and plate (veneer and steel).
- Masking plates are not necessary when spraying in a booth.

Protectors:

- Wear an approved respirator or dust mask, gloves, safety goggles and other protective clothing.
- Rags.

Thinner and cleaner:

- Use the thinner specified for the primer.
- Any commercially available lacquer thinner may be used to clean the gun.

⚠ WARNING

- Most paints contain substances that are harmful if inhaled or swallowed. Read the paint label before opening the container.
- Spray paint only in a well ventilated area.
- Cover spilled paint with sand, or wipe it up at once.
- Wear an approved respirator, gloves, eye protection and appropriate clothing when painting. Avoid contact with skin.
- If paint gets in your mouth or on your skin, rinse or wash thoroughly with water. If paint gets in your eyes, flush with water and get prompt medical attention.
- Paint is flammable. Store it in a safe place, and keep it away from sparks, flames or cigarettes.

Soft Chipping Guard Primer Coat

Coating Procedures

NOTE: This section covers the application of the soft chipping guard primer to the replacement part.

1. Sanding the replacement part

⚠ WARNING Wear goggles or safety glasses to prevent eye injury.

Sand the area to be painted with #240-#400 sandpaper.

NOTE:

- Do not oversand the edges or corners of the part.
- Do not expose bare metal.

2. Air blowing/Degreasing

⚠ WARNING

- Do not use high air pressure; use only an approved, 210kPa (2.1 kg/cm², 30 psi) air nozzle.
- Wear goggles or safety glasses to prevent eye injury.
- Paint thinner is flammable. Store it in a safe place, and keep it away from sparks, flames or cigarettes.

Clean the surface with compressed air and wax and grease remover.

3. Masking

- Place masking tape or paper around the surface to be painted.
- Cover as wide an area as possible with tape or paper to keep primer from spreading.

4. Spraying chipping guard primer

- Stir the primer thoroughly.
- Put the primer in a beaker and weigh the needed amount of primer to be used.
- Mix the hardener into the primer, following the manufacturer's instructions.

NOTE: Measure the primer and hardener so they are in correct ratio.

| Item | Primer | : | Hardener |
|-------------------------------|--------|---|----------|
| * High Primer Surfacer 2C | 10 | : | 1 |
| * Auto Primer Surfacer Mighty | 5 | : | 1 |

- Add the specified thinner to the mixture of hardener and primer to attain the proper viscosity for spraying.
2C 68°F (20°C) 18 sec ± 1
- These substances are not available in the U.S.A. Honda recommends using DuPont's 123 Vinyl Coating, or Sherwin-Williams' Vinyl Gravel Guard. Follow the manufacturer's instructions for application.
- Once mixed with the hardener and thinner, the primer must be used within the times shown below.

| Temp. | | 41°F (5°C) | 50°F (10°C) | 68°F (20°C) |
|-------|-----------------------------|---------------|----------------|----------------|
| Time | High Primer Surfacer 2C | 30H | 24H | 8H |
| | Auto Primer Surfacer Mighty | 4H | 3.5H | 3H |

⚠ WARNING

- Most paints contain substances that are harmful if inhaled or swallowed. Read the paint label before opening the container. Spray paint only in a well ventilated area.
- Cover spilled paint with sand, or wipe it up at once.
- Wear an approved respirator, gloves, eye protection and appropriate clothing when painting. Avoid contact with skin.
- If paint gets in your mouth or on your skin, rinse or wash thoroughly with water. If paint gets in your eyes, flush with water and get prompt medical attention.
- Paint is flammable. Store it in a safe place, and keep it away from sparks, flames or cigarettes.

- Fill the gun's paint cup with the primer. Use a strainer when pouring the primer into the cup.
- Primer should never be applied to a dirty or greasy surface. Before spraying, blow dust and dirt off the surface and clean with wax and grease remover.

(Method of spraying)

- Do not try to cover the surface with one heavy coat. Apply several thin coats.

NOTE:

- Spray coat 4-5 coats to get 20 microns of thickness, as one coat deposits 5-7 microns.
- Spray the primer at 250-300 kPa (2.5-3.0 kg/cm², 35.6-42.7 psi) pressure. Spraying with improper air pressure will cause imperfections.
- Open the gun 3-4 turns.
- Wipe up unwanted primer immediately with thinner.

5. Cleaning spray gun

- After spraying, be sure to clean the spray gun thoroughly with thinner or solvent.
- The gun will be permanently clogged if the primer is allowed to dry.

6. Drying

- After spraying the chipping guard primer, air-dry for 7-10 minutes to evaporate the thinner in the primer. Then dry it with infrared lamps at 176°F (80°C) for 30-40 minutes.

NOTE: Insufficient baking may cause pinholes if the primer coat is too thick.

- The temperature lamps and drying time recommendations should be followed closely.

7. Intermediate and Top coating

- Sand the chipping guard primer film with #280-#400 sandpaper.
- Follow the intermediate/top coating procedures ([see page 8-3](#)).

| Temperature | | 41°F (5°C) | 68°F (20°C) | 86°F (30°C) | 140°F (60°C) | 176°F (80°C) |
|-------------|-----------------|----------------|----------------|--------------|-----------------------|-----------------------|
| Time | Before sanding | 8-13H 6-10H | 3.5-5H 4-5H | 2-3H 2-4H | 30 Min. 15-20 Min. | 20 Min. 10-15 Min. |
| | Before painting | 8H 10-18H | 4H 6-8H | 3H 4-8H | 30 Min. 20-40 Min. | 20 Min. 15-30 Min. |

NOTE: The upper line of time shows specifications for High Primer Surfacer 2C, and the lower line Auto Primer Surfacer Mighty.