

# Uniform Procedures For Collision Repair

## D031P—Skin

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v.2.3



### 1. Description

This procedure describes the complete or partial replacement of a plastic door skin. Replacement procedures are included for doors on or off the vehicle. Inspection and evaluation requirements are also included.



### 2. Purpose

The purpose of this procedure is to provide industry-accepted requirements for performing high-quality repair of plastic door skins. This procedure is intended for use by professionals who are qualified through training and experience.



### **3. Referenced Documents**

The following documents are considered part of this procedure by reference.

#### **3.1 Procedures**

- CP01S Corrosion Protection
- DO01 Hinges
- DO21 Door
- PR11 Plastic Repair, Adhesive
- PS01 Personnel Safety
- RF01P Surface Preparation
- RF41 Finish Application
- ST21S Metal Repair

#### **3.2 Other Information**

- Product-specific information
- Vehicle-specific information



## 4. Equipment And Material Requirements

### 4.1 Adhesive Repair Products

Adhesive repair information is in PR11.

### 4.2 Door Skin Replacement Materials

The use of these materials is included in this procedure:

- seam sealers
- structural adhesive
- anti-corrosion materials
- sound-deadening pads
- hinge lubricant



## 5. Damage Analysis

### 5.1 General Damage

Inspect a door skin for these conditions and types of damage:

- excessive filler or paint film thickness
- separation of the skin from the inner structure
- visible damage
- improper previous repairs

Determine whether the door skin should be repaired or replaced. If replacement is required, determine if the skin can be replaced without removing the door from the vehicle.



## 6. Personnel Safety

### 6.1 General Safety

General safety information is in PS01.

Make sure the door is properly supported and use proper lifting techniques during removal and installation.

### 6.2 Plastic Repair Safety

Plastic repair safety information is in PR11.

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## 6. Personnel Safety (cont'd)

### 6.3 Metal Repair Safety

Metal repair safety information is in **ST21S**.

### 6.4 Hinge Safety

Door hinge safety information is in **DO01**.



## 7. Environmental Safety

Does not apply.



## 8. Vehicle Protection

### 8.1 Electronic Parts

To protect computers and other sensitive parts from damage:

- Follow the vehicle maker's recommendations for recording and resetting **electronic memories**.
- Ensure that the ignition switch is in the LOCK position, and the key is removed.
- Disconnect and isolate the negative battery cable, and disarm the side-impact **passive restraint system**. Follow the vehicle maker's recommendations.
- Protect modules, connectors, and wiring from dirt, heat, static electricity, and moisture.
- Loosen or remove any wiring harnesses or electrical parts that could be damaged during the repair process.

### 8.2 Door And Cosmetic Areas

When removing or replacing the door:

- Protect the door from damage during removal, storage, and installation.
- Protect glass, upholstery, and other **cosmetic surfaces** from damage. Remove interior and exterior trim and adjacent panels that cannot be protected.





## 9. Repair Procedure

For replacing an adhesive-bonded door skin while the door is on the vehicle, see **9.1** and **9.2**. For replacing an adhesive-bonded door skin while the door is off the vehicle, see **9.3** and **9.4**. For replacing a mechanically fastened door skin, see **9.5** and **9.6**.

### 9.1 Adhesive-Bonded Door Skin Removal—On Vehicle

To remove a complete or partial adhesive-bonded door skin, with the door on the vehicle:

- 1. Protect the interior and adjacent panels.
- 2. Remove the interior trim, as necessary for access.
- 3. Remove the exterior mirrors, belt molding, and body side moldings, as necessary.
- 4. Remove or protect the door glass, as necessary.
- 5. Straighten the door to ensure alignment to the door opening.
- 6. Cut an access hole in the center of the door skin, staying at least 25 mm (1") from the door edges. Do not damage the door frame.
- 7. Disconnect and remove the door handle and lock cylinder.
- 8. Remove the door skin center section from the vehicle.
- 9. Remove any sealant or foam remaining on the door **intrusion beam**. Avoid damaging the finish or removing any **zinc coating**.
- 10. Locate and mark **sectioning** locations forward and rearward of the window opening, at or above the belt line, if required.
- 11. Cut the sectioning joints, if required.
- 12. Heat the bonded joint to approximately 200° C (400° F) to soften the adhesive.
- 13. Separate the damaged door skin from the door frame with a scraper. Do not cut or damage the door frame.
- 14. Straighten or repair the edge of the door frame, as necessary.
- 15. Check the door alignment to the door opening.

### 9.2 Adhesive-Bonded Door Skin Installation—On Vehicle

To install a complete or partial adhesive-bonded door skin, with the door on the vehicle:

- 1. Perform a trial fit of the replacement parts.
- 2. Apply corrosion-resistant primer to any metal parts on the door frame that have been damaged by the collision or repairs. Prime plastic door shells following the product and paint makers' recommendations.
- 3. Install sound-deadening pads to the replacement door skin, as required.



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## 9. Repair Procedure (cont'd)

- 4. Cut the replacement door skin to match the sectioning joints on the door, if required.
- 5. Test-fit the replacement panel. Mark the location of the skin before removal.
- 6. Apply non-shrinking seam sealer and foams to the door intrusion beam, as required.
- 7. Apply the proper door-skin bonding adhesive to the door frame **flange** areas. Follow the vehicle and adhesive makers' recommendations.
- 8. Position the door skin on the door frame. Align the skin to the alignment marks.
- 9. Verify that the door skin is properly aligned to the door opening and the sectioning joints. Adjust as necessary.
- 10. Clamp or securely hold the door skin in position until the adhesive **cures**.  
Note: Ensure that the clamping pressure allows the proper thickness of adhesive to remain in the bonding area.
- 11. Use plastic repair procedures to repair the sectioning joints, if required.
- 12. Apply corrosion-resistant primer and seam sealers, as required.
- 13. Refinish the door opening, door frame, and areas where hardware will be installed, as required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 14. Transfer or install replacement parts such as door handles, locks, window regulators and tracks, latch assemblies, etc.
- 15. Install all removed interior trim.
- 16. Install all exterior trim, labels, weatherstripping, etc., as necessary.
- 17. Lubricate the hinges and latch, as necessary. Follow the vehicle maker's recommendations.
- 18. Test the operation of the door glass and all electrical accessories. Correct any defects.
- 19. Perform air and water leak tests to ensure proper door-to-body and glass-to-door seals.
- 20. Continue vehicle reassembly.

### 9.3 Adhesive-Bonded Door Skin Removal—Off Vehicle

To remove a complete or partial adhesive-bonded door skin, with the door off the vehicle:

- 1. Remove the door and striker pin from the vehicle.
- 2. Cut an access hole in the center of the door skin, staying at least 25 mm (1") from the door edges. Do not cut or damage the door frame.

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## 9. Repair Procedure (cont'd)

- 3. Disconnect and remove the door handle and lock cylinder.
- 4. Remove the door skin center section from the vehicle.
- 5. Protect or remove the door glass, as necessary.
- 6. Remove any sealant remaining on the door intrusion beam. Avoid damaging the finish or removing any zinc coating.
- 7. Locate and mark sectioning locations forward and rearward of the window opening, at or above the belt line, if required.
- 8. Cut the sectioning joints, if required.
- 9. Heat the bonded joint to approximately 200° C (400° F) to soften the adhesive.
- 10. Separate the damaged door skin from the door frame with a scraper. Do not cut or damage the door frame.
- 11. Repair the edge of the door frame, as necessary.
- 12. Check the fit of the door frame to the door opening.

### 9.4 Adhesive-Bonded Door Skin Installation—Off Vehicle

To install a complete or partial adhesive-bonded door skin, with the door off the vehicle:

- 1. Perform a trial fit of the replacement parts.
- 2. Apply corrosion-resistant primer to any metal parts on the door frame that have been damaged by the collision or repairs. Prime plastic door shells following the product and paint makers' recommendations.
- 3. Install sound-deadening pads to the replacement door skin, as required.
- 4. Cut the replacement door skin to match the sectioning joints on the door, if required.
- 5. Test-fit the replacement door skin. Mark the location of the skin before removal.
- 6. Apply non-shrinking seam sealer and foams to the door intrusion beam, as required.
- 7. Apply the proper door-skin bonding adhesive to the door frame flange areas. Follow the vehicle and adhesive makers' recommendations.
- 8. Position the door skin on the door frame. Align the skin to the alignment marks.
- 9. Verify that the door skin is properly aligned to the door frame and the sectioning joints. Adjust the door skin as necessary.
- 10. Support the door while aligning the hinges.
- 11. Install the hinge mounting fasteners loosely.
- 12. Install all removed shims in their original locations.
- 13. Reinstall the hinge pins and bushings, if required.

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## 9. Repair Procedure (cont'd)

- 14. Reroute any electrical wiring and mirror cables to their original locations.
- 15. Close the door enough to check the alignment of the door and the door skin to the adjacent panels. Adjust as necessary.
- 16. Clamp or securely hold the door skin in position until the adhesive cures.  
Note: Ensure that the clamping pressure allows the proper thickness of adhesive to remain in the bonding area.
- 17. Torque the hinge mounting fasteners to the vehicle maker's recommendations.
- 18. Recheck the alignment of the door to the adjacent panels. Adjust as necessary.
- 19. Use plastic repair procedures to repair the sectioning joints, if required.
- 20. Verify the proper operation of the door checks or brakes.
- 21. Install the striker pin.
- 22. Check the door for proper latching. Align the striker and latch assembly, as necessary.
- 23. Reconnect all electrical connectors, as necessary.
- 24. Apply sound-deadening pads and energy-absorbing foam panels, as necessary.
- 25. Apply seam sealers and corrosion protection, as necessary.
- 26. Refinish the door opening, door frame, and areas where hardware will be installed, as required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 27. Transfer or install replacement parts such as door handles, locks, window regulators and tracks, latch assemblies, etc.
- 28. Install all removed interior trim.
- 29. Install all exterior trim, labels, weatherstripping, etc., as necessary.
- 30. Lubricate the hinges and latch, as necessary. Follow the vehicle maker's recommendations.
- 31. Test the operation of the door glass and all electrical accessories. Correct any defects.
- 32. Perform air and water leak tests to ensure proper door-to-body and glass-to-door seals.
- 33. Continue vehicle reassembly.

### 9.5 Mechanically Fastened Door Skin Removal

To remove a mechanically fastened door skin:

- 1. Protect the interior and adjacent panels.
- 2. Remove the interior trim, as necessary for access.

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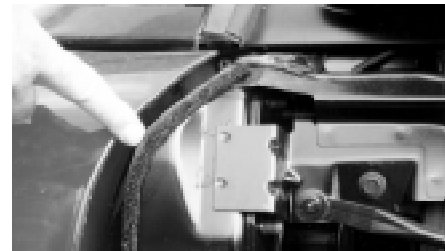
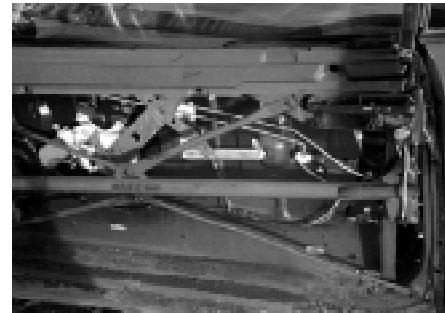
## 9. Repair Procedure (cont'd)

- 3. Disconnect, remove, and protect all electrical connectors, wiring, and mirror cables, as necessary.
- 4. Remove the exterior mirrors, belt molding, and bodyside moldings, as necessary.
- 5. Inspect, repair, and adjust the door frame to ensure alignment to the door opening.
- 6. Disconnect and remove the door handle and lock cylinder.
- 7. Remove the door skin mounting fasteners. Discard any damaged fasteners.
- 8. Remove the door skin.
- 9. Remove any sealant remaining on the door frame flange areas or the intrusion beam. Avoid damaging the finish or removing any zinc coating from metal parts.

### 9.6 Mechanically Fastened Door Skin Installation

To install a mechanically fastened door skin:

- 1. Perform a trial fit of the replacement parts.
- 2. Apply corrosion-resistant primer to any metal parts on the door frame that were damaged by the collision or repairs.
- 3. Apply non-shrinking seam sealer to the door intrusion beam, as required.
- 4. Apply seam sealer or gaskets to the door frame flange area, as required.
- 5. Position the replacement part on the door frame.
- 6. Verify that the replacement part is properly aligned to the door opening. Adjust as necessary.
- 7. Install the mounting fasteners. Torque all fasteners to specification in the proper sequence following the vehicle maker's recommendations.
- 8. Recheck the alignment of the door to the adjacent panels. Adjust as necessary.
- 9. Reroute any electrical wiring and mirror cables to their original locations.
- 10. Apply sound-deadening pads and energy-absorbing foam panels, as necessary.
- 11. Apply seam sealers and corrosion protection, as necessary.
- 12. Refinish the door opening, door frame, and areas where hardware will be installed, as required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 13. Transfer or install replacement parts such as door handles, locks, window regulators and tracks, latch assemblies, etc.



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## 9. Repair Procedure (cont'd)

- 14. Install all removed interior trim.
- 15. Install all exterior trim, labels, weatherstripping, etc., as necessary.
- 16. Lubricate the hinges and latch, as necessary. Follow the vehicle maker's recommendations.
- 17. Test the operation of the door glass and all electrical accessories. Correct any defects.
- 18. Perform air and water leak tests to ensure proper door-to-body and glass-to-body seals.
- 19. Continue vehicle reassembly.



## 10. Use Of Recycled (Salvage) Parts

Does not apply.



## 11. Inspection And Testing

### 11.1 Inspection Of Replaced Plastic Door Skins

After door skin installation, inspect doors for these conditions:

- proper finish appearance
- proper alignment with adjacent panels
- proper latching and release
- proper operation of the door checks or brakes
- proper installation of all interior trim, labels, weatherstripping, and fasteners
- proper operation of electrical accessories, such as interior lighting, key chime, door ajar warning lamp, passive restraint systems, and security system, if applicable
- proper operation of mirrors, door glass, and door locks
- ease of operation
- proper lubrication
- proper weatherstrip sealing
- open drain holes



Correct any defects.