



## 1. Description

This procedure describes the repair and replacement of a steel hatch or liftgate. 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 steel hatches and liftgates. 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
- PS01 Personnel Safety
- RF01S Surface Preparation
- RF41 Finish Application
- SG01 Adhesively Bonded
- SG02 Mechanically Fastened
- SG11 Gasket-Mounted
- ST21S Metal Repair
- ST31 Body Fillers
- WE01S GMA (MIG) Plug Weld
- WE11S GMA (MIG) Fillet Weld

### 3.2 Other Information

- Equipment-specific information
- Recycled parts information
- Vehicle-specific repair information



## 4. Equipment And Material Requirements

### 4.1 Equipment

The use of a hinge-pin removal tool is included in this procedure.

### 4.2 Welding Equipment

Use welding equipments as described in **WE01S** or **WE11S**.



## 5. Damage Analysis

### 5.1 General Damage

Inspect a steel hatch or liftgate for these conditions:

- visible damage
- corrosion
- improper previous repairs
- misalignment with adjacent panels
- damaged or stressed spot welds or fasteners
- stress cracks around the hinges or latch
- separation of the skin from the inner structure
- reinforcements that have separated from the hatch or liftgate
- damaged hinges, strut supports, etc.
- damaged or missing trim, labels, fasteners, seals, etc.
- damaged finish or excessive film thickness
- damaged glass (see **SG01**, **SG02**, or **SG11**)

Determine whether the hatch or liftgate is to be repaired or replaced. Verify the availability of replacement parts. If there is severe damage to the hinge or striker mounting areas, the hatch or liftgate should be replaced. For hinge replacement procedures, see **DO01**.



## 6. Personnel Safety

### 6.1 General Safety

General safety information is in **PS01**.

### 6.2 Metal Repair Safety

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

### 6.3 Welding Safety

Welding safety information is in **WE01S** or **WE11S**.

### 6.4 Hatch Or Liftgate Repair Safety

Make sure the hatch or liftgate is properly supported, and use proper lifting techniques during removal and installation.

Spring-loaded hinges are under tension. Use special caution when working on hatches or liftgates equipped with spring-loaded hinges.



## 7. Environmental Safety

Does not apply.



## 8. Vehicle Protection

### 8.1 Hatch Or Liftgate And Adjacent Areas

When working with a steel hatch or liftgate:

- Protect the hatch or liftgate from damage during removal, storage, and installation.
- Protect adjacent panels and glass from damage.
- Avoid cutting into the finish when marking hinge locations.
- Protect any hatch or liftgate glass parts during repairs. Remove the glass if it cannot be protected.



## 9. Repair Procedure

### 9.1 Hatch Or Liftgate Repair

To repair a steel hatch or liftgate:

- 1. Check the openings or the gaps around the hatch or liftgate for damage before and after repairs.
- 2. Remove the inner trim panel, if required for access.
- 3. Perform repairs using metal repair and heat shrinking procedures, as appropriate.
- 4. Replace damaged welded-on trim-mounting studs, if required.
- 5. Apply corrosion-resistant materials and primers to all surfaces damaged by the collision or repairs.
- 6. Check the hatch or liftgate alignment. Adjust if required.
- 7. Refinish the hatch or liftgate after all body repairs are completed.
- 8. Replace or restore sound deadeners, undercoatings, etc., that were damaged by the collision or repairs.
- 9. Install the inner trim panel.
- 10. Replace all trim, labels, weatherstrips, etc.
- 11. Continue vehicle reassembly.

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## 9. Repair Procedure (cont'd)

### 9.2 Hatch Or Liftgate Removal—Mechanically Fastened Hinges

To remove a steel hatch or liftgate with mechanically fastened hinges:

- 1. Protect the interior and adjacent parts.
- 2. Raise and support the hatch or liftgate.
- 3. Remove interior trim, if required for access.
- 4. Disconnect the support struts, hoses, and electrical connectors, if required. Use caution to avoid damaging the defroster grid and connections.
- 5. Remove the hinges or hinge pins, if required. Discard any damaged pins or bushings. Mark the hinge positions on the hatch or liftgate, and on the body panel if the hinges are being replaced.
- 6. Carefully remove and store the hatch or liftgate.
- 7. Remove the striker pin.

### 9.3 Hatch Or Liftgate Installation—Mechanically Fastened Hinges

To install a steel hatch or liftgate with mechanically fastened hinges:

- 1. Measure the openings for proper alignment and dimensions.
- 2. Apply corrosion-resistant primer to all areas damaged by the collision or repairs.
- 3. Apply seam sealers, if required. Reprime if required by the product maker.
- 4. Refinish the underside, panel edges, body opening, and other areas where hardware will be installed, if required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 5. Protect the adjacent panels.
- 6. Support the hatch or liftgate while aligning the hinges, and install the fasteners. Reinstall any removed shims.
- 7. Reinstall the hinge pins and bushings.
- 8. Reroute any electrical wiring to its original location.
- 9. Lower the hatch or liftgate slowly. Make sure it does not contact the adjacent panels.
- 10. Check for proper alignment to the adjacent panels. Adjust the position at the hinges.
- 11. Adjust the height at the hinges.
- 12. Raise the hatch or liftgate and properly torque all fasteners to the vehicle maker's recommendations.
- 13. Close the hatch or liftgate and recheck the alignment. Adjust if required.
- 14. Install the striker pin.
- 15. Lower the hatch or liftgate slowly to see if the striker properly enters the latch assembly without forcing the hatch or liftgate out of alignment. Align the latch assembly or the striker, if required.
- 16. Reconnect the support struts, any hoses, and electrical connectors.
- 17. Spot paint the hinges and fasteners, if required.
- 18. Refinish the hatch or liftgate, if required. Refinish cosmetic surfaces after all body repairs are complete.

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## 9. Repair Procedure (cont'd)

- 19. Transfer or install replacement parts such as handles, lock cylinders, latch assemblies, etc.
- 20. Install all removed interior trim.
- 21. Install all exterior trim, labels, weatherstrips, seals, etc.
- 22. Lubricate the hinges and latch. Follow the vehicle maker's recommendations.
- 23. Test all electrical accessories.
- 24. Perform air and water leak tests to ensure proper sealing.
- 25. Continue vehicle reassembly.

### 9.4 Hatch Or Liftgate Removal—Welded-On Hinges

To remove a steel hatch or liftgate with welded-on hinges:

- 1. Protect the interior and adjacent parts.
- 2. Raise and support the hatch or liftgate.
- 3. Remove interior trim, if required for access.
- 4. Disconnect and protect the support struts, hoses, electrical connectors, and wiring, if required. Use caution to avoid damaging the defroster grid and connections.
- 5. Remove the hinges or hinge pins, if required. Discard any damaged pins or bushings. Mark the hinge positions on the hatch or liftgate, and the body panel if the hinges are being replaced.
- 6. Carefully remove the hatch or liftgate from the vehicle.
- 7. Remove the hinges. Avoid damaging any adjacent parts or glass.
- 8. Remove any burrs or spot weld nuggets. Avoid removing any zinc coating.
- 9. Remove the striker pin.

### 9.5 Hatch Or Liftgate, Installation Of Welded-On Hinges

To install a steel hatch or liftgate with welded-on hinges:

- 1. Protect the adjacent parts.
- 2. Weld the hinges to the liftgate or hatch.
- 3. Dress the welds, if required to restore appearance.
- 4. Apply corrosion-resistant primer to all areas damaged by the collision or repairs.
- 5. Apply seam sealers if required. Reprime if required by the product maker.
- 6. Refinish the underside, panel edges, body opening, and other areas where hardware will be installed, if required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 7. Install the hatch or liftgate.
- 8. Reroute any electrical wiring to its original location.
- 9. Install the striker pin.
- 10. Lower the hatch or liftgate slowly to see if the striker properly enters the latch assembly without forcing the hatch or liftgate out of alignment. Align the latch assembly or the striker, if required.

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## 9. Repair Procedure (cont'd)

- 11. Raise the hatch or liftgate and properly torque all fasteners to the vehicle maker's recommendations.
- 12. Close the hatch or liftgate and recheck the alignment. Adjust if required.
- 13. Reconnect the support struts, hoses, and electrical connectors.
- 14. Transfer or install replacement parts such as handles, lock cylinders, etc.
- 15. Install all removed interior trim.
- 16. Install all exterior trim, labels, weatherstrips, seals, etc.
- 17. Lubricate the hinges and latch. Follow the vehicle maker's recommendations.
- 18. Test all electrical accessories for proper operation.
- 19. Perform air and water leak tests to ensure proper sealing.
- 20. Continue vehicle reassembly.



## 10. Use Of Recycled (Salvage) Parts

### 10.1 Condition Of Salvage Parts

Do not install a salvage steel hatch or liftgate having any of these defects:

- unrepairable damage
- corrosion that has caused pitting
- improper previous repairs
- reinforcements that have separated from the hatch or liftgate

Replace any damaged, missing or mis-matched glass, moldings or other required trim. Replace any damaged or missing trim, labels, seals, latches, etc. Confirm that all labels or information decals match the original. Replace if required.



## 11. Inspection And Testing

### 11.1 Inspection Of A Repaired Or Replaced Hatch Or Liftgate

After installation or repair, inspect a steel hatch or liftgate for these conditions:

- proper alignment with adjacent panels
- fasteners torqued to the vehicle maker's recommendations
- proper latching and release
- proper operation of the support struts
- proper glass installation
- proper finish appearance and film thickness
- proper installation of all trim, labels, and fasteners
- proper lubrication of the hinges, latch, and lock cylinder
- proper installation of hoses, cables, wiring, and electrical connectors
- proper operation of the lock cylinder
- proper operation of electrical accessories
- proper alignment with adjacent panels
- proper sealing against air and water leaks

Correct any defects.