

# Uniform Procedures For Collision Repair

# RC21S–Tailgate

© Copyright 1998 Inter-Industry Conference On Auto Collision Repair

v.2.3



## 1. Description

This procedure describes the repair and replacement of a steel tailgate. 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 tailgates. 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
- DO31S Skin
- PS01 Personnel Safety
- RF01S Surface Preparation
- RF41 Finish Application
- 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 Hinge Replacement Equipment

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

### 4.2 GMA (MIG) Welding Equipment

Use GMA (MIG) welding equipment as described in **WE01S** or **WE11S**.



## 5. Damage Analysis

### 5.1 General Damage

Inspect a steel tailgate for these conditions or types of damage:

- visible damage
- corrosion**
- improper previous repairs
- misalignment with adjacent panels
- damaged or stressed **spot welds** or fasteners
- damaged hinges, latches, or lock cylinder
- stress cracks around the hinges or latch
- improper operation
- separation of the skin from the inner structure
- damaged or missing trim, labels, weatherstrips, etc.
- damaged finish or excessive film thickness
- damaged glass



Determine whether the tailgate should be repaired or replaced. Verify the availability of replacement parts. If there is severe damage to the hinge or striker mounting areas, the tailgate should be replaced. If the tailgate skin cannot be repaired, plan to replace it. See **DO31S**. 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 Tailgate Repair Safety

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

**Torsion rods** are under tension. Use special caution when working on tailgates equipped with torsion rods.



## 7. Environmental Safety

Does not apply.



## 8. Vehicle Protection

### 8.1 Tailgate And Adjacent Areas

When working with a steel tailgate:

- Protect the tailgate from damage during removal, storage, and installation.
- Avoid cutting into the finish when marking hinge locations.
- Protect any tailgate glass parts during repairs. Remove the glass if it cannot be protected.
- Protect adjacent glass, upholstery, and other cosmetic areas from damage caused by the repairs, including welding or cutting sparks. Remove parts that cannot be protected.





## 9. Repair Procedure

### 9.1 Tailgate Repair

To repair a steel tailgate:

- 1. Remove the exterior and interior trim required for access.
- 2. Perform repairs using metal repair and heat shrinking methods, as appropriate.
- 3. Replace damaged welded-on trim mounting studs, if required.
- 4. Apply corrosion-resistant **primer** to all surfaces damaged by the collision or repairs.
- 5. Refinish the tailgate to restore the appearance, including edges damaged by the collision or repairs. Refinish **cosmetic surfaces** after all body repairs are complete.
- 6. Check the tailgate alignment to the adjacent panels. Adjust if required.
- 7. Replace or restore undercoatings, sound-deadeners, etc., that were damaged by the collision or repairs.
- 8. Install or replace the interior and exterior trim, if applicable.
- 9. Replace all labels, weatherstrips, etc.
- 10. Continue vehicle reassembly.

### 9.2 Tailgate Removal—Mechanically Fastened Hinges

To remove a steel tailgate mounted with mechanically fastened hinges:

- 1. Protect the interior and adjacent parts.
- 2. Open the tailgate. Support it, if required.
- 3. Remove interior trim, inner panel, water deflector, etc., if required for access.
- 4. Disconnect, remove, and protect electrical connectors and wiring, if required.
- 5. Remove the tailgate torsion rods, if required.
- 6. Disconnect the tailgate support mechanism.
- 7. Remove the hinges or hinge pins, if required. Discard any damaged pins or bushings. Mark the hinge locations on the tailgate, and on the floor sill if the hinges are being replaced.
- 8. Carefully remove and store the tailgate.
- 9. Remove the striker pin.

### 9.3 Tailgate Installation—Mechanically Fastened Hinges

To install a tailgate mounted with mechanically fastened hinges:

- 1. Apply corrosion-resistant primer to all areas damaged by the collision or repairs.

**(cont'd)**



## 9. Repair Procedure (cont'd)

- 2. Apply **seam sealers**, if required. Reprime if required by the product maker.
- 3. Refinish the underside, panel edges, body opening, and other areas where hardware will be installed, if required to restore the appearance.
- 4. Protect adjacent parts before installing the tailgate.
- 5. Support the tailgate while aligning the hinges and loosely install the fasteners. Reinstall any removed shims.
- 6. Reinstall any hinge pins, bushings, and torsion rods.
- 7. Reroute any electrical wiring to its original location.
- 8. Close the tailgate enough to check the alignment of the tailgate to the adjacent panels. Adjust if required.
- 9. Install the striker pin.
- 10. Check the tailgate for proper latching. Align the striker and latch, if required.
- 11. Torque all fasteners to the vehicle maker's recommendations.
- 12. Recheck the alignment of the tailgate to the adjacent panels. Adjust if required.
- 13. Reconnect all electrical connectors.
- 14. Spot paint the hinges and fasteners, if required.
- 15. Refinish the tailgate, if required. Refinish cosmetic surfaces after all body repairs are complete.
- 16. Transfer or install replacement parts such as handles, locks, window regulators and tracks, speakers, etc.
- 17. Install all removed inner panels.
- 18. Install all exterior trim, labels, weatherstrips, etc.
- 19. Lubricate the hinges and latch, if required. Follow the vehicle maker's recommendations.
- 20. Test the operation of the tailgate glass and all electrical accessories.
- 21. Perform air and water leak tests to ensure proper sealing.
- 22. Continue vehicle reassembly.



### 9.4 Tailgate Removal—Welded-On Hinges

- 1. Protect the interior and adjacent parts.
- 2. Open the tailgate. Support it, if required.
- 3. Remove trim, if required for access.
- 4. Disconnect, remove, and protect electrical connectors and wiring, if required.
- 5. Remove the tailgate torsion rods, if required.

(cont'd)



## 9. Repair Procedure (cont'd)

- 6. Disconnect the tailgate support mechanism, if required.
- 7. Remove the hinges or hinge pins, if required. Discard any damaged pins or bushings. Mark the hinge locations on the tailgate, and on the rear floor sill if the hinges are being replaced.
- 8. Remove the hinges, if required. Avoid damaging any adjacent parts.
- 9. Remove any remaining fasteners. Discard any damaged fasteners. Note the location of any shims.
- 10. Carefully remove and store the tailgate.
- 11. Remove any burrs or spot weld **nuggets**. Avoid removing any **zinc coating** if possible.
- 12. Remove the striker pin.

### 9.5 Tailgate Installation—Welded-On Hinges

To install a tailgate mounted with welded-on hinges:

- 1. Protect the adjacent parts.
- 2. Weld the hinges to the tailgate.
- 3. Apply corrosion-resistant primer to all areas damaged by the collision or repairs.
- 4. Apply seam sealers if required. Reprime if required by the product maker.
- 5. 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.
- 6. Install the tailgate.
- 7. Reinstall any torsion rods.
- 8. Reroute any electrical wiring to its original location.
- 9. Close the tailgate enough to check the alignment of the tailgate to the adjacent panels. Adjust if required.
- 10. Install the striker pin.
- 11. Check the tailgate for proper latching. Align the striker and latch assembly.
- 12. Lower the tailgate and torque all fasteners to the vehicle maker's recommendations.
- 13. Reconnect all electrical connectors.
- 14. Close the tailgate and recheck the alignment. Adjust if required.
- 15. Spot paint the hinges and fasteners, if required.
- 16. Transfer or install replacement parts such as handles, locks, window regulators and tracks, speakers, etc.
- 17. Install all removed interior panels and trim.
- 18. Install all exterior trim, labels, weatherstrips, etc.

**(cont'd)**



## 9. Repair Procedure (cont'd)

- 19. Lubricate the hinges and latch, if required. Follow the vehicle maker's recommendations.
- 20. Test the operation of the tailgate glass and all other electrical applications.
- 21. Perform air and water leak tests to ensure proper sealing.
- 22. Continue vehicle reassembly.



## 10. Use Of Recycled (Salvage) Parts

### 10.1 Condition Of **Salvage Parts**

Do not install a salvage steel tailgate having any of these defects:

- unrepairable damage
- corrosion that has caused pitting
- improper previous repairs

Replace any damaged, missing or mis-matched glass, moldings or other required trim. Transfer or replace any damaged, missing, or mis-matched glass, moldings or other required trim, labels, latches, or bushings.

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 Steel Tailgate

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

- proper alignment with adjacent panels
- proper latching and release
- proper installation of all trim, labels, and fasteners
- proper installation of cables, wiring, and electrical connectors
- proper sealing against air and water leaks
- proper operation of electrical applications
- proper operation of the lock cylinder and glass regulator
- proper operation and alignment of the liftgate, if applicable (see **RC11S**)
- fasteners torqued to the vehicle maker's recommendations
- proper adjustment of the torsion rods
- proper finish appearance and film thickness
- proper lubrication of the hinges, latch, and lock cylinder

Correct any defects.