

# Uniform Procedures For Collision Repair

# FR01S—Fender, Bolted-On

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v.2.3



## 1. Description

This procedure describes the repair and complete replacement of a bolted-on steel fender. 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 bolted-on steel fenders. This procedure is intended for use by professionals who are qualified through training and experience.



### **3. Referenced Documents**

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

#### **3.1 Procedures**

- CP01S Corrosion Protection
- HO01 Hinge, Bolted-On
- PS01 Personnel Safety
- RF01S Surface Preparation
- ST01S Stress-Relieving Heat Limitations
- ST21S Metal Repair
- ST31 Body Fillers

#### **3.2 Other Information**

- Recycled parts information
- Vehicle-specific repair information



## 4. Equipment And Material Requirements

Does not apply.



## 5. Damage Analysis

### 5.1 General Damage

Inspect a bolted-on fender for these types of damage:

- visible damage
- misalignment with adjacent panels
- improper previous repairs
- damaged finish
- corrosion



## 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**.



## 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 **passive restraint system**. Follow the vehicle maker's recommendations.
- Carefully remove computer modules when welding or heating within 300 mm (12"), or a greater distance when recommended by the vehicle maker.
- Protect computer 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 Adjacent Areas

Protect glass, upholstery, and other adjacent **cosmetic surfaces**, as necessary during repairs, removal, or installation.

### 8.3 Anti-Theft Label

Protect the anti-theft label during repair and refinishing operations.



## 9. Repair Procedure

### 9.1 Fender Repairs

To straighten a bolted-on fender:

- 1. Repair damage using metal repair and heat shrinking procedures. Weld tears or punctures in the fender as required. If heat is used for relieving stress, follow the vehicle maker's temperature and time recommendations. If the part cannot be identified as mild steel, treat it like high-strength steel (HSS).  
Note: Some vehicle makers do not recommend the use of heat for stress-relieving.
- 2. Replace trim mounting studs or drill holes, if necessary.



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## 9. Repair Procedure (cont'd)

- 3. Apply corrosion-resistant **primer** to all interior and exterior surfaces and other areas damaged by the collision or repairs.
- 4. Apply anti-corrosion compounds as required.
- 5. Apply seam sealers as necessary to seal the joints and restore the appearance. Reprime if required by the product maker.
- 6. Refinish areas damaged by the collision, repairs, or anchoring, as required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 7. Install inner splash panels and other parts as required.
- 8. Continue vehicle reassembly.

### 9.2 Fender Removal

To remove a bolted-on steel fender:

- 1. Make sure all adjacent panels are in alignment before removing the fender.
- 2. Loosen or remove the bumper, header panel, or headlamp, if necessary.
- 3. Loosen or remove the inner splash panel.
- 4. Loosen, remove, or support the hood, if required.
- 5. Reposition or remove any attached mechanical parts, wiring, computers, or electronic parts.
- 6. Remove moldings and trim, if necessary.
- 7. Loosen and remove the mounting fasteners. Discard any damaged fasteners.
- 8. Remove the shims, if necessary. Note the placement and number of shims.
- 9. Remove the bolted-on fender.
- 10. Make necessary repairs according to the type of damage, if necessary. See **9.1**.



### 9.3 Fender Installation

To install a bolted-on steel fender:

- 1. Prepare the fender for vehicle options such as antenna, trim, etc., if necessary.
- 2. Install trim mounting studs or drill holes, if necessary.
- 3. Apply corrosion-resistant primer to all interior and exterior bare metal surfaces.
- 4. Apply **topcoat** to panel edges to restore appearance.
- 5. Position and hold the repaired or replacement fender in place.

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## 9. Repair Procedure (cont'd)

- 6. Install the fasteners. If the fasteners are being replaced, use fasteners that are the same size, type, and strength as the original fasteners. Ensure that all coatings and spacers are installed to prevent **galvanic corrosion**.
- 7. Install the shims, if necessary.
- 8. Adjust the fender to obtain proper alignment to attached and adjacent parts.
- 9. Torque all fasteners to the vehicle maker's recommendations.
- 10. Apply corrosion protection as required.
- 11. Refinish areas damaged by the collision, repairs, or anchoring, as required to restore the appearance. Refinish cosmetic surfaces after all body repairs are complete.
- 12. Install the inner splash panel and other parts that were removed or repositioned, as required.
- 13. Continue vehicle reassembly.



## 10. Use Of Recycled (Salvage) Parts

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

Do not install a salvage, bolted-on, steel fender having any of these defects:

- unrepairable damage
- corrosion that has caused pitting
- improper previous repairs
- excessive paint or filler thickness

### 10.2 Preparation Of **Salvage Parts**

To prepare a salvage, bolted-on steel fender for installation:

- Remove any trim or moldings that are to be reused or replaced.
- Make any necessary repairs.
- Clean the part to remove dirt, wax, grease, undercoating, corrosion, etc.
- Remove excessive paint film thickness.
- Remove or install welded trim-attachment studs and drill or fill trim-attachment holes, as required.
- Apply corrosion protection as necessary.
- Refinish panel edges before installation to restore appearance.



## 11. Inspection And Testing

### 11.1 Inspection Of A Repaired Or Replaced Fender

Inspect a repaired or replaced bolted-on steel fender for these conditions:

- proper alignment with attached and adjacent parts
- proper operation of adjacent hinged parts
- proper installation of all fasteners
- proper finish appearance and film thickness
- proper application of corrosion protection
- proper operation of attached electrical and electronic parts

Correct any defects.

