



1. Description

This procedure describes the replacement of a steel bumper. 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 bumpers. 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

BU11S Reinforcement
BU21 Energy Absorber, Mechanical
PS01 Personnel Safety
RF01S Surface Preparation
RF41 Finish Application

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 steel bumper for these types of damage:

- visible damage
- damage or distortion to bolt holes or mounting areas
- misalignment with adjacent panels
- improper previous repairs
- damaged finish
- corrosion

Determine whether the steel bumper should be repaired or replaced.



6. Personnel Safety

6.1 General Safety

General safety information is in **PS01**.



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.

Remove the battery if it is near an area to be welded or heated.

8.2 Bumper And Adjacent Areas

To protect a steel bumper and adjacent areas:

- Use care when removing or installing fasteners.
- Support the bumper as required during removal and installation.
- Protect the assembly from damage during storage.
- Cover adjacent areas, if necessary.



9. Repair Procedure

9.1 Removal

To remove a steel bumper:

- 1. Support the bumper as required.
- 2. Remove attached and adjacent parts and trim, as necessary for access.
- 3. Disconnect any electrical connectors (parking lights, turn signals, license plate lamps, etc.) if necessary.
- 4. Loosen and remove the fasteners that hold the bumper to the frame, reinforcement, energy absorber, or brackets. Use caution if the energy absorbers are in a compressed position.
- 5. Inspect all fasteners and mounting hardware that will be reused. Discard any damaged fasteners.

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9. Repair Procedure (cont'd)

9.2 Installation

To install a steel bumper:

- 1. Refinish the bumper as necessary.
- 2. Install any moldings or trim that cannot be installed after the installation of the bumper.
- 3. Position the bumper on the vehicle. Support the bumper as required.
- 4. Install the fasteners holding the bumper to the frame, reinforcement, energy absorber, or brackets. 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. Follow the vehicle maker's recommendations.
- 5. Reconnect any electrical connectors (parking lights, turn signals, license plate lamps, etc.).
- 6. Align the bumper with the adjacent panels.
- 7. Torque all fasteners to the vehicle maker's recommendations.
- 8. Verify the alignment to adjacent parts.
- 9. Reinstall any remaining moldings and trim.
- 10. Continue vehicle reassembly.



10. Use Of Recycled (Salvage) Parts

10.1 Condition Of Salvage Parts

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

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

Plan to replace any damaged mounting hardware or trim.

10.2 Preparation Of Salvage Parts

To prepare a salvage steel bumper for installation:

- Remove any trim or moldings that are to be reused.
- Make any necessary repairs.
- Clean the part to remove dirt, wax, grease, undercoating, corrosion, etc.



11. Inspection And Testing

11.1 Inspection Of A Replaced Steel Bumper

Inspect a replaced steel bumper for these conditions:

- proper alignment
- proper finish appearance and film thickness
- proper installation of all trim and fasteners
- proper operation of all electrical circuits
- proper replacement of fasteners and attaching hardware, for corrosion prevention

Correct any defects.