



1. Description

This procedure describes methods for the repair and replacement of crushable energy absorbers. Inspection and evaluation requirements are also included.



2. Purpose

The purpose of this procedure is to provide repair processes and other industry-accepted requirements for performing high-quality repair of crushable energy absorbers. This procedure is intended for use by professionals who are qualified through training and experience.



3. Referenced Documents

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

3.1 Procedures

- BU02P Bumper Cover
- BU11S Reinforcement
- PR01 Plastic Repair, Welding
- PR11 Plastic Repair, Adhesives
- PS01 Personnel Safety

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 crushable energy absorbers for these conditions:

- visible damage
- damaged mounting fasteners

In addition, inspect bracket absorbers for these conditions:

- damaged mounting flanges
- corrosion

Minor damage to egg-crate absorbers often can be repaired by applying heat with a heat gun or lamp. See **PR01** or **PR11**.

Replace egg-crate absorbers that cannot be returned to their original shape. See **9.1**. Vehicle makers may allow minor repairs of foam energy absorbers. Follow the vehicle maker's recommendations. Damaged bracket energy absorbers must be 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 Adjacent Areas

To protect adjacent areas when repairing or replacing crushable energy absorbers:

- Do not attempt to repair absorbers while they are still attached to the vehicle.
- Protect adjacent parts during removal and installation.



9. Repair Procedure

9.1 Energy Absorber Removal

To remove a crushable energy absorber:

- 1. Loosen and remove the mounting fasteners. Discard any damaged fasteners.
- 2. Remove the energy absorber.

9.2 Egg-Crate Energy Absorber Repair

To repair an egg-crate energy absorber:

- 1. Apply low heat, or soak the absorber in hot water. Do not melt the plastic.
- 2. Mold the plastic back to its original shape as it relaxes.

9.3 Energy Absorber Replacement

To replace a crushable energy absorber:

- 1. Hold the repaired or replacement energy absorber in the proper position.
- 2. Install the fasteners. If the fasteners are being replaced, use fasteners that are the same size, type, and strength as the original fasteners.
- 3. Install shims, if necessary.
- 4. Align the reinforcement to obtain proper alignment of attached and adjacent parts. Follow the vehicle maker's recommendations.
- 5. Torque all fasteners to the vehicle maker's recommendations.
- 6. Continue vehicle reassembly.



10. Use Of Recycled (Salvage) Parts

10.1 Condition Of Salvage Parts

Do not use a salvage crushable energy absorber having any of these defects:

- unrepairable damage
- improper previous repairs
- damaged mounting locations

Determine if the salvage part can be repaired to restore appearance and durability. Plan to replace any damaged mounting hardware.

10.2 Preparation Of Salvage Parts

To prepare a salvage crushable energy absorber for installation:

- Repair any minor damage following 5.1.
- Clean the part to remove dirt, grease, undercoating, etc.



11. Inspection And Testing

11.1 Inspection Of A Replaced Energy Absorber

Inspect a replaced crushable energy absorber for these conditions:

- proper alignment with attached and adjacent parts
- proper installation of all fasteners

Correct any defects.