



SE01 Seats, Manual

**Uniform
Procedures For
Collision Repair
UPCR**

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v.4.0



1. Description

This procedure describes methods for the repair, replacement, and inspection of a manual seat system.



2. Purpose

The purpose of this procedure is to provide industry-accepted requirements for performing high-quality repair of manual seats. 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

- EL01 Wire Repair
- EL11 Troubleshooting
- EL21 Self-Diagnostics
- PS01 Personnel Safety
- RE01 Seat Belt
- RE11 Seat Belt, Motorized
- RE31 Tensioners, Seat Belt

3.2 Other Information

Vehicle-specific repair information



4. Equipment And Material Requirements

4.1 Upholstery Tools

The use of these tools is required for working on seat upholstery:

- hog-ring pliers
- snap-ring pliers
- torque wrench



5. Damage Analysis

5.1 General Damage

Inspect a manual seat for these types of damage:

- visible damage
- improper previous repairs
- corrosion on frame assembly
- damaged or binding track assembly
- damaged or non-functioning adjustment controls
- damaged or missing trim or mounting fasteners
- damaged or non-functioning hinge lock
- damaged lumbar support or side bolster
- damaged or non-functioning seat-belt assembly
- damaged or non-functioning motorized seat-belt assembly
- damage from seat- or door-mounted side airbag deployment
- loose seat back frame (Follow the vehicle maker's recommendations.)
- loose seat-to-floor mounting brackets

Determine the parts of the seat to be replaced. Verify the availability of replacement parts.

Some vehicle makers require replacement of all seat belts in use during a collision of specified severity, or if there was an airbag deployment. Some seat parts also require replacement if there was a seat- or door-mounted side airbag deployment. Follow the vehicle maker's recommendations.

5.2 Electrical Parts

Inspect the seat electrical parts for these conditions:

- blown fuses
- loose or corroded grounds or connectors
- damaged wiring or connectors

(cont'd)



5. Damage Analysis (cont'd)

- corrosion on terminal pins
- signs of previous damage or improper repairs
- improper operation of the seat belt chime or warning lamp, seat cushion heater, etc.
- improper operation of the airbag warning lamp

If electrical parts do not function correctly, troubleshoot the seat circuits to isolate the cause. See **EL11**. See **EL21** for troubleshooting self-diagnostic systems. Determine the parts to be replaced and the wiring to be repaired. See **EL01** for wire repair procedures.



6. Personnel Safety

6.1 General Safety

General safety information is in **PS01**.



7. Environmental Safety

Does not apply.



8. Vehicle Protection

8.1 Seat And Adjacent Parts

To prevent damage to the seat and adjacent parts:

- Protect the seat assembly and adjacent parts from damage during removal, storage, and installation.
- Torque mounting fasteners to the vehicle maker's recommendations.
- Follow the vehicle maker's recommendations on the use of fastener lubricant.

(cont'd)



8. Vehicle Protection (cont'd)

8.2 Track Assembly

To prevent damage to the seat track adjuster assembly:

- Do not sit on the seat when the seat and track assembly are not installed in the vehicle.
- Follow the vehicle maker's torque recommendations.
- Avoid the use of shims for alignment, unless recommended by the vehicle maker.
- Keep the assembly free of dirt and other contaminants.

Do not straighten or weld seat-track adjuster assemblies.



9. Repair Procedure

9.1 Removal

To remove manual seats:

- 1. For vehicles with side airbags, seat-belt tensioners, or seat-mounted airbag sensors, disarm the passive restraint system, even if the airbags or tensioners have deployed. Follow the vehicle maker's recommendations for disarming, removal, and parts replacement.
- 2. Remove the headrest and seat belts, if required for seat removal.
- 3. Slide the seat to access the mounting fasteners, if required.
- 4. Remove trim panels or covers to access the seat-mounting fasteners.
- 5. Remove the seat-mounting fasteners. Replace one-time or damaged fasteners. Use replacement fasteners provided by the vehicle maker or use fasteners that are the same grade, size, and type as the original fasteners.
- 6. Disconnect the seat air supply hose, if required.
- 7. Disconnect any electrical connectors attached to, or routed through, the seat. Mark for reinstallation.
- 8. Remove the seat assembly from the vehicle.
- 9. Remove the seat belt assembly from the vehicle, if required.
- 10. Replace any damaged parts.
- 11. Protect and store the seat in a safe area.

9.2 Installation

To install manual seats:

- 1. Lubricate the track assembly, if required.
- 2. Install the seat-belt assembly, if required.

(cont'd)



9. Repair Procedure (cont'd)

- 3. Install the seat assembly to the anchor locations, aligning the mounting holes. Follow the vehicle maker's location tolerance recommendations, if applicable. Lock the seat adjuster, if necessary. Follow the vehicle maker's recommendations for the use of fastener lubricant.
- 4. Torque the fasteners. Follow the vehicle maker's torque recommendations.
- 5. Reinstall the headrest and seat belts.
- 6. Reconnect the air supply hose to the lumbar or side bolster.
- 7. Reconnect any electrical connectors.
- 8. Reinstall the fastener covers and trim.
- 9. Re-activate the passive restraint system.



10. Use Of Recycled (Salvage) Parts

10.1 Salvage Part Requirements

Do not use salvage airbag parts.

Do not install a salvage manual seat having any of these defects:

- unrepairable damage
- corrosion that has caused pitting
- improper previous repairs
- missing or damaged mounting locations

Transfer or replace required parts such as trim panels, headrests, upholstery, seat heaters, etc.



11. Inspection And Testing

11.1 Inspection Of Repaired Or Replaced Manual Seat

After installation or repair, inspect a manual seat for these conditions:

- smooth operation of all movable parts
- proper installation and lubrication of the seat track assembly
- fasteners torqued to the vehicle maker's recommendations
- proper operation of all adjustments
- proper operation of the lumbar support or side bolsters
- proper routing of all electrical wiring
- proper installation and operation of the seat belt system
- proper installation and operation of the passive restraint systems
- proper operation of the seat belt chime and warning lamp
- proper operation of the airbag warning lamp

Correct any defects.