

FU01

Tank Assembly

**Uniform
Procedures For
Collision Repair
UPCR**



1. Description

This procedure describes methods for the removal and installation of a fuel tank assembly. 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 fuel tank assemblies. 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

EL11	Troubleshooting
EL21	Self-Diagnostics
FU02	Pump, In-Tank
FU11	Lines
HM01	Hazardous Materials
PS01	Personnel Safety

3.2 Other Information

Vehicle-specific repair information



4. Equipment And Material Requirements

4.1 Special Equipment

Special tools may be required for removing quick-connect fuel line fittings.



5. Damage Analysis

5.1 General Damage

Inspect a fuel system and tank assembly for these conditions:

- visible damage
- leaks
- corrosion
- damaged filler neck or cap
- damaged or tripped inertia switch
- evidence of fuel contamination

Damaged fuel tank parts must be replaced. Verify the availability of replacement parts. Contaminated fuel tanks may require cleaning and pressure-testing.



6. Personnel Safety

6.1 General Safety

General safety information is in **PS01**.

6.2 Fuel Safety

To prevent injury when working with fuel systems:

- Quickly open shop doors and windows if there is a leak.
- Have the proper fire extinguisher available.
- Always relieve fuel pressure before performing any repairs to the fuel system.
- Keep fuel, fuel tanks, and fuel containers away from any sparks, flames, or other heat sources.
- Do not turn the ignition switch ON or crank the engine with a fuel line disconnected.
- Store fuel only in approved containers.
- Do not fill containers completely with liquid fuel. Leave about 25 mm (1") for expansion.
- If filled containers must be transported, make sure they are secured to prevent tipping.
- Do not store a partially filled container for long periods of time.
- Never leave containers open after filling or pouring from the container.

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6. Personnel Safety (cont'd)

- Do not prime an engine with fuel while cranking the engine.
- Never use any type of fuel as a cleaning agent.
- Wear gloves made of fuel-resistant material, such as nitrile rubber, when handling fuels. If fuel gets on your skin, wash it off immediately.
- When fuel is present, work in a well-ventilated area.
- Identify air-conditioning and fuel-rail access ports before attaching equipment.
- Ground fuel transfer equipment to the vehicle when pumping fuel into or out of the tank, or into storage containers.
- Whenever possible, use a battery powered drop lamp to light the work area.



7. Environmental Safety

7.1 Hazardous Materials

Hazardous material safety information is in **HM01**.

7.2 Fuel

To protect the environment from fuel spills:

- Plug or cap disconnected hoses and lines to prevent fuel spillage.
- Properly collect and dispose of fuel.
- Treat spilled fuel as hazardous waste.



8. Vehicle Protection

8.1 Fuel Tank Assembly

Do not attempt to weld or straighten a metal fuel tank. Do not attempt to repair plastic fuel tanks.

8.2 Adjacent Parts

To protect adjacent parts when working with a fuel tank assembly:

- Ensure that the ignition switch is in the LOCK position, and the key is removed.
- Cover adjacent cosmetic surfaces to protect them from spilled fuel. Even with the fuel pressure relieved, there may be some pressure in the fuel lines.
- Plug or cap hoses and lines to prevent fuel spillage.
- Carefully handle removed parts to avoid spilling any fuel.
- Immediately rinse off any spilled fuel with water and clean the surface.



9. Repair Procedure

9.1 Fuel Tank Assembly Removal

To remove a fuel tank assembly:

- 1. Relieve the fuel pressure from the fuel lines. Follow the vehicle maker's recommendations.
- 2. Remove the fuel filler cap to relieve pressure from the tank.
- 3. Disconnect and isolate the negative battery cable, if required. Follow the vehicle maker's recommendations for recording and resetting electronic memories.
- 4. Properly drain the fuel into an approved container marked for the customer's vehicle.
- 5. Properly lift and support the vehicle.
- 6. Remove the rear wheels, if required for access.
- 7. Remove any tank or hose covers or protectors.
- 8. Disconnect the fuel pump electrical connector, and other accessible electrical wires, if required. Mark the location for proper reconnection.
- 9. Disconnect any accessible hoses or fuel lines. Mark for reinstallation.
- 10. Properly support the fuel tank.
- 11. Disconnect the fuel filler neck at the body or fuel tank, and the fuel filler vapor relief line, if required.
- 12. Remove the straps and fasteners holding the fuel tank to the vehicle.
- 13. Lower the fuel tank assembly.
- 14. Disconnect any remaining fuel lines and electrical wires.
- 15. Remove the fuel tank from the vehicle.
- 16. Remove the fuel pump, sending unit, rollover switch, etc., for transfer to the replacement tank.
- 17. Replace any damaged or one-time fasteners, gaskets, washers, etc.

9.2 Fuel Tank Installation

To install a replacement fuel tank assembly:

- 1. Transfer any parts to the replacement fuel tank.
- 2. Properly lift and support the fuel tank assembly into position enough to reinstall wires and fuel lines that will not be accessible when the tank is installed.
- 3. Carefully lift the fuel tank into its final position. Position the hose connectors and fuel filler neck onto the fuel tank. Loosely install the fasteners for the fuel filler neck.
- 4. Reinstall the straps and fasteners to hold the tank assembly to the vehicle. Torque the fasteners to the vehicle maker's recommendations.
- 5. Remove the support. Make sure the straps are not twisted or bent.
- 6. Torque the fasteners for the fuel filler neck to the vehicle maker's recommendations.
- 7. Reconnect the remaining hoses and fuel filler vapor relief line.
- 8. Reinstall any covers or protectors.
- 9. Reconnect the fuel pump electrical connector.
- 10. Reinstall the rear wheels, if removed for access.

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9. Repair Procedure (cont'd)

- 11. Lower the vehicle.
- 12. Transfer the customer's fuel back into the tank. Replace contaminated fuel with fresh, clean fuel.
- 13. Reinstall the fuel filler cap.
- 14. Install any labels previously removed.
- 15. Start the vehicle and check for leaks.
- 16. Road-test the vehicle to check fuel system performance.
- 17. Perform a visual inspection to ensure that fuel system parts do not contact adjacent parts.



10. Use Of Recycled (Salvage) Parts

10.1 Condition Of Salvage Parts

Do not install a salvage fuel tank assembly having any of these defects:

- visible damage
- evidence of previous repairs
- corrosion that has caused pitting
- leaks

Replace any damaged hoses, lines, or connectors. Salvage tank assemblies should be cleaned and pressure-tested before installation.



11. Inspection And Testing

11.1 Inspection Of A Replaced Fuel Tank Assembly

After a fuel tank installation, inspect the vehicle for these conditions:

- proper attachment of lines, hoses, clamps, and other fasteners
- fasteners torqued to the vehicle maker's recommendations
- absence of fuel leaks
- proper installation of all labels
- proper operation of the fuel-level gauge

Road-test the vehicle to check for abnormal fuel-pump noise and proper fuel-system performance. Verify that no stored trouble codes indicate a fuel system problem. See **EL21**.