

COMPLETE SYSTEM FILL

 **Special Tools:** Click to display a list of tools used in this procedure

[Click here to launch the form to order any tools you need.](#)

02 - Front Suspension / Air Suspension / Standard Procedure	10247B - Tool, Air Suspension Refill
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0:01 / 6:04

WARNING: All pressurized air suspension components contain high pressure air (up to 220 psig). Use extreme caution when inspecting for leaks. Wear safety goggles and adequate protective clothing when inspecting or servicing the air suspension system. A sudden release of air under this amount of pressure can cause possible serious or fatal injury.

WARNING: Before performing any service on the air suspension system, the system must be disabled to prevent the system from changing ride height. Before any given component is to be serviced it must be deflated. Servicing the air suspension system without the system disabled, or with pressure in any specific component, can cause possible serious or fatal injury.

NOTE: The air suspension system can be disabled and enabled by using the Display Screen Module (DSM) in the vehicle under tire jack mode, which is the preferred method. If the disable level control routine in the scan tool is used it will only disable the level control (automatic and manual) for that ignition cycle. The air suspension system can also be enabled by driving the vehicle above 8 km/h (5 mph). The air suspension should be disabled prior to lifting the vehicle or performing any work.

The following procedure should only be necessary when the entire system was purged of air, as in service of an air compressor, air reservoir, or reservoir line.

NOTE:

The gauge on [Tool, Air Suspension Refill 10247B](#) reads the tank pressure. The regulator limits the pressure in the line to 12 bar (175 psi). When connected to the reservoir with the valves open, pressure in the reservoir can be read on a scan tool.

NOTE:

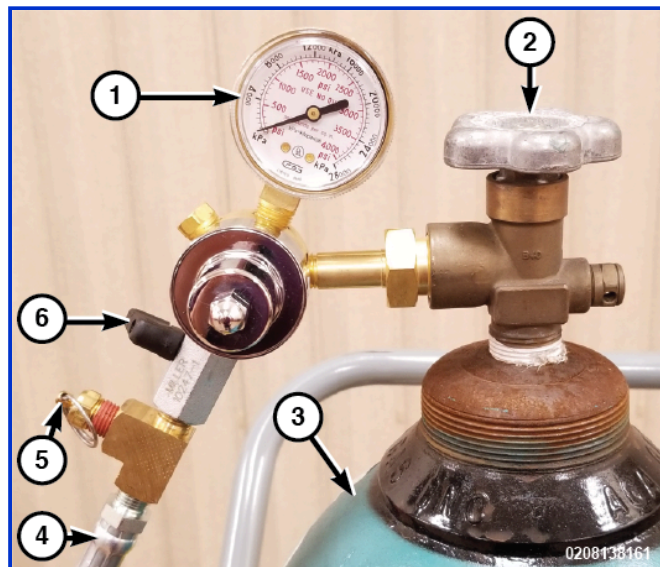
[Tool, Air Suspension Refill 10247B](#) (1, 4, 5, 6) is used with a nitrogen supply tank, which can be acquired at a local gas supplier. The nitrogen must be Purity Class 5 (99.999% pure).

1. Raise and support the vehicle so the suspension system is hanging (four wheels off the ground) ([Refer to 04 - Vehicle Quick Reference/Hoisting - Standard Procedure](#)).
2. Verify the [Tool, Air Suspension Refill 10247B](#) line on/off valve is turned off and the nitrogen tank valve is turned off.

NOTE:

With the air suspension reservoir underneath the pickup box, the fill fitting will be on the right side of the vehicle.

3. Remove the right rear splash shield to expose the reservoir ([Refer to 23 - Body/Exterior/SHIELD, Splash/Removal and Installation](#)).



1 - Gauge

2 - Shutoff Valve

3 - Nitrogen Tank

4 - Pressure Line
5 - Pressure Relief Valve
6 - Line On/Off Valve

4. Remove the reservoir fill connection cap.

NOTE:

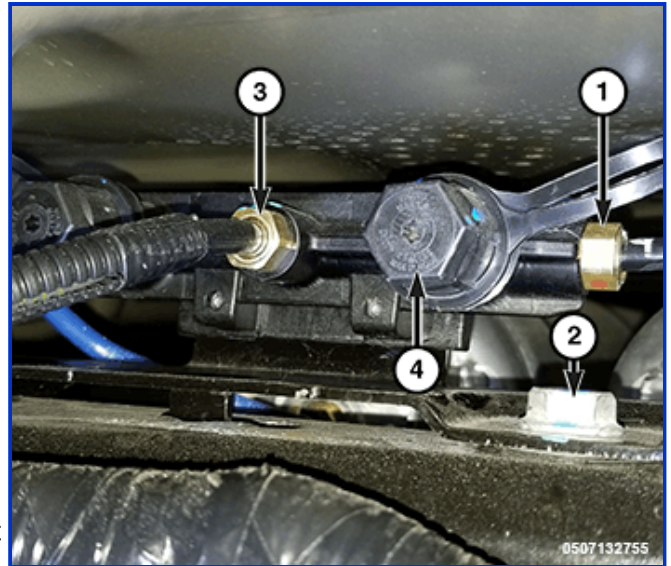
Before connecting the quick coupler to the reservoir fill connection, verify the valve is closed by turning the valve counter clockwise.

5. With [Tool, Air Suspension Refill 10247B](#) attached to a nitrogen tank, connect the quick coupler to the air suspension reservoir fill connection and open the valve by turning clockwise.

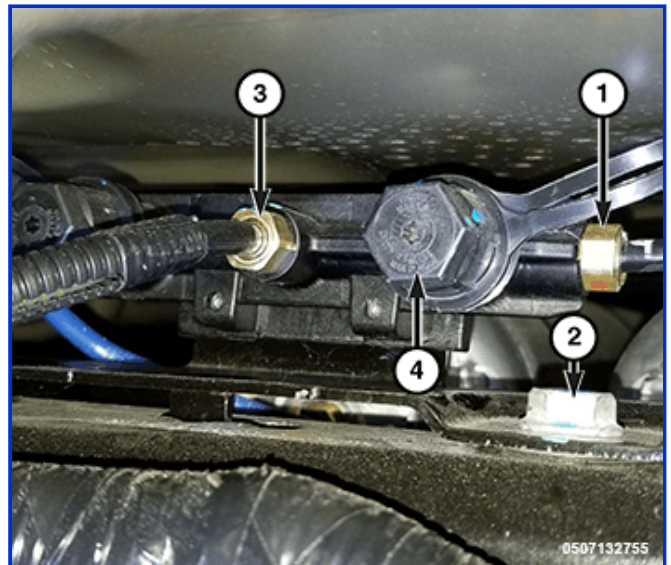
NOTE:

The regulator on [Tool, Air Suspension Refill 10247B](#) is preset to 12 bar (175 psi) (as read with a scan tool, the gauge reads tank pressure only). When connected to the reservoir and the valves open, the pressure will equalize to 12 bar (175 psi) in approximately 10-15 seconds. A hissing sound can be heard while the nitrogen is being transferred and the sound will stop when the pressures are equalized.

6. Fill the reservoir to approximately 12 bar (175 psi) by fully opening the valve on the nitrogen tank and the valve on [Tool, Air Suspension Refill 10247B](#).
7. When the pressures are equalized, close the valve on the refill tool.
8. Perform the Component Air Mass/Pressure/Ride Height Readings routine. This will prevent the system from setting an airmass low fault which will prevent the springs from filling.
9. For rear air springs, place the vehicle on a hoist and raise the vehicle until weight is removed from the rear air springs, but the spring is still seated in the axle perch and frame pocket.
10. With a scan tool, using the routines under the Air Suspension Control Module (ASCM), perform the short fill routine on one rear air spring, verify that the air spring is seated properly, then perform a Complete Fill on that spring.
11. Repeat steps 8–10 on the opposite rear air spring.
12. With a scan tool, using the routines under the Air Suspension Control Module (ASCM), perform a Complete Fill on each front spring and shock assembly.
13. Verify that the [Tool, Air Suspension Refill 10247B](#) line on/off valve is closed and close and the nitrogen tank valve.
14. Close the valve by turning it counter clockwise, remove the quick coupler from the air suspension reservoir fill connection and install the reservoir fill connection cap.
15. Install the right rear splash shield ([Refer to 23 - Body/Exterior/SHIELD, Splash/Removal and Installation](#)).
16. Remove the supports and lower the vehicle.
17. With a scan tool, using the routines under Air Suspension Control Module (ASCM), perform the following:
 - Command the vehicle to Normal Ride Height.
 - Run the Component Air Mass/Pressure/Ride Height Readings routine on the air suspension system.
 - If necessary, add to the system or Deflate To Atmosphere using the ASCM routines, then repeat the Component Air Mass/Pressure/Ride Height Readings routine again until system responds with Air Mass OK (155 - 187 bar-liters).
18. Perform the ASCM Verification Test ([Refer to 28 - DTC-Based Diagnostics/MODULE, Air Suspension Control \(ASCM\) /Standard Procedure](#)).



- 1 - Air Line Nut
- 2 - Fill Port Bracket Bolt
- 3 - Reservoir Air Line
- 4 - Reservoir Fill Connection Cap



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