

# Evaporator Core Leak Check - Vehicles With: R1234YF Refrigerant

## Special Tool(s) / General Equipment

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| Air Conditioning Service Unit |
| Air Conditioning Adaptor Kit  |

## Inspection

1. Recover the refrigerant. Refer to Air Conditioning (A/C) System Recovery, Evacuation and Charging procedure in Group 412.
2. Disconnect the evaporator from the A/C system. Refer to the appropriate section in Group 412 for the procedure.
3. Use the correct adapters with the A/C Service Unit to test the evaporator.
  - 219-00082 ACF-3000 33PC Adapter Kit - Revised 1st released 44pc kit.
  - 219-00083 A/C Flushing Adapter Kit 2 of 3 (Previously "Supplement A", 2nd released kit).
  - 219-00084 A/C Flushing Adapter Kit 3 of 3.Use the General Equipment: Air Conditioning Adaptor Kit
4. **NOTE:** *The automatic shut-off valves on some hoses do not open when connected to the fittings. If available, use hoses without shut-off valves. If hoses with shut-off valves are used, make sure the valve opens when attached to the adapter fittings. The test is not valid if the shut-off valve does not open.*

Connect the hoses from the A/C Service Unit to the adapter fittings on the evaporator.

- 199-FFX1234 Flo Dynamics R1234yf A/C Refrigerant Management Center
- Use the General Equipment: Air Conditioning Service Unit

5. Open both valves and start the vacuum. Allow the A/C Service Unit to vacuum for a minimum of 45 minutes after the low pressure gauge indicates 101 kPa (30 in-Hg). The 45-minute evacuation is necessary to remove any refrigerant from oil left in the evaporator. If the refrigerant is not completely removed from the oil, outgassing will degrade the vacuum and appear as a refrigerant leak.
6. If the low pressure gauge reading will not drop to 101 kPa (30 in-Hg) when the valves are open and the A/C Service Unit is operating, close the valves and observe the low pressure reading. If the pressure rises rapidly to zero, a large leak is indicated. Recheck the adapter fitting connections before installing a new evaporator.
7. After evacuating for 45 minutes, close the valves and stop the service unit. Observe the low pressure gauge; it should remain at the 101 kPa (30 in-Hg) mark.
  - If the low pressure gauge reading rises 34 or more kPa (10 or more in-Hg) of vacuum from the 101 kPa (30 in-Hg) position in 10 minutes, a leak is indicated.
  - If a very small leak is suspected, wait 30 minutes and observe the vacuum gauge.
  - If a small amount of vacuum is lost, operate the service unit with the valves open for an additional 30 minutes to remove any remaining refrigerant from the oil in the evaporator. Then recheck for loss of vacuum.
  - If a very small leak is suspected, allow the system to sit overnight with vacuum applied and check for vacuum loss.
8. If the evaporator leaks, as verified by the above procedure, install a new evaporator. Refer to Evaporator procedure in Group 412.