

# A/C Service Tips and Precautions

The air conditioner system uses HFC-134a (R-134a) refrigerant and polyalkyleneglycol (PAG) refrigerant oil (SP-10: P/N 38899 – P13 – 003), which are not compatible with CFC-12 (R-12) refrigerant and mineral oil. Do not use R-12 refrigerant or mineral oil in this system, and do not attempt to use R-12 servicing equipment; damage to the air conditioner system or your servicing equipment will result.

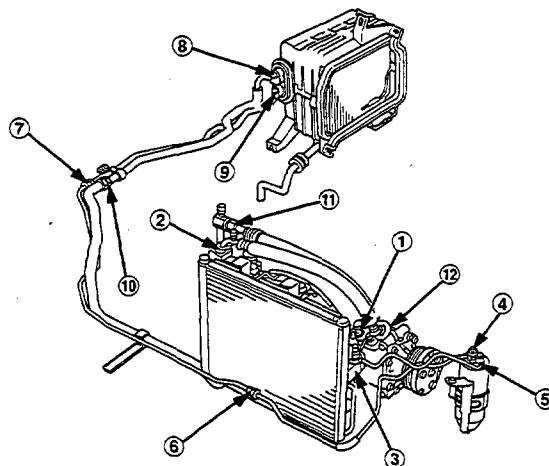
Separate the manifold gauge sets (pressure gauges, hoses, joints) for refrigerants R-12 and R-134a. Do not confuse them.

## **⚠ WARNING** When handling refrigerant (R-134a):

- always wear eye protection.
  - do not let refrigerant get on your skin or in your eyes. If it does:
    - do not rub your eyes or skin.
    - splash large quantities of cool water in your eyes or on your skin.
    - rush to a physician or hospital for immediate treatment. Do not attempt to treat it yourself.
  - keep refrigerant containers (cans of R-134a) stored below 40°C (104°F).
  - keep away from open flame. Refrigerant, although non-flammable, will produce poisonous gas if burned.
  - work in well-ventilated area. Refrigerant evaporates quickly, and can force all the air out of a small, enclosed area.
1. Always disconnect the negative cable from the battery whenever replacing air conditioning parts.
  2. Keep moisture and dust out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
  3. Before connecting any hose or line, apply a few drops of refrigerant oil (SP-10: P/N 38899 – P13 – 003) to the O-ring.
  4. When tightening or loosening a fitting, use a second wrench to support the matching fitting.
  5. When recovering the system, don't let refrigerant escape too fast; it will draw the compressor oil out of the system.
  6. Add refrigerant oil (SP-10: P/N 38899 – P13 – 003) after replacing the following parts:
- NOTE:
- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
  - Immediately after using the oil, replace the cap on the container, and seal it to avoid moisture absorption.
  - Do not spill the refrigerant oil on the car; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.

Condenser .....	15 ml (1/2 fl-oz, 0.5 imp-oz)
Evaporator .....	25 ml (5/6 fl-oz, 0.9 imp-oz)
Line or hose .....	10 ml (1/3 fl-oz, 0.4 imp-oz)
Receiver/Dryer .....	10 ml (1/3 fl-oz, 0.4 imp-oz)
Leakage repair .....	25 ml (5/6 fl-oz, 0.9 imp-oz)
Compressor .....	For compressor replacement, subtract the volume of oil drained from the removed compressor from 120 ml (3 fl-oz, 4.2 imp-oz), and drain the calculated volume of oil from the new compressor: 120 ml (3 fl-oz, 4.2 imp-oz) – Volume of removed compressor = Volume to drain from new compressor.

NOTE: Even if no oil is drained from the removed compressor, don't drain more than 50 ml (1 2/3 fl-oz, 1.8 imp-oz) from the new compressor.



① Discharge hose to the compressor (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
② Discharge hose to the condenser (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
③ Condenser pipe to the condenser (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
④ Condenser pipe to the receiver/dryer (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
⑤ Receiver pipe A to the receiver/dryer (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
⑥ Receiver pipe A to the receiver pipe B .....	13 N-m (1.3 kgf-m, 9.4 lbf-ft)
⑦ Receiver pipe B to the receiver pipe C .....	13 N-m (1.3 kgf-m, 9.4 lbf-ft)
⑧ Receiver pipe C to the evaporator (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
⑨ Suction pipe B to the evaporator (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)
⑩ Suction pipe A to the suction pipe B .....	31 N-m (3.2 kgf-m, 23 lbf-ft)
⑪ Suction hose to the suction pipe A .....	31 N-m (3.2 kgf-m, 23 lbf-ft)
⑫ Suction hose to the compressor (6 x 1.0 mm) .....	9.8 N-m (1.0 kgf-m, 7.2 lbf-ft)