



Expansion Valve Installation Instructions – Block Union Type

Prior to the installation of this DENSO First Time Fit® Expansion Valve Kit, you must read these instructions completely.

Definition of Terms

- ⚠WARNING:** Describes precautions that should be observed in order to prevent injury or death to the user during installation.
- ⚠CAUTION:** Describes precautions that should be observed in order to prevent damage to the vehicle or its components, which may occur during installation if sufficient care is not taken.
- NOTE:** Provides additional information that facilitates installation work.
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General Service Information and Requirements

⚠CAUTION: Only trained personnel who have a thorough knowledge of automotive air conditioning systems, the proper tools and an appropriate work space should perform repairs to a vehicle's air conditioning system. In addition, only personnel trained in an approved refrigerant-handling program may recover refrigerant from and charge refrigerant to an automotive air conditioning system.

⚠WARNING: It has been determined that mixtures of R-134a and air can result in combustion when exposed to an ignition source. Shop air should not be used for leak checking.

REQUIRED TOOLS:

- Safety Goggles
- Assorted Hand Tools
- Refrigerant Recovery Machine for specific (R-12/R-134a) refrigerant
- Charging Station / A/C Manifold Gauge Set for specific (R-12/R-134a) refrigerant
- Vacuum Pump for specific (R-12/R-134a) refrigerant
- Electronic Leak Detector
- Torque Wrench

SAFETY PRECAUTIONS:

- Always wear safety goggles.
- Avoid skin contact with refrigerant or refrigerant oil.
- Work in a well ventilated area.
- Never release refrigerant into the atmosphere.
- Never expose refrigerant containers to direct heat or temperature in excess of 125°F.
- Never expose refrigerant to an open flame.

NOTE: Do not remove protective caps from the expansion valve (if equipped) until it is ready for installation.

BLOCK UNION TYPE

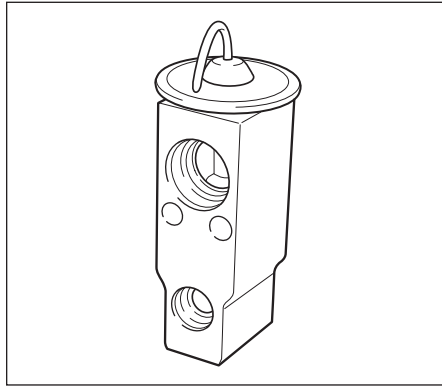


Fig. 1

Expansion Valve Removal

The information below explains necessary procedures and tools to remove and install BLOCK type expansion valves.

NOTE: For more detailed instructions please refer to the vehicle manufacturer's service manual.

1. Remove the cooling unit following the vehicle manufacturer's recommended procedures.

⚠CAUTION: When handling the cooling unit and its components, be careful not to deform the cooling fins or piping. Be sure to note all wiring harness and harness clip locations for reassembly. Do not disturb the location of the thermistor. If the thermistor is removed from the evaporator core, it must be reinserted in exactly the same location for the cooling unit to operate optimally.

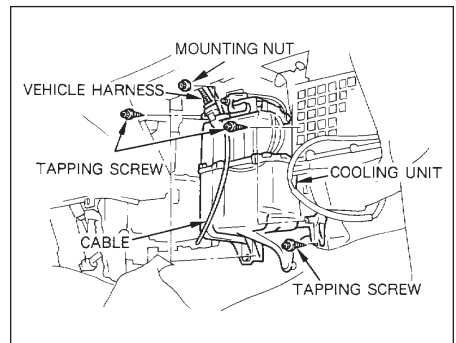


Fig. 2

2. Separate the cooling unit's case and remove the evaporator assembly following the vehicle manufacturer's recommended procedures.

⚠CAUTION: Carefully slice the foam packing of the evaporator case along the mating joint of the evaporator case halves where it will be separated.

NOTE: To remove the clips holding the evaporator case halves together, insert a flat blade screwdriver into the hooked end of the clip. Gently pull the clip away from its seat and remove.

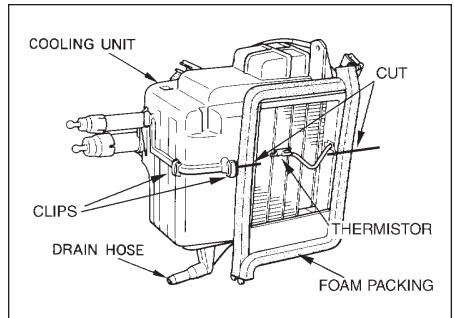


Fig. 3

3. Note the position of the inlet (small – high pressure) and the outlet (large – low pressure) tubes.
4. Loosen and remove the two fasteners holding the tube assembly and expansion valve to the evaporator's mounting block.
5. Remove the inlet and outlet tube assembly from the expansion valve.
6. Remove the expansion valve from the evaporator's mounting block.

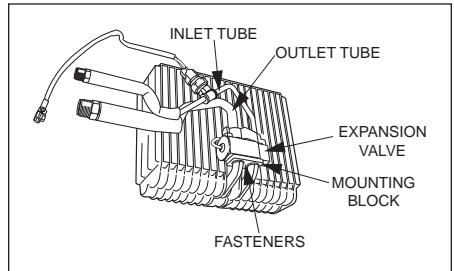


Fig. 4

Expansion Valve Installation

1. Using the proper refrigerant oil, lubricate and install the new O-rings (provided) onto the liquid tube assembly and evaporator.
2. Temporarily install the expansion valve onto the evaporator's mounting block.
3. Insert the inlet (small – high pressure) and outlet (large - low pressure) tube assembly into the expansion valve.

Refrigerant Compressor	R-134a (HFC 134a)	R-12 (CFC 12)
Reciprocating Swash Plate	ND-OIL 8	ND-OIL 6
Rotary Through Vane	ND-OIL 9	ND-OIL 7

4. Temporarily install the original fasteners through the mounting block and expansion valve and into the tube assembly, checking for proper alignment of each component.
5. Tighten and torque the fasteners holding the tube assembly and the expansion valve to the evaporator's mounting block.

Tightening Torque:
5.4 N•m (55 kgf•cm, 4.0 ft•lbf)

6. Assemble the cooling unit to the original configuration following the vehicle manufacturer's recommended procedures.
7. Reinstall the cooling unit following the vehicle manufacturer's recommended procedures.

⚠CAUTION: When handling the cooling unit and it's components, be careful not to deform the cooling fins or piping. Be sure to reinstall all wiring harness and harness clips in their proper locations during reassembly. Do not disturb the location of the thermistor. If the thermistor is removed from the evaporator core, it must be reinserted in exactly the same location for the cooling unit to operate optimally.