

# Refrigerant Leak Check

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

## 6. Refrigerant Leak Check

### A: INSPECTION

**Preparation tool:**

**Manifold gauge set**

**Electronic leak detector (leak tester)**

1) Attach the manifold gauge set.

(1) Check that all valves are fully closed.

(2) Install the low/high pressure hoses to the service ports on the low/high pressure sides of the vehicle respectively.

#### CAUTION:

**Confirm that the connections are secure.**

(3) Start the engine, operate the A/C system for approx. 10 minutes, and check that the high-pressure side indicates 0.69 MPa (7.0 kgf/cm<sup>2</sup>, 100 psi) or more.

2) Stop the engine to start the leak test.

Items	Condition	Corrective action
Pipe	Check the connections of pipe and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between pressure switch or pressure sensor and high-pressure pipe.	Replace the pressure switch or pressure sensor.
	Check the connection between pipe and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
Condenser	Check the welded part of condenser and core.	Replace the condenser.
Hose (high-pressure)	Check the connection between hose (high-pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (high-pressure) and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. <b>CAUTION:</b> <b>Carefully check the external surface of flexible hoses and pipes at approx. 25 mm (0.98 in) per second.</b>	Replace the hose (high pressure).
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace the hose (high pressure).
Compressor	Check the compressor pulley and vicinity of shaft seal. <b>CAUTION:</b> <b>Some shaft seals will show a slight amount of leakage, about 3 g (0.1 oz) per year. This is not a problem.</b>	Replace the compressor.
Hose (low-pressure)	Check the connection between hose (low pressure) and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (low pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. <b>CAUTION:</b> <b>Carefully check the external surface of flexible hoses and pipes at approx. 25 mm (0.98 in) per second.</b>	Replace the hose (low pressure).
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace the hose (low pressure).

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Items	Condition	Corrective action
	<p>Remove the drain hose from the heater case, and check the end part for 10 seconds or more.</p>	Replace the evaporator.
Evaporator	<p>Check the air vent grille. NOTE: Turn the ignition switch to ON, and run the blower at high speed for approx. 1 minute. Stop the blower to check the air vent grille on the instrument panel. While moving the tester closer to the grille, run the blower for 1 or 2 seconds, then stop it. Check the grille at that position for at least 10 seconds.</p>	Replace the evaporator.