

# Refrigerant Pressure with Manifold Gauge Set

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

## 2. Refrigerant Pressure with Manifold Gauge Set

### A: PROCEDURE

- 1) Place the vehicle in the shade and windless condition.
- 2) Connect the manifold gauge set.
- 3) Open all windows and close all doors.
- 4) Increase the engine to 1,500 rpm.
- 5) Turn on the A/C switch.
- 6) Turn the temperature control switch to MAX COOL.
- 7) Put in RECIRC position.
- 8) Turn the blower control switch to HI.
- 9) Read the gauge.

#### **Standard:**

**Low pressure: 127 — 196 kPa (1.3 — 2.0 kg/cm<sup>2</sup>, 18 — 28 psi)**

**High pressure: 1,471 — 1,667 kPa (15 — 17 kg/cm<sup>2</sup>, 213 — 242 psi)**

**Ambient temperature: 30 — 35°C (86 — 95°F)**

### B: INSPECTION

| Symptom                               | Probable cause                                                                                                                                                                                                    | Repair order                                                                                                                                                                                                                                                      |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High-pressure side is unusually high. | <ul style="list-style-type: none"><li>• Defective condenser fan motor</li><li>• Clogged condenser fin</li><li>• Too much refrigerant</li><li>• Air inside the system</li><li>• Defective receiver dryer</li></ul> | <ul style="list-style-type: none"><li>• Replace the fan motor.</li><li>• Clean the condenser fin.</li><li>• Discharge refrigerant.</li><li>• Replace the receiver dryer.</li><li>• After evacuating again, charge an appropriate amount of refrigerant.</li></ul> |
| High-pressure side is unusually low.  | <ul style="list-style-type: none"><li>• Defective compressor</li><li>• Not enough refrigerant</li><li>• Clogged expansion valve</li><li>• Expansion valve frozen temporarily by moisture.</li></ul>               | <ul style="list-style-type: none"><li>• Replace the compressor.</li><li>• Check for leaks.</li><li>• Replace the expansion valve.</li><li>• Fully evacuate the expansion valve.</li></ul>                                                                         |
| Low-pressure side is unusually high.  | <ul style="list-style-type: none"><li>• Defective compressor</li><li>• Defective expansion valve</li><li>• Too much refrigerant</li></ul>                                                                         | <ul style="list-style-type: none"><li>• Replace the compressor.</li><li>• Replace the expansion valve.</li><li>• Discharge refrigerant.</li></ul>                                                                                                                 |
| Low-pressure side is unusually low.   | <ul style="list-style-type: none"><li>• Not enough refrigerant</li><li>• Clogged expansion valve</li><li>• Expansion valve frozen temporarily by moisture.</li><li>• Saturated receiver dryer</li></ul>           | <ul style="list-style-type: none"><li>• Check for leaks.</li><li>• Replace the expansion valve.</li><li>• Replace the receiver dryer.</li></ul>                                                                                                                   |