



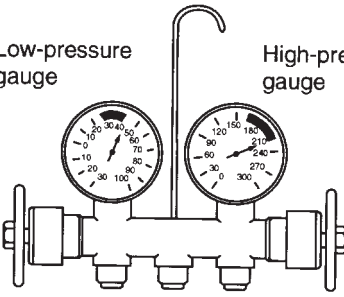


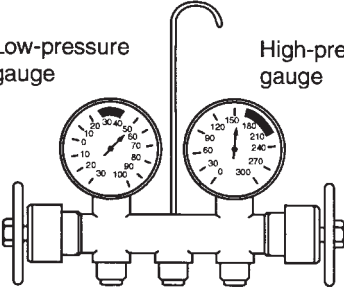

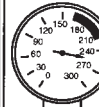
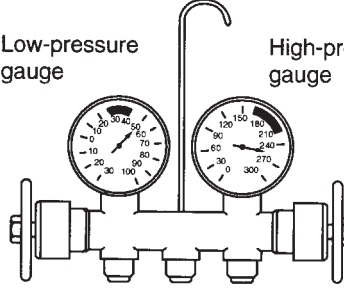


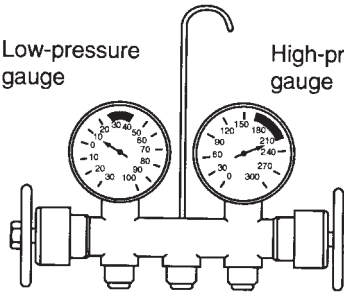
## 2. Performance Test Diagnosis

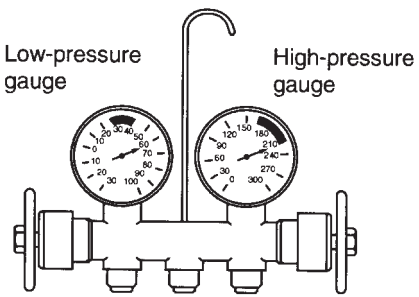
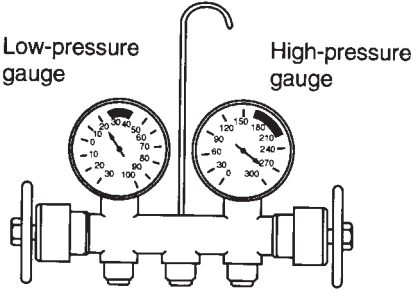
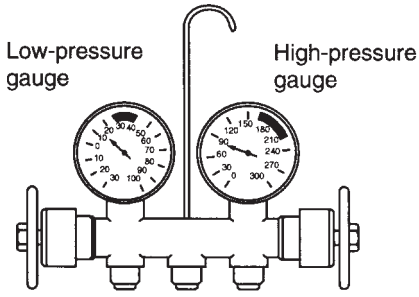
If various conditions caused to other air conditioning system, the characteristics revealed on manifold gauge reading are shown in the following.

As to the method of a performance test, refer to the item of "Performance Test".

Each shaded area on the following tables indicates a reading of the normal system when the temperature of outside air is 32.5°C (91°F).

Condition	Probable cause	Corrective action
<p data-bbox="115 415 570 443">INSUFFICIENT REFRIGERANT CHARGE</p> <div data-bbox="183 474 594 764"> <p data-bbox="183 510 324 562">Low-pressure gauge</p> <p data-bbox="448 510 594 562">High-pressure gauge</p> </div> <p data-bbox="591 806 675 827">G4M0673</p>	<p data-bbox="698 415 902 443">Insufficient cooling.</p> <p data-bbox="963 415 1203 474">Refrigerant is small, or leaking a little.</p>	<p data-bbox="1219 415 1419 590">1. Leak test. 2. Repair leak. 3. Charge system. Evacuate, as necessary, and recharge system.</p>
<p data-bbox="115 835 435 863">ALMOST NO REFRIGERANT</p> <div data-bbox="183 894 594 1184"> <p data-bbox="183 930 324 982">Low-pressure gauge</p> <p data-bbox="448 930 594 982">High-pressure gauge</p> </div> <p data-bbox="591 1226 675 1247">G4M0674</p>	<p data-bbox="698 835 889 863">No cooling action.</p> <p data-bbox="963 835 1162 894">Serious refrigerant leak.</p>	<p data-bbox="1219 835 1451 1125">Stop compressor immediately. 1. Leak test. 2. Discharge system. 3. Repair leak(s). 4. Replace receiver drier if necessary. 5. Check oil level. 6. Evacuate and recharge system.</p>
<p data-bbox="115 1255 431 1283">FAULTY EXPANSION VALVE</p> <div data-bbox="183 1314 594 1604"> <p data-bbox="183 1350 324 1402">Low-pressure gauge</p> <p data-bbox="448 1350 594 1402">High-pressure gauge</p> </div> <p data-bbox="591 1646 675 1667">G4M0675</p>	<p data-bbox="698 1255 932 1339">Slight cooling. Sweating or frosted expansion valve inlet.</p> <p data-bbox="963 1255 1195 1545">Expansion valve restricts refrigerant flow. ● Expansion valve is clogged. ● Expansion valve is inoperative. ● Valve stuck closed. Thermal bulb has lost charge.</p>	<p data-bbox="1219 1255 1451 1661">● If valve inlet reveals sweat or frost: 1. Discharge system. 2. Remove valve and clean it. Replace it if necessary. 3. Evacuate system. 4. Charge system. ● If valve does not operate: 1. Discharge system. 2. Replace valve. 3. Evacuate and charge system.</p>

Condition		Probable cause	Corrective action
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Low-pressure gauge</p>  </div> <div style="text-align: center;"> <p>High-pressure gauge</p>  </div> </div>  <p style="text-align: right;">G4M0676</p>	<p>Insufficient cooling. Sweated suction line. No cooling. Sweating or frosted suction line.</p>	<p>Expansion valve allows too much refrigerant through evaporator. Faulty seal of O-ring in expansion valve.</p>	<p>Check valve for operation. If suction side does not show a pressure decrease, replace valve. 1. Discharge system. 2. Remove expansion valve and replace O-ring. 3. Evacuate and replace system.</p>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Low-pressure gauge</p>  </div> <div style="text-align: center;"> <p>High-pressure gauge</p>  </div> </div>  <p style="text-align: right;">G4M0677</p>	<p>AIR IN SYSTEM</p>	<p>Insufficient cooling.</p>	<p>Air mixed with refrigerant in system.</p>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Low-pressure gauge</p>  </div> <div style="text-align: center;"> <p>High-pressure gauge</p>  </div> </div>  <p style="text-align: right;">G4M0678</p>	<p>MOISTURE IN SYSTEM</p>	<p>After operation for a while, pressure on suction side may show vacuum pressure reading. During this condition, discharge air will be warm. As warning of this, reading shows 39 kPa (0.4 kg/cm<sup>2</sup>, 6 psi) vibration.</p>	<p>Drier is saturated with moisture. Moisture has frozen at expansion valve. Refrigerant flow is restricted.</p>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Low-pressure gauge</p>  </div> <div style="text-align: center;"> <p>High-pressure gauge</p>  </div> </div>  <p style="text-align: right;">G4M0679</p>	<p>1. Discharge system. 2. Replace receiver drier (twice if necessary). 3. Evacuate system completely. (Repeat 30 minute evacuating three times.) 4. Recharge system.</p>		

Condition	Probable cause	Corrective action
<p><b>FAULTY CONDENSER</b></p>  <p>Low-pressure gauge</p> <p>High-pressure gauge</p> <p>G4M0680</p>	<p>No cooling action. Engine may overheat. Suction line is very hot.</p>	<p>Condenser is often found not functioning well.</p> <ul style="list-style-type: none"> <li>● Check condenser cooling fan.</li> <li>● Check condenser for dirt accumulation.</li> <li>● Check engine cooling system for overheat.</li> <li>● Check for refrigerant overcharge.</li> <li>● If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.</li> </ul>
<p><b>HIGH-PRESSURE LINE BLOCKED</b></p>  <p>Low-pressure gauge</p> <p>High-pressure gauge</p> <p>G4M0681</p>	<p>Insufficient cooling. Frosted high-pressure liquid line.</p>	<p>Drier clogged, or restriction in high-pressure line.</p> <ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Remove receiver drier or strainer and replace it.</li> <li>3. Evacuate and charge system.</li> </ol>
<p><b>FAULTY COMPRESSOR</b></p>  <p>Low-pressure gauge</p> <p>High-pressure gauge</p> <p>G4M0682</p>	<p>Insufficient cooling.</p>	<p>Internal problem in compressor, or damaged gasket and valve.</p> <ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Remove and check compressor.</li> <li>3. Repair or replace compressor.</li> <li>4. Check oil level.</li> <li>5. Replace receiver drier.</li> <li>6. Evacuate and charge system.</li> </ol>