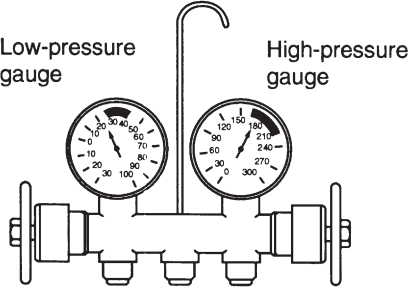
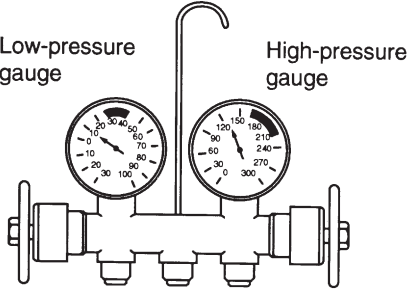
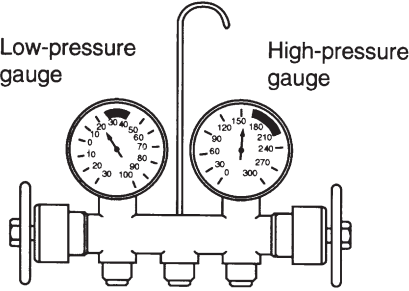




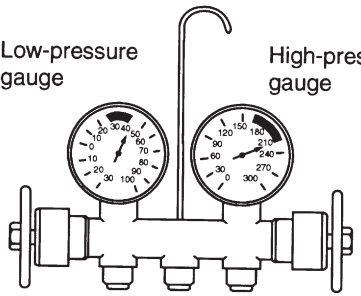
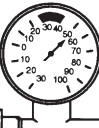

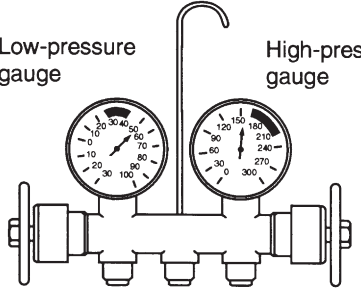

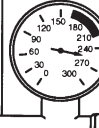
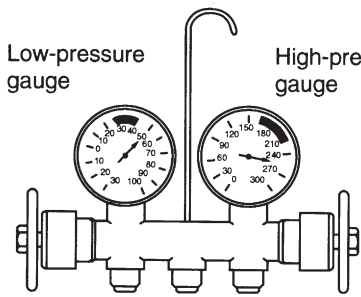

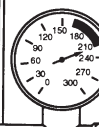
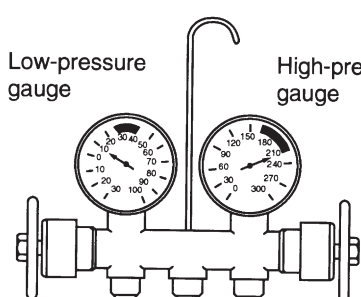
## 2. Performance Test Diagnosis

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
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">INSUFFICIENT REFRIGERANT CHARGE</div> <div style="text-align: center;">  <p>Low-pressure gauge      High-pressure gauge</p> </div> <p style="text-align: right; font-size: small;">G4M0673</p>	<p>Insufficient cooling.</p> <p>Refrigerant is small, or leaking a little.</p>	<ol style="list-style-type: none"> <li>1. Leak test.</li> <li>2. Repair leak.</li> <li>3. Charge system.</li> </ol> <p><b>Evacuate, as necessary, and recharge system.</b></p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">ALMOST NO REFRIGERANT</div> <div style="text-align: center;">  <p>Low-pressure gauge      High-pressure gauge</p> </div> <p style="text-align: right; font-size: small;">G4M0674</p>	<p>No cooling action.</p> <p>Serious refrigerant leak.</p>	<p><b>Stop compressor immediately.</b></p> <ol style="list-style-type: none"> <li>1. Leak test.</li> <li>2. Discharge system.</li> <li>3. Repair leak(s).</li> <li>4. Replace receiver drier if necessary.</li> <li>5. Check oil level.</li> <li>6. Evacuate and recharge system.</li> </ol>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">FAULTY EXPANSION VALVE</div> <div style="text-align: center;">  <p>Low-pressure gauge      High-pressure gauge</p> </div> <p style="text-align: right; font-size: small;">G4M0675</p>	<p>Slight cooling.</p> <p>Sweating or frosted expansion valve inlet.</p> <p>Expansion valve restricts refrigerant flow.</p> <ul style="list-style-type: none"> <li>● Expansion valve is clogged.</li> <li>● Expansion valve is inoperative.</li> </ul> <p>Valve stuck closed.</p> <p>Thermal bulb has lost charge.</p>	<p>If valve inlet reveals sweat or frost:</p> <ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Remove valve and clean it. Replace it if necessary.</li> <li>3. Evacuate system.</li> <li>4. Charge system.</li> </ol> <p>If valve does not operate:</p> <ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Replace valve.</li> <li>3. Evacuate and charge system.</li> </ol>

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> <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>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.</p> <ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Remove expansion valve and replace O-ring.</li> <li>3. Evacuate and replace system.</li> </ol>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">AIR IN SYSTEM</div> <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>Insufficient cooling.</p>	<p>Air mixed with refrigerant in system.</p>	<ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Replace receiver drier.</li> <li>3. Evacuate and charge system.</li> </ol>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">MOISTURE IN SYSTEM</div> <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>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>	<ol style="list-style-type: none"> <li>1. Discharge system.</li> <li>2. Replace receiver drier (twice if necessary).</li> <li>3. Evacuate system completely. (Repeat 30 minute evacuating three times.)</li> <li>4. Recharge system.</li> </ol>

Condition	Probable cause	Corrective action
<p data-bbox="131 212 370 237">FAULTY CONDENSER</p> <div data-bbox="191 283 604 571"> <p data-bbox="191 317 332 373">Low-pressure gauge</p> <p data-bbox="459 317 604 373">High-pressure gauge</p> </div> <p data-bbox="597 604 678 625">G4M0680</p>	<p data-bbox="695 201 933 279">No cooling action. Engine may overheat. Suction line is very hot.</p>	<p data-bbox="959 201 1170 279">Condenser is often found not functioning well.</p> <ul data-bbox="1219 201 1469 415" 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> </ul> <p data-bbox="1219 422 1469 583"><b>If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.</b></p>
<p data-bbox="131 680 496 705">HIGH-PRESSURE LINE BLOCKED</p> <div data-bbox="191 747 604 1035"> <p data-bbox="191 781 332 837">Low-pressure gauge</p> <p data-bbox="459 781 604 837">High-pressure gauge</p> </div> <p data-bbox="597 1073 678 1094">G4M0681</p>	<p data-bbox="695 669 917 747">Insufficient cooling. Frosted high-pressure liquid line.</p>	<p data-bbox="959 669 1203 747">Drier clogged, or restriction in high-pressure line.</p> <ol data-bbox="1219 669 1469 831" 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 data-bbox="131 1148 391 1173">FAULTY COMPRESSOR</p> <div data-bbox="191 1215 604 1503"> <p data-bbox="191 1249 332 1306">Low-pressure gauge</p> <p data-bbox="459 1249 604 1306">High-pressure gauge</p> </div> <p data-bbox="597 1541 678 1562">G4M0682</p>	<p data-bbox="695 1138 885 1159">Insufficient cooling.</p>	<p data-bbox="959 1138 1193 1215">Internal problem in compressor, or damaged gasket and valve.</p> <ol data-bbox="1219 1138 1469 1404" 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>