

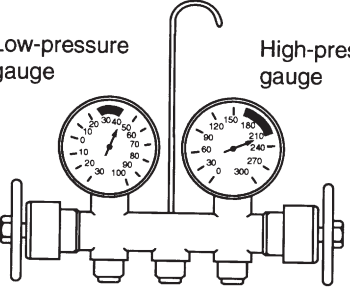
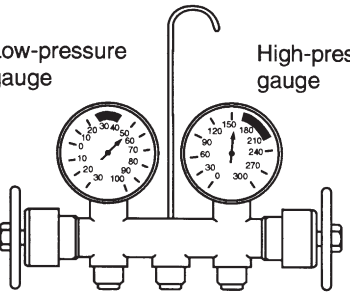
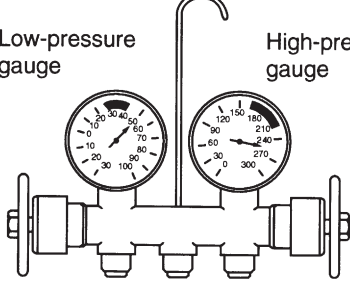
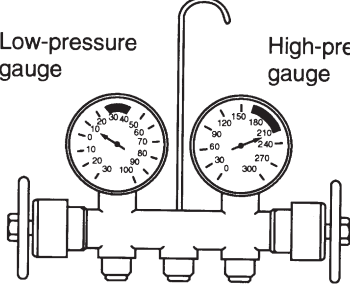
## 2. Performance Test Diagnosis

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="116 557 576 584">INSUFFICIENT REFRIGERANT CHARGE</p> <div data-bbox="188 613 600 902"> <p data-bbox="188 651 325 703">Low-pressure gauge</p> <p data-bbox="453 651 600 703">High-pressure gauge</p> </div> <p data-bbox="596 949 683 972">G4M0673</p>	<p data-bbox="707 557 911 584">Insufficient cooling.</p>	<p data-bbox="971 557 1220 613">Refrigerant is small, or leaking a little.</p> <ol data-bbox="1235 557 1437 730" style="list-style-type: none"> <li>1. Leak test.</li> <li>2. Repair leak.</li> <li>3. Charge system.</li> </ol> <p data-bbox="1235 640 1422 730">Evacuate, as necessary, and recharge system.</p>
<p data-bbox="116 978 440 1005">ALMOST NO REFRIGERANT</p> <div data-bbox="188 1034 600 1323"> <p data-bbox="188 1072 325 1124">Low-pressure gauge</p> <p data-bbox="453 1072 600 1124">High-pressure gauge</p> </div> <p data-bbox="596 1370 683 1393">G4M0674</p>	<p data-bbox="707 978 900 1005">No cooling action.</p>	<p data-bbox="971 978 1174 1034">Serious refrigerant leak.</p> <ol data-bbox="1235 978 1465 1267" 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>
<p data-bbox="116 1400 435 1426">FAULTY EXPANSION VALVE</p> <div data-bbox="188 1456 600 1744"> <p data-bbox="188 1494 325 1545">Low-pressure gauge</p> <p data-bbox="453 1494 600 1545">High-pressure gauge</p> </div> <p data-bbox="596 1789 683 1812">G4M0675</p>	<p data-bbox="707 1400 940 1482">Slight cooling. Sweating or frosted expansion valve inlet.</p>	<p data-bbox="971 1400 1174 1482">Expansion valve restricts refrigerant flow.</p> <ul data-bbox="971 1482 1206 1688" style="list-style-type: none"> <li>● Expansion valve is clogged.</li> <li>● Expansion valve is inoperative.</li> <li>● Valve stuck closed.</li> </ul> <p data-bbox="971 1632 1206 1688">Thermal bulb has lost charge.</p> <p data-bbox="1235 1400 1465 1456">If valve inlet reveals sweat or frost:</p> <ol data-bbox="1235 1456 1481 1574" 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 data-bbox="1235 1574 1481 1630">If valve does not operate:</p> <ol data-bbox="1235 1630 1465 1805" 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
<p data-bbox="188 376 327 432">Low-pressure gauge</p> <p data-bbox="454 376 593 432">High-pressure gauge</p>  <p data-bbox="598 672 678 694">G4M0676</p>  <p data-bbox="598 1052 678 1075">G4M0677</p>	<p data-bbox="710 320 938 465">Insufficient cooling. Sweated suction line. No cooling. Sweating or frosted suction line.</p>	<p data-bbox="975 320 1220 495">Expansion valve allows too much refrigerant through evaporator. Faulty seal of O-ring in expansion valve.</p> <p data-bbox="1232 320 1485 638">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>
<p data-bbox="114 1088 295 1111">AIR IN SYSTEM</p> <p data-bbox="188 1178 327 1234">Low-pressure gauge</p> <p data-bbox="454 1178 593 1234">High-pressure gauge</p>  <p data-bbox="598 1473 678 1496">G4M0678</p>	<p data-bbox="710 1088 912 1111">Insufficient cooling.</p>	<p data-bbox="975 1088 1220 1144">Air mixed with refrigerant in system.</p> <p data-bbox="1232 1088 1469 1234">1. Discharge system. 2. Replace receiver drier. 3. Evacuate and charge system.</p>
<p data-bbox="114 1514 379 1536">MOISTURE IN SYSTEM</p> <p data-bbox="188 1603 327 1659">Low-pressure gauge</p> <p data-bbox="454 1603 593 1659">High-pressure gauge</p>  <p data-bbox="598 1899 678 1921">G4M0679</p>	<p data-bbox="710 1514 954 1827">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 data-bbox="975 1514 1220 1648">Drier is saturated with moisture. Moisture has frozen at expansion valve. Refrigerant flow is restricted.</p> <p data-bbox="1232 1514 1481 1771">1. Discharge system. 2. Replace receiver drier (twice if necessary). 3. Evacuate system completely (Repeat 30 minute evacuating three times.). 4. Recharge system.</p>

# DIAGNOSTICS

[K200] 4-7

## 2. Performance Test Diagnosis

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> </ul> <p>If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.</p>
<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>