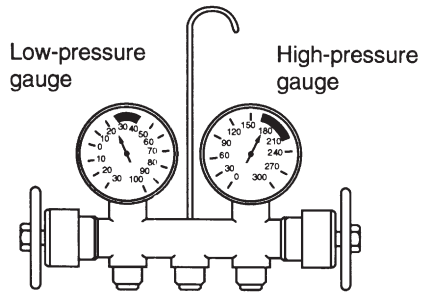
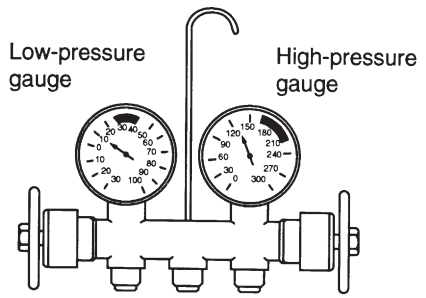
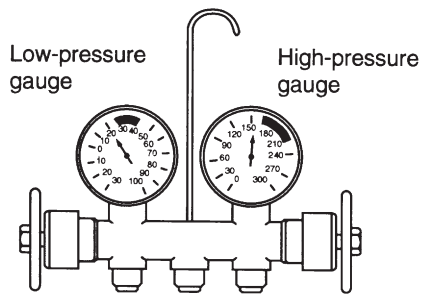
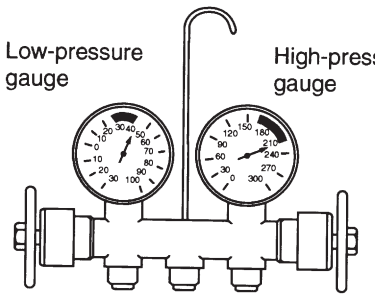
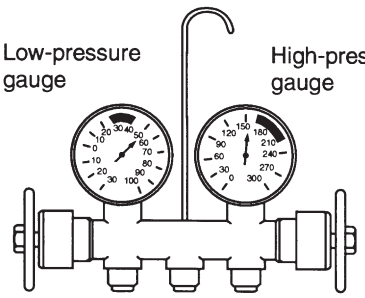
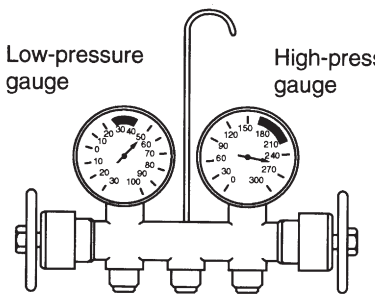
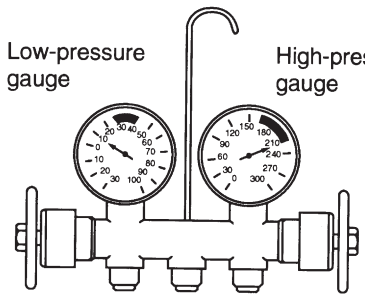
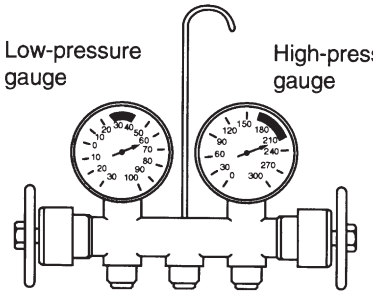
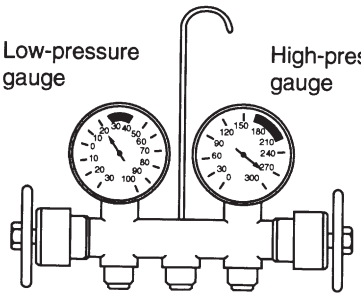
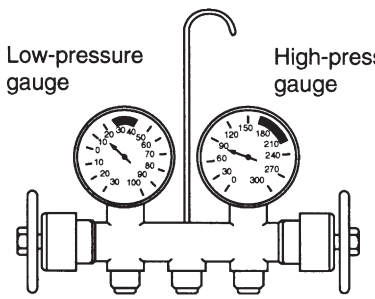
2. Performance Test Diagnosis

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
INSUFFICIENT REFRIGERANT CHARGE  G4M0673	Insufficient cooling	Refrigerant is small, or leaking a little.	(1) Perform leak test. (2) Repair leak. (3) Charge system. **Evacuate, as necessary, and recharge system.**
ALMOST NO REFRIGERANT  G4M0674	No cooling action	Serious refrigerant leak.	**Stop compressor immediately.** (1) Perform leak test. (2) Discharge system. (3) Repair leak(s). (4) Replace receiver drier if necessary. (5) Check oil level. (6) Evacuate and recharge system.
FAULTY EXPANSION VALVE  G4M0675	Slight cooling; Sweating or frosted expansion valve inlet.	Expansion valve restricts refrigerant flow. ● Expansion valve is clogged. ● Expansion valve is inoperative. ● Valve stuck closed. ● Thermal bulb has lost charge.	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.

Condition		Probable cause	Corrective action
 G4M0676  G4M0677	Insufficient cooling; Sweated suction line. No cooling; Sweating or frosted suction line.	Expansion valve allows too much refrigerant through evaporator. Faulty seal of O-ring in expansion valve.	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.
AIR IN SYSTEM  G4M0678	Insufficient cooling	Air mixed with refrigerant in system.	(1) Discharge system. (2) Replace receiver drier. (3) Evacuate and charge system.
MOISTURE IN SYSTEM  G4M0679	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^2, 6 psi) vibration.	Drier is saturated with moisture. Moisture has frozen at expansion valve. Refrigerant flow is restricted.	(1) Discharge system. (2) Replace receiver drier (twice if necessary). (3) Evacuate system completely (repeat 30-minute evacuating three times.). (4) Recharge system.

Condition		Probable cause	Corrective action
FAULTY CONDENSER  G4M0680	No cooling action; Engine may overheat. Suction line is very hot.	Condenser is often found not functioning well.	● Check condenser cooling fan. ● Check condenser for dirt accumulation. ● Check engine cooling system for overheat. ● Check for refrigerant overcharge. **If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.**
HIGH-PRESSURE LINE BLOCKED  G4M0681	Insufficient cooling; Frosted high-pressure liquid line.	Drier is clogged, or restriction in high- pressure line.	(1) Discharge system. (2) Remove receiver drier or strainer and replace it. (3) Evacuate and charge system.
FAULTY COMPRESSOR  G4M0682	Insufficient cooling	Internal problem is in compressor, or damaged gasket and valve.	(1) Discharge system. (2) Remove and check compressor. (3) Repair or replace compressor. (4) Check oil level. (5) Replace receiver drier. (6) Evacuate and charge system.