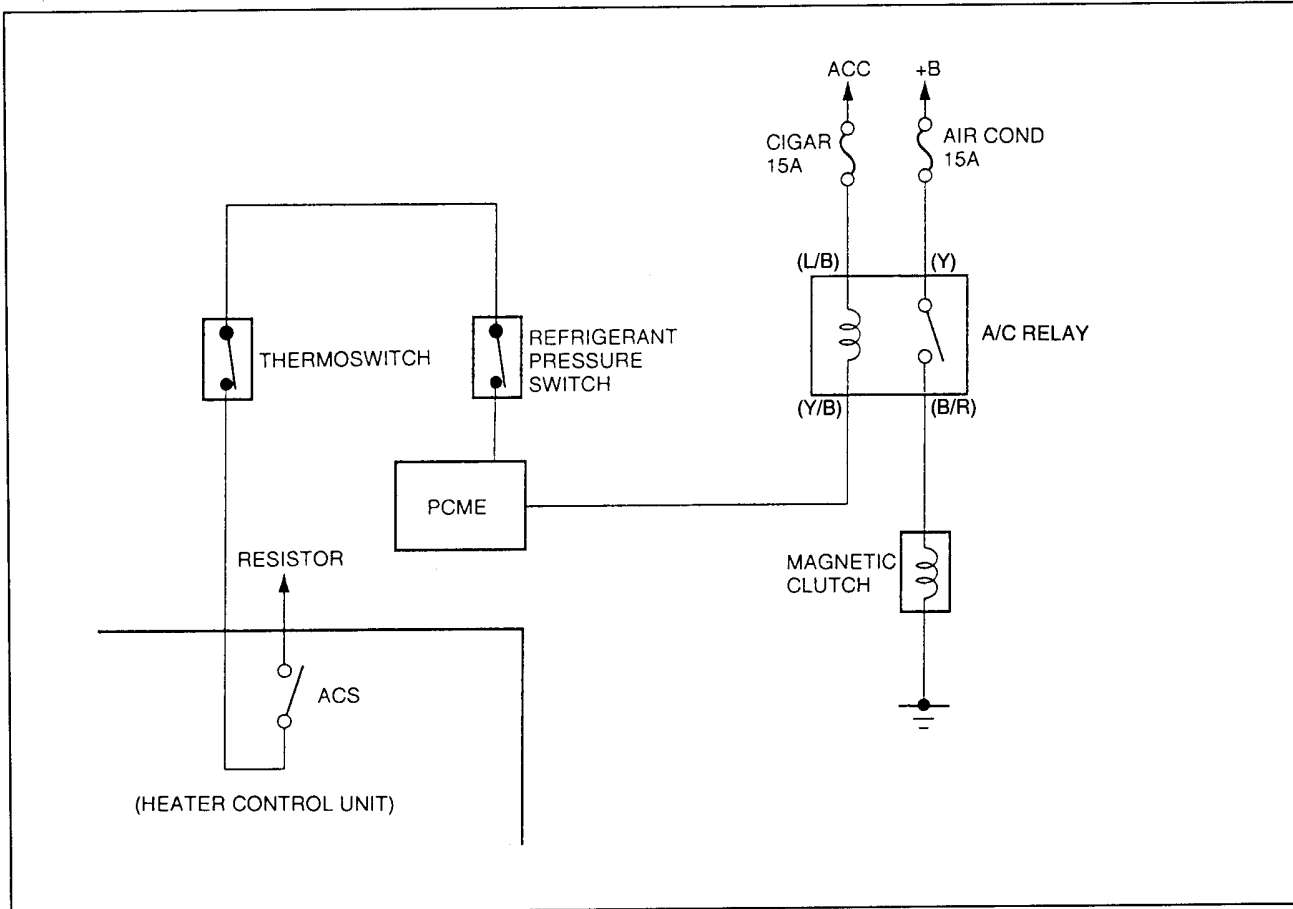


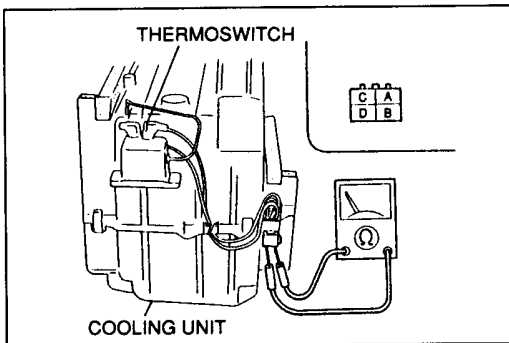
# G

## TROUBLESHOOTING GUIDE

<b>Flowchart No.</b>	<b>Symptom</b> .....Magnetic clutch and cooling fan do not operate
<b>7</b>	<b>Related components</b> ...Heater control unit, thermostat, wiring harness



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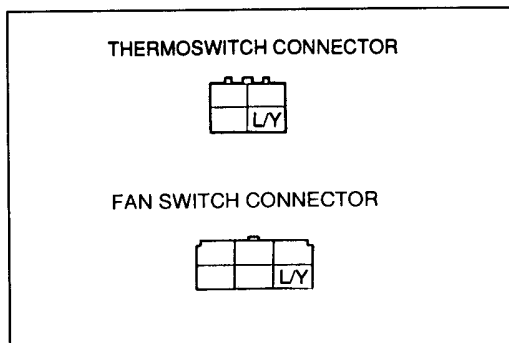
### Step 1

1. Verify that the ignition switch is at OFF.
2. Disconnect the thermoswitch connector.
3. Check for continuity between the switch terminals.

A	B	C	D
○—○	○—○	○—○	○—○

○—○ : Continuity

4. If not as specified, replace the thermoswitch.  
(Refer to page G-63.)

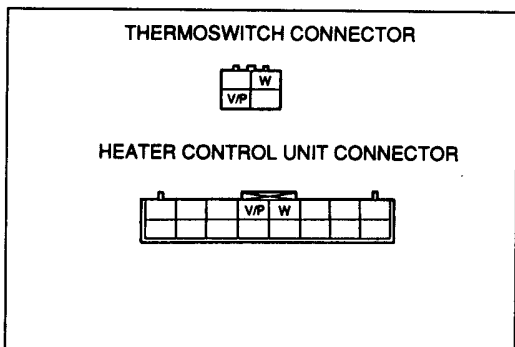


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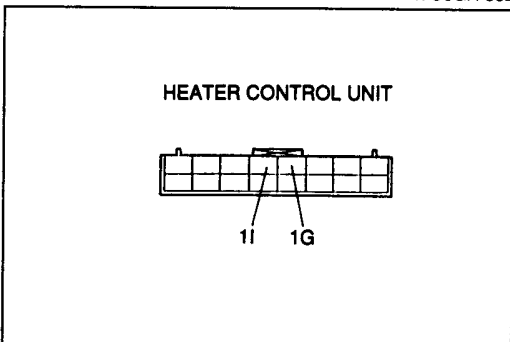
### Step 2

1. Disconnect the thermoswitch and fan switch connectors.
2. Check for continuity between the (L/Y) terminal wire of the connectors.

Continuity	Action
Yes	Go to Step 3
No	Repair (L/Y) wire



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**Step 3**

1. Disconnect the thermoswitch and heater control unit connectors.
2. Check for continuity between the terminal wires of the connectors.

Wire	Continuity	Action
(V/P)	Yes	Check (W) wire
	No	Repair (V/P) wire
(W)	Yes	Go to Step 4
	No	Repair (W) wire

**Step 4**

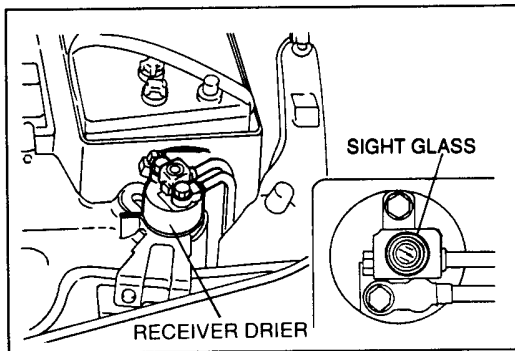
1. Turn the ACS on.
2. Check for continuity between terminals 1G and 1I of the heater control unit.

Terminal	Continuity	Action
1G—1I	Yes	Check PCME (Refer to 1994 RX-7 Workshop Manual, section F)
	No	Replace heater control unit (Refer to page G-37)

**REFRIGERANT SYSTEM INSPECTION**

Possible refrigerant system problems can be located by checking the refrigerant amount and refrigerant pressure.

47U0GX-554



47U0GX-555

**Checking Refrigerant Amount**

1. Open all doors and windows.
2. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
3. Follow the procedures in the table to determine the refrigerant amount condition.

Step	Procedure	Sight glass	Cause/Action
1	1. Turn ACS on and move fan switch to fourth position. 2. Press REC switch on. 3. Set TEMP switch to MAX COLD. 4. Verify that A/C compressor is operating and observe refrigerant condition in sight glass.	Clear	Too much or proper amount of refrigerant Go to Step 2
		Bubbles present	Insufficient refrigerant Check refrigerant pressure
		Cloudy	Insufficient refrigerant Check refrigerant pressure
2	Turn off A/C compressor by using ACS and observe refrigerant condition in sight glass.	Clear immediately after A/C compressor turned off, bubbles appear and then disappear	Too much refrigerant Check refrigerant pressure
		Bubbles appear and then disappear	Proper amount of refrigerant Check refrigerant pressure
		Clear	No refrigerant Check refrigerant pressure

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**Checking Refrigerant Pressure**

1. Open all doors and windows.
2. Connect a manifold gauge set. (Refer to page G-43.)
3. Start the engine and run it at a constant 1,500 rpm (R-134a) or a constant 2,000 rpm (R-12).
4. Press the ACS.
5. Turn the fan switch to the fourth position.
6. Press the REC switch to on.
7. Set the TEMP switch to MAX COLD.
8. Verify the pressure readings of the manifold gauge.

**Standard condition**

**(R-134a) Blower inlet temperature: 30—35°C {86—95°F}**  
**High-pressure side: 1.37—1.57 MPa {14.0—16.0 kgf/cm<sup>2</sup>, 199—228 psi}**  
**Low-pressure side: 0.1—0.2 MPa {1.5—2.5 kgf/cm<sup>2</sup>, 22—35 psi}**  
**(R-12) Blower inlet temperature: 30—35°C {86—95°F}**  
**High-pressure side: 1.43—1.47 MPa {14.5—15.0 kgf/cm<sup>2</sup>, 207—213 psi}**  
**Low-pressure side: 0.15—0.19 MPa {1.5—2.0 kgf/cm<sup>2</sup>, 22—28 psi}**

9. If the pressures are normal, inspect the control system.
10. If the pressures are not as specified, refer to the following table and repair the system.  
(Refer to page G-27.)

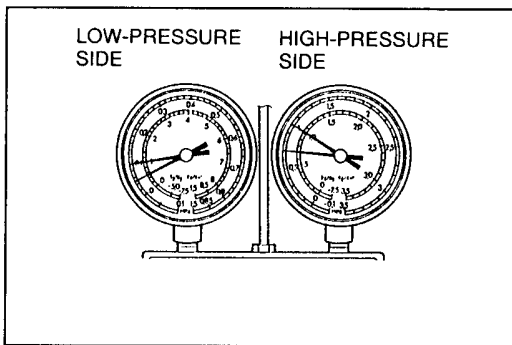
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# TROUBLESHOOTING GUIDE

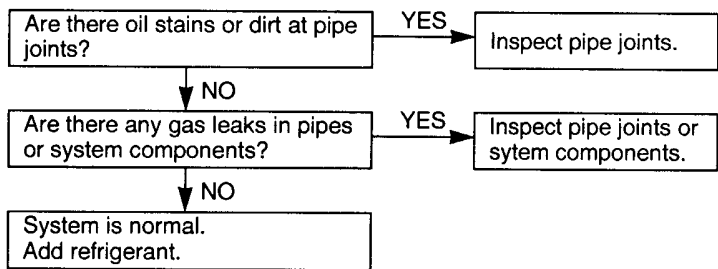
High-pressure side MPa {kgf/cm <sup>2</sup> , psi}		Low-pressure side MPa {kgf/cm <sup>2</sup> , psi}		Flowchart No. (Refer to page)
R-134a	R-12	R-134a	R-12	
0.69—0.98 {7.00—10.0, 100—142}	0.79—0.88 {8.00—9.00, 114—127}	0.05—0.09 {0.50—1.00, 7.2—14.2}	Approx. 0.078 {0.8, 11}	1 (G-27)
0.50—0.58 {5.00—6.00, 71.2—85.3}	below 0.6 {6.0, 85}	Vacuum pressure	Vacuum pressure	2 (G-28)
0.69—0.98 {7.00—10.0, 100—142}	0.7—1.4 {7.0—15, 100—210}	Vacuum pressure	Vacuum pressure—0.1 {1.5, 21}	3 (G-28)
0.69—0.98 {7.00—10.0, 100—142}	0.7—0.9 {7.0—10, 100—140}	0.40—0.58 {4.00—6.00, 56.9—85.3}	0.4—0.5 {4.0—6.0, 57—85}	4 (G-29)
1.97—2.45 {20.0—25.0, 285—355}	over 2.0 {20, 284}	0.25—0.34 {2.50—3.50, 35.6—49.7}	Approx. 0.2 {2.5, 36}	5 (G-29)
1.97—2.45 {20.0—25.0, 285—355}	2.3 {23, 330}	0.25—0.29 {2.50—3.00, 35.6—42.6}	Approx. 0.2 {2.5, 36}	6 (G-30)
1.97—2.45 {20.0—25.0, 285—355}	1.87—1.96 {19.0—20.0, 271—284}	0.30—0.39 {3.00—4.00, 42.7—56.8}	0.2 {2.5, 36}	7 (G-30)

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Flowchart No.	High-pressure side	Symptom .....
1	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm <sup>2</sup> , 100—142 psi}	• High-and low-pressure-side readings are lower than normal (large amount of bubbles appear in sight glass) • Not cool enough Possible cause ..... Insufficient refrigerant
	(R-12) 0.79—0.88 MPa {8.00—9.00 kgf/cm <sup>2</sup> , 114—127 psi}	
	Low-pressure side	
	(R-134a) 0.05—0.09 MPa {0.50—1.00 kgf/cm <sup>2</sup> , 7.2—14.2 psi}	
	(R-12) Approx. 0.078 MPa {0.8 kgf/cm <sup>2</sup> , 11 psi}	



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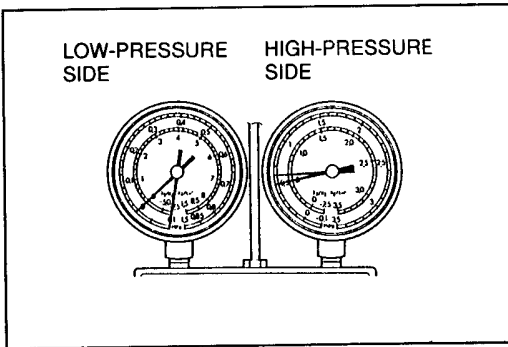


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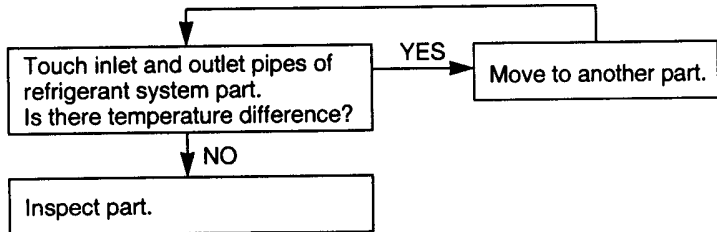
## TROUBLESHOOTING GUIDE

Flowchart No.	High-pressure side	Symptom ..... Low-pressure side readings are vacuum pressure Possible cause ..... Improper refrigerant circulation
	(R-134a) 0.50—0.58 MPa {5.00—6.00 kgf/cm <sup>2</sup> , 71.2—85.3 psi} (R-12) below 0.6 MPa {6.0 kgf/cm <sup>2</sup> , 85 psi}	
2	Low-pressure side	
	(R-134a) Vacuum pressure (R-12) Vacuum pressure	

47U0GX-561

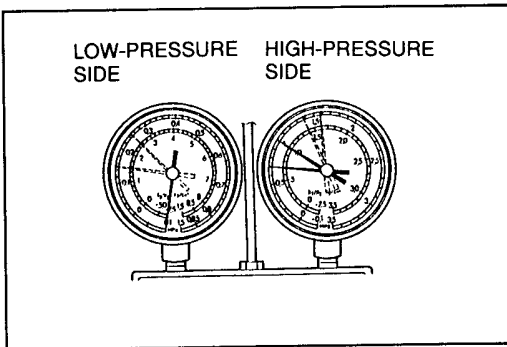


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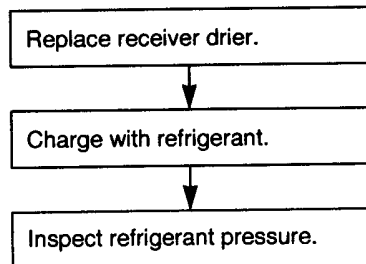


Flowchart No.	High-pressure side	Symptom ..... Low-pressure-side readings falls to vacuum pressure shortly after A/C operation Possible cause • Impropr refrigerant charging • Damaged receiver drier • Expansion valve frozen due to moisture in system
	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm <sup>2</sup> , 100—142 psi} (R-12) 0.7—1.4 MPa {7.0—15 kgf/cm <sup>2</sup> , 100—210 psi}	
3	Low-pressure side	
	(R-134a) Vacuum pressure (R-12) Vacuum pressure—0.1 MPa {1.5 kgf/cm <sup>2</sup> , 21 psi}	

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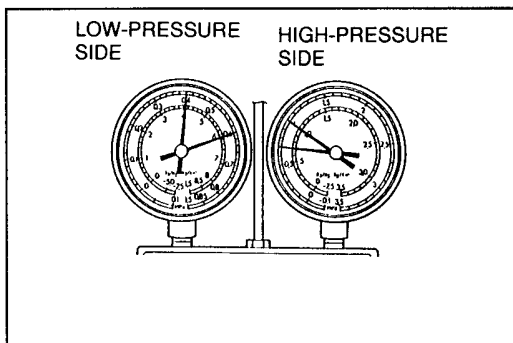


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<b>Flowchart No.</b>	High-pressure side	Symptom .....
4	(R-134a) 0.69—0.98 MPa {7.00—10.0 kgf/cm <sup>2</sup> , 100—142 psi}	High-pressure-side reading is slightly lower than normal; low-pressure-side reading is slightly higher than normal (when A/C is turned off, low-and high-pressure sides soon equalize)
	(R-12) 0.7—0.9 MPa {7.0—10 kgf/cm <sup>2</sup> , 100—140 psi}	
	Low-pressure side	
	(R-134a) 0.40—0.58 MPa {4.00—6.00 kgf/cm <sup>2</sup> , 56.9—85.3 psi}	Possible cause ..... Improper compression of A/C compressor
	(R-12) 0.4—0.5 MPa {4.0—6.0 kgf/cm <sup>2</sup> , 57—85 psi}	

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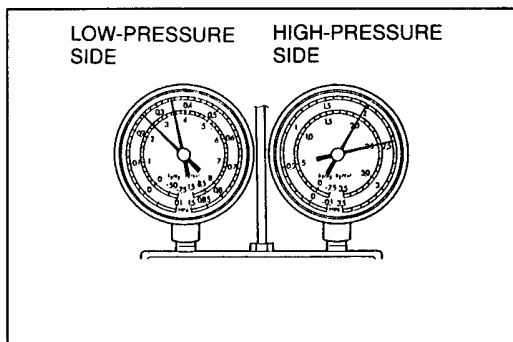


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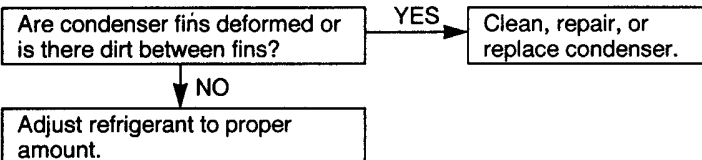
Inspect A/C compressor.

<b>Flowchart No.</b>	High-pressure side	Symptom .....
5	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm <sup>2</sup> , 285—355 psi}	<ul style="list-style-type: none"> <li>• High-and low-pressure-side readings are higher than normal (bubbles do not appear in sight glass)</li> <li>• Not cool enough</li> <li>• Improper condenser cooling</li> <li>• Too much refrigerant</li> </ul>
	(R-12) over 2.0 MPa {20 kgf/cm <sup>2</sup> , 284 psi}	
	Low—pressure side	
	(R-134a) 0.25—0.34 MPa {2.50—3.50 kgf/cm <sup>2</sup> , 35.6—49.7 psi}	Possible cause .....
	(R-12) Approx. 0.2 MPa {2.5 kgf/cm <sup>2</sup> , 36 psi}	

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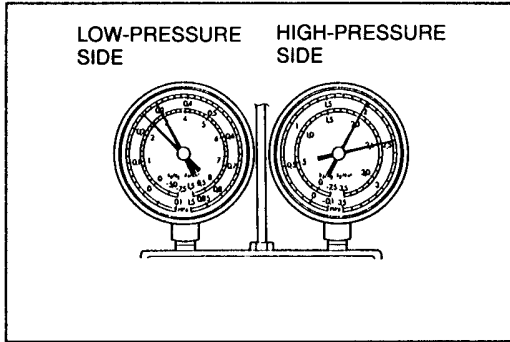


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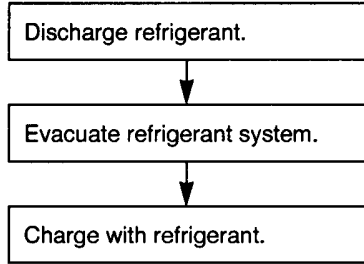


6	High—pressure side	Symptom ..... • High-and low-pressure-side readings are higher than normal Possible cause ..... Air mixed with refrigerant
	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm <sup>2</sup> , 285—355 psi}	
	(R-12) 2.3 MPa {23 kgf/cm <sup>2</sup> , 330 psi}	
	Low—pressure side	
	(R-134a) 0.25—0.29 MPa {2.50—3.00 kgf/cm <sup>2</sup> , 35.6—42.6 psi}	
	(R-12) Approx. 0.2 MPa {2.5 kgf/cm <sup>2</sup> , 36 psi}	

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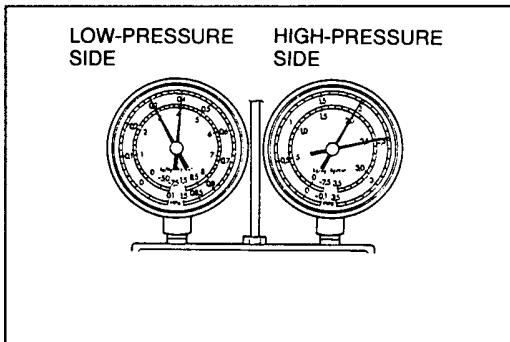


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7	High—pressure side	Symptom ..... • High-and low-pressure-side readings are higher than normal Possible cause ..... • Low-pressure-side pipe is frozen • Damaged expansion valve • Heat-sensing tube improperly installed
	(R-134a) 1.97—2.45 MPa {20.0—25.0 kgf/cm <sup>2</sup> , 285—355 psi}	
	(R-12) 1.87—1.96 MPa {19.0—20.0 kgf/cm <sup>2</sup> , 271—284 psi}	
	Low—pressure side	
	(R-134a) 0.30—0.39 MPa {3.00—4.00 kgf/cm <sup>2</sup> , 42.7—56.8 psi}	
	(R-12) 0.2 MPa {2.5 kgf/cm <sup>2</sup> , 36 psi}	

47U0GX-571



47U0GX-572

