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2023 NISSAN Versa/Note Service and Repair Manual

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INSPECTION PROCEDURE

1. Connect the manifold gauge.
2. Set the vehicle, and set to the following condition.

Test condition

Surrounding condition		Indoors or in the shade (in a well-ventilated place)
Vehicle condition	Door	Closed
	Door glass	Full open
	Hood	Open
A/C condition	Temperature control switch or dial	Full cold
	A/C switch	ON
	HEAT switch	OFF
	Mode switch	 (Ventilation) set
	Intake switch	 (Recirculation) set
	 Blower motor speed	Maximum speed set

Maintain test condition until A/C system becomes stable. (Approximately 10 minutes)

Check that the characteristics for “intake temperature vs. discharge temperature” and “ambient temperature vs. pressure” are within the standard values.

When test results are within the specified value, inspection is complete.

If any of test result is out of the specified value, perform diagnosis by gauge pressure. Refer to [Symptom Table](#).

RECIRCULATING-TO-DISCHARGE AIR TEMPERATURE TABLE

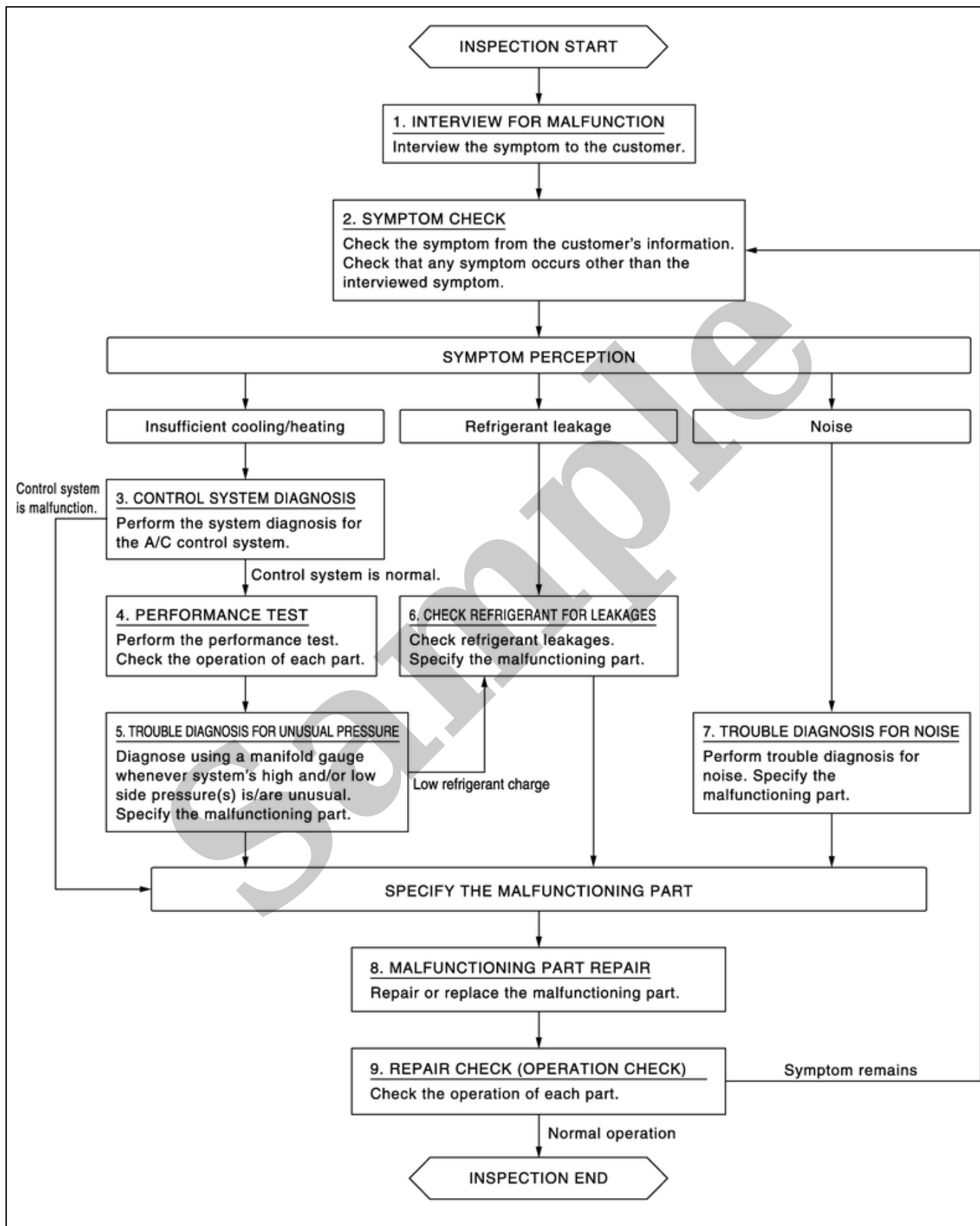
Inside air (Recirculating air) at blower assembly inlet		Discharge air temperature from center ventilator °C (°F)
Relative humidity	Air temperature	
%	°C (°F)	
50 – 60	20 (68)	7.2 – 9.3 (45.0 – 48.7)
	25 (77)	10.5 – 13.0 (50.9 – 55.4)
	30 (86)	13.9 – 16.8 (57.0 – 62.2)
	35 (95)	18.0 – 21.3 (64.4 – 70.3)
60 – 70	20 (68)	9.3 – 11.3 (48.7 – 52.3)
	25 (77)	13.0 – 15.5 (55.4 – 59.9)
	30 (86)	16.8 – 19.7 (62.2 – 67.5)
	35 (95)	21.3 – 24.6 (70.3 – 76.3)

AMBIENT AIR TEMPERATURE-TO-OPERATING PRESSURE TABLE

Fresh air		High-pressure (Discharge side) kPa (kg/cm ² , psi)	Low-pressure (Suction side) kPa (kg/cm ² , psi)
Relative humidity %	Air temperature °C (°F)		
50 – 70	25 (77)	979 – 1,197 (10.0 – 12.2, 142.0 – 173.6)	233 – 285 (2.4 – 2.9, 33.8 – 41.3)
	30 (86)	1,182 – 1,444 (12.1 – 14.7, 171.4 – 209.4)	266 – 326 (2.7 – 3.3, 38.6 – 47.3)
	35 (95)	1,360 – 1,662 (13.9 – 17.0, 197.2 – 241.0)	314 – 384 (3.2 – 3.9, 45.5 – 55.7)
	40 (104)	1,499 – 1,833 (15.3 – 18.7, 217.4 – 265.8)	373 – 455 (3.8 – 4.6, 54.1 – 66.0)

Sample

DESCRIPTION OF TROUBLE DIAGNOSIS FLOWCHART



SIEMD-7216091-01-NIAA0143GB

DETAILS OF TROUBLE DIAGNOSIS FLOWCHART

1. INTERVIEW FOR MALFUNCTION

Interview the customer to obtain the malfunction information.

>>

[GO TO 2.](#)

2. SYMPTOM CHECK

Check the malfunction based on the information obtained from the customer. Check if any other malfunctions are present.

Insufficient cooling·Insufficient heating>>

[GO TO 3.](#)

Coolant leakage>>

[GO TO 6.](#)

Noise>>

[GO TO 7.](#)

3. CONTROL SYSTEM DIAGNOSIS

Perform control system diagnosis. Refer to [Work Flow](#) in “HAC Heater & Air Conditioner Control System.”

No malfunction detected>>

[GO TO 4.](#)

Malfunctioning is detected>>

[GO TO 8.](#)

4. PERFORMANCE TEST

Perform the performance inspection. Refer to [Inspection](#).

>>

[GO TO 5.](#)

5. TROUBLE DIAGNOSIS FOR UNUSUAL PRESSURE

Perform diagnosis based on the gauge pressure diagnosis table, and identify the location of the malfunction. Refer to [Symptom Table](#).

Insufficient refrigerant>>

[GO TO 6.](#)

Other than the above>>

[GO TO 8.](#)

6. CHECK REFRIGERANT FOR LEAKAGE

Perform the refrigerant leakage check and identify the location of the leak. Refer to [Leak Test](#).

>>

[GO TO 8.](#)

7. TROUBLE DIAGNOSIS FOR NOISE

Perform diagnosis based on the noise diagnosis table, and identify the location of the malfunction. Refer to [Symptom Table](#).

>>

[GO TO 8.](#)

8. MALFUNCTION PARTS REPAIR

Repair or replace malfunctioning part.

>>

[GO TO 9.](#)

9. REPAIR CHECK (OPERATION CHECK)

Check operation and verify that the system is operating normally.

Is check result normal?

YES>>

Trouble diagnosis is complete.

NO>>

[GO TO 2.](#)

Sample

Symptom Table

SIEMD-7216167

Symptom	Noise source	Probable cause	Corrective action
Unusual noise from compressor when A/C is ON.	Inside of compressor	Wear, breakage, or clogging of foreign material in inner parts.	Check compressor oil. Refer to Inspection .
	Compressor body	Loosened compressor mounting bolts.	Check bolts for tightness. Refer to Exploded View .
Unusual noise from cooler piping.	Cooler piping (pipe and flexible hose)	Improper installation of clip and bracket.	Check the installation condition of the cooler piping. Refer to Exploded View .

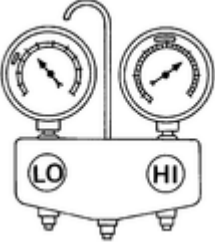
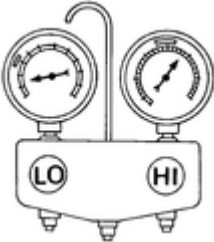
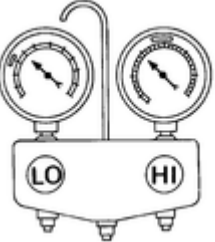
Sample

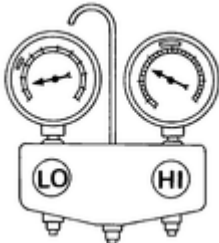
Trouble Diagnosis For Unusual Pressure

SIEMD-7216165

Diagnose using a manifold gauge whenever system's high and/or low side pressure(s) is/are unusual. The marker above the gauge scale in the following tables indicates the standard (usual) pressure range. Refer to above table (Ambient air temperature-to-operating pressure table) since the standard (usual) pressure, however, differs from vehicle to vehicle.

Sample

Gauge indication	Refrigerant cycle	Probable cause	Corrective action
<p>Both high- and low-pressure sides are too high.</p>  <p>SIEMD-7216166-01-C359A</p>	<p>The pressure returns to normal soon after sprinkling water on condenser.</p>	<p>Overfilled refrigerant.</p>	<p>Collect all refrigerant, evacuate refrigerant cycle again, and then refill it with the specified amount of refrigerant.</p>
	<p>Air flow to condenser is insufficient.</p>	<p>Insufficient condenser cooling performance.</p> <ul style="list-style-type: none"> Poor fan rotation of radiator and condenser. Improper installation of air guide. Clogged or dirty condenser fins. 	<ul style="list-style-type: none"> Repair or replace malfunctioning parts. Clean and repair condenser fins.
	<p>When compressor is stopped, a high-pressure reading quickly drops by approximately 196 kPa (2 bar, 2 kg/cm², 28.4 psi). It then gradually decreases.</p>	<p>Air mixed in refrigerant cycle.</p>	<p>Collect all refrigerant, evacuate refrigerant cycle again, and then refill it with the specified amount of refrigerant.</p>
	<p>Low-pressure pipe become hot.</p>	<p>Electric expansion valve opening / control error.</p>	<p>Check DTC with consult</p> <ul style="list-style-type: none"> Replace temperature sensor and pressure sensor. Check the connection of the electric expansion valve. Replace electronic expansion valve.
<p>High-pressure side is excessively high and low-pressure side is too low.</p>  <p>SIEMD-7216166-02-C360A</p>	<p>High-pressure pipe and upper side of condenser become hot, however, liquid tank does not become so hot.</p>	<p>Clogged or crushed high-pressure pipe located between compressor and condenser.</p>	<p>Repair or replace the malfunctioning parts.</p>
<p>High-pressure side is too low and low-pressure side is too high.</p> 	<ul style="list-style-type: none"> The readings of both sides become equal soon after compressor operation stops. There is no temperature difference between 	<p>Malfunction in compressor system (insufficient compressor pressure operation).</p> <ul style="list-style-type: none"> Damage or breakage of valve. Malfunctioning gaskets. 	<p>Replace compressor.</p>

Gauge indication	Refrigerant cycle	Probable cause	Corrective action
SIEMD-7216166-03-C356A	high- and low-pressure sides.		
<p data-bbox="89 450 496 510">Both high- and low-pressure sides are too low.</p>  <p data-bbox="209 801 517 831">SIEMD-7216166-04-C353A</p>	<ul style="list-style-type: none"> • The area around evaporator outlet does not become cold. • The area around evaporator inlet becomes frosted. 	Electric expansion valve opening / control error.	<p data-bbox="1187 172 1458 201">Check DTC with consult</p> <ul style="list-style-type: none"> • Replace temperature sensor and pressure sensor. • Check the connection of the electric expansion valve. • Replace electronic expansion valve.
	Evaporator becomes frosted.	Clogged or crushed low-pressure pipe.	Repair or replace malfunctioning parts.
		Malfunction in intake sensor.	Check intake sensor system. Refer to Diagnosis Procedure .
	There is a small temperature difference between the high and low pressure pipes for refrigerant cycle.	<ul style="list-style-type: none"> • Shortage of refrigerant. • Leakage of refrigerant. 	<ul style="list-style-type: none"> • Check for leakage. • Collect all refrigerant, evacuate refrigerant cycle again, and then refill it with the specified amount of refrigerant.