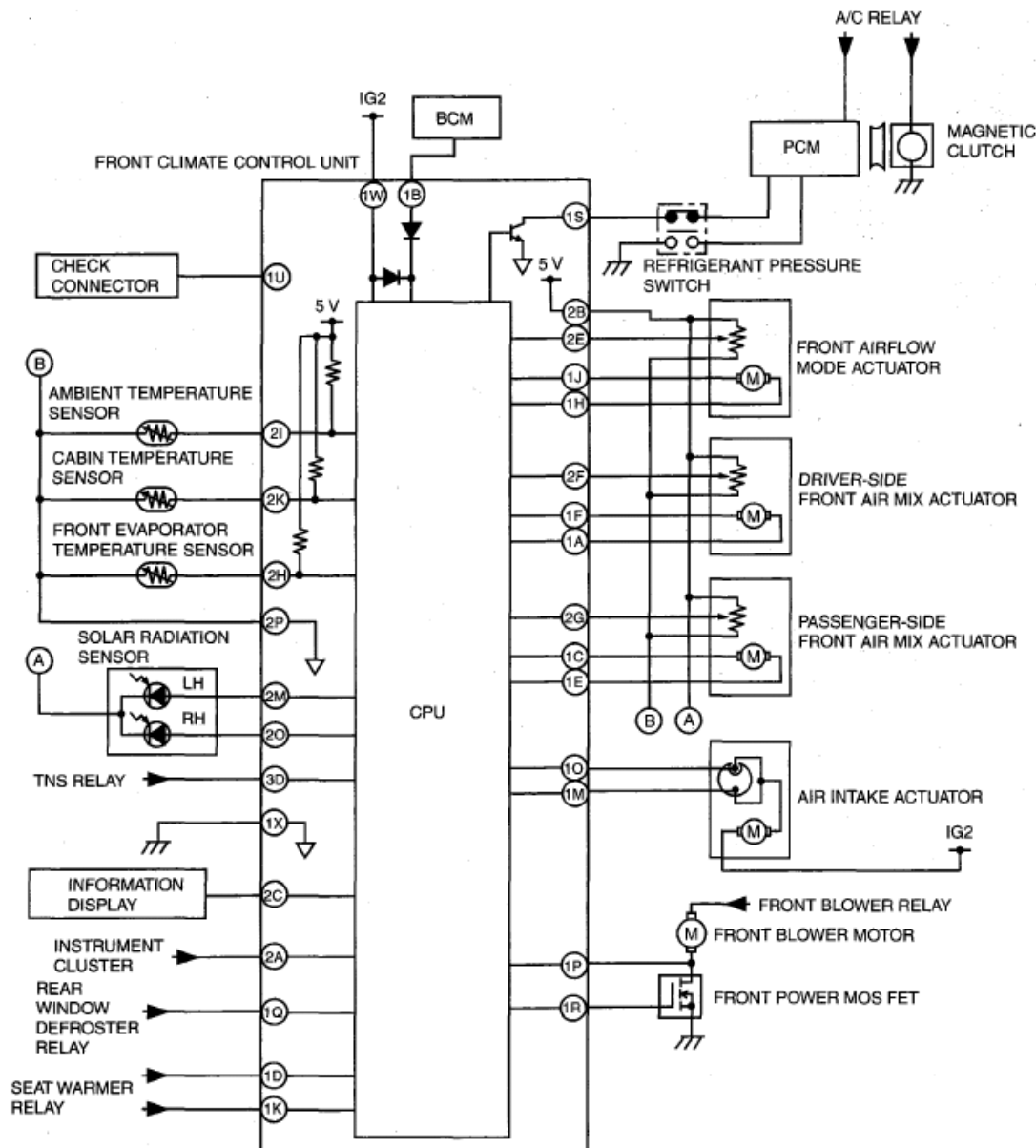


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HVAC SYSTEM WIRING DIAGRAM

FRONT



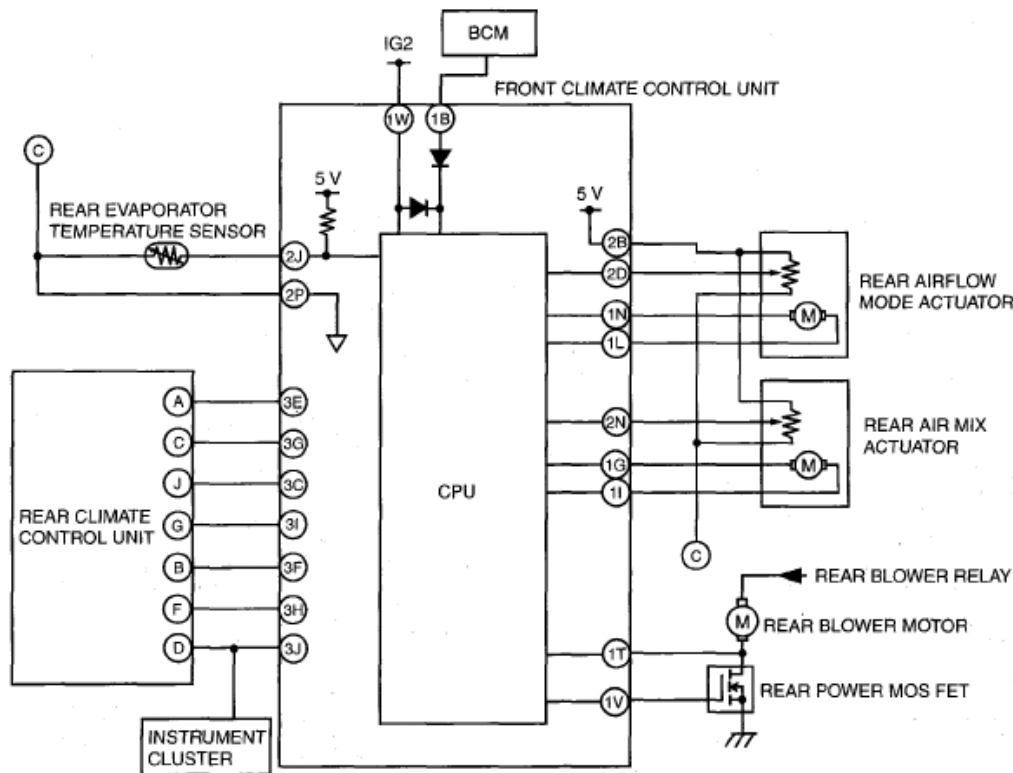
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Fig. 1: HVAC System Wiring Diagram - Front
 Courtesy of MAZDA MOTORS CORP.

REAR

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ac9uuw00002459

Fig. 2: HVAC System Wiring Diagram - Rear
 Courtesy of MAZDA MOTORS CORP.

FOREWORD

- The areas for inspection (steps) are given according to various circuit malfunctions. Use the following chart to verify the symptoms of the trouble in order to diagnose the appropriate area.

TROUBLESHOOTING INDEX

TROUBLESHOOTING INDEX

No.	TROUBLESHOOTING ITEM	DESCRIPTION
1	Insufficient air (or no air) blown from front vents	<ul style="list-style-type: none"> Problem with each vent and/or duct Front airflow mode does not change when switching front mode switch.
2	Amount of air blown from front vents does not change	<ul style="list-style-type: none"> Malfunction in front blower system Amount of air blown front vents does not change when switching front climate control unit t airflow control dial.
3	Air intake mode from front vent does not change	<ul style="list-style-type: none"> Malfunction in A/C unit and/or front climate control unit air intake mode switching system Air intake mode does not change when switching

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		REC/FRESH mode.
4	No temperature control with front climate control unit	<ul style="list-style-type: none"> • Malfunction in A/C unit and/or front climate control unit air mix system • Temperature does not change when switching front climate control unit temperature setting dial.
5	Windshield fogged	<ul style="list-style-type: none"> • Malfunction in A/C compressor control system and/or air intake mode switching system • A/C compressor does not operate while airflow mode is DEFROSTER or HEAT/DEF modes. • Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
6	Insufficient air (or no air) from rear vent	<ul style="list-style-type: none"> • Problem with each rear vent and/or duct • Rear airflow mode does not change when front and/or rear climate control unit mode switches.
7	Amount of air from rear vent does not change	<ul style="list-style-type: none"> • Malfunction in rear blower motor system • Amount of air blowing rear vents does not change when switching front and/or rear climate control unit airflow volume control dial.
8	Air from front/rear vents not cold enough	<ul style="list-style-type: none"> • Malfunction in A/C basic system • Magnetic clutch operates but A/C system malfunctions.
9	No cool air from front/rear vents	<ul style="list-style-type: none"> • Malfunction in A/C compressor control system • Magnetic clutch does not operate when the A/C system is turned ON.
10	Noise while operating A/C system	<ul style="list-style-type: none"> • Problem with A/C basic system installation • Noise from magnetic clutch, A/C compressor, hose or refrigerant line.
11	Dual A/C control function does not operate	<ul style="list-style-type: none"> • Malfunction in A/C unit and/or front climate control unit dual A/C control system • Driver or passenger-side temperature control dial does not operate individually.

NO.1 INSUFFICIENT AIR (OR NO AIR) BLOWN FROM FRONT VENTS

NO.1 INSUFFICIENT AIR (OR NO AIR) BLOWN FROM FRONT VENTS DESCRIPTION AND POSSIBLE CAUSE

1	Insufficient air (or no air) blown from front vents
DESCRIPTION	<ul style="list-style-type: none"> • Problem with each vent and/or duct • Front airflow mode does not change when switching front mode switch.
	<ul style="list-style-type: none"> • Malfunction in front airflow mode actuator

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POSSIBLE CAUSE

- Malfunction in front VENT mode system
- Malfunction in front HEAT mode system
- Malfunction in front DEFROSTER mode system

DIAGNOSTIC PROCEDURE

NO.1 INSUFFICIENT AIR (OR NO AIR) BLOWN FROM FRONT VENTS DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT FRONT AIRFLOW MODE ACTUATOR • Is it okay?	Yes	Go to the next step.
		No	Repair or replace malfunctioning part in accordance with inspection result.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN FRONT VENT MODE OR OTHER MODES • Does air blow out when in the front VENT mode?	Yes	Go to Step 5.
		No	Go to the next step.
3	INSPECT FRONT VENT • Is the front vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to the next step.
4	VERIFY THAT DUCT IN DASHBOARD IS INSTALLED • Is the duct in the dashboard properly installed?	Yes	Inspect the duct for clogging, deformation and air leakage, then go to Step 9.
		No	Install the duct securely in the proper position, then go to Step 9.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN FRONT HEAT MODE OR FRONT DEFROSTER MODE • Does air blow out when in the front HEAT mode?	Yes	Go to the next step.
		No	Inspect the vent for clogging, then go to Step 9.
6	INSPECT FRONT DEFROSTER MODE • Does air blow out when in the front DEFROSTER mode?	Yes	Operation is normal. Recheck malfunction symptoms.
		No	Go to the next step.
7	INSPECT FRONT VENT • Is the vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to the next step.
8	VERIFY THAT DEFROSTER DUCT IS INSTALLED • Is the defroster duct properly installed?	Yes	Inspect the duct for clogging, deformation, and air leakage, then go to the next step.
		No	Install the duct securely in proper position, then go to the next step.

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9	VERIFY REPAIR <ul style="list-style-type: none"> • Does air blow out? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.2 AMOUNT OF AIR BLOWN FROM FRONT VENTS DOES NOT CHANGE

NO.2 AMOUNT OF AIR BLOWN FROM FRONT VENTS DOES NOT CHANGE DESCRIPTION AND POSSIBLE CAUSE

2	Amount of air blown from front vents does not change.
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in front blower system • Amount of air blown front vents does not change when switching front climate control unit airflow control dial.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Front A/C unit malfunction • Front blower motor malfunction • Malfunction in front power MOS FET system • Front climate control unit malfunction

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

DIAGNOSTIC PROCEDURE

NO.2 AMOUNT OF AIR BLOWN FROM FRONT VENTS DOES NOT CHANGE DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT HEATER BLOWER 40 A FUSE <ul style="list-style-type: none"> • Is it normal? 	Yes	Go to the next step.
		No	Replace the fuse, then go to Step 15. If the fuse burns out immediately, go to the next step.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT OR ELSEWHERE <ul style="list-style-type: none"> • Turn the ignition switch to the ON position. • Turn the fan switch to ON position. • Recirculate air inside the vehicle. • Does the front blower motor operate normal speed? 	Yes	Go to the next step.
		No	Go to Step 4.
		Yes	Remove obstruction, then go to

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3	INSPECT FRONT A/C UNIT INTAKE VENT <ul style="list-style-type: none"> • Is front A/C unit intake vent clogged? 		Step 15.
		No	Inspect if there are any obstruction in the A/C unit passage, then go to Step 15.
4*	INSPECT TO SEE WHETHER MALFUNCTION IS IN FRONT BLOWER RELAY SYSTEM OR FRONT POWER MOS FET SYSTEM <ul style="list-style-type: none"> • Turn the ignition switch to ON position. • Turn the fan switch to OFF position. • Measure the voltage at the following front blower motor terminal. <ul style="list-style-type: none"> ○ Terminal B (blower motor operation signal) • Is voltage approx. 12 V? 	Yes	Go to Step 8.
		No	Go to the next step.
5*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN FUSE BLOCK AND FRONT BLOWER RELAY) OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following front blower relay terminals. <ul style="list-style-type: none"> ○ Terminal B (IG2 signal) ○ Terminal E (B+ signal) • Is the voltage approx. 12 V? 	Yes	Go to the next step.
		No	Repair the wiring harness between the front blower relay and A/C 7.5A HEATER 50 A fuse, then go to Step 15.
6*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN FRONT BLOWER RELAY AND GROUND) OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following front blower relay terminal. <ul style="list-style-type: none"> ○ Terminal D (GND signal) • Is the voltage approx. 0 V? 	Yes	Go to the next step.
		No	Repair the wiring harness between the front blower relay and ground, then go to Step 15.
7*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN FRONT BLOWER RELAY AND FRONT BLOWER MOTOR) OR BLOWER RELAY <ul style="list-style-type: none"> • Measure the voltage at the following front blower relay terminal. <ul style="list-style-type: none"> ○ Terminal A (blower motor operation signal) • Is the voltage approx. 12 V? 	Yes	Repair the wiring harness between the front blower relay and blower motor, then go to Step 15.
		No	Replace the front blower relay, then go to Step 15.
	INSPECT TO SEE WHETHER MALFUNCTION IS IN		

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8*	BLOWER MOTOR OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following blower motor terminal. <ul style="list-style-type: none"> ○ Terminal B (blower motor operation signal) • Is the voltage approx. 12 V? 	Yes	Go to the next step.
		No	Inspect the front blower motor, then go to Step 15.
9*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN FRONT BLOWER MOTOR AND FRONT POWER MOS FET) OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following terminal of front power MOS FET. <ul style="list-style-type: none"> ○ Terminal A (blower motor operation signal) • Is voltage approx. 12 V? 	Yes	Go to the next step.
		No	Repair the wiring harness between the front blower motor and front power MOS FET, then go to Step 15.
10*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN FRONT POWER MOS FET AND GROUND) OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following front power MOS FET terminal. <ul style="list-style-type: none"> ○ Terminal E (blower motor operation signal) • Is the voltage approx. 0 V? 	Yes	Go to the next step.
		No	Repair the wiring harness between the front power MOS FET and ground, then go to Step 15.
11	INSPECT FRONT A/C UNIT <ul style="list-style-type: none"> • Inspect the fan for following: <ul style="list-style-type: none"> ○ Is the fan free of interference with the A/C unit case? ○ Is the fan free of foreign material and obstruction? • Is the fan normal? 	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan and front A/C unit case, then go to Step 15.
12*	INSPECT TO SEE WHETHER MALFUNCTION IS IN FRONT POWER MOS FET OR ELSEWHERE <ul style="list-style-type: none"> • Disconnect front power MOS FET connector. • Turn the fan switch to 1st position from off. • Measure the voltage at the following front power MOS FET terminal. <ul style="list-style-type: none"> ○ Terminal B (blower motor control signal) • Is voltage approx. 10 V? 	Yes	Replace the front power MOS FET, then go to Step 15.
		No	Go to the next step.
	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN	Yes	Go to the next step.

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13*	<p>FRONT POWER MOS FET AND FRONT CLIMATE CONTROL UNIT) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Turn the ignition switch to the LOCK position. • Disconnect front climate control unit connector. • Inspect for continuity at the following terminals between the front power MOS FET and front climate control unit. <ul style="list-style-type: none"> ○ Terminal F-1R (blower motor control signal) ○ Terminal B-1P (blower motor feedback signal) • Is there continuity? 	No	<p>Repair the wiring harness between the front power MOS FET and climate control unit, then go to Step 15.</p>
14*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR WIRING HARNESS (SHORT TO GROUND IN WIRING HARNESS BETWEEN FRONT POWER MOS FET AND FRONT CLIMATE CONTROL UNIT)</p> <ul style="list-style-type: none"> • Inspect for continuity at the following terminal between the power MOS FET and ground. <ul style="list-style-type: none"> ○ Terminal D (blower motor control signal)- ground • Is there continuity? 	Yes	<p>Repair the wiring harness between the front power MOS FET and ground, then go to the next step.</p>
		No	<p>Replace the front climate control unit, then go to the next step.</p>
15	<p>VERIFY REPAIR</p> <ul style="list-style-type: none"> • Is air discharged from vent? 	Yes	<p>Troubleshooting completed. Explain repairs to customer.</p>
		No	<p>Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.</p>

NO.3 AIR INTAKE MODE FROM FRONT VENT DOES NOT CHANGE

NO.3 AIR INTAKE MODE FROM FRONT VENT DOES NOT CHANGE DESCRIPTION AND POSSIBLE CAUSE

3	Air intake mode from front vent does not change.
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in A/C unit and/or front climate control unit air intake mode switching system • Air intake mode does not change when switching REC/FRESH mode.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Air intake actuator malfunction • Air intake door malfunction

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

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DIAGNOSTIC PROCEDURE

NO.3 AIR INTAKE MODE FROM FRONT VENT DOES NOT CHANGE DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT AIR INTAKE ACTUATOR <ul style="list-style-type: none"> • Is the air intake actuator normal? 	Yes	Go to the next step.
		No	Replace the air intake actuator, then go to Step 9.
2*	INSPECT TO SEE WHETHER MALFUNCTION (OPEN OR SHORT CIRCUIT) IS IN AIR INTAKE ACTUATOR, WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE <ul style="list-style-type: none"> • Turn the ignition switch to the ON position. • Measure the voltages at the following climate control unit terminals. <ul style="list-style-type: none"> ○ Terminal 1O (24-pin, RECIRCULATE motor drive signal) ○ Terminal 1M (24-pin, FRESH motor drive signal) <p style="text-align: center;"><u>(See FRONT CLIMATE CONTROL UNIT INSPECTION .)</u></p> <ul style="list-style-type: none"> • Are voltages normal? 	Yes	Go to the next step.
		No	Go to Step 4.
3*	INSPECT TO SEE WHETHER MALFUNCTION (OPEN OR SHORT CIRCUIT) IS IN AIR INTAKE ACTUATOR OR WIRING HARNESS (BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) <ul style="list-style-type: none"> • Measure the voltages at the following air intake actuator terminals. <ul style="list-style-type: none"> ○ Terminal C (RECIRCULATE motor drive signal) ○ Terminal A (FRESH motor drive signal) • Are voltages as shown below? <ul style="list-style-type: none"> ○ Terminal C: approx. 0.5 V during FRESH and approx. 10 V during RECIRCULATE ○ Terminal A: approx. 10 V during FRESH and approx. 0.5 V during RECIRCULATE 	Yes	Go to Step 7.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.
	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR INTAKE ACTUATOR OR ELSEWHERE		

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4	<ul style="list-style-type: none"> • Disconnect the air intake actuator connector. • Measure the voltages at the following climate control unit terminals. <ul style="list-style-type: none"> ○ Terminal 10 (RECIRCULATE motor drive signal) ○ Terminal 1M (FRESH motor drive signal) (See <u>FRONT CLIMATE CONTROL UNIT INSPECTION</u> .) • Are voltages normal? 	Yes	Inspect the air intake actuator, then go to Step 9.
		No	Go to the next step.
5	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO B+ BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Disconnect the climate control unit connector. • Measure the voltages at the following climate control unit terminals. <ul style="list-style-type: none"> ○ Terminal 10 (RECIRCULATE motor drive signal) ○ Terminal 1M (FRESH motor drive signal) • Are voltages approx. 0 V? 	Yes	Go to the next step.
		No	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.
6	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (SHORT TO GROUND BETWEEN CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Turn the ignition switch to the LOCK position. • Inspect for continuity at the following terminals between the climate control unit and ground. <ul style="list-style-type: none"> ○ Terminal 10 (RECIRCULATE motor drive signal) ○ Terminal 1M (FRESH motor drive signal) • Is there continuity? 	Yes	Repair the wiring harness between the climate control unit and air intake actuator, then go to Step 9.
		No	Go to the next step.
7	<p>INSPECT AIR INTAKE LINK</p> <ul style="list-style-type: none"> • Inspect the air intake links for followings: <ul style="list-style-type: none"> ○ is there grease on link? ○ Are the links securely and properly installed? ○ Are the links free of obstructions and hindrances? • Are the above items normal? 	Yes	Go to the next step.
		No	Apply grease to the links. If any the links are damaged, replace the air intake actuator, then go to Step 9.
	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN</p>		

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8	CLIMATE CONTROL UNIT OR AIR INTAKE DOOR <ul style="list-style-type: none"> • Inspect the A/C unit air intake door. <ul style="list-style-type: none"> ○ Is the door free of obstructions, cracks, and damage? ○ Are the doors securely and properly installed? • Are the above items normal? 	Yes	Replace the climate control unit, then go to the next step.
		No	Remove obstruction, or install the doors in the proper position. If any doors are cracked or damaged, replace them, then go to the next step.
9	VERIFY REPAIR <ul style="list-style-type: none"> • Does the air intake mode change smoothly? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.4 NO TEMPERATURE CONTROL WITH FRONT CLIMATE CONTROL UNIT

NO.3 AIR INTAKE MODE FROM FRONT VENT DOES NOT CHANGE DESCRIPTION AND POSSIBLE CAUSE

4	No temperature control with front climate control unit
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in A/C unit and/or front climate control unit air mix system • Temperature does not change when switching front climate control unit temperature setting dial.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • A/C unit air intake link, air intake crank, air intake rod, air intake wire, wire clamp malfunction • Climate control unit rack-and-pinion, air intake wire malfunction • A/C unit air intake door malfunction • Heater piping malfunction

DIAGNOSTIC PROCEDURE

NO.3 AIR INTAKE MODE FROM FRONT VENT DOES NOT CHANGE DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT COOLANT TEMPERATURE	Yes	Go to the next step.
	<ul style="list-style-type: none"> • Is the engine at operating temperature? 	No	Warm up the engine, then go to Step 9.
	INSPECT A/C UNIT AIR INTAKE SYSTEM	Yes	Go to the next step.
	<ul style="list-style-type: none"> • Inspect the A/C unit air intake links, air intake cranks, air intake rods, air intake actuator, and wire clamp. 		

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2	<ul style="list-style-type: none"> ○ Is there grease on links and cranks? ○ Are links, cranks, and rods securely installed in their proper positions? ○ Is wire clamp free of deformation? ● Are the above items normal? 	No	Apply grease or install the links, cranks, and rods securely in their proper positions, repair or replace the air intake actuator or wire clamp, then go to Step 9.
3	<p>VERIFY THAT AIR INTAKE WIRE FROM A/C UNIT IS POSITIONED SECURELY AND CORRECTLY (IF AVAILABLE)</p> <ul style="list-style-type: none"> ● Is the air intake wire securely installed in the correct position in relation to the A/C unit air intake links? 	Yes	Go to the next step.
		No	Adjust the air intake wire or install securely in the correct position, then go to Step 9.
4	<p>INSPECT CLIMATE CONTROL UNIT</p> <ul style="list-style-type: none"> ● Is the climate control unit normal? 	Yes	Go to the next step.
		No	Repair or replace the climate control unit, then go to Step 9.
5	<p>INSPECT A/C UNIT</p> <ul style="list-style-type: none"> ● Is there any foreign material or obstruction in the A/C unit air intake doors? 	Yes	Remove obstruction, then go to Step 9.
		No	Go to the next step.
6	<p>INSPECT A/C UNIT AIR INTAKE DOOR</p> <ul style="list-style-type: none"> ● Is the A/C unit air intake door securely and properly installed? 	Yes	Inspect the air intake door for cracks or damage, then go to the next step.
		No	Install the air intake door securely in the proper position, then go to the next step.
7	<p>INSPECT WIRING HANESS BETWEEN CLIMATE CONTROL UNIT AND FRONT AIR MIX ACTUATOR</p> <ul style="list-style-type: none"> ● Disconnect the front climate control unit connector (24-pin, 16-pin). ● Inspect following wiring harness and connectors for open, short or poor connection of terminals. <ul style="list-style-type: none"> ○ Between terminals 1A (climate control unit) and G (driver-side front air mix actuator) ○ Between terminals 1F (climate control unit) and F (driver-side front air mix actuator) ○ Between terminals 2F (climate control unit) and E (driver-side front air mix actuator) ○ Between terminals 1C (climate control unit) and G (passenger-side 	Yes	Repair or replace malfunctioning part, then go to Step 9.

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	<p>front air mix actuator)</p> <ul style="list-style-type: none"> ○ Between terminals 1E (climate control unit) and F (passenger-side front air mix actuator) ○ Between terminals 2G (climate control unit) and E (passenger-side front air mix actuator) <ul style="list-style-type: none"> ● Is there any open, short or poor connection of terminals? 	No	Go to the next step.
8	<p>INSPECT HEATER LINE</p> <ul style="list-style-type: none"> ● Inspect the heater lines. <ul style="list-style-type: none"> ○ Is the heater piping free of damage and cracks? ○ Are the heater piping connections free of engine coolant leakage? ○ Are the heater piping connections securely tightened? ○ Are the heater piping installation points on A/C unit free of engine coolant leakage? ● Are the above items normal? 	Yes	Operation is normal. Recheck malfunction symptoms.
		No	If heater piping connections are loose, tighten the connections to the specified torque. Repair or replace the heater piping, then go to the next step.
9	<p>VERIFY REPAIR</p> <ul style="list-style-type: none"> ● Does the unit operate in every temperature setting? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.5 WINDSHIELD FOGGED

NO.5 WINDSHIELD FOGGED DESCRIPTION AND POSSIBLE CAUSE

5	Windshield fogged.
DESCRIPTION	<ul style="list-style-type: none"> ● Malfunction in A/C compressor control system and/or air intake mode switching system ● A/C compressor does not operate while airflow mode is DEFROSTER or HEAT/DEF modes. ● Air intake mode does not change to FRESH while airflow mode is in DEFROSTER or HEAT/DEF modes.
POSSIBLE CAUSE	<ul style="list-style-type: none"> ● Front climate control unit (B+ signal) system malfunction ● Air intake actuator malfunction ● Front climate control unit (RECIRCULATE, FRESH signal) system malfunction ● A/C unit air intake door malfunction

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- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

DIAGNOSTIC PROCEDURE

NO.5 WINDSHIELD FOGGED DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	COOL AIR BLOW OUT INSPECTION <ul style="list-style-type: none"> When both the A/C and fan switch in the front climate control unit are on, does cool air blow out from the front vent? 	Yes Go to the next step.
		No Go to Step 1 of troubleshooting index No.8.
2	INSPECT FRONT CLIMATE CONTROL UNIT POWER SUPPLY FUSE FOR B+ SIGNAL <ul style="list-style-type: none"> Is the front climate control unit power supply fuse for B+ signal normal? 	Yes Go to the next step.
		No Inspect for a short to ground on blown fuse circuit. Repair or replace if necessary. Install appropriate amperage fuse.
3	INSPECT AIR INTAKE ACTUATOR <ul style="list-style-type: none"> Inspect the air intake actuator for followings. <ul style="list-style-type: none"> Is there grease on the link? Is the link securely and properly positioned? Is the link free of obstructions? Are the above items normal? 	Yes Go to the next step.
		No Apply grease or install the link properly and securely, remove obstruction, then go to Step 14.
*4	INSPECT WIRING HARNESS BETWEEN FUSE BLOCK AND FRONT CLIMATE CONTROL UNIT FOR CONTINUITY <ul style="list-style-type: none"> Disconnect the front climate control unit connector (24-pin). Turn the ignition switch to the ON position. Measure the voltage at front climate control unit terminal 1B (B+ signal). Is the voltage approx. 12 V? 	Yes Go to the next step.
		No Repair the wiring harness between the fuse block and front climate control unit, then go to Step 14.
*5	INSPECT WIRING HARNESS BETWEEN FRONT CLIMATE CONTROL UNIT AND GROUND FOR VOLTAGE <ul style="list-style-type: none"> Measure the voltage at front climate control unit terminal 1X (Ground). Is the voltage approx. 0 V? 	Yes Go to the next step.
		No Repair the wiring harness between the front climate control unit and ground, then go to Step 14.

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6	<p>VERIFY WHETHER MALFUNCTION IS IN A/C UNIT AIR INTAKE DOOR OR ELSEWHERE</p> <ul style="list-style-type: none"> • Turn the ignition switch to the LOCK position. • Connect the climate control unit connector (24-pin). • Remove the air intake actuator. • Turn the ignition switch to the ON position. • Set the fan switch to 4th position. • Does the air intake mode (RECIRCULATE, FRESH) change smoothly when the air intake link is operated by hand? 	Yes	Go to the next step.
		No	Go to Step 12.
7	<p>INSPECT AIR INTAKE ACTUATOR</p> <ul style="list-style-type: none"> • Inspect the air intake actuator. (See <u>AIR INTAKE ACTUATOR INSPECTION</u>.) • Is it normal? 	Yes	Go to the next step.
		No	Replace the air intake actuator, go to Step 14.
8	<p>INSPECT AIR INTAKE SELECTOR SWITCH AND DEFROSTER SWITCH IN FRONT CLIMATE CONTROL UNIT</p> <ul style="list-style-type: none"> • Measure the voltage at front climate control unit connector (24-pin) terminals 1O and 1M. • Is it normal? 	Yes	Go to the next step.
		No	Replace the front climate control unit, then go to Step 14.
*9	<p>INSPECT WIRING HARNESS BETWEEN FRONT CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR CONTINUITY</p> <ul style="list-style-type: none"> • Turn the ignition switch to the LOCK position. • Is there continuity between the following front climate control unit terminals and air intake actuator terminals? <ul style="list-style-type: none"> ○ Terminal C - Terminal 10 (RECIRCULATE signal) ○ Terminal A - Terminal 1M (FRESH signal) 	Yes	Go to the next step.
		No	Repair the wiring harness between the front climate control unit and air intake actuator, then go to Step 14.
*10	<p>INSPECT WIRING HARNESS BETWEEN FRONT CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> • Is there continuity between the following front climate control unit terminals and ground? <ul style="list-style-type: none"> ○ Terminal 10 (RECIRCULATE signal) ○ Terminal 1M (FRESH signal) 	Yes	Repair the wiring harness between the front climate control unit and air intake actuator, then go to Step 14.
		No	Go to the next step.

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*11	INSPECT WIRING HARNESS BETWEEN FRONT CLIMATE CONTROL UNIT AND AIR INTAKE ACTUATOR FOR SHORT TO B+ <ul style="list-style-type: none"> • Turn the ignition switch to the ON position • Measure the voltage at the following front climate control unit terminals. <ul style="list-style-type: none"> ○ Terminal 10 (RECIRCULATE signal) ○ Terminal 1M (FRESH signal) • Is the voltage approx. 12 V? 	Yes	Repair the wiring harness between the front climate control unit and air intake actuator, then go to Step 14.
		No	Replace the front climate control unit, then go to Step 14.
12	INSPECT A/C UNIT AIR INTAKE DOOR <ul style="list-style-type: none"> • Is there any foreign material or obstruction in the A/C unit air intake door? 	Yes	Remove obstruction, then go to Step 14.
		No	Go to the next step.
13	VERIFY THAT A/C UNIT AIR INTAKE DOOR IS POSITIONED SECURELY AND PROPERLY <ul style="list-style-type: none"> • Is the A/C unit air intake door securely and properly positioned? 	Yes	Inspect the air intake door for cracks or damage, then go to the next step.
		No	Install the air intake door securely in the proper position, then go to the next step.
14	VERIFY REPAIR <ul style="list-style-type: none"> • Does the malfunction disappear? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.6 INSUFFICIENT AIR (OR NO AIR) BLOWN REAR VENTS

NO.6 INSUFFICIENT AIR (OR NO AIR) BLOWN REAR VENTS DESCRIPTION AND POSSIBLE CAUSE

6	Insufficient air (or no air) from rear vents
DESCRIPTION	<ul style="list-style-type: none"> • Problem with each rear vent and/or duct • Rear airflow mode does not change when front and/or rear climate control unit mode switches.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Rear vent mode malfunction • Rear heat mode malfunction • Rear airflow mode actuator malfunction • Open, short circuit in wiring or poor connection between front and rear climate control unit

DIAGNOSTIC PROCEDURE

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NO.6 INSUFFICIENT AIR (OR NO AIR) BLOWN REAR VENTS DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	INSPECT TO SEE WHETHER MALFUNCTION IS IN VENT MODE <ul style="list-style-type: none"> • Does air blow out when in the rear vent mode? 	Yes	Go to the Step 6.
		No	Go to the next step.
2	VERIFY THAT REAR HEATER CONTROL USING FRONT CLIMATE CONTROL UNIT <ul style="list-style-type: none"> • Turn the rear heater to ON and OFF using the front A/C control panel. • Is it possible that the rear heater turns ON and OFF using the front climate control unit? 	Yes	Go to Step 4.
		No	Go to the next step.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN FRONT AND REAR CLIMATE CONTROL UNIT) OR ELSEWHERE <ul style="list-style-type: none"> • Inspect for open, short or poor connection of terminals between front and rear climate control unit. <ul style="list-style-type: none"> ○ Terminal 3E (front)-terminal A (rear) ○ Terminal 3G (front)-terminal C (rear) ○ Terminal 3H (front)-terminal D (rear) ○ Terminal 3I (front)-terminal E (rear) ○ Terminal 3C (front)-terminal F (rear) • Is there any open, short or poor connection of terminals? 	Yes	Repair or replace malfunctioning part, then go to Step 10.
		No	Go to the next step.
4	INSPECT VENT <ul style="list-style-type: none"> • Is the vent clogged? 	Yes	Remove obstruction, then go to Step 10.
		No	Go to the next step.
5	VERIFY THAT REAR A/C DUCT IS INSTALLED <ul style="list-style-type: none"> • Is the rear A/C duct properly installed? 	Yes	Inspect the duct for clogging, deformation and air leakage, then go to Step 10.
		No	Install the duct securely in the proper position, then go to Step 10.
6	INSPECT TO SEE WHETHER MALFUNCTION IS IN REAR HEAT MODE <ul style="list-style-type: none"> • Does air blow out when in the rear heat mode? 	Yes	Go to the next step.
		No	Inspect the rear vent for clogging, then go to Step 10.
7	INSPECT REAR VENT <ul style="list-style-type: none"> • Is the rear vent clogged? 	Yes	Remove obstruction, then go to Step 10.
		No	Go to the next step.

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8	INSPECT REAR MODE ACTUATOR <ul style="list-style-type: none"> • (See <u>REAR AIRFLOW MODE ACTUATOR INSPECTION</u> .) • Is the rear airflow mode actuator normal? 	Yes	Go to the next step.
		No	Replace the rear airflow mode actuator, then go to Step 10.
9	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN FRONT AND REAR AIRFLOW MODE ACTUATOR) OR ELSEWHERE <ul style="list-style-type: none"> • Inspect for open, short or poor connection of terminals between front and rear airflow mode actuator. <ul style="list-style-type: none"> ○ Terminal 2P (front climate control unit)- terminal C (rear airflow mode actuator) ○ Terminal 2B (front climate control unit)- terminal A (rear airflow mode actuator) ○ Terminal 2D (front climate control unit)- terminal E (rear airflow mode actuator) ○ Terminal 1N (front climate control unit)- terminal F (rear airflow mode actuator) ○ Terminal 1L (front climate control unit)- terminal G (rear airflow mode actuator) • Is there any open, short or poor connection of terminals? 	Yes	Repair or replace malfunctioning part, then go to next step.
		No	Replace the front climate control unit, go to the next step.
10	VERIFY REPAIR <ul style="list-style-type: none"> • Does air blow from the rear A/C vent mode? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.7 AMOUNT OF AIR FROM REAR VENTS DOES NOT CHANGE

NO.7 AMOUNT OF AIR FROM REAR VENTS DOES NOT CHANGE DESCRIPTION AND POSSIBLE CAUSE

7	Amount of air from rear vents does not change
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in rear blower motor system • Amount of air blowing rear vents does not change when switching front and/or rear climate control unit airflow volume control dial.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Rear A/C unit malfunction • Rear blower motor malfunction • Rear power MOS FET malfunction

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- Rear climate control unit malfunction

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while doing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, inspect to make sure connectors, terminals and wiring harness are connected correctly and undamaged.

DIAGNOSTIC PROCEDURE

NO.7 AMOUNT OF AIR FROM REAR VENTS DOES NOT CHANGE DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT TO SEE WHETHER MALFUNCTION IS IN REAR A/C UNIT OR ELSEWHERE <ul style="list-style-type: none"> • Turn the ignition switch to the ON position. • Turn the rear fan switch the ON position. • Does the blower motor rotate smoothly? 	Yes Go to the next step.
		No Go to Step 3.
2	INSPECT REAR A/C UNIT INTAKE VENT <ul style="list-style-type: none"> • Is the rear A/C unit intake vent clogged? 	Yes Remove obstruction, then go to Step 13.
		No Inspect if there are any obstructions in the rear A/C unit passage, then go to Step 13.
3*	INSPECT TO SEE WHETHER MALFUNCTION IS IN REAR BLOWER RELAY SYSTEM OR REAR POWER MOS FET <ul style="list-style-type: none"> • Turn the ignition switch to ON position. • Turn the rear fan switch to OFF position. • Measure the voltage at the following rear blower motor terminal. <ul style="list-style-type: none"> ○ Terminal B (rear blower motor operation signal) • Is the voltage normal (B+)? 	Yes Go to the Step 7.
		No Go to the next step.
4*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN FUSE BLOCK AND REAR BLOWER RELAY) OR ELSEWHERE <ul style="list-style-type: none"> • Measure the voltage at the following rear relay terminals. <ul style="list-style-type: none"> ○ Terminal A (IG2 signal) ○ Terminal D (B+ signal) • Is the voltage approx. 12 V? 	Yes Go to the next step.
		No If the terminal A voltage is not normal, repair or replace wiring harness between A/C 7.5 A fuse and rear blower relay. If the terminal D voltage is not normal, repair or replace wiring harness between R.HEATER 40 A fuse and rear blower relay. Then go to Step 13.

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5*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN REAR BLOWER RELAY AND GROUND) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Measure the voltage at the following rear blower relay terminal. <ul style="list-style-type: none"> ○ Terminal E (GND signal) • Is the voltage approx. 0 V? 	Yes	Go to the next step.
		No	Repair or replace for open circuit between rear blower relay and GND, then go to Step 13.
6*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN REAR BLOWER RELAY AND REAR BLOWER MOTOR) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Measure the voltage at the following rear blower relay terminal. <ul style="list-style-type: none"> ○ Terminal B (blower motor operation signal) • Is the voltage approx. 12 V? 	Yes	Repair or replace for open or short circuit between rear blower relay and rear blower motor, then go to Step 13.
		No	Replace the rear blower relay, then go to Step 13.
7*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN REAR BLOWER MOTOR OR ELSEWHERE</p> <ul style="list-style-type: none"> • Measure the voltage at the following rear blower motor terminal. <ul style="list-style-type: none"> ○ Terminal A (blower motor operation signal) • Is the voltage approx. 12 V? 	Yes	Go to the next step.
		No	Replace the rear blower motor, then go to Step 13.
8*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN OR SHORT CIRCUIT BETWEEN REAR BLOWER MOTOR AND REAR POWER MOS FET) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Measure the voltage at the following rear power MOS FET terminal. <ul style="list-style-type: none"> ○ Terminal B (blower motor operation signal) • Is the voltage approx. 12 V? 	Yes	Go to the next step.
		No	Repair or replace for open or short circuit between rear blower motor and rear power MOS FET, then go to Step 13.
9*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN REAR POWER MOS FET AND GROUND) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Is there continuity at the following terminals? <ul style="list-style-type: none"> ○ Terminal (wiring harness-side connector) A-GND 	Yes	Go to the next step.
		No	Repair or replace for open circuit between rear power MOS FET and GND, then go to Step 13.
	<p>INSPECT REAR A/C UNIT</p>		

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10	<ul style="list-style-type: none"> • Inspect the fan in rear A/C unit. <ul style="list-style-type: none"> ○ Is the fan free of interference with the rear A/C unit case? ○ Is the fan free of foreign material and obstructions? • Is the fan normal? 	Yes	Go to the next step.
		No	Remove obstruction, repair or replace the fan blower unit case, then go to Step 13.
11*	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN CIRCUIT BETWEEN REAR POWER MOS FET AND CLIMATE CONTROL UNIT) OR ELSEWHERE</p> <ul style="list-style-type: none"> • Turn the ignition switch to LOCK position. • Disconnect the front climate control unit connector (24-pin). • Is there continuity following terminals at harness-side connector. <ul style="list-style-type: none"> ○ Terminal D (rear power MOS FET) and terminal 1T (front climate control unit) ○ Terminal C (rear power MOS FET) and terminal 1V (front climate control unit) 	Yes	Replace the rear power MOS FET, then go to the next step.
		No	Repair or replace for open circuit between the rear power MOS FET and the front climate control unit, then go to Step 13.
12	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN REAR POWER MOS FET OR ELSEWHERE</p> <ul style="list-style-type: none"> • Is the air discharged from rear vent after replace the rear power MOS FET? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Replace the front climate control unit, then go to the next step.
13	<p>VERIFY REPAIR</p> <ul style="list-style-type: none"> • Is the air discharged from rear vent? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.8 AIR FROM FRONT/REAR VENTS NOT COLD ENOUGH

NO.8 AIR FROM FRONT/REAR VENTS NOT COLD ENOUGH DESCRIPTION AND POSSIBLE CAUSE

8	Air from front/rear vents not cold enough.
DESCRIPTION	<ul style="list-style-type: none"> • Malfunction in A/C basic system • Magnetic clutch operates but A/C system malfunctions.
POSSIBLE	<ul style="list-style-type: none"> • Drive belt malfunction • A/C unit or condenser malfunction • Receiver/drier or expansion valve malfunction (valve closes too much)

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CAUSE	<ul style="list-style-type: none"> • Malfunction in refrigerant lines • A/C compressor system malfunction, insufficient compressor oil • Over filling of compressor oil, malfunction in expansion valve or A/C unit air mix link system
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DIAGNOSTIC PROCEDURE

NO.8 AIR FROM FRONT/REAR VENTS NOT COLD ENOUGH DIAGNOSTIC PROCEDURE

STEP	INSPECTION		ACTION
1	INSPECT DRIVE BELT <ul style="list-style-type: none"> • Inspect the drive belt. (See <u>DRIVE BELT INSPECTION [MZI-3.7]</u> .) <ul style="list-style-type: none"> • Is it normal? 	Yes	Go to the next step.
		No	Adjust or replace the drive belt, then go to Step 20. (See <u>DRIVE BELT REMOVAL/INSTALLATION [MZI-3.7]</u> .)
2	INSPECT REFRIGERANT SYSTEM PERFORMANCE <ul style="list-style-type: none"> • Perform refrigerant system performance test. (See <u>REFRIGERANT SYSTEM PERFORMANCE TEST</u> .) • Is the operation normal? 	Yes	Operation is normal. (Recheck malfunction symptoms.)
		No	Go to the next step.
3	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C UNIT INTAKE AND CONDENSER OR ELSEWHERE <ul style="list-style-type: none"> • Are the refrigerant high-pressure and low-pressure values both high? 	Yes	Go to the next step.
		No	Go to Step 6.
4	INSPECT A/C UNIT INTAKE <ul style="list-style-type: none"> • Is the A/C unit intake clogged? 	Yes	Remove obstruction, then go to Step 20. (If air does not reach the evaporator in the A/C unit, heat exchange does not occur and refrigerant pressure becomes high. Therefore, removal of obstruction is necessary.)
		No	Go to the next step.
5	INSPECT CONDENSER <ul style="list-style-type: none"> • Inspect the condenser. (See <u>CONDENSER INSPECTION</u> .)	Yes	Adjust refrigerant to the specified amount, then go to Step 20. (Excessive amount of refrigerant.)
		No	Replace the condenser, or repair and clean the

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	<ul style="list-style-type: none"> • Is it normal? 		condenser fins, then go to Step 20.
6	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE, RECEIVER/DRIER AND REFRIGERANT LINES OR ELSEWHERE</p> <ul style="list-style-type: none"> • Are the refrigerant high-pressure and low-pressure values low? 	Yes	Go to the next step.
		No	Go to Step 14.
7	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE AND RECEIVER/DRIER OR ELSEWHERE</p> <ul style="list-style-type: none"> • Immediately after the A/C compressor operates, does the refrigerant high-pressure value momentarily rise to correct value, then fall and stay below it? (Is there negative pressure on low-pressure side?) 	Yes	Go to the next step.
		No	Go to Step 10.
8	<p>INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE OR RECEIVER/DRIER</p> <ul style="list-style-type: none"> • Turn the A/C switch off and let the air conditioner stop for 10 min. • Start the engine. • Turn the both A/C switch and fan switch on. • Does the malfunction occur after the A/C compressor turns on? 	Yes	Go to the next step.
		No	Replace the condenser and vacuum the refrigerant line more than 30 min by the vacuum pump, add refrigerant to the specified level, then go to Step 20. (Since water has intermixed in the receiver/drier and it is saturated, replacement is necessary.)
9	<p>VERIFY THAT EXPANSION VALVE HEAT-SENSING TUBE WITHIN A/C UNIT IS POSITIONED SECURELY AND CORRECTLY</p> <ul style="list-style-type: none"> • Is the expansion valve heat-sensing tube in the A/C unit securely installed in the proper position? 	Yes	Replace the expansion valve, then go to Step 20. (Since the valve closes too much, replacement is necessary.)
		No	Install the heat-sensing tube securely in the proper position, then go to Step 20.
	<p>INSPECT REFRIGERANT LINE</p> <ul style="list-style-type: none"> • Inspect the refrigerant lines. <ul style="list-style-type: none"> ○ Is the piping free of damage and cracks? 	Yes	Go to the next step.

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10	<ul style="list-style-type: none"> ○ Are the piping connections free of oil grime? (Visual inspection) ○ Are the piping connections free of gas leakage? ○ Are the piping installation points on the condenser free of gas leakage? ○ Are the piping installation points on the receiver/drier free of gas leakage? ○ Are the piping installation points on the A/C compressor free of gas leakage? ○ Are the piping installation points on the A/C unit free of gas leakage? ○ Perform gas leakage inspection using a gas leak tester. <ul style="list-style-type: none"> ● Are the above items normal? 	No	<p>If the piping or A/C component (s) are damaged or cracked, replace them. Then go to Step 20.</p> <p>If there is no damage, go to Step 13.</p>
11	<p>INSPECT EVAPORATOR PIPING CONNECTION IN A/C UNIT FOR GAS LEAKAGE</p> <ul style="list-style-type: none"> ● Are piping the connections for the evaporator in the A/C unit free of gas leakage? 	Yes	<p>If the vane makes a noise, add 10 ml { 10 cc, 0.34 fl oz } of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Adjust refrigerant to the specified amount, then go to Step 20.</p>
		No	<p>If the piping is damaged or cracked, replace it. Then go to Step 20.</p> <p>If there is no damage, go to the next step.</p>
12	<p>INSPECT EVAPORATOR PIPING CONNECTION IN A/C UNIT FOR LOOSE</p> <ul style="list-style-type: none"> ● Are the piping connections for the evaporator in the A/C unit loose? 	Yes	<p>Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.</p>
		No	<p>If the vane makes a noise, add 10 ml { 10 cc, 0.34 fl oz } of compressor oil to the A/C compressor. Verify that the noise is no longer heard. Replace the O-ring on piping, adjust refrigerant to the specified amount, then go to Step 20.</p>
13	<p>INSPECT PIPING CONNECTION FOR LOOSE</p> <ul style="list-style-type: none"> ● Are the piping connections loose? 	Yes	<p>Tighten the connections to the specified torque, adjust both compressor oil and refrigerant to the specified amount, then go to Step 20.</p>
		No	<p>If the vane makes a noise, add 10 ml { 10 cc, 0.34 fl oz } of compressor oil to the A/C compressor. Verify that the noise is no longer heard.</p>

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			Replace O-ring on piping, adjust refrigerant to specified amount, then go to Step 20.
14	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE, AIR MIX ACTUATOR AND COMPRESSOR OIL OR ELSEWHERE <ul style="list-style-type: none"> Does the refrigerant high-pressure value hardly increase? 	Yes	Go to the next step. (Pressure hardly increases.)
		No	Go to Step 17.
15	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT AND A/C COMPRESSOR OR ELSEWHERE <ul style="list-style-type: none"> When the engine is racing, does the high-pressure value increase? 	Yes	Return to Step 3.
		No	Go to the next step.
16	INSPECT TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL AMOUNT OR A/C COMPRESSOR <ul style="list-style-type: none"> After compressor oil is replenished each 10 ml {10 cc, 0.34 fl oz} , does high-pressure value increase? 	Yes	Troubleshooting completed. (Explain to customer that cause was insufficient compressor oil.)
		No	Replace the A/C compressor, then go to Step 20. (Cause is defective A/C compressor.)
17	INSPECT TO SEE WHETHER MALFUNCTION IS IN EXPANSION VALVE OR ELSEWHERE <ul style="list-style-type: none"> Is only refrigerant low-pressure value high? 	Yes	Go to Step 19.
		No	Go to the next step.
	VERIFY THAT AIR MIX IS INSTALLED SECURELY AND PROPERLY	Yes	Set the fan switch to 4th position. Turn the A/C switch on. Set FRESH mode. Set temperature control to MAX COLD. Set VENT mode. 1. Start and run the engine at 1,500 rpm for 10 min. 2. Run the engine at idle for 1 min. 3. Within 12 s, idle -> 4,000 rpm -> idle. Perform cycle 5 times. 4. Run the engine at idle for 30 s. 5. Drain the compressor oil completely from the

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18	<ul style="list-style-type: none"> Are the front (driver and passenger side) and rear A/C unit air mix links, air mix cranks, and air mix rods securely and properly installed? 		<p>A/C compressor and verify the amount.</p> <ul style="list-style-type: none"> If there is approx. 90 ml {90 cc, 3.0 fl oz} of compressor oil, go to Step 20. If there is more than 90 ml {90 cc, 3.0 fl oz} of compressor oil, remove surplus oil and fill the A/C compressor with 90 ml {90 cc, 3.0 fl oz} of compressor oil. Repeat Steps (1) to (5). <p>(Cause is excessive amount of compressor oil.)</p>
		No	Repair or install the links, cranks and rods securely in the proper position, then go to Step 20.
19	<p>VERIFY THAT EXPANSION VALVE HEAT-SENSING TUBE WITHIN A/C UNIT IS POSITIONED SECURELY AND CORRECTLY</p> <ul style="list-style-type: none"> Is the expansion valve heat-sensing tube in the A/C unit securely installed in the proper position? 	Yes	Replace the expansion valve, then go to the next step. (Since the valve opens too much, replacement is necessary.)
		No	Install the heat-sensing tube securely in the proper position, then go to the next step.
20	<p>VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR</p> <ul style="list-style-type: none"> Does cool air blow out? (Are results of refrigerant system performance test normal?) 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if the malfunction recurs.

NO.9 NO COOL AIR FROM FRONT/REAR VENTS

NO.9 NO COOL AIR FROM FRONT/REAR VENTS DESCRIPTION AND POSSIBLE CAUSE

9	No cool air from front/rear vents
DESCRIPTION	<ul style="list-style-type: none"> Malfunction in A/C compressor control system Magnetic clutch does not operate when the A/C system is turned ON.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Malfunction in PCM A/C cut control system Malfunction in climate control unit Malfunction in refrigerant pressure switch Malfunction in PCM (A/C signal) Malfunction in PCM (IG1 signal) Malfunction in A/C compressor

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- Malfunction in A/C relay
- Malfunction in evaporator temperature sensor
- Malfunction in BCM unit

- When performing an asterisked (*) troubleshooting inspection, shake the wiring harness and connectors while performing the inspection to discover whether poor contact points are the cause of any intermittent malfunctions. If there is a problem, check to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.

DIAGNOSTIC PROCEDURE

NO.9 NO COOL AIR FROM FRONT/REAR VENTS DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION
1	INSPECT AIR FLOW FROM VENTS <ul style="list-style-type: none"> • Does air blow out? 	Yes Go to the next step.
		No Go to Step 1 of troubleshooting indexes No.1 and 2.
2	INSPECT A/C COMPRESSOR OPERATION <ul style="list-style-type: none"> • Start engine. • Turn A/C switch and fan switch on. • Does A/C compressor operate? 	Yes Go to Step 1 of troubleshooting index No.7.
		No Go to the next step.
3	INSPECT FOR DTC IN PCM <ul style="list-style-type: none"> • Inspect for DTCs related to the PCM onboard diagnostic system. • Are any DTCs displayed? 	Yes Go to appropriate inspection procedure.
		No Go to the next step.
4	INSPECT TO SEE WHETHER MALFUNCTION IS IN CLIMATE CONTROL UNIT OR ELSEWHERE <ul style="list-style-type: none"> • Does cool air blow out when terminal 1S of climate control unit connector (24-pin, A/C signal) is grounded? 	Yes Replace climate control unit, then go to Step 16.
		No Release short, then go to the next step.
5*	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C SIGNAL CIRCUIT (BETWEEN REFRIGERANT PRESSURE SWITCH AND PCM) OR ELSEWHERE <ul style="list-style-type: none"> • Test voltage at following terminal of refrigerant pressure switch. <ul style="list-style-type: none"> ○ Terminal B (A/C signal) • Is voltage approx. 12 V? 	Yes Go to Step 7.
		No Go to the next step.

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6*	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (BETWEEN REFRIGERANT PRESSURE SWITCH AND PCM) OR PCM <ul style="list-style-type: none"> • Test voltage at A/C signal terminal of PCM. • Is voltage approx. 12 V? 	Yes	Repair wiring harness between PCM and refrigerant pressure switch, then go to Step 16.
		No	Inspect PCM, then go to Step 16.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN REFRIGERANT PRESSURE SWITCH, REFRIGERANT AMOUNT, OR ELSEWHERE <ul style="list-style-type: none"> • Does cool air blow out when terminals B and C of refrigerant pressure switch connector are shorted? 	Yes	Go to the next step.
		No	Go to Step 9.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN REFRIGERANT PRESSURE SWITCH OR REFRIGERANT AMOUNT <ul style="list-style-type: none"> • Inspect refrigerant pressure switch. • Is it okay? 	Yes	If refrigerant amount is empty, replace condenser, vacuum refrigerant line more than 30 min by vacuum pump, and add refrigerant to specified level, then go to Step 16.
		No	Replace refrigerant pressure switch, then go to Step 16.
9	INSPECT TO SEE WHETHER MALFUNCTION (SHORT CIRCUIT) IS IN A/C CONTROL SIGNAL CIRCUIT (BETWEEN A/C RELAY AND PCM) OR ELSEWHERE <ul style="list-style-type: none"> • Does cool air blow out when terminal A of A/C relay connector (A/C control signal) is grounded? 	Yes	Release short, then go to the next step.
		No	Go to Step 11.
10*	INSPECT TO SEE WHETHER MALFUNCTION (OPEN OR SHORT CIRCUIT) IS IN PCM OR WIRING HARNESS (BETWEEN A/C RELAY AND PCM) <ul style="list-style-type: none"> • Test voltage at the A/C relay control signal terminal of PCM. • Is voltage approx. 12 V? 	Yes	Inspect PCM, then go to Step 16.
		No	Repair wiring harness between A/C relay and PCM, then go to Step 16.
11*	INSPECT TO SEE WHETHER MALFUNCTION IS IN MAGNETIC CLUTCH OR ELSEWHERE <ul style="list-style-type: none"> • Test voltage at the following terminal of magnetic clutch thermal protector. 	Yes	Inspect magnetic clutch, then go to Step 16.

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	<ul style="list-style-type: none"> ○ Terminal B (magnetic clutch operation signal) ● Is voltage approx. 12 V? 	No	Go to the next step.
12	INSPECT FUSE <ul style="list-style-type: none"> ● Are A/C relay power supply fuses okay? 	Yes	Go to the next step.
		No	Replace fuse, then go to Step 16. If fuse burns out immediately, go to the next step.
13	INSPECT WIRING HARNESS BETWEEN FUSE BLOCK AND A/C RELAY FOR LACK OF CONTINUITY <ul style="list-style-type: none"> ● Test voltages at following terminals of A/C relay. <ul style="list-style-type: none"> ○ Terminal E (A/C relay control signal) ○ Terminal C (A/C control signal) ● Are voltages approx. 12 V? 	Yes	Go to the next step.
		No	Repair wiring harness between fuse block and A/C relay, then go to Step 16.
14	INSPECT TO SEE WHETHER MALFUNCTION IS IN A/C RELAY OR WIRING HARNESS (BETWEEN A/C RELAY AND MAGNETIC CLUTCH) AND EVAPORATOR TEMPERATURE SENSOR <ul style="list-style-type: none"> ● Test voltage at the following terminal of A/C relay. <ul style="list-style-type: none"> ○ Terminal D (magnetic clutch operation signal) ● Is voltage approx. 12 V? 	Yes	Inspect wiring harness between A/C relay and magnetic clutch. <ul style="list-style-type: none"> ● If above wiring harness is OK, go to the next step. ● If above wiring harness malfunctions, repair wiring harness, then go to Step 16.
		No	Replace A/C relay, then go to Step 16.
15	INSPECT EVAPORATOR TEMPERATURE SENSOR <ul style="list-style-type: none"> ● Inspect evaporator temperature sensor. ● Is it okay? 	Yes	Go to the next step.
		No	Replace evaporator temperature sensor, then go to the next step.
16	VERIFY REPAIR <ul style="list-style-type: none"> ● Does cool air blow out from front/rear vents? (Are the results of refrigerant system performance test okay?) 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

NO.10 NOISE WHILE OPERATING A/C SYSTEM.

NO.10 NOISE WHILE OPERATING A/C SYSTEM DESCRIPTION AND POSSIBLE CAUSE

10	Noise while operating A/C system.
	<ul style="list-style-type: none"> ● Problem with A/C basic system installation

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DESCRIPTION	<ul style="list-style-type: none"> • Noise from magnetic clutch, A/C compressor, hose or refrigerant line.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Magnetic clutch operation noise • A/C compressor vane noise • A/C compressor slippage noise • Hose or refrigerant line interference noise

DIAGNOSTIC PROCEDURE

NO.10 NOISE WHILE OPERATING A/C SYSTEM DIAGNOSTIC PROCEDURE

STEP	INSPECTION		ACTION
1	CHECK A/C COMPRESSOR VANE NOISE <ul style="list-style-type: none"> • Is there a jingling, popping, beeping, or buzzing sound (A/C compressor vane noise)? 	Yes	Go to Step 5.
		No	Go to the next step.
2	INSPECT A/C COMPRESSOR SLIPPAGE NOISE <ul style="list-style-type: none"> • Is there a squeaking or whirling sound (A/C compressor slippage noise)? 	Yes	Go to Step 14.
		No	Go to the next step.
3	INSPECT A/C COMPRESSOR INTERFERENCE NOISE <ul style="list-style-type: none"> • Is there a rattling or vibrating sound (interference noise)? 	Yes	Go to Step 18.
		No	Go to the next step.
4	INSPECT MAGNETIC CLUTCH OPERATION NOISE <ul style="list-style-type: none"> • Is there a clicking sound (magnetic clutch operation noise)? 	Yes	Adjust clearance between pressure plate of magnetic clutch and A/C compressor pulley, then go to Step 19. (See <u>MAGNETIC CLUTCH ADJUSTMENT</u> .)
		No	Condition is normal. (Recheck malfunction symptoms.)
5	INSPECT A/C COMPRESSOR NOISE TIME <ul style="list-style-type: none"> • Is noise heard continuously for more than 3 s after A/C compressor comes on? 	Yes	Go to the next step.
		No	Condition is normal. (Noise occurs for 2-3 s immediately after A/C compressor turns on.)
	INSPECT IDLE SPEED <ul style="list-style-type: none"> • Inspect idle speed. 	Yes	Go to the next step.

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6	<p>(See ENGINE TUNE-UP [MZI-3.7] .)</p> <ul style="list-style-type: none"> • Is it okay? 	No	Follow the repair instruction described in section 01, then go to Step 19.
7	<p>INSPECT REFRIGERANT AMOUNT</p> <ul style="list-style-type: none"> • Inspect refrigerant amount. • Is it okay? 	Yes	Go to Step 10.
		No	Go to the next step.
8	<p>INSPECT REFRIGERANT LINES</p> <ul style="list-style-type: none"> • Inspect refrigerant lines. <ul style="list-style-type: none"> ○ Is piping free of damage and cracks? ○ Are piping connections free of oil grime? (Visual inspection) ○ Are piping connections free of gas leakage? ○ Are piping installation points on condenser free of gas leakage? ○ Are piping installation points on receiver/drier free of gas leakage? ○ Are piping installation points on A/C compressor free of gas leakage? ○ Are piping installation points on A/C unit free of gas leakage? ○ Perform gas leak inspection using gas leak tester. • Are above items okay? 	Yes	Go to the next step.
		No	<p>If piping or A/C component(s) is damaged or cracked, replace then go to Step 19.</p> <p>If there is gas leakage, repair or replace connection and replace condenser⁽¹⁾, then go to Step 19.</p>
9	<p>INSPECT EVAPORATOR PIPING CONNECTIONS IN A/C UNIT FOR GAS LEAKAGE</p> <ul style="list-style-type: none"> • Are piping connections for evaporator in A/C unit free of gas leakage? 	Yes	Adjust refrigerant amount to specified level, then go to Step 19.
		No	If piping is damaged or cracked, replace then go to Step 19. If there is gas leakage, repair or replace connection and replace condenser ⁽¹⁾ , then go to Step 19.
10	<p>CHECK TO SEE WHETHER MALFUNCTION IS IN COMPRESSOR OIL OR ELSEWHERE</p> <ul style="list-style-type: none"> • Add 20 ml {20 cc, 0.8 fl oz} of 	Yes	Go to the next step.
		No	Troubleshooting completed.

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	compressor oil.		Explain repair to customer.
	<ul style="list-style-type: none"> Is noise heard when racing engine? 		
11	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE <ul style="list-style-type: none"> Drain compressor oil. Is it contaminated with metal particles? 	Yes	Go to the next step.
		No	Replace A/C compressor, then go to Step 19.
12	CHECK TO SEE WHETHER MALFUNCTION IS SOMEWHERE IN A/C SYSTEM OR ELSEWHERE <ul style="list-style-type: none"> Is compressor oil whitish and mixed with water? 	Yes	Replace entire A/C system (excluding heater), then go to Step 19.
		No	Go to the next step.
13	INSPECT A/C COMPRESSOR OIL <ul style="list-style-type: none"> Is compressor oil darker than normal and contaminated with aluminum chips? 	Yes	Replace A/C compressor and condenser, then go to Step 19. (Since A/C compressor may be worn and receiver/drier may be clogged, replacement of receiver/drier is necessary.)
		No	Condition is normal. Recheck malfunction symptoms.
14	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR ELSEWHERE <ul style="list-style-type: none"> Is noise heard immediately after A/C compressor is stopped? 	Yes	Replace A/C compressor, then go to Step 19. (A/C compressor discharge valve left open)
		No	Go to the next step.
15	INSPECT DRIVE BELT <ul style="list-style-type: none"> Inspect drive belt. (See <u>DRIVE BELT INSPECTION [MZI-3.7]</u> .) <ul style="list-style-type: none"> Is it okay? 	Yes	Go to the next step.
		No	Adjust or replace drive belt, then go to Step 19.
16	INSPECT DRIVE BELT CONDITION <ul style="list-style-type: none"> Is drive belt worn? Does it have foreign material imbedded in it, or have oil on it? 	Yes	Remove obstruction, remove oil, or replace drive belt, then go to Step 19.
		No	Go to the next step.
17	INSPECT MAGNETIC CLUTCH <ul style="list-style-type: none"> Inspect magnetic clutch. (See MAGNETIC CLUTCH	Yes	Replace A/C compressor (excluding pressure plate, A/C compressor pulley, and stator), then go to Step 19.

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	<u>INSPECTION</u> .)	No	Replace magnetic clutch, then go to Step 19.
	<ul style="list-style-type: none"> • Is it okay? 		
18	CHECK TO SEE WHETHER MALFUNCTION IS IN A/C COMPRESSOR OR REFRIGERANT LINES <ul style="list-style-type: none"> • Is noise emitted from A/C compressor? 	Yes	Visually inspect A/C compressor, replace appropriate parts if necessary, then go to the next step.
		No	If noise is due to refrigerant lines, repair detached or missing clips, tighten loose bolts, then go to the next step.
19	VERIFY THAT MALFUNCTION SYMPTOM OCCURS AFTER REPAIR <ul style="list-style-type: none"> • Has A/C compressor noise stopped? 	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.
<p>(1) If there is gas leakage, air enters into the A/C system. The desiccant within the receiver/drier absorbs the moisture from the air and becomes saturated. If the A/C system is used in this condition, the inside of the A/C compressor will begin to rust due to this moisture, which may cause lock up or noise to occur. Therefore, replacement of the receiver/drier is necessary.</p>			

NO.11 DUAL A/C CONTROL DOES NOT OPERATE

NO.11 DUAL A/C CONTROL DOES NOT OPERATE DESCRIPTION AND POSSIBLE CAUSE

11	Dual A/C control function does not operate
DESCRIPTION	<ul style="list-style-type: none"> • Driver or passenger-side temperature control does not operate individually
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Driver-side air mix door malfunction (stuck) • Passenger-side air mix door malfunction (stuck) • driver-side front air mix actuator malfunction • Passenger-side front air mix actuator malfunction • Driver-side front air mix actuator position sensor malfunction • Passenger-side front air mix actuator position sensor malfunction • Open, short circuit in wiring or poor connection between front climate control unit and driver-side front air mix actuator • Open, short circuit in wiring or poor connection between front climate control unit and passenger-side front air mix actuator • Open, short circuit in wiring or poor connection between front climate control unit and driver-side front air mix actuator position sensor • Open, short circuit in wiring or poor connection between front climate control unit and passenger-side front air mix actuator position sensor • Front climate control unit malfunction

DIAGNOSTIC PROCEDURE

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NO.11 DUAL A/C CONTROL DOES NOT OPERATE DIAGNOSTIC PROCEDURE

STEP	INSPECTION	ACTION	
1	CHECK SYMPTOM <ul style="list-style-type: none"> • Turn on the front A/C. • Perform the dual A/C control function for driver and passenger-side individually. • Is it either of cannot the temperature control on driver seat side or front passenger seat side? 	Yes	Go to the next step.
		No	Go to Step 8.
2	INSPECT TO SEE WHETHER MALFUNCTION IS IN AIR MIX DOOR OR ELSEWHERE <ul style="list-style-type: none"> • Turn on the front A/C • Change temperature control for suspect side seat at the dual mode. • Does the suspect side air mix door move smoothly? 	Yes	Go to the next step.
		No	Go to Step 6.
3	INSPECT AIR MIX DOOR <ul style="list-style-type: none"> • Inspect the suspect side air mix door. <ul style="list-style-type: none"> ○ Is the fan free of interfere with the suspect side A/C unit case? ○ Is the fan free of foreign material and obstruction? • Is the air mix door normal? 	Yes	Go to the next step.
		No	Remove the obstruction or replace the suspect side A/C unit case, then go to Step 9.
4	INSPECT FRONT AIR MIX ACTUATOR <ul style="list-style-type: none"> • Inspect the suspect side front air mix actuator. • Is the front air mix actuator normal? 	Yes	Go to the next step.
		No	Replace the suspect front air mix actuator, then go to Step 9.
5	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR AND FRONT CLIMATE CONTROL UNIT) OR ELSEWHERE <ul style="list-style-type: none"> • Inspect for open, short or poor connection of terminals between the suspect front air mix actuator and front climate control unit. <ul style="list-style-type: none"> ○ Terminal 1A (front climate control unit)- terminal G (driver-side front air mix actuator) ○ Terminal 1F (front climate control unit)- terminal F (driver-side front air mix actuator) ○ Terminal 1E (front climate control unit)- terminal F (passenger-side front air mix actuator) ○ Terminal 1C (front climate control unit)- terminal G 	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the front climate control unit, then go to Step 9.

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	(passenger-side front air mix actuator)		
	<ul style="list-style-type: none"> • Is there any open, short or poor connection of terminals? 		
6*	INSPECT FRONT AIR MIX ACTUATOR POSITION SENSOR <ul style="list-style-type: none"> • Inspect the suspect side front air mix actuator position sensor. • Is the front air mix actuator position sensor normal? 	Yes	Go to the next step.
		No	Replace the suspect front air mix actuator position sensor, then go to Step 9.
7	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN AIR MIX ACTUATOR POSITION SENSOR AND FRONT CLIMATE CONTROL UNIT) OR ELSEWHERE <ul style="list-style-type: none"> • Inspect for open, short or poor connection of terminals between the suspect front air mix actuator position sensor and front climate control unit. <ul style="list-style-type: none"> ○ Terminal 2F (front climate control unit)- terminal E (driver-side front air mix actuator position sensor) ○ Terminal 2G (front climate control unit)- terminal E (passenger-side front air mix actuator position sensor) ○ Terminal 2B (front climate control unit)- terminal A (each side front air mix actuator position sensor) ○ Terminal 2P (front climate control unit)- terminal C (each side front air mix actuator position sensor) • Is there any open, short or poor connection of terminals? 	Yes	Repair or replace malfunction part, then go to Step 9.
		No	Replace the front climate control unit, then go to Step 9.
8	INSPECT TO SEE WHETHER MALFUNCTION IS IN WIRING HARNESS (OPEN, SHORT OR POOR CONNECTION OF TERMINALS BETWEEN FRONT CLIMATE CONTROL UNIT AND AIR MIX ACTUATOR POSITION SENSOR) OR ELSEWHERE <ul style="list-style-type: none"> • Inspect for open, short or poor connection of terminals between the front climate control unit and front air mix actuator position sensor. <ul style="list-style-type: none"> ○ Terminal 2B (front climate control unit)- terminal A (each front air mix actuator position sensor) ○ Terminal 2P (front climate control unit)- terminal C (each front air mix actuator position sensor) • Is there any open, short or poor connection of terminals? 	Yes	Repair or replace malfunction part, then go to the next step.
		No	Replace the front climate control unit, then go to the step.
9	CONFIRM THAT MALFUNCTION SYMPTOMS DOES NOT RECUR AFTER REPAIR	Yes	Troubleshooting completed. Explain repairs to customer.
			Recheck malfunction

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- Does the temperature adjust individually for driver seat and front passenger seat?

No

symptoms, then repeat from Step 1 if malfunction recurs.