

TROUBLESHOOTING

TROUBLESHOOTING

FOREWORD

- Refer to section GI. Thoroughly read and understand the basic flow of troubleshooting in order to properly perform the procedures.
- 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, check to make sure connectors, terminals and wiring harnesses are connected correctly and undamaged.
- The areas for inspection (steps) are given according to various circuit malfunctions. Use the chart below to verify the symptoms of the trouble in order to diagnose the appropriate area.

TROUBLESHOOTING INDEX

No.	Malfunction symptom
1	Insufficient blown air volume and/or no blown air depending on airflow mode.
2	No blown air in any airflow mode. Blown air volume does not change at any fan speed.
3	Airflow mode does not change.
4	Improper air circulation and/or no air circulation.
5	No temperature control.(For climate control unit without variable thermistor only)
6	Air from vent not cold enough.
7	No cool air.
8	Noise while operating A/C system.

SYMPTOM TROUBLESHOOTING

1	Insufficient blown air volume and/or no blown air depending on airflow mode.		
TROUBLESHOOTING HINTS 1 Malfunction in VENT mode system Steps 1—4 2 Malfunction in HEAT mode system Step 5 3 Malfunction in DEFROSTER mode system Steps 6—8			
STEP	INSPECTION		ACTION
1	When airflow mode control dial is operated, is appropriate resistance felt and can it be moved throughout its full range?	Yes	Go to next step.
		No	Go to Step 1 of troubleshooting index No. 3.
2	Does air blow out when in VENT mode?	Yes	Go to Step 5.
		No	Go to next step.
3	Is vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to next step.
4	Is duct in dashboard properly installed?	Yes	Inspect duct for clogging, deformity and air leakage, then go to Step 9.
		No	Install duct securely in the proper position, then go to Step 9.
5	Does air blow out when in HEAT mode?	Yes	Go to next step.
		No	Inspect vent for clogging, then go to Step 9.
6	Does air blow out when in DEFROSTER mode?	Yes	Operation is okay. Recheck malfunction symptoms.
		No	Go to next step.
7	Is vent clogged?	Yes	Remove obstruction, then go to Step 9.
		No	Go to next step.
8	Is defroster duct properly installed?	Yes	Inspect duct for clogging, deformity, and air leakage, then go to next step.
		No	Install duct securely in the proper position, then go to next step.

CONTROL SYSTEM

STEP	INSPECTION		ACTION
9	Does air blow out?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

2	No blown air in any airflow mode. Blown air volume does not change at any fan speed.		
TROUBLESHOOTING HINTS			
1 Blower motor, resistor, fan switch malfunction Step 1			
2 Blower unit malfunction Steps 2—4			
STEP	INSPECTION		ACTION
1	Inspect the following systems and electrical parts: • Blower motor, resistor, fan switch. Are they okay?	Yes	Go to next step.
		No	Repair or replace malfunctioning part, then go to Step 5.
2	Turn ignition switch to ON position. Turn fan switch on. Is noise coming from blower unit?	Yes	Go to next step.
		No	Go to Step 4.
3	Inspect fan in blower unit. • Is fan free of interference from blower unit case? • Is fan free of foreign material and obstructions? Is fan okay?	Yes	Go to next step.
		No	Remove obstruction, repair or replace fan and blower unit case, then go to Step 5.
4	Is blower unit intake vent clogged?	Yes	Remove obstruction, then go to next step.
		No	Inspect if there are any obstructions in passage between blower unit and heater unit, then go to next step.
5	Does air blow out?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

3	Airflow mode does not change.		
TROUBLESHOOTING HINTS			
1 Malfunction in heater unit's airflow mode main link, airflow mode rod, airflow mode cranks, airflow mode sub link, airflow mode wire or wire clamp Steps 1, 2			
2 Bevel gear set (2) in climate control unit, airflow mode wire or wire clamp malfunction Step 3			
3 Malfunction in one or more heater unit doors Steps 4, 5			
STEP	INSPECTION		ACTION
1	Inspect heater unit's airflow mode main link, airflow mode rod, airflow mode cranks, airflow mode sub links, airflow mode wire and wire clamp. - Is there grease on airflow mode main link, airflow mode cranks and airflow mode sub links? - Are airflow mode main link, airflow mode rod, airflow mode cranks, and airflow mode sub links installed securely and in the proper position? - Is wire clamp free of deformation? Are above items all okay?	Yes	Go to next step.
		No	Apply grease or install airflow mode main link, airflow mode rod, airflow mode cranks and airflow mode sub links securely in their proper positions, repair wire clamp, then go to Step 6.

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STEP	INSPECTION		ACTION
2	Is airflow mode wire positioned securely and correctly in relation to the heater unit's airflow mode main link?	Yes	Go to next step.
		No	Adjust airflow mode wire or install it correctly, then go to Step 6.
3	Inspect climate control unit. - Is bevel gear set properly engaged? - Is airflow mode wire properly installed in correct direction on bevel gear? - Is wire clamp free of deformation? Are above items okay?	Yes	Go to next step.
		No	Properly engage bevel gear set or install airflow mode wire in correct direction, repair or replace wire clamp, then go to Step 6.
4	Is there any foreign material or obstruction in any of heater unit's doors?	Yes	Remove obstruction, then go to Step 6.
		No	Go to next step.
5	Are all doors within heater unit securely and properly positioned?	Yes	Inspect each door for cracks or damage, then go to next step.
		No	Install malfunction doors securely in proper position, then go to next step.
6	Does airflow mode change?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

4	Improper air circulation and/or no air circulation.		
TROUBLESHOOTING HINTS			
1 Malfunction in blower unit's air intake crank, air intake link, air intake wire or wire clamp Steps 1, 2			
2 Climate control unit air intake wire or wire clamp malfunction Step 3			
3 Blower unit air intake door malfunction Steps 4, 5			
STEP	INSPECTION		ACTION
1	Inspect blower unit's air intake crank, air intake link and wire clamp. ● Is there grease on air intake crank and air intake link? ● Are air intake crank and air intake link securely and properly positioned? ● Is wire clamp free of deformation? Are above items okay?	Yes	Go to next step.
		No	Apply grease or install air intake crank and air intake link properly and securely, repair wire clamp, then go to Step 6.
2	Is air intake wire positioned securely and correctly in relation to the blower unit's air intake link?	Yes	Go to next step.
		No	Adjust air intake wire or install securely in correct position, then go to Step 6.
3	Inspect climate control unit. ● Is air intake wire properly installed in correct direction in relation to the air intake lever of climate control unit? ● Is wire clamp free of deformation? Are above items okay?	Yes	Go to next step.
		No	Install air intake wire securely in correct position, repair or replace wire clamp, then go to Step 6.
4	Is there any foreign material or obstruction in blower unit's air intake door?	Yes	Remove obstruction, then go to Step 6.
		No	Go to next step.
5	Is blower unit's air intake door securely and properly positioned?	Yes	Inspect air intake door for cracks or damage, then go to next step.
		No	Install air intake door securely in proper position, then go to next step.
6	Does air circulate?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

CONTROL SYSTEM

5	No temperature control.(Without variable thermistor in climate control unit only)		
TROUBLESHOOTING HINTS			
1 Malfunction in heater unit's air mix rod, air mix link, air mix cranks, air mix shaft, air mix wire or wire clamp Steps 2, 3			
2 Bevel gear set (2) in climate control unit, air mix wire or wire clamp malfunction Step 4			
3 Heater unit air mix door malfunction Steps 5, 6			
STEP	INSPECTION		ACTION
1	Is coolant sufficiently warmed up?	Yes	Go to next step.
		No	Warm engine up, then go to Step 7.
2	Inspect heater unit's air mix rod, air mix link, air mix cranks, air mix shaft and wire clamp. - Is there grease on air mix rod, air mix link and air mix cranks? - Are air mix rod, air mix link, air mix cranks, and air mix shaft securely installed in their proper positions? - Is wire clamp free of deformation? Are above items okay?	Yes	Go to next step.
		No	Apply grease or install air mix rod, air mix link, air mix cranks, and air mix shaft securely in their proper positions, repair wire clamp, then go to Step 7.
3	Is air mix wire securely installed in the correct position in relation to heater unit's air mix link?	Yes	Go to next step.
		No	Adjust air mix wire or install securely in correct position, then go to Step 7.
4	Inspect climate control unit. - Is bevel gear set properly engaged? - Is air mix wire properly installed in correct position in relation to bevel gear? - Is wire clamp free of deformation? Are above items okay?	Yes	Go to next step.
		No	Properly engage bevel gear set or install air mix wire in correct position, repair or replace wire clamp, then go to Step 7.
5	Is there any foreign material or obstruction in heater unit's air mix door?	Yes	Remove obstruction, then go to Step 7.
		No	Go to next step.
6	Is heater unit's air mix door securely and properly installed?	Yes	Inspect door for cracks or damage, then go to next step.
		No	Install door securely in proper position, then go to next step.
7	Does unit operate in every temperature setting?	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

6	Air from vent not cold enough.
TROUBLESHOOTING HINTS 1 Drive belt malfunction Step 1 2 Malfunction in blower unit or condenser Steps 4, 5 3 Malfunction in receiver/drier or expansion valve (valve closes too much) Steps 8, 9 4 Malfunction in refrigerant lines Steps 10, 11 5 Malfunction in piping connections Steps 1, 2, 13 6 A/C compressor system malfunction, insufficient compressor oil Steps 15, 16 7 Compressor oil over-full, malfunction in expansion valve or heater unit air mix link system Steps 17—20	

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STEP	INSPECTION		ACTION
1	Inspect drive belt. + Section B1, DRIVE BELT, DRIVE BELT INSPECTION + Section B2, DRIVE BELT, DRIVE BELT INSPECTION + Section B3, DRIVE BELT, DRIVE BELT INSPECTION Is it okay?	Yes	Go to next step.
		No	Adjust or replace drive belt, then go to Step 21. + Section B1, DRIVE BELT, DRIVE BELT ADJUSTMENT + Section B2, DRIVE BELT, DRIVE BELT ADJUSTMENT + Section B3, DRIVE BELT, DRIVE BELT ADJUSTMENT
2	Carry out refrigerant system performance test. + REFRIGERANT SYSTEM SERVICE PROCEDURES, PERFORMANCE TEST Is operation normal?	Yes	Operation is normal. (Recheck malfunction symptoms.)
		No	Go to next step.
3	Are refrigerant's high-pressure and low-pressure values both high?	Yes	Go to next step.
		No	Go to Step 6.
4	Is blower unit intake clogged?	Yes	Remove obstruction, then go to Step 21. (If air does not reach evaporator within cooling unit, heat exchange does not occur and refrigerant pressure rises. Therefore, removal of obstruction is necessary.)
		No	Go to next step.
5	Inspect condenser. + BASIC SYSTEM, CONDENSER INSPECTION Is it okay?	Yes	Add or subtract refrigerant to make specified amount, then go to Step 21. (Excessive amount of refrigerant.)
		No	Replace condenser, or repair and clean condenser fins, then go to Step 21.
6	Are refrigerant's high-pressure and low-pressure values both low?	Yes	Go to next step.
		No	Go to Step 14.
7	Immediately after A/C compressor operates, does refrigerant's 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 next step.
		No	Go to Step 10.
8	Turn A/C switch off and let air conditioner stop for 10 minutes . Start engine. Turn both A/C switch and fan switch on. Does malfunction occur after A/C compressor turns on?	Yes	Go to next step.
		No	Start vacuum pump for 30 minutes and replace receiver/drier, then go to Step 21. (Since receiver/drier has become saturated with water, replacement is necessary.)
9	Is expansion valve heat-sensing tube within cooling unit securely installed in proper position?	Yes	Replace expansion valve, then go to Step 21. (Since valve closes too much, replacement is necessary.)
		No	Install heat-sensing tube securely in proper position, then go to Step 21.
10	Inspect refrigerant lines. ● 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 cooling unit free of gas leakage? *Perform gas leak inspection using gas leak tester. Are above items okay?	Yes	Go to next step.
		No	If piping or an A/C component is damaged or cracked, replace it. Then go to Step 21. If there is no damage, go to Step 13.

CONTROL SYSTEM

STEP	INSPECTION		ACTION
11	Are piping connections for evaporator in cooling unit free of gas leakage?	Yes	If the A/C compressor is making noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil and verify that malfunction does not occur. Add or subtract refrigerant to make specified amount, then go to Step 21.
		No	If piping is damaged or cracked, replace it. Then go to Step 21. If there is no damage, go to next step.
12	Are piping connections for evaporator in cooling unit loose?	Yes	Tighten connections to specified torque. If the A/C compressor is making noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil and verify that malfunction does not occur. Tighten connections to specified torque, add or subtract refrigerant to make specified amount, then go to Step 21.
		No	If the A/C compressor is making noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil and verify that malfunction does not occur. Replace O-ring on piping, add or subtract refrigerant to make specified amount, then go to Step 21.
13	Are piping connections loose?	Yes	Tighten connections to specified torque. If the A/C compressor is making noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil and verify that malfunction does not occur. Tighten connections to specified torque, add or subtract refrigerant to make specified amount, then go to Step 21.
		No	If the A/C compressor is making noise, add 10 ml {10 cc, 0.34 fl oz} of compressor oil and verify that malfunction does not occur. Replace O-ring on piping, add or subtract refrigerant to make specified amount, then go to Step 21.
14	Does refrigerant's high-pressure value hardly increase?	Yes	Go to next step. (Pressure hardly increases.)
		No	Go to Step 17.
15	When engine is racing, does high-pressure value increase?	Yes	Return to Step 3.
		No	Go to next step.
16	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 A/C compressor, then go to Step 21. (Cause is defective A/C compressor.)
17	Is only refrigerant low-pressure value high?	Yes	Go to Step 20.
		No	Go to next step.
18	Are heater unit's air mix rod, air mix link, air mix cranks and air mix shaft securely and properly installed?	Yes	Go to next step.
		No	Repair or install air mix rod, air mix link, air mix cranks and air mix shaft securely in proper position, then go to Step 21.

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STEP	INSPECTION		ACTION
19	1. Set the fan switch at 4th position. 2. Turn the A/C switch on. 3. Set to FRESH mode. 4. Set the temperature control to MAX COLD. 5. Set to VENT mode. 6. Run engine at a constant 1,500 rpm for 10 minutes . 7. Run engine at idle speed for 1 minute. 8. 1 engine speed cycle is defined as going from idle speed to 4,000 rpm and back to idle speed over a period of 12 seconds . Perform 5 cycles . 9. Run engine at idle speed for 30 seconds . 10. Remove all compressor oil from A/C compressor and verify that it is 105 ml {105 cc, 3.55 fl oz} . 11. If it is more than 105 ml {105 cc, 3.55 fl oz} , put only 105 ml {105 cc, 3.55 fl oz} back into A/C compressor. 12. Carry out above steps 1 to 10 again and verify that compressor oil is 105 ml {105cc, 3.55 fl oz} . Is there 105 ml {105 cc, 3.55 fl oz} of compressor oil in A/C compressor?	Yes	Go to Step 21.
		No	Carry out 1 to 10 of step 19 again until compressor oil is 105 ml {105 cc, 3.55 fl oz} .
20	Is expansion valve heat-sensing tube within cooling unit securely installed in proper position?	Yes	Replace expansion valve, then go to next step. (Since valve opens too much, replacement is necessary.)
		No	Install heat-sensing tube securely in proper position, then go to next step.
21	Does cool air blow out? (Are 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.

7	No cool air.
TROUBLESHOOTING HINTS 1 A/C compressor system malfunction Step 2 2 Incorrect amount of refrigerant Step 3 3 A/C switch indicator light malfunction Steps 4—6 4 A/C relay system malfunction (WL, WL turbo, F2 Cab) Steps 7, 11—13 (G6, F2) Steps 7, 11, 12 5 Refrigerant pressure switch malfunction Step 8 6 PCM A/C cut-off control system (WL, WL turbo) Steps 9, 26 (G6, F2) Step 9 7 PCM (IG1 signal) system malfunction Steps 10, 25 8 Magnetic clutch system malfunction Step 14 9 PCM (A/C signal) system malfunction (WL, WL turbo) Steps 15, 20 (G6, F2) Steps 15, 19, 20 (F2 Cab) Step 15 10 Thermoswitch, A/C switch malfunction (WL, WL turbo, G6, F2) Steps 21—24 (F2 Cab) Steps 16—18	

CONTROL SYSTEM

STEP	INSPECTION		ACTION
1	Does air blow out?	Yes	Go to next step.
		No	Go to Step 1 of troubleshooting indexes 1, 2.
2	Start engine. Turn both A/C switch and fan switch on. Does A/C compressor operate?	Yes	Go to Step 1 of troubleshooting index 6.
		No	Go to next step.
3	Inspect refrigerant amount. + REFRIGERANT SYSTEM SERVICE PROCEDURES, PERFORMANCE TEST Is it okay?	Yes	Go to next step.
		No	Add or subtract refrigerant to specified level, then go to Step 27.
4	Does A/C switch indicator light illuminate?	Yes	Go to Step 7.
		No	Go to next step
*5	Turn ignition switch to ON position. (With air mix wire) Remove airflow mode wire, air intake wire and air mix wire. Remove climate control unit. (Without air mix wire) Remove airflow mode wire and air intake wire. Remove climate control unit. Remove A/C switch from climate control unit and connect A/C switch connector. Test voltage at A/C switch terminal C (IG2 signal). Is voltage approximately 12 V ?	Yes	Go to next step.
		No	Repair wiring harness between fuse block and A/C switch, then go to Step 27.
*6	Inspect A/C switch. + CONTROL SYSTEM, CLIMATE CONTROL UNIT INSPECTION Is it okay?	Yes	Inspect wiring harness between A/C switch and resistor, then go to Step 27.
		No	Replace A/C switch, then go to Step 27.
7	Are A/C relay power supply fuses okay?	Yes	Go to next step.
		No	Check for a short to ground on blown fuse's circuit. Repair or replace as necessary. Install appropriate amperage fuse.
*8	Remove radiator grille. Disconnect refrigerant pressure switch connector. When refrigerant pressure switch connector terminals A and B (on wiring harness side) are shorted, does cool air blow out?	Yes	Inspect refrigerant pressure switch, then go to Step 27.
		No	WL for ISRAEL: Undo short, reconnect refrigerant pressure switch connector, then go to Step 10. Other models: Undo short, reconnect refrigerant pressure switch connector, then go to next step.
*9	Check the DTC for the PCM ON-BOARD DIAGNOSTIC SYSTEM. Are the following DTCs displayed? • DTC 09 (WL or WL turbo) • DTC 0120 (F2 or G6) + Section F1, ON-BOARD DIAGNOSTIC SYSTEM, DIAGNOSTIC TROUBLE CODE INSPECTION + Section F2, ON-BOARD DIAGNOSTIC SYSTEM, DIAGNOSTIC TROUBLE CODE INSPECTION + Section F3, ON-BOARD DIAGNOSTIC SYSTEM, DIAGNOSTIC TROUBLE CODE INSPECTION	Yes	Go to appropriate inspection procedure. (The engine coolant temperature sensor (DTC 09) or throttle position sensor (DTC 0120), which sends the PCM's A/C cut off control input signal, may be the cause of the trouble.)
		No	Go to next step.
*10	Turn ignition switch to ON position. Does magnetic clutch operate when A/C relay connector terminal B (IG2 signal) is grounded?	Yes	Go to Step 15.
		No	Go to next step.

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STEP	INSPECTION		ACTION
*11	Turn ignition switch to ON position. Test voltage at the following A/C relay connector terminals: - Terminal A (IG2 signal) - Terminal C (A/C control signal) Is voltage approximately 12 V ?	Yes	Go to next step.
		No	Repair wiring harness between fuse block and A/C relay, then go to Step 27.
*12	Test voltage at A/C relay terminal D (A/C control signal). Is voltage approximately 12 V ?	Yes	G6 or F2: Go to Step 14. Other models: Go to next step.
		No	Inspect A/C relay, then go to Step 27.
*13	Disconnect refrigerant pressure switch connector. Test voltage at refrigerant pressure switch connector (on wiring harness side) terminal A (A/C control signal). Is voltage approximately 12 V ?	Yes	Reconnect refrigerant pressure switch connector, then go to next step.
		No	Repair wiring harness between A/C relay and refrigerant pressure switch, then go to Step 27.
*14	Test voltage at magnetic clutch connector terminal A (A/C control signal). Is voltage approximately 12 V ?	Yes	Inspect magnetic clutch, then go to Step 27.
		No	G6 or F2: Repair wiring harness between A/C relay and magnetic clutch, then go to Step 27. Other models: Repair wiring harness between refrigerant pressure switch and magnetic clutch, then go to Step 27.
*15	Turn A/C switch off. Remove glove compartment. Turn ignition switch to ON position. Test voltage at the following thermoswitch connector terminal (A/C signal): - Terminal B (with variable thermistor in climate control unit) - Terminal A (without variable thermistor in climate control unit) Is voltage approximately 12 V ?	Yes	F2 Cab: Go to next step. Other models: Go to Step 21.
		No	F2 Cab: Repair wiring harness between A/C relay and thermoswitch, then go to Step 27. G6 or F2: Go to Step 19. Other models: Go to Step 20.
*16	Turn ignition switch to LOCK position. Disconnect thermoswitch connector. Start engine. Turn both A/C switch and fan switch on. When following thermoswitch connector terminals (on wiring harness side) are shorted, does cool air blow out? - Terminal A—C (with variable thermistor in climate control unit) - Terminal B—C (without variable thermistor in climate control unit)	Yes	Undo short, then go to next step.
		No	Undo short, then go to Step 18.
*17	Turn ignition switch to ON position. Test voltage at the following thermoswitch connector terminals (IG2 signal): - Terminal B (with variable thermistor in climate control unit) - Terminal A (without variable thermistor in climate control unit) Is voltage approximately 12 V ?	Yes	Inspect thermoswitch, then go to Step 27.
		No	Repair wiring harness between fuse block and thermoswitch, then go to Step 27.
*18	Turn ignition switch to ON position. Turn A/C switch on. Turn fan switch off. Test voltage at A/C switch connector terminal A (A/C signal). Is voltage approximately 12 V ?	Yes	Inspect wiring harness between thermoswitch and A/C switch, then go to Step 27.
		No	Inspect A/C switch, then go to Step 27.
*19	Disconnect refrigerant pressure switch connector. Test voltage at refrigerant pressure switch connector (on wiring harness side) terminal A (A/C control signal). Is voltage approximately 12 V ?	Yes	Repair wiring harness between thermoswitch and refrigerant pressure switch, then go to Step 27.
		No	Go to next step.

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STEP	INSPECTION		ACTION
*20	Turn ignition switch to ON position. Test voltage at the following PCM connector terminals (A/C signal): - Terminal G (WL or WL turbo) - Terminal Q (G6 or F2) Is voltage approximately 12 V ?	Yes	G6 or F2: Repair wiring harness between PCM and refrigerant pressure switch, then go to Step 27. Other models: Repair wiring harness between PCM and thermoswitch, then go to Step 27.
		No	Inspect PCM, then go to Step 27.
*21	Turn ignition switch to LOCK position. Disconnect thermoswitch connector. Start engine. Turn both A/C switch and fan switch on. When following thermoswitch connector terminals (on wiring harness side) are shorted, does cool air blow out? - Terminal B—C (without variable thermistor in climate control unit) - Terminal A—C (with variable thermistor in climate control unit)	Yes	Undo short, then go to next step.
		No	Go to Step 23.
22	Turn ignition switch to ON position. Test voltage at the following thermoswitch connector terminals (IG2 signal): - Terminal A (without variable thermistor in climate control unit) - Terminal B (with variable thermistor in climate control unit) Is voltage approximately 12 V ?	Yes	Inspect thermoswitch, then go to Step 27.
		No	Repair wiring harness between fuse block and thermoswitch, then go to Step 27.
*23	Turn ignition switch to ON position. Turn A/C switch on. Turn fan switch off. Test voltage at A/C switch connector terminal A (A/C signal). Is voltage approximately 12 V ?	Yes	Go to next step.
		No	Inspect A/C switch, then go to Step 27.
*24	Test voltage at thermoswitch connector terminal C (A/C signal). Is voltage approximately 12 V ?	Yes	Go to next step.
		No	Repair wiring harness between thermoswitch and A/C switch, go to Step 27.
*25	Test voltage at the following PCM connector terminals (A/C signal): - Terminal L (WL or WL turbo) - Terminal J (G6 or F2) Is voltage approximately 12 V ?	Yes	WL or WL turbo: Go to next step. Other models: Recheck malfunction symptoms.
		No	Repair wiring harness between A/C relay and PCM, then go to Step 27.
*26	Inspect the following input signal components: Engine coolant temperature sensor and PCM wiring harness (A/C cut-off control). Are they okay?	Yes	Recheck malfunction symptoms.
		No	Replace input signal components, then go to next step.
27	Does cool air blow out? (Is refrigerant system performance test result correct?)	Yes	Troubleshooting completed. Explain repairs to customer.
		No	Recheck malfunction symptoms, then repeat from Step 1 if malfunction recurs.

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8	Noise while operating A/C system.		
TROUBLESHOOTING HINTS 1 Magnetic clutch operation noise Step 3 2 A/C compressor operation noise Steps 4—8 3 A/C compressor slippage noise Steps 9—11 4 Hose or refrigerant line interference noise Step 12			
STEP	INSPECTION		ACTION
1	Is there a squeaking or whirling sound (A/C compressor slippage noise)?	Yes	Go to Step 9.
		No	Go to next step.
2	Is there a rattling or vibrating sound (interference noise)?	Yes	Go to Step 12.
		No	Go to next step.
3	Is there a clicking sound (magnetic clutch operation noise)?	Yes	Adjust clearance between magnetic clutch pressure plate and A/C compressor pulley, then go to Step 13. + CONTROL SYSTEM, MAGNETIC CLUTCH CLEARANCE ADJUSTMENT
		No	Go to next step.
4	Is noise heard continuously for more than 3 seconds after A/C compressor comes on?	Yes	Go to next step.
		No	Condition is normal. (Noise normally occurs for 2—3 seconds immediately after A/C compressor turns on.)
5	Inspect idle speed. + Section F1, ENGINE TUNE-UP, IDLE SPEED ADJUSTMENT + Section F2, ENGINE TUNE-UP, IDLE SPEED ADJUSTMENT + Section F3, ENGINE TUNE-UP, IDLE SPEED ADJUSTMENT + Section F4, ENGINE TUNE-UP, IDLE SPEED ADJUSTMENT Is it okay?	Yes	Go to next step.
		No	Adjust idle speed, then go to Step 13.
6	Drain compressor oil. Is it contaminated with metal particles?	Yes	Go to next step.
		No	Replace A/C compressor, then go to Step 13.
7	Is compressor oil whitish and mixed with water?	Yes	Replace entire A/C system (excluding heater), then go to Step 13.
		No	Go to next step.
8	Is compressor oil darker than normal and contaminated with aluminum chips?	Yes	Replace A/C compressor and receiver/drier, then go to Step 13. (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.
9	Inspect drive belt. + Section B1, DRIVE BELT, DRIVE BELT INSPECTION + Section B2, DRIVE BELT, DRIVE BELT INSPECTION + Section B3, DRIVE BELT, DRIVE BELT INSPECTION Is it okay?	Yes	Go to next step.
		No	Adjust or replace drive belt, then go to Step 13.
10	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 13.
		No	Go to next step.

CONTROL SYSTEM

STEP	INSPECTION		ACTION
11	Inspect magnetic clutch. + CONTROL SYSTEM, MAGNETIC CLUTCH INSPECTION Is it okay?	Yes	Replace A/C compressor (excluding pressure plate, A/C compressor pulley, and stator), then go to Step 13.
		No	Replace magnetic clutch, then go to Step 13.
12	Is noise coming from A/C compressor?	Yes	Visually inspect A/C compressor, replace appropriate parts if necessary, then go to next step.
		No	If noise is coming from refrigerant lines, repair any detached or missing clips, tighten loose bolts, then go to next step.
13	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.