

07-40 CONTROL SYSTEM

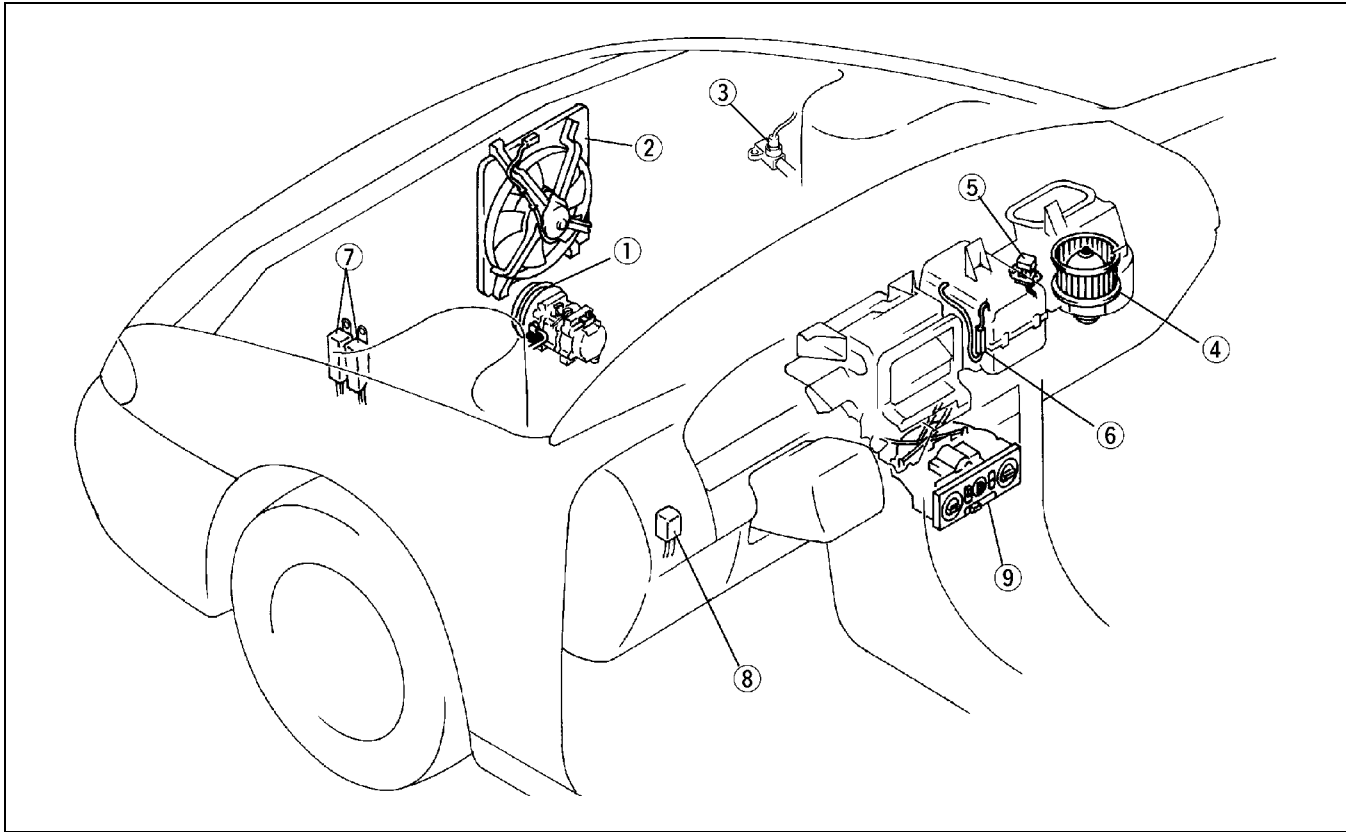
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CONTROL SYSTEM

CONTROL SYSTEM LOCATION INDEX

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Z5U0740W005

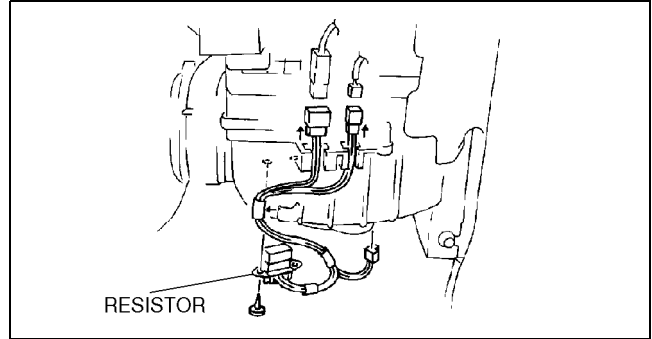
1	Magnetic clutch (See 07-40-3 MAGNETIC CLUTCH INSPECTION) (See 07-40-4 MAGNETIC CLUTCH ADJUSTMENT) (See 07-40-4 MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY)
2	Condenser fan (See 07-40-6 CONDENSER FAN REMOVAL/INSTALLATION) (See 07-40-5 CONDENSER FAN INSPECTION)
3	Refrigerant pressure switch (See 07-40-7 REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION) (See 07-40-7 REFRIGERANT PRESSURE SWITCH INSPECTION)
4	Blower motor (See 07-40-6 BLOWER MOTOR REMOVAL/INSTALLATION) (See 07-40-6 BLOWER MOTOR INSPECTION)

5	Resistor (See 07-40-3 RESISTOR REMOVAL/INSTALLATION) (See 07-40-3 RESISTOR INSPECTION)
6	Thermoswitch (See 07-40-7 THERMOSWITCH INSPECTION)
7	A/C relay and condenser fan relay (See 09-21-5 RELAY INSPECTION)
8	Blower relay (See 09-21-5 RELAY INSPECTION)
9	Climate control unit (See 07-40-8 CLIMATE CONTROL UNIT REMOVAL) (See 07-40-9 CLIMATE CONTROL UNIT INSTALLATION) (See 07-40-10 CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY) (See 07-40-10 CLIMATE CONTROL UNIT INSPECTION)

RESISTOR REMOVAL/INSTALLATION

A5U074061015W01

1. Disconnect the negative battery cable.
2. Remove the resistor.
3. Install in the reverse order of removal.



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RESISTOR INSPECTION

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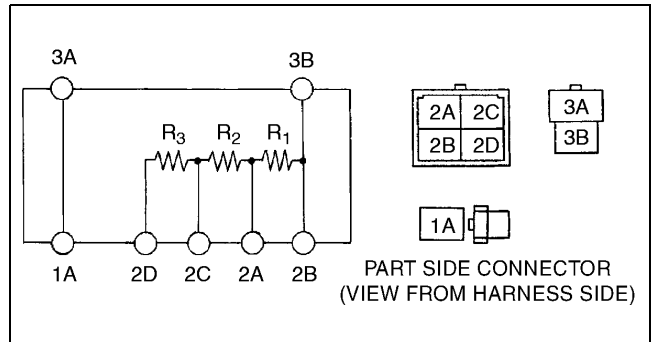
1. Disconnect the resistor connectors.
2. Inspect for continuity between the resistor terminals using an ohmmeter.
 - If not as specified, replace the resistor.

○—○ : Continuity ○W—○ : Resistance

Test condition	Terminal						
	1A	3A	3B	2B	2A	2C	2D
Constant	○—○		○—○	○—○	○—○	○—○	○—○

R₁: 1 Ω R₂: 2.6 Ω R₃: 2 Ω

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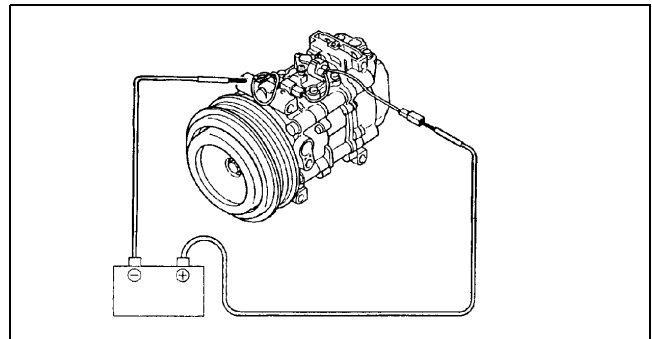
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MAGNETIC CLUTCH INSPECTION

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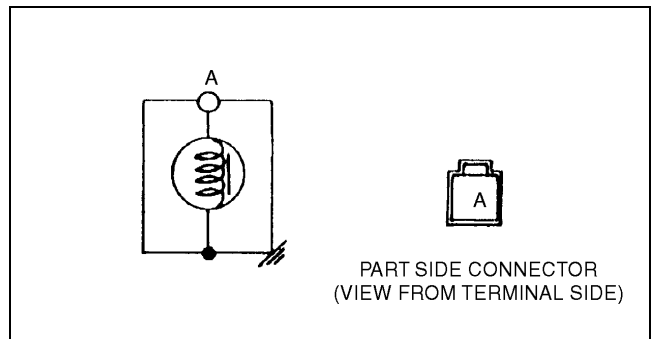
Operation

1. Disconnect the magnetic clutch connector.
2. Connect B+ to terminal A of the magnetic clutch and ground to A/C compressor body.



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3. Verify that the magnetic clutch operates.
 - If not as specified, replace the stator.



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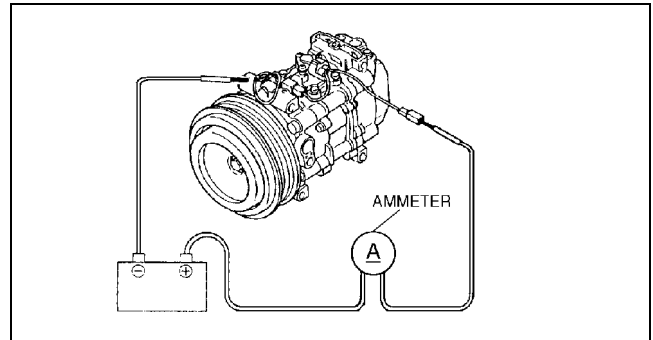
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Electric Current Value

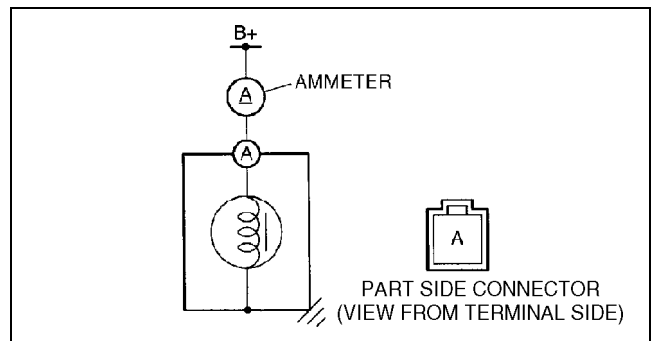
Note

- If 10 A A/C fuse is often burnt out, the cause may be short circuit in the stator coil. Perform the following inspection.
1. Disconnect the magnetic clutch connector.
 2. Connect battery positive voltage and an ammeter to terminal A of the magnetic clutch and ground to A/C compressor body as shown.
 3. Verify the electric current value of the stator.
 - If not as specified, replace the stator.

Electric current value (Reference)
3.7 A (Normal temperature)



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MAGNETIC CLUTCH ADJUSTMENT

1. Adjust the clearance using shims if necessary. Adjusting shims are available in the following thicknesses.

Adjusting shim size

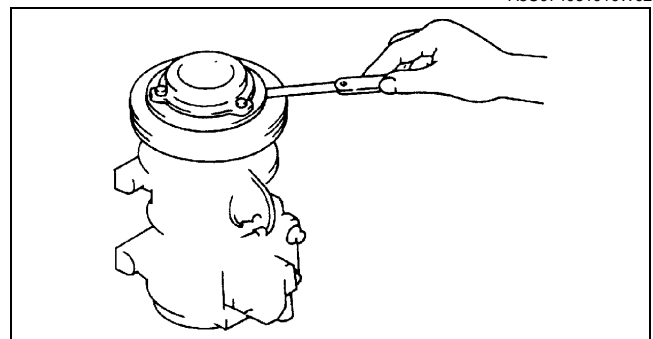
0.1 mm {0.004 in}

0.3 mm {0.012 in}

0.5 mm {0.020 in}

Standard clearance

0.35—0.65 mm {0.014—0.025 in}



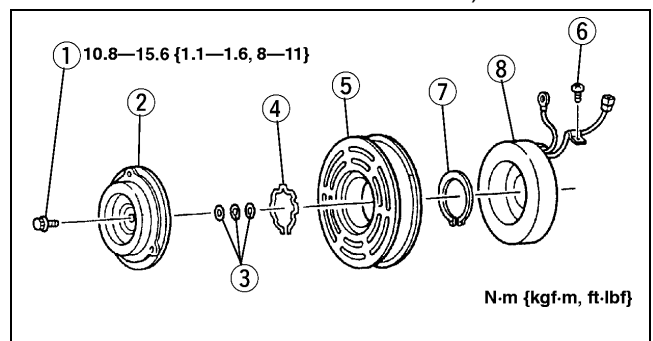
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MAGNETIC CLUTCH DISASSEMBLY/ASSEMBLY

1. Remove the A/C compressor. (See 07-11-6 A/C COMPRESSOR REMOVAL/INSTALLATION.)
2. Disassemble in the order indicated in the table.

A5U074061010W03

1	Bolt See 07-40-5 Bolt Disassembly Note
2	Pressure plate See 07-40-5 Pressure Plate Disassembly Note
3	Shim
4	Snap ring
5	A/C compressor pulley
6	Screw
7	Snap ring
8	Stator



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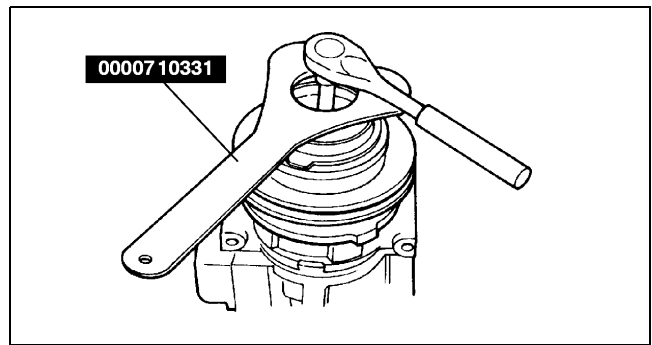
3. Assemble in the reverse order of disassembly.
4. Adjust the magnetic clutch clearance. (See 07-40-4 MAGNETIC CLUTCH ADJUSTMENT.)

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Bolt Disassembly Note

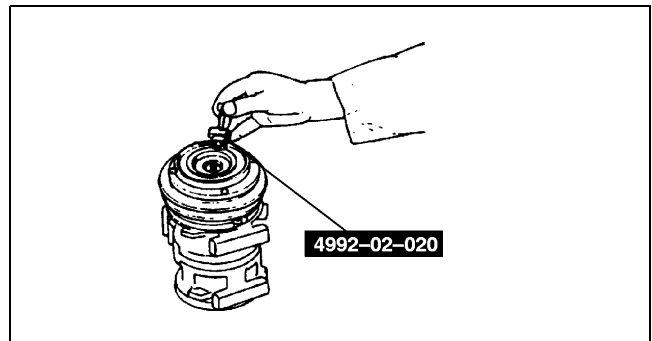
1. Remove the bolt using the SST (Magnetic Clutch Stopper).



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Pressure Plate Disassembly Note

1. Remove the pressure plate using the SST (Pressure Plate Remover).

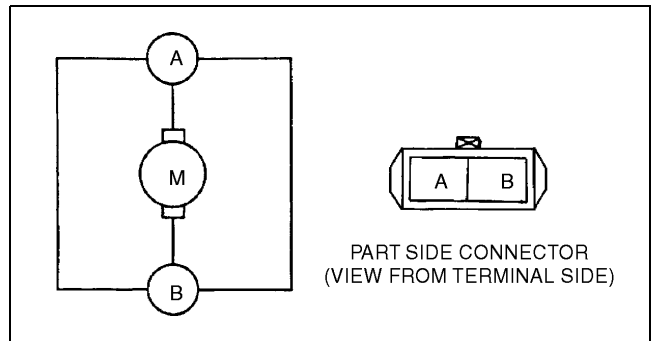


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CONDENSER FAN INSPECTION

1. Disconnect the condenser fan connector.
2. Connect B+ to terminal A and ground to terminal B of the condenser fan, and verify that air blows towards the engine.
 - If the condenser fan does not operate, replace the condenser fan.

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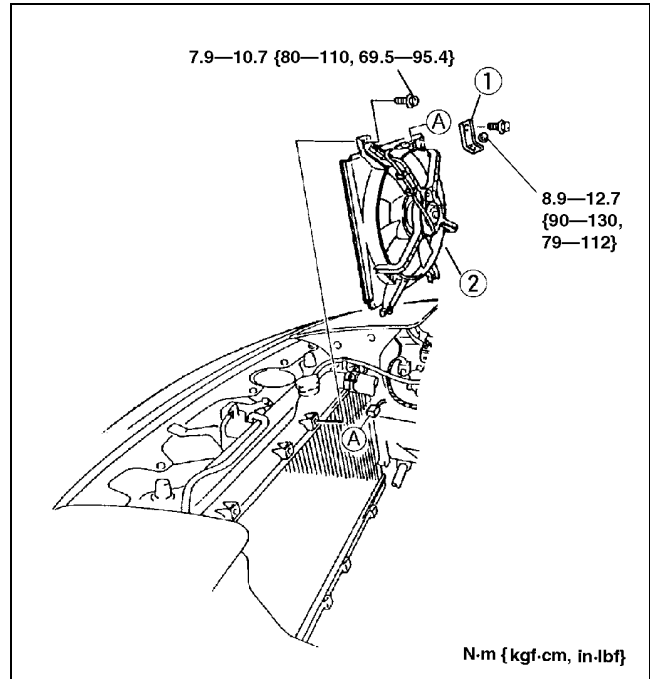
CONDENSER FAN REMOVAL/INSTALLATION

A5U074061710W02

1. Disconnect the negative battery cable.
2. Loosen the lower installation bolt of condenser fan.
3. Remove in the order indicated in the table.

1	Bracket
2	Condenser fan

4. Install in the reverse order of removal.

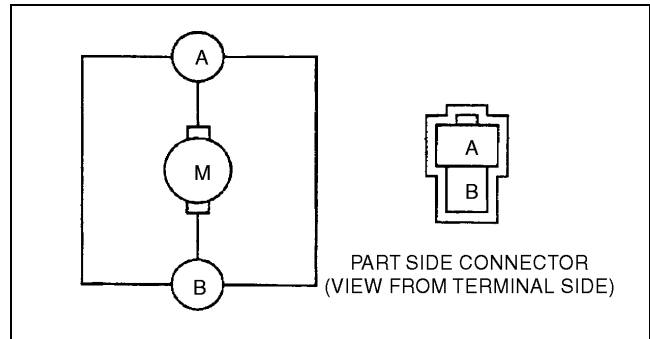


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BLOWER MOTOR INSPECTION

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1. Disconnect the blower motor connector.
2. Connect B+ to terminal A and ground to terminal B of the blower motor, and verify its operation.
 - If the blower motor does not operate, replace the blower motor.

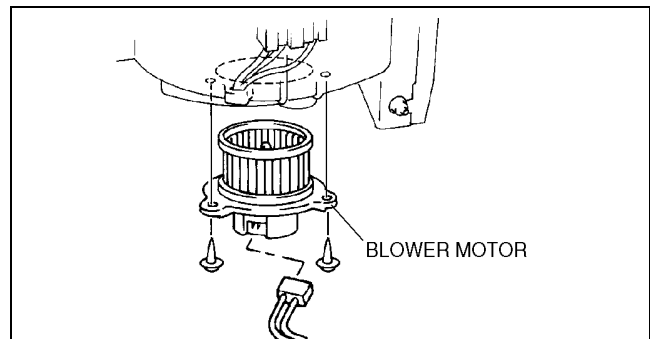


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BLOWER MOTOR REMOVAL/INSTALLATION

A5U074061020W02

1. Disconnect the negative battery cable.
2. Remove the bracket.
3. Remove the blower motor.
4. Install in the reverse order of removal.



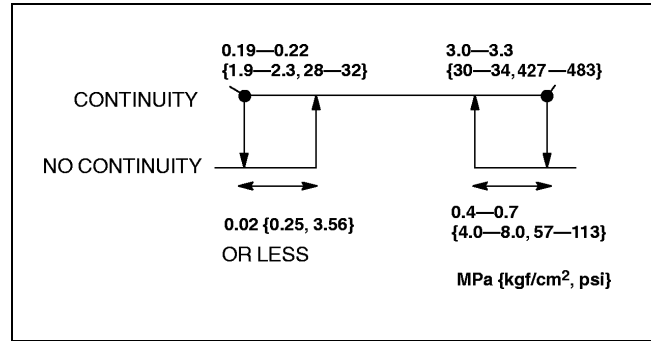
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REFRIGERANT PRESSURE SWITCH INSPECTION

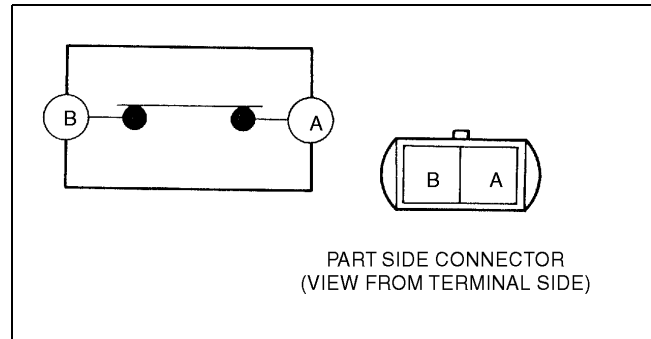
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1. Install the manifold gauge set. (See 07-10-2 Manifold Gauge Set Installation.)
2. Disconnect the refrigerant pressure switch connector.
3. Verify the high-pressure side reading of the manifold gauge.



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4. Inspect for continuity between the terminals of the refrigerant pressure switch.
 - If not as specified, replace the refrigerant pressure switch.



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REFRIGERANT PRESSURE SWITCH REMOVAL/INSTALLATION

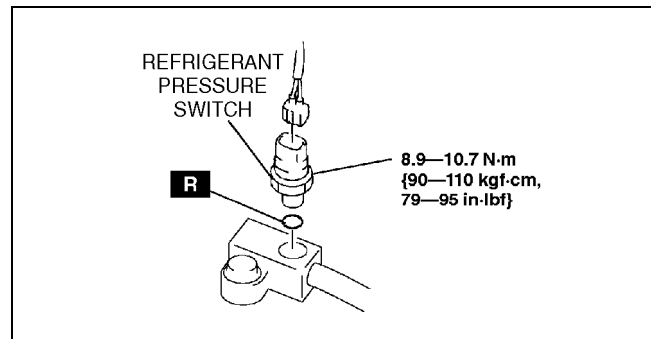
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1. Discharge the refrigerant from the system. (See 07-10-4 REFRIGERANT CHARGING.)
2. Disconnect the negative battery cable.

Caution

- If moisture or foreign material enters the refrigeration cycle, cooling ability will be lowered and abnormal noise will occur. Always immediately plug all open fittings after removing any refrigeration cycle parts to keep moisture or foreign material out of the cycle.

3. Remove the refrigerant pressure switch.
4. Install in the reverse order of removal.
5. Perform the refrigerant system performance test. (See 07-10-2 REFRIGERANT SYSTEM PERFORMANCE TEST.)



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Refrigerant Pressure Switch Installation Note

1. Apply compressor oil to the O-ring and connect the joint.

THERMOSWITCH INSPECTION

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To Determine if The Switch is Functioning

1. Remove the glove compartment.
2. Start the engine.
3. Turn the A/C switch on.
4. Turn the fan switch on.

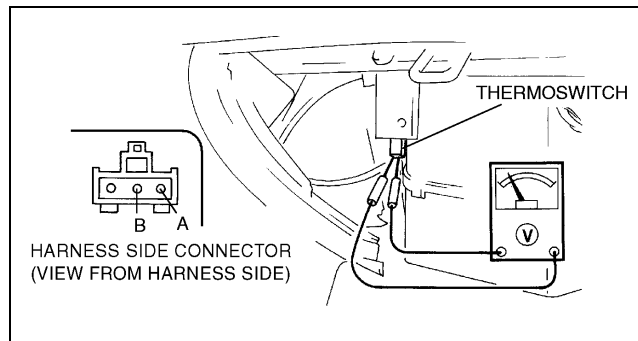
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5. Connect the positive (+) and negative (-) probes of the voltmeter to terminal A and terminal B of the thermostwitch respectively. (The wiring harness connector must be connected to the thermostwitch connector.)
6. Inspect the voltage as shown below.
 - If not as specified, inspect on/off points of the thermostwitch.

○—○ : Continuity

Magnetic clutch	Terminal		Voltage (V)
	A	B	
On	○—○	○—○	B+
Off	○—○	○—○	0

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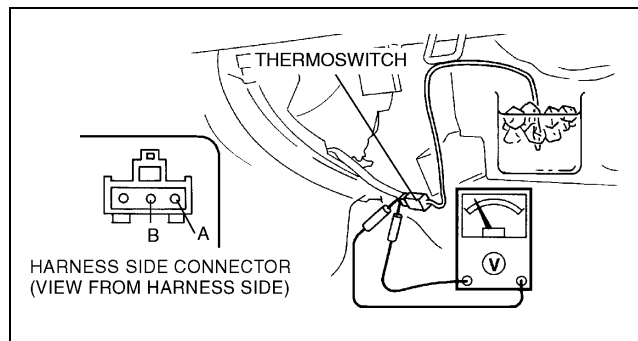
To Inspect On/Off Points of the Thermostwitch

1. Disconnect the negative battery cable.
2. Remove the cooling unit. (See 07-11-3 COOLING UNIT REMOVAL/INSTALLATION.)
3. Remove the thermostwitch (See 07-11-4 COOLING UNIT DISASSEMBLY/ASSEMBLY.)
4. Connect the negative battery cable.
5. Connect the thermostwitch connector to the wiring harness connector.
6. Turn the ignition switch to ON position.
7. Turn the A/C switch on.
8. Turn the fan switch on.
9. Immerse the sensor part of thermostwitch in a container of ice water.
10. Connect the positive (+) and negative (-) probes of the voltmeter to terminal A and terminal B of the thermostwitch respectively.
11. Inspect the voltage as shown below.
 - If not as specified, replace the thermostwitch. (See 07-11-4 COOLING UNIT DISASSEMBLY/ASSEMBLY.)

○—○ : Continuity

Water temperature	Terminal		Voltage (V)
	A	B	
3.6 °C {38 °F} or more	○—○	○—○	B+
0.8 °C {33 °F} or less	○—○	○—○	0

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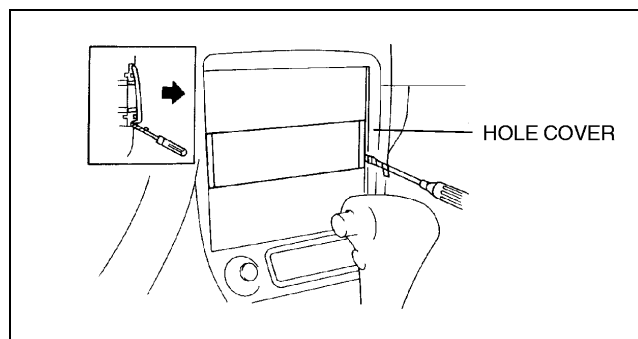


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CLIMATE CONTROL UNIT REMOVAL

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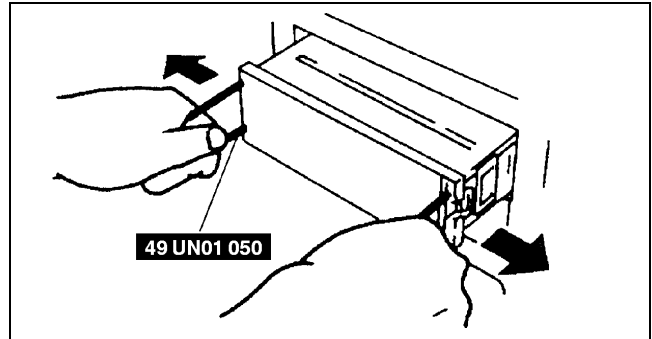
1. Disconnect the negative battery cable.
2. Disconnect the air intake wire from the blower unit.
3. Disconnect the air mix wire and airflow mode wire from the heater unit.
4. Remove the hole covers by inserting a small, tape-wrapped, flathead screwdriver into the slot, then carefully prying them off without scratching the center panel. Pry up and pull off the hole covers carefully to prevent the posts from breaking off.



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5. With the beveled parts of the **SST** (Removing Tool) facing inward, insert them into the climate control unit.
6. Pull the **SST** (Removing Tool) outward and rearward to slide out the climate control unit.
7. Disconnect the climate control unit connectors.

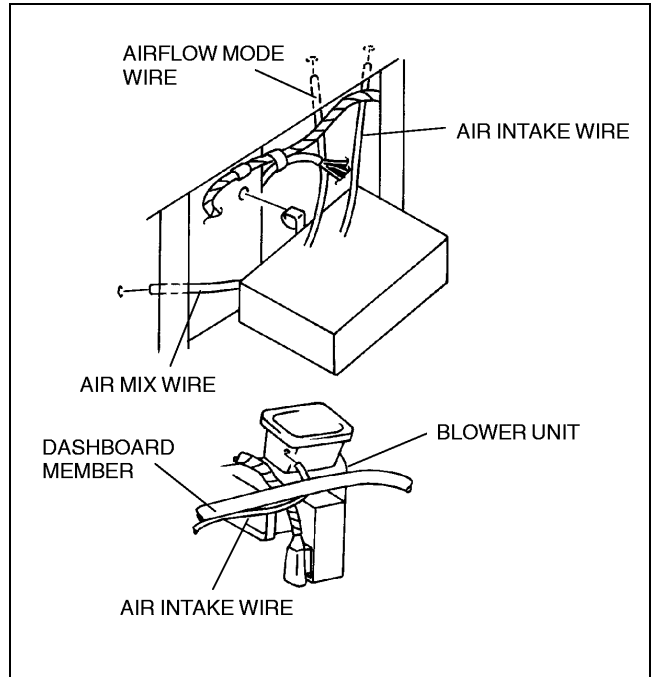


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CLIMATE CONTROL UNIT INSTALLATION

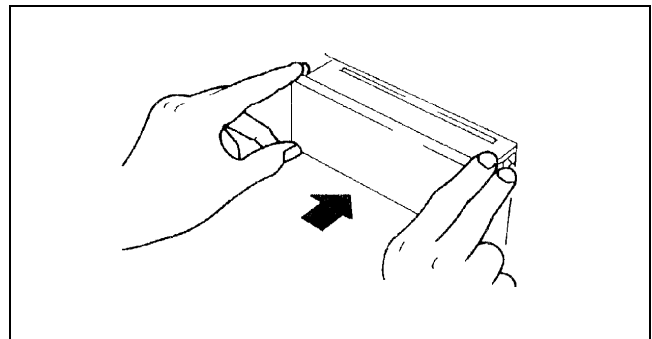
1. Pass each wire through the following routes, then connect them to each unit.
2. Connect the climate control unit connectors.

A5U074061190W02



X5U740WAC

3. Insert the climate control unit until each clip clicks.
4. Install the hole covers carefully to prevent the posts from breaking off.
5. Adjust the climate control unit wire. (See 07-40-11 CLIMATE CONTROL UNIT WIRE ADJUSTMENT.)
6. Connect the negative battery cable.



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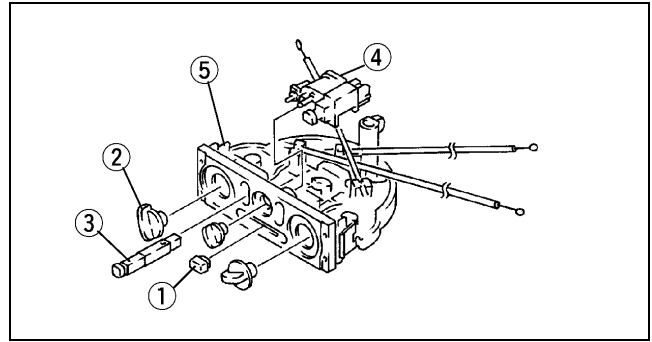
CLIMATE CONTROL UNIT DISASSEMBLY/ASSEMBLY

A5U074061190W03

1. Disassemble in the order indicated in the table.

1	Knob
2	Dial
3	A/C switch
4	Fan and rear window defroster switch
5	Body

2. Assemble in the reverse order of disassembly.



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CLIMATE CONTROL UNIT INSPECTION

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A/C Switch

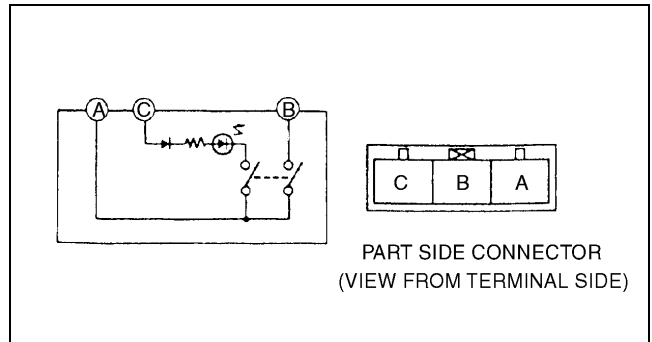
1. Remove the climate control unit. (See 07-40-8 CLIMATE CONTROL UNIT REMOVAL.)
2. Inspect for continuity between the A/C switch terminals using an ohmmeter.

○—○ : Continuity

Switch position	Terminal	
	A	B
OFF		
ON	○—○	○—○

X5U740WAF

3. Connect battery positive voltage to terminal C and ground to the terminal A.
4. Turn the A/C switch on.
5. Verify that the LED illuminates.
 - If not as specified, replace the A/C switch.



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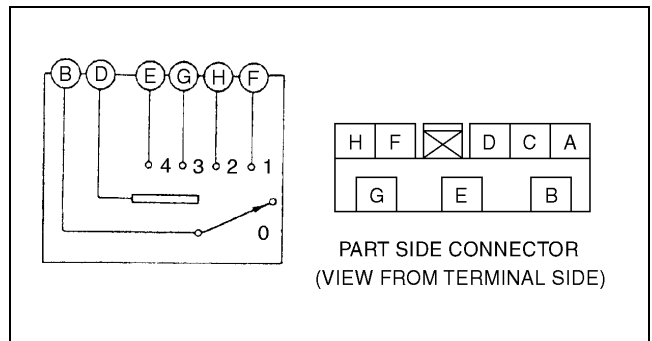
Fan Switch

1. Remove the climate control unit. (See 07-40-8 CLIMATE CONTROL UNIT REMOVAL.)
2. Inspect for continuity between the fan switch terminals using an ohmmeter.
 - If not as specified, replace the fan and rear window defroster switch.

○—○ : Continuity

Switch position	Terminal					
	B	D	E	F	G	H
0						
1	○—○			○—○		
2	○—○					○—○
3	○—○	○—○			○—○	
4	○—○	○—○	○—○			

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CONTROL SYSTEM

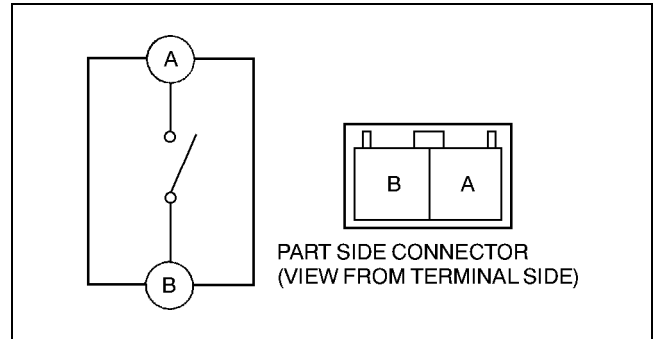
Defroster Switch

1. Remove the climate control unit. (See 07-40-8 CLIMATE CONTROL UNIT REMOVAL.)
2. Inspect for continuity between the defroster switch terminals using an ohmmeter.
 - If not as specified, replace the defroster switch.

○—○ : Continuity

Mode switch position	Terminal	
	A	B
VENT, BI-LEVEL, HEAT		
HEAT/DEF, DEFROSTER	○—○	○—○

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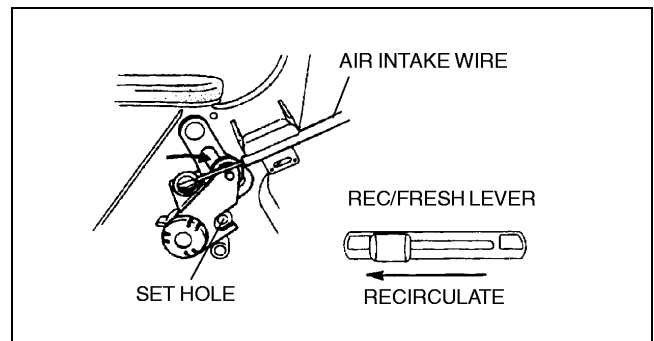
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CLIMATE CONTROL UNIT WIRE ADJUSTMENT

Air Intake Wire

1. Set the REC/FRESH lever at REC.
2. Set the air intake link to REC in the direction of the arrow and insert a screwdriver into the set hole.
3. Connect the air intake wire to the air intake link.
4. Clamp the air intake wire to wire clamp.
5. Verify that the REC/FRESH lever moves its full stroke.

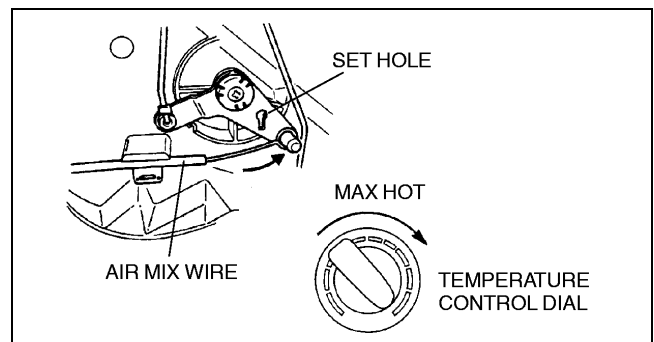
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Air Mix Wire

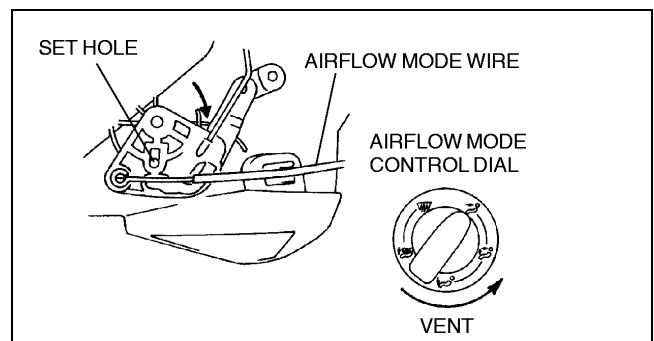
1. Set the temperature control dial at MAX HOT.
2. Set the air mix link to MAX HOT in the direction of the arrow and insert a screwdriver into the set hole.
3. Connect the air mix wire to the air mix link.
4. Clamp the air mix wire to wire clamp.
5. Verify that the temperature control dial moves its full stroke.



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Airflow Mode Wire

1. Set the airflow mode control dial at VENT.
2. Set the airflow mode link to VENT in the direction of the arrow and insert a screwdriver into the set hole.
3. Connect the airflow mode wire to the airflow mode link.
4. Clamp the airflow mode wire to wire clamp.
5. Verify that the airflow mode control dial moves its full stroke.



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