

Heater and Air Conditioning

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Air Conditioning	22-1

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The Civic SRS includes a driver's airbag located in the steering wheel hub. In addition, all models (except some models for Canada) have a passenger's airbag located in the dashboard above the glove box. Information necessary to safely service the SRS is included in this Service Manual. Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

WARNING

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.
- Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional deployment of the airbags.
- Do not bump the SRS unit. Otherwise, the system may fail in case of a collision, or the airbags may deploy when the ignition switch is ON (II).
- SRS electrical wiring harnesses are identified by yellow color coding. Related components are located in the steering column, front console, dashboard, dashboard lower panel, and in the dashboard above the glove box. Do not use electrical test equipment on these circuits.



Heater

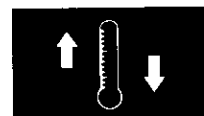
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* Heater Unit

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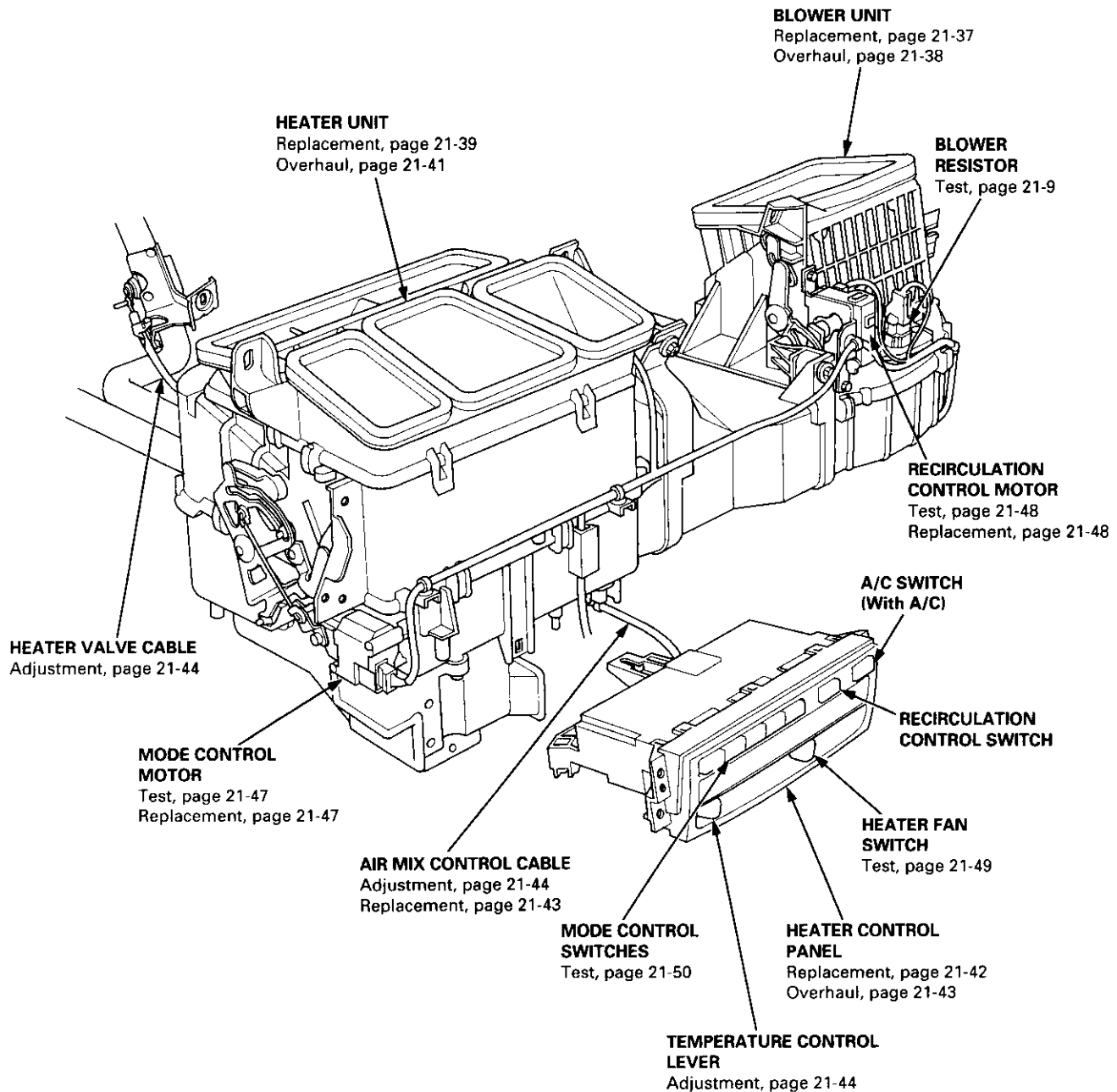
*: Read SRS precautions before working in this area.



Illustrated Index

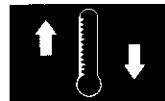
'96 – 98 Models

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.



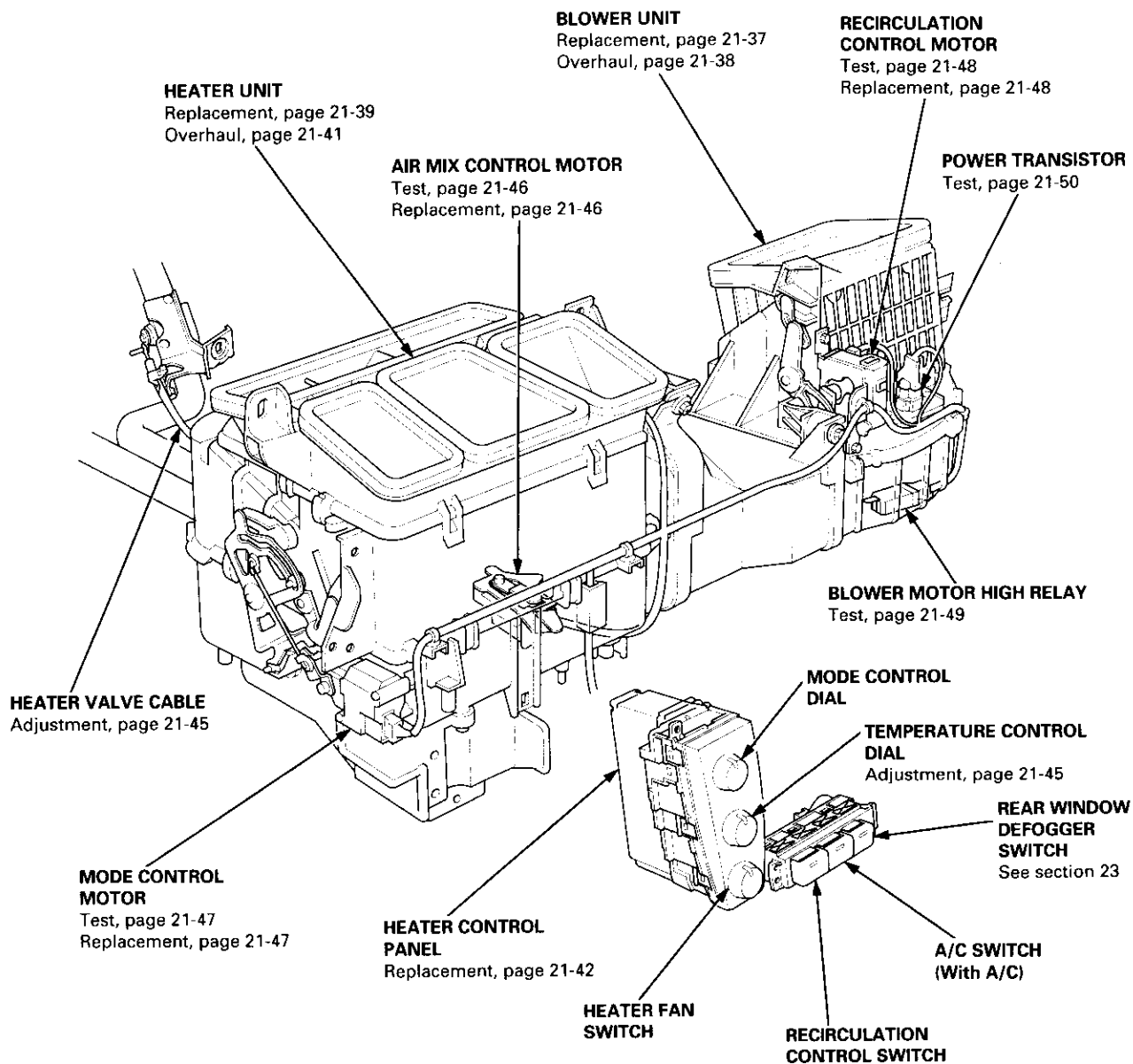
Defroster-activated A/C System

Turning the defroster on activates the A/C and sets the air flow mode to FRESH. It is possible to turn the A/C off or to change the air flow to RECIRCULATE by pressing the A/C button or the FRESH/RECIRCULATE button.



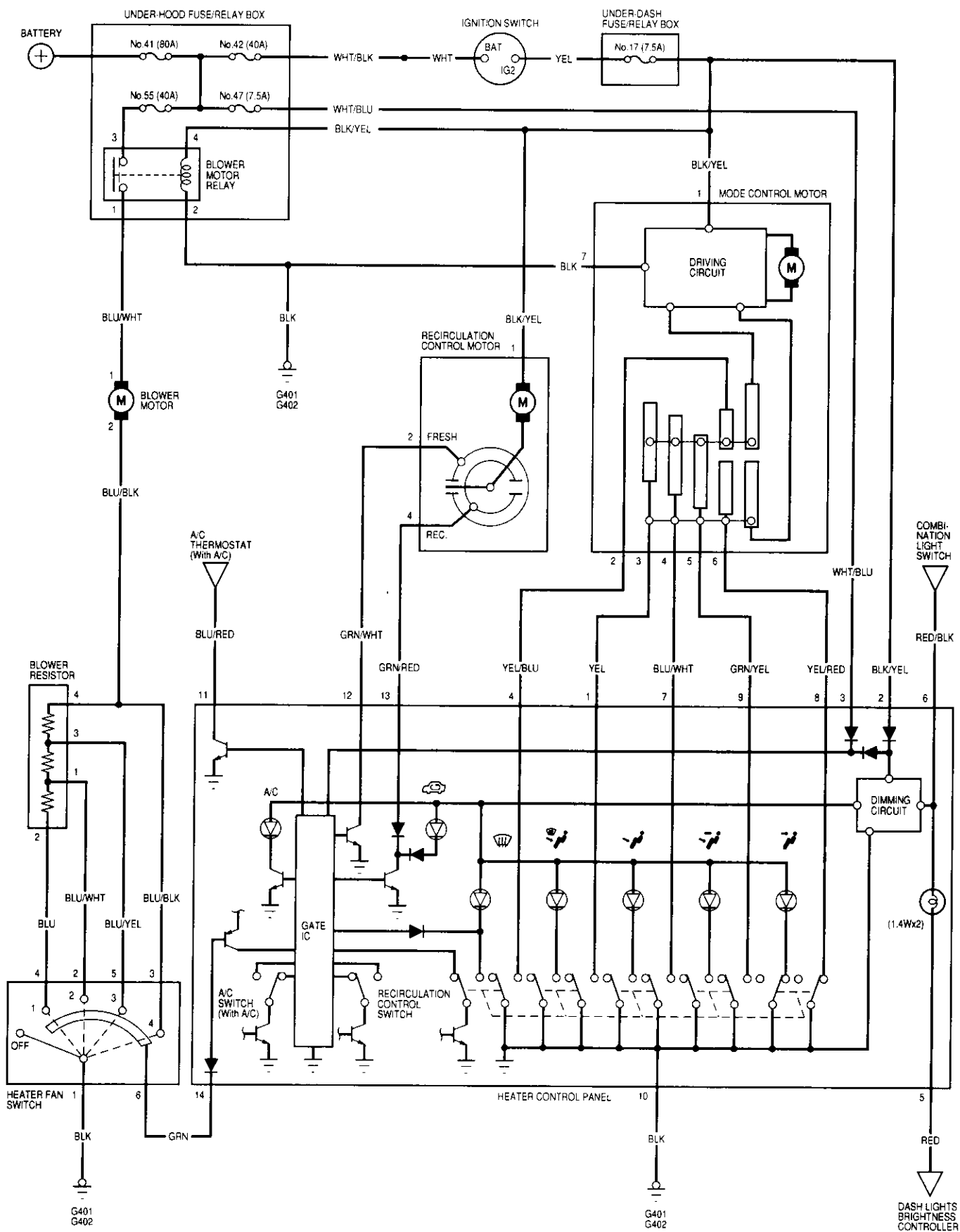
'99 – 00 Models

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

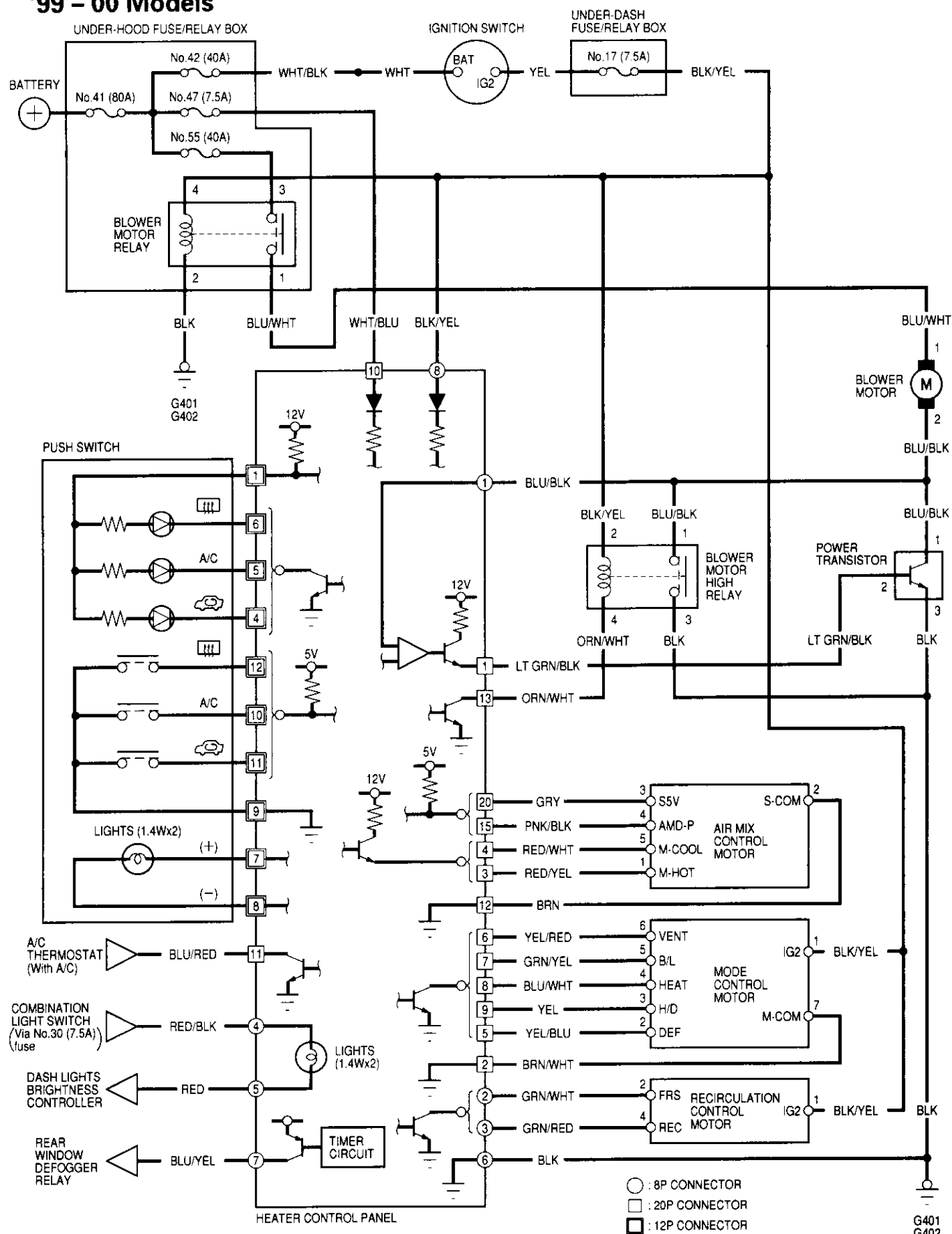


Circuit Diagram

'96 - 98 Models



'99 – 00 Models



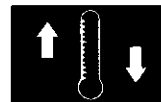
Troubleshooting — '96 – 98 Models

Symptom Chart

NOTE:

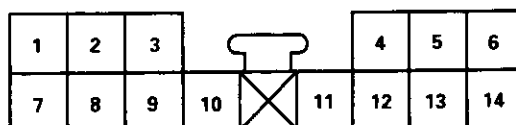
- Check the engine coolant level, and allow the engine to warm up before troubleshooting.
- Any abnormality must be corrected before continuing the test.
- Because of the precise measurements needed, use a multimeter when testing.
- Before performing any troubleshooting procedures check:
 - Fuses No. 47 (7.5 A), No. 55 (40 A) in the under-hood fuse/relay box, and No. 17 (7.5 A) in the under-dash fuse/relay box
 - Grounds No. G401, G402
 - Cleanliness and tightness of all connectors

Symptom		Remedy
Hot air flow is low.	Blower motor runs, but one or more speeds are inoperative.	Perform the procedures in the flowchart (see page 21-8).
	Blower runs properly.	Check for the following: <ul style="list-style-type: none">• Clogged heater duct• Clogged heater outlet• Incorrect door position
No hot air flow.	Blower motor does not run at all.	Perform the procedures in the flowchart (see page 21-10).
	Blower motor runs.	Check for the following: <ul style="list-style-type: none">• Clogged heater duct• Clogged blower outlet• Clogged heater valve• Faulty air mix door• Heater valve cable adjustment (see page 21-44)• Air mix control cable adjustment (see page 21-44)• Faulty cooling system thermostat (see section 10)• Clogged evaporator (with air conditioning)• Frozen evaporator (with air conditioning)
Mode control motor does not run, or one or more modes are inoperative.		Perform the procedures in the flowchart (see page 21-13).
Recirculation control door does not change between FRESH and RECIRCULATE.		Perform the procedures in the flowchart (see page 21-16).
Both heater and A/C do not work.		Perform the procedures in the flowchart (see page 21-18).



Heater Control Panel Input/Output Signals

HEATER CONTROL PANEL 14P CONNECTOR



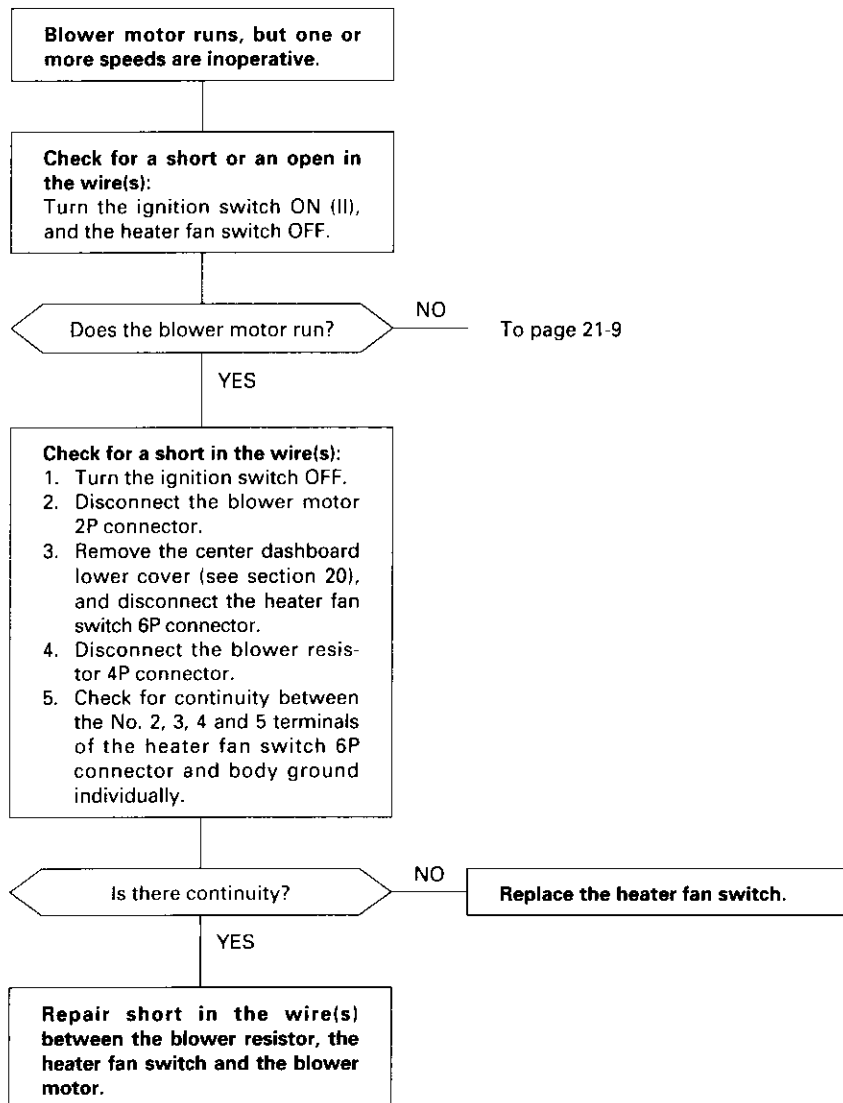
Wire side of female terminals

Terminal No.	Wire color	Signal		Terminal No.	Wire color	Signal	
1	YEL	HEAT/DEF	INPUT	8	YEL/RED	VENT	INPUT
2	BLK/YEL	IG2	INPUT	9	GRN/YEL	HEAT/VENT	INPUT
3	WHT/BLU	+B	INPUT	10	BLK	GROUND	OUTPUT
4	YEL/BLU	DEF	INPUT	11*	BLU/RED	A/C THERMOSTAT	INPUT
5	RED	DASH LIGHTS BRIGHTNESS CONTROLLER	OUTPUT	12	GRN/WHT	FRESH	INPUT
6	RED/BLK	COMBINATION LIGHT SWITCH	INPUT	13	GRN/RED	RECIRCULATE	INPUT
7	BLU/WHT	HEAT	INPUT	14	GRN	HEATER FAN SWITCH	OUTPUT

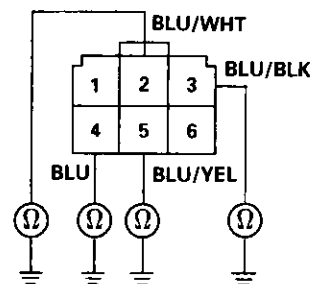
*: With A/C

Troubleshooting — '96 – 98 Models

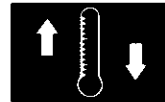
Blower Motor Speed



HEATER FAN SWITCH 6P CONNECTOR



Wire side of female terminals



From page 21-8

Check the blower resistor:

1. Turn the ignition switch OFF.
2. Disconnect the blower resistor 4P connector.
3. Measure the resistance between the No. 2 and No. 4 terminals of the blower resistor.

Is there approx. 2 – 3 ohms?

NO

Replace the blower resistor.

YES

Check for an open in the wire(s):

1. Reconnect the blower resistor 4P connector.
2. Remove the center dashboard lower cover (see section 20), and disconnect the heater fan switch 6P connector.
3. Turn the ignition switch ON (II).
4. Ground each of these terminals individually in the following order: No. 4, 2, 5 and 3.

Does the blower motor run at progressively higher speeds?

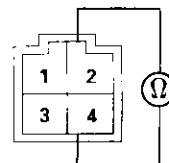
YES

Replace the heater fan switch.

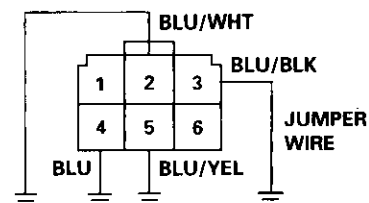
NO

Repair open or cause of excessive resistance in the appropriate wire(s) between the blower resistor and the heater fan switch.

BLOWER RESISTOR



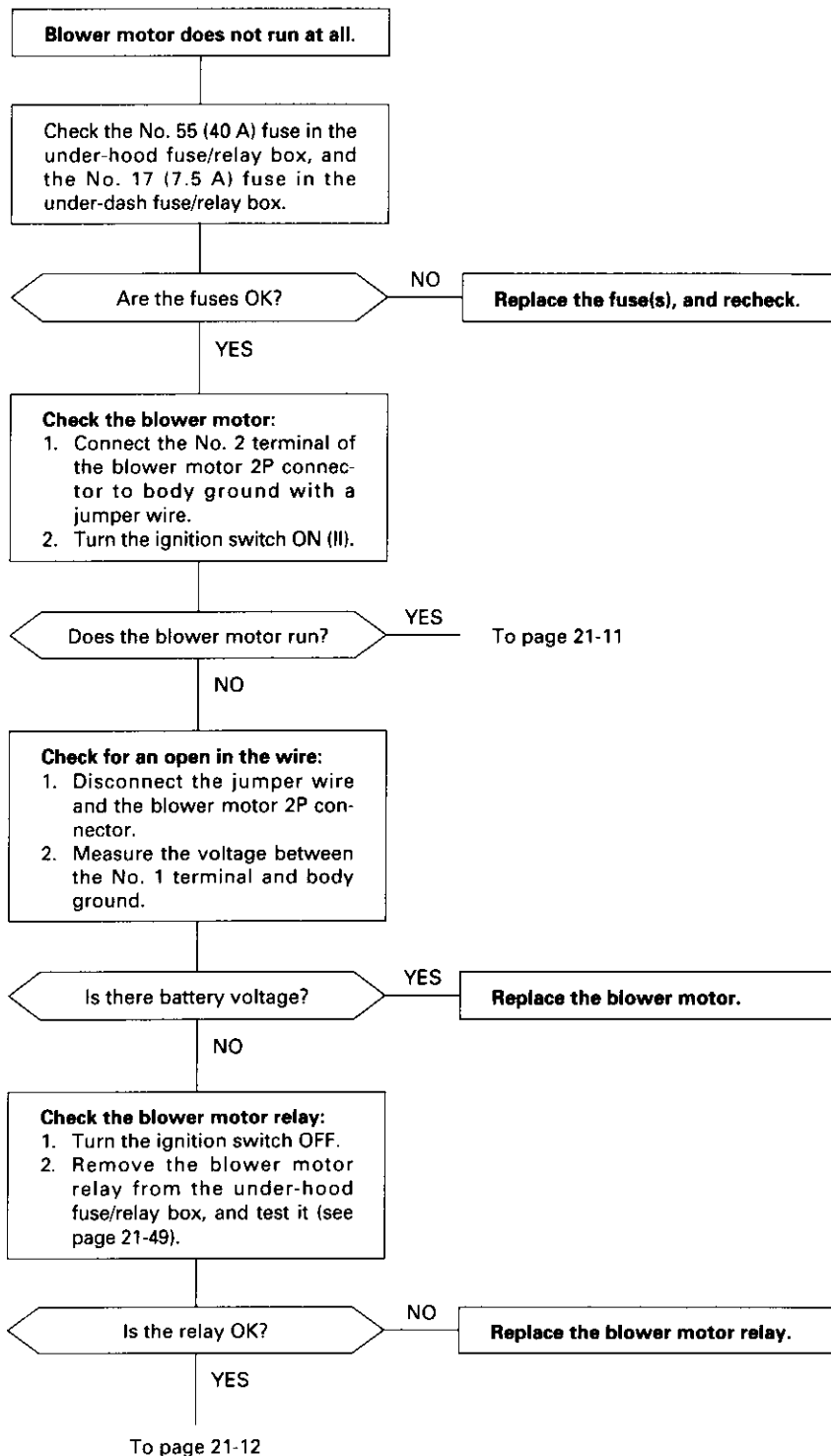
HEATER FAN SWITCH 6P CONNECTOR



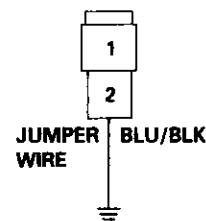
Wire side of female terminals

Troubleshooting — '96 – 98 Models

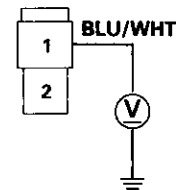
Blower Motor

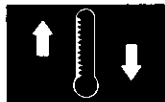


BLOWER MOTOR 2P CONNECTOR

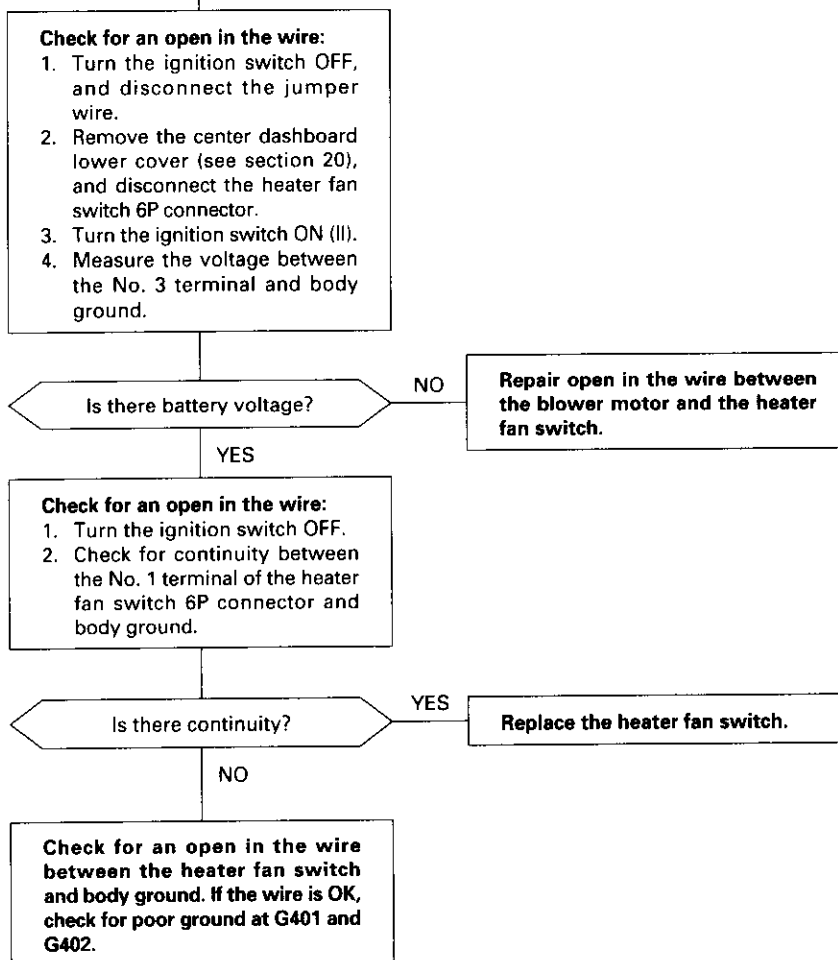


Wire side of female terminals

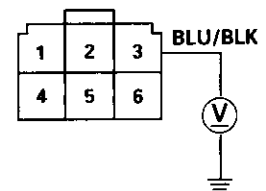




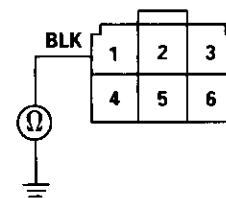
From page 21-10



HEATER FAN SWITCH 6P CONNECTOR



Wire side of female terminals

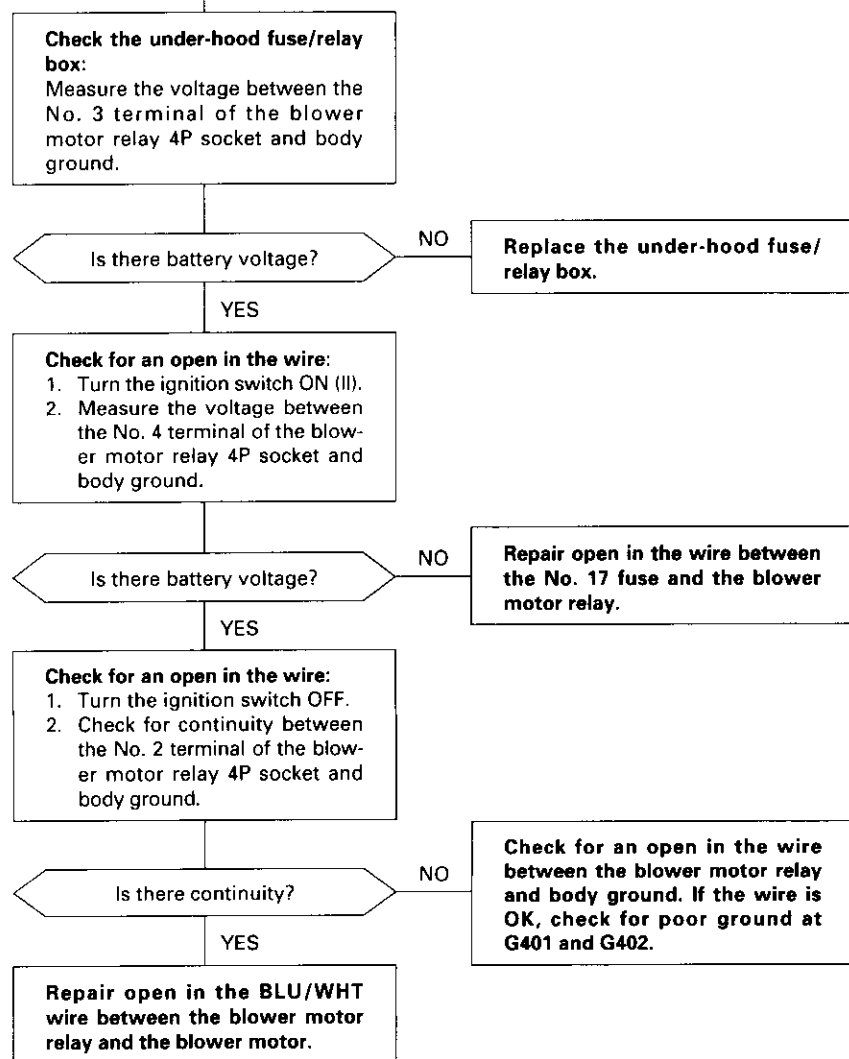


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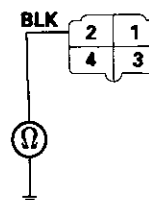
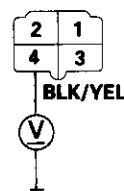
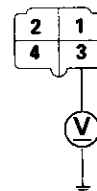
Troubleshooting — '96 – 98 Models

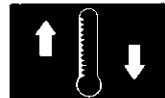
Blower Motor (cont'd)

From page 21-10

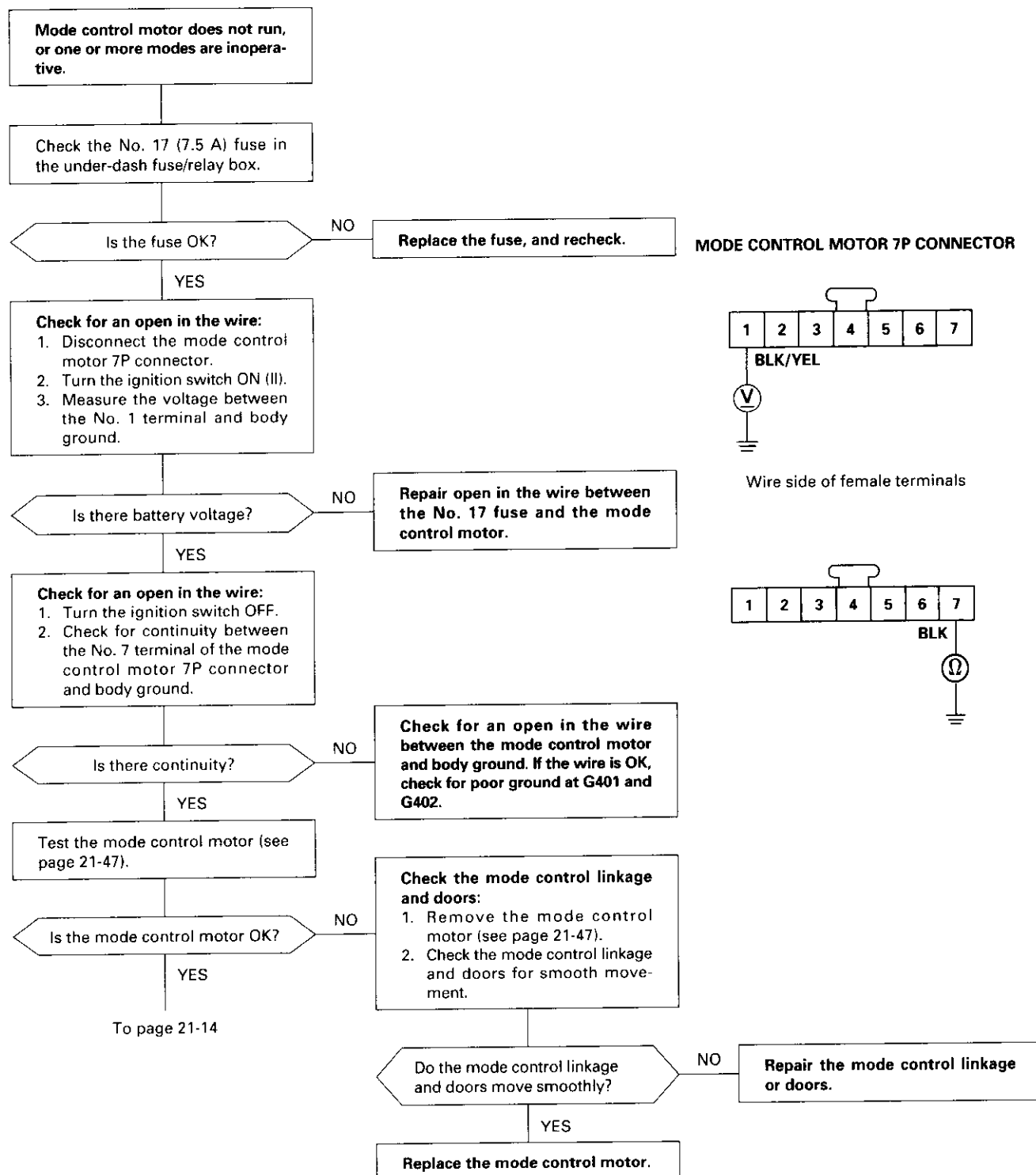


BLOWER MOTOR RELAY 4P SOCKET





Mode Control Motor



(cont'd)

Troubleshooting — '96 – 98 Models

Mode Control Motor (cont'd)

From page 21-13

Check for a short in the wire(s):

1. Remove the center dashboard lower cover (see section 20), and disconnect the heater control panel 14P connector.
2. Check for continuity between the No. 1, 4, 7, 8 and 9 terminals and body ground individually.

Is there continuity?

YES

Repair any short in the wire(s) between the mode control motor and the heater control panel.

NO

Check for a short to power:

Check the same wires for voltage.

Is there any voltage?

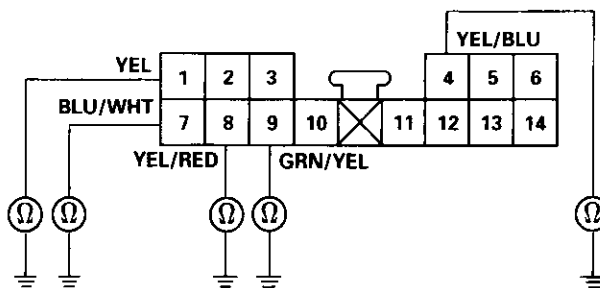
YES

Repair short to power in the wire(s) between the mode control motor and the heater control panel. This short also damages the heater control panel. Repair the short to power before replacing the heater control panel.

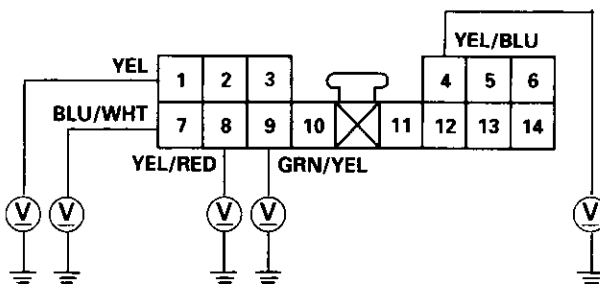
NO

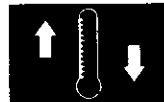
To page 21-15

HEATER CONTROL PANEL 14P CONNECTOR



Wire side of female terminals





From page 21-14

Check for an open in the wire(s):
Check for continuity between the following terminals of the mode control motor 7P connector and the heater control panel 14P connector.

7P: 14P:
No. 2 — No. 4
No. 3 — No. 1
No. 4 — No. 7
No. 5 — No. 9
No. 6 — No. 8

Is there continuity?

NO

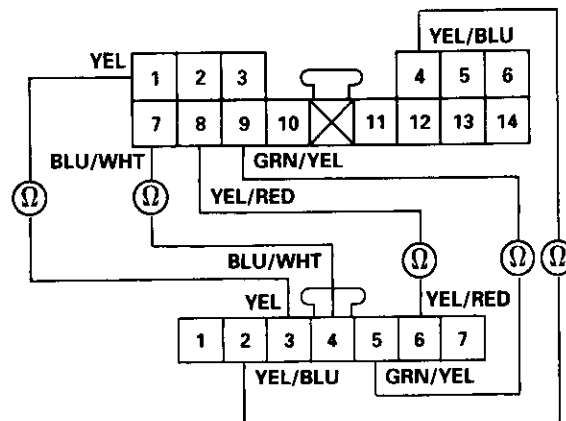
Repair any open in the wire(s) between the mode control motor and the heater control panel.

YES

Check for loose wires or poor connections at the heater control panel 14P connector, and at the mode control motor 7P connector. If the connections are good, replace the heater control panel.

HEATER CONTROL PANEL 14P CONNECTOR

Wire side of female terminals

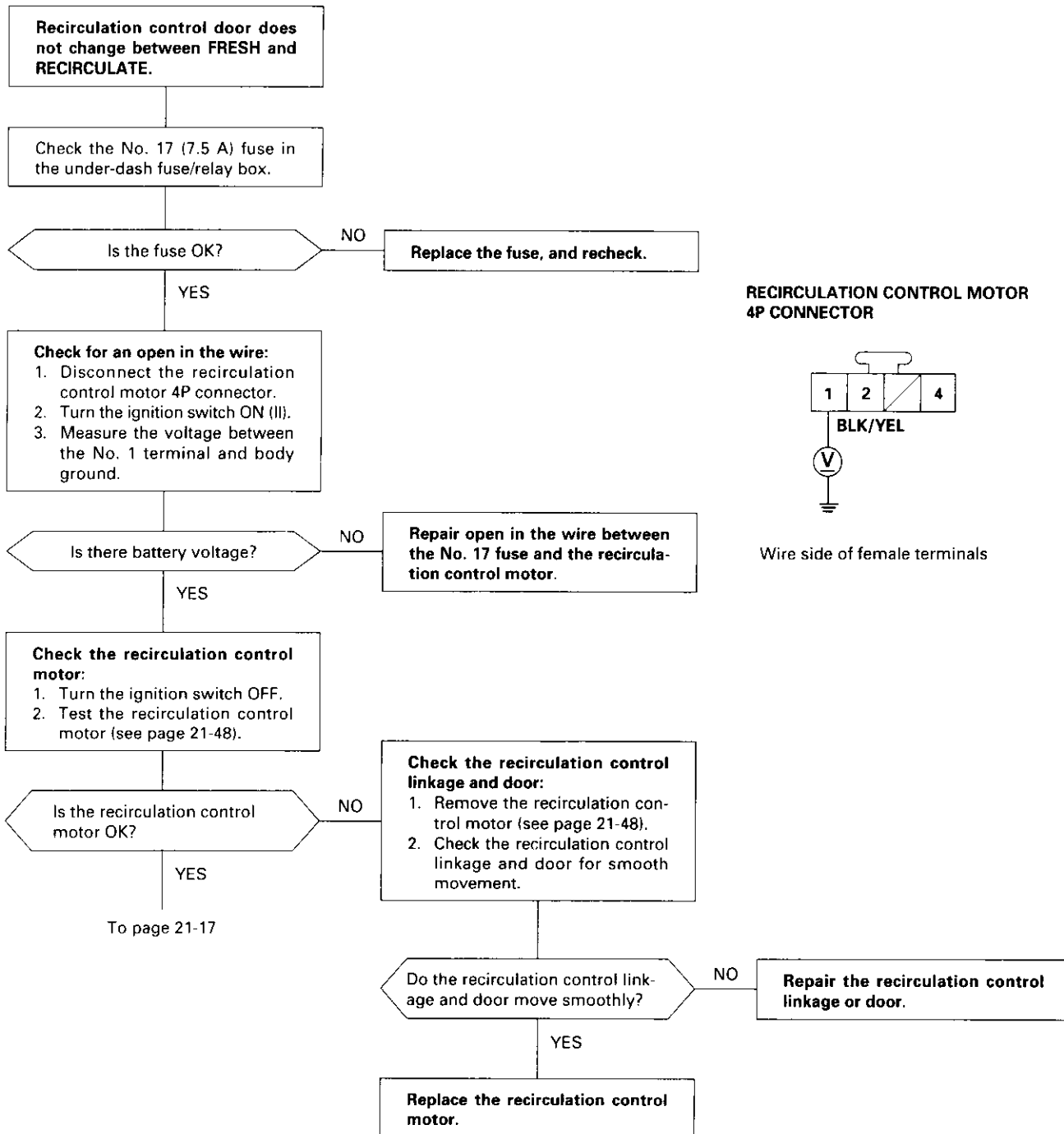


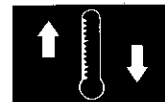
MODE CONTROL MOTOR 7P CONNECTOR

Wire side of female terminals

Troubleshooting — '96 - 98 Models

Recirculation Control Motor





From page 21-16

Check for a short in the wire(s):

1. Remove the center dashboard lower cover (see section 20), and disconnect the heater control panel 14P connector.
2. Check for continuity between the No. 12 and No. 13 terminals and body ground individually.

Is there continuity?

YES

Repair short in the wire(s) between the recirculation control motor and the heater control panel.

NO

Check for a short to power:

Check the same wires for voltage.

Is there any voltage?

YES

Repair short to power in the wire(s) between the recirculation control motor and the heater control panel. This short also damages the heater control panel. Repair the short to power before replacing the heater control panel.

NO

Check for an open in the wire(s):
Check for continuity between the following terminals of the recirculation control motor 4P connector and the heater control panel 14P connector.

4P: 14P:
No. 2 — No. 12
No. 4 — No. 13

Is there continuity?

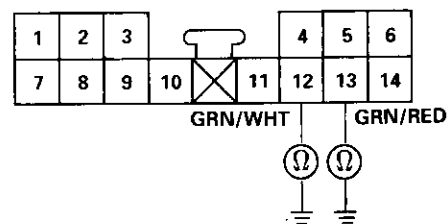
NO

Repair open in the wire(s) between the recirculation control motor and the heater control panel.

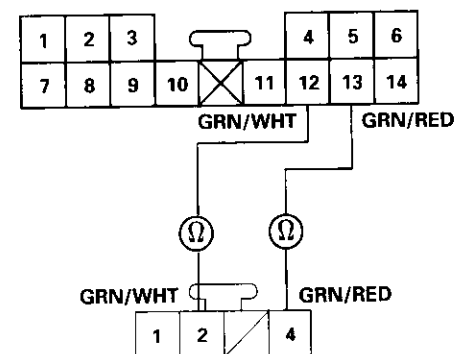
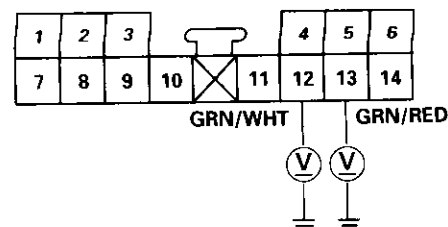
YES

Check for loose wires or poor connections at the heater control panel 14P connector, and at the recirculation control motor 4P connector. If the connections are good, replace the heater control panel.

HEATER CONTROL PANEL 14P CONNECTOR



Wire side of female terminals

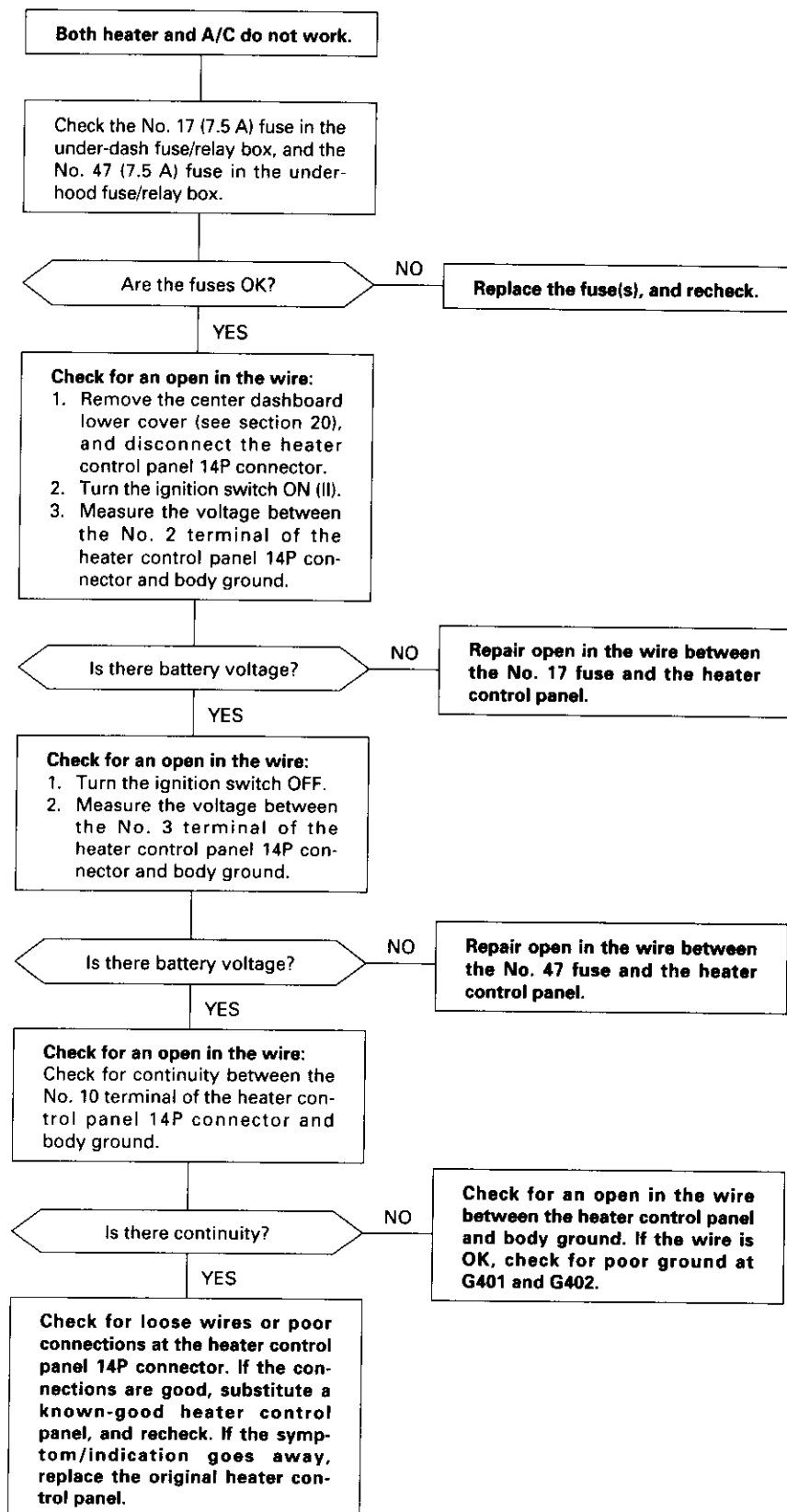


RECIRCULATION CONTROL MOTOR 4P CONNECTOR

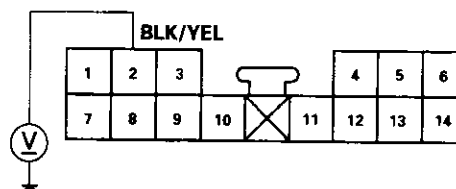
Wire side of female terminals

Troubleshooting — '96 – 98 Models

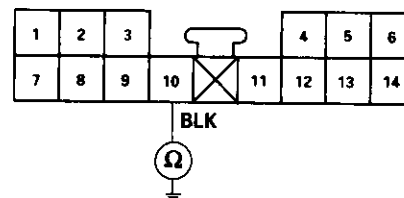
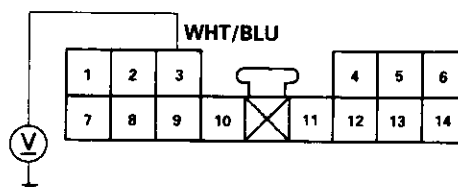
Heater Control Panel

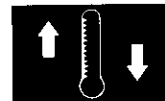


HEATER CONTROL PANEL 14P CONNECTOR



Wire side of female terminals





Symptom Chart

For electrical malfunctions which are indicated by the self-diagnostic system, refer to self-diagnosis function (see next page).

Note these items before troubleshooting a symptom.

- Check the engine coolant level, and allow the engine to warm up before troubleshooting.
- Any abnormality must be corrected before continuing the test.
- Because of the precise measurements needed, use a digital multimeter with an output of 1 mA or less at the 20 k Ω range when testing.
- Before performing any troubleshooting procedures check:
 - Fuses No. 47 (7.5 A), No. 55 (40 A) in the under-hood fuse/relay box, and No. 17 (7.5 A) in the under-dash fuse/relay box.
 - Grounds No. G401, G402
 - Cleanliness and tightness of all connectors

Symptom	See page
Mode control motor does not run, or one or more modes are inoperative.	21-25
Recirculation control door does not change between Fresh and Recirculate.	21-27
Blower motor only runs on high speed position; it does not run in any other speed positions.	21-29
Blower motor does not run at all.	21-31
Both heater and A/C do not work.	21-35

Troubleshooting — '99 – 00 Models

Self-diagnosis Function

The heater control panel has a self-diagnosis function.

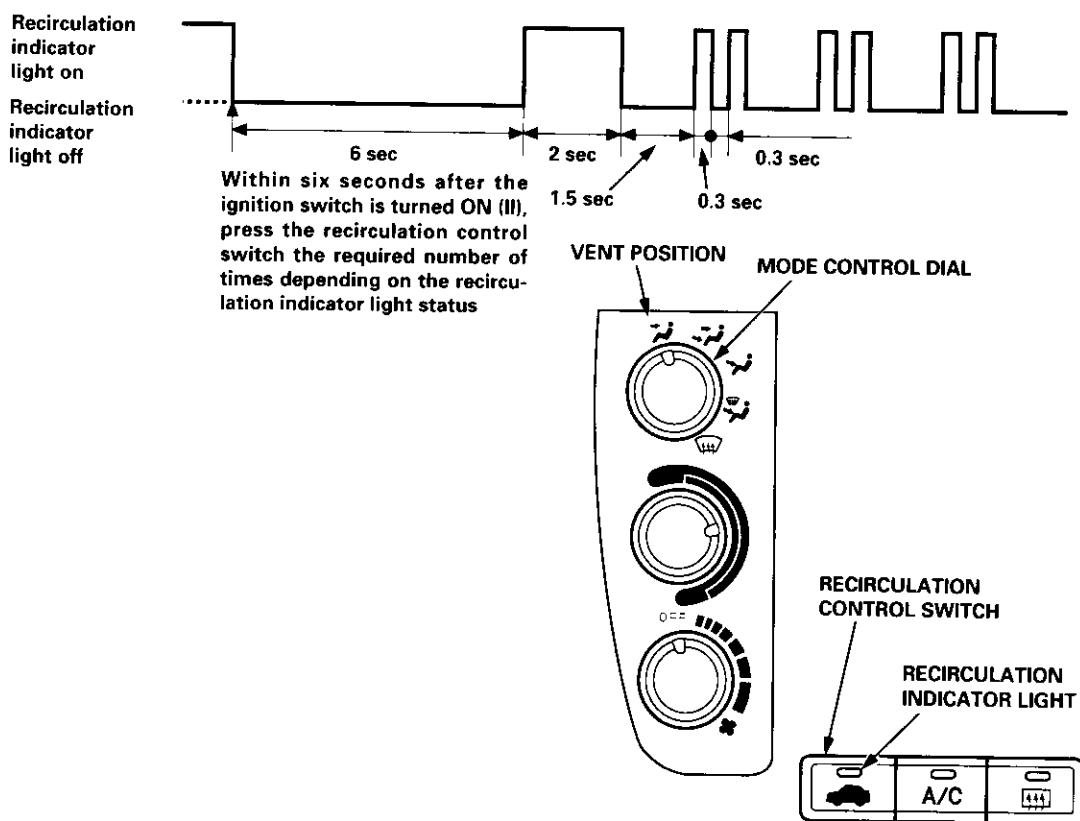
Running the Self-diagnosis Function

Set the mode control dial to the Vent position, and turn the ignition switch ON (II). Within six seconds after turning the ignition switch on, press the recirculation control switch the required number of times depending on the recirculation indicator light status:

- If the indicator light is ON, press the recirculation control switch five times.
- If the indicator light is OFF, press the recirculation control switch six times.

The recirculation indicator light will come on for two seconds, then blink the Diagnostic Trouble Code (DTC) to indicate a faulty component. If no DTC's are found, the indicator light will not blink after the initial two second light.

DTC Indication Pattern (See DTC 2):



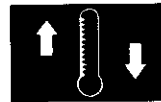
DTC Troubleshooting Index

Diagnostic trouble code (DTC)	Recirculation indicator light	Component with problem	Possible cause	See page
1	One blink	Air mix control motor	Obstructed door, faulty motor	21-21
2	Two blinks	Air mix control motor	Open or short circuit	21-23

In case of multiple problems, the recirculation indicator light will indicate only one DTC with the least number of blinks.

Resetting the Self-diagnosis Function

Turning the ignition switch OFF will cancel the self-diagnosis function. After completing repair work, run the self-diagnosis function again to make sure that there are no other malfunctions.



Air Mix Control Motor

Recirculation indicator light indicates Diagnostic Trouble Code (DTC) 1: A problem in the air mix control linkage, door and motor.

The air mix control motor regulates the mixture of cool/hot air according to outputs from the heater control panel.

Self-diagnosis circuit check indicates a problem in the air mix control motor circuit.

Check the air mix control motor:

1. Disconnect the air mix control motor 5P connector.
2. Test the air mix control motor (see page 21-46).

Is the air mix control motor OK?

YES

NO

Check the air mix control linkage and doors:

1. Remove the air mix control motor (see page 21-46).
2. Check the air mix control linkage and doors for smooth movement.

Do the air mix control linkage and doors move smoothly?

NO

Repair the air mix control linkage or doors.

YES

Replace the air mix control motor.

Check for a short in the wires:

1. Disconnect the heater control panel 20P connector.
2. Check for continuity between body ground and the heater control panel 20P connector terminals No. 3 and 4 individually.

Is there continuity?

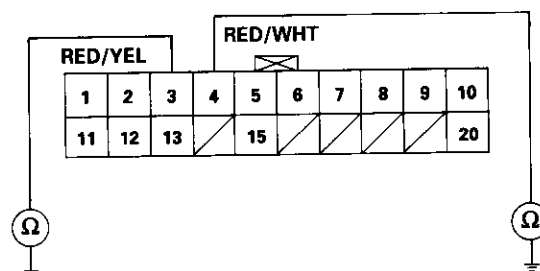
YES

Repair any short in the wire(s) between the heater control panel and the air mix control motor.

NO

To page 21-22

HEATER CONTROL PANEL 20P CONNECTOR



Wire side of female terminals

(cont'd)

Troubleshooting — '99 – 00 Models

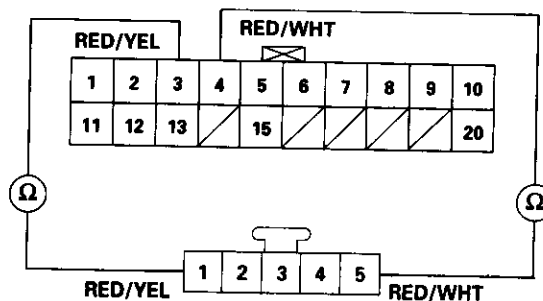
Air Mix Control Motor (cont'd)

From page 21-21

Check for an open in the wires:

Check for continuity between following terminals of the heater control panel 20P connector and the air mix control motor 5P connector.

20P: 5P:
No. 3 No. 1
No. 4 No. 5



**AIR MIX CONTROL MOTOR
5P CONNECTOR**
Wire side of female terminals

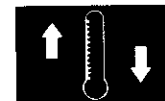
Is there continuity?

NO

Repair any open in the wire(s)
between the heater control panel
and air mix control motor.

YES

Check for loose wires or poor connections at the heater control panel 20P connector and at the air mix control motor 5P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.



Recirculation indicator light indicates Diagnostic Trouble Code (DTC) 2: A problem in the air mix control motor circuit.

The air mix control motor regulates the mixture of cool/hot air according to outputs from the heater control panel.

Self-diagnosis circuit check indicates a problem in the air mix control motor circuit.

Check the air mix control motor:

1. Disconnect the air mix control motor 5P connector.
2. Test the air mix control motor (see page 21-46).

Is the air mix control motor OK?

YES

NO

Check the air mix control linkage and doors:

1. Remove the air mix control motor (see page 21-46).
2. Check the air mix control linkage and doors for smooth movement.

Do the air mix control linkage and doors move smoothly?

YES

Replace the air mix control motor.

NO

Repair the air mix control linkage or doors.

Check for a short in the wires:

1. Disconnect the heater control panel 20P connector.
2. Check for continuity between body ground and the heater control panel 20P connector terminals No. 3, 4, 12, 15 and 20 individually.

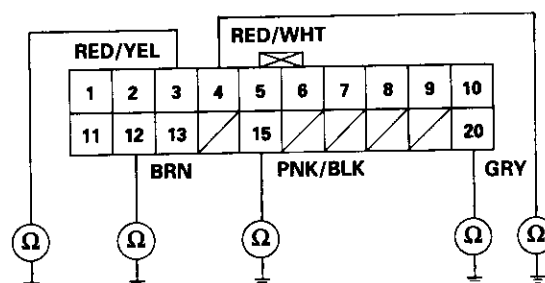
Is there continuity?

NO

YES

Repair any short in the wire(s) between the heater control panel and the air mix control motor.

HEATER CONTROL PANEL 20P CONNECTOR



Wire side of female terminals

To page 21-24

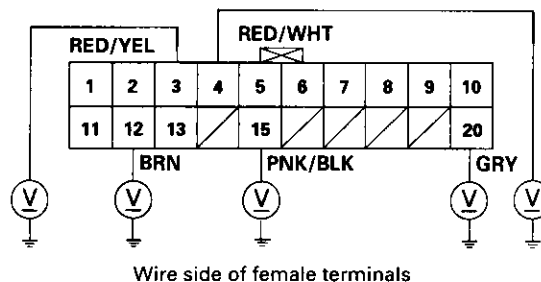
(cont'd)

Troubleshooting — '99 – 00 Models

Air Mix Control Motor (cont'd)

From page 21-23

HEATER CONTROL PANEL 20P CONNECTOR



Check for a short to power:
Check the same terminals for voltage.

Is there any voltage?

YES

Repair short to power in the wire(s) between the heater control panel and the air mix control motor. This short also damages the heater control panel. Repair the short to power before replacing the heater control panel.

NO

Check for an open in the wires:
Check for continuity between following terminals of the heater control panel 20P connector and the air mix control motor 5P connector.

20P:	5P:
No. 3	No. 1
No. 4	No. 5
No. 12	No. 2
No. 15	No. 4
No. 20	No. 3

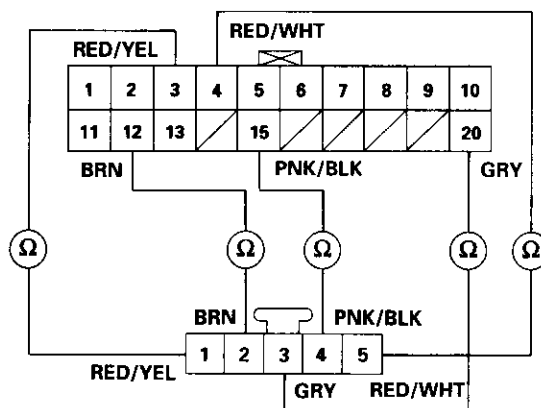
Is there continuity?

NO

Repair any open in the wire(s) between the heater control panel and air mix control motor.

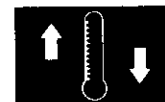
YES

Check for loose wires or poor connections at the heater control panel 20P connector and at the air mix control motor 5P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.



AIR MIX CONTROL MOTOR 5P CONNECTOR

Wire side of female terminals



Mode Control Motor

Mode control motor does not run, or one or more modes are inoperative.

Check the No. 17 (7.5 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

NO

Replace the fuse, and recheck.

YES

Check for an open in the wire:

1. Disconnect the mode control motor 7P connector.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 1 terminal of the mode control motor 7P connector and body ground.

Is there battery voltage?

NO

Repair open in the wire between the No. 17 fuse and the mode control motor.

YES

Check the mode control motor:

1. Turn the ignition switch OFF.
2. Test the mode control motor (see page 21-47).

Is the mode control motor OK?

NO

Check the mode control linkage and doors:

1. Remove the mode control motor (see page 21-47).
2. Check the mode control linkage and doors for smooth movement.

Do the mode control linkage and doors move smoothly?

NO

Repair the mode control linkage or doors.

YES

Replace the mode control motor.

Check for a short to power in the wires:

1. Turn the ignition switch ON (II).
2. Disconnect the heater control panel 20P connector.
3. Check for voltage between the No. 2, 5, 6, 7, 8 and 9 terminals of the heater control panel 20P connector and body ground individually.

Is there any voltage?

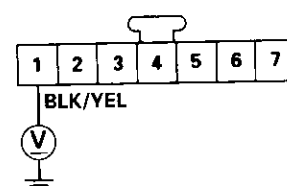
YES

Repair short to power in the wire(s) between the heater control panel and the mode control motor. This short also damages the heater control panel. Repair the short to power before replacing the heater control panel.

NO

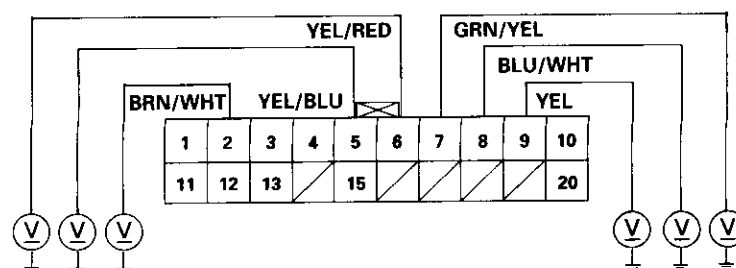
To page 21-26

MODE CONTROL MOTOR 7P CONNECTOR



Wire side of female terminals

HEATER CONTROL PANEL 20P CONNECTOR



Wire side of female terminals

(cont'd)

Troubleshooting — '99 – 00 Models

Mode Control Motor (cont'd)

From page 21-25

Check for a short to ground:

1. Turn the ignition switch OFF.
2. Check the same terminals for continuity to body ground.

Is there continuity?

YES

Repair any short in the wire(s) between the heater control panel and the mode control motor.

NO

Check for an open in the wires:

1. Disconnect the mode control motor 7P connector.
2. Check for continuity between the following terminals of the heater control panel 20P connector and the mode control motor 7P connector.

20P: 7P:

No. 2 — No. 7

No. 5 — No. 2

No. 6 — No. 6

No. 7 — No. 5

No. 8 — No. 4

No. 9 — No. 3

Is there continuity?

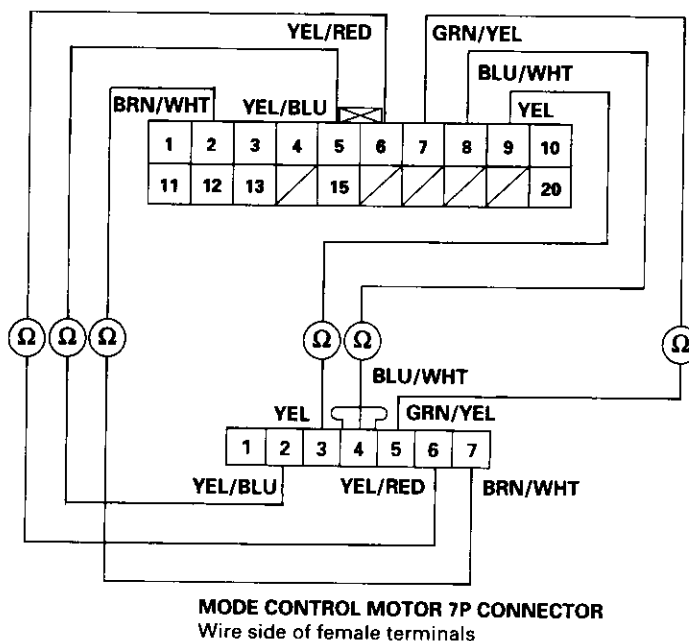
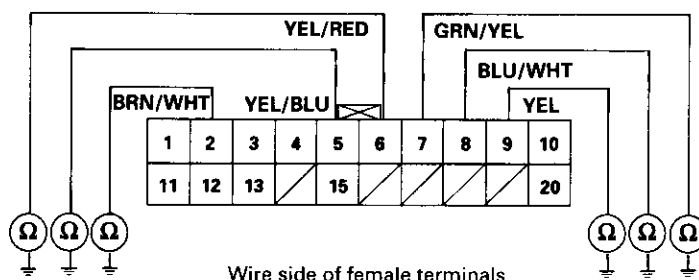
NO

Repair any open in the wire(s) between the heater control panel and the mode control motor.

YES

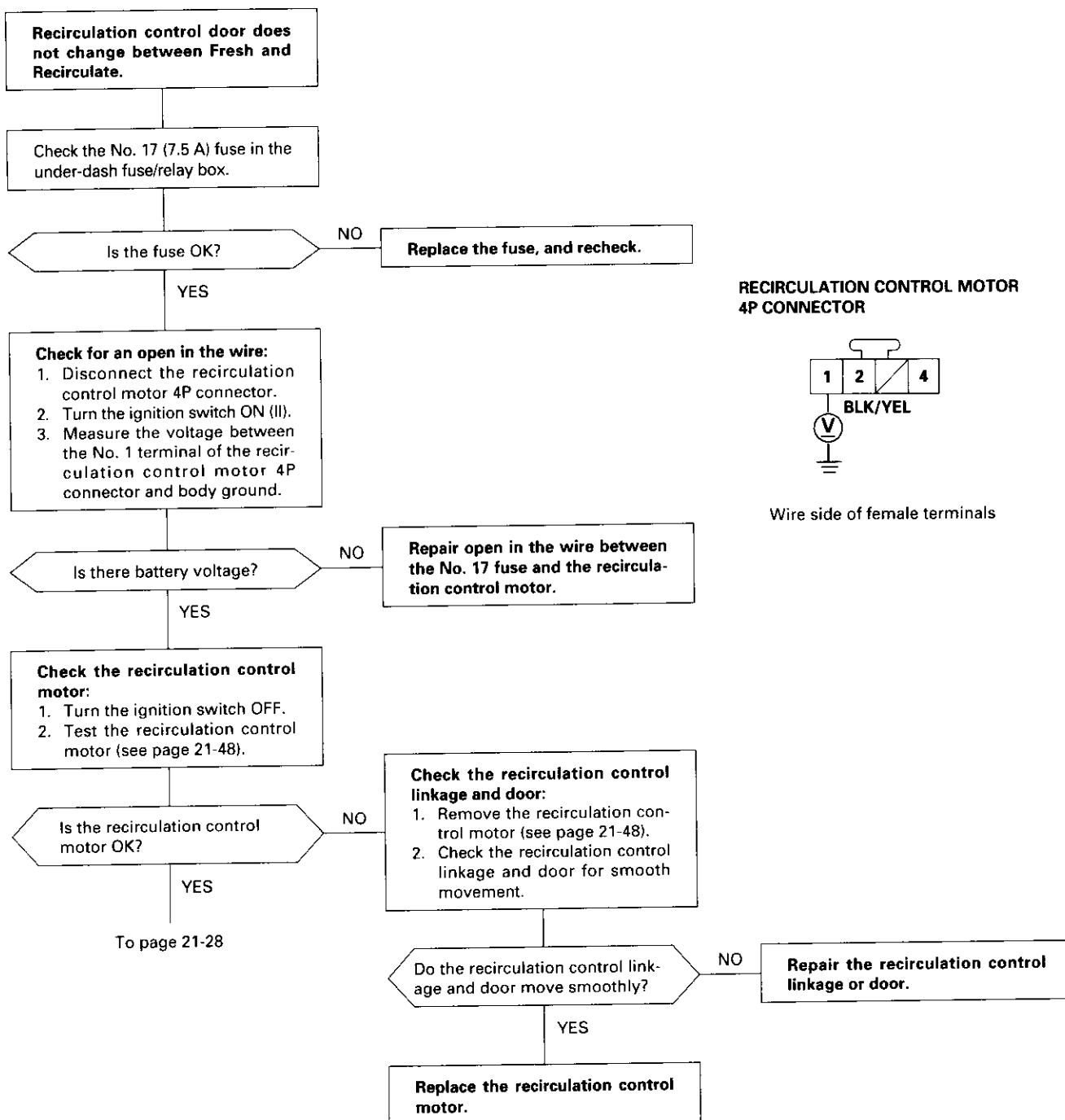
Check for loose wires or poor connections at the heater control panel 20P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

HEATER CONTROL PANEL 20P CONNECTOR





Recirculation Control Motor

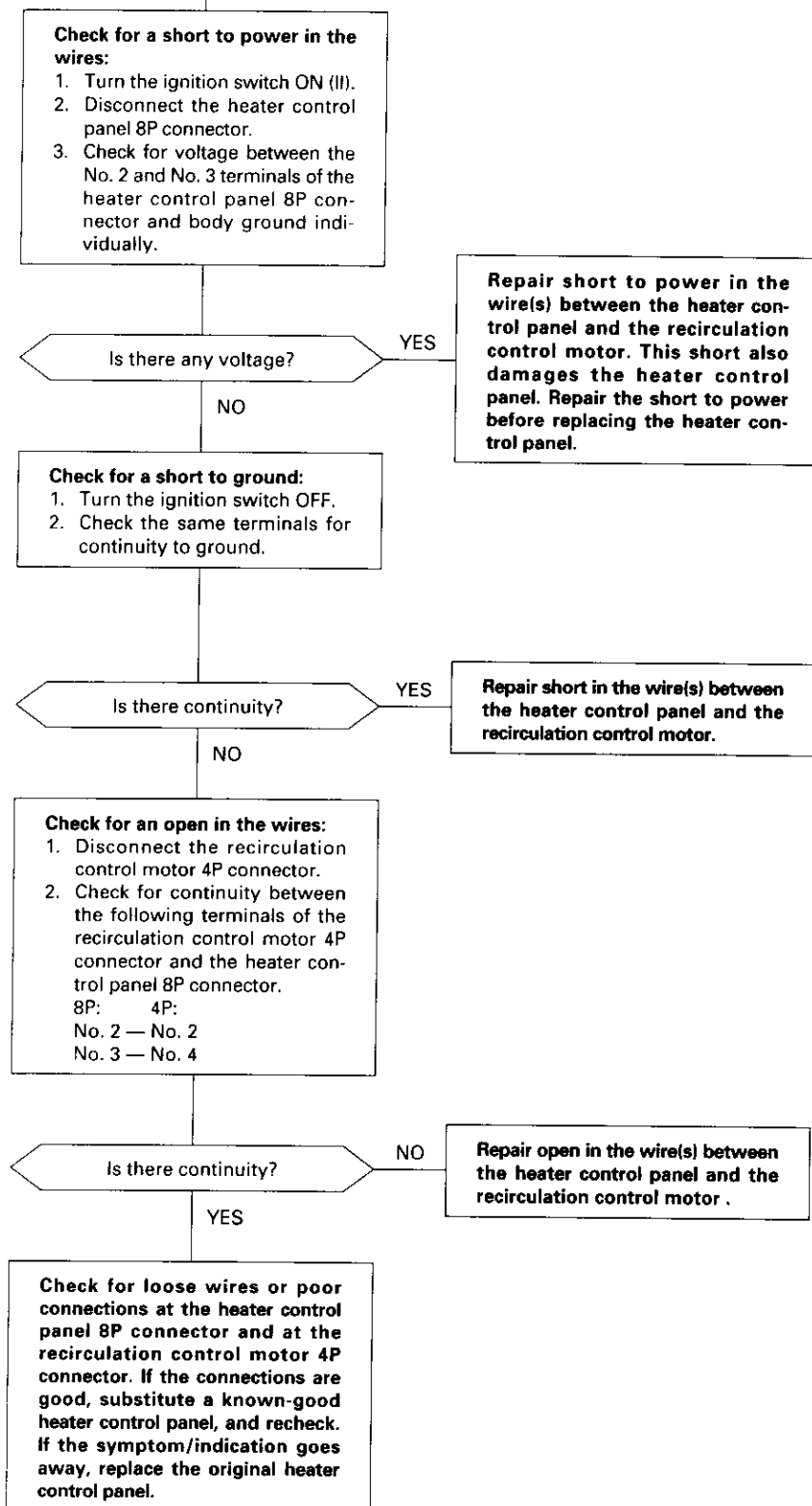


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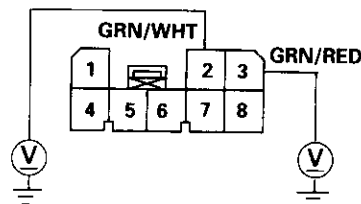
Troubleshooting — '99 – 00 Models

Recirculation Control Motor (cont'd)

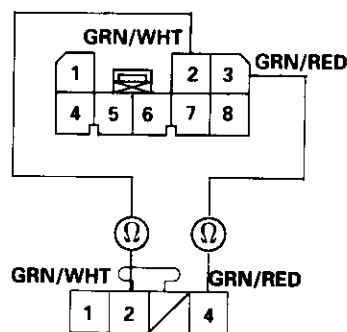
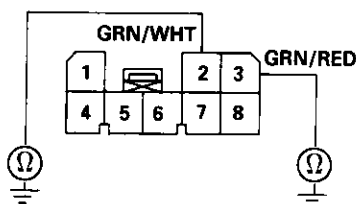
From page 21-27



HEATER CONTROL PANEL 8P CONNECTOR

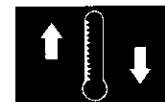


Wire side of female terminals



RECIRCULATION CONTROL MOTOR 4P CONNECTOR

Wire side of female terminals



Blower Motor Speed

Blower motor only runs on high speed position; it does not run in any other speed positions.

NOTE: If the blower motor does not run at all, refer to page 21-31.

Check for an open in the wire:

1. Disconnect the power transistor 3P connector.
2. Check for continuity between the No. 3 terminal of the power transistor 3P connector and body ground.

Is there continuity?

NO

Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G401 and G402.

YES

Check for an open in the wire:

1. Connect the No. 1 and No. 3 terminals of the power transistor 3P connector with a jumper wire.
2. Turn the ignition switch ON (II).

Does the blower motor run at high speed?

NO

Repair open in the wire between the blower motor and the power transistor.

YES

Check for an open in the wire:

1. Turn the ignition switch OFF.
2. Disconnect the jumper wire.
3. Disconnect the heater control panel 20P connector.
4. Check for continuity between the No. 1 terminal of the heater control panel 20P connector and the No. 2 terminal of the power transistor 3P connector.

Is there continuity?

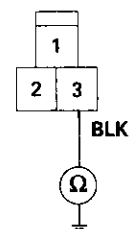
NO

Repair open in the wire between the heater control panel and the power transistor.

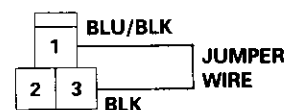
YES

To page 21-30

POWER TRANSISTOR 3P CONNECTOR

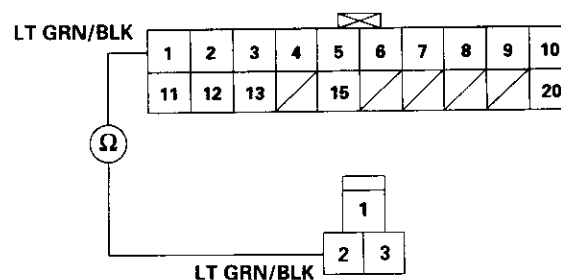


Wire side of female terminals



HEATER CONTROL PANEL 20P CONNECTOR

Wire side of female terminals



(cont'd)

Troubleshooting — '99 – 00 Models

Blower Motor Speed (cont'd)

From page 21-29

Check for a short in the wire:
Check for continuity between the No. 1 terminal of the heater control panel 20P connector and body ground.

Is there continuity?

YES

Repair short in the wire between the heater control panel and the power transistor.

NO

Check for an open in the wire:
1. Disconnect the heater control panel 8P connector.
2. Turn the ignition switch ON (II).
3. Measure the voltage between the No. 1 terminal of the heater control panel 8P connector and body ground.

Is there battery voltage?

NO

Repair open in the wire between the heater control panel and the blower motor.

YES

Check the power transistor:
1. Turn the ignition switch OFF.
2. Reconnect the heater control panel 8P and 20P connectors.
3. Test the power transistor (see page 21-50).

Is the power transistor OK?

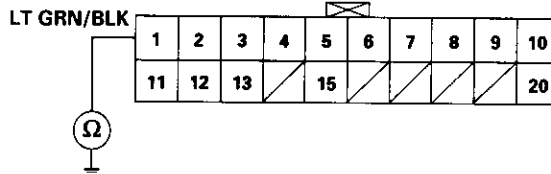
NO

Replace the power transistor.

YES

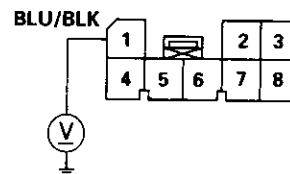
Check for loose wires or poor connections at the heater control panel 8P and 20P connectors and at the power transistor 3P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

HEATER CONTROL PANEL 20P CONNECTOR

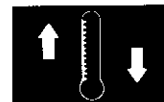


Wire side of female terminals

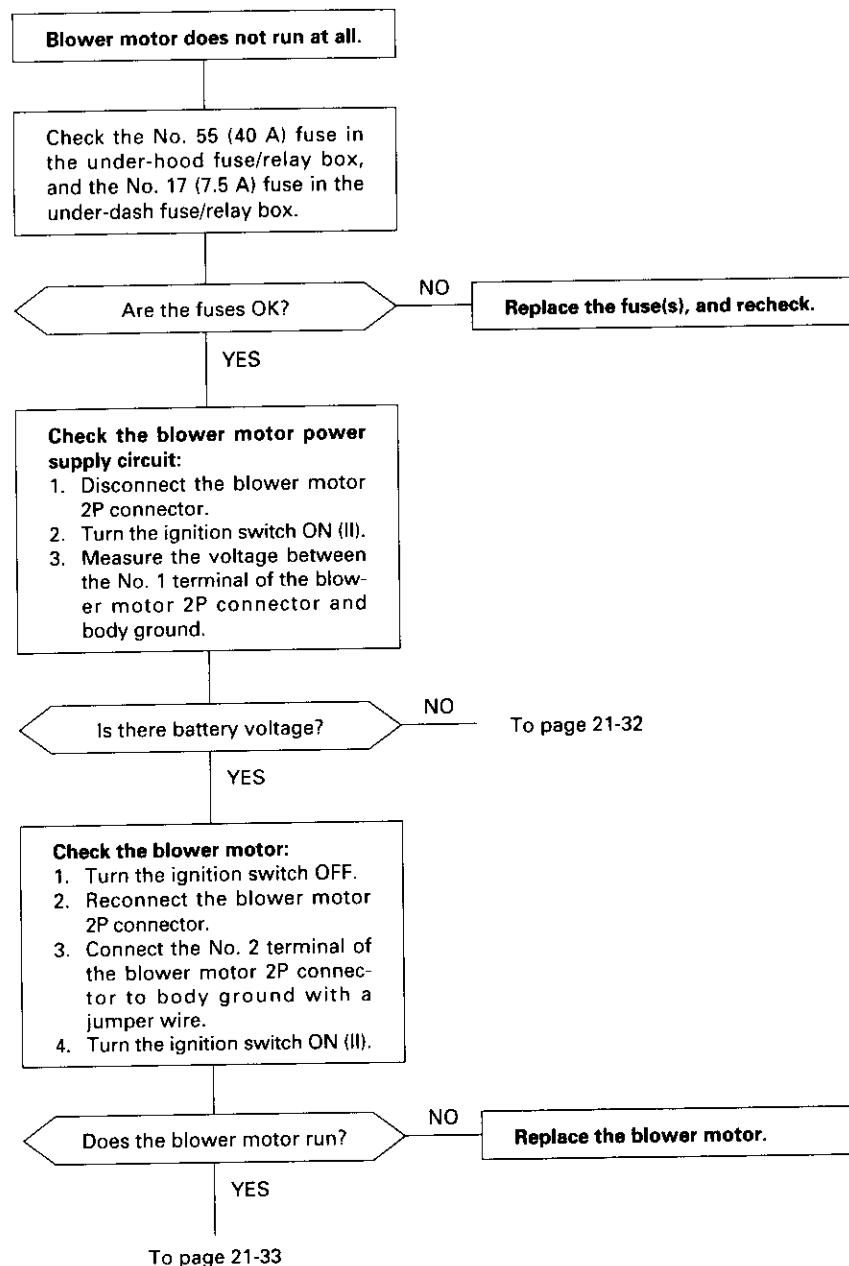
HEATER CONTROL PANEL 8P CONNECTOR



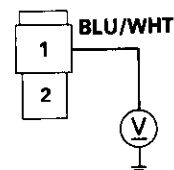
Wire side of female terminals



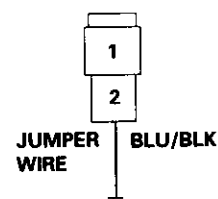
Blower Motor



BLOWER MOTOR 2P CONNECTOR



Wire side of female terminals

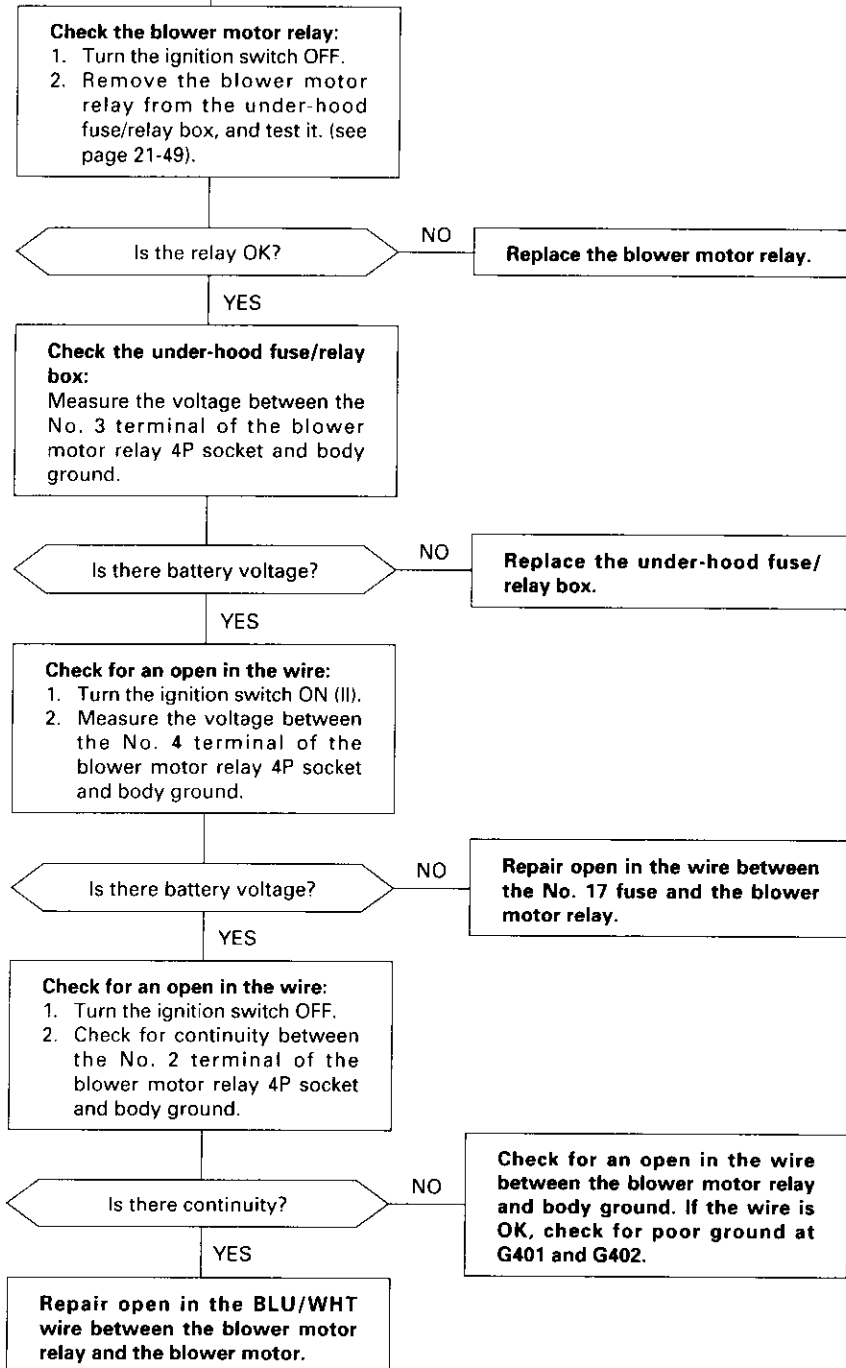


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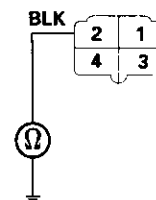
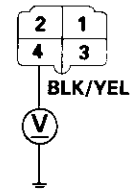
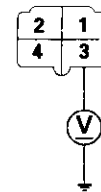
Troubleshooting — '99 – 00 Models

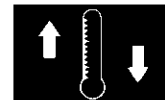
Blower Motor (cont'd)

From page 21-31

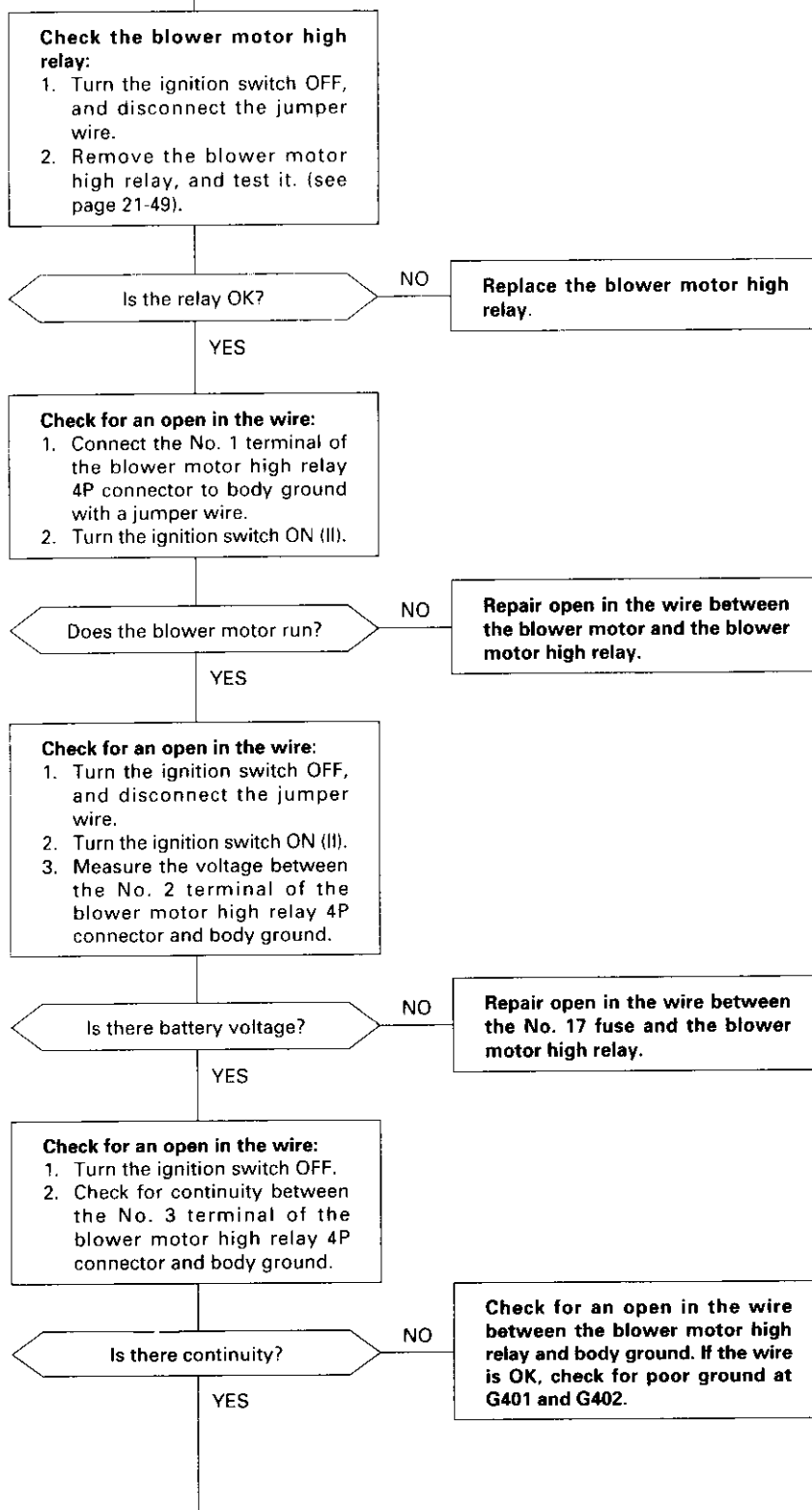


BLOWER MOTOR RELAY 4P SOCKET

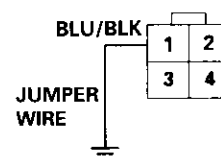




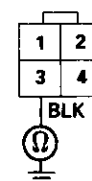
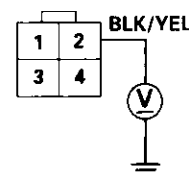
From page 21-31



BLOWER MOTOR HIGH RELAY 4P CONNECTOR



Wire side of female terminals



To page 21-34

(cont'd)

Troubleshooting — '99 – 00 Models

Blower Motor (cont'd)

From page 21-33

Check for an open in the wire:

1. Disconnect the heater control panel 8P connector.
2. Check for continuity between the No. 1 terminal of the heater control panel 8P connector and the No. 1 terminal of the blower motor high relay 4P connector.

Is there continuity?

NO

Repair open in the wire between the heater control panel and the blower motor high relay.

YES

Check for an open in the wire:

1. Disconnect the heater control panel 20P connector.
2. Check for continuity between the No. 13 terminal of the heater control panel 20P connector and the No. 4 terminal of the blower motor high relay 4P connector.

Is there continuity?

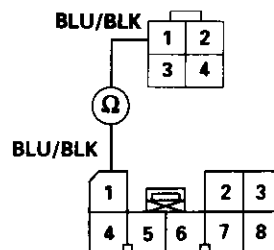
NO

Repair open in the wire between the heater control panel and the blower motor high relay.

YES

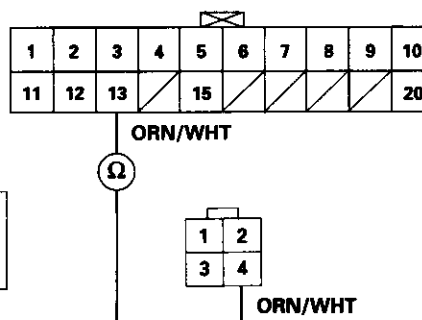
Check for loose wires or poor connections at the heater control panel 8P and 20P connectors and at the blower motor high relay 4P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

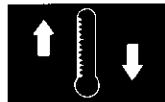
BLOWER MOTOR HIGH RELAY 4P CONNECTOR
Wire side of female terminals



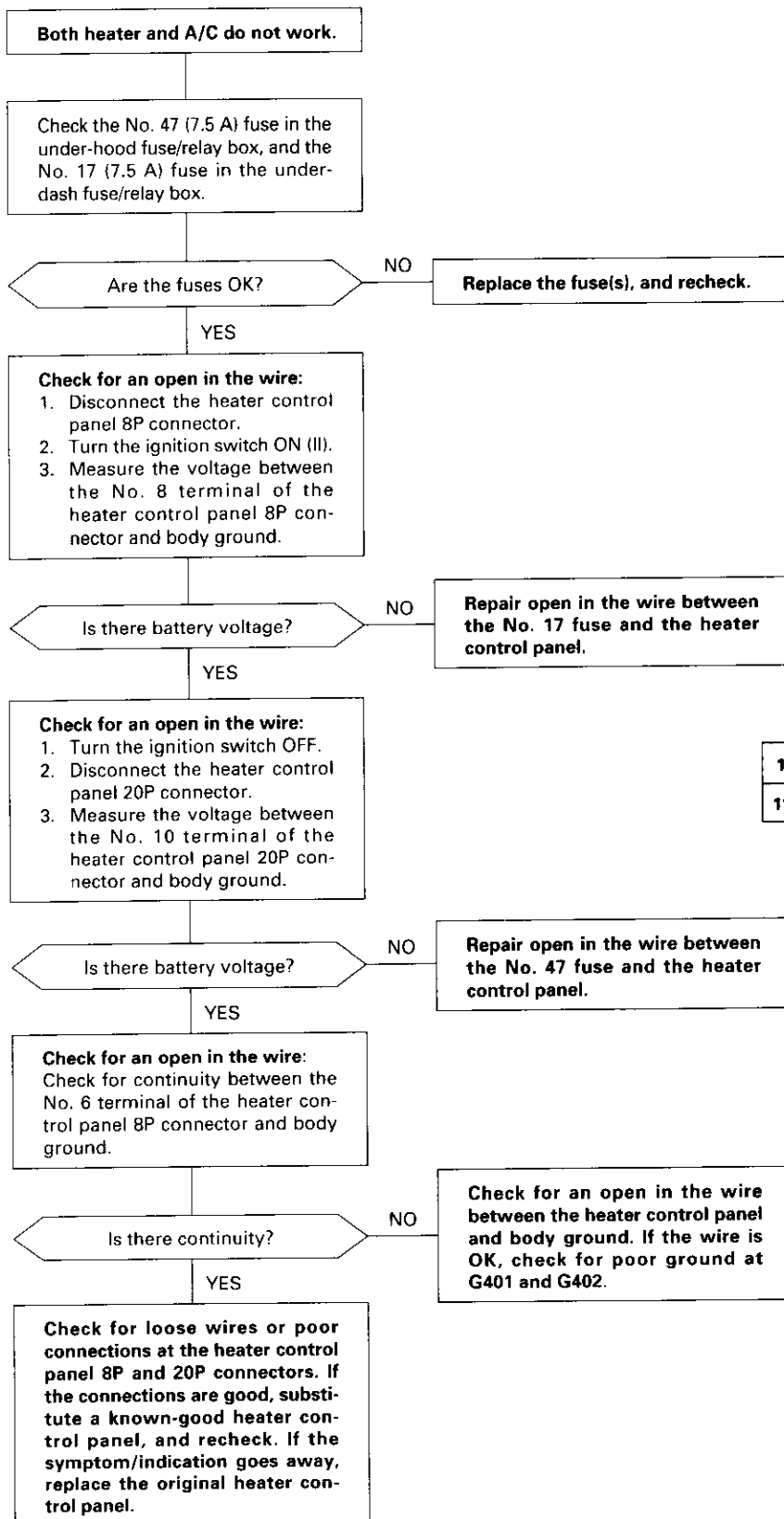
HEATER CONTROL PANEL 8P CONNECTOR
Wire side of female terminals

HEATER CONTROL PANEL 20P CONNECTOR
Wire side of female terminals

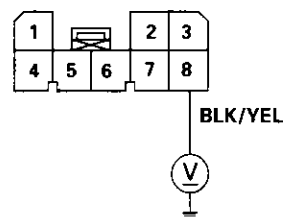




Heater Control Panel

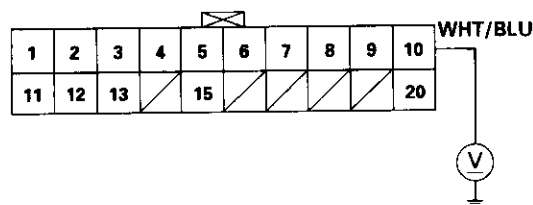


HEATER CONTROL PANEL 8P CONNECTOR

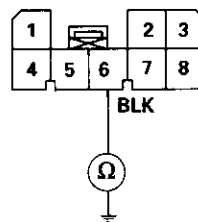


Wire side of female terminals

HEATER CONTROL PANEL 20P CONNECTOR



Wire side of female terminals

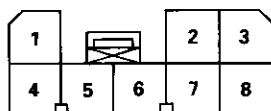


Troubleshooting — '99 – 00 Models

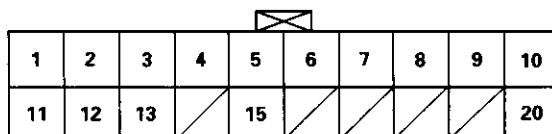
Heater Control Panel Input/Output Signals

HEATER CONTROL PANEL CONNECTORS

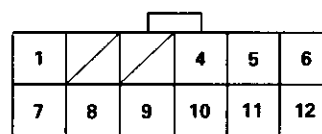
8P CONNECTOR



20P CONNECTOR



12P CONNECTOR



Wire side of female terminals

8P CONNECTOR (○ on Circuit Diagram)

Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1	BLU/BLK	BLOWER FEEDBACK	INPUT	5	RED	DASH LIGHTS BRIGHTNESS CONTROLLER	OUTPUT
2	GRN/WHT	FRESH	INPUT	6	BLK	GROUND	OUTPUT
3	GRN/RED	RECIRCULATE	INPUT	7	BLU/YEL	REAR WINDOW DEFOGGER RELAY	OUTPUT
4	RED/BLK	COMBINATION LIGHT SWITCH (Via No. 30 (7.5 A) fuse)	INPUT	8	BLK/YEL	IG2 (Power)	INPUT

20P CONNECTOR (□ on Circuit Diagram)

Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1	LT GRN/BLK	POWER TRANSISTOR BASE	OUTPUT	11*	BLU/RED	A/C THERMOSTAT	INPUT
2	BRN/WHT	MODE CONTROL MOTOR GROUND	INPUT	12	BRN	AIR MIX CONTROL MOTOR GROUND	INPUT
3	RED/YEL	AIR MIX HOT	OUTPUT	13	ORN/WHT	BLOWER MOTOR HIGH RELAY	INPUT
4	RED/WHT	AIR MIX COOL	OUTPUT	14			
5	YEL/BLU	MODE DEF	INPUT	15	PNK/BLK	AIR MIX POTENTIAL	OUTPUT
6	YEL/RED	MODE VENT	INPUT	16			
7	GRN/YEL	MODE HEAT/VENT	INPUT	17			
8	BLU/WHT	MODE HEAT	INPUT	18			
9	YEL	MODE HEAT/DEF	INPUT	19			
10	WHT/BLU	+B (Power)	INPUT	20	GRY	AIR MIX POTENTIAL +5 V	OUTPUT

*: With A/C

12P CONNECTOR (□ on Circuit Diagram)

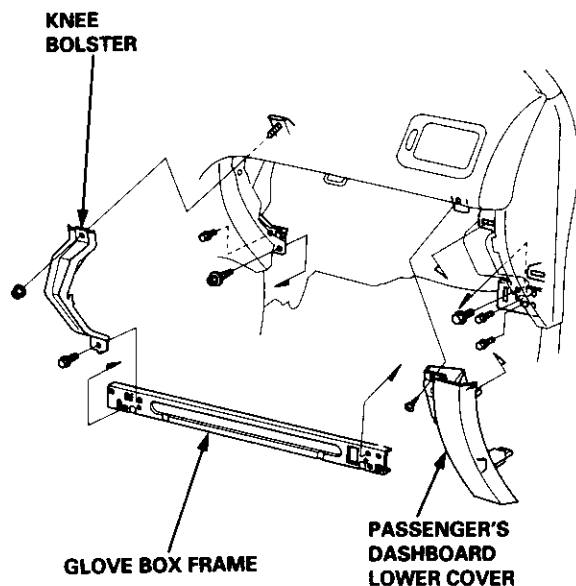
Cavity	Wire color	Signal		Cavity	Wire color	Signal	
1		SWITCH LED COMMON	OUTPUT	7		SWITCH LIGHTS +	OUTPUT
2				8		SWITCH LIGHTS -	INPUT
3				9		SWITCH COMMON	INPUT
4		RECIRCULATION CONTROL SWITCH LED	INPUT	10		A/C SWITCH	OUTPUT
5		A/C SWITCH LED	INPUT	11		RECIRCULATION CONTROL SWITCH	OUTPUT
6		REAR WINDOW DEFOGGER SWITCH LED	INPUT	12		REAR WINDOW DEFOGGER SWITCH	OUTPUT

Blower Unit

Replacement

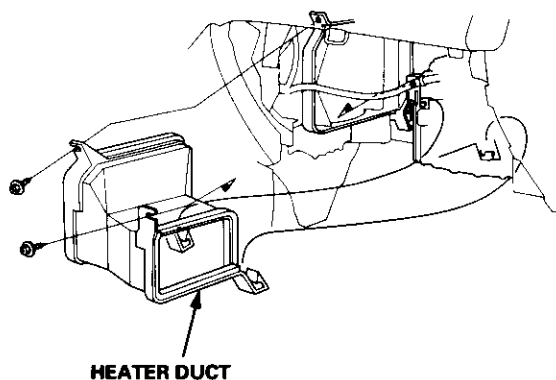
NOTE: The blower motor, recirculation control motor and blower resistor can be replaced without removing the blower unit (see next page).

1. Move the temperature control to "HOT."
'96-98: Slide the temperature control lever.
'99-00: Turn the ignition switch ON (II), then turn the temperature control knob. Turn the ignition switch off.
2. Remove the glove box (see section 20).
3. Remove the self-tapping screw and the passenger's dashboard lower cover. Remove the bolt, the nut and the knee bolster, then remove the five bolts and the glove box frame.



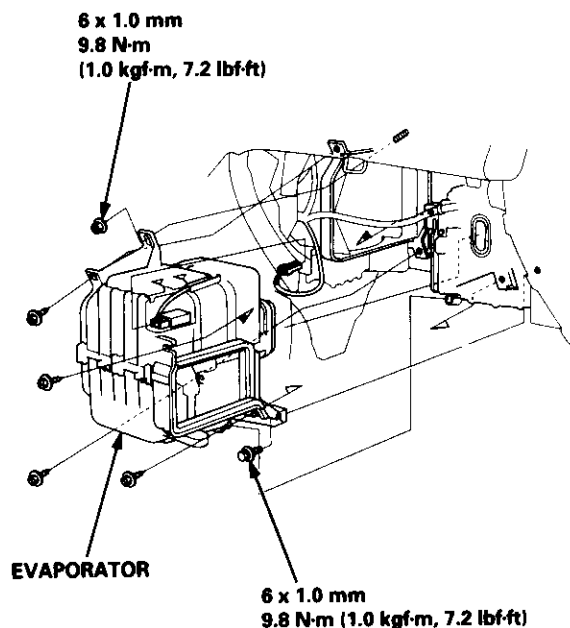
Without Air Conditioning

- 4-a. Remove the wire harness from the heater duct, then remove the two self-tapping screws and the heater duct.

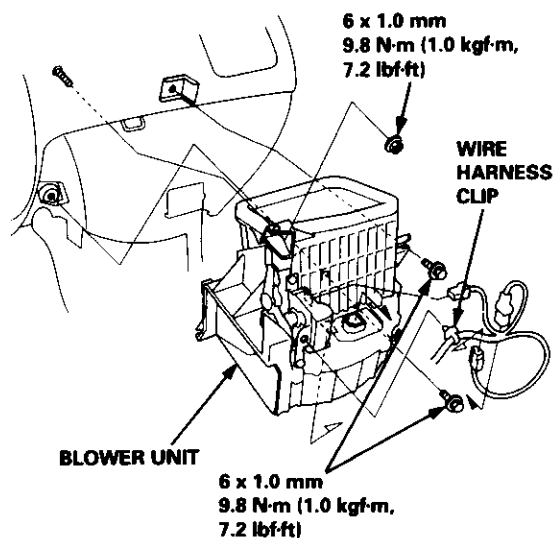


With Air Conditioning

- 4-b. Remove the evaporator (see page 22-28).



5. Disconnect the connectors from the blower motor, blower resistor ('96 - 98 models), power transistor ('99 - 00 models), blower motor high relay ('99 - 00 models) and recirculation control motor. Remove the wire harness clip from the recirculation control motor, and release the wire harness from the clamp on the blower unit. Remove the two mounting bolts, the mounting nut and the blower unit.



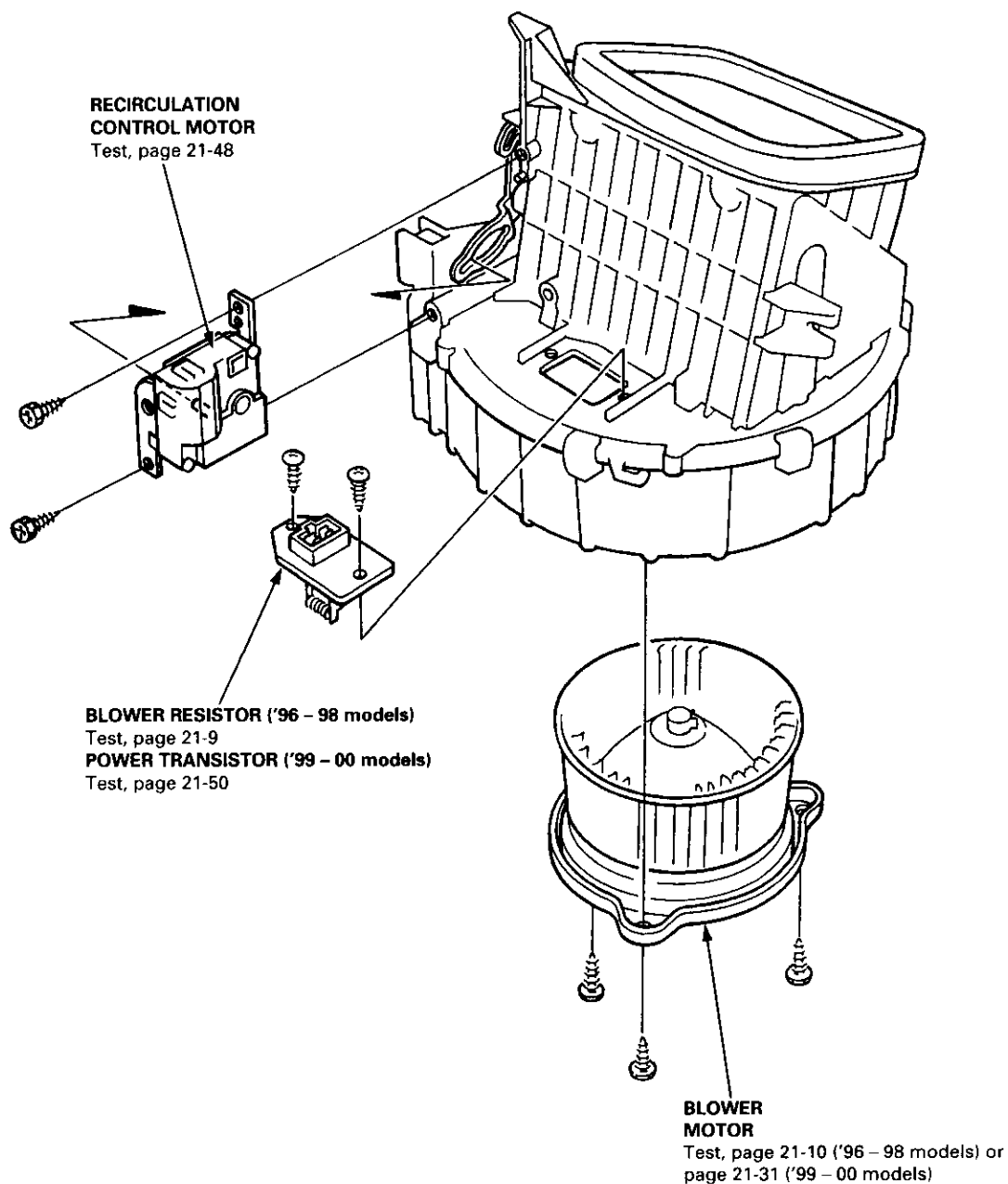
6. Install in the reverse order of removal. Make sure that there is no air leakage.

Blower Unit

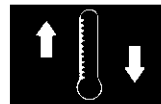
Overhaul

NOTE:

- Before reassembly, make sure that the recirculation control door and linkage move smoothly without binding.
- When attaching the recirculation control motor, make sure its positioning will not allow the recirculation control door to be pulled too far.
- After attaching the recirculation control motor, connect power and ground, and watch the movement of the recirculation control door.



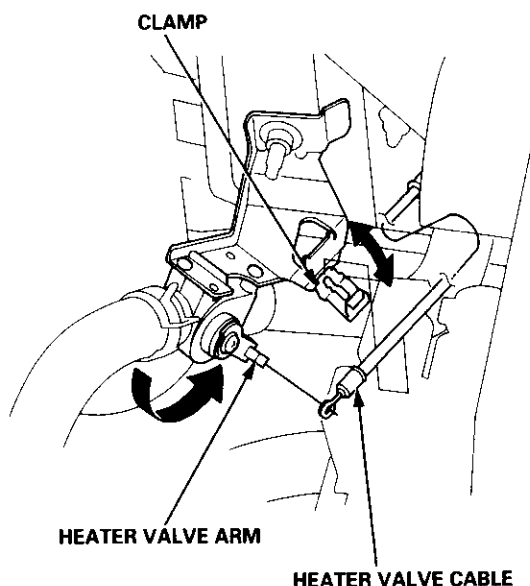
Heater Unit



Replacement

SRS components are located in this area. Review the SRS component locations, precautions, and procedures in the SRS section (24) before performing repairs or service.

1. Disconnect the negative cable from the battery.
2. From under the hood, open the clamp, then disconnect the heater valve cable from the heater valve arm. Turn the heater valve arm to the fully opened position as shown.



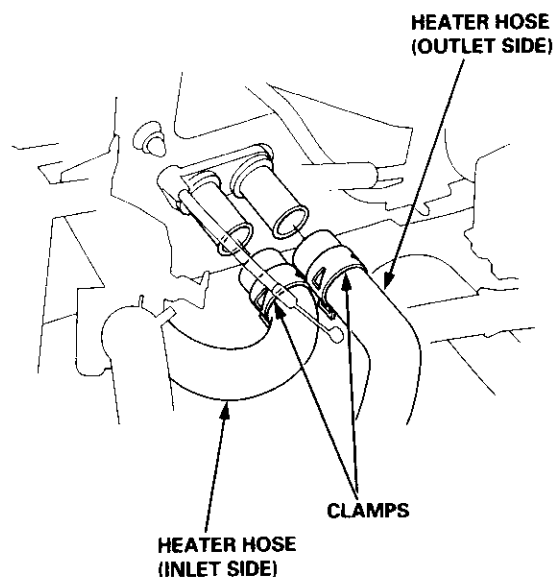
3. When the engine is cool, drain the engine coolant from the radiator (see section 10).

⚠ WARNING Do not remove the radiator cap when the engine is hot; the engine coolant is under pressure and could severely scald you.

4. Disconnect the heater hoses from the heater unit.

CAUTION: Engine coolant will damage paint. Quickly rinse any spilled engine coolant from painted surfaces.

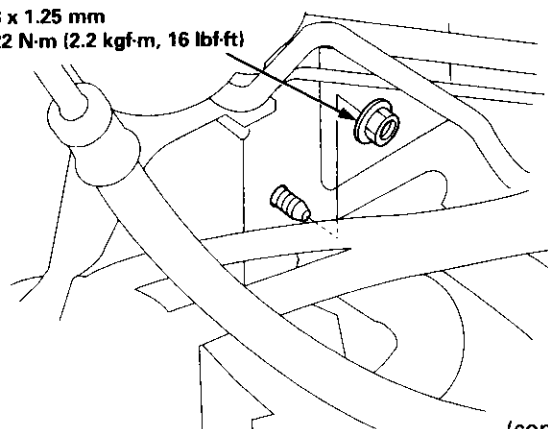
NOTE: Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan.



5. Remove the mounting nut from the heater unit.

NOTE: When removing the mounting nut, take care not to damage or bend the fuel lines, the brake lines, etc.

8 x 1.25 mm
22 N·m (2.2 kgf·m, 16 lbf·ft)

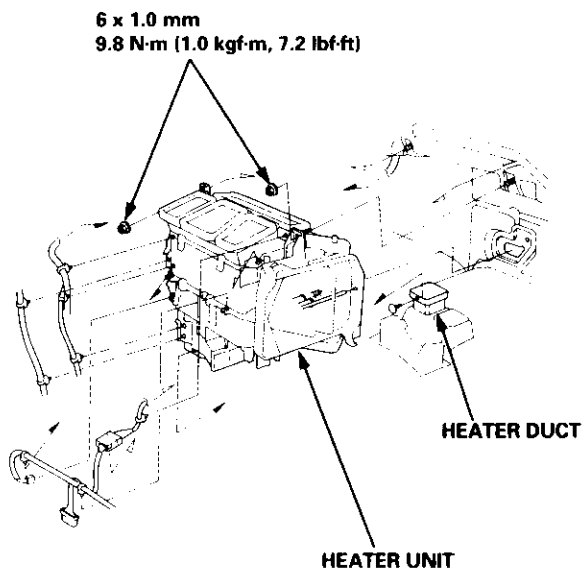


(cont'd)

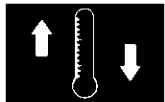
Heater Unit

Replacement (cont'd)

6. Remove the dashboard (see section 20).
7. Remove the heater duct (see page 21-37) or evaporator (see page 22-28).
8. Disconnect the connectors from the mode control motor and air mix control motor ('99 – 00 models), then remove the wire harness clips and wire harness from the heater unit. Remove the clip from the heater duct, then remove the two mounting nuts and the heater unit.

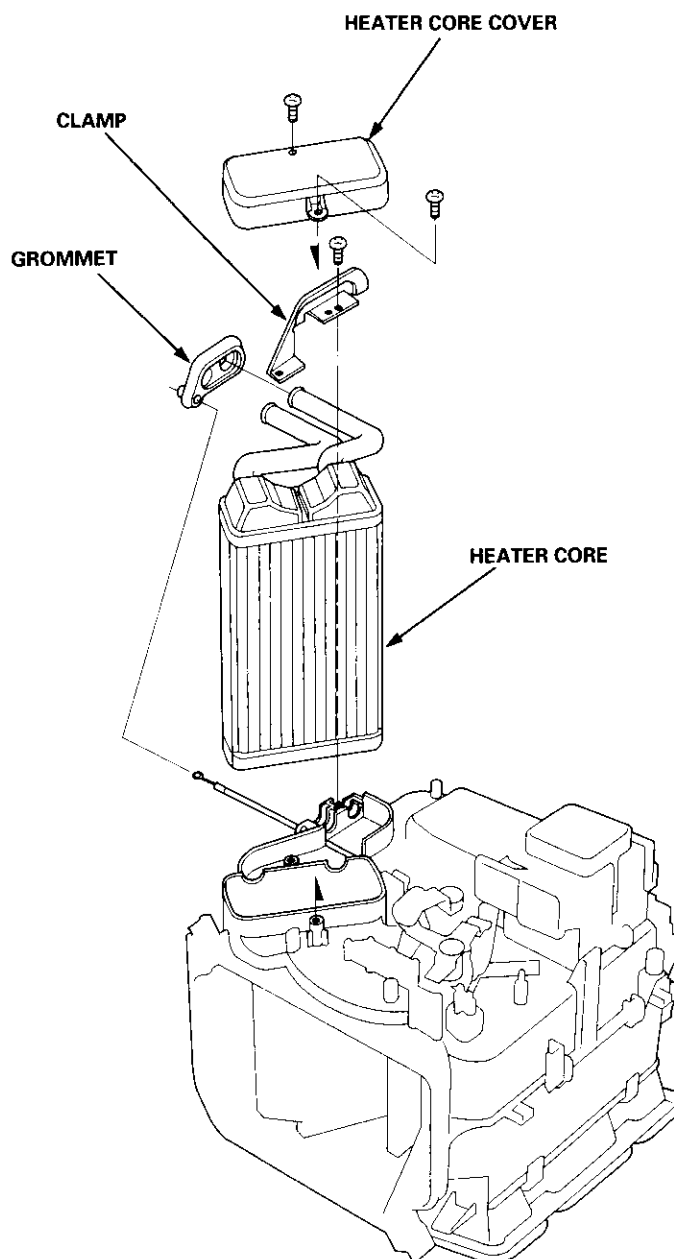


9. Install in the reverse order of removal. Make note of the following items.
 - Apply sealant to the grommets.
 - Do not interchange the inlet and outlet heater hoses. Make sure that the clamps are secure.
 - Refill the cooling system with engine coolant (see section 10).
 - Connect all cables, and make sure they are properly adjusted (see page 21-44 ('96 – 98 models) or page 21-45 ('99 – 00 models)).
 - Make sure that there is no air leakage.



Overhaul

1. Remove the two self-tapping screws and the heater core cover.
 2. Pull out the grommet from the heater core pipes.
 3. Remove the self-tapping screw and the clamp.
 4. Pull out the heater core from the heater unit.
- NOTE:** Be careful not to bend the inlet and outlet pipes during heater core removal.
5. Assemble in the reverse order of disassembly.



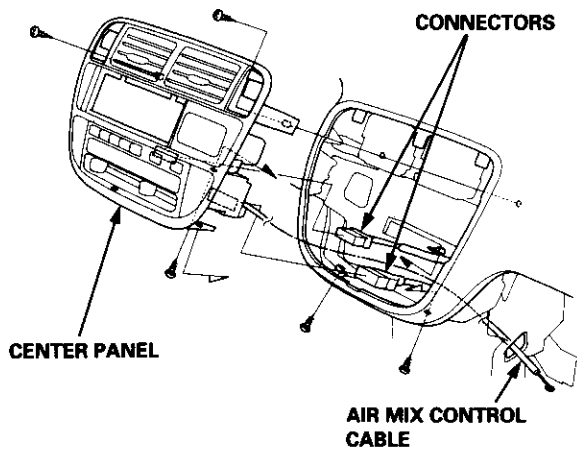
Heater Control Panel

Replacement

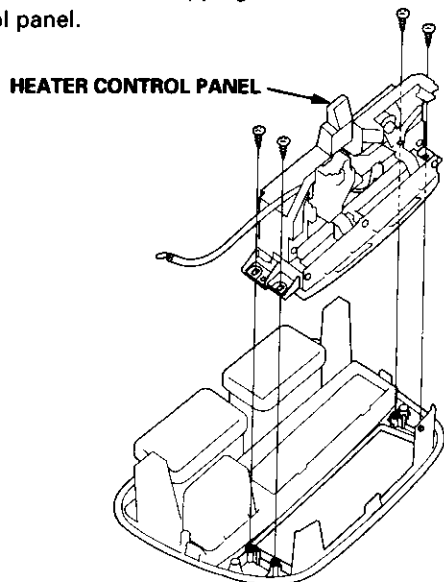
'96 – 98 models:

1. Remove the driver's dashboard lower cover, the glove box and the center dashboard lower cover (see section 20).
2. Disconnect the air mix control cable from the heater unit (see page 21-44).
3. Remove the rear window defogger switch, the hazard warning switch and the audio unit (see section 23).
4. Disconnect the connectors from the heater control panel. Remove the five self-tapping screws and the center panel together with the heater control panel.

NOTE: The locking tabs are on the bottom of the connectors.



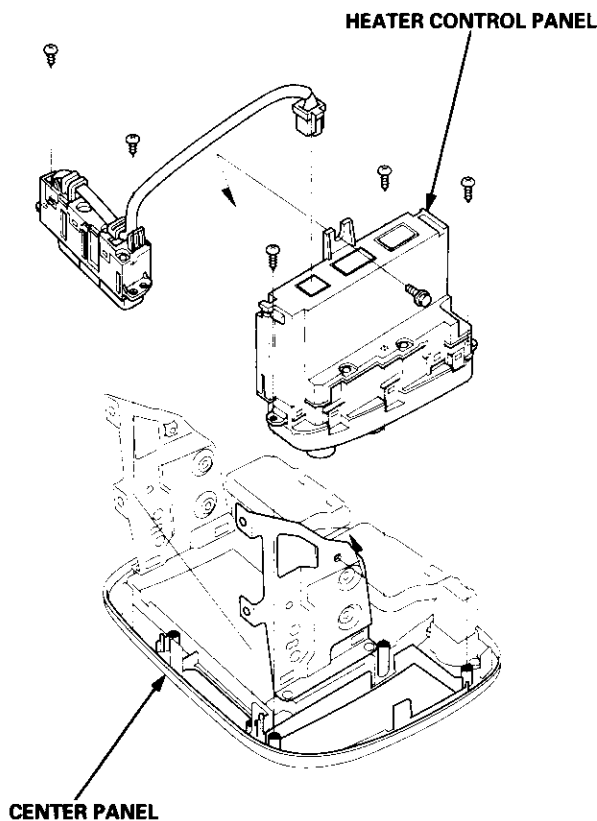
5. Remove the four self-tapping screws and the heater control panel.



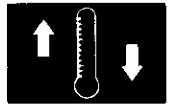
6. Install in the reverse order of removal. Adjust the air mix control cable and the heater valve cable (see page 21-44).

'99 – 00 models:

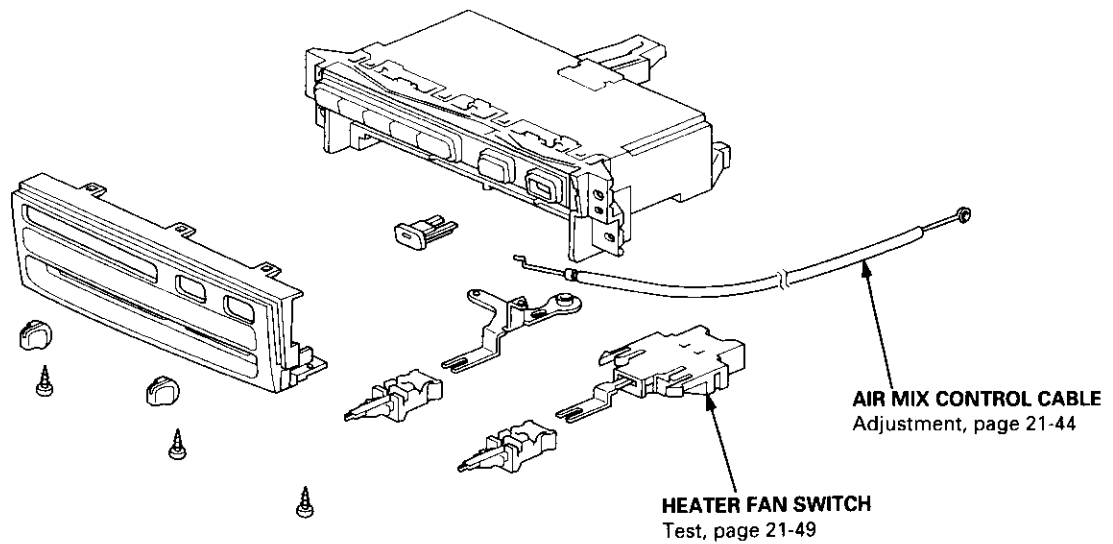
1. Remove the center panel together with the heater control panel (see section 20).
2. Remove the self-tapping screws and the heater control panel from the center panel.



3. Install in the reverse order of removal. After installation, operate the heater control panel to see whether it works properly.

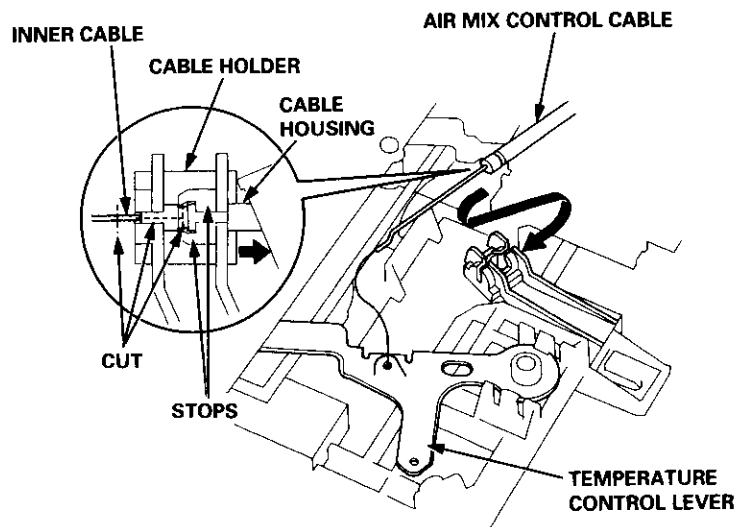


Overhaul — '96 – 98 Models



Air Mix Control Cable Replacement

1. Cut the inner cable on the lever side of the cable holder, then remove both pieces of the inner cable.



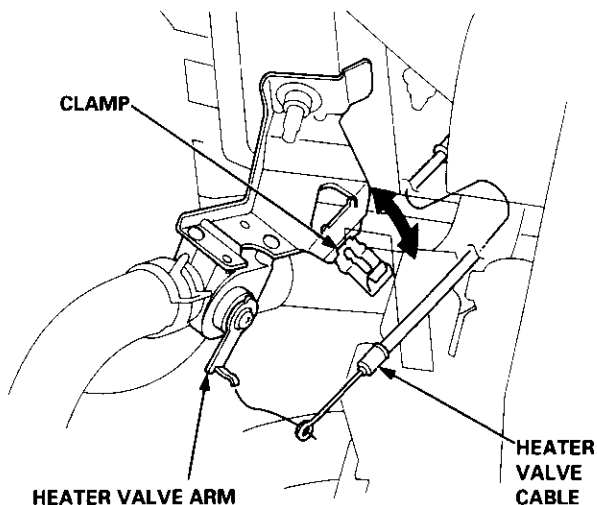
2. Using a sharp knife, cut completely through the end of the cable housing at the two locations.
3. Slide the large section of the cable housing out of the cable holder, being careful not to damage the cable stops.
4. Carefully remove the cut pieces of the cable housing with a small flat tip screwdriver.
5. Hook the tip of the new air mix control cable to the temperature control lever, then push the cable housing into the cable holder until it locks into place.

NOTE: After assembly, check that the temperature control lever slides smoothly through the full stroke from right to left.

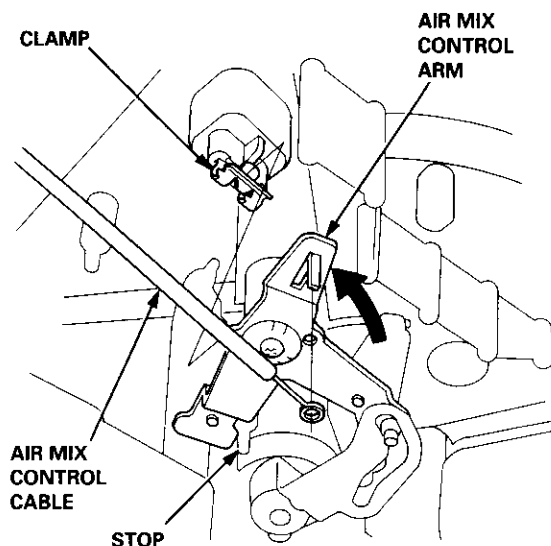
Temperature Control

Adjustment — '96 - 98 Models

1. From under the hood, disconnect the heater valve cable from the heater valve.

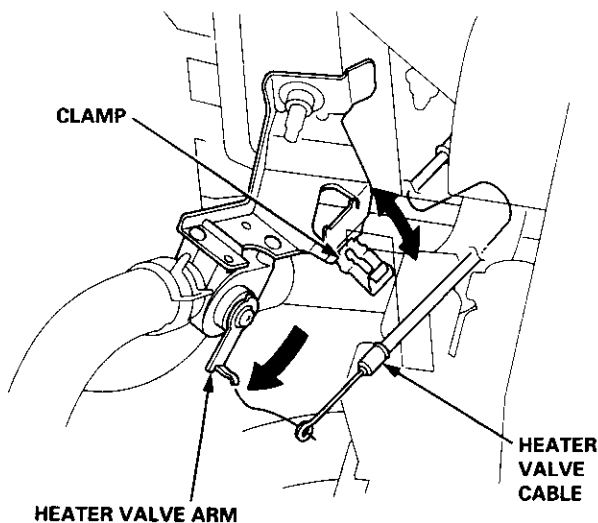


2. From under the dash, disconnect the air mix control cable housing from the cable clamp.

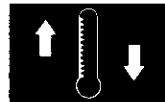


3. Set the temperature control lever to MAX. COOL.
4. With the air mix control cable attached to the air mix control arm, gently pull on the outer cable housing to fully close the door and to remove any slack in the cable. Don't pull to hard, or the temperature control lever will move.
5. Hold the air mix control arm against the stop, then snap the air mix control cable housing into the cable clamp.

6. From under the hood, move the heater valve arm to the fully closed position, then attach the heater valve cable to the heater valve arm.

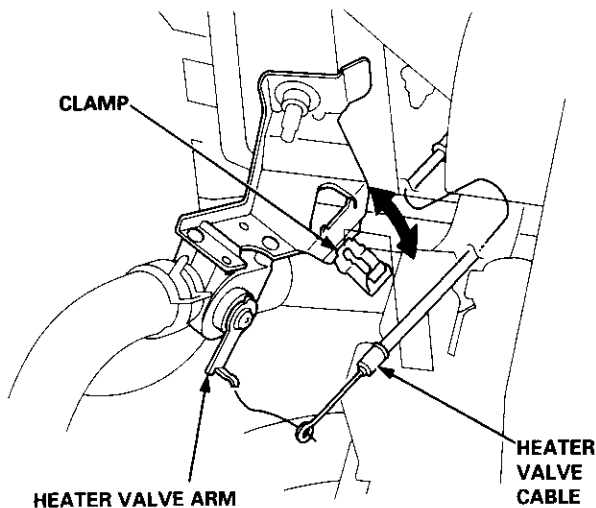


7. Hold the heater valve arm in the closed position, and gently pull on the heater cable outer housing to take up any slack, then install the heater valve cable housing into the cable clamp.

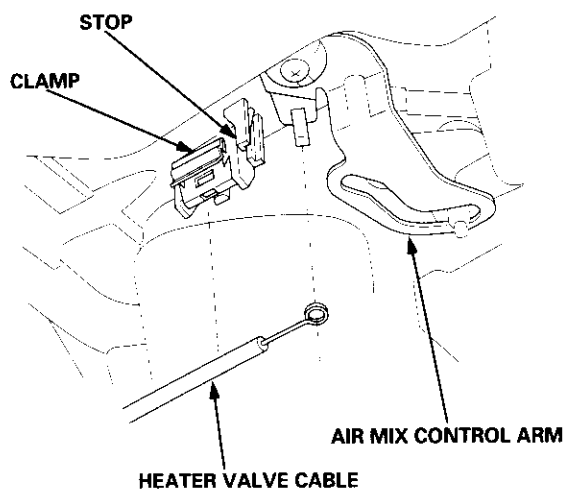


Adjustment — '99 – 00 Models

1. From under the hood, open the cable clamp, then disconnect the heater valve cable from the heater valve arm.

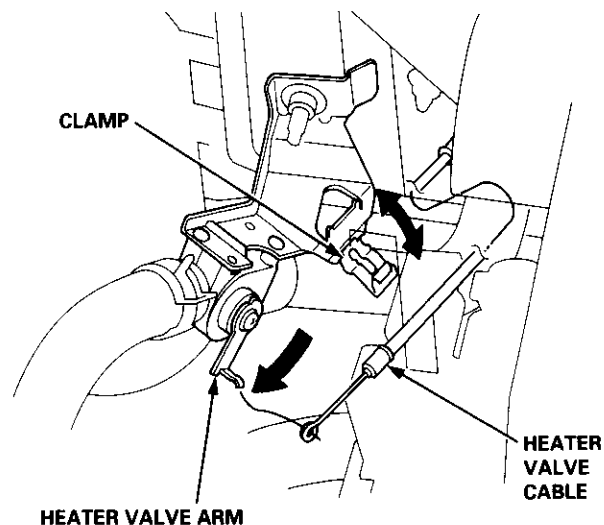


2. From under the dash, disconnect the heater valve cable housing from the cable clamp, and disconnect the heater valve cable from the air mix control arm.



3. Set the temperature control dial on MAX COOL with the ignition switch ON (II).
4. Attach the heater valve cable to the air mix control arm as shown above. Hold the end of the heater valve cable housing against the stop, then snap the heater valve cable housing into the cable clamp.

5. From under the hood, turn the heater valve arm to the fully closed position as shown, and hold it. Attach the heater valve cable to the heater valve arm, and gently pull on the heater valve cable housing to take up any slack, then install the heater valve cable housing into the cable clamp.

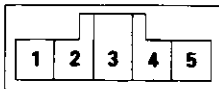


Air Mix Control Motor

Test — '99 – 00 Models

1. Disconnect the 5P connector from the air mix control motor.
2. Connect battery power to the No. 1 terminal of the air mix control motor, and ground the No. 5 terminal; the air mix control motor should run, and stop at MAX HOT. If it doesn't, reverse the connections; the air mix control motor should run, and stop at MAX COOL.
 - If the air mix control motor does not run, remove it, then check the air mix control linkage and doors for smooth movement.
 - If they move smoothly, replace the air mix control motor.

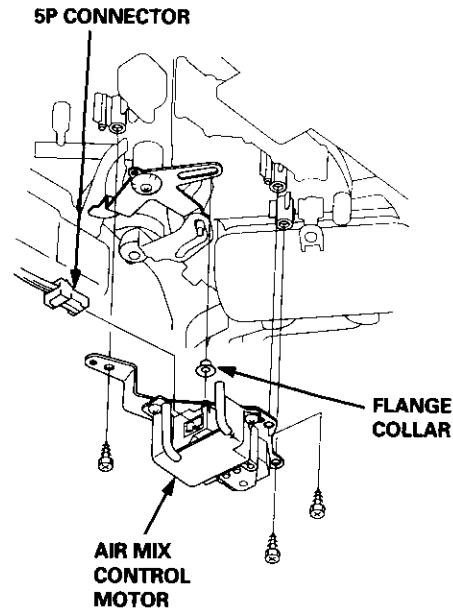
AIR MIX CONTROL MOTOR



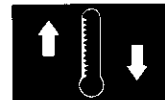
3. Measure the resistance between the No. 2 and No. 3 terminals. It should be approximately 4.8 to 7.2 k Ω .
4. Measure the resistance between the No. 2 and No. 4 terminals. It should be approximately 3.84 to 5.76 k Ω at MAX HOT and approximately 0.96 to 1.44 k Ω at MAX COOL.

Replacement — '99 – 00 Models

1. Disconnect the 5P connector from the air mix control motor. Remove the self-tapping screws, the air mix control motor and the flange collar.



2. Install in the reverse order of removal. After installation, make sure the air mix control motor runs smoothly.



Test

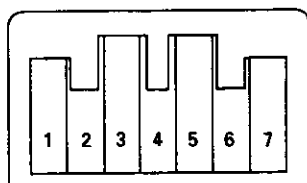
1. Disconnect the 7P connector from the mode control motor.
2. Connect battery power to the No. 1 terminal, and ground the No. 7 terminal.

CAUTION: Never connect the battery in the opposite direction.

3. Using a jumper wire, connect the No. 7 terminal individually to the No. 2, 3, 4, 5 and 6 terminals in that order. Each time the connection is made, the mode control motor should run smoothly and stop.

NOTE: If the mode control motor does not run when jumping the first terminal, jump that terminal again after jumping the other terminals. The mode control motor is OK if it runs when jumping the first terminal again.

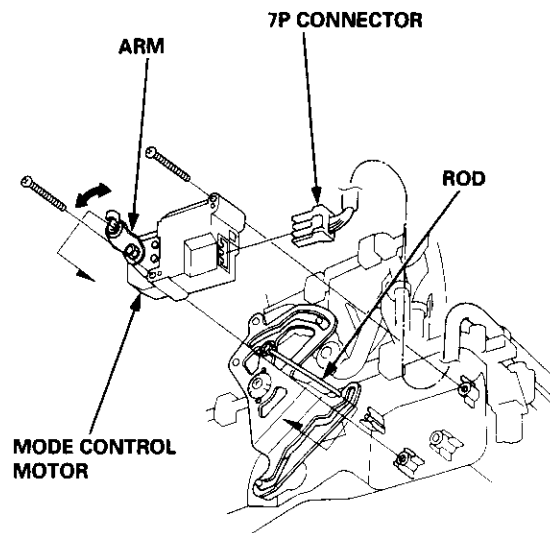
MODE CONTROL MOTOR



4. If the mode control motor does not run in step 3, remove it, then check the mode control linkage and doors for smooth movement. If they move smoothly, replace the mode control motor.

Replacement

1. Disconnect the 7P connector from the mode control motor.



2. Remove the rod from the arm of the mode control motor.
3. Remove the two self-tapping screws and the mode control motor.
4. Install in the reverse order of removal. After installation, make sure the mode control motor runs smoothly.

Recirculation Control Motor

Test

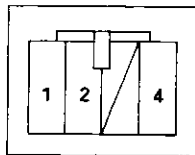
1. Disconnect the 4P connector from the recirculation control motor.
2. Connect battery power to the No. 1 terminal, and ground the No. 2 and No. 4 terminals; the recirculation control motor should run smoothly.

CAUTION: Never connect the battery in the opposite direction.

3. Disconnect the No. 2 or No. 4 terminals from ground; the recirculation control motor should stop at FRESH or RECIRCULATE.

NOTE: Don't cycle the recirculation control motor for a long time.

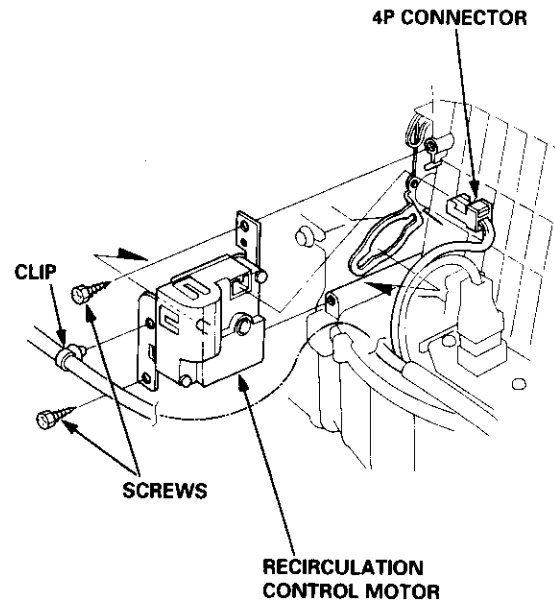
RECIRCULATION CONTROL MOTOR



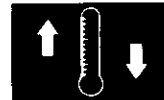
4. If the recirculation control motor does not run in step 2, remove it, then check the recirculation control linkage and door for smooth movement. If they move smoothly, replace the recirculation control motor.

Replacement

1. Disconnect the 4P connector from the recirculation control motor, and remove the wire harness clip from it.

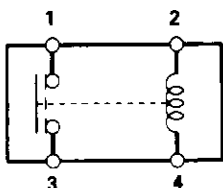


2. Remove the two self-tapping screws and the recirculation control motor.
3. Install in the reverse order of removal. After installation, make sure the recirculation control motor runs smoothly.

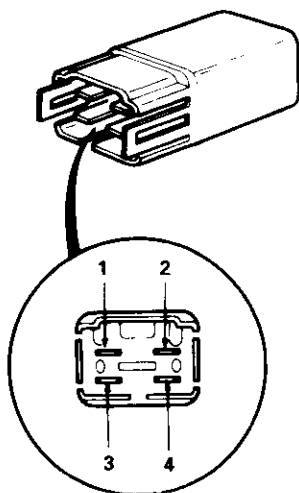


Test

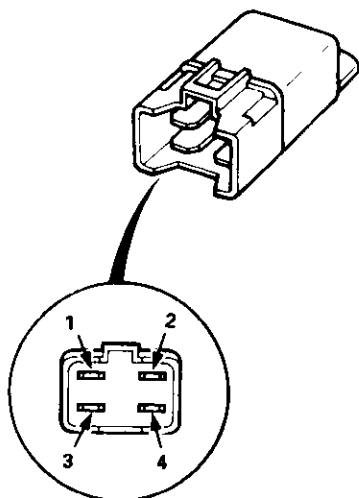
There should be continuity between the No. 1 and No. 3 terminals when power and ground are connected to the No. 2 and No. 4 terminals, and there should be no continuity when power is disconnected.



- Blower motor relay



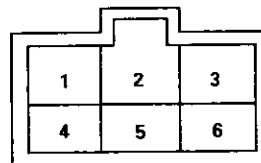
- Blower motor high relay ('99 – 00 models)



Test — '96 – 98 Models

Check for continuity between the terminals according to the table below.

Terminal Position	1	6	4	2	5	3
OFF						
1	○	○	○			
2	○	○		○		
3	○	○			○	
4	○	○				○



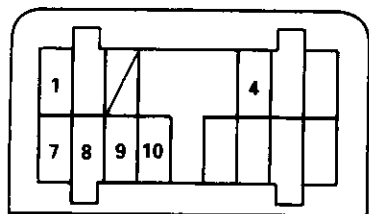
Mode Control Switch

Power Transistor

Test — '96 – 98 Models

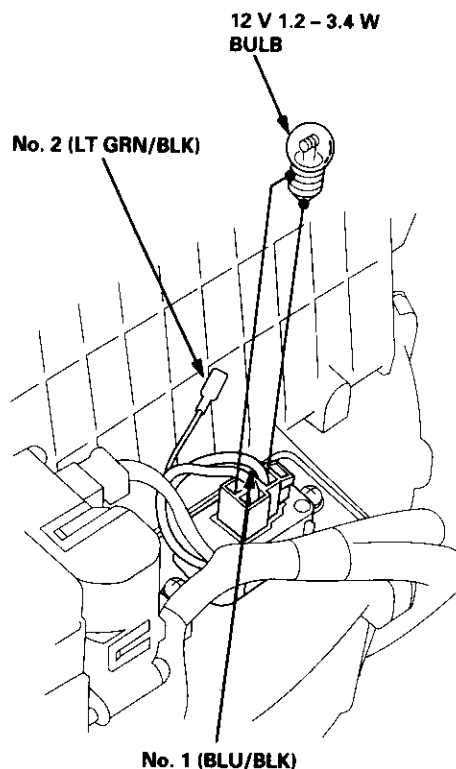
Check for continuity between the terminals according to the table below.

Terminal Position	10	7	1	4	8	9
Heat	○	○				
Heat/Def	○		○			
Def	○			○		
Vent	○				○	
Heat/Vent	○					○



Test — '99 – 00 Models

1. Disconnect the 3P connector from the power transistor.
2. Carefully release the lock tab on the No. 2 terminal in the 3P connector, then remove the terminal and insulate it from body ground.



3. Connect a 1.2 – 3.4 W bulb between the No. 1 and the No. 2 cavity on the 3P connector.
4. Reconnect the 3P connector to the power transistor.
5. Turn the ignition switch ON (II), and check that the blower motor runs.