

HEATER SYSTEM

1994 Toyota Celica

1994 Heater System

Celica

DESCRIPTION

Major components of the heater system are a heater core, control panel, blower motor, water valve, hoses, control cables (electric servomotors on some models), and air ducts.

WARNING: To avoid injury from accidental air bag deployment, read and carefully follow all SERVICE PRECAUTIONS and DISABLING & ACTIVATING AIR BAG SYSTEM procedures in appropriate AIR BAG RESTRAINT SYSTEM article in ACCESSORIES/SAFETY EQUIPMENT section.

CAUTION: When battery is disconnected, radio will go into anti-theft protection mode. Obtain radio anti-theft protection code from owner prior to servicing vehicle.

OPERATION

BLOWER SWITCH

Switch controls blower motor speed through blower resistor. Switch is operated by control lever, knob, or push button.

CONTROL PANEL

Lever-Controlled Models

Temperature and mode levers are connected by cable to heater coolant valve and air doors. All models have a fresh/recirculation lever to provide choice of outside air or recirculated inside air.

Push Button-Controlled Models

Air inlet (fresh/recirculation), mode control, and air mix are controlled by servomotors. Temperature selection is accomplished by a slide lever or knob.

HEATER RELAY

A heater (or main) relay controls current through system. See WIRING DIAGRAM. For location of heater relay, see HEATER RELAY LOCATION table.

HEATER RELAY LOCATION TABLE

Models	Location
Celica	Relay/Fuse Block, Behind Right Kick Panel

ADJUSTMENTS

AIR INLET DAMPER CABLE

Lever-Controlled Models

Set air inlet damper and control lever to fresh air position. Remove cable retaining clip, and ensure damper and cable are in full fresh position. Install control cable clip. Check operation of air intake damper.

AIR MIX DAMPER CABLE

Lever-Controlled Models

Set air door lever to warm position. Remove cable retaining clip. Ensure cable and damper are in full cool position. Install cable retaining clip. Check air mix damper operation.

Push Button-Controlled Models

Set air door lever to cool position. Remove cable retaining clip. Ensure cable and damper are in full cool position. Install cable retaining clip. Check air mix damper operation.

AIRFLOW MODE DAMPER CABLE

Lever-Controlled Models

Set control lever to defrost position. Remove cable retaining clip. Ensure airflow mode damper and cable are in full defrost position. Install cable retaining clip.

WATER VALVE CONTROL CABLE

Lever-Controlled Models

Set control lever to warm position. Remove cable retaining clip. Ensure water valve control cable is in full warm position. Install cable retaining clip.

TROUBLE SHOOTING

BLOWER DOES NOT WORK

Inspect for open circuit breaker (some models), blown heater fuse, or faulty heater relay. Also inspect for heater blower switch, heater blower resistor, heater blower motor, or wiring fault.

INCORRECT TEMPERATURE OUTPUT

Lever-Controlled Models

Inspect for control cables broken or out of adjustment, heater hoses leaking or clogged, or faulty water pump. Also inspect for broken air dampers, faulty servomotor (some models), clogged air ducts, leaking or clogged heater core, or faulty heater control unit.

TESTING

WARNING: To avoid injury from accidental air bag deployment, read and carefully follow all SERVICE PRECAUTIONS and DISABLING & ACTIVATING AIR BAG SYSTEM procedures in appropriate AIR BAG RESTRAINT SYSTEM article in ACCESSORIES/SAFETY EQUIPMENT section.

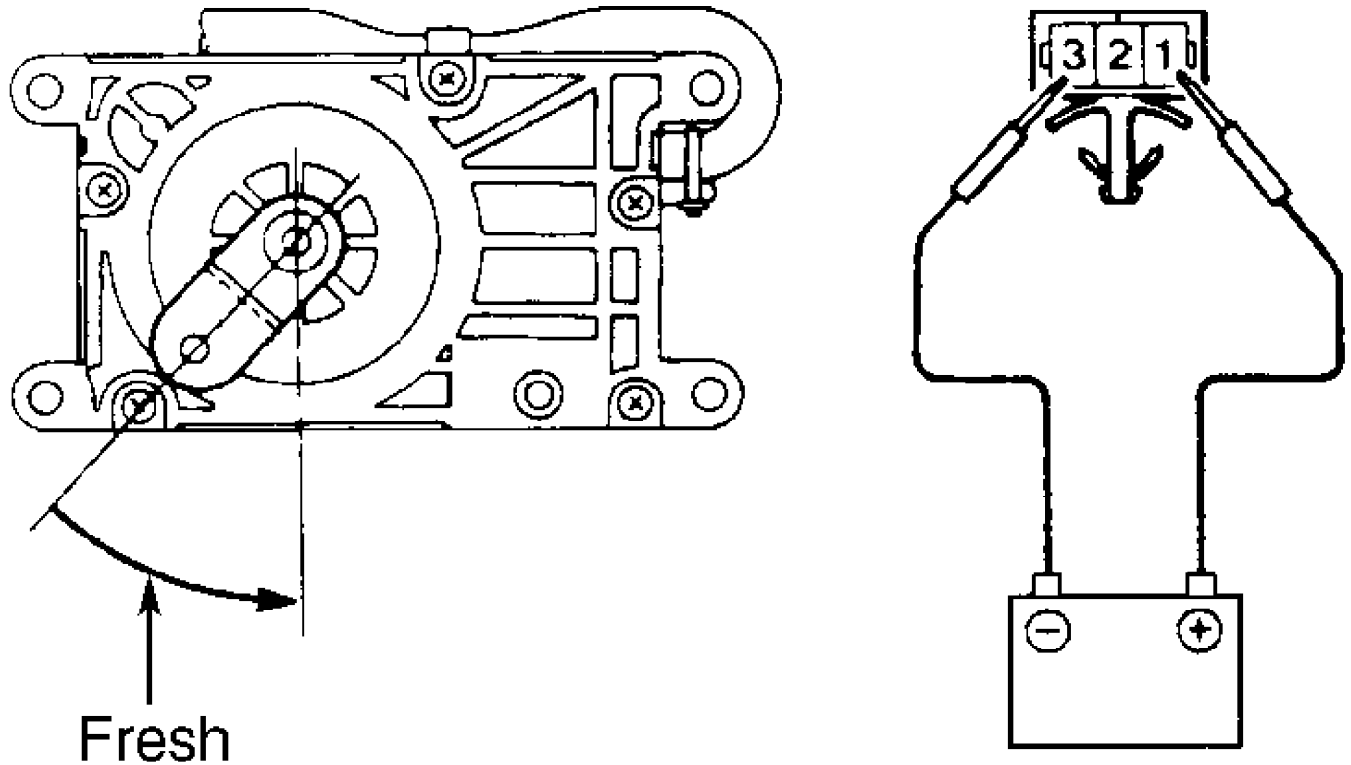
AIR INLET CONTROL SERVOMOTOR

Air Inlet Servomotor

1) Remove servomotor. See AIR INLET SERVOMOTOR under REMOVAL

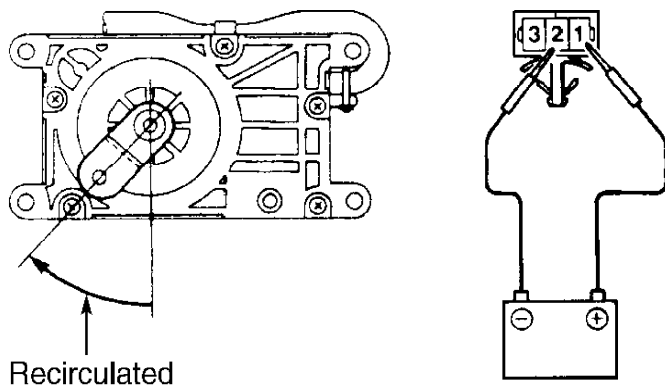
& INSTALLATION. Apply battery voltage to terminal No. 1. Connect terminal No. 3 to ground. See Figs. 1 and 2. Servomotor lever should move smoothly to fresh air position.

2) Disconnect power leads. Apply battery voltage to terminal No. 1. Connect terminal No. 2 to ground. Servomotor lever should move smoothly to recirculated air position. If operation is not as specified, replace servomotor.



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Fig. 1: Testing Air Inlet Control Servomotor (1 Of 2)
Courtesy of Toyota Motor Sales, U.S.A., Inc.



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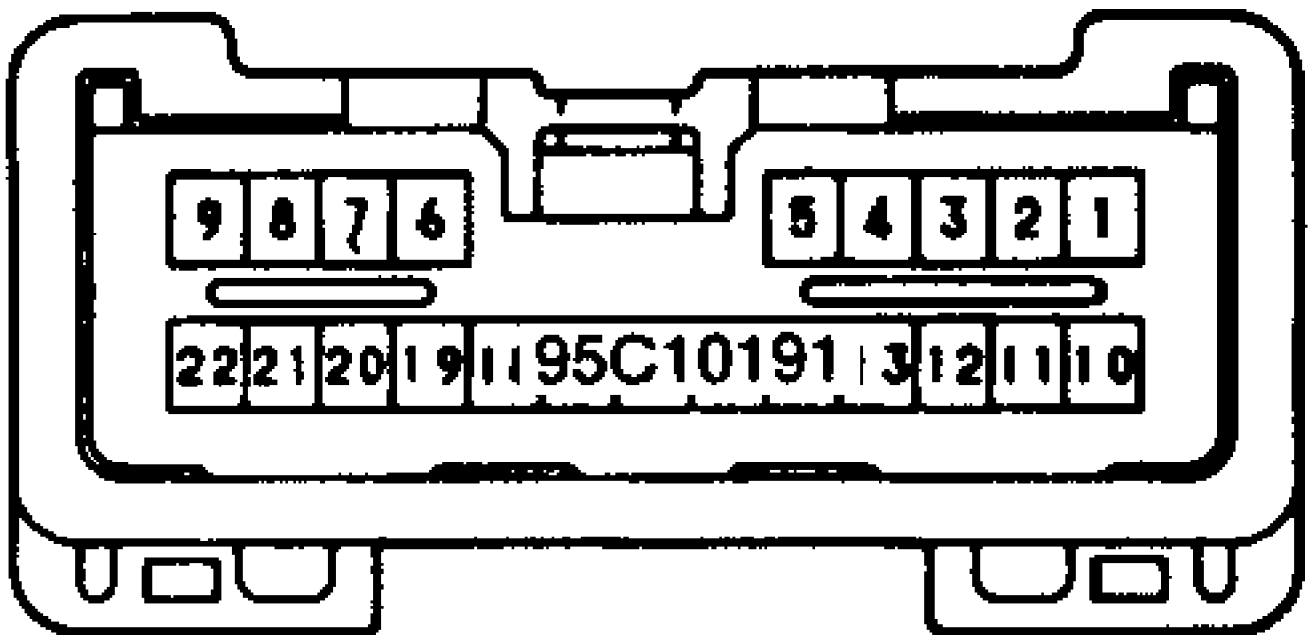
Fig. 2: Testing Air Inlet Control Servomotor (2 Of 2)
Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIR INLET CONTROL SWITCH

NOTE: Some switches contain internal diodes. Before condemning switch as defective, test for continuity with tester leads transposed.

1) Test for continuity between terminals A17 and A22. See Figs. 3-6. Continuity should exist with recirculated air button pressed. Continuity should not exist with recirculated air button released. Replace A/C control panel if continuity is not as specified.

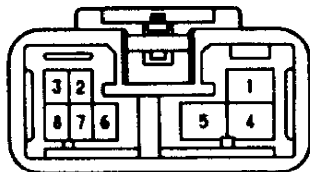
2) Test for continuity between terminals A16 and A22. Continuity should exist with fresh air button pressed. Continuity should not exist with fresh air button released. Replace heater control panel if continuity is not as specified.



CONNECTOR "A"

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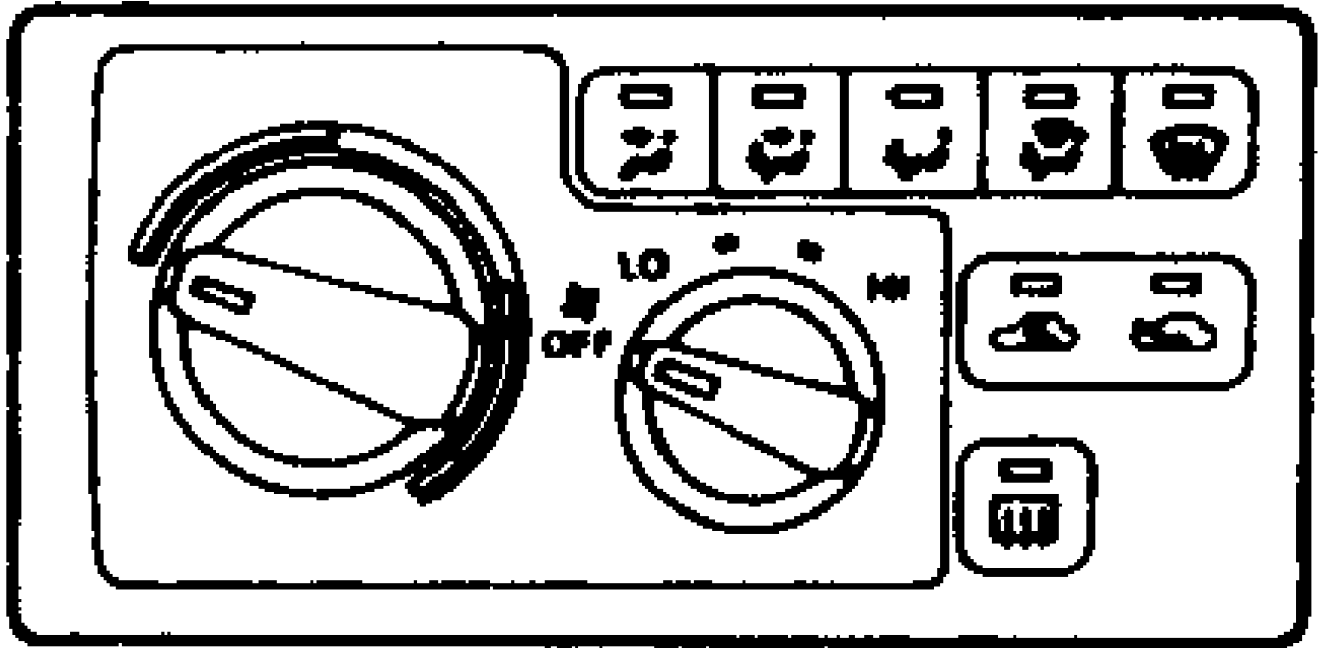
Fig. 3: Heater Control Panel ID (1 Of 2)
Courtesy of Toyota Motor Sales, U.S.A., Inc.



CONNECTOR "B"

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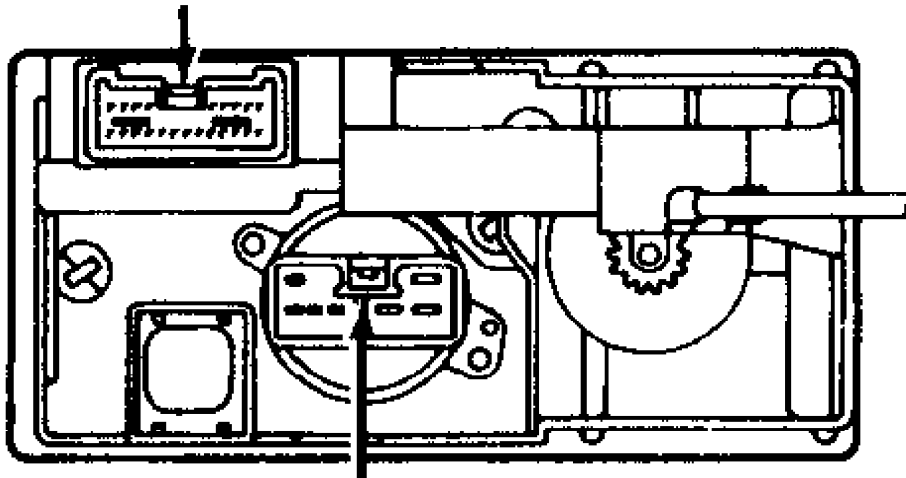
Fig. 4: Heater Control Panel ID (2 Of 2)
Courtesy of Toyota Motor Sales, U.S.A., Inc.



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Fig. 5: Heater Control Panel "A" Terminal ID (Celica)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

See Connector "A"



See Connector "B"

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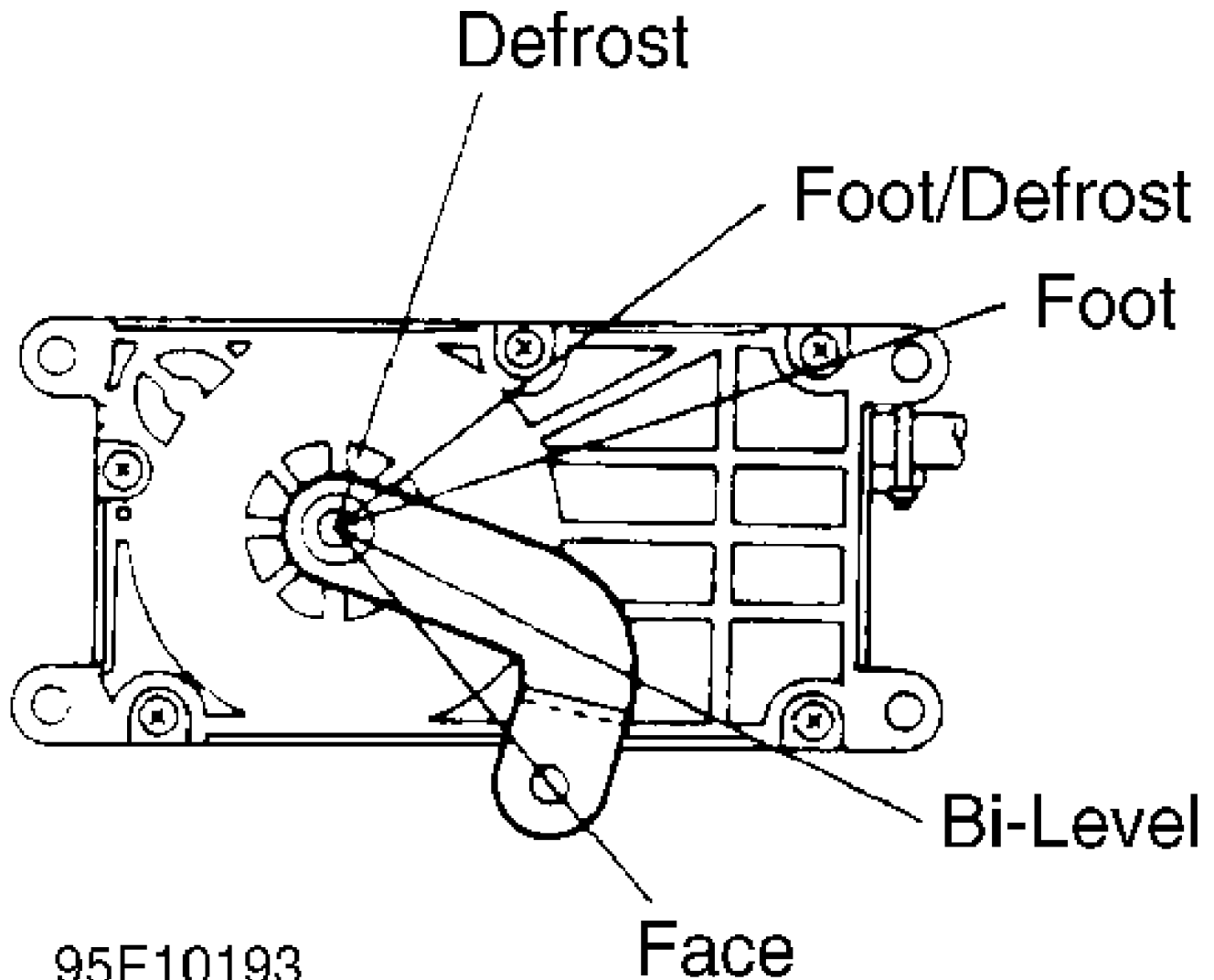
Fig. 6: Heater Control Panel "B" Terminal ID (Celica)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIR OUTLET SERVOMOTOR

Remove servomotor. See AIR OUTLET SERVOMOTOR under REMOVAL & INSTALLATION. Apply battery voltage to terminal No. 5. Connect terminal No. 6 to ground. See Figs. 7 and 8. Connect specified terminals to ground. See appropriate TESTING AIR OUTLET SERVOMOTOR table. Servomotor arm should move smoothly to appropriate position. If operation is not as specified, replace servomotor.

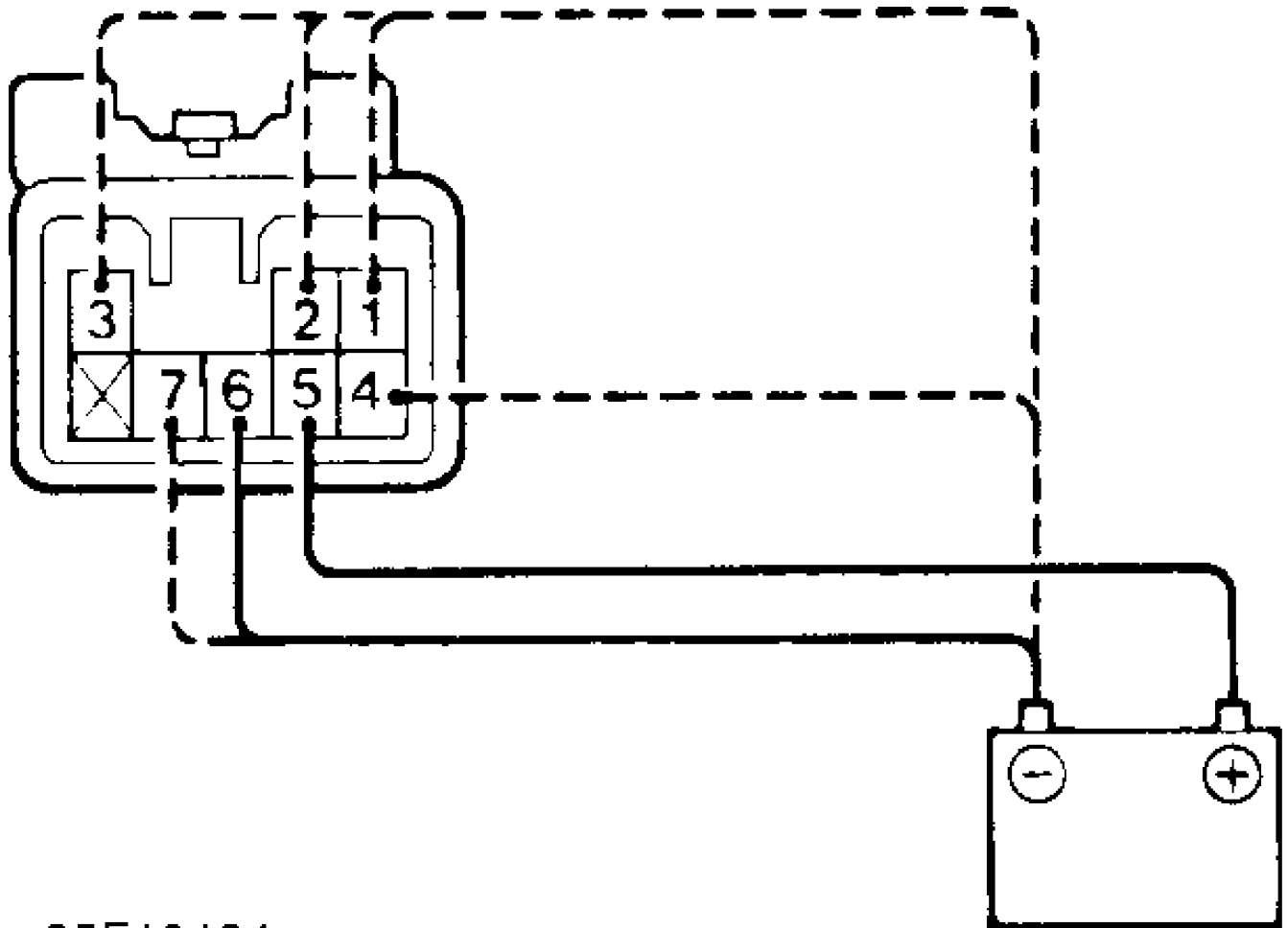
TESTING AIR OUTLET SERVOMOTOR TABLE

Ground Terminal No.	Arm Position
1	Face
2	Bi-Level
3	Foot
4	Foot/Defrost
7	Defrost



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Fig. 7: Testing Air Outlet Servomotor (1 Of 2)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



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Fig. 8: Testing Air Outlet Servomotor (2 Of 2)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIRFLOW MODE CONTROL SWITCH

TESTING AIRFLOW MODE CONTROL SWITCH TABLE

Position	Terminals
Face	A7 & A22
Bi-Level	A8 & A22
Foot	A5 & A22
Foot/Defrost	A4 & A22
Defrost	A3 & A22

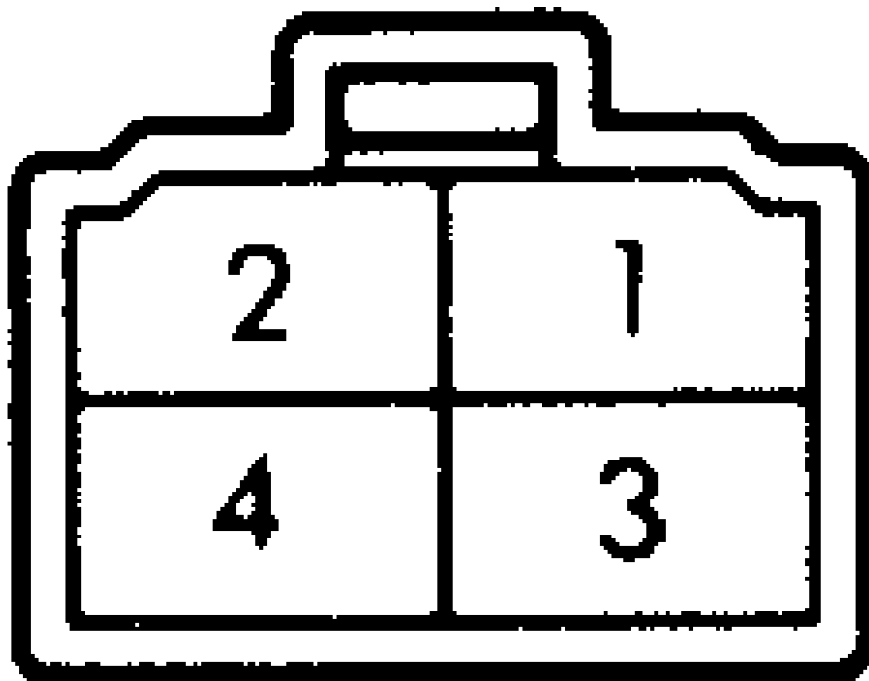
BLOWER MOTOR

Unplug blower motor connector. Apply battery voltage to motor side of connector. Replace motor if it does not operate smoothly.

BLOWER RESISTOR

NOTE: On some vehicles, it may be necessary to remove resistor before testing it.

Unplug resistor connector. Test for continuity between blower resistor terminals No. 1, 2, 3, and 4. See Fig. 9. If continuity does not exist, replace resistor.



ALL OTHER MODELS

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Fig. 9: Heater Blower Resistor Connector Terminal ID (Celica)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

BLOWER SPEED CONTROL SWITCH

Unplug wiring harness connector "B" from heater control panel. Test for continuity between specified terminals. See Figs. 3-6. See appropriate TESTING BLOWER SPEED CONTROL SWITCH table. If continuity is not as specified, replace blower switch.

TESTING BLOWER SPEED CONTROL SWITCH TABLE

Position	Terminals
OFF	None
LO	B1 & B3
MED LO	B1, B3 & B4
MED HI	B1, B3 & B8

HI B1, B3 & B5

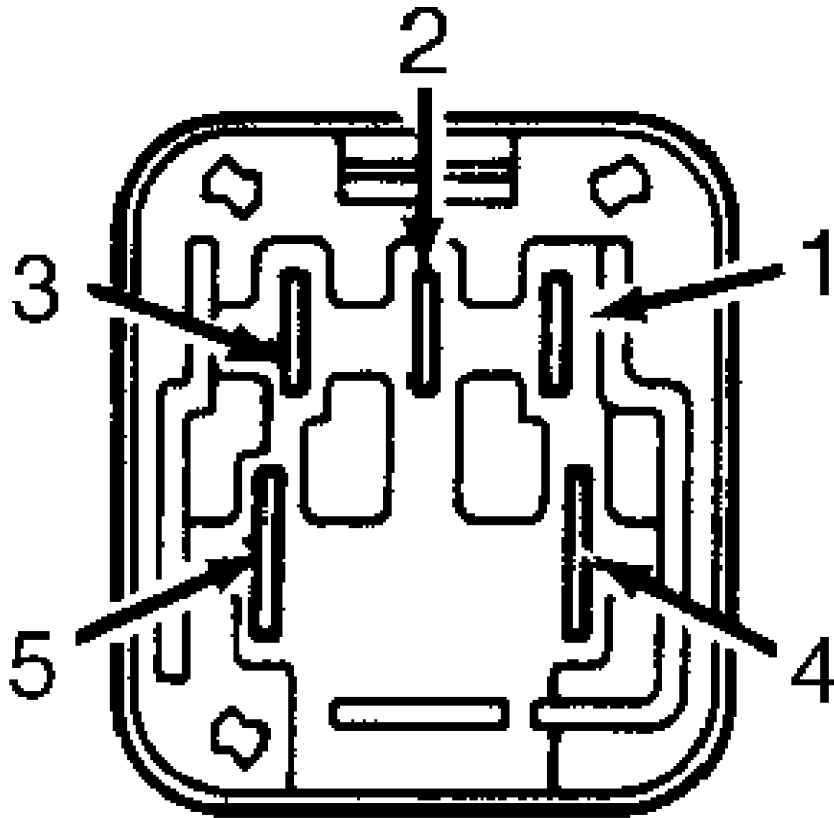
(1) - With switch in OFF position, continuity should not exist between any other terminals.

HEATER RELAY

4-Pin Type

1) Disconnect negative battery cable. Remove heater relay. Test for continuity between heater relay terminals No. 1 and 3, and between terminals No. 2 and 4. Continuity should exist. See Fig. 10. Continuity should not exist between terminals No. 4 and 5. If continuity is not as specified, replace relay.

2) Apply battery voltage to terminal No. 1. Connect terminal No. 3 to ground. Continuity should exist between terminals No. 4 and 5. If continuity is not as specified, replace relay.



ALL OTHERS

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Fig. 10: Heater Relay Connector Terminal ID (Celica)
Courtesy of Toyota Motor Sales, U.S.A., Inc.

REMOVAL & INSTALLATION

WARNING: To avoid injury from accidental air bag deployment, read and carefully follow all SERVICE PRECAUTIONS and DISABLING & ACTIVATING AIR BAG SYSTEM procedures in appropriate AIR BAG RESTRAINT SYSTEM article in ACCESSORIES/SAFETY EQUIPMENT section.

AIR INLET SERVOMOTOR

Removal & Installation

Disconnect negative battery cable. Remove instrument panel. See appropriate procedure under INSTRUMENT PANEL. Remove air inlet servomotor. To install, reverse removal procedure.

AIR OUTLET SERVOMOTOR

Removal & Installation

Disconnect negative battery cable. Remove instrument panel trim. Remove heater duct. Remove air outlet servomotor. To install, reverse removal procedure.

BLOWER MOTOR

Removal & Installation

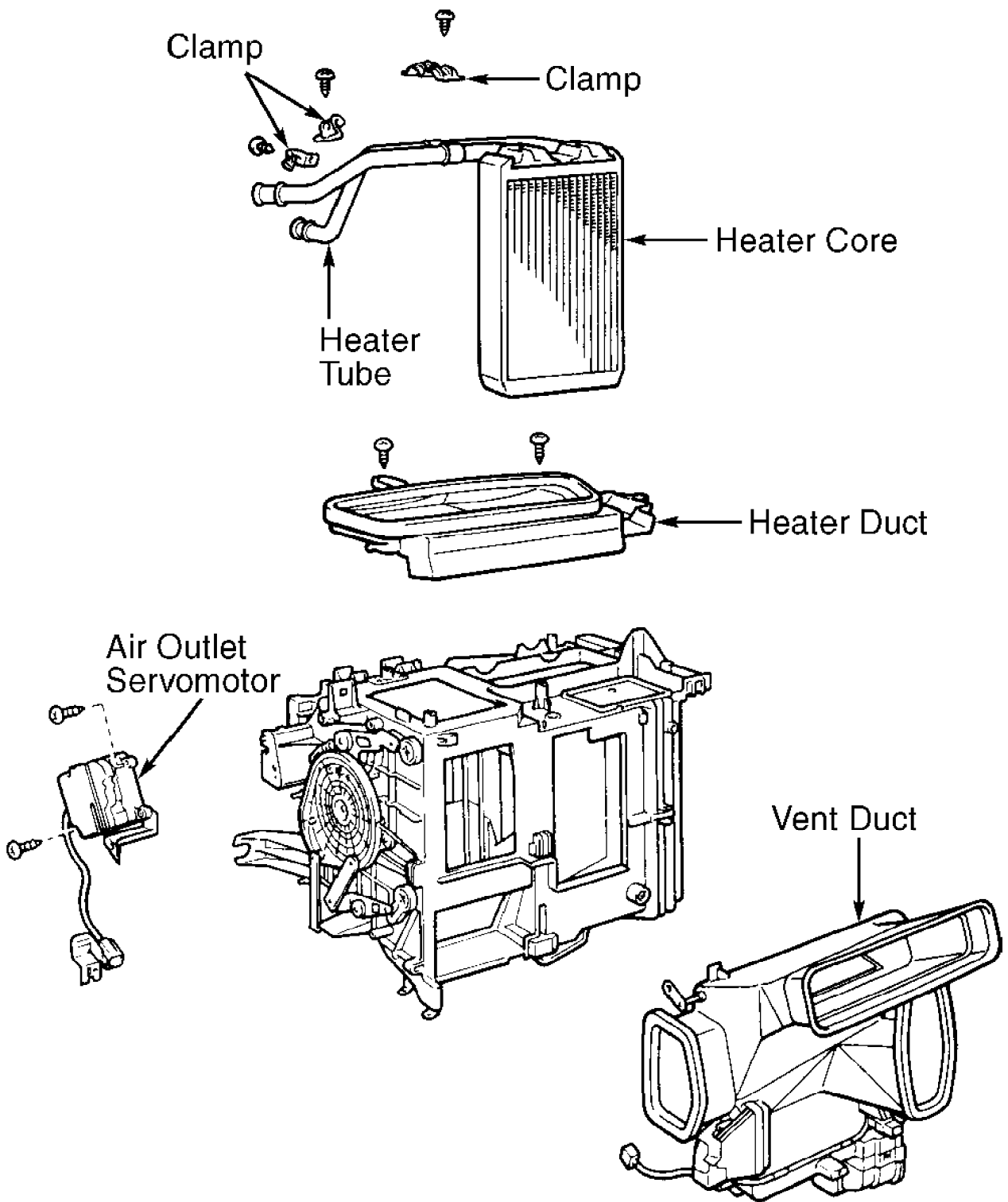
Disconnect negative battery cable. Remove glove box. Unplug blower motor connector. Remove blower motor. To install, reverse removal procedure.

HEATER ASSEMBLY

Removal & Installation

1) Remove cooling unit (if equipped with A/C). See A/C-HEATER SYSTEM - MANUAL article in the AIR CONDITIONING & HEAT section. Drain cooling system. Disconnect hoses from heater core. Remove grommets from hoses. Remove instrument panel. See INSTRUMENT PANEL.

2) Remove heater unit. See Fig. 11. Remove air outlet servomotor. Remove air duct. Remove heater core. To reassemble and install, reverse removal procedure.



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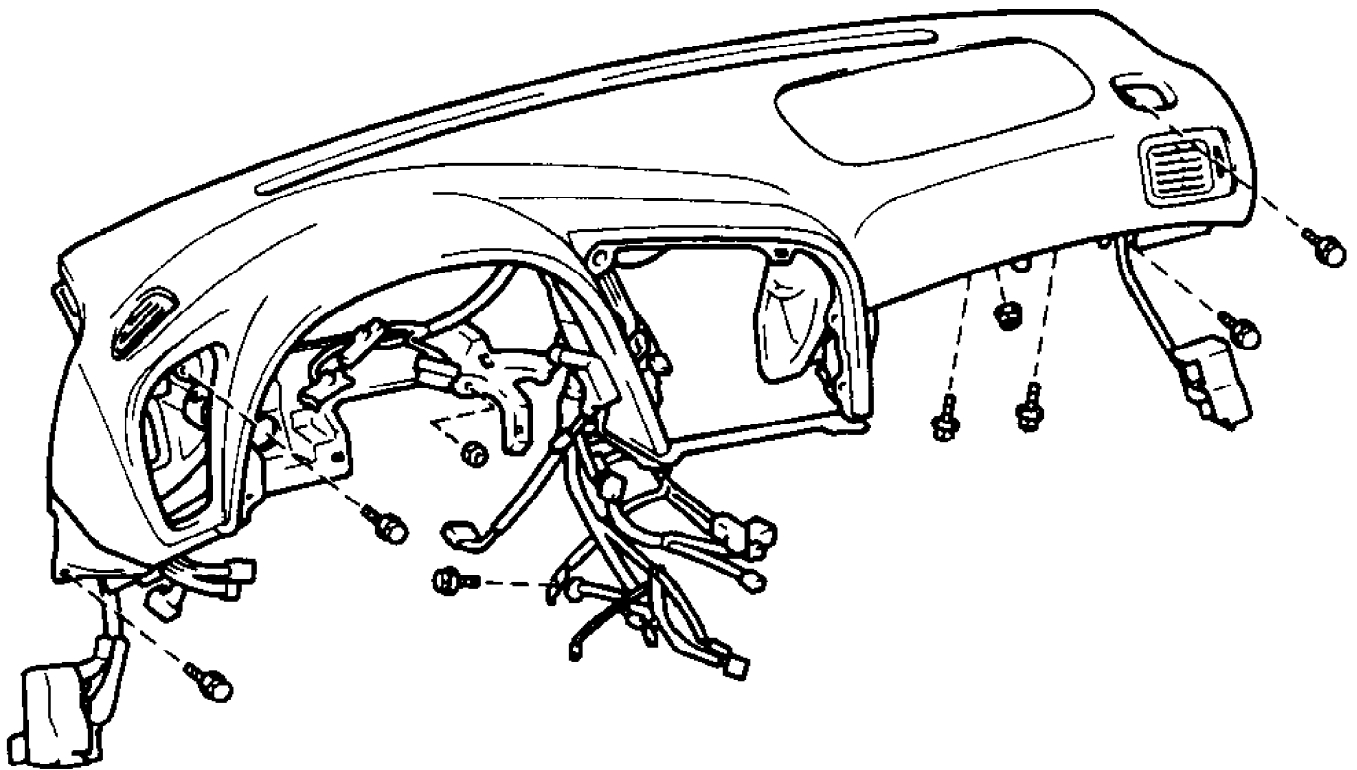
Fig. 11: Exploded View Of Heater Assembly
Courtesy of Toyota Motor Sales, U.S.A., Inc.

INSTRUMENT PANEL

1) Disconnect negative battery cable. Remove steering wheel. Remove front pillar upper and lower garnish moldings, front door scuff plates, and kick panel trim. Remove upper console panel and console box.

2) Remove lower finish panels and heater duct. Remove combination switch. Remove instrument cluster finish panels. Remove air register. Remove instrument cluster. Remove center finish panel. Remove radio.

3) Disengage cables from A/C control panel. Remove A/C control panel. Remove glove box door. Remove glove box. Remove lower pad inserts. Remove lower center panel. Remove side defroster outlet. Remove steering column. Remove instrument panel. See Fig. 12.



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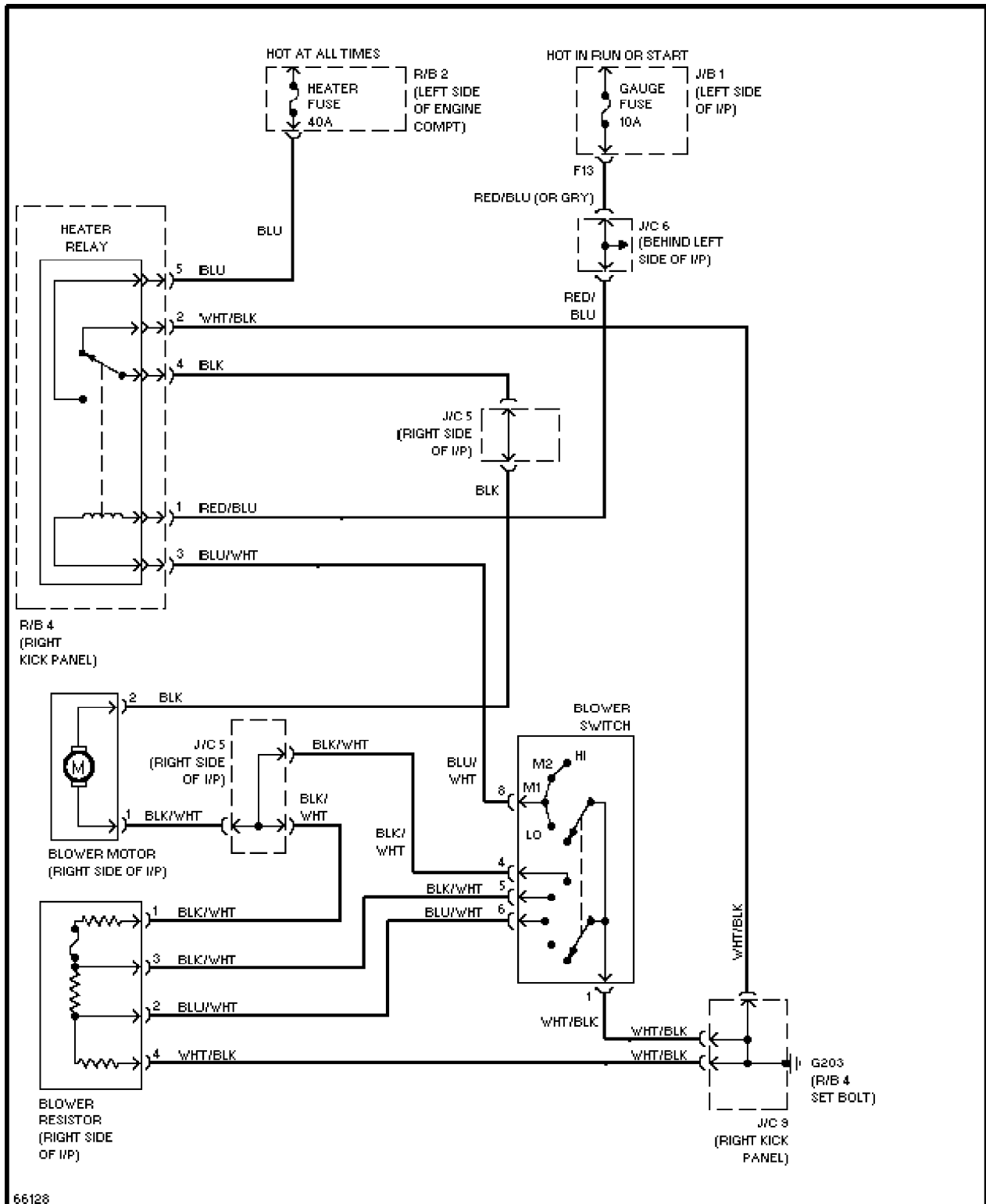
Fig. 12: Removing Instrument Panel
Courtesy of Toyota Motor Sales, U.S.A., Inc.

WATER VALVE

Removal & Installation

Drain cooling system. Disconnect control cable from water valve. Disconnect water hoses from heater core. Remove water valve. To install, reverse removal procedure. When connecting water hose to heater core, push hose onto pipe until it contacts ridge. Adjust water valve control cable. See WATER VALVE CONTROL CABLE under ADJUSTMENTS.

WIRING DIAGRAM



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Fig. 13: Heater System Wiring Diagram