

A/C-HEATER SYSTEM - AUTOMATIC

1996 Toyota Supra

1995-96 Auto A/C-Heater System

Supra

* PLEASE READ THIS FIRST *

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

A/C SYSTEM SPECIFICATIONS

SPECIFICATIONS

Application	Specification
Compressor Type	Nippondenso 10-Cyl.
Compressor Belt Tension (1)	
Compressor Oil Capacity	(2) 4.8 ozs.
Refrigerant (R-134a) Capacity	22.9-26.7 ozs.
System Operating Pressures	
High Side	199-228 psi (14-16 kg/cm ²)
Low Side	28-36 psi (2.0-2.5 kg/cm ²)

(1) - See COMPRESSOR BELT TENSION under ADJUSTMENTS.

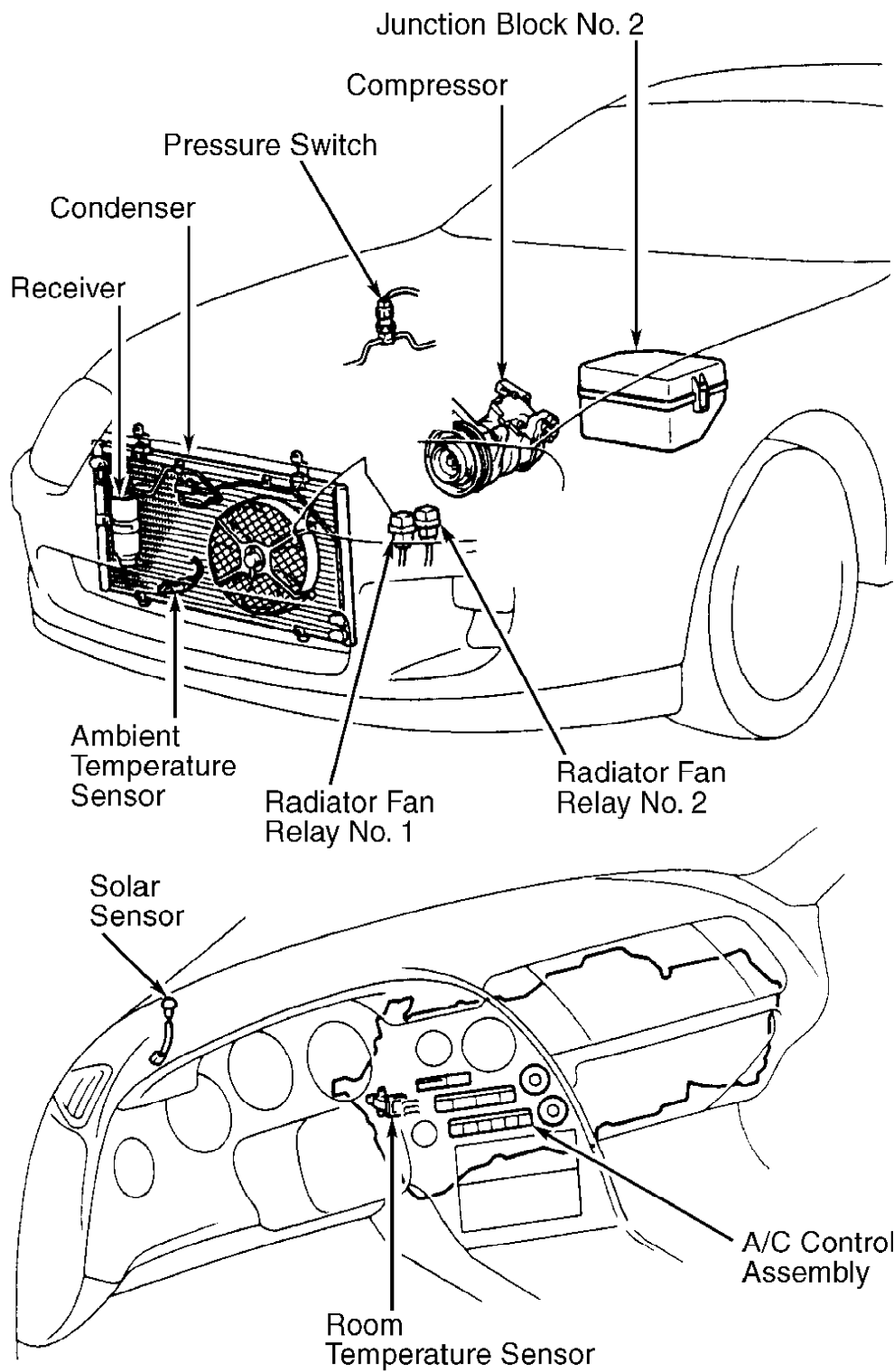
(2) - Use ND-Oil 8 (Part No. 08885-09109).

DESCRIPTION & OPERATION

Automatic temperature control system is a cycling clutch type with an expansion valve. See Fig. 1.

Sensors respond to various conditions in A/C system and provide signals for A/C-heater control panel and A/C amplifier. Based on signals from sensors, A/C-heater control panel and A/C amplifier control operation of compressor clutch and air control door servomotors.

- * Ambient temperature sensor monitors outside air temperature.
- * In-vehicle temperature sensor monitors passenger compartment air temperature.
- * Engine coolant temperature sensor monitors engine coolant temperature.
- * Solar sensor monitors sunlight load.
- * Evaporator temperature sensor monitors evaporator temperature.



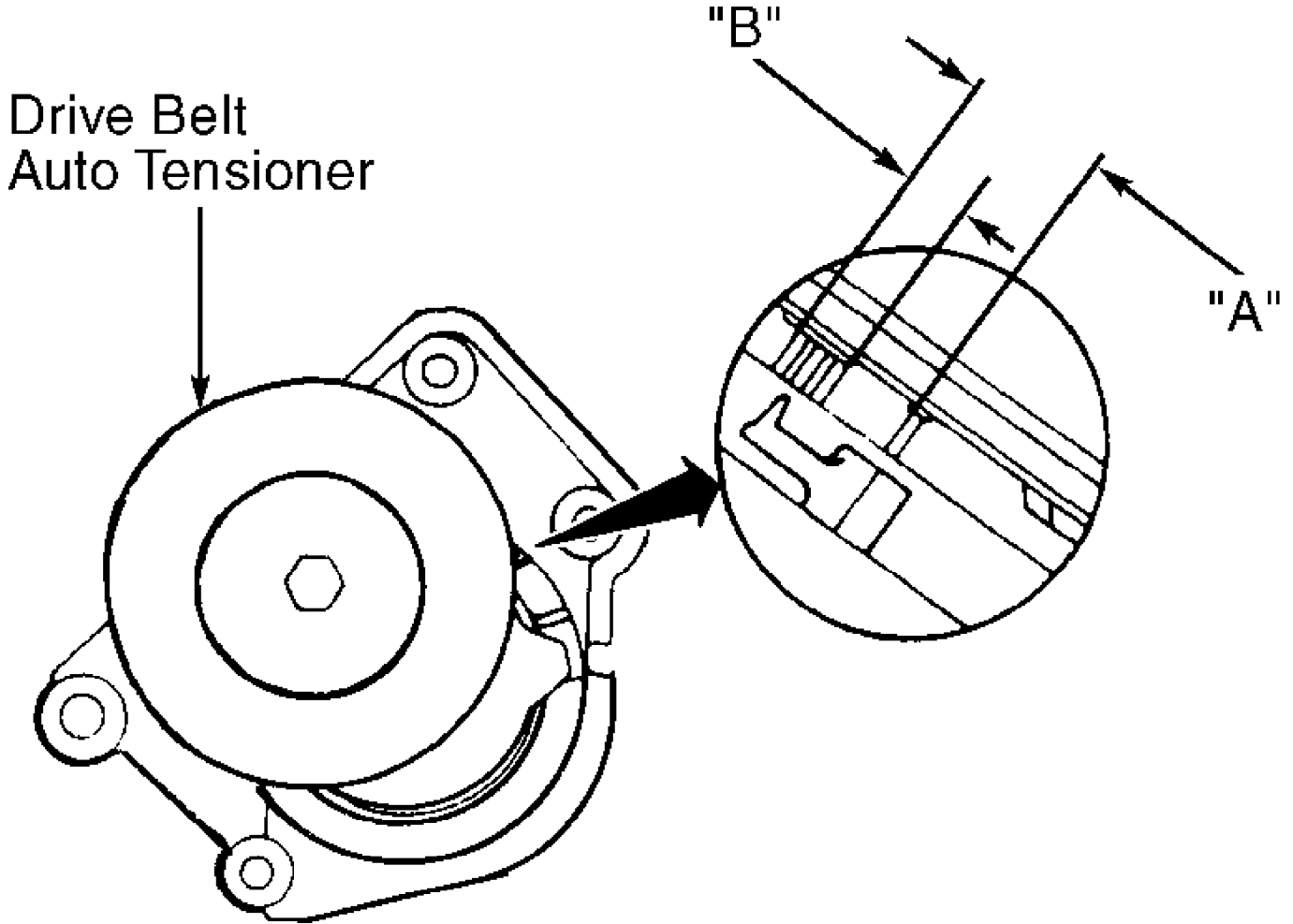
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Fig. 1: Automatic A/C-Heater System Components
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

ADJUSTMENTS

COMPRESSOR BELT TENSION

Ensure drive belt tension falls within "A" range of belt tensioner scale. See Fig. 2. If tension does not fall within "A" range, replace belt. When installing a new belt, belt tension indicator should be within "B" range of belt tensioner scale.



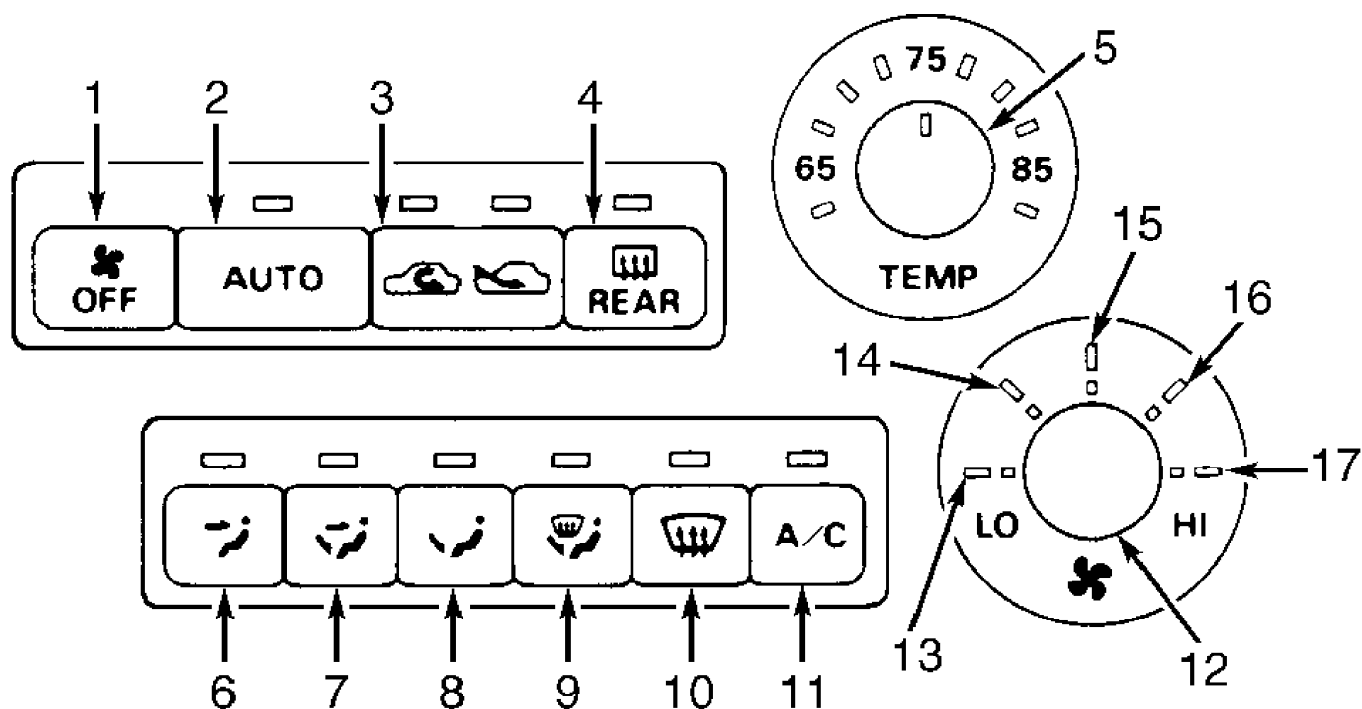
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Fig. 2: Checking Compressor Drive Belt Tension
Courtesy of Toyota Motor Sales, U.S.A., Inc.

TROUBLE SHOOTING

SELF-DIAGNOSTICS

An Electronic Control Unit (ECU) within A/C-heater control panel monitors system circuits and stores trouble codes in memory if problems are detected. To retrieve stored codes, see RETRIEVING CODES. Problems in the A/C system will be indicated by a blinking LED on the appropriate switch. See Fig. 3. If no malfunctions are indicated but a fault still exists, proceed to TESTING.



- | | |
|----------------------------------|-----------------------------|
| 1. OFF Switch | 9. Foot/Defrost Mode Switch |
| 2. AUTO Switch | 10. Defrost Mode Switch |
| 3. Recirculated/Fresh Air Switch | 11. A/C Switch |
| 4. Rear Defrost Switch | 12. Fan Speed Dial |
| 5. Temperature Set Dial | 13. Fan Speed: LO |
| 6. Face Mode Switch | 14. Fan Speed: M1 |
| 7. Bi-Level Mode Switch | 15. Fan Speed: M2 |
| 8. Foot Mode Switch | 16. Fan Speed: M3 |
| | 17. Fan Speed: HI |

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Fig. 3: Identifying A/C-Heater Control Panel Switches
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

RETRIEVING CODES

Diagnostic Sensor Check

1) Press and hold AUTO and recirculated air buttons. See Fig. 3. Turn ignition on. All indicators will flash 4 times at one-second intervals. Press OFF button to cancel indicator check.

2) After indicator check is complete, system will enter self-diagnostic mode. Stored trouble codes will cause LED on appropriate switch to blink. See DIAGNOSTIC CODE IDENTIFICATION table.

3) To slow rate of display, press rear defrost switch to change display to step operation. Each time REAR defrost switch is pressed, display will change by one step.

DIAGNOSTIC CODE IDENTIFICATION TABLE

Blinking LED

Diagnosis

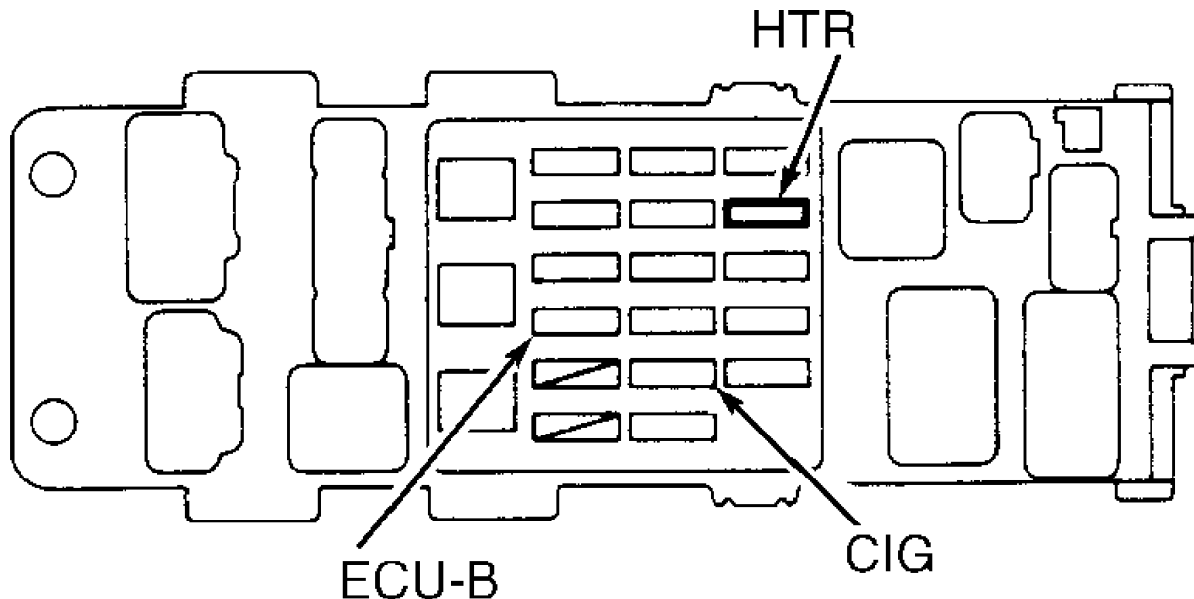
AUTO	.....	Normal
Face (1)	.....	Room Temperature Sensor Circuit
Bi-Level (2)	.....	Ambient Temperature Sensor Circuit
Foot	.....	Evaporator Temperature Sensor Circuit
Foot/Defrost	.....	Coolant Temperature Sensor Circuit
Defrost (3)	.....	Solar Sensor Circuit
A/C (4)	.....	Compressor Lock Sensor Circuit
Fresh Air (4)	.....	Pressure Switch Circuit
Recirculated Air/M2	.....	Air Mix Door Position Sensor Circuit
M2	.....	Air Mix Door Servomotor Circuit
LO	.....	Air Outlet Door Position Sensor Circuit
HI	.....	Air Outlet Door Servomotor Circuit

- (1) - If in-vehicle temperature is -4°F (-20°C) or less, face LED may blink even though system is normal.
- (2) - If outside air temperature is -58°F (-50°C) or less, bi-level LED may blink even though system is normal.
- (3) - If testing is done in a dark area, defrost LED may blink even though system is normal. Shine a light at solar sensor and recheck codes.
- (4) - Malfunction is current. Code is not stored in memory.

CLEARING CODES

1) Remove ECU-B fuse from junction block No. 1 (located behind left kick panel). See Fig. 4. Wait at least 10 seconds before installing fuse. Perform RETRIEVING CODES procedure. Verify only normal code is displayed.

2) Another method of clearing codes is to press REAR defrost switch and A/C switch simultaneously during sensor check mode.



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Fig. 4: Locating Junction Block No. 1 Fuses
Courtesy of Toyota Motor Sales, U.S.A., Inc.

ACTUATOR CHECK

Perform DIAGNOSTIC SENSOR CHECK under RETRIEVING CODES. When system enters self-diagnostic mode, press fresh/recirculated air button. Operate temperature set dial to change to step operation. Actuator operation will change by one step each time dial is rotated. Check actuator operation visually. Check airflow and temperature by hand. Press OFF button to cancel actuator check mode.

IN-VEHICLE TEMPERATURE SENSOR CIRCUIT

- 1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.
- 2) Backprobe between terminals A13-5 (Yellow/Blue wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.
- 3) Measure voltage while heating in-vehicle temperature sensor. See IN-VEHICLE TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS table.

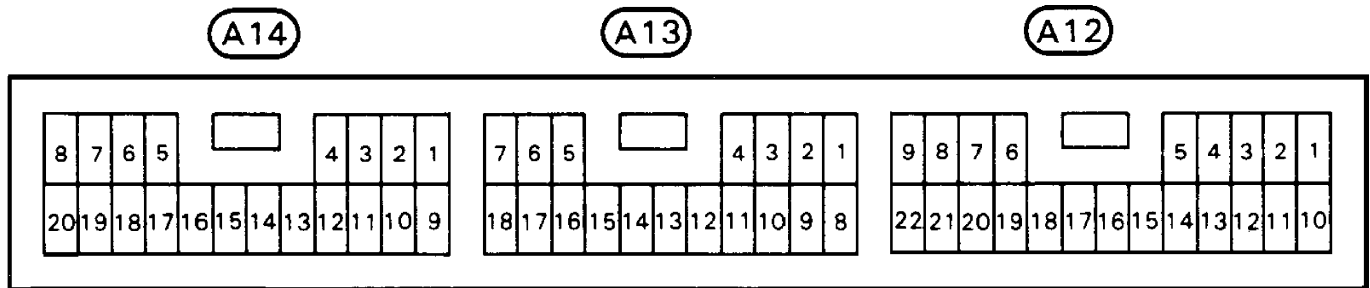
IN-VEHICLE TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS TABLE

Sensor Temperature °F (°C)	(1) Volts
77 (25)	1.8-2.2
104 (40)	1.2-1.6

(1) - As temperature increases, voltage should gradually decrease.

4) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test room temperature sensor. See IN-VEHICLE TEMPERATURE SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

5) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.



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 Fig. 5: Identifying A/C Amplifier Connector Terminals
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AMBIENT TEMPERATURE SENSOR CIRCUIT

- 1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.
- 2) Backprobe between terminals A13-6 (Pink/Black wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.
- 3) Measure voltage while heating ambient temperature sensor. See AMBIENT TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS table.

AMBIENT TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS TABLE

Sensor Temperature °F (°C)	(1) Volts
77 (25)	1.35-1.75
104 (40)	0.85-1.25

(1) - As temperature increases, voltage should gradually decrease.

4) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test ambient temperature sensor. See AMBIENT TEMPERATURE SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

5) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

EVAPORATOR TEMPERATURE SENSOR CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.

2) Backprobe between terminals A13-7 (Blue/Yellow wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.

3) Measure the voltage at specified temperatures. See EVAPORATOR TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS table.

EVAPORATOR TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS TABLE

Sensor Temperature °F (°C)	(1) Volts
32 (0)	2.0-2.4
59 (15)	1.4-1.8

(1) - As temperature increases, voltage should gradually decrease.

4) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test evaporator temperature sensor. See EVAPORATOR TEMPERATURE SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

5) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

COOLANT TEMPERATURE SENSOR CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.

2) Backprobe between terminals A13-16 (Light Green/Red wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.

Measure the voltage at the specified temperatures. See COOLANT TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS table.

COOLANT TEMPERATURE SENSOR CIRCUIT SPECIFICATIONS TABLE

Sensor Temperature °F (°C)	(1) Volts
32 (0)	2.8-3.2
104 (40)	1.8-2.2
158 (70)	1.3-1.5

(1) - As temperature increases, voltage should gradually decrease.

3) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test coolant temperature sensor. See COOLANT TEMPERATURE SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

4) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

SOLAR SENSOR CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.

2) Backprobe between terminals A13-2 (Brown/White wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5. Measure voltage under specified conditions. See SOLAR SENSOR CIRCUIT SPECIFICATIONS table.

SOLAR SENSOR CIRCUIT SPECIFICATIONS TABLE

Condition	(1) Volts
Sensor Subjected To Bright Light	Less Than 0.8
Sensor Covered By Cloth	0.8-4.3

(1) - As light intensity decreases, voltage should increase.

3) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test solar sensor. See SOLAR SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

4) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

COMPRESSOR LOCK SENSOR CIRCUIT

NOTE: When replacing drive belt, new belt tension indicator should be in range "B" on tensioner scale. See Fig. 2.

1) Ensure drive belt fits properly on compressor pulley. If tension is not in range "A" on scale, replace belt. See Fig. 2. If tension is okay, go to next step.

2) Start engine. Turn blower and A/C on. Observe compressor. If compressor locks during operation, repair compressor. If compressor does not lock during operation, test compressor lock sensor. See COMPRESSOR LOCK SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

3) Check wiring harness and connectors between sensor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

PRESSURE SWITCH CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Install manifold gauge

set.

2) Turn ignition on. Backprobe A/C amplifier connector between terminal A13-14 (Blue/Yellow wire) and ground. See Fig. 5.

3) Start engine. Turn blower and A/C on. Battery voltage should exist with low side pressure less than 28 psi (2.0 kg/cm²). Voltage should exist with high side pressure more than 455 psi (32 kg/cm²). If voltage is as specified, temporarily substitute known good A/C amplifier, then retest system.

4) If voltage is not as specified, test pressure switch. See PRESSURE SWITCH under TESTING. Replace pressure switch as necessary. If switch is okay, go to next step.

5) Check wiring harness and connectors between pressure switch and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

AIR MIX DOOR POSITION SENSOR CIRCUIT

NOTE: If only LED for M2 is blinking, see AIR MIX DOOR SERVOMOTOR CIRCUIT for additional trouble shooting information.

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.

2) Backprobe between terminals A13-18 (Green/White wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.

3) Measure sensor circuit voltage while changing set temperature to activate air mix door. See AIR MIX DOOR POSITION SENSOR CIRCUIT SPECIFICATIONS table.

AIR MIX DOOR POSITION SENSOR CIRCUIT SPECIFICATIONS TABLE

Set Temperature	(1) Volts
Maximum Cool	3.5-4.5
Maximum Hot	0.5-1.5

(1) - As set temperature increases, voltage should gradually decrease.

4) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test air mix door position sensor. See AIR MIX DOOR POSITION SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

5) Check wiring harness and connectors between servomotor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

AIR MIX DOOR SERVOMOTOR CIRCUIT

NOTE: See AIR MIX DOOR POSITION SENSOR CIRCUIT for additional trouble shooting information.

1) Warm engine to normal operating temperature. Perform RETRIEVING CODES. After system enters self-diagnostic mode, perform ACTUATOR CHECK. Operate temperature set dial to enter step mode. Air mix door operation should be as specified. See AIR MIX DOOR AIRFLOW table.

2) If air mix door functions as specified, no problem is indicated at this time. If air mix door does not function as specified, test air mix door servomotor. See AIR MIX DOOR SERVOMOTOR

under TESTING. Replace air mix door servomotor as necessary. If servomotor is okay, go to next step.

3) Check wiring harness and connectors between servomotor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, substitute known good A/C amplifier. Retest system.

AIR MIX DOOR AIRFLOW TABLE

Set Temperature	Air Mix Door	Airflow
Less Than 20	Fully Closed	Cool Air
20-23	Half Open	Blend (Cool/Hot) Air
More Than 23	Fully Open	Hot Air

AIR OUTLET DOOR POSITION SENSOR CIRCUIT

NOTE: If only LED for HI is blinking, see AIR OUTLET DOOR SERVOMOTOR CIRCUIT for additional trouble shooting information.

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on.

2) Backprobe between terminals A14-10 (Light Green wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.

3) Measure sensor circuit voltage while operating mode switches to activate air outlet door. See AIR OUTLET DOOR POSITION SENSOR CIRCUIT SPECIFICATIONS table.

AIR OUTLET DOOR POSITION SENSOR CIRCUIT SPECIFICATIONS TABLE

Mode Switch	(1) Volts
Face	3.5-4.5
Defrost	0.5-1.5

(1) - As air outlet servomotor is moved from face to defrost position, voltage should gradually decrease.

4) If voltage is as specified and LED is still blinking, temporarily substitute known good A/C amplifier, then retest system. If voltage is not as specified, test air outlet door position sensor. See AIR OUTLET DOOR POSITION SENSOR under TESTING. Replace sensor as necessary. If sensor is okay, go to next step.

5) Check wiring harness and connectors between servomotor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, substitute known good A/C amplifier. Retest system.

AIR OUTLET DOOR SERVOMOTOR CIRCUIT

NOTE: See AIR OUTLET DOOR POSITION SENSOR CIRCUIT for additional trouble shooting information.

1) Warm engine to normal operating temperature. Perform RETRIEVING CODES. After system enters self-diagnostic mode, perform ACTUATOR CHECK. Operate temperature set dial to enter step mode. Air outlet door operation should be as specified. See AIR OUTLET DOOR AIRFLOW table.

2) If air outlet door functions as specified, no problem is indicated at this time. If air outlet door does not function as specified, test air outlet door servomotor. See AIR OUTLET DOOR SERVOMOTOR under TESTING. Replace air outlet door servomotor as

necessary. If servomotor is okay, go to next step.

3) Check wiring harness and connectors between servomotor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier, then retest system.

AIR OUTLET DOOR AIRFLOW TABLE

Set Temperature	Airflow
Less Than 20	Face
20-23	Bi-Level
23-27	Foot
27-30	Foot/Defrost
More Than 30	Defrost

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.

A/C SYSTEM PERFORMANCE

Connect manifold gauge set. Operate engine at 1500 RPM. Set blower fan control for high speed. Set temperature control switch to maximum cool position. Set airflow to recirculated air mode. Temperature at air inlet should be 86-95°F (30-35°C). System operating pressures should be within specifications. See SPECIFICATIONS table at beginning of article.

A/C CONTROL ASSEMBLY

1) Press each switch and operate fan speed dial on A/C-heater control panel. Each LED should light when appropriate switch is operated. If operation is as specified, A/C-heater control panel is okay. If some LEDs DO NOT light, go to next step. If no LEDs light, check IG (ignition) switch circuit. See IG POWER SOURCE CIRCUIT under TESTING.

2) Unplug A/C control panel connector. Test for voltage between terminal of LED under test and terminal H12-9 (White/Black wire). See Fig. 6.

3) With switch on, voltage should be less than one volt. With switch off, battery voltage should exist. If voltage is not as specified, go to next step. If voltage is as specified, repair or replace A/C-heater control panel.

4) Check for continuity in harness and connector between A/C control panel and A/C amplifier. If continuity exists, go to next step. If continuity does not exist, repair as necessary.

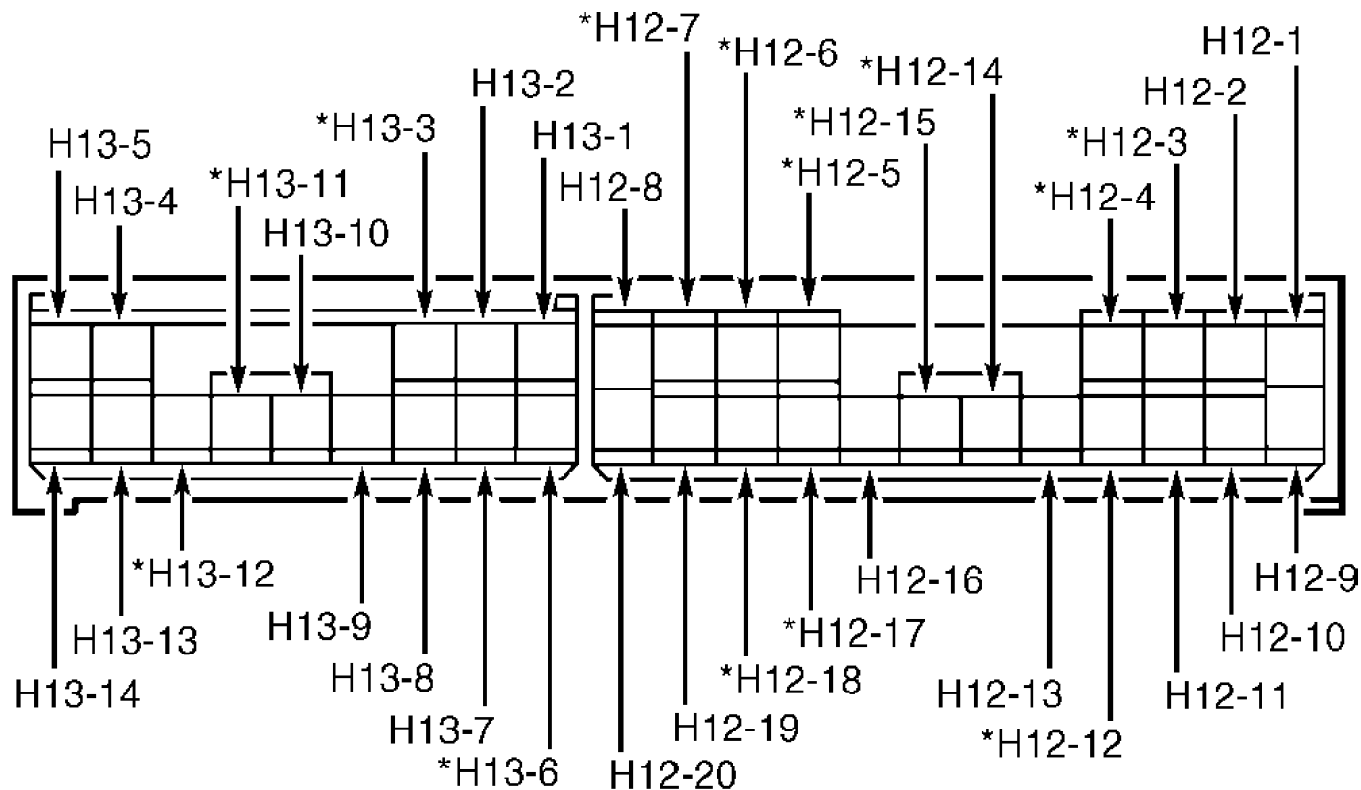
5) Remove A/C-heater control panel. Unplug all electrical connectors. Test for continuity between indicated terminals. See SWITCH TERMINAL IDENTIFICATION table. With switch pressed, continuity should exist. When switch is off, continuity should not exist.

6) If continuity is not as specified, substitute known good A/C-heater control panel, then retest system. If continuity is as specified, substitute known good A/C amplifier, then retest system.

SWITCH TERMINAL IDENTIFICATION TABLE

Switch	Between Terminal No.
OFF	H12-16 & H13-7
Fresh/Recirculated Air	H12-16 & H13-2
Defrost	H12-16 & H12-13
Foot	H13-1 & H13-7
Foot/Defrost	H13-1 & H13-2
A/C	H13-1 & H12-13
REAR Defrost	H13-10 & H13-7
Face	H13-10 & H13-2
Fan Speed Dial (1)	H13-10 & H12-13
AUTO	H13-9 & H13-7
Bi-Level	H13-9 & H13-2
Fan Speed Dial (2)	H13-9 & H12-13

- (1) - Rotate fan speed dial counterclockwise.
(2) - Rotate fan speed dial clockwise.



NOTE: Asterisk (*) indicates LED circuit.

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Fig. 6: Identifying A/C-Heater Control Panel Connector Terminals
Courtesy of Toyota Motor Sales, U.S.A., Inc.

ACC POWER SOURCE CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Set ignition switch to ACC position. Backprobe terminal A12-20 (Blue/Red wire) of A/C amplifier connector and ground. See Fig. 5.

2) If battery voltage exists, no problem is indicated at this

time. If battery voltage does not exist, inspect CIG fuse in junction block No. 1 (located under left kick panel). See Fig. 4. If fuse is okay, check wiring harness between A/C amplifier and battery. Repair wiring as necessary. If fuse is blown, check for short circuit and replace fuse.

AIR INLET DOOR SERVO MOTOR CIRCUIT

1) Warm engine to normal operating temperature. Perform RETRIEVING CODES. After system enters self-diagnostic mode, perform ACTUATOR CHECK. Rotate temperature set dial to enter step mode. Air inlet door operation should be as specified.

See AIR INLET DOOR AIRFLOW table.

2) If air inlet door functions as specified, no problem is indicated at this time. If air inlet door does not function as specified, test air inlet door servomotor. See AIR INLET DOOR SERVO MOTOR under TESTING. Replace air inlet door servomotor as necessary. If servomotor is okay, go to next step.

3) Check wiring harness and connectors between servomotor and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, substitute known good A/C amplifier, then retest system.

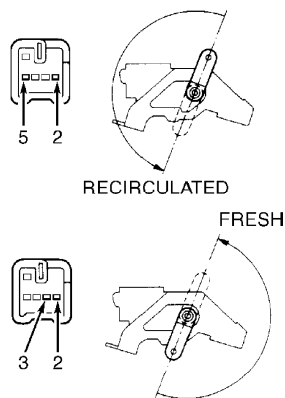
AIR INLET DOOR AIRFLOW TABLE

Set Temperature	Door Position
Less Than 20	Recirculated Air
20-23	Fresh/Recirculated Air
More Than 23	Fresh Air

AIR INLET DOOR SERVO MOTOR

1) Remove instrument panel. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Remove air inlet door servomotor. See Fig. 19. Connect positive battery lead to terminal No. 2, and negative lead to terminal No. 5. Lever should move smoothly to recirculated air position. See Fig. 7.

2) Connect battery positive lead to terminal No. 2, and negative lead to terminal No. 3. Lever should move smoothly to fresh air position. If operation is not as specified, replace servomotor.



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 Fig. 7: Testing Air Inlet Servomotor
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIR MIX DOOR POSITION SENSOR

1) Remove instrument panel. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Unplug air mix door servomotor connector. See Fig. 19. Measure resistance between terminals No. 4 and 5. See Fig. 8. Resistance should be 4800-7200 ohms.

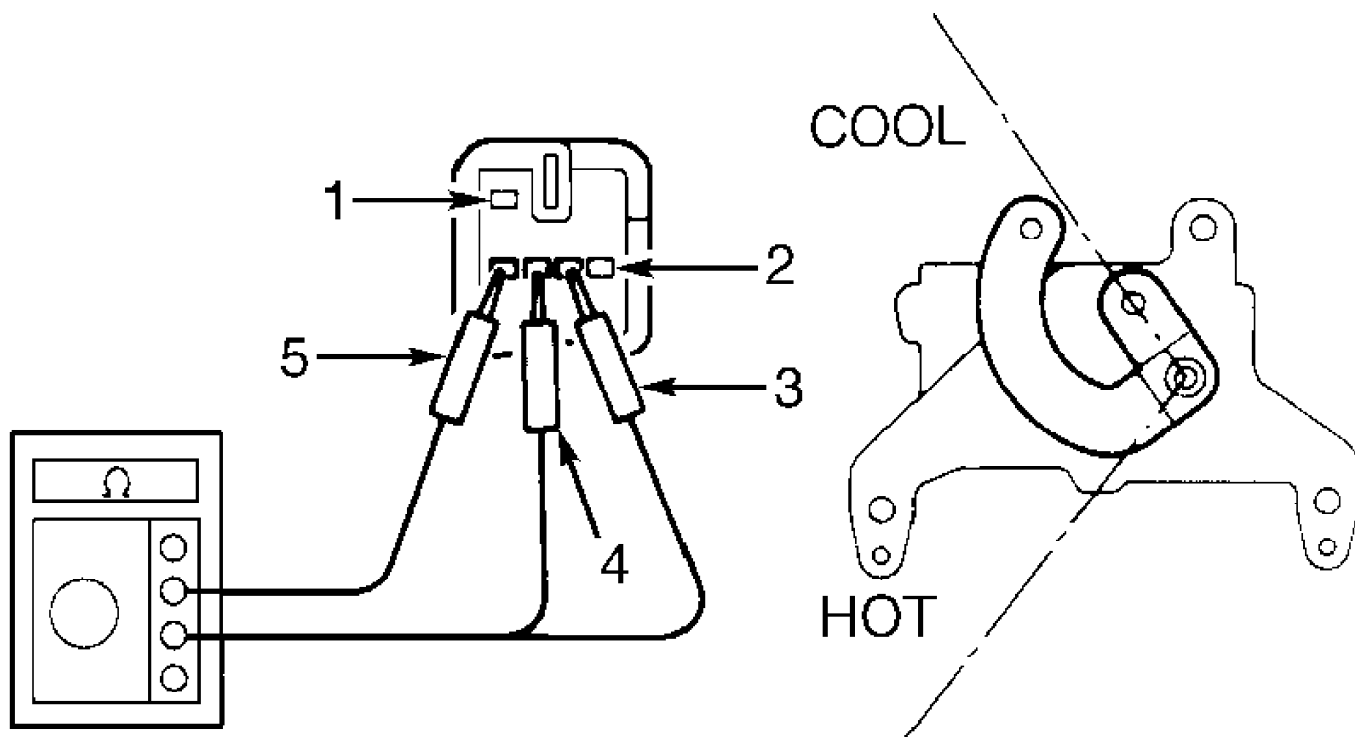
2) Connect positive battery lead to terminal No. 2, and negative lead to terminal No. 1. Servomotor lever should move smoothly to hot position. Transpose battery leads. Lever should move smoothly to cool position.

3) While operating servomotor in this manner, measure resistance between terminals No. 3 and 5. See AIR MIX DOOR POSITION SENSOR RESISTANCES table. If resistances are not as specified, replace sensor.

AIR MIX DOOR POSITION SENSOR RESISTANCES TABLE

Position	(1) Ohms
Maximum Cool	3840-5760
Maximum Hot	960-1440

(1) - As lever moves from cool side to hot side, resistance should decrease.



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Fig. 8: Testing Air Mix Door Position Sensor
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIR MIX DOOR SERVOMOTOR

Remove air mix door servomotor. See Fig. 19. Connect positive battery lead to terminal No. 2, and negative lead to terminal No. 1. Lever should move smoothly to hot position. See Fig. 8. Transpose battery leads. Lever should move smoothly to cool position. If

operation is not as specified, replace servomotor.

AIR OUTLET DOOR POSITION SENSOR

1) Remove instrument panel. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Unplug air outlet door servomotor connector. See Fig. 19. Measure resistance between terminals No. 4 and 5. See Fig. 9. Resistance should be 4700-7200 ohms.

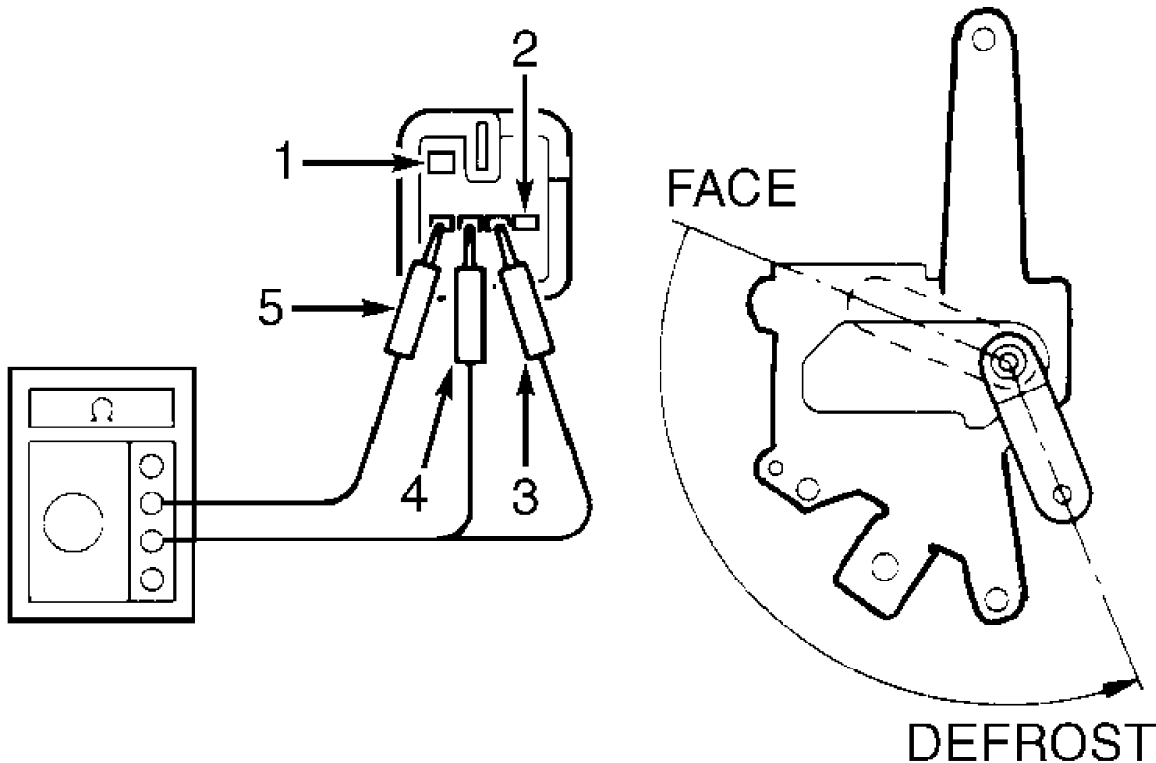
2) Connect positive battery lead to terminal No. 1, and negative lead to terminal No. 2. Servomotor lever should move smoothly to face position. Transpose battery leads. Lever should move smoothly to defrost position.

3) While operating servomotor in this manner, measure resistance between terminals No. 3 and 5. See AIR OUTLET DOOR POSITION SENSOR RESISTANCES table. If resistances are not as specified, replace sensor.

AIR OUTLET DOOR POSITION SENSOR RESISTANCES TABLE

Position	(1) Ohms
Face	3840-5760
Defrost	960-1440

(1) - As lever moves from face side to defrost side, resistance should decrease.



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Fig. 9: Testing Air Outlet Door Position Sensor
Courtesy of Toyota Motor Sales, U.S.A., Inc.

AIR OUTLET DOOR SERVOMOTOR

Remove instrument panel. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Remove air outlet door servomotor. See Fig. 19. Connect positive battery lead to terminal No. 1, and negative lead to terminal No. 2. Lever should move smoothly to face position. See Fig. 9. Transpose battery leads. Lever should move smoothly to defrost position. If operation is not as specified, replace servomotor.

AMBIENT TEMPERATURE SENSOR

NOTE: When installing ambient temperature sensor, connect sensor before connecting battery.

Remove clip and sensor from right side of bumper reinforcement. Unplug ambient temperature sensor connector. Measure resistance between sensor terminals at specified temperatures. See AMBIENT TEMPERATURE SENSOR RESISTANCES table. If resistances are not as specified, replace sensor.

AMBIENT TEMPERATURE SENSOR RESISTANCES TABLE

Sensor Temperature °F (°C)	(1) Ohms
77 (25)	1600-1800
122 (50)	500-700

(1) - As temperature increases, resistance should gradually decrease.

BACK-UP POWER SOURCE CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on. Backprobe terminal A14-7 (White/Red wire) of A/C amplifier connector and ground. See Fig. 5.

2) If battery voltage exists, no problem is indicated at this time. If battery voltage does not exist, inspect ECU-B fuse in junction block No. 1 (located behind left kick panel). See Fig. 4. If fuse is okay, check wiring harness between A/C amplifier and battery. Repair as necessary. If fuse is blown, check for short circuit and replace fuse.

BLOWER MOTOR CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition and blower motor on. Backprobe terminal A14-15 (Blue wire) of A/C amplifier connector and ground. See Fig. 5.

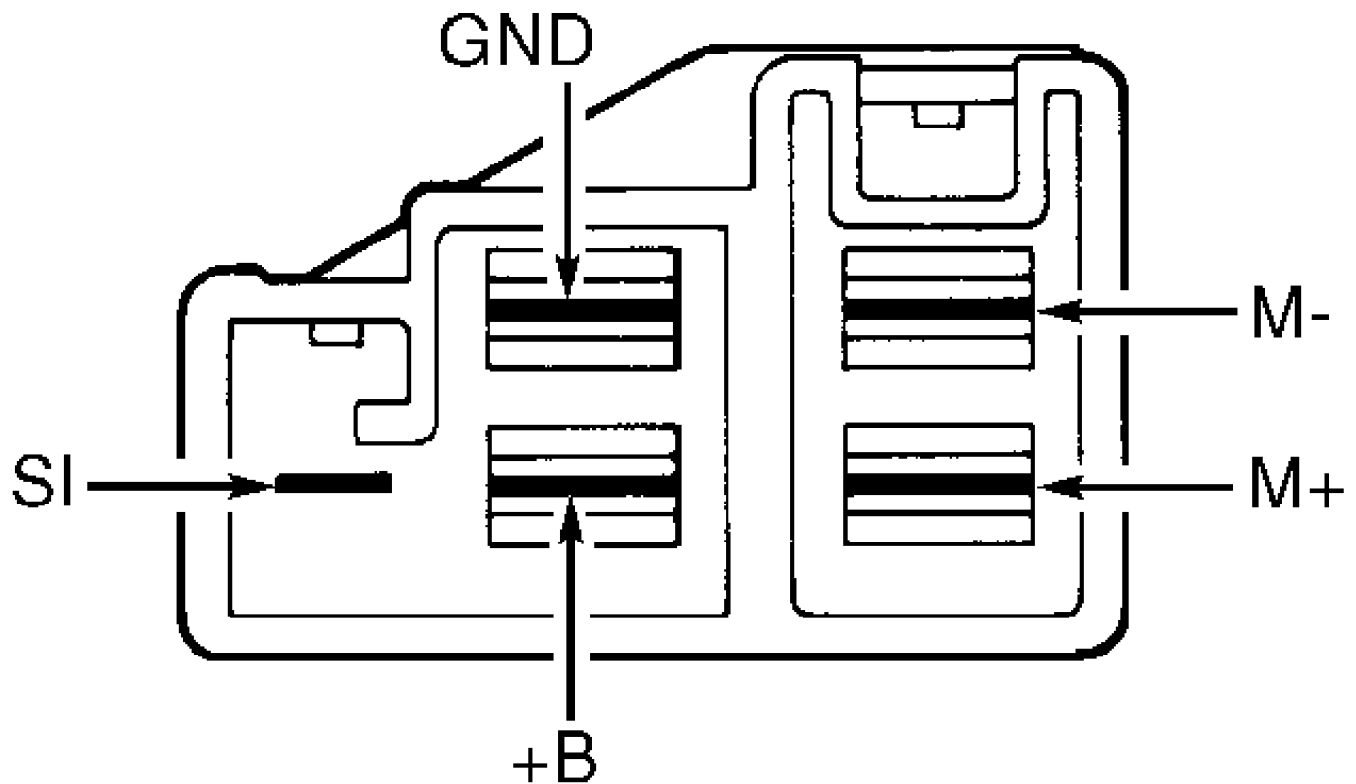
2) If voltage is 1-3 volts, no problem is indicated at this time. If voltage is not as specified, remove blower motor. See BLOWER MOTOR under REMOVAL & INSTALLATION. Connect positive battery lead to terminal No. 2 (Black wire), and negative lead to terminal No. 1 (Brown wire).

3) If blower motor does not operate smoothly, replace blower motor. If blower motor operates smoothly, go to next step.

4) Remove blower motor control relay, leaving harness connectors attached. Turn ignition and blower motor on. Test specified terminals as indicated. See BLOWER MOTOR CONTROL RELAY SPECIFICATIONS table. See Fig. 10. If measurements are not as specified, replace relay. If measurements are as specified, repair or replace wiring or harness.

BLOWER MOTOR CONTROL RELAY SPECIFICATIONS TABLE

Terminals	Specification
GND & Ground	Continuity
+B & Ground	Battery Voltage
M+ & Ground	Battery Voltage
M+ & M-	Battery Voltage
SI & Ground	1-3 Volts



94D10507

Fig. 10: Identifying Blower Motor Control Relay Connector Terminals
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

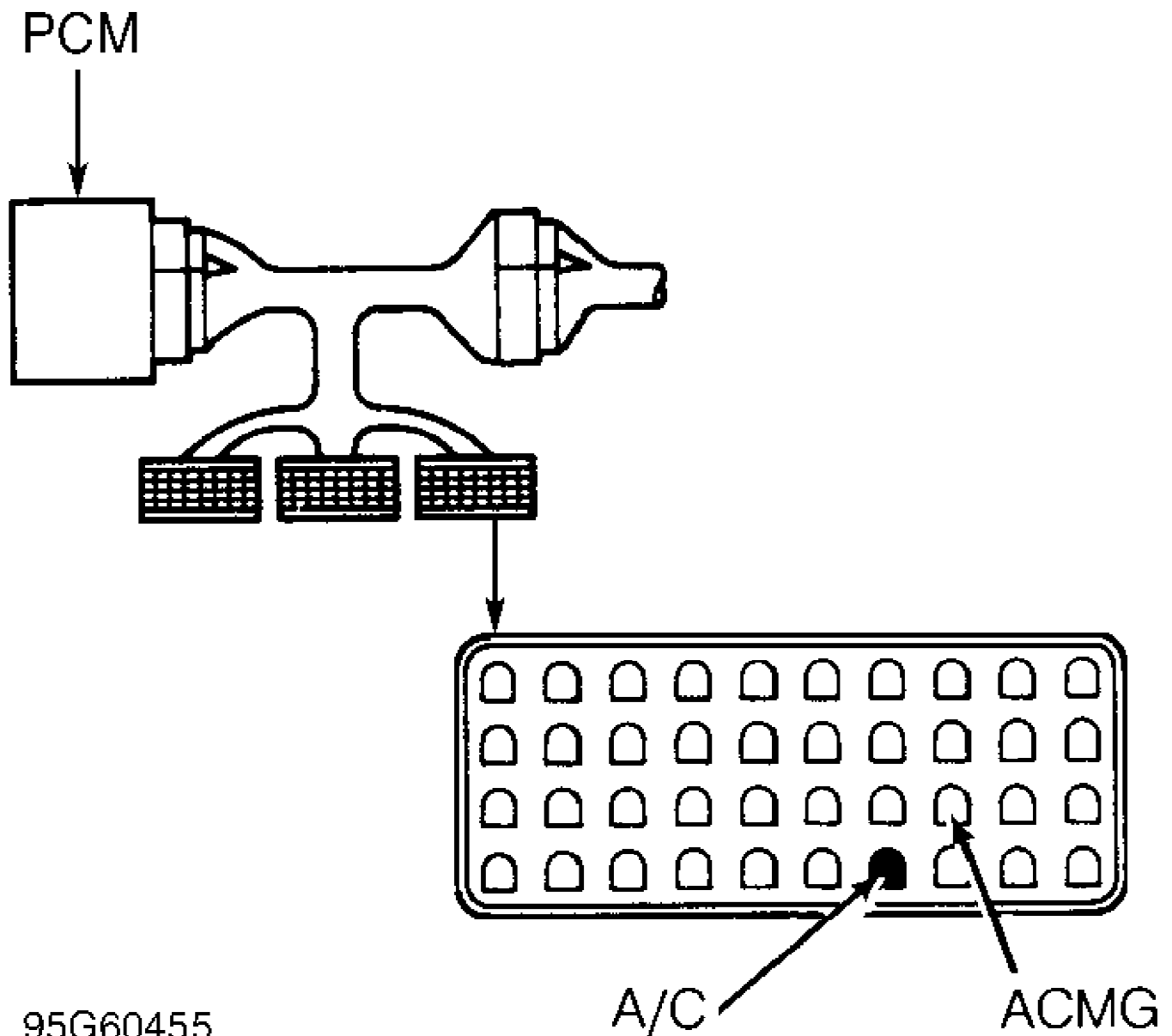
COMPRESSOR CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. Start engine. Backprobe between terminal A12-7 (Blue wire) of A/C amplifier connector and ground. See Fig. 5.

2) Turn A/C on. When magnetic clutch is engaged, voltage should be 10-14 volts. Turn A/C off. Voltage should be less than one volt. If voltage is as specified, go to next step. If voltage is not as specified, go to step 5).

3) Unplug compressor clutch connector. Apply battery voltage to clutch connector terminal No. 4. Connect negative lead to ground. Repair or replace clutch if it does not engage.

4) If clutch engages, check wiring harness and connectors between compressor clutch relay and A/C amplifier. Repair as necessary. If wiring harness and connectors are okay, go to next step.



95G60455

Fig. 11: Powertrain Control Module (PCM) Connector Terminal ID
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

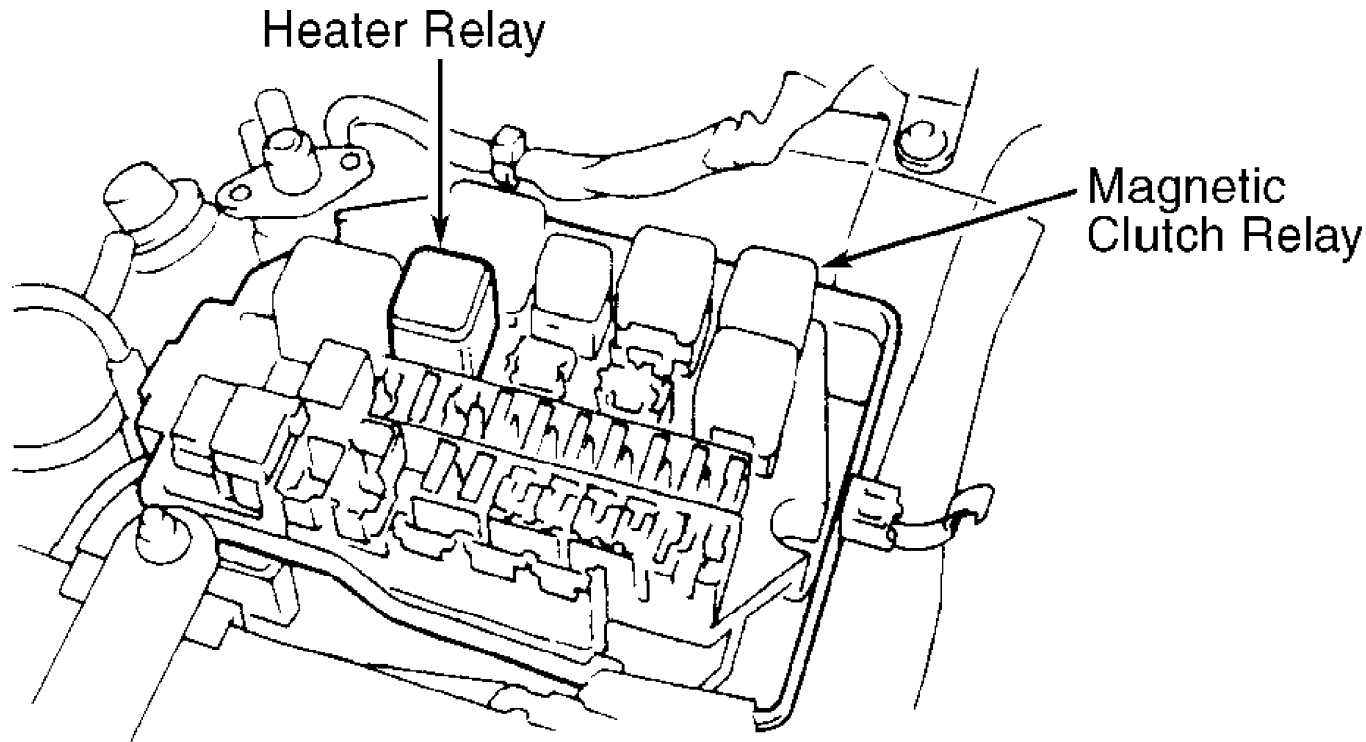
5) Start engine. Backprobe between terminal A14-6 (Blue/Red wire) of A/C amplifier connector and ground. Turn A/C on. When compressor clutch is engaged, voltage should be less than one volt. Turn A/C off. Battery voltage should exist. If voltage is as specified, go to step 8). If voltage is not as specified, go to next step.

6) Remove Electronic Control Module (ECM), leaving harness connectors attached. ECM is located under passenger footwell. Turn ignition and A/C on. Measure voltage between A/C terminal (Blue/Red wire) of ECM connector and ground. See Fig. 11. When clutch is engaged, voltage should be less than one volt. When clutch is not engaged, voltage should be 4-6 volts. If voltage is as specified, go to next step. If voltage is not as specified, temporarily substitute known good ECM. Retest system.

7) Check wiring harness and connectors between A/C amplifier

and ECM. Repair as necessary. If wiring harness and connectors are okay, temporarily substitute known good A/C amplifier. Retest system.

8) Remove compressor clutch relay from junction block No. 2, located in left side of engine compartment. See Fig. 12. Test for continuity between relay terminals. Continuity should exist between terminals No. 1 and 2. See Fig. 13. Continuity should not exist between terminals No. 3 and 5.



94F10509

Fig. 12: Locating Heater & Magnetic Clutch Relays
Courtesy of Toyota Motor Sales, U.S.A., Inc.

9) Connect positive battery lead to relay terminal No. 1, and negative lead to terminal No. 2. Continuity should exist between terminals No. 3 and 5. If continuity is not as specified, replace relay. If continuity is as specified, go to next step.

10) Remove ECM, leaving harness connectors attached. Turn ignition on. Set fan to any speed. Backprobe between terminal ACMG (White/Green wire) of ECM connector and ground. See Fig. 11.

11) With A/C system on, voltage should be about 1.3 volts. With A/C system off, voltage should be between 1.3 volts and battery voltage. If voltage is not as specified, go to next step. If voltage is as specified, no problem is indicated at this time.

12) Check wiring between ECM and battery. Repair or replace as necessary. If wiring is okay, temporarily substitute known good ECM. Retest system.



94110510

Fig. 13: Identifying Magnetic Clutch Relay Terminals
Courtesy of Toyota Motor Sales, U.S.A., Inc.

COMPRESSOR LOCK SENSOR

Unplug compressor lock sensor connector, located on compressor. Measure resistance between sensor terminals. With ambient temperature of 68°F (20°C), resistance should be 160-210 ohms. If resistance is not as specified, replace sensor.

CONDENSER FAN

Disconnect negative battery cable. Unplug condenser fan connector. Connect ammeter to measure motor current draw. Condenser fan should rotate smoothly. Current should be 6.0-7.4 amps. If operation is not as specified, replace condenser fan.

COOLANT TEMPERATURE SENSOR

1) Remove coolant temperature sensor. See COOLANT TEMPERATURE SENSOR under REMOVAL & INSTALLATION. Place sensor and a thermometer in a pan of water. Heat or cool water as necessary.

2) Measure resistance between sensor terminals at indicated temperatures. See COOLANT TEMPERATURE SENSOR RESISTANCES table. If resistances are not as specified, replace sensor.

COOLANT TEMPERATURE SENSOR RESISTANCES TABLE

Ambient Temperature °F (°C)	(1) Ohms
32 (0)	Less Than 50,000
104 (40)	2400-2800
212 (100)	Greater Than 200

(1) - As temperature increases, resistance should gradually decrease.

EVAPORATOR TEMPERATURE SENSOR

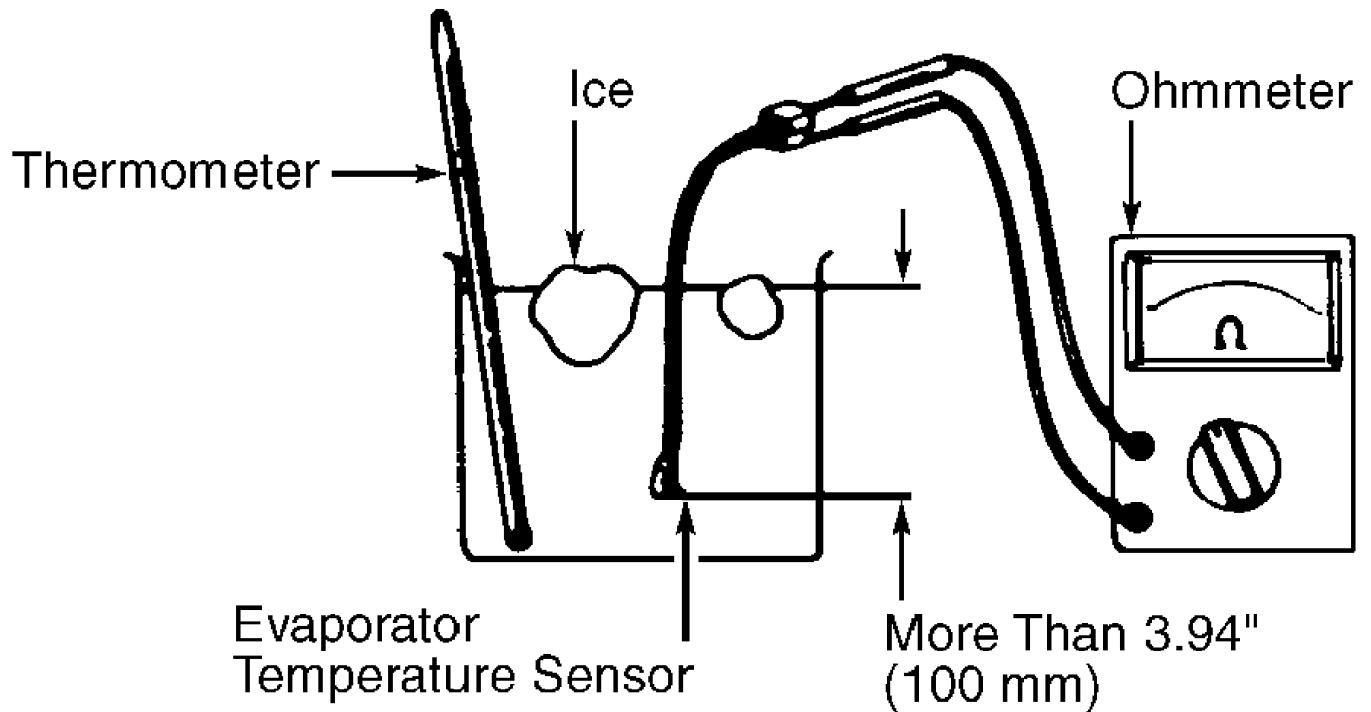
1) Remove evaporator temperature sensor. Submerge sensor at least 4" (100 mm) deep in cold water. See Fig. 14. Place thermometer in water.

2) Measure resistance of connector at specified temperatures. See EVAPORATOR TEMPERATURE SENSOR RESISTANCES table. If readings are not within specification, replace thermistor.

EVAPORATOR TEMPERATURE SENSOR RESISTANCES TABLE

Ambient Temperature °F (°C)	(1) Ohms
32 (0)	4500-5200
59 (15)	2000-2700

(1) - As temperature increases, resistance should gradually decrease.



95160457

Fig. 14: Testing Evaporator Temperature Sensor
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

EXPANSION VALVE

Ensure refrigerant quantity is sufficient. Connect manifold gauge set. Run engine at 2000 RPM for at least 5 minutes with A/C on. High side pressure should be 199-228 psi (14-16 kg/cm²). If low side pressure drops to zero psi, expansion valve is clogged. Replace expansion valve.

HEATER RELAY CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Backprobe between terminal A14-16 (Blue/White wire) of A/C amplifier connector and ground. See Fig. 5.

2) Turning ignition on and off while measuring voltage as indicated in HEATER RELAY CIRCUIT SPECIFICATIONS table. If voltage is as specified, no problem is indicated at this time.

HEATER RELAY CIRCUIT SPECIFICATIONS TABLE

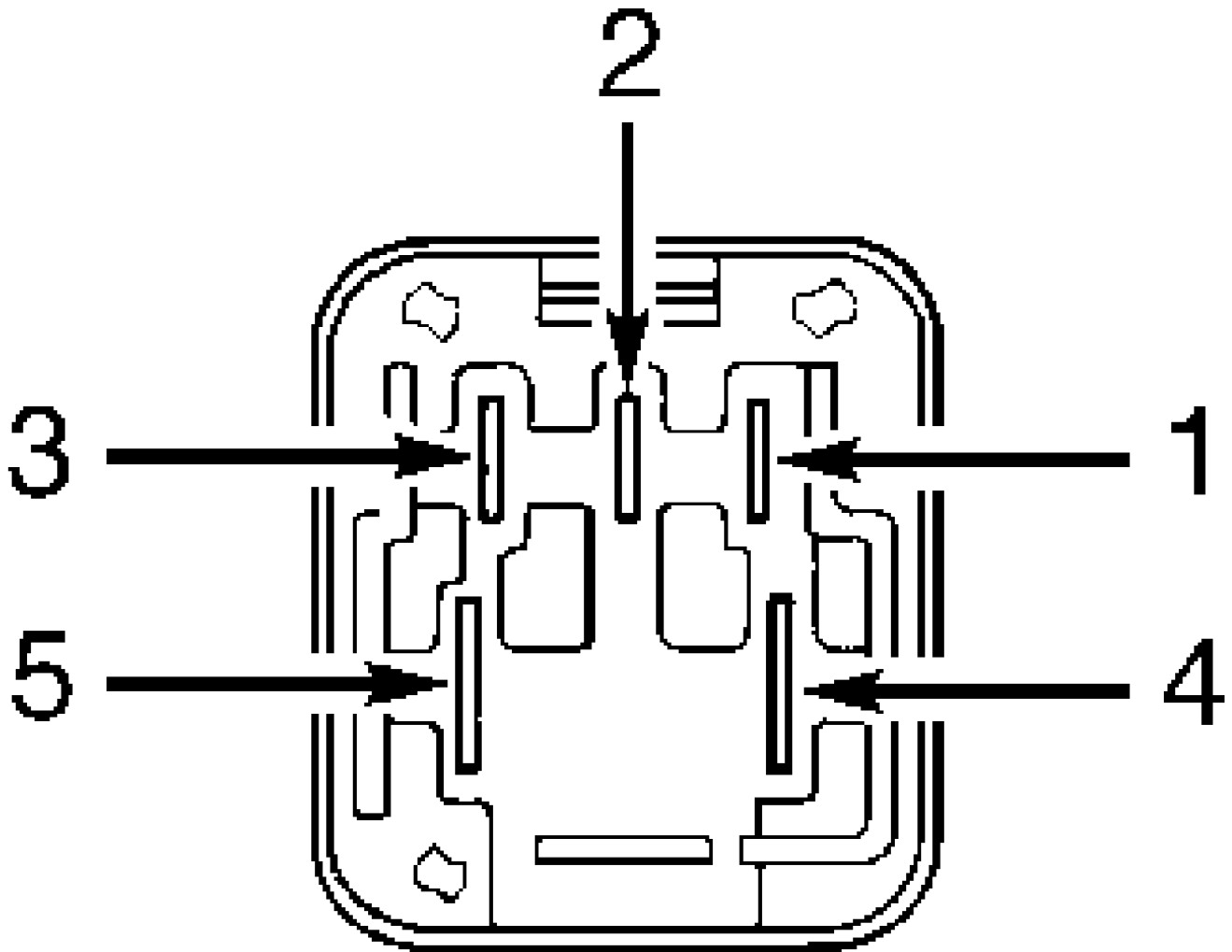
Ignition Switch Position	Volts
Off	0
On	
Blower On	Less Than 1
Blower Off	Battery Voltage

3) If voltage is not as specified, remove heater relay from junction block No. 2 (located on left side of engine compartment). See Fig. 12. Test for continuity between relay terminals. Continuity should exist between terminals No. 1 and 3, and between terminals No.

2 and 4. See Fig. 15. Continuity should not exist between relay terminals No. 4 and 5.

4) Connect positive battery lead to terminal No. 1, and negative lead to terminal No. 3. Continuity should exist between terminals No. 4 and 5. Continuity should not exist between terminals No. 2 and 4.

5) If continuity is not as specified, replace heater relay. If continuity is as specified, inspect HTR fuse in junction block No. 1 (located behind left kick panel). See Fig. 4. If fuse is okay, check wiring between A/C amplifier and battery. Repair as necessary. If fuse is blown, check for short circuit and replace fuse.



94J10511

Fig. 15: Identifying Heater Relay Terminals
Courtesy of Toyota Motor Sales, U.S.A., Inc.

IG POWER SOURCE CIRCUIT

- 1) Remove A/C amplifier, leaving harness connectors attached.

See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on. Backprobe between terminals A14-8 (Red/Blue wire) and A14-9 (White/Black wire) of A/C amplifier connector. See Fig. 5.

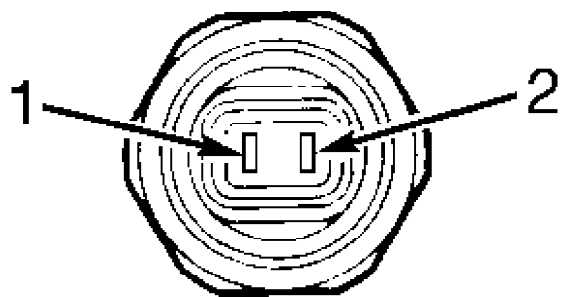
2) If battery voltage exists, no problem is indicated at this time. If battery voltage does not exist, turn ignition off. Test for continuity between A/C amplifier connector terminal A14-9 (White/Black wire) and ground. If continuity exists, go to next step. If continuity does not exist, repair wiring between terminal A14-9 and body ground.

3) Inspect HTR fuse in junction block No. 1, located behind left kick panel. See Fig. 4. If fuse is okay, check wiring harness and connector between A/C amplifier and battery. Repair as necessary. If fuse is blown, check for short circuit and replace fuse.

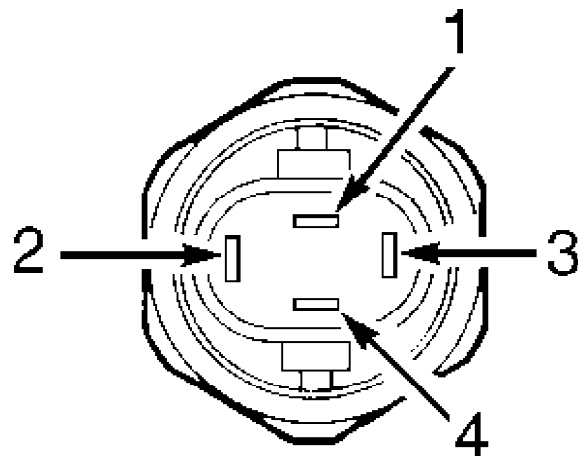
PRESSURE SWITCH

1) Unplug pressure switch connector. See Fig. 1. Turn ignition on. Test for continuity between terminals No. 1 and 2 (non-turbo) or terminals No. 1 and 4 (turbo). See Fig. 16.

2) With low side pressure of 28 psi (2.0 kg/cm²), continuity should not exist. With high side pressure of 455 psi (32 kg/cm²), continuity should not exist. If continuity is not as specified, replace switch.



NON-TURBO



TURBO

94A10512

Fig. 16: Identifying Pressure Switch Connector Terminals
Courtesy of Toyota Motor Sales, U.S.A., Inc.

RADIATOR FAN

Disconnect negative battery cable. Unplug fan connector. Connect battery and ammeter to measure fan current. Radiator fan should rotate smoothly. Current should be 2.5-4.5 amps. If operation is not as specified, replace radiator fan.

RADIATOR FAN RELAYS

Radiator Fan Relay No. 1

1) Remove radiator fan relay No. 1. See Figs. 1 and 20. Test for continuity between terminals No. 3 and 4. See Fig. 17. Continuity should exist. Test for continuity between terminals No. 1 and 2.

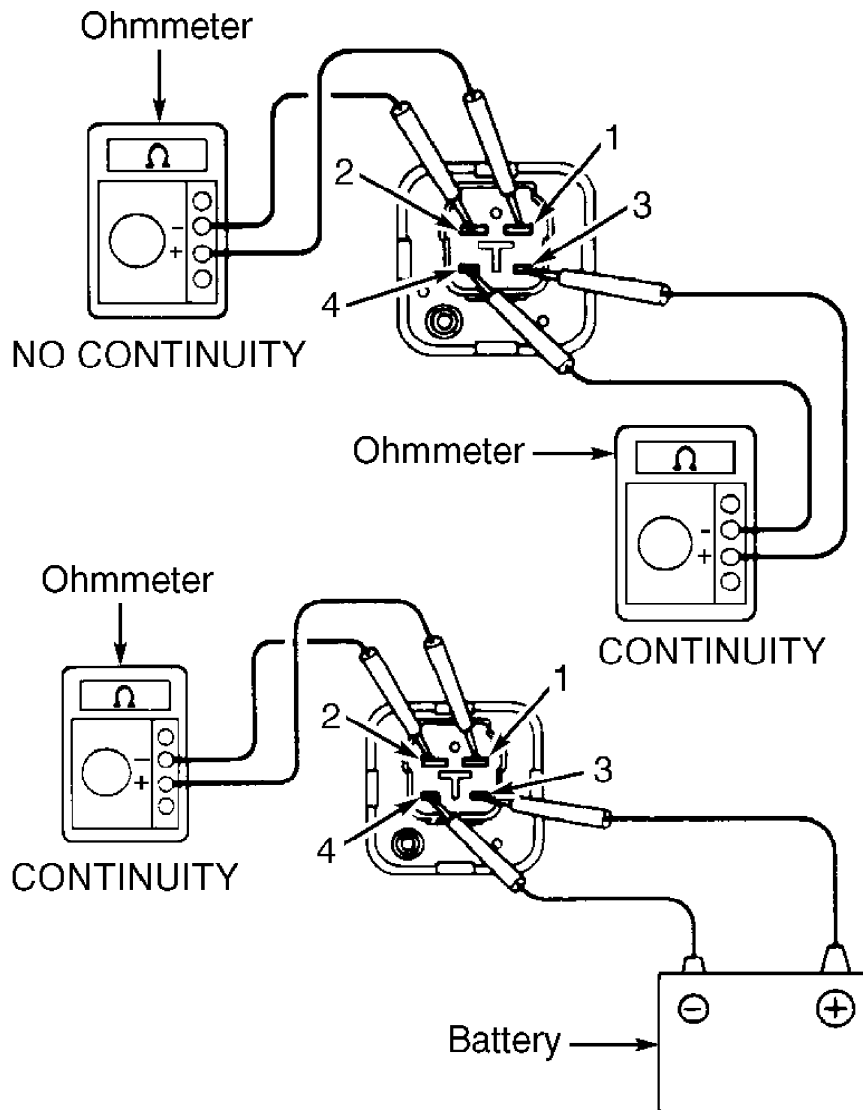
Continuity should not exist.

2) Apply battery voltage between terminals No. 3 and 4. Test for continuity between terminals No. 1 and 2. Continuity should exist. If continuity is not as specified, replace relay.

Radiator Fan Relay No. 2

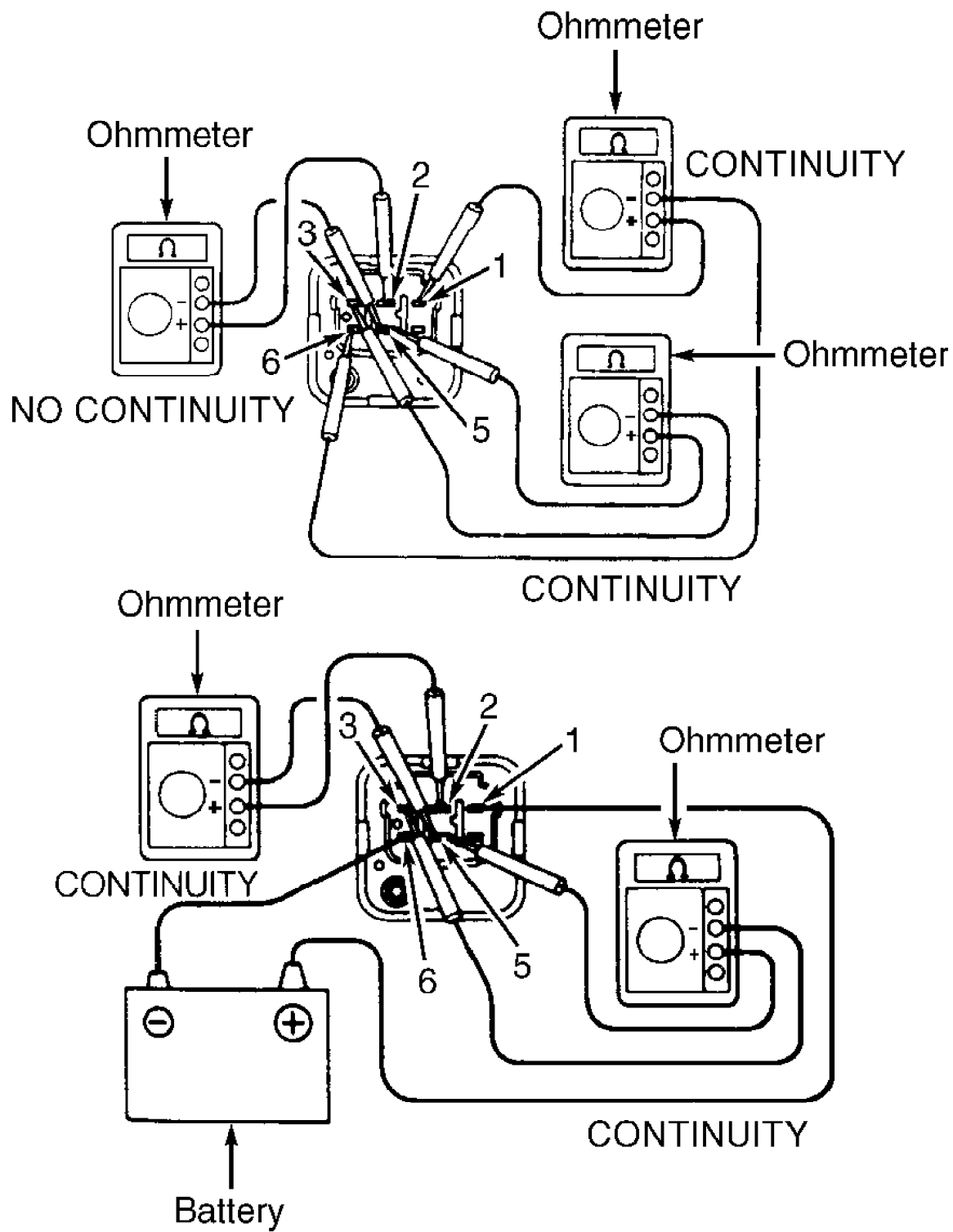
1) Remove radiator fan relay No. 2. See Figs. 1 and 20. Test for continuity between terminals No. 1 and 6, and between terminals No. 3 and 5. See Fig. 18. Continuity should exist. Test for continuity between terminals No. 2 and 5. Continuity should not exist.

2) Apply battery voltage between terminals No. 1 and 6. Test for continuity between terminals No. 3 and 5. Continuity should not exist. Test for continuity between terminals No. 2 and 5. Continuity should exist. If continuity is not as specified, replace relay.



94B10513

Fig. 17: Testing Radiator Fan Relay No. 1
Courtesy of Toyota Motor Sales, U.S.A., Inc.



94C10514

Fig. 18: Testing Radiator Fan Relay No. 2
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

IN-VEHICLE TEMPERATURE SENSOR

Remove instrument panel. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Unplug room temperature sensor connector. See Fig. 1. Measure resistance between sensor terminals. With ambient temperature of 77°F (25°C), resistance should be 1600-1800 ohms. If resistance is not as specified, replace sensor.

SOLAR SENSOR

1) Remove glove box. Remove solar sensor. Cover sensor with cloth. Connect positive lead of ohmmeter to terminal No. 2 (Brown/White wire). Connect negative lead to terminal No. 1 (Yellow/Green wire). Continuity should exist.

2) Remove cloth. Expose sensor to bright light. Resistance should now be about 4000 ohms. As light intensity decreases, resistance should increase. If resistances are not as specified, replace sensor.

TEMPERATURE SET DIAL CIRCUIT

1) Remove A/C amplifier, leaving harness connectors attached. See A/C AMPLIFIER under REMOVAL & INSTALLATION. Turn ignition on. Backprobe between terminals A14-11 (Blue/Black wire) and A13-9 (Violet/White wire) of A/C amplifier connector. See Fig. 5.

2) With dial set to indicated temperatures, voltage should be specified. See TEMPERATURE SET DIAL VOLTAGE SPECIFICATIONS table. If voltage is not as specified, go to next step. If voltage is as specified, no problem is indicated at this time.

3) Remove A/C-heater control panel, leaving harness connectors attached. Measure voltage at specified terminals. See A/C CONTROL ASSEMBLY VOLTAGE SPECIFICATIONS table. If voltage is not as specified, go to next step. If voltage is as specified, repair or replace harness or connector between A/C amplifier and A/C-heater control panel.

4) Check harness and connectors in Brown/White and Violet/White wiring circuits. Repair or replace as necessary. If harness and connectors are okay, temporarily substitute known good A/C-heater control panel. Retest system.

TEMPERATURE SET DIAL VOLTAGE SPECIFICATIONS TABLE

Set Temperature °F (°C)	Volts
68 (20)	3.88
77 (25)	2.50
86 (30)	1.12

A/C CONTROL ASSEMBLY VOLTAGE SPECIFICATIONS TABLE

Between Terminal No.	Volts
H12-9 & H12-2	(1)
H12-9 & H12-10	4.5-5.5
H12-9 & H12-11	Less Than 1

(1) - Test for voltage as indicated in TEMPERATURE SET DIAL VOLTAGE SPECIFICATIONS table.

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.

A/C AMPLIFIER

Removal & Installation

Remove center cluster panel. A/C amplifier is located on top of radio. Remove radio, leaving A/C amplifier attached. See INSTRUMENT PANEL under REMOVAL & INSTALLATION. Separate A/C amplifier and radio. To install, reverse removal procedure.

A/C UNIT

Removal

1) Disconnect negative battery cable. Discharge A/C system, using approved refrigerant recovery/recycling equipment. Drain cooling system. Remove engine wiring harness bracket bolt. Remove brakeline bracket bolts from engine compartment side of engine bulkhead.

2) Remove heater core hoses. Remove insulator retainer. Remove ABS actuator (if equipped). Disconnect refrigerant lines. Remove plate cover. Remove instrument panel. See INSTRUMENT PANEL.

3) Remove instrument panel brace and reinforcement. Remove carpet. Remove heater center duct. Disconnect control link and connector from air inlet servomotor. Remove air inlet servomotor. See Fig. 19.

4) Remove defroster duct. Remove water valve cover. Disconnect control link and connector from air mix servomotor. Remove air mix servomotor.

5) Unplug air outlet servomotor connector. Remove air outlet servomotor. Unplug electrical connectors. Remove A/C unit.

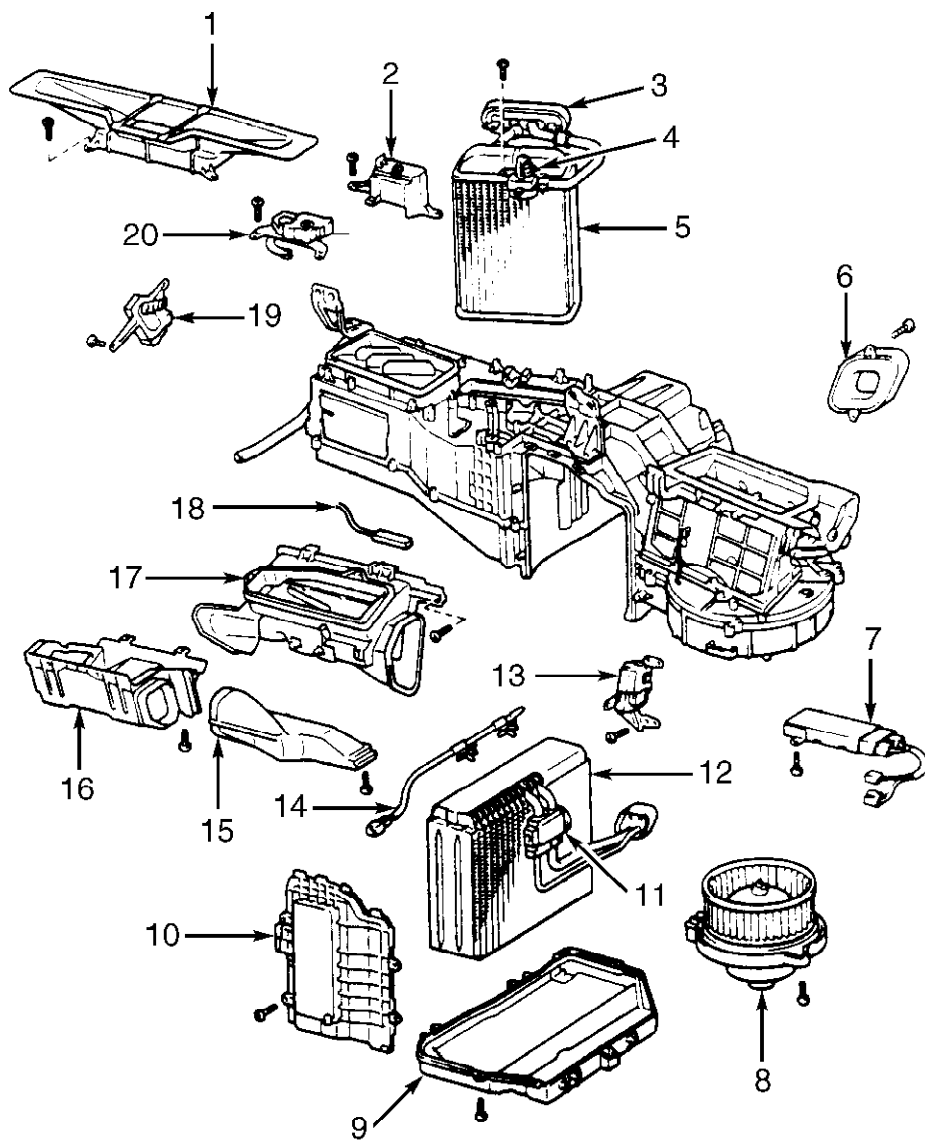
Disassembly

1) Remove blower motor control relay and blower motor. See Fig. 19. Remove foot air duct. Remove A/C unit wiring harness and block joint. Remove lower case and evaporator cover. Remove evaporator.

2) Remove evaporator temperature sensor and expansion valve. Remove heater core and water valve. Remove heater and vent air ducts. Remove coolant temperature sensor.

Reassembly & Installation

To reassemble and install, reverse disassembly and removal procedures. When installing A/C unit drain hose, pull hose forward until yellow paint mark on hose is visible in engine compartment. If installing a new evaporator, add 1.4 ounces of refrigerant oil. Evacuate, recharge, and leak-test system.



- | | |
|-------------------------|-----------------------------------|
| 1. Defroster Nozzle | 12. Evaporator |
| 2. Water Valve Cover | 13. Air Inlet Servomotor |
| 3. Plate | 14. Evaporator Temperature Sensor |
| 4. Water Valve | 15. Foot Air Duct |
| 5. Heater Core | 16. Heater Air Duct |
| 6. A/C Unit Block Joint | 17. Vent Air Duct |
| 7. Blower Motor Relay | 18. Coolant Temperature Sensor |
| 8. Blower Motor | 19. Air Outlet Servomotor |
| 9. Lower Case | 20. Air Mix Servomotor |
| 10. Evaporator Cover | |
| 11. Expansion Valve | |

94D10515
 Fig. 19: Exploded View Of A/C Unit Components
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

BLOWER MOTOR

Removal & Installation

Disconnect negative battery cable. Remove glove box and side air duct. Remove scuff plate, carpet, and ECM cover. Unplug blower motor connector. Remove blower motor. To install, reverse removal procedure.

COMPRESSOR

Removal & Installation

1) Run engine with A/C on for 10 minutes (if possible). Shut off engine. Disconnect battery cables, and remove battery. Discharge A/C system, using approved refrigerant recovery/recycling equipment.

2) Rotate drive belt tensioner clockwise to loosen tension, and remove drive belt. Remove power steering pump. Disconnect refrigerant hoses from compressor. Cap all openings immediately.

3) Unplug electrical connector from compressor. Remove compressor. To install, reverse removal procedure. If replacing compressor, add 4.1 ounces of refrigerant oil. Evacuate, recharge, and leak-test A/C system.

CONDENSER

Removal & Installation

1) Discharge A/C system, using approved refrigerant recovery/recycling equipment. Disconnect battery cables, and remove battery. Remove air cleaner. On turbocharged engines, remove turbocharger air hose clamp. Move hose toward engine side.

2) On all models, remove front bumper. Remove clips and radiator support upper seal. Remove receiver-drier. Disconnect refrigerant lines from condenser. Remove radiator and condenser upper mount. Remove piping clamp from condenser. Remove condenser.

3) To install, reverse removal procedure. If installing a new condenser, add 1.4 ounces of refrigerant oil. Evacuate, recharge, and leak-test system.

COOLANT TEMPERATURE SENSOR

Removal & Installation

Disconnect negative battery cable. Remove engine undercover. Drain cooling system. Unplug the coolant temperature sensor connector, located on left side of radiator. Remove sensor and "O" ring. To install, reverse removal procedure. Install a new "O" ring.

INSTRUMENT PANEL

CAUTION: Always store air bag assembly with air bag door pad facing upward. DO NOT disassemble air bag assembly.

Removal

1) Disable air bag system. See AIR BAG RESTRAINT SYSTEM article in ACCESSORIES/SAFETY EQUIPMENT section. Disconnect negative battery cable. Remove steering wheel. Remove front pillar garnishes, foot rest, and front door scuff inside plates. Remove steering column cover, upper console panel, and parking brake hole cover. Remove console box.

2) Remove lower panels. Remove cluster finish panels. Remove instrument cluster. Remove instrument panel center duct heater. Remove combination switch, radio, and computer cover.

3) Remove glove box door plates. Carefully unplug air bag connector. Remove glove box. Remove mounting brackets and air duct. Remove passenger air bag assembly.

4) Remove parking brake lever, right defroster nozzle, and

steering column. Unplug instrument panel electrical connectors. Remove instrument panel. Remove instrument panel reinforcement.

Installation

To install, reverse removal procedure. Use new passenger air bag assembly bolts.

PRESSURE SWITCH

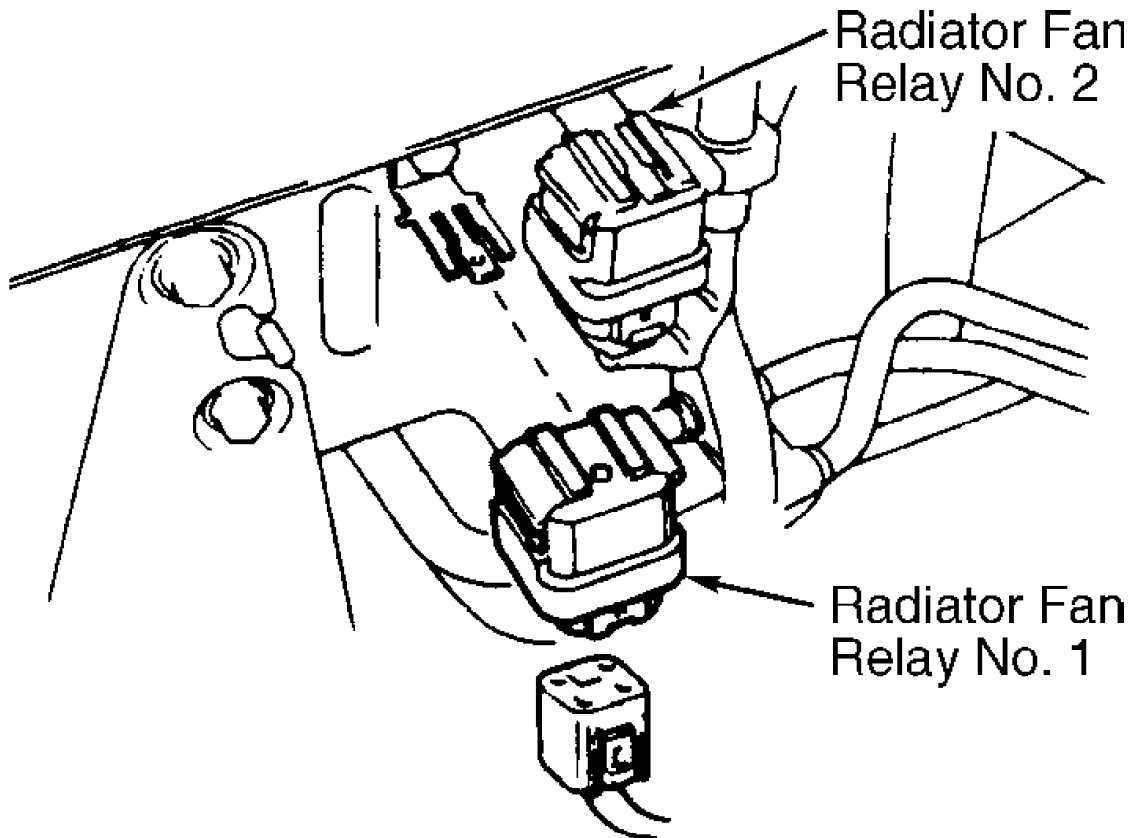
Removal & Installation

Discharge A/C system, using approved refrigerant recovery/recycling equipment. Unplug pressure switch connector. Pressure switch is located next to right strut tower. Using back-up wrench on pressure switch mount, carefully remove switch. To install, reverse removal procedure. Evacuate, recharge, and leak-test system.

RADIATOR FAN RELAYS

Removal & Installation

Disconnect negative battery cable. On models without automatic spoiler, remove engine undercover. On models with automatic spoiler, remove left headlight. On all models, remove radiator fan relay. See Figs. 1 and 20. To install, reverse removal procedure.



94E10516

Fig. 20: Locating Radiator Fan Relays
Courtesy of Toyota Motor Sales, U.S.A., Inc.

RECEIVER-DRIER

Removal & Installation

1) Discharge A/C system, using approved refrigerant recovery/recycling equipment. Remove front bumper. Remove radiator support upper seal. Disconnect refrigerant lines from receiver-drier. Cap all openings immediately. Remove receiver-drier.

2) To install, reverse removal procedure. If receiver-drier is replaced, add 0.7 ounce of refrigerant oil. Evacuate, recharge, and leak-test A/C system.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Compressor Mounting Bolts	38 (52)
Compressor Stud Bolt	19 (26)
Instrument Panel Reinforcement Bolts	15 (21)
Power Steering Bolt	43 (58)
	INCH Lbs. (N.m)
Condenser Mounting Bolts	36 (4)
Coolant Temperature Sensor	65 (7.4)
Refrigerant Hoses	
Condenser	87 (10)
Compressor	87 (10)
Evaporator	87 (10)
Receiver-Drier	48 (5.4)
RPM Sensor	52 (6)
Steering Wheel Pad Bolts	62 (7)

WIRING DIAGRAMS

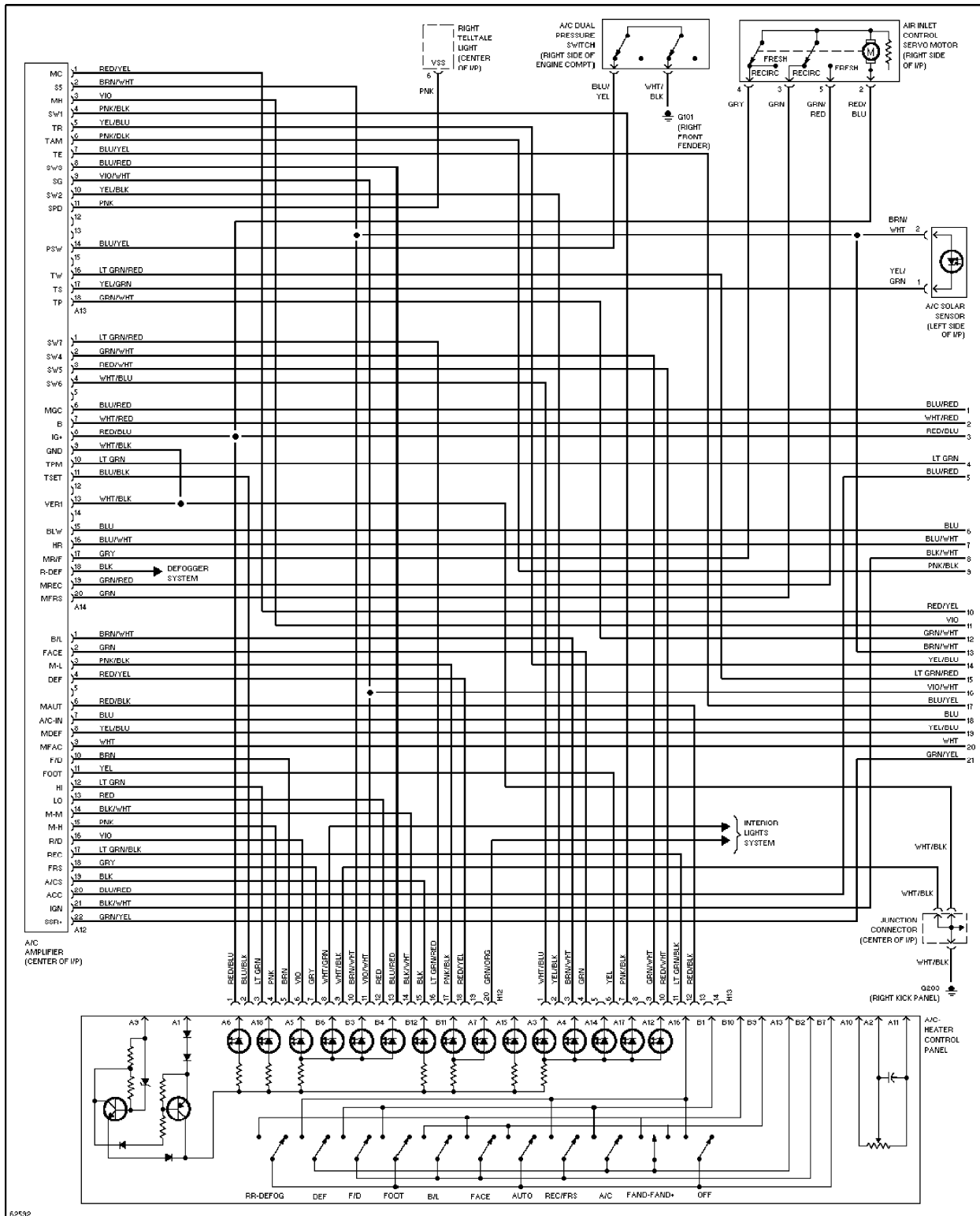


Fig. 21: Automatic A/C-Heater System Wiring Diagram (1 Of 2)

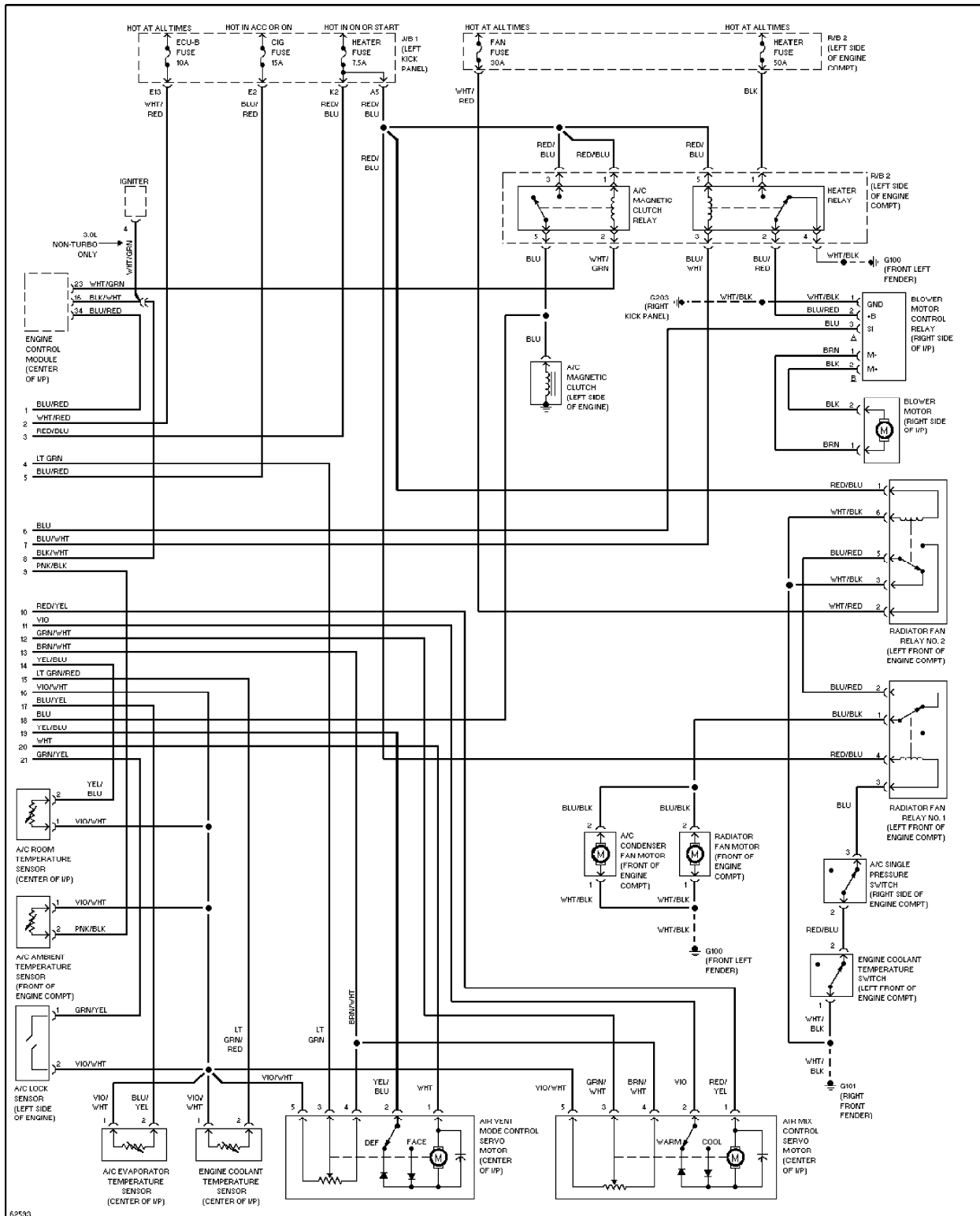


Fig. 22: Automatic A/C-Heater System Wiring Diagram (2 Of 2)