

INSTRUMENT PANEL

1994 Toyota Celica

1994 ACCESSORIES & EQUIPMENT
Toyota Motor Sales, U.S.A., Inc. - Instrument Panel

Celica

* PLEASE READ THIS FIRST *

WARNING: Vehicles are equipped with a driver-side air bag; use extreme caution while working around steering column. To disable air bag system, ensure ignition switch is in LOCK position and negative battery cable is disconnected and shielded for at least 90 seconds before attempting any repair. DO NOT apply electrical power to any instrument panel connector without disconnecting air bag control unit. Information labels are attached to air bag components. Follow all notices on labels. Use only DVOM (volt/ohmmeter) with minimum of 10-k/ohm impedance to check ANY circuit.

DESCRIPTION & OPERATION

GAUGES

Standard instrument clusters contain fuel and temperature gauges with telltale warning lights. Some optional instrument panels are equipped with a tachometer, oil pressure gauge and voltmeter. Gauge internal operating components use either a 2-terminal bimetallic strip type, or a 3-terminal coil type. The 2-terminal type gauges are generally used on clusters without tachometers.

SWITCHES

All models contain hazard warning switch and cruise control main ON/OFF switch on instrument panel. All models use a combination switch for headlight, turn signal, wiper/washer, and cruise control switches. Combination switch is mounted on steering column. For testing and/or removal and installation procedures for combination switch components, see the STEERING COLUMN SWITCHES article in the ACCESSORIES/SAFETY EQUIPMENT section.

TESTING - GAUGES

FUEL GAUGE & WARNING LIGHT

Fuel Gauge & Wiring Harness Operational Test

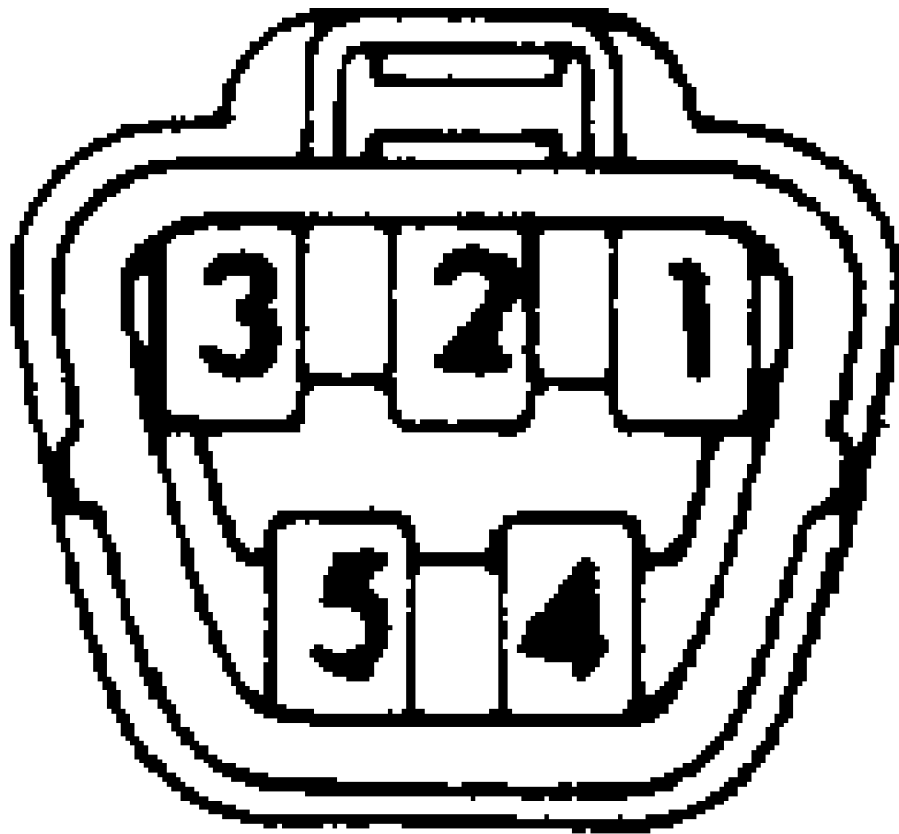
1) Unplug fuel tank sending unit connector. Turn ignition on. If fuel gauge indicates EMPTY, go to next step. If fuel gauge does not indicate EMPTY, repair short circuit in wiring harness. See wiring diagram in WIRING DIAGRAMS.

2) Connect a 12-volt, 3.4-watt test light between appropriate terminals of sending unit wiring harness connector. See FUEL GAUGE & HARNESS TEST table. See Fig. 1.

3) With ignition on, test light should flash and gauge needle should move toward FULL. If test light does not flash and gauge needle does not move, check wiring harness for open circuit. Repair or replace as necessary. If wiring harness checks good, replace fuel gauge.

FUEL GAUGE & HARNESS TEST TABLE

Model	Sending Unit Harness Connector Terminals
Celica	2 & 3



CAMRY, CELICA & SUPRA 94B47945

Fig. 1: Fuel Sending Unit Harness Connector Terminals
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

FUEL SENDING UNIT TESTS

Fuel Sending Unit Resistance Test

1) Turn ignition off. Remove fuel sending unit from tank. Connect ohmmeter to appropriate sending unit terminals. See FUEL SENDING UNIT CONNECTOR TERMINALS table. Sending unit connector terminals are located opposite harness connector terminals. See Fig. 1.

2) Move sender arm and ensure resistance is within specification. See FUEL SENDING UNIT RESISTANCE SPECIFICATIONS table. After a short delay, gauge pointer should move when sender is connected and float arm is moved.

FUEL SENDING UNIT CONNECTOR TERMINALS TABLE

Model	Sending Unit Connector Terminals
Celica	2 & 3

FUEL SENDING UNIT RESISTANCE SPECIFICATIONS TABLE

Float Position	Ohms
Full	3
Half	32
Empty	110

Low Fuel Warning Light Sensor Operational Test

1) Remove fuel sending unit from gas tank. Using a battery, connect voltage to warning light sensor terminals of sending unit connector. See LOW FUEL WARNING LIGHT SENSOR TERMINALS table.

2) Connect a 12-volt, 3.4-watt test light between positive battery terminal and one warning light sensor terminal of sending unit connector. Connect other warning light sensor terminal to negative battery terminal.

3) With sending unit float/sensor dry, test light should come on within about 40 seconds. With sending unit float/sensor submerged in gasoline or water, test light should not come on. If test light does not function as described, reverse wire connections at battery terminals and retest. If test light still does not function as described, replace sensor or complete sending unit.

LOW FUEL WARNING LIGHT SENSOR TERMINALS TABLE

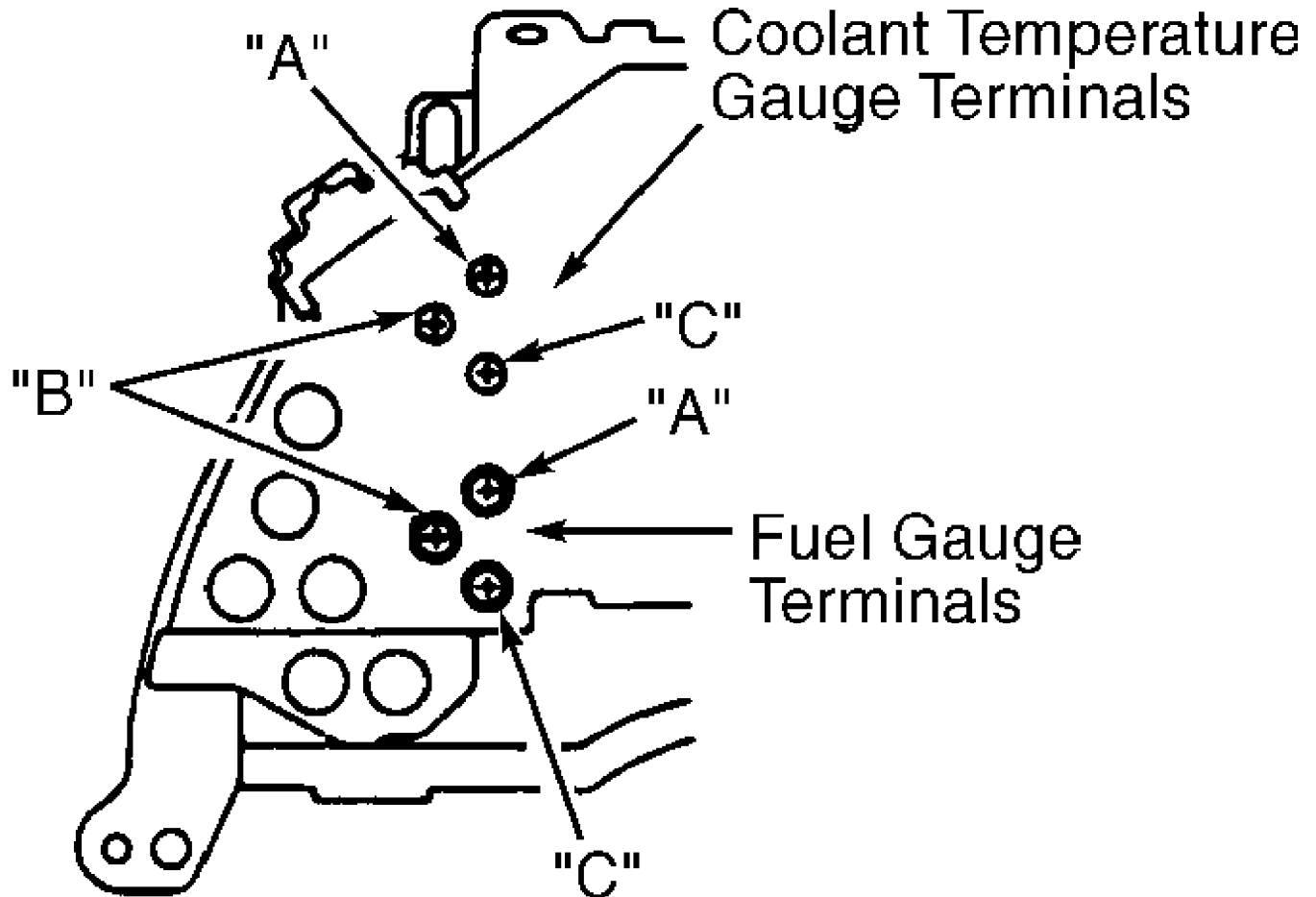
Model	Sending Unit Connector Terminals
Celica	1 & 3

Fuel Gauge Resistance Test

Remove instrument cluster. Unplug cluster connector(s). Using an ohmmeter, check fuel gauge resistance by measuring across appropriate terminals. See Fig. 2. See FUEL GAUGE RESISTANCE SPECIFICATIONS table. Replace fuel gauge if not within specifications.

FUEL GAUGE RESISTANCE SPECIFICATIONS TABLE

Application & Terminals	Ohms
Terminals "A" & "B"	154
Terminals "A" & "C"	126
Terminals "B" & "C"	281



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Fig. 2: Identifying Gauge Test Terminals
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

TEMPERATURE GAUGE & SENDER

Wiring Harness Operational Test

1) Unplug connector at coolant temperature sender. Turn ignition on. Temperature gauge should indicate COOL. Turn ignition off. Connect a 12-volt, 3.4-watt test light between coolant temperature sender harness connector terminal and ground.

2) Turn ignition on. Test light should glow and temperature gauge should slowly move to HOT. If gauge functions as described, replace sending unit. If gauge does not function as described, perform TEMPERATURE GAUGE RESISTANCE TEST.

Temperature Gauge Resistance Test

Remove instrument cluster. Using ohmmeter, check gauge resistance across appropriate terminals. See Fig. 2. Ensure ignition is off and harness connector is unplugged from instrument cluster. See TEMPERATURE GAUGE RESISTANCE SPECIFICATIONS table. Replace gauge if not within specification. If gauge is within specification, repair open or short circuit in wiring harness.

TEMPERATURE GAUGE RESISTANCE SPECIFICATIONS TABLE

Application	Ohms
Terminals "A" & "B"	228
Terminals "A" & "C"	54
Terminals "B" & "C"	176

TACHOMETER TEST

Connect a tune-up test tachometer and start engine. Compare vehicle tachometer RPM reading against test tachometer. If vehicle tachometer reading is outside allowable range, replace tachometer. See TACHOMETER TEST table.

TACHOMETER TEST TABLE

Vehicle RPM Reading	Allowable Range
700	630-770
1000	900-1100
2000	1850-2150
3000	2800-3200
4000	3800-4200
5000	4800-5200
6500	5800-6200
7000	6700-7300

TESTING - SWITCHES

HAZARD WARNING SWITCH

1) Ensure HAZARD-HORN and/or TURN fuses are good. Ensure flasher is good. See TURN SIGNAL FLASHER LOCATION table. With hazard warning switch removed from dash, ensure voltage is at switch wiring harness connector terminal No. 8. See Fig. 3. If voltage does not exist, check/repair fuses and wiring circuit. If voltage exists, disconnect switch from connector.

2) Using DVOM, ensure switch continuity exists between indicated terminals with switch in specified position. See HAZARD WARNING SWITCH CONTINUITY TEST table. If continuity is not as specified, replace switch. If continuity is as specified, check wiring circuit. See wiring diagram in WIRING DIAGRAMS.

TURN SIGNAL FLASHER LOCATION TABLE

Model	Location
Celica	Behind Instrument Panel Lower Finish Panel, Above Hood Release Lever

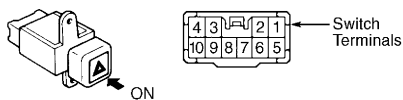


Fig. 3: Identifying Hazard Warning Switch Terminals
Courtesy of Toyota Motor Sales, U.S.A., Inc.

HAZARD WARNING SWITCH CONTINUITY TEST TABLE

Switch Position	Terminal Numbers (1)	Continuity
Off	7 & 10	Yes
On	4, 5, 6 & 9; 7 & 8	Yes

(1) - Terminals No. 2 and 3 are for switch illumination bulb.

REMOVAL & INSTALLATION

WARNING: Vehicles are equipped with a driver-side air bag; use extreme caution while working around steering column. To disable air bag system, ensure ignition switch is in LOCK position and negative battery cable is disconnected and shielded for at least 90 seconds before attempting any repair. DO NOT apply electrical power to any instrument panel connector without disconnecting air bag control unit. Information labels are attached to air bag components. Follow all notices on labels. Use only DVOM (volt/ohmmeter) with minimum of 10-k/ohm impedance to check ANY circuit.

HAZARD WARNING SWITCH

Removal & Installation

Hazard warning switch is mounted to center air duct register, to left of clock. See Fig. 4. Using flat-blade screwdriver, pry top of register outward, away from dash opening and disconnect connectors. Remove switch from rear of register. To install, reverse removal procedure.

INSTRUMENT CLUSTER

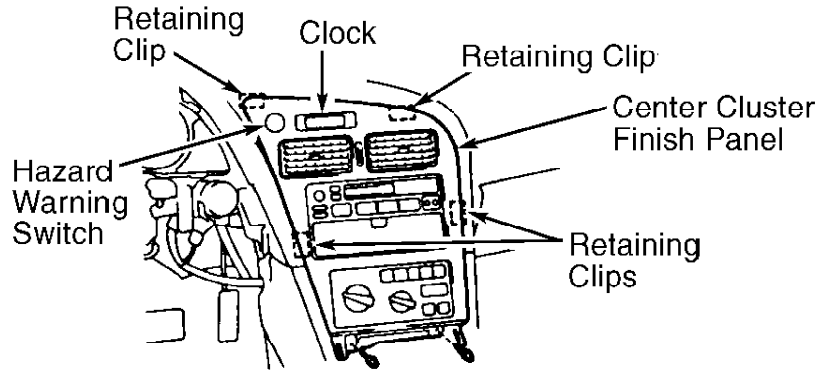
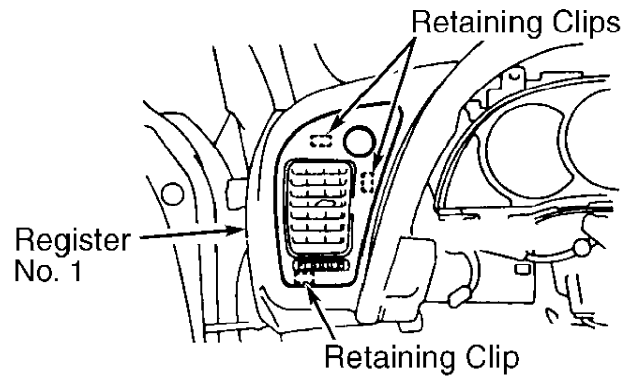
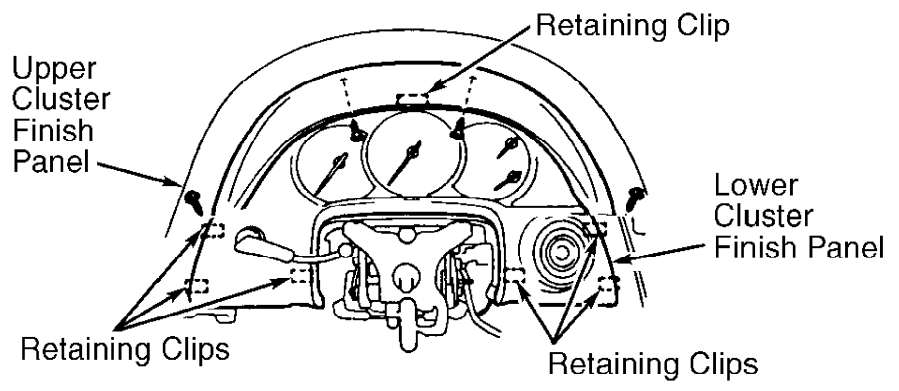
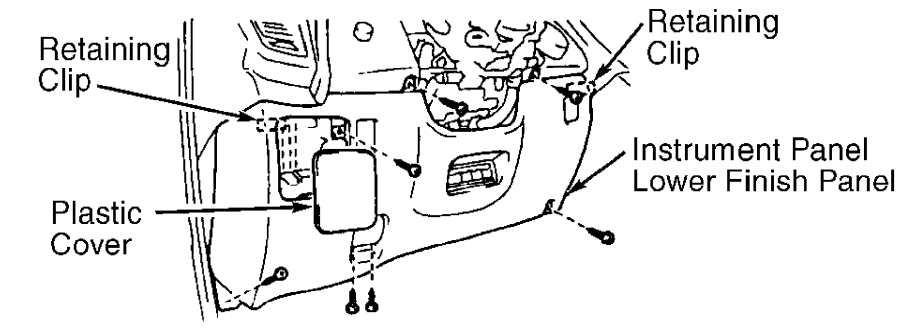
CAUTION: When removing driver-side air bag, DO NOT pull on air bag wiring harness. When storing air bag, ensure pad surface faces upward.

Removal & Installation

1) Ensure front wheels are in straight-ahead position. Turn ignition switch to LOCK position. Disconnect and shield negative battery cable. Wait at least 90 seconds before continuing. Remove steering wheel. See STEERING WHEEL & AIR BAG.

2) Remove steering column covers. Remove plastic screw cover from instrument panel lower finish panel and remove 7 retaining screws. See Fig. 4. Pry off lower finish panel from around ignition key bezel and steering column.

3) Remove 4 upper cluster finish panel retaining screws. Pull upper cluster out far enough to disconnect harness connectors and speedometer cable (if equipped). Pull out register No. 1 finish panel. Remove instrument cluster. Remove 2 center cluster finish panel retaining screws. Pull out center cluster finish panel. To install, reverse removal procedure. Before installing steering wheel, center spiral cable.



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 Fig. 4: Removing Instrument Cluster & Hazard Warning Switch
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

STEERING WHEEL & AIR BAG

Removal

1) Ensure front wheels are in straight-ahead position. Place ignition switch in LOCK position and remove key. Disconnect and shield negative battery cable. Wait at least 90 seconds before continuing. Remove 2 screw covers from sides of steering wheel. See Fig. 5. Using Torx Wrench (T30), loosen air bag Torx screws until screw head is snug against screw case.

2) Carefully pull air bag away from steering wheel enough to unlock and disconnect air bag electrical connector. DO NOT forcefully pull on electrical connector or wiring. Place air bag aside with pad facing upward.

3) Remove steering wheel lock nut and washer from steering shaft. Make alignment mark on steering shaft and steering wheel for installation reference. Using appropriate steering wheel puller, pull steering wheel from shaft while guiding spiral cable wire through steering wheel opening.

Installation

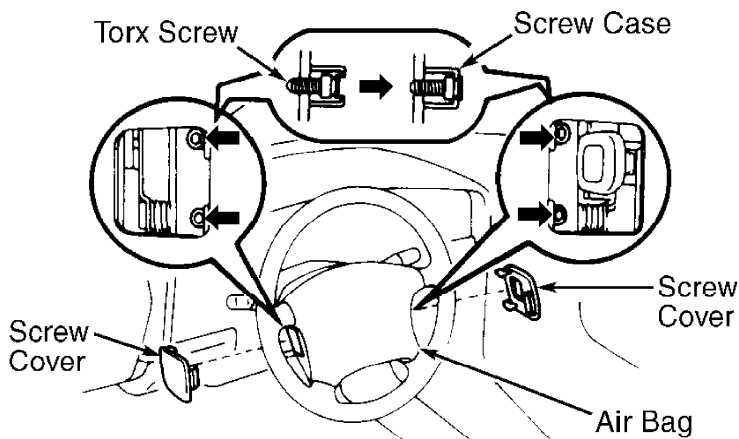
1) Ensure front wheels are in straight-ahead position. Turn spiral cable (located on combination switch) counterclockwise by hand until it is hard to turn. Turn spiral cable clockwise about 3 turns and align Red mark at bottom with opening.

2) Guide spiral cable wire through steering wheel opening while installing steering wheel to shaft. Align reference marks on steering shaft and steering wheel. Tighten steering wheel lock nut to 25 ft. lbs. (34 N.m).

3) Connect air bag electrical connector and snap down connector lock. Ensure air bag Torx screws are retracted and snug against screw case. See Fig. 5. Install air bag to steering wheel ensuring wiring is not pinched and does not interfere with other moving parts. Tighten Torx screws to specification. See TORX SCREW TORQUE SPECIFICATIONS table. Install screw covers. Connect negative battery cable.

TORX SCREW TORQUE SPECIFICATIONS TABLE

Application	INCH Lbs. (N.m)
Celica	78 (8.8)



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Fig. 5: Removing Air Bag From Steering Wheel
Courtesy of Toyota Motor Sales, U.S.A., Inc.

STEERING WHEEL & HORN PAD

Removal

1) On rear of steering wheel, locate and remove retaining screw securing horn pad. Pull horn pad out enough to disconnect horn electrical connector(s).

2) Remove steering wheel lock nut and washer. Make alignment mark on steering shaft and steering wheel for installation reference. Install suitable steering wheel puller and pull steering wheel from shaft.

Installation

Align reference marks on steering shaft and steering wheel. Tighten steering wheel lock nut to 25 ft. lbs. (34 N.m). Connect horn wiring and install horn pad.

WIRING DIAGRAM

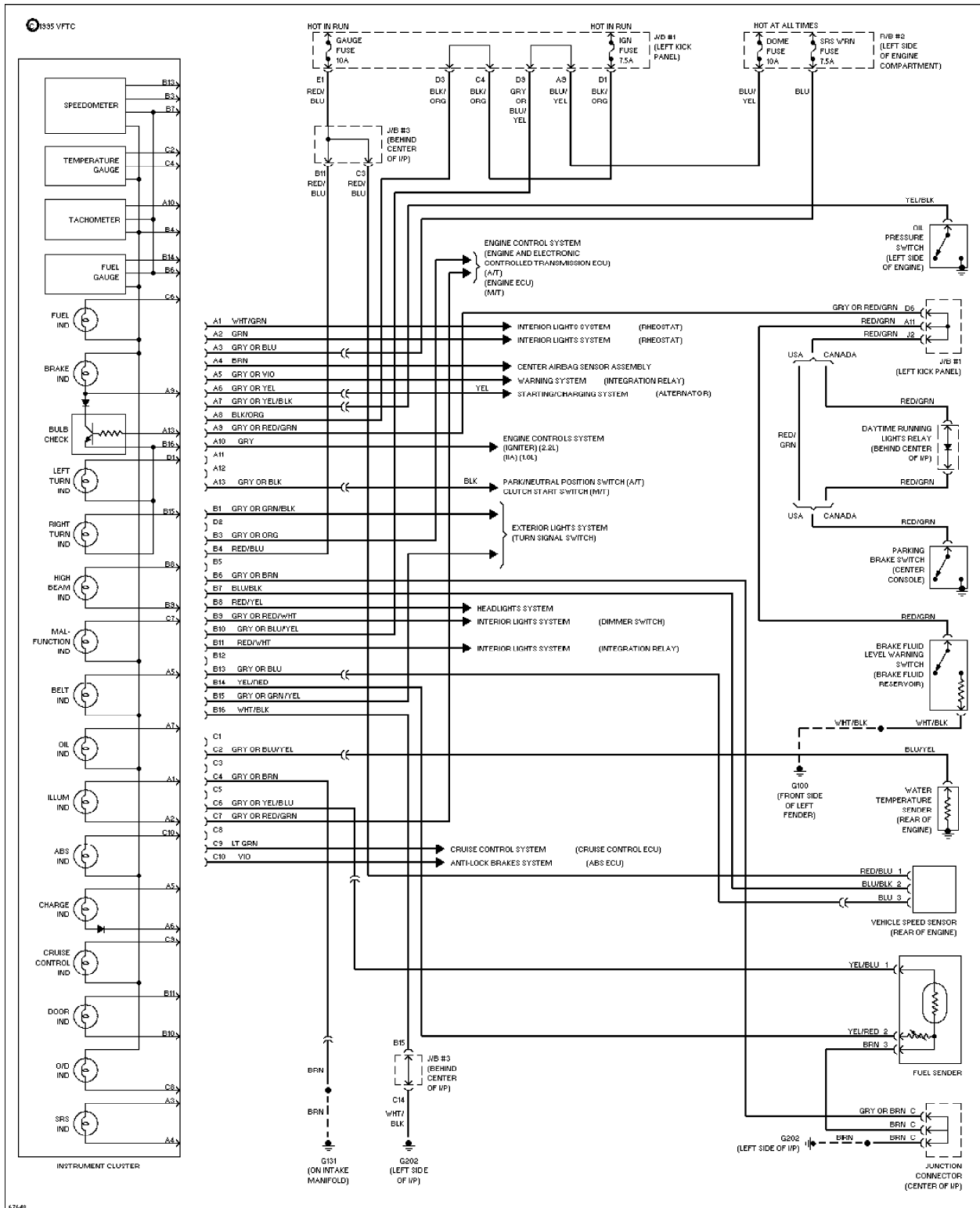


Fig. 6: Instrument Panel Wiring Diagram