

INSTRUMENT PANEL

1994 Mitsubishi 3000GT

1994 ACCESSORIES & SAFETY EQUIPMENT
Chrysler Corp./Mitsubishi Instrument Panels

Dodge: Stealth
Mitsubishi: 3000GT

DESCRIPTION & OPERATION

Instrument cluster includes speedometer, fuel gauge and temperature gauge. Fuel gauge has a built-in voltage limiter to keep voltage supply to gauges at 7 volts. Some models may also have a shunt-type ammeter, oil pressure gauge, tachometer, voltmeter and/or turbo boost pressure gauge. Oil pressure gauge uses full battery voltage. The tachometer operates by pulse feed.

TROUBLE SHOOTING

FUEL/TEMPERATURE GAUGE NOT WORKING

Check for blown fuse, faulty voltage limiter and faulty relay. Ensure sending unit connections are clean and tight. Test sending unit for correct operation. Tighten connections in instrument cluster.

SPEEDOMETER NOT WORKING

Ensure speedometer cable is properly connected and correctly routed. If speedometer pointer and/or odometer still do not work, replace speedometer as an assembly.

TACHOMETER NOT WORKING

Tachometer is serviced as an assembly. If wiring harness is okay, replace tachometer assembly.

WARNING LIGHTS NOT WORKING

Test for defective sending unit, burned-out bulb and broken printed circuit. Ensure all connections are clean and tight.

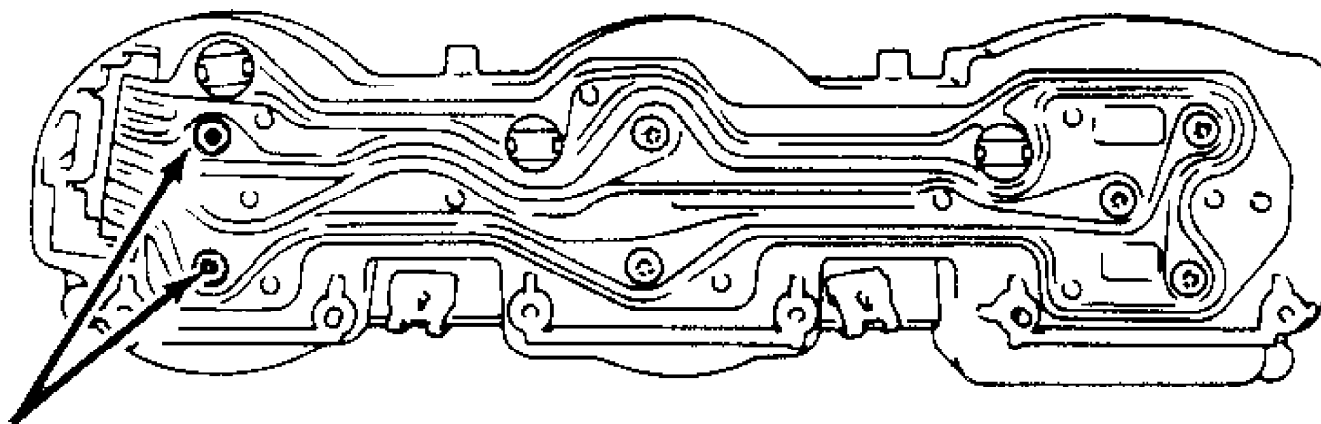
TESTING

BOOST PRESSURE GAUGE

Resistance Test (Stealth & 3000GT Turbo)

1) Remove instrument cluster from instrument panel. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION. On Stealth and 3000GT, remove air distribution duct and combination gauges.

2) On all models, measure resistance between boost pressure gauge terminals on back of instrument cluster or combination gauges using ohmmeter. See Fig. 1. Resistance should be 72 ohms. If resistance is not as specified, replace gauge.



Check Here

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Fig. 1: Turbo Boost Pressure Gauge Test Terminals (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

FUEL TANK SENDING UNIT

Resistance Test

Remove fuel tank sending unit from fuel tank. Measure resistance between appropriate terminals with fuel float in FULL and EMPTY positions. See Fig. 1. Compare resistance reading to FUEL TANK SENDING UNIT RESISTANCE SPECIFICATIONS table. If resistance is not to specification, replace fuel tank sending unit.

FUEL TANK SENDING UNIT RESISTANCE SPECIFICATIONS TABLE

Application	Empty	Full
Stealth & 3000GT	103.0-117.0	1.0-5.0

FUEL GAUGE

CAUTION: Gauge coils can be damaged if wire is grounded too long.
Perform test as quickly as possible.

Simple Test

1) Disconnect fuel gauge sending unit connector wire in luggage compartment, in cargo space or at tank unit. Connect a 12-volt, 3.4-watt bulb to harness side of connector, between appropriate terminals. See Figs. 2.

2) Turn ignition switch to ON position. Ensure test bulb flashes, or stays on, and fuel gauge needle moves. If bulb or gauge needle does not function as described, check and repair fuel gauge circuit.

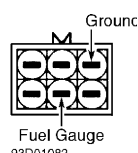


Fig. 2: Identifying Fuel Gauge Test Connections (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

NOTE: Fuel gauge resistance test must be completed with instrument panel cluster removed. Use ohmmeter for all measurements. If resistance is extremely low, a short may exist in coil. If resistance is extremely high, a broken wire or similar problem may exist in gauge.

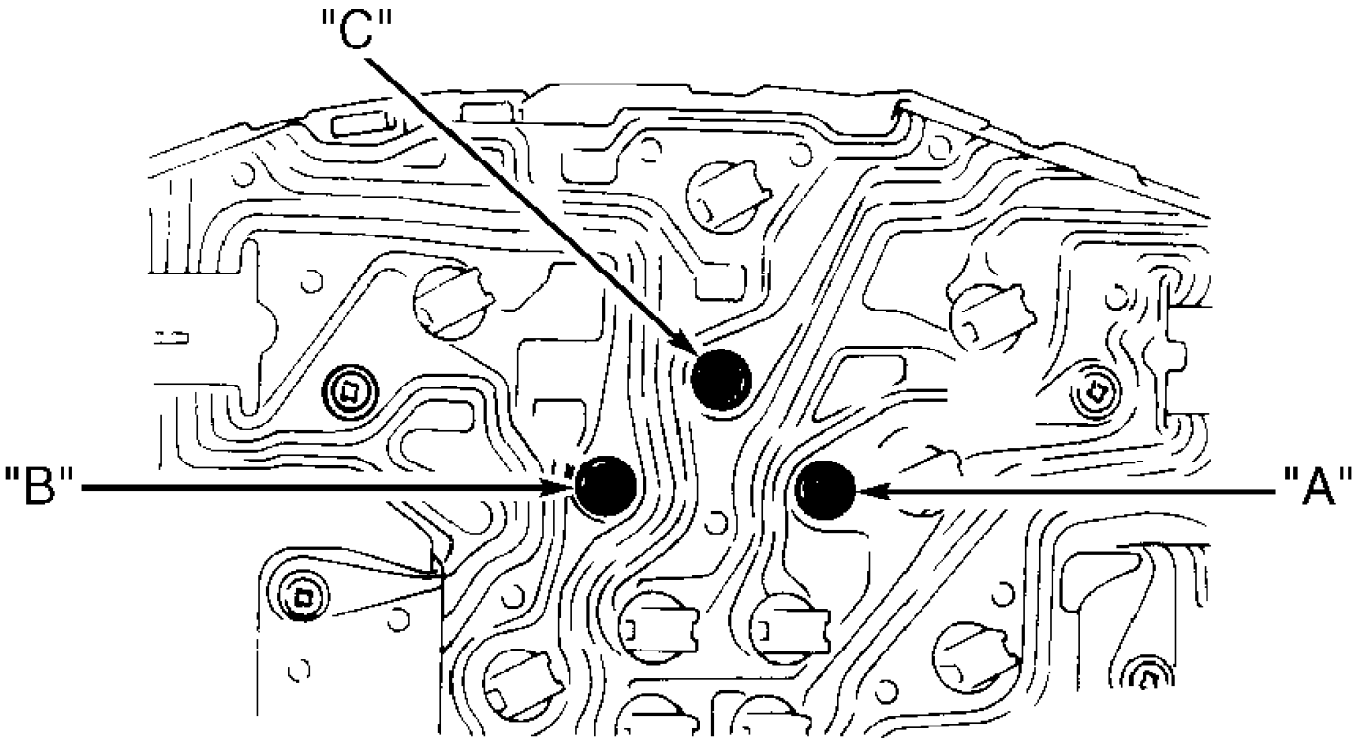
Resistance Test

1) Remove instrument cluster. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION. On Stealth and 3000GT, remove air distribution duct and combination gauges.

2) On all models, measure resistance between appropriate terminals of instrument cluster or combination gauges. See Figs. 3 and 4. See FUEL GAUGE RESISTANCE SPECIFICATIONS table. If resistance readings are not to specification, replace fuel gauge.

FUEL GAUGE RESISTANCE SPECIFICATIONS TABLE

Application		Terminals	Ohms
Stealth & 3000GT	"A" & "B"	254.0
Stealth & 3000GT	"A" & "C"	101.0
Stealth & 3000GT	"B" & "C"	153.0



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Fig. 3: Instrument Panel Fuel Gauge Resistance Check Terminal ID (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

OIL PRESSURE GAUGE

Circuit Test (Stealth & 3000GT)

1) Disconnect oil pressure gauge wiring connector from sending unit inside engine compartment. Connect a 12-volt test light

between harness connector terminal and ground. Turn ignition on, but DO NOT start engine.

2) If test light comes on and gauge needle moves, go to GAUGE RESISTANCE TEST below. If test light does not come on and gauge needle does not move, repair wiring to sending unit.

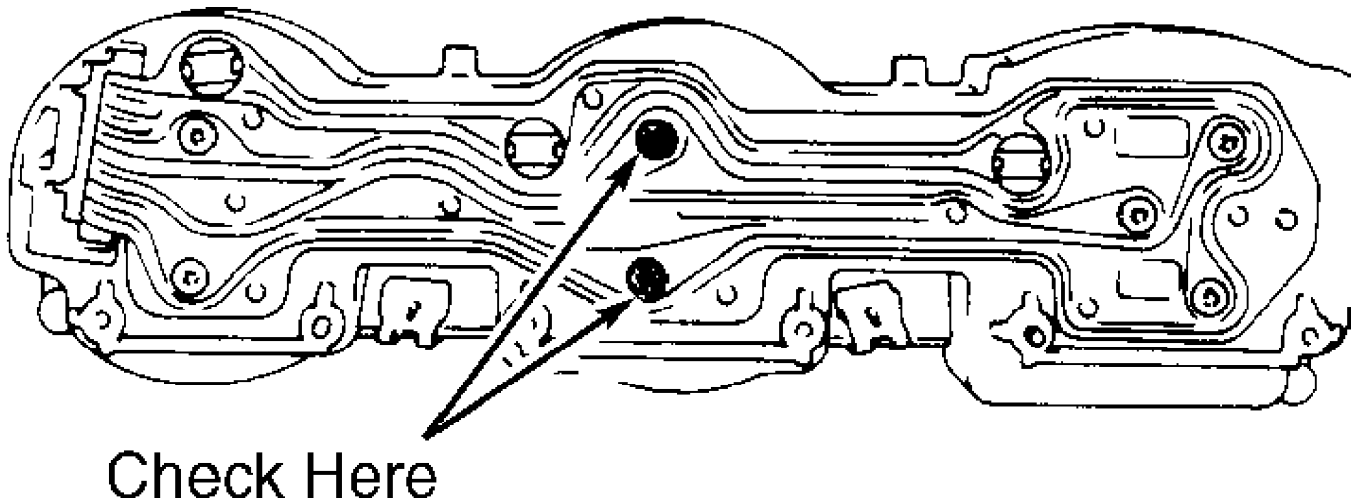
Gauge Resistance Test (Stealth & 3000GT)

1) Remove instrument cluster from instrument panel. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION. On Stealth and 3000GT, remove air distribution duct and combination gauges.

2) On all models, check continuity between oil pressure gauge terminals. See Fig. 4. See OIL PRESSURE GAUGE RESISTANCE SPECIFICATIONS table. If resistance is not within specification, replace oil pressure gauge.

OIL PRESSURE GAUGE RESISTANCE SPECIFICATIONS TABLE

Application	Ohms
Stealth & 3000GT	42



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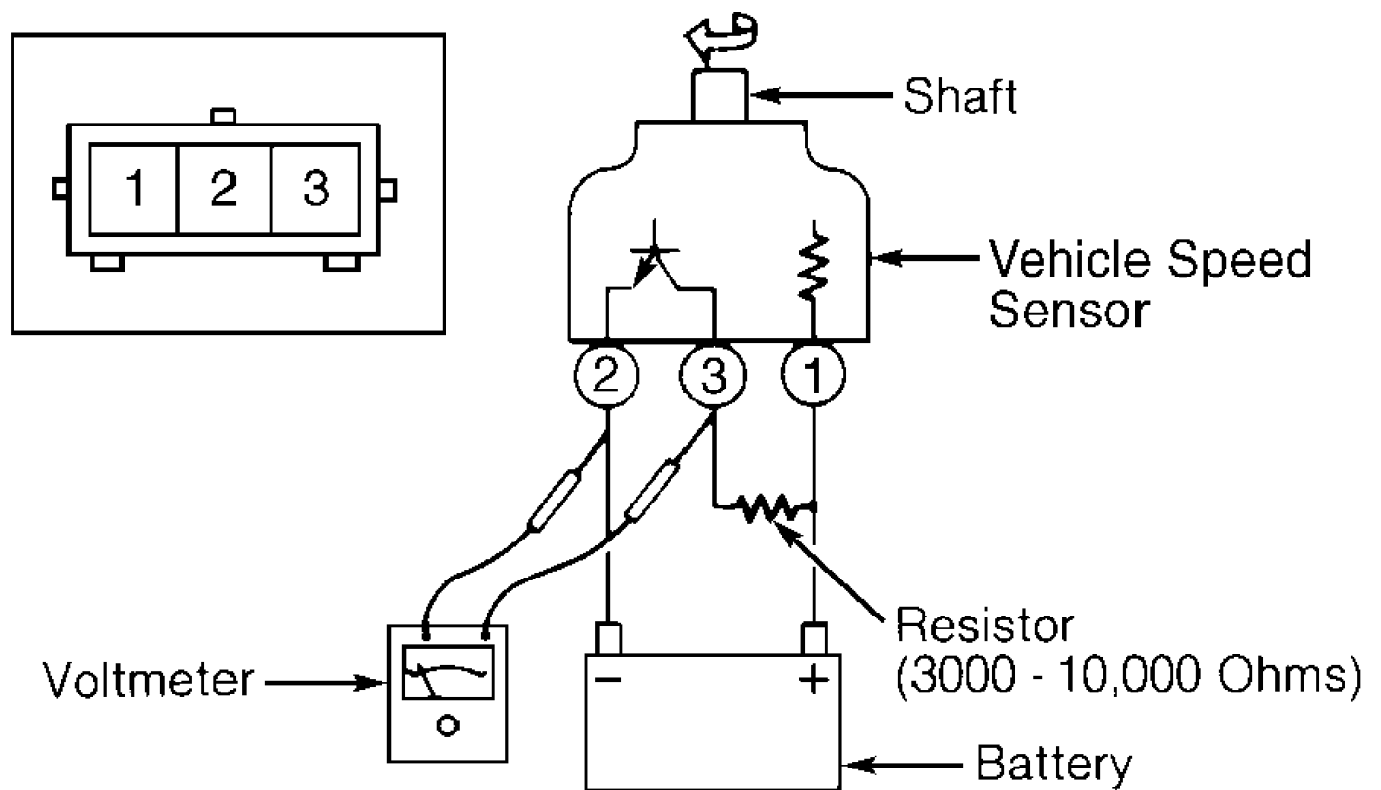
Fig. 4: Oil Pressure Gauge Resistance Test Terminal ID (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

REED SWITCH

Continuity Check

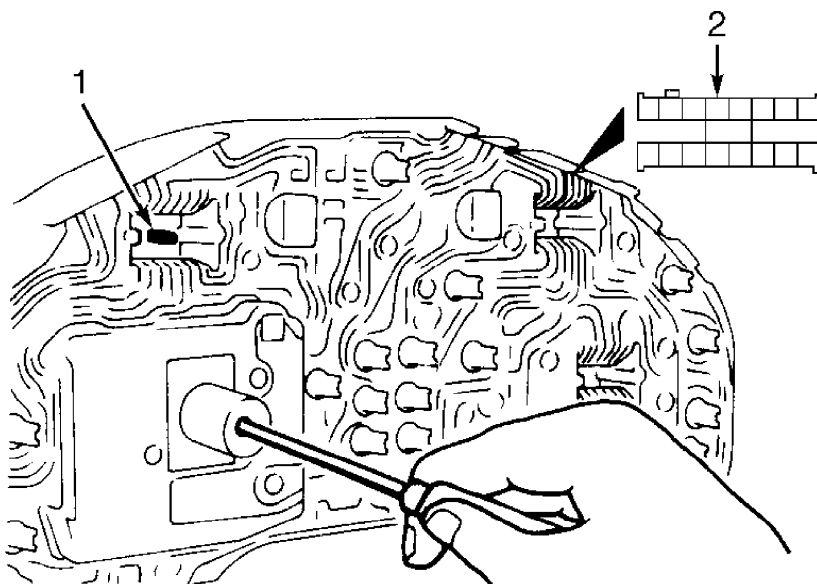
1) Remove instrument cluster. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION. Check continuity between reed switch terminals No. 1 and 2. See Figs. 5 & Fig. 6.

2) Ensure continuity pulses on and off 4 times per revolution of speedometer shaft connection. If continuity is not as specified, replace reed switch.



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Fig. 5: Testing Speed Sensor (With Electronic Speedometer)
Courtesy of Mitsubishi Motor Sales of America.



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Fig. 6: Reed Switch Test Terminals (Mechanical Speedometer)
Courtesy of Mitsubishi Motor Sales of America.

SPEED SENSOR

Voltage Test (Stealth & 3000GT
With Electronic Speedometer) -Remove speed sensor from transmission. Connect speed sensor, resistor (3000-10,000 ohms) and battery. See Fig. 7. Using a voltmeter, ensure voltage pulses on and off 4 times per revolution of speedo-meter shaft. Replace sensor if voltage is not as specified.

SPEEDOMETER

Calibration Test

Adjust tire pressure to standard value. Using a calibrated, reliable speedometer tester, compare reading of vehicle speedometer to speedometer tester. See SPEEDOMETER ALLOWABLE VARIATION table. Replace speedometer if necessary.

SPEEDOMETER ALLOWABLE VARIATION

MPH (km/h)	Allowable Variation MPH (km/h)
20 (32)	19-22 (31-35)
40 (64)	38-44 (61-71)
60 (97)	57-66 (92-106)
80 (129)	76-88 (122-142)
100 (161)	94-110 (151-177)

TACHOMETER

NOTE: DO NOT reverse polarity when installing tachometer; diode and transistor may be damaged.

Calibration Test

Connect a calibrated, reliable tach-dwell meter to vehicle ignition system. Operate engine at various speeds (RPM). See TACHOMETER ALLOWABLE VARIATION table. If comparison between tach-dwell meter and vehicle tachometer readings are not within permissible variation, replace vehicle tachometer.

TACHOMETER ALLOWABLE VARIATION TABLE

Engine Speed (RPM)	Allowable Variation (RPM)
Stealth & 3000GT	
1000	900-1100
3000	2850-3150
5000	4750-5250
6000	5700-6300

TEMPERATURE GAUGE

CAUTION: DO NOT connect sender wire directly to ground during test.

Circuit Test

1) Disconnect temperature sender wire from sending unit. Connect a 12-volt, 3.4-watt test light between connector terminal and ground. Turn ignition switch to ON position.

2) If test light flashes and temperature gauge needle moves, go to SENSOR RESISTANCE TEST below. If test light does not flash or gauge needle does not move, repair wiring to sending unit.

Sensor Resistance Test

1) Remove Coolant Temperature Sensor (CTS) from engine. See

COOLANT TEMPERATURE SENSOR LOCATION table. Place sending unit in 158°F (70°C) water. Check sensor resistance using ohmmeter.

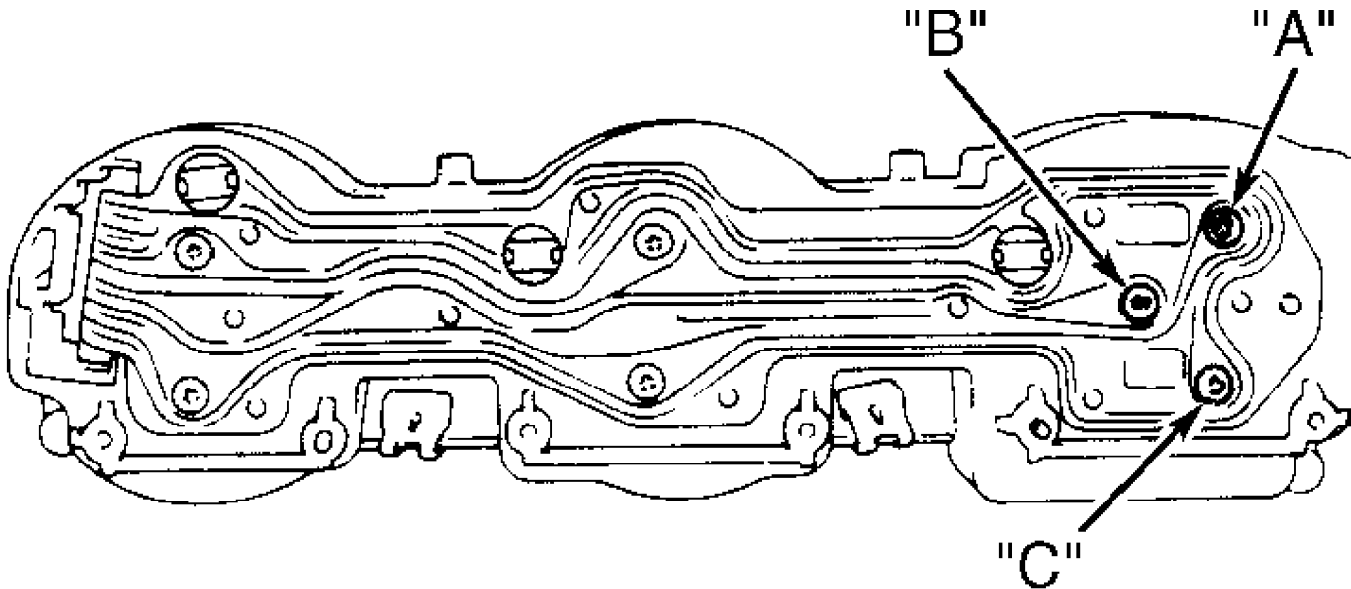
2) CTS resistance should be 90-117 ohms. If CTS resistance is okay, go to GAUGE RESISTANCE TEST below. Replace CTS if resistance is not as specified.

COOLANT TEMPERATURE SENSOR LOCATION TABLE

Model	Location
Stealth DOHC & 3000GT	Thermostat Housing

Gauge Resistance Test

- 1) Remove instrument cluster from instrument panel. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION. On Stealth and 3000GT, remove air distribution duct and combination gauges.
- 2) On all models, measure resistance between temperature gauge terminals at rear of cluster or combination gauges. See TEMPERATURE GAUGE RESISTANCE SPECIFICATIONS table. See Fig. 7.



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Fig. 7: Temperature Gauge Resistance Test Terminal ID
Courtesy of Mitsubishi Motor Sales of America.

TEMPERATURE GAUGE RESISTANCE SPECIFICATIONS TABLE

Application	Terminals	Ohms
Stealth & 3000GT	"A" & "B"	51.0
Stealth & 3000GT	"A" & "C"	139.0
Stealth & 3000GT	"B" & "C"	190.0

VOLTMETER

- Voltage Test (Stealth & 3000GT)
- Start engine, and let it idle. Connect voltmeter to battery. Compare voltage reading of test voltmeter to voltage reading of vehicle voltmeter. Voltage variation should not exceed 0.5 volt (plus

or minus). Replace voltmeter if voltage reading is not as specified.

REMOVAL & INSTALLATION

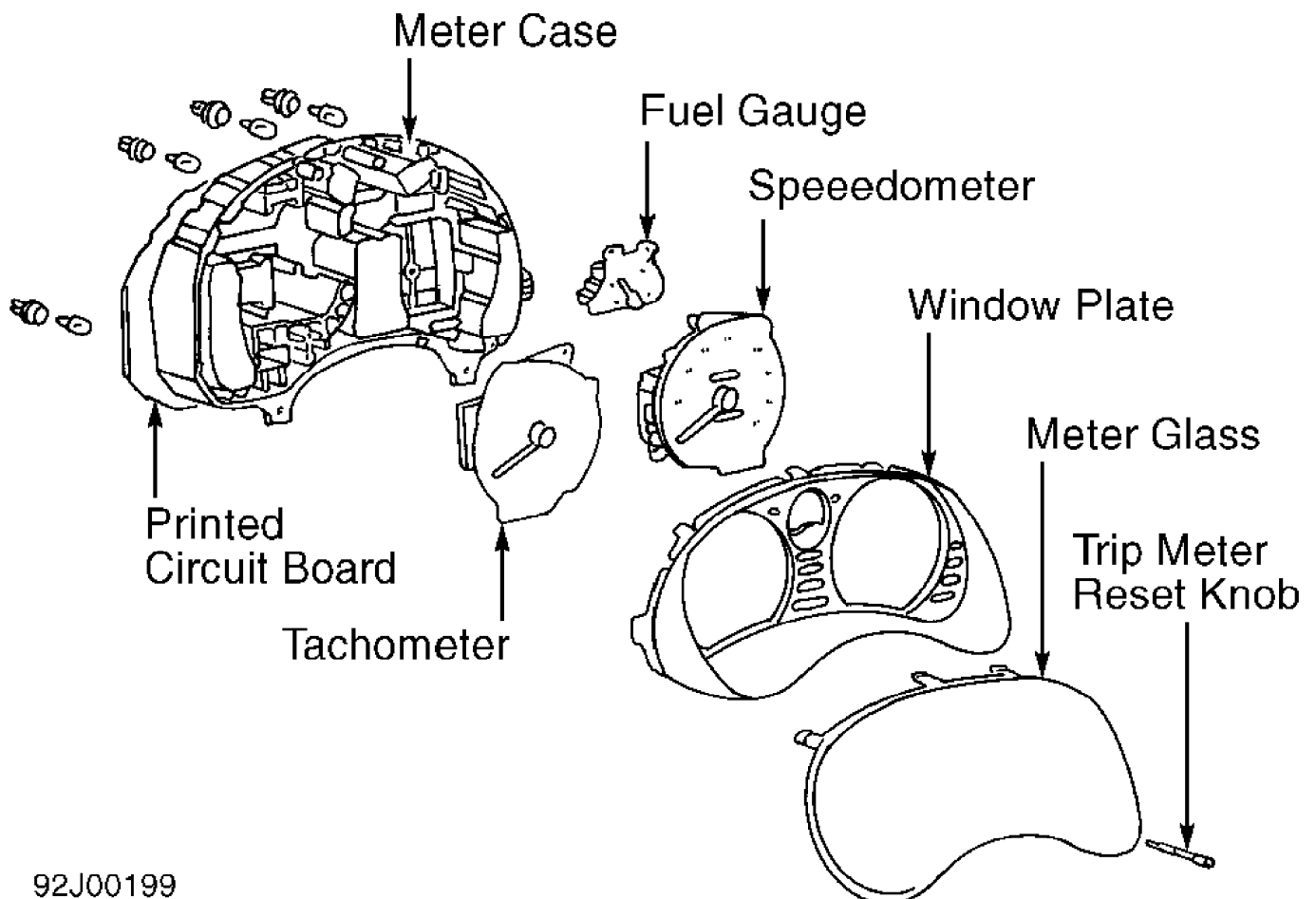
* PLEASE READ THIS FIRST *

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See COMPUTER RELEARN PROCEDURES article in this section before disconnecting battery.

INSTRUMENT CLUSTER

Removal & Installation (Stealth & 3000GT)

Disconnect negative battery cable. Remove driver-side knee protector. Remove lower and upper column covers. Remove meter bezel and instrument cluster. Disconnect speedometer cable and connectors from back of cluster. Remove cluster. To install, reverse removal procedure. See Fig. 8.



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Fig. 8: Identifying Instrument Cluster Components (Stealth & 3000GT)
Courtesy of Mitsubishi Motor Sales of America.

SPEEDOMETER CABLE

NOTE: When routing speedometer cable, DO NOT bend cable sharply. Minimum bending radius is 6" (150 mm). Speedometer cable length varies with transmission type.

Removal

Disconnect speedometer cable from transmission or transaxle. Remove instrument cluster from instrument panel. See INSTRUMENT CLUSTER. Disconnect speedometer cable from instrument cluster and/or adapter (if equipped). Remove speedometer cable from firewall grommet.

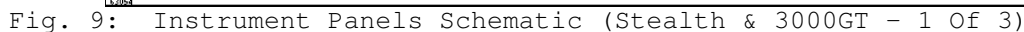
Installation

1) Install new cable. Insert cable until stopper seats properly in groove on rear of speedometer housing. Pull speedometer cable through firewall grommet until cable marking is visible from engine compartment.

CAUTION: An improperly installed cable can cause fluctuating meter, noise or damaged harness inside instrument panel.

2) Install adapter onto speedometer cable (if equipped). Install instrument cluster. See INSTRUMENT CLUSTER. Install cable onto transmission or transaxle. Check for proper operation.

WIRING DIAGRAMS



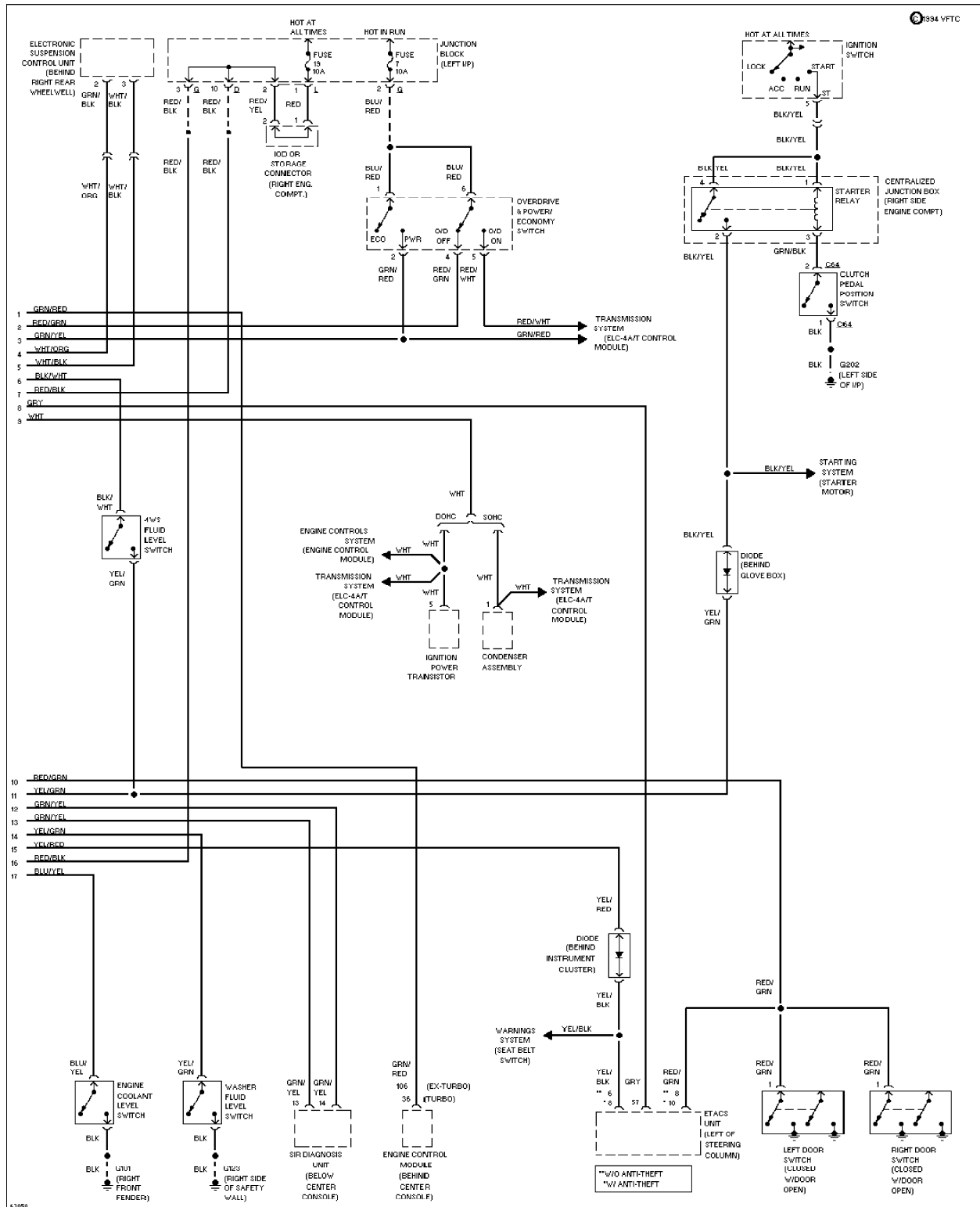


Fig. 10: Instrument Panels Schematic (Stealth & 3000GT - 2 Of 3)

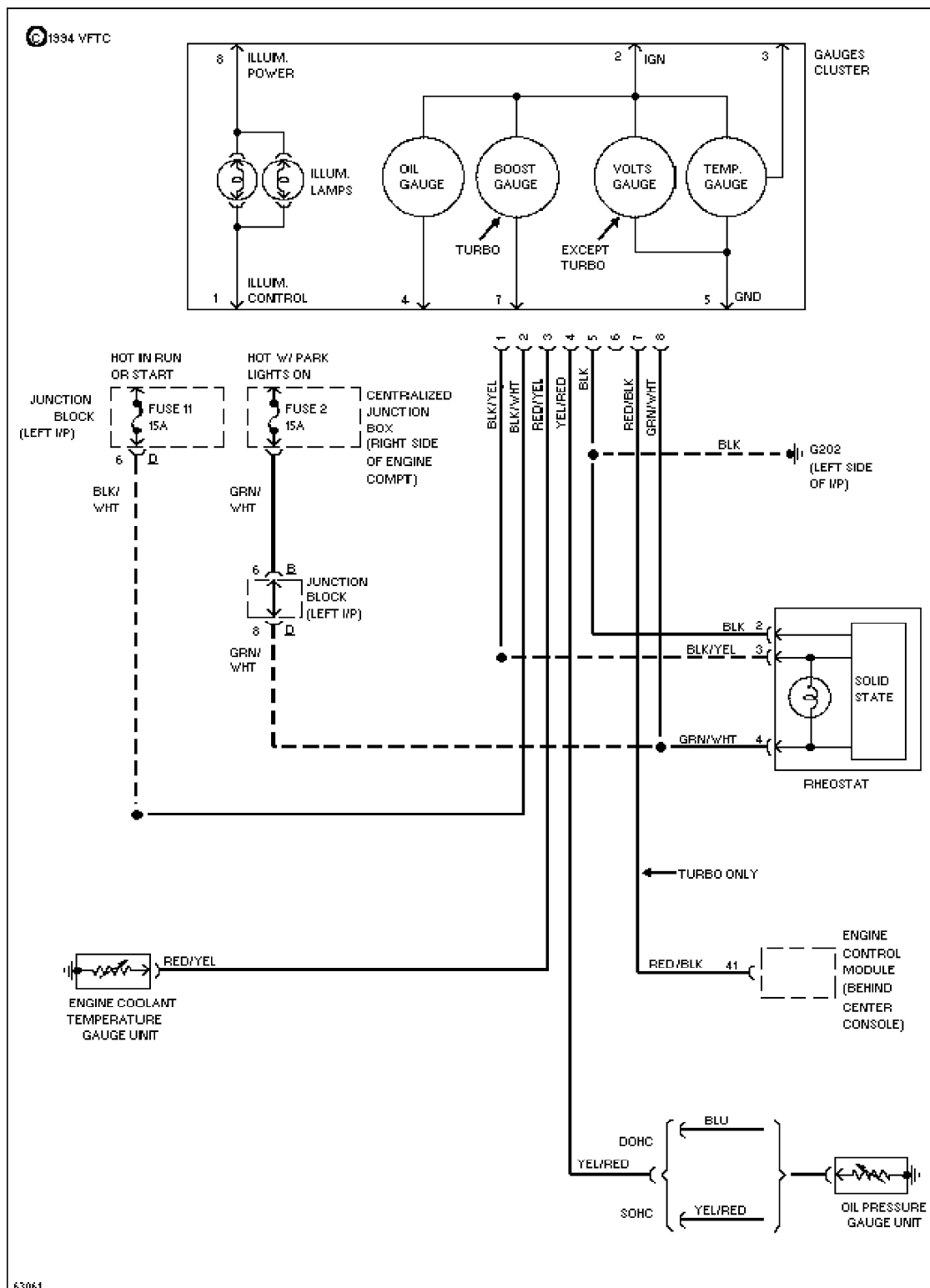


Fig. 11: Instrument Panels Schematic (Stealth & 3000GT - 3 Of 3)