

AUTOMATIC TRANSMISSIONS**Mitsubishi F4A33, W4A32 & W4A33 Electronic Diagnosis****APPLICATION****TRANSAXLE APPLICATION**

Model	Transaxle
Colt Vista AWD (1992-94)	W4A32
Diamante (1992-94)	F4A33
Eclipse (2.0L Turbo)	
AWD	W4A33
2WD	F4A33
Expo AWD (1992-94)	W4A32
Galant	
DOHC (1993-94)	F4A33
AWD (1991-94)	W4A32
Laser	
AWD	W4A33
Turbo	F4A33
Stealth	F4A33
Summit Wagon AWD (1992-94)	W4A32
Talon	
AWD	W4A33
Turbo	F4A33
Stealth & 3000 GT	F4A33

DESCRIPTION

The transaxle electronic control system controls transaxle shift points and damper clutch control for torque converter lock-up. Transaxle uses hydraulically operated clutches controlled by the Transaxle Control Unit (TCU). Overdrive or 4th gear operation is controlled by a manually operated overdrive control switch. Transaxle will not shift into overdrive unless overdrive control switch is in the ON position.

OPERATION**TRANSAXLE CONTROL UNIT (TCU)**

The TCU receives information from various input devices and controls various output devices for different gear operation. The TCU is located behind instrument panel, near center of console, and contains a 42-pin connector. See **Fig. 1**, **Fig. 2** or **Fig. 3**.

On all models except Colt Vista AWD, Expo AWD and Summit Wagon AWD, a POWER/ECONOMY switch, located on center of console, is used to change shift patterns. The pre-set shift patterns are controlled by the

TCU.

The TCU controller contains a self-diagnostic system which stores a fault code if a transaxle fault exists. Fault code can be retrieved to determine transaxle problem area. See information under **SELF-DIAGNOSTIC SYSTEM**. The TCU contains a fail-safe mode. If certain fault codes are set, transaxle will enter the fail-safe mode. When in fail-safe mode, transaxle will remain in 2nd or 3rd gear with no upshifts or downshifts. Transaxle will also function in Park, Neutral and Reverse when in fail-safe mode.

Transaxle controller works in conjunction with the engine controller for receiving information for transaxle control. See the **ENGINE CONTROLLER LOCATION** table.

ENGINE CONTROLLER LOCATION

Application	Location
Diamante, Eclipse & Galant	Located Below Instrument Panel, Near Center Console
Colt Vista AWD, Expo AWD & Summit Wagon AWD	Right Side Of Instrument Panel, Near Kickpanel

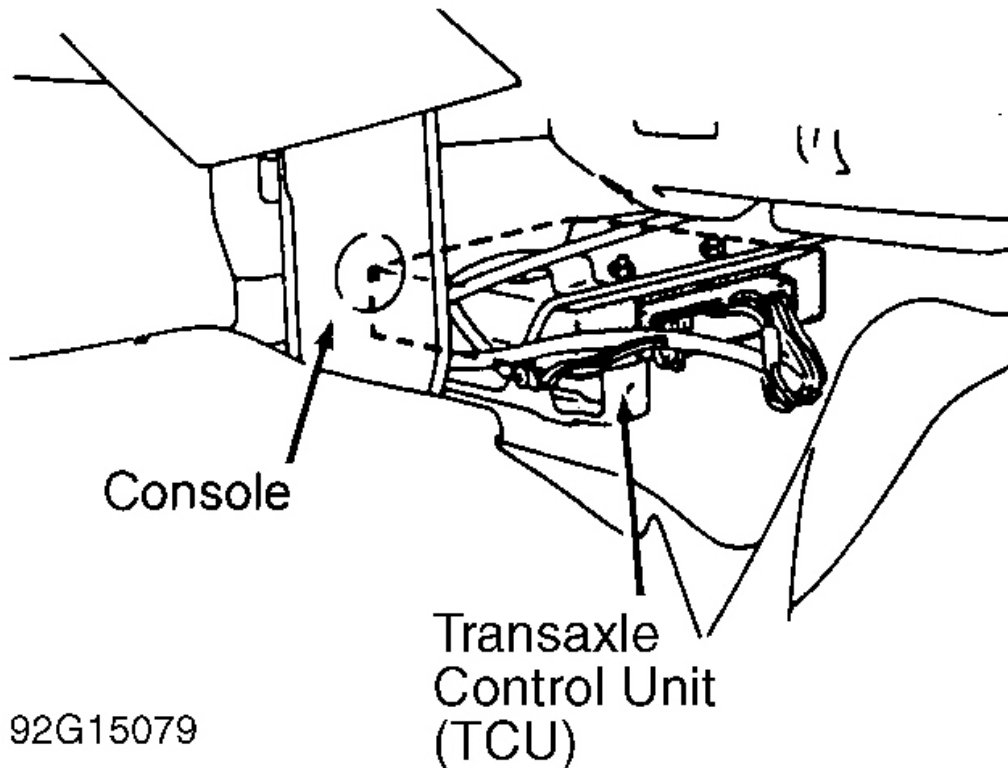


Fig. 1: TCU Location (Colt Vista AWD, Expo AWD & Summit Wagon AWD)

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

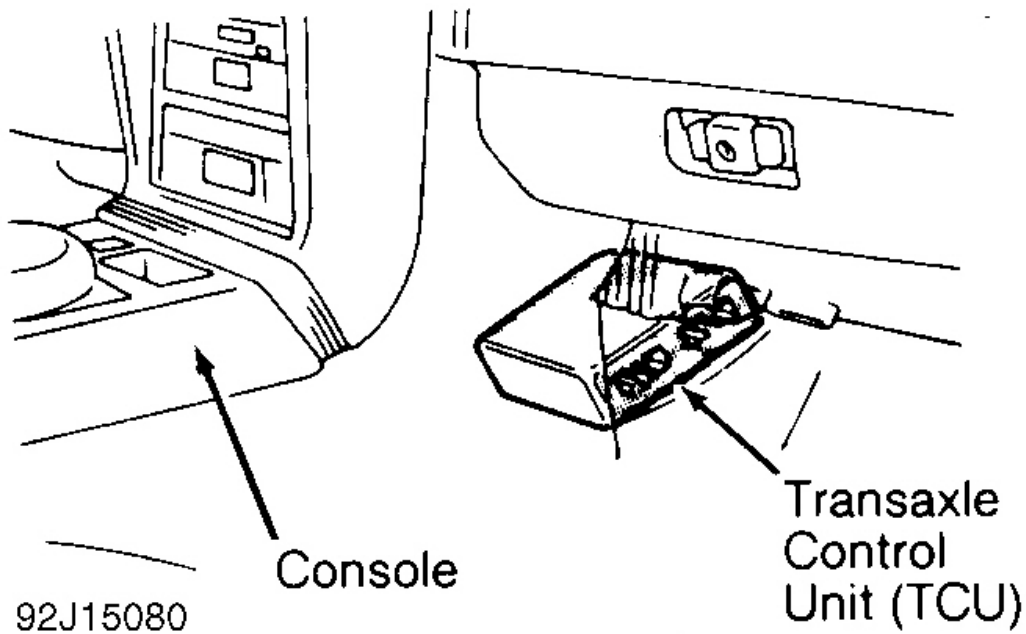


Fig. 2: TCU Location (Diamante, Eclipse & Galant)
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

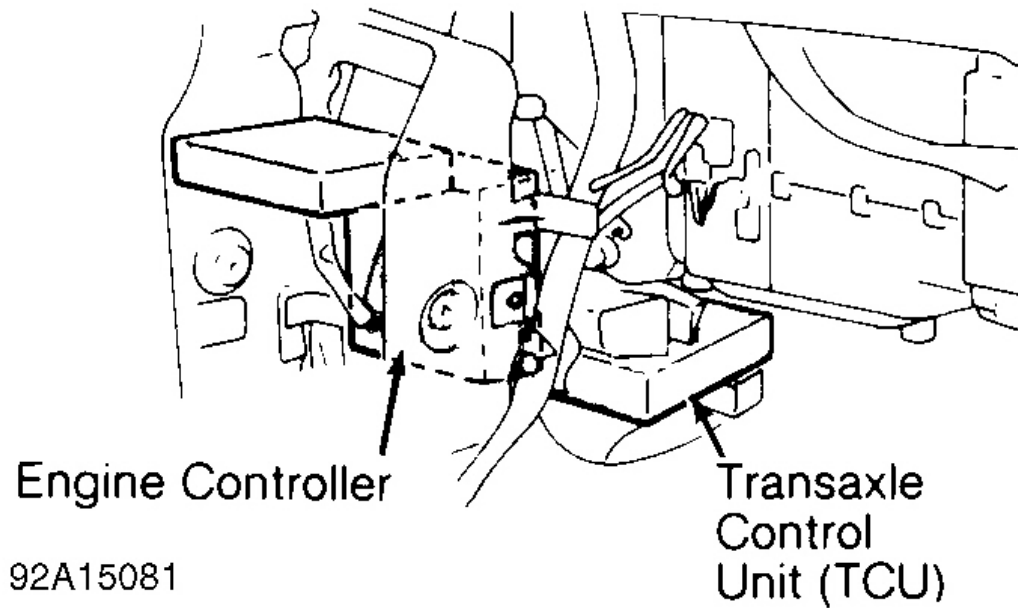


Fig. 3: TCU Location (Stealth & 3000 GT)

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

INPUT DEVICES

Accelerator Pedal Switch

Accelerator pedal switch is located near accelerator pedal. See **Fig. 4**. Accelerator pedal switch delivers an input signal to TCU to indicate position of accelerator pedal.

Inhibitor Switch

Inhibitor switch is an input device mounted on the transaxle manual control shaft. See **Fig. 5**. Inhibitor switch delivers an input signal to TCU, indicating transaxle manual valve gear position.

Kickdown Servo Switch

Kickdown servo switch is an input device mounted on the side of transaxle case. See **Fig. 5**. Kickdown servo switch delivers an input signal to the TCU to indicate kickdown servo operation.

Oil Temperature Sensor

Oil temperature sensor is an input device mounted inside the transaxle case. See **Fig. 5**. Oil temperature delivers an input signal to the TCU to indicate the fluid temperature.

NOTE: Oil temperature sensor may also be referred to as fluid temperature sensor. It may be necessary to identify wire color to oil temperature sensor for proper identification. See appropriate wiring diagram under WIRING DIAGRAMS.

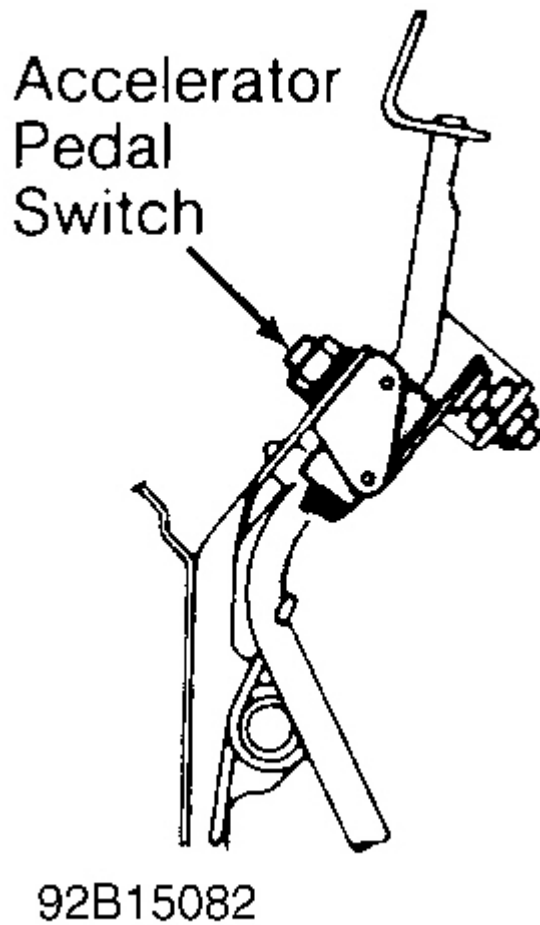
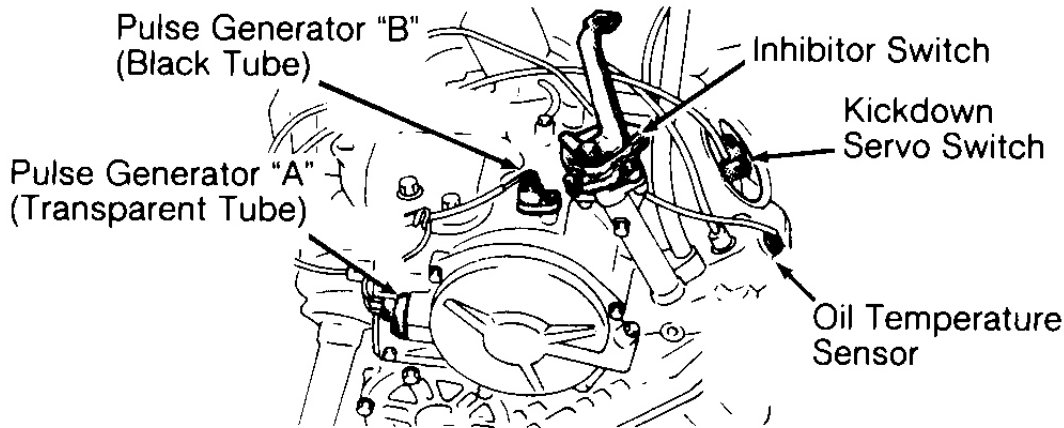


Fig. 4: Identifying Accelerator Pedal Switch
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.



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Fig. 5: Inhibitor Switch, Kickdown Servo Switch & Pulse Generators
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Overdrive Control Switch

Overdrive control switch, located on gear selector lever, delivers an input signal to the TCU. Transaxle will not shift into overdrive unless overdrive control switch is in the ON position.

POWER/ECONOMY Switch (Except Colt Vista & Summit Wagon)

The POWER/ECONOMY switch, located on center of console, delivers an input signal to the TCU. The TCU uses this signal to change shift patterns.

Pulse Generators

Pulse generators are mounted on transaxle case. Pulse generator "A" is the lower pulse generator and "B" is the upper pulse generator. See **Fig. 5**. Pulse generators indicate shaft speed and delivers input signal to the TCU for transaxle control.

Throttle Position Sensor (TPS)

The TPS, mounted on the throttle body, determines throttle position and inputs a signal to the TCU. The TCU uses signal to control transaxle upshifts.

Vehicle Speed Sensor

Vehicle speed sensor inputs signal to the TCU to indicate vehicle speed. Vehicle speed sensor is mounted on rear of instrument cluster.

OUTPUT DEVICES

Damper Clutch Control Solenoid Valve (DCCSV)

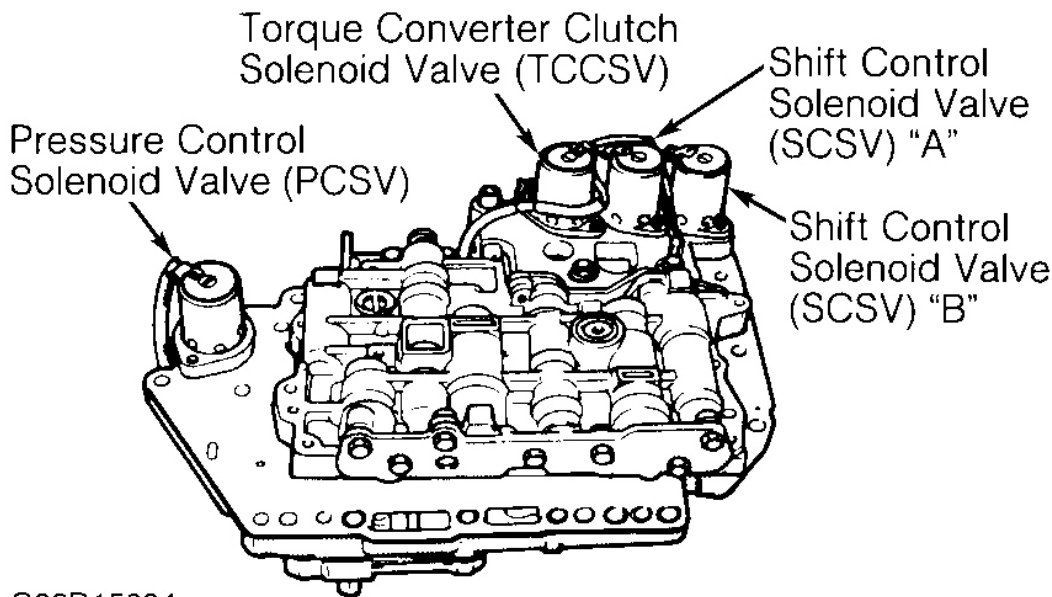
The DCCSV is located on valve body and is connected by a **Red** wire. See **Fig. 6**. The TCU operates the DCCSV for damper clutch control of torque converter lock-up.

Pressure Control Solenoid Valve (PCSV)

The PCSV is located on the valve body and is connected by a **Blue** wire. See **Fig. 6**. The TCU operates the PCSV for controlling transaxle shifts.

Shift Control Solenoid Valve (SCSV)

The SCSV "A" or "B" are located on valve body. See **Fig. 6**. The TCU operates the SCSV for controlling transaxle shifts. The SCSV "A" contains an **Orange** wire, and SCSV "B" contains a **Yellow** wire.



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Fig. 6: Identifying Solenoid Valves

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

ELECTRONIC TROUBLE SHOOTING

ELECTRONIC SYSTEM COMPONENTS

Different electronic system components can be checked when performing electronic trouble shooting. See **Fig. 7-12**. For component, figure and step reference, see **COMPONENT TESTING & FIGURE REFERENCE** table.

COMPONENT TESTING & FIGURE REFERENCE (TABLE I)

Component	Figure	Step
Accelerator Switch	See <u>Fig. 9</u>	10
Damper Clutch Control Solenoid Valve	See <u>Fig. 9</u>	9
Damper Clutch System	See <u>Fig. 9</u>	8
Inhibitor Switch	See <u>Fig. 10</u>	11
Kickdown Servo Switch	See <u>Fig. 10</u>	12
Oil Temperature Sensor	See <u>Fig. 7</u>	2
Pressure Control Solenoid Valve	See <u>Fig. 8</u>	6
Pulse Generator Resistances	See <u>Fig. 7</u>	4
Pulse Generator (With Oscilloscope)	See <u>Fig. 8</u>	5
Shift Control Solenoid Valves	See <u>Fig. 8</u>	7
TCU	See <u>Fig. 10</u>	13
Throttle Position Sensor	See <u>Fig. 7</u>	3
Wiring	See <u>Fig. 7</u>	1

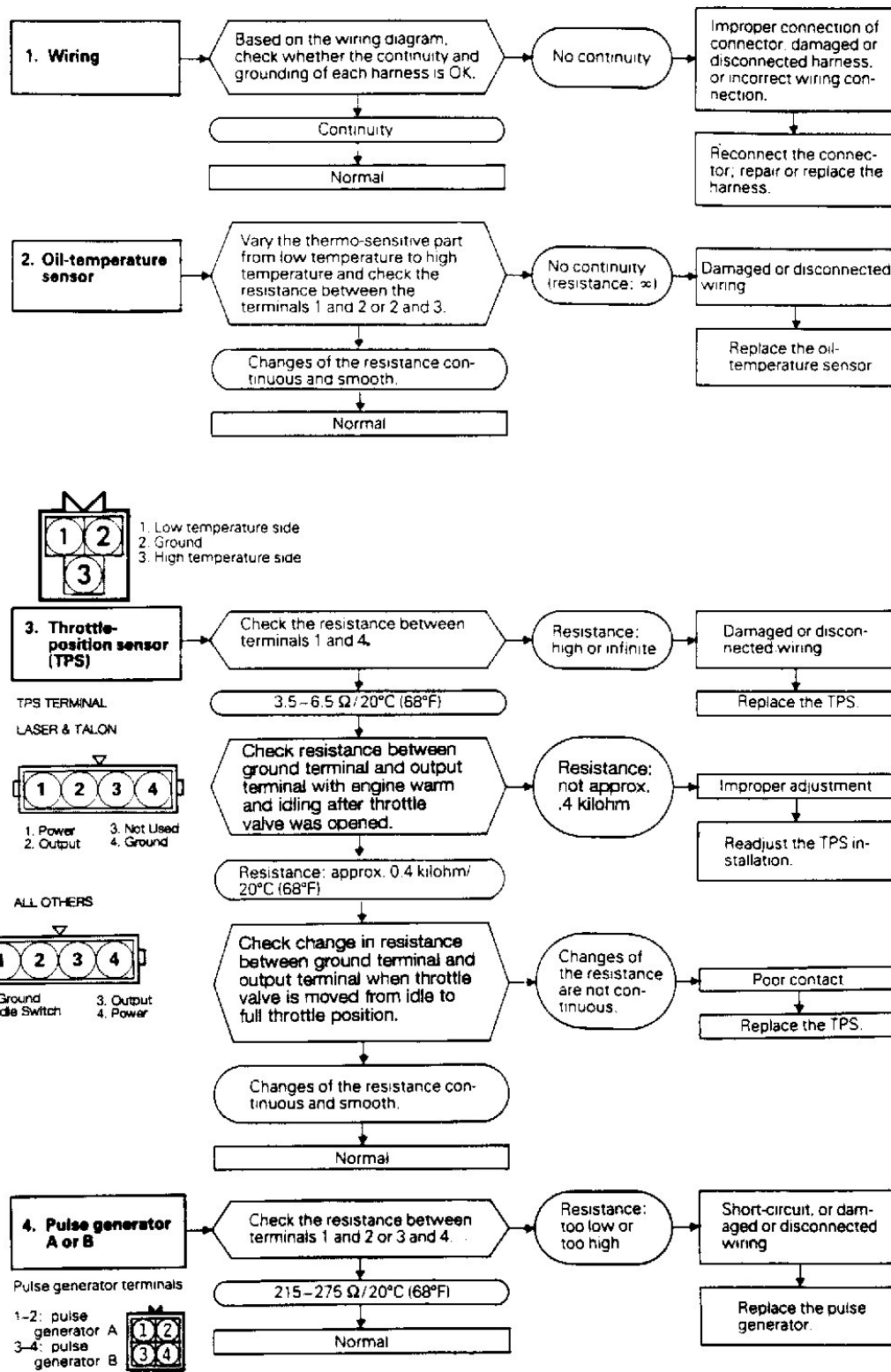
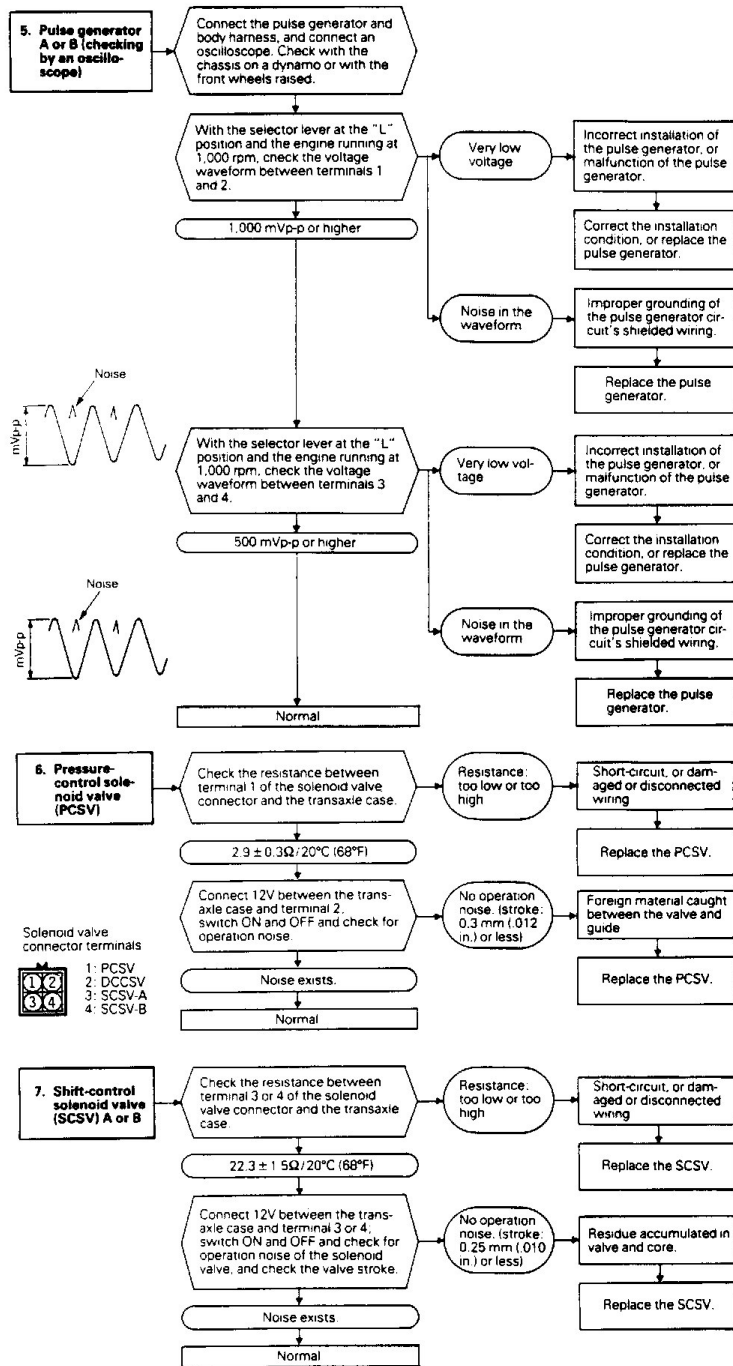


Fig. 7: Electronic Trouble Shooting (1 of 4)

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

**Fig. 8: Electronic Trouble Shooting (2 of 4)**

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

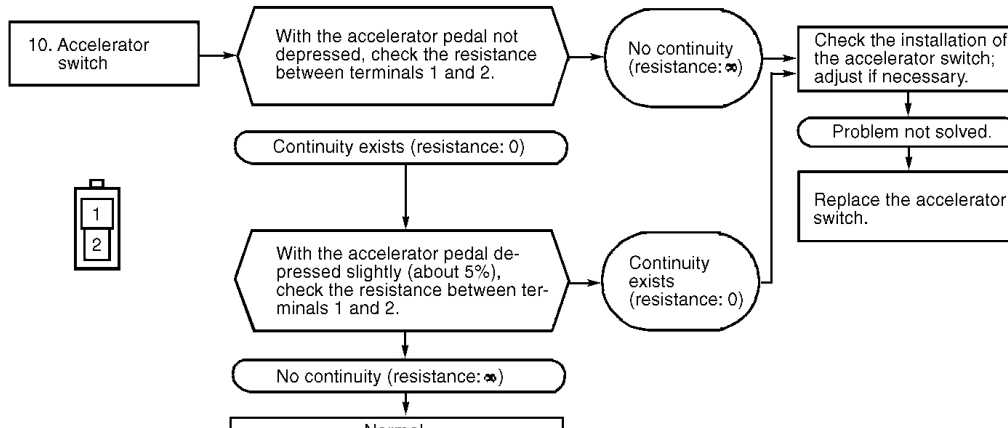
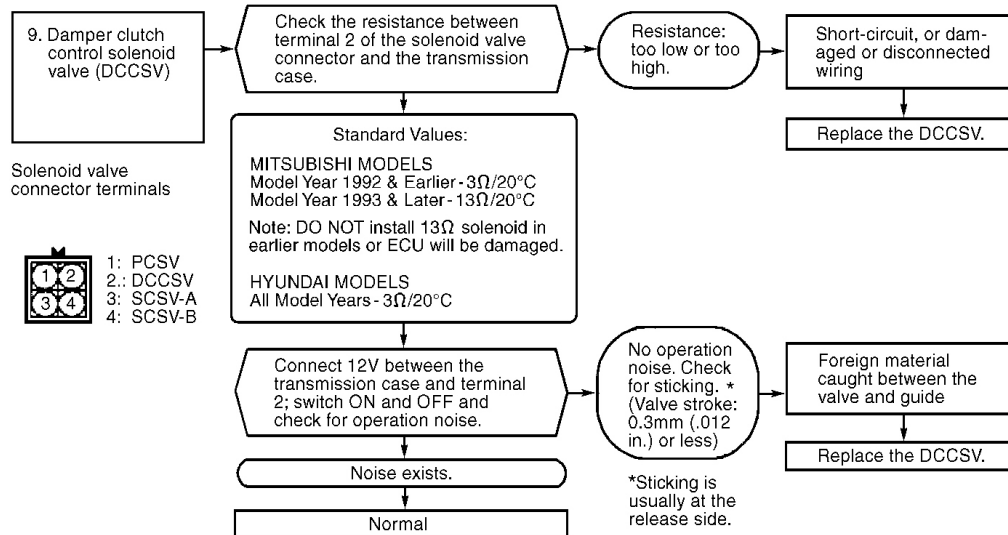
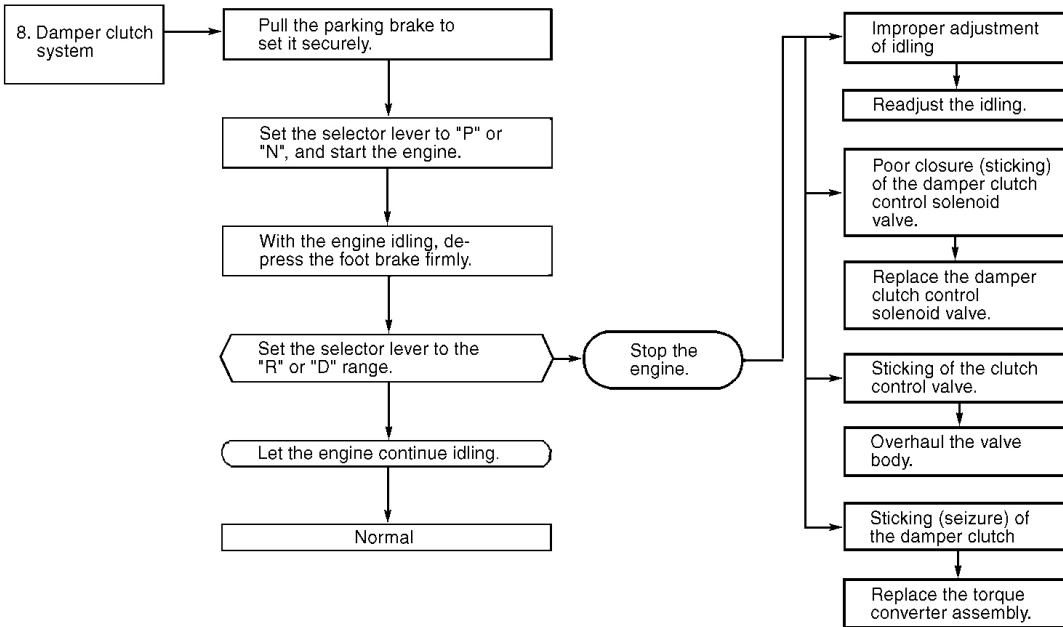
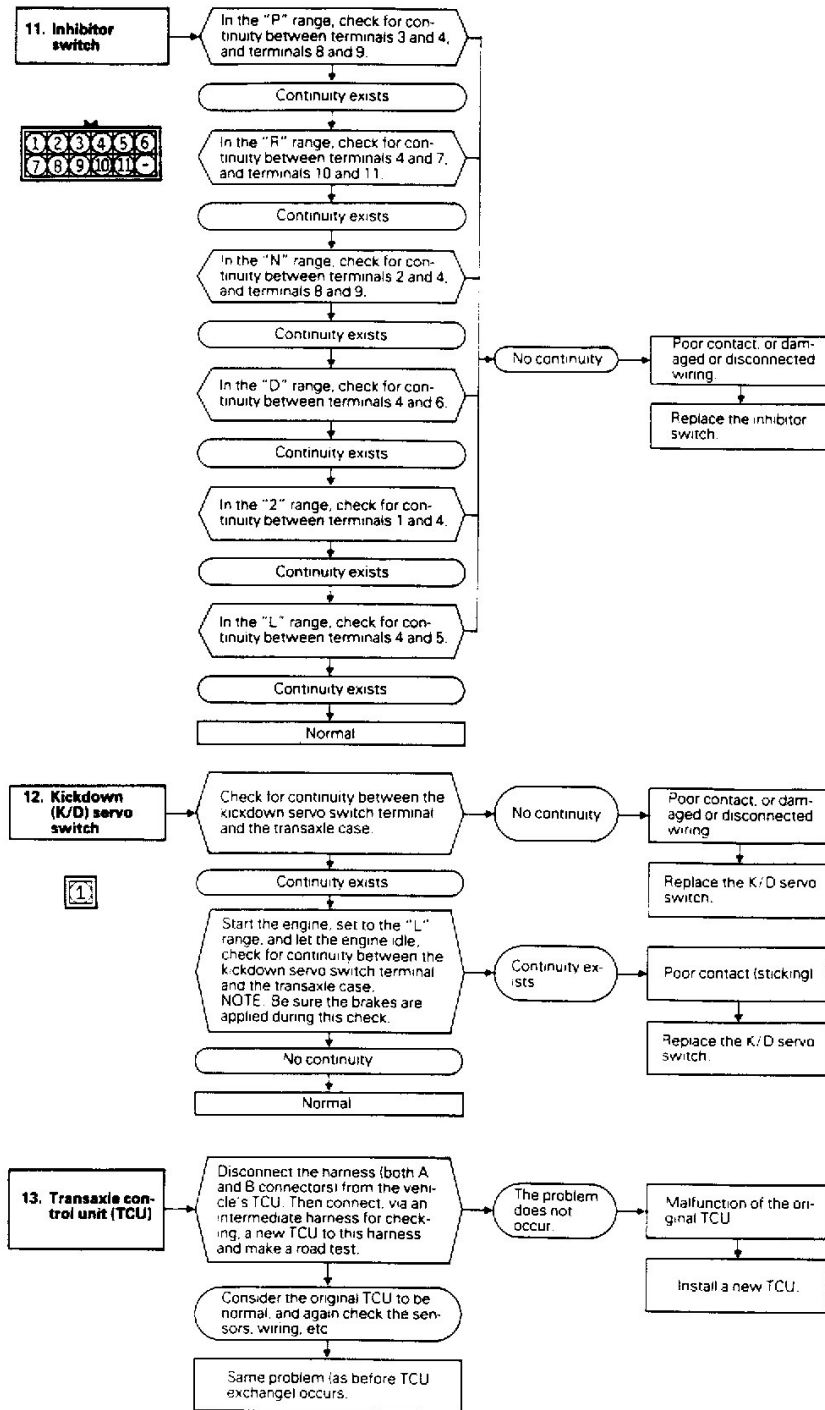


Fig. 9: Electronic Trouble Shooting (3 of 4)

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

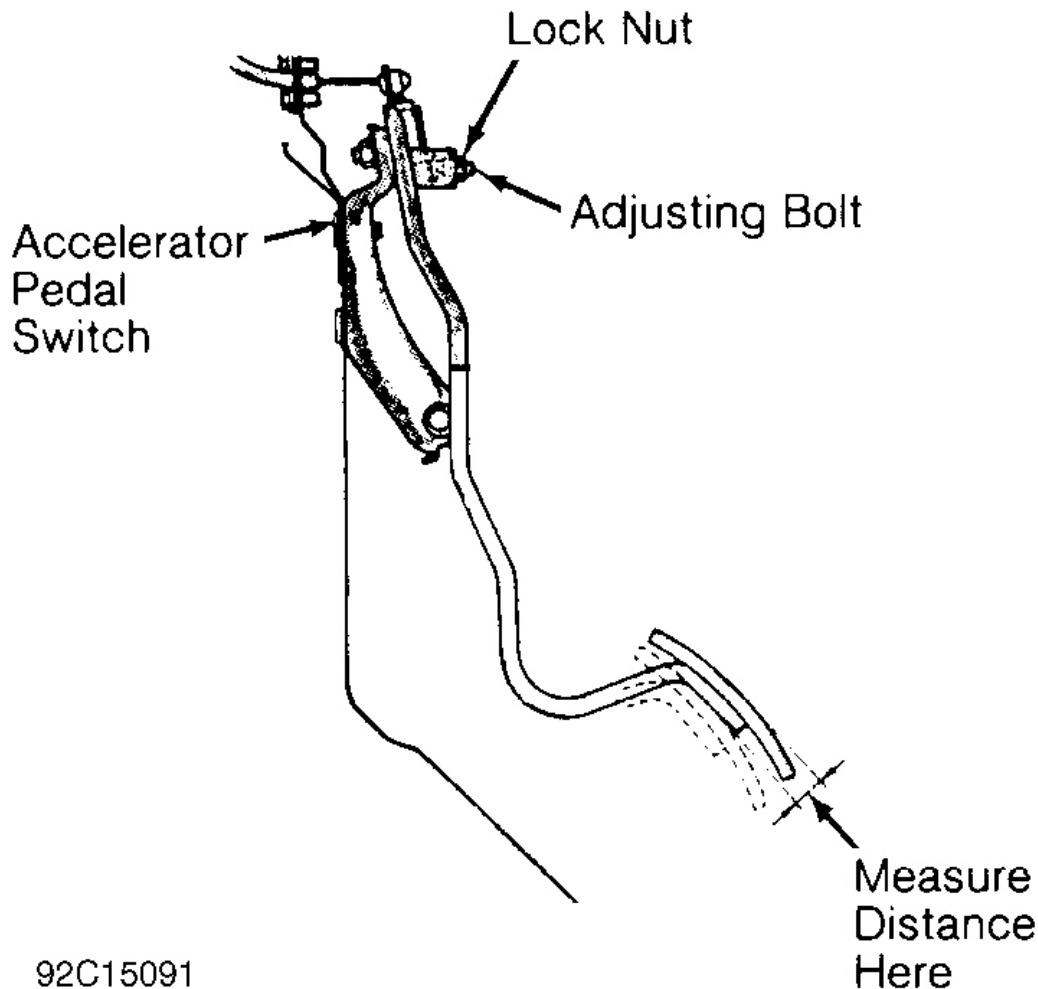
**Fig. 10: Electronic Trouble Shooting (4 of 4)**

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ADJUSTMENTS

ACCELERATOR PEDAL SWITCH

1. Using ohmmeter, ensure continuity exists between accelerator pedal switch terminals with accelerator pedal in idle position.
2. Depress accelerator pedal approximately .08-.24" (2.0-6.1 mm), measured at accelerator pedal. See **Fig. 11**. Ensure no continuity exists between accelerator switch terminals.
3. If adjustment is required, loosen lock nut and rotate adjusting bolt until correct operation is obtained. See **Fig. 11**.

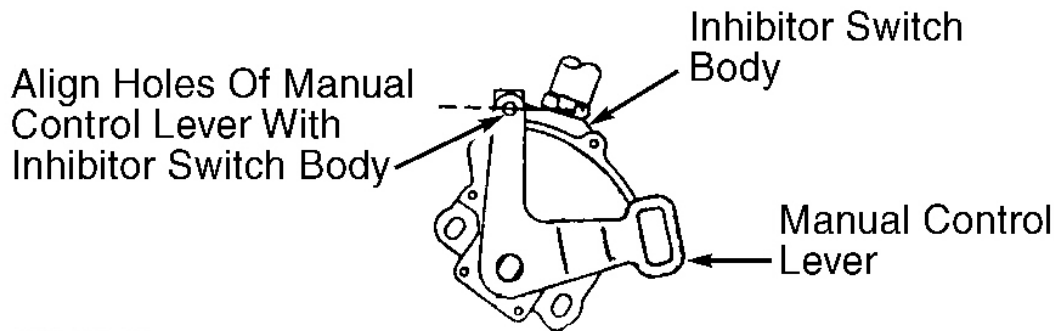


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Fig. 11: Checking & Adjusting Accelerator Switch
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

INHIBITOR SWITCH

1. Place gear selector lever and manual control lever on transaxle in Neutral position. Loosen inhibitor switch retaining screws.
2. Rotate inhibitor switch body so hole in manual control lever aligns with hole on inhibitor switch body. See **Fig. 12**. Tighten the inhibitor switch retaining screws to specification. Refer to the **TORQUE SPECIFICATIONS** table at end of article.
3. Loosen shift control cable lock nut at shift control cable-to-manual control lever. Pull end of shift control cable toward manual control lever. Tighten shift control cable lock nut to specification. See **TORQUE SPECIFICATIONS** table at end of article.
4. Move gear selector lever through all gear ranges. Ensure manual control lever is in gear position corresponding to gear selector lever. Ensure vehicle starts only in Park and Neutral.



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Fig. 12: Adjusting Inhibitor Switch

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

THROTTLE POSITION SENSOR (TPS)

Colt Vista AWD, Expo AWD & Summit Wagon AWD

1. Disconnect electrical connector from TPS. Connect ohmmeter between terminals No. 1 (sensor ground) and No. 2 (idle switch) on TPS. See **Fig. 13**.
2. Install a .025" (.64 mm) feeler gauge between adjusting screw and throttle lever. See **Fig. 14**. Loosen TPS retaining screws. Rotate TPS fully clockwise (toward bottom of throttle body).
3. Check for continuity between terminals No. 1 (sensor ground) and No. 2 (idle switch). Slowly rotate TPS counterclockwise (toward top of throttle body) to the point where no continuity exists between terminals No. 1 (sensor ground) and No. 2 (idle switch).
4. Tighten TPS retaining screws to specification. Refer to the **TORQUE SPECIFICATIONS** table at end of article. Install Harness Set (MD991348) between TPS electrical connector and TPS. See **Fig. 15**. Connect digital voltmeter between terminals No. 1 (sensor ground) and No. 3 (sensor output). See **Fig. 15**.

5. Turn ignition on. **DO NOT** start engine. Note TPS output voltage on digital voltmeter. The TPS output voltage should be .4-1 volt. If TPS output voltage is not within specification, check TPS and related wiring. See **Fig. 7** (step 3).
6. Turn ignition off. Remove harness set and feeler gauge. Reinstall TPS electrical connector.

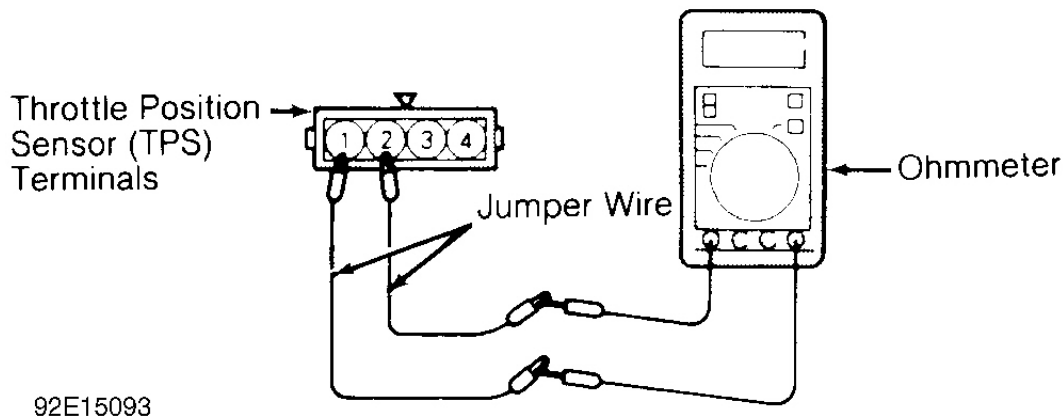


Fig. 13: Connecting Ohmmeter to TPS (Colt Vista AWD, Expo AWD & Summit Wagon AWD)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

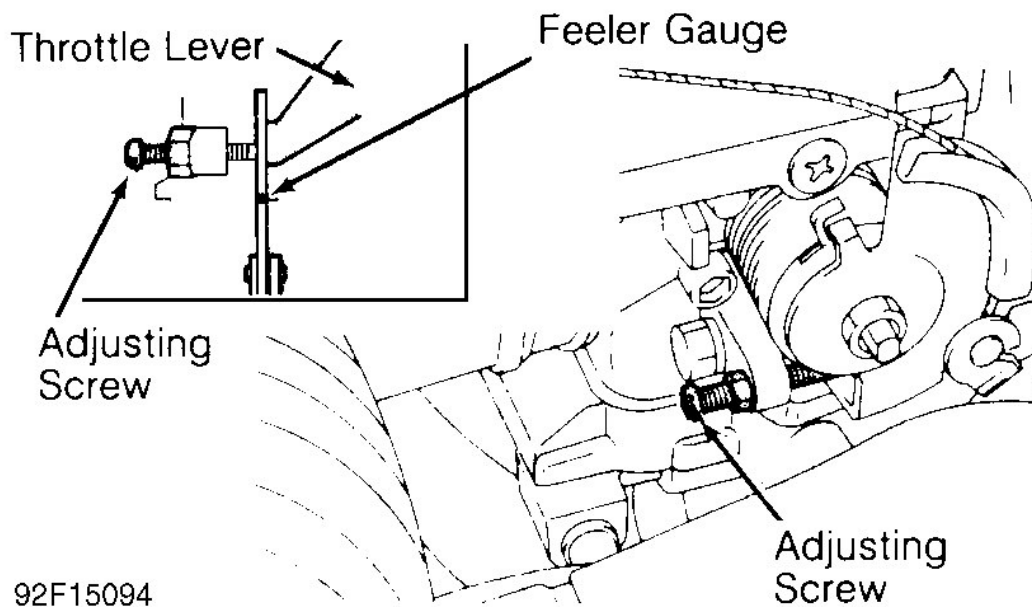


Fig. 14: Installing Feeler Gauge for Checking TPS

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

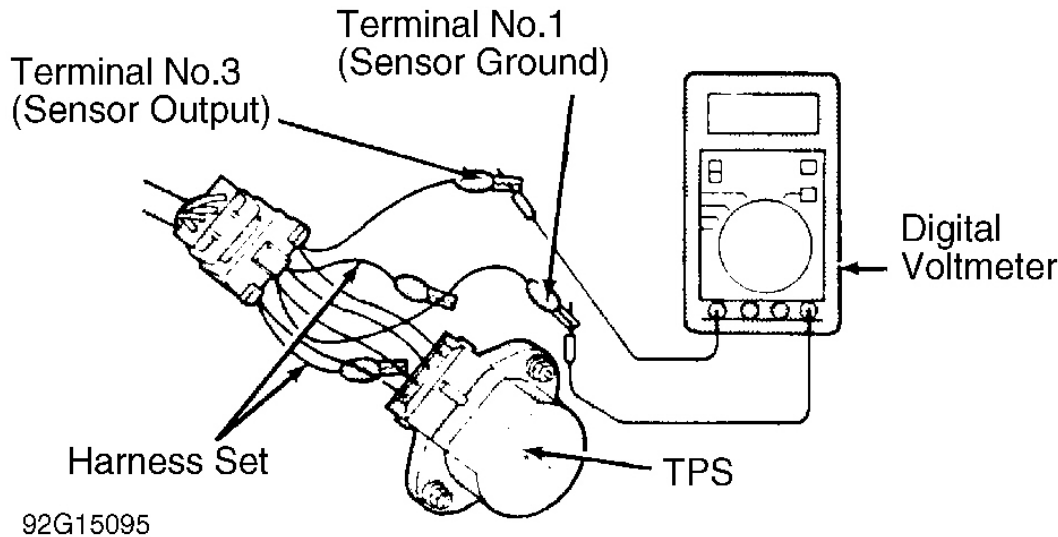


Fig. 15: Connecting Digital Voltmeter & Harness Set at TPS
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Eclipse

1. Ensure free play exists in throttle cable at the throttle body. Note location of engine controller, which is below instrument panel, near center console. See **Fig. 16**.
2. Connect digital voltmeter between terminals No. 19 (TPS sensor output) and No. 24 (ground) on engine controller. See **Fig. 16**.
3. Turn ignition on and note TPS output voltage. **DO NOT** start engine. The TPS output voltage should be .48-.52 volt.
4. If TPS output voltage is not within specification, loosen TPS retaining screws. Rotate TPS to obtain correct output voltage. Rotating TPS clockwise increases output voltage, and counterclockwise decreases output voltage.
5. Once correct output voltage is obtained, tighten TPS retaining screws to specification. See **TORQUE SPECIFICATIONS** table at end of article. Turn ignition off. Disconnect digital voltmeter. Ensure throttle cable is properly adjusted.

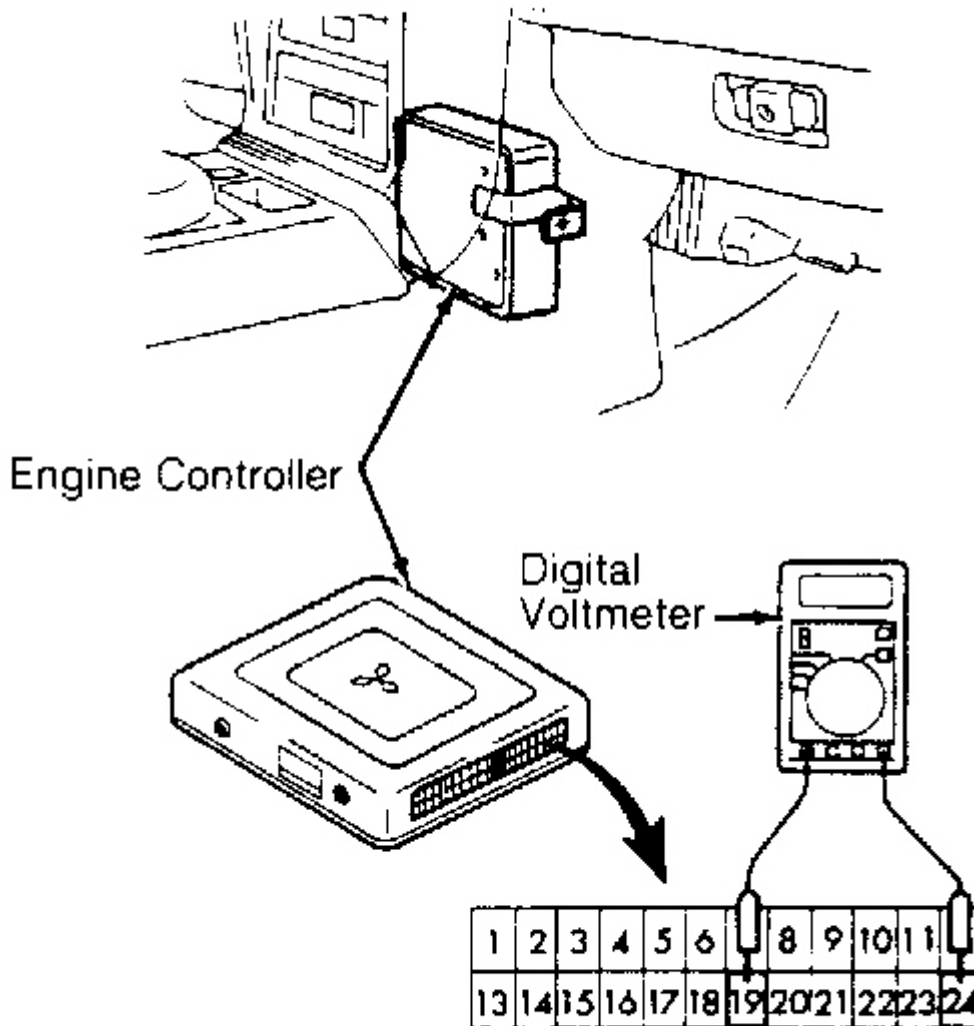


Fig. 16: Connecting Digital Voltmeter at Engine Controller
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Stealth & 3000 GT

1. Disconnect electrical connector from TPS. Connect ohmmeter between terminals No. 3 (idle switch) and No. 4 (sensor ground) on TPS. See **Fig. 17**.
2. Install a .025" (.64 mm) feeler gauge between adjusting screw and throttle lever. See **Fig. 14**. Loosen TPS retaining screws. Rotate TPS fully counterclockwise (toward bottom of throttle body).
3. Check for continuity between terminals No. 3 (idle switch) and No. 4 (sensor ground). Slowly rotate TPS

clockwise (toward top of throttle body) to the point where no continuity exists between terminals No. 3 (idle switch) and No. 4 (sensor ground).

4. Tighten TPS position sensor retaining screws to specification. See **TORQUE SPECIFICATIONS** table at end of article. Install electrical connector on TPS.
5. Note location of engine controller, which is below instrument panel, near center console. See **Fig. 3**.
6. Connect digital voltmeter between terminals No. 19 and No. 24 on SOHC engines or terminals No. 64 and No. 72 on DOHC engines. See **Fig. 18**.
7. Turn ignition on and note TPS output voltage. **DO NOT** start engine. The TPS output voltage should be .4-1 volt. If TPS output voltage is not within specification, check TPS and related wiring. See **Fig. 7** (step 3). Turn ignition off. Remove feeler gauge and digital voltmeter.

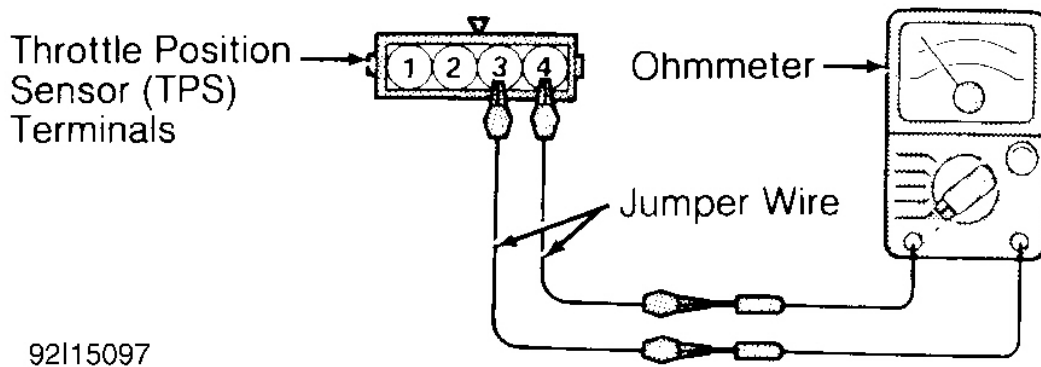


Fig. 17: Connecting Ohmmeter to TPS (Stealth & 3000 GT)
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

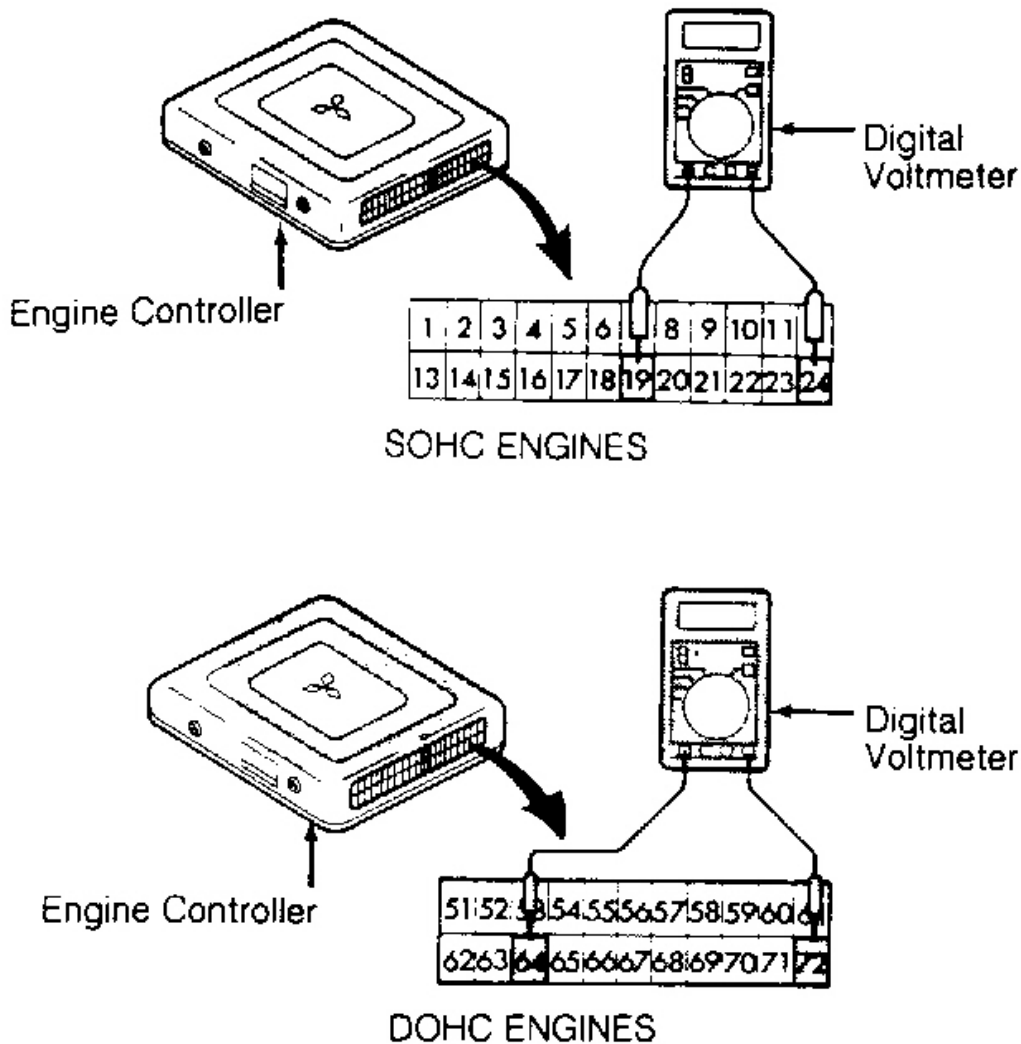


Fig. 18: Connecting DVOM at Engine Controller (Stealth & 3000 GT)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

SELF-DIAGNOSTIC SYSTEM

DIAGNOSTIC PROCEDURE

When performing vehicle diagnosis, the following procedures must be followed:

- Ensure the transaxle fluid level is correct and not contaminated or aerated.
- Ensure shift cable is properly adjusted by ensuring vehicle starts in only Park or Neutral. If adjustment is

required, see the appropriate TRANSMISSION SERVICING - A/T article in the AUTOMATIC TRANS SERVICING section.

- Ensure all electrical connections at transaxle, TCU, throttle position sensor, inhibitor switch and accelerator switch are clean and properly installed.

RETRIEVING FAULT CODES

1. Locate diagnostic connector below left side of instrument panel. See **Fig. 19**. Install voltmeter between ground terminal and TCU diagnostic terminal.

NOTE: **Diagnostic connector may also be referred to as check connector.**

2. Turn ignition on. Note fluctuations of voltmeter needle to indicate the fault code. The first fluctuation indicates first digit of fault code. Following fluctuations indicate the second fault code digit. See **Fig. 20**. Record fault codes in the order they are displayed.
3. If transaxle is not in fail-safe mode, a maximum of 10 fault codes can be stored. If number of stored fault codes exceeds 10, previously stored fault codes will be erased beginning with the oldest fault code.
4. If transaxle is in fail-safe mode and transaxle remains in 2nd or 3rd gear, a special fail-safe fault code will be stored. Only 3 fail-safe fault codes can be stored.
5. When in fail-safe mode with transaxle locked in 2nd or 3rd gear, fail-safe mode will be canceled when ignition is turned off. Transaxle will no longer be locked in 2nd or 3rd gear, but fail-safe fault code will be stored in TCU memory.
6. To identify fault code and items to be checked or adjusted, see **FAULT CODE IDENTIFICATION**. To check electrical system components, see **ELECTRONIC TROUBLE SHOOTING**.

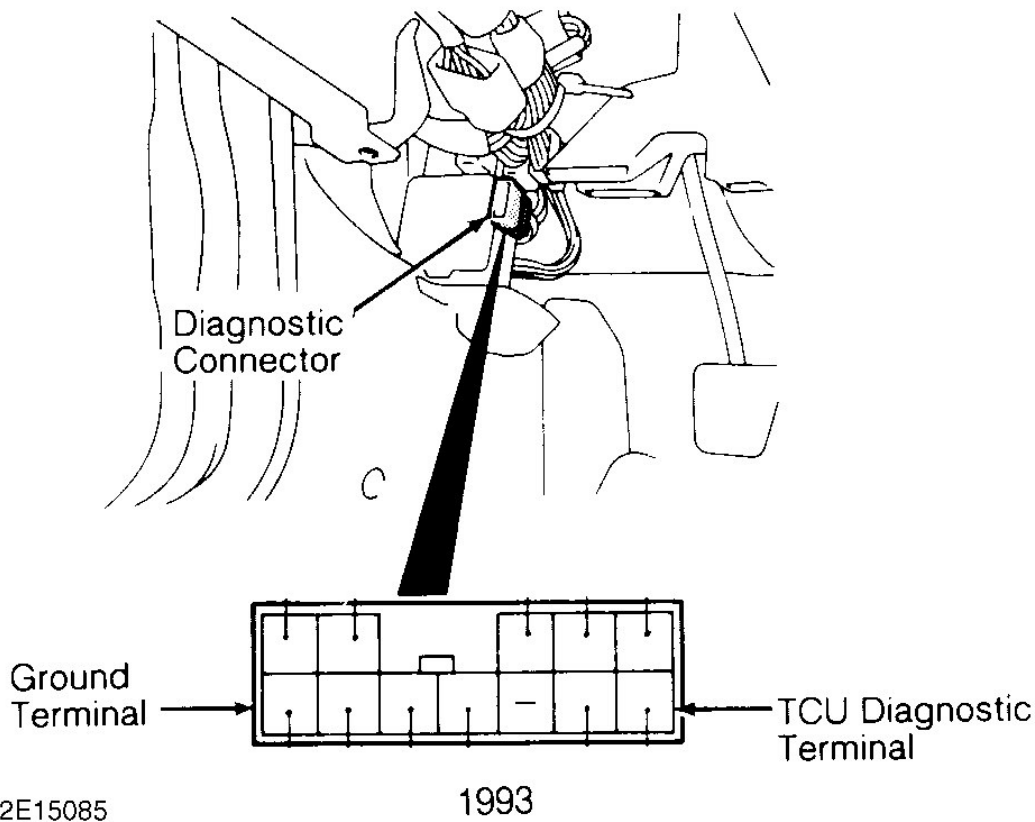
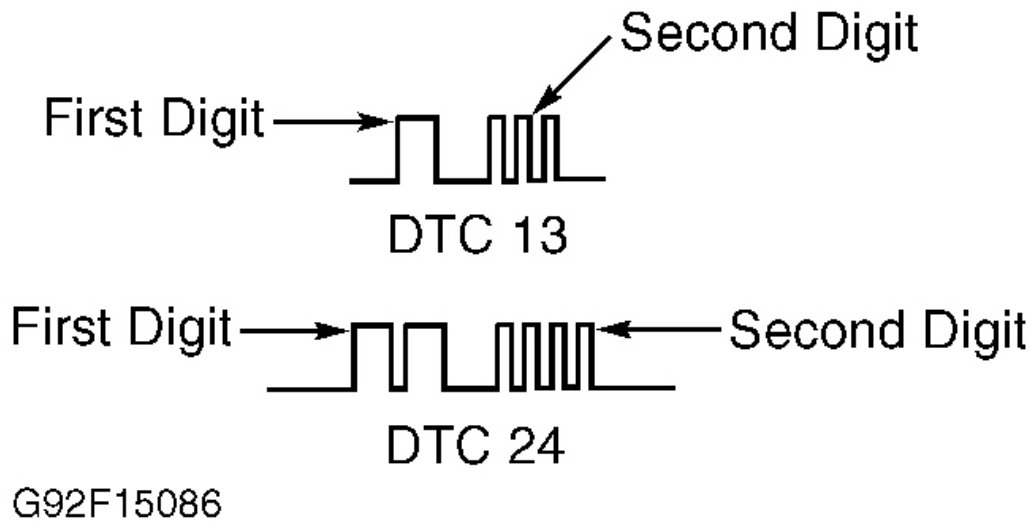


Fig. 19: Identifying Diagnostic Connector
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

**Fig. 20: Identifying Fault Code Display**

Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

CLEARING FAULT CODES

Fault codes can be cleared from TCU memory by disconnecting negative battery connector for a few seconds. Ensure fault codes are cleared after performing repairs.

WARNING: 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 the **COMPUTER RELEARN PROCEDURES** article in the **GENERAL INFORMATION** section.

FAULT CODE IDENTIFICATION**FAULT CODE IDENTIFICATION**

Fault Code No.	Probable Cause	Fail-Safe Mode	(1) Items To Check
11	High TPS Output	No	Check TPS Operation, Adjustment & Connector, Check Accelerator Switch, Check For Fault Code 24
12	Low TPS Output	No	Check TPS Operation, Adjustment & Connector, Check Accelerator Switch, Check For Fault Code 24
13	Defective Or Improperly Adjusted TPS	No	Check TPS Operation & Adjustment

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14	Improperly Adjusted TPS	No	Check TPS Adjustment
15	Open Oil Temp. Sensor Circuit (Low Temp. Side)	No	Check Oil Temperature Sensor & Connector
16	Shorted Oil Temp. Sensor Circuit (High Temp. Side)	No	Check Oil Temperature Sensor & Connector
17	Oil Temp. Sensor Open Circuit (High Temp. Side) Or Shorted Circuit (Low Temp. Side)	No	Check Oil Temperature Sensor & Connector
21	Open Kickdown Servo Switch Circuit	No	Check Kickdown Servo Switch & Connector
22	Shorted Kickdown Servo Switch Circuit	No	Check Kickdown Servo Switch & Connector
23	Open Ignition Pulse Signal Circuit	No	Check For Open Circuit To Pin No. 63 At TCU
24	Improperly Adjusted Accelerator Switch Or Open Circuit	No	Check Accelerator Switch Adjustment & Connector
31	Open Pulse Generator "A" Circuit	No	Check Pulse Generator, Check Vehicle Speed Sensor
32	Open Pulse Generator "B" Circuit	No	Check Pulse Generator, Check Vehicle Speed Sensor
41	Open Shift Control Solenoid Valve "A" Circuit	No	Check Shift Control Solenoid Valve & Connector
42	Shorted Shift Control Solenoid Valve "A" Circuit	No	Check Shift Control Solenoid Valve & Connector
43	Open Shift Control Solenoid Valve "B" Circuit	No	Check Shift Control Solenoid Valve & Connector
44	Shorted Shift Control Solenoid Valve "B" Circuit	No	Check Shift Control Solenoid Valve & Connector
45	Open Pressure Control Solenoid Valve Circuit	No	Check Pressure Control Solenoid Valve & Connector
46	Shorted Pressure Control Solenoid Valve Circuit	No	Check Pressure Control Solenoid Valve & Connector
47	Open Damper Clutch Control Solenoid Valve Circuit	No	Check Damper Clutch Control Solenoid Valve & Connector
48	Shorted Damper Clutch Control Solenoid Valve Circuit	No	Check Damper Clutch Control Solenoid Valve & Connector
49	Defective Damper Clutch	No	Check Damper Clutch Hydraulic

1991 Mitsubishi 3000GT

AUTOMATIC TRANSMISSIONS Mitsubishi F4A33, W4A32 & W4A33 Electronic Diagnosis

	Control System		Circuit, Check Damper Clutch Control Solenoid Valve, Defective TCU
51	Incorrect Or No Upshift From 1st Gear	No	Check Pulse Generators "A" & "B" Or Connectors, Rear Clutch Slipping
52	Incorrect Or No Upshift From 2nd Gear	No	Check Pulse Generators "A" & "B" Or Connectors, Rear Clutch Slipping, Kickdown Band Slipping
53	Incorrect Or No Upshift From 3rd Gear	No	Check Pulse Generators "A" & "B" Or Connectors, Front Or Rear Clutch Slipping
54	Incorrect Or No Upshift From 4th Gear	No	Check Pulse Generators "A" & "B" Or Connectors, End Clutch Slipping, Kickdown Band Slipping
61 (2)	Shorted Torque Reduction Request Signal Line Or Open Torque Converter Reduction Execution Signal Line	No	(3) (4) Check Torque Reduction Request Or Execution Signal Line
62 (2)	Open Circuit On Torque Reduction Request Signal Line	No	(3) Check Torque Reduction Request Signal Line
63 (2)	Shorted Circuit On Torque Reduction Execution Signal Line	No	(4) Check Torque Reduction Execution Signal Line
81	Open Pulse Generator "A" Circuit	Yes	See Fault Code No. 31
82	Open Pulse Generator "A" Circuit	Yes	See Fault Code No. 32
83	Open Or Shorted Shift Control Solenoid Valve "A" Circuit	Yes	See Fault Code No. 41 & 42
84	Open Or Shorted Shift Control Solenoid Valve "B"	Yes	See Fault Code No. 43 & 44
85	Open Or Shorted Pressure Control Solenoid Valve	Yes	See Fault Code No. 41 & 42
86	Incorrect Or No Upshift	Yes	See Fault Code No. 51, 52, 53 & 54
(1) To check items listed, see ELECTRONIC TROUBLE SHOOTING or TESTING. For adjustment of related components, see ADJUSTMENTS. (2) Applies to Stealth DOHC models only. (3) Torque reduction request signal circuit goes between TCU terminal No. 7 (White/Blue wire) and engine controller terminal No. 116 (White/Blue wire).			

(4) Torque reduction execution signal circuit goes between TCU terminal No. 108 (Blue/White wire) and engine controller terminal No. 7 (Blue/White wire).

COMPONENT TESTING

NOTE: Different components can be tested. See Fig. 7-12. For component, figure and step reference, refer to **COMPONENT TESTING & FIGURE REFERENCE (TABLE II)**.

COMPONENT TESTING & FIGURE REFERENCE (TABLE II)

Component	Figure	Step
Accelerator Switch	See <u>Fig. 9</u>	10
Damper Clutch Control Solenoid Valve	See <u>Fig. 9</u>	9
Damper Clutch System	See <u>Fig. 9</u>	8
Inhibitor Switch	See <u>Fig. 10</u>	11
Kickdown Servo Switch	See <u>Fig. 10</u>	12
Oil Temperature Sensor	See <u>Fig. 7</u>	2
Pressure Control Solenoid Valve	See <u>Fig. 8</u>	6
Pulse Generator Resistances	See <u>Fig. 7</u>	4
Pulse Generator (With Oscilloscope)	See <u>Fig. 8</u>	5
Shift Control Solenoid Valves	See <u>Fig. 8</u>	7
TCU	See <u>Fig. 10</u>	13
Throttle Position Sensor	See <u>Fig. 7</u>	3
Wiring	See <u>Fig. 7</u>	1

OVERDRIVE CONTROL SWITCH

Disconnect electrical connector from overdrive control switch. Using ohmmeter, check continuity between specified wire color terminals at switch connector. See **OVERDRIVE CONTROL SWITCH CONTINUITY SPECIFICATIONS** table. Replace overdrive control switch if defective.

OVERDRIVE CONTROL SWITCH CONTINUITY SPECIFICATIONS

Application & Switch Position	Continuity ⁽¹⁾ Between Wires
Colt Vista AWD, Expo AWD & Summit Wagon AWD	
ON	Red/White & Blue
OFF	Blue & Red/Green
Diamante, Eclipse, Galant, Laser & Talon	
ON	Blue/Black & Red/White
OFF	Blue/Black & Red/Green
Stealth & 3000 GT	
ON	Blue/Red & Green/Red

OFF

Blue/Red & Green/Blue

(1) If wire colors do not match vehicle, use terminal numbers in **WIRING DIAGRAMS** at end of article.

POWER/ECONOMY SWITCH

NOTE: The **POWER/ECONOMY** switch is not used on Colt Vista and Summit Wagon models.

Disconnect electrical connector from POWER/ECONOMY switch. Using ohmmeter, check continuity between specified wire color terminals at switch connector. See **POWER/ECONOMY SWITCH CONTINUITY SPECIFICATIONS** table. Replace POWER/ECONOMY switch if defective.

POWER/ECONOMY SWITCH CONTINUITY SPECIFICATIONS

Application & Switch Position	Continuity ⁽¹⁾ Between Wires
Diamante, Eclipse, Galant, Laser & Talon	
ON (Power Mode)	Blue/Black & Yellow/White
OFF (Economy Mode)	Blue/Black & Green/Blue
Stealth & 3000 GT	
ON (Power Mode)	Blue/Red & Green/Red
OFF (Economy Mode)	Green/Red & Green/Blue
(1) If wire colors do not match vehicle, use terminal numbers in WIRING DIAGRAMS at end of article.	

VEHICLE SPEED SENSOR

NOTE: It may be necessary to remove instrument cluster for access to vehicle speed sensor.

Colt Vista & Summit Wagon

1. Connect circuit tester between ground terminal and vehicle speed sensor on instrument cluster. See **Fig. 21**.
2. Rotate speedometer shaft and ensure circuit tester indicates an on/off pattern. Replace components if vehicle speed sensor does not operate correctly.

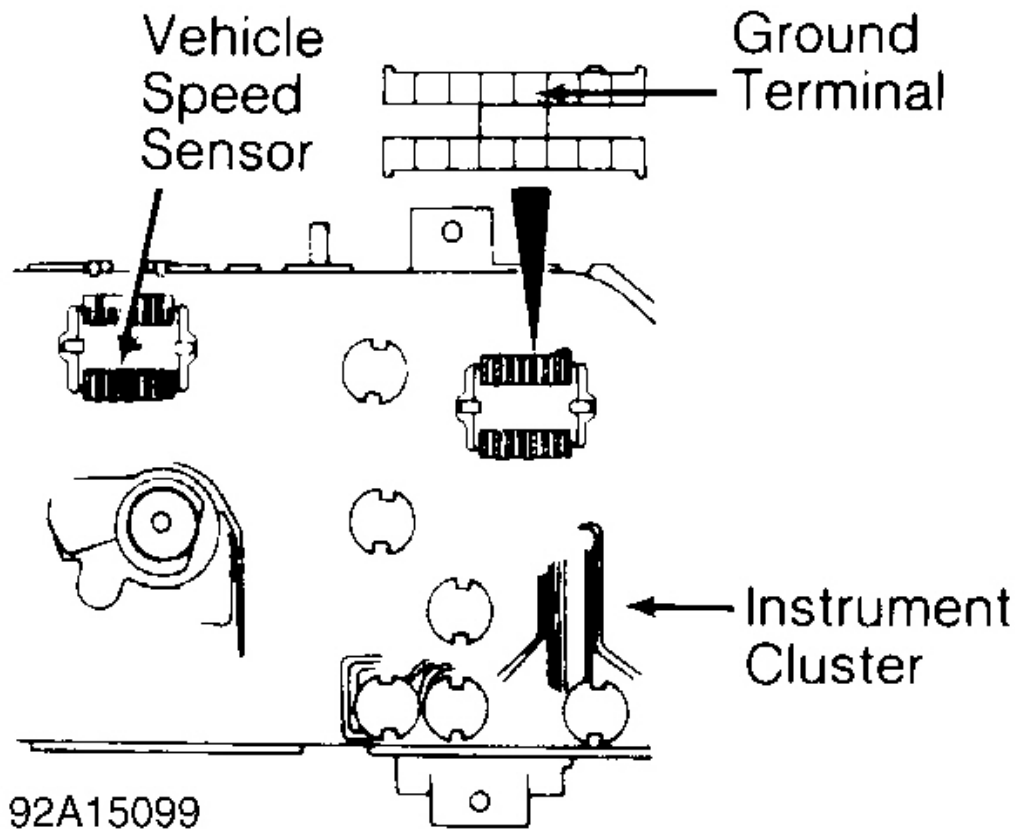


Fig. 21: Checking VSS (Colt Vista AWD, Expo AWD & Summit Wagon AWD)
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Diamante, Eclipse & Galant

1. Connect circuit tester between terminals on rear of instrument cluster. See [Fig. 22](#).

CAUTION: Ensure circuit tester uses a measurement current of 4 milliamps or less.

2. Rotate speedometer shaft and ensure circuit tester indicates an on/off pattern. Replace components if vehicle speed sensor does not operate correctly.

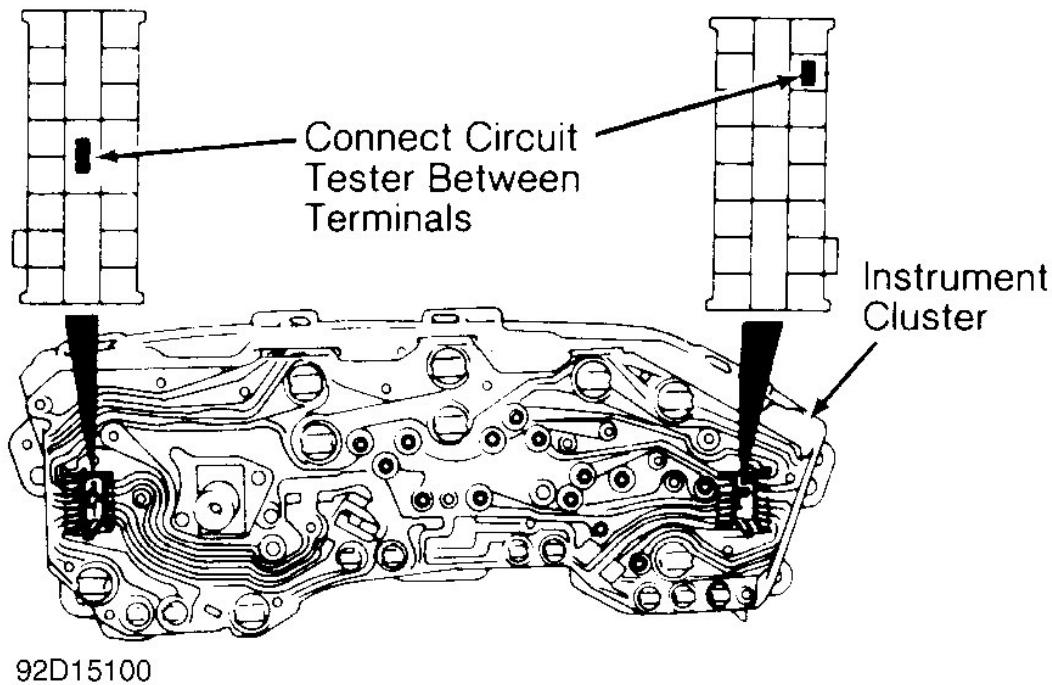


Fig. 22: Checking Vehicle Speed Sensor (Diamante, Eclipse & Galant)
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Stealth (Mechanical Speedometer)

1. Connect circuit tester between terminals on rear of instrument cluster. See **Fig. 23**.
2. Rotate speedometer shaft and ensure circuit tester indicates an on/off pattern. Replace components if vehicle speed sensor does not operate correctly.

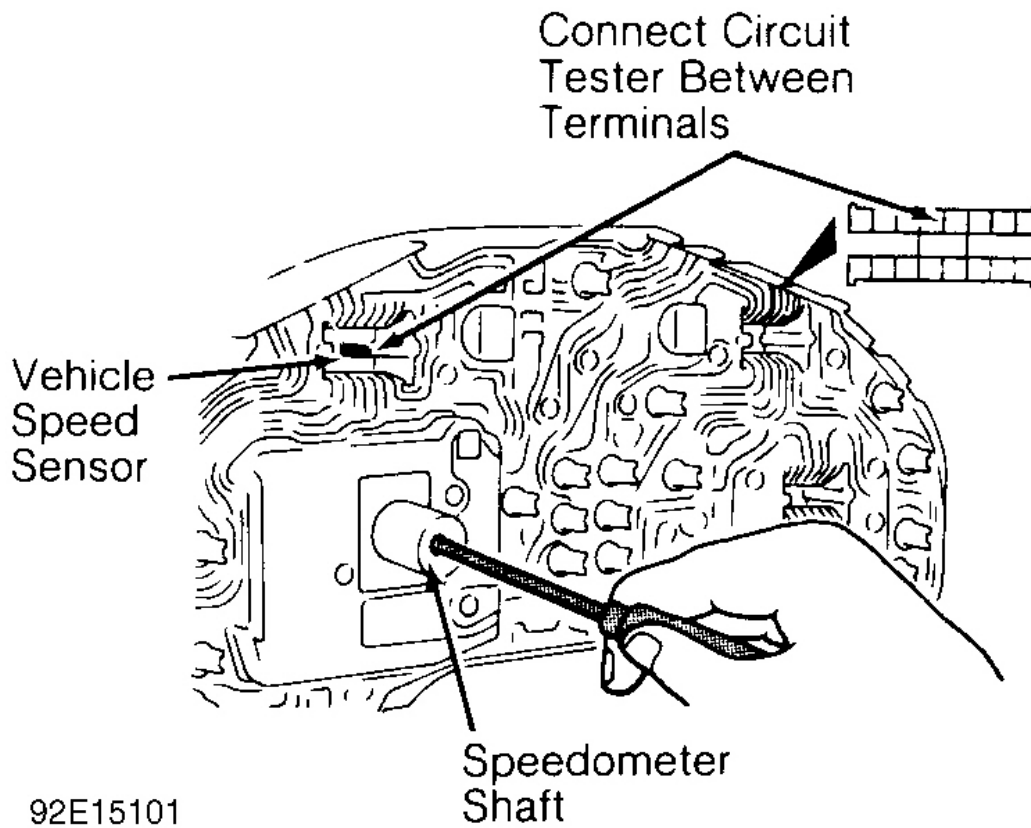


Fig. 23: VSS (Stealth & 3000 GT With Mechanical Speedometer)
Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

Stealth & 3000 GT (Electronic Speedometer)

1. Remove vehicle speed sensor from rear of instrument cluster. Connect a 3000-10,000 ohm resistor and 12-volt battery to vehicle speed sensor. See **Fig. 24**.
2. Using voltmeter, check for voltage reading at terminals No. 2 and 3 while rotating the shaft. See **Fig. 24**. In one shaft revolution, there should be 4 voltage readings. Replace vehicle speed sensor if defective.

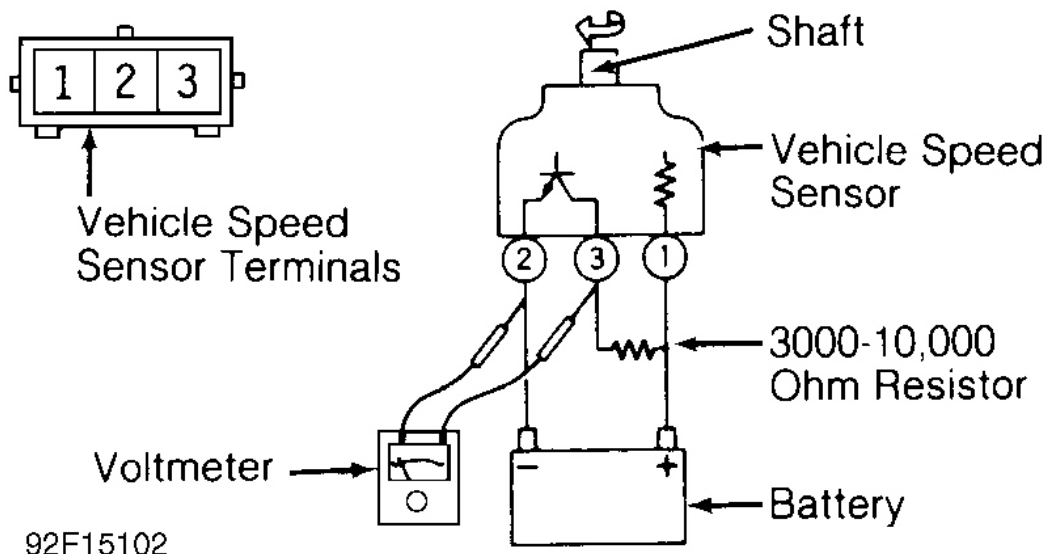


Fig. 24: VSS (Stealth & 3000 GT W/Electronic Speedometer)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

REMOVAL & INSTALLATION

ACCELERATOR PEDAL SWITCH

Removal & Installation

Disconnect electrical connector. Remove retaining nut and accelerator pedal switch. To install, reverse removal procedure. Adjust accelerator pedal switch. See **ACCELERATOR PEDAL SWITCH** under ADJUSTMENTS.

INHIBITOR SWITCH

Removal & Installation

1. Disconnect shift control cable. Remove retaining bolt and manual control lever. Remove retaining screws and inhibitor switch.
2. To install, reverse removal procedure. **DO NOT** tighten inhibitor switch retaining screws at this time. Tighten manual control lever retaining bolt to specification. See **TORQUE SPECIFICATIONS** table at end of article. Adjust inhibitor switch. See **INHIBITOR SWITCH** under ADJUSTMENTS.

KICKDOWN SERVO SWITCH

Removal & Installation

Disconnect electrical connector. Remove snap ring and kickdown servo switch. To install, reverse removal procedure.

OIL TEMPERATURE SENSOR

Removal & Installation

Oil temperature sensor is mounted inside transaxle case. See **Fig. 5**.

OVERDRIVE CONTROL SWITCH

Removal & Installation

Remove overdrive control switch from side of gear selector lever. To install, reverse removal procedure.

POWER/ECONOMY SWITCH

Removal & Installation (Except Colt Vista AWD, Expo AWD & Summit Wagon AWD)

Remove the POWER/ECONOMY switch from center console. To install, reverse removal procedure.

PULSE GENERATORS

Removal & Installation

1. Note location of pulse generators "A" and "B" for reassembly reference. Pulse generator "A" has a transparent tube and "B" contains a Black tube. See **Fig. 5**.
2. Remove retaining bolt and pulse generator. To install, reverse removal procedure. Tighten retaining bolt to specification. See **TORQUE SPECIFICATIONS** table at end of article.

THROTTLE POSITION SENSOR (TPS)

Removal & Installation

1. Disconnect electrical connector from TPS. Remove retaining screws and TPS.
2. To install, reverse removal procedure. **DO NOT** tighten retaining screws. Ensure TPS engages with tang areas on throttle body. Adjust TPS. See **THROTTLE POSITION SENSOR (TPS)** under ADJUSTMENTS.

TRANSAXLE CONTROL UNIT (TCU)

Removal & Installation

The TCU is located behind instrument panel, near center of console and contains a 42-pin connector. See **Fig. 1**, **Fig. 2** or **Fig. 3**.

VALVE BODY SOLENOIDS

NOTE: Valve body solenoids consist of damper clutch control, pressure control and shift control solenoid valves.

Removal & Installation

1. Drain transaxle fluid. Remove retaining bolts, oil pan, magnet and gasket. Note location of solenoid valve. See **Fig. 6**. Disconnect necessary electrical connector. Remove retaining bolt and solenoid valve.
2. To install, reverse removal procedure. Ensure solenoid valve is installed in proper location. See **Fig. 6**. Solenoid valves can be identified by the wire color. See **SOLENOID VALVE IDENTIFICATION** table. Fill transaxle with Mopar ATF Plus (7176).

SOLENOID VALVE IDENTIFICATION

Solenoid	Wire Color
Damper Clutch Control Solenoid Valve	Red
Pressure Control Solenoid Valve	Blue
Shift Control Solenoid Valve "A"	Orange
Shift Control Solenoid Valve "B"	Yellow

VEHICLE SPEED SENSOR

Removal & Installation

Vehicle speed sensor is located on rear of instrument cluster.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Manual Control Lever Bolt	13-15 (18-20)
	INCH Lbs. (N.m)
Inhibitor Switch Bolt	90-102 (10.1-11.5)
Oil Filter Bolt	48-60 (5.4-6.8)
Oil Pan Bolt	48-60 (5.4-6.8)
Pulse Generator Bolt	90-102 (10.1-11.5)
Shift Control Cable Lock Nut	108 (12.2)
TPS Retaining Screw	17 (1.9)

WIRING DIAGRAMS

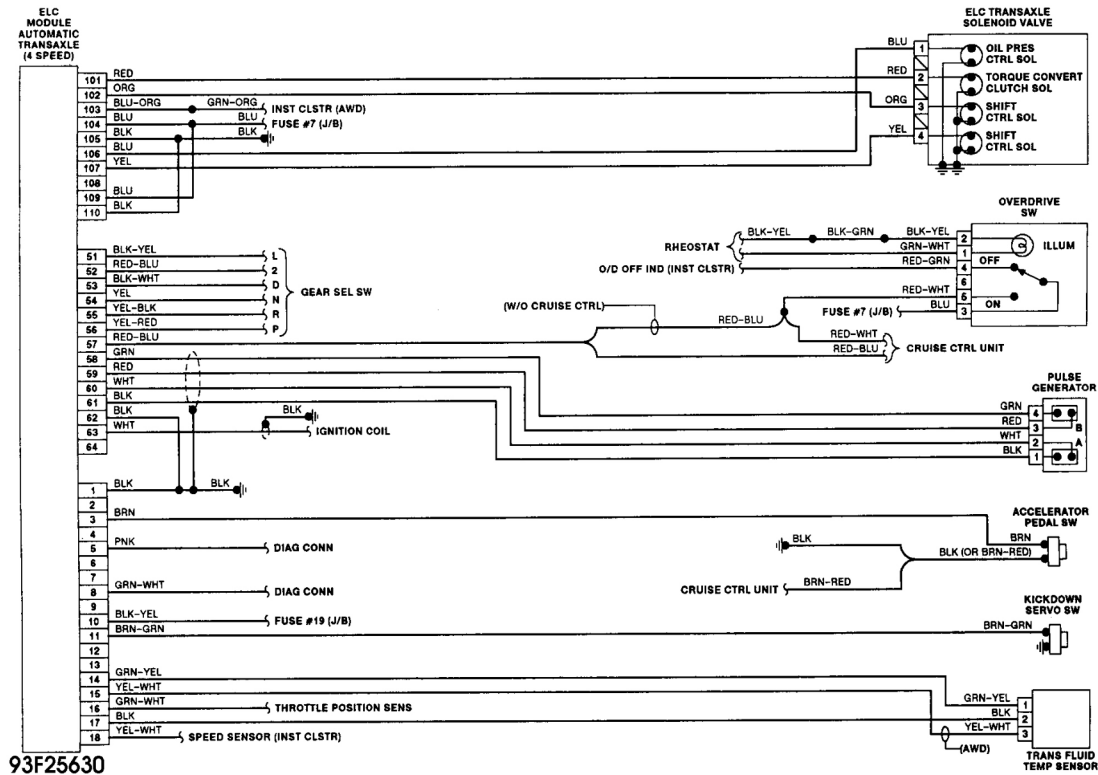
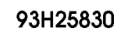


Fig. 25: Schematic (Colt Vista AWD, Expo AWD & Summit Wagon AWD)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

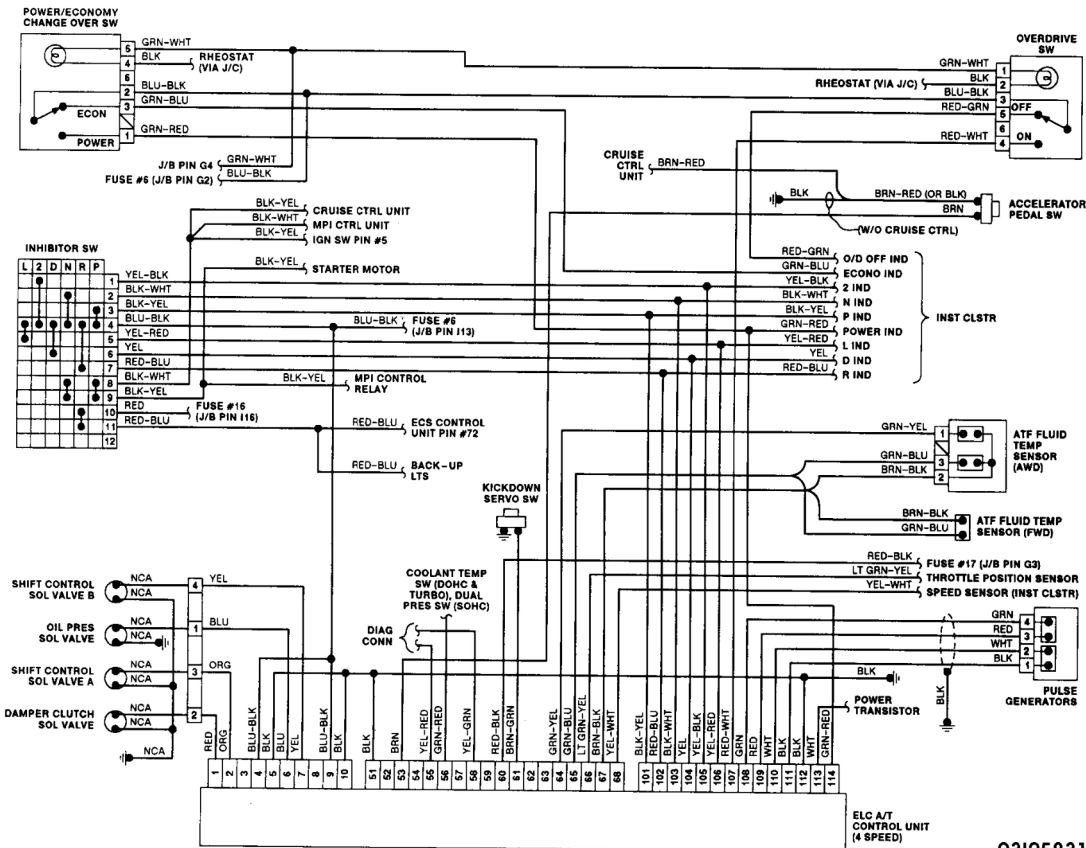


Fig. 27: Schematic (Diamante F4A33 - 1993-94)

AUTOMATIC TRANSMISSIONS Mitsubishi F4A33, W4A32 & W4A33 Electronic Diagnosis



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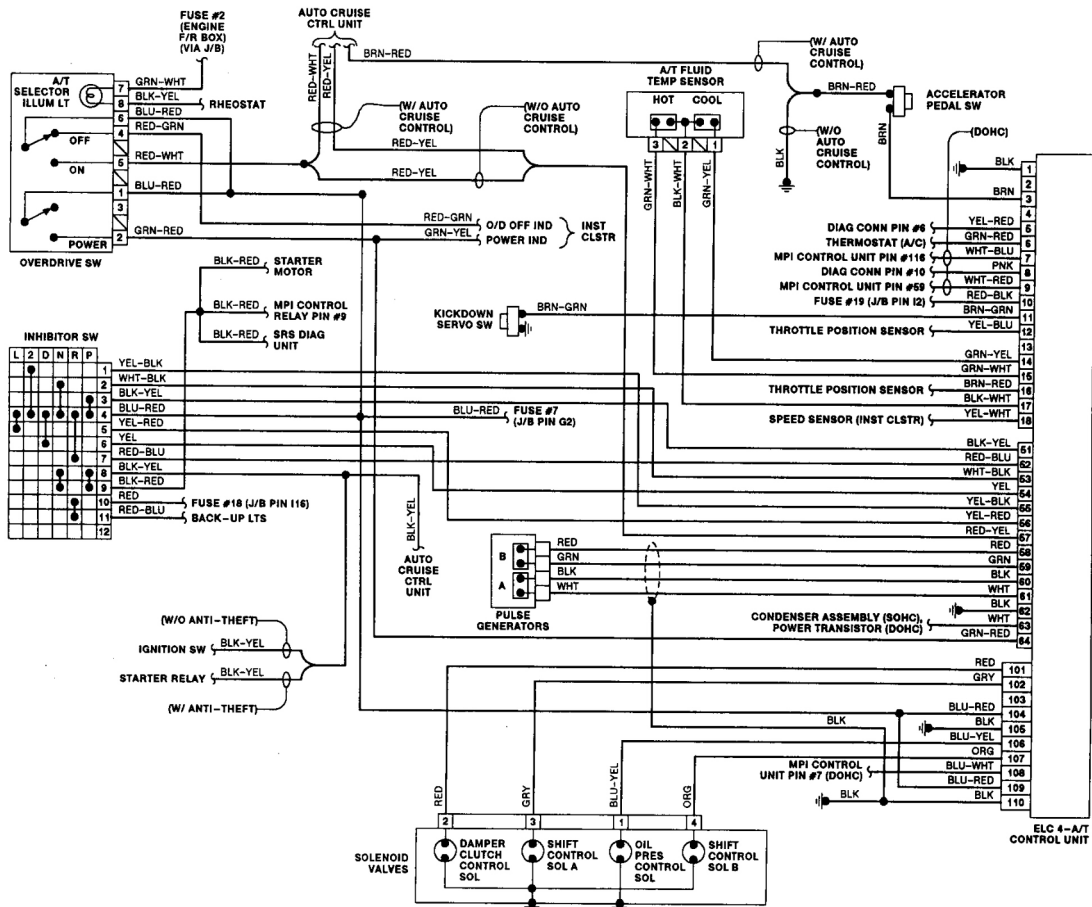


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Fig. 29: Schematic (Galant)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.

1991 Mitsubishi 3000GT

AUTOMATIC TRANSMISSIONS Mitsubishi F4A33, W4A32 & W4A33 Electronic Diagnosis



93H25632

Fig. 30: Schematic (Stealth & 3000 GT - 1991-1992)
 Courtesy of MITSUBISHI MOTOR SALES OF AMERICA.



Fig. 31: Schematic (Stealth & 3000 GT - 1993-94)