

# AUTO TRANS DIAGNOSIS - F4A33, W4A32 & W4A33

1994 Mitsubishi 3000GT

## AUTOMATIC TRANSMISSIONS

Mitsubishi F4A33, W4A32 & W4A33 Electronic Diagnosis

## APPLICATION

### TRANSMISSION APPLICATIONS

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, 2 or 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

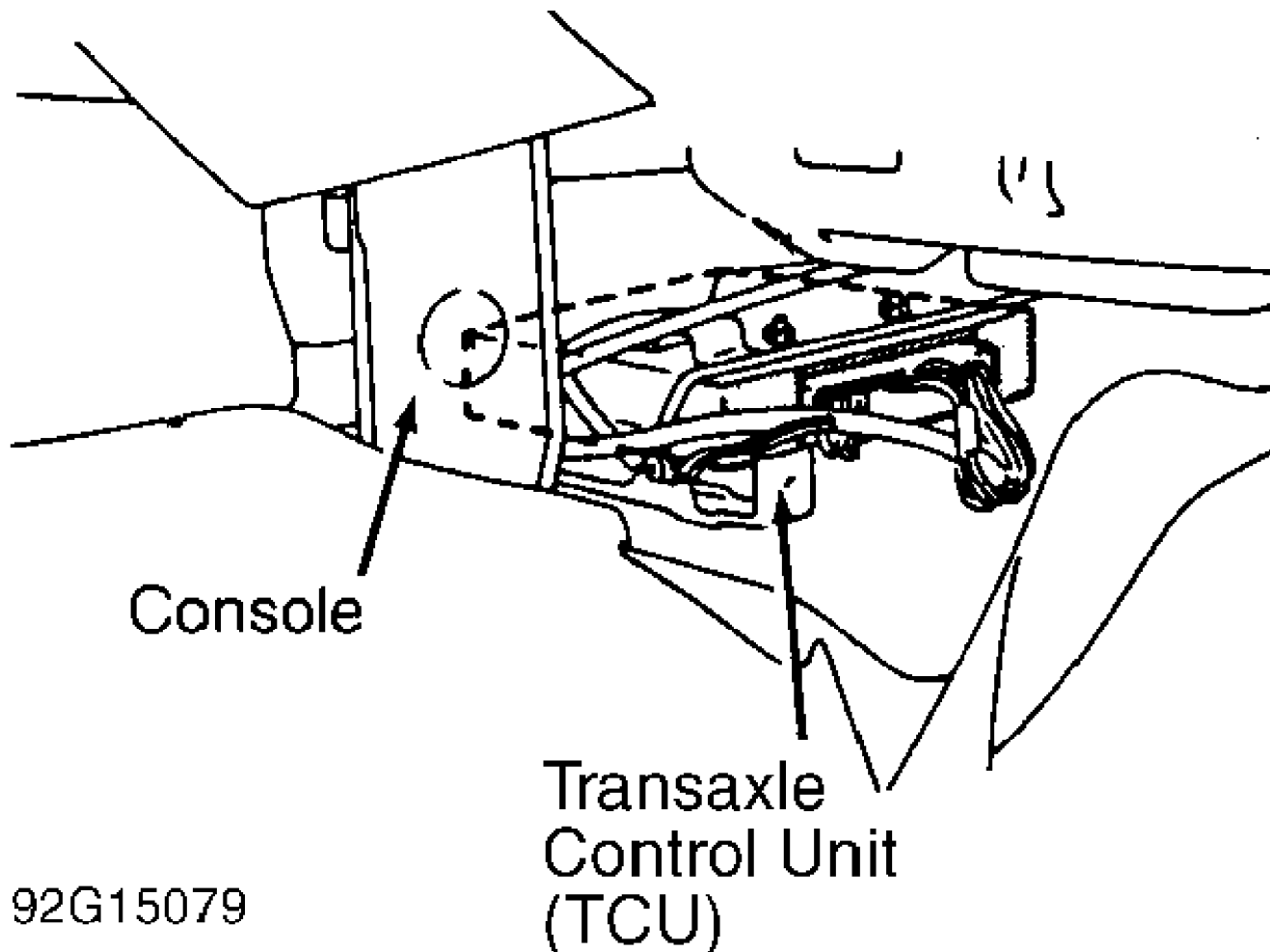


Fig. 1: TCU Location (Colt Vista AWD, Expo AWD & Summit Wagon AWD)  
Courtesy of Mitsubishi Motor Sales of America.

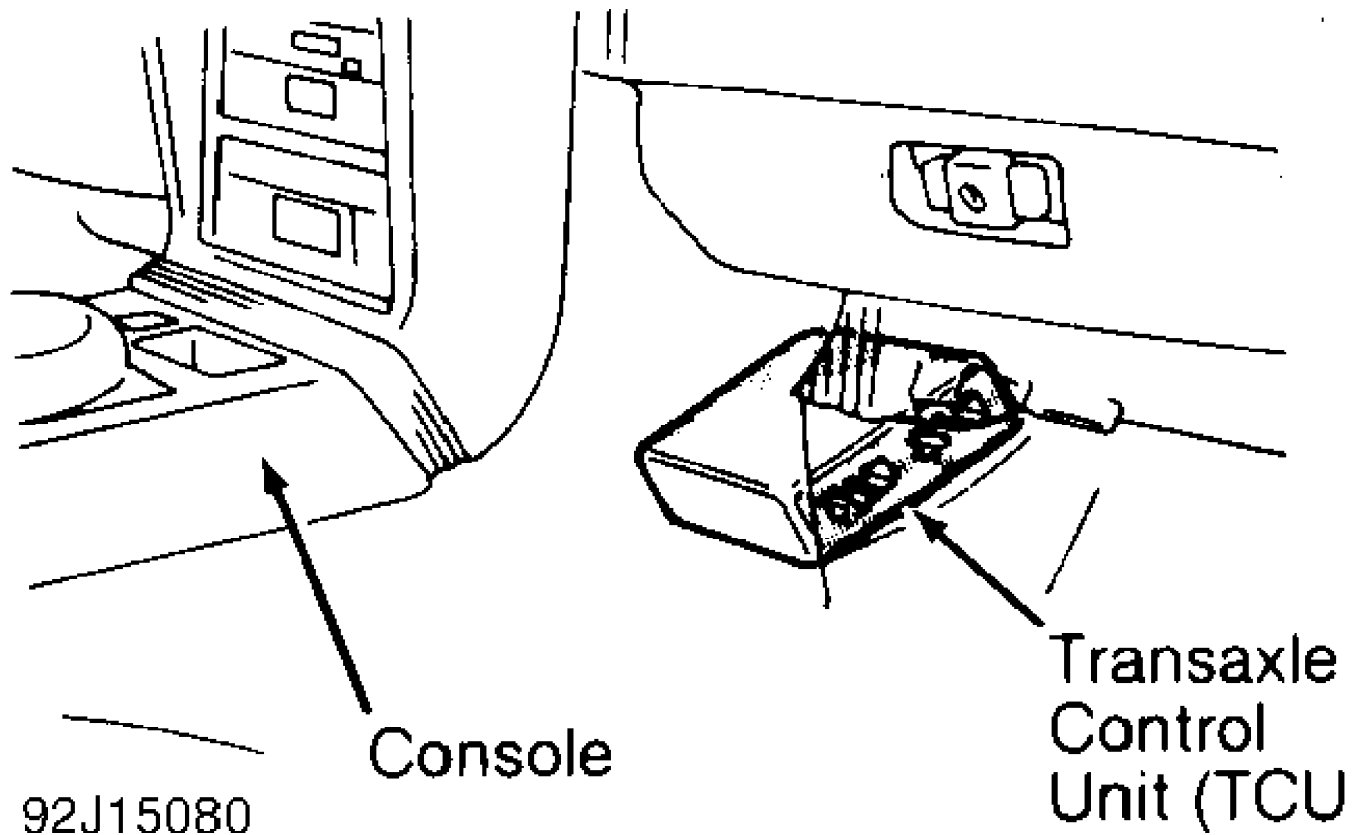


Fig. 2: TCU Location (Diamante, Eclipse & Galant)  
 Courtesy of Mitsubishi Motor Sales of America.

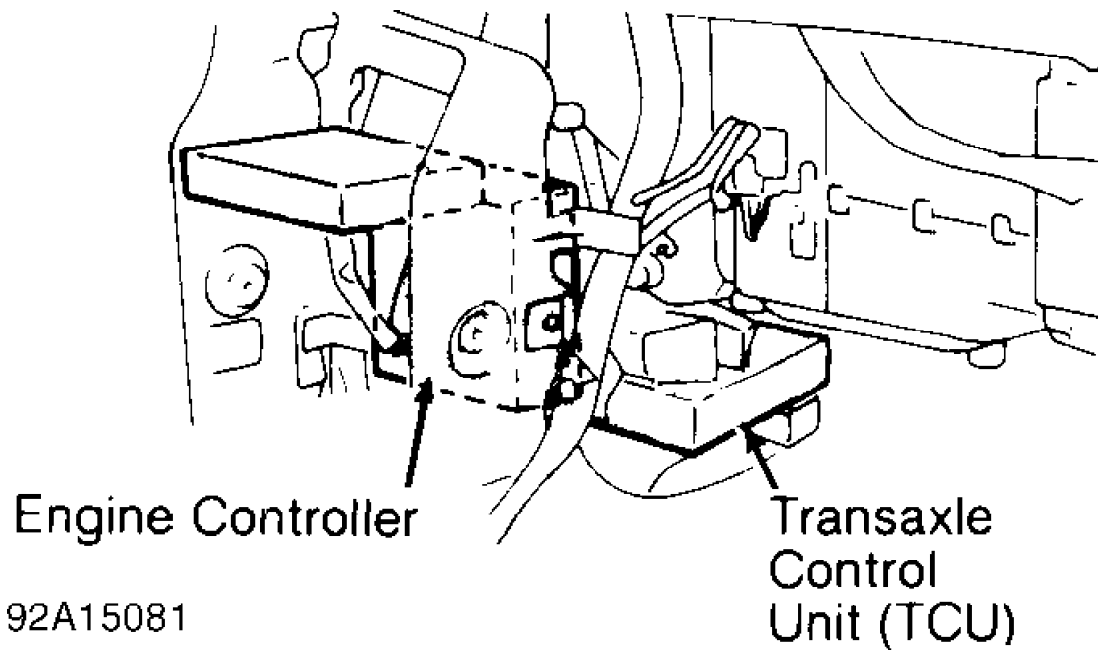


Fig. 3: TCU Location (Stealth & 3000 GT)  
 Courtesy of Mitsubishi Motor Sales of America.

#### 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.

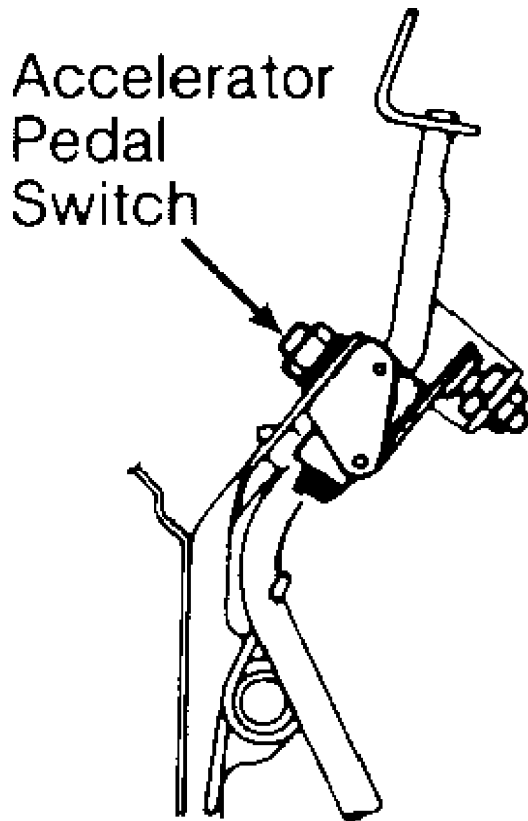
#### Kickdown Servo Switch

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

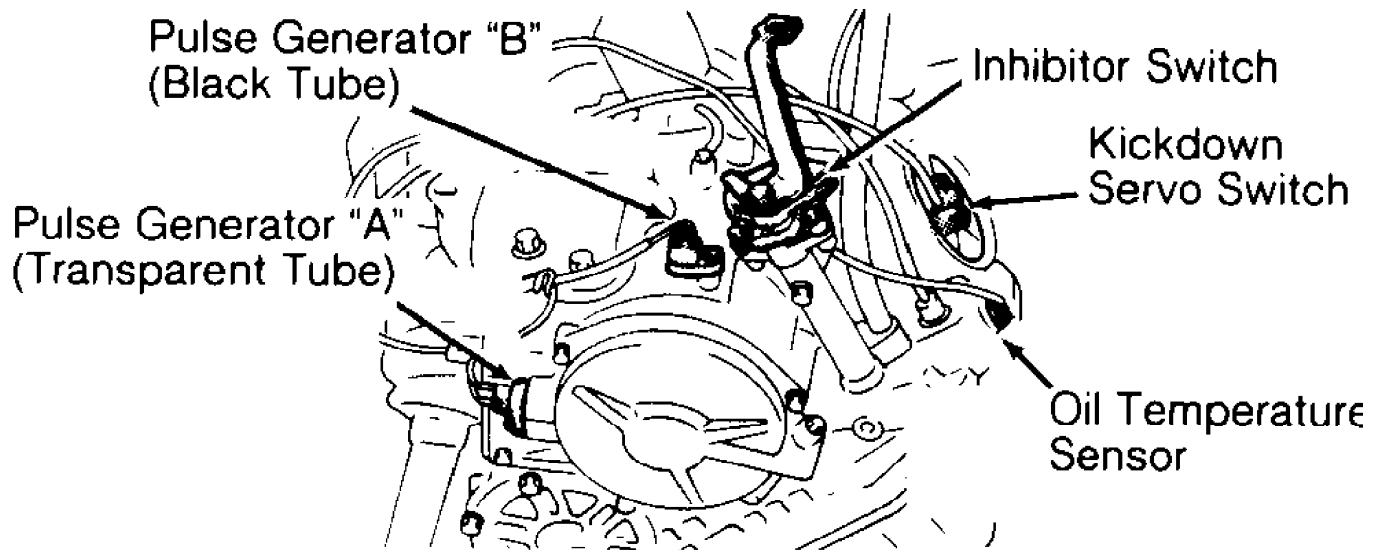
Oil temperature sensor is an input device mounted inside the transaxle case. See Fig. 5. Oil temperature delivers an input signal to the TCU to indicate the fluid temperature.

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.



**92B15082**

Fig. 4: Identifying Accelerator Pedal Switch  
Courtesy of Mitsubishi Motor Sales of America.



92C15083

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)

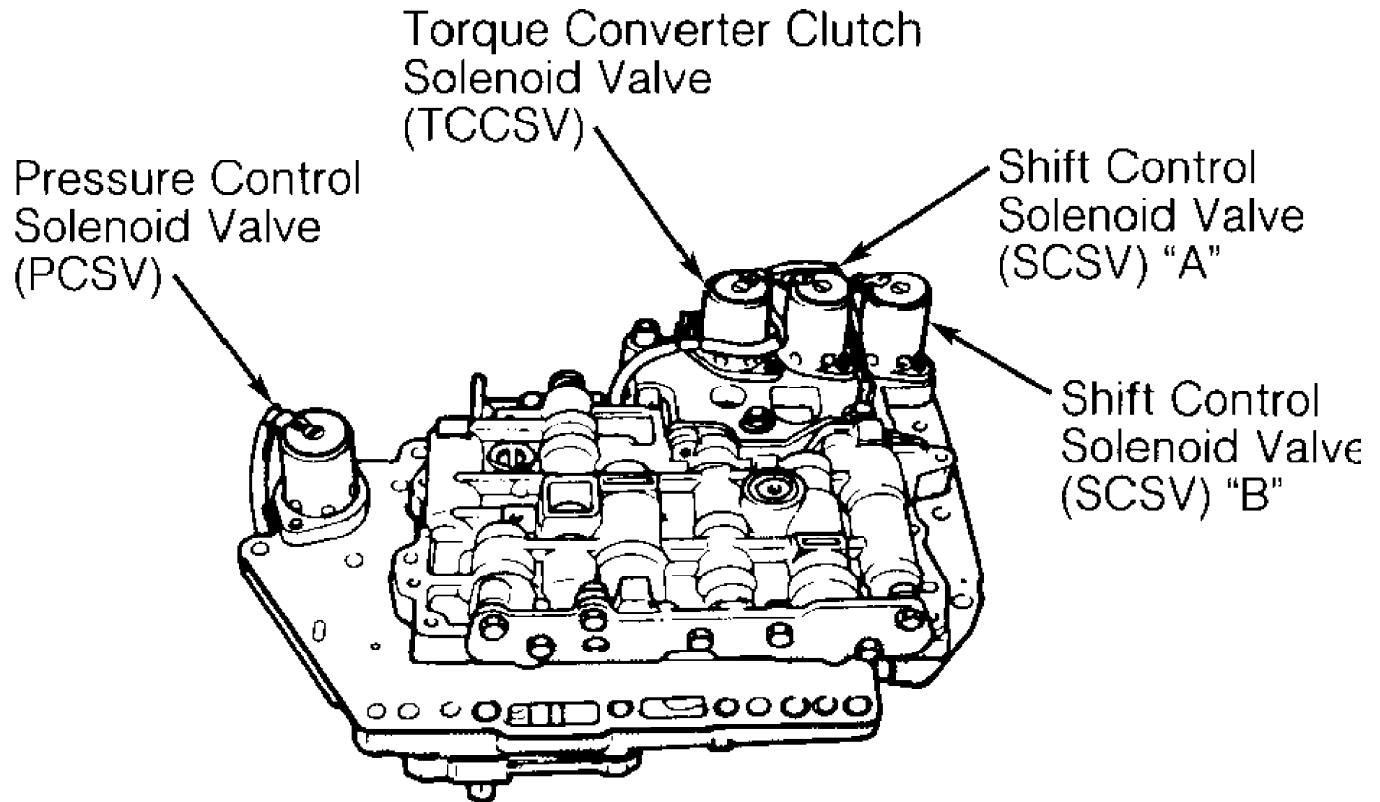
The DCCSV is located on valve body and is connected by a Red wire. See Fig. 6. The TCU operates the DCCSV for damper clutch control of torque converter lock-up.

#### 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.



92D15084

Fig. 6: Identifying Solenoid Valves  
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. 7. Install voltmeter between ground terminal and TCU diagnostic terminal.

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

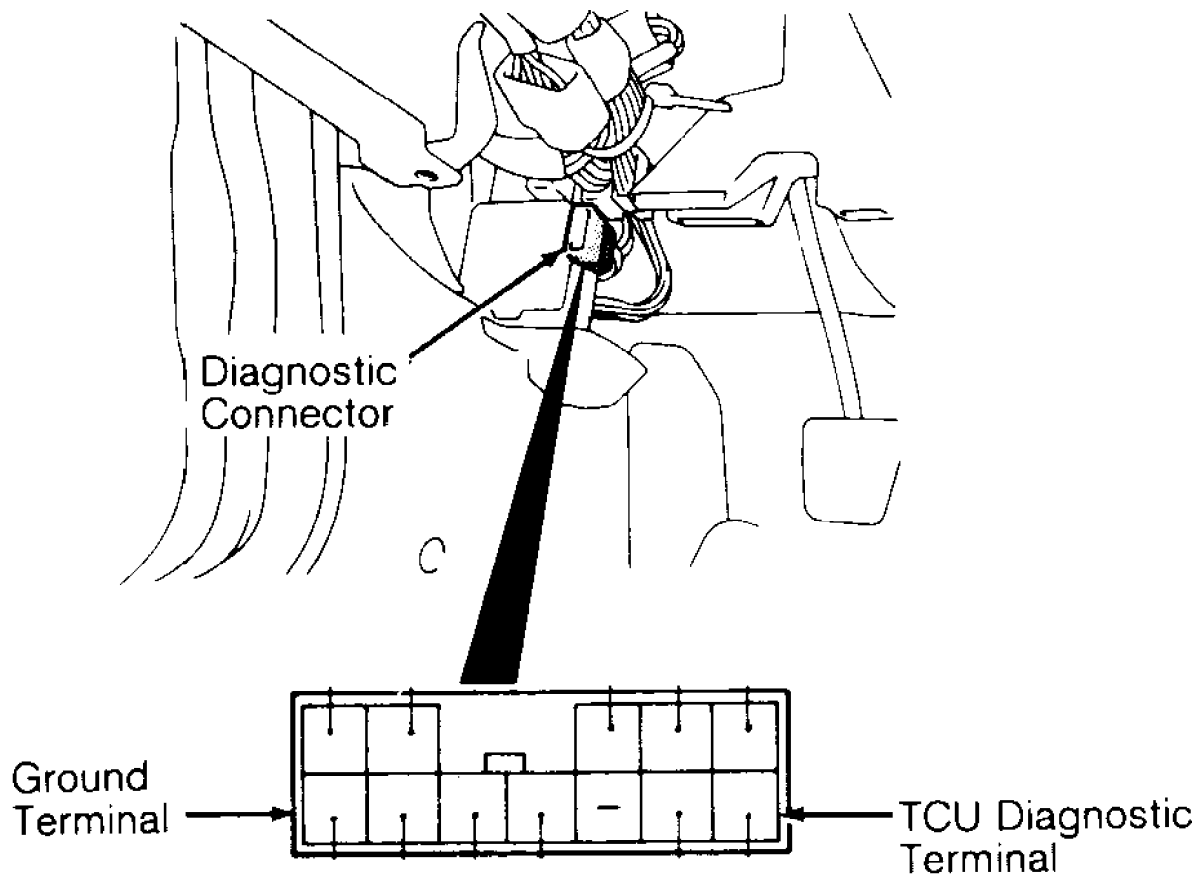
2) Turn ignition on. Note fluctuations of voltmeter needle to indicate the fault code. The first fluctuation indicates first digit of fault code. Following fluctuations indicate the second fault code digit. See Fig. 8. Record fault codes in the order they are displayed.

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.

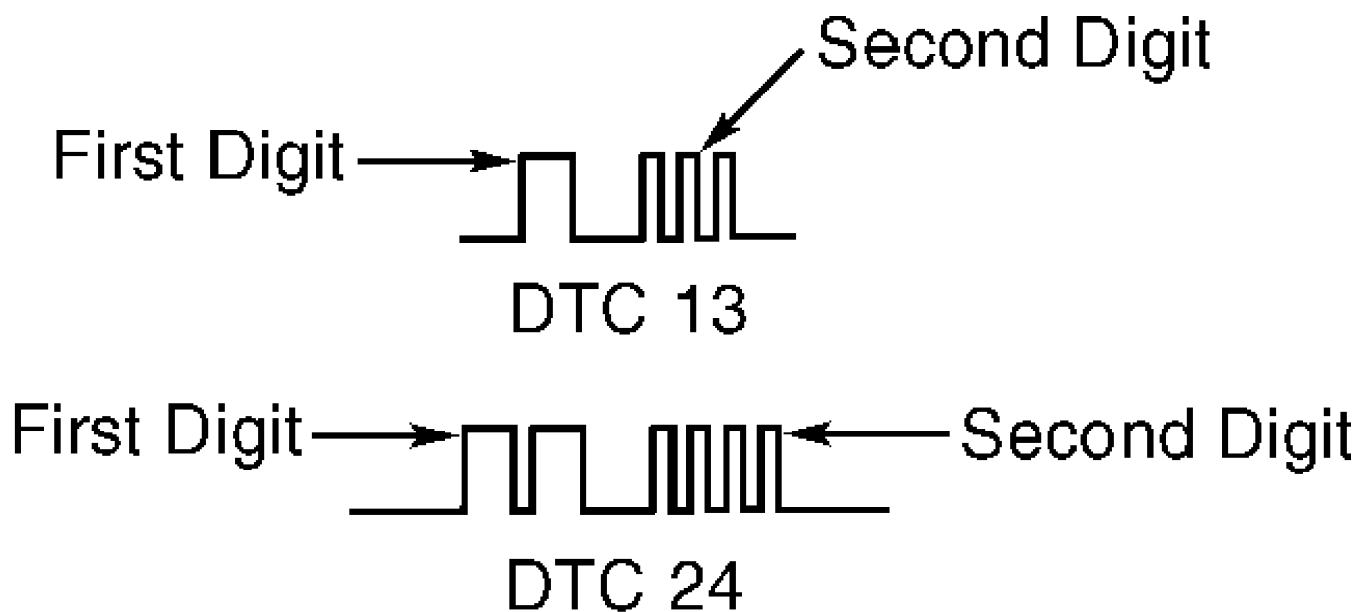
6) To identify fault code and items to be checked or adjusted, see FAULT CODE IDENTIFICATION. To check electrical system components, see ELECTRONIC TROUBLE SHOOTING.



92E15085

1993

Fig. 7: Identifying Diagnostic Connector  
Courtesy of Mitsubishi Motor Sales of America.



92F15086

Fig. 8: 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 Number	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
14 ...	Improperly Adjusted TPS .....	No .....	Check TPS Adjustment
15 ...	Open Oil Temperature Sensor Circuit (Low Temperature Side) .....	No .....	Check Oil Temperature Sensor & Connector
16 ....	Shorted Oil Temperature Sensor Circuit .....	No .....	Check Oil Temperature Sensor & Connector



	(High Temperature Side)				
17	.... Oil Temperature Sensor ....	No	.....	Check Oil Temperature	
	Open Circuit			Sensor & Connector	
	(High Temperature Side)				
	Or Shorted Circuit				
	(Low Temperature Side)				
21	.... Open Kickdown Servo .....	No	.....	Check Kickdown Servo	
	Switch Circuit			Switch & Connector	
22	.... Shorted Kickdown Servo ....	No	.....	Check Kickdown Servo	
	Switch Circuit			Switch & Connector	
23	.... Open Ignition Pulse .....	No	.....	Check For Open Circuit	
	Signal Circuit			To Pin No. 63 At TCU	
24	..... Improperly Adjusted .....	No	.....	Check Accelerator	
	Accelerator Switch			Switch Adjustment &	
	Or Open Circuit			Connector	
31	..... Open Pulse Generator .....	No	.....	Check Pulse Generator,	
	"A" Circuit			Check Vehicle Speed Sensor	
32	..... Open Pulse Generator .....	No	.....	Check Pulse Generator,	
	"B" Circuit			Check Vehicle Speed Sensor	
41	..... Open Shift Control .....	No	.....	Check Shift Control	
	Solenoid Valve "A" Circuit			Solenoid Valve & Connector	
42	..... Shorted Shift Control ....	No	.....	Check Shift Control	
	Solenoid Valve "A" Circuit			Solenoid Valve & Connector	
43	..... Open Shift Control .....	No	.....	Check Shift Control	
	Solenoid Valve "B" Circuit			Solenoid Valve & Connector	
44	..... Shorted Shift Control ....	No	.....	Check Shift Control	
	Solenoid Valve "B" Circuit			Solenoid Valve & Connector	
45	..... Open Pressure Control ....	No	.....	Check Pressure Control	
	Solenoid Valve Circuit			Solenoid Valve & Connector	
46	... Shorted Pressure Control ...	No	.....	Check Pressure Control	
	Solenoid Valve Circuit			Solenoid Valve & Connector	
47	... Open Damper Clutch Control ..	No	.....	Check Damper Clutch	
	Solenoid Valve Circuit			Control Solenoid Valve &	
				Connector	
48	.... Shorted Damper Clutch .....	No	.....	Check Damper Clutch	
	Control Solenoid Valve			Control Solenoid Valve &	
	Circuit			Connector	
49	... Defective Damper Clutch .....	No	.....	Check Damper Clutch	
	Control System			Hydraulic Circuit, Check	
				Damper Clutch Control	
				Solenoid Valve, Defective TCU	
51	... Incorrect Or No Upshift .....	No	.....	Check Pulse Generators	
	From 1st Gear			"A" & "B" Or Connectors,	
				Rear Clutch Slipping	
52	... Incorrect Or No Upshift .....	No	.....	Check Pulse Generators	
	From 2nd Gear			"A" & "B" Or Connectors,	
				Rear Clutch Slipping,	
				Kickdown Band Slipping	
53	... Incorrect Or No Upshift .....	No	.....	Check Pulse Generators	
	From 3rd Gear			"A" & "B" Or Connectors,	
				Front Or Rear Clutch	
				Slipping	
54	... Incorrect Or No Upshift .....	No	.....	Check Pulse Generators	
	From 4th Gear			"A" & "B" Or Connectors,	
				End Clutch Slipping,	
				Kickdown Band Slipping	
61 (2)	... Shorted Torque .....	No	.....	(3) (4) Check Torque	
	Reduction Request Signal			Reduction Request Or	
	Line Or Open Torque			Execution Signal Line	
	Converter Reduction				
	Execution Signal Line				
62 (2)	.... Open Circuit On .....	No	..	(3) Check Torque Reduction	
	Torque Reduction			Request Signal Line	

Request Signal Line			
63	(2) .... Shorted Circuit On .....	No ..	(4) Check Torque Reduction Torque Reduction Execution Signal Line
Execution Signal Line			
81	..... Open Pulse Generator ...	Yes .....	See Fault Code No. 31 "A" Circuit
82	..... Open Pulse Generator ...	Yes .....	See Fault Code No. 32 "A" Circuit
83	..... Open Or Shorted Shift ..	Yes ..	See Fault Code No. 41 & 42 Control Solenoid Valve "A" Circuit
84	..... Open Or Shorted Shift ....	Yes ..	See Fault Code No. 43 & 44 Control Solenoid Valve "B"
85	..... Open Or Shorted Pressure ..	Yes ..	See Fault Code No. 41 & 42 Control Solenoid Valve
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).

## ELECTRONIC TROUBLE SHOOTING

### ELECTRONIC SYSTEM COMPONENTS

Different electronic system components can be checked when performing electronic trouble shooting. See Figs. 9-12. For component, figure and step reference, see COMPONENT TESTING & FIGURE REFERENCE table.

COMPONENT TESTING & FIGURE REFERENCE (TABLE I)

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

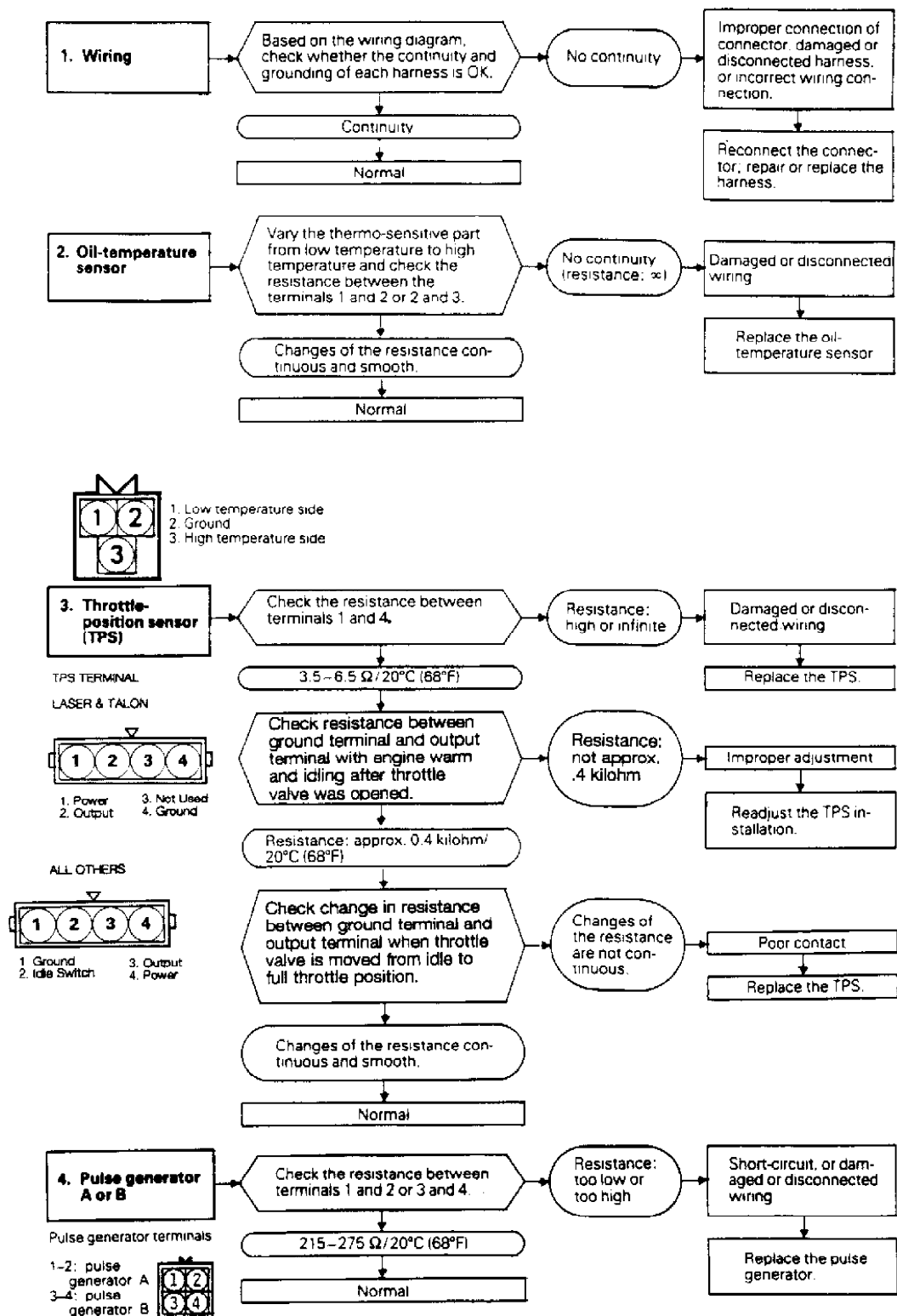


Fig. 9: Electronic Trouble Shooting (1 of 4)  
Courtesy of Mitsubishi Motor Sales of America.

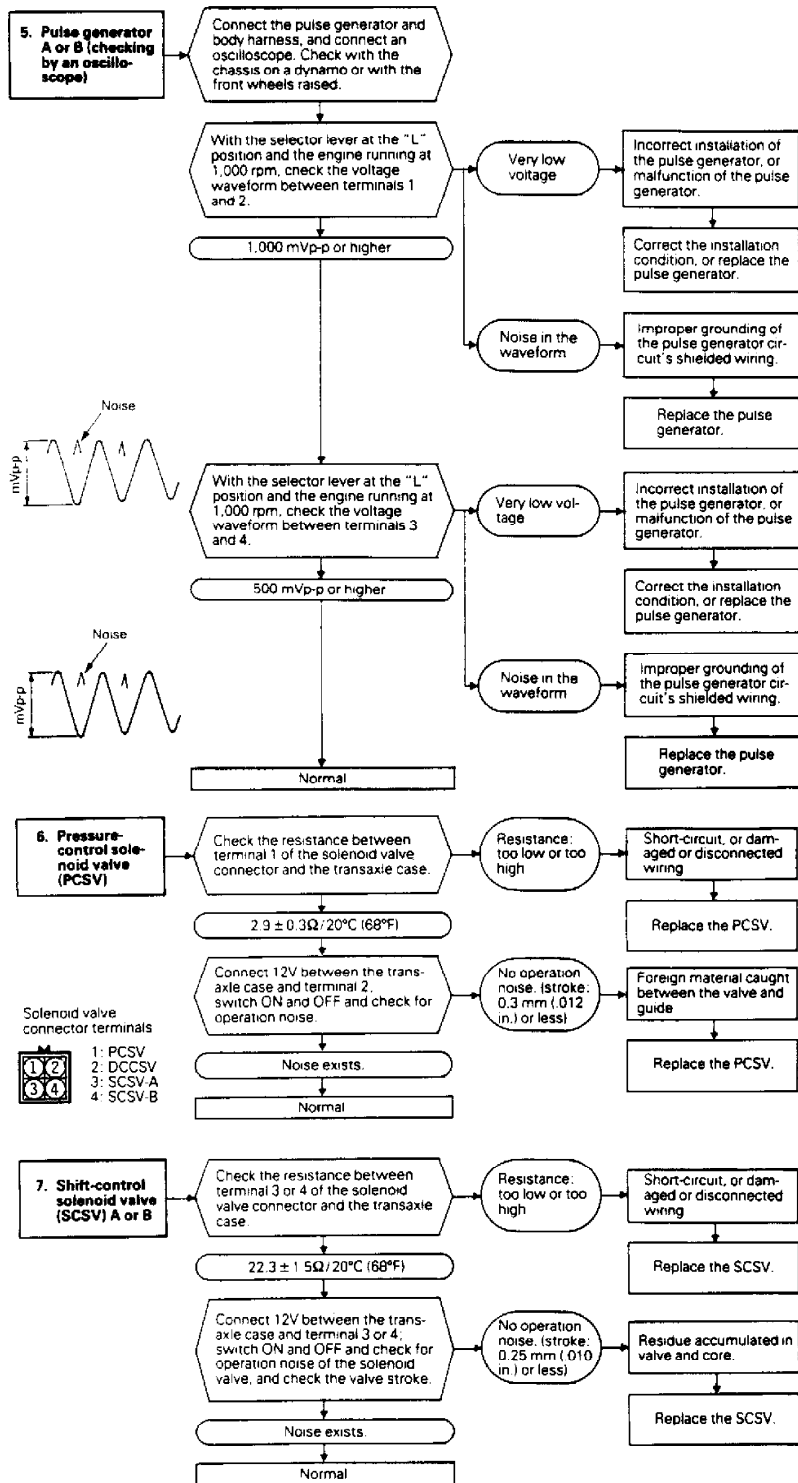
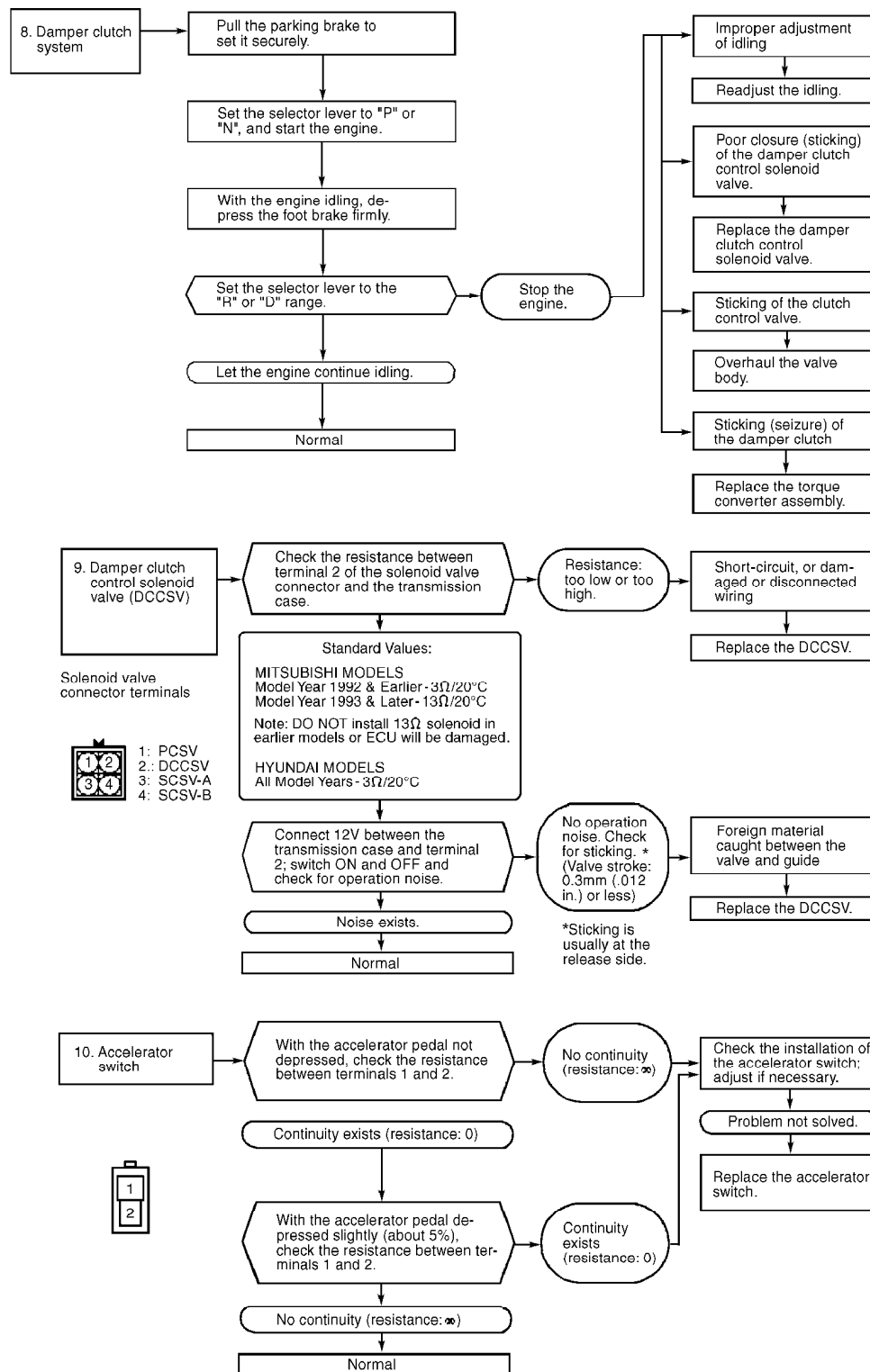


Fig. 10: Electronic Trouble Shooting (2 of 4)  
Courtesy of Mitsubishi Motor Sales of America.



92115089  
Fig. 11: Electronic Trouble Shooting (3 of 4)  
Courtesy of Mitsubishi Motor Sales of America.

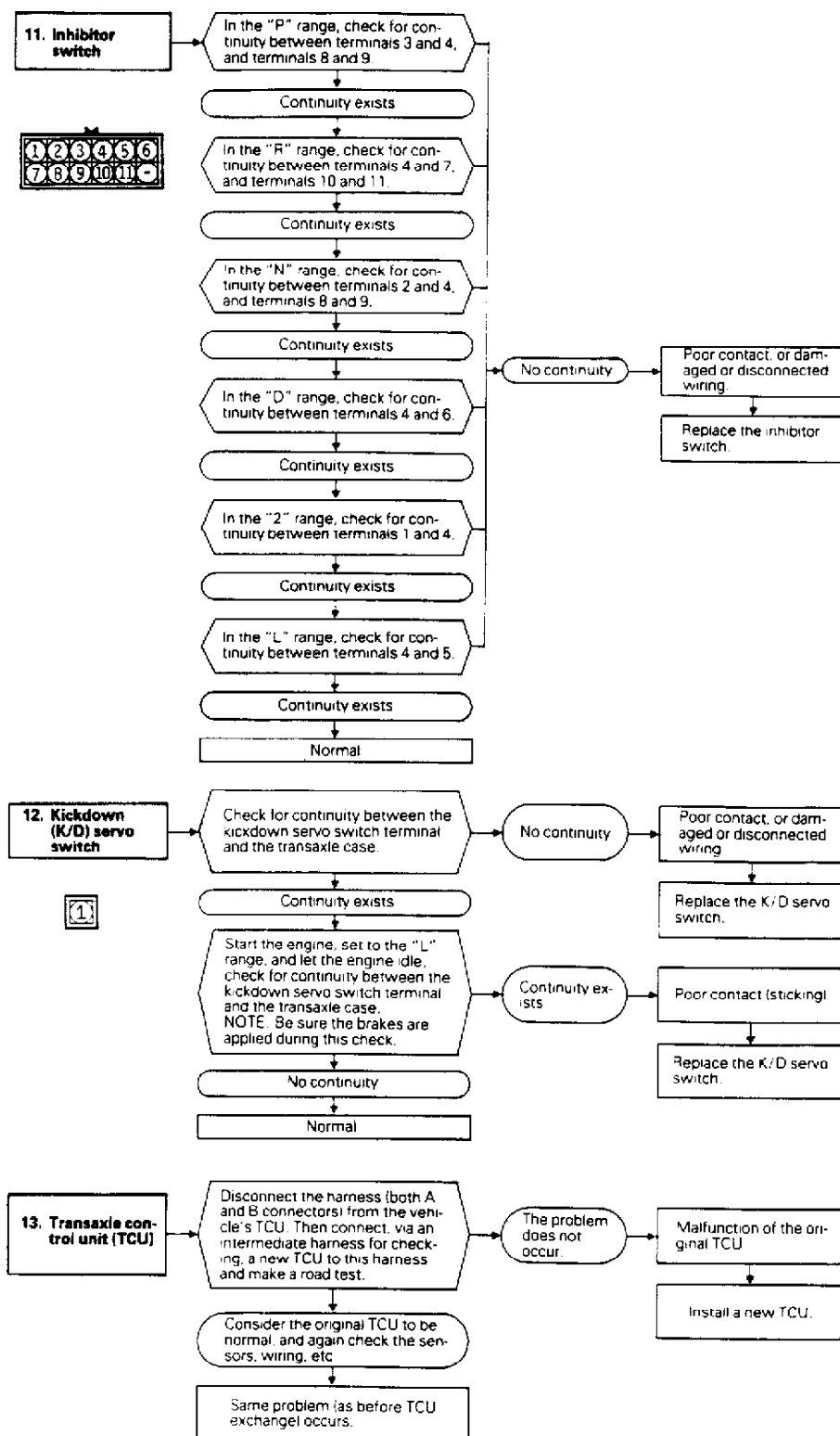


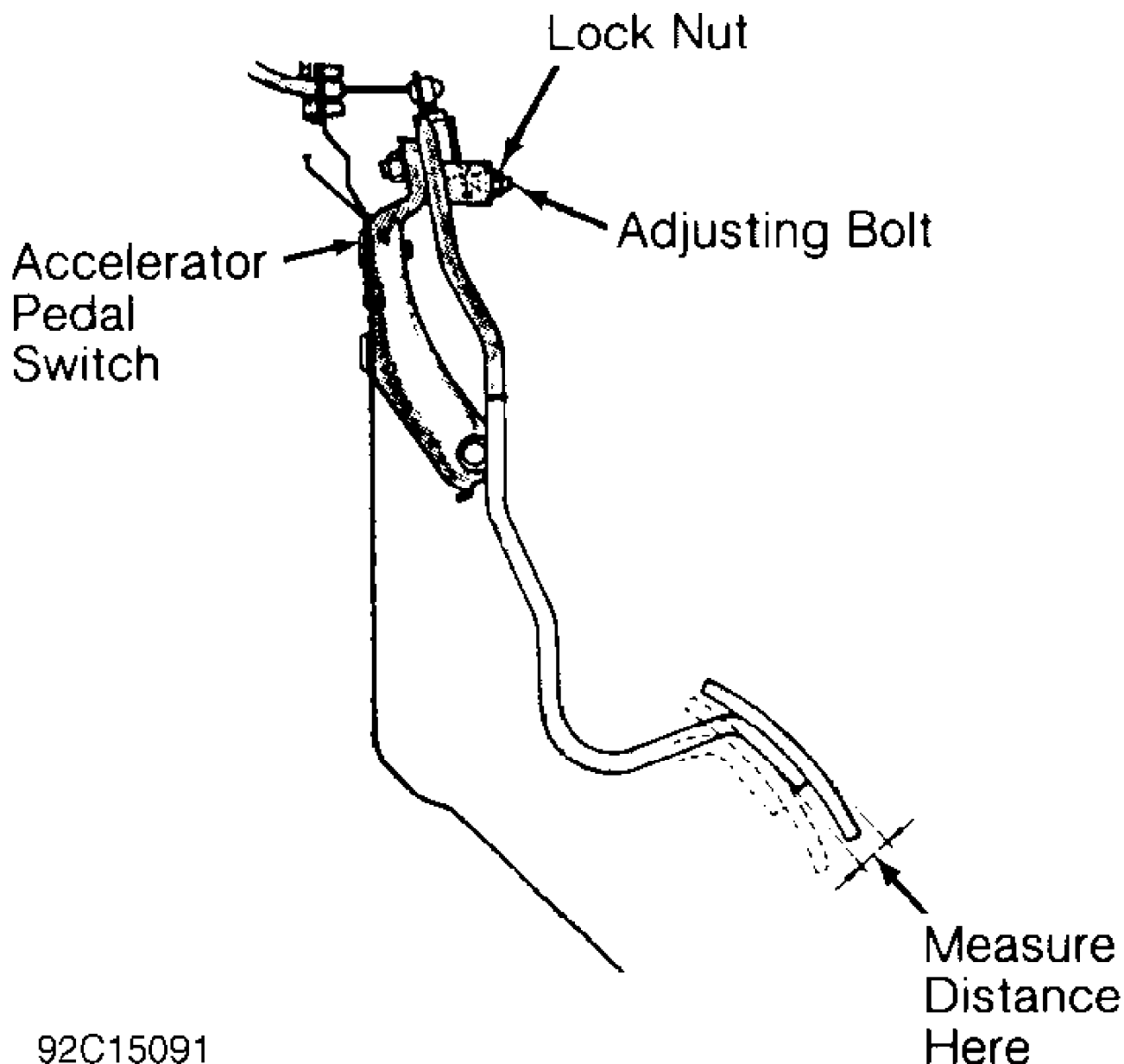
Fig. 12: Electronic Trouble Shooting (4 of 4)  
Courtesy of Mitsubishi Motor Sales of America.

## 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. 13. 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. 13.



92C15091

Fig. 13: Checking & Adjusting Accelerator Switch  
Courtesy of Mitsubishi Motor Sales of America.

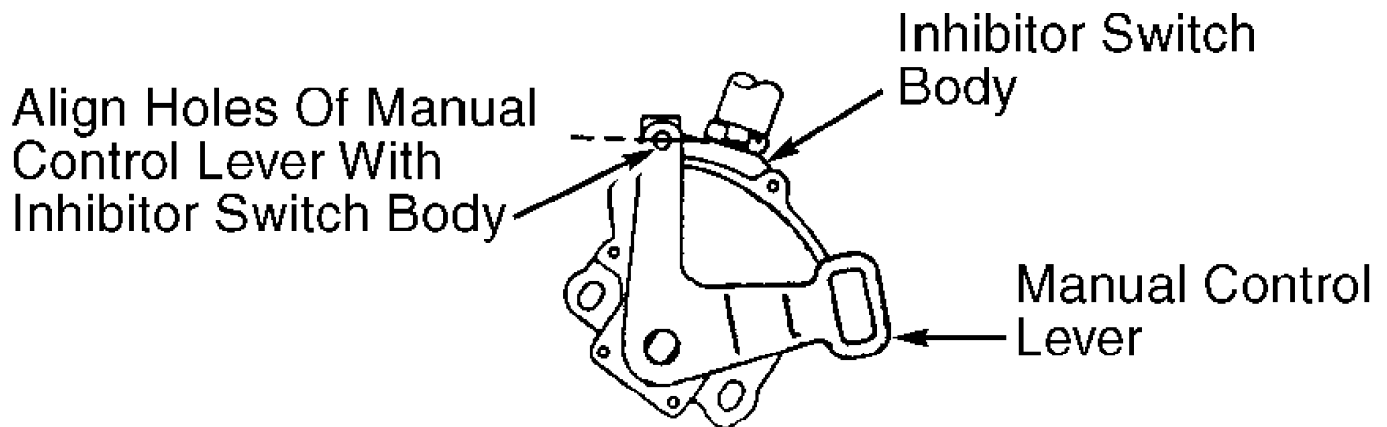
INHIBITOR SWITCH

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. 14. 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.



92D15092

Fig. 14: 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. 15.

2) Install a .025" (.64 mm) feeler gauge between adjusting screw and throttle lever. See Fig. 16. Loosen TPS retaining screws. Rotate TPS fully clockwise (toward bottom of throttle body).

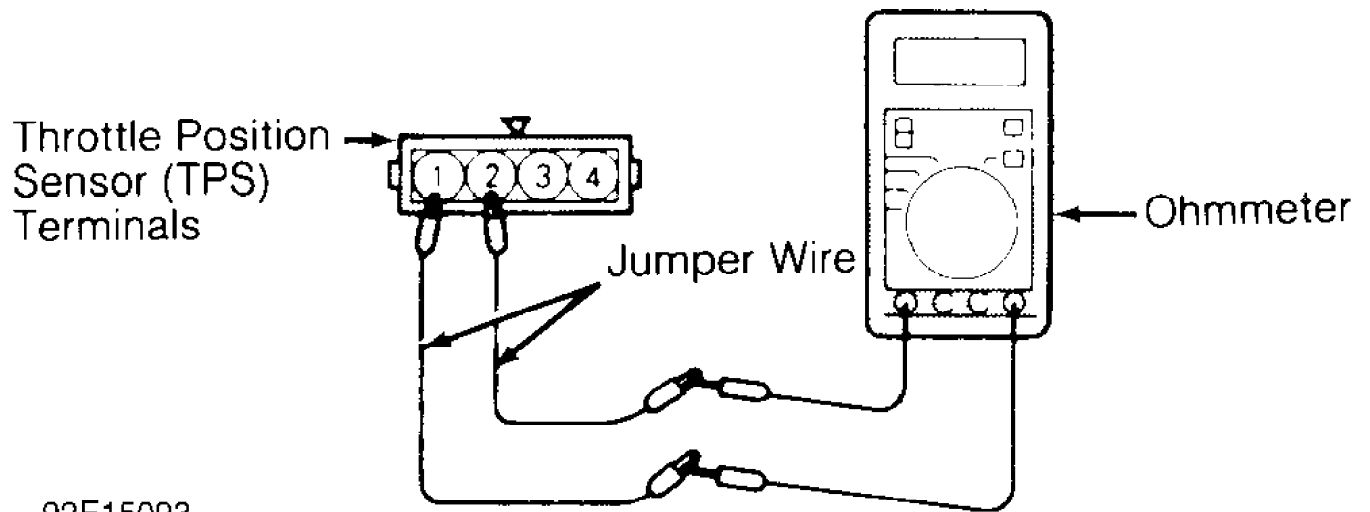
3) Check for continuity between terminals No. 1 (sensor ground) and No. 2 (idle switch). Slowly rotate TPS counterclockwise (toward top of throttle body) to the point where no continuity exists between terminals No. 1 (sensor ground) and No. 2 (idle switch).

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. 17. Connect digital voltmeter between terminals No. 1 (sensor ground) and No. 3 (sensor output). See Fig. 17.

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. 9 (step 3).

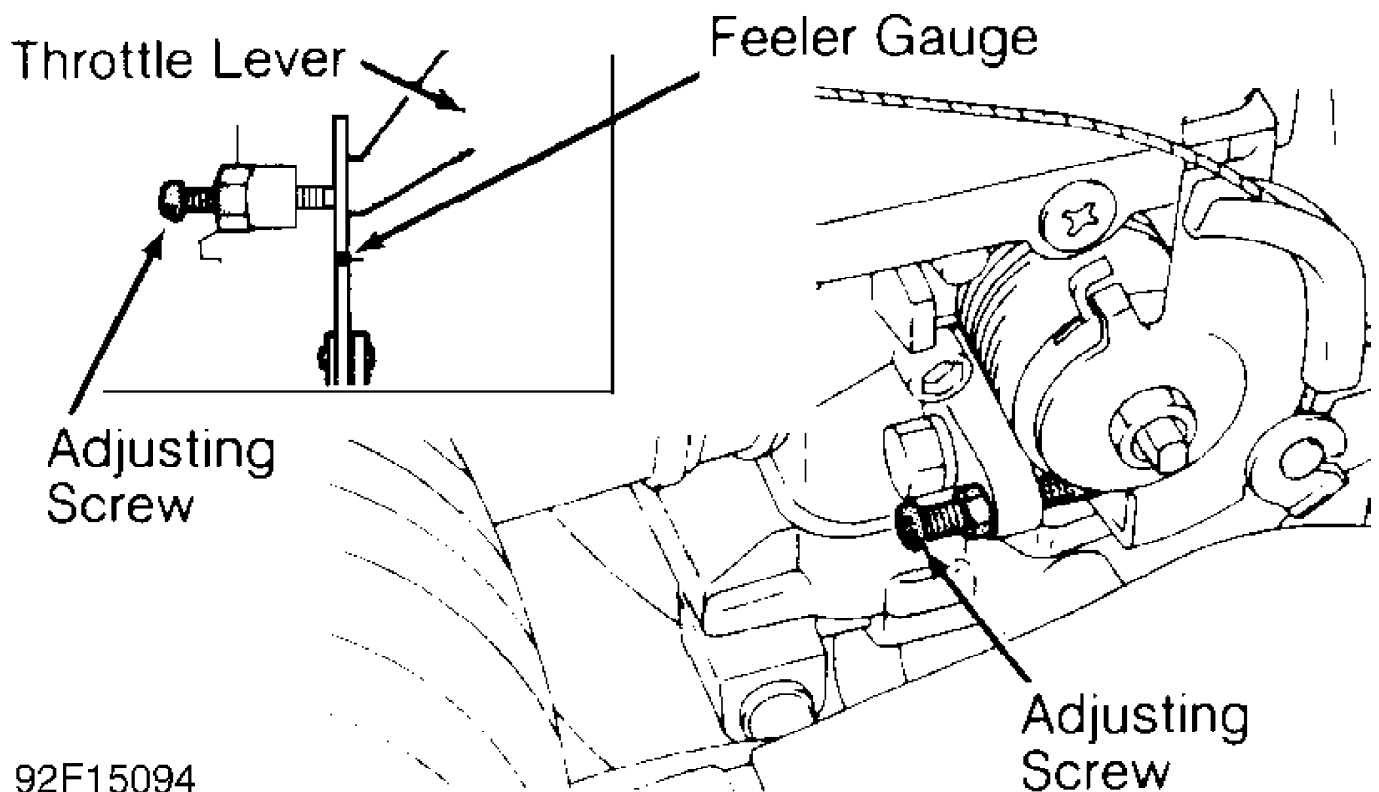
6) Turn ignition off. Remove harness set and feeler gauge. Reinstall TPS electrical connector.





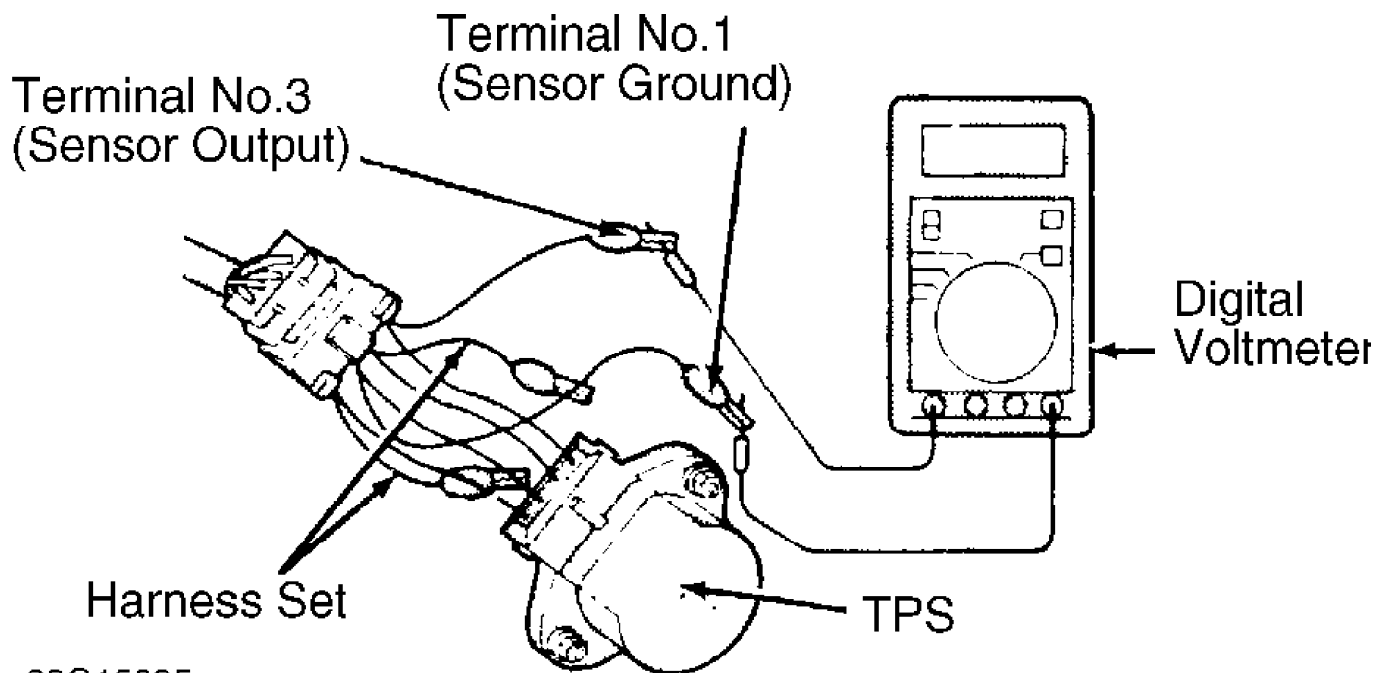
92E15093

Fig. 15: Connecting Ohmmeter to TPS (Colt Vista AWD, Expo AWD & Summit Wagon AWD)  
Courtesy of Mitsubishi Motor Sales of America.



92F15094

Fig. 16: Installing Feeler Gauge for Checking TPS  
Courtesy of Mitsubishi Motor Sales of America.



92G15095

Fig. 17: Connecting Digital Voltmeter & Harness Set at TPS  
Courtesy of Mitsubishi Motor Sales of America.

#### Eclipse

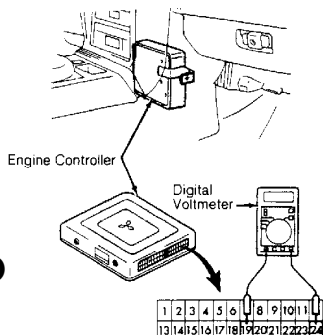
1) Ensure free play exists in throttle cable at the throttle body. Note location of engine controller, which is below instrument panel, near center console. See Fig. 18.

2) Connect digital voltmeter between terminals No. 19 (TPS sensor output) and No. 24 (ground) on engine controller. See Fig. 18.

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.



**AUTO**

**- F4A33, W4A32 & W4A33 Article Text (p. 18) 994 Mitsubishi 3000GT For 1:**

Fig. 18: 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. 19.

2) Install a .025" (.64 mm) feeler gauge between adjusting screw and throttle lever. See Fig. 16. Loosen TPS retaining screws. Rotate TPS fully counterclockwise (toward bottom of throttle body).

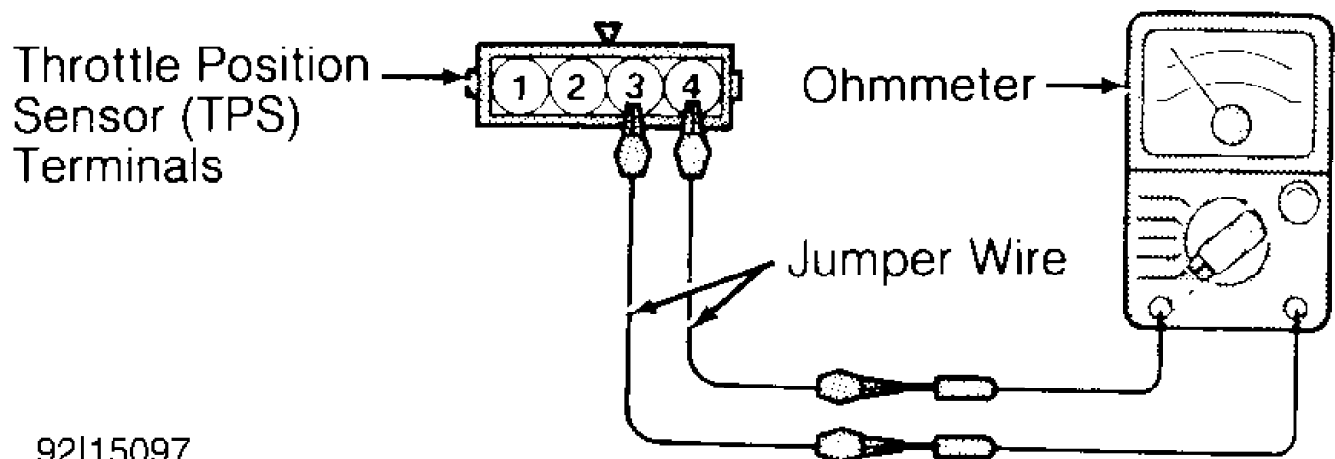
3) Check for continuity between terminals No. 3 (idle switch) and No. 4 (sensor ground). Slowly rotate TPS clockwise (toward top of throttle body) to the point where no continuity exists between terminals No. 3 (idle switch) and No. 4 (sensor ground).

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. 20.

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. 9 (step 3). Turn ignition off. Remove feeler gauge and digital voltmeter.



92115097

Fig. 19: Connecting Ohmmeter to TPS (Stealth & 3000 GT)  
Courtesy of Mitsubishi Motor Sales of America.

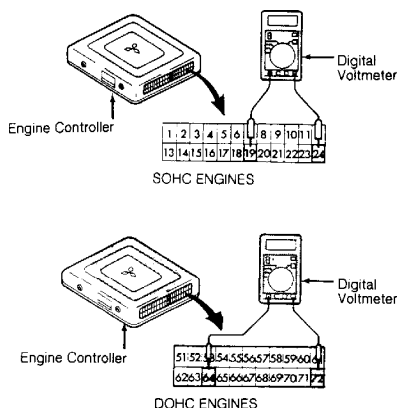


Fig. 20: Connecting DVOM at Engine Controller (Stealth & 3000 GT)  
Courtesy of Mitsubishi Motor Sales of America.

NOTE: Different components can be tested. See Figs. 9-12.  
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 Fig. 11	.... 10
Damper Clutch Control Solenoid Valve ..	See Fig. 11	.... 9
Damper Clutch System .....	See Fig. 11	.... 8
Inhibitor Switch .....	See Fig. 12	.... 11
Kickdown Servo Switch .....	See Fig. 12	.... 12
Oil Temperature Sensor .....	See Fig. 9	.... 2
Pressure Control Solenoid Valve .....	See Fig. 10	.... 6
Pulse Generator Resistances .....	See Fig. 9	.... 4
Pulse Generator (With Oscilloscope) ....	See Fig. 10	.... 5
Shift Control Solenoid Valves .....	See Fig. 10	.... 7
TCU .....	See Fig. 12	.... 13
Throttle Position Sensor .....	See Fig. 9	.... 3
Wiring .....	See Fig. 9	.... 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.

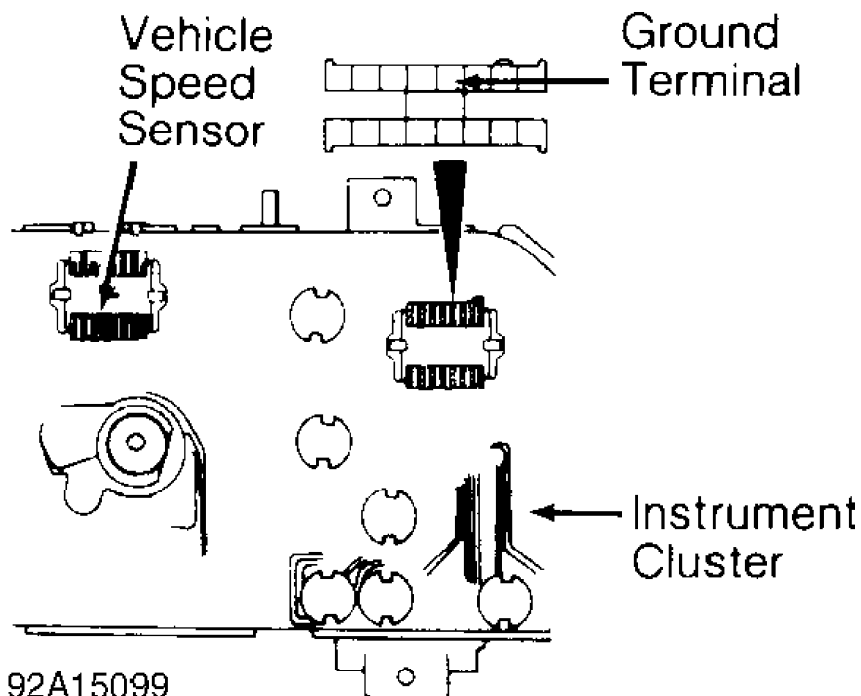


Fig. 21: Checking VSS (Colt Vista AWD, Expo AWD & Summit Wagon AWD)  
Courtesy of Mitsubishi Motor Sales of America.

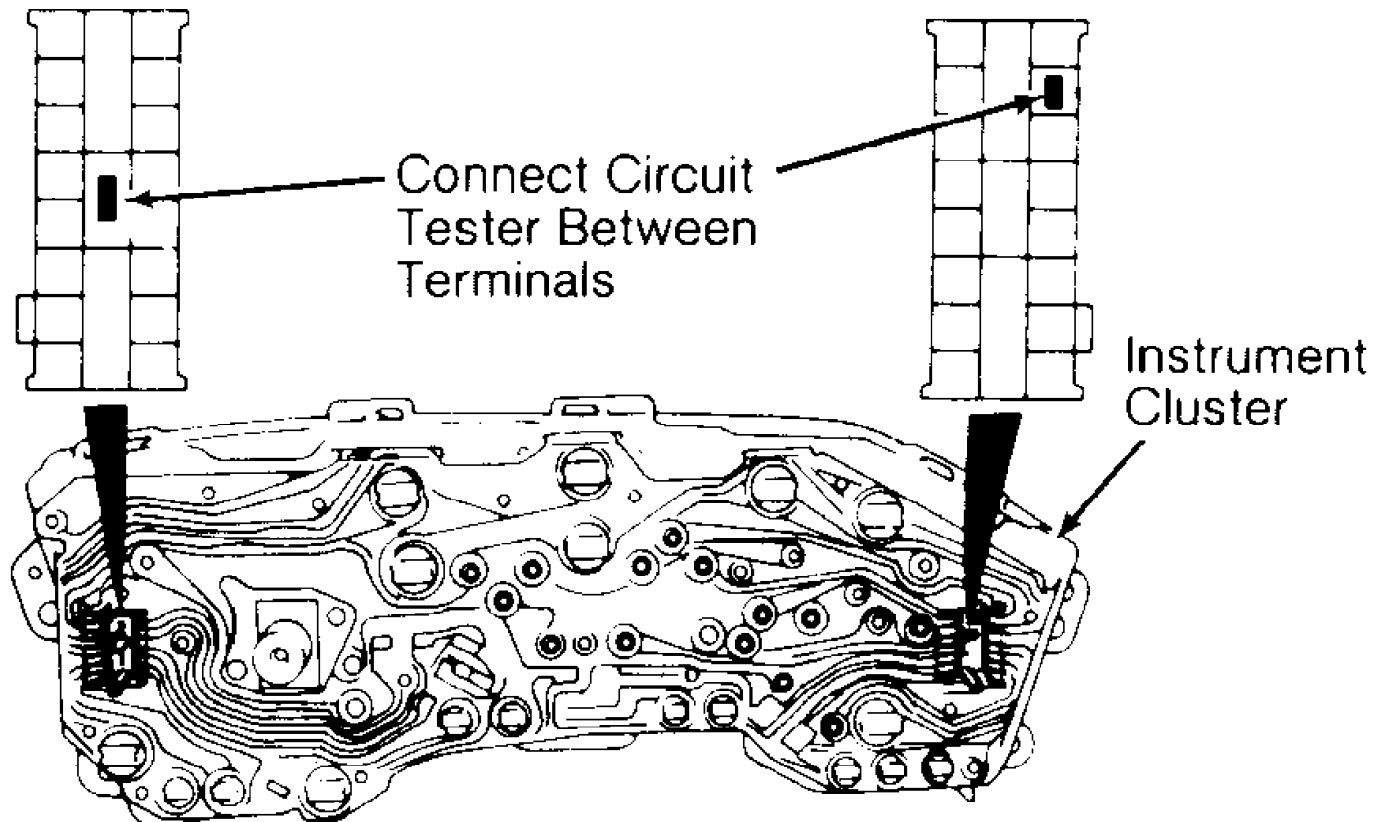
Diamante, Eclipse & Galant

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.



92D15100

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.

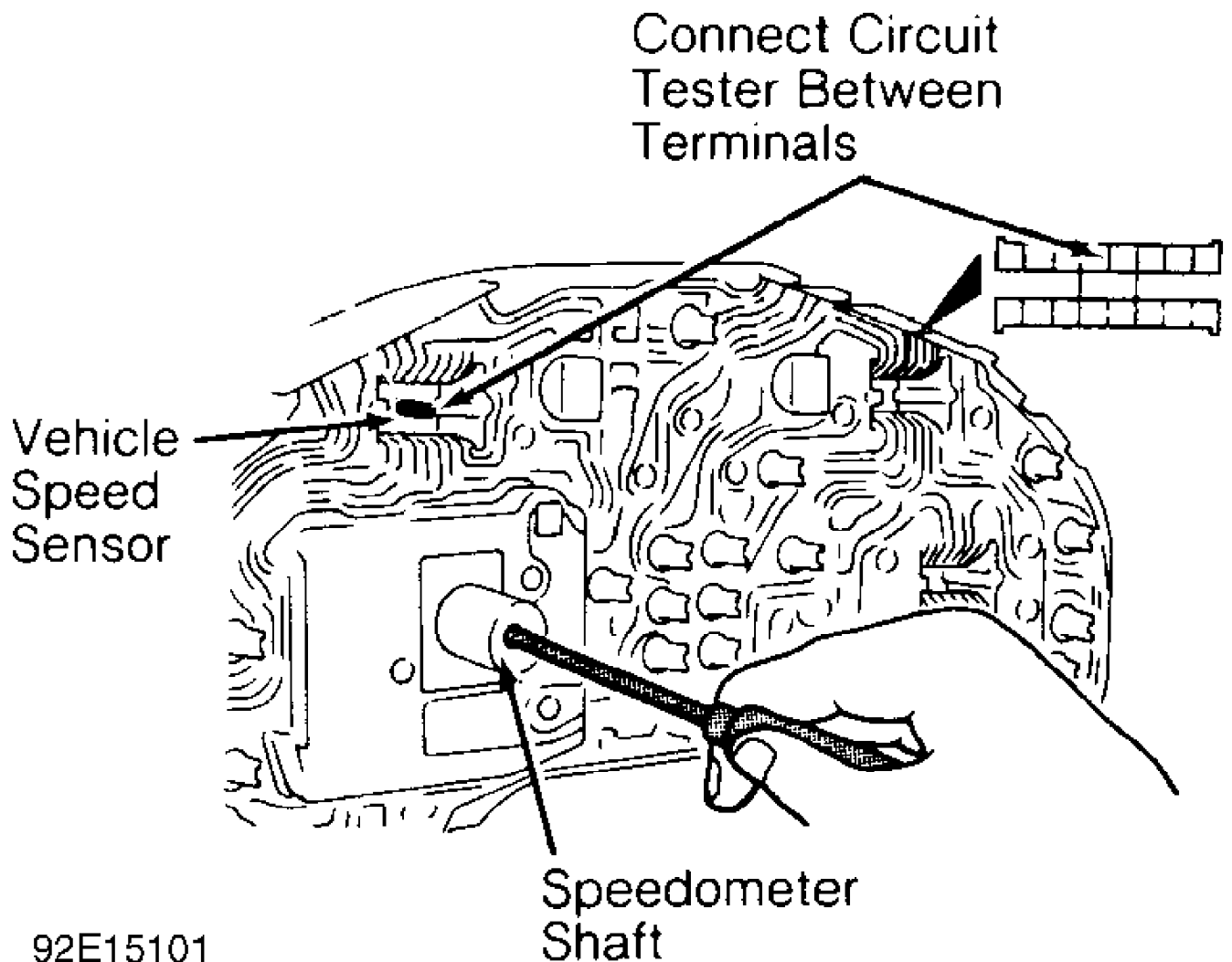


Fig. 23: VSS (Stealth & 3000 GT With Mechanical Speedometer)  
Courtesy of Mitsubishi Motor Sales of America.

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.

**AUTO TRANSDUCERS** A33, W4A32 & W4A32 Article Text (p. 23) 994 Mitsubishi 3000GTFor 1:

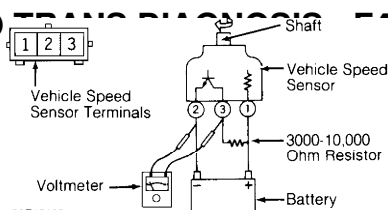


Fig. 24: VSS (Stealth & 3000 GT W/Electronic Speedometer)  
Courtesy of Mitsubishi Motor Sales of America.

## 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)



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, 2 or 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

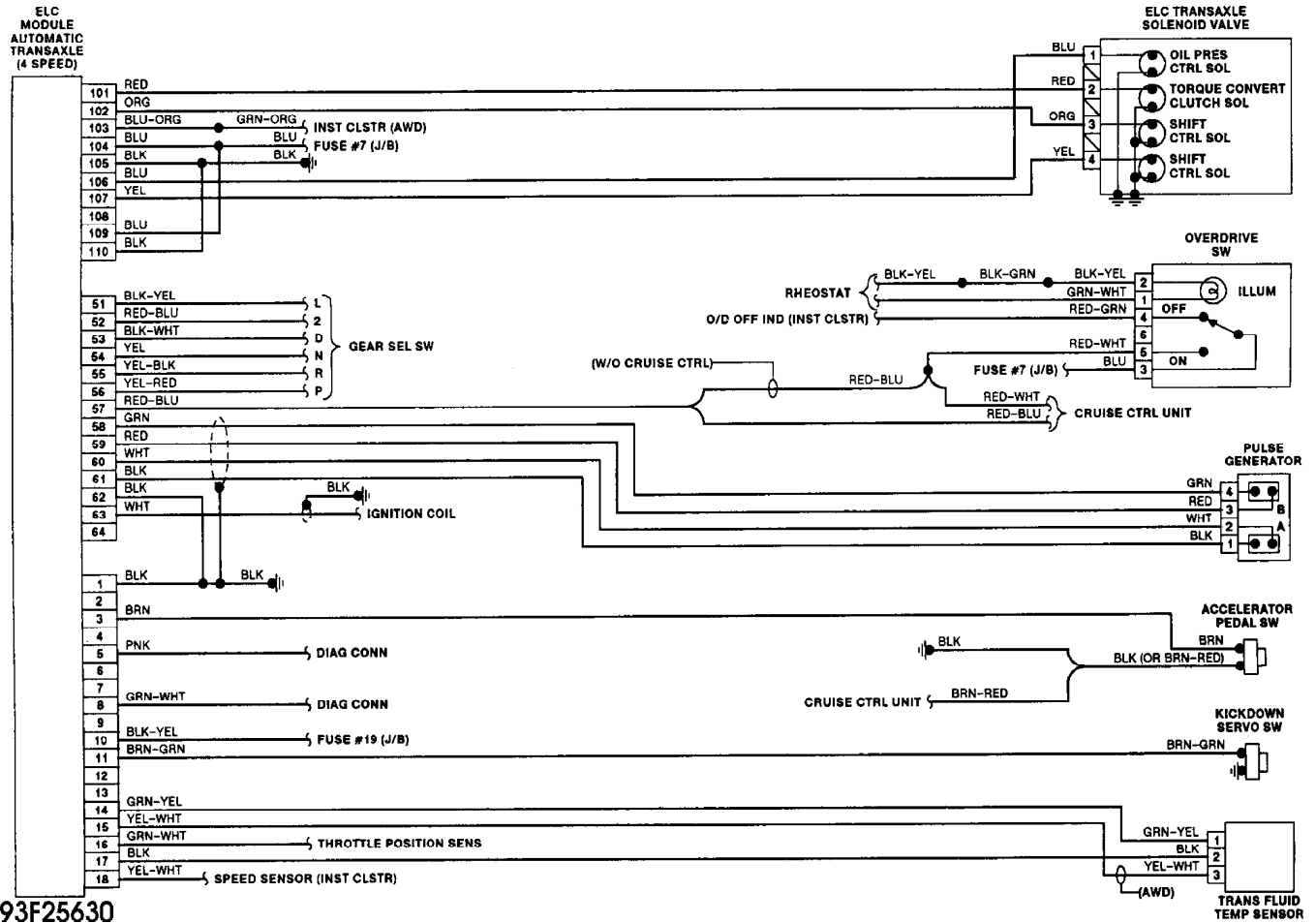
Vehicle speed sensor is located on rear of instrument cluster.

TORQUE SPECIFICATIONS

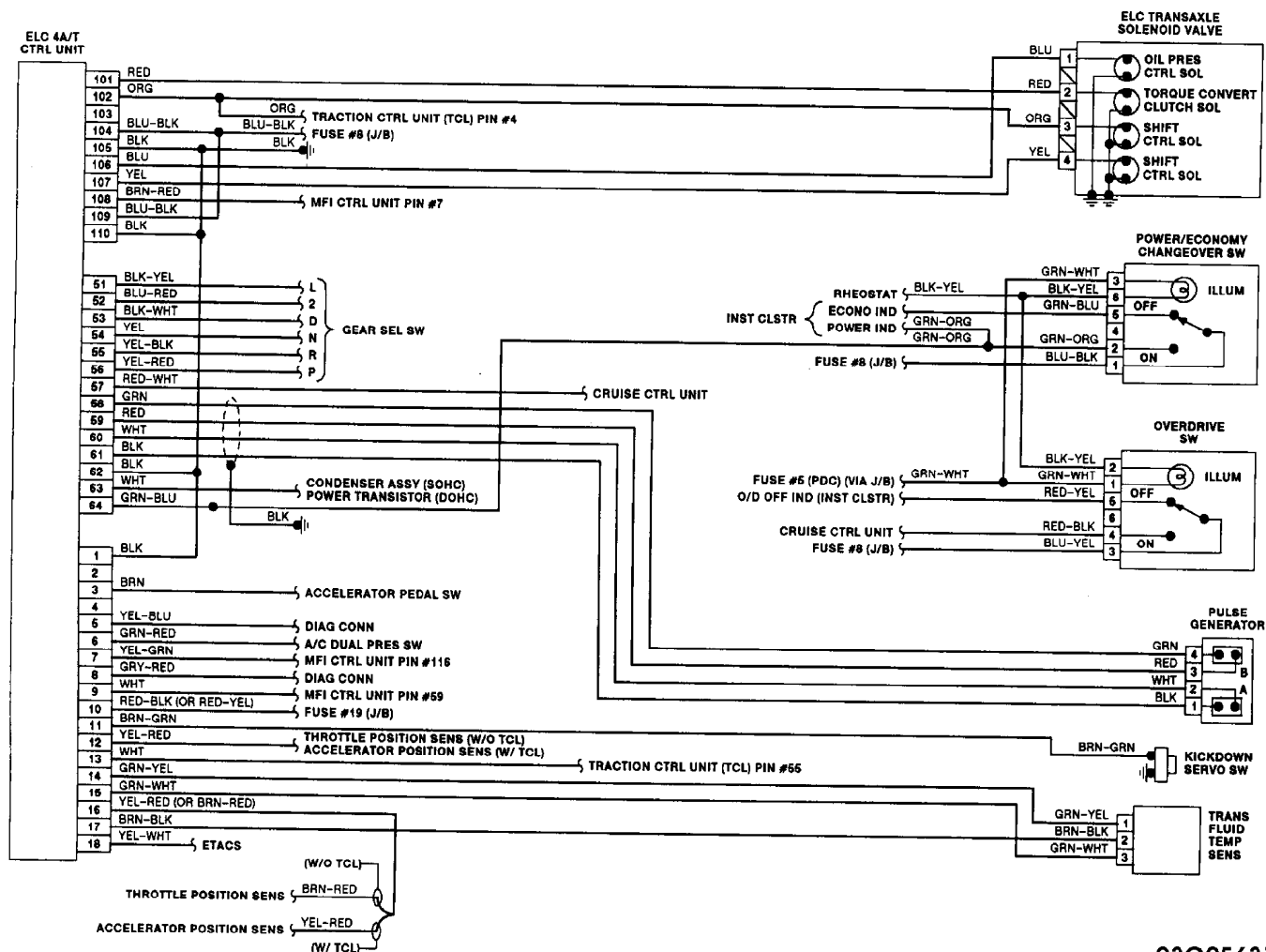
TORQUE SPECIFICATIONS

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



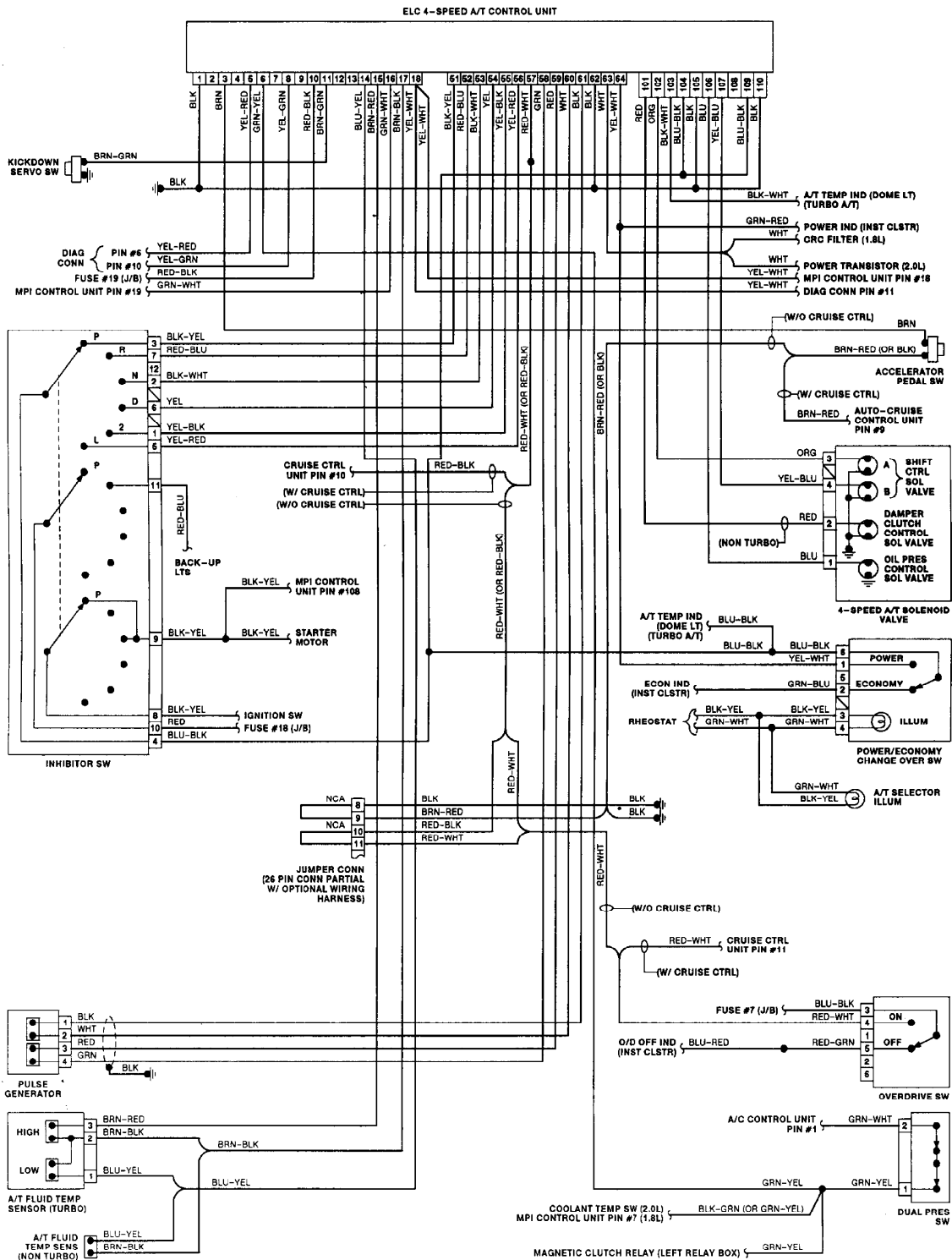
93F25630  
Fig. 25: Schematic (Colt Vista AWD, Expo AWD & Summit Wagon AWD)



93G25631

Fig. 26: Schematic (Diamante F4A33)

**AUTO TRANS DIAGNOSIS - F4A33, W4A32 & W4A33** Article Text (p. 27) 994 Mitsubishi 3000GT For 1:

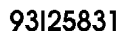


AUTO

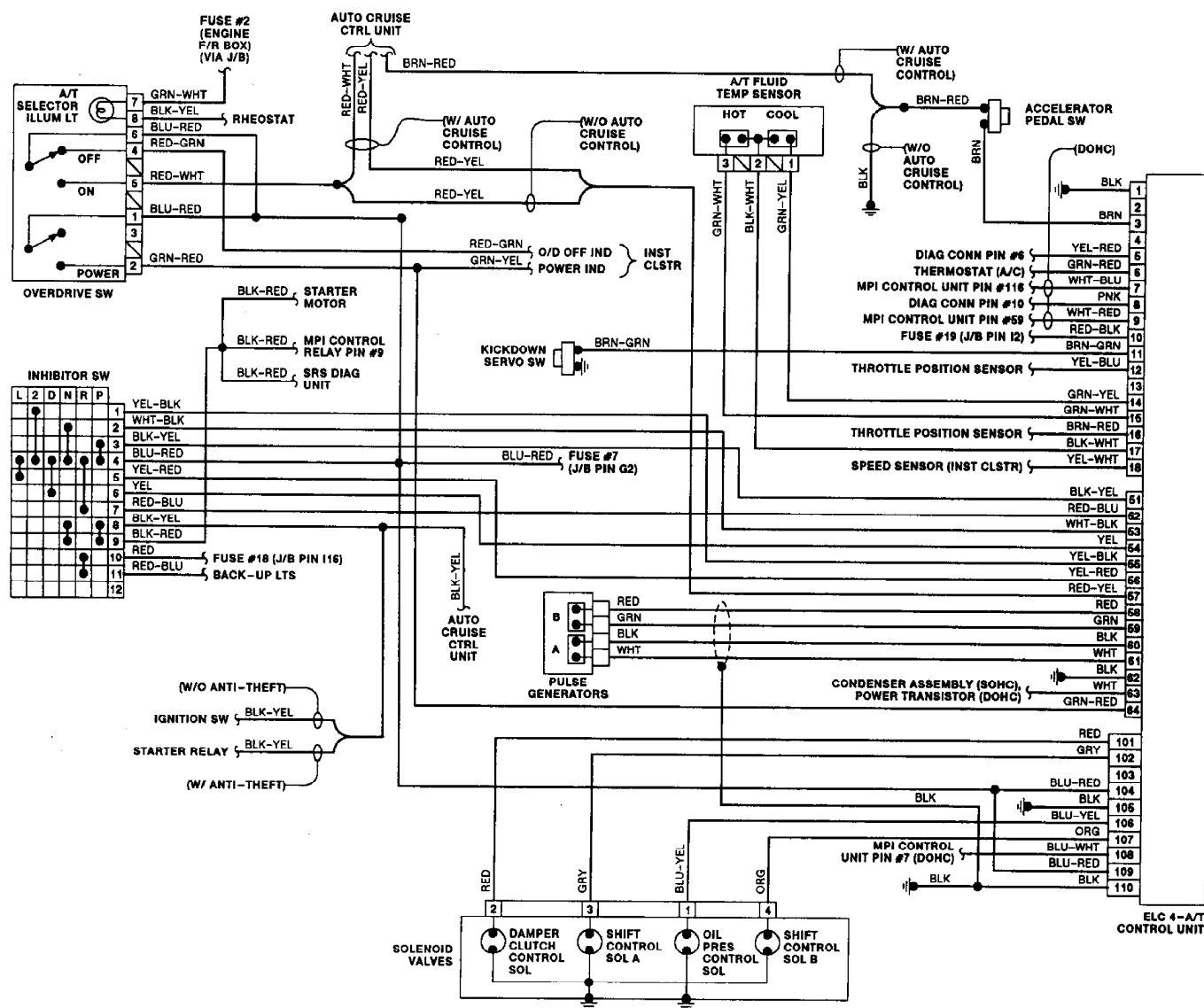
hi 3000GTFor 1:

Fig. 27: Schematic (Eclipse)

93H25830



**AUTO TRANS DIAGNOSIS - F4A33, W4A32 & W4A33**Article Text (p. 29) 994 Mitsubishi 3000GTFor 1:



## AUTO

Fig. 29: Schematic (Stealth & 3000 GT - 1991)

93H25632

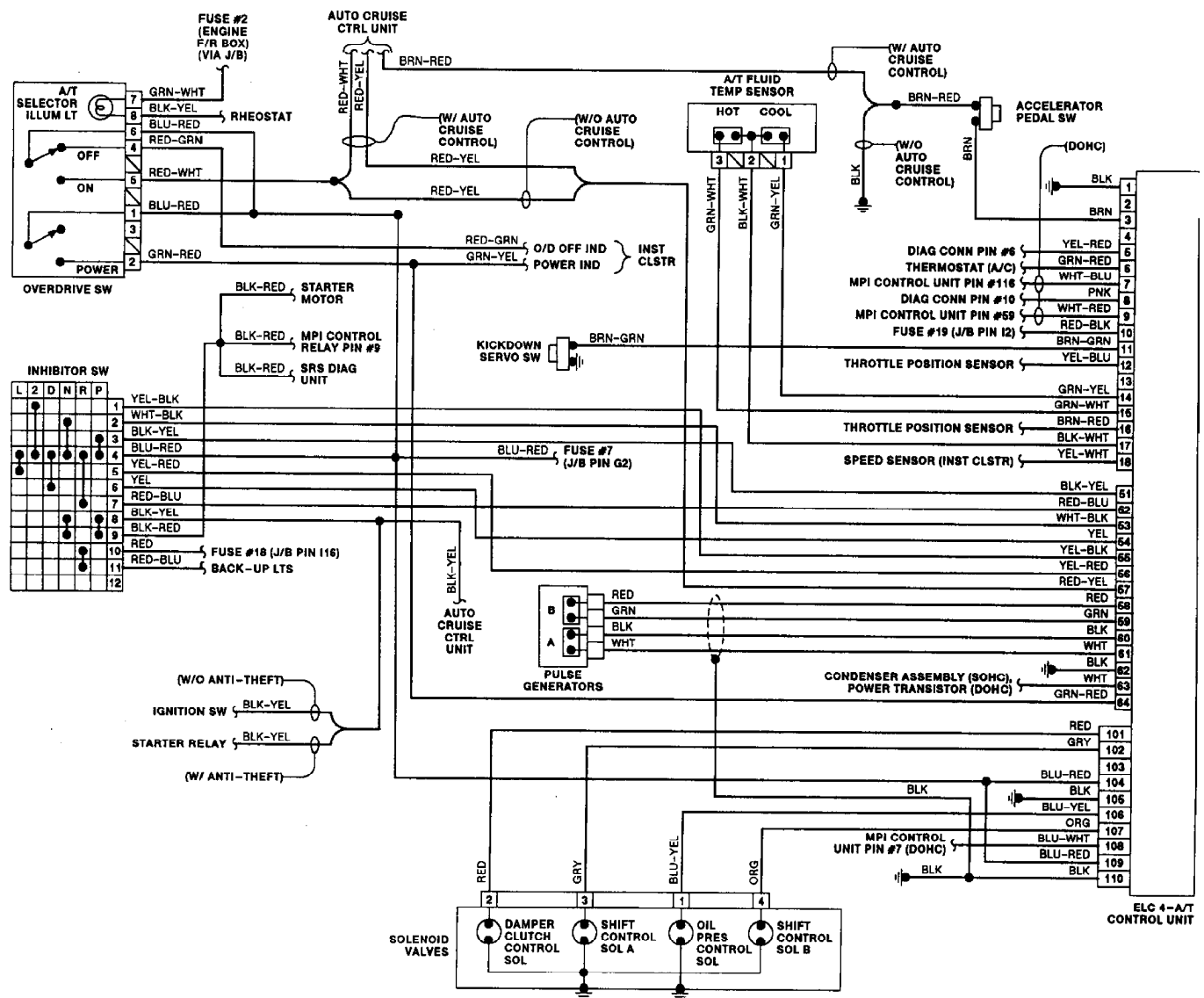


Fig. 30: Schematic (Stealth & 3000 GT - 1992-94)

**AUTO TRANS DIAGNOSIS - F4A33, W4A32 & W4A33** Article Text (p. 31) 994 Mitsubishi 3000GT For 1: END OF ARTICLE

93H25632