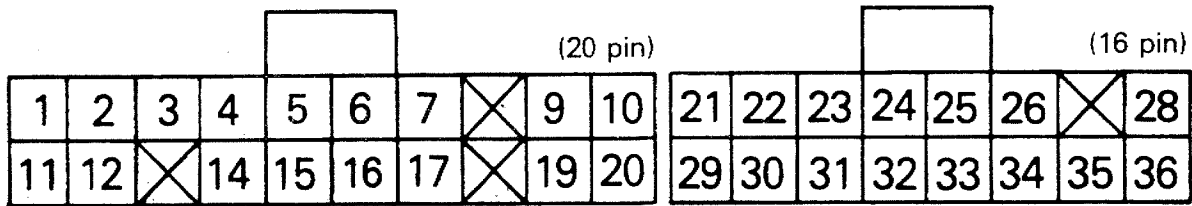


TRANSMISSION CONTROL MODULE (TCM) CONNECTOR PIN LAYOUT



Pin No.	Function
1.	2 range switch
2.	1 range switch
3.	Exhaust brake signal
4.	Idle switch
5.	Data link connector
6.	Overdrive switch
7.	Kick-down switch
8.	—
9.	Economy drive switch
10.	Throttle position sensor voltage (5V out)
11.	Throttle position sensor
12.	ATF Thermosensor
13.	—
14.	Idle switch voltage
15.	Throttle position sensor ground
16.	Vehicle speed sensor 1
17.	Full throttle switch
18.	—
19.	Nutral range switch

Pin No.	Function
20.	D range switch
21.	Overrun clutch solenoid
22.	Lock-up duty solenoid
23.	Economy drive indicator
24.	Vehicle speed sensor 2
25.	Engine speed sensor
26.	Reverse range switch
27.	—
28.	Battery back-up voltage
29.	Ignition voltage
30.	Ignition voltage
31.	Ground
32.	Ground
33.	Duty solenoid (Dropping register)
34.	Duty solenoid (Line pressure)
35.	Shift solenoid A
36.	Shift solenoid B

ATF: Automatic Transmission Fluid

Figure 8. TCM Connector Pin Layout

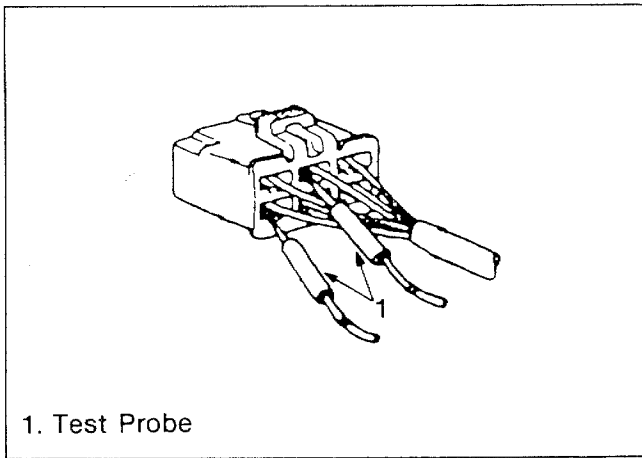


Figure 9. Connector Inspection

Connector Inspection

Use circuit tester to check the connector for continuity. Insert the test probes (1) from the connector wire side (figure 9).

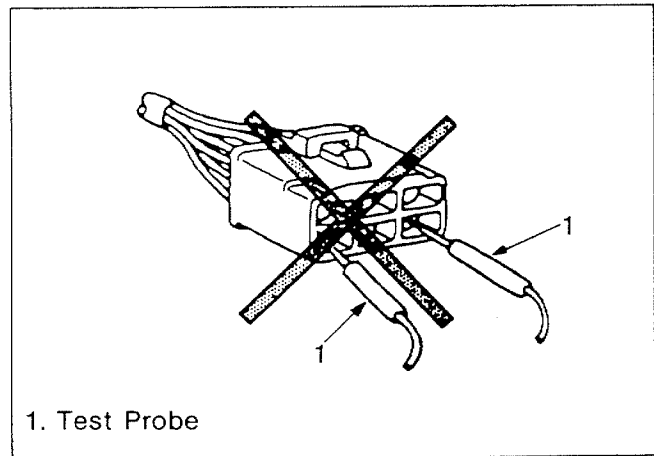


Figure 10. Connector Inspection

CAUTION: Never insert the circuit tester test probes (1) into the connector open side to test the continuity (figure 10). Broken or open connector terminals will result.

TCM Terminal No.		Standard Voltage	Inspection Procedure	Signal Type	Signal Name
Tester (-)	Tester (+)				
(31) or (32)	(29)	12-15	Key switch "ON"	Source	Battery voltage
	(30)	12-15	Key switch "ON"	Source	Battery voltage
	(28)	12-15		Source	Battery back-up
(15)	(10)	4.5-5.5		Source	Throttle position sensor
(31) or (32)	(26)	12-15	Selector "R" range	Input	"R" range switch
		Less than 1.0	Selector all ranges except "R"	Input	"R" range switch
	(19)	12-15	Selector "N" or "P" range	Input	"N" range switch
		Less than 1.0	Selector all ranges except "N" and "P"	Input	"N" range switch
	(20)	12-15	Selector "D" range	Input	"D" range switch
		Less than 1.0	Selector all ranges except "D"	Input	"D" range switch
	(1)	12-15	Selector "2" range	Input	"2" range switch
		Less than 1.0	Selector all ranges except "2"	Input	"2" range switch
	(2)	12-15	Selector "1" range	Input	"1" range switch
		Less than 1.0	Selector all ranges except "1"	Input	"1" range switch
	(3)	12-15	Exhaust brake switch "ON"	Input	Exhaust brake signal
		Less than 1.0	Exhaust brake switch "OFF"	Input	Exhaust brake signal
	(4)	8-15	Accelerator pedal released	Input	Idle switch
		Less than 1.0	Accelerator pedal depressed	Input	Idle switch
	(17)	8-15	Accelerator pedal more than 1/2 depressed	Input	Full throttle switch
		Less than 1.0	Accelerator pedal released	Input	Full throttle switch
	(6)	12-15	Overdrive switch "ON"	Input	Overdrive switch
		Less than 1.0	Overdrive switch "OFF"	Input	Overdrive switch
	(7)	3-8	Accelerator pedal released	Input	Kick-down switch
		Less than 1.0	Accelerator pedal fully depressed	Input	Kick-down switch

TCM: Transmission Control Module

7A1-34 AUTOMATIC TRANSMISSION

TCM Terminal No.		Standard Voltage	Inspection Procedure	Signal Type	Signal Name
Tester (-)	Tester (+)				
(31) or (32)	(9)	3-8	Economy drive switch in "NORMAL" position	Input	Economy drive switch
	(24)	Less than 1.0 Throttle full position	Economy drive switch in "ECONOMY" position	Input	Economy drive switch
		1-5 (Intermittent AC)	Vehicle moved at slowest possible speed at least one meter	Input	Vehicle speed sensor-2
	(5)	3-8	Self diagnosis OFF	Input	Data link connector
		Less than 1.0	Self diagnosis ON	Input	Data link connector
(15)	(11)	4.0-4.9 (Fully closed) 0.1-1.8 (Fully opened)	Measure the throttle position sensor voltage at two position	Input	Throttle position sensor
	(12)	1.8 (ATF temp. approx. 10°C/50°F) 1.1 (ATF temp. approx. 40°C/104°F)	Measure the throttle position sensor voltage at each specified temperature	Input	ATF thermosensor
	(16)	More than 1 (AC) (Vehicle speed 24 km/h 15 mph)	Measure the vehicle speed sensor- 1 voltage at vehicle stop and 24 km/h (15 mph)	Input	Vehicle speed sensor-1
		0 (Vehicle stopped)		Input	Vehicle speed sensor-1
	(25)	More than 1	Check at an engine speed of approximately 2,000 RPM	Input	Engine speed sensor
(31) or (32)	(23)	12-25	Economy drive switch in "NORMAL" position	Input	Economy drive indicator
		Less than 1.0	Economy drive switch in "ECONOMY" position	Input	Economy drive indicator
	(14)	8-15	Key switch "ON"	Output	Idle switch full throttle switch

AC: Alternating Current TCM: Transmission Control Module ATF: Automatic Transmission Fluid

AUTOMATIC TRANSMISSION 7A1-35

TCM Terminal No.		Standard Voltage	Inspection Procedure	Signal Type	Signal Name
Tester (-)	Tester (+)				
(31) or (32)	(35)	12-15	Driving at "D ₁ " and "D ₄ " (Solenoid "ON")	Output	Shift solenoid "A"
		Less than 1.0	Driving at "D ₂ " and "D ₃ " (Solenoid "OFF")	Output	Shift solenoid "A"
	(36)	12-25	Driving at "D ₁ " and "D ₂ " (Solenoid "ON")	Output	Shift solenoid "B"
		Less than 1.0	Driving at "D ₃ " and "D ₄ " (Solenoid "OFF")	Output	Shift solenoid "B"
	(21)	12-15	Overrun clutch solenoid "ON", ("D" range, at vehicle stop).	Output	Overrun clutch solenoid
		Less than 1.0	Overrun clutch solenoid "OFF", ("D" range, vehicle speed 40km/h / 25 mph)	Output	Overrun clutch solenoid
	(33)	5-14	Engine warmed up and stopped, throttle fully closed, key switch "ON"	Output	Dropping resistor
		Less than 0.5	Engine warmed up and stopped, throttle fully opened, key switch "ON"	Output	Dropping resistor
	(34)	1.5-2.5	Engine warmed up and stopped, throttle fully closed, key switch "ON"	Output	Line pressure solenoid
		Less than 0.5	Engine warmed up and stopped, throttle fully opened, key switch "ON"	Output	Line pressure solenoid
	(22)	8-15	Lock-up "ON"	Output	Lock-up solenoid
		Less than 1.0	Lock-up "OFF"	Output	Lock-up solenoid

TCM: Transmission Control Module