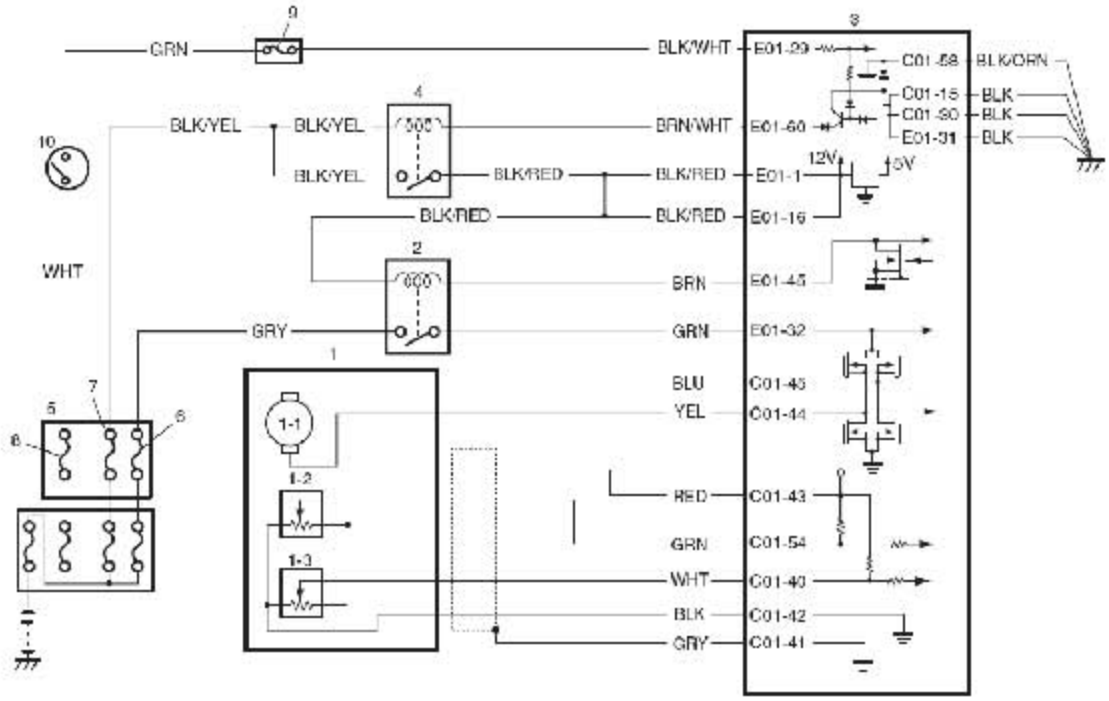
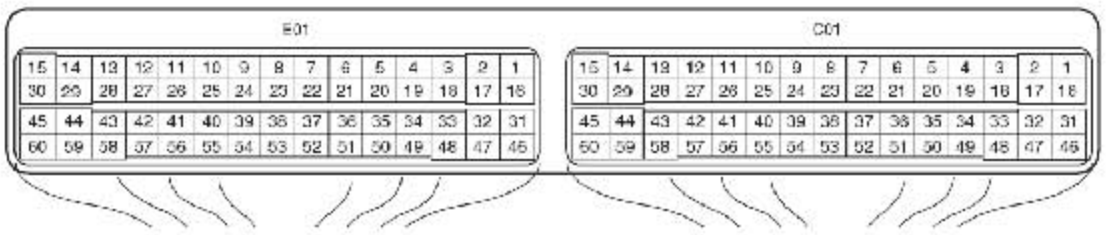
P0222: Throttle Position Sensor (Sub) Circuit Low

Wiring Diagram





1.	Electric throttle body assembly	3.	ECM	8.	"IGN" fuse
1-1.	Throttle actuator	4.	Main relay	9.	"IG COIL" fuse
1-2.	Throttle position sensor (main)	5.	Individual circuit fuse box No.1	10.	Ignition switch
1-3.	Throttle position sensor (sub)	6.	"THR MOT" fuse		
2.	Throttle actuator control relay	7.	"FI" fuse		

DTC Confirmation Procedure

1) With ignition switch turned OFF, connect scan tool.
2) Turn ON ignition switch and clear DTC using scan tool.
3) Keep the accelerator pedal at idle position for 2 seconds.
4) Keep the accelerator pedal at fully depressed position for 2 seconds.
5) Repeat Step 3) and 4) for 3 times.
6) Check DTC.

DTC Troubleshooting

Step	Action	Yes	No
1	Was "Engine and Emission Control System Check" performed?	Go to Step 2.	Go to "Engine and Emission Control System Check".
2	Throttle position sensor and its circuit check 1) Connect scan tool to DLC with ignition switch turned OFF. 2) Turn ON ignition switch, check "TP Sensor 2 Volt" displayed on scan tool when accelerator pedal is idle position and fully depressed. Is each TP sensor voltage within specified value in the table "Scan Tool Data"?	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Go to Step 3.
3	ECM voltage check 1) Disconnect connector from electric throttle body assembly with ignition switch turned OFF. 2) Check for proper connection to electric throttle body assembly at "RED", "WHT" and "BLK" wire terminals. 3) If OK, measure voltage between "RED" wire terminal of electric throttle body assembly connector and engine ground with ignition switch turned ON. Is voltage 4 – 6 V?	Go to Step 6.	Go to Step 4.

Step	Action	Yes	No
4	ECM voltage check 1) Turn OFF ignition switch. 2) Remove ECM from its bracket with ECM connectors connected. 3) Check for proper connection of ECM connector at "C01-43" terminal. 4) If OK, measure voltage between "C01-43" terminal of ECM connector and engine ground with ignition switch turned ON. Is voltage 4 – 6 V?	"RED" wire is open or high resistance circuit.	Go to Step 5.
5	Wire harness check 1) Disconnect connectors from ECM with ignition switch turned OFF. 2) Measure resistance between "C01-43" terminal of ECM connector and engine ground. Is resistance infinity?	Substitute a known-good ECM and recheck.	"RED" wire is shorted to ground circuit.
6	Wire harness check 1) Measure voltage between "WHT" wire terminal of electric throttle body assembly connector and engine ground with ignition switch turned ON. Is voltage 4 – 6 V?	Go to Step 9.	Go to Step 7.
7	Wire harness check 1) Disconnect connectors from ECM with ignition switch turned OFF. 2) Check for proper connection of ECM connector at "C01-40" and "C01-42" terminals. 3) If OK, measure resistance between "WHT" and "BLK" wire terminals of electric throttle body assembly connector. Is resistance infinity?	Go to Step 8.	"WHT" wire is shorted to "BLK" wire.

Step	Action	Yes	No
8	Wire harness check 1) Measure resistance between "WHT" wire terminal of electric throttle body assembly connector and engine ground with ignition switch turned OFF. Is resistance infinity?	Substitute a known-good ECM and recheck.	"WHT" wire is shorted to ground circuit.
9	Electric throttle body assembly check 1) Check throttle pedal position sensor referring to "Throttle Position Sensor Performance Check" under "Electric Throttle Body Assembly On-Vehicle Inspection in Section 1C". Is output voltage within specified value?	Substitute a known-good ECM and recheck.	Replace electric throttle body assembly.