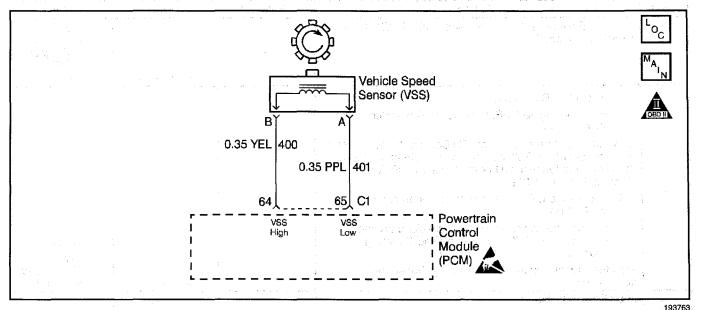
DTC P0502 Vehicle Speed Sensor Circuit Low Input (3.8L)



Circuit Description

The Vehicle Speed Sensor Assembly (VSS Assy.) provides vehicle speed information to the Powertrain Control Module (PCM). The VSS Assy. is a Permanent Magnet (PM) generator. The PM generator produces a pulsing AC voltage as rotor teeth on the transmission output shaft pass through the sensor's magnetic field. The AC voltage level and the number of pulses increase as the speed of the vehicle increases. The output voltage varies from a minimum of 0.5 volts AC at 100 RPM to more than 100 volts at 8000 RPM. The PCM converts the pulsing voltage to vehicle speed. The PCM uses the vehicle speed signal to determine shift timing and Torque Converter Clutch (TCC) scheduling.

If the PCM detects a low vehicle speed when there is a high engine speed in a drive gear range, then DTC P0502 sets. DTC P0502 is a type B DTC.

Conditions for Setting the DTC

DTC P0502 sets if the following conditions occur two consecutive times:

- No MAP Sensor DTCs P0107 or P0108
- No TP Sensor DTCs P0122 or P0123
- No TFP Val. Position Sw. DTC P1810
- The transmission is not in Park or Neutral
- The TP angle is greater than 12%.

- The engine vacuum is 0-105 kPa.
- The engine speed is greater than 3000 RPM.
- The engine torque is 40-400 lb ft.
- The transmission output speed is less than 150 RPM.
- All conditions met for 2.5 seconds.

Action Taken When the DTC Sets

- The PCM illuminates the Malfunction Indicator Lamp (MIL).
- The PCM commands second gear only.
- The PCM commands maximum line pressure.
- The PCM inhibits TCC engagement.
- The PCM freezes shift adapts from being updated.
- DTC P0502 stores in PCM history.

Conditions for Clearing the MIL/DTC

- The PCM turns OFF the MIL after three consecutive trips without a failure reported.
- A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.
- The PCM cancels the DTC default actions when the fault no longer exists and the ignition is OFF long enough in order to power down the PCM.

Diagnostic Aids

- Inspect the wiring at the PCM, the Vehicle Speed Sensor (VSS) connector and all other circuit connecting points for the following conditions:
 - A bent terminal
 - A backed out terminal
 - A damaged terminal
 - Poor terminal tension
 - A chafed wire
 - A broken wire inside the insulation
 - Moisture Intrusion
 - Corrosion

- When diagnosing for an intermittent short or open condition, massage the wiring harness while watching the test equipment for a change.
- Test circuits 400 and 401 for Electromagnetic Interferences (EMI) induced by a wiring harness incorrectly routed too near the spark plug wires.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 3. This step tests the VSS Assembly circuit.
- 5. This step tests the integrity of the VSS Assembly.

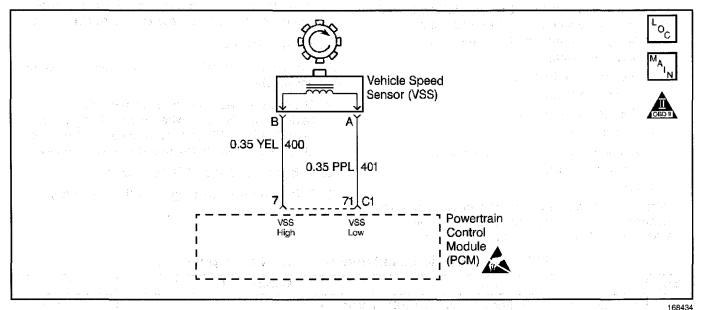
DTC P0502 Vehicle Speed Sensor Circuit Low Input (3.8L)

Step	Action	Value(s)	Yes	No
5 % - 2 % -	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?	of the second se	Go to Step 2	Go to A Powertrain On Board Diagnostic (OBD) System Check
2	 Install the Scan Tool. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTC(s), use the scan tool in order to record the Freeze Frame and Failure Records for reference. Using the Clear Info function will erase the stored Freeze Frame and Failure Records from the PCM. Record the DTC Freeze Frame and Failure Records, then clear the DTC(s). Raise and support the drive axle assembly. Start the engine. Place the transmission in any drive range. With the drive wheels rotating, does the Transmission OSS increase with the drive wheel speed? 		Go to Diagnostic Aids	Go to Step 3
3	 Turn the ignition OFF. Disconnect the C1 (blue) PCM connector. Using J 39200 Digital Multimeter (DMM) and J 35616-A Connector Test Adapter Kit, measure the resistance between harness connector terminals C1-64 and C1-65. Is the resistance within the specified range? 	1470–2820 Ω	Go to Step 4	Go to Step 6
4	Measure the resistance from terminal C1-64 to ground. Is the resistance greater than the specified value?	50 K Ω	Go to Step 5	Go to Step 7
5	 Place the transmission in Neutral. Select AC volts. Hold one rear wheel from turning. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? 	0.5 volts	Go to Step 11	Go to Step 9
6	Disconnect the engine wiring harness from the VSS Assy. Measure the resistance of the VSS Assy. Is the resistance within the specified range?	1470–2820 Ω	Go to Step 8	Go to Step 10

DTC P0502 Vehicle Speed Sensor Circuit Low Input (3.8L) (cont'd)

Step	Action	Value(s)	Yes	No
7	Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Repair the circuits if necessary. Refer to General Electrical Diagnosis Procedures. Did you find a short to ground condition?		Go to Step 12	Go to Diagnostic Aids
8 (11.11.4)	Inspect circuits 400 (YEL) and 401 (PPL) for an open. Refer to General Electrical Diagnosis Procedures. Repair the circuits if necessary. Refer to Wiring Repairs. Did you find an open condition?		Go to Step 12	Go to Diagnostic Aids
9	Remove the VSS Assy. Inspect the output shaft speed sensor rotor for damage or misalignment. Did you find a damaged condition?	e jih vijase kil <u>1-</u> 1 jih I Na a vijak	Go to Step 12	Go to Step 10
10	Replace the VSS Assy. Refer to Vehicle Speed Sensor Replacement. Is the replacement complete?	_	Go to Step 12	-
11	Replace the PCM. Refer to PCM Replacement/Programming. Is the replacement complete?	1	Go to Step 12	
12	In order to verify your repair, perform the following procedure: 1. Select DTC. 2. Select Clear Info. 3. Operate the vehicle, so that the transmission output speed is greater than 250 RPM for 2 seconds. 4. Select Specific DTC. Enter DTC P0502. Has the test run and passed?		System OK	Go to Step 1

DTC P0502 Vehicle Speed Sensor Circuit Low Input (5.7L)



100404

Circuit Description

The Vehicle Speed Sensor Assembly (VSS Assy.) provides vehicle speed information to the Powertrain Control Module (PCM). The VSS Assy. is a Permanent Magnet (PM) generator. The PM generator produces a pulsing AC voltage as rotor teeth on the transmission output shaft pass through the sensor's magnetic field. The AC voltage level and the number of pulses increase as the speed of the vehicle increases. The output voltage varies from a minimum of 0.5 volts AC at 100 RPM to more than 100 volts at 8000 RPM. The PCM converts the pulsing voltage to vehicle speed. The PCM uses the vehicle speed signal to determine shift timing and Torque Converter Clutch (TCC) scheduling.

If the PCM detects a low vehicle speed when there is a high engine speed in a drive gear range, then DTC P0502 sets. DTC P0502 is a type B DTC.

Conditions for Setting the DTC

DTC P0502 sets if the following conditions occur two consecutive times:

- No MAP Sensor DTCs P0107 or P0108.
- No TP Sensor DTCs P0122 or P0123.
- No TFP Val. Position Sw. DTC P1810.
- The transmission is not in Park or Neutral.
- The TP angle is greater than 15%.
- The engine vacuum is 0-105 kPa.

- The engine speed is greater than 3000 RPM.
- The engine torque is 30-400 lb ft.
- The transmission output speed is less than 150 RPM.
- · All conditions met for 2.5 seconds.

Action Taken When the DTC Sets

- The PCM illuminates the Malfunction Indicator Lamp (MIL).
- The PCM commands second gear only, below 2500 RPM.
- The PCM commands maximum line pressure.
- The PCM inhibits TCC engagement.
- The PCM freezes shift adapts from being updated.
- DTC P0502 stores in PCM history.

Conditions for Clearing the MIL/DTC

- The PCM turns OFF the MIL after three consecutive trips without a failure reported.
- A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.
- The PCM cancels the DTC default actions when the fault no longer exists and the ignition is OFF long enough in order to power down the PCM.

Diagnostic Aids

- Inspect the wiring at the PCM, the Vehicle Speed Sensor (VSS) connector and all other circuit connecting points for the following conditions:
 - A bent terminal
 - A backed out terminal
 - A damaged terminal
 - Poor terminal tension
 - A chafed wire
 - A broken wire inside the insulation
 - Moisture intrusion
 - Corrosion
- When diagnosing for an intermittent short or open condition, massage the wiring harness while watching the test equipment for a change.

 Test circuits 400 and 401 for Electromagnetic Interferences (EMI) induced by a wiring harness incorrectly routed too near the spark plug wires.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 2. Disable the traction control system when performing this step. When the ignition key is cycled to the OFF position and then cycled back ON, the traction control system defaults to ON.
- 3. This step tests the VSS Assy. circuit.
- 5. This step tests the integrity of the VSS Assy.

DTC P0502 Vehicle Speed Sensor Circuit Low Input (5.7L)

Step	Action	Value(s)	Yes	No
1	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?		Go to Step 2	Go to A Powertrain On Board Diagnostic (OBD) System Check
2	 Install the Scan Tool. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTCs, use the scan tool in order to record the Freeze Frame and Failure Records for reference. Using the Clear Info function will erase the stored Freeze Frame and Failure Records from the PCM. Record the DTC Freeze Frame and Failure Records, then clear the DTC(s). Raise and support the drive axle assembly. Start the engine. Disable the traction control system. Place the transmission in any drive range. With the drive wheels rotating, does the Transmission OSS increase with the drive wheel speed? 			
3	 Turn the ignition OFF. Disconnect the C1 (red) PCM connector. Using the J 39200 Digital Multimeter (DMM) and the J 35616-A Connector Test Adapter Kit, measure the resistance between harness connector terminals C1-7 and C1-71. Is the resistance within the specified range? 	1470–2820 Ω	Diagnostic Aids Go to Step 4	Go to Step 3 Go to Step 6
4	Measure the resistance from terminal C1-7 to ground. Is the resistance greater than the specified value?	50 K Ω	Go to Step 5	Go to Step 7
5	 Place the transmission in Neutral. Select AC volts. Prevent one rear wheel from turning. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? 	0.5 volts	Go to Step 11	Go to Step 9

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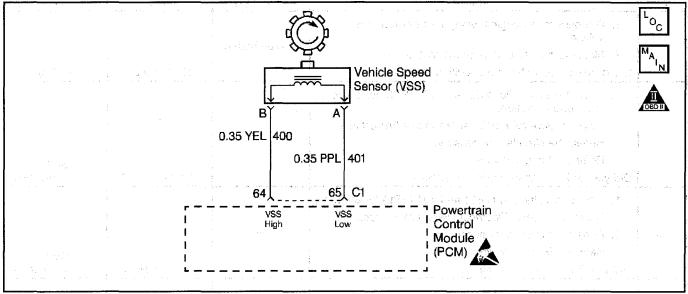
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DTC P0502 Vehicle Speed Sensor Circuit Low Input (5.7L) (cont/d)

01	DTC P0502 Venicle Speed Sensor Circ			y
Step	Action of the second se	Value(s)	Yes Wes	No
6	 Disconnect the engine wiring harness from the VSS Assy. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 	1470–2820 Ω	Go to Step 8	Go to Step 10
7	Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground condition. Refer to <i>General Electrical Diagnosis Procedures</i> . Repair the circuits if necessary. Refer to <i>Wiring Repairs</i> . Did you find a short to ground condition?	CRAN STATE BALK CRAN STATE BALK CAST A	Go to Step 12	Go to Diagnostic Aids
8	Inspect circuits 400 (YEL) and 401 (PPL) for an open. Refer to <i>General Electrical Diagnosis Procedures</i> . Repair the circuits if necessary. Refer to <i>Wiring Repairs</i> . Did you find an open condition?		Go to Step 12	Go to Diagnostic Aids
9	Remove the VSS Assy. Inspect the output shaft speed sensor rotor for damage or misalignment. Did you find a damaged condition?		Go to Step 12	Go to Step 10
10	Replace the VSS Assy. Refer to Vehicle Speed Sensor Replacement. Is the replacement complete?	AND TO SECURITION OF THE SECUR	Go to Step 12	e Tiple Laterak etak e Tiple (Barte Latera (Bart - at Martin a D a Laterak a arak
94.	Replace the PCM. Refer to PCM Replacement/Programming. Is the replacement complete?		Go to Step 12	gerkeri Karlı terle eri Gerkeri ü <u>l</u> lerik eri Gerkeri yalılı eri
12	In order to verify your repair, perform the following procedure; 1. Select DTC. 2. Select Clear Info. 3. Operate the vehicle, so that the transmission output speed is greater than 250 RPM for 2 seconds. 4. Select Specific DTC. Enter DTC P0502. Has the test run and passed?		System OK	Gô to Step 1

DTC P0503 Vehicle Speed Sensor Circuit Intermittent (3.8L)



193763

Circuit Description

The Vehicle Speed Sensor Assembly (VSS Assy.) provides vehicle speed information to the Powertrain Control Module (PCM). The VSS Assy. is a Permanent Magnet (PM) generator. The PM generator produces a pulsing AC voltage as rotor teeth on the transmission output shaft pass through the sensor's magnetic field. The AC voltage level and the number of pulses increase as the speed of the vehicle increases. The output voltage varies from a minimum of 0.5 volts AC at 100 RPM to more than 100 volts at 8000 RPM. The PCM converts the pulsing voltage to vehicle speed. The PCM uses the vehicle speed signal to determine shift timing and Torque Converter Clutch (TCC) scheduling. When the PCM detects an unrealistically large drop in the vehicle speed, then DTC P0503 sets. DTC P0503 is a type B DTC.

Conditions for Setting the DTC

DTC P0503 sets if the following conditions occur two consecutive times:

- No TFP Val. Position Sw. DTC P1810.
- The engine speed is greater than 450 RPM for 5 seconds.

- Not in fuel cutoff.
- The time since the last gear range change is greater than 6 seconds.
- The transmission output speed rise does not exceed 600 RPM within 6 seconds.
- The transmission output speed drops by greater than 1300 RPM for 2 seconds when not in Park/Neutral.

Action Taken When the DTC Sets

- The PCM illuminates the Malfunction Indicator Lamp (MIL).
- The PCM commands a soft landing to second gear when the engine speed is less than 2500 RPM.
- The PCM inhibits TCC engagement.
- The PCM commands maximum line pressure.
- The PCM inhibits 4th gear if the transmission is in hot mode.
- The PCM freezes shift adapts from being updated.
- DTC P0503 stores in PCM history.

Conditions for Clearing the MIL/DTC

- The PCM turns OFF the MIL after three consecutive trips without a failure reported.
- A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.
- The PCM cancels the DTC default actions when the fault no longer exists and the ignition is OFF long enough in order to power down the PCM.

Diagnostic Aids

- Inspect the wiring at the PCM, the Vehicle Speed Sensor (VSS) connector and all other circuit connecting points for the following conditions:
 - A bent terminal
 - A backed out terminal
 - A damaged terminal

- Poor terminal tension
- A chafed wire
- A broken wire inside the insulation
- Moisture Intrusion
- Corrosion
- When diagnosing for an intermittent short or open condition, massage the wiring harness while watching the test equipment for a change.
- Test circuits 400 and 401 for Electromagnetic Interferences (EMI) induced by a wiring harness incorrectly routed near the spark plug wires.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 3. This step tests the VSS Assy. circuit.
- 5. This step tests the integrity of the VSS Assy.

DTC P0503 Vehicle Speed Sensor Circuit Intermittent (3.8L)

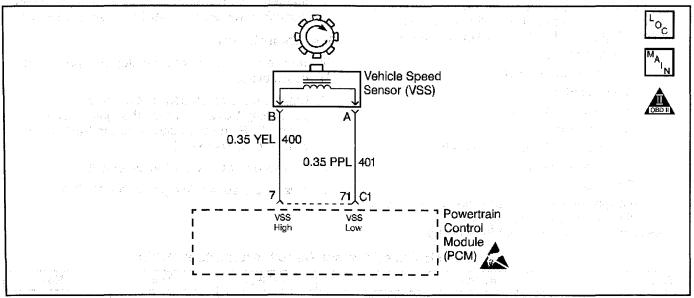
Step	Action	Value(s)	Yes	No
1	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?		Go to Step 2	Go to A Powertrain On Board Diagnostic (OBD) System Check
	Install the Scan Tool. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTC(s), use the scan tool in order to record the Freeze Frame and Failure Records	Andrew State of the State of th		
2	for reference. Using the Clear Info function will erase the stored Freeze Frame and Failure Records from the PCM. 3. Record the DTC Freeze Frame and Failure Records, then clear the DTC(s).	1300 RPM		
<u> </u>	 4. Raise and support the drive axle assembly. 5. Start the engine. 6. Disable the traction control system if equipped. 7. Place the transmission in any D3 range. 	7300 HFM		
	8. With the drive wheels rotating, slowly accelerate to 2000 engine RPM and hold. Road test the vehicle if necessary. Does the transmission OSS drop or fluctuate more than	15 (140 - 15 - 146), 15 (140 - 15 - 15 146), 15 (15 15 15 15 15 15 15 15 15 15 15 15 15 1	e de la Article Alle de la Companya Alle de la Article Alle de la Article	Go to
	the specified value? 1. Turn the ignition OFF.	<u> </u>	Go to Step 3	Diagnostic Aids
	2. Disconnect the C1 (blue) PCM connector.	.,		Proceeding Foundation (S. 1997). The second
3	 Using J 39200 Digital Multimeter (DMM) and J 35616-A Connector Test Adapter Kit, measure the resistance between harness connector terminals C1-64 and C1-65. 	1470–2820 Ω		
	Is the resistance within the specified range?		Go to Step 4	Go to Step 6
4	Measure the resistance from terminal C1-64 to ground. Is the resistance greater than the specified value?	50 K Ω	Go to Step 5	Go to Step 7

DTC P0503 Vehicle Speed Sensor Circuit Intermittent (3.8L) (cont'd) (2.8c) (cont'd)

1. Place the transmission in Neutral. 2. Select AC volts. 3. Hold one rear wheel from turning. 4. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? 6. Disconnect the engine wiring harness from the VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 7. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	Step 9 Step 10 o to ostic Aids
2. Select AC volts. 3. Hold one rear wheel from turning. 4. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? 6. 1. Disconnect the engine wiring harness from the VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 7. 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs. 6. 0.5 volts 6. 0.5 volts 6. 0 to Step 11 Go to 7. 470–2820 Ω 6. 6 to Step 8 Go to 7. 6 To Step 8 Go to 8. 6 To Step 8 Go to 9. 7 To Step 8 Go to 9. 8 To Step 8 Go to 9. 9	Step 10
3. Hold one rear wheel from turning. 4. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? 6. Disconnect the engine wiring harness from the VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 7. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs. Go to Step 8 Go to Step 11	Step 10
 4. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. Is the voltage greater than the specified value? Go to Step 11 Disconnect the engine wiring harness from the VSS Assy. Measure the resistance of the VSS Assy. Is the resistance within the specified range? Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. Refer to Wiring Repairs. 	Step 10
the driveshaft is turning. Is the voltage greater than the specified value? 1. Disconnect the engine wiring harness from the VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	Step 10
1. Disconnect the engine wiring harness from the VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	Step 10
VSS Assy. 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	Step 10
6 2. Measure the resistance of the VSS Assy. Is the resistance within the specified range? 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	Step 10
Is the resistance within the specified range? 1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs. Go to Step 8 Go to	Step 10
1. Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground. Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	tanedr Gracia So to
to ground. Refer to <i>General Electrical Diagnosis Procedures</i> . 7 2. Repair the circuits if necessary. Refer to <i>Wiring Repairs</i> .	
Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs.	
2. Repair the circuits if necessary.	
Refer to Wiring Repairs.	
The state of the second of the	
1. Inspect circuits 400 (YEL) and 401 (PPL) for an open.	
Refer to General Electrical Diagnosis Procedures.	1774
8. 2. Repair the circuits if necessary.	
Refer to Wiring Repairs.	o to
Did you find an open condition? Go to Step 12 Diagno	ostic Aids
1. Remove the VSS Assy.	
9 2. Inspect the output shaft speed sensor rotor for	
damage or misalignment.	0
	Step 10
Replace the VSS Assy. 10 Refer to Vehicle Speed Sensor Replacement.	
Is the replacement complete? Go to Step 12	
Replace the PCM. Refer to PCM	
11 Replacement/Programming. —	
Is the replacement complete? Go to Step 12	<u> </u>
In order to verify your repair, perform the following	
procedure:	
1. Select DTC. 2. Select Clear Info.	÷
2. On exets the vehicle and wing that the transmission of \$200 at \$40.00 \$1.00	1
output speed drop is less than 500 RPM for	•
3 seconds and output speed is greater than 600 RPM for 3 seconds.	
4. Select Specific DTC. Enter DTC P0503.	.4
	Step 1

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DTC P0503 Vehicle Speed Sensor Circuit Intermittent (5.7L)



168434

Circuit Description

The Vehicle Speed Sensor Assembly (VSS Assy.) provides vehicle speed information to the Powertrain Control Module (PCM). The VSS Assy. is a Permanent Magnet (PM) generator. The PM generator produces a pulsing AC voltage as rotor teeth on the transmission output shaft pass through the sensor's magnetic field. The AC voltage level and the number of pulses increase as the speed of the vehicle increases. The output voltage varies from a minimum of 0.5 volts AC at 100 RPM to more than 100 volts at 8000 RPM. The PCM converts the pulsing voltage to vehicle speed. The PCM uses the vehicle speed signal to determine shift timing and Torque Converter Clutch (TCC) scheduling.

When the PCM detects an unrealistically large drop in vehicle speed, then DTC P0503 sets. DTC P0503 is a type B DTC.

Conditions for Setting the DTC

DTC P0503 sets if the following conditions occur two consecutive times:

- No TFP Val. Position Sw. DTC P1810.
- The time since the last gear range change is greater than 6 seconds.
- The engine speed is greater than 450 RPM for 5 seconds.
- Not in fuel cutoff.

- Transmission output speed rise does not exceed 600 RPM within 6 seconds.
- The transmission output speed drop is greater than 1300 RPM for 3 seconds when not in Park/Neutral.

Action Taken When the DTC Sets

- The PCM illuminates the Malfunction Indicator Lamp (MIL).
- The PCM commands a soft landing to second gear.
- The PCM commands maximum line pressure.
- The PCM inhibits TCC engagement.
- The PCM inhibits 4th gear if the transmission is in hot mode.
- The PCM freezes shift adapts from being updated.
- DTC P0503 stores in PCM history.

Conditions for Clearing the MIL/DTC

- The PCM turns OFF the MIL after three consecutive trips without a failure reported.
- A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.
- The PCM cancels the DTC default actions when the fault no longer exists and the ignition is OFF long enough in order to power down the PCM.

Diagnostic Aids

- Inspect the wiring at the PCM, the Vehicle Speed Sensor (VSS) connector and all other circuit connecting points for the following conditions:
 - A bent terminal
 - A backed out terminal
 - A damaged terminal
 - Poor terminal tension
 - A chafed wire
 - A broken wire inside the insulation
 - Moisture intrusion
 - Corrosion
- When diagnosing for an intermittent short or open condition, massage the wiring harness while watching the test equipment for a change.

 Test circuits 400 and 401 for Electromagnetic Interferences (EMI) induced by a wiring harness incorrectly routed too near the spark plug wires.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

- 2. Disable the traction control system when performing this step. When the ignition switch is cycled OFF and then back ON, the traction control system defaults to ON.
- 3. This step tests the VSS Assy. circuit.
- 5. This step tests the integrity of the VSS Assy.

DTC P0503 Vehicle Speed Sensor Circuit Intermittent (5.7L)

Step	Action	Value(s)	Yes	No
. 1	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?	— —	Go to Step 2	Go to A Powertrain On Board Diagnostic (OBD) System Check
	Install the <i>Scan Tool.</i> With the engine OFF, turn the ignition switch to the			
	RUN position. Important: Before clearing the DTCs, use the scan tool in order to record the Freeze Frame and Failure Records for reference. Using the Clear Info function will erase the stored Freeze Frame and Failure Records from the PCM.	i general Alberta i Sarije Alberta i Sarije Alberta i Sarije		
2	Record the DTC Freeze Frame and Failure Records, then clear the DTC(s). Raise and support the drive axle assembly.	1300 RPM		
	5. Start the engine.			
1	6. Disable the traction control system.7. Place the transmission in D3 range.	was the	was need and the second	
	8. With the drive wheels rotating, slowly accelerate to 2000 engine RPM and hold. (Road test the vehicle if necessary.)	\$ 750 L	ili singher in the les Line	A TOM SEA OF
	Does the Transmission OSS drop or fluctuate more than the specified value?	1 . 1	Go to Step 3	Go to Diagnostic Aids
j	 Turn the ignition OFF. Disconnect the C1 (red) PCM connector. Using the <i>J</i> 39200 Digital Multimeter (DMM) and the 	A telline		
<i>i,3</i>	J 35616-A Connector Test Adapter Kit, measure the resistance between harness connector terminals C1-7 and C1-71.	1470–2820 Ω	野棚(1)。1) 1)2)46(2)20)3)	TO A TO SECULATE OF THE SECULATION OF THE SECULA
	Is the resistance within the specified range?		Go to Step 4	Go to Step 6
4	Measure the resistance from terminal C1-7 to ground. Is the resistance greater than the specified value?	50 K Ω	Go to Step 5	Go to Step 7
5	 Place the transmission in Neutral. Select AC volts. Hold one rear wheel from turning. Rotate the other rear wheel by hand, ensuring that the driveshaft is turning. 	0.5 volts		
	Is the voltage greater than the specified value?	<u> </u>	Go to Step 11	Go to Step 9

DTC P0503 Vehicle Speed Sensor Circuit Intermittent (5.7L) (cont'd)

	DTC P0503 Vehicle Speed Sensor Circ			
Step	Action - Act	Value(s)	Yes	No
6	 Disconnect the engine wiring harness from the VSS Assy. Measure the resistance of the VSS Assy. 	1470–2820 Ω		
	Is the resistance within the specified range?		Go to Step 8	Go to Step 10
şa j	Inspect circuits 400 (YEL) and 401 (PPL) for a short to ground.		1	
7	Refer to <i>General Electrical Diagnosis Procedures</i> . 2. Repair the circuits if necessary. Refer to <i>Wiring Repairs</i> . Did you find a short to ground condition?	<u>-</u> - .a.14	Go to Step 12	Go to Diagnostic Aids
	Inspect circuits 400 (YEL) and 401 (PPL) for an open circuit. Constant Floridate Dispersion Property 1988			
8	Refer to General Electrical Diagnosis Procedures. 2. Repair the circuits if necessary. Refer to Wiring Repairs. Did you find an open condition?	——————————————————————————————————————	Go to Step 12	Go to Diagnostic Aids
9	Remove the VSS Assy. Inspect the output shaft speed sensor rotor for damage or misalignment.	1 - 1 <u></u>		
	Did you find a damaged condition?		Go to Step 12	Go to Step 10
10	Replace the VSS Assy. Refer to Vehicle Speed Sensor Replacement. Is the replacement complete?		Go to Step 12	<u>-</u>
11	Replace the PCM. Refer to PCM Replacement/Programming. Is the replacement complete?	. <u>–</u>	Go to Step 12	
12	In order to verify your repair, perform the following procedure: 1. Select DTC. 2. Select Clear Info. 3. Operate the vehicle, ensuring that the transmission output speed drop is less than 500 RPM for 3 seconds and output speed is greater than 600 RPM for 3 seconds. 4. Select Specific DTC. Enter DTC P0503.	-	*	
	Has the test run and passed?		System OK	Go to Step 1