Document ID# 760617
2003 Chevrolet Chevy Suburban - 4WD

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DTC C0538

Circuit Description

The rear wheel steering module provides the current that activates the rear wheel steering motor actuator control circuits. Phase A , Phase B, and Phase C are the input circuits to the steering gear motor assembly. In its active state, the output current is pulse width modulated with up to 85-amps at 12 volts, with a normal range of 20 to 50-amps. When the rear wheel steering control module does not see the rear wheel steering gear motor respond to the current inputs properly the rear wheel steering control module will set a DTC C0538.

Conditions for Running the DTC

The fault is detected when the engine is ON.

Conditions for Setting the DTC

- Rear steering motor circuits short to positive battery voltage
- Rear steering motor circuits short to ground
- Rear steering motor circuits open

Action Taken When the DTC Sets

- The Service 4 Wheel Steer indicator in IPC will be displayed.
- The code is displayed on the scan tool as DTC C0538.
- The output command to the motor is zeroed. The motor drive circuits are disabled using commands to open the power relay and to close the motor shorting relay.
- Rear wheels returned to the centered position.

Conditions for Clearing the DTC

- The conditions for the DTC are not currently present.
- The rear wheel steering control module receives a clear code command from the scan tool.
- The history DTC clears after 100 malfunction free ignition cycles.

Diagnostic Aids

- Inspect for poor connections at the harness connector of the rear wheel steering control module and inspect the wiring harness. Refer to Testing for Intermittent and Poor Connections , and to Connector Repairs in Wiring Systems.
- Observe the rear wheel steering mode select switch. If all of the mode indicator LEDs are illuminated the rear wheel steering control module has lost its memory settings and the scan tool must be used to re-calibrate the rear wheel steering alignment data in the rear wheel steering control module. Refer to Measuring Wheel Alignment .

Test Description

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

2. This step will help the technician determine if there is an intermittent connection at the harness connector of the rear wheel steering motor.

Step	Action	Values	Yes	No
*Schematic Reference: Rear Wheel Steering Schematics* *Connector End View Reference: Rear Wheel Steering Connector End Views*				
1	Did you perform the Diagnostic System Check-Rear Wheel Steering?	--	Go to Step 2	Go to Diagnostic System Check - Rear Wheel Steering
2	With a scan tool, monitor the DTC Information DTC C0538 in the rear wheel steering module. Does the scan tool indicate that DTC C0538 is current?	--	Go to Step 3	Go to Diagnostic Aids
3	1. Turn the ignition switch to the OFF position. 2. Inspect for poor connections at the harness connector of the rear wheel steering control module for the rear wheel steering gear motor. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	--	Go to Step 6	Go to Step 4
4	1. Replace the rear wheel steering motor. Refer to Steering Gear Motor Assembly Replacement . 2. Turn the ignition switch to the ON position, with the engine OFF. 3. Use the scan tool in order to clear the DTCs. 4. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	--	Go to Step 5	Go to Step 6
5	**Important** Perform the Learn Alignment procedure. Refer to Measuring Wheel Alignment in Wheel Alignment. Replace the rear wheel steering module. Refer to Rear Wheel Steering Control Module Replacement Did you complete the replacement?	--	Go to Step 6	
6	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.	--		

Does the DTC reset?		Go to Step 2	System OK

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