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2003 Chevrolet Chevy Suburban - 4WD

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Quadrasteer Service Update - kw AWD C0550 C0522 C0532 C0455 code communication control data diagnostics electrical module NYS operation performance rear steering #PI01567 - (Dec 9, 2003)

Quadrasteer Service Update

When servicing the vehicle with the VIN you entered, the following diagnosis might be helpful if the vehicle exhibits the described symptoms.

Features of normal Quadrasteer operation:

1. Rear angle is limited to 5 degrees in park (w/ no vehicle speed) - once vehicle speed is present, the system is capable of 12 degrees.
2. Rear angle is limited to 5 degrees when driving in reverse.
3. Neutral operation - system defaults to 2WS if in neutral for more than 4 seconds. The 2ws mode light will be illuminated and the previous mode will be flashing. When shifted out of neutral, the system will automatically go back to the previous mode.
4. Mode changes - Quadrasteer will only change modes when the steering wheel passes through center, until then the requested mode will be flashing. ([rsquo]03 and newer models will switch modes immediately if speed=0)

Vehicle requirements for Quadrasteer to operate:

1. Engine must be running
2. Alternator / Charging system must be functional. If a fault is detected by the Alternator/Charging system, the Quadrasteer system will become inoperable to minimize battery drain.
3. System voltage must be within a 9 - 16 volt range.
4. System voltage is supplied by 1 high-current connection, 1 low-current connection, and 1 ignition line.
5. Valid vehicle speed information from the PCM (hard-wired and class II message) and ABS (class II message) must all correlate.
6. Valid hand wheel position information must be received. Analog information from the Truck Body Controller (TBC) via Class II and digital information is obtained from phase A, phase B, and Marker pulse of the position sensor wired directly to the Quadrasteer control module.
7. Valid signals from rear position sensor.

Most common mis-diagnosed Quadrasteer issues:

1. Quadrasteer does not operate and all three mode lights illuminated solidly. May be caused by: - Service control modules need to be programmed (03 MY and above) and/or needs Tech 2 alignment to be performed. No class II information is available until module is programmed.
2. Quadrasteer does not operate and blinking mode lights. May be caused by: -Vehicle in Neutral. Quadrasteer will return to normal operation when shifted out of Neutral and steered through straight ahead.
3. C0550 DTC - internal controller fault. May be caused by: -A loose 125 Amp Mega-fuse. -Shorted Lat / Yaw combo sensor -Water intrusion into rear position sensor
4. C0522 DTC and/or C0532 DTC - Rear Wheel Sensor and Rear Sensor to Hall Comparison. May be caused by: -Shorted Lat / Yaw combo sensor -Water intrusion into rear position sensor
5. C0455 DTC - Handwheel Position Sensor (HWPS). May be caused by: -Improper terminal tension at HWPS connector -Loose or damaged ground at circuit G203 (03 MY and above). - Damaged harness between C201 and HWPS connector
6. Quadrasteer inoperable with no DTCs present. May be caused by: -Missing required vehicle signals such as Ignition(541), Batt2(2640), Engine Run message(ClassII) or faulted Charging System. See Vehicle Requirements for Quadrasteer Operation above. Note: Clearing History DTCs from the controller is NOT required to restore normal operation during troubleshooting. PLEASE LEAVE CODES STORED IN THE MODULE. This will aid in root cause analysis if part is requested to be returned to the supplier.

Please follow this diagnosis process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed. If these steps do not resolve the condition, please contact GM TAC for further diagnostic assistance. This diagnostic approach was developed for the vehicle with the VIN you entered and should not be automatically be used for other vehicles with similar symptoms.

Models:

(02-04 Sierra Denali) and (02-04 Chev Silverado Ext Cab S/B 1500) and (02-04 GMC Sierra Ext Cab S/B 1500) and (03-04 GMC Sierra Crew Cab HD 1500) and (03-04 Chev Silverado Crew Cab HD 1500) and (03-04 GMC Yukon XL 2500) and (03-04 Chevrolet Suburban 2500)

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