Service Bulletin

Bulletin No.: 22-NA-015
Date: February, 2022

INFORMATION

Subject: **Diagnostic Tip on Shake and/or Shudder During Light Throttle Acceleration Between 25 and 80 MPH (40 and 128 KM/H) at Steady Speed**

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Cadillac	Escalade Models	2021	2022			L84, L87	MQB, MQC, MHS
Chevrolet	Silverado 1500	2020	2021				
	Silverado 1500 (LTD, RPO J21, 12th VIN Digit = 4 or less)	2022	2022				
	Silverado 1500 (RPO J22, 12th VIN Digit = 5 or greater)						
	Suburban	2021	2022				
	Tahoe						
GMC	Sierra 1500	2020	2021				
	Sierra 1500 (Limited, RPO J21, 12th VIN Digit = 4 or less)	2022	2022				
	Sierra 1500 (RPO J22, 12th VIN Digit = 5 or greater)						
	Yukon Models	2021	2022				

Involved Region or Country	North America, Australia, New Zealand
Condition	Some customers may comment of a shudder, shake, vibration from approximately 25 – 50 mph (40-80 km/h) while under steady to lightly accelerating throttle.
Cause	This condition may be caused by various transmission and engine concerns. See the Diagnostic Tips below. – Check for Transmission and Engine related DTC's. Resolve any DTC's before and reevaluate the vehicle before proceeding.
Correction	Diagnostic Tips Test Drive The customers vehicle should be test driven in an effort to duplicate the condition. Details of vehicle speed, driving conditions and throttle input may need to be discussed with the customer. Some normal shudder, shake, vibration or growl can be expected in low speed, light throttle applications as the vehicle may be going in and out for Dynamic Fuel Management (DFM). DFM can be turned off for a test drive by shifting the transmission into Manual Range "L9". Driving a like vehicle under the same conditions may help determine if the vehicle is operating like other vehicles and should be considered characteristic of design

Diagnostic Tips Engine Performance

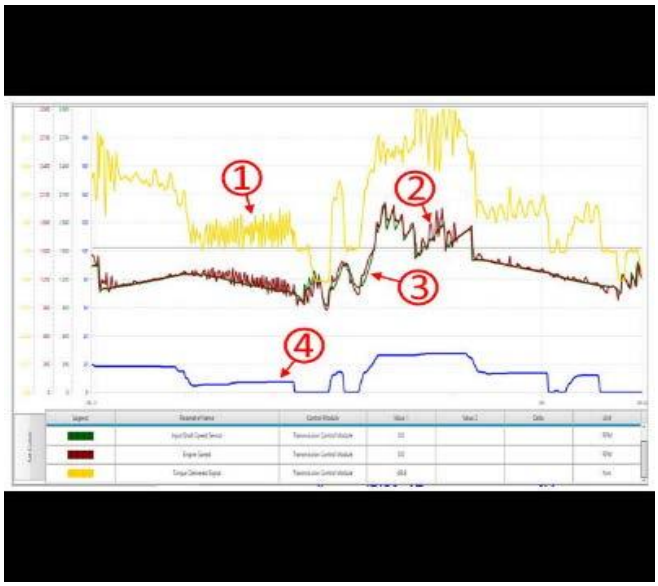
5975000

1. Engine Speed
2. Engine Torque
3. Vibration Felt after Engine Refuel, Should be in Reduced Firing Fraction
4. Pedal
5. Turbine Speed

Diagnostic Tip Closed Throttle Shudder – TSB 21-NA-207: 2021 Silverado Sierra 5.3 (L84) 10 Speed (MQB) only.

The condition is only present at 0% throttle during a coast event at approximately 15 mph (24 km/h). Note the engine RPM and torque oscillations at engine refuel points.

Diagnostic Tip Engine Related Shudder – PIP5794B Camshaft Actuator



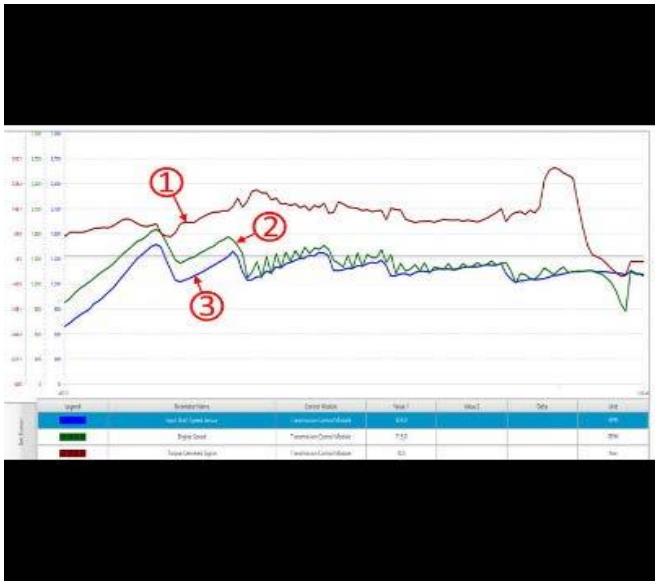
5975002

1. Torque
2. Engine Speed
3. Turbine Speed
4. Pedal

Record a GDS session log and monitor engine speed, transmission input speed and engine torque. If engine torque is larger than +- 25 Nm while no gear shift is active, and throttle is relatively constant the issue most likely lies within the engine.

Observe the large variation in engine torque while engine speed and turbine speed follow each other more closely. Although this feels like shudder to the customer it is most likely an engine related concern.

Diagnostic Tips TCC Solenoid – Valve Body



5975003

1. Torque
2. Engine Speed
3. Turbine Speed

- The shudder condition is present both in Drive “D” or Manual “L9”.
- Typically occurs at less than 15,000 miles (24,000 km)
- Turbine speed follows engine speed
- Relatively consistent engine torque. <+- 25 Nm

Engine torque remains relatively flat while engine speed rises and falls. The valve body should be replaced.

Diagnostic Tip TCC Solenoid (Drift) – Valve Body

5975005

1. Torque
2. Engine Speed
3. Turbine Speed
4. TCC Pressure

- Shudder condition is present in Drive “D” but NOT present in Manual “L9”
- Throttle would typically be less than 10% and engine torque less than 100 Nm
- TCC slip speed will be 0 or near 0
- TCC pressure command will remain at 100 kPa

The valve body should be replaced.

Diagnostic Tip TCC Shudder – Torque Converter

5975007

1. Torque
2. Engine Speed
3. Turbine Speed
4. Pedal

- TCC pressure control is steady
- TCC slip is elevated
- Engine RPM will increase at the shudder point while turbine speed remains steady
- Engine torque remains relatively steady during the shudder event
- Throttle angle remains steady during the shudder event

The torque converter should be replaced.

Version	1
Modified	Released January 27, 2022