Service Bulletin

Bulletin No.: 24-NA-264

Date: November, 2024

INFORMATION

Subject: Diagnostic Tips for 10L60/80/90 Transmission Noise

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Cadillac	CT4	2020	2025				M6F, ML1, ML2, ML4, MHO, MHS, MHT, MHU, MHW, MHX, MQA, MQB, MQC,
	CT5						
	Escalade Models						
Chevrolet	Camaro	2020	2025				
	Silverado 1500	2020	2021				
	Silverado 1500 - LTD (RPO J21, VIN Digit 5 = W/Y)	2022	2022				
	Silverado 1500 - New (RPO J22, VIN Digit 5 = A/D)						
	Silverado 1500	2023	2025				
	Suburban	2020	2025				
	Tahoe						
GMC	Sierra 1500	2020	2021				
	Sierra 1500 - Limited (RPO J21, VIN Digit 5 = 8/9)	2022	2022				
	Sierra 1500 - New (RPO J22, VIN Digit 5 = H/U)						
	Sierra 1500	2023	2025				
	Yukon Models	2020	2025				

Involved Region or Country	United States, Canada, Middle East, Israel, Palestine, Australia/New Zealand
Condition	Some customers may comment on whine noises from the automatic transmission.
Information	To aid in transmission diagnosing, refer to the noise examples below.

Important: Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.

Potential Noises Found in Park

Engine Off/Park- Transmission Auxiliary Pump Prime
•10LXX Transmissions equipped with auto start/stop contain an electronic G5 transmission fluid pump. Purpose is to maintain transmission fluid pressure during auto start/stop events.

•When ambient background level is low (i.e., garage), customers may hear the auxiliary pump cycling for 20 seconds as they approach the vehicle (Cadillac) or unlock the vehicle. This operation is normal.

- 25°C (77°F) Transmission Temperature
- 90°C (194°F) Transmission Temperature

Park-Transmission Oil Pump Aeration/Cavitation
Aeration is the introduction of air into the transmission fluid (pump inlet).

Erratic whining sound due to uneven distribution of air.

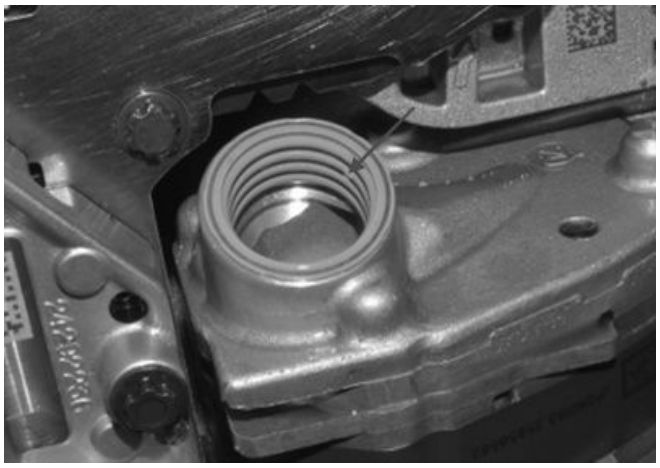
Cavitation occurs when cavities are formed due to a drop in fluid pressure (outlet).

Rattling, whirling/roaring or grinding sounds are all possible.

- 75°C (167°F) Pump Aeration Cavitation 900 RPM Steady State
- 75°C (167°F) Pump Aeration Cavitation 650-1500 RPM Sweep

Common Causes:

- Low fluid level
- Plugged/mis installed filter



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- Torn/damaged filter O-ring
- Transmission running max line pressure due to DTCs

Park Transmission Oil Pump Gear Mesh Whine
Unlike previous generation HD transmissions (6 speed), the 10 speed Allison model transmission utilizes a (3) spur gear design (driven off of the torque converter) to drive the transmission oil pump.

Due to the 3 helical gear design, some transmissions may exhibit a whine noise while in park or driving and may get louder as engine speed or transmission temp increases.

Isolating the whine to the oil pump gears can often be done by replicating the complaint in park and sweeping engine speed slowly from base idle to 2500 RPM.

If whine can be reproduced in park, replacement of the transmission front support and/or transmission oil pump often corrects the whine complaint.

Note: 4 Cylinder CSS engines (LSY/L3B) have the possibility of generating their own set of whine noises from balance shafts/timing drives that may make isolating whine more difficult.

Park- Return to Park Blowoff Valve Chirp
Possibly described as a faint, non-rhythmic chirping sound coming from underneath the vehicle in Park only and with engine speed ~ 1000 RPM (ETRS Only).

A Chirp noise is caused by the Return-to-Park (RTP) blow-off valve becoming unseated due to line pressure spikes.

Line pressure spikes occur because of clutch command cycling that takes place in park.

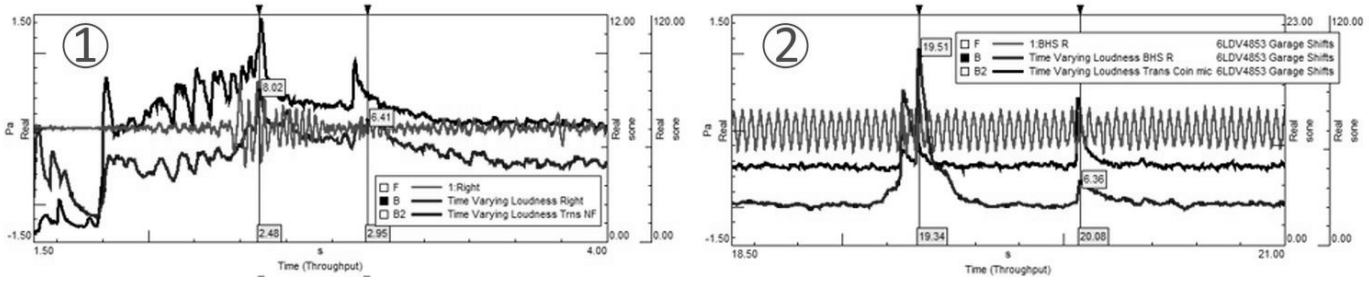
Condition is considered normal if noise occurs just off idle speed ~1000 RPM in Park Only.

Start Up/Garage Shift Clunk
Described as an infrequent audible thud that delayed 400–700ms after either a key start or garage shift event.

Severity of thud depends on the load that's placed on the driveline.

Previous root cause work determined noise is related to the C2 clutch application at high line pressure causing the rotating components in park to stop too quickly.

C2 clutch calibration has been modified to assure the C2 knockdown area is pressurized in park and neutral when C2 is being applied.



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- Key Start
- Garage Shift

Common Complaints in Drive

Reaction Gearset Whine (Gearset One)

With variation in gear tooth finish and positional control, some customers may experience whine from the reaction planetary gearset during light to moderate driving conditions.

Most common conditions to hear whine from the reaction gearset is in 4th and 5th gear (20-35 MPH) (32-56 KPH).

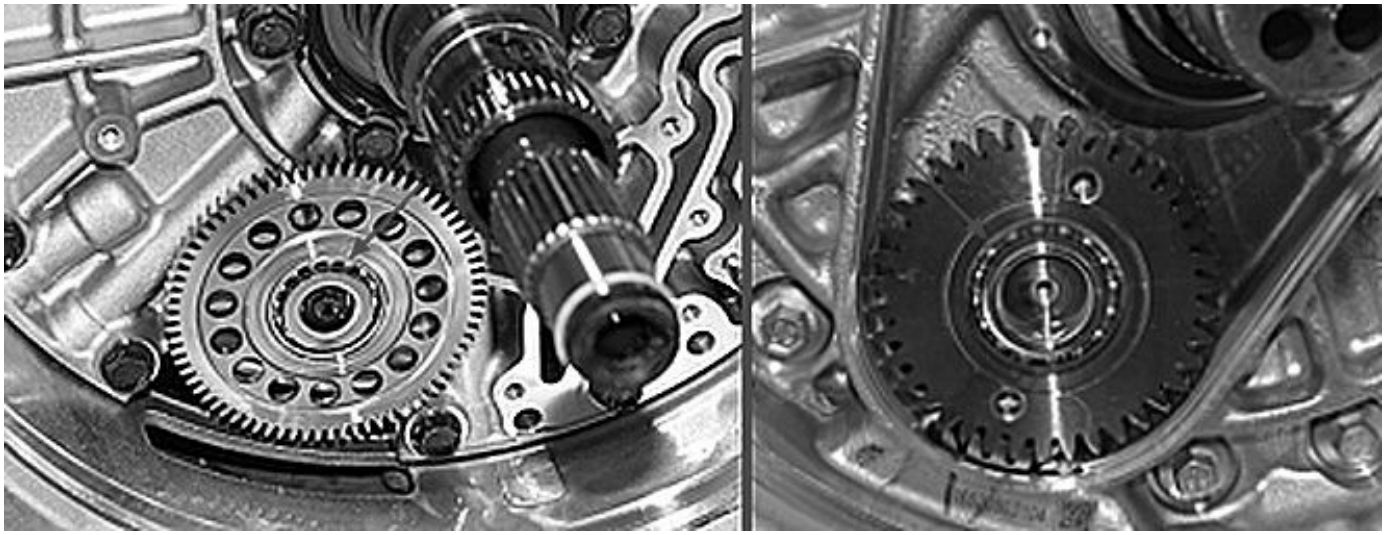
Reaction gearset is active in gears 3-6 and 8-10 so depending on severity it may be possible to hear in gears other than 4/5.

Frequency of whine will change as transmission shifts gears due to component rotation speeds being changed.

Utilizing manual tap to shift through gears is a good way to verify what gears whine in present in.

Note: Whine from the reaction gearset should not be present in 7th gear due to the 1:1 ratio and gears being locked. If whine is present in 7th gear, issue likely lives with some other component.

Underbody Gear Rattle (7th Gear Only)



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While rare, rattle during light acceleration (10–15% throttle) in 7th gear only may be observed.

Size of the idler gear inner diameter can affect the interference fit of the pressed in bearing reducing the overall axial/radial clearance of the bearing balls.

The gear free lock will increase or decrease depending on that interference fit:

- High interference fit can create gear rattle
- Low interference fit does not produce rattle

Increasing line pressure can reduce rattle by overcoming the drag torque.

Note: The feature to change line pressure using Techline Connect is not active, otherwise that would be a means to verify.

Version	1
Modified	Released November 26, 2024