



Service Bulletin

Bulletin No.: 19-NA-121

Date: April, 2020

TECHNICAL

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

Attention: This Bulletin only applies to vehicles sold in the U.S., Canada and Middle East Operations (MEO).

Note: This procedure should only be completed once per vehicle. Any vehicle that returns with suspect shudder should be diagnosed utilizing published diagnostics, GDS, PICO Scope or other diagnostic tools. Sometimes shudder is not caused by the torque converter clutch (TCC). In some instances, shudder is fish bite, chuggle, surge or vibration.

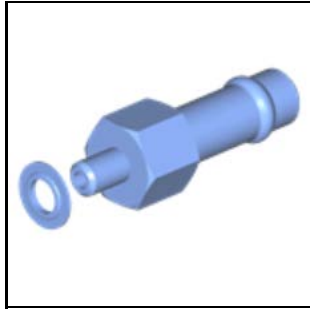
Brand:	Model:	Model Year:		Date Breakpoint:		Engine:	Transmission:
		from	to	from	to		
Chevrolet	Silverado 1500 (New Model)	2019	2019	SOP	March 01, 2019	L3B, L84	MQE
GMC	Sierra 1500 (New Model)						

Involved Region or Country	United States, Canada and Middle East Operations (MEO)
Condition	Some customers may comment that their vehicle is experiencing a shake and/or shudder during light throttle acceleration between 25 and 80 mph (40 and 128 km/h) steady state driving when transmission is not actively shifting gears. ⇒ The condition may be described as if they are driving over rumble strips or a concrete road surface with rough expansion joints.
Cause	This condition may be due to Torque Converter Clutch (TCC) Shudder.
Correction	Note: This procedure should only be completed once per vehicle. Any vehicle that returns with suspect shudder should be diagnosed utilizing published diagnostics, GDS, PICO Scope or other diagnostic tools. Sometimes shudder is not caused by the torque converter clutch (TCC). In some instances, shudder is fish bite, chuggle, surge or vibration. Vehicles that are presented with TCC shudder should have the appropriate fluid exchange procedure completed. Diagnosis beyond the customer complaint is not required if vehicle was built prior to production dates indicated above. For vehicles built after the production dates listed above. ⇒ If a customer presents a vehicle with a similar complaint, follow normal SI diagnostics. These vehicles are already equipped with the latest HP fluid.

Special Tools

DT-52263 Transmission Fluid Exchange Kit:

- DT-52263-1 Block Assembly (includes fluid drain hose, spring clamp)
- DT-52263-5 Radiator Cooler Drain Adapter



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- DT-51190 Transmission Oil Fill Adapter



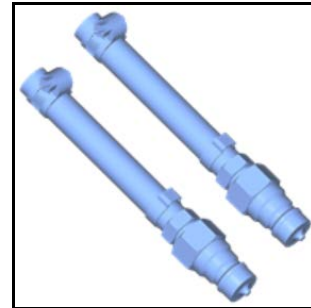
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- GE-47716-2 Graduated Bucket



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- DT-45096 TransFlow Cooler Flush Machine



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- DT-45096-31 TransFlow Adapter (one of two pieces from DT-45096-30)

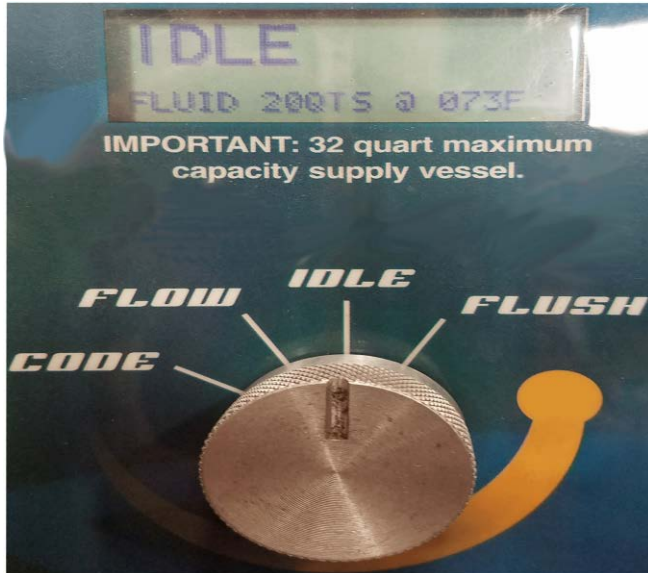
Service Procedure

Initial TransFlow Flush Machine Setup

Important: The prepping procedure only needs to be completed if the DT-45096 supply reservoir has DEXRON VI fluid in it and has not been converted to use the new blue label Mobil 1 Synthetic LV ATF HP fluid.

Note: The prepping procedure only needs to be completed if HP fluid is not in the supply reservoir.

1. Connect the TransFlow adapter DT-45096-31 to the supply line of the DT-45096 TransFlow machine.



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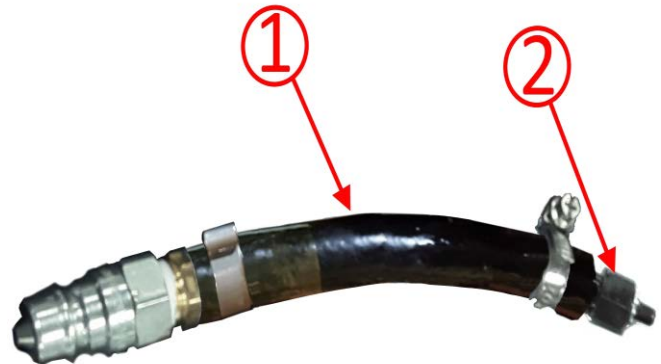
2. Switch the DT-45096 TransFlow to Idle.
3. Connect power leads to the vehicle 12-volt DC supply.
4. Turn the TransFlow main switch ON.
5. Connect air supply to the DT-45096.
6. Place the TransFlow supply hose with adapter DT-45096-31 into a waste reservoir using care not to spill the expelled fluid.
7. Switch the DT-45096 TransFlow to Flow and allow all the fluid in the supply reservoir to be removed and placed in the waste reservoir.
8. Switch the control switch back to idle.

Fluid Exchange Procedure – 2019 Chevrolet Silverado and GMC Sierra (New Body Style) Equipped with the RPO (MQE)

Important: This procedure must be followed as published. The exchange process is required to obtain proper level of new blue label Mobil 1 Synthetic LV ATF HP fluid. Intermixing of other types of transmission fluid

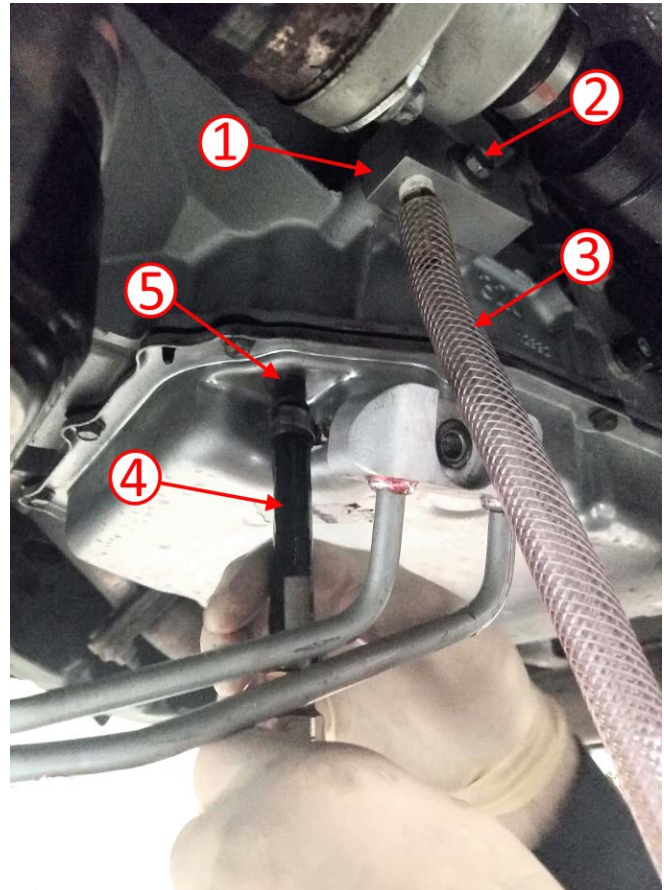
or aftermarket additive packages will result in a low concentration level of new fluid and will not provide satisfactory results.

1. Fill the DT-45096 with 20 quarts of HP fluid.
2. Raise the vehicle on a hoist.



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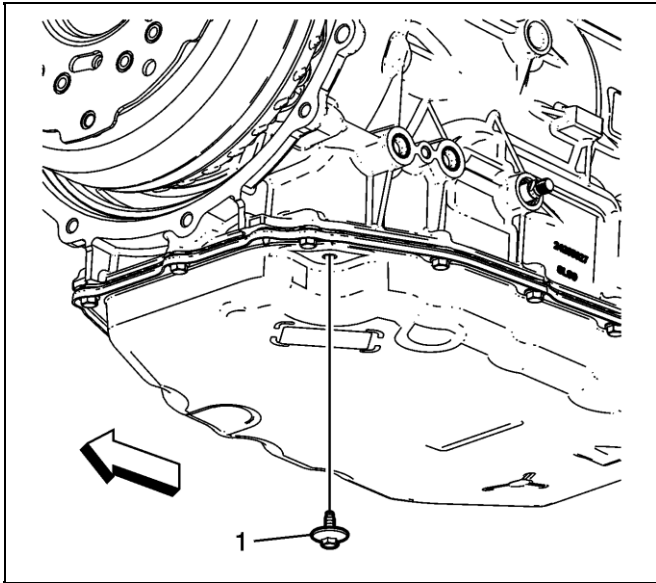
3. Install the DT-45096-31 TransFlow adapter (1) to the DT-51190 fluid fill adapter (2).



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4. Remove the transmission oil cooler pipe assembly from the transmission.
5. Install the DT-52263-1 Adapter Block Assembly (1), reusing the seal from the transmission oil cooler pipe assembly.
6. Tighten the bolt (2) to 22 N•m (16 lb ft).

- 7. Place the hose (3) in the GE-47716-2 Graduated Measuring Bucket, utilizing a Spring Clamp to retain the hose.

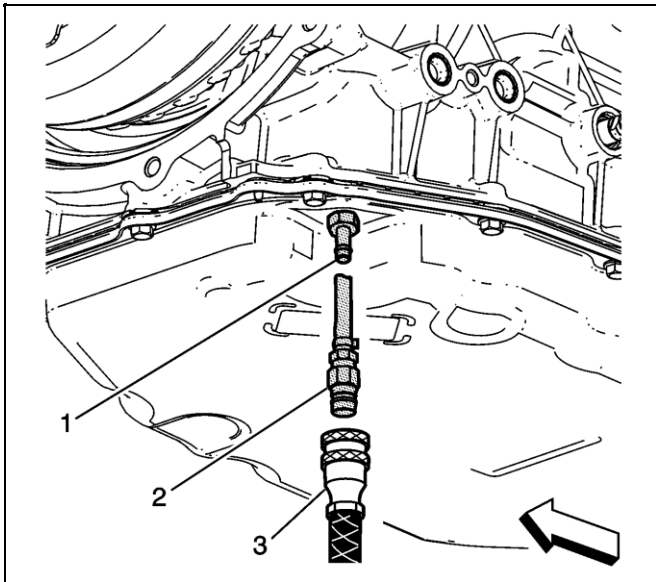


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- 8. Remove the level set plug (1) from the transmission.

Important: DO NOT over tighten the DT-51190 as it can be damaged by excessive torque. **DO NOT** exceed 9 N•m (80 lb in).

- 9. Install the DT-51190/DT-45096-31 assembly and hand tighten as shown in the graphic above.

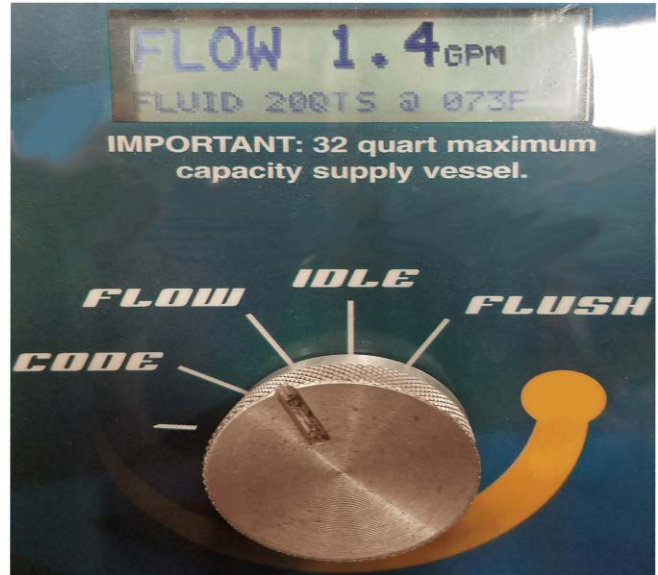


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- 10. Connect the TransFlow fluid feed (supply) line (3) to the DT-45096-31 adapter (2).
- 11. Lower the vehicle.

Caution: DO NOT REMOVE MORE THAN 3 QUARTS OF FLUID AS IT COULD CAUSE FLUID PUMP CAVITATION AND POSSIBLY DAMAGE THE TRANSMISSION.

- 12. Utilizing the graduated bucket, start the engine and run 30 - 45 seconds until 3 quarts of fluid is expelled.
- 13. Shut the engine off immediately.
- 14. Connect the DT-45096 to the vehicle battery 12 volts and connect shop air to the air connection.



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- 15. Switch the DT-45096 TransFlow to Flow and add 4 quarts of HP to the transmission.



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- 16. Switch the DT-45096 TransFlow to Idle (Reducing fluid level in the TransFlow from 20-16).

17. Switch the TransFlow DT-45096 to Flow and start the engine:
 - 17.1. Add a maximum of 4 quarts of HP Fluid to the transmission, turn the TransFlow switch to idle once 4 quarts have been added, while allowing 4 additional quarts of oil to fill the DT-graduated bucket (Reducing fluid level in the TransFlow from 16 – 12).
- Note:** DO NOT add additional transmission fluid until the 4 quarts of oil have been removed from the transmission (Reducing fluid level in the TransFlow from 12–8).
- 17.2. Repeat step 17.1.
 - 17.3. Add a maximum of 5 quarts of HP fluid to the transmission while allowing 5 additional quarts of oil to fill the DT-graduated bucket (Reducing fluid level in the TransFlow from 8 – 3).



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- 17.4. Shut the engine off once 16 quarts of fluid have been collected.
 - 17.5. Properly dispose of the expelled transmission fluid.
18. Raise the vehicle.
 19. Disconnect the DT-45096 TransFlow feed (supply) line from DT-45096-31 TransFlow adapter.
 20. Using care, remove DT-45096-31/DT-51190 as an assembly.
 21. Remove the DT-51190 fluid fill adapter from DT-45096-31 hose.

22. Install the level set plug.

Tighten

Torque the plug to 9 N•m (80 lb in).

23. Remove DT-52263-1 Adapter Block Assembly from the transmission.
24. If equipped, remove the Thermal By-Pass Block from the cooler pipes (L84 only).
 - 24.1. If equipped with the 4 cylinder (L3B) engine skip to step 27.
25. Using clean compressed shop air regulated to 50 PSI blow out the transmission oil cooler lines to remove any remaining transmission fluid.
26. If equipped, install the Thermal By-Pass Block from the cooler pipes.
27. Install the transmission oil cooler pipe using a new cooler block seal.
28. Partially lower the vehicle.
29. Start the engine.
30. Using care, shift the transmission through all forward ranges and Reverse.
31. Shift the transmission into Park.
32. Perform the Transmission Fluid Level and Condition Check outlined below in this procedure:
 - 32.1. Get the transmission fluid temperature to the proper temperature.
 - 32.2. Install the level set plug.

Tighten

Torque the plug to 9 N•m (80 lb in).

The TCC shudder condition should be directional improved immediately after the fluid exchange procedure. It may take up to 200 mi (320 km) for the TCC shudder condition to be eliminated. It is not a requirement for the dealer to drive the vehicle 200 mi (320 km). The customer should be advised that the full effect will take up to 320 km (200 mi) and a minimum of two cold to operating temperature drive cycles.

Transmission Fluid Level and Condition Check

This procedure checks both the transmission fluid level, as well as the condition of the fluid itself. Because the transmission on this vehicle is not equipped with a fill tube and dipstick, a tube in the bottom pan is used to set the fluid level.

Warning: *The transmission fluid level must be checked when the transmission fluid temperature (TFT) is between 35–45°C (95–113°F). If the TFT is not within this range, either idle or brake torque the vehicle to raise the fluid temperature, or shut off the vehicle to allow the fluid to cool as required. Setting the fluid level with a TFT outside this range will result in either an under or over-filled transmission. TFT>45°C=under-filled, TFT<35°C=over-filled. An under-filled transmission will cause premature component wear or damage. An over-filled transmission will cause fluid to discharge out the vent tube, possibly causing a fire that may result in serious bodily injury or severe vehicle damage, fluid foaming, or pump cavitation.*

Note: Silverado and Sierra Models equipped with a thermal bypass valve, the transmission fluid level should be checked only after the TFT has reached or exceeded an operating temperature of 90°C (194°F). Once the TFT has reached or exceeded 90°C (194°F), then turn OFF the vehicle and allow the TFT to cool back down to 35-45°C (95-113°F) before checking the fluid level as required. Reaching or exceeding an operating temperature of 90°C (194°F) opens the bypass valve and allows the cooler to fill up with fluid, which will result in a more accurate fluid level check.

1. Observe the TFT using the driver information center (DIC) or a scan tool.
2. Start and idle the engine.
3. Depress the brake pedal and move the shift lever through each gear range.
 - 3.1. Pause for at least 3 seconds in each range.
 - 3.2. Move the shift lever back to PARK.
 - 3.3. Ensure the engine RPM is low (500–800 RPM).
4. Allow the engine to idle for a minimum time of 1 minute.

Caution: THE ENGINE MUST BE RUNNING when the trans oil level check plug is removed or excessive fluid loss will occur, resulting in an under-filled condition. An under-filled transmission will cause premature component wear or damage.

5. Raise the vehicle on a hoist.
 - ⇒ The vehicle must be level, with the engine running and the shift lever in the PARK range.

Note: Continue to monitor the TFT. If the TFT is not within the specified values, reinstall the trans oil level check plug and repeat the previous steps.

6. Remove the transmission oil level check plug (1) from the transmission fluid pan.
 - If the fluid is flowing as a steady stream, wait until the fluid begins to drip.
 - If no fluid comes out, add fluid until fluid drips out. Refer to *Transmission Fluid Fill Procedure* in SI.
7. Allow any fluid to drain.

8. Reinstall the transmission oil level check plug.

Tighten

Torque the plug to 9 N•m (80 lb in).

9. Inspect for external leaks. Refer to *Fluid Leak Diagnosis* in SI.

Parts Information

Note: Only select the parts that coincide with the repair performed.

Causal Part	Description	Part Number	Qty
X	Mobil 1 Synthetic LV ATF HP (Available only through Local GM Oil Distributors)	19417577 (US - 1 quart)	20
		19418066 (Canada - 0.946L/1 qt)	
N/A		Drum 55 gallon 19417904 (US)	1
N/A	RETAINER, TRANS FLUID CLR PIPE FTG	24205103	2
N/A	SEAL, TRANS FLUID CLR PIPE	23135703	1

Warranty Information

For vehicles repaired under the Powertrain coverage, use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.

Labor Operation	Description	Labor Time
8480818*	Fluid Exchange	1.1 hrs
Add	DT-45096 Prep (Not required unless the fluid is not Mobil 1 Synthetic LV ATF HP)	0.1 hr

*This is a unique Labor Operation for Bulletin use only.

Version	4
Modified	Released June 04, 2019 Revised July 08, 2019 - Updated the Warranty Information section, removed all of the Diagnostic and Pico testing information. Revised July 25, 2019 - Update Labor Operation Time to 1.1 hrs. Revised March 30, 2020 - Added Note to the Model table and in the Correction section not to perform this bulletin twice.

