



Preliminary Information

PIP5848A Diagnostic Tip – Diagnosing AWD Driveline Concerns

Models

| Brand: | Model: | Model Years: | VIN: | | Engine: | Transmissions: |
|----------|--------|--------------|------|-----|---------|----------------|
| | | | from | to | | |
| Cadillac | CT6 | 2016 - 2020 | All | All | All | All |

| | |
|----------------------------|--|
| Involved Region or Country | North America |
| Additional Options (RPO) | F46 |
| Condition | Some customers may comment on one or more of the following conditions during driving: <ul style="list-style-type: none"> Misfire Sensation -No DTC's Rumble/Stuttering Feeling & Noise Shudder on acceleration under load |
| Cause | Possible AWD and/or internal T-Case |

Correction:

AWD equipped vehicles can be more complex when diagnosing Driveline concerns

Easiest to duplicate with the vehicle at operating temperature, light throttle from a stop may come in as early as 5 miles per hour, accelerating up to 55 + miles per hour.

Could be described as a tire vibration, propeller shaft vibration, torque converter clutch chuggle/shudder and slight misfire feel while maintaining speed.

Condition immediately gone when throttle is lifted.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

1. Test drive the vehicle attempting to duplicate customer complaint.
2. After replicating the customers complaint verify drive mode operations: Touring-Sport-Snow/ICE and is concern changed or eliminated in any one mode?
3. De-activate the TCCM Clutch using GDS/TechLine Connect:
 - A: T-Case Clutch Drivability Test
4. If condition persists with TCCM deactivated continue Strategy Based Diagnosis outside of TCCM.

Note: If applicable, refer to Bulletin # 18-NA-355 for Transmission/TCC shudder concerns/diagnosis.

5. If the condition DOES NOT exist with TCCM deactivated:

A: Inspect the tires and their locations

- Verify the tires are same Make, Model, Size, Speed Rating, tread pattern and set to placard pressures

Note: There have been cases where tires of the same Manufacturer, Model, and Size could have different Speed Ratings/tread patterns and therefore have different overall circumferences

- Measure the circumference of the tires to determine possible variation

Note: Refer to these Owner's Manual sections:

- Buying Tires - GM recommends replacing worn tires in complete sets of four. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

- Tire Rotation - Tires should be rotated every 12 000 km (7,500 mi)

B: Rotate tires:

- Rotate tires front to rear same side

- Place thickest tread tires on the rear axle

- Swap tire/wheel assemblies with a known good set

6. Test drive the vehicle without using any commands or special functions in GDS

7. If condition persists: Perform a T-Case Fluid flush (US-19331044, CA-19331045)

- Drain T-Case fluid

- Refill T-case

- Drive vehicle for 5 minutes

7.1 Safely perform TLC T-Case Clutch Fluid Flush/Fill Activation while driving vehicle.

7.2 Keep the vehicle speed under 25mph

7.3 Do Not perform tight cornering maneuvers while the T-Case Clutch Fluid Flush/Fill Activation is in progress.

7.4 After procedure is complete, pull over, shut the vehicle off, restart the vehicle and perform 8 figure 8 maneuvers in a safe location.

7.5 Drain T-case fluid again

7.6 Refill T-case

8. Test drive the vehicle

9. If the condition is improved or still exists after fluid flush procedure perform step 7.1 - 8 again. If corrected return vehicle to the customer if STILL present see section 5 above.

Parts Information

| Description | Part Number | Quantity |
|----------------------|--------------|-----------|
| Fluid, transfer case | US-19331044* | 2.0 Qts. |
| Fluid, transfer case | CA-19331045* | 2.0 Qts . |

*If unable to obtain G.M. part number fluid it is acceptable to use fluid meeting Shell TF-0870 specification.

Warranty Information

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

| Labor Operation | Description | Labor Time |
|-----------------|---------------------------------------|------------|
| 2887248 | Diagnostic Test and Drive | .5 HR. |
| | Add T-Case Fluid Fill/Flush Procedure | 1.0 HR. |

Version History

| | |
|----------|--|
| Version | 2 |
| Modified | 04/14/2022 - Created on. 03/20/2023 - Update repair instruction and additional fluid usage options. |



GENERAL MOTORS

© 2023 General Motors. All Rights Reserved.