Service Bulletin

INFORMATION

Subject:	**Information on Transmission Adaptive Functions and Correcting Low Mileage Harsh Shifts**

Models:	**2015 Cadillac Escalade, Escalade ESV**
	2015 Chevrolet Corvette, Silverado
	2015 GMC Sierra, Yukon, Yukon XL
	Equipped with 8L90 Automatic Transmission (RPO M5U)

Attention:	**This Bulletin also applies to any of the above models that may be Export vehicles.**

This Bulletin has been revised to include Warranty Information. Please discard Corporate Bulletin Number 14-07-30-001D.

Some customers may comment on low mileage vehicles with automatic transmission that shift feel to be too firm (harsh) or may slip or flare. Customers should be advised that the transmission makes use of an adaptive function that will help to refine the shift feel while driving and improve shift quality.

Transmission Adaptive Functions

The Hydra-Matic® 8-Speed RWD transmission utilizes a line pressure control system during upshifts to compensate for new transmission build variation as well as the normal wear of transmission components. The variation experience on a new and normal wear of the apply components within the transmission over time can cause shift time (the time required to apply a clutch) to be longer or shorter than desired.

In order to compensate for these changes, the transmission control module (TCM) adjusts the pressure commands to the various pressure control (PC) solenoids to maintain the originally calibrated shift timing. The automatic adjusting process is referred to as "adaptive learning" and it is used to ensure consistent shift feel plus increase transmission durability.

The TCM monitors the A/T input speed sensor (ISS) and the A/T output speed sensor (OSS) during commanded shifts to determine if a shift is occurring too fast (harsh) or too slow (soft) and adjusts the corresponding PC solenoid signal to maintain the set shift feel. The purpose of the adapt function is to automatically compensate the shift quality for the various vehicle shift control systems. The adapt function is a continuous process that will help to maintain optimal shift quality throughout the life of the vehicle.

How to Adapt Your Transmission

Transmission adapts can be reset and relearned on most vehicles through GDS 2 by using the Transmission Service Fast Learn procedure. This procedure is completed in the service stall and no vehicle driving is required.

To complete the Transmission Service Fast Learn procedure, enter GDS 2 Diagnosis and navigate to:

- Module diagnostics
- Transmission Control Module
- Configuration / Reset Function
- Transmission Service Fast Learn

Transmission Service Fast Learn is the recommended method to reset and relearn the adapts. This procedure is available on all trucks and SUVs and on Corvettes built on September 29, 2014 and later. For Corvettes built before September 29, 2014 the Transmission Service Fast Learn will be available if the TCM calibration is updated to the latest available on TISWeb.

Perform a test drive and note any soft or harsh shifts.

To improve these complaint shifts, locate the clutches that need to be learned in the following table below, and perform the required learning procedure for each clutch listed below the chart. Execute the steps below with the vehicle warmed up on a smooth level road. The driver may observe a brief pulse behavior or firm

shift feel while the transmission is optimizing the clutch learn characteristics.

Note: The transmission fluid temperature must be between 75°C (167°F) and 85°C (185°F) during the drive procedure or adapts will not be learned.

To Correct The Shift Feel	Learn These Clutches	
	Applying Clutch	**Releasing Clutch**
1–2	C4	C3
2–3	C3	C1
3–4	C5	C3
4–5	C3	C4
5–6	C4	C2
6–7	C1	C4
7–8	C4	C3
3–1	C1	C4
2–1	C3	C4
N-D	C3 – Perform garage shift adaptive learning	
N-R	C5 – Perform garage shift adaptive learning	
Power Downshifts	Just perform the shifts and they will adapt	

Note: During low vehicle speeds with no accelerator pedal input downshift will most likely be a 3-1 shift.

To Learn C1:

Shift the transmission into 6th gear with the PRNDM in the M position. Obtain an engine speed between 1000 and 1750 rpm. Maintain this condition for a total of about 5 miles (8 km). Cruise control may be used and has been found to result in faster learning of the clutch values. Try the complaint shift to see if it has improved to an acceptable level. If not, continue with operation in this speed range until the complaint shift improves.

To Learn C2:

Note: Perform abbreviated coast down shift adaptive learning procedure listed below to enable learn mode.

Shift the transmission into 8th gear with the PRNDM in the M position. Obtain an engine speed between 1000 and 1750 rpm. Maintain this condition for a total of about 5 miles (8 km). Cruise control may be used and has been found to result in faster learning of the clutch values. Try the complaint shift to see if it has improved to an acceptable level. If not, continue with operation in this speed range until the complaint shift improves.

To Learn C3:

Note: Perform abbreviated coast down shift adaptive learning procedure listed below to enable learn mode.

Shift the transmission into 4th gear with the PRNDM in the M position. Start a slow acceleration at about 1000 rpm and maintain the slow acceleration until you reach about 1650 rpm. Once you reach 1650 rpm, go back down to 1000 rpm and repeat the slow acceleration up to 1650 rpm. Repeat this a few times and re-try the complaint shift to see if it has improved to an acceptable level. If it has not, continue this slow acceleration procedure until the complaint shift improves.

To Learn C4:

Shift the transmission into 7th gear with the PRNDM in the M position. Obtain an engine speed between 1000 and 1750 rpm. Maintain this condition for a total of about 5 miles (8 km). Cruise control may be used and has been found to result in faster learning of the clutch values. Try the complaint shift to see if it has improved to an acceptable level. If not, continue with operation in this speed range until the complaint shift improves.

To Learn C5:

Shift the transmission into 3rd gear with the PRNDM in the M position. Start a slow acceleration at about 1000 rpm and maintain the slow acceleration until you reach about 2500 rpm. Once you reach 2500 rpm, go back down to 1000 rpm and repeat the slow acceleration up to 2500 rpm. Repeat this a few times and re-try the complaint shift to see if it has improved to an acceptable level. If it has not, continue this slow acceleration procedure until the complaint shift improves.

Abbreviated Coast Down Shift Adaptive Learning:

Lightly accelerate to 65 mph (105 km/h) and coast to 25 mph (40 km/h) (light braking can be applied). Repeat 10 times.

- This procedure will enable clutch apply adaptive learning for the C2 and C3.

   Note: This only needs to be performed once per drive cycle to enable the adaptive learning for all subsequent C2 and C3 learning maneuvers. Failure to perform this procedure will result in no learning of these clutches.

Power Downshift Adaptive Learning:

Starting with the vehicle operation in 8th gear, slowly apply pressure to the accelerator pedal until downshift occurs. Repeat as necessary in each gear (8, 7, 6, 5, 4, 3 and 2).

- This procedure will learn the off-going clutch adapts for desired power downshift control.

Garage Shift Adaptive Learning:

Perform abbreviated coast down shift adaptive learning procedure. Then with the vehicle at a stop, hold foot on brake pedal and move the shifter from Neutral to Drive and Neutral to Reverse. Repeat as necessary until desired shift quality is achieved.

- This procedure will learn the C13567 (C3-Drive) and C45678R (C5 – Reverse) oncoming clutch adapts.

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
8480318*	Transmission Service Fast Learn	Use Actual Clock Time
*This is a unique Labor Operation for Bulletin use only. It will not be published in the Labor Time Guide.		

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.

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