

# 2018 - 2019 Corvette: GM TechLink: Delayed Transmission Engagement

## Delayed Transmission Engagement

September 30, 2020

GM TechLink

Some **2018 - 2019 ATS, CTS, CT6, Corvette; 2018 - 2020 Express; 2018 - 2021 Camaro, Colorado, Silverado, Canyon, Savana, Sierra; and 2021 CT4** models equipped with the 8L45 or 8L90 8-speed automatic transmission (RPO M5T, M5N, M5U, M5X, MQD, MQE) may have a delayed engagement condition when the transmission is shifted from Park to Reverse or Park to Drive after the vehicle has been sitting with the engine off. (Fig. 12) The delayed engagement typically occurs after several hours or, more commonly, overnight.



**Fig. 12**

The condition may seem to be delayed gear engagement, a slipping transmission, or delayed engagement followed by a harsh engagement.

The transmission is designed to allow three seconds to complete a garage shift (shifting from Park to Reverse or Park to Drive). If the engine speed is increased before the transmission has engaged, the garage shift may be harsh.

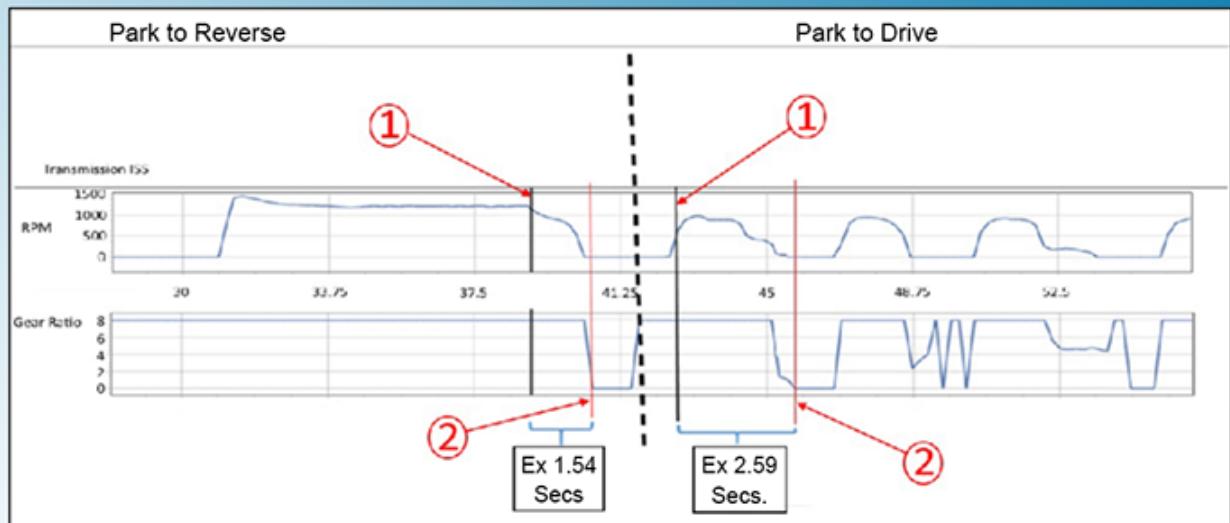
After the initial shift, transmission operation will be normal for the subsequent

engagements. The condition will not occur again until the vehicle sits again with the engine off for several hours or overnight.

## Delayed Engagement Test

Use GDS2 to monitor engine RPM and the transmission input speed sensor (ISS) prior to starting the engine. Start the engine with the transmission in Park and shift the vehicle from Park to Drive or Park to Reverse with the service brake applied. The ISS should drop to zero within three seconds, which is the clutch engagement time. Recording the GDS session log can be useful in diagnosing the condition.

Delayed engagement of Park to Reverse or Park to Drive is present if the time difference between the gear selected (Pt. 1) and the transmission input shaft speed reaching 0 RPMs (Pt. 2) exceeds three seconds. (Fig 13)



**Fig. 13**

In most cases, the transmission will engage in three seconds or less, which is considered an acceptable engagement time and no repairs should be attempted.

**TIP:** The vehicle should only be evaluated after sitting for a minimum of eight hours but less than 24 hours and at an ambient temperature of 50°F (10°C) or above.

If engagement time exceeds three seconds, attempt to learn the C3 – Drive and C5 Reverse – Clutch using the following steps:

1. Allow the transmission sump temperature to rise between 20° and 30°C (68° and 86°F). Do not apply the accelerator pedal.
2. Perform 20 Park to Reverse shifts or 20 Park to Drive shifts releasing the brake pedal with each shift, allowing the vehicle to roll 5-10 feet (1.5-3.0 m) per engagement into gear.

If the learn procedure does not correct the condition, disassemble the transmission and inspect the 1-3-5-6-7 Clutch (C3) for a delay into Drive condition and inspect the 4-5-6-7-8 Reverse Clutch (C5) for a delay into Reverse condition. The respective clutch plates and seals should be inspected for wear and or damage and repaired accordingly.

If the vehicle has less than 2,500 miles (4,000 km), the transmission or valve body has been replaced or a clutch repair has been performed, follow the clutch learn procedure in Bulletin #16-NA-019 to learn the C5 Reverse and C3 Drive Clutch.

For additional information on a delayed transmission engagement condition, refer to Bulletin #20-NA-187.

*– Thanks to Mark Gordon*

Online URL:

<https://www.corvetteactioncenter.com/tech/knowledgebase/article/2018-2019-corvette-gm-techlink-delayed-transmission-engagement-1448.html>