

GM 6L90

SECOND GEAR START

COMPLAINT: A 2014 Cadillac CTS-V equipped with the 6L90 transmission has had the transmission overhauled and is ready to be road tested. The technician notices that on initial takeoff the transmission will start in first gear (figure 1), but every takeoff after that it will start in second gear (figure 2).

CAUSE: With a scan tool connected and looking at commanded gear, data mimics what the transmission is doing. No codes are set in any module.

Depending on year model, manual mode can be engaged using the shift lever (figure 3), by moving the lever to the right into the manual shift gate, or by pressing the button on the top of the shift lever (figure 4). Shifting can then be accomplished by pressing the shift paddles (figure 5), to shift the transmission to higher gears or lower gears.

When the technician placed the transmission in manual mode (figure 6), the vehicle made a first gear start, as indicated on the speedometer cluster, on every initial takeoff.

CORRECTION: Since there were no trouble codes stored in any module, the technician wondered if this might be normal operation. He then found and read the owners manual and this is what was found:

"When the CTS-V is in Drive, the first forward gear automatic shift after start will be from First Gear. Following starts will begin in Second Gear. When in Manual Mode, the vehicle will start in First Gear every time".

SUMMARY: Today's vehicles equipped with transmissions that vary in speeds from six to ten, they can have a variety of programmed specialty driving modes. When the technician is confronted with a similar scenario such as this one, it is a good procedure to check the owners manual to verify whether or not the vehicle is performing as designed.

A special thank you to Tim from Master Transmission for sharing his experience with ATSG.

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Figure 1



Figure 2

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Figure 3



Figure 4

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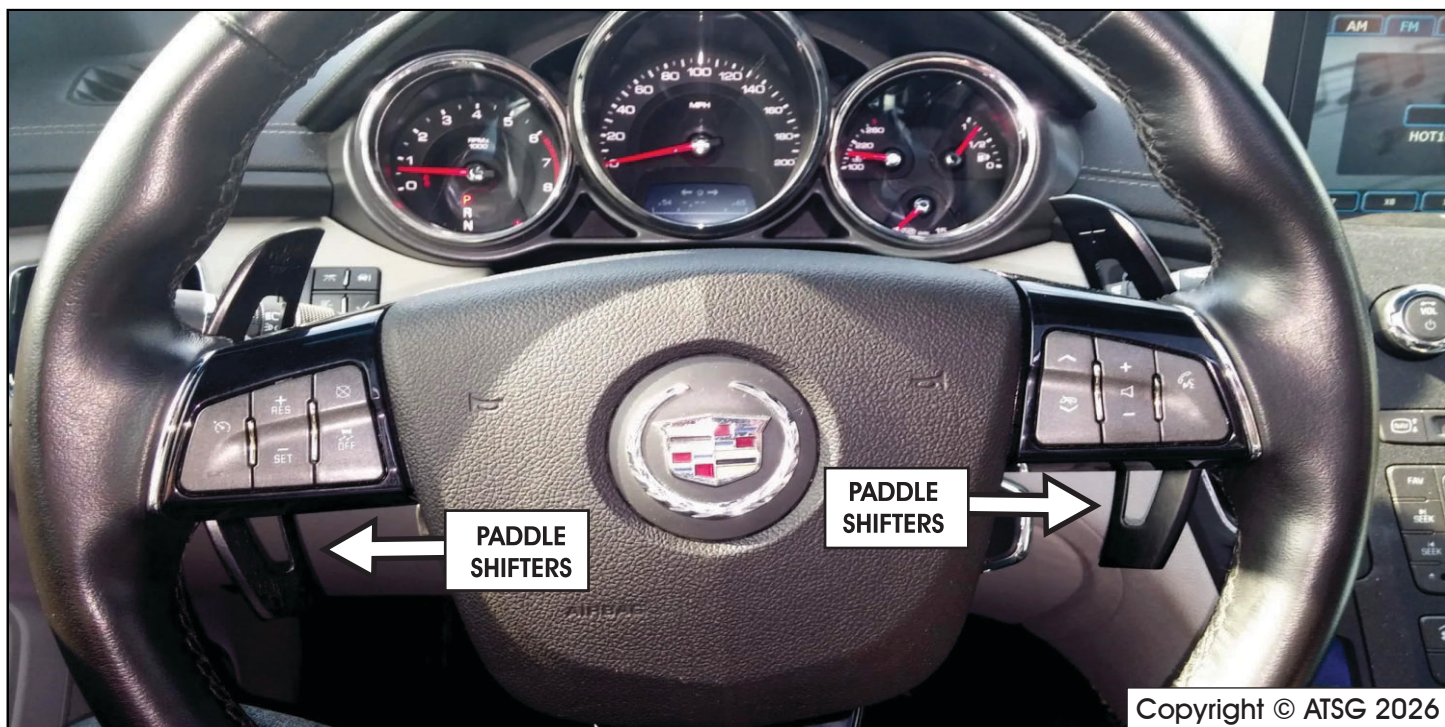


Figure 5



Figure 6