

Transmission Adaptive Functions (5L40-E/5L50-E)

The Hydra-Matic 5L40-E/5L50-E uses a line pressure control system which has the ability to adapt the system line pressure in order to compensate for normal wear of clutch fiber plates, seals, springs, etc. The adapt feature is similar in function to fuel control (integrator/block learn).

The Hydra-Matic 5L40-E/5L50-E transmission uses the adapt function for garage shifts, upshifts, and TCC application. The transmission control module (TCM) monitors the input shaft speed in order to determine if the shift is occurring too fast or too slow and adjusts the pressure control solenoid in order to maintain the correct shift feel.

Shift Adapt Relearn Procedure

Perform the transmission adaptive learn procedure after any of the following service procedures:

- Transmission replacement or major overhaul
- TCM replacement or reflash
- Valve body replacement

After certain repairs, the adaptive values have to be erased. These cells then need to be refilled to get an optimal shift quality. However, only coast downshifts will require special care described in the following steps.

Coast Downshift Adapt Procedure

1. Drive the vehicle in D5 to obtain normal transmission operating temperature.
2. Travel 73 km/h (45 mph) then lightly brake to a stop, taking about 13 seconds.
3. Travel 73 km/h (45 mph) then moderately brake to a stop, taking about 6 seconds.
4. Travel 40 km/h (25 mph) then coast to about 8 km/h (5 mph).

Repeat the above steps 3 times each.

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.