

insider info.

1999 4EAT Transmission Operation

There are seven different shift schedules/maps in the TCM logic control of the 1999 Second Generation 4EAT. They are Normal, Power, Slope, Hold 2nd, Cruise, Hot ATF, Cold ATF. The shift schedule/map will determine how and when the transmission shifts. For example, in the slope mode, when driving up a hill under certain engine load conditions, the TCM will shift the transmission back down to 3rd gear.

In most cases, the transmission will stay in 3rd gear until the vehicle reaches the top of the hill, then it will upshift.

this condition occurs. If possible, road test the vehicle with the customer. If it is something you're not sure about, drive a similar vehicle to determine if there is a problem with the customer's vehicle.



Phase II 4EAT Transmission

This is done to keep the transmission from upshifting/downshifting in and out of 4th gear needlessly. On the uphill control, the slope angle is estimated from the throttle opening angle and vehicle speed change. When the TCU detects that the vehicle is moving uphill, upshifting is restrained by selecting a special shift map, which prevent needless upshifting/downshifting.

When driving downhill, under coasting conditions, if the driver touches the brake pedal, the TCM will downshift the transmission into 3rd gear to provide engine braking. This downhill control is canceled when the TCU detects the vehicle acceleration by the driver's depressing of the accelerator pedal and input from the Throttle Position Sensor.

Both of these conditions are part of the slope control logic and are a characteristic of the vehicle TCM logic.

If a customer comes to you with a transmission shift concern, question the customer thoroughly on how and when