

### 4L60E/4L65E/4L70E

The 4L60E series of transmissions has been a mainstay in shops since the early 1990's. There are a number of changes taking place in these units of which technicians should be aware. We will try to highlight some of them here.

The 4L65E was released in 2001 as a heavy duty version of the 4L60E. The most visible change was the upgrade of planetary gears from four pinion to five pinion. The strengthening of the Output Shaft and Sun gear upgrades also took place. These upgrades also found themselves to be incorporated in some of the 4L60E line in 2002.

In the 2006 model year, Dexron-VI became the transmission fluid recommended in the entire 4L60E family. Dexron VI provides a more even lubrication and its stability in temperature fluctuations make it an excellent upgrade. In normal usage, GM recommends no fluid change for the life of the vehicle.

Also in 2006, GM started the introduction of an Input Speed Sensor (ISS). Many technicians started to notice the Turbine (Input) Shaft now had splines/teeth so a sensor located internally in the pump could determine the input speed. GM also made advances in its proprietary Electronic Controlled Capacity Clutch (ECCC) technology. This system is capable of providing smooth shifting and smooth driveline feel as its sophisticated variable clutch slip also dampens engine pulses.

In the 2007 model year, GM released the 4L70E series of units. This unit was placed behind the GMT 900 series Pickups with the 6.0LV8-the Chevrolet Silverado, GMC Sierra, Suburban and the Trail Blazer performance model. The 4L70E has a higher torque handling capacity and greater towing capabilities according to GM. Also GM, introduced a new paper friction material for the 3-4 clutch. This was done to try and bring the service life to over 100,000 miles.

2007 also saw the release of the Colorado and Canyon Pickup trucks. These vehicles in the 4 wheel drive version use the Isuzu model T-150 part time two speed Transfer Case. These vehicles, when powered by the 2.8L in-line four cylinder and the 3.5L in-line 6 cylinder, also received these changes:

- Redesigned bottom pan
- Redesigned filter
- Redesigned 1-2 Accumulator Housing and Valve Body

These components will not interchange or retro-fit with any 4L60E series units, as they are unique to these models. These changes were implemented to allow clearance for the Front Drive Shaft from the Transfer Case.

In 2008, we see the completion of the Input Sensor implementation, all 4L60E, 4L65E and 4L70E's now share this logic. GM addressed a long standing concern with Cooler-Line Fitting corrosion. The Cooler Line fittings are now aluminum with a new external seal to improve durability.

The Spacer Plate for the Valve Body no longer has "snap" type screens (2). It now has 3 screens that are bonded along with the gaskets to the plate. The additional screen is to filter any debris from entering the Shift Solenoids.

We hope this information will help technicians servicing these products. As you can see, the 4L60E series of units is going through some changes and is still being produced in great volume. GM has a state-of-the-art Assembly Plant in Ramos Arizpe, Mexico and a long standing plant in Toledo, Ohio. Both have undergone renovations to reduce environmentally hazardous materials. Also the use of Hexavalent Chrome as a material coating is eliminated in all 4L60E/4L65E/4L70E units.