

1994-1996 GM Caprice / Impala / Roadmaster / Fleetwood Transmission Swap Guide

Comments, corrections and suggestions are welcomed. – please contact the site owner with comments.

Last updated by Sherlock9c1 9/17/2009

A what-body? - refers to the GM vehicle "platform": (relevant years are included)

B-body: Chevy Caprice, Buick Roadmaster, Olds Custom Cruiser

D-body: Cadillac Fleetwood (1993-1996)

F-Body: Camaro & Firebird (1993-2002)

Y-Body: Corvette (1992-1996)

4L60E similarities:

All 4L60E/4L60/700R4 have the same gear ratios:

1 - 3.06:1

2 - 1.63:1

3 - 1.00:1

4 - 0.70:1

Be aware that PATC is offering an aftermarket front planetary and sun gear which lowers 1st and 2nd gear but is pricey (\$1150 as of fall 2009). It can be differentiated visually via the 6-pinion planetary.

GM B and D-body 4L60E differences by year:

'94: First year of electronic controls in the valvebody (versus the '93 4L60, which did not have this). The PCM controls line pressure (holding power and shift feel), 1-2, 2-3 and 3-4 shift points (rpm), and TCC lockup (timing and in the '95-up models, apply feel). Everything else is done mechanically/hydraulically.

'95: Added a Pulse-Width Modulation Torque Converter Clutch (TCC) apply solenoid to control the feel of the TC clutch lockup (blamed for many 4L60E problems; TransGo HD2-C bypasses this, or you can physically stake the TCC apply valve in place). Also changed 3-2 downshift solenoid mid-year (see '96, below).

'96: PWM TCC plus a different tailhousing design with new-style Vehicle Speed Sensor (VSS). Also changed the 3-2 downshift solenoid in mid-1995 (the solenoid and wiring harness connectors are also different). There was a new manual valve added along with a relief port over the manual valve on the valve body casting with this change. This solved the low/reverse clutch release problem and makes the TransGo manual valve mod unnecessary.

How to visually tell B and D-body transmissions apart by year:

'94: VSS on driver's side of tailshaft housing, and when you remove the torque converter, there is no "PWM" lettering on the front surface of the pump. In the pan, only one solenoid on the front face (relative to the transmission in the car) of the valvebody. Inside of the wiring connector is purple.

'95: VSS on driver's side of tailshaft housing, and when you remove the torque converter, there is "PWM" in raised letters on the front surface of the pump. In the pan, there are two solenoids on the front face (relative to the transmission in the car) of the valvebody. Inside of the wiring connector is green.

'96: VSS on passenger side of tailshaft housing, and when you remove the torque converter, there is "PWM" in raised letters on the front surface of the pump. In the pan, there are two solenoids on the front face (relative to the transmission in the car) of the valvebody. There will be two brackets on the top rear of the case for the rear O2 sensor wiring. Inside of the wiring connector is green.

9C1 Trans differences:

9C1 4L60Es come with a "1st gear lockout" function that is a tab secured next to the shift linkage by the oil pan bolts. This can be removed by removing the two bolts and then reinstalling and torquing them to 9ftlbs.

LT1 vs. L99 Trans differences:

4L60Es in L99 4.3L V8 cars come with a smaller servo than the LT1 5.7L V8 cars, which come with the "...053" cor-"vette" servo for more holding power on the 1-2 and 3-4 shifts. If an L99 4L60E is going behind an LT1 engine, the servo assembly should be swapped over before installed (easily accessible on the passenger-side of the case). TransGo also sells a vette servo that can be installed as part of their 4L60E HD-2C reprogramming kit. There are a number of aftermarket servos available; be aware the Sonnax servo has fitment problems in the B/D-body while the Fairbanks servo does not. Also, the boost valve is smaller (again, Transgo or Sonnax has a fix for this), and it is possible that some holes in the separator plate are smaller.

Cadillac Fleetwood V4P differences:

Cadillac spec'd the Fleetwood towing package (V4P) to tow up to 7000lbs. The transmission was setup from the factory to shift a bit firmer. If you swap one of these transmissions into your car, be careful how line pressure you add in via the PCM. Each vehicle and package generally had some small tweaks (L99 vs. LT1, truck vs. car), so be aware that the shift feel will probably not feel the same after a swap.

Can I use a 4L60E from a...?

Note: This info assumes you can swap or remove cooler line fittings, electronics modules, tailshaft housings, and shifter brackets yourself.

1. CK Truck or Fullsize Van: Any "K" case out of a '94-97 GM full-size 2WD pickup will work. 4WD transmissions have shorter tailshafts which cannot be swapped without disassembly of the transmission. 4L60Es behind the 305 V8 and 4.3 V6 came with the smaller '..553' servo which should be replaced with an '..093' "corvette" servo. Other V6 versus V8 internal differences are unknown. Using 4L60Es from LS-engined trucks will probably encounter the same issues as ones from LS1 F-bodies (see below). There are mounting ears on the sides of the bellhousing which can simply be cut or ground off.
2. S10/Blazer (2WD V6 only): Probably. 4L60E was used '93 up to '96-97. You will need to swap the servo assembly out of your b-body 4L60E (make sure to put a new blue o-ring on the servo cover when you do so). Other mounting, electrical and internal differences are unknown at this time.
3. F-body (Camaro-Firebird) LT1 4L60Es from '94-97 will fit. They also have the "corvette" servo.
- 3b. LS1 4L60Es from '98 up will bolt on but you must use the LS1 torque converter. Unknown as to whether the LS1 TC will bolt to an LT1 flexplate. V6 transmissions have incompatible bell housings and will not work because the 3.4 and 3.8 engines have different mounting locations.
4. Corvette 4L60Es from '94-96 are identical internally (and obviously have the "corvette" servo). The difference is the case. It will be impossible to bolt the exhaust hanger bracket to the case without modification to the vette case.

Can I use a 4L60 or 700R4? from a '91-93 Caprice or other vehicle?

Don't bother. You could, but it's not worth the effort. The internal rotating parts are basically identical but everything else is different. Sell it and get a 4L60E.

B-body Transmissions from '82(?) -96:

198?-1990 - 700R4 (also 200-4R on some models)

1991-1993: 4L60

1994 - on : 4L60E

Year to Year B/D-body Swap Guide:

To put a '94 4L60E into a '95 car: Direct bolt-in; no mechanical or electrical changes required. The PCM must be reprogrammed with '94 transmission base code to avoid setting a silent code (Check Engine Light (CEL) does not illuminate, but code stored in memory). Trans will operate normally without reprogramming. The silent code (code 83) may inhibit TCC lockup, but I have not verified this. Two potential fixes (any one will work); 1. reprogram PCM so it doesn't look for the PWM solenoid, 2. wire up a manual TCC lock switch by which you can lock the converter.

To put a '94 4L60E into a '96 car: The '96 tailshaft housing and VSS must be installed on the '94 4L60E before the trans can be bolted into the car. Need to address TCC PWM solenoid issue by putting

a 30-ohm resistor between the transmission feed and the solenoid wire (see Factory Service Manual for more information). May be possible to reprogram PCM to ignore the TCC PWM solenoid though.

To put a '95 4L60E into a '96 car: The '96 tailshaft housing and VSS must be installed on the '94 4L60E before the trans can be bolted into the car. Technically, the 3-2 downshift solenoid should be swapped also, but experience shows that it is not required.

To put a '95 4L60E into a '94 car: No mechanical mods required. TCC Mod (stake the TCC valve) must be performed. The trans will operate normally without TCC Mod but TCC lockup will not work, so highway and cruising gas mileage will suffer and more heat will be produced in the transmission.

To put a '96 4L60E into a '95 car: The '95 tailshaft housing and VSS must be installed on the '96 4L60E before the trans can be bolted into the car. Technically, the 3-2 downshift solenoid should be swapped also, but experience shows that it is not required. No other modifications are necessary.

To put a '96 4L60E into a '94 car: The '94 tailshaft housing and VSS must be installed on the '96 4L60E before the trans can be bolted into the car. TCC Mod must be performed. The trans will operate normally without TCC Mod but TCC lockup will not work, so highway and cruising gas mileage will suffer and more heat will be produced in the transmission.

TCC Mod (method 1):

An additional wire must be run from the PCM connector D pin 6 to pin "U" on the trans harness for the TCC to work. Also, the PCM must be reprogrammed with '95 transmission base code. In my opinion this is more work than its worth due to the amount of labor involved in properly routing an additional wire into the powertrain wiring harness.

TCC Mod (method 2):

Leave the PWM solenoid unplugged but installed. On the valve directly to the right of the PWM solenoid – push that valve all the way towards the outside of the valvebody, and stake it into place. That'll lock keep the valve acted on by the PWM in the full-open position and it'll function like a '94 style lockup. No PCM reprogramming required. You may have to swap the '94 internal harness into '95-'96 transmission, but I'm not sure. I recommend not swapping harnesses if you don't have to, because they will most likely be brittle and are tricky to remove from the case without damaging the lugs on the connector.