

A T T E N T I O N

YOUR WARRANTY DEPENDS ON YOUR ADHERENCE TO THESE GUIDELINES

U151E, U151F & U250E INSTALLATION GUIDE

Toyota Automatic Transmission

IMPORTANT

Failure to verify that a properly functioning ECM is installed in the vehicle will cause immediate transmission damage and will void your warranty.

VEHICLE PREP

- Prior to any battery disconnect, removal of parts, or disassembly; scan any and all modules for fault codes with a capable scan tool. Record all fault codes for future reference. If some engine codes or conditions are present, such as knock sensor, low coolant level, or faulty engine coolant thermostat, they will prevent shifting into 5th gear in this application.
- Verify proper operation of the entire electrical system. A malfunction can cause problems maintaining memory, intermittent electrical faults, and the ability of control modules to adapt correctly.
- Check automatic transmission fluid (ATF) for engine coolant or glycol cross contamination. If the transmission has failed due to engine coolant or glycol cross contamination, the radiator with oil cooler must be replaced.
- Use a suitable engine support fixture to keep the engine in place prior to removing any sub-frame or cross-member parts.
- Remove all 6 torque converter bolts and push the torque converter all the way into the transmission before separating the transmission from the engine block. Note the clearance between the converter bolt mounting pads and the flywheel/drive plate for reference on installation.
- Replace any damaged or badly worn mounts/insulators.
- Inspect the flywheel, drive plate, and ring gear assembly for excessive run-out, cracks or damage and replace as necessary.
- Inspect the crankshaft pilot bore area for wear and remove any rust or corrosion. Apply a small amount of grease to aid in assembly.

OIL COOLER FLUSHING OR REPLACEMENT

A contaminated or restricted oil cooler is the #1 cause of repeat transmission failure after repair or replacement.

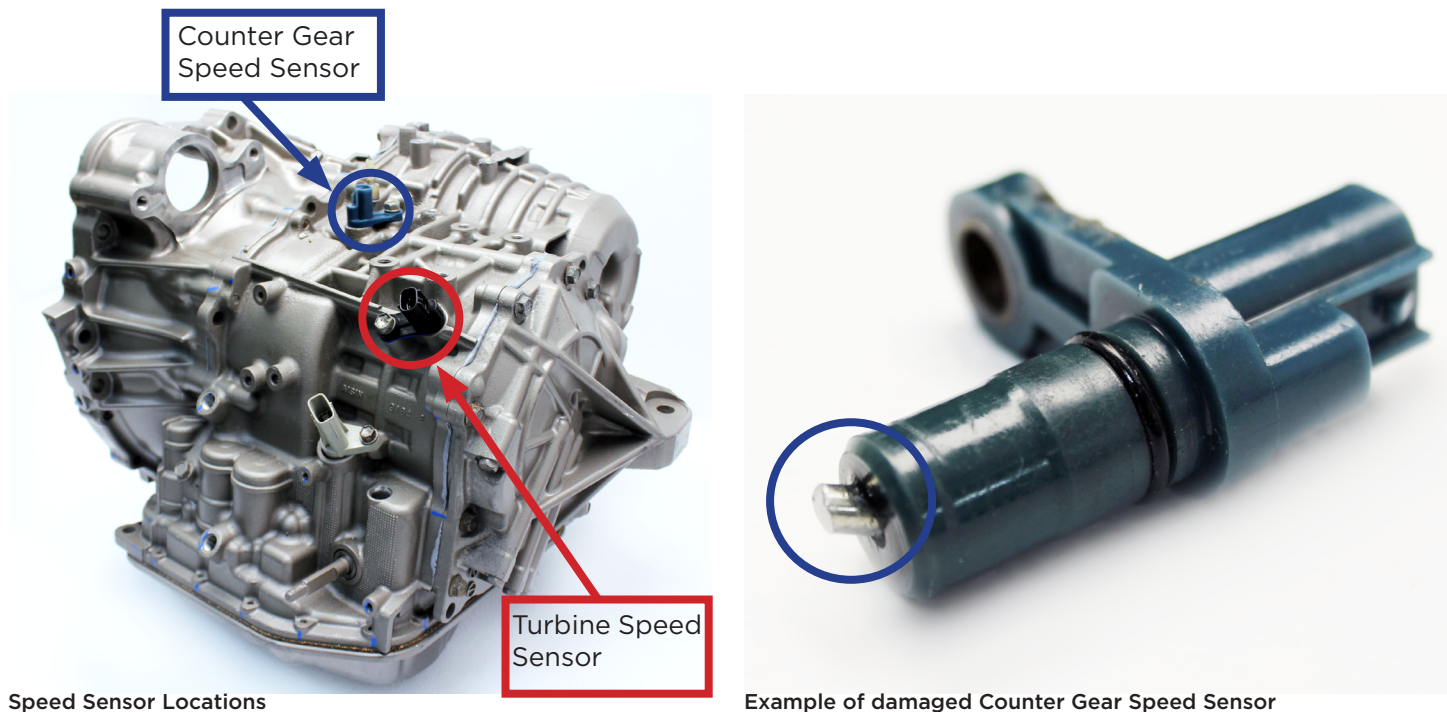
- Check the transmission oil cooler lines for possible damage such as being crushed by rocks or road debris, kinks or incorrect routing and repair as necessary.
- If the oil cooler circuit is contaminated or restricted by debris from internal clutch or hard part failure, it must be cleaned with a pulsing hot flush type system until verified clear.
- Do not bypass the factory oil cooler in the radiator or install an external auxiliary unit as a stand alone oil cooler. Instead install a factory type replacement radiator.

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PRE-INSTALLATION

- Verify that the replacement transmission matches the original. Pay close attention to the bellhousing pattern and all threaded mounting bosses. Transfer all necessary external parts from the original transmission to the replacement transmission assembly.
- **Special Note:** U150/U151E/F transmissions utilize a longer Counter Gear Speed Sensor that is typically blue in color. Caution must be taken when transferring this speed sensor to your replacement transmission. Be sure to install the blue Counter Gear Speed Sensor as shown in the image below or immediate damage will occur.



- Check for presence of all engine alignment dowels. Make sure the dowels are clean and are protruding to properly engage the transmission bellhousing mating surface.
- Clean the engine block and transmission bell housing mating surfaces to remove any rust, dirt, corrosion, oil or excessive paint to ensure a true flush mount.
- Replace any damaged or badly worn mounts and insulators.
- Check drive axles for wear and/or leaking CV joint boot seals and replace as necessary.
- Carefully place the transmission on to a proper jack and secure assembly to the jack. Remove the torque converter support bracket and push the converter into the bellhousing to prepare for re-assembly.
- Transfer shipping materials, including the torque converter support bracket, all hole plugs, and connector seals from the replacement transmission to the drained transmission for return.
- Inspect the vehicle harness connectors for damage; there may be broken pins from the original transmission stuck in the vehicle harness. Remove and/or repair as necessary. To prevent moisture intrusion and fretting corrosion, use a small amount of dielectric grease on the female terminals.

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TRANSMISSION INSTALLATION TIPS

- Rotate the torque converter to position the converter bolt mounting pads to align approximately with bolt holes through the flywheel/drive plate.
- Do not use the bellhousing bolts to draw the transmission to the engine block. Push the transmission assembly flush against the engine block and hand tighten at least 2 opposing bolts on the housing to maintain a secure fit to the engine block.
- Check the torque converter to be sure it is free and not bound up.
- There are 6 torque converter to flywheel/drive plate attaching bolts; 1 bolt is darker or yellowish green in color when compared to the other 5 remaining bolts. Install this bolt first for proper alignment of the converter, as it has a slightly different shoulder area.
- Apply a few drops of adhesive to the inner most 2-3 threads of the converter bolts using Toyota Genuine Adhesive 1324, Three Bond 1324, or equivalent.
- **Caution:** Be sure to use the correct length bolts. If the bolt bottoms out in the converter mounting pad area before clamping the flywheel/drive plate, you will “dimple” the converter and cause a shudder when the converter clutch is applied. Order bolts if necessary using the VIN.

FLUID FILL PROCEDURE

- The factory fill and recommended automatic transmission (ATF) fluid classification is type T-IV unless otherwise specified on the dipstick as ATF WS.
- ATF is added through the filler tube and the level is checked with the dipstick when the engine and transmission are normal at operating temperature.

Family	Dry Fill Capacity	Drain Pan and Refill Capacity
U250E (FWD / 4 Cylinder)	8.0 Liters / 8.5 US Quarts	3.5 Liters / 3.7 US Quarts
U150 / 151E (FWD / 6 Cylinder)	8.8 Liters / 9.3 US Quarts	3.5 Liters / 3.7 US Quarts
U150 / 151F (AWD)	9.5 Liters / 9.5 US Quarts	3.6 Liters / 3.8 US Quarts

***Please note that this unit has been dyno tested and may contain 1-2 quarts of residual fluid**

1. Fill the transmission with 3-4 quarts of the recommended fluid and then start the engine with the shifter in the Park range.
2. Immediately check fluid level with the engine running. Check **both** sides of the dipstick and pay attention to the lowest reading as there will be residual fluid in the tube. Continue to add fluid in 1/2-quart increments until both sides of the dipstick indicate a safe level. **Do not** run the engine unless you are adding fluid, checking the level, or the transmission is filled to capacity.
3. Once the dipstick reads full, apply the foot brake. Move the shifter through all ranges, pausing momentarily in each range and then shift back into Park. Re-check and adjust the ATF level as necessary. Inspect for leaks.

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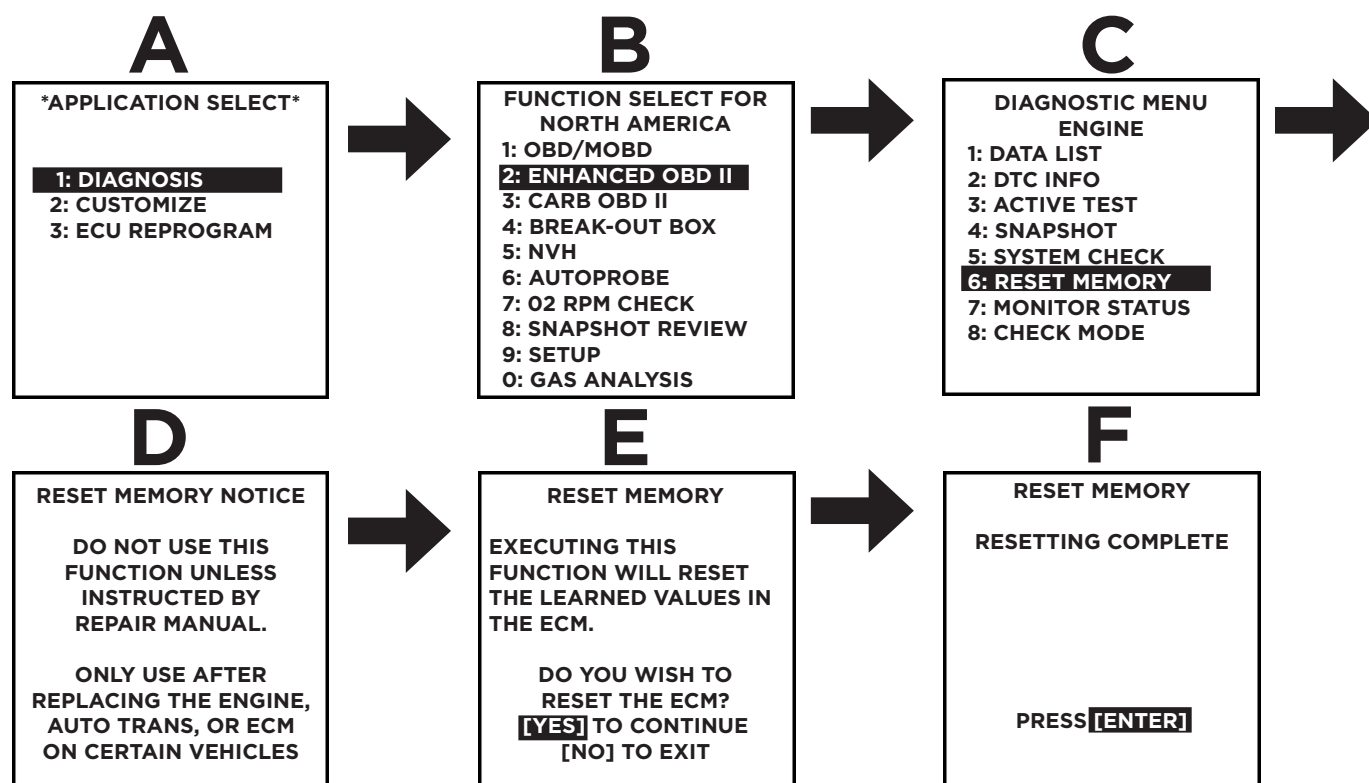
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ADAPTIVE MEMORY RESET / ROAD TEST

After installation is complete and prior to initial road test, it is necessary to clear and reset the A/T learned values with a capable scan tool and perform a "RESET MEMORY" procedure to minimize subsequent performance issues. A battery disconnect alone will not clear A/T learned values. This must be done with a capable scan tool. **Failure to do so may lengthen the time for the ECU/PCM to re-adjust learned values resulting in shift quality concerns and possible transmission damage.**



If your scan tool is capable but will not perform, or aborts, the RESET MEMORY function, verify that the engine and transmission are at normal operating temperature and there are no fault codes present.

- After the RESET MEMORY function has been performed with a capable scan tool, a road test with a specific drive pattern will be needed to relearn adaptive values. Perform this drive pattern on a level surface and observe posted speed limits and traffic laws while driving as follows:
- Drive the vehicle through all the gears with normal/gradual acceleration from a stop up to a minimal speed of at least 45MPH with lock up on in 5th gear and hold speed or gradually accelerate maintaining lock up on with the throttle open for 3 minutes or more and then coast and lightly brake to a stop and idle. Repeat this drive pattern 3 times or more. (Stop---1st---2nd---3rd---4th---5th---5th lock up on) In the event that the drive pattern is interrupted due to traffic conditions or other factors, the drive pattern can be resumed and in most cases, relearn completed.
- Re-check the fluid level at normal operating temperature and raise the vehicle on a lift to verify there are no leaks.

NOTE

- Wheel alignment may be required if steering issues are present post-installation. Ensure tire pressures are correct.