

# TECHNICALLY *Speaking*

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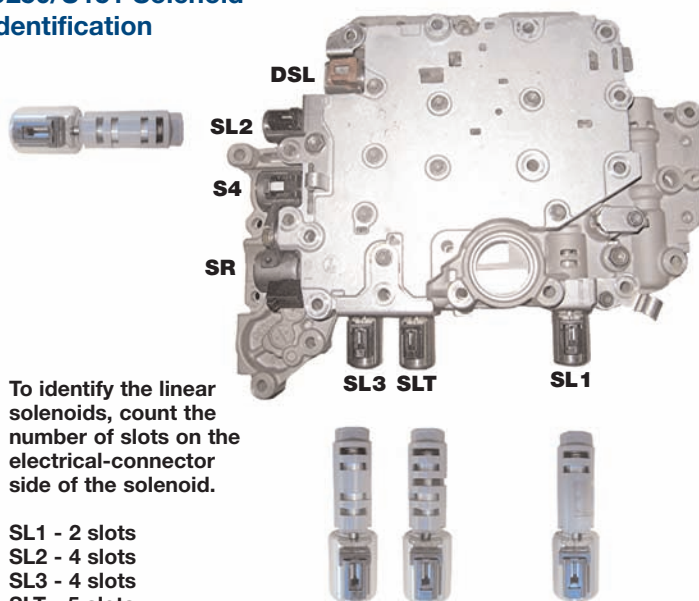
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## U151/U250 Solenoid Info

The U151 and the U250 are five speed transaxles used from 2004-on in the Lexus ES300, ES330, RX330, RX350, and in many Toyota vehicles. The U250 is used behind the 2.4L 4 cylinder engine and the U151 is used behind the 3.0L, 3.3L, and 3.5L V-6 engines. The U151E and U250E are front wheel drive transaxles and the U151F is an all wheel drive transaxle.

Incorrectly identifying the solenoids in these units is a common problem. Three things we have learned for sure: getting them confused is easy, they can be installed in the wrong locations, and they sure don't work well when you do.

### U250/U151 Solenoid Identification



When installed in the valve body, the four "long" or linear solenoids look almost identical. They have the same black, two terminal electrical connector, although I have seen some U250 valve bodies with a tan connector on the SLT solenoid. To make matters worse, the factory manual line drawings make it difficult to determine which solenoid goes where. To help identify its correct location, look at the valve area of the solenoid. Count the slots on the part of the solenoid that will live in the valve body bore when the solenoid is installed. There may be slots on both sides of the valve area, but for identification purposes, count the slots on the electrical connector side.

The four linear solenoids: SL1, SL2, SL3, and SLT are PWM solenoids. The ECM provides and controls both power and ground for each solenoid.

SL1 has 2 slots on the electrical connector side and 3 slots on the opposite side.

Resistance at 68°F should be 5 – 5.6 Ohms.

SL1 is a clutch control solenoid and is also known as Pressure Control Solenoid "A".

SL2 and SL3 have 4 slots on the electrical connector side and one slot on the opposite side.

Resistance at 68°F should be 5 – 5.6 Ohms.

SL2 and SL3 are clutch control solenoids.

SL2 is also known as Pressure Control Solenoid "B".

SL3 is also known as Pressure Control Solenoid "C".

These two solenoids do look the same but interchanging them successfully has not been verified. Mark them and reinstall them in their original positions.

SLT has 5 slots on the electrical connector side and none on the opposite side.

Resistance at 68°F should be 5 – 5.6 Ohms.

SLT controls line pressure rise and is also known as Pressure Control Solenoid "D".

The other three solenoids: DSL, S4, and SR are on/off solenoids that are powered by the ECM and ground through the body of the solenoid.

DSL solenoid controls the lockup clutch in the torque converter.

DSL has a single wire reddish/brown electrical connector and the hold down bracket is part of the solenoid.

Resistance at 68°F should be 11 – 13 Ohms.

DSL is also known as the TCC solenoid.

S4 is a shift solenoid with a single wire black connector and the hold down bracket is part of the solenoid.

Resistance at 68°F should be 11 – 15 Ohms.

S4 is also known as Shift Solenoid "D".

SR has a black electrical connector and the hold down bracket is part of the solenoid.

Resistance at 68°F should be 11 – 15 Ohms.

SR is also known as Shift Solenoid "E".

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