**5L40E**

**Torque specification:**
- Valve body bolts: 11Nm
- Oil pan bolts: 11Nm
- Pump bolts Torx-45: 22Nm
- Pump Bolts Torx-30: 11Nm

**Clutch clearance:**
- Direct Clutch: 1.06-1.86mm
- Reverse Clutch: 0.98-1.43mm
- Coast Clutch: 1.16-1.67mm (6 frictions)
- Coast Clutch: 1.42-1.93mm (8 frictions)
- Forward Clutch: 1.06-1.86mm
- Overdrive Clutch: 0.94-1.79mm
- Intermediate Clutch: 0.78-1.58mm
- Low Reverse Clutch: 1.32-2.17mm
- Second Clutch: 1.32-1.92mm
- Second Coast Clutch: 0.80-1.60mm

**One way clutches:**
- Forward Sprag: Clockwise Freewheel
- Intermediate Sprag: Clockwise Freewheel
- Low Sprag: Counter Clockwise Freewheel
- 2nd Sprag: Counter Clockwise Freewheel
**Software:**
Transmission always needs to be reflashed after repair/overhaul.

**Oil Pressure:**
- Drive: min 48psi / max 180psi
- Reverse: min 60psi / max 232psi

**Oil specifications:**
- Dry fill: 8.5 Ltr
- Fluid specifications: Dexron III / Texaco ETL-7045
## Electronics:

- **Pressure Control Solenoid (PWM)**: 3.5-4.6 Ohms
- **TCC Solenoid (PWM)**: 10-11.5 Ohms
- **1-2 Shift Solenoid (A)**: 15-17 Ohms
- **2-3 Shift Solenoid (B)**: 15-17 Ohms
- **4-5 Shift Solenoid (C)**: 15-17 Ohms
- **Input Speed Sensor (ISS)**: 325-485 Ohms
- **Output Speed Sensor (OSS)**: 325-485 Ohms
- **Transmission Temperature Sensor**: 3400-3600 Ohms (by 20 degrees Celsius)

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Common failures:

1. Premature oil pump failure due to sucking air into pump area. This can be caused by not following the right filling procedure.
2. No reverse or bad engagement of reverse can be caused by a problem in TCC-solenoid. Replace TCC-solenoid for OE-new (#701 – 5L40E.SOL13)
3. BMW X5 is equipped with a thermostat in the cooler line, this will avoid any good result when flushing the cooler at low temperature. Only a new replacement will avoid comebacks after rebuilt.
4. Low or unstable line-pressure can be caused by a worn-out Actuator Feed Limit (AFL) valve, we offer a Sonnax repair kit (5L40E.VA04) to replace the valve and repair the bore with a sleeve. This will help you solve gear ratio slip codes.