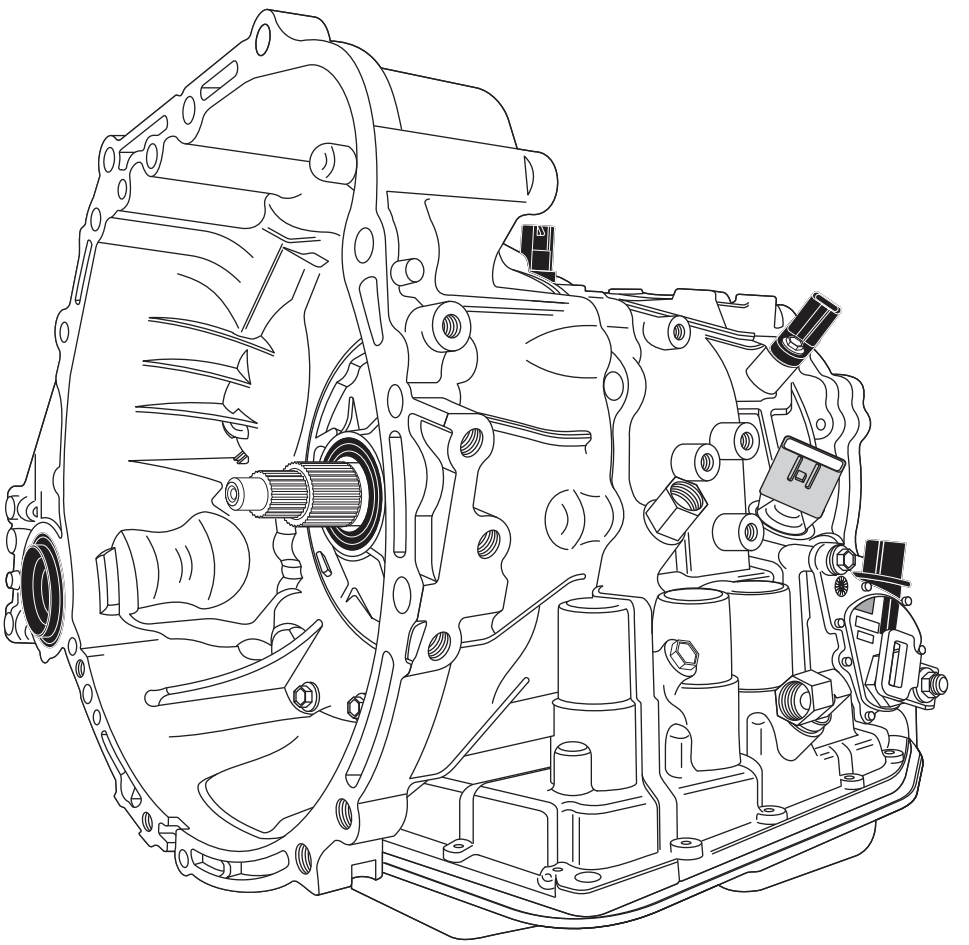
TOYOTA/LEXUS U150/U250
PRELIMINARY INFORMATION

Starting at the beginning of production for the 2002 model year for Lexus and 2004 for Toyota, a spin-off of the U140/U240 Four speed transaxle, designated as the U150/U250 series was born. This transmission is classified as a 5 speed transmission, although it has 6 ratio's possible in the Drive position. The U150/250 is very similar to it's smaller brother, the U140, and actually uses some of the same parts.

This Transaxles shift points, and shift feel are electronically controlled by a Powertrain Control Module. This is accomplished by the PCM monitoring engine load and adjusting solenoid duty cycle to match pressure rise and shift feel. The PCM also monitors the turbine and output speed sensors to calculate gear ratio and the Transmission Range Sensor for gear selection.

This Technicians guide will provide theory of operation starting with a component application, continuing on thru solenoid function both mechanically and hydraulically. The manual will also provide passage identification in the Mapping section, along with full color hydraulic schematics for all ranges. Refer to the index of Figures listed on the following page for the component or information desired.

TOYOTA/LEXUS U150/U250 TRANSAXLE

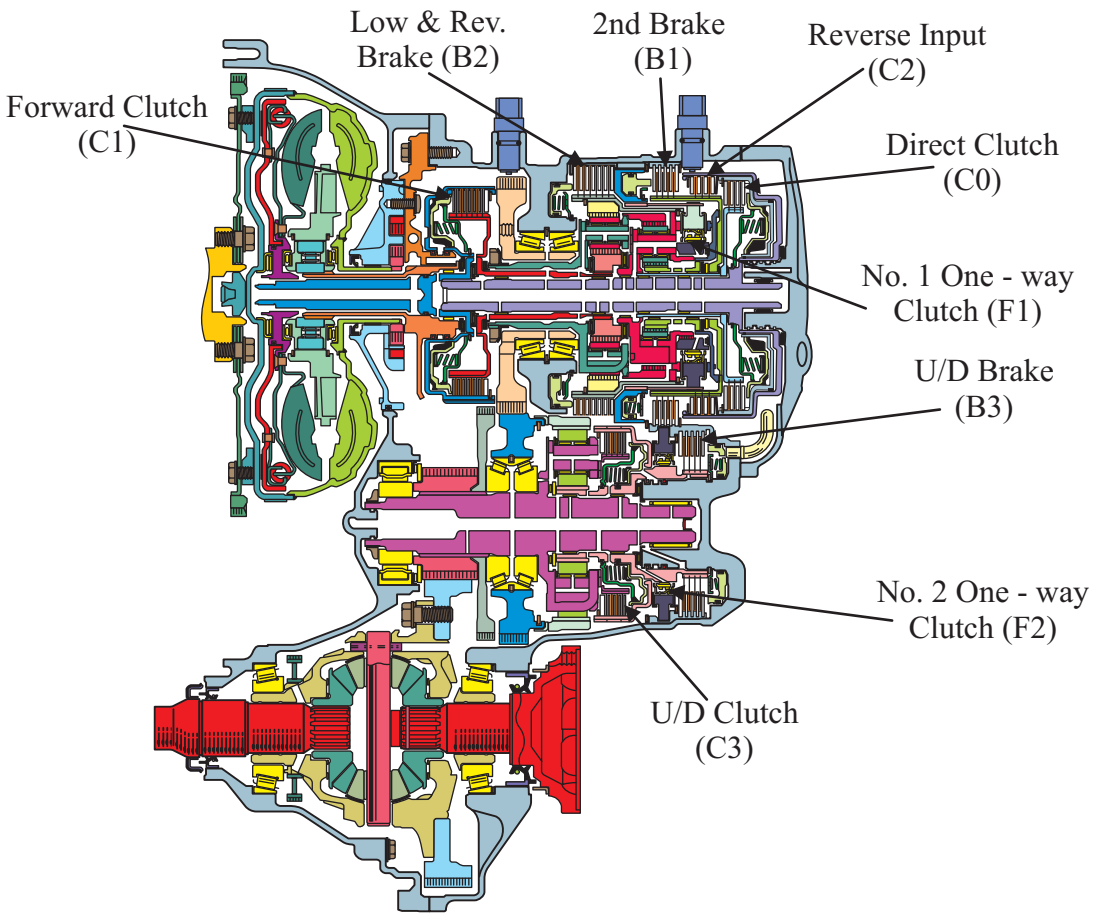


INDEX

VALVE BODY MAPPING

OIL CIRCUIT DIAGRAMS

TOYOTA/LEXUS U150/U250
COMPONENT APPLICATION CHART



Gear Range	Fwd Clutch C1	Rev Input Clutch C2	Dir Clutch C0	U/D Clutch C3	2nd Brake B1	L/R Brake B2	U/D Brake B3	No. 1 One Way Clutch F1	No. 2 One Way Clutch F2
Park							ON		
Reverse		ON				ON	ON		
Neutral							ON		
D-1st. Gear	ON						ON	ON	ON
D-2nd. Gear	ON				ON		ON		ON
D-3rd. Gear Version 1	ON		ON	ON					
D-3rd. Gear Version 2	ON		ON				ON		ON
D-4th. Gear			ON		ON		ON		ON
D-5th. Gear			ON	ON	ON				

3rd Gear Version 1 is a higher ratio, as the Transfer assembly is turning 1:1
3rd Gear Version 2 is a lower ratio, as the Transfer assembly is in reduction
Note: These two versions are controlled by PCM scheduling and Line pressure. Version 2 is used at higher throttle/pressure.

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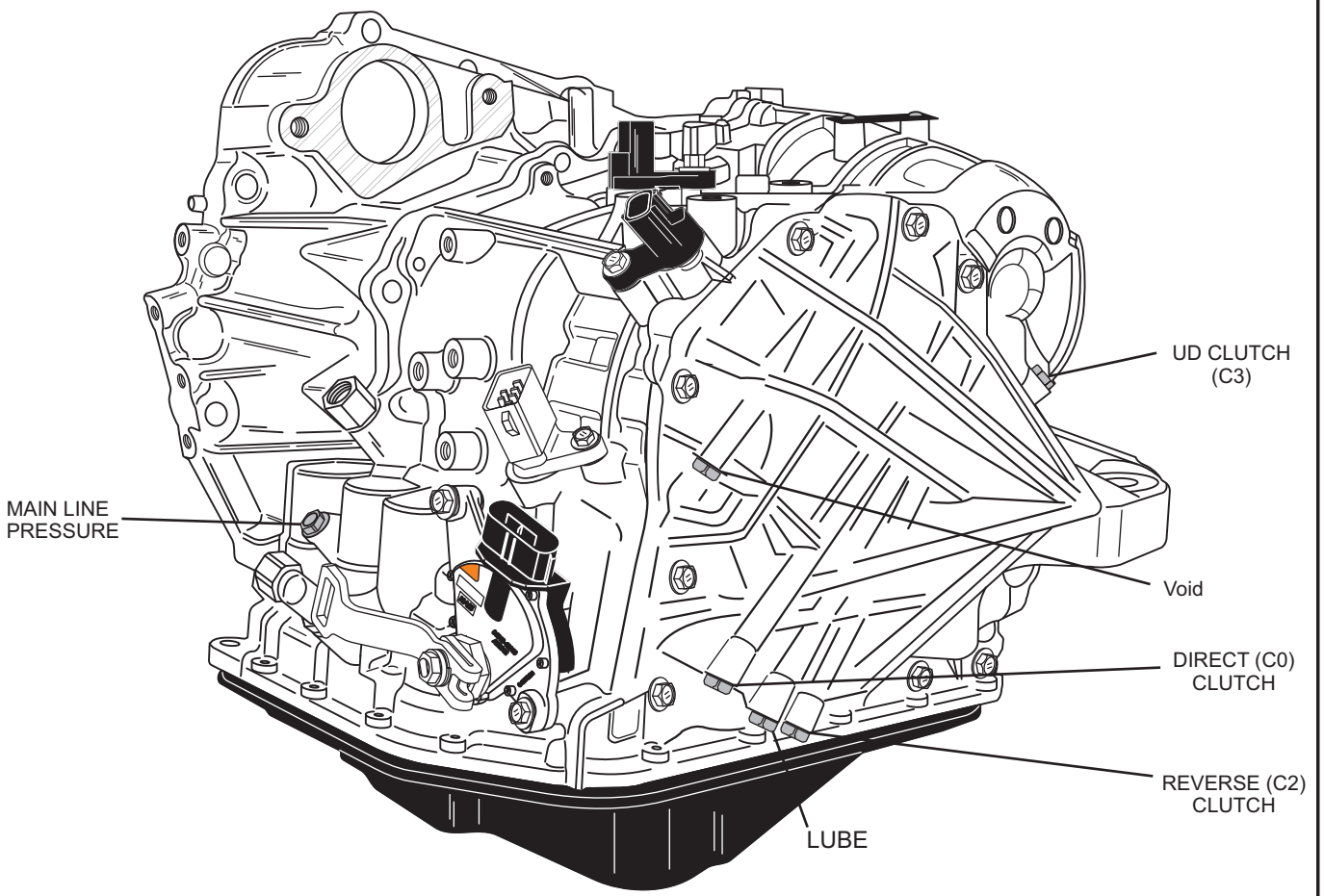
Figure 1

LINE PRESSURE TAP LOCATIONS AND SPECIFICATIONS



LINE PRESSURE SPECIFICATIONS

RANGE	IDLE	STALL
D	54-60psi.	135-150psi.
R	97-108psi.	256-285psi.

FLUID LEVEL CHECKING AND ATF CAPACITY/REQUIREMENT

Check fluid with temperature between 50 - 80 °C (122 - 176 °F) and AC off. Selector lever in park position with parking brake set. Stall testing should not exceed 10 seconds.

Fluid level should be between the hot marks on the stick.
Dry Fill.....8.8 liters
Drain and Re-fill.....3.5 liters

Fluid requirement: Toyota Genuine ATF WS"
Part Number JWS3324 or NWS9638

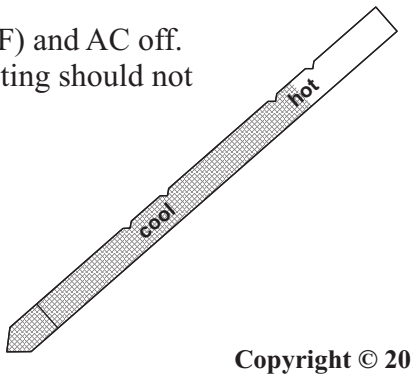


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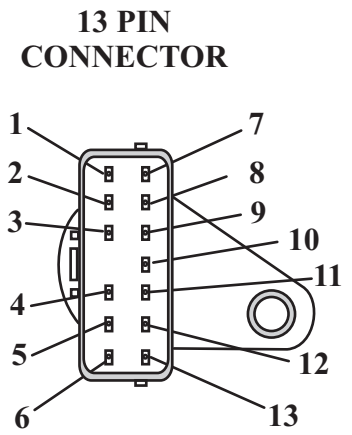
Figure 2

SOLENOID INTERNAL HARNESS AND CONNECTOR I.D.



Terminal	Function	Internal wire Color
1	THO (temp +)	Orange
2	SLT +	Green
3	S4 +	Yellow
4	SL3+	Red
5	SL2+	Green
6	SL1+	White
7	E2 (temp -)	Orange
8	SLT -	Grey
9	SR+	Purple
10	DSL+	Light Blue
11	SL3-	Blue
12	SL2-	Brown
13	SL1-	Black

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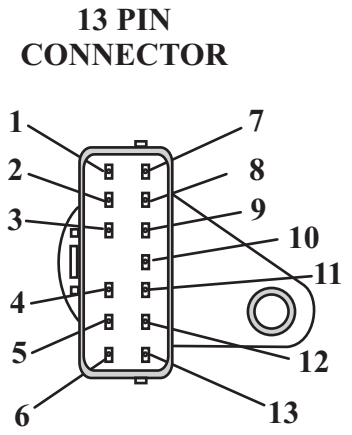
Figure 3

SOLENOID OHM VALUES



Test	Connect to terminals	Ohm Value
Temp Sensor	1 and 7	3.8k ohms @ 70°F
SLT	2 and 8	4.5 to 6.0
S4	3 and Gnd to the case	11 to 15
SL3	4 and 11	4.5 to 6.0
SL2	5 and 12	4.5 to 6.0
SL1	6 and 13	4.5 to 6.0
SR	9 and Gnd to the case	11 to 15
DSL	10 and Gnd to the case	11 to 15

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Figure 4