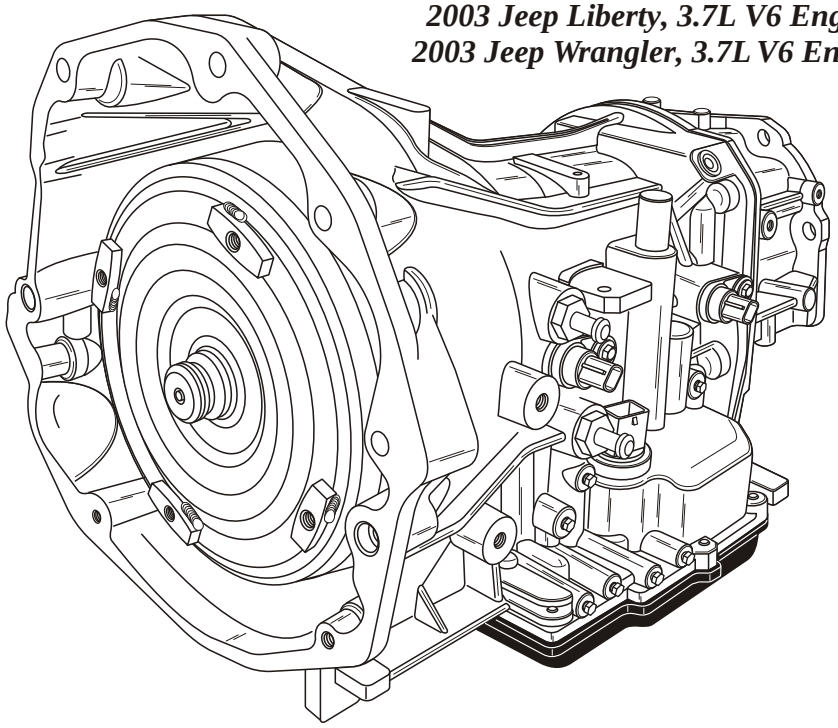
CHRYSLER 42RLE
PRELIMINARY INFORMATION

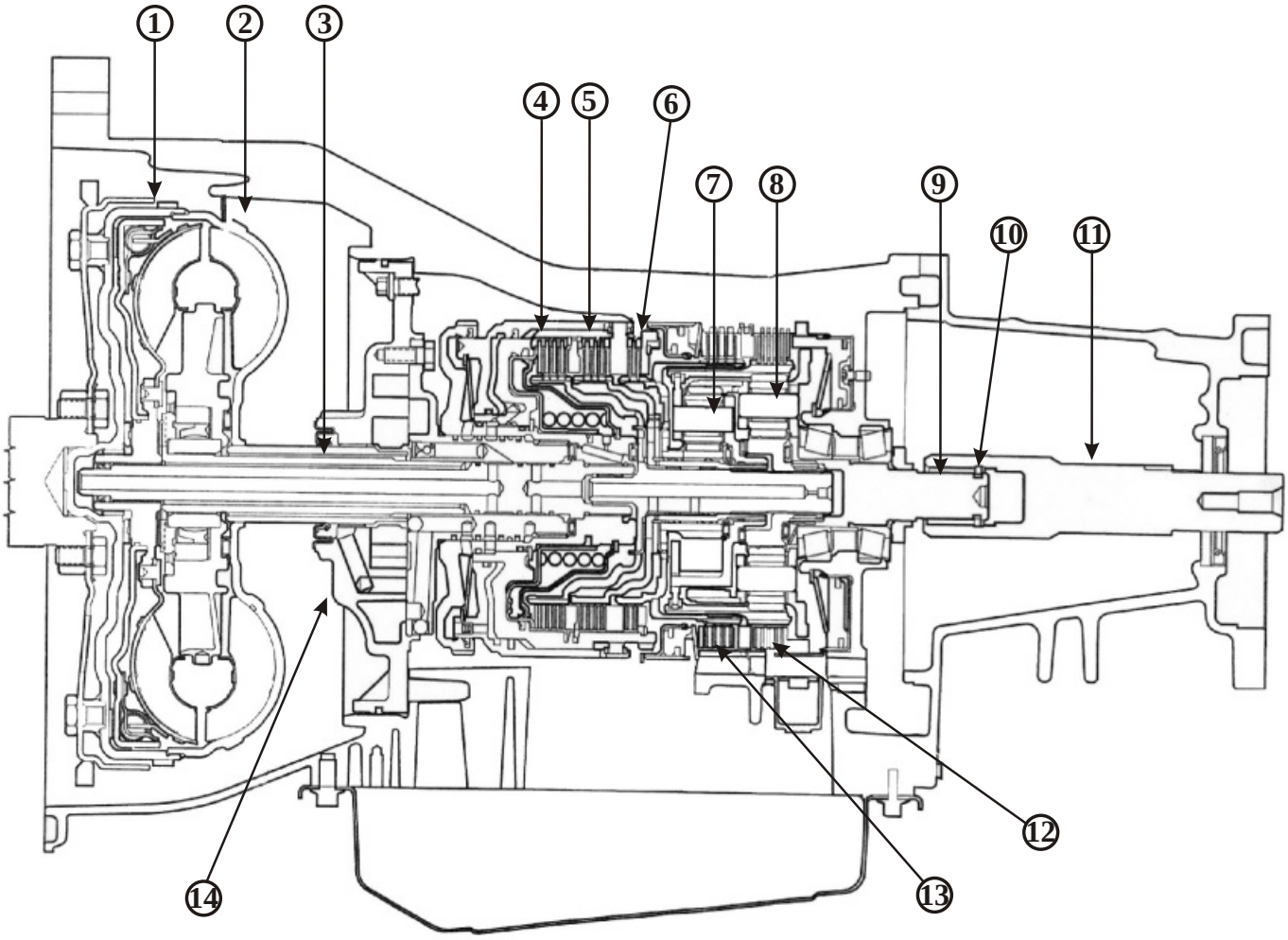
Beginning at the start of production for the 2003 model year, Chrysler Corporation modified the 42LE (606) transmission and turned it into a Rear Wheel Drive called the **42RLE.**
The majority of the transmission's internal parts as well as operating strategy is virtually identical as the 42LE with the exception of the rear drive section and the hypoid style final drive being eliminated. This transmission is available in both 2WD and 4x4 configurations. The gear ratios and clutch application are also the same as the 42LE.

Found In;
2003 Jeep Liberty, 3.7L V6 Engine
2003 Jeep Wrangler, 3.7L V6 Engine



Special Thanks to Frank at Phoenix Remanufactured Transmissions, for the use of the 42RLE used for these illustrations.

42RLE INTERNAL COMPONENT LOCATION AND IDENTIFICATION

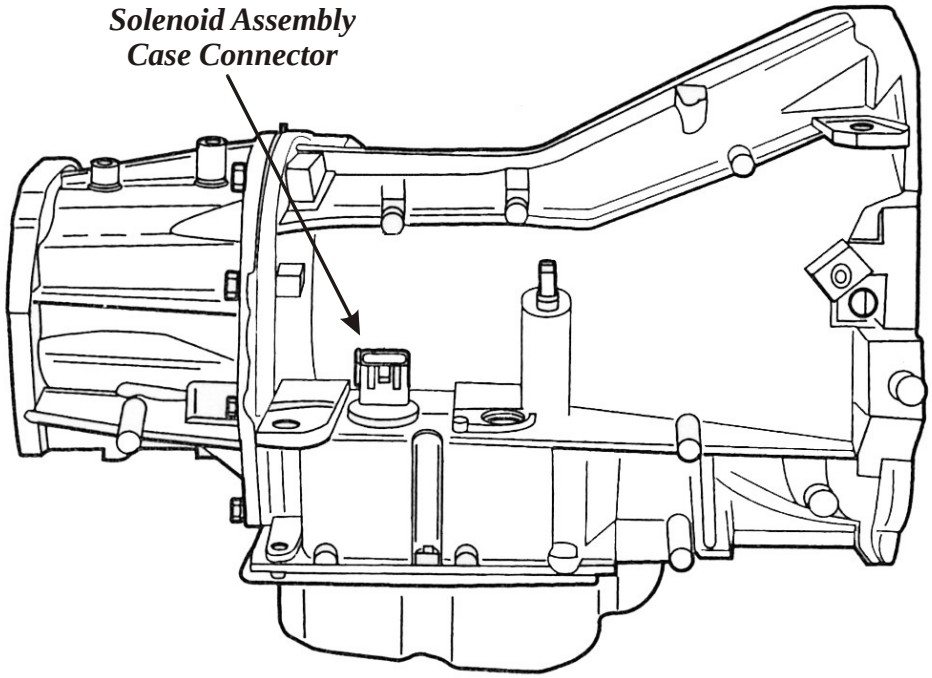


1 FLYWHEEL
2 TORQUE CONVERTER
3 INPUT SHAFT
4 UNDERDRIVE CLUTCH
5 OVERDRIVE CLUTCH
6 REVERSE CLUTCH
7 FRONT PLANETARY CARRIER
8 REAR PLANETARY CARRIER
9 PRIMARY OUTPUT SHAFT
10 CIR-CLIP
11 SECONDARY OUTPUT SHAFT
12 LOW/REVERSE CLUTCH
13 2ND/4TH CLUTCH
14 OIL PUMP ASSEMBLY

Figure 1

42RLE CLUTCH APPLICATION CHART					
Shift Lever Position	**DRIVING CLUTCHES**			**HOLDING CLUTCHES**	
	Underdrive	*Overdrive*	*Reverse*	*2/4*	*Low/Reverse*
Park					*ON*
Reverse			*ON*		*ON*
Neutral					*ON*
"OD"-1st	*ON*				*ON*
"OD"-2nd	*ON*			*ON*	
"OD"-3rd	*ON*	*ON*			
"OD"-4th		*ON*		*ON*	
"D"-1st*	*ON*				*ON*
"D"-2nd*	*ON*			*ON*	
"D"-3rd*	*ON*	*ON*			
"L"-1st*	*ON*				*ON*
"L"-2nd*	*ON*			*ON*	
"L"-3rd*	*ON*	*ON*			
** The vehicle's upshifts and downshifts speeds are increased when in these selector positions*					

Figure 2



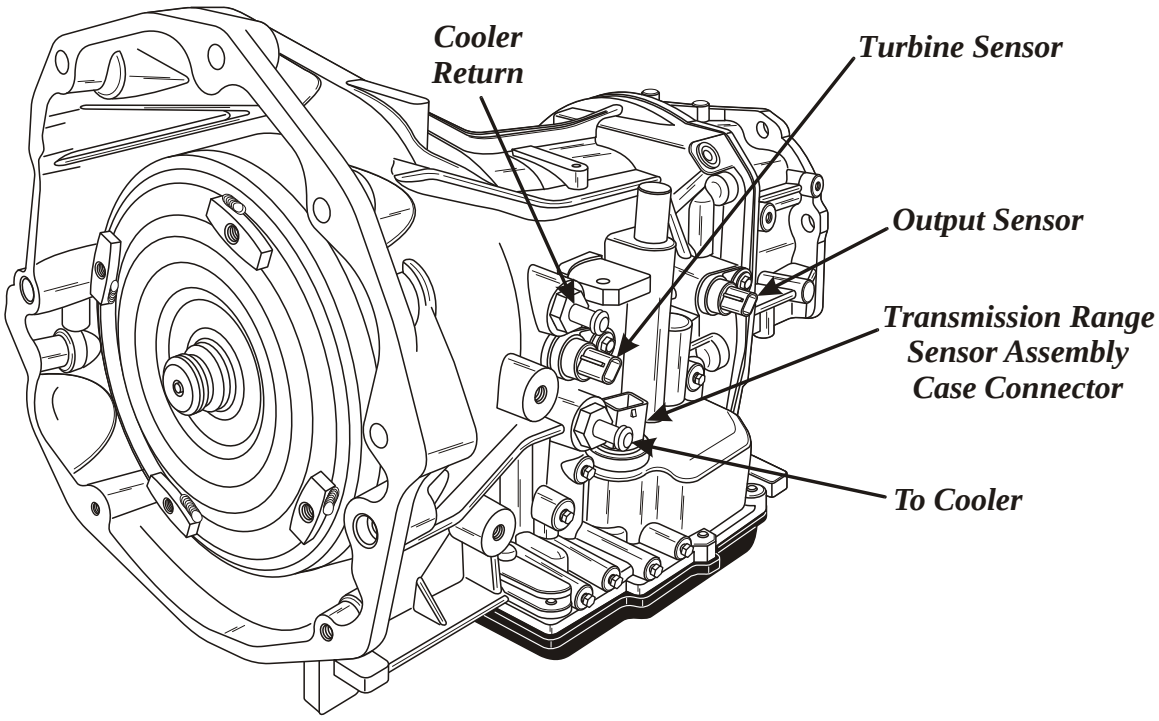
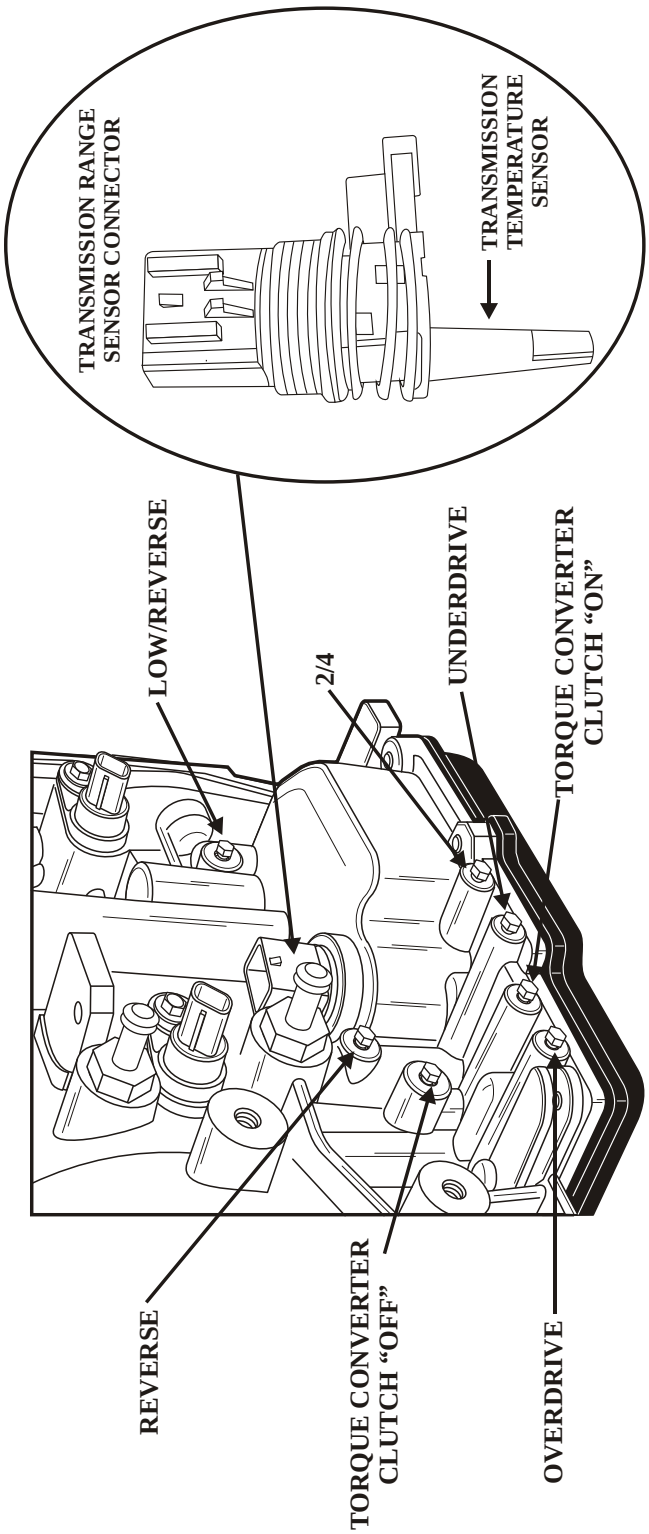


Figure 3

CLUTCH PRESSURE AND PRESSURE PORT IDENTIFICATION



42RLE CLUTCH PRESSURE CHART

GEAR SELECTOR POSITION	ACTUAL GEAR	UNDERDRIVE CLUTCH	OVERDRIVE CLUTCH	REVERSE CLUTCH	TORQUE CONVERTER CLUTCH "OFF"	TORQUE CONVERTER CLUTCH "ON"	2/4 CLUTCH	LOW/REVERSE CLUTCH
PARK 0 MPH	*PARK*	*0 - 2*	*0 - 5*	*0 - 2*	*60 - 110*	*45 - 100*	*0 - 2*	*115 - 145*
REVERSE 0 MPH	*REVERSE*	*0 - 2*	*0 - 7*	*165 - 235*	*50 - 110*	*35 - 85*	*0 - 2*	*165 - 235*
NEUTRAL 0 MPH	*NEUTRAL*	*0 - 2*	*0 - 5*	*0 - 2*	*60 - 110*	*45 - 100*	*0 - 2*	*115 - 145*
LOW 20 MPH	*FIRST*	*110 - 145*	*0 - 5*	*0 - 2*	*60 - 110*	*45 - 100*	*0 - 2*	*115 - 145*
3 30 MPH	*SECOND*	*110 - 145*	*0 - 5*	*0 - 2*	*60 - 110*	*45 - 100*	*115 - 145*	*0 - 2*
3 45 MPH	*THIRD*	*75 - 95*	*75 - 95*	*0 - 2*	*60 - 90*	*45 - 80*	*0 - 2*	*0 - 2*
OD 30 MPH	*FOURTH*	*0 - 2*	*75 - 95*	*0 - 2*	*60 - 90*	*45 - 80*	*75 - 95*	*0 - 2*
OD 50 MPH	*FOURTH WITH TCC*	*0 - 2*	*75 - 95*	*0 - 2*	*0 - 5*	*60 - 95*	*75 - 95*	*0 - 2*

Figure 4

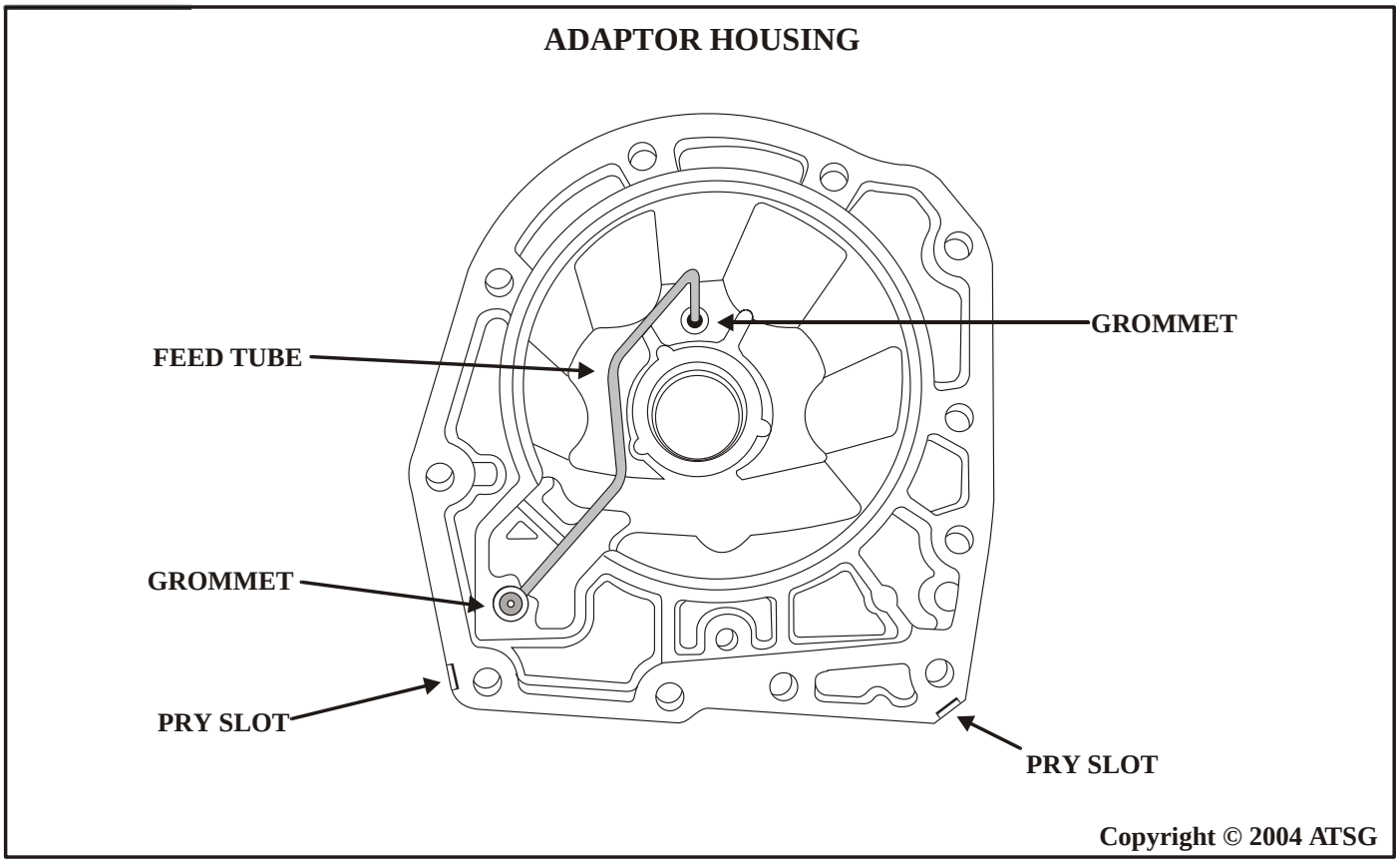


Figure 5

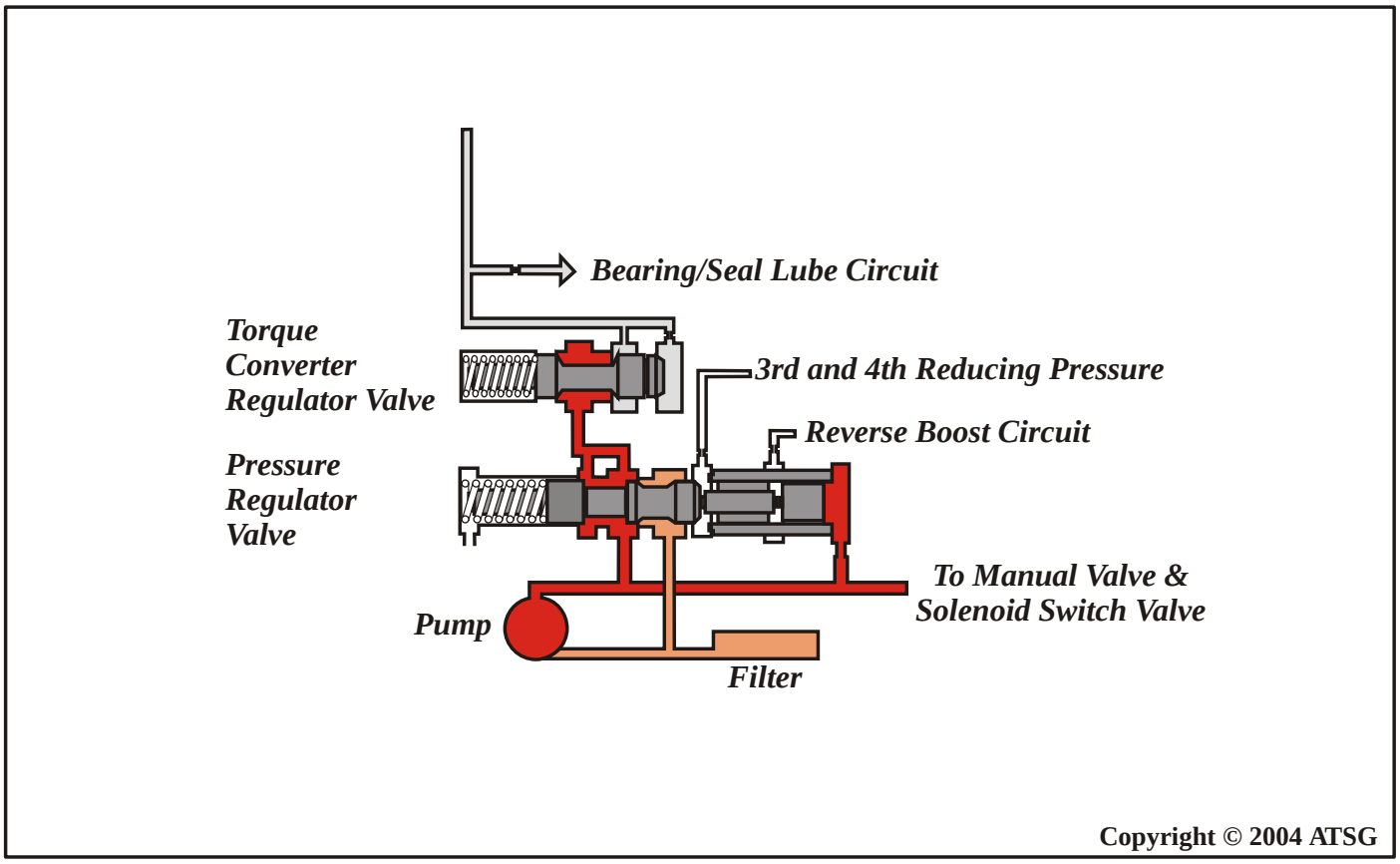


Figure 6

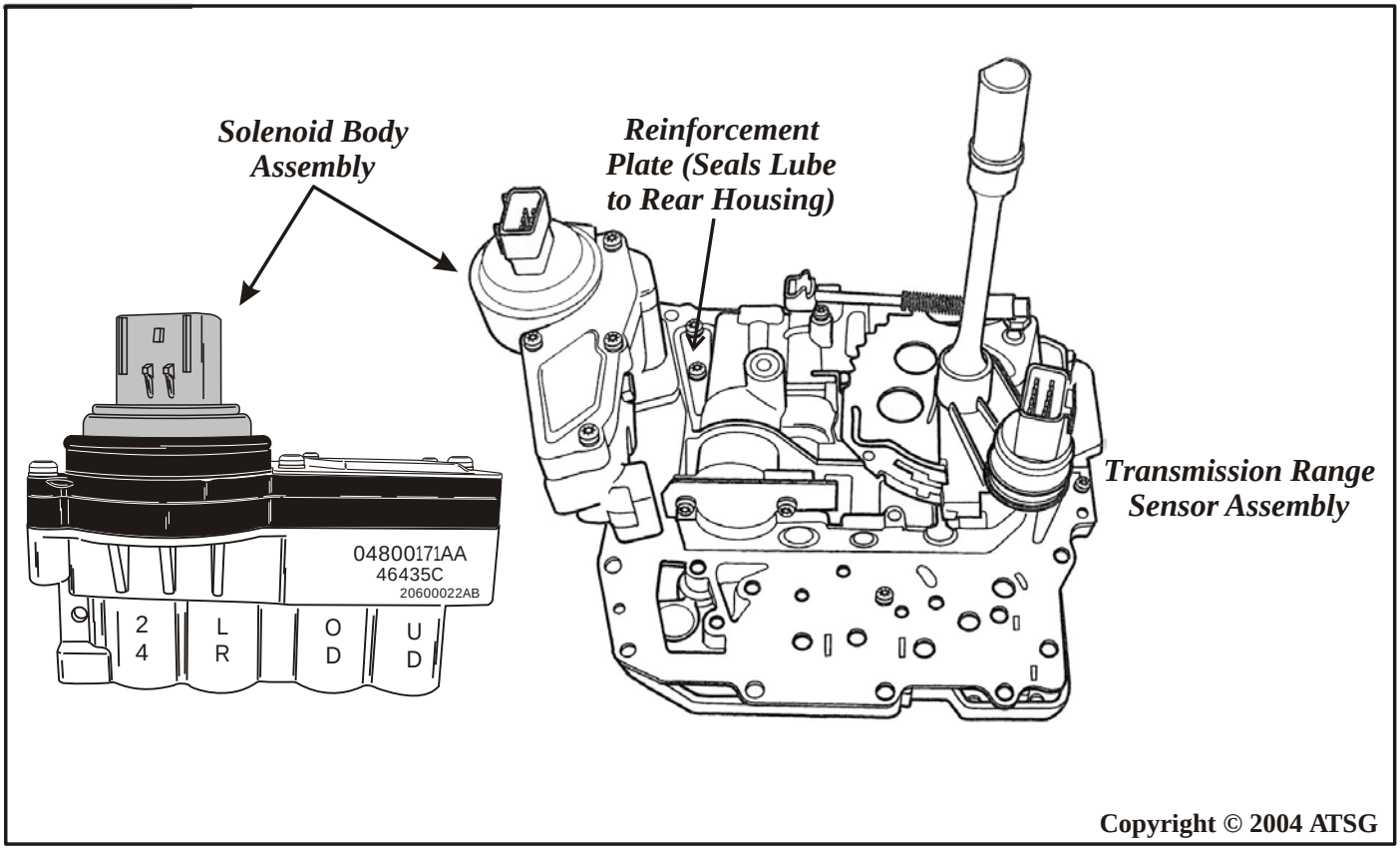
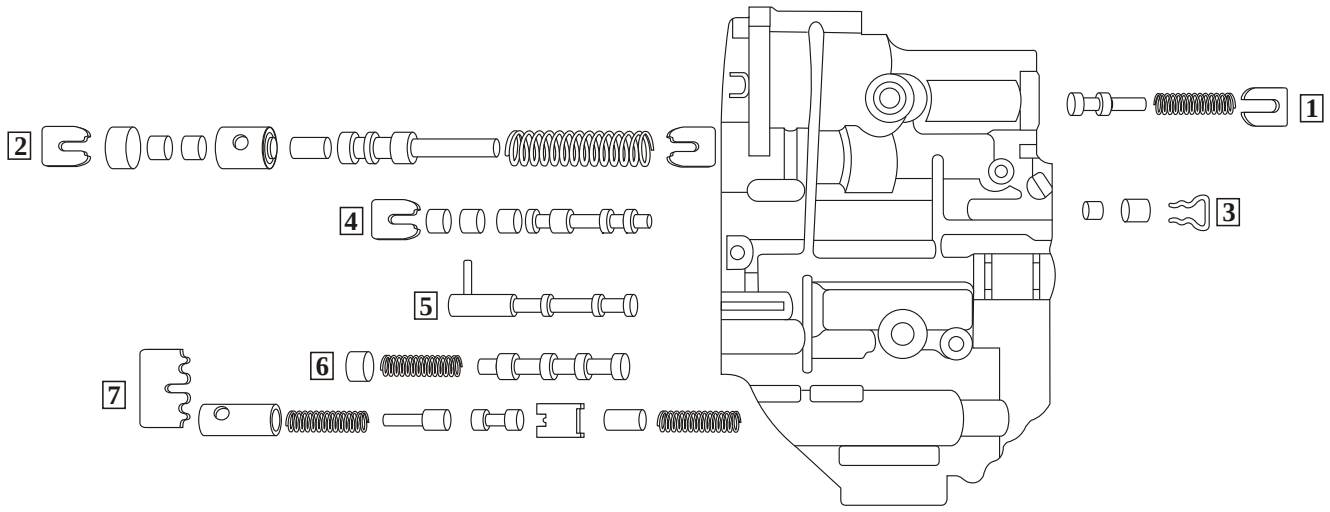


Figure 7

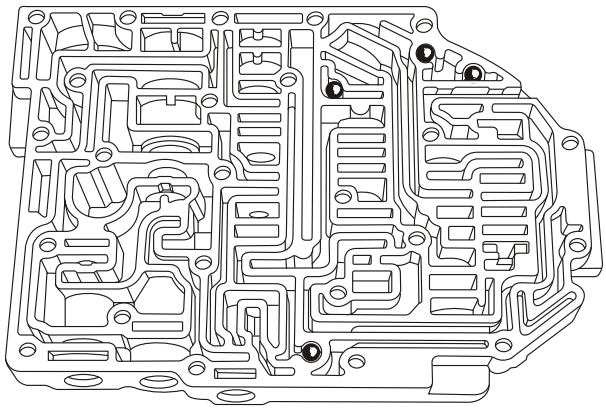
42RLE VALVE IDENTIFICATION



1. TORQUE CONVERTER REGULATOR VALVE
2. PRESSURE REGULATOR VALVE
3. LOW/REVERSE SWITCH VALVE
4. SOLENOID SWITCH VALVE
5. MANUAL VALVE
6. CONVERTER CLUTCH SWITCH VALVE
7. CONVERTER CLUTCH CONTROL VALVE

Figure 8

42RLE CHECKBALL LOCATIONS



FOUR (4) CHECKBALLS IN VALVE BODY

Installing the thermal valve in the transfer plate

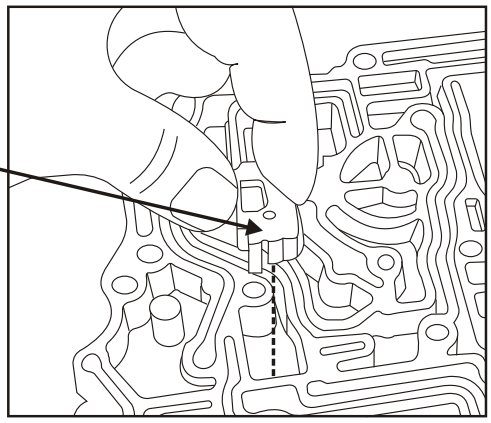
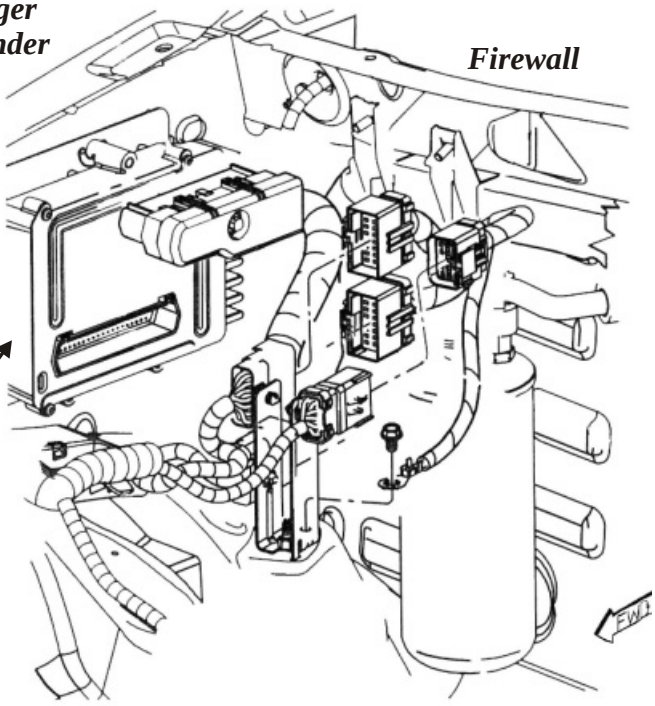


Figure 9

TCM LOCATION

Passenger Side Fender

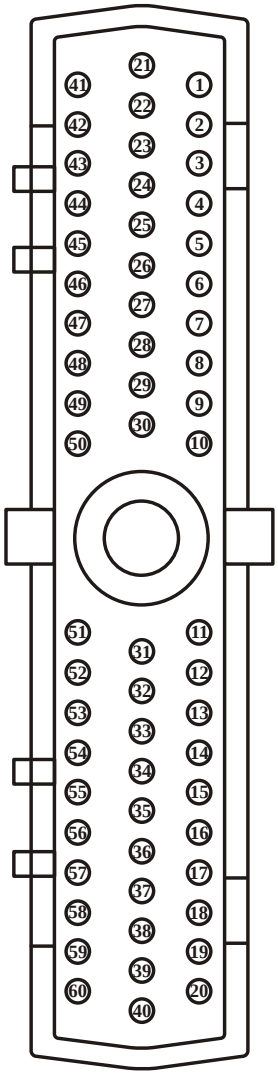
Firewall



Transmission control module (tcm)

Figure 10

CHRYSLER 42RLE
60-WAY CONNECTOR PIN CAVITY IDENTIFICATION AND FUNCTION

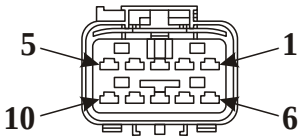


Harness Connector View
Terminal Side

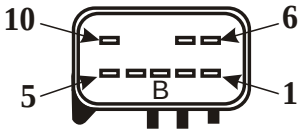
PIN CAVITY	WIRE COLOR	FUNCTION
1	*Lt. Green/Black*	*Transmission Range Sensor T1 Signal*
2	*Tan/Black*	*Back-up Lamp Relay Control*
3	*Violet*	*Transmission Range Sensor T3 Signal*
6	*Gray/Black*	*Crankshaft Position Sensor Signal*
7	*Pink*	*SCI Transmit*
8	*Red*	*Fused Ignition Switch Output (Crank)*
9	*Orange/Black*	*Overdrive Pressure Switch Signal*
10	*Yellow/Dk.Green*	*Torque Management Request*
11	*Dk. Blue*	*Fused Ignition Switch Output (Crank & Run)*
12	*Orange/Dk. Blue*	*Throttle Position Sensor Signal*
13	*Dk. Blue/Black*	*Speed Sensor & TFT Ground*
14	*Lt. Green/White*	*Output Speed Sensor Signal*
15	*Pink*	*Transmission Control Relay Control*
16	*Red*	*Transmission Control Relay Output*
17	*Red*	*Transmission Control Relay Output*
18		
19	*Yellow/Dk. Blue*	*2/4 Clutch Solenoid (ground control)*
20	*Lt. Blue*	*L/R-TCC Clutch Solenoid (ground control)*
28		
29		
30		
36		
37		
38		
39		
40		
41	*White/Pink*	*Transmission Range Sensor (T41) Signal*
42	*Violet/White*	*Transmission Range Sensor (T42) Signal*
43	*Violet/Yellow*	*PCI Bus*
46	*Lt. Green*	*SCI Recieve*
47	*Dk. Blue*	*2/4 Pressure Switch Signal*
48		
49	*Orange/White*	*Overdrive Off Switch Signal*
50	*Dk Green*	*Low/Reverse Pressure Switch Signal*
51	*Black/Lt. Blue*	*Sensor Ground*
52	*Red/Black*	*Input Speed Sensor Signal*
53	*Black*	*Ground*
54	*Violet*	*Transmission Oil Temperature Sensor Signal*
55		
56	*Red/White*	*Fused Battery Keep Alive Voltage*
57	*Black/Yellow*	*Ground*
59	*Pink*	*Underdrive Solenoid (ground control)*
60	*Brown*	*Overdrive Solenoid (ground control)*

Figure 11

Harness Connector View



Case Connector View

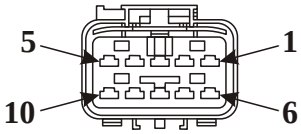


42RLE TRANSMISSION SOLENOID CONNECTOR (10-WAY)		
PIN CAVITY	WIRE COLOR	FUNCTION
1	*Brown*	*Overdrive Solenoid*
2	*Pink*	*Underdrive Solenoid*
3	*Red*	*12 Volt Input from EATX Relay*
4	*Yellow/Dk Blue*	*2/4 Solenoid*
5	*Dk Blue*	*2/4 Pressure Switch*
6	*Orange/Black*	*Overdrive Pressure Switch*
7	*Lt Blue*	*Low/Reverse Solenoid*
8	*Not Used*	*Not Used*
9	*Not Used*	*Not Used*
10	*Dk Green*	*Low/Reverse Pressure Switch*

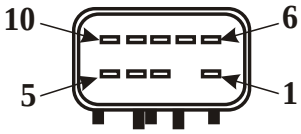
The resistance of the solenoids and pressure switch resistors remains the same as all previous 41TE and 42LE transaxles. 1.5 to 2.5 ohms for the solenoids and 270 to 330 ohms for the resistors.

Figure 12

Harness Connector View



Case Connector View



42RLE TRANSMISSION RANGE SENSOR CONNECTOR (10-WAY)		
PIN CAVITY	WIRE COLOR	FUNCTION
1	*Dk Blue/White*	*Fused Ignition Switch Output (Start)*
2	*Not Used*	*Not Used*
3	*Dk Blue/Black*	*Speed Sensor Ground*
4	*Violet*	*Transmission Temperature Sensor Signal*
5	*Black/White*	*Park/Neutral Position Signal*
6	*Violet/Black*	*Back-Up Lamp Feed*
7	*Lt Green/Black*	*Transmission Range Sensor T1 Signal*
8	*Violet*	*Transmission Range Sensor T3 Signal*
9	*Violet/White*	*Transmission Range Sensor T42 Signal*
10	*White/Pink*	*Transmission Range Sensor T41 Signal*

Figure 13

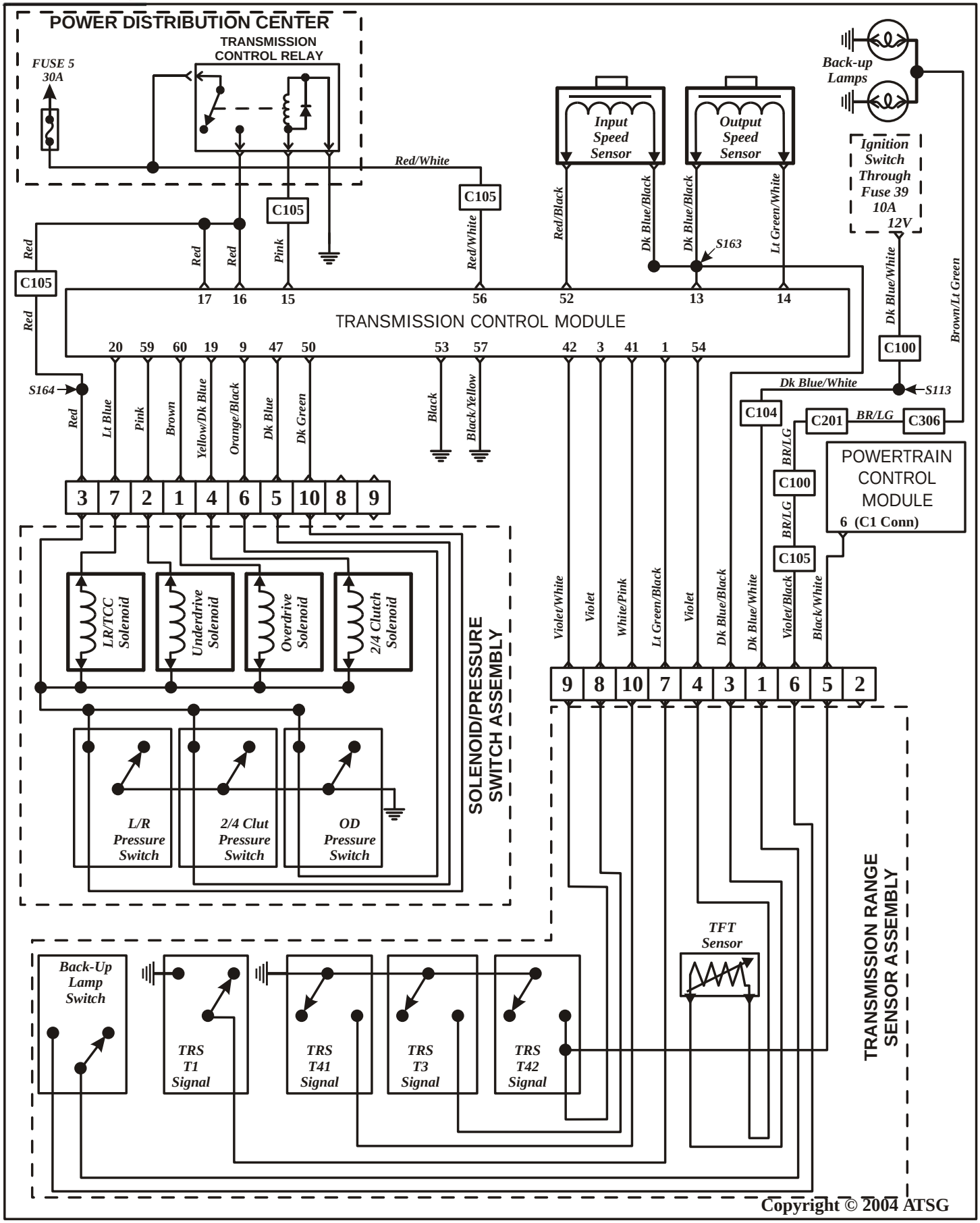

POWER DISTRIBUTION CENTER
TRANSMISSION CONTROL RELAY
FUSE 5 30A
Red/White
C105
Red
Red
Red
Pink
Red/White
Red/Black
Dk Blue/Black
Dk Blue/Black
Lt Green/White
Input Speed Sensor
Output Speed Sensor
S163
Back-up Lamps
Ignition Switch Through Fuse 39 10A 12V
Dk Blue/White
Brown/Lt Green
C100
S113
17 16 15 56 52 13 14
TRANSMISSION CONTROL MODULE
20 59 60 19 9 47 50 53 57 42 3 41 1 54
S164
Red
Lt Blue
Pink
Brown
Yellow/Dk Blue
Orange/Black
Dk Blue
Dk Green
Black
Black/Yellow
Dk Blue/White
C104
C201
BR/LG
C306
BR/LG
C100
BR/LG
C105
POWERTRAIN CONTROL MODULE
6 (C1 Conn)
3 7 2 1 4 6 5 10 8 9
LR/TCC Solenoid
Underdrive Solenoid
Overdrive Solenoid
2/4 Clutch Solenoid
SOLENOID/PRESSURE SWITCH ASSEMBLY
Violet/White
Violet
White/Pink
Lt Green/Black
Violet
Dk Blue/Black
Dk Blue/White
Violet/Black
Black/White
9 8 10 7 4 3 1 6 5 2
L/R Pressure Switch
2/4 Clut Pressure Switch
OD Pressure Switch
TFT Sensor
Back-Up Lamp Switch
TRS T1 Signal
TRS T41 Signal
TRS T3 Signal
TRS T42 Signal
TRANSMISSION RANGE SENSOR ASSEMBLY
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Figure 14