



# Technical Service Information

## THM 4L60-E NEW PARK/NEUTRAL SWITCH STRATEGY FOR SOME 2000 MODELS

**CHANGE:** Beginning at the start of production for 2000 model S/T Trucks, M Vans and C/K Trucks, equipped with the **4.3L engine "Only"**, the Vehicle Control Module (VCM) strategy was modified for the PNB Switch, which changes the vehicle harness, wire colors and all testing procedures for the PNB Switch.

**REASON:** Increased reliability, as the PNB Switch signals are now sent direct to the VCM, and the VCM responds with the appropriate action.

### PARTS AFFECTED:

- (1) VEHICLE CONTROL MODULE - Strategy changes to enhance the overall system.
- (2) VEHICLE WIRING HARNESS - Wires are going to different components than the previous models and the wire colors have changed.

*Refer to Figure 2 for 1996-1999 models only.*

*Refer to Figure 4 for 2000 model S/T Trucks, M Vans, C/K Trucks equipped with the 4.3L.*

- (3) PARK/NEUTRAL BACK-UP SWITCH - There is now available from OEM parts sources, a revised PNB switch that has improved sealing capabilities to help prevent water intrusion, and is available under OEM part number 29540479 (See Figure 3). High ambient heat may have caused the sealing compound in the switch to melt and flow into the connectors, sealing the connectors to the switch.

There is now available from OEM sources, service repair connectors for both the 7-way and the 4-way connectors under part numbers 15305887 and 15305925 (See Figure 3).

**Note:** The service connector pigtails use wires that are all the same color. Use the old connector as a pattern to ensure that the new wires are connected to the vehicle harness correctly. This switch is in a wet area, and it is **imperative** that the wires be soldered and heat-shrink tubing be used to insure water-tight connections. Refer to Figure 2 for a full wiring schematic of the 1996-1999 Park/Neutral Position Switch circuit for diagnostic purposes. Refer to Figure 4 for a full wiring schematic of the 2000 Park/Neutral Position Switch on models equipped with the 4.3L engine.

- (4) TESTING PROCEDURES - Testing procedures have also changed.  
When testing the 1996-1999 models, the ohmmeter should indicate continuity between the connected dots when checking the specified range, as shown in Figure 1.  
The 2000 and later models can be tested using the appropriate scanner. The VCM compares the actual voltage combination of the switch signals to a switch combination chart stored in memory. Refer to the chart found in Figure 4, for proper switch combinations in each range. Refer to Figure 5 for VCM location, Figure 6 for PNB connector identification, Figures 7 and 8 for VCM connector identification and Figures 9 and 10 for underhood fuse block location and fuse block detail.

### SERVICE INFORMATION:

Park/Neutral Position Switch (All Models, Tan in Color) .....	29540479
7-Way Repair Connector Assembly (Includes Heat-Shrink Connectors) .....	15305887
4-Way Repair Connector Assembly (Includes Heat-Shrink Connectors) .....	15305925

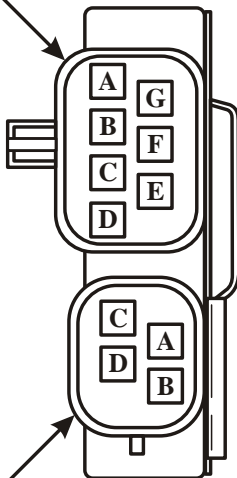
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## PARK/NEUTRAL SWITCH CONTINUITY CHART

		RANGE SELECTED						
TERMINAL		P	R	N	O/D	D	2	1
C1 CONNECTOR	A	●		●				
	B	●						
	C	●	●					
	D	●	●	●	●	●	●	●
	E	●		●				
	F		●					
	G	●		●				
C2 CONNECTOR	A	●	●			●	●	
	B				●	●	●	●
	C	●		●		●		●
	D		●	●	●	●		

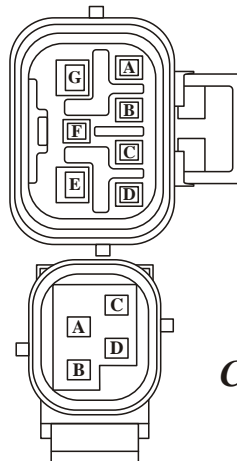
### PARK/NEUTRAL SWITCH TERMINALS

7-Way PNBUS  
Switch Receptacle  
(Face View)



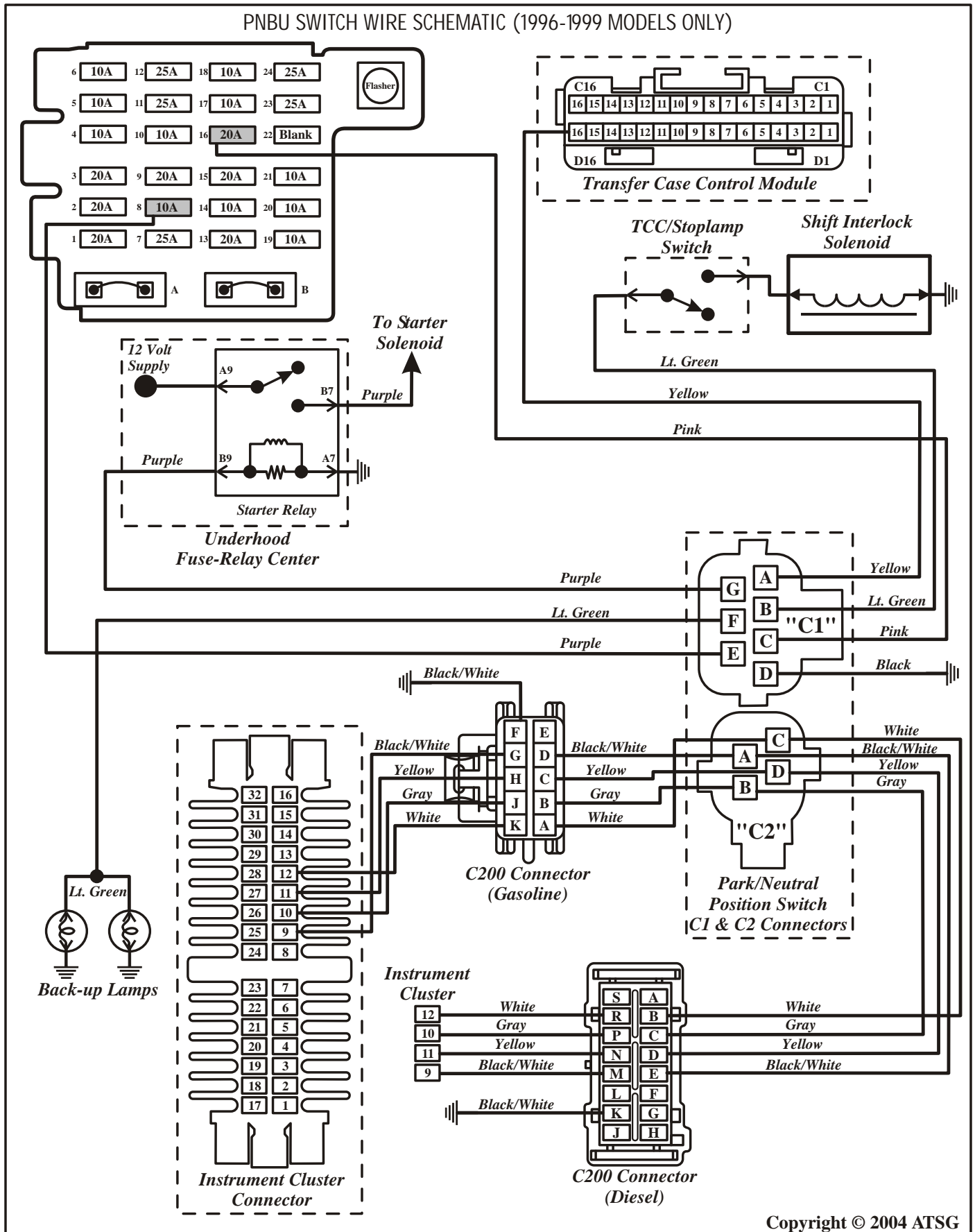
4-Way PNBUS  
Switch Receptacle  
(Face View)

OHM METER SHOULD INDICATE CONTINUITY BETWEEN THE CONNECTED  
DOTS LISTED ABOVE WHEN CHECKING THE SPECIFIED RANGE



C1 CONNECTOR

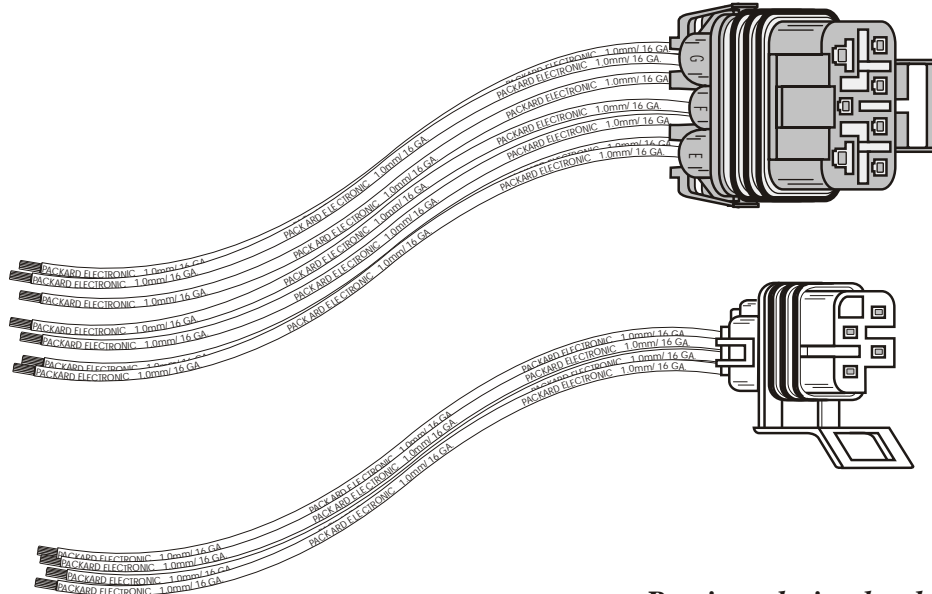
C2 CONNECTOR



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Figure 2

## PNBU SWITCH CONNECTOR REPAIR PACKAGES FOR ALL MODELS

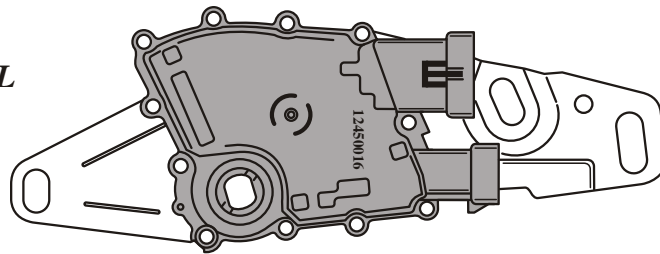


**PART NUMBER  
15305887**

**PART NUMBER  
15305925**

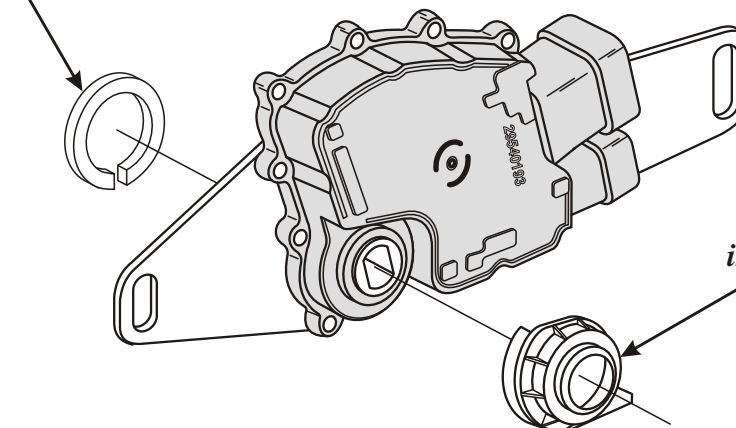
*Previous design level PNB  
Switch is "Black" in color.*

**"PREVIOUS"  
DESIGN LEVEL**



*New PNB Switch has  
seal glued to back side.*

**"NEW"  
DESIGN LEVEL**



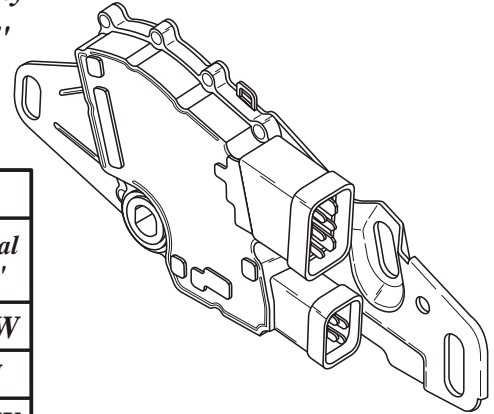
*New service package  
includes cover for front  
side of new switch.*

*New design level PNB Switch is "Tan" in color,  
and is available under OEM part number 29540479.*

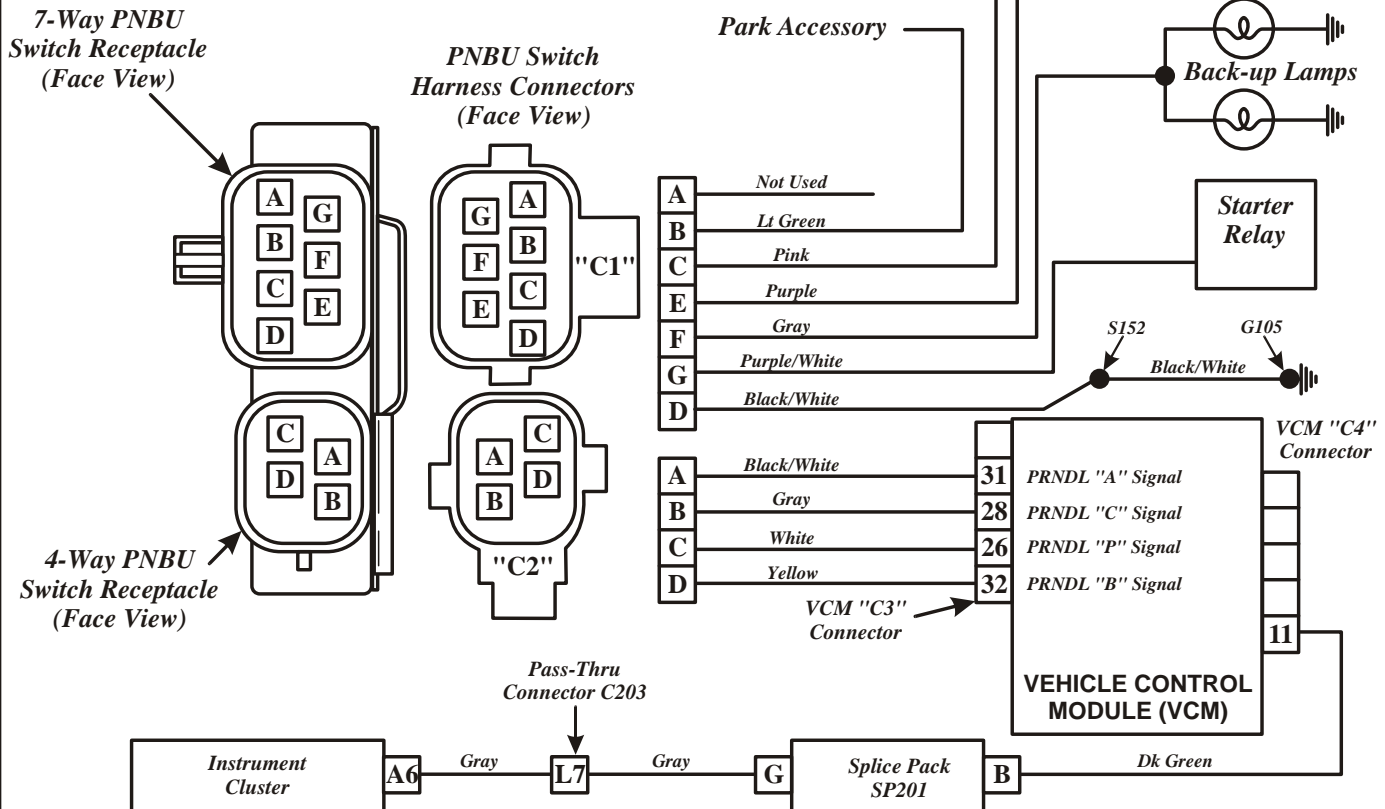
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Figure 3

**PNBU SWITCH WIRE SCHEMATIC**  
**2000 "S/T" TRUCK, 4.3L "Only"**  
**2000 "C/K" TRUCK, 4.3L "Only"**  
**2000 "M" VAN, 4.3L "Only"**



TRANSMISSION RANGE SWITCH LOGIC				
Gear Selector Position	Signal "A"	Signal "B"	Signal "C"	Signal "P"
<b>Park (P)</b>	<b>LOW</b>	<b>HI</b>	<b>HI</b>	<b>LOW</b>
<b>Reverse (R)</b>	<b>LOW</b>	<b>LOW</b>	<b>HI</b>	<b>HI</b>
<b>Neutral (N)</b>	<b>HI</b>	<b>LOW</b>	<b>HI</b>	<b>LOW</b>
<b>Drive 4 (OD)</b>	<b>HI</b>	<b>LOW</b>	<b>LOW</b>	<b>HI</b>
<b>Drive 3 (3)</b>	<b>LOW</b>	<b>LOW</b>	<b>LOW</b>	<b>LOW</b>
<b>Drive 2 (2)</b>	<b>LOW</b>	<b>HI</b>	<b>LOW</b>	<b>HI</b>
<b>Drive 1 (1)</b>	<b>HI</b>	<b>HI</b>	<b>LOW</b>	<b>LOW</b>
<b>HI = Ignition Voltage</b> <b>LOW = 0 Volts</b>				



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Figure 4

## VCM CONNECTOR RECEPTACLE IDENTIFICATION AND LOCATION

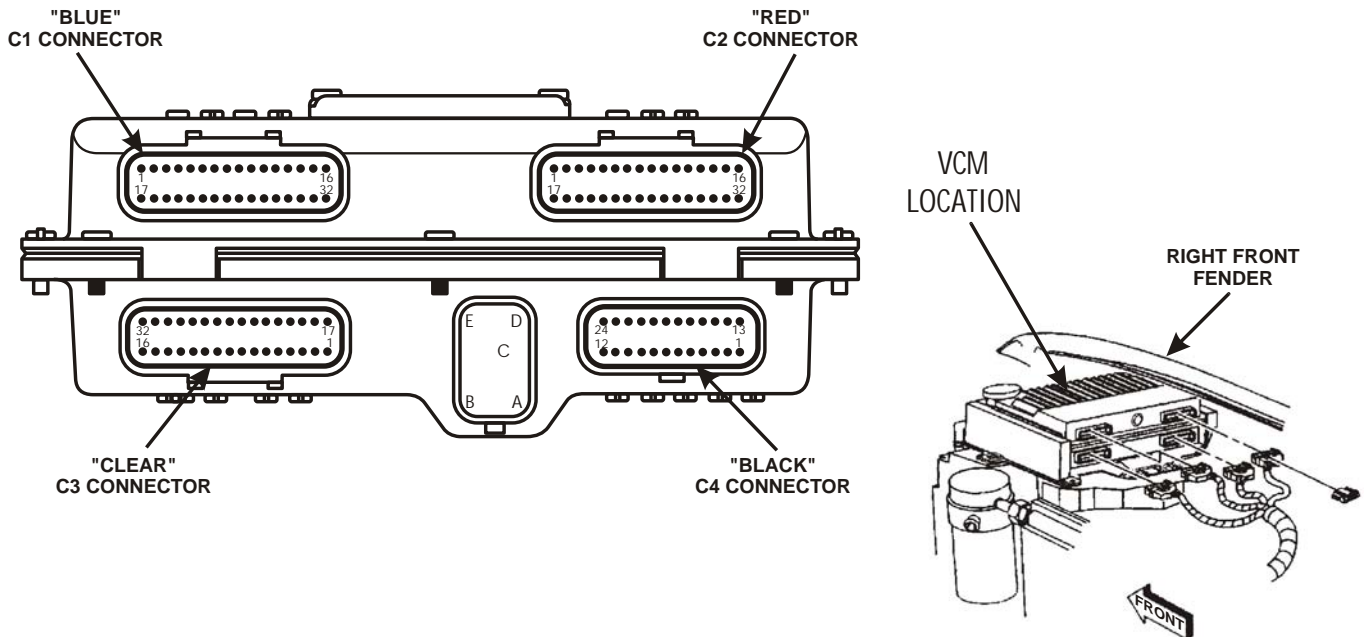
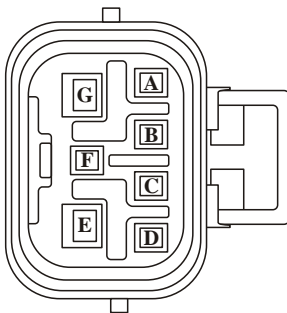


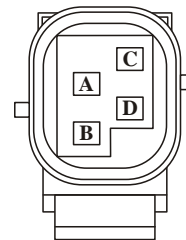
Figure 5

## PNBU SWITCH CONNECTOR IDENTIFICATION AND PIN FUNCTION

### PNBU "C1" CONNECTOR



### PNBU "C2" CONNECTOR



#### 7 Pin PNBUSwitch "C1" Connector

Pin	Wire Color	Function
A	----	Not Used
B	Lt Green	PNBU Switch Output
C	Pink	Back-Up Lamps (Fused 25A)
D	Black/White	Ground
E	Purple	Ignition Switch (Fused 10A)
F	Gray	Feed To Back-Up Lamps
G	Purple/White	Feed To Starter Relay Coil

#### 4 Pin PNBUSwitch "C2" Connector

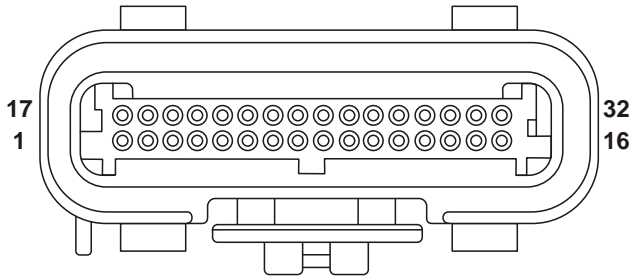
Pin	Wire Color	Function
A	Black/White	PRNDL "A" Signal
B	Gray	PRNDL "C" Signal
C	White	PRNDL "P" Signal
D	Yellow	PRNDL "B" Signal

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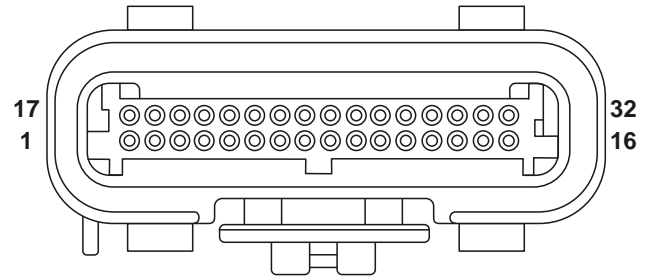
Figure 6

## VCM CONNECTORS "C1" AND "C2" PIN IDENTIFICATION AND FUNCTION

**32 Pin VCM "C1" Connector (Blue)**



**32 Pin VCM "C2" Connector (Red)**



**32 Pin VCM "C1" Connector (Blue)**

Pin	Wire Color	Function
1-2	----	Not Used
3	Brown/White	IX CMP Sensor Signal
4-6	----	Not Used
7	Tan	HO2S Bank 2 Sensor 1 Low
8	Pink/Black	CMP Sensor Ground
9	----	Not Used
10	Tan/Black	TCC Solenoid Ground Control
11-12	----	Not Used
13	White	3-2 Solenoid Ground Control
14	Brown	AIR Pump Relay Control
15	Yellow/Black	Vehicle Speed Output
16-18	----	Not Used
19	Purple/White	HO2S Bank 1 Sensor 1 High
20	----	Not Used
21	Purple	HO2S Bank 2 Sensor 1 High
22	Purple/White	HO2S Bank 1 Sensor 3 High
23-24	----	Not Used
25	Tan/White	HO2S Bank 1 Sensor 1 Low
26	Tan/White	HO2S Bank 1 Sensor 3 Low
27	----	Not Used
28	Purple	CKP Sensor Ground
29	Lt Green/Black	VSS Low
30	Purple/White	VSS High
31	Yellow	3X CKP Sensor Signal
32	----	Not Used

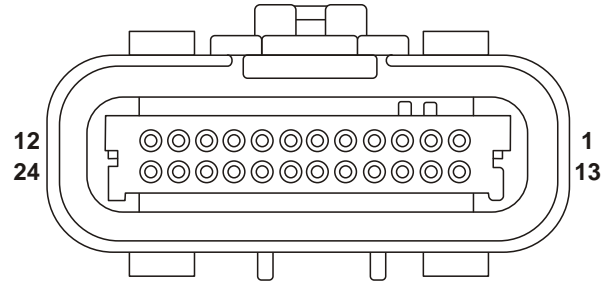
**32 Pin VCM "C2" Connector (Red)**

Pin	Wire Color	Function
1	----	Not Used
2	White	EVAP Canister Vent Valve Control
3	----	Not Used
4	Yellow/Black	2-3 Shift Solenoid Ground Control
5	----	Not Used
6	Lt Green	1-2 Shift Solenoid Ground Control
7	Brown	TCC PWM Solenoid Ground Control
8	Black	Fuel Injector No. 1 Driver
9	Yellow/Black	Fuel Injector No. 6 Driver
10	Brown	EGR Pintle Position Signal
11-12	----	Not Used
13	Lt Green/White	IAC Coil B High
14	Lt Blue/White	IAC Coil A High
15	Lt Green/Black	Fuel Injector No. 2 Driver
16	Pink/Black	Fuel Injector No. 3 Driver
17-18	----	Not Used
19	Dk Blue	Knock Sensor Signal
20	White	Tachometer Output
21	Lt Green	MAP Sensor Signal
22	Tan	IAT Sensor Signal
23	Yellow	ECT Sensor Signal
24	Dk Blue	Throttle Position Sensor Signal
25	Dk Green	Fuel Tank Pressure Sensor Signal
26	----	Not Used
27	Yellow/Black	TFT Sensor Signal
28	Yellow	MAF Sensor Signal
29	Lt Green/Black	IAC Coil B Low
30	Lt Blue/Black	IAC Coil A Low
31	Black/White	Fuel Injector No. 5 Driver
32	Lt Blue/Black	Fuel Injector No. 4 Driver





### 32 Pin VCM "C3" Connector (Clear)



### 24 Pin VCM "C4" Connector (Black)

[illegible]

## AUTOMATIC TRANSMISSION SERVICE GROUP



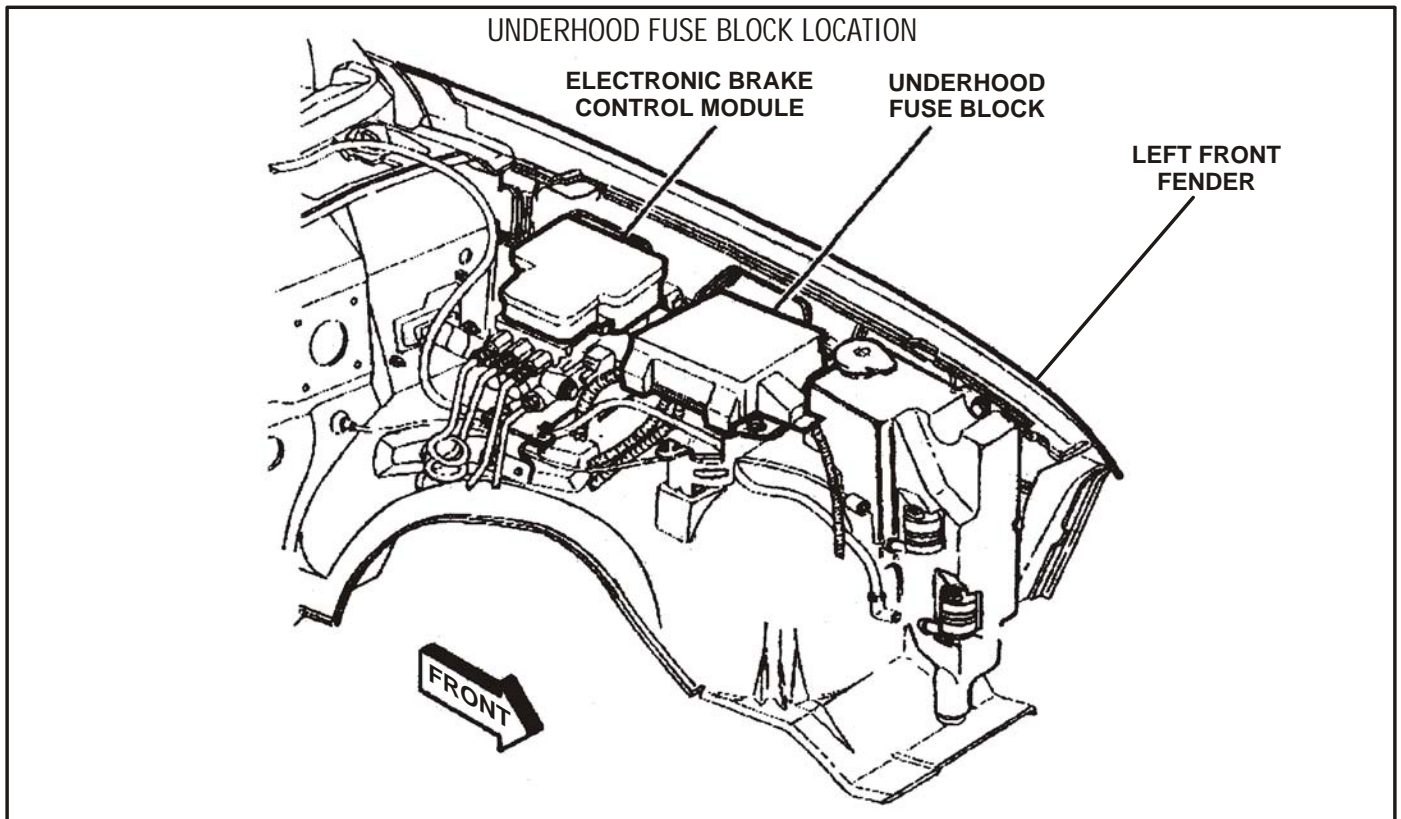
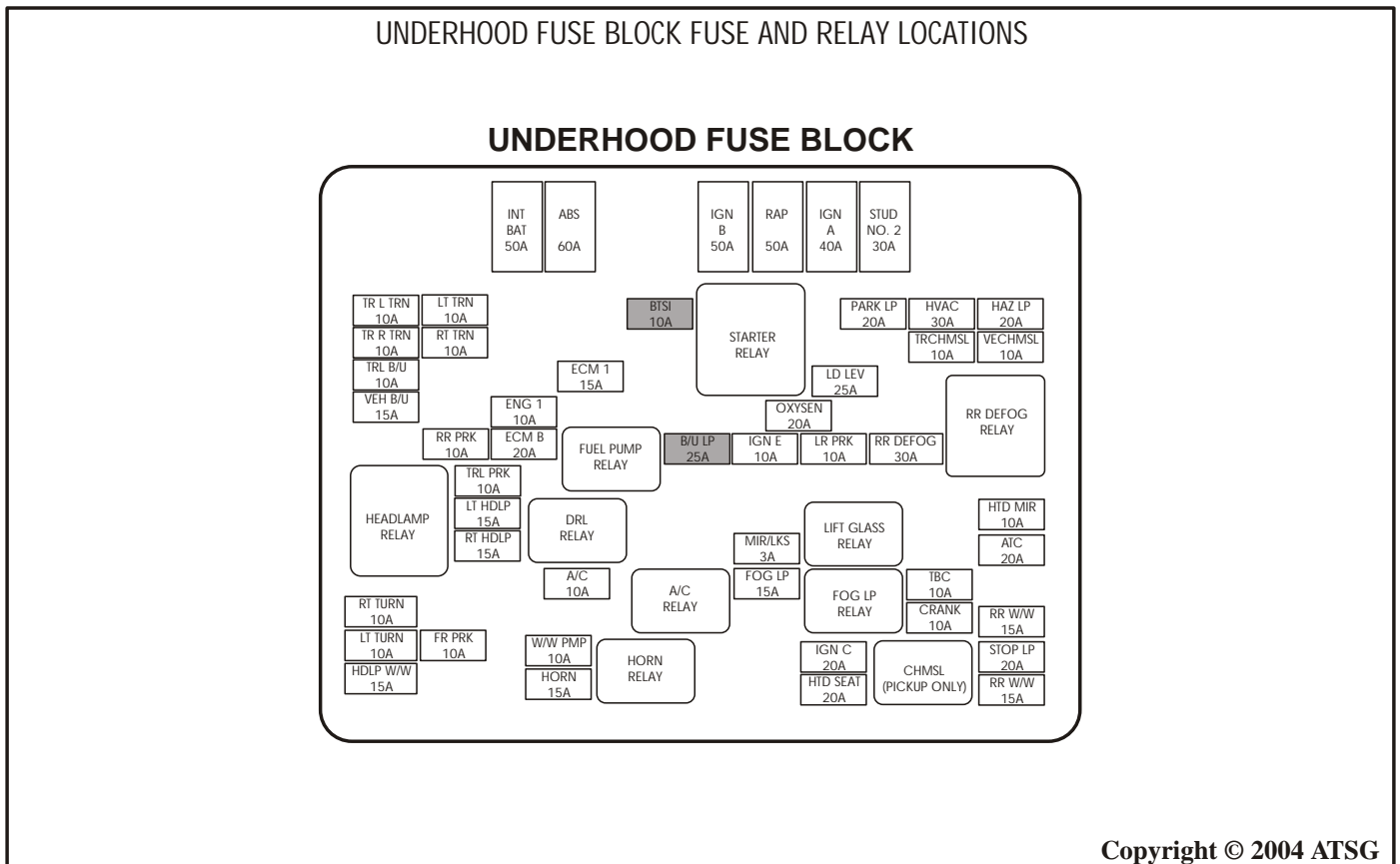


Figure 9



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Figure 10