



# Technical Service Information

## FORD 5R110W

### TRANS RANGE SENSOR/ SPEED SENSOR FAULTS OR NO START

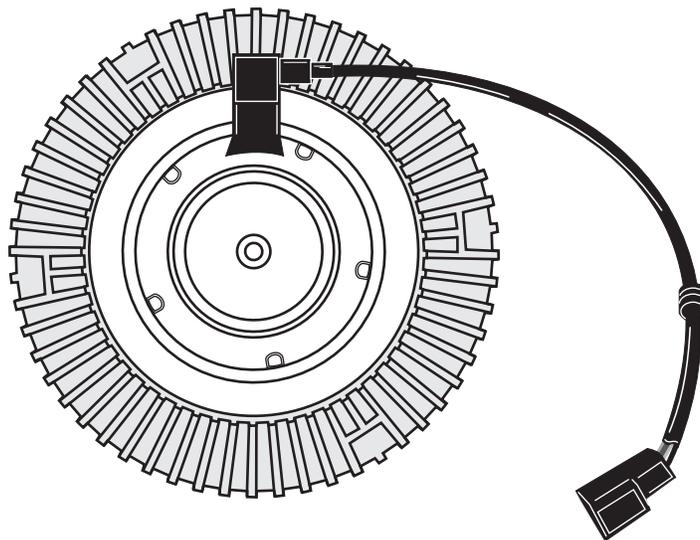
**COMPLAINT:** Ford Vehicles equipped with the 5R110W transmission, may exhibit a condition of numerous Diagnostic trouble codes set for the Transmission Range Sensor P0706,P708, P1705 or Speed sensor faults including, P0715 up to P0722, and or possibly a No Start condition.

**CAUSE:** The cause may be a shorted Electronic Fan Clutch speed sensor, as shown in Figure 1, drawing down the Reference Voltage to the Transmission Range Sensor and the Turbine and Output sensors which are in-directly connected thru the PCM. This may cause these sensors to provide in-accurate information to the PCM, and of course a No Start situation if the Trans Range Sensor were not operating. Refer to Figure 2 for a connector identification for the PCM Connector "C" which is the connector that the Electronic Fan Clutch speed sensor is wired to, also shown in the partial schematic in Figure 3 . Terminal 46 is the Reference Voltage to the Speed Sensor which is housed inside of the Fan Clutch. Refer to Figure 5 and note that terminal 1 of the PCM connector "B" is the Reference Voltage for the Trans Rage Sensor, Turbine, Intermediate and Output speed sensors, also shown in the partial schematic in Figure 6. These Circuits are connected internally in the PCM and if there is a short, it can affect the reference voltage to all.

**CORRECTION:** To correct this condition, locate the connector for the Electronic Fan Clutch, as shown in Figure 4 which is on the drivers side of the fan shroud, and simply dis-connect it. Clear all DTC's and re-drive the vehicle to verify if the codes reset, and or to see if the vehicle starts. If all is well, replace as necessary.

*Special thanks  
to Jim Blatt  
Lee Myles*

#### ELECTRONIC FAN CLUTCH



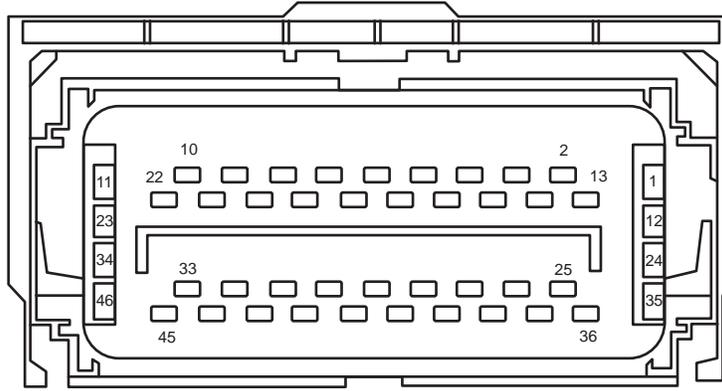
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Figure 1

## FORD 5R110W

### TRANS RANGE SENSOR/ SPEED SENSOR FAULTS OR NO START

#### 5R110W PCM CONNECTOR "C" PIN IDENTIFICATION AND FUNCTIONS



View Looking Into  
Face Side Of Vehicle  
PCM Connector "C"

Pin	Wire Color	Circuit Function	Pin	Wire Color	Circuit Function
1	White/Yellow	Charge (ammeter/voltmeter) monitor	24	Yellow/White	Electronic Throttle Control motor +/-
2	Yellow/Red	Injection Pressure Regulator control	25	Gray/Red	Signal return
3	Violet/Orange	Glow Plug System, signal	26	Lt.Blue/White	CAN bus 2L
4	Red/White	Charge (ammeter) monitor- Generator secondary	27	Violet/Lt.Blue	Exhaust Back Pressure Signal
5		"Not Used"	28	Pink/Yellow	Injector Driver Module, Communication
6	Red/Orange	Electronic Fan Clutch signal	29	Dk Blue/LtGrn	Injector Control Pressure sensor, signal
7		"Not Used"	30	Dk Blue	Crankshaft position sensor +
8		"Not Used"	31	Red	Camshaft position sensor +
9		"Not Used"	32	Yellow/White	Coolant Temperature sensor, signal
10	Bk/Lt blue	Variable geometric turbo actuator, control	33	Lt.Blue/Orange	EGR valve actuator, position sense
11	Dark Blue	Variable geometric turbo actuator, common	34		"Not Used"
12	Gray/White	Electronic Throttle Control motor +/-	35		"Not Used"
13		"Not Used"	36	Brown/White	Reference Voltage
14	Dark Blue	Electronic Fan Clutch control	37	Red/LtGrn	CAN bus 2H
15		"Not Used"	38	Orange/LtBlue	EGR throttle position sensor, monitor
16		"Not Used"	39		"Not Used"
17	White/Lt Green	Glow Plug Control Module, signal	40		"Not Used"
18		"Not Used"	41	Gray	Crankshaft Position Sensor
19	Lt Green/Yellow	Injector Driver Module, fuel delivery command	42	Black	Ground, Drain wire
20	Dk Blue/Orange	Injector Driver Module, cylinder identification	43	Orange	Camshaft Position Sensor
21		"Not Used"	44	Lt.Green/Red	Engine Oil Temp. Sensor
22	Brown/Pink	Engine Cooling fan ground	45	Red/White	Air Charge Temp. Sensor
23	White/Pink	EGR valve actuator, control	46	Brown/Lt.Green	12 V Reference Voltage Electronic Fan Clutch

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Figure 2

# FORD 5R110W

## TRANS RANGE SENSOR/ SPEED SENSOR FAULTS OR NO START

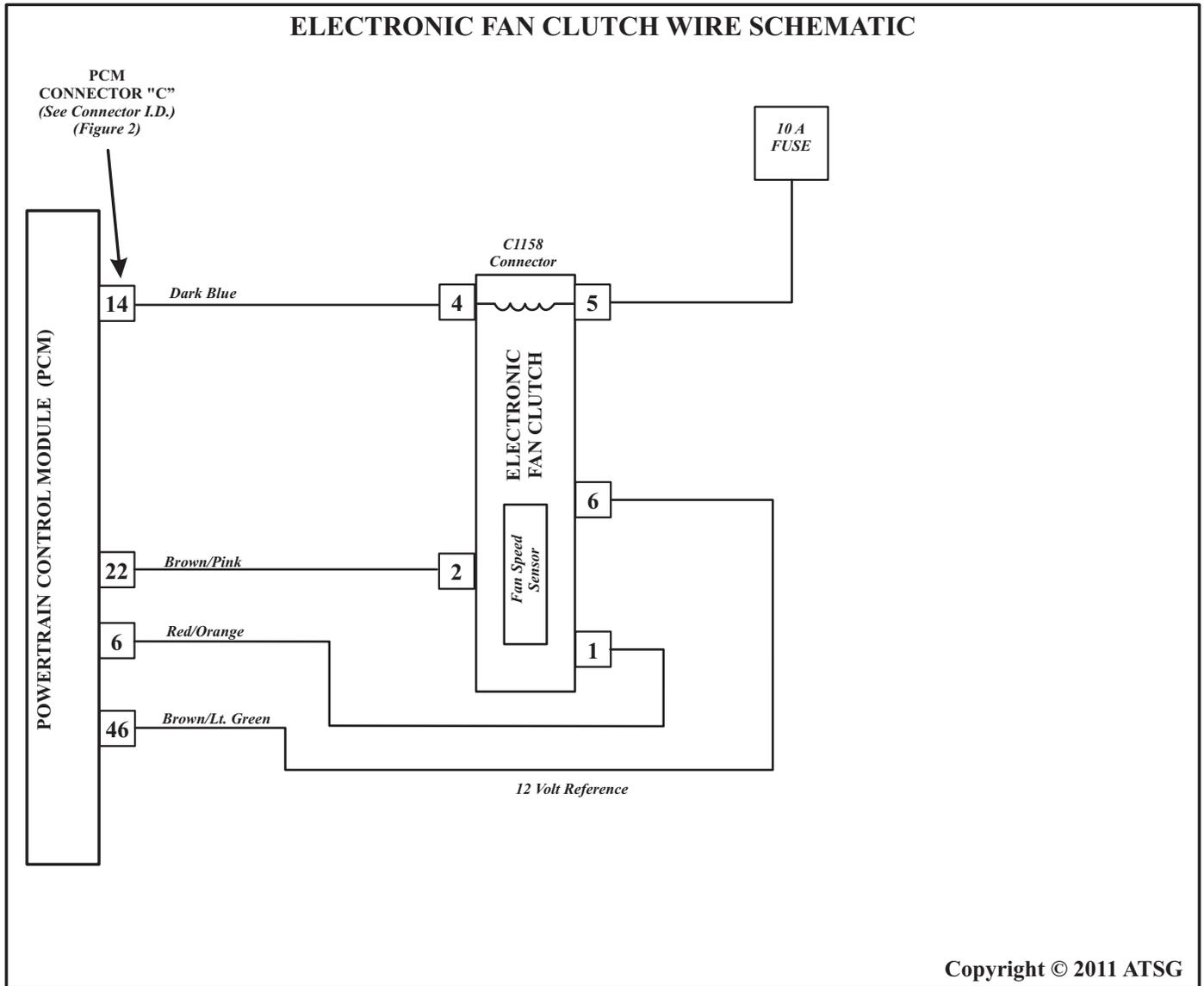
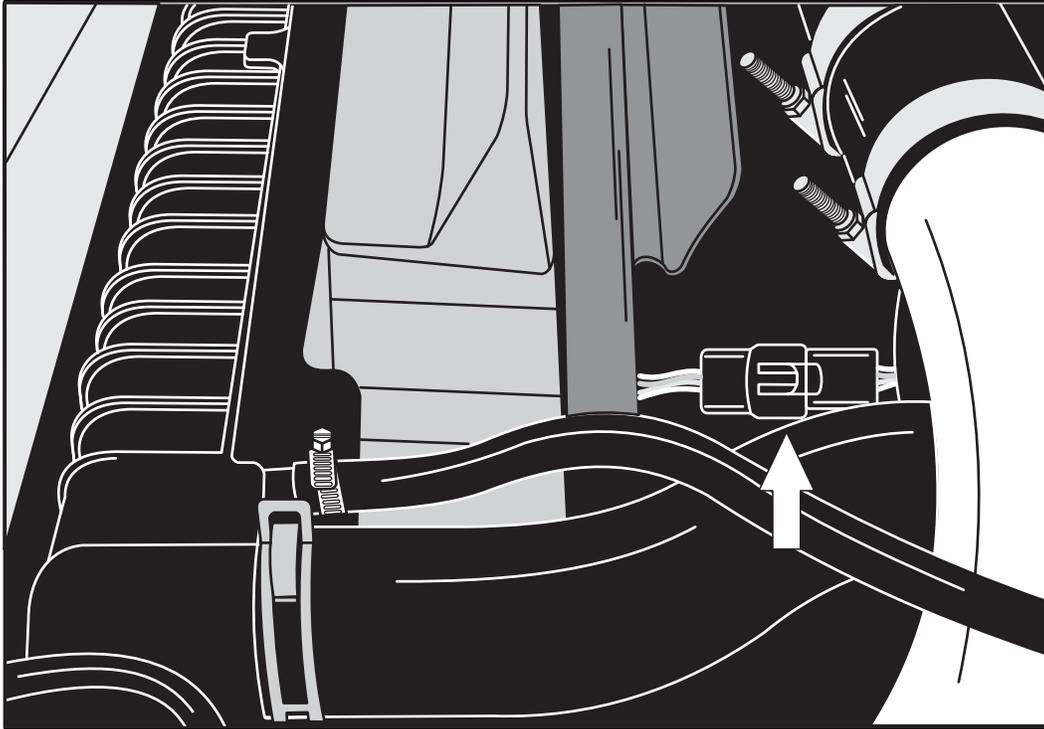


Figure 3

**FORD 5R110W**  
**TRANS RANGE SENSOR/ SPEED SENSOR FAULTS OR NO START**

**ELECTRONIC FAN CLUTCH CONNECTOR**

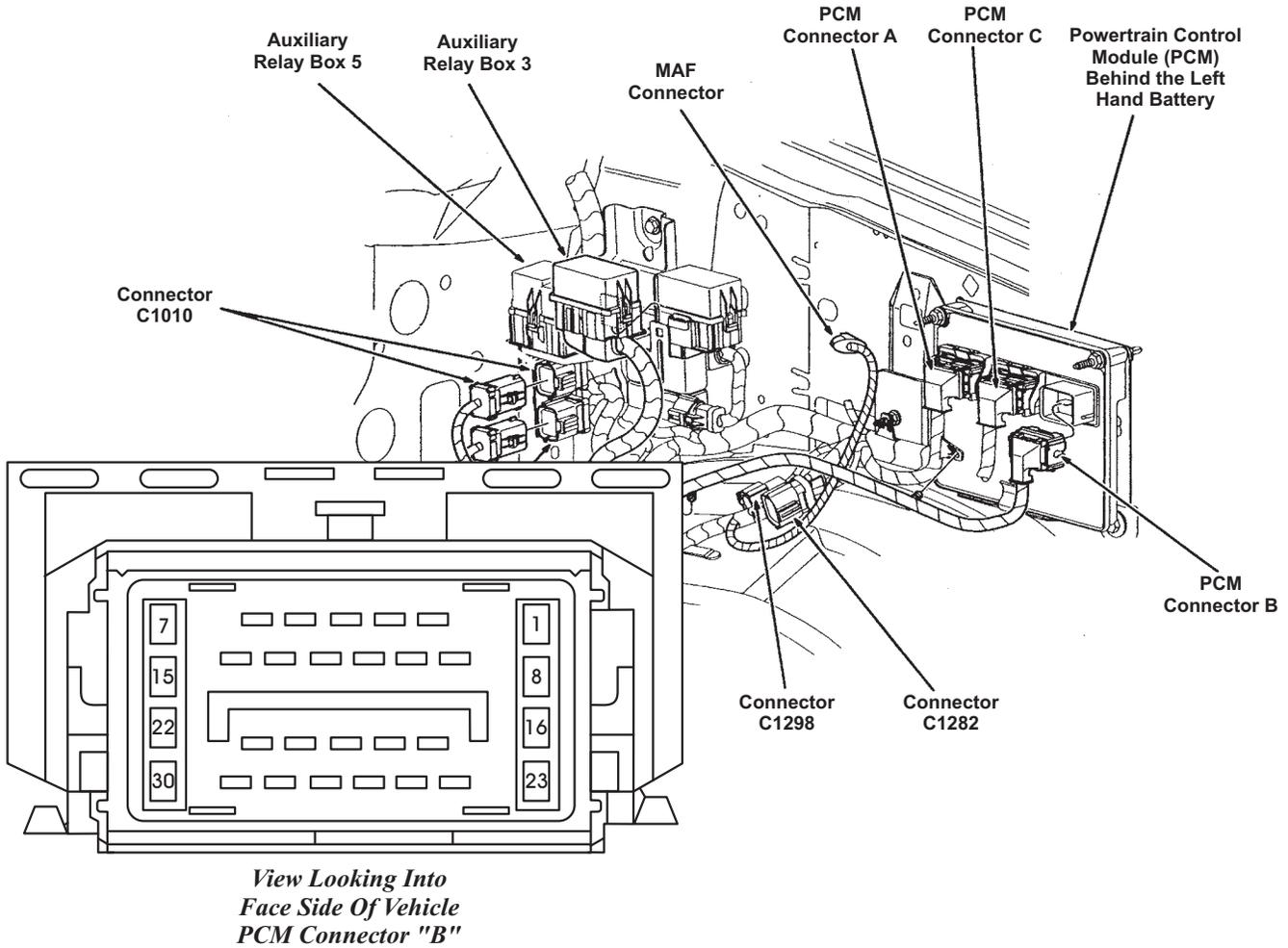


*Dis-connect this connector to see if the symptoms go away*

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Figure 4

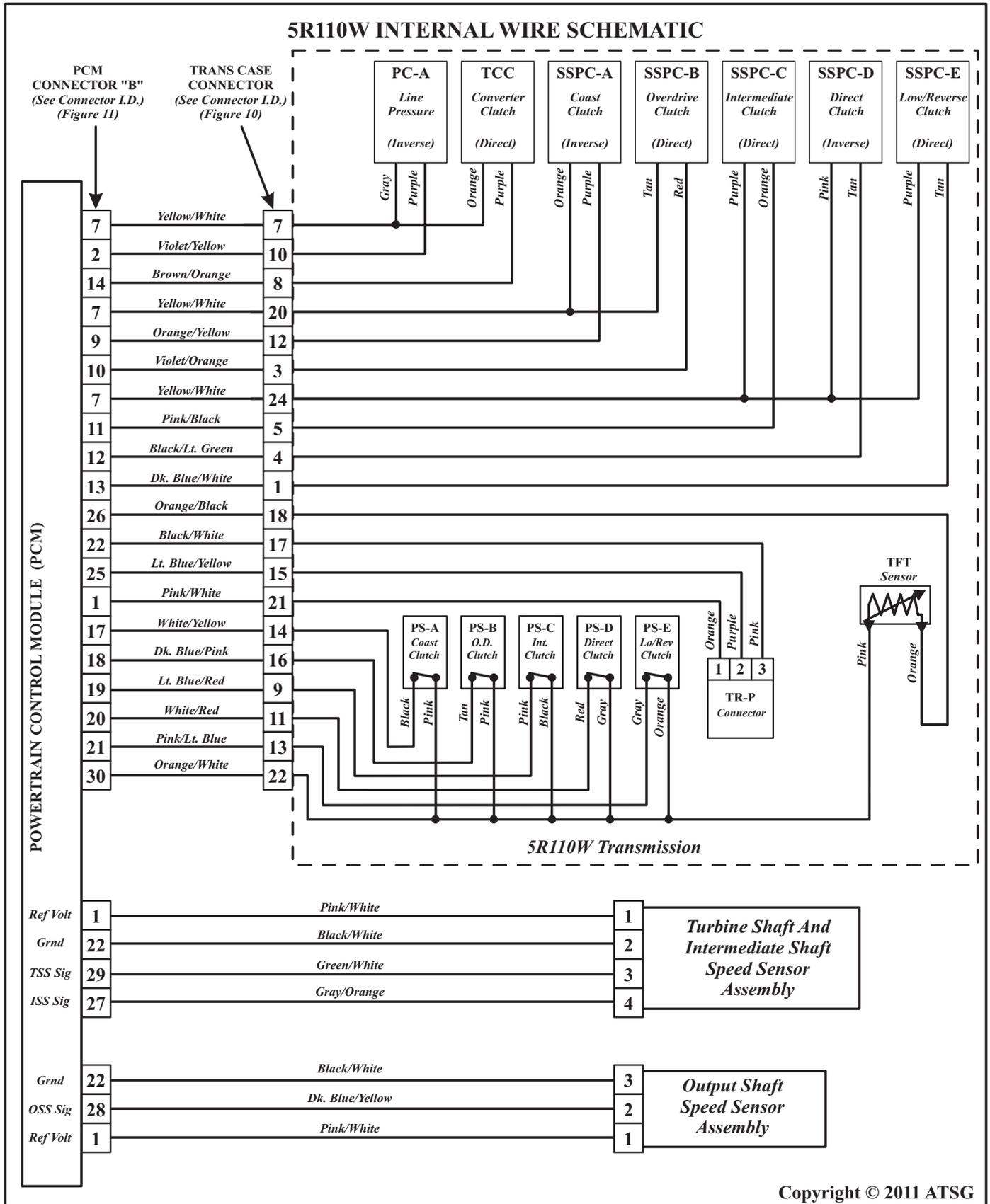
## 5R110W PCM CONNECTOR "B" PIN IDENTIFICATION AND FUNCTIONS AND PCM LOCATION



Pin	Wire Color	Circuit Function	Pin	Wire Color	Circuit Function
1	Pink/White	12V Reference Voltage, Speed Sensors and TRP	16		"Not Used"
2	Violet/Yellow	PC-A Pressure Control Solenoid Ground	17	White/Yellow	PS-A Pressure Switch "A" Signal
3	Yellow/Lt Green	Reverse Lamp Relay, Control	18	Dk Blue/Pink	PS-B Pressure Switch "B" Signal
4	Red/White	Transfer Case Neutral Signal	19	Lt Blue/Red	PS-C Pressure Switch "C" Signal
5	White/Lt Green	TCIL, Control (Tow/Haul)	20	White/Red	PS-D Pressure Switch "D" Signal
6		"Not Used"	21	Pink/Lt Blue	PS-E Pressure Switch "E" Signal
7	Yellow/White	12V Power to Solenoids	22	Black/White	Both Speed Sensors and TR-P Ground
8		"Not Used"	23		"Not Used"
9	Orange/Yellow	SSPC-A Shift Solenoid Pressure Control A Ground	24		"Not Used"
10	Violet/Orange	SSPC-B Shift Solenoid Pressure Control B Ground	25	Lt Blue/Yellow	TR-P Transmission Range Sensor Signal
11	Pink/Black	SSPC-C Shift Solenoid Pressure Control C Ground	26	Orange/Black	TFT Transmission Fluid Temp Sensor Signal
12	Black/Lt Green	SSPC-D Shift Solenoid Pressure Control D Ground	27	Gray/Orange	ISS Intermediate Shaft Speed Sensor Signal
13	Dk Blue/White	SSPC-E Shift Solenoid Pressure Control E Ground	28	Dk Blue/Yellow	OSS Output Shaft Speed Sensor Signal
14	Brown/Orange	TCC Torque Converter Clutch Solenoid Ground	29	Green/White	TSS Turbine Shaft Speed Sensor Signal
15		"Not Used"	30	Orange/White	Pressure Switch And TFT Sensor Ground

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Figure 5



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Figure 6