



Technical Service Information

FORD 6R80

CONTROL MODULE CHANGES FOR SOME 2010-2011 MODELS

CHANGE: Beginning at the start of production for the 2010 model year on Ford trucks with the 6.2L engine, the Transmission Control Module/Mechatronic unit was removed from the top of the valve body and is now combined with the Engine Control Module in the newly revised Powertrain Control Module. This change then carried on to 2011 model cars and trucks equipped with 3.7, 5.0 and 6.2 L engines. *Note: 4.6 and 5.4L vehicles still have an internal TCM, see Figure 1 for location and Figure 2 for terminal identification.*

REASON: The reason for this change is for better control, as these vehicles now have a “Select Shift” which is part of a Manual mode operation. This improved system is located in the Powertrain Control Module.

PARTS AFFECTED:

MOLDED LEAD FRAME:

- The Molded Lead Frame now replaces the previous design TCM/Mechatronic control module. It now makes individual connections from pins at the case connector to the terminals connected to the solenoids, Transmission range sensor, Turbine and Output sensors and Transmission fluid temp sensor, to accommodate the new PCM circuitry. See Figure 3 for the location of the Molded Lead Frame, and Figure 4 for the terminal identification of the case connector, and Figure 5 for a terminal location from the case connector to the lower side of the Molded Lead Frame. Refer to Figure 6 for a component ohm test chart.

POWERTRAIN CONTROL MODULE:

- The Powertrain Control Module now houses controls for the Transmission as well as the Engine.

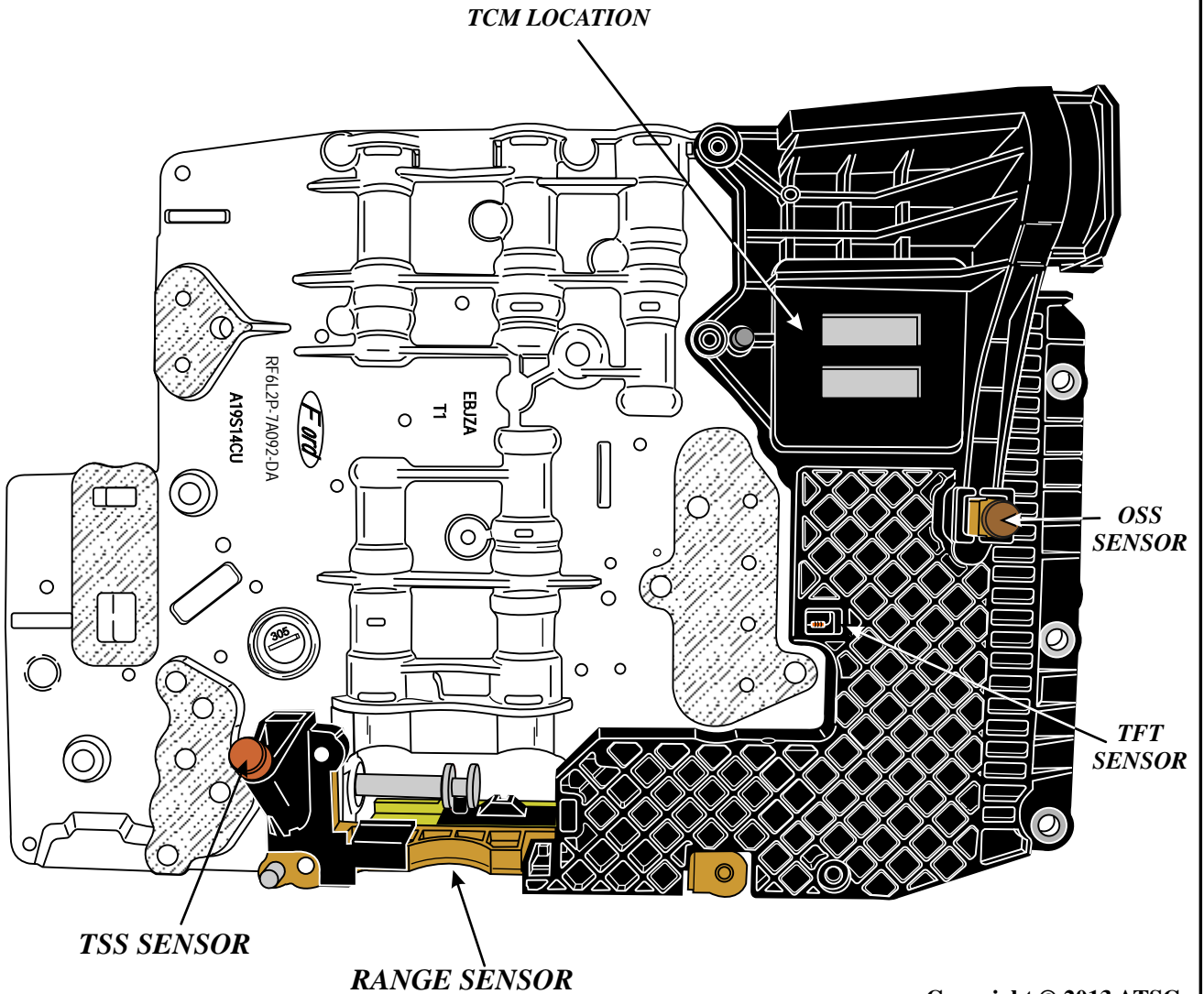
WIRING HARNESS:

- The wiring harness also was changed to accommodate the new connection from the Molded Lead Frame to the PCM.

INTERCHANGEABILITY:

None of the parts listed above are interchangeable between the Internal and External PCM.

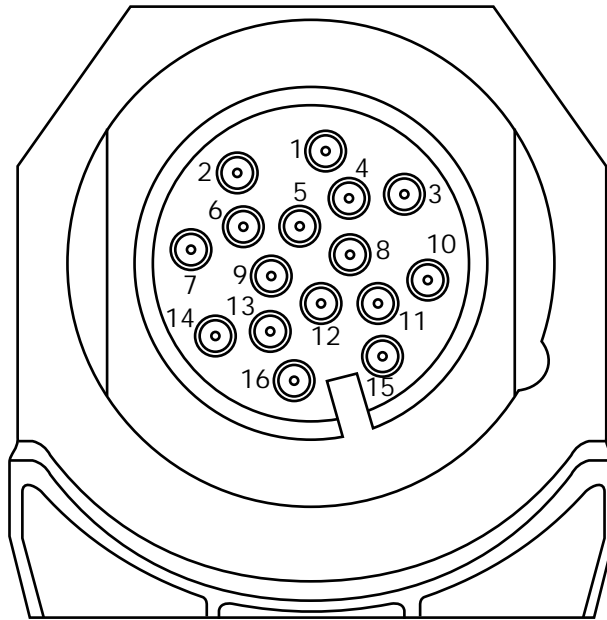
TCM/MECHATRONIC MODULE LOCATED ON TOP OF VALVE BODY



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Figure 1

CASE CONNECTOR TERMINAL FUNCTION WITH INTERNAL TCM

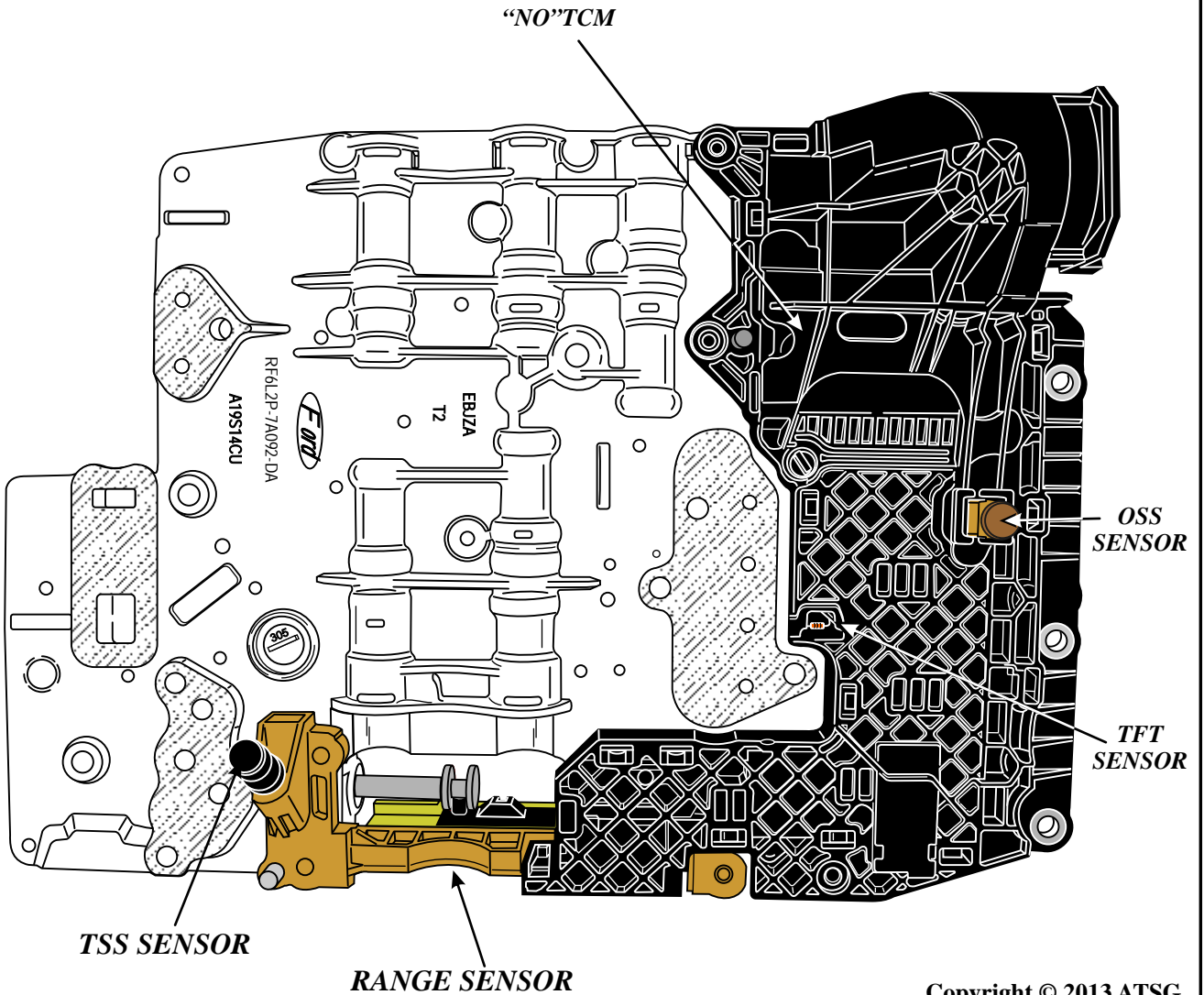


PIN #	DESCRIPTION AND FUNCTION
1	TOW/HAUL SWITCH
2	CAN LOW
3	NOT IN USE
4	NOT IN USE
5	NOT IN USE
6	CAN HIGH
7	BACK UP LAMP RELAY POWER
8	NOT IN USE
9	IGNITION VOLTAGE
10	PARK NEUTRAL SIGNAL-PN
11	NOT IN USE
12	NOT IN USE
13	GROUND
14	BATTERY VOLTAGE
15	BACK UP LAMP RELAY CONTROL
16	GROUND

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Figure 2

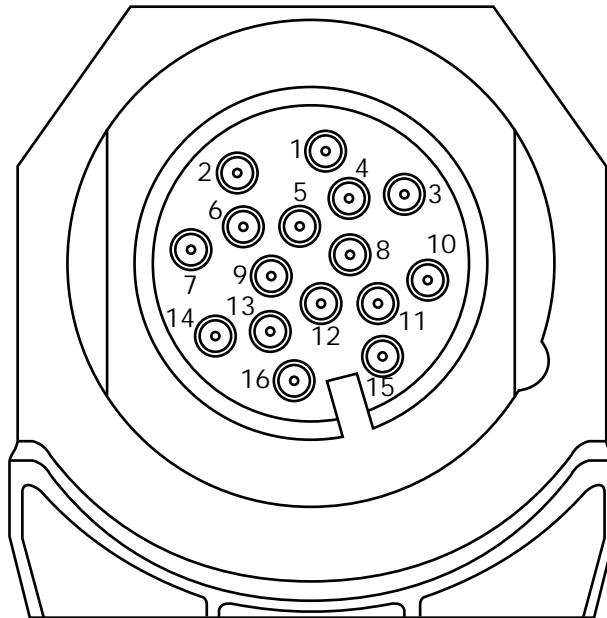
MOLDED LEAD FRAME LOCATED ON TOP OF VALVE BODY



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Figure 3

CASE CONNECTOR TERMINAL FUNCTION WITH MOLDED LEAD FRAME-EXTERNAL PCM

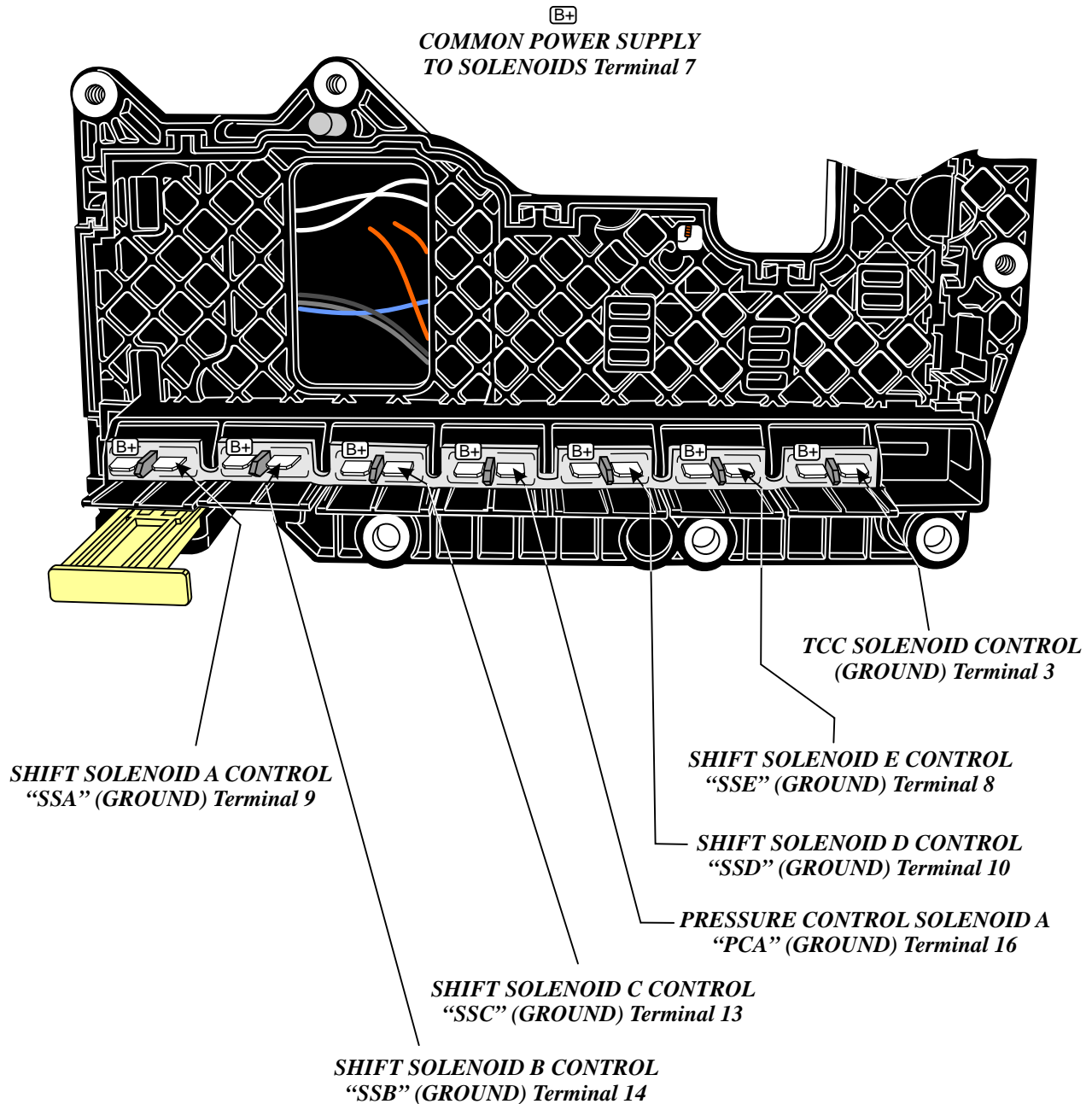


PIN #	DESCRIPTION AND FUNCTION
1	TURBINE SHAFT SPEED SENSOR (TSS)
2	NOT USED
3	TCC SOLENOID CONTROL (GROUND)
4	TRANSMISSION RANGE SENSOR (TR)
5	SIGNAL RETURN (TFT-GROUND)
6	TRANSMISSION FLUID TEMPERATURE (TFT) POWER SUPPLY
7	IGNITION VOLTAGE (POWER SUPPLY FOR SOLENOIDS)
8	SHIFT SOLENOID E CONTROL "SSE" (GROUND)
9	SHIFT SOLENOID A CONTROL "SSA" (GROUND)
10	SHIFT SOLENOID D CONTROL "SSD" (GROUND)
11	TRANSMISSION RANGE SENSOR (TR) GROUND
12	BATTERY VOLTAGE (TSS AND OSS)
13	SHIFT SOLENOID C CONTROL "SSC" (GROUND)
14	SHIFT SOLENOID B CONTROL "SSB" (GROUND)
15	OUTPUT SHAFT SPEED SENSOR (OSS)
16	PRESSURE CONTROL SOLENOID A "PCA" (GROUND)

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Figure 4

MOLDED LEAD FRAME (LOWER SIDE VIEW) TERMINAL I.D.

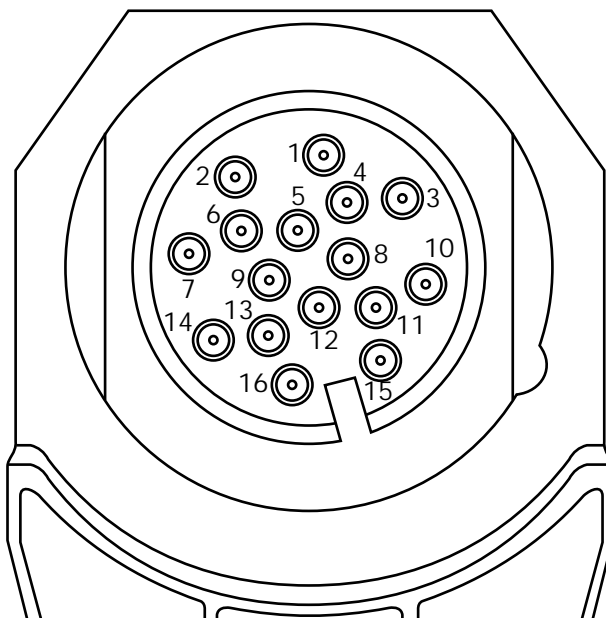


Terminals listed are referring to the terminals in the case connector found in Figure 4

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Figure 5

MOLDED LEAD FRAME-EXTERNAL PCM COMPONENT OHM TESTS



PINS	COMPONENT	OHM VALUE
3&7	TCC SOLENOID	Approx. 5.5 Ohms
5&6	TRANSMISSION FLUID TEMPERATURE	30k @ 68°-drops with temp increase
8&7	SHIFT SOLENOID E CONTROL "SSE"	Approx. 10.5 Ohms
9&7	SHIFT SOLENOID A CONTROL "SSA"	Approx. 5.5 Ohms
10&7	SHIFT SOLENOID D CONTROL "SSD"	Approx. 5.5 Ohms
13&7	SHIFT SOLENOID C CONTROL "SSC"	Approx. 5.5 Ohms
14&7	SHIFT SOLENOID B CONTROL "SSB"	Approx. 5.5 Ohms
16&7	PRESSURE CONTROL SOLENOID A "PCA"	Approx. 5.5 Ohms

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Figure 6