

CORTEX EBC

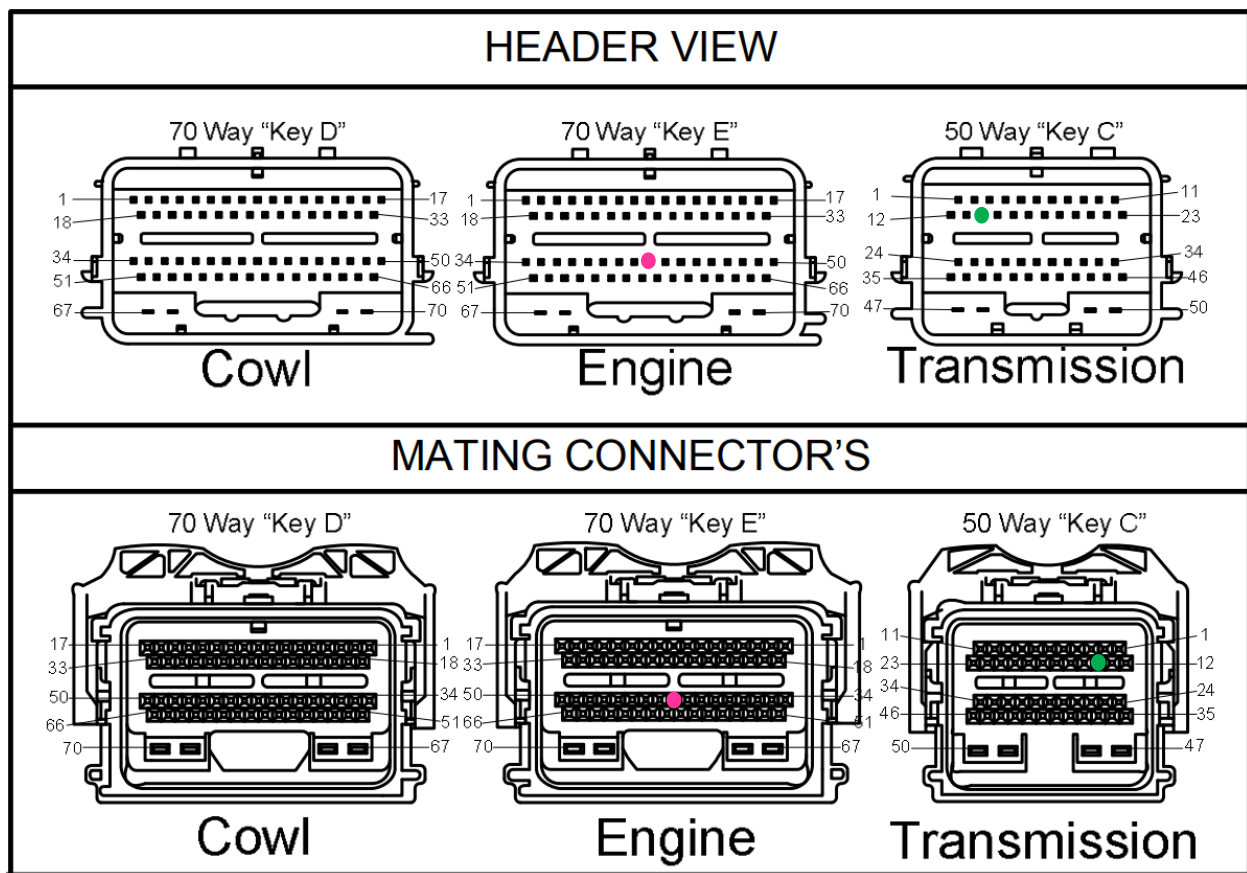
VEHICLE-SPECIFIC WIRING INFORMATION

2011–2014 Ford Mustang GT & F-150 V8 | Factory Wiring Method | Updated 7/26/2026

WIRING

RPM and vehicle speed signals can be obtained at the PCM, which has three large connectors on the 2011–2014 Mustang and F-150.

- **RPM** is in the 70-pin Engine connector, and **vehicle speed** is in the 50-pin Transmission connector.
- The F-150 PCM is on the passenger side of the engine bay on the firewall.
- The Mustang GT PCM is on the passenger side of the engine bay next to the fuse box.



Carefully tap/splice the pink and green wires from the Cortex EBC into the corresponding wires at the PCM connectors using the information in the table below.

CORTEX SIGNAL	CORTEX WIRE COLOR	PCM SIGNAL	PCM PIN	PCM WIRE COLOR
RPM	PINK	Intake Cam Position Sensor (CMP21)	Engine-42	YELLOW/BLUE
Speed	GREEN	Output Shaft Speed	Transmission-14	BROWN/GREEN

RPM SIGNAL CONFIGURATION	SPEED SIGNAL CONFIGURATION
- Pulses per cycle: 7 - Rotations per cycle: 2	Pulses per mile: Approximately 95000 (40 x Rear Gear Ratio x Rear Tire Rotations Per Mile)

VEHICLE SPEED CALIBRATION

To calculate the pulses per mile for your specific tire size and rear gear ratio, first determine the number of revolutions required for your rear tire to travel one mile using the tire size calculator at <https://www.calculator.net/tire-size-calculator.html>. For example, the standard 2015+ Mustang GT tire size of 235/50R18 requires **740.1** revolutions to travel one mile.

Tire Size Calculator

Use the following calculators to find the dimensions of a tire based on its code. It can also provide a comparison of alternative tires that are compatible with a given wheel size.

Result

Tire Height (Diameter)	27.3 in	692 mm
Wheel Size	18 in	457 mm
Sidewall Height	4.6 in	118 mm
Tire Width	9.3 in	235 mm
Tire Circumference	85.6 in	2,175 mm
Revolutions per Mile	740.1	
Revolutions per Kilometer	459.9	

Tire Size: / R

Change to a new wheel size?

☐ Yes
 ☒ No

Calculate

Clear

Once you have determined the revolutions per mile for your tire size, calculate the pulses per mile using the following equation:

$$\text{Pulses Per Mile} = 40 \times (\text{Rear Gear Ratio}) \times (\text{Revolutions Per Mile})$$

For example, using the 235/50R18 tire and a rear gear ratio of 3.15: $\text{Pulses Per Mile} = 40 \times 3.15 \times 740.1 = 93,253$