

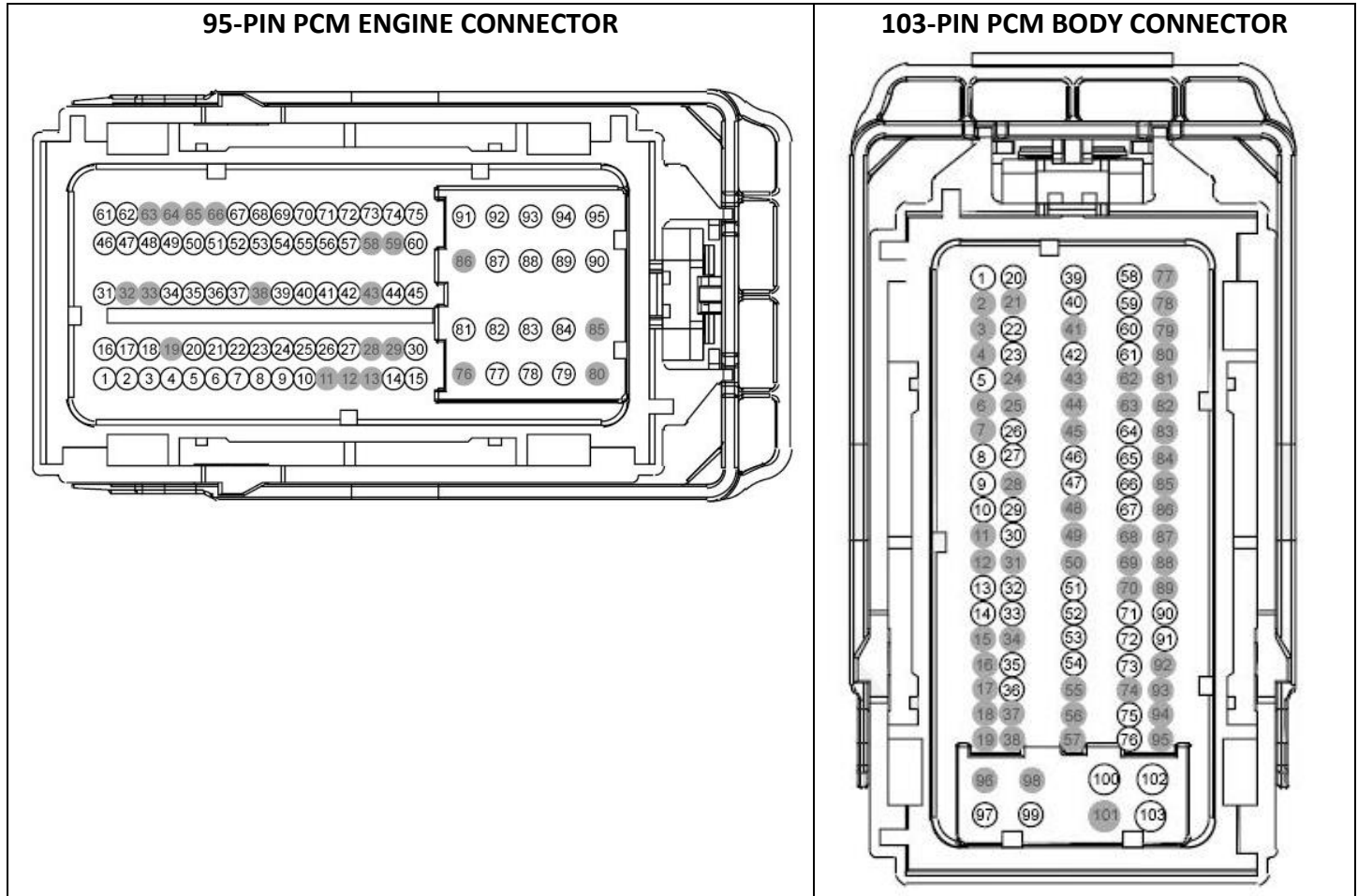
# CORTEX EBC

## 2015-2017 F-150 5.0L Specific Instructions

Rev 1.0.0

### WIRING

The 2015-2017 F-150 PCM is in the passenger side of the engine bay on the firewall. The PCM has two connectors. Power, RPM, vehicle speed, and throttle position signals can be accessed at these connectors.



The Cortex EBC wiring harness can be connected to the PCM connectors as outlined in the following table (B = Body Connector, E = Engine Connector). RPM and vehicle speed signals are required for boost by gear applications.

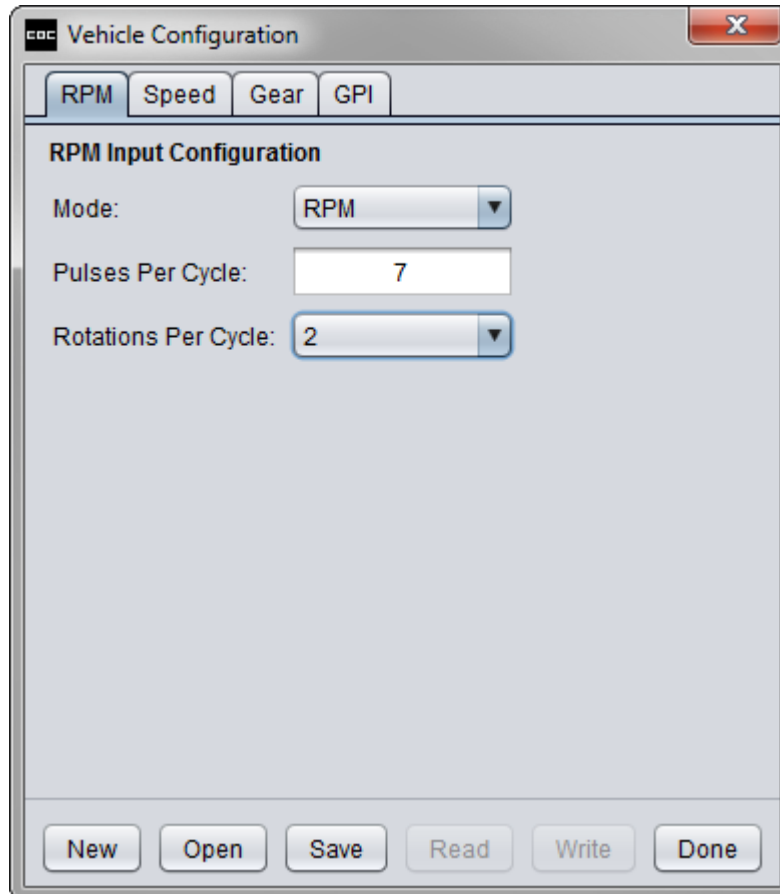
### CORTEX EBC TO PCM CONNECTIONS

CORTEX SIGNAL	CORTEX WIRE COLOR	PCM SIGNAL	PCM PIN	PCM WIRE COLOR
+12V Power	Red	Switched PCM Power	B-97	Blue
Ground	Black (x2)	Connect to Chassis Near EBC	N/A	N/A
Engine Speed	Pink	Intake Cam Position Sensor (CMP21)	E-42	Yellow / Blue
Vehicle Speed	Green	Output Shaft Speed	E-26	Yellow / Orange
General-Purpose	Orange	Throttle Position 1	E-10	Brown

# VEHICLE CONFIGURATION SETTINGS

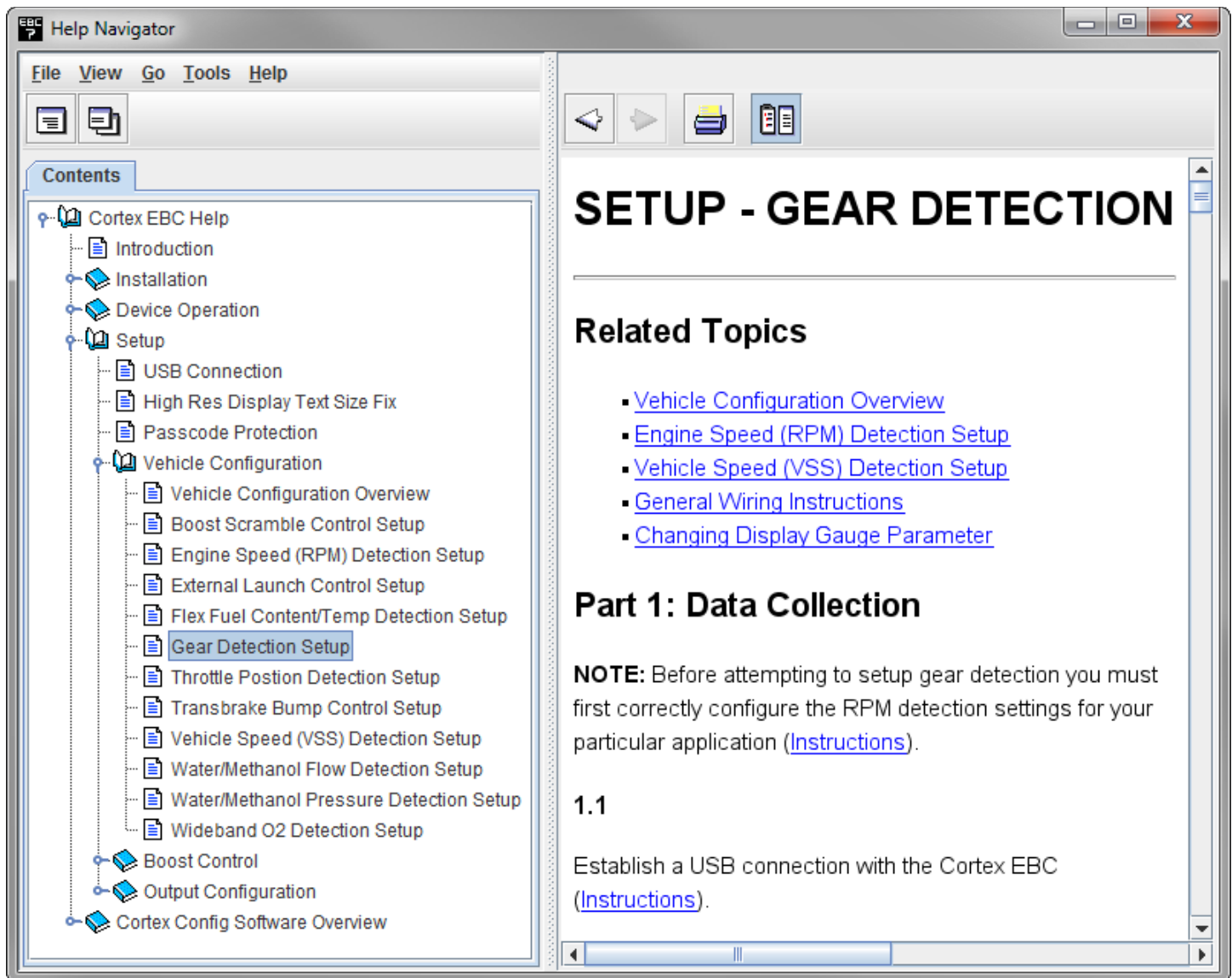
## RPM DETECTION:

- Mode: RPM
- Pulses Per Cycle: 7
- Rotations Per Cycle: 2



## GEAR DETECTION:

- Follow the steps in the **Setup – Gear Detection** section of the Help utility to determine the correct EVS ratio settings for gear detection.



The screenshot shows the Cortex EBC Help Navigator application window. The title bar reads "EBC 7 Help Navigator". The menu bar includes "File", "View", "Go", "Tools", and "Help". The "Contents" pane on the left lists the following items:

- Cortex EBC Help
  - Introduction
  - Installation
  - Device Operation
  - Setup
    - USB Connection
    - High Res Display Text Size Fix
    - Passcode Protection
    - Vehicle Configuration
      - Vehicle Configuration Overview
      - Boost Scramble Control Setup
      - Engine Speed (RPM) Detection Setup
      - External Launch Control Setup
      - Flex Fuel Content/Temp Detection Setup
      - Gear Detection Setup**
      - Throttle Position Detection Setup
      - Transbrake Bump Control Setup
      - Vehicle Speed (VSS) Detection Setup
      - Water/Methanol Flow Detection Setup
      - Water/Methanol Pressure Detection Setup
      - Wideband O2 Detection Setup
    - Boost Control
    - Output Configuration
  - Cortex Config Software Overview

The main content area displays the title "SETUP - GEAR DETECTION" and a section for "Related Topics" with the following links:

- [Vehicle Configuration Overview](#)
- [Engine Speed \(RPM\) Detection Setup](#)
- [Vehicle Speed \(VSS\) Detection Setup](#)
- [General Wiring Instructions](#)
- [Changing Display Gauge Parameter](#)

Below this is the section "Part 1: Data Collection".

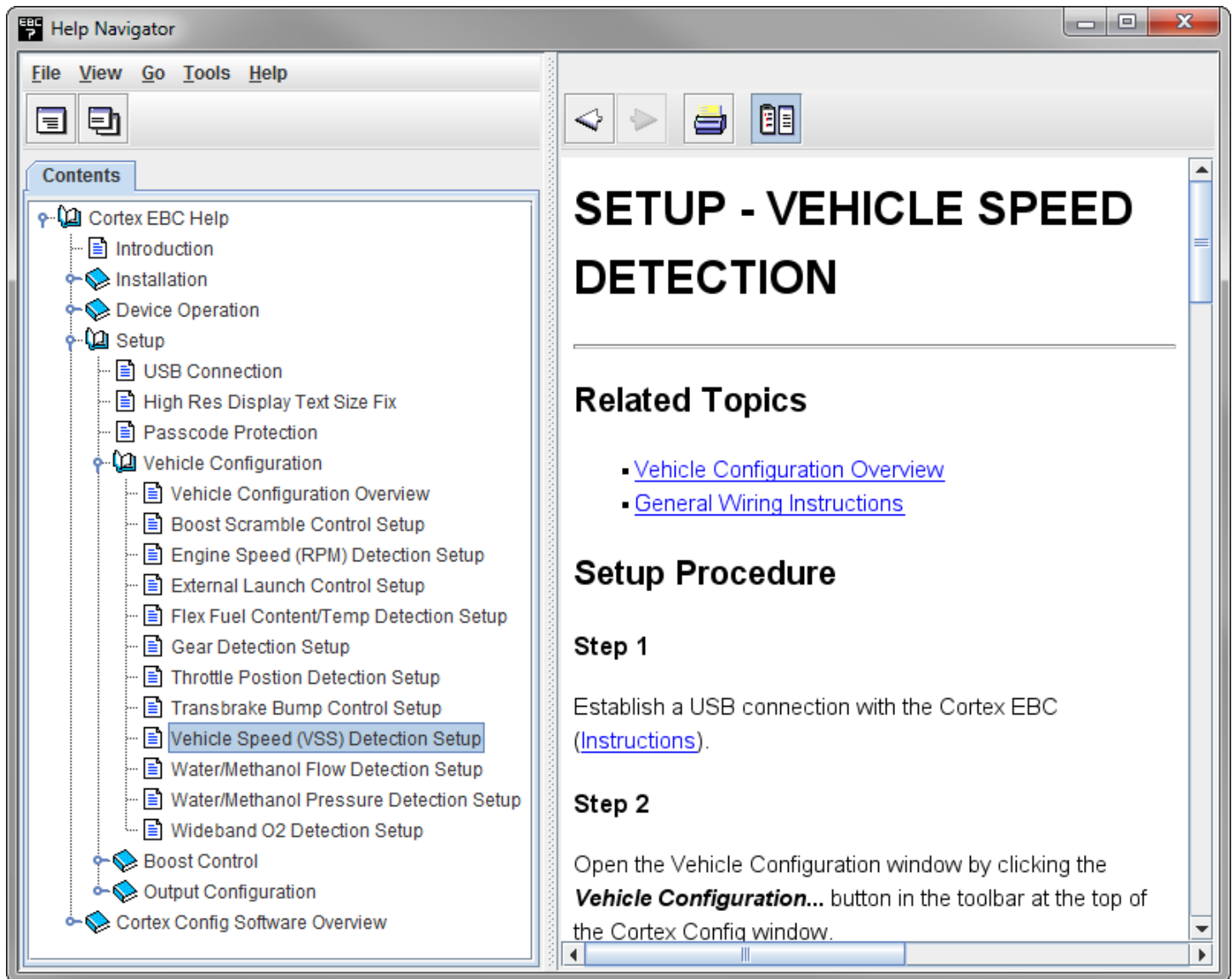
**NOTE:** Before attempting to setup gear detection you must first correctly configure the RPM detection settings for your particular application ([Instructions](#)).

**1.1**

Establish a USB connection with the Cortex EBC ([Instructions](#)).

## SPEED DETECTION:

- Follow the steps in the **Setup – Vehicle Speed Detection** section of the Help utility to determine the correct Pulses Per Mile setting.
- **NOTE:** Gear detection setup should be performed before calibrating the Pulses Per Mile setting.



The screenshot shows a software help window titled "Help Navigator". The window has a menu bar with "File", "View", "Go", "Tools", and "Help". Below the menu bar is a toolbar with icons for home, back, forward, print, and search. The left pane shows a "Contents" tree with the following structure:

- Cortex EBC Help
  - Introduction
  - Installation
  - Device Operation
  - Setup
    - USB Connection
    - High Res Display Text Size Fix
    - Passcode Protection
    - Vehicle Configuration
      - Vehicle Configuration Overview
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      - Transbrake Bump Control Setup
      - Vehicle Speed (VSS) Detection Setup
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      - Water/Methanol Pressure Detection Setup
      - Wideband O2 Detection Setup
    - Boost Control
    - Output Configuration
  - Cortex Config Software Overview

The right pane displays the content for "Vehicle Speed (VSS) Detection Setup". The main heading is "SETUP - VEHICLE SPEED DETECTION". Below this is a section for "Related Topics" with two links: [Vehicle Configuration Overview](#) and [General Wiring Instructions](#). The next section is "Setup Procedure", which includes:

**Step 1**  
Establish a USB connection with the Cortex EBC ([Instructions](#)).

**Step 2**  
Open the Vehicle Configuration window by clicking the **Vehicle Configuration...** button in the toolbar at the top of the Cortex Config window.

## THROTTLE POSITION DETECTION:

- Follow the steps in the **Setup – Throttle Position Detection** section of the Help utility to determine the correct Closed TPS Voltage and Open TPS Voltage settings.

