CORTEX EBC
2000-2005 Mk4 Golf/Jetta 1.8T Specific Instructions
Rev 2.0.0

WIRING

RPM, vehicle speed, and TPS signals can be accessed at connectors on the back of the gauge cluster, at the ECU, or at the sensors/modules themselves. This document provides several options for connecting each signal to the Cortex EBC.
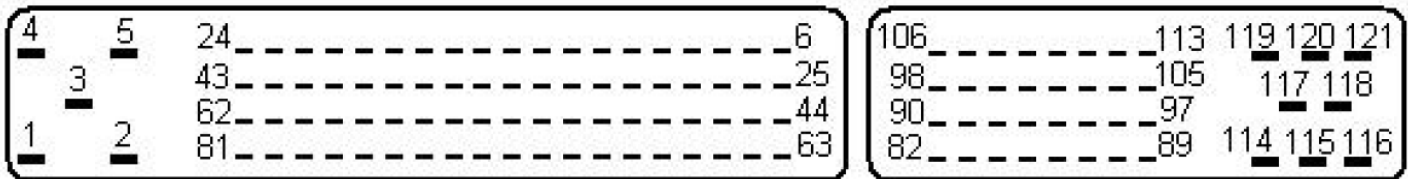
ECU LOCATION

The ECU is located underneath the plastic cowl cover at the back of the engine bay. If you choose to connect to signals at the ECU you will need to remove a few components to access it. First remove the windshield wiper arms and then remove the plastic cowl cover. The ECU is in the center of the cowl just below the windshield. You will need to unwrap a few inches of the protective material covering the wires at the connector.

CONNECTOR DIAGRAMS

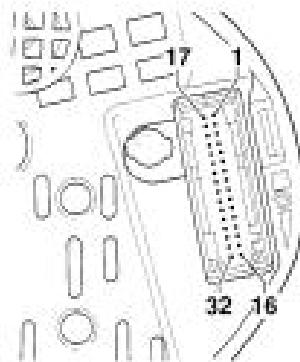The following images are provided to assist in the installation process.

ECU PIN NUMBERS

BLUE GAUGE CLUSTER CONNECTOR	BLUE GAUGE CLUSTER CONNECTOR PIN NUMBERS

SPEED SIGNAL

The vehicle speed input on the Cortex EBC wiring harness can be connected to the vehicle wiring harness at the following locations:

- Pin 3 of the blue gauge cluster connector (blue/white wire).
  - Preferred option.
- Pin 54 of the ECU (blue/white wire).
  - Preferred option.
- Pin 28 of the blue gauge cluster connector (green wire).
- Pin 2 of the speed sensor connector at transmission (white/ blue wire).

The speed signal originates from pin 2 of the vehicle speed sensor on the transmission. The signal is carried from the sensor by a white/blue wire to a connector where it changes to a green wire. The green wire continues to the gauge cluster where it terminates at pin 28 of the blue cluster connector.

The cluster outputs a separate speed signal that is used by the ECU and other electronic modules. The speed output is located on pin 3 of the blue gauge cluster connector and is carried by a blue/white wire to pin 54 on the ECU and several other modules.

RPM SIGNAL

A suitable RPM signal from the Cortex EBC can be obtained from a tach signal at the ECU or gauge cluster on some early Mk4s. Otherwise RPM can be obtained from the cylinder 1 coil trigger signal at the ECU or coil pack. The RPM input on the Cortex EBC wiring harness can be connected to the vehicle wiring harness at the following locations:

- Tach signal at pin 11 of the blue gauge cluster connector (green/brown wire).
  - Vehicles manufactured before May 2002 only.
- Tach signal at pin 37 of the ECU (green/brown wire).
  - Vehicles manufactured before May 2002 only.
- Cylinder 1 coil trigger at pin 102 of the ECU (black/blue or violet/black wire).
- Cylinder 1 trigger at pin 3 of the coil pack connector (black/blue or violet/black wire).

TACH SIGNAL - VEHICLES MANUFACTURED BEFORE MAY 2002

A standard tach signal is generated by the ECU for the tachometer in the gauge cluster. This signal originates at ECU pin 37 and is carried by a green/brown wire to the gauge cluster where it terminates at pin 11 of the blue cluster connector.

COIL TRIGGER - 2000 VEHICLES WITH AWD ENGINE CODE

The cylinder 1 coil trigger signal originates from ECU pin 102 and is carried by a black/blue wire to pin 3 of the coil pack connector.

COIL TRIGGER - 2001+ VEHICLES WITH AWW OR AWP ENGINE CODE

The cylinder 1 coil trigger signal originates from ECU pin 102 and is carried by a violet/black wire to pin 3 of the coil pack connector.

TPS SIGNAL

The TPS input on the Cortex EBC wiring harness can be connected to the vehicle wiring harness at the following locations (only required if you plan to use the TPS based boost control and output activation capabilities of the Cortex EBC):

- Pin 4 of the accelerator position sensor connector (white/blue wire).
- Pin 35 of the ECU (white/blue wire).

The accelerator position sensor is located at the gas pedal. The accelerator position signal originates at pin 4 of the connector on the gas pedal and is carried by a white/blue wire to the ECU where it terminates at pin 35 of the ECU connector.

VEHICLE CONFIGURATION SETTINGS

RPM DETECTION FOR TACH SIGNAL:
- Pulses Per Cycle: 4
- Rotations Per Cycle: 2

RPM DETECTION FOR COIL SIGNAL:
- Pulses Per Cycle: 1
- Rotations Per Cycle: 2

SPEED DETECTION:
- Pulses Per Mile: Calibrate using speedometer or GPS (6,000 is a good starting point).
- VSS Scaler: None

GEAR DETECTION:
- EVS Ratios: Determine using EVS Ratio displayed by logger while driving in each gear.

GPI CONFIGURATION FOR TPS:
- Mode: TPS
- Min TPS Voltage: Enter GPI Raw displayed by logger when throttle is closed (around 0.0 V).
- Max TPS Voltage: Enter GPI Raw displayed by logger when throttle is open (around 5.0 V).