

# CORTEX EBC

## 2000-2001 B5 A4 1.8T and S4 2.7T 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.

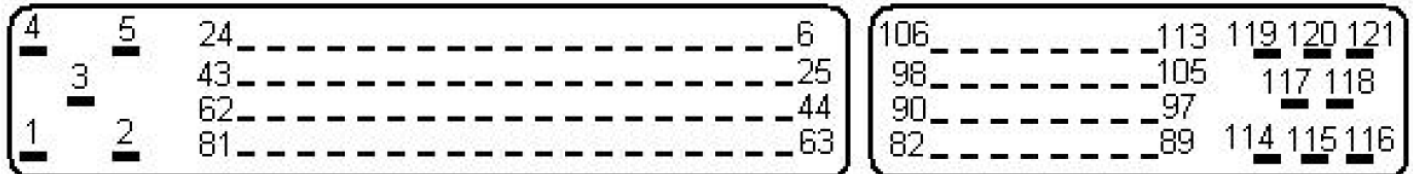
### ECU LOCATION

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 the plastic cowl cover. The ECU is in a box on the driver side edge of the cowl opening. 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.

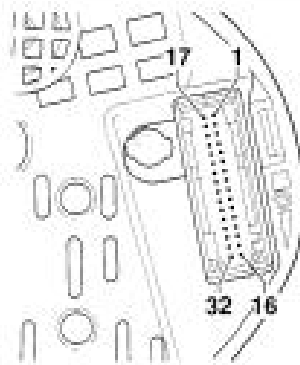
#### ECU PIN NUMBERS



#### 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 (white/blue wire).
  - Preferred option.
- Pin 31 of the blue gauge cluster connector (white/blue wire).
  - Preferred option.
- Pin 54 of the ECU (white/blue wire).
  - Preferred option.
- Pin 28 of the blue gauge cluster connector (brown/red wire).
- Pin 2 of the speed sensor connector (brown/red 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 brown/red wire to the gauge cluster where it terminates at pin 28 of the blue cluster connector.

The cluster outputs two separate speed signal that are used by the ECU and other electronic modules. The first speed output is located on pin 3 of the blue gauge cluster connector and is carried by a white/blue wire to pin 54 on the ECU and several other modules. The second speed signal is located on pin 31 of the blue gauge cluster connector and is carried by a blue/white wire to the navigation control module and radio.

## **RPM SIGNAL**

A suitable RPM signal from the Cortex EBC can be obtained from a tach signal at the ECU or gauge cluster at the following locations:

- Pin 11 of the blue gauge cluster connector (green/blue wire).
- Pin 37 of the ECU (green/blue wire).

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/blue wire to the gauge cluster where it terminates at pin 11 of the blue cluster 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 (green/blue wire).
- Pin 35 of the ECU (green/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 green/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).