Vipec Knock Amplifier

Sensor Installation

The knock sensor is normally mounted into a boss on the middle of the engine block at the top. Other suitable location is the inlet manifold close to the head. A center location is always the best.

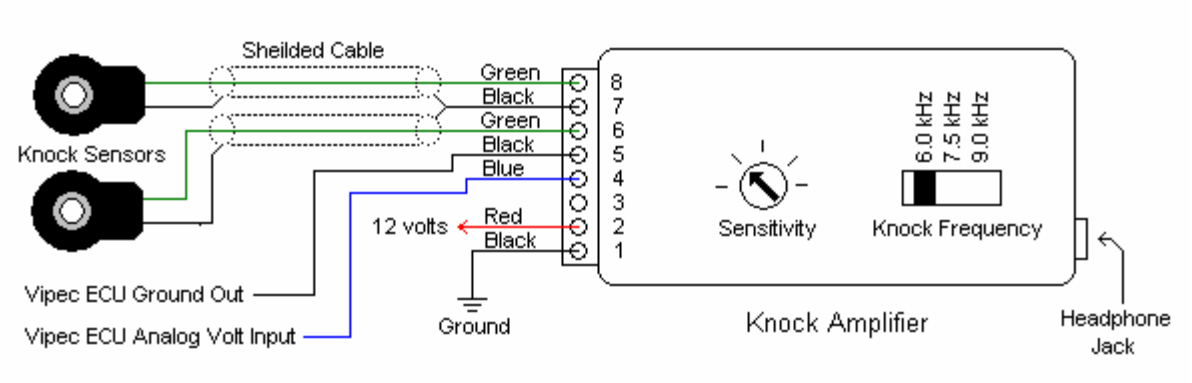
Mounting

The knock amplifier should be mounted in a cool dry position. Try to avoid mounting in the engine compartment.

Wiring

Pin1. Ground for Amplifier. Connect to chassis or engine ground.
Pin2. Power Supply Amplifier. Connect to 12 volts ignition switched.
Pin3. No connection.
Pin4. 0 to 5 volt signal out. Connect to any volt input on Vipec ECU.
Pin5. Ground for Signal. Connect to GND Out on Vipec ECU
Pin6. Knock sensor 1 signal input.
Pin7. Knock sensor and shield wire ground.
Pin8. Knock sensor 2 signal input.

Some sensors only have one terminal. This is connected to the green wire. The black is not used. Keep the shielded knock sensor wires well away from ignition components.



Calibration

The sensitivity adjustment trimmer and frequency selector switch are used to calibrate the output signal to the Vipec ECU. Each engine produces a large amount of noise at a particular frequency when engine knock occurs. The knock amplifier removes noise at that knock can be distinguished more easily. The exact knock frequency is different for each engine type. Engines with big bores (US made V8 engines) will have lower frequency knock (6.0 kHz). Small bore engine multi-valve engine will require 7.5 or 9.0kHz. The default setting is 7.0kHz, should be the starting point for engines other then big bore V8.

Sensitivity Adjustment

A higher sensitivity setting will result in higher level signals to the Vipec volt input. Adjust the sensitivity so you do not run out of range, when the engine is at full rpm and load. This must be without any sign of knock. There is a headphone jack on the amplifier that can be used to listen for knock. Also there are other devices that can be used to listen for knock. The Knock Box is one of these that is very good.