Knock Sensor
The Knock Sensor detects engine knock and sends a voltage signal to the ECM. The ECM uses the Knock Sensor signal to control timing.

Engine knock occurs within a specific frequency range. The Knock Sensor, located in the engine block, cylinder head, or intake manifold is tuned to detect that frequency.

Knock Sensor Location

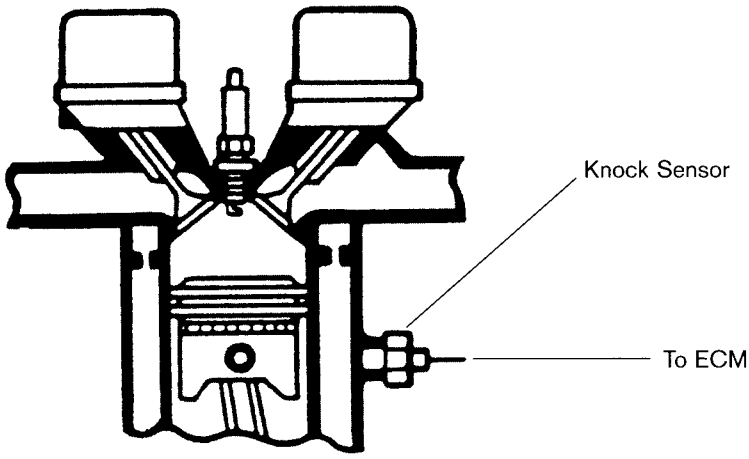

Fig. 2-87
T852f112

Inside the knock sensor is a piezoelectric element. Piezoelectric elements generate a voltage when pressure or a vibration is applied to them. The piezoelectric element in the knock sensor is tuned to the engine knock frequency.

Knock Sensor

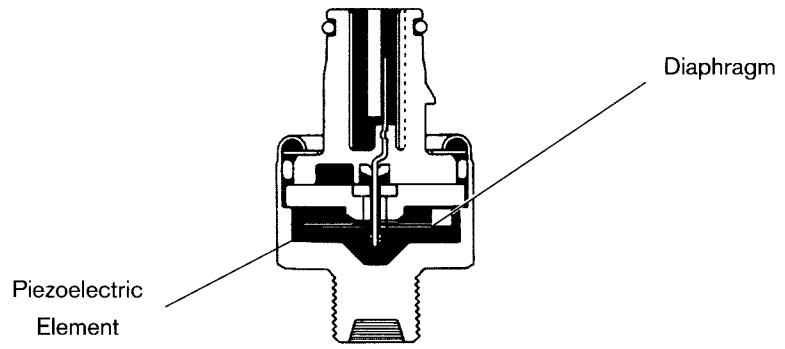

Fig. 2-88
T852f113

Knock Sensor
Voltage Generation

When knock occurs, the voltage output increases.

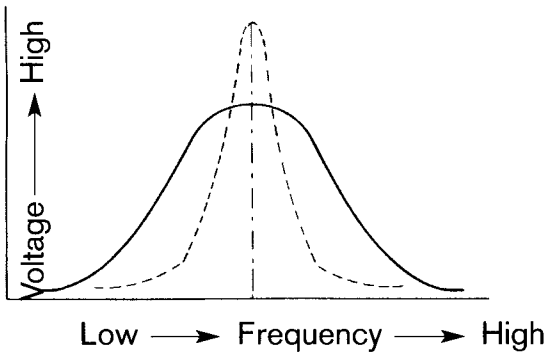

Fig. 2-89
T852f114

Knock Sensor

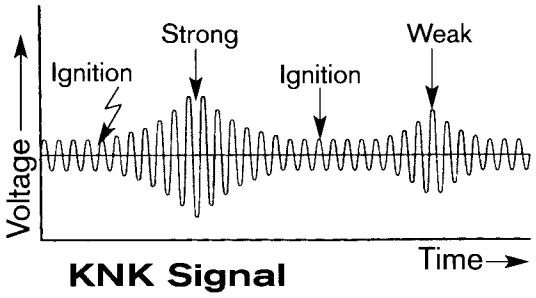

Fig. 2-90
T852f115

The vibrations from engine knocking vibrate the piezoelectric element generating a voltage. The voltage output from the Knock Sensor is highest at this time.

ASSIGNMENT **NAME:** _____

1. What is the purpose or function of a Knock Sensor?

2. Explain how the PCM (ECM) uses the Knock sensor input signal?

3. Where are Knock sensors usually located?

4. Explain the construction of a Knock Sensor?

5. Draw a scope pattern of a Knock Sensor?

