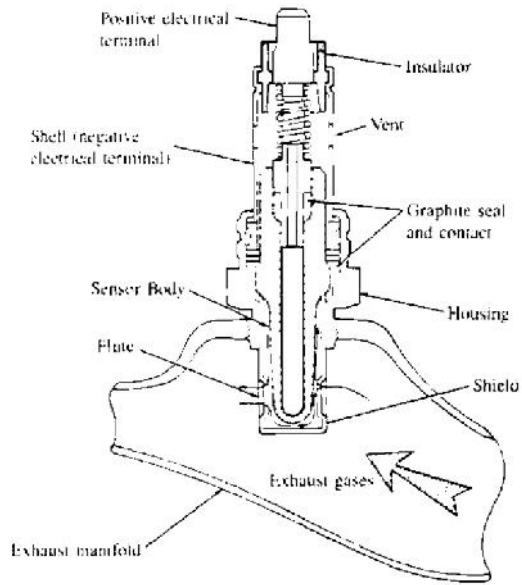


# AIR/FUEL MEASUREMENT & ANALYSIS



This seminar serves as a comprehensive overview of Oxygen sensors as used to measure the Air/Fuel ratio in modern engines. During this course we explain the basic AFR control techniques used in both carbureted and fuel injected SI engines. Overall vehicle target AFR is also explained with respect to vehicle performance, emissions and engine longevity. The various O<sub>2</sub> sensors (narrow band and wide band) are then covered in depth. Sample measurements are analyzed to give incite into the engine's operation. O<sub>2</sub> sensor control strategies in fuel injected engines are explained in detail. Finally we will conclude with a number of important limitations and considerations when using O<sub>2</sub> sensors for AFR measurement.

## Specific Topics Include:

- Carburetors
- Electronic Fuel Injection
- Target AFR numbers for SI Engines
- Narrow Band O<sub>2</sub> Sensors
- Wide Band O<sub>2</sub> Sensors
- Review of Typical Measurements
- AFR Control Strategies
- Limitations and of O<sub>2</sub> measurements

