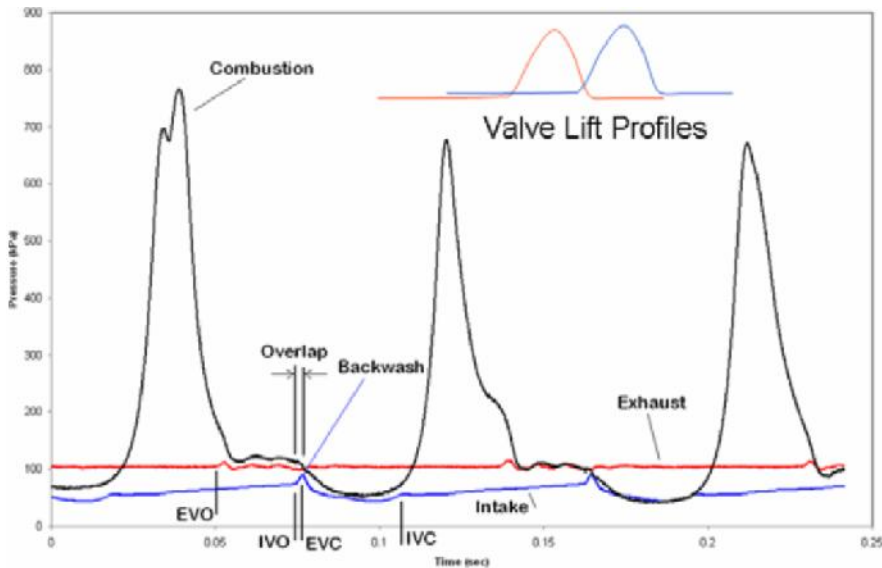


INTERNAL COMBUSTION ENGINES



This seminar serves as a comprehensive overview of modern two- and four-stroke spark ignited and diesel engines. During this course we explain all of the major engine components and their function. Combustion chemistry, heat transfer and thermodynamics are covered in depth to allow calculation of engine power, emissions and fuel consumption. Special emphasis is given to engine efficiency, friction, combustion efficiency and pumping losses. In-cylinder air flow is investigated for its effect on mixture formation and flame propagation. Valve timing and VVT mechanisms are studied in relationship to engine performance. Finally special consideration is given to various alternative fuels.

Covered Topics Include:

- Engine geometry
- Combustion chemistry
- Engine Thermodynamics
- Air/Fuel ratio and Exhaust Emissions
- Engine Power calculation
- Spark Ignition Systems
- Fuel Delivery Systems
- Gas Exchange Process
- Bulk Flow and Flame propagation
- Abnormal combustion
- Alternative Fuels
- Electronic Engine Controls

