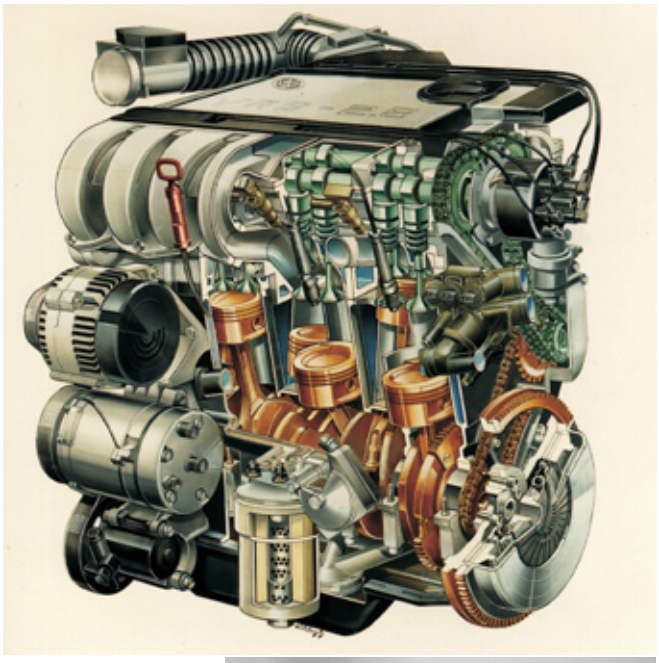
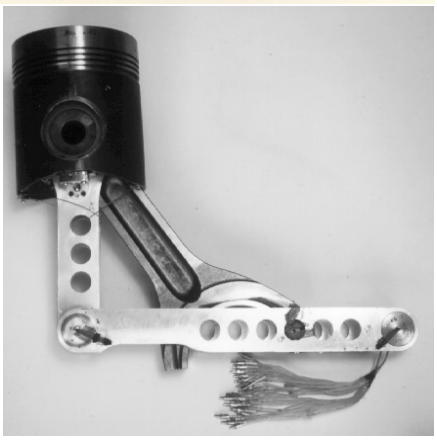
MICRO-EPSILON

Piston Secondary Movement and Piston Ring Position

To improve the construction of internal combustion engines and damage analyses, it is neccessary to measure the thermal and mechanical loads in the engine. Two important variables here are the transverse movement of the piston (secondary movement) and the position and deformation of the piston rings during the individual operating strokes. The measurements must be made under operating conditions in order to provide reliable results. To do this, the engine is run on the bench either in firing or motored mode.





Technical details

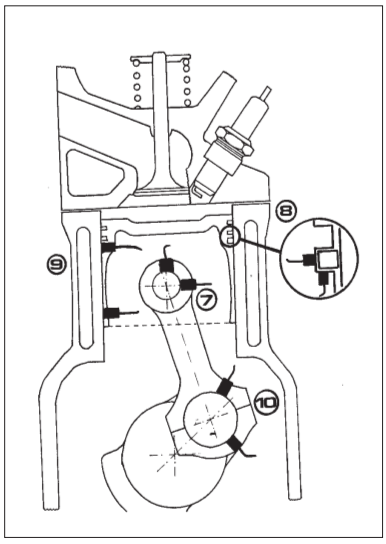
- Measuring range: 0 - 0,5 mm
- Response: less than 1 µm
- Miniature sensor
- Very thin interconnecting cable
- Temperature stable

Ambient conditions:

- Temperature to 150 (180 °C)
- Oil, petrol air-mixture
- Combustion gases
- Vibrations and pressure

System configuration

U05.12 sensor with coaxial cable (ø 0,5 mm)
Sensor interconnecting cable
OS 520 - oscillator plug-in
DL 500 (DL504) - demodulator plug-in
Sensor-matching board with special temperature compensation
Bench top cabinet for 3 or 8 channels and digital display



The sensor cable must be laid from the moving piston to the engine block by a special crank arm.

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