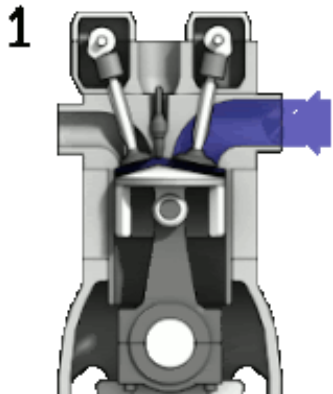




Best Practice to Prolong Engine Transducer Life



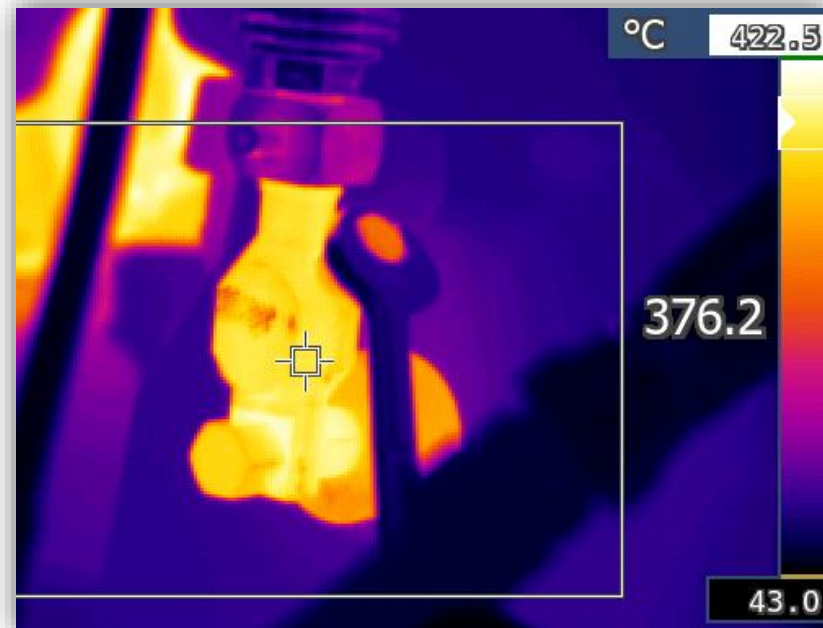
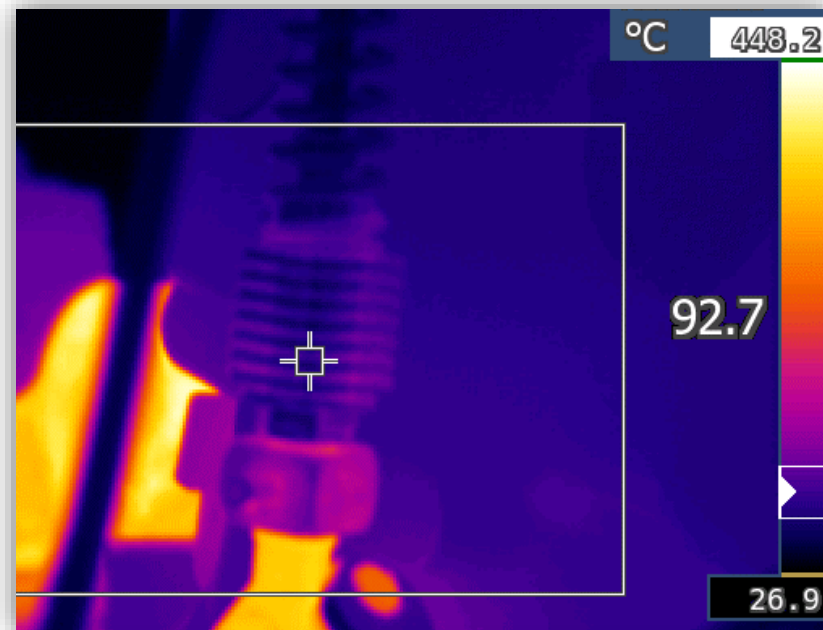
Matt Schweinberg, Technical Services Manager,
Windrock, Inc.



Engine Pressure Transducers

IMES Sensor

- Max operating temperature is 572°F (300°C).
- Indicator valves can get extremely hot while in operation as seen in the lower left picture ($\approx 709^\circ\text{F}$ or $\approx 376^\circ\text{C}$).
- To combat this high temperature on the indicator valve the aluminum cooling fins around the pressure sensor keep the sensing element within its designed temperature limits. This can be seen in the top right picture ($\approx 199^\circ\text{F}$ or $\approx 93^\circ\text{C}$).
- To assist with keeping the heat down at the sensor be sure to fully open and fully close the valve as quickly as possible. This will help keep the flame front from traveling up the indicator passage.



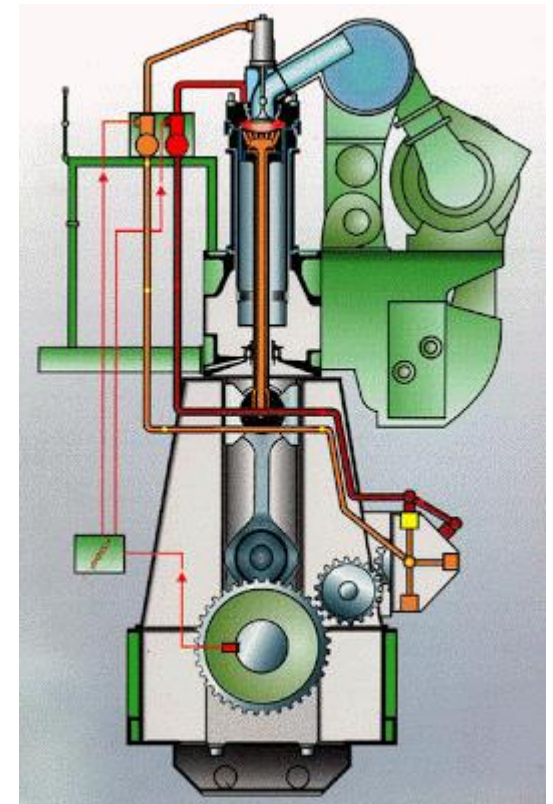
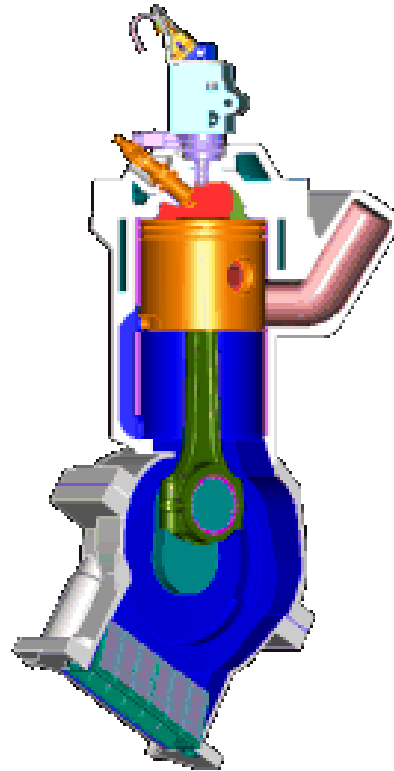
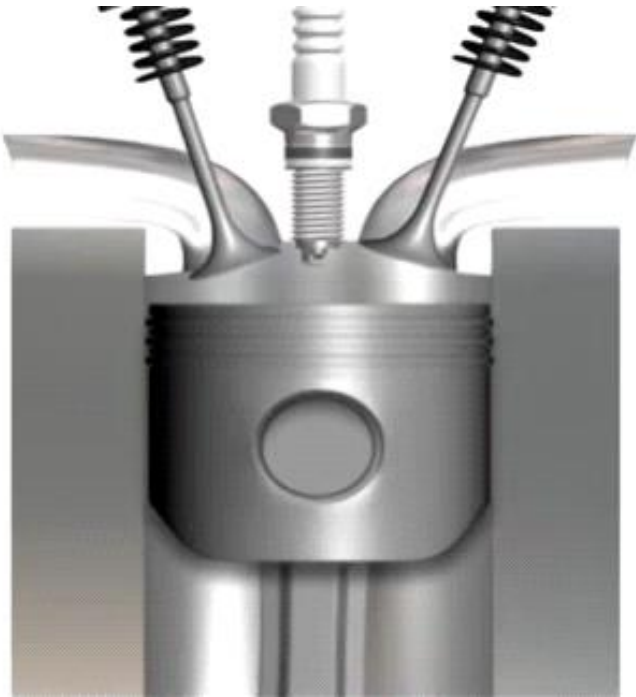
Engine Pressure Transducers

- When setting up the engine pressure collection points Windrock advises that you keep the number of samples between 30 and 50.
 - More than 50 has a higher potential of overheating any engine sensor and causing damage to the sensing elements.
- On the right are pictures of the IMES sensor internals.
 - The white ring seen is made out of ceramic.
 - For this reason it is **NOT** recommended dipping the sensor in water or pouring water over the sensor to cool it off as the ceramic could be thermally shocked and crack.
 - The best practice to keep the sensor cool is to let it air cool for a minute or two between data collection on power cylinders.

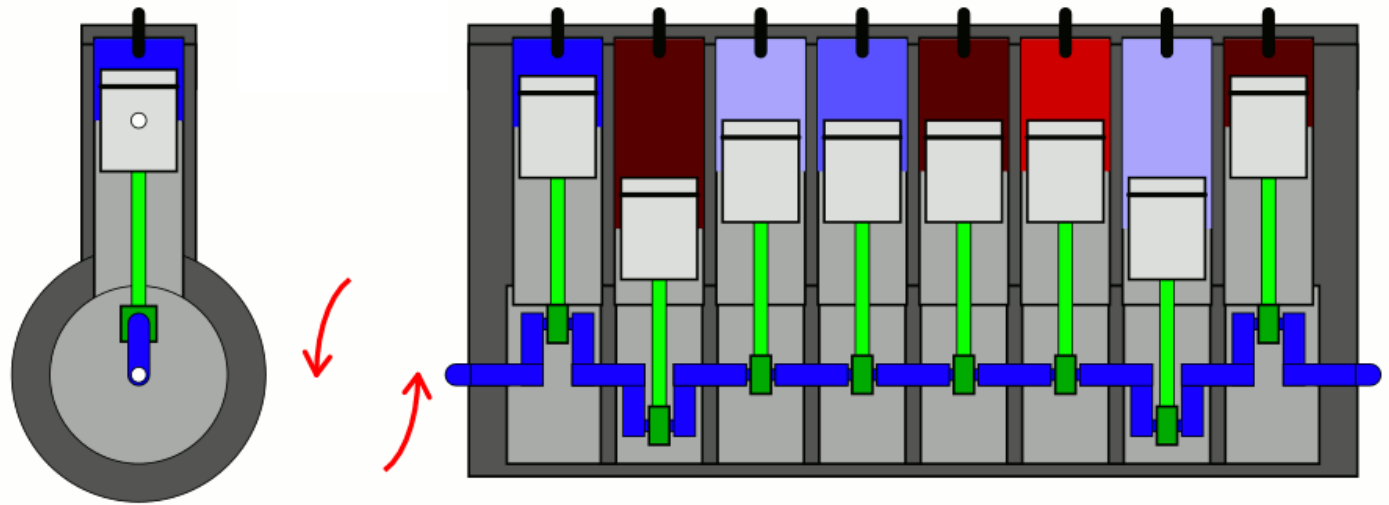


Engine Pressure Transducers

- The higher the engine speed and/or pressure is the higher the temperature will be at the indicator valve and you may need to wait longer before moving to the next cylinder.



Questions and Comments





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