Design Construction The Oxygen (O2) Sensor Calibration Tool

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One of the sensors used in fuel injection technology is oxygen sensor. Similar with other measuring devices, reading ability of the oxygen sensor declined. It gives different voltage to the ECU. This difference make the engine performance decreased. To determine the reading ability of the oxygen sensor, special tool is required to calibrate the oxygen sensor.

Designing of the oxygen sensor calibration tool based on the percentage of oxygen in fixed volume with the ideal gas formulation. The percentage of oxygen can be determined by measuring pressure and temperature of the gas mixture of nitrogen and oxygen in the calibration can.

This study has been successfully designed the oxygen sensor calibration tool which have measuring capacity 0-22% oxygen. This oxygen sensor calibration tool have operation pressure 1.5 bar and operation temperature 27-29°C. Based on the results of validation found the deviation value is 0.438 and the precision value is 6.34%.

Keyword: The oxygen sensor, nitrogen, calibration, design construction