

ABSTRACT

DESIGN AND REALIZATION INSTRUMENT TEST FOR DECREASING QUALITY OF LUBRICATING MOTOR VEHICLE METHOD VIBRATION USING ACCELEROMETER MMA7361 SENSOR

By

SITI KHOLIFAH

It has been designed and realized the instrument test for decreasing quality of lubricating motor vehicle method vibration using accelerometer MMA7361 sensor. The instrument test designed to find out influence of the vibration to reduction lubricating quality of motor vehicle engine. The voltage data from sensor due to the engine vibration source processed by the microcontroller and the result would display to LCD, saved in micro SD and sent to computer by using USB port with 10 ms of delay. The processing and communication data was controlled by microcontroller program using C language program. The frequency analysis process using FFT Matlab program with a sampling frequency of 100 Hz. The motorcycle Yamaha Vixion with Yamalue SAE 10W-40 lubricant would be objects for this research. The results vibration frequency more greater when the distance farther and lubricant viscosity decreases.

Keywords: *Accelerometer MMA7361 sensor, lubricating, motor vehicle engine, microcontroller.*