



**INVESTIGATE THE EFFECT OF INTERNAL COMBUSTION (I/C) ENGINE  
PERFORMANCE WITH RESPECT TO BACK PRESSURE AND TEMPERATURE  
VARIATION**

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## ABSTRACT

The purpose of this project is to analysis the engine performance interm of back pressure and temperature variation of exhaust manifold . The theoretical and experimental analysis was carried out throughout this study. The purpose of this study is to compare the Back Pressure and the temperature of each tapping point of normal IC engine along the exhaust manifold to get the effect of performance engine.The pressure law use is that  $PV = RT$ , where our task is to analysis the pressure and temperature at the exhaust manifold and a result to use the data for other researcher to utilize the potential. For this case the value of pressure and temperature is refer to cylinder exhaust manifold and the speed of engine. All the analysis can be implemented by using IR Thermometer and LAUNCH X431 Diagnostic Scanner to get the most effective analysis measurement to investigate the pressure and temperature at the exhaust manifold system. Theoritically , the maximum temperature at engine speed 1000 rpm to 5000 rpm for exhaust manifold are between 200 °C to 500 °C and the back pressure is 12 bar .Finally , the result of the analysis will be finalised and compared between turbo engine and normal engine.Result presented in term of graphs are provided in this thesis. This research can produce some idea to other researcher of higher level to developed more function of the temperature and pressure from the exhaust to improve the performance of engine.

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