

ABSTRACT

Technological developments in the automotive world are increasing rapidly, including the change from conventional combustion systems to injection systems. Where in the injection system, the type of injector and fuel affect exhaust emissions which cause pollutants including CO, HC, NO₂, SO₂, Pb which can indirectly interfere with human health, especially the respiratory system. In this study the researcher wanted to know the effect of factor A using variations of the 6-hole, 8-hole, 10-hole injectors and factor B the use of pertalite, Pertamina, and Pertamina turbo fuels and analyzed using the ANOVA method and it is known that injector variations affect exhaust emissions because $F_{count} > F_{table}$, namely F_{count} at CO levels of 22496.25 and F_{table} of 3.26, at HC levels F_{count} of 2261.4178 and F_{table} of 3.26. And there is no significant effect on exhaust emissions caused by the type of fuel because $F_{count} < F_{table}$. Where the CO F_{count} is 0.446 and F_{table} is 3.26. and the results of HC levels F_{count} of 2 and F_{table} of 3.26. And there is an interaction between injector and fuel variations on CB150R exhaust emissions due to $F_{count} > F_{table}$ where the results of CO F_{count} are 32.09 and F_{table} are 2.63. and the results of HC are known to be F_{count} of 13.72 and F_{table} of 2.63. The best result for CO levels are found in 8-hole injectors with Pertamina turbo fuel of 0.144% and the best results for HC levels are found in 6-hole injectors with Pertamina turbo fuel of 51ppm.

Keywords: exhaust emissions, various injectors, fuel types, CB150R