

**Analisa Aplikasi Turbocharger pada Mesin 4 tak Single Cylinder Terhadap Daya Motor dan Jarak Tempuh Kendaraan** (*Research of Applying Turbocharger on 4 Stroke Single Cylinder Engine for Power and Distance*)

**Dhonario Dharma Prambudi**  
Program Studi Mesin Otomotif  
Jurusan Teknik

**ABSTRACT**

*One way to improve performance on a motorcycle is to apply supporting components such as turbocharger. Turbocharger is a [gas compressor](#). It is used to force air into an [internal combustion engine](#). It increases the amount of air entering the engine to create more power. This research designed a simple turbocharger mechanism by utilizing an electric fan with 12VDC power supplied from the battery. This simple turbocharger mechanism mounted on motorcycle filter with single cylinder engine, it start operating at 3000, 3500, 4000, 4500, 5000, 5500 and 6000 RPM of the engine, then tested the power and distance using the dynotest. From the results of the testing that has been done in standard condition motorcycle produced maximum power 6,254 HP, while the motorcycle which uses turbocharger produced maximum power 7,375HP, that value reached when the turbocharger start operating at 5000RPM. For distance also ecrease from 0.918 Km at 5000 RPM in standard condition become 1,039 Km at 5500RPM when motorcycle using turbocharger .*

**keywords:** *single cylinder, power, turbocharger,*