

**PENGARUH VARIASI BUSI TERHADAP DAYA, TORSI DAN
KONSUMSI BAHAN BAKAR PADA MESIN HONDA SCOOPY
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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh variasi busi terhadap daya, torsi dan konsumsi bahan bakar pada mesin Honda Scoopy tahun 2014. Penelitian menggunakan metode eksperimen dengan pendekatan kuantitatif. Pengujian dilakukan pada tiga variasi jenis busi dengan putaran mesin 3000, 4000, 5000, 6000, dan 7000 rpm. Masing-masing variasi dilakukan sebanyak 10 kali pengujian. Data daya dan torsi diperoleh menggunakan dynotest, sedangkan konsumsi bahan bakar diukur berdasarkan laju penggunaan bahan bakar selama pengujian. Data dianalisis secara deskriptif kuantitatif dengan menghitung nilai rata-rata dan persentase perubahan. Hasil penelitian menunjukkan bahwa busi iridium menghasilkan torsi dan daya rata-rata tertinggi dibandingkan busi platinum dan standar. Torsi tertinggi busi iridium sebesar 12,62 N·m pada 3000 rpm, sedangkan daya tertinggi sebesar 7,51 HP pada 6000 rpm. Pada konsumsi bahan bakar, busi standar menghasilkan konsumsi paling rendah, sedangkan busi platinum paling tinggi. Pada 6000 rpm, peningkatan konsumsi bahan bakar busi platinum sebesar 3,24% dan busi iridium sebesar 6,42% dibandingkan busi standar. Dengan demikian, variasi busi berpengaruh terhadap performa dan konsumsi bahan bakar mesin.

Kata Kunci : Variasi Busi, Daya Mesin, Torsi, Konsumsi Bahan Bakar, dan Honda Scoopy

THE EFFECT OF SPARK PLUG VARIATIONS ON ENGINE POWER, TORQUE, AND FUEL CONSUMPTION IN A 2014 HONDA SCOOPI

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ABSTRACT

This study aims to analyze the effect of spark plug variations on the power, torque, and fuel consumption of a 2014 Honda Scoopy engine. An experimental method with a quantitative approach was employed. Testing was conducted using three types of spark plugs at engine speeds of 3000, 4000, 5000, 6000, and 7000 rpm, with ten test runs performed for each variation. Power and torque data were obtained via dynamometer testing, while fuel consumption was measured based on the fuel usage rate during the tests. The data were analyzed using descriptive quantitative methods by calculating average values and percentage changes. The results indicate that the iridium spark plug produced the highest average torque and power compared to the platinum and standard spark plugs. The iridium spark plug achieved a peak torque of 12.62 N·m at 3000 rpm and a peak power of 7.51 HP at 6000 rpm. Regarding fuel consumption, the standard spark plug yielded the lowest consumption, whereas the platinum spark plug yielded the highest. At 6000 rpm, fuel consumption increased by 3.24% for the platinum spark plug and 6.42% for the iridium spark plug compared to the standard spark plug. Thus, spark plug variations influence engine performance and fuel consumption.

Keywords : Spark Plug Variations, Engine Power, Torque, Fuel Consumption, Honda Scoopy