

PENGARUH VARIASI PEMBEBANAN TERHADAP TORSI, DAYA DAN DEPTH OF DISCHARGE (DOD) PADA PROTOTIPE SCOOTER PORTABLE (E-GASPOL)

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ABSTRAK

Penelitian ini bertujuan untuk (1) Mengetahui pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap *Torsi* motor listrik prototipe *scooter portable* (e-Gaspol). (2) Mengetahui pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap Daya motor listrik prototipe *scooter portable* (e-Gaspol). (3) Mengetahui pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap *Depth of Discharge* (DoD) *batrarray* motor listrik prototipe *scooter portable* (e-Gaspol). Rancangan penelitian menggunakan rancangan kuantitatif dengan menggunakan pendekatan deduktif-induktif. Metode penelitian menggunakan metode penelitian eksperimen. Subyek penelitian prototipe *scooter portable* untuk menguji *Torsi*, Daya dan *Depth of Discharge* (DOD). Hasil Penelitian mendapatkan (1) Terdapat pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap *Torsi* motor listrik prototipe *scooter portable* (e-Gaspol) dengan nilai $F_{hitung} = 2,912$ dan signifikansi $<0,05$. Ini berarti $F_{hitung} > F_{tabel}$. H_0 ditolak dan H_1 diterima. (2) Terdapat pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap Daya motor listrik prototipe *scooter portable* (e-Gaspol) dengan nilai $F_{hitung} = 5,914$ dan signifikansi $<0,05$. Ini berarti $F_{hitung} > F_{tabel}$. Sehingga H_0 ditolak dan H_1 diterima. (3) Terdapat pengaruh variasi pembebanan (0 kg) dibandingkan dengan pembebanan penuh (70 kg) terhadap *DoD* motor listrik prototipe *scooter portable* (e-Gaspol) dengan $F_{hitung} = 46,813$ dan signifikansi $<0,05$. Ini berarti $F_{hitung} > F_{tabel}$. Sehingga H_0 ditolak dan H_1 diterima.

Kata Kunci : Prototipe *Scooter Portable* (e-gaspol), *Torsi*, Daya, Daya dan *Depth of Discharge* (DOD).

THE EFFECT OF LOADING VARIATIONS ON TORQUE, POWER AND DEPTH OF DISCHARGE (DOD) ON PORTABLE SCOOTER PROTOTYPES (E-GASPOL)

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ABSTRACT

This study aims to (1) Determine the effect of loading variations (0 kg) compared to full loading (70 kg) on the torque of the portable scooter prototype electric motor (e-Gaspol). (2) Knowing the effect of loading variation (0 kg) compared to full loading (70 kg) on the power of the portable scooter prototype electric motor (e-Gaspol). (3) Knowing the effect of loading variation (0 kg) compared to full loading (70 kg) on the Depth of Discharge (DoD) of the portable scooter prototype electric motor battery (e-Gaspol). The research design uses quantitative design using a deductive-inductive approach. Research methods using experimental research methods. Subjects of portable scooter prototype research to test Torque, Power and Depth of Discharge (DOD). The results of the study found (1) There is an influence of loading variations (0 kg) compared to full loading (70 kg) on the torque of the portable scooter prototype electric motor (e-Gaspol) with a value of $F_{\text{calculate}} = 2.912$ and significance <0.05 . This means $F_{\text{count}} > F_{\text{table}}$. H_0 was rejected and H_1 was accepted. (2) There is an influence of loading variation (0 kg) compared to full loading (70 kg) on the power of the portable scooter prototype electric motor (e-Gaspol) with a value of $F_{\text{calculate}} = 5.914$ and significance of <0.05 . This means $F_{\text{count}} > F_{\text{table}}$. So H_0 was rejected and H_1 was accepted. (3) There is an effect of loading variation (0 kg) compared to full loading (70 kg) on DoD portable scooter prototype electric motor (e-Gaspol) with $F_{\text{calculate}} = 46.813$ and significance <0.05 . This means $F_{\text{count}} > F_{\text{table}}$. So H_0 was rejected and H_1 was accepted.

Keywords: *Portable Scooter Prototype (e-gaspol), Torque, Power, Power and Depth of Discharge (DOD).*