

INTISARI

Perusahaan *hauling* batu bara sangat bergantung pada kinerja unit *double trailer* yang mendominasi 53% dari total populasi alat. Tingginya intensitas operasional menyebabkan kebutuhan *spare part service* bersifat rutin dan fluktuatif. Pengelolaan persediaan yang belum optimal menimbulkan kondisi *overstock* maupun *stockout* yang berdampak pada peningkatan biaya dan terganggunya kegiatan perawatan, sehingga diperlukan metode pengendalian persediaan yang lebih terstruktur. Penelitian ini menganalisis penerapan metode *Economic Order Quantity* (EOQ) pada *spare part service* unit *double trailer* berdasarkan data pemakaian tiga komponen, yaitu *fuel filter*, *water separator*, dan *oil engine* selama periode November 2024 hingga Oktober 2025, mencakup biaya pemesanan, biaya penyimpanan, dan *lead time*. Hasil perhitungan EOQ kemudian dibandingkan dengan metode pengelolaan yang diterapkan perusahaan untuk menilai efisiensinya. Metode EOQ terbukti menghasilkan kebijakan pemesanan yang lebih optimal dan menurunkan total biaya persediaan dibandingkan metode perusahaan. Penghematan terbesar terjadi pada *fuel filter* sebesar 64,78%, diikuti *water separator* 62,84%, dan *oil engine* 33,54%, dengan total penghematan keseluruhan sebesar 38%. Temuan ini menunjukkan bahwa metode EOQ efektif meningkatkan efisiensi pengelolaan persediaan dan mendukung kelancaran operasional perusahaan.

Kata kunci: pengendalian persediaan, *spare part*, EOQ, *double trailer*, *hauling* batu bara.

ABSTRACT

Coal hauling companies are highly dependent on the performance of double trailer units, which dominate 53% of the total equipment population. The high operational intensity results in a routine and fluctuating demand for service spare parts. Suboptimal inventory management leads to overstock and stockout conditions that increase costs and disrupt maintenance activities, highlighting the need for a more structured inventory control method. This study analyzes the application of the Economic Order Quantity (EOQ) method for service spare parts of double trailer units based on usage data of three components, namely fuel filter, water separator, and oil engine during the period of November 2024 to October 2025, covering ordering costs, holding costs, and lead time. The EOQ calculation results were then compared with the company's existing inventory management method to evaluate its efficiency. The EOQ method proved to generate more optimal ordering policies and reduce total inventory costs compared to the company's method. The greatest cost savings were achieved for fuel filter at 64.78%, followed by water separator at 62.84%, and oil engine at 33.54%, with an overall total savings of 38%. These findings indicate that the EOQ method is effective in improving inventory management efficiency and supporting the company's operational continuity.

Keywords: inventory control, spare parts, Economic Order Quantity (EOQ), double trailer, coal hauling.