

ABSTRAK

Aktivitas pembongkaran mesin sepeda motor (*over hole*) di Bengkel Poniman Garage masih dilakukan tanpa alat bantu khusus sehingga mekanik bekerja dalam posisi membungkuk dan jongkok dalam waktu yang lama. Kondisi tersebut berpotensi menimbulkan keluhan Musculoskeletal Disorders (MSDs) dan meningkatkan risiko cedera kerja. Penelitian ini mendukung *Sustainable Development Goals* (SDGs) 9, yaitu Industri, Inovasi, dan Infrastruktur, melalui pengembangan alat bantu kerja yang inovatif dan ergonomis. Identifikasi awal menggunakan metode *Nordic Body Map* (NBM) menunjukkan skor keluhan sebesar 52 dengan kategori risiko sedang, sedangkan analisis *Rapid Entire Body Assessment* (REBA) menghasilkan skor 11 yang termasuk kategori risiko sangat tinggi sehingga memerlukan perbaikan segera. Penelitian ini bertujuan merancang alat bantu bongkar mesin sepeda motor yang ergonomis berdasarkan pendekatan antropometri serta mengevaluasi tingkat risiko postur kerja setelah perancangan. Metode penelitian meliputi pengukuran antropometri lima mekanik, penyebaran kuesioner NBM, dan analisis postur kerja menggunakan REBA. Perancangan alat bantu dilakukan berdasarkan data antropometri persentil ke-50 (P50). Hasil penelitian menunjukkan bahwa alat bantu yang dirancang mampu memperbaiki postur kerja mekanik dan menurunkan skor NBM dari 52 menjadi 29. Alat bantu tersebut dapat meningkatkan kenyamanan kerja, mengurangi risiko cedera, dan mendukung produktivitas mekanik.

Kata kunci: ergonomi, antropometri, REBA, NBM, alat bantu bongkar mesin, SDGs 9

ABSTRACT

Motorcycle engine disassembly (overhaul) activities at Poniman Garage are still performed without a specialized supporting tool, requiring mechanics to work in bent and squatting postures for extended periods. This condition may lead to Musculoskeletal Disorders (MSDs) and increase the risk of work-related injuries. This study supports Sustainable Development Goal (SDG) 9, Industry, Innovation, and Infrastructure, through the development of an innovative and ergonomic work aid. Initial identification using the Nordic Body Map (NBM) method showed a complaint score of 52, categorized as a moderate risk level. Meanwhile, the Rapid Entire Body Assessment (REBA) analysis produced a score of 11, indicating a very high-risk category that requires immediate corrective action. This study aims to design an ergonomic motorcycle engine disassembly tool based on an anthropometric approach and evaluate the level of work posture risk after its implementation. The research methods included anthropometric measurements of five mechanics, distribution of NBM questionnaires, and work posture analysis using REBA. The tool was designed based on the 50th percentile (P50) anthropometric data. The results showed that the proposed tool improved mechanics' working posture and reduced the NBM score from 52 to 29. Therefore, the tool can enhance work comfort, reduce injury risks, and improve mechanic productivity.

Keywords: ergonomics, anthropometry, REBA, NBM, motorcycle engine dismantling aid, SGDs point 9