

ABSTRAK

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Judul Laporan Akhir : Rekondisi Mesin Gergaji King Rex Tipe HS-9018 Di
Bengkel Material Politeknik Negeri Sriwijaya
(Perbaikan)

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Mesin gergaji otomatis tipe King Rex HS-9018 merupakan salah satu peralatan vital di Bengkel Material Politeknik Negeri Sriwijaya yang digunakan dalam kegiatan praktikum pemesinan logam. Mesin ini bekerja dengan prinsip gerak bolak-balik (reciprocating) dan mampu melakukan pemotongan secara efisien tanpa pengoperasian manual terus-menerus. Namun, frekuensi penggunaan yang tinggi menyebabkan penurunan kinerja dan kerusakan pada berbagai komponen, antara lain motor listrik, sistem hidrolik, bearing, pompa coolant, serta V-belt. Kondisi tersebut menuntut dilakukannya proses rekondisi dan penerapan metode perawatan yang tepat agar performa mesin dapat kembali optimal. Kegiatan rekondisi diawali dengan inspeksi menyeluruh, identifikasi kerusakan, serta pembongkaran komponen yang mengalami kegagalan fungsi. Selanjutnya dilakukan penggantian komponen rusak, perbaikan sistem transmisi dan hidrolik, serta pembersihan dan pelumasan pada bagian bergerak. Metode perawatan yang diterapkan mencakup perawatan preventif (preventive maintenance) dan perawatan korektif (corrective maintenance). Perawatan preventif meliputi pelumasan rutin, pengecekan kekencangan baut, penyetelan ulang komponen, dan pembersihan berkala. Sementara itu, perawatan korektif dilakukan jika ditemukan kerusakan atau penurunan performa yang signifikan, melalui perbaikan atau penggantian komponen sesuai spesifikasi pabrik. Pengujian pascarekondisi menunjukkan bahwa mesin mampu kembali beroperasi dengan stabil, tingkat presisi pemotongan meningkat, dan waktu henti mesin (downtime) dapat ditekan. Dengan demikian, program rekondisi dan perawatan ini tidak hanya memulihkan kinerja mesin, tetapi juga mendukung efektivitas proses pembelajaran praktikum di lingkungan pendidikan vokasi.

Kata kunci: mesin gergaji, rekondisi, perbaikan, perawatan preventif,

ABSTRACT

Reconditioning of the King Rex HS-9018 Hacksaw Machine at the Sriwijaya State Polytechnic Materials Workshop (Maintenance)

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DIPLOMA–III MECHANICAL ENGINEERING STUDY PROGRAM
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The King Rex HS-9018 automatic hacksaw machine is an essential piece of equipment in the Materials Workshop of the State Polytechnic of Sriwijaya, widely used in metal machining practice activities. Operating on a reciprocating motion principle, it provides efficient cutting performance without the need for continuous manual operation. However, the high frequency of use has led to performance degradation and damage to various components, including the electric motor, hydraulic system, bearings, coolant pump, and V-belt. These conditions necessitate a comprehensive reconditioning process and the implementation of appropriate maintenance methods to restore the machine's optimal performance. The reconditioning process began with a thorough inspection, damage identification, and disassembly of malfunctioning components. Damaged parts were replaced, the transmission and hydraulic systems were repaired, and moving parts were cleaned and lubricated. The maintenance approach included both preventive and corrective actions. Preventive maintenance involved routine lubrication, checking bolt tightness, readjusting components, and periodic cleaning. Corrective maintenance was performed when significant damage or performance decline was identified, involving repairs or component replacements according to the manufacturer's specifications. Post-reconditioning testing indicated that the machine was able to operate stably again, with improved cutting precision and reduced downtime. These results confirm that a structured reconditioning process combined with consistent periodic maintenance plays a crucial role in extending the machine's service life, reducing operational costs, and ensuring workplace safety. Therefore, the implementation of reconditioning and maintenance not only restores the machine's performance but also supports the effectiveness of hands-on learning in vocational education environments.

Keywords : Hacksaw Machine, Reconditioning, Repair, Preventive Maintenance.