

ABSTRAK

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Judul Laporan Akhir : Rekondisi Mesin *Bandsaw Horizontal* Krisbow KW 15-52 di Bengkel Teknik Mesin Politeknik Negeri Sriwijaya (Proses Perbaikan)

(2026: xiv + 78 Halaman + 13 Gambar + 21 Tabel + 7 Lampiran)

Rekondisi merupakan salah satu kegiatan perawatan yang bertujuan untuk mengembalikan kondisi dan performa mesin agar dapat beroperasi kembali secara optimal. Mesin *Bandsaw Horizontal* Krisbow KW 15–52 yang berada di Bengkel Mekanik Teknik Mesin Politeknik Negeri Sriwijaya mengalami penurunan kinerja akibat kerusakan pada beberapa komponen, khususnya pada sistem transmisi *Gearbox* worm. Kerusakan yang ditemukan meliputi keausan *Bearing*, keausan *Worm Wheel*, kebocoran oli *Gearbox*, getaran berlebih, suara bising, serta ketidakstabilan putaran output yang berdampak pada kualitas pemotongan material. Tujuan dari rekondisi ini adalah untuk mengidentifikasi kerusakan yang terjadi, melakukan proses perbaikan dan penggantian komponen yang rusak, serta mengembalikan performa mesin agar dapat digunakan kembali dalam kegiatan praktik di bengkel. Metode yang digunakan meliputi observasi, studi literatur, praktik langsung, dan bimbingan. Proses rekondisi dilakukan melalui tahapan pemeriksaan kondisi mesin, pembongkaran *Gearbox* worm, penggantian *Bearing* tipe 6205 ZZ dan 6206 ZZ, penggantian seal dan gasket, pemeriksaan *Worm Wheel*, penggantian oli *Gearbox* ISO VG 220, perakitan kembali, serta pengujian kinerja mesin setelah perbaikan. Hasil rekondisi menunjukkan bahwa mesin *Bandsaw Horizontal* Krisbow KW 15–52 dapat beroperasi kembali dengan baik. Getaran dan suara bising berkurang, putaran sistem transmisi menjadi lebih stabil, serta kualitas pemotongan material meningkat. Selain itu, hasil perhitungan teknis menunjukkan bahwa komponen yang digunakan masih memenuhi kebutuhan kerja mesin sehingga mampu mendukung operasi pemotongan secara optimal. Dengan dilaksanakannya rekondisi ini, umur pakai mesin dapat diperpanjang dan mesin kembali layak digunakan untuk menunjang kegiatan praktik di Bengkel Mekanik Teknik Mesin Politeknik Negeri Sriwijaya.

Kata kunci: Rekondisi, *Bandsaw Horizontal*, *Gearbox* Worm, *Bearing*, Perawatan Mesin, Krisbow KW 15–52.

ABSTRACT

Reconditioning of the Krisbow KW 15–52 Horizontal Bandsaw Machine at the Mechanical Engineering Workshop of Sriwijaya State Polytechnic (Repair Process)

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**DIPLOMA THREE MECHANICAL ENGINEERING STUDY PROGRAM
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Reconditioning is a Maintenance activity aimed at restoring the condition and performance of a machine so that it can operate optimally again. The Krisbow KW 15–52 Horizontal Bandsaw machine at the Mechanical Engineering Workshop of Sriwijaya State Polytechnic experienced a decline in performance due to damage to several components, particularly in the worm Gearbox transmission system. The identified problems included Bearing wear, Worm Wheel wear, Gearbox oil leakage, excessive vibration, noise, and unstable output rotation, which affected the quality of material cutting. The purpose of this reconditioning process was to identify the existing damage, carry out repairs and replacement of damaged components, and restore the machine's performance for workshop practical activities. The methods used included observation, literature study, direct practice, and supervision. The reconditioning process consisted of machine inspection, worm Gearbox disassembly, replacement of 6205 ZZ and 6206 ZZ Bearings, replacement of seals and gaskets, Worm Wheel inspection, replacement of ISO VG 220 Gearbox oil, reassembly, and performance testing after repair. The results showed that the Krisbow KW 15–52 Horizontal Bandsaw machine was able to operate properly again. Vibration and noise levels were reduced, the transmission system rotation became more stable, and the cutting quality improved. Furthermore, technical calculations indicated that the installed components still met the machine's operational requirements, supporting optimal cutting performance. Through this reconditioning process, the machine's service life was extended, and the machine was restored to a condition suitable for supporting practical activities at the Mechanical Engineering Workshop of Sriwijaya State Polytechnic.

Keywords: *Reconditioning, Horizontal Bandsaw, Worm Gearbox, Bearing, Machine Maintenance, Krisbow KW 15–52.*