

ABSTRAK
MAINTENANCE DAN REPAIR PADA MOTOR INDUKSI 3 FASA
DENGAN DAYA 0,215 kW
2026

(2026: XVI + 62 Halaman + 52 Daftar Gambar + 12 Daftar Tabel + Lampiran)

BENI SAPUTRA

062330310466

JURUSAN TEKNIK ELEKTRO

PROGRAM STUDI DIII TEKNIK LISTRIK

POLITEKNIK NEGERI SRIWIJAYA

Motor induksi 3 fasa merupakan motor listrik yang banyak digunakan sebagai penggerak mesin karena memiliki konstruksi yang sederhana dan perawatan yang mudah. Kerusakan pada lilitan stator dapat menyebabkan motor tidak beroperasi secara optimal sehingga diperlukan proses maintenance dan repair melalui rewinding. Penelitian ini bertujuan untuk mengetahui tahapan rewinding motor induksi 3 fasa berdaya 0,215 kW serta menganalisis kuat medan magnet, kerapatan medan magnet, fluks medan magnet, dan torsi motor setelah dilakukan perbaikan. Metode yang digunakan meliputi observasi, studi literatur, dokumentasi, dan praktik langsung. Proses rewinding dilakukan melalui pembongkaran motor, pelepasan lilitan lama, pemasangan isolasi, pembuatan lilitan baru, pemberian varnish, dan perakitan kembali motor. Hasil penelitian menunjukkan bahwa motor dapat beroperasi kembali dengan baik setelah rewinding. Nilai kuat medan magnet, kerapatan medan magnet, fluks medan magnet, dan torsi mengalami peningkatan seiring bertambahnya beban pengeboran, sehingga motor masih layak digunakan sebagai penggerak mesin bor.

Kata Kunci: Motor induksi 3 fasa, rewinding, medan magnet, fluks magnet, torsi motor.

ABSTRACT
MAINTENANCE AND REPAIR OF A 3-PHASE INDUCTION
MOTOR WITH A POWER OF 0.215 Kw
2026

(2026: XVI + 62 pages + 52 figures + 12 tables + appendices)

BENI SAPUTRA

062330310466

DEPARTMENT OF ELECTRICAL ENGINEERING

DIPLOMA III PROGRAM IN ELECTRICAL ENGINEERING

STATE POLYTECHNIC OF SRIWIJAYA

A 3-phase induction motor is an electric motor widely used as a machine driver due to its simple construction and easy maintenance. Damage to the stator windings can cause the motor to not operate optimally, requiring maintenance and repair through rewinding. This study aims to determine the rewinding stages of a 0.215 kW 3-phase induction motor and to analyze the motor's magnetic field strength, magnetic field density, magnetic field flux, and torque after repairs. The methods used include observation, literature review, documentation, and hands-on practice. The rewinding process involves disassembling the motor, removing the old windings, installing insulation, creating new windings, applying varnish, and reassembling the motor. The results show that the motor can operate properly again after rewinding. The values of magnetic field strength, magnetic field density, magnetic field flux, and torque increase with increasing drilling load, so the motor is still suitable for use as a drill driver.

Keywords: 3-phase induction motor, rewinding, magnetic field, magnetic flux, motor torque.