



PERTECNCA'S

# MOTOR MECHANIC TRAINING BROCHURE



Practical training



Post training assistance

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# **MOTOR MECHANIC TRAINING**

Unlock your potential with our Motor Mechanic training program. This course is meticulously designed to provide you with the skills and knowledge required to service, repair, and maintain various types of motors. As a Motor Mechanic, you will delve into the complexities of different motor systems, their components, and the techniques necessary to ensure their efficient operation and longevity.

## **What you'll learn?**

- Basics of motor systems and types of motors
- Installation and removal procedures for motors
- Maintenance techniques for optimal motor performance
- Troubleshooting and repair of common motor issues
- Understanding motor components and their functions
- Safety practices for working with motors
- Reading and interpreting technical diagrams and manuals
- Use of tools and equipment for motor maintenance
- Electrical principles related to motor operation
- Techniques for enhancing motor efficiency

## **Course summary:**

Our Motor Mechanic training course offers comprehensive training on the installation, maintenance, and repair of various motor systems. You will gain in-depth knowledge and practical skills to ensure the efficient operation of motors in different settings. The course focuses on modern techniques and tools, providing you with the expertise needed to excel as a Motor Mechanic.

- Detailed training on different types of motors and their applications
- Effective installation and removal procedures for various motor systems
- Advanced maintenance and troubleshooting techniques
- Practical knowledge of motor components and functions
- Insights into energy-efficient motor operation

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# Course syllabus:

## **Module 1: Introduction to Motor Vehicles**

- Overview of Motor Vehicle Systems and Components
- Roles and Responsibilities of a Motor Mechanic
- Types of Motor Vehicles (Cars, Trucks, Motorcycles)
- Basic Operating Principles of Motor Vehicles

## **Module 2: Engine Systems**

- Engine Components and Operation (Fuel System, Ignition System, Cooling System)
- Types of Engines (Gasoline, Diesel)
- Engine Lubrication and Maintenance

## **Module 3: Electrical and Electronic Systems**

- Battery Systems and Maintenance
- Starting and Charging Systems
- Ignition Systems (Distributor and Electronic Ignition)
- Lighting Systems and Controls

## **Module 4: Fuel Systems**

- Fuel Injection Systems (Direct and Indirect Injection)
- Carburetor Systems
- Fuel Filters and Fuel Pumps
- Fuel System Cleaning and Maintenance

## **Module 5: Cooling and Heating Systems**

- Radiator and Cooling Fan Systems
- Thermostat Operation and Replacement
- Heater Core and Air Conditioning Systems
- Cooling System Flushing and Maintenance

## **Module 6: Drive Train Systems**

- Transmission Types (Manual, Automatic, CVT)
- Clutch Operation and Adjustment
- Differential and Drive Shaft Systems
- Axle and Wheel Bearing Inspection

## **Module 7: Suspension and Steering Systems**

- Types of Suspension Systems (MacPherson Strut, Double Wishbone)
- Steering Mechanisms (Rack and Pinion, Recirculating Ball)
- Wheel Alignment and Balancing
- Shock Absorbers and Springs

## **Module 8: Brake Systems**

- Brake Types (Disc Brakes, Drum Brakes)
- Brake Components and Operation
- Brake Fluid Replacement and Bleeding
- ABS (Anti-lock Braking System) and Traction Control

## **Module 9: Exhaust and Emission Control Systems**

- Exhaust System Components (Muffler, Catalytic Converter)
- Emissions Testing and Compliance
- OBD-II (On-Board Diagnostics) Systems
- Troubleshooting Emission Control Issues

## **Module 10: Vehicle Maintenance Practices**

- Routine Maintenance Tasks (Oil Changes, Filter Replacements)
- Tire Rotation and Wheel Alignment
- Battery Testing and Replacement
- Fluid Checks and Top-ups

## **Module 11: Diagnostic Techniques**

- Use of Diagnostic Tools (Scan Tools, Multimeters)
- Interpretation of Diagnostic Trouble Codes (DTCs)
- Troubleshooting Common Vehicle Problems
- Diagnostic Procedures for Electrical and Mechanical Issues

## **Module 12: Safety Practices in Motor Vehicle Repair**

- Personal Protective Equipment (PPE)
- Safe Lifting and Jacking Techniques
- Hazardous Materials Handling (Oil, Coolants)
- Fire Safety and Prevention

## **Module 13: Customer Service and Professionalism**

- Effective Communication with Clients
- Estimating Costs and Providing Quotations
- Managing Client Expectations and Satisfaction
- Professional Ethics and Conduct

## **Module 14: Practical Training and Hands-On Experience**

- Hands-On Vehicle Maintenance and Repair Exercises
- Simulation of Vehicle Repair Scenarios
- Field Visits to Automotive Workshops
- Application of Maintenance Techniques in Lab Settings

## **Module 15: Field Visits and Case Studies**

- Visits to Operational Automotive Repair Shops
- Case Studies of Complex Vehicle Repair Projects
- Interaction with Industry Experts and Professionals
- Real-World Applications and Innovations

## **Evaluation and Certification**

- Written and Practical Examinations
- Continuous Assessment through Assignments and Projects
- Certification upon Successful Completion

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### **Practical training:**

- Hands-on experience in installing different types of motors
- Practical training in diagnosing and repairing motor issues
- Real-time projects on maintenance procedures for optimal performance
- Workshops on reading and interpreting technical diagrams
- Case studies on successful motor installations and repairs
- Field visits to industries using various motor systems
- Training in the use of specialized tools and equipment
- Projects on ensuring energy efficiency in motor operations
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### **Career scope:**

Upon completing the Motor Mechanic training course, graduates can explore career opportunities in various sectors, including:

- Automotive repair and maintenance shops
- Industrial manufacturing units
- HVAC companies
- Municipal water supply and sewage treatment facilities
- Agricultural machinery maintenance
- Construction companies
- Marine and shipping industries
- Chemical and pharmaceutical plants
- Electric motor manufacturing and servicing companies
- Educational institutions offering technical courses



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