



PERTECNCA'S

TRACTOR MECHANIC

TRAINING

BROCHURE



Practical training



Post training assistance

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TRACTOR MECHANIC TRAINING

Boost your skills with our Tractor Mechanic training program, tailored to equip you with the expertise needed for servicing, repairing, and maintaining various types of tractors. This course delves into the specialized aspects of agricultural machinery, focusing on the complexities of tractor systems and their components to ensure optimal performance in agricultural settings.

What you'll learn?

- Basics of tractor systems and types
- Engine maintenance and repair techniques for tractors
- Transmission and drivetrain servicing
- Hydraulic system troubleshooting and repair
- Electrical system diagnostics and repair
- Fuel system maintenance and repair
- Brake system servicing and repair
- Understanding tractor components and their functions
- Use of diagnostic tools and equipment for tractors
- Safety practices for working with heavy machinery

Course summary:

Our Tractor Mechanic training course provides a comprehensive training program focused on the maintenance, repair, and servicing of various tractors used in agriculture. You will gain in-depth knowledge and hands-on experience to ensure tractors function efficiently and reliably. The course emphasizes practical skills and modern repair techniques to prepare you for a successful career as a Tractor Mechanic.

- Detailed training on different tractor systems and their applications
- Advanced maintenance and repair techniques for agricultural machinery
- Practical knowledge of tractor components and functions
- Insights into improving the performance and efficiency of tractors
- Understanding the latest technologies and tools used in tractor maintenance

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Course syllabus:

Module 1: Introduction to Tractors

- Overview of Agricultural and Industrial Tractors
- Roles and Responsibilities of a Tractor Mechanic
- Types of Tractors (Utility, Row Crop, Specialty)
- Basic Operating Principles of Tractors

Module 2: Engine Systems

- Engine Components and Operation (Diesel Engines)
- Fuel Injection Systems (Direct and Indirect Injection)
- Cooling Systems (Radiator, Water Pump)
- Air Intake and Exhaust Systems

Module 3: Transmission and Drive Systems

- Types of Transmissions (Manual, Power Shift, CVT)
- Clutch Operation and Adjustment
- Gearbox Inspection and Maintenance
- Drive Shaft and Differential Inspection

Module 4: Hydraulic Systems

- Hydraulic Components and Operation (Pumps, Cylinders, Valves)
- Hydraulic Fluid Types and Properties
- Maintenance and Adjustment of Hydraulic Systems
- Troubleshooting Hydraulic System Issues

Module 5: Electrical and Electronic Systems

- Battery Systems and Maintenance
- Starter Motor and Alternator Systems
- Wiring Diagrams and Electrical Troubleshooting
- Lighting and Instrumentation Systems

Module 6: Steering and Suspension Systems

- Steering Mechanisms (Mechanical and Hydraulic)
- Front Axle and Steering Linkages
- Suspension Systems (if applicable)
- Wheel Alignment and Balancing

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Module 7: Brake Systems

- Types of Braking Systems (Mechanical, Hydraulic)
- Brake Components and Operation
- Brake Adjustment and Maintenance
- Testing and Adjusting Brake Performance

Module 8: Power Take-Off (PTO) Systems

- PTO Operation and Safety Considerations
- PTO Shaft Inspection and Maintenance
- PTO Clutch Adjustment and Repair
- PTO Drive Implement Attachment and Operation

Module 9: Tire and Wheel Systems

- Tire Types and Selection for Tractors
- Wheel Rim Inspection and Maintenance
- Tire Mounting, Demounting, and Repair
- Wheel Balance and Alignment

Module 10: Implement Attachment Systems

- Three-Point Hitch Systems (Category I, II, III)
- Implement Attachment and Safety Practices
- Adjustment and Calibration of Implement Systems
- Compatibility and Sizing of Implements

Module 11: Vehicle Maintenance Practices

- Routine Maintenance Tasks (Oil Changes, Filter Replacements)
- Greasing and Lubrication Points
- Battery Testing and Replacement
- Fluid Checks and Top-ups (Coolant, Hydraulic Fluid)

Module 12: Diagnostic Techniques

- Use of Diagnostic Tools (Multimeter, Pressure Gauge)
- Troubleshooting Common Tractor Problems
- Electrical and Mechanical Diagnosis
- Interpretation of Diagnostic Trouble Codes (DTCs)

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Module 13: Safety Practices in Tractor Repair

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

Module 14: Customer Service and Professionalism

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

Module 15: Practical Training and Hands-On Experience

- Hands-On Tractor Maintenance and Repair Exercises
- Simulation of Tractor Repair Scenarios
- Field Visits to Agricultural Machinery Dealerships
- Application of Maintenance Techniques in Lab Settings

Module 16: Field Visits and Case Studies

- Visits to Operational Tractor Service Centers
- Case Studies of Complex Tractor 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 servicing and repairing various types of tractors
- Practical training in diagnosing and resolving common tractor issues
- Real-time projects on engine and hydraulic system maintenance
- Workshops on reading and interpreting technical manuals and diagrams
- Case studies on successful tractor repairs and maintenance
- Field visits to agricultural machinery service centers
- Training in the use of specialized diagnostic tools and equipment
- Projects on enhancing tractor performance and efficiency

Career scope:

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

- Agricultural machinery repair and maintenance shops
- Tractor dealerships and service centers
- Farming and agricultural operations
- Heavy machinery and equipment companies
- Agricultural equipment rental and leasing companies
- Construction and infrastructure companies
- Municipal and government agricultural departments
- Educational institutions offering technical courses
- Agricultural machinery manufacturers
- Self-employment opportunities as freelance mechanics



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