



PERTECNCA'S

TRACTOR ENGINE REPAIR & OVERHAUL TRAINING BROCHURE



Practical training



Post training assistance

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TRACTOR ENGINE REPAIR & OVERHAUL TRAINING

The Tractor Engine Repair and Overhaul Training course provides in-depth technical knowledge and hands-on skills essential for diagnosing, repairing, and overhauling tractor engines. This course is tailored for individuals looking to specialize in the repair and maintenance of agricultural machinery, particularly focusing on the complexities of tractor engines. Participants will learn both theoretical and practical aspects, including troubleshooting, engine disassembly, and rebuilding techniques.

What you'll learn?

- Basics of tractor engine mechanics and their components.
- Diagnosing common tractor engine issues.
- Engine disassembly and parts inspection.
- Techniques for engine rebuilding and reassembly.
- Fuel system troubleshooting and repair.
- Cooling and lubrication system maintenance.
- Proper usage of engine diagnostic tools and equipment.
- Industry best practices for ensuring engine performance and longevity.

Course summary:

This training program provides a comprehensive approach to tractor engine repair and overhaul, equipping trainees with the expertise to handle all aspects of engine maintenance. With detailed hands-on practice, participants will master skills in diagnosing engine problems, repairing engine components, and performing complete engine overhauls. By the end of the course, trainees will be capable of ensuring tractor engines function at optimal performance, improving farm productivity and reducing downtime.

- Proficiency in disassembling and reassembling tractor engines.
- Advanced knowledge in troubleshooting fuel, cooling, and lubrication systems.
- Ability to perform complete engine overhauls with precision and accuracy.

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Course syllabus:

Module 1: Introduction to Tractor Engines

- Overview of tractor engines and their importance.
- Basic engine components and functions.
- Types of tractor engines and common models.

Module 2: Engine Diagnostics and Troubleshooting

- Diagnosing engine failure and performance issues.
- Using diagnostic tools for accurate assessments.
- Identifying symptoms of engine wear and tear.

Module 3: Disassembly of Tractor Engines

- Safe disassembly of tractor engine components.
- Removing cylinder heads, pistons, and crankshafts.
- Inspecting engine parts for damage and wear.

Module 4: Engine Parts Repair and Replacement

- Replacing damaged pistons, valves, and bearings.
- Techniques for repairing cylinder heads and blocks.
- Sourcing and fitting new engine components.

Module 5: Fuel System Repair

- Troubleshooting fuel injection systems.
- Cleaning and repairing fuel injectors and pumps.
- Testing fuel lines for blockages or leaks.

Module 6: Lubrication System Maintenance

- Identifying common issues in lubrication systems.
- Cleaning and replacing oil filters and pumps.
- Testing oil pressure and ensuring proper lubrication.

Module 7: Cooling System Repair

- Diagnosing cooling system failures.
- Replacing faulty radiators, fans, and thermostats.
- Ensuring proper coolant circulation for optimal performance.

Module 8: Engine Reassembly Techniques

- Step-by-step guide to reassembling tractor engines.
- Installing pistons, crankshafts, and cylinder heads.
- Ensuring correct torque settings and engine timing.

Module 9: Testing and Tuning Repaired Engines

- Running performance tests on overhauled engines.
- Adjusting engine settings for optimal output.
- Final checks for fuel, cooling, and lubrication systems.

Module 10: Advanced Overhaul Techniques

- Engine honing and re-boring processes.
- Upgrading engine parts for better performance.
- Techniques for enhancing fuel efficiency.

Module 11: Evaluation and Certification

- Practical assessment of engine overhaul skills.
- Written test on tractor engine repair theory.
- Certification awarded upon course completion.

Practical training:

- Hands-on engine disassembly and reassembly.
- Engine diagnostics using specialized tools.
- Fuel injector cleaning and testing.
- Cylinder head removal and valve inspection.
- Piston and crankshaft inspection and replacement.
- Engine block honing and re-boring techniques.
- Lubrication and cooling system testing.
- Complete engine overhaul from start to finish.

Career scope:

Upon completing the Tractor engine repair & Overhaul training course, graduates can explore career opportunities in various sectors, including:

- Tractor Engine Mechanic at agricultural workshops.
- Engine Overhaul Specialist for farm equipment companies.
- Mobile tractor engine repair technician.
- Tractor engine diagnostics expert in service centers.
- Service technician for tractor manufacturers.
- Self-employed engine repair and overhaul specialist.
- Engine maintenance consultant for large farms.
- Technical trainer in agricultural machinery institutes.
- Tractor assembly line mechanic in factories.
- Freelance engine overhaul service provider.

