



PERTECNCA'S

# ENGINE OVERHAUL TRAINING BROCHURE



Practical training



Post training assistance

**CONTACT US**

[www.pertecnica.com](http://www.pertecnica.com)  
7842430123

# Engine Overhaul Training

The Engine Overhaul Training Program is designed to provide comprehensive knowledge and hands-on experience in the complete disassembly, inspection, repair, and reassembly of internal combustion engines. This course is ideal for aspiring automotive technicians, mechanics, and professionals looking to deepen their expertise in engine maintenance and rebuilding. Participants will learn to overhaul a wide range of engines, from small gasoline engines to large diesel engines, ensuring they can restore engines to optimal performance.

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

- Fundamentals of internal combustion engine operation.
- Disassembly procedures for different types of engines.
- Inspection techniques for engine components.
- Repair methods for worn or damaged engine parts.
- Precision measurement and machining practices.
- Engine reassembly with correct torque specifications.
- Testing and tuning rebuilt engines for performance.
- Safety protocols during engine overhaul processes.

## **Course summary:**

This intensive training program covers all aspects of engine overhauling, from the initial teardown to the final performance testing. Participants will gain a deep understanding of engine mechanics and develop the skills needed to perform full overhauls on a variety of engine types. The course combines theoretical instruction with practical workshops, allowing participants to work on actual engines under the guidance of experienced instructors.

## **Key Takeaways:**

- Mastery of engine disassembly and reassembly techniques.
- Ability to identify and repair common engine wear and damage.
- Hands-on experience with precision machining and measurement tools.
- Expertise in tuning and testing engines post-overhaul for maximum efficiency.

**CONTACT US**

**[www.pertecnica.com](http://www.pertecnica.com)  
7842430123**

# Course syllabus:

## **Module 1: Introduction to Engine Overhaul**

- Overview of internal combustion engines: gasoline, diesel, and alternative fuels.
- Basic engine anatomy and function.
- Importance of precision in engine overhaul.
- Safety protocols for engine disassembly and reassembly.

## **Module 2: Engine Disassembly Procedures**

- Detailed step-by-step disassembly of various engine types.
- Proper handling and storage of engine components during teardown.
- Techniques for documenting the disassembly process.
- Practical session: disassembling different engines.

## **Module 3: Component Inspection and Diagnosis**

- Techniques for inspecting engine components for wear and damage.
- Use of precision measurement tools (micrometers, calipers, etc.).
- Identifying common engine issues: scoring, pitting, cracking, and warping.
- Practical session: inspecting and diagnosing engine components.

## **Module 4: Repairing and Refurbishing Engine Parts**

- Techniques for repairing or replacing worn or damaged engine parts.
- Introduction to machining practices: grinding, honing, and polishing.
- Use of specialized tools for engine part refurbishment.
- Practical session: repairing and refurbishing engine components.

## **Module 5: Precision Measurement and Machining**

- Importance of precision in engine rebuilding.
- Techniques for accurate measurement and machining of engine parts.
- Introduction to engine block and cylinder head resurfacing.
- Practical session: precision machining of engine parts.

## **Module 6: Engine Reassembly**

- Step-by-step reassembly of engines, focusing on precision and accuracy.
- Correct use of torque specifications and sequence in assembly.
- Techniques for ensuring proper alignment and sealing of engine components.
- Practical session: reassembling different types of engines.

## **Module 7: Engine Tuning and Testing**

- Techniques for tuning engines post-overhaul for optimal performance.
- Introduction to engine testing tools: compression testers, leak-down testers, etc.
- Conducting performance tests and troubleshooting issues.
- Practical session: tuning and testing rebuilt engines.

## **Module 8: Overhauling Specific Engine Types**

- Overhauling gasoline engines: challenges and techniques.
- Overhauling diesel engines: special considerations and procedures.
- Overhauling small engines (lawn mowers, generators) vs. large engines (trucks, machinery).
- Practical session: focused overhaul projects on specific engine types.

## **Module 9: Practical Fieldwork and Real-World Projects**

- Hands-on project: complete overhaul of a selected engine type.
- Fieldwork: participating in engine overhaul projects in automotive workshops.
- Real-world applications: addressing engine issues in live environments.
- Collaboration with industry professionals on engine rebuild projects.

## **Module 10: Evaluation and Certification**

- Comprehensive assessment of theoretical knowledge and practical skills.
- Written exams covering engine overhaul principles and procedures.
- Practical exams on disassembly, inspection, repair, and reassembly of engines.
- Certification upon successful completion of the course.
- Opportunities for advanced training and specialization.

**CONTACT US**

**[www.pertecnica.com](http://www.pertecnica.com)  
7842430123**

## **Practical training:**

- Engine Teardown: Step-by-step disassembly of different engine types.
- Component Inspection: Techniques for inspecting and diagnosing engine parts.
- Precision Machining: Using lathes, grinders, and other tools to refurbish engine parts.
- Engine Reassembly: Rebuilding engines with attention to detail and precision.
- Performance Testing: Conducting tests to ensure engine rebuild success.
- Safety Practices: Implementing safety measures throughout the overhaul process.
- Real-World Projects: Overhauling engines from vehicles, machinery, and equipment.
- Field Applications: Applying skills in actual automotive repair settings.

## **Career scope:**

Upon completing the Engine Overhaul Training course, graduates can explore career opportunities in various sectors, including:

- Engine Overhaul Technician
- Automotive Mechanic
- Diesel Engine Specialist
- Marine Engine Mechanic
- Heavy Equipment Mechanic
- Fleet Maintenance Supervisor
- Workshop Manager
- Industrial Machinery Technician
- Engine Rebuilding Specialist
- Automotive Service Consultant

