

2003 Transportation Education Academy Activities

High School Activities: Land, Air, Water, Road & Multi-Modal

Rebuilding The Gas Engine

LEARNING AREA: Read, Listen & View
EDUCATIONAL LEVEL: High School
CONTENT STANDARDS: Technical Reading, Listening & Viewing

STANDARD: A student shall demonstrate the ability to read and apply technical information from both varied English documents and electronic media by applying information from technical reading, listening, or viewing selections in at least two of the following applications.

1. Build or assemble from a plan.
2. Operate, maintain, or repair from a technical manual.
3. Analyze a situation based on technical reading.

From the selected applications above, a student shall:

1. Identify and select information for completing the applications.
2. Interpret specialized vocabulary.
3. Interpret information found in charts, graphs, tables, and visual data.
4. Apply step by step procedures.

WHAT THE STUDENTS WILL LEARN:

DESCRIPTION: Rebuilding The Gas Engine

Students will learn the basic service procedures to rebuild the gas engine that is used in their automobiles and light trucks.

PRODUCTS/EVIDENCE OF LEARNING:

Upon the completion of this activity, the student will be able to demonstrate their ability to perform jobs and tasks that will complete a gas engine overhaul. Tasks such as shop safety, reading specification manuals, using precision measuring tools, and analyzing components will be checked.

OVERVIEW:

Statement of Purpose

Gas Engine Overhaul is an eighteen-week course that meets for eighty-five minutes each day of the week. Students will also cover shop safety, tools, measurements, engine construction, assembly and performance. Students will use 'MOTORS' Service and

Repair textbook along with service information found on ‘Mitchell on Demand’ service bulletins.

PROCEDURES

Each student will perform the following tasks:

1. Diagnose engine problem.
2. Disassemble engine for inspection.
3. Inspect engine parts for damage.
4. Identify faulty engine parts.
5. Replace faulty engine parts.
6. Assemble engine back to factory specs.
7. Test engine on running test stand.
8. Install engine back into vehicle.

CHECKLIST:

STUDENT

TEACHER

1. Complete safety checklist.
2. Find information about overhaul.
3. Test on tools and equipment.
4. Understand basic engine function.
5. Keep accurate records about repairs.
6. Test on engine systems.
7. Engine complete as per instruction.
8. Complete all job task lists.
9. Perform engine run test.
10. Performance test.