



COLORADO STATE UNIVERSITY
EXTENSION

Small Engines

Project units 1-4 are designed for members 8-18 years old.



Unit 1 - Crank It Up!

Inspiring youth to:

- Use operators manual to guide maintenance repair and adjustments
- Learn major parts of engines
- Importance of clean air to efficiently functioning engines
- How to replace a spark plug and much more

Unit 2 - Warm It Up!

Inspiring youth to:

- Learn about different engine types
- Learn the internal parts of an engine
- Specialize tools used
- Engine sizes
- Compression
- Seasoning your engine
- Safety Issues
- How to start your own business



Unit 3 - Tune It Up!

Inspiring youth to:

- Learn about tearing engines down and rebuilding them
- How to use diagnostic tools
- How to listen to engines for specific problems
- How to properly maintain engines
- How to use the internet to find resources, rules, and regulations regarding small engines
- Select replacement engines

Unit 4 - Advanced Small Engines

Inspiring youth to:

- Plan specific goals and a course of action for a specific topic
- Become a junior leader in small engine project
- Design your own small engines project

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Small Engines

Tips:

- Do at least seven activities each year.
- Date and have your leader or parent/guardian initial the completed activities.
- Take trips and tours
- Self-determine project ideas:
 - Select a topic of your choice and decide on a goal, such as putting a CD player in a car.
 - Record your goal and plan of action in the e-record. For example, it will take three months to learn how to install a CD player in a car.
 - Fill out the e-Record as you work on your project.
 - Record any costs incurred and any inventory of tools or equipment used.
 - Record your accomplishments in the e-record. Share what worked and what didn't.
 - Exhibit a display board related to your project.
 - Place additional supportive materials in a sturdy binder with your e-record.



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Resources:

- Exhibit & Judging Requirements
- Record Books
- Manual Information

Located at: Colorado4h.org



**Beyond
Ready**

Small Engine Industry Careers



Motorboat Mechanic and Technician

Maintain and repair the mechanical and electrical components of boat engines



Motorcycle Mechanic

Specializes in working on motorcycles, motorized scooter, mopeds, dirt bikes and all-terrain vehicles



Outdoor Power Equipment Servicer

Service and repair lawnmowers, edge trimmers, garden tractors and generators



Farm Equipment Mechanic

Specializes in farm equipment such as tractors and their attachments and implements



**COLORADO STATE UNIVERSITY
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Degrees/Certifications:

Mechanical Engineering
Business Management Degree
Supply Chain Management
Small Business Management
Principles of Small Engine Technology -
Certification (EETC)
GM Certified Mechanical Training
Outdoor Power Equipment Association-
(OPE) Certification



Small Engine Parts Dealer

Locates difficult to find parts for small engine dealers; supplies parts to small engine repair mechanics



Traveling Small Engine Mechanic

Specialized mechanic who travels to the location of repair; may stay in one area or travel nationally



Mechanical Engineer

Designs new small engines for new product coming to market



Small Engine Repair Shop Owner

Owns repair shop which provides specialized repairs and maintenance for small engines