

# **SMALL ENGINES**

**This is a State Fair project. 4-H'ers must qualify at the county fair to exhibit at the State Fair. There will be one State Fair entry from each level. These requirements supersede your project manual.**

Small Engines will be divided by member's current grade in school. For judging, a 4-H'ers grade is determined by the grade during the current school year. (September– August)

The three levels for Small Engines are:

Level 1 – Crank It Up! (grades 3-5)

Level 2 – Warm It Up! (grades 6-8)

Level 3 – Tune It Up! (grades 9-12)

**All posters, notebooks, and display boards must include a reference list including where the information was obtained, giving credit to the original author, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be attached to the back of a poster, display board, be the last page of a notebook, or include as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which reference are listed.**

Display Board Requirements:

- No more than 36" wide by 36" deep and free standing
- 3-dimensional display
- All items to be securely fastened
- 4-H member's exhibit card to be secured in lower right hand corner

\*Refer to the poster information page located in the handbook for poster requirements and suggestions.

## **LEVEL 1: CRANK IT UP! – (grades 3-5)**

1. Each year, you are **required to complete a minimum of three (3) activities each from a different chapter.** After three years, you should have completed a minimum of **9** activities from each of the different chapters. Bring manual to project check-in.
2. Complete a General Record Sheet and present it at project check-in.

### **Select one of the following:**

1. Educational display: Any educational display related to what you have learned in this project. Some possibilities of exhibits might include:
  - a. Picture poster showing what you have learned about small engines.
  - b. Display of basic tools needed to maintain a small engine.
  - c. An educational display related to what you have learned about two-cycle engines.
  - d. An educational display related to what you have learned about four-stroke engines.
  - e. An educational display showing proper maintenance and care of a lawn mower.
  - f. An educational display of proper safety labels and procedures for small engines.
  - g. Small engines parts display board with a brief explanation of the purpose of the parts and how they work.
  - h. Display related to some system that you learned about in small engines (filters, cooling, ignition, etc.).
2. An actual small engine that you overhauled or tuned up may be displayed if it meets the following guidelines: **You are responsible for removing all fluids (oil and fuel) from your exhibit immediately after judging.** Engines with gasoline cannot be displayed in the building. The engine must be mounted on a 30" X 30" base (or smaller). It is strongly suggested that a notebook with details and pictures of what was done to the engine accompany the display.

## **LEVEL 2: WARM IT UP! – (grades 6-8)**

1. Each year, you are **required to complete a minimum of three (3) activities each from a different chapter.** After three years, you should have completed a minimum of **9** activities from each of the different chapters. Bring manual to project check-in.
2. Complete a General Record Sheet and present it at project check-in.

**Select one of the following:**

1. Educational display: Any educational display related to what you have learned in this project.  
Some possibilities of exhibits might include:
  - a. An educational display comparing the different types of engines.
  - b. An educational poster illustrating and explaining the internal parts of an engine.
  - c. An educational display showing how transmissions work.
  - d. An educational display showing how to conduct a compression check.
  - e. An educational display showing how to adjust a carburetor according to owner's manual instructions and in accordance with EPA regulations.
  - f. A display using a real small engine with a brief explanation showing steps in preparing a small engine for storage.
  - g. Carburetor parts display board with a brief explanation of the purpose of the parts and how they work together.
  - h. An income and expense record of your lawn mowing business, including costs, hours worked, pay for individual jobs, etc.
2. An actual small engine that you overhauled or tuned up may be displayed if it meets the following requirements: **You are responsible for removing all fluids (oil and fuel) from your exhibit immediately after judging.** Engines with gasoline cannot be displayed in the building. The engine must be mounted on a 30" X 30" base or smaller.

**LEVEL 3: TUNE IT UP! – (grades 9-12)**

1. Each year, you are **required to complete a minimum of three (3) activities each from a different chapter.** After four years, you should have completed a minimum of **12** activities from each of the different chapters. Bring manual to project check-in.
2. Complete a General Record Sheet and present at project check-in.

**Select one of the following:**

1. Educational display: Any educational display related to what you have learned in this project.  
Some possibilities of exhibits might include:
  - a. An educational display showing how to use diagnostic tools on small engines.
  - b. An educational display showing how to tear down and reassemble a small engine.
  - c. An educational display related to the electrical system of a small engine.
  - d. An educational display about emissions systems on small engines and future trends.
  - e. An educational display showing mower blade inspection and maintenance skills.
  - f. An educational display about careers in small engines.
  - g. An educational display about your work in finding resources about small engines on the internet.
  - h. An educational display about trouble-shooting common problems with small engines.
  - i. An educational display about small engines designs.
  - j. Any educational display related to what you have learned in this project.
2. An actual small engine that you overhauled or tuned up may be displayed if it meets the following requirements: **You are responsible for removing all fluids (oil and fuel) from your exhibit immediately after judging.** Engines with gasoline cannot be displayed in the building. The engine must be mounted on a 30" X 30" base or smaller. It is strongly suggested that a notebook with details and pictures of what was done to the engine accompany the display.

**SMALL ENGINES – Check-in and judging in Metal Building**

**Check-in:** Wednesday, June 10, 8-11 a.m. **OR** 4-7 p.m. (bring project, manual and record sheet)  
**Judging:** Thursday, June 11, 10 a.m. (open judging)

After check-in of **all** projects, put current year's record sheets in Green Record Book and turn in at designated boxes in community building.

You have until May 15 to add or drop this project from your current year's enrollment.

The "4-H in Revue" will be held Sunday of the fair and will recognize Best of Show and Runner-Up Best of Show