

Department 124 – Jr. Mechanical Projects

Superintendent

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Judging: Monday 1:00 PM - 6:00 PM

Rules/Guidelines:

- Posters 14"x22" ; Display board 18"x24"
- All exhibits in this department **MUST BE CLEAN** of oil and gas

Division A – Tractors

Class No:

1. Detailed poster/display showing safety procedure to be observed while using at least two types of farm equipment.
2. Display board showing three or more parts of improperly serviced and worn tractor parts.

Division B – Small Engines

Class No:

FOUR CYCLE ENGINES:

1. Complete small engine, labeling all external parts.
2. Complete four-cycle engine block with all internal parts exposed and labeled.
3. Display of repaired or rebuilt engine.
The repair of the engine will be documented by keeping a log of: A) what was done; B) parts replaced; C) cost; D) how the engine ran before and after repair; E) what was learned.
4. Poster showing the events in a four-cycle engine with brief explanation.
5. Poster listing preventative maintenance measures recommended for four-cycle engine.

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TWO CYCLE ENGINES:

6. Complete small engine, labeling all external parts.
7. Complete two-cycle engine block with all internal parts exposed and labeled.
8. Display of repaired or rebuilt engine.
The repair of the engine will be documented by keeping a log of: A) what was done; B) parts replaced; C) cost; D) how the engine ran before and after repair; E) what was learned.
9. Poster showing the events in a two-cycle engine with brief explanation.
10. Poster listing preventative maintenance measures recommended for two-cycle engine.

GENERAL SMALL ENGINE:

11. Poster showing correct steps in repairing a small engine for off-season storage.
12. Small engine safety poster.
13. Poster/display of oil cans showing API specifications and an explanation of their meaning.
14. Panel exhibit showing diagram of ignition system or fuel system or lubrication system.
Actual parts may be shown.
15. Display of carburetor parts with explanation of parts (float type or diaphragm type).
16. Display board showing diagram of fuel system or ignition system. Actual parts may be shown.
17. Display board showing worn or faulty parts with statement as to cause and prevention.
18. Any other exhibit related to Small Engines not listed above.

Division C – Beginning Aerospace/Rocketry (1-2 Years)

Class No:

1. First launched rocket, skill level 1.
2. Second launched rocket, skill level 1.
3. Unlaunched rocket, skill level 1.
4. Exhibit related to aerospace or aeronautics.
5. Exhibit related to airplane or airplane pilots.
6. Exhibit related to meteorology.
7. Exhibit self-designed 3-D printed launched rocket.
8. Exhibit self-designed 3-D printed unlaunched rocket.

Division Rules:

Kits acceptable unless otherwise specified.

Division D – Intermediate Aerospace/Rocketry (2-3 Years)

Class No:

1. First launched rocket, skill level 2-3.
2. Second launched rocket, skill level 2-3.
3. Unlaunched rocket, skill level 2-3.
4. Exhibit related to aerospace or aeronautics.
5. Exhibit related to airplane or airplane pilots.
6. Exhibit related to meteorology.
7. Exhibit self-designed 3-D printed launched rocket.
8. Exhibit self-designed 3-D printed unlaunched rocket.

Division E – Advanced Aerospace/Rocketry (4+ Years)

Class No:

1. First launched rocket, skill level 3+.
2. Second launched rocket, skill level 3+.
3. Unlaunched rocket, skill level 3+.
4. Third launched rocket, skill level 3+.
5. First launched rocket, own design.
6. Second launched rocket, own design.
7. Third launched rocket, own design.
8. Exhibit related to aerospace or aeronautics.
9. Exhibit related to airplane or airplane pilots.
10. Exhibit related to meteorology.
11. Exhibit self-designed 3-D printed launched rocket.
12. Exhibit self-designed 3-D printed unlaunched rocket.

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Division F – Scale Models

Class No:

1. Car.
2. Motorcycle.
3. Truck.
4. Boat.
5. Airplane.
6. Spaceship.
7. Any other scale model exhibited not listed.
8. Model Educational display – (skeleton, etc.).
9. Model made from Legos.
10. Model railroad building or display. No larger than 4' x 4'.
11. Any other model/diorama. No larger than 4' x 4'.
12. Lego Display. No larger than 4' x 4'

Division Rules:

Four exhibits are allowed in this division. Large scale model display exhibits may be dropped off on Sunday from 3:00 PM - 5:00 PM.

Division G – Robotics

Class No:

1. Exhibit relating to robots
2. Poster relating to robots

Division Rules:

Please bring a 8"x10" photo of your exhibit if it is not staying at the fair.

Premiums Chart:

Department	Division group	Class description	1st	2nd	3rd	4th
124	A - E	ALL CLASSES	\$2.50	\$2.25	\$2.00	\$1.50
124	F	ALL CLASSES	\$2.00	\$1.75	\$1.50	\$1.25
124	G	ALL CLASSES	\$2.00	\$1.75	\$1.50	\$1.25

A	Tractors
B	Small Engines
C	Beginning Aerospace/Rocketry (1-2 Years)
D	Intermediate Aerospace/Rocketry (2-3 Years)
E	Advanced Aerospace/Rocketry (4+ Years)
F	Scale Models
G	Robotics