# DEPARTMENT 24 J - MECHANICAL PROJECTS

**SUPERINTENDENTS**

**Sue Breuer and Allen Fox**

PREMIUMS

Blue Red White Pink

$2.50 $2.25 $2.00 $1.75

**CLASS 1 – TRACTORS**

**Lot No.**

1. Tractor safety poster (14" x 22")

2. Display of six (6) or more worn tractor parts properly identified (statement must be attached for each part, indicating how it might have lasted longer if properly cared for)

3. Project record book including 2 to 6 pictures showing evidence of project work

4. Exhibit on some system of the tractor such as electrical, cooling, transmission, etc. (exhibit must be diagramed, pictorial report or mechanical display)

**CLASS 2 – AUTOMOTIVE**

Lot No.

5. Automotive safety poster (14”x22”)

6. Display of six (6) or more worn automotive parts properly identified (statement must be attached for each part indicating how it might have lasted longer if properly cared for)

7. Exhibit on some system of the car such as electrical, cooling, transmission, etc. (exhibit must be diagramed, pictorial report, or mechanical display)

**CLASS 3 - SMALL ENGINES**

Lot No.

8. Small engine safety poster (14" x 22")

9. Display of five (5) or more used or worn parts properly identified from a 2 or 4 cycle engine (statement must be attached indicating how each part might have lasted longer if properly cared for)

**CLASS 4 – BICYCLING**

Lot No.

10. Poster showing six (6) or more road signs (14" x 22")

11. Poster showing safe use of bicycle (14" x 22")

12. Chart diagramming parts of bicycle

**CLASS 5 – AEROSPACE**

Lot No.

13. Poster or display on any experiment or activity in

Aerospace (14" x 22")

14. Experiment or activity in the Aerospace Project

15. Model glider from a kit

16. Plastic airplane from a kit

Model rockets must be accompanied by a 3"x5" card with the following information:

a. Difficulties in building model

b. Manufacturer (example: box name, kit #, etc.)

c. Type of paint used

d. How paint was applied

e. Finishing procedures after decals are in place (wax or lacquered)

f. Any help needed in building the kit

14. Model rocket from a kit, Skill level 1

17. Model rocket from a kit, Skill level 2

18. Model rocket from a kit, Skill level 3

19. Model rocket from a kit, Skill level 4

20. Model rocket, own design, not from a kit

21. Any other project display

**CLASS 6 - SCALE MODELS**

**(Dioramas enter in Class 10)**

Scale models MUST be in a box or on a lid or cookie sheet that is the same size as the project for ease in handling.

a. The largest scale to be used is 1/12 scale (1 inch equals 1 foot)

b. First year modelers can build a Snap-Tite kit

c. All models must be painted

d. Each exhibit must be accompanied by a 3"x5" card with the following information:

— Difficulties in building the model

— Manufacturer of kit (box name, kit number, etc.)

— Type of paint used and how applied

— Finishing procedures after built (decals, sealer, etc.)

— Any help in building the kit

— Any modifications made

— Amount of time spent building this project

e. Definitions

— Scratch built - buying or making individual parts and building a model.

— Custom built - starting with a kit or a model and completely changing or modifying its appearance.

— Kit-bashed - taking two or more kits and combining them into one scale model.

f. Motorized items must include batteries and support box with manual

**Open to members grades 3 to 7**

Lot No.

1. Agricultural item — kit (tractors or farm equipment)

2. Agricultural item — scratch built, custom built, kit-bashed

3. Aquatic item — kit (ships, submarines, boats)

4. Aquatic item — scratch built, custom built, or kit-bashed

5. Highway transportation item — kit (semis, trucks, cars, motorcycles)

6. Highway transportation item — scratch built, custom built, kitbased

7. Military item — kit (tanks, trucks, cannons, personnel vehicles)

8. Military item — scratch built, custom built, or kit-bashed

9. Miniature dwelling and/or furnishings — kit (doll houses, etc.)

10. Miniature dwelling and/or furnishings — scratch built, custom built, kit-bashed

11. Non-military aircraft — kit

12. Non-military aircraft — scratch built, custom built, kitbashed

13. Railroad item — kit (engines, railroad cars, railroad equipment)

14. Railroad item — scratch built, custom built, kit-bashed

15. Any other scale model item — kit

16. Any other scale model item — scratch built, custom built, kit based

17. Reused item or item purchased without manual

18. Erector Set

**Open to members grade 8 and over.**

Lot No.

18. Agricultural item — kit (tractors or farm equipment)

19. Agricultural item — scratch built, custom built, kit-bashed

20. Aquatic item — kit (ships, submarines, boats)

21. Aquatic item — scratch built, custom built, or kit-bashed

22. Highway transportation item — kit (semis, trucks, cars, motorcycles)

23. Highway transportation item — scratch built, custom built, kit based

24. Military item — kit (tanks, trucks, cannons, personnel vehicles)

25. Military item — scratch built, custom built, or kit-bashed

26. Miniature dwelling and/or furnishings — kit (doll houses, etc.)

27. Miniature dwelling and/or furnishings — scratch built, custom built, kit-bashed

28. Non-military aircraft — kit

29. Non-military aircraft — scratch built, custom built, kit based

30. Railroad item — kit (engines, railroad cars, railroad equipment)

31. Railroad item — scratch built, custom built, kit-bashed

32. Any other scale model item — kit

33. Any other scale model item — scratch built, custom built, kit based

34. Reused item or item purchased without manual

35. Erector Set

**Scale Models Scorecard**

**General Appearance 25%**

**Craftsmanship 25%**

**Scale 20%**

**Creativity 25%**

**Explanation 5%**

**CLASS 7 - LEGOS (or Similar)**

Small Legos **MUST** be in a **box** or on a **lid** that is the same size as the project for ease in handling.

a. Scratch built - original design

b. Kit built - constructed by kit instructions

c. Kit built must include model instructions

d. All kit built entries are limited to no more then 2 kits combines except diorama in Lot 10 No Lego.

e. All motorized entries must include 3” x 5” card stating how to operate item.

f. Legos will need to be picked up by 3:30 on Sunday and will be checked by superintendent before leaving exhibit hall.

PREMIUMS

Blue Red White Pink

$3.00 $2.75 $2.50 $2.25

**Open to members grade 3 to 5**

Lot No.

1. Animal, person, building or vehicle — scratch built

2. Animal, person, building or vehicle — kit built

3. Article with moveable parts — scratch built

4. Article with moveable parts — kit built

5. Article with motorized parts — scratch built

6. Article with motorized parts — kit built

7. Any other article — scratch built

8. Any other article — kit built

9. Reused item or item purchased without manual

**Open to members grade 6 and older**

Lot No.

10. Animal, person, building or vehicle — scratch built

11. Animal, person, building or vehicle — kit built

12. Article with moveable parts — scratch built

13. Article with moveable parts — kit built

14. Article with motorized parts — scratch built

15. Article with motorized parts — kit built

16. Any other article — scratch built

17. Any other article — kit built

18. Reused item or item purchased without manual

**CLASS 8 - K'NEX**

K’Nex **MUST** be in a **box** or on a **lid** that is the same size as the project for ease in handling.

a. Scratch built - original design

b. Kit built - constructed by kit instructions

c. Kit built must include model instructions

Lot No.

19. Animal, person, building or vehicle — scratch built

20. Animal, person, building or vehicle — kit built

21. Article with moveable parts — scratch built

22. Article with moveable parts — kit built

23. Article with motorized parts — scratch built

24. Article with motorized parts — kit built

25. Any other article — scratch built

26. Any other article — kit built

27. Reused item or item purchased without manual

**CLASS 9 – ROBOTICS**

Robotics must be in a box or a lid or cookie sheet that is the same size as the project for ease in handling. Motorized items must include batteries for all robotics projects.

28. Robot from a kit

29. Robot designed and built

30. Robot designed and programmed

31. Exhibit showing parts of a robot

32. Exhibit on loop programming

33. Scrapbook about your robotic project

34. Erector Set

**CLASS 10 – DIORAMAS**

a. No more than 2 entries may be made by one exhibitor. One entry per entry number

b. The largest scale to be used is 1/12 scale (1 inch equals 1 foot)

c. Each exhibit must be accompanied by a 3"x5" card with the following information:

— Diorama title

— Explain the activity in your diorama (may use separate page)

— Difficulty in building the diorama

— Any help in building it

— Amount of time to building it

— Specify any customized pieces and if those pieces were purchased or customized

d. Definitions:

— Scratch built - buying or making individual parts and building a model

— Custom built - starting with a kit or a model and completely changing or modifying its appearance

— Kit-bashed - taking two or more kits and combining them into one scale model

e. Dioramas are limited in size to 3 feet by 4 feet.

**Open to members grades 3 to 6**

Lot No.

1. Agricultural item — kit (tractors, farm equipment, farm buildings

— or may not include house)

2. Agricultural item — scratch built, custom built, kit-bashed

3. Aquatic item — kit (ships, submarines, boats)

4. Aquatic item — scratch built, custom built, or kit-bashed

5. Highway transportation item — kit (semis, trucks, cars, motorcycles)

6. Highway transportation item — scratch built, custom built, kit bashed

7. Military item — kit (tanks, trucks, cannons, personnel vehicles)

8. Military item — scratch built, custom built, or kit-bashed

9. Miniature dwelling and/or furnishings — kit (doll houses, etc.)

10. Miniature dwelling and/or furnishings — scratch built, custom built, kit-bashed

11. Non-military aircraft — kit

12. Non-military aircraft — scratch built, custom built, kit based

13. Railroad item — kit (engines, railroad cars, railroad equipment)

14. Railroad item — scratch built, custom built, kit-bashed

15. Any other scale model item — kit

16. Any other scale model item — scratch built, custom built, kit based

**Open to members grade 7 and over.**

17. Agricultural item — kit (tractors, farm equipment, farm buildings

— or may not include house)

18. Agricultural item — scratch built, custom built, kit-bashed

19. Aquatic item — kit (ships, submarines, boats)

20. Aquatic item — scratch built, custom built, or kit-bashed

21. Highway transportation item — kit (semis, trucks, cars, motorcycles)

22. Highway transportation item — scratch built, custom built, kit based

23. Military item — kit (tanks, trucks, cannons, personnel vehicles)

24. Military item — scratch built, custom built, or kit-bashed

25. Miniature dwelling and/or furnishings — kit (doll houses, etc.)

26. Miniature dwelling and/or furnishings — scratch built, custom built, kit-bashed

27. Non-military aircraft — kit

28. Non-military aircraft — scratch built, custom built, kit based

29. Railroad item — kit (engines, railroad cars, railroad equipment)

30. Railroad item — scratch built, custom built, kit-bashed

31. Any other scale model item — kit

32. Any other scale model item — scratch built, custom built, kit based

**CLASS 11 – DIORAMAS**

33. Team Diorams All Ages

**CLASS 12 – WELDING**

1. Poster (11” x 14”) showing different weld types

2. Poster (14” x 22”) showing different welding equipment

3. Display of three welds (T-joint, but weld, and lap weld) using oxyacetylene, arc and wire welder. Joints may be no more than 3” long.

4. Repaired item

5. Manufactured item

6. Any other project.

**CLASS 13 - MAINTENANCE/REPAIRS**

PREMIUMS

Blue Red White Pink

$3.00 $2.75 $2.50 $2.25

All entries must have a statement attached as to work done and method used.

1. Repaired, refinished or constructed article for use in the workshop

2. Repaired, refinished or constructed article for sport or recreational purposes

3. Repaired, refinished or constructed article for use in the home

4. Repaired, refinished or constructed article for use outdoors