



THE VINTAGE RADIO CONTROL SOCIETY

A Special Interest Group of the Academy of Model Aeronautics

Rev. 03/21/2020

Aircraft and Competition Information

WELCOME

The Vintage RC Society (VRCS) is an organization dedicated to the preservation of our radio control history, and to the achievements of those electronic and airframe pioneers who made RC one of the best hobby/sports in the world. We do this through our bi-monthly newsletter, *The Vintage Flier*, and annual reunions and fly-ins.

PREFACE

The practice of building and flying vintage radio control aircraft is intended to be casual, enjoyable, and interesting for everyone involved, with no desire to advance aeromodeling's state-of-the-art or rewrite what has been recorded in aeromodeling history. The intent of these guidelines is to define the requirements for airplanes flown at Vintage RC Society events, and to provide consistency in these events.

OBJECTIVE

Our primary objective is to fly the older airplane designs that were designed for radio control. We understand and accept the use of modern radios and motors for reliability, although vintage radios can be used if they meet today's reliability standards and operate on current AMA and FCC frequencies. For Open and Pattern flying, reciprocating engines may be replaced by electric motors at no penalty. Models entered in the Scale and Concours d'Elegance categories may also be equipped with electric motors, although they would be ineligible to receive maximum points for Power in competition events.

GENERAL

The official guidelines shall apply to all models flown at Vintage RC Society events, with their emphasis on maintaining the primary objectives of the group. These primary objectives are to preserve and promote the memory of radio control aeromodeling activity as it was in the past.

CATEGORIES AND DEFINITIONS

WHAT AIRCRAFT ARE ELIGIBLE?

Any model flown at a Vintage RC Society event or entered into a VRCS competition category must have been designed for radio control and must be no less than 35 calendar years old. For example, in the year 2020, the design must be no newer than 1985. In 2021, it must be no newer than 1986.

Vintage RC Society models fall into one or more of the following classifications:

SPORT CATEGORIES

- I. **Pioneer:** Prior to January 1, 1956
- II. **Antique:** Prior to January 1, 1966

III. Classic: Prior to January 1, 1976

IV. Nostalgia: 35 years old prior to January 1 of each calendar year

(Note: Pilots/builders should provide age documentation for any model not on the VRCS Approved Airplanes List (available at www.vintagercsociety.org) or personally attest to its age if documentation is unavailable.)

COMPETITION CATEGORIES

V. Concours d'Elegance: Prior to January 1, 1976

VI. Theme Plane: Prior to January 1, 1976

VII. Scale: Prior to January 1, 1976

VIII. Pattern: Class I, II, III: Prior to January 1, 1976

VRCS Open: 35 years old prior to January 1 of each calendar year

(Note: Pilots/builders should provide age documentation for any model not on the VRCS Approved Airplanes List (available at www.vintagercsociety.org) or personally attest to its age if documentation is unavailable.)

COMPETITION CATEGORIES JUDGING

I. CONCOURS d'ELEGANCE

AIRCRAFT REQUIREMENTS

- A. All airplanes must have been designed for radio control, and designed, published, or kitted prior to January 1, 1976.
- B. A Concours d'Elegance entry must be accompanied by the full-size plans used in its building. Plans are required for use by the Judges to determine the degree of conformance to the original design. An entry must be disqualified from the Concours event if the required full-size plans are not submitted.
- C. A contestant may enter only one model, and must be the builder of the model.
- D. The airplane entered must be flight ready. The model's airworthiness must be demonstrated by at least one flight of two-minute (*minimum*) duration without structural damage other than a broken propeller(s) or bent landing gear. This demonstration flight must be flown on the day of judging, prior to submitting the airplane to the Judges.

(Note: At the Contest Director's discretion, this flight requirement can be waived in the event of inclement weather or static-only events.)

- E. Two or three Static Judges are suggested, with their individual scorings averaged to arrive at the final score.
- F. All types and sizes of airplanes are judged equally on merit. No advantage is to be given to larger or smaller, and/or more complex or simplistic designs.
- G. Judging Areas:
 1. **Geometry**

- a. This area confirms that the airplane qualifies as a Concours entry and is eligible for further judging. The airplane shall receive either a YES or NO for this area. At the judge's discretion, minor deviations may or may not be acceptable. Primary areas to be judged include the shapes of all flying surfaces, fuselage top and side-view shapes, landing gear accuracy, and canopy/cockpit shape and location if part of the design. Correct wing construction (*i.e. ribs vs. sheeted foam*) must be used.
- b. Points are NOT awarded for geometry. The YES or NO only determines eligibility. NO in Geometry disqualifies the model from the Concours event.

2. Craftsmanship

This area recognizes the accuracy of joints that can be seen, accuracy of alignment, neat solder work on wire landing gear, clean application of window celluloid or canopies, and all other visible items pertaining to workmanship and modeling skill.

0-30 points

3. Covering

This area recognizes the quality of the covering APPLICATION, regardless of the type of covering selected: heat shrink, silk, silkspan, nylon, or any other.

0-20 points

4. Decoration and Color Scheme

This area recognizes the quality of the color DESIGN. The airplane does not have to be the same color or color scheme as the original. What is important here is that the color scheme should be attractive, with multicolor designs eligible to receive a higher point score than a one-color or two-color scheme.

0-20 points

5. Radio System

Receivers, servos, switches, extensions, harnesses, and receiver batteries are no longer a consideration for Concours judging. If the RC system is within current AMA and FCC guidelines, it is permitted for use.

This is a ZERO (0) point item.

6. Onboard RC Components

Although no preference is given to either restored antique radios or facsimiles using modern electronic components, it is imperative that the number of controls should match the original, and that vintage mechanical elements (*i.e.: pushrods, control horns, clevises, keepers, hinges, and other visible control system components*) are used.

0-10 points

7. Engine/Motor

- a. The engine or motor should be of the same type (*two-stroke, four-stroke, electric*) and within the displacement range indicated on the submitted plans.
- b. Duplicating the make, model, and age of the engine or motor shown on the plans or documentation is not mandatory, although one that is era appropriate to the submitted model should have a point advantage over a modern, state-of-the-art powerplant. For example, a Veco .45 with an air-bleed carburetor in a Taurus would be eligible to receive maximum points; a four-stroke engine or an electric motor in a Taurus would not.

(Note: If engine make, model, or age is not specified on the submitted plans or documentation, Judges should consider the entry's era-appropriate engine as eligible to receive maximum points.)

- c. Stock or non-stock mufflers of any age or type, regardless of what is or is not shown on the plans or documentation, are acceptable to comply with the host flying site rules.

0-10 points

8. Bonus Areas

The following two items shall be **scored either 5 points or 0 points** without graduation; it either is or isn't.

a. Appropriate Covering

Use of the covering material that was used on the original design or indicated on the submitted plans.

(Note: if no covering materials are shown or suggested on the submitted plans or documentation, and the covering is era-appropriate for the design, the 5-point bonus shall be awarded.)

0 points or 5 points

b. Correct Construction Materials

Materials shall be as indicated on the submitted plans. Airplanes that featured built-up components shall not get this bonus if foam, fiberglass, composite or other construction materials are substituted — or vice-versa.

0 points or 5 points

9. Identification

The pilot's AMA number should be on or inside the Concours model. No downgrade may be made for a visible AMA or FAA registration number. All pilots should affix the airplane's name and design year on the model where they are visible and easily read. A minimum of 1/2-inch characters on a sheet of paper taped to the model may be used for this vital information, which is required for both judging and general interest, although not required for flight.

This is a ZERO (0) point item.

10. Total Score

Maximum Total Points, including Bonus Points, is 100

II. THEME PLANE

All Theme Plane entries shall be judged by VRCS Concours d'Elegance rules.

CRITERIA

When selecting each year's Theme Plane, the Theme Plane Committee shall require the Theme Plane to:

1. Be historically significant;
2. Have been a popular design;
3. Have uncomplicated construction;
4. Be of a size that can be transported in most vehicles;
5. Have plans, kits or semi-kits available for builders.

III. SCALE

PHILOSOPHY

The intent of this category is NOT to encourage or reward museum quality airplanes, but to reward reasonable reproductions of Vintage Scale designs. Therefore, judging shall be done as Standoff Scale from a distance of 10 feet from the model.

AIRCRAFT REQUIREMENTS

- A. All airplanes must have been designed for radio control, and designed, published, or kitted prior to January 1, 1976.
- B. A member may enter ~~only~~ one model, and must be the builder of the model.
- C. All Scale entries must be accompanied by the full-size plans from which the model was constructed. Plans are required for use by the Judges to determine the degree of conformance to the original design. An entry must be disqualified from the Scale event if the required full-size plans are not submitted.
- D. Airplanes designed for rudder-only operation may be modified by adding elevator and/or motor control at no penalty. The overall horizontal stabilizer outline as depicted on the plans must be maintained.
- E. All Scale entries must complete a two-minute (*minimum*) flight prior to static judging. No flight scores are awarded, and no consideration for performance should affect the static score. The only requirement for flight is to cross the two-minute mark without structural damage other than a broken propeller(s) or bent landing gear. This demonstration flight must be flown on the day of judging, prior to submitting the airplane to the Judges.

(Note: At the Contest Director's discretion, this flight requirement can be waived in the event of inclement weather or static-only events.)

I. SCORING

Two or three Static Judges are suggested, with their individual scorings averaged to arrive at the final score. Judges will consider all aspects of the model's presentation and the degree to which it conforms to the submitted design or kit plans. Judging is based on the following criteria:

A. 0-25 points shall be awarded for overall **Outline**.

A. Original planform and airfoils must be maintained.

0-15 points

B. Original control-surface outlines and hinge-line locations must be maintained.

0-5 points

C. Correct scale must be maintained: No increase or decrease in size is permitted.

0-5 points

II. 0-30 points shall be awarded for overall **Finish, Color, and Markings**.

Correct scheme must be used, with original covering materials, methods, colors, and layout as shown on the submitted plans and/or documentation.

(Note: If covering materials, methods, colors, and layouts are not specified on the submitted plans or documentation, Judges should consider the entry as eligible to receive maximum points.)

The modeler must document the correctness of the scheme. This documentation can be in the form of one or more of the following:

A. Box art/plan color notes;

B. Construction article photos/plan color notes;

C. Photos of the full-scale subject;

D. Published 3-view drawings with color and markings noted.

0-30 points

III. 0-30 points shall be awarded for overall **Craftsmanship**.

A. Original materials and construction as shown on the submitted plans and/or documentation must be followed. Modern adhesives may be used.

0-5 points

B. Judges should consider the accuracy of joints that can be seen, accuracy of alignment, neat solder work on wire landing gears, clean application of window celluloid or canopies, and all other visible items.

0-25 points

IV. 0-15 points shall be awarded for **Vintage Fidelity**.

A. Engine should be similar in size and type to the original shown on the submitted plans and/or documentation. Higher point scores may be given for an engine of the same manufacturer, displacement, and type as shown on the submitted plans and/or documentation.

(Note: If no engine manufacturer, displacement, or type is specified on the submitted plans or documentation, Judges should consider the entry's engine as eligible to receive maximum points.)

0-5 points

- B.** Use of vintage mechanical components in the control system (*pushrods, clevises, control horns, hinges, keepers, and similar accessories*) that duplicate the type shown on the submitted plans is recommended.

0-5 points

- C.** Points should be awarded for overall conformance to the original design by incorporating features, such as the installation of throttle control on a control line engine, operating flaps via throttle response, operating wheel brake via elevator response, adjustable ailerons, trim tabs, and/or any other suitable feature(s) of the original design.

(Note: If no such special features are shown or suggested on the submitted plans or documentation, the maximum of 5 points shall be awarded.)

0-5 points

- V.** Total Score

Maximum Total Points is 100.

- VI.** RC Systems

Any RC system within current AMA and FCC guidelines is permitted for use.

This is a ZERO (0) point item.

- VII.** Identification

The pilot's AMA number should be on or inside the Scale model. No downgrade may be made for a visible AMA or FAA registration number in place of an official registration number. All pilots should affix the airplane's name and design year on the model where they are visible and easily read. A minimum of 1/2-inch characters on a sheet of paper taped to the model may be used for this vital information, which is required for both judging and general interest, although not required for flight.

This is a ZERO (0) point item.

IV. PATTERN

AIRCRAFT REQUIREMENTS

- A.** All airplanes must have been designed for radio control, and designed, published, or kitted prior to January 1, 1976.
(Note: Airplanes entered in the VRCS Open Pattern event only need to meet the 35-year rule.)
- B.** Correct scale must be maintained; no increase or decrease in size is permitted. A simple statement from the entrant is acceptable.
- C.** The pilot does NOT have to be the builder of the model.
- D.** Retractable landing gear is permitted but must remain extended during flight.
- E.** Power
1. Any side-exhaust, two-stroke engine up to and including .91 cubic inches (*15cc*) is permitted.
 2. Four-stroke engines up to and including 1.20 cubic inches (*20cc*) without air chambers or supercharging of any kind are permitted.

3. The use of vintage engines is encouraged, provided the above guidelines are met. However, all engines must use an effective muffler. Tuned pipes are prohibited.
4. Electric power is limited to a maximum of 6 cells.

(Note: The above power criteria apply only to models flown in Pattern events. Models in the Scale, Concours d'Elegance, and four Sport classes are not subject to these specific power descriptions or limitations.)

- F. Any RC system within current AMA and FCC guidelines is permitted for use.
- G. The pilot's AMA number and FAA registration number should be displayed as required. All pilots should affix the airplane's name and design year on the model where they are visible and easily read. A minimum of 1/2-inch characters on a sheet of paper taped to the model may be used for this vital information, which is required for both judging and general interest, although not required for flight.

MANEUVERS

Two or three Flight Judges are suggested, with their individual scorings averaged to arrive at the final flight score.

A comprehensive Pattern Judges' Guide, which describes the maneuvers and grading criteria, is available on the VRCS website (www.vintagercsociety.org).

VRCS OPEN PATTERN: NEUMAN *(Named for A. E. NEUMAN)*

PHILOSOPHY

In the interest of increased participation and improving pilot skills, the VRCS Open Pattern event was created using rudimentary maneuvers to welcome any airplane 35 years old or older. Models may be equipped with any number of channels or functions, and may be powered by gas, glow, or electric motors.

1. **TAKEOFF**
OPTIONAL TRIM PASS *(Not Scored)*
2. **STRAIGHT FLIGHT OUT**
3. **PROCEDURE TURN**
4. **STRAIGHT FLIGHT BACK**
5. **IMMELMANN TURN**
6. **SPLIT "S"**
7. **1 INSIDE LOOP**
8. **1 ROLL – Barrel or Axial** *(Pilot's Choice)*
9. **FIGURE 8** *(Horizontal Eight, Parallel to Runway)*
10. **LANDING**

CLASS I PATTERN: PORT *(Named for JACK PORT)*

Control is limited to Rudder only. *(Throttle control may be permitted at the Contest Director's discretion.)*

1. **TAKEOFF** *(Not Scored)*
OPTIONAL TRIM PASS *(Not Scored)*
2. **STRAIGHT FLIGHT OUT**
3. **PROCEDURE TURN**
4. **STRAIGHT RETURN**
5. **FIGURE 8** *(Horizontal Eight, Parallel to Runway)*

6. ONE BARREL ROLL
7. ONE INSIDE LOOP
8. IMMELMANN TURN
9. SPLIT "S"
10. ROLLING 8
11. WINGOVER
12. LANDING PATTERN
13. LANDING (*Not Scored*)

CLASS II PATTERN: McENTEE (*Named for HOWARD McENTEE*)

Control is limited to Rudder, Elevator, and Throttle only.

1. TAKEOFF
OPTIONAL TRIM PASS (*Not Scored*)
2. STRAIGHT FLIGHT OUT
3. PROCEDURE TURN
4. STRAIGHT RETURN
5. STALL TURN
6. THREE BARREL ROLLS
7. THREE INSIDE LOOPS
8. IMMELMANN TURN
9. SPLIT "S"
10. ROLLING 8
11. THREE-TURN SPIN
12. TOUCH-AND-GO
13. LANDING PATTERN
14. LANDING

CLASS III PATTERN: BROOKE (*Named for RALPH BROOKE*)

Control is limited to Rudder, Elevator, Throttle, and Aileron. (*Retractable landing gear is permitted but must remain extended during flight.*)

1. TAKEOFF
OPTIONAL TRIM PASS (*Not Scored*)
2. STALL TURN
3. THREE INSIDE LOOPS
4. THREE AXIAL ROLLS
5. IMMELMANN TURN
6. REVERSE CUBAN 8
7. ROLLING 8
8. INVERTED PASS
9. ONE OUTSIDE LOOP
10. SPLIT "S"
11. THREE-TURN SPIN
12. TOUCH-AND-GO
13. LANDING PATTERN
14. LANDING