



Event Rules and Guidelines

(Amended 6/1/2006)

Introduction

The 2006 RCUniverse World Micro Heli Cup is now in its second year and has already proven itself as the highest profile show for the world's best indoor micro helicopter pilots. Our second annual event will take place on Saturday, October 21st and Sunday, October 22nd at the Radio Control Hobby Trade Association's ("RCHTA") **iHobbyExpo** in the Donald E. Stephens Convention Center in Rosemont, Illinois. Like last year, we expect great crowds, television coverage, magazine coverage by **FlyRC Magazine** and, of course, complete online coverage on RCUniverse.com with links from the International Radio Control Helicopter Association ("IRCHA") Website.

Pilots

Pilots for the WMHC will be selected by the WMHC planning committee. We will accept applications via fax or email using the form at the end of this document.

Classes

There are two competition classes at the event. Each pilot may enter one or both classes:

Micro Class (e.g. Blade CP, Hornet, etc.):

- Rotor span of **less than 24 inches** measured tip to tip
- Maximum total weight of 15.9 ounces (including battery)
- Maximum power output of 200 watts
- Maximum 370 class motor (any type)

Mini Class (e.g. Shogun, T-Rex, etc.):

- Rotor span of **less than 30 inches** measured tip to tip
- Maximum total weight of 24 ounces (including battery)
- Maximum power output of 300 watts
- Maximum 480 class motor (any type)

Venue

The competition will take place on the show floor of the Donald E. Stephens Convention Center during the iHobbyExpo hobby show. The flying cage will be 180 x 170 x 40 and surrounded by safety netting. Bleachers will seat up to 400 spectators and will be separated from the flying area with netting. For a map of the show floor, visit http://www.ihobbyexpo.com/floor_map.cfm. The contest will run on Saturday, October 21st and Sunday, October 22nd from 2pm – 5pm each day (extra hour on each day).

Frequencies

You must fly on either the Spektrum system or 72MHz using an ODD numbered channel!

General Rules – All Classes

Flight Time

Contestants shall have no more than 45 seconds from the time they are called to fly to have their helicopter in the landing area ready for flight (with some rotation of rotors). On the judges' signal, the pilot may commence.

Each contestant shall have 3 minutes and 30 seconds of actual flying time (plus a 5 second landing buffer explained in the Scoring section below). Contestants may fly for less time, but those who exceed the time limit shall receive a scoring penalty for every second they exceed the limit. Penalties are explained below.

Each pilot gets one preliminary flight (per class) on Saturday and one final flight on Sunday. Contest begins at 2pm each day.

Mandatory Maneuvers

Each pilot must perform the mandatory maneuvers specified below before or after freestyle maneuvers. Pilots should indicate to the judges the order of performance before they commence their flight.

Scoring & Penalties

Pilots will be scored on two scales. There are up to 100 possible points for completing mandatory maneuvers. Point awards are subjective and based on the judge's perception of whether the pilot; (a) completed the maneuver according to the rules and (b) completed the maneuver in a controlled and smooth manner. There are another 50 points possible for freestyle maneuvers. Judges will award points based on creativity and overall appeal to the audience. Flying in step with music is strongly encouraged. A penalty of one-half of a point for every second the helicopter is still airborne after the expiration of 3 minutes and 35 seconds. The pilot **MUST** be attempting to land (or have landed) during the final 5 seconds of the flight.

If a pilot crashes during a flight, he may immediately switch to a back-up helicopter. The pilot's time will continue to run and he will receive a 10 point deduction.

Prizes

Prizes will be awarded to the top 3 finishers in each class (unless participation in any particular class is insufficient to justify a 3rd place prize). Prize amounts will be posted on our Website (where you got these rules) and are subject to change.

Micro Class Event Rules

Multiple-level Hover (20 points)

1. Take-off, hover for five (5) seconds.
2. Climb straight up two (2) meters; hold for five (5) seconds.
3. Descend vertically two (2) meters; hold for five (5) seconds.

Constant Heading Circle (20 points)

- a. Take-off, hold hover for five (5) seconds.
- b. Move the helicopter to the right, keeping the tail pointed in the same direction; complete a ten (10) meter circle in front of the pilot until the helicopter is hovering over the take-off point.
- c. Move the Helicopter to the left, repeating step b above.

Pirouette (10 points)

- a. From a stationary hover, execute a tail rotor only turn of 360 degrees to either the right or the left.
- b. This maneuver must be done in both directions, to the right (clockwise) and the left (counter-clockwise).

Stall Turn or Inverted Hover (20 points)

STALL TURN OPTION:

- a. Starting from straight and level flight after the helicopter passes the pilot the helicopter is smoothly pulled vertical (Aft Cyclic).
- b. When the vertical climb stops, the helicopter is rotated 180 degrees about the yaw axis.
- c. The helicopter is allowed to fall the same distance that it climbed at the beginning of the maneuver before pulling the helicopter back to straight and level flight.
- d. This maneuver must be done both to the right and the left of the pilot.

INVERTED HOVER OPTION:

- a. With the helicopter inverted and no more than ten (10) yards/meters above the landing area hover nose out, hold for ten (10) seconds.
- b. With the helicopter inverted and no more than ten (10) yards/meters above the landing area hover nose in, hold for ten (10) seconds.

Inside Loop or Roll Sequence (30 points)

LOOP OPTION

- a. Starting from straight and level flight after the helicopter passes the pilot the helicopter is smoothly pulled through a loop (Aft Cyclic).
- b. As the helicopter is "on its back" the pilot should reduce collective so as to keep the loop as round as possible.
- c. This maneuver must be done starting from both the right and the left of the pilot.

ROLL OPTION

- a. Starting from straight and level flight after the helicopter passes the pilot, the pilot rolls the helicopter.
- b. Repeat maneuver from opposite side.

Mini Class Event Rules

Collective Control & Flips (35 points)

Use Collective control to maintain as constant altitude as possible during these maneuvers.

1. Flips Forward (pick one of the 2 variations)
 - With the helicopter hovering Tail-In, add forward cyclic and flip the helicopter to an inverted Nose-In hover, hold for five (5) seconds. From this inverted Nose-In hover add forward cyclic and flip the helicopter back to an upright Tail-In hover, hold for five (5) seconds.
 - With the helicopter hovering Nose-In, add forward cyclic and flip the helicopter to an inverted Tail-In hover, hold for five (5) seconds. From this inverted Tail-In hover add forward cyclic and flip the helicopter back to an upright Nose-In hover, hold for five (5) seconds.
2. Flips Backward (pick one of the 2 variations)
 - With the helicopter hovering Tail-In, add backward cyclic and flip the helicopter to an inverted Nose-In hover, hold for five (5) seconds. From this inverted Nose-In hover add backward cyclic and flip the helicopter back to an upright Tail-In hover, hold for five (5) seconds.

- With the helicopter hovering Nose-In, add backward cyclic and flip the helicopter to an inverted Tail-In hover, hold for five (5) seconds. From this inverted Tail-In hover add backward cyclic and flip the helicopter back to an upright Nose-In hover, hold for five (5) seconds.

Inverted Figure of Eight - Flying (35 points)

- While the helicopter is flying straight, level and inverted; after it passes the pilot, make a 270 degree turn away from the pilot, the helicopter will now be pointed directly at the pilot.
- After the helicopter is pointing at the pilot, execute a 360 degree turn in the opposite direction. The helicopter will again be pointing directly at the pilot.
- After the helicopter is pointing at the pilot again, execute a 90 degree turn; in the same direction as the first 270 degree turn.
- This maneuver must be done starting from both left to right (first 270 degree turn to the left, counter-clockwise) and right to left (first 270 degree turn to the right, clockwise).

Two Consecutive Stationary Rolls (30 points)

- With the helicopter hovering Tail-In, add cyclic and flip the helicopter to inverted, continue until the helicopter has completed 2 rolls to the right or left.
- With the helicopter hovering Nose-In, add cyclic and flip the helicopter to inverted, continue until the helicopter has completed 2 rolls to the right or left.

SAMPLE FLIGHT ROUTINE

To help pilots visualize the sequence of events before, during and after a contest flight, we offer the following sample flight sequence.

2:29:00pm	Flight Marshal announces the next contestant with 45- second ready time to get the helicopter prepared for takeoff on the Marshal's starting signal. The signal may occur a few seconds after the 45-second period.
2:30:00pm	Flight Marshal gives signal and pilot commences routine. Although not required, we recommend that compulsory maneuvers be completed before freestyle to aid judges and to permit uninterrupted freestyle performance time. If the pilot wishes to integrate compulsories, that is permissible also. Prior to takeoff, the pilot should indicate to the Flight Marshal whether compulsory moves will be integrated or separate from the freestyle portion of his flight.
2:33:35pm	The pilot should be on the ground at this point. The final 5 seconds of the flight (past 3 minutes and 30 seconds) will not be penalized provided the pilot is in the process of landing the aircraft. There will be no points awarded for landing, although a well-executed landing (or autorotation) can boost the pilot's freestyle score.
Crash	If the pilot crashes, he may have his caller immediately replace the helicopter with a new one and continue his routine. A mandatory 10-point deduction will be taken, regardless of the severity of the crash. A crash is defined as any unintended contact with the ground, ceiling or any structure in the flight area that causes the pilot to have to restart his routine or replace his helicopter.



PILOT APPLICATION

Pilot Name _____

Address _____

City, State/Province (ZIP) _____

Country _____

Home PH _____

Mobile PH _____

EMAIL _____

Team Affiliation _____

I intend to compete in: Micro Class Only Mini Class Only Both Classes

PLEASE FAX TO 303.858.0409