

MWSC One-Design 60 Racing

Intent

One-Design 60 provides a fun and inexpensive format for slope racing. The intent is to keep aircraft performance equalized, inexpensive to build and easy to fly in a variety of wind conditions. If you build a trick plane to outwit the rules, you may end up watching instead of flying, at the CD's discretion. If you need an interpretation of the rules, call the CD before you build it.

Class Definitions

Open to any plane, meeting the aircraft specifications below.

Entry Limit

There is a limit of ONE entrant PER FREQUENCY in this event. See Pre-Registration page for details.

Aircraft Specifications

Wing Span: 60" projected span

Area: 360 sq. "

Chord: 7" root chord, 5" tip chord.

Plan form: Single taper only. i.e. leading edge and trailing edge of each wing half must each be a straight line. No Schumann, elliptical, Hirth, or other plan forms without constant taper. Outer 1" of each wing tip may be rounded or tapered.

Dihedral: no restriction, provided that dihedral is constant through entire wing panel span (no polyhedral).

Airfoil: Minimum thickness: 9.5%

Allowable sections:

- * SD6060 (nominal 10.37% thick) thinned to no less than 9.5%.
- * S6061, S6062 or S6063; thickened to no less than 9.5%
- * Note: at 9.5% or more, these airfoils are all very similar. If you care to quibble about the relative camber of A vs. B, you're taking this entirely too seriously!

Competitors are advised to validate their wing thickness before the event (see the first paragraph). Thickness will be verified by template at the contest.

If you don't have access to Compufoil or some other computer airfoil generation program, the CD will be happy to provide the printed airfoil section you desire.

One-wing rule: The AMA regulation that an alternate wing constitutes an alternate aircraft will be strictly enforced. The same wing must be used for all races during the competition, unless the primary plane/wing is damaged and declared unflyable.

Control surfaces: One movable control surface per each wing half; no restriction on size or location. Roll or pitch control by rotating wing (pitcheron) not allowed. Total of one or two servos allowed for wing surfaces.

Construction: May be foam core sheeted with balsa or obechi, built up wood or EPP with filament tape. No plywood or woven fabric (carbon, glass, Kevlar, nylon, etc. laminated with epoxy or polyester resin) skins permitted. Glass may be used to join wing halves, 5" max, width. Since we can't see it anyway, any spar system is allowed. Wing may be covered with iron-on plastic covering, plastic tape, or non-directional polyethylene or paper based material, provided it is not attached with epoxy or polyester resin.

Attachment: No restriction. May be bolted on, rubber banded, attached to fuselage via wing rods/joiners or glued.

Weight

- * Minimum: 25 oz.
- * Maximum: 35 oz.

Ballast: No ballast system allowed in wings. Ballast must be carried internally within the fuselage. No ballast may be attached external to the fuselage structure. Unconditional DQ from the event will be the result.

Weight subject to verification before, during or after the race event (or all the above). Race starter is empowered to weigh the winning plane of a heat race or all planes in a fly-off or final race.

Fuselage

- * Max. length: 36" (excluding tail surfaces)
- * Min. length: 32" (excluding tail surfaces)
- * Circumference: 6" min. at maximum girth station, typically at wing shoulder.

Construction: Any construction material permitted. You are free to build an ultra-light composite fuselage and then add 6 oz. of lead to bring it up to 25 oz.... and then lose it in a mid-air anyway. It's your money...

Tail Assembly

Configuration: Conventional, V-tail or T-tail. No flying wings, i.e. the north end of a southbound plane must have something resembling a discrete horizontal control surface.

Area: no restriction.

Construction: May be foam core sheeted with balsa or obechi, built up or solid wood, corrugated plastic such as Coroplast or EPP with filament tape. No plywood or woven fabric (carbon, glass, Kevlar, nylon, etc. with epoxy or polyester resin) skins permitted. Glass may be used to join horizontal or V-tail halves, 2" max, width. Tail surfaces may be covered with iron-on plastic covering, plastic tape, or non-directional polyethylene or paper based material, provided it is not attached with epoxy or polyester resin.

Rudder: No rudder control allowed. Control surfaces on each half of V-tails must be actuated by a single servo and move simultaneously in the same direction at all times.

Pitch control: Pitch control may be performed by hinged control surface (elevator) or by movement of entire horizontal or V-tail surface (stabilator).

Radio Equipment

Any radio equipment is allowed, provided that it meets current FCC and AMA specifications for model aircraft use.

No automatic flap/elevator or elevator/flap mixing allowed. Camber change must be done manually by flap stick, switch or pot.

No gyros, autopilots, telemetry or other electronic gizmos permitted.

3 servo maximum for entire plane; 1 or 2 aileron servos and 1 for elevator.

Kits

Any individual or manufacturer can design/build a plane for this class. Individual creativity is encouraged as long as your plane looks like everyone else's....

MWSC will publish contact information for any known manufacturers of planes advertised to meet the One-Design 60 specification. This will not indicate pre-approval of the design; the pre-contest verification of any design is the responsibility of the individual pilot.

A list of known ODR kits is available.

Contest Structure

1. The CD will define flight groups for each round.
2. Races will be run in a series of four plane individual heats. The number of heats and number of laps will be determined on site by CD based on time available and racing conditions. Points will be awarded in each heat. Top scores will compete in a final race.