

# Hi Start Glider at the 2019 Nationals

- Unofficial Fun Event Friday August 9, 2019
- Register on the Field Beginning at 9:00 am
- Same Day as Classic Towline-Fly Your Gliders Twice!
- **A Hi-Start Will be Provided-Reset Your Tow Hook and Fly!**
- No Entry Fee
- Prizes to Third Place for Senior/Open Combined
- **Prizes to Third Place for Juniors**

## Rules Summary

- **Hi Start Specifications**
  - Maximum of 25 grams of commercial rubber strip
  - 100 to 150 feet of multi-strand towline (no monofilament)
  - One end fixed to the ground at a height not to exceed five feet
  - 1 inch maximum diameter tow ring
  - **Mandatory** tow flag or parachute with **at least** 38.75 sq. inch area
- **28 inch minimum wingspan—NEW! More Eligible Kits!**
- Two-position autorudder, DT and tracker allowed for automation
- Fly-off flights to increase by 30 seconds each flight once three two-minute maxes are achieved
- Complete Rules Posted on NFFS Website: [freeflight.org](http://freeflight.org)

# Hi-Start Launched Glider

## Rules for an NFFS Provisional Event

**Purpose:** To promote competition for towline gliders by providing a simple and effective alternative to traditional towing as a method for launching. The alternative method is to use the energy stored in commercially available rubber strip to launch the glider to an altitude comparable to that which can be achieved by hand-towing with a 50 meter (164 ft) long towline. This launch method is referred to as *Hi-Start Launching* and the launcher is called a *Hi-Start*.

**Hi-Start Specifications:** The Hi-Start Launcher shall consist of not more than 25 grams of commercially available rubber strip joined to a towline consisting of not less than 100 feet nor more than 150 feet of string or cord. One end shall be anchored securely to the ground at a height not to exceed five feet above ground level. A mandatory flag, or alternatively, a small parachute constructed of cloth and inextensible cords, with a minimum area of 2.5 square decimeters (38.75 square inches) must be attached to the towline within 12 inches of the end of the towline which attaches to the model. The towline shall be made from an inextensible cord or string made up of multiple strands. Due to its high extensibility and poor visibility, nylon monofilament fishing line is prohibited. For safety, metal wire towlines are also prohibited. The only mechanical elements permitted in the construction of the Hi-Start in addition to the rubber, towline, flag and stake are small elastomeric o-rings no more than 3/4 inch in mean diameter and **one** hard plastic or metal ring of no more than one inch mean diameter, used **for the sole purpose of engaging the Hi-Start to the model's tow hook**. The use of additional hard plastic or metal rings, wire parts, paper clips, beads etc. in the construction of the Hi-Start is **strictly prohibited, as is the omission of the tow flag or parachute**. Violation of these **safety rules** will result in **immediate disqualification** from the event. The Contest Director shall have final discretion as to the suitability and safety of the Hi-Start launcher. If desired, towline length may be verified by establishing three stakes driven into the ground along a straight line. The second stake shall be 100 feet from the first and the third stake shall be 150 feet from the first. The tow-ring end of the inextensible towline shall exceed the distance between the first and second stakes and not exceed the distance between the first and third stakes when the end of the towline which attaches to the Hi-Start rubber is at the position of the first stake and the towline is extended to its full unstretched length. Rubber mass may be verified with a portable digital scale with a least count of no more than 1.0 grams.

**Model Specifications:** Models must be fixed-wing gliders (no folding surfaces) with a **minimum projected wingspan of 28 inches\*\***. Permitted automation is limited to a two-position autorudder (one position for launch, one position for glide), a dethermalizer

and a tracking transmitter or noisemaker to aid in locating the model. Timers or fuses with snuffer tubes are permitted for the activation of these functions and RDT may be used for the dethermalizer function as per current AMA rules. Two models are permitted and their parts may be freely interchanged.

**Flight Rules:** Timing starts when the model detaches from the towline into free flight. Six attempts to make three official flights with a max of 2 minutes. Flights which fail to detach from the towline or achieve flight times less than 20 seconds count as an attempt. Flights which do not detach from the towline may *not* be declared official. Flights of less than 20 seconds duration may be declared official at the contestant's option. This decision must be made immediately after the flight and cannot be changed. Should a tie exist after three official flights, fly-off flights will commence. The max shall be increased by 30 seconds for each subsequent fly-off flight until the max is not achieved. All fly-off flights are official; there are no attempts for fly-off flights.

**Safety:** The deliberate uncontrolled release of a stretched Hi-Start without an attached model shall constitute a safety violation and result in ***disqualification from the event***, due to the potential safety hazard posed by the uncontrolled release of the energy stored in the Hi-Start. Similarly, the operation of a Hi-Start without a flag or parachute attached within 12 inches of the tow ring also constitutes a safety violation and will result in ***disqualification from the event***, due to the potential hazard posed by the tow ring moving at high speed without the drag of a flag or parachute.

**\*\*New Rule for 2019**

# Hi-Start Glider Kits and Supplies

There are currently a number of kits available for gliders in the 150-300 sq. inch size range, owing in part to the Classic Towline one-design A1 events of recent years.

## From BMJR:

Thermic 50:

<http://www.bmjrmmodels.com/thermic-50-y2k> (227 sq. inches)

Jetstream:

<http://www.bmjrmmodels.com/free-flight/gliders-1/jetstream> (269 sq. inches)

Lil Dip:

<http://www.bmjrmmodels.com/free-flight/gliders-1/lil-dip> (279 sq. inches)

Dragonfly:

<http://www.bmjrmmodels.com/free-flight/gliders-1/dragonfly-tlg> (274 sq. inches)

## From Retro RC:

Retro Gnome:

<http://retrorc.us.com/retroemoth-1-2-1-2-2-1.aspx> (160 sq. inches)

Jessie James:

<http://retrorc.us.com/towlineandhi-startgliders.aspx> (230 sq. inches)

Sinbad the Sailor 36

<http://retrorc.us.com/retroemoth-1-2-1-2-1-1.aspx>

1937 Slingsby Cadet

<http://retrorc.us.com/retroemoth-1-2-1-2-1-1-3.aspx>

Additionally, complete Hi-Start kits utilizing ~25 grams of 1/16", 3/32," or 1/8" rubber strip are available from Retro RC. A reel kit and o-ring connecting links are also available:

<http://retrorc.us.com/glideraccessories.aspx>

## From Graupner—NEW!

Vector - Mini UHU 725mm:

<https://www.graupnerusa.com/Mini-free-flight-sailplane-with-optional-RC-motor-set.html>