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Scott Carlson Kitewing 4.6 Dacron Maine USA DEC21

AMERICAN SKIMBAT FEB21

Kitewing 4.0
Scott Carlson profile
Sailing Without Y Tubes
Do It Yourself Tensioner
Some Tips

Get your comments included at American Skimbat

Send Pix and Pans to saltonstall.richard@gmail.com

Scott Carlson Kitewing 3.0 Crawford Pond
Maine USA JAN21

The Kitewing 3.0 is a versatile wing. With a carbon frame it can be light enough to fly well in light air. On heavy air days the 3.0 is a top end speed sail. Some of us believe it is all the wing most folks need. Note AT boots and bindings.

Scott Carlson

It's been 15 years, maybe more, that I have been sailing wings. Retired from iceboat racing, sailboat racing and competition in general, I may not have realized it but I needed something to fill the void. A very good friend said that I should try wing sailing and invited me out for a sail. I was hooked in an instant and quickly scraped together the funds to buy my own wing. The original 5.5 Pro, a pair of Nordic skates and I was destined to have more fun and adventure than I ever could have imagined. Fast forward and sailing wings is something I look forward to all year long.

We sail on ice and snow in New England. Ice is the fastest, but skis on a snowy or rough ice surface can be fun too. If you decide to get into the sport you will need to be flexible and try different accessories. But be careful, you're likely to get hooked...

Pictures and videos are great, but the only way to truly appreciate the sensation of wing sailing is to try it. With raw speed and adrenaline on one end of the spectrum and delicate, almost dance (flight?) like maneuvering on the other, there is something for everyone. There are no rules except to have fun. And challenge. The challenge of mastering the techniques of tacking and jibing will keep me entertained for the rest of my life, I have no doubt. My recommendation...get yourself a wing, or two, or more and discover wing sailing for yourself. Invite your friends too!

Scott

Pix by Stacey

Kitewing 4.0 X Ply

Kitewing 4.0 Ezzy X Ply
Lake Lee Kodiak AK USA
DEC20

Since purchasing Kitewing in 2012 I have never possessed a 4.0. My experience with the wing was limited to a few test runs back East. Big ice sailors love the 4.0. There is a cult following in New Hampshire USA.

The latest iteration of the Kitewing 4.0

4CE was built in Finland by Kitewing OY. The Falcon was the same wing with a new graphics package offered by Kitewing LLC.

The latest Kitewing 4.0 retains the same basic design with a few changes intended to correct sail fit to frame. We changed the cut files to make the sail easier to develop Changes included simplifying the panels to eliminate parts which were originally intended to enhance graphics rather than sail shape. Broad seam shape was added to the outboard seam as well as the center seam. Reflex grommets were added along with a leech strap. The sail is offered built from Dacron or Ezzy X Ply. The frame has been changed slightly to fit the new sails.

Sailing the 4.0 in heavy air is easy

Extra battens make the wing stable or less prone to change shape under loads. Stiff, stable wings are easier to fly. Tensioning the tip wand of the 4.0 significantly stiffens the wing. Tip tension generates a lot of twist or wash out to the outboard panel of the sail. More tension in heavy air and perhaps less in light air changes the feel of the wing.

The features which make The 4.0 so nice in heavy air cost a weight penalty in light air. The latest 4.0 is an improvement but it is still relatively heavy for wing area. Extra battens add weight.

The Kitewing 4.0 parked in neutral and reacted with docile predictability to control inputs in heavy air.

When there is not enough wind to fly the wing overhead with one hand, it is time for a lighter wing or a more efficient wing.

The Kitewing 4.0 is optimized for heavy air

Wendy from Wing Sailing Alaska at Facebook.com liked the 4.0. Wendy said the wing is like her 3.0 but it has more power and she can still fly it perpendicular to the surface. Wendy does not like the new graphics. She wants an Ezzy X Ply wing with lime green and black trim.

"The new 4.0 was great today in huge gusty wind on Squam, in NW 10-40 mph wind. It flies steady, points well, goes fast and sails under apparent wind. I sailed right by an older 4.0 CE with a very skilled pilot, it was cruising right along. The new 4.0 will also be a good wing to shoot video of other sailors with frame mounted camera because it is so stable. It also looks wicked cool, I am psyched."

Eric Morse 23JAN21

"This wing is nicer than I thought it would be."

Dicky Saltonstall 28JAN21

Wendy Close Eskew
Kitewing 4.0 X Ply carbon
Lake Lee Kodiak AK USA
JAN21

Kalsin Pond
Kodiak AK
USA 1FEB21

Skimbat Superskate 5 batten rig
Lake Lee Kodiak AK JAN21

Sailing Without Y tubes

A rambling discourse

We had some blue and red nylon skate sails my parents bought at LL Bean in Maine. I think they are still in the barn. The soft sails were miserable especially when it was blowing. The cheap aluminum tubes folded up like drink straws. Light air sailing was out of the question. The cheap rigs inspired but they did not deliver.

The nice looking Kitewing wing sail was irresistible. I bought a 5.5 pro with tapered carbon tubes in an aluminum frame. I have never looked back.

Carbon frame tubes are lighter and stiffer than the aluminum or pultruded glass tubes which came stock on older Kitewing models.

We know that light stiff spars are better than soft heavy spars.

Light weight and stiff wings are likely to perform better.

Light air performance is crucial. The wider the wind range within which a wing can fly, the wider the fun factor. At Kitewing I believe that light air performance is directly proportional to a fun factor.

Y tubes and thicker front tubes come with a weight penalty. Heavy wings with more inertia are slow to react to rider input. Heavy wings require wind which is not always cooperative.

Inflatable wings have raised the bar. They are very light.

Now here comes the Kitewing tapered tube.

One of the smart ideas at Kitewing OY was to introduce the tip wand. Tip wands are a clever and clean way to maintain tension. However the tip wands are quite heavy.

Many sail makers have experimented with tapered tubes. It has only been recently that manufacturing and availability make the sort of tapered carbon tube we are using at Kitewing available and cost effective. We are experimenting with a light tapered tube in our new skate sail.

The tapered carbon tube could replace the existing tip wand. It is a direct extension to the front tube. The tapered tubes are 60 inches long. Each tapered tube weighs 4.6 ozs. Even the short tip wands we use in the new model wings weigh more than the tapered tube and they are only 30 inches long. Our tapered tubes are lighter than solid glass tubes and they support twice as much sail area for the weight.

The Kitewing Skimbat Skate Sail is our approach to light weight performance in line with inflatable wings.

The Skimbat 3.0 weighs the same as a Swing Wing 2.8 M inflatable rig. I think the Skimbat is very close to the same sail area perhaps even a bit larger.

Skimbat is a custom skate sail for now. The more we build the more we learn. The sails are Dyneema. The frames are all carbon tubes. The rig is set up with powerful tensioners to allow the wing to be tuned through a wide range of shape.

It is all about light weight and easy to hand sailing.

Here in Kodiak we sail on relatively small ponds compared to the boys back East. They go to the lake after breakfast and stay all day. Cruising around on a big lake with islands and scenic shorelines is where its at. Small ponds with scenery big enough for Alaska are what we have in Kodiak. You can fit the whole state into the hole between my ears when I race along the shoreline at Lake Lee. I need a light weight and quick flier. I am riding for about thirty seconds or less at high speed before it is time to carve around and go the other way. My ability to maneuver without loosing speed is crucial.

At Lake Lee in Kodiak Alaska, Skimbat skate sail reigns supreme.

Until recently I would tell you the Kitewing 3.0 is the skate sail. Now I know from extensive Skimbat sailing that while the 3.0 has its place, there is no contest on a small pond where quick reaction to wind shift and the ability to change direction define performance. There is no wing which works as well as the Skimbat skate sail in lite to moderate breezes on the small pond. Even the 6.0 does not sail as slowly. It is not possible to change direction and go the other way with a wing the way a light skate sail can. A caveat to consider: light air or flukey shifty air requires a light weight performance wingsail.

The Skimbat only weighs 3 lbs 4 ozs. The skate sail can be manipulated easily with one hand. The wing is pretty clean. The whole rig rolls up with all parts secure. It can be strapped to a pack.

Sailing without Y tubes is like comparing a classic nordic ski experience to the freestyle experience.

Sailing without is different. You carve around to reach for that phantom Y tube which is not there. You grab the leading edge of the wing instead. Believe it or not the skate sail works very well without Y tubes. Heavy air requires a bit more technique, but not much.

The Skimbat skate sail can be sailed with one hand in light air. In fact it is easy once you learn to grab the boom in the right place. One handed performance allows the wingsail to be flown further away from the turbulent air around the pilot. In heavy air you want to use two hands.

Sailing without Y tubes, the one hand grip on the boom is crucial. Depending on where you grab the boom the skate sail will fly up and away or remain in neutral. However grip placement can be learned the same way you eventually learn to ride a bike.

The Skimbat can be sailed with two hands on the boom, one hand on the boom and one hand on the leading edge, or with one hand on the boom. You learn where to grab the boom with one hand so you can pull hard on the wing.

One handed light air manipulation is clean without a curved boom and Y tubes in the way of the air. Sailing clean with one hand is aerodynamic. In light air you will experience efficiency with the skate sail which is not possible with a heavy and relatively dirty wing.

Two handed heavy air performance with the Skimbat is easy and intuitive.

The skate sail is light weight relative to wing area by a factor of three compared to the other rigid wings in the same class.

The Kitewing Skimbat is a really nice toy for skaters. It is also a nice toy for wing sailors seeking to free up the gear. Skate sails are easy to transport to rig and set up. You may not fly off the surface but you will sail when your friends with their heavy wings are huffing and puffing with effort to skate up apparent wind.

Dare I declare that the five batten skate sail is a cleaner wing than a comparable design with Y tubes and a curved boom hanging out in the breeze? You decide.

Nordic skis work well with the skate sail. Less is more.

Wing sailing on nordic skate skis is a lot of fun with a light rig. Hard snow surfaces are the best. On cold dry snow a nordic skate ski can work way better than the down hill counter part in light to moderate air.

I am building rigs at home in Kodiak from Dyneema. I use Tyvek to proto type because it is similar to the Dyneema. Both fabrics are re enforced with UHMWPE or Spectra, or Dyneema or Cuben fiber call it what you will. The Tyvek delaminates easily when abused by removing tape but it is cheaper and it lasts long enough to go sailing extensively. My Tyvek rigs have worked well.

The Dyneema is really nice. Sails can be wadded up and stuffed in a bag, they will tension out and smooth up when re rigged. The Dyneema sails make excellent skate sails designed to be abused.

I loft up sails full size on the floor after I make a model using Sailcut CAD. CAD gets you in the ball park. Old school methods still work. My skill with the Singer is improving.

The Singer sewing machine learning curve is not too steep. I use basting tape for Mylar sails but I think the Dyneema may not really require the extra re enforced tape as the Dyneema fabric is so tough with lots of fibers.

Dicky Saltonstall
Kitewing Product Developement
29JAN21

Skimbat skate sail
Dyneema and carbon fiber
FEB21

Ole Mau Kitewing 5.5
Proto type
Fall20

https://kitewinghawaii.com

When you are ready for the next step. Ole Mau is Kitewing Hawaii. If you are headed to the soft water with your wing Kitewing suggests Ole and Kitewing Hawaii be your go to resource. Ole has valuable experience with the wing on the water and in particular riding foils.

"We had an amazing day touring Winnipesaukee from Leavitt Beach, past Five and Six Mile Islands to Steamboat Island. New black ice 4 inches thick and so cold that you can't see any cracks in the new ice. My downhill race skis were tuned up sharp and the 4.6 wing was tuned up and performed beautifully."

"The 4.6 was flying steady and speeding along the smooth ice, tearing downwind at 44.5 mph and cranking back up the lake. I also caught a few low jumps with major hang time and soft landings. I never thought of the 4.6 as a good jumping wing but with the wing tuned up well it was super smooth in the air."

Eric Morse 30JAN21

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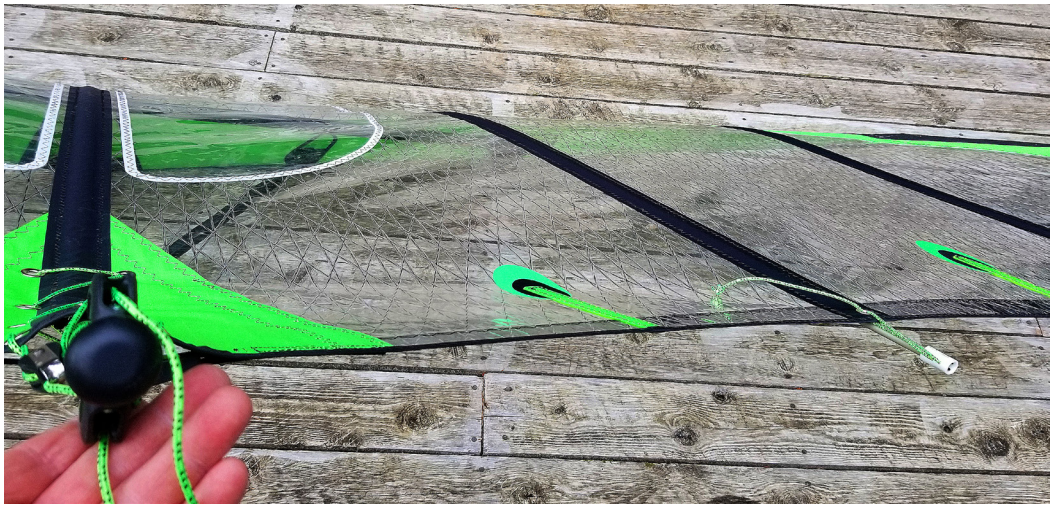
George Peterson Kitewing 4.6 X Ply carbon. JAN21

Tuning tip: For folks with two part carbon booms. Leave your reflex rigged. This works with straps as well as laced rigs. Laced rigs need to be removed from the cleat and left with a precautionary knot to keep the chord from unlacing. Pull aft section of the boom off and out of the lacing. To re install: looosen straps or laces and feed boom back on. .



Inboard part of chord is pulled through the arrow nock at the end of the batten. The PEX tube cams the chord.

Do It Yourself Batten Tensioner

Until Kitewing gets it together to produce a production part: You can make your own. I use a 5/8 by 1/2 inch tube of PEX, or G10 phenolic, or G10 Garolite. Suspect any tube with the same dimensions will do. The section of tube is about 7/8 inches long. I drill two 1/8 inch holes in line. These tensioners work great with the skate sail rigged 2:1. You can rig 3:1 or even 4:1 if you prefer. Twist and pull to release the tensioner.

The tensioner shown is a lash cap which significantly speeds rigging.

A view of the pre rigged tensioner prior to tension. The tube with captive chords is slipped over the arow nock. Pull the inboard part to tension the purchase.

Sail set or wing tune:
Rig for the conditions

I have been experimenting with my light weight skate sail which provides easy to read feed back.

Some notes to ponder:

Light and stiff is better than soft and heavy.

Shape is critical and subtle. Flat wings require more area or velocity to generate lift relative to an optimal wing camber the same size. Flat wings have a low drag signature.

If your rig doesnt feel right, stop to make adjustments to out haul reflex and tip tension to get it right. If it feels good in your hand the rig is likely close.

Flying wings require reflex. Get used to it, embrace it. Sailors take note. Add reflex to make the wing seek positive attack angles or to reduce the load at the boom, to make the wing want to fly up. Reflex is variable and relative to camber so it changes as you change the shape of your rig.

As velocities increase full wings require more reflex. Flatten your wing with outhaul and tip wand tension as speeds pick up. Flatter wing, less reflex.

Sailors say "twist" while pilots say wash out. They are related but not the same. Sails vertical to the surface like twist to match the velocity gradient from the surface to wind speeds higher above the ground. Wings use wash out to keep the tips of a wing from stalling before the center of the wing. Pilots hate a flat spin.

Tip wand tension affects the shape of your wing. Depending on the wing model, more or less tip wand tension forces the front tube to bend within the luff tube of the sail to make the wing stiff and changes the shape of the leading edge of the wing. Washout changes as well. Older Kitewings like the 5.5 and the 4.8 as well as the 4.0 can generate an abrupt change to the leech at the outboard seam of the sail. The wing works better if the leech is a relatively smooth line.

The 5.5 cannot be tensioned too hard without loosening the leech. The longer tip wands act softer because they are longer.

Strap set 4.0 shows leech at red arrow make abrupt change of angle.

Same day 4.0 with looser tip wands. Wing felt a lot better and flew easier in light air. Note leech is smooth line without the abrupt change of direction.

Remember sailing loads change the dynamic. ***Tune for loaded shape.***

Adjustable X tube bracket for 6.0. Longer X tube preloads the 6.0 X tube for flat stiff set. 6.0 can use a stiffer X tube for stiff and quick wing with a small weight penalty.

Kitewing 4.6 X Ply

As I have recently sailed the 4.6 on Lake Winnipesauke, and handed the wing to my good Friend Ted to sail for awhile as well, the following admiration. This High Aspect wing floats wonderfully in the air above the head, or in sailing positions 45 degrees to the surface. The light weight carbon frame is so light that the wing sails easily in light wind. It slices the wind on up wind tacks and gains upwind with advantage. The wing sails on apparent wind in the lulls on touring and glides with ease untill the next river of wind kicks in. With the xfilm sail, the visibility is awesome. Fully tensioned with the original bungies and out haul and reflex line work wonderfully as is. Yes, I pull real hard on the tip wand webbing and use a single knot to maintain the tension without slipping. I feel the wing is ready for the rider to enjoy it's Lightweight High Aspect advantages. Ted was certainly spoiled by it, and jokingly regretted using it only to find it so easy to use with the carbon frame and long wingspan.

Martin Kimbell checking the ice.

Martin Kimbell
2JAN21

Tom W of **Kitewing MT** at Facebook. Seek him out if you are in Helena Montana.

Kitewing sales and daily rentals. Spreading the stoke of all things kite/wing/sail in the Big Sky State. Based in Helena MT. 406 208 1553

Martin Kimbell Squambat Kitewing 7.0 Sunset sailing on windpack. Squambats love the 7.0. The big wing generates a lot of power quick as the breeze turns on.

https://www.squambats.com