NOTES ON SCHOONERS.

Various and Sundry.

Kris Younger
February 2005

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Gathered from the Internet

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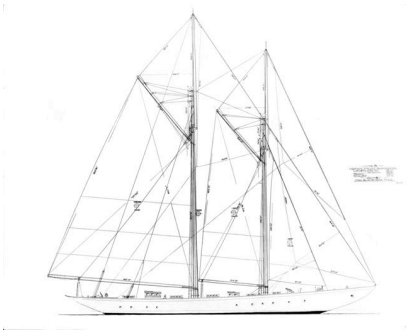
What's a Schooner?

A sailing vessel with at least 2 masts, Foremast and Mainmast, with the Mainmast being the taller. The word derives from the term "schoon/scoon" meaning to move smoothly and quickly.



Weesail2

Paul Oakes had put together a set of website[1] pages proclaiming the merits of Weesail2. Much of this material is taken from those pages.

30' Down East Schooner

Weesail2 was built in 1983 and was sailed for years on Lake Skaneateles, Skaneateles, NY

Hull material is fiberglass with a single diesel auxiliary.

"Weesail" is a a classic Topsail Schooner. Her rig is both visually exciting and functional. From pinrails to topmasts this is classic sailing at its best. Easily handles by a crew of one or two and with cockpit space for six, "Weesail" turns back the clock to 1800's

[1] http://www.pwoakes.com/myf/my02/my02_frame.html

Specifications

- LOA - 30' 8"
- LOD - 22' 6"
- LOW - 18' 4"
- Beam - 7' 4"
- Draft - 3' 6" (this was modified when Paul added more ballast.)
- Main Mast - 31' 8"
- Fore Mast - 29'
- Displacement - 4450 lbs.
- Bal./Disp. - 45%
- Ballast - 2040 lbs.
- Sail Area - 527 sg. ft.
- Engine - 10 hp Diesel
- Fuel - 12 gallons
- Propellor - feathering 3-blade

REFERENCES

Weesail's Base Design was done by C. W. Paine Yacht Design, Inc. as a "knockabout" schooner. The Builder was Mark Marine Inc. Continual Custom Work - 1986-1999 - done by Paul Oakes of Pwoakes Systems

RIGGING

Sail Areas (sq.ft.)

Top-sail schooner rig balanced for:
Heavy sailing - Staysail, Fore and Main.
Standard rig - Yankee, Jib, Staysail, Fore, Foretop, Main, Maintop
Downwind - standard rig plus Forecourse.

Fittings

- Masts - Aluminum
- Booms - Aluminum
- Gaffs - Aluminum
- Stayail Club - Aluminum
- Foreyard - Fiberglass, Spruce
- Bowspirit - Iroko, Bronze, Stainless
- Martingale - Iroko, Bronze, Stainless
- Standing rigging - Stainless
- Running rigging - Dacron
- Pinrails - Mahogany, Stainless and Bronze
- Belaying Pins - Stainless and Mahogany
- Cleats - bronze
- Hull - Fiberglass
- Ballast - Cast Lead
- Decks - Balsa cored fiberglass
- Trim - Iroko and Mahogany

Cabin

The small cuddy cabin provides stowage for sails. A snug bow berth accommodates two close friends and a portable toilet eases the problems of extended voyages. Ample storage rack and cabin lighting increase the utility of the cabin.

Engine

Vetus Marine Diesel

- Model M2.05
- 10.5hp - 3600 rpm
- Hurth HBW 50 1.5/1 gearbox
- 35 amp 12v alternator
- heat exchanger
- dual serial fuel filter
- water intake strainer
- vaccum block on raw water
- single lever control
- 12 gallon fuel tank
- deck fill and vent

Propellor - "Max-Prop"

- Stainless and bronze
- 13" Three blade
- Automatic feathering
- 1" Stainless shaft

Electrical

The electrical system includes:

- UHF marine radio w/ cabin speaker.
- Cell phone power outlet.
- Complete navigation lighting for sailing or steaming.
- Deck lights on both masts.
- Compass illumination.
- A 200,000 cp spot light.

- Cabin lighting.
- PAR bilge pump.
- Distribution panel.
- Dual deep-cycle batteries.

TRAILER

EzLoader trailer.

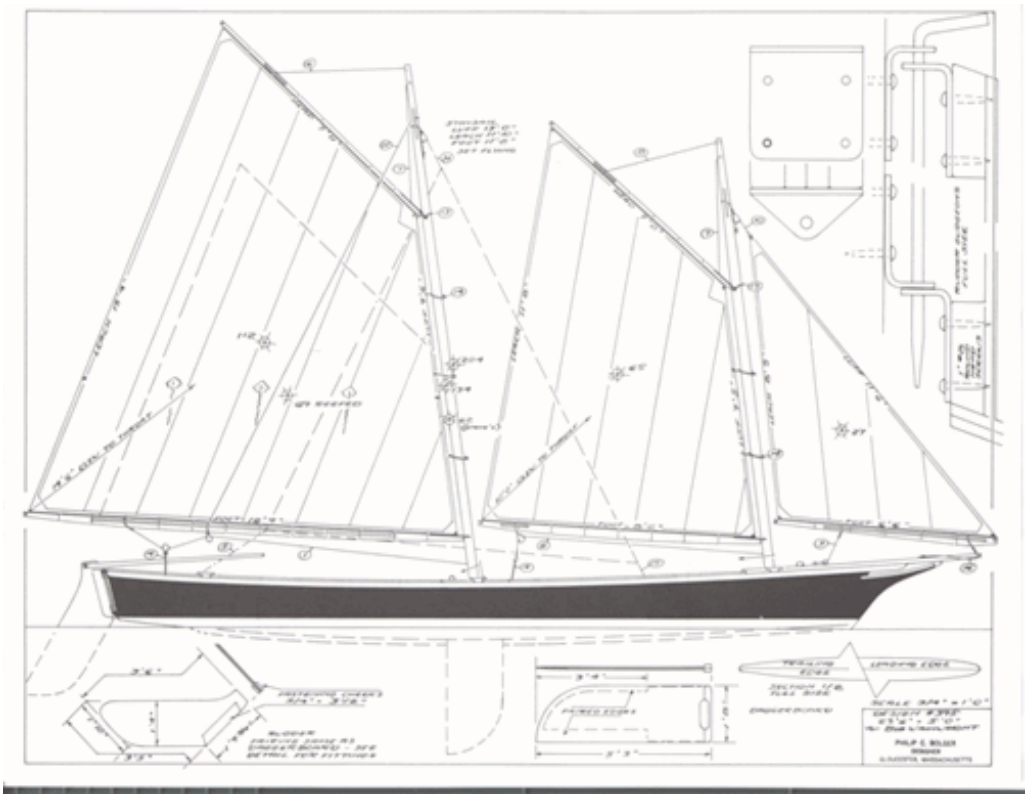
- Hydraulic surge brakes.
- 23' A-frame for stepping masts.
- Brackets for mast stowage.
- Winter storage cover supports.
- All required rigging tackle.

Dingy

A 8' ensign dingy with oars is included.

Light Schooner Sailing.

Phil Bolger designed a "Light Schooner" (#395) a few years back, and there is a website by an Australian that describes experiences in learning to sail a schooner. While much of this may be specific to the Bolger Light Schooner, there may be quite a bit that will be relevant.



Sailing Tips for the Light Schooner.[2]

(From the Light Schooner website. Some of this is in “australian”.)

If you're new, you're just going to have to learn the 'schooner'. Remember, in between the moments of terror, that she's very forgiving of an inept crew. She doesn't much approve of cowards, and she isn't too keen on fools either, but she'll look after them regardless.

These tips might save a lot of initial embarrassment and keep the terror limited. You may come up with some other ways of doing things; we did. But the tips should prevent most of the debacles we suffered in the early days!

First and foremost: THE SCHOONER IS DIFFERENT.

She is not anything like a normal bermuda-rigged sloop and attempts to apply Olympic dinghy-style sailing will offend her. The worst crime, always, is oversheeting and pointing too high to windward. She will get huffy and let you know in no uncertain tones by not moving much (except sideways), heeling badly and banging her bottom. Oversheet her on a reach and you'll be haring along on your side.

Learning

Schooner sailing is an art, perfected by few, and there aren't any local masters to learn from (at least not here). The boat is very forgiving of an inept crew, but expect to take quite a while to get the best out of her. Our moderate experience in catamarans and sailing (ailing?) dinghies wasn't much help in learning. Not a boring boat.

No-one need be bored on a schooner. The running rigging is simple, but there's a lot of it. An active family of four can be kept busy twitching sails and ropes to achieve best performance.

For quiet sailing, everything can be set up roughly right and then just left alone. For very lazy pud-dling (and in stronger winds), she can be sailed reefed with minimal effort.

But she's not a single-hander[3], and she's definitely not suited to that family sailing where the master does it all while the rest languish doing nothing.

No open boat can be totally dry. The Light Schooner is as dry as could be hoped for, and much drier than we expected--except when it rains!

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[2] http://www.ace.net.au/schooner/INDEX.HTM

[3] although Paul Oakes says Weesail2 is in fact a single-hander.

Performance

The light schooner's initial stability is amazing. Three adults standing on a side deck will tilt the boat, but she won't tip them off. Sailing, she prefers to heel and will do so regardless of what the crew is up to. She is not a boat for those who desire the upright progress of a catamaran.

She planes easily off the wind. Ours has frequently run at over 10 knots (clocked) on a beam wind, and in one terrifying race she was clocked at 16 knots average over a 3 mile stretch. That was scary and the helmsman went to pieces after it. The boat didn't, though. Her windward performance leaves a bit to be desired, but she gets there in solid fashion. It's not as bad as the cartoons might suggest! Remember, we're racing top-class modern wire-and-bendy-mast hyper-fast trailer-sailers in our home grounds, the light schooner has a handicap which places her in the top third of the available classes, and we still keep on winning.

Do Light Schooners sink???

The gaff rig keeps the leverage of the sails low, so she normally stays on her feet without problem, but yes, you can capsize her. Expect to do so if you're foolish enough to drive her into a southerly buster or equivalent, with all sail up and the sheets tied (speaking from experience).

In a capsize, the wooden structure itself has some buoyancy, the buoyant wooden masts and gaffs prevent her from going right over, and with enough underdeck flotation she'll normally sit high on her side without swamping. With the sheets loose and without too much wave, she'll right herself even in knockdown conditions without the need for someone standing on the dagger board and similar dinghy-style tricks. And no, the drop-in masts do not drop-out in a capsize. If you've been mad and ended up totally swamped, you may have to remove the masts to get her to retrievable condition.

Trailering

The all-up weight will vary depending on the timbers used. Flying Tadpole II is at the heavy end, a tropical ply and Douglas Fir version with glassed bottom. Even so, she weighs in at comfortably under 750 kg including trailer, complete with motor, jerrycans of fuel and water, camping gear, safety gear and assorted junk. This weight is legally and easily towed, and stopped, by a 1993 Subaru wagon (1655 kg) with an 1800cc unleaded fuel engine (and we live over 300 m (1000ft) above our cruising grounds, which means a lot of hill climbing).

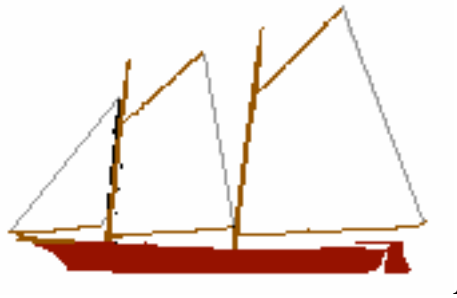
Don't let the towing length put you off. We leave lots of room when making 90 degree turns, and we take care in passing on the road. Backing a long trailer is actually much simpler than backing a short one. At ramps, the car doesn't get wet feet with a long trailer.

The trailer can be narrow, and this is a real bonus. There is no danger of falling off the edge of the bitumen or crossing the white line, and super-width towing mirrors aren't needed.

Sail Configurations

With a heavy crew, all plain sail (ie with staysail down) can be carried even in 25-30 knotwinds. We

normally sail light (2-3), so here are our normal configurations:
Everything up (the full 266 square feet): For pleasure, winds up to 15 knots. For adrenalin any wind on the beam or quarter (crash helmets, lifejackets and rescue boats a must in anything over 27 knots)

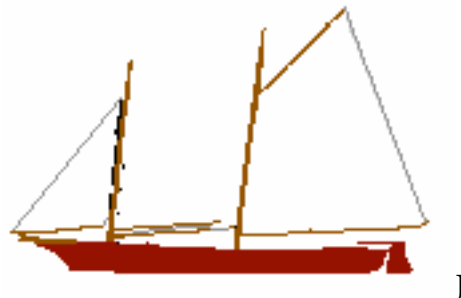


All plain sail: Up to about 20 knot winds

Fore and reefed main: Over 20 knots (this is the intended heavy weather rig)

Fore & reefed main + staysail: Lulls in strong winds (picks the speed up and staysail easily let go when the gusts come back).

Full main only Starting out or coming in to moorings in light winds, with someone ready to let go the halliards. The boat has a bad weather helm under just the full main.



Jib and full main: the laziness rig, but still balanced. Roughly equivalent to the intended heavy weather rig and a useful alternative when sloth strikes (just drop the foresail). Can get you into trouble though if you do have to move to the next rig-you might have real problems reefing the main as well as getting the jib in.

Reefed main only Disaster conditions (30 knot winds, waves). This will move the boat comfortably, with a bearable weather helm, and will sail happily to windward. Also, it's feasible to single-hand in this configuration, which might be useful knowledge to have in an emergency or on a delivery run. Two is the safe limit for minimum crew, however.

Rigging To Sail

You should have your running rigging (what other kind is there...;) set up according to the designed sail plan. You don't need double blocks etc, but the odd cam cleat would be welcome if you can afford it. Flying Tadpole II is devoid of anything except lightweight blocks and hand-made wooden horn cleats.

You could use any old rope for the sheets, but use pre-stretch dacron for halliards or you'll be forever fiddling with the peak.

Have topping lifts set up before hoisting, as otherwise everything drags across the deck and the crew. Sails can theoretically be hoisted at any angle, because of the absence of standing rigging: in practice, anywhere with the wind abeam or forward.

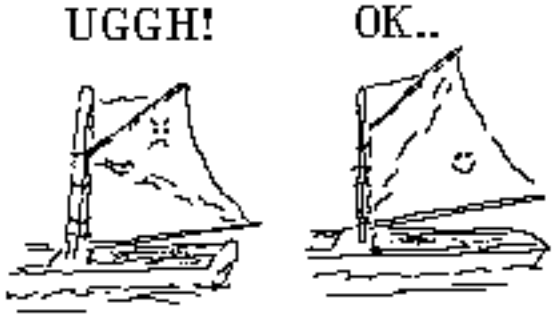
Always have sheets let off and free to run when hoisting, but remember the main boom is 16ft long. "Normal" boats with short booms don't realise this and will crowd you. Hoisting the main with slack sheets, or just letting the sheet run in close quarters, can put a nice hole in a fibreglass hull. So can the bowsprit, but that's another story.

Remember: The First shall be Last.

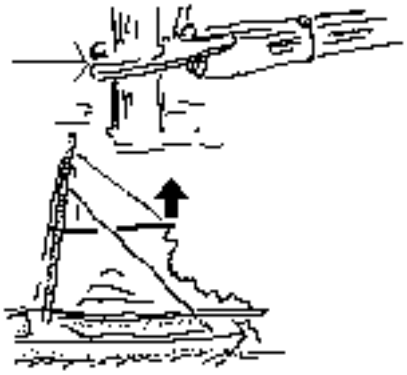
Main goes up first, followed by fore, and only then the jib. Taking in sail follows the reverse order. This is totally different to the modern masthead rig. NEVER try to sail with the jib only, she'll go straight downwind.

From the plans, mark on the masts where the boom jaws should be, for simplicity in hoisting. Keep the gaff parallel to the boom when hoisting. Once the boom is high enough, cleat the throat halliard and peak the gaff.

Make sure the gaffs are well peaked. A ridge running from the peak to the tack, when sails are empty, is usually correct unless winds are very light. A ridge running from the throat to the clew will bring tears of mortification and rage to a proper schooner skipper's eyes and the boat will hate you.



Sheet Handling



The jib sheet can be set and cleated, then left (fine adjustment only is needed).

The main and fore sheets need to be cleated (not locked) to work properly. Again, very different from a dinghy where sheets are never, never tied. The best procedure is to sheet the booms a bit slack of where they should be, cleat the sheets, then take the

rope from off the boom. This means your hand becomes another block on the sheet, and suddenly Bolger's rigging design makes sense. In a looming knockdown, just letting go of the sheet and allowing it to snap back to along the boom will often be enough. If it's not, it still gives time for (a) the helmsman to put her helm down and/or (b) the cleated part of the sheet to be loosened.

The staysail sheet is simply held. You'd have to be very brave, or foolish, to cleat it. This is the most docile sail, but also when sheeted doubles the power of everything else. You want to be able to let this one go totally, instantly.

Tacking and Gybing

The schooner needs decisive handling to tack well. Once you've got it right, she'll never miss stays. Until you do, she'll demonstrate backward sailing happily.

Until the crew is familiar with the vessel, we've found it most useful to do the full Hornblower trick. For people who have dinghy experience, the usual "ready about" etc is an incitement to start shifting, which leads to wet people and an untacked boat.

Here's our procedure. It doesn't feel embarrassing after the first couple of times, at least not if there are no others around, or at least not if you whisper it, or at least...;.

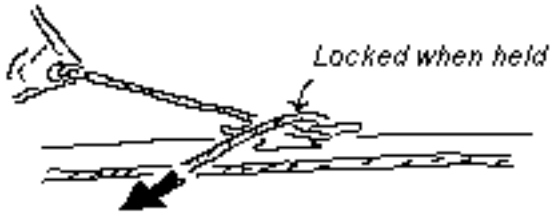
Ready to go about…: No-one moves, but is prepared and not watching the scenery.

Let go foresail sheet…: The foresail sheet is released to snap back along the boom. With the pressure reduced here, the main starts turning the boat.

Mainsail haul: The sheet holder pulls the boom in, holds it in, and the boat starts spinning into the wind.

Helm's a-lee or lee-oh: Helm is put hard down. Hard down means the end of the tiller, as designed, is above the lee gunwale. This will use the momentum of the boat and add to the spin from the mainsail to pass the boat through the wind. This is also the signal for everyone to start dodging booms as they come across.

Let go main: As the boat comes through the wind, the main sheet must be let go or she'll start weathercocking[4].



[4] **weath·er·cock·ing, weath·er·cocks**
To have a tendency to veer in the direction of the wind. Used of an aircraft or a missile. (or a Sailboat)

The boat is allowed to fall off a bit if necessary (in this case, a bit like a catamaran) to pick up speed, then brought to the wind again. This whole procedure can be done very slickly, without significant loss of speed.

Gybing

Schooners can be pretty spectacular gybing - it's that big mainsail. In strong winds, we've found it's less exciting if one gybes from a wing-and-wing position. Bring the boat almost square, sheet the main in very slightly and the fore will swing across to the other side. ("Goosewinging", although strictly a goosewing is when one sail is totally messed up with the gaff out one side and the boom the other). Then you only have the main to worry about as you pass the boat through the wind. The key is control: controlled sheeting in as you start turning and controlled release of the sheet on the new course.

Until you've practiced gybing in light airs, don't try it in strong winds. Instead, do a 360 degree turn so that you've tacked onto your new course. Better still, practice gybing in a dinghy to learn the basics of controlling the sail.

Heaving To And Reefing

The schooner heaves to admirably, which is necessary to reef her in a wind. She does fore-reach at a couple of knots, however, so heaving to close to a windward shore may result in running aground before all the reef lines are tied!

Before heaving to, you should be sailing to windward normally. The end of the foreboom is secured in position--an occy strap or shockcord to the staysail ring on the sidedeck works fine--so that it is not free to swing to the other side. If you don't do this, the boat will end up tacking herself out of the hove-to position.

Once the foresheet is secured, start a normal tack with the helm well down. The boat will come to the wind and the secured foresail will be taken aback, which is what you want. Keep the helm down (tied with another occy strap if necessary) and the mainsail will be in reach for reefing. Pressure on the foresail will tend to push the boat off the wind, and the down helm will tend to bring her up to the wind. She'll gill and fill like this, not forever, but until the slow forward motion this imparts runs you into something. She'll also behave better if you get the jib in rapidly.

To reef, someone should be handling the peak and throat halyards, which need slacking off a bit. Tie the throat reefing pendant and the tack pendant first. The tack tie can go through the grommet at the full sail's tack. The clew pendant is best led through holes in the reinforcing strips along the boom, and tied under the boom.

Then tie the individual reef ties under the foot of the sail (not round the boom), working in from each end.

Once finished, set the main up again, free up the foresail, back off the wind and you're off. Total time from heaving-to to sailing again, five minutes once you're practiced.

Odd Things With The Jib

The jib is set flying. This means it has to be run up, and down, fast, or it flops over the side and becomes a sea anchor. We've found it's easier to have it sheeted hard in before raising or lowering, as having a temporary flag blowing straight out is preferable to a sea anchor!

Shock cord and hooks along the bowsprit help immensely in pinning it down. As with a real schooner, the foredeck and sprit are the most lethal parts of the boat, and you've got to be just about on them to get the jib in.

(An alternative is to let the jib tack rope right off, bodily pull the whole jibclub, sheet, tack etc into the cockpit, then lower on the halyard. All right in theory--in practice, the whole lot falls over the side too frequently. And when successful, the fore cockpit becomes very slithery with mountains of sail all over the floor boards.)

The jib luff must be tight, not saggy. Our solution is to swig the halliard tight, then tie a truckie's hitch in the tack rope and pull it tighter still. A sagging luff will stop you going well to windward, in fact it can stop you going to windward.

Large Crews

We've sailed with maximum crews of 5 actives, and 4 actives + 2 passengers. Where there are more than 2, someone in the bilges is essential if other boats are about, because from the helm this boat (to leeward) is blind as a bat and twice as fast. Shorthanded, the lifts on the main need to be shortened for helm visibility until clear of close traffic.

A reasonable arrangement for a six-person mid-teens crew, from the bow aft, would be:

Bowman: Jib halyard, fore halyards, lookout, boathooker

2nd: Foresheet, jibsheet handler

3rd: Main halyards, staysail halyard, staysail handler

4th: Main sheet cleater (also used to help with fore- and jib-sheet cleats), staysail sheet, lookout

5th: Mainsheet handler, 2nd helmsman

Helmsman: Helm, motor setup and control

Some Other Schooner Links

http://www.schoonerrace.org/ held mid-October, Balitmore to Hampton Roads (for big dog schooners, only 40nm for little dog schooners <smirk>)

http://www.provincetownschoonerrace.com/ one in p-town, usually, late September.