

Bandit IF

Introduction.

The Bandit IF is based on the real world Folkboat, a one design racing class that thanks to its unsurpassed sea going capabilities for its size acquired fame as a low budget passage maker for blue water cruising. The design may be over 70 years old, Folkboats are still being built and raced today, where the traditional wood has now been replaced by the more modern glass reinforced plastic or "GRP". The Second Life version is made in the same tradition, The focus is clearly placed on the sailing and racing aspects, but it can equally be your "home away from home" when exploring all corners of the grid.

The Bandit IF is powered by the 3rd generation BOSS Dynamic Sailing Engine. Everything about the boat is aimed at giving you a fun and realistic experience, while being both cruise friendly and accessible for beginners, yet when its manual control is fully utilized so challenging it will even inspire the most seasoned sailors to give it all they have in exciting close quarters racing!

More information on the building of the Bandit IF can be found here:

<http://www.virtualworldsailing.com/index.php?/topic/561-building-the-if/>

More information on the Skagway Sailing School can be found here:

<http://sliff.club/sailingschoolschedule/sailing-school-registration/>

The online version of this manual can be found here:

<http://www.virtualworldsailing.com/index.php?/topic/707-bandit-if-manual/>

Pretty pictures of the Bandit IF in action can be found here:

<http://www.virtualworldsailing.com/index.php?/topic/718-bandit-if-photo-topic/>

Sailing.

If you are new to sailing go here for your first lesson:

<http://www.virtualworldsailing.com/index.php?/topic/700-the-mechanics-of-sailing/>

Quick Start.

- Rez the boat.
- Right click on the boat and select "sit here"
- Say main in local chat to raise the main sail.
- Say jib in local chat to hoist the jib.
- Use up and down arrows to trim the main sail.
- Use Page Up and Page Down to trim the jib.
- Use left and right arrows to steer the boat.
- Use Shift + left and right arrows to shift your weight around for balancing the boat.

Keyboard Controls & Chat Commands:

Left and Right arrow keys:

- Steer left or right

Up and Down arrow keys:

- Tighten or loosen the main sail

Page Up or Page Down:

- Tighten or loosen the jib

Shift + Left and Right arrow keys

- Hiking left/right

main - hoists/lowers main sail

jib - hoists/lowers jib

spin - hoists/lowers spinnaker

start - starts the engine

stop - stops the engine

-1, 0, 1, 2 - set the engine throttle

moor - deactivates and resets the boat

autopilot - turns auto trim on/off

racing - acquire racing wind/lock

cruising - cancel race mode

invert - inverts the steering

give controls - switch places with your crew

take controls - owner take back controls

fenders - toggle the fenders

bags - toggle the sleeping bags

cam - toggle cinematic cam, owner only

texture NAME UUID - change texture

time ## - set time zone (+ hours)

channel ## - changes the chat channel (0 to 99)

winddir ### - sets wind direction (0 to 360 degrees)

windspeed ## - sets windspeed (1 to 30, speed is in knots)

help - displays this list in open chat

hatches, switches etc. can be clicked to operate them.

Setting Wind.

The default wind you'll have after rezzing or resetting ("mooring") your boat is 15 knots north wind (0 degrees). There are two ways to set the wind, the quickest way is by using the chat commands (while seated on the boat), saying windspeed 20 in chat will set your windspeed to 20 knots, and the windspeed can be any value between 1 and 30 (the boat will accept higher inputs, but since we are talking gale force winds there, try solely at your own risk!)

Wind direction is set in degrees, where 0 (or 360) is default, blowing from the north, and in the same fashion, 90 degrees will be east, 180 degrees will be from the south, and 270 will be from the west. Saying winddir 90 in chat will make the wind blow from the east, and you can set any value between 0 and 360.

The iPad, Racewind and Wind Mapping.

Alternatively, wind with more variations can be set using the iPad, just for you, or for multiple boats at once, check the racing manual for details!

<http://www.virtualworldsailing.com/index.php?/topic/708-iff-race-manual/>

Setting your Sails and Trimming.

When single handing the Bandit IF it all comes down to you, setting, changing and lowering sails requires you to momentarily leave the helm and when you are busy at the mast other controls won't be available! After hoisting the main sail (by saying main in local chat) and setting the jib (by saying jib in local chat) you need to trim your sails (up and down cursor for the main, Page Up and Page Down for the jib). The sails have built in visual and audible effects for luffing indicating your sails are too loose, and have telltales to indicate if your sails are trimmed to tightly.

A telltale is a piece of red fabric attached to the sails of the boat, when the sails are correctly trimmed the telltales will be "streaming" (horizontal) when the sails are trimmed too tight, the telltales will be hanging vertically.

In addition to the luffing and the telltales the boat will give you a visual trimming aid using the backlight color of the instruments. Your boat has four instruments in the cockpit, the upper two will indicate the trimming state of the jib, and the bottom two will indicate the trimming state of the main. Red means your sails are way too loose, yellow indicates too loose but close to good trim, green means correctly trimmed, and blue means your sails are trimmed too tight. When using the automatic trimming option the backlight will be orange.

After a tack the jib will be loose, mimicking real life behavior where one jib sheet has to be let go, and the slack sheet on the other side pulled in to get the jib trimmed again.

When running downwind the jib and main sail can be winged (one sail set to either side), this is achieved by sailing the boat to the lee and manually gybing the main sail with a gentle tug on the sheet.

The Bandit IF is designed around operation with a crew member, so when single handing it she will be a handful. The crew, by using the hud or gestures, can raise and lower the sails, change head sails, trim the sails, help you balance the boat, and at any time trade places with you if you so desire.

The Spinnaker

The spinnaker on the Bandit IF is a symmetrical one like found on the real life Folkboats, where you can trim a modern asymmetrical spinnaker much like you would any other foresail, the sheets on a symmetrical spinnaker are mainly there to secure everything in place. While in real life you could add or reduce tension on the sheets to keep the sail in its optimal shape, here in SL that is something we can't recreate (yet!), so after setting the spinnaker there is no extra trimming required.

The spinnaker on the IF can be hoisted and lowered with the spin command or by clicking its corresponding symbol on the hud. Both skipper and crew can hoist and lower the spinnaker.

While you can hoist the spinnaker with the jib up, like in real life you can't sail with both sails hoisted at the same time. It's purely meant to be able to keep "boost" while changing sails. When approaching that downwind leg, the crew can hoist the spinnaker when rounding the buoy, then drop the jib. Dropping the jib before hoisting the spinnaker will give you a few seconds without boost from the headsail, causing your boat to slow down. Not dropping the jib in a timely manner after hoisting the spinnaker will cause it to take the wind out of the spinnaker and therefor also make the boat slow down. It comes down to precise timing and may require some practice.

A symmetrical spinnaker has a narrower range than an asymmetrical one and can be used for any course between running and a broad reach. Going out of range with a spinnaker in a stiff breeze will make things real exciting real quick!

Autopilot.

For the moments you are feeling lazy or need your hands free for other things, like chatting or drinking tea, you can choose to have the boat trim the sails for you. Saying autopilot in chat will engage the auto trim and the backlight illumination of the instruments will turn orange to confirm it's activated. Sails need to be raised before engaging the autopilot, and the autopilot needs to be turned off again before you can drop your sails.

Autopilot works for main, jib and main+jib, it cannot be engaged when the spinnaker is active.

Wind Shadowing.

So you have completed the beat or upwind leg and rounded the mark. Most people now just sit and play follow the leader until the next beat.

However, people who want to actually win the race will instead try to get in front of the sailboats ahead. The way to do this is to take advantage of a technique called Wind Shadowing.

In order to do this, your boat must be windward of the boat ahead of you if on a run, and if you are on a reach, you need to try to get windward of the boat in front. Of course, if the sailor ahead of you knows their stuff, they will anticipate your windward maneuver and will try to keep control of their wind by heading up as well, so make sure you are quick on your toes rounding the mark to try and get windward of the boat ahead.

If you are on a run, this technique will cause the boat ahead to slow down, because essentially you are taking their wind by creating a wind shadow in front of your boat. This will cause you to continue to go at the same speed (and take any available gusts), while the boat ahead will keep slowing down as their source of energy disappears.

The only way to overtake a boat downwind is on the windward side, because going the leeward side (despite having the right to call the windward boat to give you room) will mean you are stuck in the other boat's windward shadow.

Hiking.

The Bandit IF has a narrow beam and a long keel, and contrary to modern flat bottomed wide beam designs has little "form stability", because of this the boat, like its real life counterpart, will heel pretty easily. You and your crew can shift your weight around to help keep the boat more upright and thereby gain speed. Remember The Bandit IF is not a dinghy and weighs in at approx 2000kg, with 1050kg of ballast a meter under water! The effect you and your crew have on balancing are set within realistic limits, if you prefer sailing the boat with a lot of wind you will want to bring a crew member!

Hiking is done with Shift + left and right arrow for the skipper, where alternatively the hud or the gestures can be used, for the crew member its either using the hud or the gestures.

Hiking in mouselook has to be done with the gestures for both skipper and crew, since control inputs behave in a different way when in mouselook.

Crewing.

The Bandit IF is a two person boat, and while you can sail single handed, the boat really comes into its own with a crew member handling the trimming of the headsail, as well as changing sails and helping you balance the boat. The crew can use the included hud, or the gestures to do so.

At any given time you can switch places with your crew member by saying give controls in chat, effectively making your crew the skipper, and you the crew member. Keep in mind that while switched the new temporary captain also gets your control inputs and chat commands, and you will be using the hud and/or gestures. Your crew member can hand the controls back by in turn saying give controls in chat, or alternatively you could swap places again by saying take controls.

Upon mooring of the boat roles will automatically be reverted.

Weather Helm.

When the Bandit IF is heeling, the lee side of the hull is more under water than the weather side. The resulting shape of the submerged part of the hull in this condition creates a force (a turning moment) that pushes the bow to weather (into the wind) so that it is necessary to pull the tiller to weather to counteract this force.

A slight amount of weather helm is a desirable situation, both from the standpoint of the "feel" of the helm, and the tendency of the boat to head slightly to windward in stronger gusts, to some extent self-feathering the sails. Weather helm also provides a form of dead man's switch, the boat stops safely in irons if the helm is released for a length of time.

The Bandit IF is the only boat in SL with realistic weather helm, so it may take a bit of getting used to. The helm of the boat will be fairly neutral when running and on a broad reach, but once on a beam or close reach the effects will become notable, and once close hauled the boat will require some work to keep on course. A lot of factors contribute to the weather helm, like windspeed, wind direction and the amount of heel. Countering weather helm requires active steering, where the key to success is "going with the motion" and trying to avoid over compensating.

To help you out the Bandit IF is outfitted with the TrueHelm progressive helm system, meaning you can give the smallest course corrections, but also, under speed, make fairly quick turns. The helm will "soft" auto center when released, but will give you full control over both directions when operating it. It gives a very real feeling to the helm, and great precision in controlling the boat while not giving you unnatural controls or a steep learning curve, you'll feel right at home using it.

When autopilot is engaged its advanced computer will counter the effects of weather helm for you.

Instruments.

The Bandit IF, has a working wind vane, luffing sails and telltales, and on top of that will give you information about apparent windspeed, boat speed, apparent wind angle, and boom angle.

The backlight of the upper two gauges will indicate the trimming state of the jib, the bottom two will indicate the trimming state of the main. Red means your sails are way too loose, yellow indicates too loose but close to good trim, green means correctly trimmed, and blue means your sails are trimmed too tight. When using the automatic trimming option the backlight will be orange.

In the cabin you can find a clock, telling SL time by default, but can be set to any time zone you like, and the weather glass, predicting the weather for you based on the wind settings.

More information on true and apparent wind can be found here:

<http://www.virtualworldsailing.com/index.php?/topic/706-true-and-apparent-wind/>

Outboard Engine.

The Bandit IF has a little outboard engine to help you get in and out the marina and through those narrow spots up wind. To start it say start in chat, doing this while the boat is moored will also float the boat, you'll lower the engine in the water, pull the cord, and it will by default be in neutral gear. saying 1 or 2 in chat will set forward throttle to "slow" or "faster" saying 0 will put it back in neutral, and saying -1 will put it in reverse, alternatively you can use the throttle positions on the hud to do this. The gear lever on the right side of the engine will remind you if it's in forward, neutral or reverse position. To stop it, say stop in chat, and you will stop the engine and pull it back out the water.

While you are starting/stopping the engine you can't operate the helm or the sheets.

Camera.

The default camera position for the Bandit IF is a nearby 3rd person view, or "chase" cam, distance can be set by using the mouse wheel, and the camera will stay at the set distance. Alternatively mouselook can be used, where the hiked positions will compensate for the "heeling" of the horizon so you can keep it level and there is no need to crane your neck! (works for both skipper and crew, keep in mind that for hiking in mouselook the gestures have to be used!)

The Bandit IF also has the CineCApe cinematic camera, for people who like to make movies and pictures (or a really challenging sailing experience!) say cam in chat to activate, and cam again to switch back. Alternatively toggling the camera will reset a camera view that broke on a sim crossing.

Animations

The Bandit IF has many animations, in fact, nothing has been left static on this boat, steering, trimming, hoisting, any command you give will result in instant action on your screen, and besides the sailing animations the IF offers a lot for your leisure, from lounging around on the boat to cuddling and even getting a bit naughty with your lover. The leisure menu can't be accessed while sailing since the IF will need your attention elsewhere, when moored, clicking the boat will bring it up.

The menu has two subsections, the singles and couples that contain the leisure animations, the system section is there to define the automated sets for the boat itself.

The Bandit IF is a two person boat!

Advanced Lighting.

Second Life has amazing lighting options these days, sadly they also render the use of "invisiprims" useless, and those are all we have to keep water on the outside of the boat. The IF being a boat with part of the cabin built below the waterline uses two invisiprims, one to keep the floor dry when the boat is moored, and an active system that keeps the boat dry under heel when sailing. Of course this only works with advanced lighting turned off.

People who use advanced lighting and want to keep their boat dry when moored can flip the bilge pump switch on the electrical panel, this will hide the underwater parts with a raised floor.

Texturing/customizing.

When editing, you can change the name of the boat in the name field, you cannot change the name in the description field, the Bandit IF will stop working if you do.

The Bandit IF has all mesh bits with modify permissions, in short this means you can retexture the boat to your liking. Most textures you can apply directly to the boat (select the appropriate texture in your inventory and drag & drop it directly on the right spot on the boat). For some textures however a special procedure is needed.

These textures cannot be applied directly and need to be changed by voice commands:
main1, main2, jib & spin, (the difference between main1 and main2 is the telltales)

Make sure you have copied your own new textures to a folder in your inventory. For the textures that cannot be applied directly, make sure you follow the next procedure:

- 1) for each texture, get the UUID.
- 2) you do this by right clicking the texture in your inventory and choosing Copy Asset UUID.
- 3) rez the boat and stand next to it, do not sit on it
- 4) you can change the following textures: main1, main2, jib & spin,
- 5) in local chat type: texture name uuid. So for instance if you want to change the main1 texture, type: texture main1 c1c8a5ce-48de-763e-f8ed-707f8b1ac7d1

You can make your own textures for this boat. This boat comes with texture templates that are optimized just for this purpose. Check the box the boat comes in for the texturepack. Save these textures to your computer, edit them in your editing tool of choice, upload them back to Second Life and replace the textures like in the little procedure described above.

Advanced.

If you want to make your own huds or gestures, the boat listens on channel /29000 for the following commands: jibsheet+NR, jibsheet-NR, sheet+NR, sheet-NR, hike1, hike-1, main, jib, spin.

for adjusting/adding/removing animations, the boat uses the AVSitter animations engine, and the AVpos notecard can be found in the contents of the boat, positions can be edited there (X, Y, Z notations for offsets and rotations relative to the root of the boat). Leisure/couples animations can be removed and their reference deleted from the NC, system positions cannot be removed. For adding animations the easiest way to go is get the AVSitter builders kit and use the setup tools, more information can be found on <https://avsitter.com/>

SLIFF.

The location of the Second Life International Folkboat fleet (SLIFF) is in Skagway, and can be found here: <http://maps.secondlife.com/secondlife/Skagway/101/97/22>

The Sliff Club (SL International Folkboat Fleet) is brought to Second Life Reality by Maiti, Mark, Nber and Analyse,

The club is situated in an environment naturally suited for a nordic boat, sailing and racing against a stunning backdrop of snowcapped mountains and rugged log cabins, taking advantage of the newest technological attributes included within the boat, providing an unmatched environment.

As part of the concept that has gone in in the development of the boat and Club, the group wanted to be all inclusive in its offerings to the sailing club members and the public at large. In addition to providing a fun oriented area to enjoy these boats the club accepts applications for Club Membership itself, with privileges not open to the general public. Please see: <http://sliff.club/> for details.

Further, a Sailing course is offered and is taught by live instructors, covering everything, from the very basics to advanced, with both real life concerns and second life sailing. The idea is to have participants gain knowledge that can be used both here and in real life. There will also be information, both in a class room setting and "hands on teaching" with specifics on the IF.

Finally, we offer a Race Director Academy. We feel it is important to continue formalization of races, both how they are structured and how they are executed. It also includes training on several innovations specific to the IF.

We are sure as a group that you will enjoy the feel and challenge of this innovative boat and the surroundings it is so natural within. It is our hope that you take advantage of the classes and become a participant of SLIFF events and club membership.

Credits.

Dutch, for countless hours spent on the 3rd generation BOSS engine, and invaluable input on the sailing aspects, creating a boat that by far exceeds the already high expectations i had beforehand.

Ape, for being a mathematical genius and cracking some tough nuts for me on the Bandit IF, as well as letting me use the CineCApe Vision XT cinematic camera.

Rei, for all the discussions we had on sailing in SL, and brainstorming on practical ways to make everything better,

Maiti, for the ongoing tireless efforts to give the Bandit IF a great home at SLIFF, and giving me lots of feedback from beta testing.

Rituals, for dragging my ass back to work whenever i needed that (a lot) and keeping me focused.

And a big thumbs up for the Beta Team! As usual the boat is better thanks to you!