



Tall Ship  
Volunteer Manual

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# Welcome Aboard!

You are about to join the ranks of a proud and unique group of people. As a member of the Grays Harbor Historical Seaport (GHHS) crew you will do what many dream about but few actually do. You will learn how to turn 200 tons of wood, canvas, and rope into a time machine. At the end of your two weeks of training you should have a working knowledge of crewing on a “square rigger”, the history of the boats, and most likely a deeper understanding of yourself. You will be tired, blistered, and sore. There are many things to learn here, much more than we can cover in 14 days. It will go quickly and you will move from excited, to nervous, to scared, to thrilled, to proud, to humble, to exhausted, to stimulated. We have a lot of sayings on board the GHHS boats. One of the truest is this:

***“What you give to the boat will be given back to you tenfold.”***

It is not so much a promise as it is a challenge. We will ask a lot of you, but the boat will ask even more. If you can dig deep and find the will to give everything you can to each minute, you will leave this experience profoundly changed. There is another saying we use a lot:

***“Ship, Shipmates, Self”***

What it means varies from person to person, but it boils down to this: If you put the boat first, she will keep you safe and happy. If you put the crew second, they will be there for you. If you put yourself and your personal agenda last, you will be open to a world of new perspectives and opportunities. This sounds like a lot of mumbo-jumbo for a crew handbook *doesn't* it? Well, this isn't a normal crew, and the GHHS boats are anything but normal boats.

One more thing before we get started on your voyage. This handbook is intended to serve as a simple outline for your two weeks aboard. Please don't think of it as a step-by-step manual for how to live and work aboard. The crew will be your guide. They will share the boats with you, so talk, ask questions and spend time with the crew. Don't bury your face in this book! Your answers lie with the crew.

There is a lot to learn in your next two weeks and for most people very little of it will relate to things you have learned in the past. Accept this and you will overcome your first hurdle. In 1840, Richard Henry Dana wrote in his classic “Two Years Before the Mast” about himself as he shipped out from Boston as a common sailor:

***“There's not so helpless and pitiable an object in the world than a landsman beginning a sailors life”***

*----- Richard Henry Dana*

## **Ship's Articles**

One of the first things you will do on board is read and sign the ship's articles. These are not newspaper clippings about the ship, they are the rules. As in any community, there are expectations placed on you while you are a member of the GHHS crew. Notice, I didn't say “while you are on board.”

In the course of your two weeks, you will come into contact with dozens, hundreds, maybe even thousands of people who will associate you with the Lady Washington, and or the Hawaiian Chieftain. As a member of the crew you represent the boat, the Grays Harbor Historical Seaport, Washington State, and the tall ship community. We expect that you will make a good impression.

Many of our rules are simple and straight-forward. Some of our rules are based on U.S. Coast Guard regulations. Many of our rules are standard practice on sail training vessels. All of our rules have proven to be appropriate and fair. The Captain and Mate will explain any rules to you and answer any questions you may have before you sign the Articles. The ship's articles also serve as the formal record of your sea service on board the Lady Washington.

If you wish, a letter of “Sea Time” can be produced for you at the end of your time on board. In case you did not know, sea time is required of everyone seeking Merchant Mariners credentials from the Coast Guard. These credentials are required to work professionally in the Merchant Marine, from Seaman to Mate and Master. You will soon have up to 14 days of sea service, which is a good start toward your required sea service.

## **Safety, Safety, Safety**

Tall ship sailing isn't as dangerous as say, driving, but it is somewhat risky. We make a big effort to mitigate the risks as much as possible, but YOU are the key to a safe two weeks on board.

There are many ways to get bruised, broken, and battered on board, but the most common accidents involve ladders, hatches, and lines.

We'll get to working aloft later now let's focus on the risks on deck and below.

Ladders seem simple enough, but many people seem to have issues with them. The rule is this: **Every ladder on board is to be ascended and descended facing the rungs.** This rule is to avoid the one slipped heel that can send you zipping down the rungs like cheese down a grater. The Fo'c'sle and Aft Cabin ladders are a problem because everyone gets used to going up and down it all of the time and complacency creeps in. They start to think, "I'll just go down it facing out, I'm sure it's quicker that way." This ladder is often wet, and sometime it is moving, so a lot of people have rattled down it over the years.

The hatches on the boats haven't changed location since the boats were built and some of these hatches you walk over all the time. So, some crew members are surprised to find where they are used to stepping is now a rather large hole. The rule on board is this: **Look before you step.** If a crew member calls out "**Hatch is lively**" that means there is an open hatch nearby. If you open a hatch, call out and then keep an eye out and an ear open for wandering crew and passengers. When you close the hatch call out "**hatch is secure**" to let everyone around you know the hole in the deck is closed.

There are a lot of lines on the boats and most of them are under tremendous strain from time to time. The rule are these: a) **Never cast off a line unless you are told to do so**, b) **Never wrap a line around your hand or arm**, c) **Never step onto a coil of line on the deck**, d) **Never use gloves when handling lines**, the fabric of the glove can be seized by the lay of the line and carry your hand skyward in a hurry, e) **Be wary of loose hair, clothing, jewelry, and lanyards when working around lines.**

The risks will be pointed out to you during your training. Use common sense and move around the boat carefully. Stay alert to what is above and below you and don't be afraid to ask if you have any concerns about anything.

Remember, "**Safety is First**" on the GHHS boats.

# Officers and Crew

You will find an established chain of command on board the GHHS boats. There are several paid “officers” on board as well as a handful of long-term volunteers. Everyone answers to the Master (or Captain). Here is the breakdown of the positions and what they do:

## Master (Captain)

This person is responsible for the health and safety of the vessel, crew, and passengers. The Master must be licensed by the Coast Guard and have a considerable amount of sailing experience. The Master answers to the Director of Marine Operations and the Executive Director of the Grays Harbor Historical Seaport.

## Chief Mate (Mate)

The Mate is the Master’s eyes, ears, and often mouth. The Mate manages the crew and oversees the daily operation of the vessel including crew training and the education program quality control. Your training on board will be supervised by the Mate. The Mate often acts as Sail Master underway, and also serves as a watch leader on voyages. The Mate is usually licensed by the Coast Guard.

## Boatswain (Bosun)

The “Keeper of the Boat” is tasked with maintaining the vessel’s rig and structure. The Bosun is often sailmaker, rigger, carpenter, painter, and caulker. The boats require constant upkeep, and the Bosun is the one who keeps it all working. You will be asked to perform maintenance work under the direction of the Bosun while on board.

## Engineer

If it requires diesel, electricity, or oil, the Engineer sees that it stays in top condition. The Engineer is often busy maintaining the boat’s main engine, generators, and the fuel, water, and waste systems.

## Cook

Possibly the most powerful person on the boat, the Cook prepares three meals each day for the hungry crew. Many vessels have Cooks that only cook. Our Cook works alongside the rest of the crew on sails and during education programs.

## **Program Coordinator**

The Program Coordinator manages the public interactions, whether those be tours, sails, educational programming, or port information, and orchestrates the crew for those events. The coordinator welcomes new crew members, orients them to the boat and does the ship's laundry.

## **Purser**

The boats operate on the money generated by the education programs, sails, dockside tours, and store sales. The Purser often works closely with the Steward to greet passengers and guests. The Purser is responsible for keeping track of the vessel's income and expenses. The Purser is also the person to see if you need a Lady Washington shirt, book, or even bricks of tea because they manage the store inventory and work hard to sell the ship's merchandise.

## **Topman**

The long-term volunteers on board are known as Topmen regardless of gender. Highly skilled aloft and on deck, these hard-working hands have the experience and judgment to be able to serve as watch leaders. The officer's corps is usually filled with former Topmen. There are usually two or three Topmen on board.

## **Trainees**

The group of shipmates who has not yet completed the "two weeks before the mast" training program.

# **The Chore Bill**

Each week the Mate posts the Chore Bill near the galley. On the bill you will find the schedule for the day, the chore list, and any special instructions. You will see the crew's names listed next to the chores and duties. While underway on the passage or transit, the Watch Bill will spell out the three watches and their rotations along with which chores are assigned.

The GHHS boats cannot clean themselves herself so it is up to the crew to do the job. A shipmate will help you the first time you do a chore to ensure that you know how to do it properly. Most of the chores are done by one person normally, but the Mate can assign

teams for especially vital or daunting tasks. Here is a description of the chores:

## **Galley Duty (Breakfast, Lunch, or Dinner)**

Once all crewmembers have washed their personal dishes, galley duty begins. The galley crew is responsible to clean all the dishes, pots, and pans that were not washed by the crew, put them away, and then clean the counters and floors. When you are finished the cook should be able to walk into the galley and start the next meal. While you are working through that stack of pots and pans, remember that a happy cook makes for a happy crew.

## **Heads**

Ah yes, the heads. The toilets, sinks, and shower that comprise the boat's heads could become quite fragrant without a daily cleaning. This chore consists of mopping, wiping down, and disinfecting the entire area. There are detailed instructions posted in the heads. When you are done in the heads it should be clean enough to eat in there.

## **Trash**

An important part of keeping things ship-shape is to remove the trash daily from all trashcans when in port. Collect all of the bags from all the trash cans and replace them with a new one. Then you need to haul the full bags ashore to the port's dumpster. In transit your watch officer let you know where to store the full trash bags.

## **Brass**

Both boats have a surprising amount of brass to polish. You will buff the bell, the hatch rails, the deck caps, the tiller hardware, and the binnacle brass. It is a great time to meditate and enjoy the gleaming joy of well-polished brass.

## **Wash Down**

This is a big job that must be done well to ensure the health of the boat. You will break out the brooms and the hoses for this morning ritual. The deck must be scrubbed and everything wood should be soaked well in salt water. A wet boat is a happy boat when it comes to salt water. The water keeps the wood grain swollen and tight, while the salt inhibits rot. You will get wet if you do this job right so wear foulies.

## Cabin Cleaning

The fo'c'sl, main hold, and aft cabins are lived-in areas that need to be kept clear of personal gear and cleaned daily. Cabins that serve as your living room, dining room, classroom, and host the public should be cleaned with extra care.

## The Weekly Deep Clean

The weekly deep clean hits those spots and tasks in cleaning that are impractical or unnecessary to be cleaned daily, but still must be addressed. Check the chore explanations for the deep clean task, and check in with a long-term crew member if there are questions.

## Other Items:

### Personal Cleanliness

You will spend the next two weeks living in very close quarters with the rest of the crew. During that time it may be tempting to skip some of your daily, personal, cleaning activities. **Don't.** You need to stay as neat and clean as possible within the constraints of the number of heads and water availability. When the public comes aboard, they may have an expectation that the crew is a collection of "pirates." However, they certainly don't want to spend much time around people who smell like they have not bathed in months.

### Personal Dishes

Each crewmember is responsible to clean his own dishes after each meal. Since the galley sinks are in a small area, and the entire crew must get through after each meal, only two crew members at a time are allowed in the galley with the cook. To move things along, when you wash your dishes, grab an item the cook had used and wash it at the same time.

Washing dishes is a four step process. The first step is to scrape all food scraps into the garbage (when docked) or the scrap bucket (when on transit). Second step is to wash your dishes in the soapy water, then a rinse in the middle sink. The third sink is for the chlorine rinse and dishes need to sit in this sink for at least one minute. So, take out any dishes from the chlorine rinse and place them in the dish strainer to dry. Then drop yours in (for the next person to pull out).

## **Crew Attire**

When the public is not aboard, you will want to wear clothing that will be durable and appropriate to the weather. Be sure to have some "work clothing" that you can wear when working on "dirty" jobs like painting, chipping rust, and – everyone's favorite – tarring rigging.

When the public comes aboard, we want the crew to be easily visible. The captain will tell you ahead of time if the uniform of the day is Crew T-Shirts, black work pants, and closed toed shoes.

## **Taking Care of Yourself**

It's easy to get caught up in the excitement of being on a tall ship and forget to take care of yourself. You find yourself in a new and unusual environment with a rough schedule and seemingly endless challenges.

The danger is in not pacing yourself. You should keep in mind that you have two weeks to learn a lot and work hard. Here are some tips from those of us who have put in many months on board and lived to tell about it:

1) Get some sleep. Don't stay up all night singing sea shanties. Try and get as much sleep as you need to stay alert and healthy

2) Spend some time alone every day. You will be with us for 14 days and it can get pretty claustrophobic for some people. At the end of the day, or before reveille in the morning set aside some time to be alone. Listen to some music and write or just go for a walk. It will help you keep your sanity.

3) Bathe. I know it sounds silly, but you will get incredibly filthy on this boat. Try and shower at least every other day. We all enjoy being around people who don't smell like low tide.

4) Eat. You will be working long, hard days and will consume a lot of calories. Be sure to eat plenty at meal times. If there isn't enough food, or if it doesn't sit well with you, let the Mate know and you will be taken care of. Don't be afraid to raid the "Treasure Chest" when you need a pick-me-up.

5) Drink plenty of fluids. The sun and wind will dry you out like an old rag. Make sure to pound down a lot of water throughout the day, not just at meals. Get a water bottle and keep it close.

6) Watch your hands. You will see your smooth hands go from soft to burlap-rough in no time. Take care of your hands by using lotion or the crew favorite, Bag Balm. Be careful of blisters and if they get too bad, see the Mate for help.

7) Have fun. We aren't here to hold a boot camp. You should feel free to have fun, as long as you do it safely.

8) Get to know the crew. They will look out for you and, if you make the effort, they will become life-long friends

## Sailing a Tall Ship

The power to move a tall ship comes from the wind pushing on the sails. Yes, the GHHS boats have engines, as required by Coast Guard Regulations, but for the time being we will ignore that source of power. To be a tall ship sailor, you will need to learn how to handle the sails. Probably the most surprising thing about a tall ship for the new crew members is that almost all sail handling is done from the deck. Working aloft is much more difficult than the deck, so the design of tall ships has evolved to where the time spent aloft is minimal.

To learn how to handle the sails, crew members need to learn the vocabulary associated with tall ships.

## The Rig

The rig of a sailing vessel is the collection of items above the deck that is used to catch the wind and move the vessel. The type of sailing vessel is defined by its' rig which includes the number of masts, type and location of the sails. Sails and spars are usually named based on which mast they are attached to. Though the rigs of the Lady Washington and Hawaiian Chieftain have many notable differences, this manual will cover their similarities. A vessel specific covers items specific to the boat you will be working aboard.

The **Lady Washington** is a brig, it has two masts with square sails, with the tallest mast being the after mast. The forward mast is called the foremast, the after mast is the mainmast.

The **Hawaiian Chieftain** is a topsail ketch with also has two masts with the forward one being the tallest, the mainmast, and carrying square sails. The second mast is shorter, a mizzenmast, and carries fore and aft sails.

# Spars

A Spar is a nautical term for a pole. Each spar has a purpose and a specific name. Most spars are used as places to attach sails and are usually named for the sail that is attached to them and where it is attached. When a sail is “bent,” it is tied or lashed to a spar in a semi-permanent fashion,

A yard is a spar that is supported in its middle and holds the head of a sail. Square sails are bent onto yards.

A gaff is a spar that rises from the mast to support the head of a fore and aft sail. A boom is a horizontal spar used to secure the foot of sails.

# Rigging

Rigging is the collection of lines, cables, blocks, and other items used hold the masts and spars in place, attach and control the sails. Ropes are lines without jobs and Lines are ropes with jobs. There are few ropes on board the GHHS vessels and lots of lines.

## Standing Rigging:

Standing rigging does not move, it holds masts, spars, sails, in place. Most of the standing rigging is coated with tar to protect it from the sun and salt water. In many places where items rub on the standing rigging you will see chafing gear, or baggy wrinkles attached.

**Stays:** Lines used to support a mast from fore to aft.

**Shrouds:** Stays supporting the mast side to side which are connected with horizontal “rat lines.” They are used as a ladder for climbing up a mast.

## Running Rigging

Running rigging is the collection of lines and blocks that move and control the sails and yards. These are the lines that you will learn to sail the Lady and Chieftain. Do not be too overwhelmed by the number of lines. There are a few simple things to remember about these lines:

1) The vessel is symmetrical. Once you know the starboard side of the boat you will know the port.

2) Lines are assigned to sails: and many sails are similar, therefore if you know the lines for one sail, you are far along knowing the lines for others.

3) Some of the lines are special lines that we do not use that often. You will be expected to know the ones we use every day, not the seldom used ones like the Gaff Throat Halyard.

4) The lines may have strange names, but the names are actually simple once you get to know them. Most are very descriptive, once you know the nautical terms.

There is one very important thing to remember when you are dealing with lines. Never, ever cast off a line unless a crew member tells you to do so. Some of our lines are under great strain and they may leap off the pin and send something heavy flying towards the deck!

You will notice that the lines vary based on thickness. As a general rule: the thicker a line, the heavier the load. Beware of the thick lines. Here are some common line names you'll need to know.

## **Halyards**

These lines are hauling lines, so they haul up yards (thus the name), or it may just haul up a flag.

## **Braces**

You've heard the term "Brace Yourself." Now you know where it came from. Braces are the lines that control the angle of the square sails. Each square sail has a brace running from the yard arm to the deck. When one is hauled, the opposing brace must be slacked, (thus the term "slacker").

## **Sheets**

Square sails are attached to the yards along their top edge, and their bottom edge hangs free. Attached to each bottom corner is a sheet. The sheets are hauled taut to stretch out the sail and enable it to catch the wind.

## **Clews**

Clews are the opposites of sheets. When a sheet is hauled, a clew must be slacked. On the square sails, clews haul the bottom corners of the sails up and remove the sail from the air stream.

## **Bunts**

Once a sail is clewed up, the bunts are hauled. The bunts are attached to the bottom of the squares and they are designed to gather the sail up closer to the yard for furling.

## **Reef**

On the outside edge of a square sail (the leech), there may be a set of reefs. The Lady's topsails and course have reefs. When the reefs are hauled the edge of the sail is drawn up to the yard thus effectively reducing the area of the sail. To tie the reef points together and commit to this change is called "reefing".

## **Outhauls /Downhauls**

These lines do just what they say they either haul a sail out or down. These lines are usually found on the staysails or the Mainsail.

## **Lifts**

These lines support the yards when they are lowered. They are usually made off to the masts and when they are taut they are holding hundreds of pounds of wood in the air. Never cast off a lift.

## **Rolling and Truss Tackle**

On the Lady Washington, these lines hold the heavy course yards to the masts. They are loosened when we set sail so the course yards can be braced around.

## **Brailes**

The spanker is hauled up and out of the air stream by the brailes. The slack in the lines needs to be taken up prior to pulling and both sides need to be pulled together.

# Sails

There are three kinds of sails on the GHHS boats, squares, triangular, and gaff sails.

The Lady Washington is a Brig and is designed to run down wind, or with the wind. The square sails are the power sails for the vessel. They are set perpendicular to the wind and provide power by filling before the wind. The brig's fore-and-aft sails work to balance the vessel's sail plan by providing lateral stability, sort of like a giant keel for the air. The fore-and-aft sails also provide drive, but the bulk of the power comes from the squares.

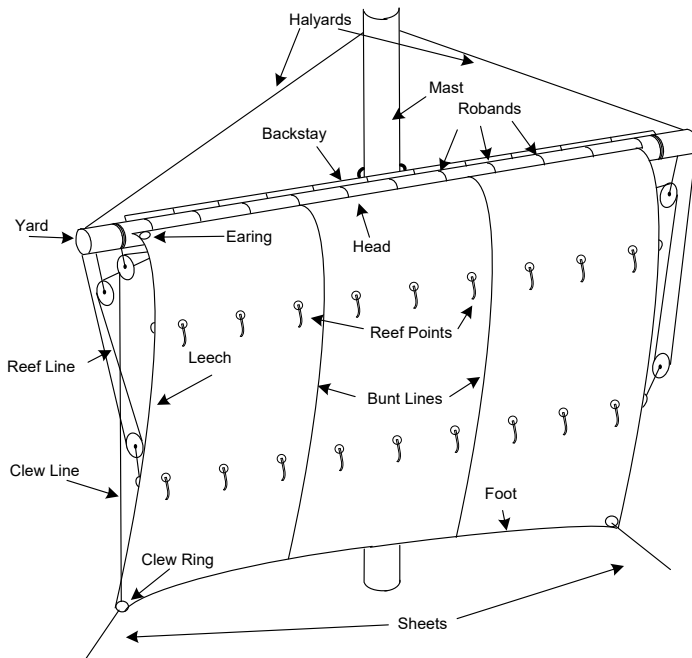
The Hawaiian Chieftain is a Staysail Ketch. It carries fewer square sails and those are on the foreword mast (mainmast). Most of the sail area consists of fore and aft (triangular and gaff) sails. The fewer square sails means less power driving downwind compared to a brig. The tradeoff is that the additional fore and aft sails, especially the two gaff sails, allows the Chieftain better sailing when pointing upwind.

Sail plans for both the Lady and Chieftain are found in the vessel specific appendices.

## Square Sails

Square sails are square, hang from yards. The yards are attached in their centers to the masts. The Lady Washington has 8 square sails of which 5 are used regularly. The Hawaiian Chieftain has 4 square sails, of which 3 are used regularly.

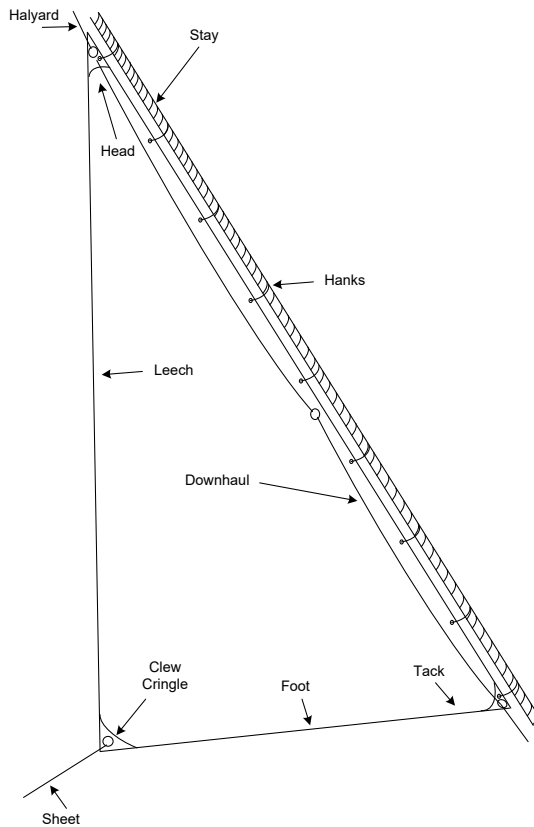
Larger square sails have reef points and reef lines so they can be reefed, or shortened, in high winds.



## Triangular sails

A triangular sail is triangular in shape, with the head (top) being a point. The bottom may or may not have a boom. The hypotenuse (long side) of the sail has hanks that slide over a stay. A triangular sail is raised by pulling the halyard attached to the head of the sail. A downhaul line is also attached to the sail to allow it to be pulled back down.

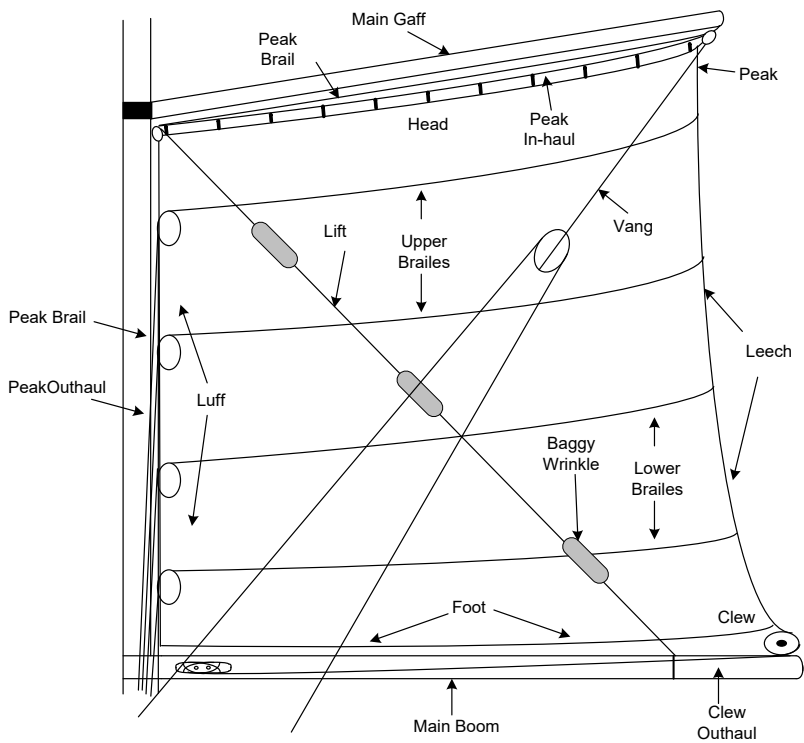
Triangular sails will have various names depending on where they are located and what stays they run along. Jibs generally are triangular sails in front of the forward mast. Staysails are usually attached to stays between masts.



## Gaff Sails

Gaff sails are trapezoidal sails attached fore and aft to a mast, with a boom at both the top and bottom. The boom at the top is called a gaff, hence the name of the sail.

The mainsails, the largest sail for both the Lady and Chieftain, are gaff sails.



# **Working on the Deck**

Most of the lines shown in the sail diagrams above end on the deck. Probably the biggest hurdle for a new sailor is to learn which lines on the deck control which parts of which sails.

## **Line Handling**

When you handle lines on a tall ship, you will need to learn specific vocabulary and techniques. As part of your Two Weeks Before the Mast, you will learn how to “hold, tend, ease, surge, slack, sweat, and tail” lines. You will also learn the correct knots to use and when to use them. You will also learn how to secure running rigging on the deck either at a belaying pin or a cleat.

## **Belaying Pins and Pin Rails**

Belaying pins are wooden pins, about 2 feet long that drop into holes in planks called pin rails. Pin rails are found along the sides of the boat and at the base of the masts. Remembering that running rigging moves so the amount of line left over after securing a line to a belaying pin can vary from very short to many feet. The belaying pin is used to not only secure the line at a given length, but to also keep any remaining line off deck.

One of the first deck activities you will learn will be to “put turns on the pin,” safely and then to coil and hang the remaining line.

## **Cleats**

Another method to secure a line is to use a cleat. Cleats are permanently attached to a surface with two fasteners. Cleats on the boats are often used to secure lines that carry a large load, such as docking lines. You will learn to put “turns on a cleat” and dress the remaining lines as part of your training.

# **Commands**

Communication aboard the Lady Washington follows the time honored tradition of the sea by voice. A command is given by the Mate, or whoever is calling sail on that watch, and repeated back by the crew on watch. The crew repeats the command to make sure it gets to the

hand doing the work. Once the work is complete, the hand shouts out, and the crew repeats to make sure the reply gets back to the sailing officer.

This repeating of commands and replies also keeps the crew aware of activities on-board.

## **Setting and Dousing Tops'Is and T'gallants**

During many watches the Mate will need to have sails set (loosened from the yard to catch wind) or doused (pulled up to the yard to keep it from filling with wind.) Below is a description of the commands setting and dousing the Tops'Is or T'gallant on either the foremast or the mainmast for the Lady Washington. The Hawaiian Chieftain, with its different sail configuration will have a different set of commands.

When you have completed each command, sing out (ex: **"Ready Starboard Gear"**).

### **Prepare for setting:**

Cast t'gallant sheets before setting tops'Is  
Put slack in course gear (clews, bunts and reefs)  
Cast off the rolling & truss  
Single up gear if time allows

**"Hands to set the \_\_\_\_ sail!"\***

Move to gear and sheets first, extra hands to halyard and braces

**"Cast your gear, sheet home!"\***

Cast off gear (leave cast off) then haul down sheets

**"Tend your braces, haul your halyard!"\***

(Leave gear cast off, tend if needed). Haul up halyard and tend braces to keep yard square.

## Dousing Tops'ls and T'gallants

**“Hands to take in the \_\_\_\_ sail!”\***

Move to braces, halyard, and gear (clues, bunt and reefs), extra hands to sheets

**“Clew down!”\***

Ease halyard, haul the clews and reefs to lower the yard. Tend the braces to keep yard square

**“Clew up!”\***

Cast sheets, haul up clews and reefs

**“Bunt up!”\***

Haul up bunts

	Setting	Dousing
Gear	Cast	Haul
Sheets	Haul	Cast
Halyard	Haul	Ease
Braces	Tend	Tend

**Before furling:**

Cast off reefs, belay bunts with slack, and check that braces are tight

\*Note: the exact commands may vary depending on who is calling the deck, but the actions associated with them will stay the same

## **On and Off the Dock**

One of the most difficult tasks we perform on the boats is leaving and approaching the dock. Bringing 100 tons of boat up to a stationary dock, getting it stopped and secured by a few lines without causing damage to the boat or the dock is not a simple matter.

Keep in mind that these boats were not designed to be tied to docks, as historically, there were not many harbors that had docks. Most of the time the boats would anchor offshore and use small boats to ferry cargo and passengers to and from shore. Now most harbors visited by the boats have docks. Docking these boats is tricky and difficult, but much less work than having crew members using a windlass to raise the anchor from the bottom with muscle power alone.

Each boat has four mooring lines, though the names vary with the boat. You will be asked to handle one of these lines at some point in your training. This will be one of the most critical tasks you will perform on board. Your full focus and attention must be given to the task of handling the mooring line, no matter how trivial you may think it is.

When you are asked to handle a mooring line a crew member will be assigned to supervise you. Please listen carefully to the commands from the Mate and Master during docking and departure. Things happen quickly. Don't be offended if your trainer needs to take over. It will be for your safety and the ship's safety. You will have many chances to prove yourself.

## **Aloft**

Working aloft is one of the best parts of the job, for most of us. When you are aloft you have a commanding view of the sea, the deck, and the sky. Leaning out on a yard is an intense and memorable experience, especially at sea when the motion of the boat seems determined to sling you off into space.

You will be taken aloft on the Lady when the Mate and Master feel that you are ready. You will be issued a climbing harness and given a safety briefing. Once you are aloft it is important to make sure you won't fall off. Your harness has a lanyard and carabineer attached to it. Anytime you use both hands while aloft or outside of the rail, you must be clipped in!! Consider them an extra set of hands and your safety net.

When you go aloft, you use the ratlines on the shrouds. These are the ladder-like lines that run from the rail up to the masts. When you climb the ratlines you should only hold onto the thick vertical shrouds and step on the horizontal ratlines. If you only use the ratlines to climb with your hands on the ratlines you won't have to worry about someone above you stepping on your hands. When you go aloft, you always go on the weather side, the side facing the wind, of the boat. If the wind is dead astern, the Mate may allow the crew to lay aloft on either side. When you lay aloft, there are a series of commands that we use to communicate to the rest of the crew. They are:

### **"Laying Aloft"**

This tells the Master and Mate that you are leaving the deck for the rig. The reply from them should be **"Lay Aloft."**

### **"Laying On"**

You say this to the crew already on the yard so they are prepared for the weight shift on the footropes. The reply is **"Lay Away"**

### **"On the Horse"**

This call is used on the end of the course and topsail yards to signal your intention to remove your weight from the footropes and put it on the horse, an outer loop of footrope. The reply is, **"Horse."**

### **"Laying Off"**

You are going to remove your weight from the footrope and the yard. The reply is, **"Lay Away"**

### **"Laying Alow"**

This lets everyone know that you are headed down the rig to the deck. It alerts the people below you that you are coming. The reply is, **"Lay Away"**

### **"On Deck"**

This call is used from aloft to get the attention of the people on deck. It may be used to have a line hauled or to ask a question. The reply is, **"Aloft"**

## **"Aloft"**

This call usually comes from the Mate or Master and should be immediately noted and replied with **"On Deck"**. It may be a call to hurry up, brace for a roll, or some other alert.

When you are working aloft you should always work quickly and efficiently. There should not be any loitering or "skylarking" while aloft unless you have permission.

Time aloft is spent at elevated risk. Reduce the risk by getting up, doing your work quickly, and then getting down.

## **Working with the Public**

They put fuel in the tank and food on the plates. They are our guests and if it wasn't for them there would be no GHHS boats. You will be spending most of your time on board with passengers, dockside guests, and education program participants. When you greet them assume most of our guests have never been aboard a square rigger before, so your first responsibility to our guests will be to watch out for their safety. Make sure you quickly learn what to watch for and be prepared at all times to keep our guests safe during their time on board.

Once you spend a few days on board, you may begin to think of the boat as less of a curiosity and more of a home. The public will gawk and ask many questions of you, and it is easy to forget just how incredible the boats look when seen for the first time. Try to remember that excited feeling you first had viewing the boats when you are interacting with the public. It is completely natural to start to think of them as "your boats." Obviously, they are not anyone's personal yachts, but everyone that joins the crew gets a feeling of pride and ownership in the vessels. That is what we want. What we don't want is that pride to become elitism. A good rule to follow is to start each day with the public with a quick trip down memory lane. Think about what it was like when you first set foot aboard, most likely as a tourist. Chances are your fondness for the boats was a result of how you were treated. If you felt welcome enough to consider joining the crew as a

volunteer, then someone on the crew must have made you feel at home. When you deal with the public remember to return the favor. Our guests are often surprised to find that we are not a band of sword-swinging pirates. Some are actually disappointed by this. Everyone that visits the boat harbors some pre-conceived ideas about square riggers and their crews. Some of them want us to be pirates; others want us to be historical re-enactors pretending to be 1780's sailors. Others expect rough and tumble salts with beards and bad teeth. Whatever their notions, we usually come as a shock to folks. They don't usually expect to find teachers, college students, lawyers, actors, software engineers, and accountants dressed up like 18th century sailors. We are unique among historic replicas in that we present the history of the original vessel without discarding the present. We have jobs on board. They want to know what kind of people sail our boats. They want to know how we work aloft, how we eat, how we go to the bathroom, how we sleep, whether or not we get seasick. Basically, they want to know how ordinary people fare on such extraordinary vessels. Tell them. You don't need to make up stories or borrow others you have heard. Maybe you've only been on board for a day and they want to know the history of the boat. Tell them that you are just learning and lead them to a crewmember that can tell you more. You want to be honest, patient, and kind.

Apply yourself to learning about the boat so you can answer guest's questions. It may seem overwhelming, but you will learn the specialized vocabulary for the parts of the boat, how it works, and soon you will "talk like an old salt."

## **Education Programs**

Education is the core of the Lady Washington's mission. You are a participant in one of the many boat's education programs. In addition to sail training, we engage in a variety of education efforts that are designed to teach everything from math to marlinspike seamanship. As a two week volunteer you won't be asked to lead any of the educational programs on board, but you may be asked to help. We don't bring in professional educators to teach on board, the crew is the instructional staff. Part of your training will be to learn some of the historic and seamanship portions of the education program. You will find that what we teach is often what we need to keep the vessel operating. The rest is information we need to know to enhance the historic nature of the boat.

All of our education programs are hands-on. Everyone that comes aboard for a program will feel the strain of a line and the hum of the helm. We have designed our programs to engage all of the senses for a deeper understanding of the subject matter. We do not do anything that can be replicated in a classroom, nor do we spend a lot of time lecturing. Our programs are fast-paced experiences.

The participants in our education programs fall into three categories: School students, adult guests, and crew. Crew training, as you can see, is continual. School groups, scheduled in advance, comprise most of our schedule during the school year. Adult guests fill the times when we are not with school students. We consider everyone who crosses the yellow rail as education program participant.

## **Gunnery**

One of the most popular features of the GHHS boats are our guns. On board we have black-powder carriage guns called “three pounders” and smaller black-powder swivel guns. During our battle sails we may fire these guns upwards of 50 times. We fire blanks from the cannons, but we use the same type of black powder they would have used on the original Lady Washington.

Merchant vessels in the 18th century commonly carried guns to defend themselves against attack. As you will see in the history of the Lady Washington, Captain’s Gray and Kendrick had no problem exercising the vessel’s guns. The original Lady Washington carried guns similar to what we carry, and more of them. The Hawaiian Chieftain was built in 1988 and, needless to say, there was no need for uns. However, the GHHS has installed carriage and swivel guns so it will more represent a boat of the same period as the Lady Washington.

The three pounders would have been loaded with steel or lead shot weighing about 3 pounds. The cannon balls would have been shot at shore or attacking vessels. A three-pounder will fire a three pound ball about a mile, but the accuracy would have been pretty lousy.

The swivel guns were more commonly used. They would have fired gravel or broken glass from them. The swivel guns are impressive, gruesome, and very effective weapons.

When we fire the guns on board, we always begin with an explanation of the guns, safety during gunnery, and the commands involved. As a

crewmember, your responsibility is to assist with clearing the gun deck and keeping passengers and photographers at a safe distance from the cannon while in use. Should someone need to cross the gun deck during gunnery, they need to request permission and be giving it from the gunner before crossing. Remember, when working on deck during cannon firing, to plug your ears. The gunner will yell something like "Prepare for gun fire" immediately before firing the gun. That's your cue to plug your ears.

## **Sailing Tactics**

During your two weeks of training you will probably get to participate in a battle sail between the Lady Washington and Hawaiian Chieftain. These sails are competitive excursions between the two boats with passengers along for the show. Many passengers are under the impression that the battle sails are rigged, that the sailing tactics are planned out like a carnival ride. The fact is, they are improvised battles where we engage in friendly competition to out sail and out shoot each other.

Our boats, with their square sails, can tack, wear, heave-to, and box haul to maneuver. Tacking and wearing are turns into, or away from, the wind. Heaving-to and box hauling are intended to bring the vessel to a quick stop and even sail backwards. Fore-and-aft rigged boats cannot really box haul, it is a trick only square riggers can pull and we use it from time to time to really mix things up. In a battle, the strategy is to "cross the T." To do this, the captain of one the boats will try to execute a tack or wear just after passing broadside to the other boat. Then the deck guns are swung into alignment with the stern of the other boat, the rudder can be shot out and a truly humbling blow can be administered.

In actual naval battles, the combatants would rather disable the opposing ship than sink it. Shooting out the masts and / or rudder can stop a ship for easy capture. Captured ships could be repaired and turned to serve the victor, cargo sold for profit, and the crew ransomed.

In our battle sails we don't want to hurt anyone or damage anything, only prove that if we were actually in a real fight, we'd win. It's a battle of pride in sailing skill and vessel handling.

## Appendix A: Vocabulary

Every profession has its own vocabulary of words that have specific meaning to that profession. The vocabulary can be so specialized that an “outsider” will not have any idea what those professionals are talking about. Tall ship sailors are no different in this way. They have a very specialized vocabulary to give names to things that may not exist anywhere but on a tall ship. This vocabulary developed over several hundred years among sailors from many nations that spoke different languages. It had to be clear, concise, and understandable when shouted. Crew in the rigging needed to be able to understand orders shouted from the deck.

By the time of the Lady Washington, the vocabulary was fairly standardized for sailors. You could have a crew from many nations who could hardly communicate with one another below deck, share a common vocabulary of “sailing terms.” Many of these terms have worked their way into common usage. Below is a sample.

Aboard: on a boat “welcome aboard”

Adrift: Floating with no control. Unable to steer the boat.

Aft: toward the stern

Ahoy: greeting (“hello”)

Amidship: center of the boat.

Ashore: on land

Avast: stop what you are doing (if you are holding a line, continue to hold it, but do not take it in or let it out).

Baggywrinkle: a piece of cloth or other material attached at a certain point on a line to protect a line from being chafed and wearing through.

Bent: secured by tying. A sail is bent to a yard.

Binnacle: a cabinet mounted directly in front of the helm to hold the ship's compass and other navigational items. The binnacle is located to allow the person at the helm to maintain the ship's course.

**Boom:** Pole with one end attached perpendicular to the mast. Used at the bottom of a sail to hold it out tight

**Bow:** front of the boat

**Brace:** Line attached to either end of a square sail yard, used to rotate it around the mast.

**Bulkhead:** on land you would call it a wall.

**Deck:** what you stand on that keeps the water out of inside of the boat.

**Foredeck:** The area ahead of the Foremast.

**Maindeck:** the area from the foremast to stairs

**Quarterdeck:** the raised area at the stern of the boat where the helm, binnacle are located. The aft cabin is below the quarter deck.

**Forward:** toward the bow

**Gaff:** Pole with one end attached at an angle to the mast. Often used at the top of a sail to hold it out tight

**Hatch:** a cover for an opening in the deck or bulkhead

**Haul:** to pull on a line. There are techniques you will learn for hauling a line with a lot of tension on it.

**Helm:** the place where a ship is "steered from." The helm could be a wheel or a tiller attached to the rudder.

**Lay:** action verb meaning "to do." (Lay aloft, mean to go up on the rig)

**Line:** rope that has a specific job. If it is attached to the boat, it is a line. If it is still sitting on a spool, it is a rope.

**Marlinspike:** A long piece of metal, tapered at one end and flattened at the other that is used to splice and work lines. A sailor who knows his knots, splices, and sewing is called a marlinspike sailor. The marlin fish was so named because his snout looks like a marlinspike.

**Mast:** Tall poles sticking up where you attach yards and sails. Each mast has a specific name.

**Foremast:** The mast forward of the mainmast.

**Mainmast:** The tallest mast on the boat.

**Mizzenmast:** The mast aft of the mainmast.

**Onboard:** on the boat

**Overboard:** to go over the side and into the water.

**Port:** left side of the boat when facing forward (the side you would tie the boat up to the dock, so you would not damage the steering board)

**Rig:** Everything from the deck up that is needed for powering the boat (masts, yards, sails, lines, etc.)

**Rigging:** Lines used in the rig

**Standing rigging:** used to hold things in place. It does not move and is tarred to protect it from the sun and weather.

**Running rigging:** lines that move, and control the yards and sails. It is not tarred.

**Sails:** Large pieces of cloth with lines attached used for catching wind

**Square sails:** Square in shape, with a yard at the top and possibly the bottom. They hang from and are centered on a mast. When the wind is from astern, the yards are perpendicular to the center of the ship. The yards can be "braced" to one side or another to catch wind when it is not directly from astern.

**Triangular Sail:** is a "fore and aft" sail that has a triangular shape. It may have a boom but comes to a point at the top, so it has no gaff.

**Gaff Sail:** is a "fore and aft" sail meaning it normally hangs along the center line of the ship. It has a boom

at the bottom and a gaff at the top to hold it out from the mast.

Slack: to let out line in a controlled fashion. If two lines are in opposition to each other, when one is hauled the other must be slacked.

Sole: what you stand on when you are below the deck. (The cabin floor is called a sole)

Starboard: right side of the boat when facing forward. (The side where the steering board was attached on the earliest boats)

Stern: back of the boat

Spar: general term for any above deck timbers to which sails are bent. A spar can be a mast, yard, boom, or a gaff.

Windlass: Horizontal cylinder used to haul heavy weights, such as the anchor. A line is wrapped multiple times around the windlass cylinder. Poles are fitted into notches on the ends of the windlass to turn the cylinder and raise the weight.

Yard: Pole whose center is attached perpendicular to a mast, usually to hold a sail.

# **Appendix B: Hawaiian Chieftain**

## **Welcome aboard the Hawaiian Chieftain**

By now you have read the Waistcoat Manual and have some familiarity with items that are common to both the Hawaiian Chieftain and the Lady Washington. Since you will be aboard the Hawaiian Chieftain, this appendix will familiarize you with items that are specific to the Chieftain.

### **Hawaiian Chieftain Facts**

Rig Type:	Square Topsail Ketch
Hull Material:	Steel
Built:	1988, Lahaina, HI
Homeport:	Westport WA
Sparred Length:	103 feet
Length:	65 feet on deck
Length at Waterline:	62 feet
Beam:	22 feet
Draft:	5.5 feet
Rig Height:	75 feet
Displacement:	100 tons
Sail Area:	4,200 sq. feet
Sails:	13
Lines:	165
Engine:	Two 250 hp Volvo engines
Generator:	20 KW
Ballast:	40 Tons of Lead
Armament:	4, 3-Pound Deck Guns, 2 Swivel Guns
Top Speed:	8 Knots under Motor 12 Knots under Sail
Crew:	12 to 16
Passengers:	43

## **The Chieftain's Rig**

The Hawaiian Chieftain was built in Hawaii in 1988 to carry cargo between the islands. She was designed with a shallow draft and rigged with both square and fore and aft sails. This is a good compromise for an island trading vessel. Shallow draft means she can sail close to shore, the squares allow her to sail downwind – in the open ocean, and the fore and aft gaff sails give her the ability to sail closer to the wind, thus be more maneuverable when near shore or in a bay.

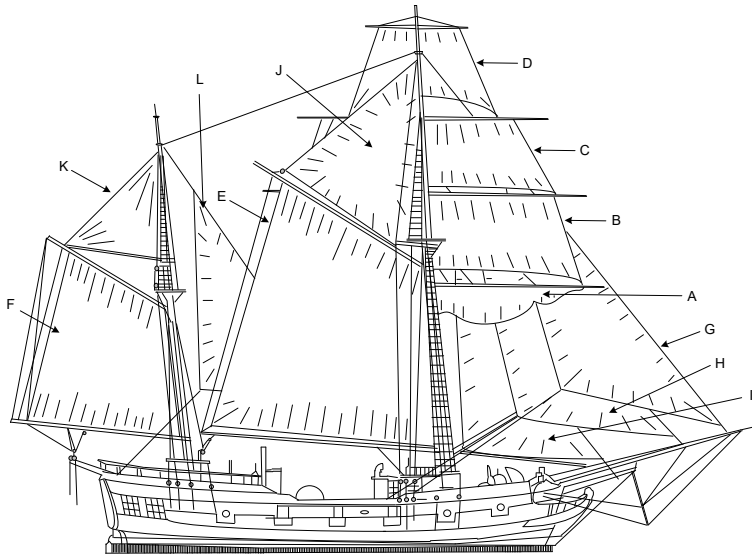
The Chieftain has a steel hull and two masts, with the forward mast being taller. The forward mast is the mainm'st, and the aft mast is the mizzen. She is rigged as a square tops'l ketch. She carries square sails on the mainm'st and gaff sails on both the main and mizzen.

Sails are named based on which mast they are attached to and where they are located. Masts with square rigged sails have a convention for naming the sails. Starting from the deck upward, the first sail is the course. The tops'l has been split into a lower and upper tops'l. A rafee, which is seldom used, may be rigged and deployed onto the mainm'st from the deck and sits above the tops'ls.

Gaff sails are named for the mast to which the gaff is attached. The Chieftain carries two gaff sails, the mains'l and the mizzen sail.

Triangular sails are usually named stays'ls and for the mast to which they are attached. The main stays'l is attached to the main mast. Above the gaff sails are gaff tops'ls. There are two stays'ls, one attached to the mainm'st and one to the mizzen. They are called the main and mizzen stys'ls. Finally, she carries two, inner and outer, jibs.

# Hawaiian Chieftain Sail and Spar Plan



## Square Sails

Course

Lower Top Sail (lower tops'l)

Upper Top Sail (upper tops'l)

Raffee (rigged and raised from deck)

## Gaff Sails

Main Sail (mains'l)

Mizzen Sail (mizzen)

## Triangular Sails

Outer Jib

Inner Jib

Main Stay Sail (main stays'l)

Main Gaff Top Sail (main gaff tops'l)

Mizzen Gaff Top Sail (mizzen gaff tops'l)

Mizzen Stay Sail (mizzen stays'l)

## Line Locations

The sheer number of lines on the Chieftain is overwhelming to start. When you first view them coming down from the rig to the various pin rails, you wonder: “How will I ever learn even the names of the lines? How will I find the right line while standing on a pitching deck in the dark?” Rather than put your energy into worrying, get with a seasoned shipmate any chance you get and go over the lines until you can identify them with your eyes closed.

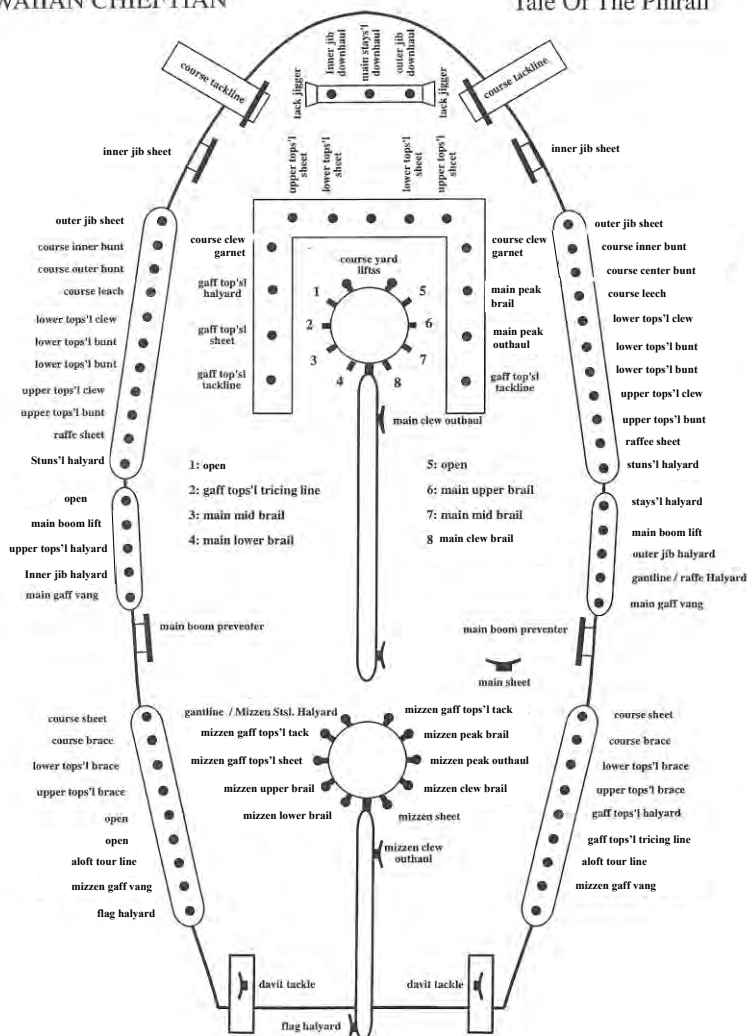
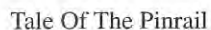
To make the job easier, there are a few concepts to remember.

- The vessel is symmetrical. Once you know the starboard side of the boat you will know the port.
- Lines are assigned to sails: and many sails are similar, therefore if you know one sail, you probably know some others.
- The names of lines describe the exact function and location of a line. Once you learn the meaning of the component words, the name will give you the exact address of the line, and tell you exactly where to look for it
- The larger the diameter of the line, the more weight it is holding. (ie: if you are looking for the upptop sheet and find a very large line, you probably have chosen the wrong one.)
- Some of the lines are special lines that we do not use that often. You will be expected to know the ones we use every day, not the strange ones like the Mizzen Gant Line.

There is one very important thing to remember when you are dealing with lines. Never, ever cast off a line unless a crew member tells you to do so. Some of our lines are under great strain and they may leap off the pin and send something heavy flying towards the deck!

Here is a map of the Chieftain’s deck showing the location of the lines. This setup may be changed at any time at the discretion, of the Master or Mate. So, if something seems amiss, ask.

## Line Location Key



## Dock lines

In addition to the lines above, the Chieftain has 4 dock lines, which are referred to by number. These can be either on the port or starboard depending on where they are needed:

#1 is a bow line used to keep the bow close to the dock.

#2 is a forward spring line used to keep the boat from moving astern.

#3 is an after spring line used to keep the boat from moving forward.

#4 is a stern line used to keep the stern close to the dock.

## History

Lawrence "Baron" Dorcy contracted with Lahina Welding, on the Island of Maui in Hawaii, to build The Hawaiian Chieftain, a square topsail ketch. She was designed as a modern steel vessel with a modern triple keel, and a shallow draft hull but rigged as an early to mid-1800's trading vessel. Drawing only 6.5 feet she was designed to be highly maneuverable in shallow waters.

The Chieftain was built near Kahoma Stream in Lahaina, and launched on June 12, 1988. After being fitted out and passing Coast Guard Certification, she sailed to Tahiti in 1990 on her maiden voyage. She returned to Honolulu and then sailed to Sausalito California for re-rigging, painting, re-certification, and sale.

Baron Dorcy sold the Chieftain to Captain Ian MacIntyre in 1992. The Hawaiian Chieftain and Lady Washington first met on a Saturday afternoon in October 1993 on San Francisco Bay in the vicinity of Fisherman's Wharf. The encounter quickly led to cannon fire and a long and positive relationship. She was based for many years on the West Coast, touring with the Lady Washington and participating in the hands-on education program "Voyages of Discovery."

In the winter of 2004, she was sold to a Cape Cod sailing program and renamed the Spirit of Larinda; however, due to the unexpected death of her owner, she remained inactive. In October 2005, the Grays Harbor Historical Seaport bought her and sent some of their most competent sailors to the East Coast to bring her back around. Returning her original identity as the Hawaiian Chieftain, she joined up with her partner the Lady Washington on February 25, 2006.

The original figurehead was lost at sea on the trip back from the east coast. Baron Dorcy commissioned the carving of a new figurehead for the Chieftain's 20th Birthday. The carving is by the Hawaiian master carver John Nippolt. The figurehead is named Naimiloa (the navigator).

As a figurehead footnote, the original figurehead was found on a beach and rescued. It now resides in a garden in Eureka.

## **Appendix C: Lady Washington**

### **Welcome Aboard the Lady Washington**

By now you have read the Waistcoat Manual and have some familiarity with items that are common to both the Lady Washington and the Hawaiian Chieftain. Since you be aboard the Lady Washington, this appendix will familiarize you with items that are specific to the Lady.

### **Lady Washington Facts**

Sparred Length:	112 Feet
Length on deck:	68 Feet
Beam:	22 Feet
Height:	87 Feet at the Top of the Main Mast
Draft:	12Feet
Displacement:	200 Tons (400,000 Pounds)
Sail Area:	4,160 Square Feet
Sails:	13
Lines:	165
Engine:	Scania 12 Liter 6 cylinder in line nicknamed "Lars"
Hull Material:	Old Growth Douglas Fir
Ballast:	40 Tons of Lead
Armament:	2, 3-Pound Carriage Guns 2 Swivel Guns
Top Speed:	8 Knots under Motor 10 Knots under Sail
Crew:	10 to 16
Passengers:	49
Farthest North	Juneau, Alaska
Farthest South:	Cartegena, Colombia
Farthest West:	Skagway Alaska
Farthest East:	St. Vincent, Caribbean Islands

## **The Lady's Rig**

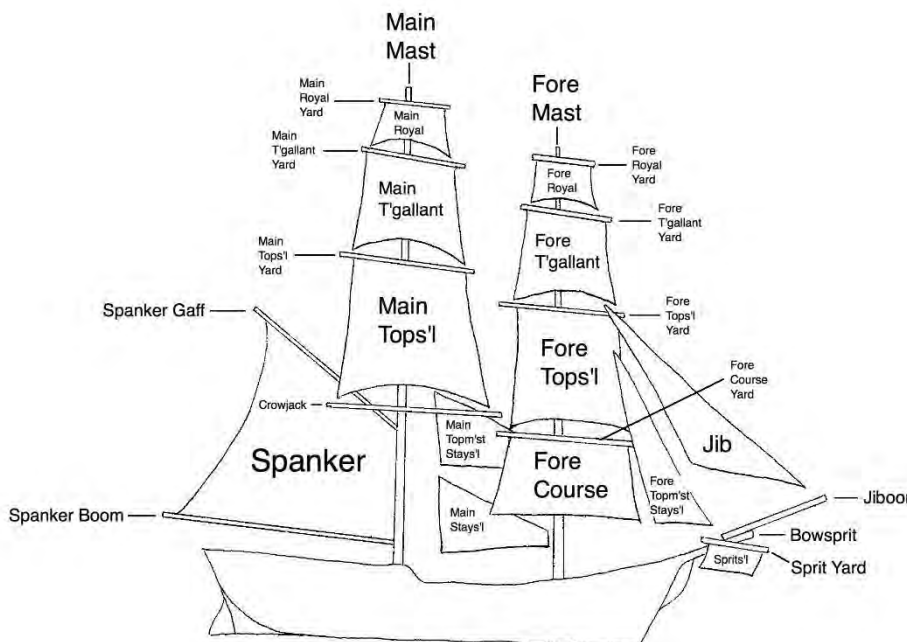
The Lady Washington is a replica of the original Lady Washington which, with the Columbia Rediviva, were the first American merchant ships to travel to the West Coast of North America. The original Lady was rigged as a sloop (single mast with fore and aft sails) initially and later re-fitted and rigged as a Brig. The current Lady Washington is rigged as a brig. This means she has two masts with the rear mast being the tallest (the mainmast) and a gaff rigged sail (spanker) attached to that mast.

Sails are named based on which mast they are attached to and where they are located. Masts with square rigged sails have a convention for naming the sails. Starting from the deck upward, the first is the course, next the top, the t'gallant, and finally ending with the royal. The Lady has course, top, and t-gallant yards permanently affixed to the masts. Royal yards and sails are seldom used. When they are, they are deployed from the deck.

Note; the main course yard does not have a sail bent to it. A sail bent here would have its wind blocked by the spanker. This yard, also known as the crojack, has blocks and tackle attached on the outboard end and is used as a crane to lift cargo and other items to and from the deck. A very handy item in the 18<sup>th</sup> century when all cargo was loaded by hand from and into boats which shuttled to and from the shore. Only the finest ports had docks for tying up cargo ships.

Triangular sails are usually named stays'ls and for the mast to which they are attached. The main stays'l is attached to the main mast. The exception to this is the jib, which is the most forward triangular sail from the foremast.

# Lady Washington Sail and Spar Plan



## Square Sails

Fore Royal sail (foreroyal) – 88 square feet  
 Fore Top Gallant (foretgans'l) 258 square feet  
 Fore Top Sail (foretops'l) 485 square feet  
 Fore Course (forecourse) 530 square feet  
 Main Royal Sail (mainroyal) 102 square feet  
 Main Top Gallant (maintgans'l) 268 square feet  
 Main Top Sail (maintops'l) 544 square feet  
 H. Sprit sail (sprits'l) 88 square feet

## Main Sail (Gaff)

Spanker, or Main Sail (mains'l) 685 square feet

## Stay Sails (Triangular)

Fore Top Mast Stay Sail (foretopmiststays'l) 207 square feet  
 Main Top Mast Stay Sail (maintopmiststays'l) 373 square feet  
 Main Stay Sail (mainstays'l) 235 square feet

## Jib (Triangular)

Jib 280 square feet

## Line Locations

The sheer number of lines on the Lady is overwhelming to start. When you first view them coming down from the rig to the various pin rails, you wonder: "How will I ever learn even the names of the lines? How will I find the right line while standing on a pitching deck in the dark? " Rather than put your energy into worrying, get with a seasoned shipmate any chance you get and go over the lines until you can identify them with your eyes closed.

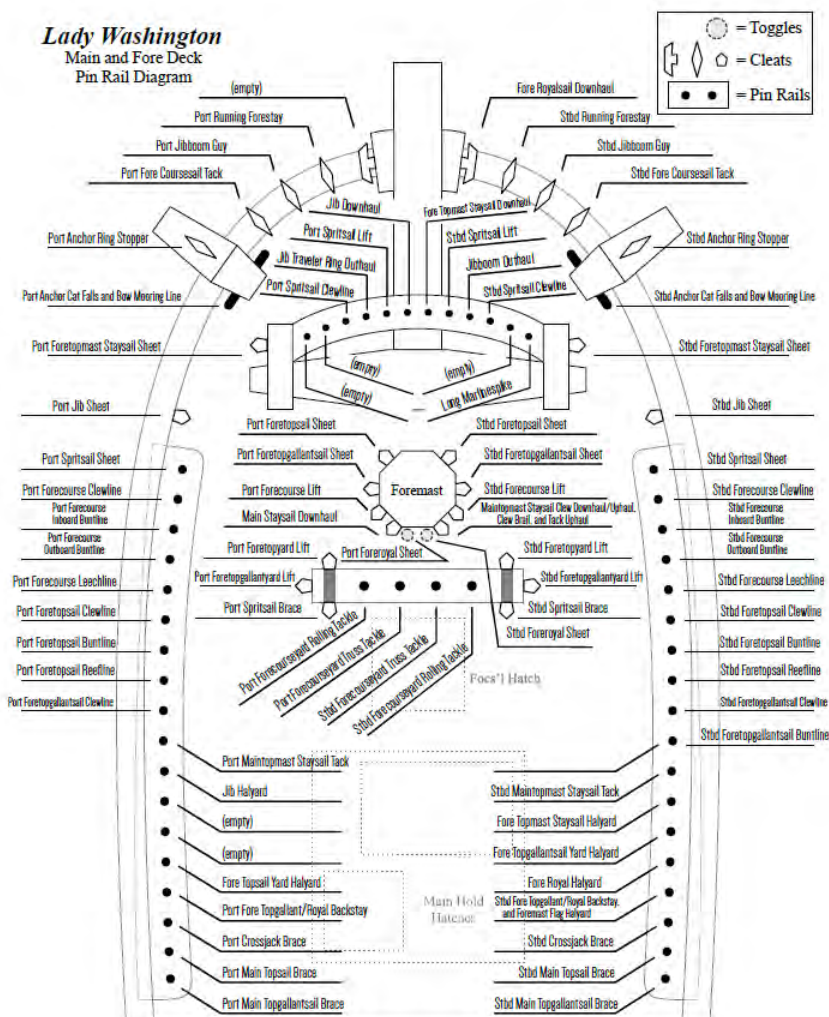
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- The vessel is symmetrical. Once you know the starboard side of the boat you will know the port.
- Lines are assigned to sails: and many sails are similar, therefore if you know one sail, you probably know some others.
- The names of lines describe the exact function and location of a line. Once you learn the meaning of the component words, the name will give you the exact address of the line, and tell you exactly where to look for it
- "Up your aft," means as you go aft on the pin rail, the lines are associated with sails that are further up the mast (i.e: the first set of lines would handle the course, the second for the tops'l, and then the t'gallant)
- The larger the diameter of the line, the more weight it is holding. (ie: if you are looking for the foretop sheet and find a very large line, you probably have chosen the wrong one.)
- Some of the lines are special lines that we do not use that often. You will be expected to know the ones we use every day.

There is one very important thing to remember when you are dealing with lines. Never, ever cast off a line unless a crew member tells you to do so. Some of our lines are under great strain and they may leap off the pin and send something heavy flying towards the deck!

Here is a map of the Lady's deck showing the location of the lines. This setup may be changed at any time at the discretion, of the Master or Mate. So, if something seems amiss, ask.

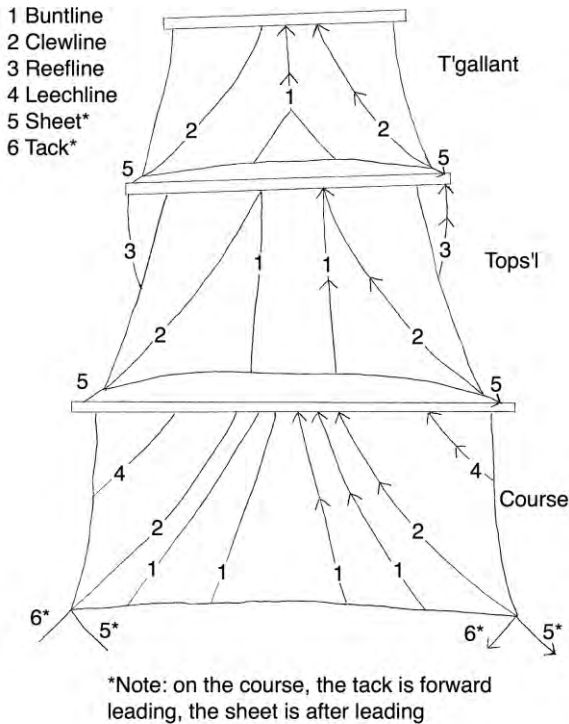
***Lady Washington***  
Main and Fore Deck  
Pin Rail Diagram





## Square Sail Gear

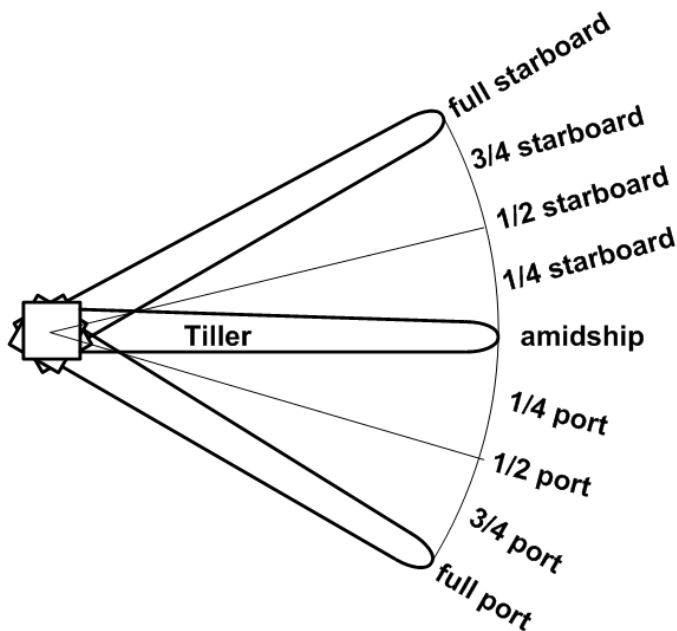
The diagram below shows the location and effects of the gear on the Lady Washington square sails. These are the same for the fore and main masts, with the exception of the main mast has no sail bent to the course yard.



## The Helm

The Lady Washington is steered by a tiller connected to the rudder. The tiller is nine feet long and the rudder weighs over a ton. Combine that with the immense forces acting on the rudder and you have one powerful lever. You will have the opportunity to steer the vessel using the tiller at some point in your training period. If you are going on a transit during your training period you will spend at least 30 minutes at a time at the helm while you are on watch. The helm is a very simple machine. When you push the tiller to port, the vessel will turn to

starboard. It takes time to get used to pointing one way and turning the other, but you will get used to it. There is a system of relief tackle on the tiller that is designed to hold the helm at a set point using a lever and a set of block and tackle. The tiller lock a lever that locks down on the tackle, is the only way you will be able to control the tiller in rough conditions or while the rudder is being struck with prop wash. If you are asked to handle the tiller during a docking or departure maneuver, the Master will use a set of helm commands to direct you. The Master will have his or her eyes on the dock and rest of the crew so you will have to respond verbally to the commands and carry them out quickly and then respond “lock” once the tiller has been locked in that position. Below is a diagram of the helm positions and the commands used.



## History

The history of the original Lady Washington is a wildly-spectacular string of stories. It can take years to fully explore the accounts of the original, but a basic and brief history follows.

We believe the original vessel was built in Boston in the early 1750's. She was rigged as a single-masted sloop and she was quite unremarkable. The original Lady Washington was the cargo truck of her day. She was designed to carry cargo up and down the colonial coast which she did until the Revolutionary War. Once fighting broke out with the British, the Lady Washington was pressed into service as a Privateer. She became, in essence, a government sponsored pirate vessel that harassed British ships along the coast.

Her actual accomplishments as a Privateer are not known, but it can be assumed that she was somewhat successful since she survived the war to once again become a cargo boat.

In 1787 the aging sloop was purchased by a consortium of Boston merchants for \$50,000. She was outfitted for the emerging sea otter fur trade on the northwest coast of North America. In October of 1787 she set sail from Boston under the command of Robert Gray. Along with the Lady Washington was a larger ship, the Columbia Rediviva, under the command of John Kendrick. The Lady Washington was to serve as a consort vessel to the Columbia and Kendrick was in overall command.

It needs to be stressed here that until this point, no American vessel had traveled from the East Coast to the West Coast of North America by way of Cape Horn. The voyage would have been considered crazy but the potential profits must have been enough for the owners to gamble on the trip. Evidence of that is the fact that they bought two boats over 30 years old. When Captain James Cook made his voyages around the Horn, he had the very best ships the British could muster.

When the two Boston vessels reached Cape Horn, the Washington and Columbia were separated by a storm and Kendrick's ship was badly damaged. He made landfall in the Spanish occupied islands off the west coast of South America and Gray pushed on alone in the sloop with his crew suffering the effects of scurvy.

In August of 1788, some 10 months after leaving Boston, Gray dropped the Washington's anchor in a bay on the Northwest Coast. He had many desperately sick crew and he was almost out of fresh water.

After a couple of days at anchor, Gray's cabin boy, Marcus Lopez, was ashore gathering grass when a local native stole his cutlass. Lopez had joined the Washington's crew in the Cape Verde Islands off Africa. It must have been quite a shock for the natives, who had yet to meet anyone from off the coast, to see a dark-skinned man chasing one of their party. Lopez chased the native back to his village and was killed. The natives became aggressive after the incident and attacked the Washington at anchor. Gray fought off the attack with cannon fire and killed many of the locals. Two days later he was able to sail out of the bay while the natives chased after. Gray named the bay "Murders Cove." Today it is known as Tillamook Bay in Oregon State.

Gray limped north to his goal, which was Friendly Cove in Nootka Sound. Captain Cook published accounts of the cove in his journals and it was determined to be the safest place to begin their fur trading enterprise. In Friendly Cove, now called Yaquot, Gray found a Spanish fort and a small British settlement amongst the thriving native village.

On shore the British were just putting the finishing touches on the first foreign vessel constructed on the Northwest Coast.

Within days, Kendrick arrived in the Columbia and convinced the Spanish governor that he was no threat. The crews of the two Boston boats then went to work helping the British finish their vessel that they christened the Northwest America. This is an interesting tactic employed by Kendrick. The Spanish had no designs to trade on the coast, only occupy it, while the British had a strong presence along the coast as a direct challenge to Spain's claim. Kendrick found that the Nootka tribe would not trade with him as long as the British were around, so he worked to move them along. Soon the new British vessel was launched and the entire fleet of British boats headed off leaving Friendly Cove to Spain.

Kendrick and Gray spent the winter there, much to Gray's dismay. He felt the two boats should trade quickly and head for China. Kendrick and Gray continued to butt heads all winter and in the spring Kendrick let Gray take the Washington on a trading voyage. Gray traveled to the Queen Charlotte Islands and made many successful trades with the Haida people. He also traveled to the south end of Vancouver Island and sailed 50 miles up the Strait of Juan de Fuca. When he returned to Nootka he found Kendrick still at anchor in the Columbia. Kendrick led Gray to Clayoquot Sound, south of Nootka, to trade with the people there. Once at anchor in Clayoquot, Kendrick surprised Gray by offering to trade boats with him, thereby giving Gray the larger vessel. Gray leaped at the opportunity and quickly took the Columbia north to trade in the Queen Charlotte Islands. After a successful swing through the islands, he made for Canton, China where he was only able to trade his furs for enough tea to make the voyage a break-even deal.

While Gray was headed north, Kendrick may have made the first circumnavigation of Vancouver Island. No journals survived to confirm the rumors, but many traders claimed that the Washington was the first to make the trip up the Inside Passage. Kendrick later sailed to the Queen Charlottes and traded with the Haida. In the process of trading some of Kendrick's clothes were stolen by the natives. Kendrick, in a fit of uncharacteristic rage, took the chief hostage and humiliated him. Kendrick got his clothes back, but his treatment of the chief would not be forgotten. Kendrick arrived in China later with the Washington full of furs and Gray sent him a letter urging him to stay away from the official trade in Canton and try to sell his furs on the Black Market in nearby Macao. Kendrick did just that. Gray left Canton without stopping to see Kendrick in Macao.

The Washington stayed in Macao for months while Gray sailed for Boston in the Columbia. Kendrick spent his profits re-rigging the Washington into a brig, which was much more suitable for ocean

passages. Kendrick also fell ill for a time and ran afoul of the local police for reasons that are not clear.

Gray arrived back in Boston on August 9, 1790 to a hero's welcome. The celebration was short lived due to the fact that the tea in the Columbia's hold had been soaked in sea water and heavily damaged. Thanks to the spoiled tea and the loss of the Washington's money, the venture had been financial failure. Politically, it was a triumph as Gray and the merchants became the talk of the town.

Back on the Washington, Kendrick finally sailed out of Macao. Kendrick still had quite a load of otter pelts in his hold that he hoped to sell somewhere other than Canton and Macao. In April of 1790 he made history by becoming the first American vessel to visit Japan. The islands of Japan were essentially closed to foreigners when Kendrick arrived in the Lady. He did not help warm the hearts of the Japanese by dropping anchor and turning his crew loose on shore to cut down trees and shoot game, while the Japanese villagers nearby scrambled to reach samurai warriors to repel the invaders. Kendrick tried to make contact with the Japanese villagers using Chinese interpreters he brought along. After wearing out what scant welcome he had, Kendrick set sail for the Northwest coast only days before a band of samurai arrived to challenge him. Today the Lady Washington is seen as an icon of early Japanese-American relations. What is forgotten is the fact that immediately following Kendrick's visit, the Japanese government formed a coastal defense network.

Kendrick may have been the first captain to carry otter pelts from China to the Northwest coast when he sailed from Japan. To make matters worse, he returned to the Queen Charlotte Islands and was attacked by the Haida he had offended on his previous visit. In a bloody and tragic battle, the Haida captured the Washington and drove Kendrick and the crew below where they broke out muskets and pistols and shot their way back up on deck and slaughtered the warriors. The battle became the stuff of legends and Kendrick is seen as a courageous leader by the European and American men on the coast in the face of savage brutality. To the Haida however, Kendrick became a symbol of evil and the Lady Washington is remembered to this day in Haida Gwaii, now called the Queen Charlotte Islands.

Scared south by his encounter with the Haida, Kendrick returned to Nootka Sound and began a campaign of land purchasing that would define the rest of his time aboard the Washington. Within months Kendrick was able to trade guns, ammunition, and copper for huge parcels of land along the coast of Vancouver Island. He purchased Nootka Sound from Maquinna, the powerful chief of the Nootka. He bought Clayoquot Sound from Wickanannish of the Tlo-qui-aht people, and he bartered for chunks of property from present day Victoria to Cape Scott on the north end of the island to build his dream trading

empire on the West Coast. The natives entered into the agreements with the understanding that they would be able to continue to live as they had for thousands of years. It was a brilliant plan and Kendrick spent more time working on his empire than he did trading for furs.

Meanwhile, the Spanish and British empires came dangerously close to global warfare over territory around Nootka Sound. Spain maintained its claim on the area and backed it up by seizing British ships. Britain prepared its massive navy for war while traders worked to obtain furs despite British warships prowling the coast. Kendrick was going to use this distraction to defy the superpowers and grab land from the natives.

Robert Gray returned to the coast in September of 1790 in the Columbia and found Kendrick at anchor in Clayoquot Sound. Kendrick had built a small fort on an island near present day Tofino and was preparing the worn-out Washington for a trip to China to sell his furs. Kendrick had maintained a steady but infrequent, stream of letters to the Boston merchants explaining his plans and making excuses for not sending money. The owners, spurred on by Gray, considered him a rogue and instructed Gray to see what he could do to get some money from Kendrick. Gray said nothing of the sort when he saw Kendrick in Clayoquot Sound. He instead found a small cove on Meares Island to build a replacement for the Washington. Kendrick left him there and traveled to China by way of Hawaii. Once in China, he found the market tight for furs and made little money on the 1,000 pelts in the Washington's hold. The Washington needed more work so Kendrick spent some of the money on the vessel and went into debt in an effort to keep her sound.

In Macao he wrote to the owners in Boston and asked for their patience. He explained the tough fur market in China and told them about his land purchases. He asked them to consider selling him the Washington for \$14,000. If they didn't wish to sell, he told them that he would then expect to receive his back pay and his share for the Columbia's profits when we returned to Boston. Basically, he offered them a way to cut ties with him so he could keep his land and build his empire.

Kendrick sailed from Macao into a typhoon in September of 1792. The Washington was knocked down and de-masted. The crew was able to jury-rig a sail and limp back to Macao. Along the way they found wreckage strewn about from hundreds of ships that had sunk in the storm. Kendrick stopped and picked up as many survivors as the leaking and damaged Washington could hold. Back in Macao he was welcomed as a hero, but the repairs to the Washington pushed him further into debt.

He headed back to the Northwest Coast in March of 1793 and traded with his friends along the Vancouver Island coast.

While Kendrick was in China, Gray completed the sloop Adventure in Clayoquot Sound and then burnt down the Tla-o-qui-aht village of Opistat as a warning to the people. While in the sound he felt threatened by the tribe despite the fact that they did not attack him while he was building the Adventure. From Clayoquot he sailed north in company of the Adventure.

On the northern end of Vancouver Island he ran the Columbia up onto a reef in calm conditions and stove in the ship's stem. He limped back to Nootka Sound and drove the ship onto the beach where his shipwrights repaired the stem in a matter of hours. The Spanish governor in Friendly Cove was amazed and claimed in his journal that he thought the Americans could build a ship in a month.

Repaired, Gray headed south and in May of 1792 he crossed the Columbia River bar and became the first captain to sail into the famed "Great River of the West". Later he met with Captain George Vancouver and told him about the river he named after his ship. Vancouver honored the claim in his charting of the river and further cemented Gray's place in history. After his time in the river, Gray rejoined the Adventure and then sold her to the Spanish for otter pelts. Fully loaded he sailed for Canton and once again was able to only get enough to break even, he returned to Boston and another hero's welcome. The Columbia was sold and Gray went on to captain other ships, but he never returned to the Pacific.

Kendrick was unaware of Gray's "discovery" of the Columbia River as he traded along the coast. He quickly filled the Washington with pelts and head-for China. On the way he stopped in Hawaii, then known as the Sandwich Islands, where he anchored alongside a British fur trading vessel, Jed the Jackal. The captain of the Jackal must have known Kendrick as they frequented the same harbors along the Northwest Coast. We are not sure if they knew each other before that day, but Kendrick and Captain Brown of the Jackal worked together in Hawaii in December of 1794 to help a Hawaiian chieftain conquer a rival. After the battle, it is said that Kendrick agreed to a cannon salute between the two vessels at anchor in what is now known as Pearl Harbor

Details of the so-called salute are sketchy, but it is reported by those that survived that the Washington had a three-cannon salute to the Jackal and the Jackal returned the salute with two shots, and the third cannon misfired. The captain then ordered a third cannon fired, not knowing it was loaded with grape shot. The lead shot passed through the aft cabin of the Washington killing Kendrick as he ate breakfast. The mystery of the salute lies in the story told by survivors. Why would Kendrick go below to eat during a salute? Why would a captain not know that one of his cannons was loaded with shot? It can be

speculated that Kendrick was seen as a business threat to the British, who knew he had purchased much of Vancouver Island. The Spanish had just abandoned Nootka Sound and the Northwest Coast, thereby leaving the British free to expand their empire. Kendrick and the upstart Americans were obviously right to claim the land for themselves. Gray had claimed the mouth of the Columbia River and Kendrick had purchased much of the coast.

We will never know what happened that day in Hawaii. Captain Brown and his crew were slaughtered by the natives in the days after the salute. The Jackal's side of the story sank, while the Lady Washington sailed away to China under the command of a former clergyman and agent of the owners, John Howell. It was Howell who told the story of the botched salute. He sailed to China and worked to make the Lady profitable, but the debts incurred by Kendrick were too great. He sent word to the owners not to expect anything of the Washington and Kendrick's land claims. He sent the deeds from Kendrick's purchases onto the U.S. government but he cautioned the owners, telling them that the land was good for little.

It's not clear what Howell did with the Lady Washington after he wrote to the owners from China. He may have returned to the Northwest Coast, but no records of such a voyage are known. Most likely he put the battered and bruised brig at anchor in Macao and went ashore to make money as a trading agent. It's not until 1797 that we know that Howell took the Lady Washington from Macao to Luzon in the Philippines with a load of silver. He was trying to enter the Cagayan River on the 21st of July, 1797 when heavy seas forced the brig into a sand bar at the river's mouth. The crew fought to free the brig, but she was hopelessly aground and over the next two days they offloaded what they could from the brig as waves punished her hull. On the 23rd the Mate and Steward were the last to leave the brig. The Mate made it to shore but the Steward, who could not swim, drowned in the river.

That is the last we hear of the Lady Washington until the 1980's. In an effort to honor the Centennial of the State of Washington, a group of Aberdeen, Washington volunteers formed the Grays Harbor Historical Seaport Authority and announced that they intended to build replicas of the Lady Washington and Columbia Rediviva. The plan is later revised to construct only the Lady Washington, and the city of Aberdeen supported it.

In a multi-year effort, volunteers and professional shipwrights built the new Lady Washington in Aberdeen. Historians and nautical architects worked to create an accurate vessel that is capable of meeting modern U.S. Coast Guard requirements for passenger-carrying vessels. She is an historic replica with the same safety systems as a cruise ship.

On March 7, 1989 she was launched in the swirling waters of the Chehalis River. Soon she was rigged and began the second series of voyages on the Northwest Coast for the Lady Washington.

Over the next 21 years she sailed up the Columbia River to Eastern Washington, up the Sacramento River to Sacramento, California, as far North as Skagway, Alaska, and all the way to St. Vincent in the Caribbean Islands for the filming of the smash hit "Pirates of the Caribbean: Curse of the Black Pearl".

The Lady Washington now sails between ports on the U.S. West Coast and into British Columbia waters, including Nootka Sound on Vancouver land. She is the official Tall Ship Ambassador for the state of Washington.

This manual belongs to: \_\_\_\_\_

Training Dates: \_\_\_\_\_

Ports of Call: \_\_\_\_\_

## My Crew

Master: \_\_\_\_\_

Mate: \_\_\_\_\_

Bosun: \_\_\_\_\_

Engineer: \_\_\_\_\_

Cook: \_\_\_\_\_

Program Coordinator: \_\_\_\_\_

Deckhands: \_\_\_\_\_

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Notes: \_\_\_\_\_

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