

Reference Guide For Rigging and Sailing the 27 ft Service Whaler

(ENGLISH)

Cette publication est disponible en français sous le numéro A-CR-050-880/PC-002.

Issued on Authority of the Chief of Reserves and Cadets

Canada



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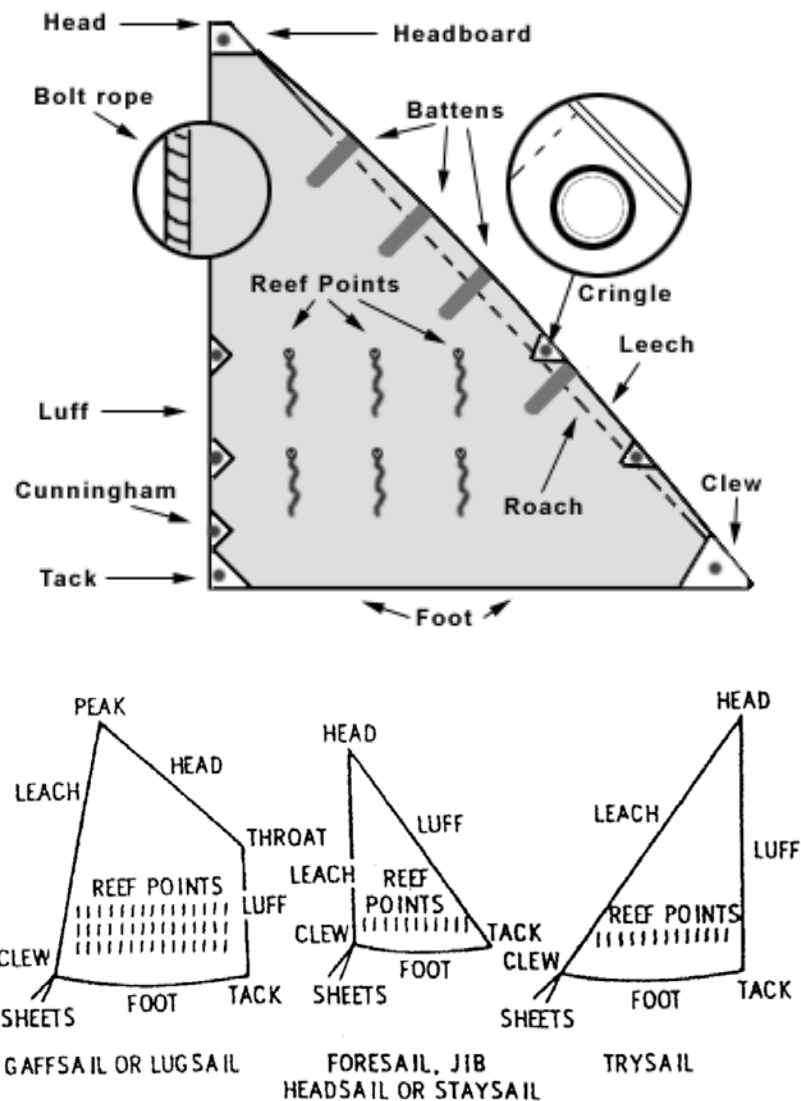
Introduction

This manual is intended as a reference guide to assist Instructors in identifying parts of the 27-ft Service Whaler, as well as to familiarize Staff with the rigging, piloting, and various sea drills associated with the vessel.

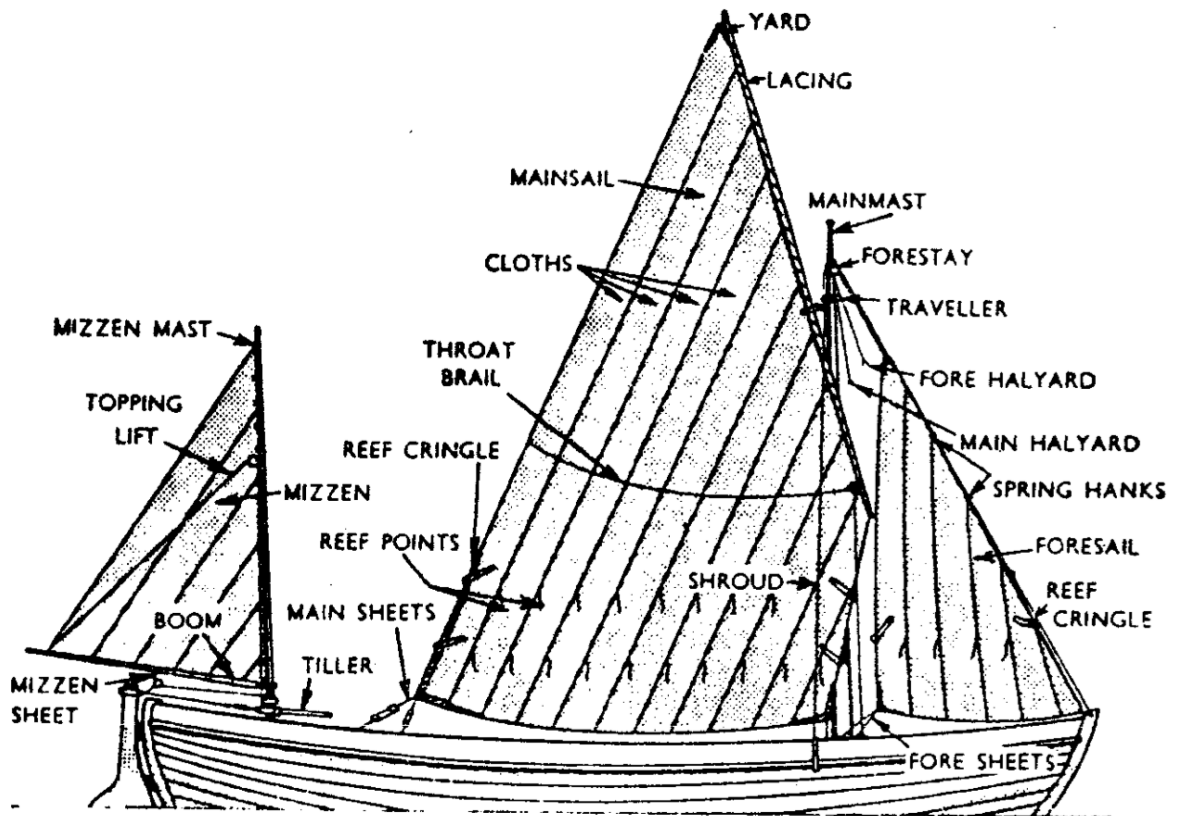
Please note that bolded items are defined in a glossary of terms.

Rigging Terms of a 27-ft Whaler

1. The parts of a three-sided and four-sided sail are named in the diagram below:



2. The image below illustrates the rig of a 27-ft service whaler. Details are common to most fore-and-aft boats.



3. A **Bolt rope** is the roping on the edge of a sail. It is always sewn on the side of the sail, which will be to port when the sail is set.

4. A **Sheet** is a rope bent to the clew of a sail. It is used to trim the sail as required and is named after the sail to which it is bent. Example: **foresheet**, **mainsheet**, or **mizzensheet**. To check a sheet is to ease it off so that the sail is eased out, to “aft” a sheet is to haul it in so that the clew of the sail is hauled aft, and “to let fly” a sheet is to let it run so that the sail flaps, spilling the wind from it.

Parts of a 27-ft Whaler

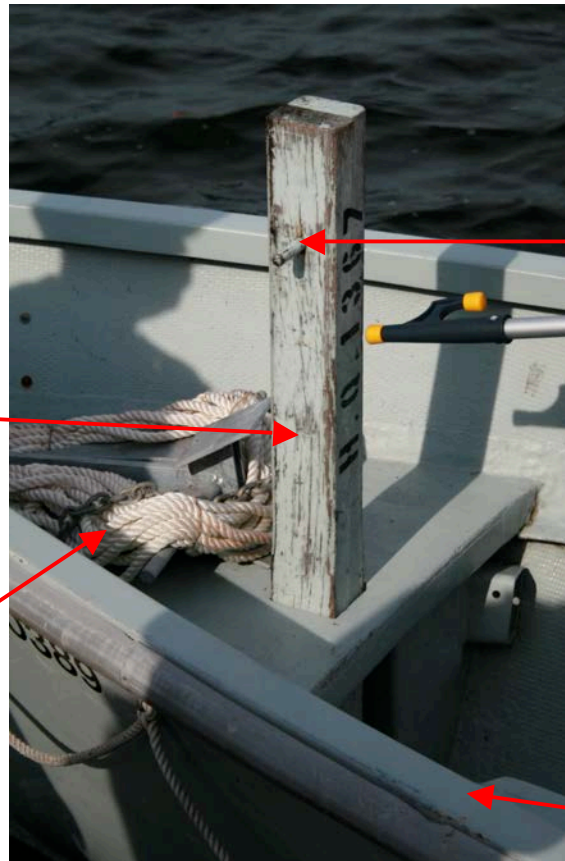
1. Displayed below are various whaler images and part identification.



Kisby Ring

Life Lines

Fenders



Bollard Pin

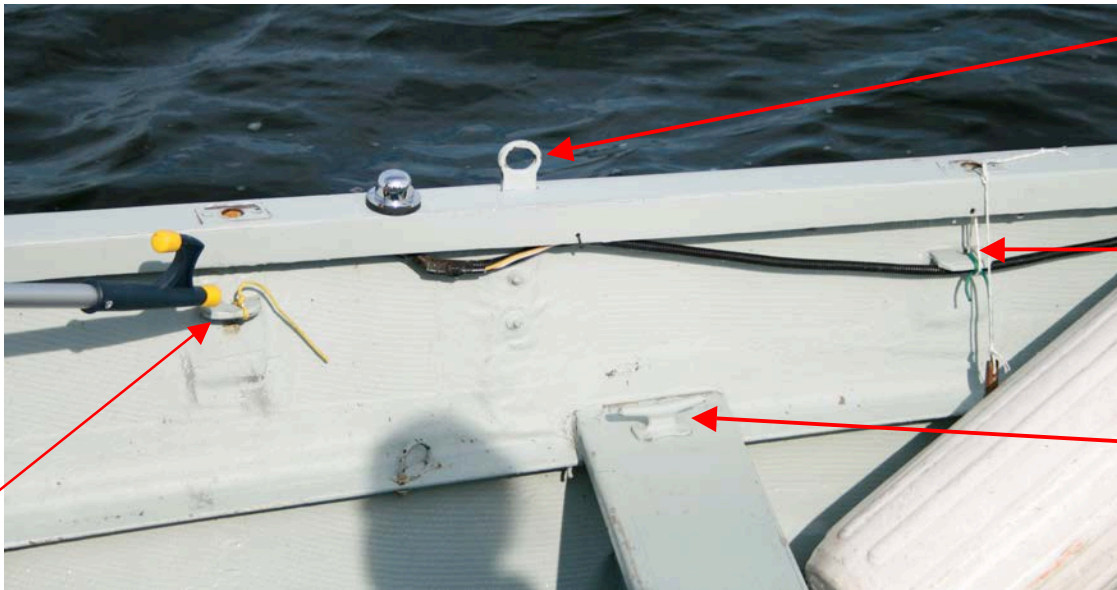
Towing Bollard

Anchor

Gunwale



Crutch



**Eyeplate
or
Chainplate**

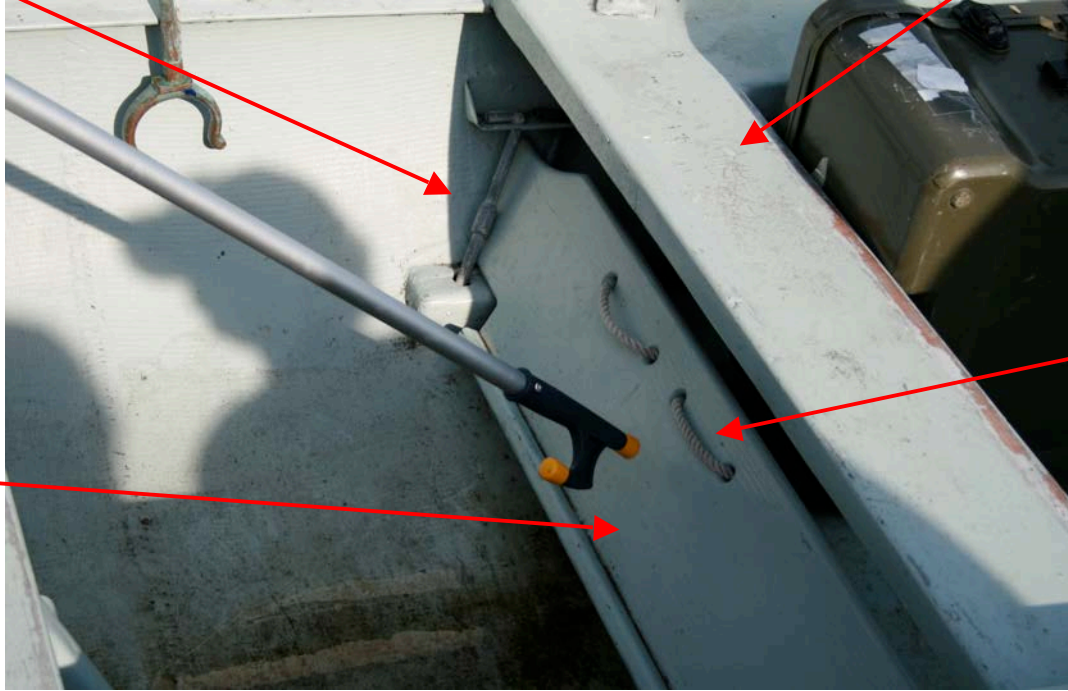
Lanyard

Cleat

Crutch Plate

Stretcher Pins

Thwart

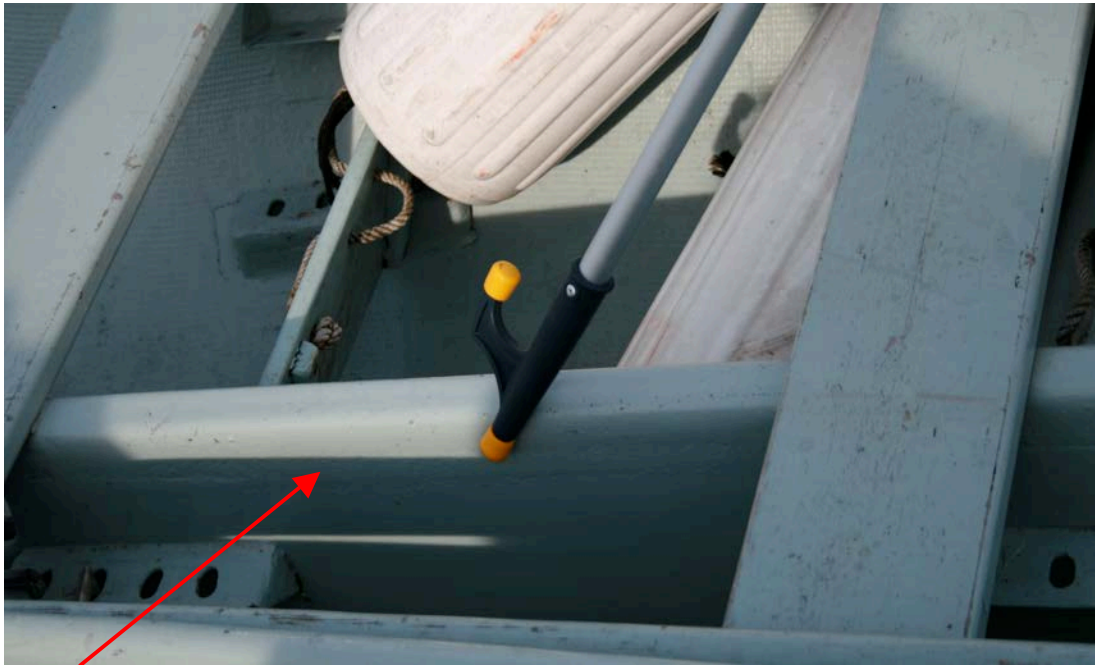


Stirrups

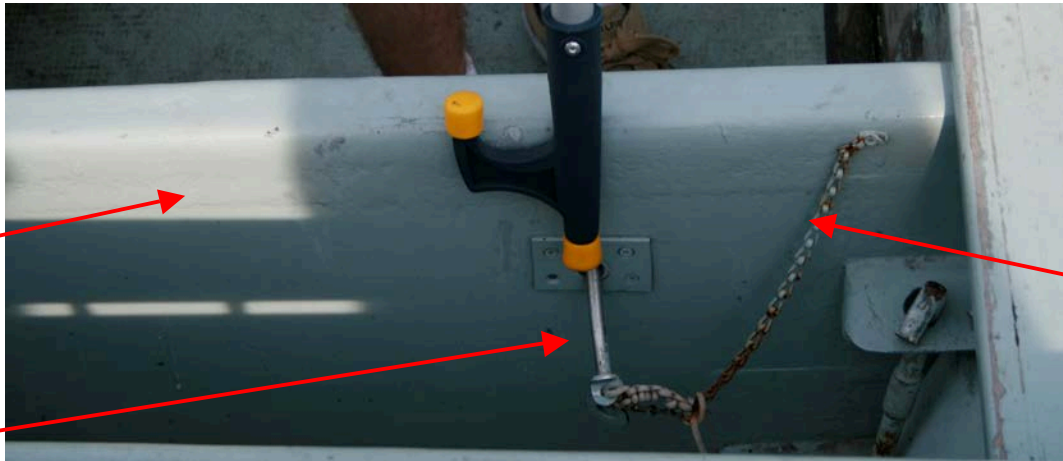
Stretcher



Another View



Center Board Housing



Keel Housing

Center Board Safety Pin

Lanyard

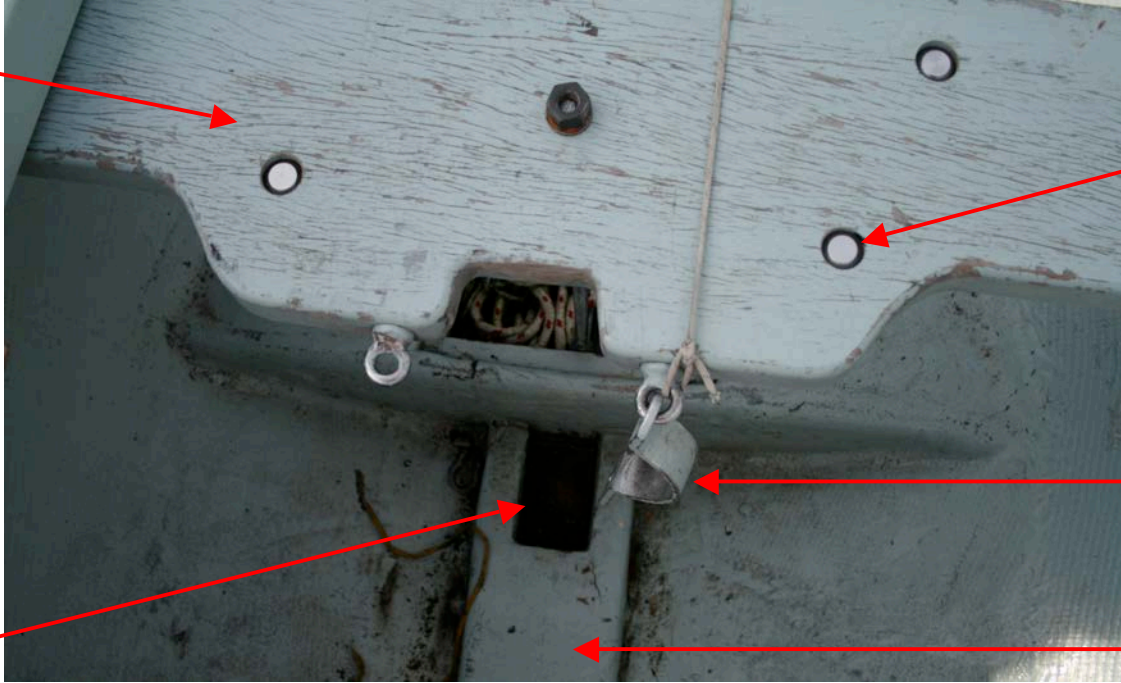


Center board Winch

Sailing Rig of a 27-ft Whaler

1. The **mainmast** is stepped in the **keelson**, held by an iron clamp to the second **thwart**, and stayed by two **shrouds** set up with **lanyards** to **eyeplates** in the **gunwales** and by a **forestay** of wire rope secured to a long **shackle** on the stem.

2nd Thwart



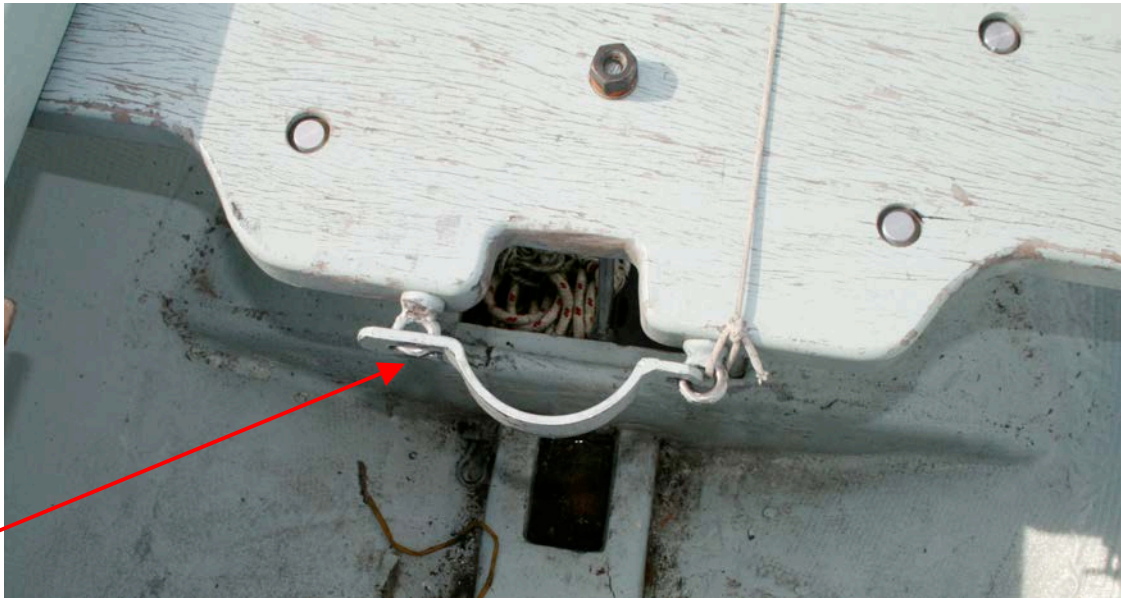
Belaying Pin (Underneath)

Main Mast Clamp

Mast Step

Keelson

Clamp Shut to Secure Mast to Thwart with bottom end in Keelson



2. The **mizzenmast** passes through a specially fitted crosspiece and is stepped in the **hog** abaft the stern benches; it is not stayed. The **boom** of the mizzen can be triced up by a **topping lift**, and its heel is hinged to the **mizzenmast**.



Mizzenmast



Another view

3. The sails comprise of a 1) **foresail**, 2) **standing-lug mainsail**, and 3) **triangular mizzen**, the foot of which is laced to a **boom**. In addition, a **trysail** is also provided for use as a stormsail in place of the mainsail, or as a **spinnaker** for which latter purpose a **spreader** (or **baring-out spar**) is provided for bearing out its foot.

4. The foresail can be **single-reefed** and the **mainsail double-reefed** utilizing **reef points** on the sail. To reef a sail is to reduce the area it covers to the wind in order to prevent the boat from heeling over too far or capsizing. A sail is reefed by gathering up its foot to the required line of reef points and then stopping each together round the gathered up foot with a reef-knot.



Single Reef Points on a Fore Sail



Foresail Reefed



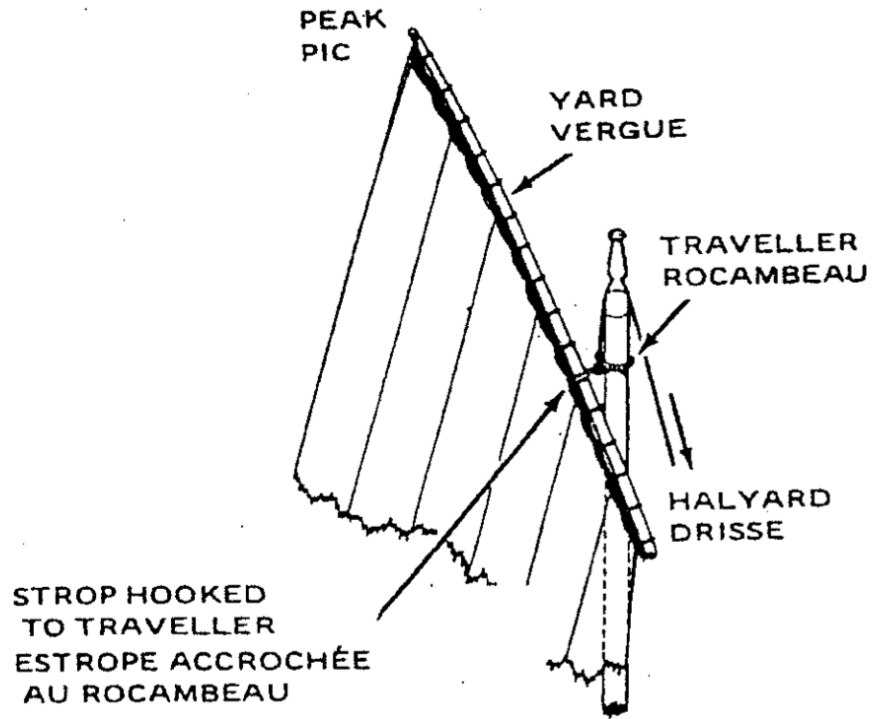
Mainsail single reefed

5. The fore and main **halyards** are **single whips** rove through **sheaves** at the head of the mast and set up to **belaying pins** under the second and third **thwarts** – the fore halyard is of cordage and the main halyard is a wire rope pendant tailed with cordage.



Fore and main halyards

6. The main **yard** is hooked to a **traveler** shackled to the **main halyard**, and the tack of the mainsail is **bowed** down by a tack-tackle rove to the **keelson**.





Traveler



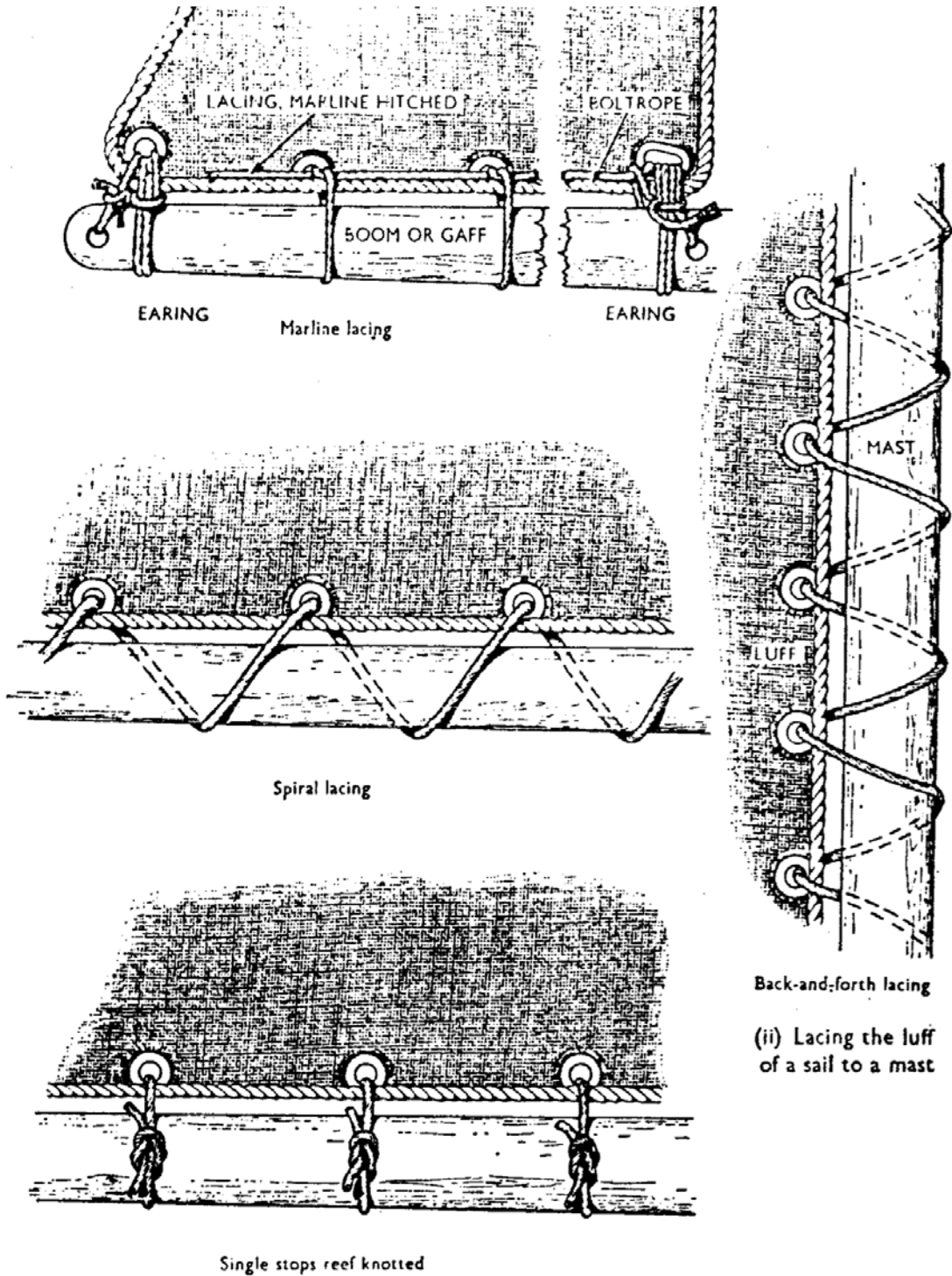
Yard hooked into traveler

7. The **luff** of the **foresail** is clipped to the **forestay** by **spring hanks**.



Luff clipped to forestay by spring hanks

8. The **mizzen** is laced to its mast and boom using methods shown below



Back-and-forth lacing

(ii) Lacing the luff of a sail to a mast

(i) Bending the head or foot of a sail to a gaff or boom

9. The **foresheets** halyard consist of a single piece of rope spliced to **clip-hooks** (aka Sister Clips) which hook into the **head** that are then hauled on to pull the **foresail** up into position. Another piece of rope is cow hitched to the **clew** and then becomes the port and starboard **foresheets** for the **foresail**.



Foresheets, clip-hooks, and the clew of the foresail

10. The **mainsheets** consist of two double whips rove through **bullseyes** and joined by a pair of **clip-hooks** to the **clew**.

Image 10a – Mainsheets
(Need Photo of Main sheets)



Bullseyes with whips roved through

11. The **mizzensheet** is rove from the **boom** through a **block** or a **deadeye** on the **sternpost** to a **cleat** on the **mizzenmast**.



Mizzensheet from boom through block/deadeye on stern post

12. **Lizard bullseyes** are made fast to the risings and are provided as **fairleads** for the **foresheets**.

Image 12 – Lizard Bullseyes acting as Fairleads for foresheet
(Need Photo)

13. **Eyeplates** are provided in the **sternsheets** for the **standing blocks** of the **mainsheets**.



Eyeplates, sternsheets, and standing blocks

14. The mainsail is fitted with **brails** and provided with a **spreader (or bearing out spar)** for bearing out its **foot** when the boat is **reaching** or **running**.



Brail and Spreader/Bearing out Spar being used on foot of mainsail

Sail Drill for 27-ft Whaler - Securing

1. If the boat is at the **boom** she should be made **fast** to an **outer lizard** so that the **mast** and **yard** clear the **boom guy**.
2. Sailing Gear should be placed as follows:
 - a) Mainmast **amidships**, **heef** forward.
 - b) Main yard and mainsail in their cover alongside the mainmast or secured to mainmast using a marlin-hitch, **peak** aft.
 - c) Mizzenmast and mizzen in their cover, or secured to mast using marlyn hitch, **heef** aft, on the **stern benches**.
 - d) Boat's sailing bag, containing **foresail**, **foresheets** and **lizards**, **mainsheets**, main **tack-tackles**, **stormsails**, **lacing**, **codline**, twine and shackles, in the **sternsheets**

- e) All **crutches** unshipped and the oars stowed each side in their **beckets**.

Sail Drill for 27-ft Whaler – Rigging for Sail

1. When aboard a whaler, there are various designations that are utilized to indicate the crew's role and responsibility.
 - a) Coxswain – Pilots boat and issues command. Is in charge of the Mizzen mast.
 - b) Stroke
 - c) Bowman/lookout (referred to as 'Bow')
 - d) No. 2 – stationed at... (near mast)
 - e) No. 3 – stationed at ... (midships)
 - f) No. 4 – stationed at ... (before stroke)
2. At the command: **“UP MAST, RIG THE BOAT”** Nos. 2, 3, 4 and Stroke launch the mast aft until the heel is clear of the second thwart.
3. No. 2 drops **keel no more than 3/4 maximum** using either a lever or crank (varies between whalers)



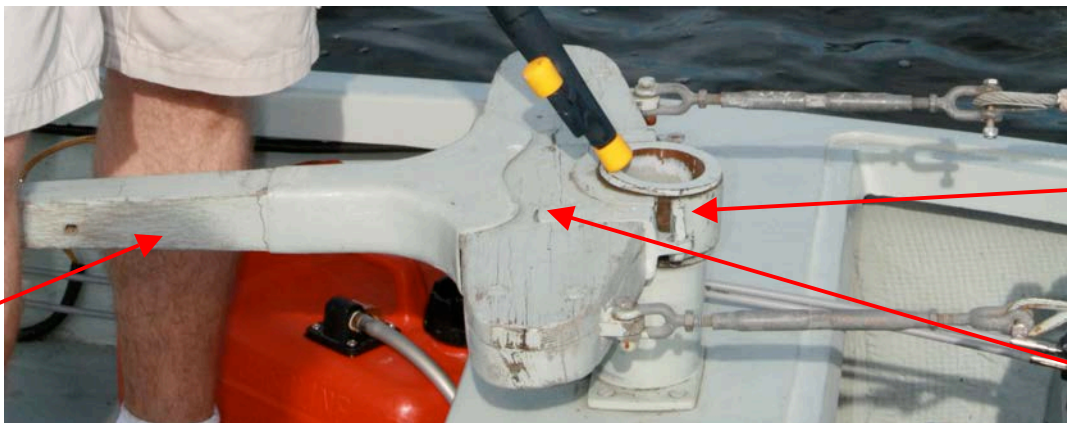
4. Nos 3 and 4 and Stroke then lift the mast upright while nos. 2 guides the **heel** into the **mast step** and clamps it in place using the main mast clamp.
5. The Bowman and no 2 guide clear away the **forestay** and **shrouds** and set them up **taut**, taking care to divide the strain equally between the shrouds.
6. No. 3 clears away the **running rigging** and ensures that the **traveller** and fore halyard **clip-hooks** are hooked to the **becket** on the mast.

7. The Coxswain and Stroke secure the rudder lanyard inboard and ship the **rudder**, **yokes** (yoke plate), yoke lines and **tiller**.



Yoke Plate

Yoke Lines or
Yoke Chains



Tiller

Stern Post
or Mizzen
Post??

Yoke?

Sternsheets



8. The Coxswain and Stroke then ensure that the slings and other gear are clear of the wake of the **mizzenmast**. They then stand the mast vertically on the **cross bench** and step it through its **cross piece**. They then clear away the mizzen and lower the boom, **clip and mouse** the **mizzen sheet deadeye** to the stern post, and see that the mizzensheet is led between the yoke-lines. The mizzen may then be sheeted aft to steady the boat, or it may be **topped up**.
9. Bow (bowman) hooks the **tack of the foresail** to the tack hook on the **stem post** using a bowline, hanks the luff to the forestay, clips the fore halyard and sheets to the head and clew respectively (again using bowlines) and mouses the hooks.
10. No. 2 hoists and lowers the foresail to see that all is clear.
11. No. 3 **reeves** the foresheets through their lizards and secures the latter to the **rising each side of the thwart**.
12. Nos 3 and 4 remove the mainsail and yard from their cover, clear away the mainsail, launch the yard forward and hook it to the traveller, ensuring that the fore and main halyards are clear of the hoist.
13. No. 2 shackles the **tack-tackle** to the **eyebolt** in the **keelson** at the foot of the mast and hooks the other end to the tack of the mainsail.
14. Stroke hooks the running blocks of the mainsheets to the clew of the mainsail and their standing blocks of the mainsheets to the clew of the mainsail and their standing blocks to the eyebolts each side of the sternsheets, and mouses the clip hooks.
15. No 3 reeves the **brails** from the **leach** through the **deadeyes** at the **throat** of the mainsail.
16. No. 3 brails up and then hoist the sail, No. 4 belays the halyard, No. 2 bowses down the tack-tackle.

17. It is a good plan, particularly with an inexperienced crew, to lead the fore halyard under the mast thwart to starboard of the mast and belaying pin under third thwart, and to lead the main halyard under the mast thwart to port of the mast and belay it to a belaying pin under the third thwart – the halyards are then under the eye of the Coxswain and clear of gear around the mast.

18. To belay the halyard, it should first be passed over the after edge of the thwart and half round the belaying pin underneath, and then be fully set up by swigging off on the bight and taking down the resultant slack - the halyard should then be passed over the thwart, half round the belaying pin from forward and then over the thwart, and then be secured by jamming the bight between the top of the thwart and the original hauling part. If thus belayed there will be no complete turn round the thwart and the halyard will run free when cast off.

Sail Drill for 27-ft Whaler – Duties When Underway

1. Bow always keeps a lookout ahead and to leeward, and tends the forestay and the foresail and its tack.
2. No. 2 tends the fore halyard and the brails, sees that the running rigging round the mast is clear for running, and that the tack-tackle, shrouds, and forestay are correctly set up.
3. No. 3 tends the foresheets, spinnaker halyard and spreader, and assists No.2 as necessary.
4. No. 4 tends the main halyard, drop keel and spinnaker sheets, and assists Stroke and No. 3 as necessary.
5. Stroke tends the mainsheets and assists the Coxswain with the mizzen as necessary.
6. Coxswain tends the mizzensheet and topping lift.

Sail Drill for 27-ft Whaler – Furl and Stow Sails, Mast and Gear

1. At the command: **“DOWN SAILS, STOW GEAR”** No. 2 lowers the foresail, which is gathered in by bow, and **unhooks the tack** and **foresheets**, **unhanks** the sail from the forestay, and, if dry, folds it up.
2. No. 3 unreeves and makes up the foresheets. If the spinnaker has been used and is dry it is folded by Nos. 3 and 4 and lashed with its sheet and halyard.
3. No 4 lowers the main halyard while No. 3 gathers in the mainsail and No. 2 unhooks the tack-tackle and the yard from the traveller.
4. Nos 3,4, and Stroke then fleet they yard aft, and, if dry, fold and roll the sail to the yard, lashing it with the brails. Stroke unhooks the mainsheets and makes them up.
5. No. 2 hooks the fore halyard and traveller to the becket on the mast and unreeves the shrouds.

6. Bow unreeves the forestay and hands it to No. 2, who then secures the stay and shrouds to the mast by crossing them alternately and lashing the ends to the mast with the lanyards.
7. The Coxswain and Stroke unshackle and unreeve the mizzen-sheet, top up the mizzen boom, and, if dry, fold the mizzen round its mast and boom and lash it in place with the topping lift. They then unship the mizzen-mast and lay it to one side of the thwarts, then unship the rudder, yokes, yoke-lines and tiller and lay them in the stern-sheets.
8. At the command: **“DOWN MAST”** Nos. 3 and 4 lay hold of the mainmast, No. 2 unclamps it, and then all three lift it clear of its step and lower it to Stroke and Coxswain.
9. No. 4 raises the **drop-keel**.
10. The foresail, spinnaker, sheets, tackles and any other loose gear are handed to Stroke who stows them in the boat’s sailing bag.

Terms Used in Sailing

1. **Close-Hauled:** A boat is “close-hauled”, or sailing “by” or “on the wind”, when all her sails are drawing and she is sailing as close as possible to the direction from which the wind is blowing. Few Service Boats will sail to advantage when heading closer than about 4 1/2 points (50 degrees) from the direction of the wind.
2. **Sailing Free:** A boat is sailing “Free” whenever her sails are filled and she is not sailing close-hauled; i.e. when sailing so that she is free to maneuver on either side of her course without having to go about.
3. **Reaching:** A boat is “reaching” when she is sailing free with the wind abeam or before the beam, but is not sailing close-hauled. She is on a “**close reach**” or “fetching” when she is nearly close-hauled, and on a “**broad reach**” when the wind is abeam. She is said to have a “**soldier’s wind**” if she can sail to her destination on one tack and return from it on the other tack.
4. **Running:** A boat is running when she is sailing with the wind abaft the beam.
5. **Port and Starboard Tacks:** When either close-hauled or reachign a boat is on the “port tack” when she has the wind on ther port side, and on the “starboard tack” when she has the wind on her starboard side.
6. **Tacking, or Going About:** A boat tacks or goes about when she changes from one tack to the other by altering course into the wind and then away from it on the opposite tack. The order “**ready about**” is the warning given to the crew to stand by to tack.
7. **Beating:** A boat is beating when she works close-hauled to windward in a series of alternate tacks.
8. **Wearing:** A boat wears when she changes from one tack to the other by turning her head away form the wind and brining her stern up into it, then gybing and brining her head towards the wind again but on the opposite tack.

9. **Port and Starboard Gybes:** When a boat is running she is said to be on the “port gybe” when the wind is blowing on her port side from abaft the beam and her mainsail is set to starboard, and she is said to be on the “starboard gybe” when the wind is blowing on her starboard side from abaft the beam and her mainsail is set to port.
10. **Running by the Lee:** A boat is running by the lee when she is running with her mainsail set on the windward side; she is then very liable to gybe, which is dangerous in strong winds.
11. **Brought by the Lee:** A boat which is running before the wind is said to be brought by the lee when the wind suddenly changes from one quarter to the other; this often happens in squally weather owing to a shift in wind, but may also be due to a sudden yaw caused by bad steering.
12. **To Gybe:** A boat which is running before the wind gybes when, either purposely or accidentally, the mainsail is brought or blown across to the opposite side of the boat. A boat therefore gybes when she wears, or if she is brought by the lee.
13. **To Miss Stays:** A boat misses stays when she fails to go about from one tack to the other and pays off on her original tack.
14. **In Irons:** A boat is in irons when she fails to go about from one tack to the other and lies head to wind unable to pay off on either tack.
15. **The Helm:** In directing the steering of a sailing vessel the tiller is referred to as the helm, and in directing its movement reference is made to the weather or lee side of the vessel (i.e. to the upper or lower side, respectively).
16. **To Weather:** An object is to pass it on its windward side.
17. **To Luff:** Is to bring the boat’s head closer to the wind.
18. **Flat Aft:** The sails are said to be flat aft when they are sheeted home as tautly as possible.
19. **To Back a Sail:** A sail is said to be backed when it is trimmed to catch the wind on its fore side, and so tends to stop the boat’s headway and drive her astern.
20. **Flat Aback:** A boat is said to be taken flat aback when, owing to a sudden shift of wind or alteration of course, the wind suddenly fills the sails on their wrong side and so reduces the boat’s speed or gives her sternway.
21. **Heave To:** A vessel is hove to when she is lying stopped but can be got under way immediately. A sailing boat or ship under way is hove to by backing one or more of her sails against the wind.
22. **To Hug the Wind:** Is to sail as close to it as possible.
23. **To Pinch:** Means to hug the wind too closely so that the sails are not properly filled and the boat therefore loses way.
24. **To Shorten Sail:** Is to take in sail.
25. **To Set Sail or Make Sail:** Is to hoist Sails and get under way.

26. **To Goosewing:** Is to set alternate sails to starboard and port when running before the wind.
27. **The Wind's Eye:** Refers to the actual direction from which the wind is blowing at any given moment.
28. **Make it Fast:** An order to secure a line

General Commands

1. *Preparatory command* is "**Stand by to...**"
2. **That's Well!** Stop a task. Not urgent.
3. **Avast!** Urgent stop.
4. *Modifiers:*
 - a. **Easy:** very slowly
 - b. **Handsomely:** Do it slowly.
 - c. **Cheerly:** mid-speed
 - d. **Smartly:** Do it with vigor.

Mooring and General Boat Commands

1. **Cast Off!** Only used with the boat's own mooring lines. The line is unwrapped from the cleat or bitt on the dock or other vessel, so that it can run free.
2. **Take In** (a line)! Pull the specified line into the boat, typically the bow painter or a mooring line, coiling it and stowing it in its place.
3. **Shove Off!** Push off from the dock, wall, shore, or other boat.
4. **Fend Off!** or **Fend the Boat!** Using the oars or boathooks, keep the boat from brushing against another boat, dock, wall, or rock.

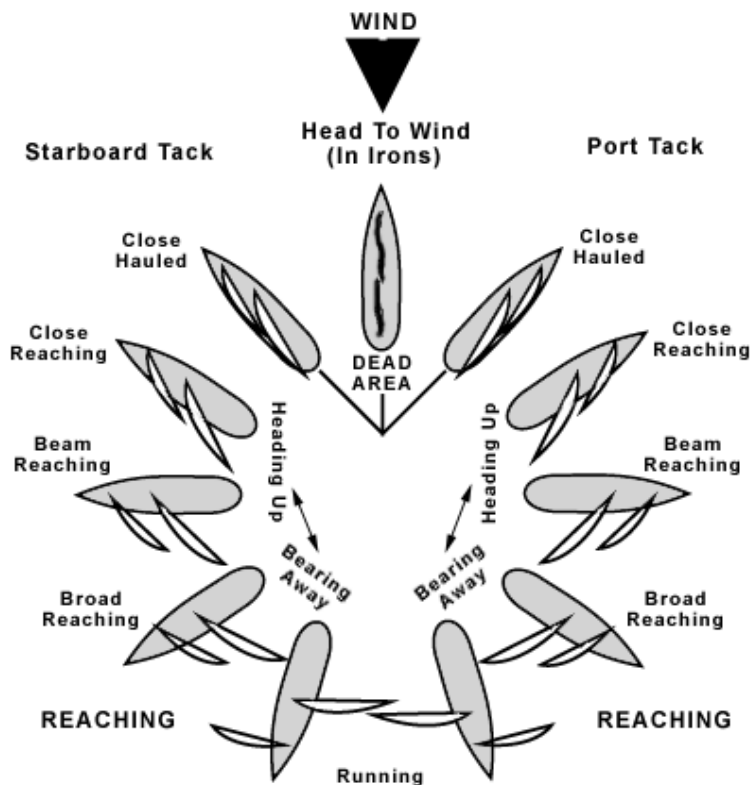
Line Handling Commands

1. **Let Go** (a line)! or **Cast Loose** (a line)! or **Loose** (a line)! Undo the rope from the cleat, keeping a firm grip on it and with the line running under the cleat so as to be able to apply force to it.
2. **Haul** (a line)! Pull in the line.
3. **Slacken** (a line)! or **Ease Off!** Give slack as it is required, keeping the line taut but not strained.

4. **Pay out** (a line)! Feed the line past the cleat or belaying pin. This is used when Slacken doesn't let the line run freely enough to allow the line to be hauled or when used for an anchoring line.
5. **Set Taut** (a line)! Remove the slack from the line.
6. **Clear** (a line)! Untangle the line.
7. **Hold** (a line)!, **Check** (a line)!, **Snub** (a line)! These commands are similar, though vary in degree. In all cases, the line is passed under the arm of the cleat or around the belaying pin. Tension is kept on the line to prevent it from moving. When snubbed, the line is held so that it won't move under any circumstances unless it feels that the line is about to part. When held, the line is allowed to move if a reasonable force is applied to it. Checking is somewhere between holding and snubbing.
8. **Hang On** (a line)! Hold the line. In this case, the line is NOT passed around a cleat, belaying pin, or bitt.
9. **Make** (a line)! or **Belay** (a line)! Secure the line on the cleat or belaying pin.

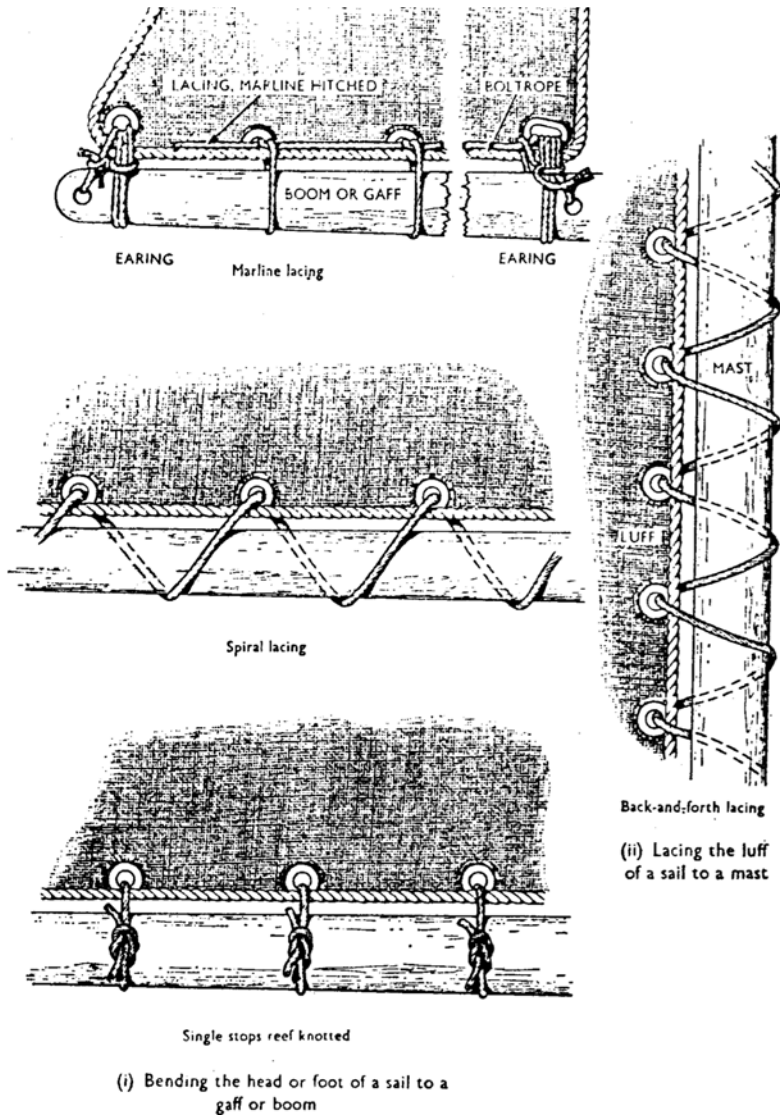
Points of Sail

1. The points of sail are shown and described in the below diagram.



Bend a Sail to a Spar

1. The head of a mainsail is bent to a yard or a gaff by **throat and peak earrings** and a lacing – the throat earring is the fixed anchorage and the peak the movable one.
2. The foot of a mainsail or a trysail may be bent to a boom by **tack and clew earrings** and also be laced to the boom – the tack earring is the fixed anchorage and the clew the movable one.



Annex A: Commands for 27-ft Whaler Under Sail

1. General Commands/Coming About:

ORDERS	ACTION	COMMENTS
MAKE SAIL	Order to Hoist Sails and Get Underway	Usually follows command of “UP MAST, RIG THE BOAT”
READY ABOUT	Look around at the crew and make sure they are getting ready	This will let the crew know that they are going to have to reset the sails and change position in the boat. Crew should respond with “READY” as an acknowledgment.
COMING ABOUT Or LEE HO!	Push the tiller away from you	Given once the Cox’n sees that the crew is ready to change tack. The Cox’n will push the tiller towards the sails the bow of the whaler will head to wind and the sails will start to luff as the <i>bow passes through the wind</i> .
LET FLY	Let the main and foresail sheets out	Do not say this order until the bow of the boat is directly in the eye of the wind.
BRAIL UP	Haul down on the brail	
DIP THE YARD	Pull the yard to the front of the mast	Crew member assigned to the yard will grab the yard line and pull it down and over to the side, moving the yard to the forward side of the mast. This allows the main sail to fill with wind. If cannot reach yard, haul in on main sheet to move.
HAUL IN ON THE FORE AND MAIN Or READY THE FORE AND MAIN	Haul in on the main and foresheets	Given once the sails begin to fill. Nos... will haul in on their respective sheets.
LET FLY THE BRAIL	Let the brail out quickly but with control	Brail must be let out all of the way before the main sail can be trimmed properly.
UP HELM Or BEAR UP	Tiller is moved towards the weather or upper side of the boat	

DOWN HELM	Tiller is moved towards the lee or lower side.	
KEEP AWAY	Order to the helmsman to allow the bows to pay off the wind	Is used instead of “bear up” when the movement required is not so drastic.
NO HIGHER	Is an order to the helmsman to steer closer to the wind	
NOTHING OFF	Is an order to the helmsman not to allow the bows to pay off any further from the wind.	

Note: Commands in Yellow/GREEN are said in quick succession, and with practiced crew, as if one order.

2. Commands for Gybing

ORDERS	ACTION	COMMENTS
READY TO GYBE	Look around at the crew and make sure they are getting ready	This will let the crew know that they are going to have to reset the sails and remain in position. Crew should respond with “ READY ” as an acknowledgment.
GYBE HO!	Pull the tiller towards you	Given once the Cox’n sees that the crew is ready to change tack. The Cox’n will pull the tiller away from the sails.
BRAIL UP	Haul down on the brail	Given once the main sail starts to spill wind and the stern is about to pass through the wind.
HAUL IN ON THE FORE AND MAIN Or READY THE FORE AND MAIN	Haul in on the main and foresheets	Given once the sails begin to fill. Nos... will haul in on their respective sheets.
LET FLY THE BRAIL	Let the brail out quickly but with control.	Brail must be let out all of the way before the main sail can be trimmed properly.

Annex B: Orders For Boat Pulling

1. Orders to the oarsmen are obeyed after completing one full stroke after the order is given. The exception to this is the order “backwater” or “Holdwater”.
2. On obeying a pulling order the crew take their time from the stroke oarsman.
3. When “port” or “starboard” is included in a pulling order, it refers to the oars on the respective sides of the boat.

ORDERS	ACTION
SHIP YOUR OARS	The crew slide their oars out to rowing distance and keep the oars parallel to the water and feathered.
STAND BY	Crew leans ahead keeping arms straight and oars just out of the water ready to pull
SHOVE OFF	Order to shove the boat off with looms of oars from the ships’ side, landing place, or from the bottom if grounded.
GIVE AWAY TOGETHER	Order to start pulling and is obeyed by the whole crew.
OARS	Order to stop pulling. Crew then sits upright on thwarts with blades of oars feathered.
LAY ON OARS	Allows crew to rest on oars, after resting the order “oars” will again be given.
BACK TOGETHER	The whole crew back water by pushing on the looms of the oars instead of pulling.
STROKE TOGETHER	The whole crew give one stroke together
EASY ALL	The crew pull less vigorously to reduce the speed of the boat.
MIND YOUR OARS	A warning to the crew to keep blades of oars clear of obstructions.
EYES IN THE BOAT	To keep the eyes of the crew from wandering and pay attention to their duties.
BOW	Order to bowman of he boat, to boat his oar prior to coming alongside a ship or jetty he completes one full stroke and then boats the oar.
WAY ENOUGH	The crew pull one complete stroke and then boat oars.
BOAT YOUR OARS	The crew unship the oars from the crutches and lay them fore and aft in the boat on their respective sides.

Annex C: Orders for Whaler under Motor Power

1. Orders of a Helmsman fall into two categories: rudder commands and Engine Commands
2. Standard orders to the helmsman (without use of a compass) and their corresponding meaning are as follows. Note that the amount of degrees varies between different classes of ship, and since the Service Whaler has no angle indicator, the instructor will have to coach the candidate on the tiller positions for the associated commands (see chart preceding commands)
3. A coxswain/conning officer's response of **VERY WELL** indicates that the situation is understood, for example, given to the steersman after his report. "All right" should **not** be used since it might be construed to mean "right rudder".

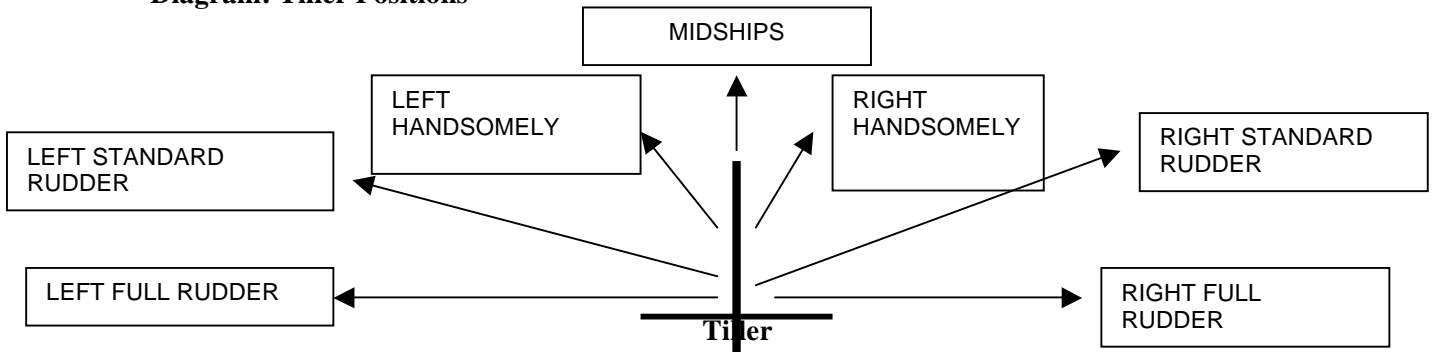
Orders	Actions	Comments
RIGHT STANDARD RUDDER	Helmsman moves right 60 degrees, moving boat to Port.	Helmsman should reply “RIGHT STANDARD RUDDER, AYE SIR.” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
LEFT STANDARD RUDDER	Helmsman moves tiller to the left 60 degrees, moving the boat to the starboard.	Helmsman should reply “LEFT STANDARD RUDDER, AYE SIR.” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
RIGHT # DEGREE RUDDER	Indicates a turn of the rudder a designated number of degrees to the right or to the left of amidships.	Helmsman should reply “RIGHT # DEGREE RUDDER, AYE SIR.”
LEFT # DEGREE RUDDER	Indicates a turn of the rudder a designated number of degrees to the right or to the left of amidships.	Helmsman should reply “LEFT # DEGREE RUDDER, AYE SIR.”

RIGHT HANDSOMELY	Helmsman eases tiller to the right to approximately 30 degrees, turning the boat slowly to the Port.	Helmsman should reply “EASING RUDDER RIGHT, AYE SIR.” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
LEFT HANDSOMELY	Helmsman eases tiller to the left to approximately 30 degrees, turning the boat slowly to the Starboard.	Helmsman should reply “EASING RUDDER RIGHT, AYE SIR.” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
EASE YOUR RUDDER	Helmsman decreases rudder angle by half.	Helmsman should reply “EASING RUDDER, AYE SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
INCREASE YOUR RUDDER/GIVE HER MORE RUDDER	Helmsman increases rudder angle already on, to make the boat turn more rapidly.	Helmsman should reply “INCREASING RUDDER SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”

RIGHT FULL RUDDER	Helmsman moves tiller to the right the maximum degrees allowed, moving the boat quickly to the Port	Helmsman should reply “RIGHT FULL RUDDER, AYE SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
LEFT FULL RUDDER	Helmsman moves tiller to the left the maximum degrees allowed, moving the boat quickly to the starboard.	Helmsman should reply “LEFT FULL RUDDER, AYE SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
HARD RIGHT RUDDER	Helmsman moves tiller to the right the maximum degrees allowed and as quickly as possible, moving the boat quickly to the Port.	Helmsman should reply “HARD RIGHT RUDDER, AYE SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
HARD LEFT RUDDER	Helmsman moves tiller to the left the maximum degrees allowed and as quickly as possible, moving the boat quickly to the starboard.	Helmsman should reply “HARD LEFT RUDDER, AYE SIR” Coxswain should follow-up with the command of “STEADY/STEADY AS SHE GOES” when the boat has reached the desired course. Helmsman should reply “STEADY ON COURSE, AYE SIR” and the Coxswain/Conning Officer should reply “VERY WELL”
STEADY/STEADY AS SHE GOES	Means to steady the ship on the course it is heading at the	Helmsman reply’s “STEADY ON COURSE, AYE SIR”

	time the order is given.	
RUDDER AMIDSHIPS	Helmsman brings rudder to 0/360 degrees.	Helmsman reply's "MIDSHIPS, AYE SIR"
SHIFT YOUR RUDDER	Helmsman moves rudder to the same angle in the opposite direction from where it is currently	Helmsman reply's "SHIFTING RUDDER, AYE SIR."
COMMAND	The Helmsman's response to the coxswain/conning officer if he/she did not hear a command, misunderstood, or believes the command is improper.	
STEADY ON...	The helmsman steers on a range or object identified by the conning officer/coxswain.	
MIND YOUR HELM!	Is a warning that the ship is swinging off course because of bad steering	Helmsman reply's "AYE SIR"

Diagram: Tiller Positions



3. As Whalers have a single outboard engine, the command “ALL” is not used. The word engine is customarily only used for the first command. Engine Commands for a Whaler under Power are as follows:

Commands	Actions	Comments
(ENGINE) AHEAD 1/3	Helmsman moves throttle stick forward 1/3	Slow and steady propulsion
(ENGINE) AHEAD 2/3	Helmsman moves throttle Stick forward 2/3	A faster propulsion rate, but still steady
(ENGINE) AHEAD FULL	Helmsman moves throttle stick as far forward as possible	Fastest propulsion rate
ALL STOP	Helmsman moves throttle to neutral position	Engine idles
(ENGINE) BACK 1/3	Helmsman moves throttle stick backwards 1/3	Slow and steady propulsion
(ENGINE) BACK 2/3	Helmsman moves throttle stick backwards 2/3	A faster propulsion rate, but still steady
(ENGINE) BACK FULL	Helmsman moves throttle stick as far back as possible.	Fastest propulsion rate
TOUCH FORWARD/BACK	Helmsman moves throttle approximately an inch forward/backwards.	Moderate increase or decrease in propulsion

Annex D: General Terms

Amidships: The middle of a boat.

Bearing-Out Spar: Is a round pole of wood or metal with a shoulder at its outboard end, which is plugged into a cringle in the leech or clew of a sail to push out the mainsail.

Beckets: A rope handle; An eye or loop in the end of a rope.

Belaying Pins: Bars of iron or hard wood to which running rigging may be secured, or belayed.

Block: One or more pulleys designed to carry a line and change the direction of its travel. A housing around the pulley allows the **block** to be connected to a spar or to another line. Lines used with a **block** are known as tackle.

Bolt Rope: The rope sewn round the edges of sails. It is made of the best hemp/ a rope sewn into the luff of a sail for use in attaching to the standing rigging.

Boom: The horizontal spar which the foot of a sail is attached to/a pole running at a right angle from the mast.

Boom Guy: A guy is a supporting or steadying line or wire; a line used to control the end of a spar. The boom guy is the line used to steady/support a boom.

Bowed: To pull or haul down on a tack.

Brails: Ropes by which the foot or lower corners of fore-and-aft sails are hauled up.

Bullseye: A small piece of stout wood with a hole in the centre for a stay or rope to reeve through, without any sheave, and with a groove round it for the strap which is usually of iron.

Cleat: A wood or metal fitting with two horn around which ropes are made fast.

Clew: The lower after corner of a sail.

Clip Hooks (Sister Clips): A pair of flat overlapping hooks on a single ring, facing opposite directions, which when closed together form one eye.

Codline: An eighteen thread line.

Cross Bench:

Cross Piece: A piece of timber connecting two bits.

Crutches: A removable brace fitted in place to support an Oar. It is secured to the boat by a lanyard.

Deadeye: Blocks in the shroud rigging used to adjust tension.

Double Reef:

Drop Keel: (See 'Keel')

Eyebolts: A long iron bar having an eye at one end driven through a vessel's deck or side into a timber or beam with the eye remaining out to hook a tackle to. If there is a ring through eye, it is called a ring-bolt.

Eyeplates:

Fairlead: A device for leading a sheet or some other line at the correct angle - often on to a winch. Typically, a **fairlead** takes the form of a sheave in some sort of metal holder.

Fast: (See Terms Used in Sailing Section – 'Make it Fast')

Foot: The bottom edge of a sail.

Foresail: Is the sail (such as a jib) located immediately in front of the main mast. It is attached to the forestay.

Foresheet: A rope used in trimming a foresail.

Forestay: Long lines or cables, reaching from the front of the vessel to the mast heads, used to support the mast.

Gunwales: The **gunwale** (pronounced "gunnel" to rhyme with "tunnel") is a nautical term describing the top edge of the side of a boat.

Halyards: A rope or wire used for hoisting a sail.

Heef: The top of a mast.

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Heel: 1) Tipping caused by the wind. 2) The bottom of a mast

Hog: A fore-and-aft structural member of the hull fitted over the keel to provide a fixing for the garboard planks.

Keel: A fin under a sailboat's hull providing weight for stability and lateral resistance to leeway. It consists largely of ballast. Unlike centerboards, most keels are fixed in place and not retractable (the exception is the drop/lifting **keel** found in whalers).

Keelson: A structure of timbers or steel beams that are bolted to the top of a keel to increase its strength. Also spelled kelson.

Lacing: Line used to attach a sail to a spar.

Lanyards: Small line fixed on the shrouds that is threaded through the deadeyes/a line attached to any small object for the purpose of securing the object.

Leech: After edge of a fore and aft sail.

Lizard Bullseye:

Luff: the front edge of a sail, and the flapping in the wind of the front of the sail (luffing).

Main Halyard: The halyard (rope or wire) that hoists the mainsail.

Mainmast: The mast of a sailing ship is a tall vertical pole which supports the sails. Larger ships have several masts, with the size and configuration depending on the style of ship.

Mainsail: The sail set behind the main mast, the luff of which is supported by the mast.

Mainsheet: A rope used in trimming the mainsail.

Mast: A spar set upright from the deck to support rigging and sails.

Mast Step: The support for the bottom of the mast.

Mizzen: The sail on the aft mast.

Mizzenmast: A smaller aft mast.

Mizzensheet: A rope used in trimming the mizzensail.

Outer Lizard:

Peak: Outer end of the gaff -upper aft corner of a gaff sail.

Reaching: (See Terms Used in Sailing Section)

Reef Point: Reef points are short lengths of line secured to each side and through the sail about its foot, used for reefing. A sail may have one, two, or three sets of reef points.

Rudder: Underwater plate or board used for steering the boat.

Running: (See Terms Used in Sailing Section)

Running Rigging: Is the term for the rigging of a sailing vessel that is used for raising, lowering and controlling the sails - as opposed to the standing rigging, which supports the mast and other spars.

Shackle: A type of fastening device, often used as part of boat/a metal 'U-shaped' connector that attaches to other fittings with the use of a pin that is inserted through the arms of the 'U'.

Sheaves: The 'wheel' inside a pulley block or set into a spar to lead a rope or turn its direction of pull.

Sheet: A rope used to control the setting of a sail in relation to the direction of the wind.

Shroud(s): Standing rigging running from a mast to the sides of a ship/wire rigging which supports the mast Athwartships (sideways)

Single Reef:

Single Whips: A hoist consisting of a **single** rope passing through an overhead pulley/block.

Spinnaker: A very large lightweight sail used when running or on a broad reach.

Spreader: Struts used to hold the shrouds away from the mast.

Spring Hanks: Clips used to fasten a sail to a stay.

Standing Block:

Standing-Lug Mainsail:

Stern Benches: Aft Thwarts, in the mainsheets.

Stern Post: Main member at stern of a ship extending from keel to deck.

Sternsheets: The stern area of an open boat.

Stormsails: (See Trysail)

Tack-Tackle: In sailing, a tack tackle is a small tackle to pull down the tacks of the principal sails.

Taut: Firm/Tight

Thwart: Planks placed across the boat to form seats.

Throat: The inner end of a gaff where it widens and hollows in to fit the mast.

Tiller: A bar of wood or iron put into the head of the rudder by which the rudder is moved.

Topping Lift: A line running from the end of the boom to the top of the mast used to keep the boom from falling when the sail is not set.

Traveler: A metal ring that moves freely back and forth on a rope, rod, or spar (main mast on a service whaler), that the yard is attached to, allowing the position of the mainsail to be adjusted.

Triangular Mizzen: Also known as the Mizzen Sail, it is the triangular shaped sail on the aft mast (mizzen mast) of a boat or ship.

Trysail: A small triangular sail which is put up during storm conditions in place of the regular sail. Commonly know as spencer, when carried on foremast or mainmast of a ship or barque and a spanker when carried on the mizzen.

Yard: A spar suspended from a mast, to spread a sail.

Yoke: A piece of wood placed across the head of a boat's rudder with a rope attached to each end by which the boat is steered.

Yoke Plate: Metal Plate atop the yoke which keeps the yoke attached to the rudder.

Yoke Lines: Metal lines attached to the yoke, which turn the rudder.

References