

This document should be read in conjunction with the COP MSCP76 for Barge and associated operations.

It is recommended that all Team Members are fully familiar with the content of this guide, in order to ensure the safe and efficient mooring laying and retrieval.

INTRODUCTION.

With the ever increasing awareness in the prevention of accidents, the possible potential for action against Clubs or its members and the increasing interest being taken by the relevant authorities in the prevention of accidents, it is incumbent on Sailing Clubs and their Members to examine the practices adopted within their respective clubs and so far as is practicable take all reasonable steps to minimise or eliminate potential hazards identified.

Members in any event would wish to maintain the good safety standards within the Marconi Sailing Club and it is for this reason the following Safety Instructions are issued. They should not be considered to be all embracing, but rather to form the basis for good practice. It is up to each member to ensure the working practices with which they are engaged are safely carried out.

These instructions do not apply to or consider the 'At Work Situation' where any individual is carrying out the activity for hire or reward.

The instructions address two principal areas:

1. The use of safe working practices in order to ensure the safety of persons involved in the shore team and on the water involved with the mooring laying or recovering.
2. The correct use of equipment to ensure it remains in good working order and which may directly or indirectly contribute towards safety.

LAYING A MOORING

When laying a Mooring the following procedure should be followed as a guide. The Barge Master should not be pressurised to meet his daily laying schedule as the safety of the crew should always be his first consideration. Delaying the operation until weather conditions, light etc. improve is recommended should the safety of the crew be likely to be compromised in any way.

The actual procedure may vary slightly depending on various factors prevailing at the time:

- a) In order to lay the first anchor it will be required to lift it manually onto the rear roller in readiness for lowering once the barge is in the required position as determined by the Barge Master. This lifting operation should be carried out in a controlled manner making sure that sufficient number of crew assist. As sizes and weights of anchors will vary, it is the responsibility of the Barge Master to determine the number of crew required for this part of the operation.
- b) The run of the bridle chain attached to this anchor should be carefully flaked out in the centre and on the deck of the barge, to ensure it will run out without snagging or fouling anything or anybody, until the centre is found. It should then be secured using the long slip line to one of the cleats on the front of the winch platform. It must be made off with figure of eight turns, but avoiding any overlocking (half hitch) that could prevent it easily being released if required.
- c) The anchor once in position over the stern of the barge should be securely restrained by using the chain brake or a slip rope in such a way that it is held until it is lowered.

- d) The Barge Master will determine where the outer end of the measuring line is to be secured. This is usually fixed to the samson post on the work boat that has previously been secured to the previous mooring centre.
- e) The inner end of the line will then be payed out to allow the barge to hang onto the tightened line with the help of the tide or the Jack B until the line length puts the barge into the desired position. The inner end of the measuring line should then be secured to a stern cleat of the barge; again making sure it can be quickly and easily released if required. When the Barge Master is satisfied that the barge has been manoeuvred into the correct position the appointed crew member – normally the Barge Assistant- will lower the anchor to the seabed.
- f) The bridle chain should then be slowly payed out under the control of the chain brake crewmember as directed by the Barge Master. As this takes place the measuring line should not be allowed to restrict the free movement of the barge, so the Barge Master should ensure that the inner end is cast off the barge's stern cleat and allowed to run free off the drum or released at the outer end that is probably held by the workboat. The Barge Master will instruct the Jack B crew if pulling of the barge is required. This may be needed to allow the bridle chain to run slowly out. He will instruct through means of hand signals how much load to apply, commensurate with the safe paying out of the chain. The use of the chain brake requires special vigilance to ensure that the flaked chain is kept inside the brake to prevent possible run away of the bridle chain. **CREWMEMBERS MUST** be advised to keep hands and feet clear and well away from the moving chain.
- g) This will continue slowly and under control until the bridle chain has run out and the centre reached. As this has previously been secured to the cleat the barge will stop. The chain stop can now be released to allow the mooring centre and riser chain to pass under it as it is now under the control of the slip line. The Barge Master will instruct the Jack B driver to stop any pulling being applied. The Barge Master will request the workboat to release the centre of the mooring currently attached to and to come up to the stern of the barge. The barge is required to recover the slack measuring line as this occurs. The centre of the mooring is then allowed to travel towards the rear of the barge, being controlled and still held by the slip line operator. The slip line length should have been previously checked to ensure it is long enough to allow this to occur.
- h) When the centre of the mooring is over the stern of the mooring barge another slip line from the bow of the workboat and over the bow roller, should be passed through it and the slip line now secured back to the bow cleat on the workboat. Once secured in a way that it can be released but held securely, the slip line from the barge can be released allowing the full weight to be transferred to the workboat.
- i) The chain brake must now be re applied. The remainder of the bridle chain should be flaked as before, and the slip line, previously used to restrain the centre of the mooring, is now used to secure the stock of the remaining anchor. It should be passed through the purpose made ring (see requirements for mooring equipment) and the anchor held near to the winch platform and again secured in a way to allow it to hold, but be easily released.
- j) The remainder of the bridle chain can now be payed out taking care that the chain is led through the brake as in section c) above.
- k) As the bridle chain is being payed out the scope chain should also be lowered carefully over the stern of the barge followed by the mooring buoy
- l) When all the bridle chain has been payed out the slip line will be retaining the anchor and the chain.
- m) The chain brake should be removed and stowed in a place so as not to cause a trip hazard

- n) The slip line operator, under direction of the Barge Master should slowly allow the remainder of the bridle chain and anchor to move to the stern of the barge, where it is manually manoeuvred over the stern roller and clear of the barge whilst still under the restraint of the slip line. Crew should be advised to keep hands and feet out of the way of the slip line and the anchor, should the Barge Master believe that safety is at any time being compromised the procedure should be halted until the equipment is brought back under control.
- o) The Barge Master should direct the Jack B driver to the desired position and with the required tension being applied by controlling the pulling power of the Jack B engine.
- p) When the Barge Master is satisfied that the position is correct the slip line can be released allowing the anchor to descend to the sea bed.
- q) Adjust the length of the measuring line that is still attached to the workboat at the raised mooring centre in readiness for the next mooring to be laid.

MOORING RETRIEVAL

The Barge Master should plan to lift the moorings that are in the shallowest water first dependant on the height of the tide.

- a) Under the direction of the Barge Master the Jack B should tow the barge to the mooring buoy of the selected mooring to be lifted. The buoy should be retrieved with a boat hook and secured to the barge using a line.
- b) The winch will be required for this operation and two crew members must be allocated the task to man the winch drum and cables. They must be thoroughly briefed in starting and stopping the power pack engine and familiar with the task before using it. These crew should be assigned to this task and remain with this task until told they are finished. Select the "start" position on the power pack fuel lever and turn the key to start the engine.
- c) The speed (revolutions) of the power pack engine affects the oil flow to the winch motor. The faster the engine runs, the more oil is pumped to the hydraulic motor connected to the cable drum, so the faster the winch will turn. The Barge Master should set the engine speed so as to have the winch turning at a speed that is complimentary to the experience and ability of the crew to react to the speed of the operation and most importantly is under control at all times. He should remember that safety of the crew is his first consideration and should not be pressured to rush the operation. The winch control is at the stern of the barge and the winch operator, normally the Barge Master, will control the stopping and starting of the drum and will determine the direction of the drum by moving the neutral seeking spring loaded valve lever to the front or rear. Also small incremental movements of the lever attain some degree of winch speed control. He must give his undivided attention to this job.
- d) The winch has two wires wound onto the drum each with a hook at the end. One wire is wound clockwise and the other anti clock wise onto the winch drum. This will allow one wire to be wound onto the drum and the other will unwind, regardless of the direction that the winch drum revolves. The crew must pay attention at all times to guide the wire correctly to ensure that it does not cross over the central dividing disc, get tangled, kinked or crossed. The winch operator must also carefully control the winch and watch also that this is not happening and he must be prepared to immediately stop the winch turning should this occur or he believes that the load on the winch is excessive. A pressure relief valve fitted to the power pack will release should an excessive overload be encountered. It is preferable that this is not allowed to happen as damage to the unit could result particularly if the direction lever is not released immediately. When this valve operates a hissing noise from the power pack will be heard.
- e) The winch must be operated so that one cable is unwound from the drum until one of the cable hooks is allowed to reach the stern roller of the barge in readiness to be hooked to

the mooring scope chain. Careful attention as detailed previously should be taken to guide the shortening winch cable to wind smoothly onto the correct side of the drum

- f) Using the block on the gantry the mooring buoy should be raised sufficiently to allow the longer end of the winch cable hook to be attached to the scope chain on the underside of the buoy.
- g) The winch can now be engaged by the winch operator and the scope chain of the mooring and the buoy be brought aboard the barge. The winch operator will need to ensure that the winch cable that is now lengthening is transferred to the chain when it reaches just over the barge stern roller. The winch drum is stopped and the hook attached to the same chain and the now short winch wire should be unhooked from the chain. The winch is now powered in the opposite direction so that the longer cable is now being wound onto the drum and bringing more of the scope chain aboard the barge. The lengthening cable should also be under strict control to prevent any snagging with the other cable winding onto the drum. This cable must be manually guided and must not be allowed to become slack or a loop may be formed that could become jammed.
- h) The process is repeated until the bridle chain is just brought clear of the water surface and the winch stopped. A slip line now needs to be attached to the centre ring and the winch wire released.
- i) In order to break the anchor free from the bottom it will have to be located with the sliding shackle that is attached to the barge by a chain.
- j) This sliding shackle is now taken over the stern roller of the barge and attached around the bridle chain in such a manner that it is able to run freely down the chain. The Barge Master should decide which bridle chain to select and which direction to run. This will depend on the weather conditions and the tidal flow direction and strength.
- k) The sliding shackle securing chain should be payed out until the Barge Master is satisfied that it has sufficient length to enable it to slide down the bridle chain. This is normally just at or below the water level. It must then be locked into position by one of the permanently rigged separate restraining hook and chains.
- l) Release the slip line after warning all team members and ensuring that they are clear of the chain and buoy. The Barge Master will guide the Jack B driver in direction and pulling power to pull the barge so that the sliding shackle runs down the bridle chain to the anchor. The scope chain and mooring buoy will also need to be returned to the water over the stern of the barge as this operation is in progress. Crew members should be warned that the barge may make unexpected deviations to its course and advised that they should take a firm hold.
- m) When the sliding shackle reaches the anchor the forward motion of the Jack B should be stopped.
- n) This will now allow the winch cable hook to be attached to the restraining chain or anchor and the "hand over hand" operation ((as described in d), e) and g) above)) will again proceed until all the bridle chain, scope chain and mooring buoy is brought aboard the barge.
- o) During this operation the anchors and the chains must be stacked tidily out of the way of the operatives and in such a way that the stability of the barge is not put at risk.
- p) Care must be taken when bringing aboard the anchors as rusting and deterioration during the season may result in sharp edges. Also anchors may be heavy and awkward to handle as they are brought aboard so care must be taken to avoid damage to hands, fingers and feet.

Mooring Laying and Recovery

This operation is repeated for each mooring until the barge master deems he has a safe, but full load. The mooring barge and moorings can then be taken ashore after mooring the barge alongside the trailer that has previously lowered into the water.

This document represents a general guide summary to the Laying and Recovery operation and in itself is not a complete instruction.

Team Leaders may vary the details of the procedure as they see fit to ensure the safety of all involved and the accurate laying of the moorings. Variations to this guide are at the discretion of the Team Leader and as such his responsibility.

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Reviewed on 28th February 2013 by the Health & Safety Committee

To be reviewed after 5 years. Next review due February 2018