

On the job training (OJT) Mooring General

Issue date: 15 Jul 2026

Rev. No.: 3

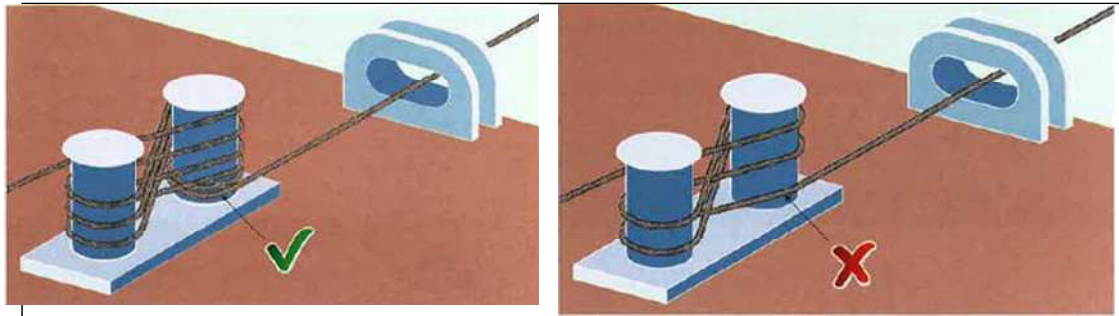
Name of vessel:

OJT 078

Details of training: Mooring General

1. Making fast synthetic fibre mooring lines on bitts

- When making fast synthetic fibre mooring lines on bitts, use **two full round turns** around the leading post of the bitts before making the figure of eight, refer diagram below:
- Make at least four figures of eight turns after two full round turns.



Refer Rightship Inspection Ship Questionnaire (RISQ)

RISQ 10.14 Guide to inspection: When laying up the line onto the mooring bitts, **the first two turns should be taken directly around the first post of the bitts before the rope is laid up in a figure eight around the bitts**. Once a rope is laid up on the bitts the stopper should be released from the rope.

2. Mooring rope turns on the fairlead roller

The unnecessary full turn around fairlead should be avoided due to following reasons:

- Rope loose strength when bent over the smaller radius rollers.
- The transfer of rope tension to the drum is prevented due to friction. The mooring line may part between the roller and shore bollard due to excessive tension (caused by cargo discharging/rising tide/winds etc) in absence of smooth transfer of tension to the mooring drum which is designed to render.

Please discuss the mooring arrangement plan with deck officers. Keep the laminated copy of forward and aft mooring plan on bridge. The lead of the mooring line should be discussed during mooring OJT.



Incorrect practice of taking turns around roller

Correct rope routeing indicated by coloured rough sketch

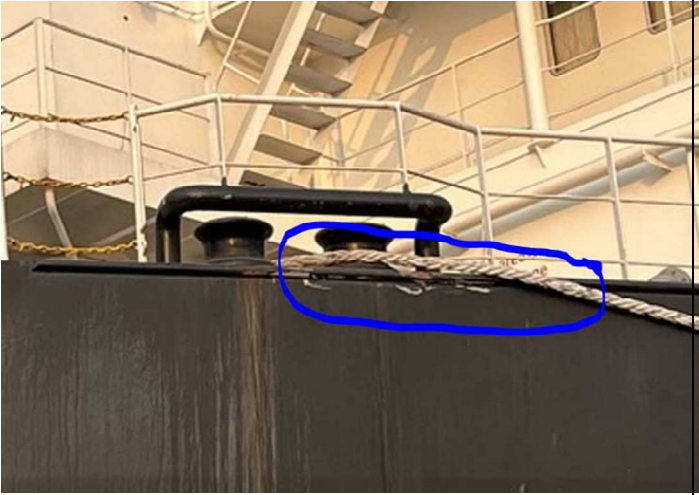
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3. Chafing of the mooring rope

Use chafe protection specially at the sharp bends and around fairleads. The sharp bands in absence of good fairlead lead often observed with spring mooring lines fore and aft. Use chafe protector around the rope in these areas

	
Avoid rope passing over the sharp edge, spring line passed from forecastle	Spring line from poop deck in contact with bar, use chafe protector in way of bar
	
Chafe protector in way of sharp edge	Chafe protector in way of sharp edge

4. Mooring winch maintenance

The brake bands pivot joints should be free and lubricated.

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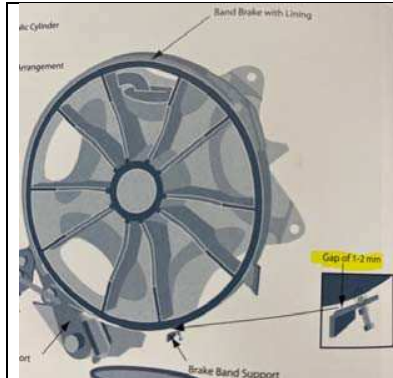
Frozen pivot point joint



Ineffective greasing as grease not penetrating between the joint bracket

5. Brake Band Support

Brake band is sensitive to wear of the brake lining, the lining wear can be reduced by adjusting the brake band support(screw) to maintain the correct distance between the brake band and brake drum. This adjustment is used to maintain the gap between the brake band support and brake band, which should be around 2mm when the brake is applied. The correctly adjusted brake band support ensures that the brake lining (upper) is free when released.



Excessive gap between brake band support screw

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6. Mooring winch operating control levers and clutches

- Ensure mooring winch control levers are in neutral position secured with the locking device after mooring operation.
- Winch control levers are marked with the direction of paying out and heaving in.
- Winches are out of gear after brake is on. Clutch handle secured by pin.

	
Marking on the plate with paying out and heave in direction clearly visible or marked by paint in absence of plate. Control lever secured in neutral position	Winch out of gear and handle secured by pin after brake applied.

Refer Rightship Inspection Ship Questionnaire (RISQ)

10.15

Are the controls, linkages, operating levers, brake drums, brake linings, and pins of the winches, as well as the working access arrangement to the winches, in good working order?

☐ Yes ☐ No ☐ N/A ☐ N/V

Guide to Inspection
The brake drum should be free of corrosion, pitting and rust scale.
The grease nipples should be free of rust, salt, paint and grit.
Check the brake lining for significant wear. Brakes should be closely examined to ensure all linkages are working correctly, brake band material thickness is adequate, and the condition of the brake lining is satisfactory. Equipment manufacturer's manuals will provide details of the permitted minimum brake band thickness.
Clutches should operate smoothly and pins for securing the clutches should be attached to the clutch control levers ready for use.
Winch control levers must be marked with the direction of operation for both paying out and heaving in.
Drum ends should be kept free from damage, rust, and paint.
The bed plates of winches should be regularly inspected for deterioration or damage.

7. Stoppers

Ideally, a stopper should be made of polyester, used in a double configuration and about half as strong as the mooring lines. Refer below RISQ 10.14 for mooring rope stopper. Ensure stoppers' certificate is on board and details are filled up in the company Form 6.5.3.

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10.14

Are appropriate stoppers in use and are the mooring ropes turned up to bitts correctly? (V)

☐ Yes ☐ No ☐ N/A ☐ N/V

Guide to Inspection

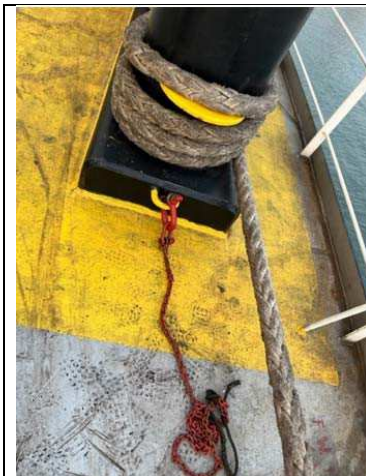
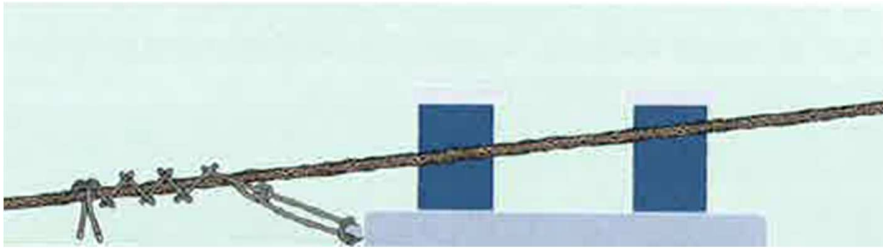
Given the variety of synthetic fibre lines available, it is crucial to use the appropriate type of stopper. Polyamide, polypropylene, and polyethylene mix lines lack the necessary stiffness to function effectively as stoppers. HMSF ropes are generally too slippery to be used as stoppers.

Ideally, a stopper should be:

- > Made of polyester
- > Used in a double configuration
- > Flexible yet made of a stiff material
- > Approximately two metres in effective length from the securing point
- > Thinner than the mooring line
- > About half as strong as the mooring line

(Effective Mooring 2019)

Stopper used in a double configuration



Chain stopper not recommended with synthetic mooring lines



Manila rope stopper not recommended with synthetic mooring lines

8. Pin for securing the clutch (RISQ 10.15)

Finding: RISQ 10.15 Two nos clutches' pins (Safety pins) at aft station's mooring winch were found out of its position since last mooring operations.

- Ensure clutches are secured by safety pins
- Officer in charge at mooring station to ensure locking pins are in place before leaving the mooring station

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Finding: RISQ 10.15 The pins for locking the mooring winch gear change levers were not robust and fit for purpose. Split pins and mild steel thin threaded bolts were used at few places.

- Ensure proper inspection of the mooring equipment during routine inspections
- Order the stainless toggle pins if the existing pins don't meet the requirement.
- Officer in charge at mooring station to ensure locking pins are in place

9. RISQ 10.6 Are mooring lines correctly deployed and tended? (V)

Finding: RISQ 10.6 It was observed that two of the headlines from #3 and #4 mooring winches (P) side were led through the same lead on the forward mooring station. The attending officer stated that it was inevitable to deploy the headlines on the same lead, as the headlines were touched with the port anchor by design.

Comments:

- The Panama chock, with a SWL of 64 tonnes, intended for a single mooring line but was used for two mooring lines, each mooring line with a MBL of 50 tonnes. Use of two mooring lines (50+50=100 tonnes.) via single Panama chock (64 tonnes) will lead to extra load on the mooring structure.
- The MBL of the mooring rope should not exceed SWL of the fittings to which it is in contact with.
- Discuss in pre-mooring toolbox meeting the lead and deployment of the mooring lines with correct fairlead/chock. Refer to the mooring arrangement plan for correct lead and fairlead/chock for the mooring line. A laminated copy of the mooring arrangement plan is to be kept on bridge for reference of deck officers.
- The mooring lines should be arranged as shown in the mooring arrangement plan to avoid the possibility of any extra load being applied to the mooring fittings (fairleads, chocks, bits).

	
INCORRECT ❌ Two mooring lines may overstress the mooring chock / fairlead / roller	CORRECT ✅

Above has been read and understood.

C/O

2/O

3/O

D/C

Verified by: Master

Please file in OneDrive/ 3.2.3 Training folder