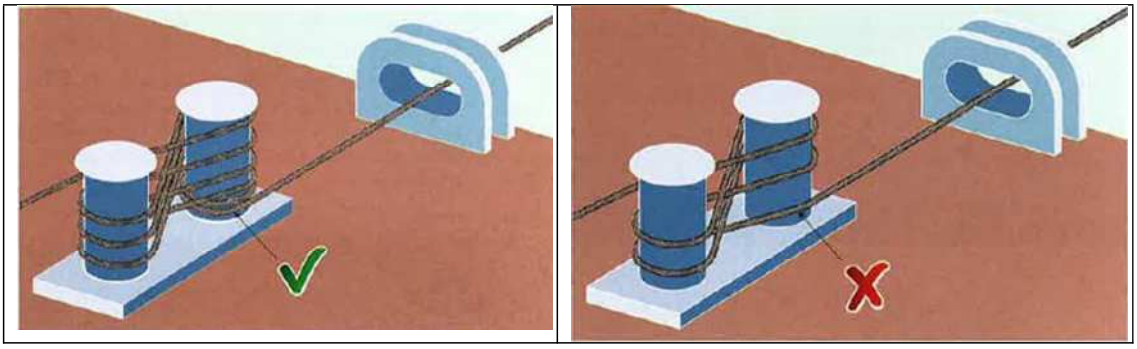
Name of vessel: **OJT 078**

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)

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

With fibre ropes, the stopper used should ideally be of the same material as the rope being stoppered, with synthetic stoppers for synthetic lines and natural fibre stoppers for natural fibre lines.

The MBL of the stopper should be around 50% of the MBL of the line being stoppered. Polyamide (nylon) stoppers should not be used on polyamide lines due to the low coefficient of friction of the material.

(Safe Mooring Practice, 2009)

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.

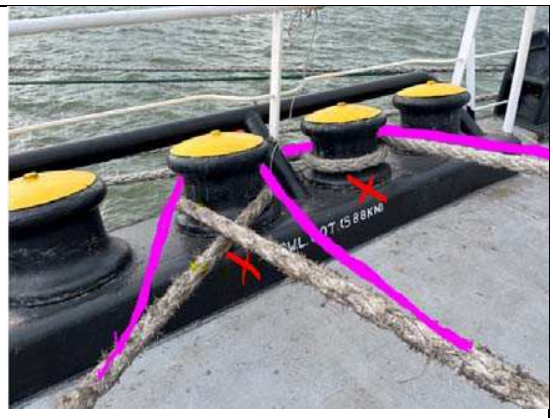
Drum ends are not designed to have mooring ropes secured to them for long periods of time. Ropes should never be left on drum ends when not tensioned; they must always be laid up on the bitts.

2. Mooring rope turns on the fairlead roller

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

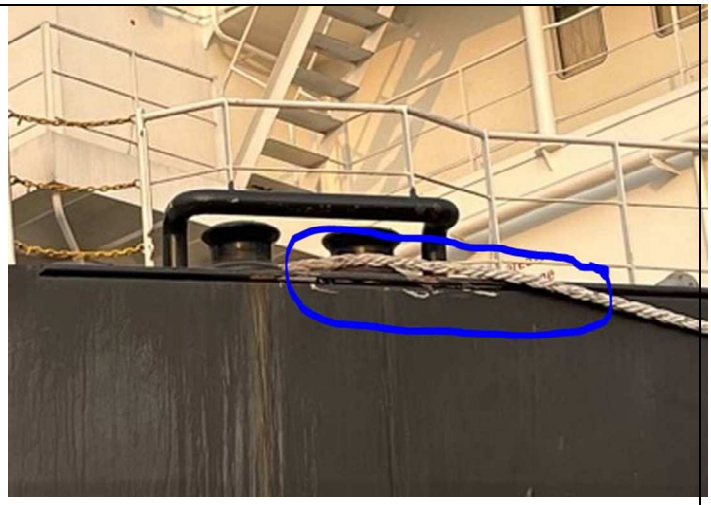
- Rope loose strength when bent over the smaller radius rollers.
- The transfer of rope tension to the drum is prevented due to friction. The mooring line may part between the roller and shore bollard due to excessive tension (caused by cargo discharging/rising tide/winds etc) in absence of smooth transfer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

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. We are in process of supplying the chafe protectors to ships calling China. Discarded fire hose or canvass may be used to cover the rope in these areas for interim period. Also find photo sent by our fleet vessel with chafe protector around rope line.

	
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

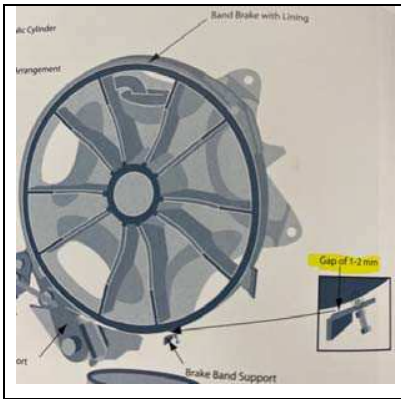
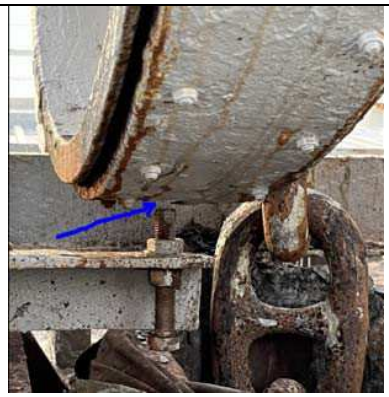
4. Mooring winch maintenance

The brake bands pivot joints should be free and lubricated.

	
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

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.

<table>
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<td>Marking on the plate with paying out and heave in direction clearly visible or marked by paint in absence of plate.</td>
<td>Winch out of gear and handle secured by pin after brake applied.</td>
</tr>
</table>

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?

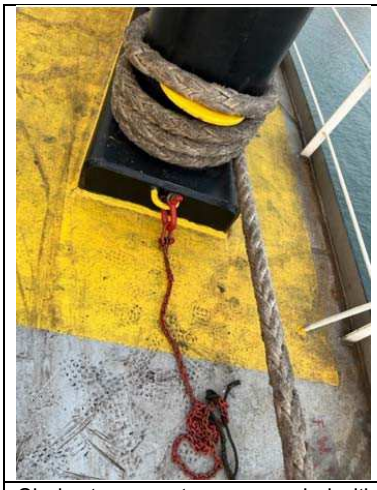
☐ Yes ☐ No ☐ N/A ☐ N/V

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

- Stoppers ideally should be of same material as the mooring rope, synthetic stoppers should for synthetic lines.
- Mooring ropes of synthetic material are used on board our vessels, the stoppers should of synthetic material. Ideal stopper should be made of polyester.

- Polyester rope of 28mm dia. should be ordered for the stoppers.

	
Chain stopper not recommended with synthetic mooring lines	Manila rope stopper not recommended with synthetic mooring lines

Refer Rightship Inspection Ship Questionnaire (RISQ)

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

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(Safe Mooring Practice, 2009)

8. Pin for securing the clutch (RISQ 10.15)

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

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

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