

Maritime New Zealand Guidelines

SAFETY BULLETIN ISSUE 8 – 2007

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MOORING LINE HAZARDS: BIGHTS & SNAP-BACKS

This safety bulletin is for:

- All New Zealand flagged vessel owners
- Foreign flagged vessels visiting New Zealand ports
- New Zealand port companies and stevedoring companies.

Purpose

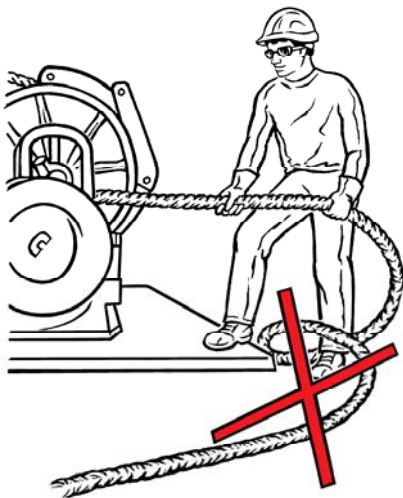
A seaman was killed in 2006 on a visiting foreign vessel during mooring operations while leaving a South Island port. His death was caused when a bight in a bow spring line, in which he was standing, suddenly tightened around his body and then pulled him through the mooring bits.

A previous accident in the 1990s at a North Island port resulted in four seamen being killed when a mooring line snapped and recoiled back onto the foredeck of the ship. This was an example of a snap-back hazard.

The purpose of this safety bulletin is to describe bight and snap-back hazards and advise how best to avoid them.

Bights

Any rope or wire can be coiled, intentionally or by chance. A loop, coil or a section of loose line can injure or kill if the line suddenly tightens. These hazards are commonly referred to as 'bights'.



The sudden tension of a line results not only in the tightening of any bights but also the rapid movement of the line towards the line of tension. This may result in any rope positioned off this line moving rapidly in that direction, lifting anyone or anything in its path.

Unexpected tension on a slack line must be avoided at all times, and all working practices involving lines should have this as a core principle. Any line that is stored or coiled should be as close to the line of tension as possible to reduce the possible consequences of any unexpected load, drum slippage or line movement.

All temporary bights, loops or lines that are being deployed, stowed or recovered should be considered dangerous.

People working in these areas need to watch closely how their feet are placed near bights or loops.

Bights don't always look like bights. Here, a seaman has inadvertently stepped over the line and put himself at risk.

Warning

Bights in lines are dangerous. NEVER stand inside a bight. Know where your feet are while you work and regularly check that your feet are outside any bights.

Snap-back from breaking mooring lines

The following diagrams illustrate the danger zones when mooring lines break and snap backs occur :

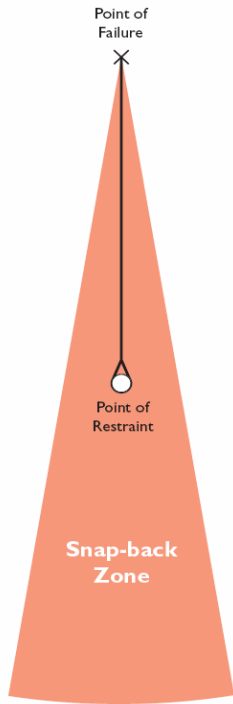


Figure 1 : A simple snap-back recoil area (on a ship or on a quay)

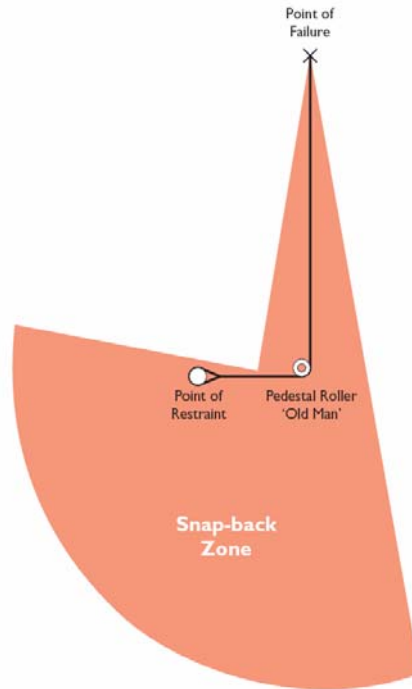


Figure 2 : A more complex snap back area with whipping around a roller.

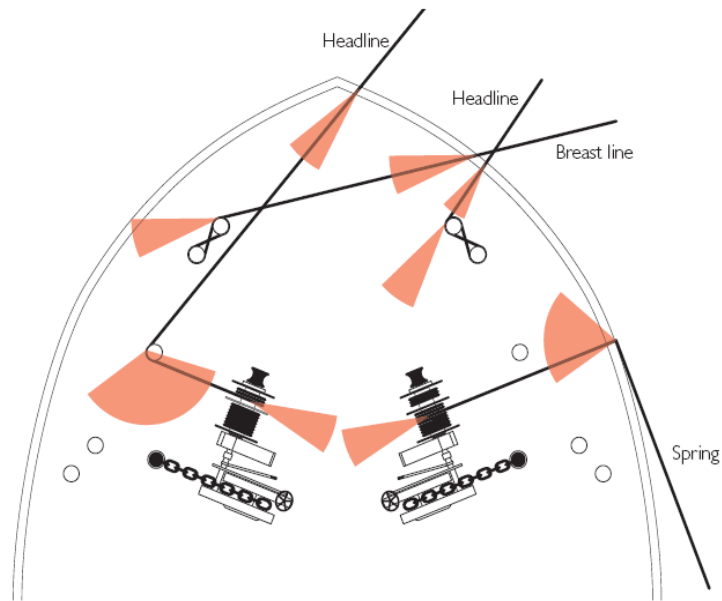


Figure 3 : Snap-back zones on a foredeck

(These figures are courtesy of the Maritime and Coastguard Agency, UK)

Conclusion

Mooring lines are dangerous because of the loads they carry and their ability to ensnare. These dangers have always existed on and near ships. Awareness of these dangers combined with a focus on safe working practices can prevent injury and death in areas where mooring operations are being carried out.

Recommendations

- All people who are not involved with mooring, towing or hauling operations, including passengers waiting to embark or disembark, should be kept well clear of the working area.
- All people involved in mooring operations onboard vessels, or on the quay side, should be adequately trained to recognise:
 - rope bight hazards
 - the dangers when mooring lines snap
 - snap-back zones where these risks are highest.
- All work places where mooring lines are under tension should use a diagram or photograph to identify snap-back zones in that area.
- No-one should stand in a rope or wire bight under any circumstances.

Further Information

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