Pilot Transfer Arrangements

GOOD PRACTICE GUIDE

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Te Kāwanatanga o Aotearoa
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1.0 Introduction

Transferring pilots, crew, and other persons is a high-risk operation that can pose significant health and safety risks.

Inadequate transfer arrangements may result in Maritime New Zealand ('Maritime NZ') taking compliance action, such as inspections or other regulatory activities. The owner and master of a ship must make sure in accordance with New Zealand Maritime Rule Part 53 that pilot transfer arrangements are provided to enable pilots to embark and disembark safely on either side of a ship. This includes how transfer arrangements are maintained, stored, rigged, constructed and operated.

Maritime NZ is committed to reducing the risk of harm arising from non-compliant pilot transfer arrangements.

This guidance outlines general requirements and recommendations for transfer arrangements, and provides owners, masters and operators with information relating to construction, maintenance and storage requirements of transfer arrangements.

> For further information and the regulatory requirements applicable in New Zealand, reference must be made to Maritime Rule Part 53. See Maritime NZ's webpage: **Maritime Rules Part 53**

1.1 Who should read this guidance

This guidance applies to New Zealand and foreign ship owners, operators, masters, crew, recognised organisations, marine pilots and pilotage providers.

1.2 Key terms and definitions

The table below provides key terms and definitions that are important to understand in relation to ladders and transfer arrangements.

Term	Definition
Current	In relation to a document means that it is valid, has not expired and, in the case of a maritime document, has not been suspended or revoked by the Director.
Director	The person who is for the time being the Director of Maritime NZ under section 439 of the Maritime Transport Act 1994.
Foreign ship	Any ship that is not a New Zealand ship.
IMO	International Maritime Organization.
master	Any person (except a pilot) having command or charge of any ship.
New Zealand ship	A ship that is registered under the Ship Registration Act 1992; and includes a ship that is not registered under that Act but is required or entitled to be registered under that Act.
Owner	a. in relation to a ship registered in New Zealand under the Ship Registration Act 1992, means the registered owner of the ship: b. in relation to a ship registered in any place outside New Zealand, means the registered owner of the ship: c. in relation to a fishing ship, other than one to which paragraph (a) or paragraph (b) of this definition applies, means the person registered as the owner under section 57 of the Fisheries Act 1983: d. in relation to a ship to which paragraph (a) or paragraph (b) or paragraph (c) of this definition applies, where, by virtue of any charter or demise or for any other reason, the registered owner is not responsible for the management of the ship, includes the charterer or other person who is for the time being so responsible: e. in relation to an unregistered ship or a registered ship that does not have a registered owner, means the person who is for the time being responsible for the management of the ship.

Term	Definition
Pilot	In relation to any ship, means any person not being the master or a member of the crew of the ship who has the conduct of the ship.
Pilot transfer arrangement or transfer arrangement	a. a pilot ladder; and b. an accommodation ladder used in conjunction with a pilot ladder; and c. any other arrangement equivalent to those specified in paragraphs (a) and (b) that is approved in accordance with rule 53.5(1).
Port	a. means an area of land and water intended or designed to be used either wholly or partly for the berthing, departure, movement, and servicing of ships; and b. includes any place in or at which ships can or do c. load or unload goods: d. embark or disembark passengers; and e. also includes a harbour.
Recognised organisation (RO)	An organisation that has entered into a memorandum of agreement with the Director in compliance with the International Maritime Organization's Code for Recognised Organisations (RO Code) whereby that organisation may carry out surveys and issue convention certificates on behalf of the Director in respect of the International Convention for the Safety of Life at Sea 1974.
SOLAS	The International Convention for the Safety of Life at Sea 1974 as amended.

2.0 Key requirements relating to pilot ladders

Owners and masters of ships calling at New Zealand ports must make sure that pilot transfer arrangements are fit for purpose and comply with Maritime Rules Part 53.

2.1 New Zealand Maritime Rules Part 53

Part 53 sets out requirements for the provision, design, construction, securing, testing and operation of transfer arrangements fit for the purpose of enabling pilots to embark and disembark safely on either side of a ship at sea.

This rule applies to:

- New Zealand ships engaged on any voyage worldwide where the applicable law requires a pilot to be engaged, or where it is likely that the master will choose to engage a pilot.
- Foreign ships that are within, approaching or leaving any port in New Zealand, or offshore installation or terminal located in the internal waters of New Zealand or New Zealand marine waters where New Zealand law requires a pilot to be engaged, or where it is likely that the master will choose to engage a pilot.

Part 53 gives effect to standards for pilot transfer arrangements set out in Regulation 23 of Chapter V of SOLAS 1974 as amended, and International Maritime Organization Assembly resolution A.1045(27).

2.2 Arrival requirements for New Zealand ports

New Zealand ports typically provide standard pilotage plans and may require specific pilot transfer arrangements depending on factors such as freeboard or weather conditions. Masters are responsible for incorporating these into the vessel's voyage plan to make sure safe and efficient pilot boarding and disembarkation. Maritime NZ reminds masters of their overarching responsibility for the safe navigation of their ships which may mean adjusting specific plans. Maritime NZ emphasises the importance of an effective master-pilot exchange of information, and that the master and pilot must discuss any deviation or interpretation to the standard pilotage plans.

For more information, see Maritime NZ's webpage: **Masters of foreign ships**

2.3 Designated officer

Ships must have an officer designated to supervise the rigging and testing arrangements as well as the embarkation and disembarkation processes. This officer is trained in their designated duties.

The designated officer:

- ensures the pilot transfer arrangement is used only for the embarkation and disembarkation of pilot (or persons)
- has adequate and immediate means of communicating with the navigation bridge during the rigging and testing of the arrangements, and during any transfer of a pilot
- tests the transfer arrangement prior to use of the pilot transfer
- advises the pilot when it is safe to use the transfer arrangement and
- arranges for the escort by a safe route to and from the navigation bridge.

3.0 Pilot ladders - construction

The steps of a pilot ladder must meet the requirements of Maritime Rule Part 53.6 which states:

Materials

- Hardwood steps must be made of a single piece of hardwood that is free of knots.
    - Any steps made of material other than hardwood must be made of material that the Director or a RO, or in the case of a foreign ship, the administration of the flag state, is satisfied is of equivalent strength, stiffness and durability to hardwood.
- The four lowest steps must be made of rubber or other material with similar properties to rubber and
- of a strength and stiffness to the satisfaction of the Director or a Recognised Organisation (RO), or in the case of a foreign ship, the administration of the flag state.

Specifications

The steps, excluding any non-slip device or grooving, must not be less than:

- 400mm between the side ropes and
- 115mm wide, and
- 25mm in depth.

The steps must:

- have an effective non-slip surface and

- be equally spaced and
- be not less than 300mm apart or more than 380mm apart and
- when in use, be secured in such a manner that each step will remain horizontal.

Any pilot ladder with more than five steps must have:

a. a spreader step that is not less than 1.80m long as the fifth step from the bottom of the pilot ladder and

b. additional spreader steps that are not less than 1.80m long at intervals not exceeding nine steps.

More information

Maritime Rules Part 53, section 53.6

Figure 1: Wooden steps.

Figure 2: Rubber steps.

4.0 Pilot ladders – position, reach, and securing arrangement - construction

4.1 General requirements

In accordance with Maritime Rule Part 53.8, a pilot ladder must be positioned and secured so that it is clear of any possible discharges from the ship. The pilot ladder must be within the parallel body length of the ship and, as far as is practicable, within the mid-ship half length of the ship, with each step resting firmly against the ship's side.

Where constructional features, such as rubbing bands, prevent a step from resting firmly against the ship's side, special arrangements should be made to make sure the ladder can be used safely. The arrangements must be approved by the Director or a RO, taking into account, as appropriate, the views of pilots and organisations that represent pilots or, in the case of a foreign ship, by the administration of the flag state.

A single length of pilot ladder must be capable of reaching the water from the point of access to the ship, and allow for:

- all conditions of loading and trim and,
- an adverse list of 15°.

A pilot ladder must not require a climb of more than 9m above the surface of the water.

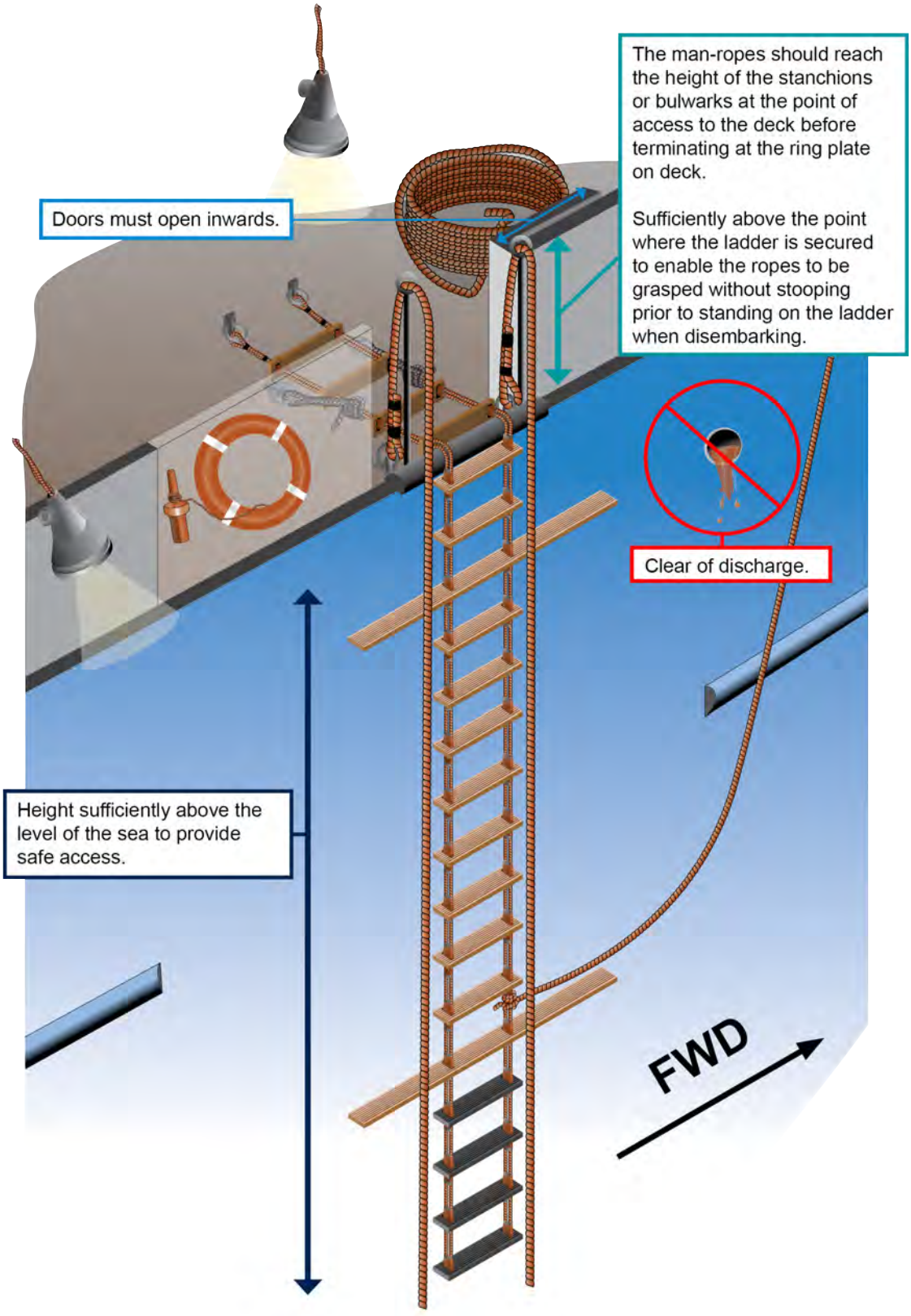


Figure 3: Embarkation point construction requirements.

Safe approach of the pilot boat

Where rubbing bands or other constructional features might prevent the safe approach of a pilot boat, these are recommended to be cut back to provide at least 6m of unobstructed ship's side.

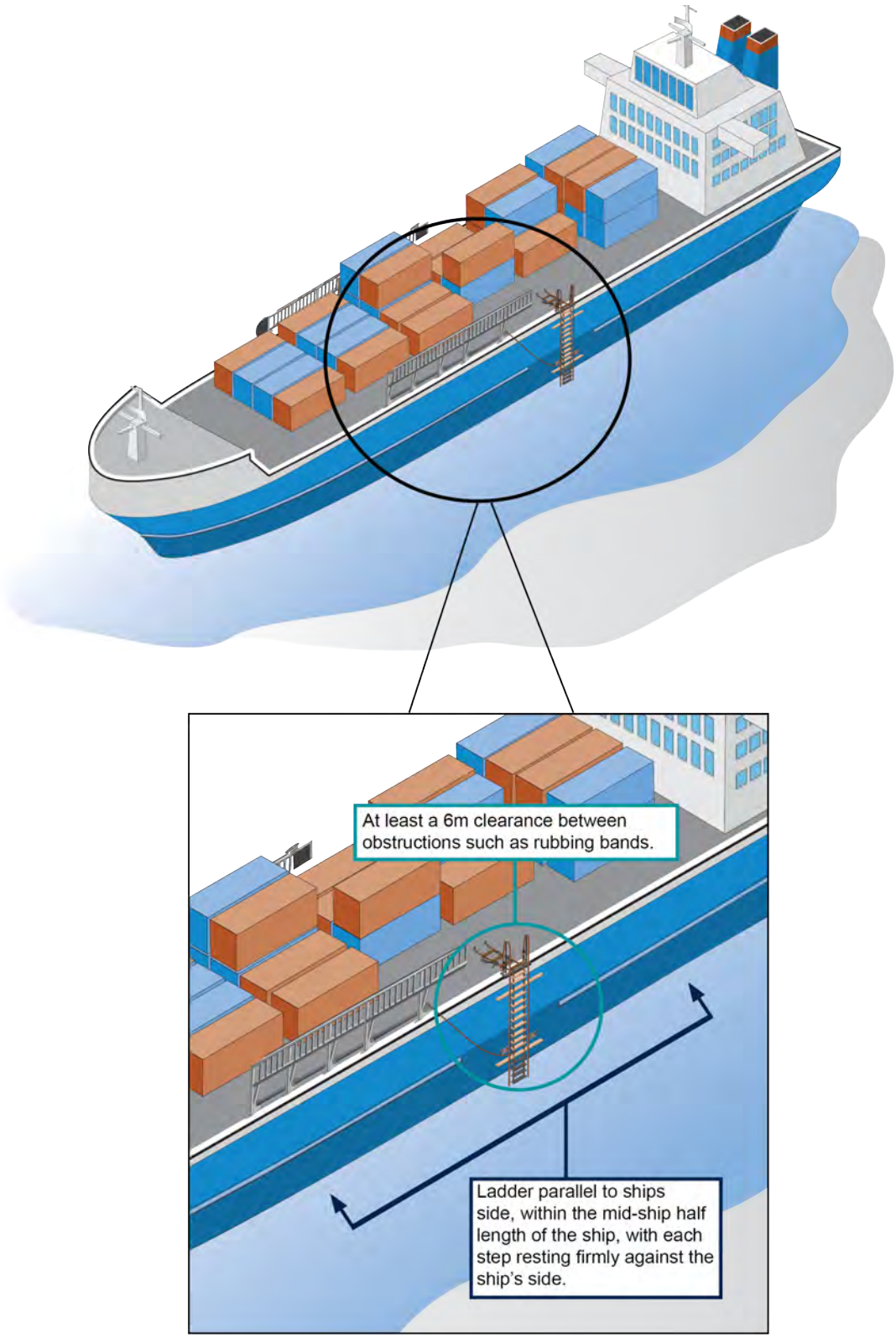


Figure 4: Positioning of pilot ladders.

4.2 Access to deck

Access to the deck via embarkation/disembarkation points should provide safe, convenient, and unobstructed passage for any person embarking or disembarking the ship between the head of the pilot ladder (or of any accommodation ladder or other appliance), and the ship's deck.

- Stanchions must be 32mm in diameter, with 0.7-0.8m spacing between them.
- Stanchions must be rigidly secured to the ship's structure at or near the base and also at a higher point.

> Owners/masters have a responsibility to be aware of what the rule requires. Please make sure that you are referring to the rule for the full list of requirements for access to deck or via ship side-doors and ports.

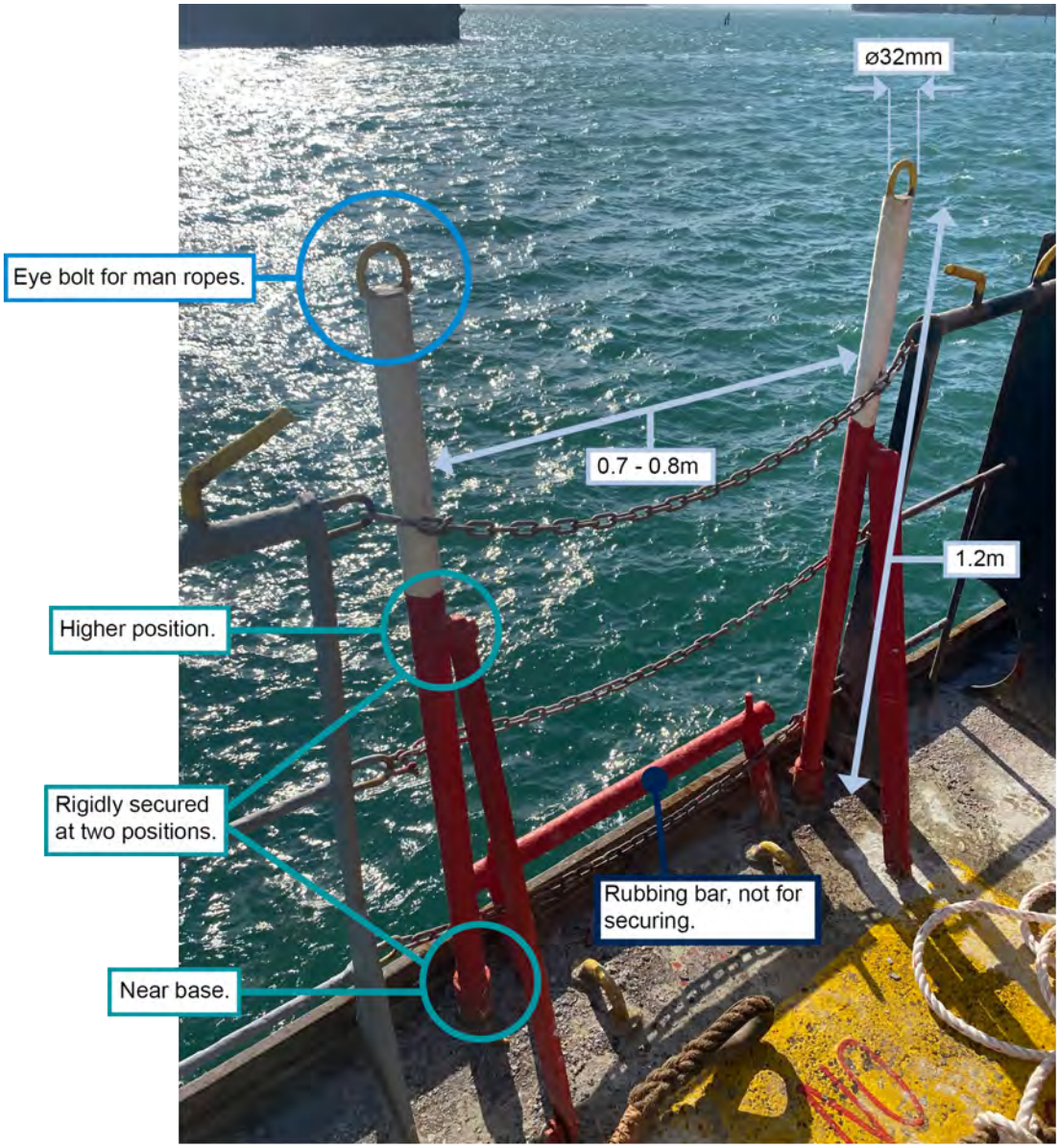


Figure 5: Stanchion construction.

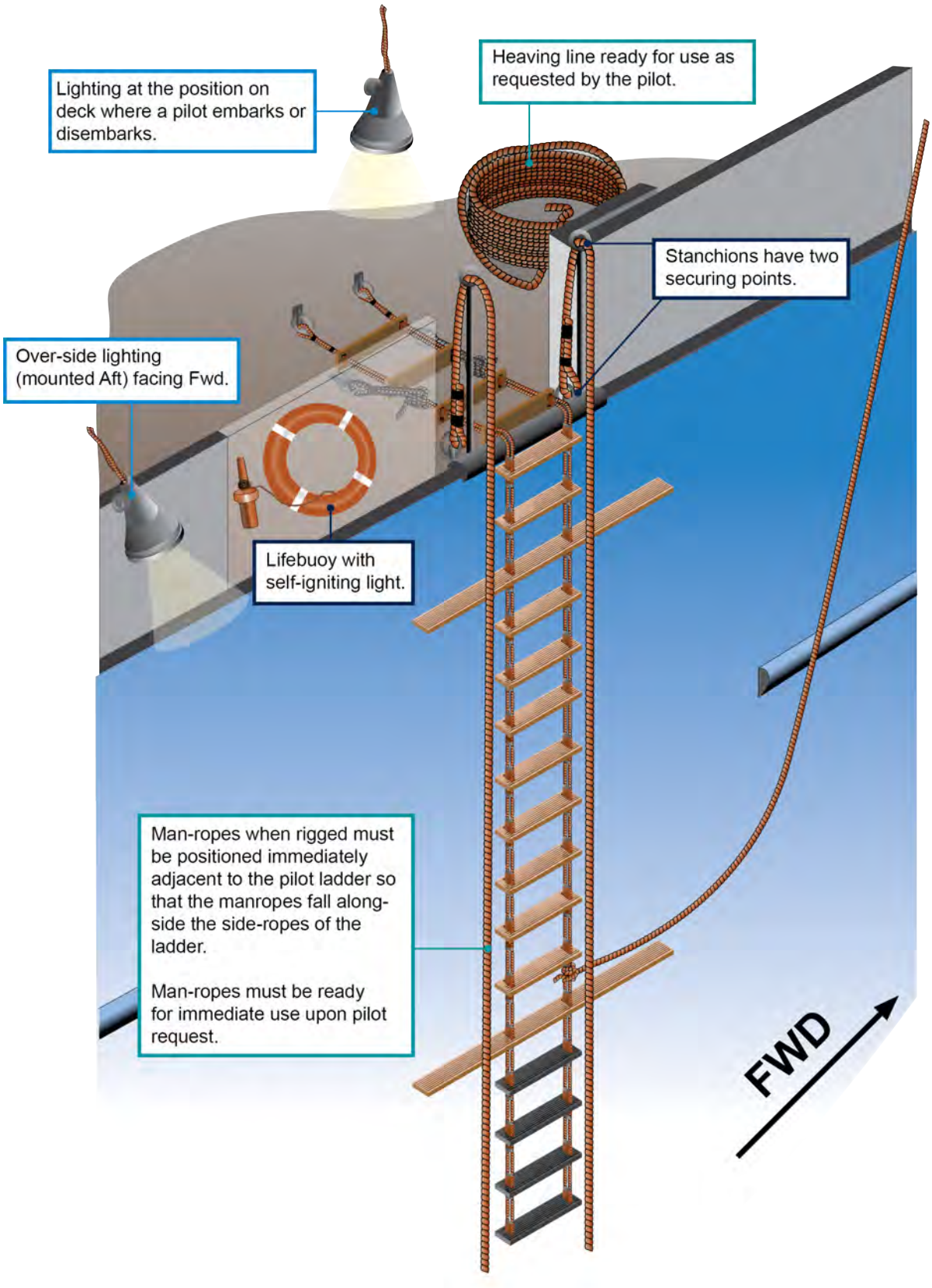


Figure 6: Embarkation point construction and rigging.

5.0 Pilot ladders – management and maintenance

5.1 Length to draft management

Whenever possible, the use of the correct length ladder for the ship's freeboard with the weight on thimbles of the ladder is preferred. In addition, the following are recommended:

- Do not use D-shackles to choke the side ropes.
- The weight of the ladder should not rest on steps.
- Do not use spreader bars to arrest the ladder.
- If the ladder is too long for the ship's freeboard, the ladder length should be adjusted to the correct length.
    - Side ropes of the ladder should be secured to the strong point on ship using securing ropes and a rolling hitch.
- Securing ropes and the strong point should be at least as strong as the pilot ladder side ropes.

For more information, see Maritime NZ's webpage: **Securing pilot ladders**

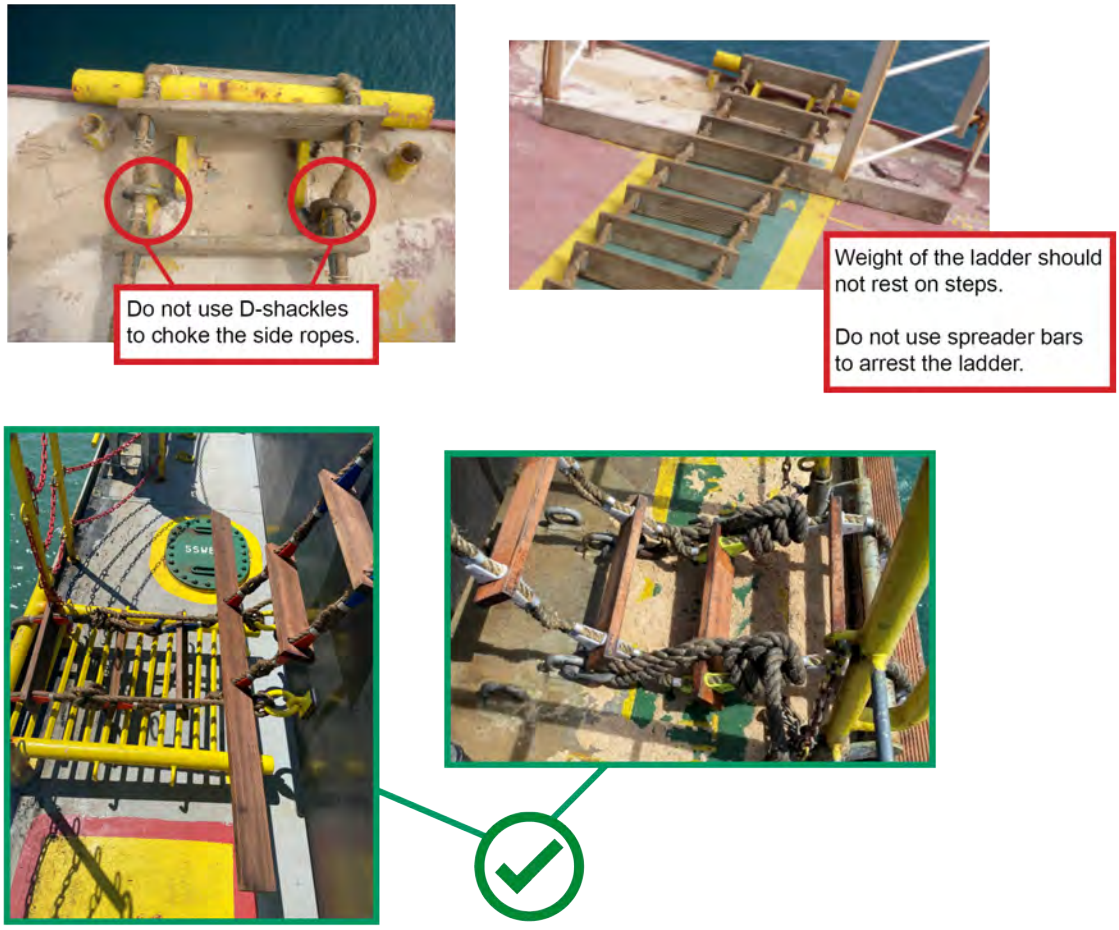


Figure 7: Pilot ladder length management.

5.2 Purchasing pilot ladders - due diligence

Ship owners should make sure that due diligence is applied when purchasing pilot ladders. The condition of a pilot ladder is dependent on various factors, such as the quality or compliance standards of the manufacturer. When purchasing pilot ladders, it is strongly recommended that ship owners:

- Verify certification details. Check for genuine ISO approval numbers and make sure the specifications on the certificate match the supplement or document of the manufacturer, and that those details match the actual ladder.
    - For example, documents supplied may provide specifications for a 9m ladder, however upon inspection the actual ladder is 12m long.
- Thoroughly inspect pilot ladders to make sure ships are outfitted with genuine SOLAS convention (as amended) compliant elements.
    - For example, inspecting the ladder to make sure there are no knots in the steps, and/or that there is the correct spacing of the steps.

Receiving a pilot ladder

When receiving a pilot ladder, the owner should make sure checks are made on:

- that it meets the requirements of SOLAS convention (as amended)
- documentation
- the ladder name plate matches the documentation
- the ladder condition and
- it meets all the construction requirements.

Where ships have a safety management system (SMS) it is recommended that the purchase date and the ‘entry into service date’ is logged into the ship’s SMS.

5.3 Maintenance and servicing of transfer arrangements

Transfer arrangements must be used, stored, inspected, and maintained in accordance with Maritime Rule Part 53, taking into account Maritime Rule Part 21 and the International Safety Management (ISM) Code. In particular pilot transfer arrangements must be kept clean, properly maintained, stowed and inspected. A record of maintenance must be kept on the ship.

Maintenance and servicing of pilot ladders

Pilot ladders should be clearly identified with tags or other permanent markings for easy identification for the purposes of survey, inspection and record-keeping.

Appendix 1 of this guidance provides a simple example of checklists for pilot ladders that you might find in a ship's SMS.

Appendix 2 of this guidance provides a simple checklist for maintenance and servicing of pilot ladders.

Storing and inspecting a pilot ladder

Pilot ladders can be damaged by weather conditions, especially the sun. Where possible, ladders should be stored off of the deck in a cool, dry area sheltered from the weather and away from contaminants such as cargo and chemicals.

Before using the pilot ladder, the owner and master must make sure that the ladder is in good condition and tested. It is important to remove the ladder from stowage and lay it out when inspecting.

- The steps should be checked according to required construction methods.
- The steps' fixtures (such as chocks, widgets, and clamps) should be tight and secure.
- The steps should not rotate, and stay level and straight (horizontal) when the ladder is in use.
- Check overall condition of ladder and side ropes (check free from contaminants).

Step maintenance

- A pilot ladder must not have more than two replacement steps that are secured in position by a method different from that used in the original construction of the pilot ladder.
- Any step secured in position that is different to the original construction of the pilot ladder must be replaced as soon as reasonably practicable. The replacement step must be secured according to the original construction.
- When any (and in any case no more than two) replacement step(s) are secured to the side ropes of the pilot ladder by means of grooves in the sides of the step, these grooves should be in the longer sides of the step.

Service life of pilot ladders

Though manufacturers comply with convention requirements, note that the service life of a pilot ladder may be less than 30 months, particularly on ladders where the side ropes cannot be inspected due to the use of mechanically applied metal clamps (see figure 8 below).

Any ladder which is in service for more than 30 months should meet strength requirements listed in ISO799-1:2019, Table 2, or an equivalent standard that meets convention requirements and is accepted by the ship's flag state. The ladder should be stamped or tagged under the lowest spreader step and the top step with the date of the test and the identification of the person or company performing the test.

The person or company performing the test should also provide a test certificate to the master indicating the details of the test, including the date and the identification of the person or company performing the test. If a ladder fails the test, it can either be rebuilt according to ISO 799-1:2019, 10.3, or be removed from service and discarded.

Anyone who becomes aware that a pilot ladder is unsafe should notify the Director of Maritime NZ.

Figure 8: Metal clamps.

Figure 9: Stamped/tagged pilot ladders.

5.4 Training crew and safety equipment

Owners should make sure that designated officers and crew have been trained in rigging and maintenance of the pilot ladder arrangement, taking into account as appropriate Maritime Rule Part 53 and Part 21, and the ISM Code. They should be familiar with any ship-specific and record entry requirements.

It is also important that crew are supplied with and use appropriate Personal Protective Equipment (PPE) before commencing work with pilot ladders.

PPE may include:

- flotation aids
- lifeline or fall-arrestor
- thermal wear (if appropriate).

5.5 Additional equipment available

The following equipment must be readily available for immediate use when pilots are being transferred:

- Lifebuoy with self-igniting light.
- Heaving line.
- Man-ropes (2).
- If a tripping rope is required to retrieve a pilot ladder, the rope is secured to the ladder above the first spreader and to the ship at a forward position. It should be tended to during the transfer.

Figure 10: Additional equipment readily available.

6.0 Duties in respect of pilot transfer arrangements

The owner and the master of any ship must make sure that:

- the officer in charge can communicate with the bridge
- man-ropes are ready for immediate use (or deployed at pilot request) to >1m above deck, and attached to a strong point on the ship
- heaving line is available for immediate use
- there is adequate space and lighting at the point of embarkation
- pilot ladder of adequate length is attached to strong point of the ship using thimbles or with a rolling hitch when adjusting for ship's freeboard
- ladder is flat against the hull and may be fixed to the ship's side as required (such as with the use of magnets)
- lifebuoy with self-igniting light is ready for immediate use
- over-side lighting (aft mounted – facing forward) in low light or dark conditions.

Figure 11: Low light or dark conditions.

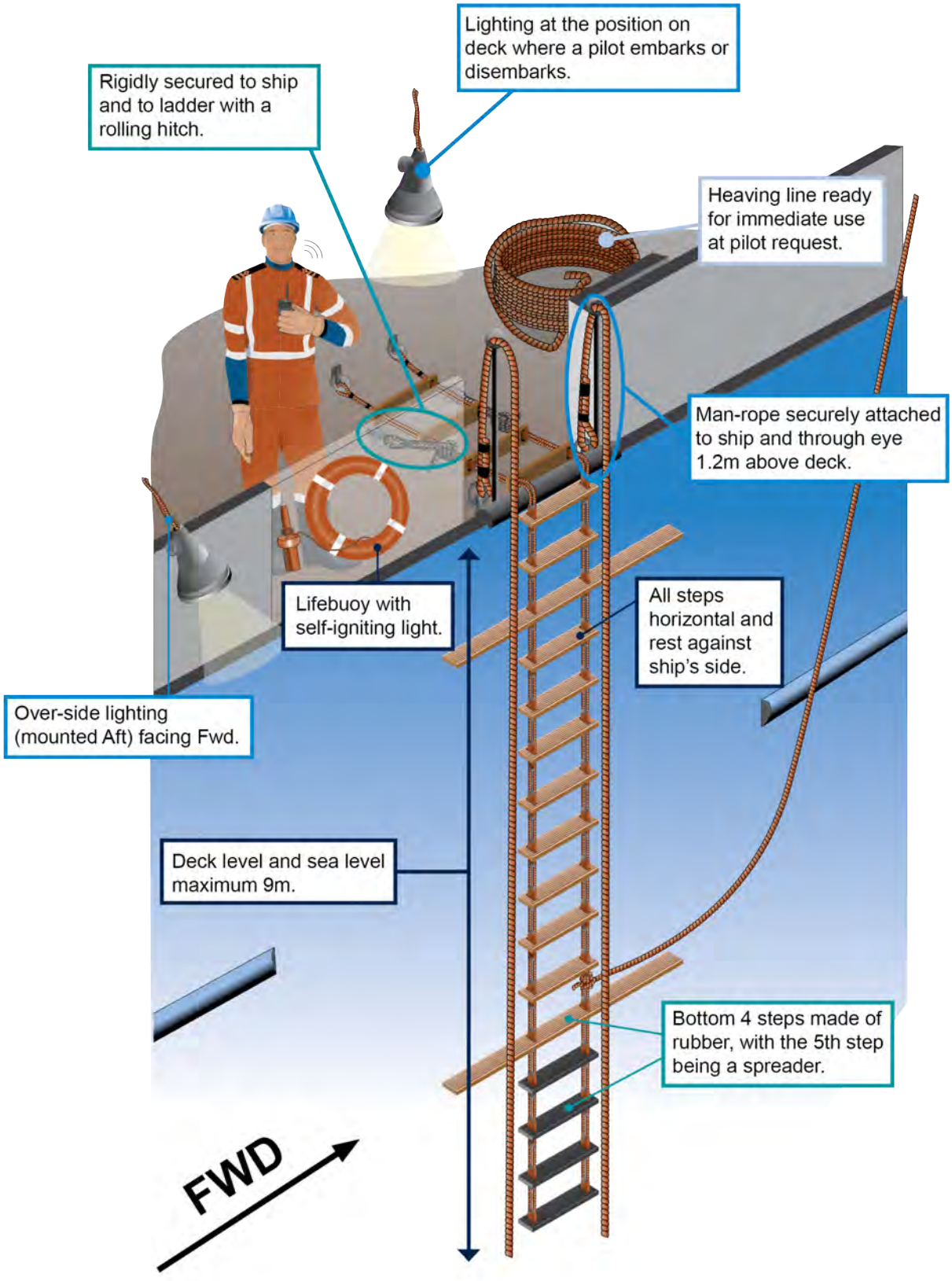


Figure 12: Rigging requirements for less than 9m.

7.0 Additional requirements for ships with a freeboard of more than 9m

7.1 Additional requirements for ships with a freeboard of more than 9m (with no side-door)

- Intermediate platforms (if fitted) must be self-levelling.
- Treads and steps of the accommodation ladder must be designed with adequate and safe foothold at the operative angles.
- The ladder and platforms must be equipped on both sides with stanchions and rigid hand-rails or hand-ropes, positioned at a vertical height of 1m above the stringers of the ladder or the platform, as applicable.
- The hand-ropes/hand-railings must be tight and properly secured.
- The vertical space between the hand-rail or hand-rope and the stringers of the ladder must be securely fenced.

7.2 Trapdoor arrangement

In accordance with Maritime Rule 53.10, where a trapdoor is fitted in the lower platform to allow access from and to the pilot ladder:

- the aperture of the trapdoor must not be less than 750 mm by 750 mm and
- the pilot ladder must extend above the lower platform to the height of the hand-rail or hand-rope and
- the vertical space that is equivalent to the interval between the hand-rail or hand-rope and the stringers of the ladder must be securely fenced and
- the trapdoor must be:
  - sited in a position on the platform that enables the user of the accommodation ladder to move to and from the pilot ladder without having to lean outboard and
  - capable of being secured.

Risks to pilots

It is important to be aware of the risks to pilots associated with trapdoor arrangements:

- A structural horizontal cross-member on the inboard side of the platform where the ladder passes. This could mean that the pilot has to lean back from the ladder to climb past the cross-member while passing through the trapdoor. This type of arrangement is illustrated in figure 14 below.
- Steel or aluminium handholds that, in cold conditions, may become slippery.

- Ladders not resting firmly against the side of the ship.
- Ladders and man-ropes not extending above the platform to at least the height of the handrail.
- Platforms and ladders not being secured to the side of the ship.
- Platforms not having adequate handrails on all sides.
- Trapdoors not being secured in the open position.

For more information, see Maritime NZ's guidance: **Approval of equivalent arrangements for pilot transfers**

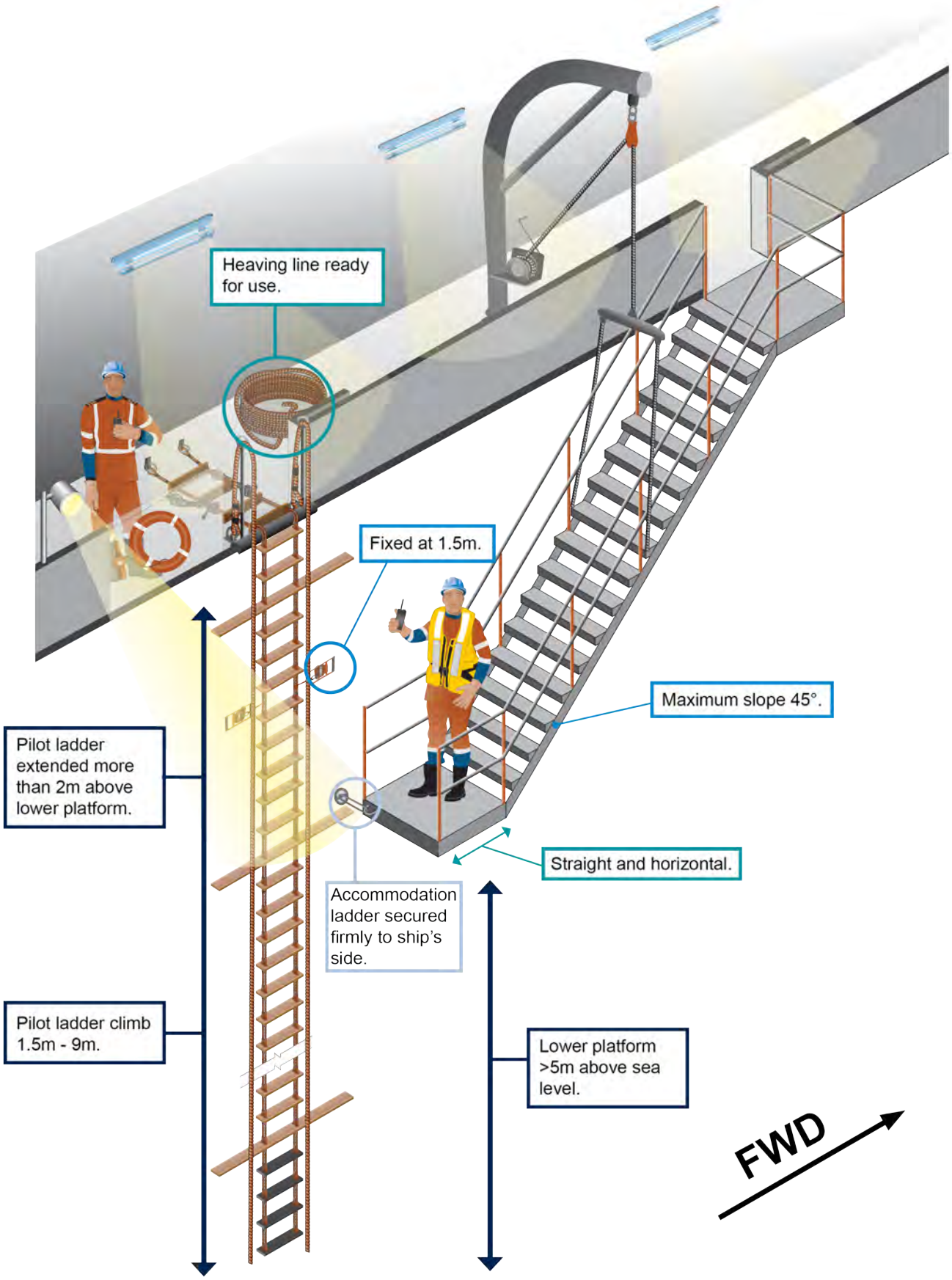


Figure 13: Rigging requirements for more than 9m.

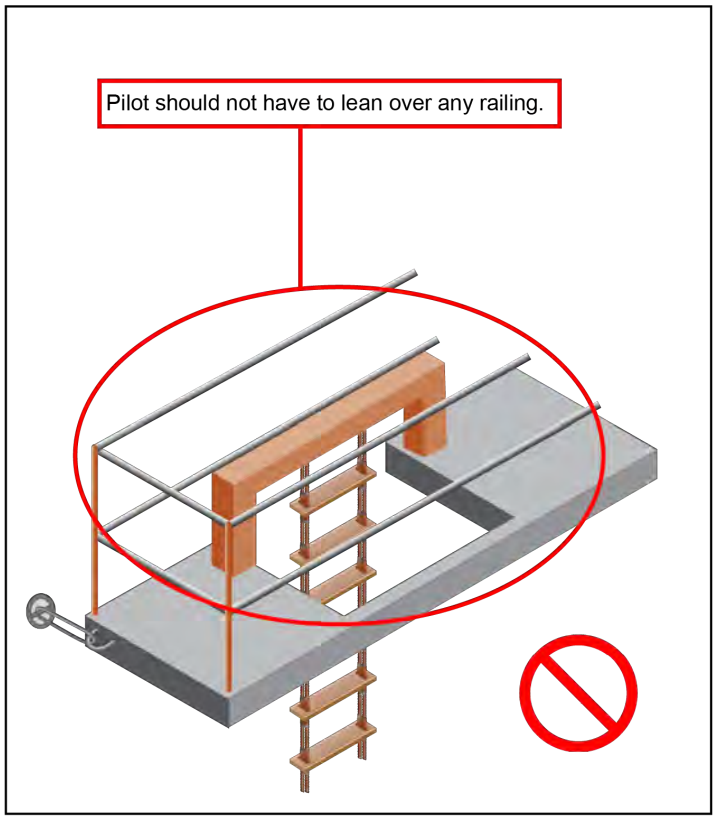


Figure 14: Showing non-compliant horizontal cross-member.

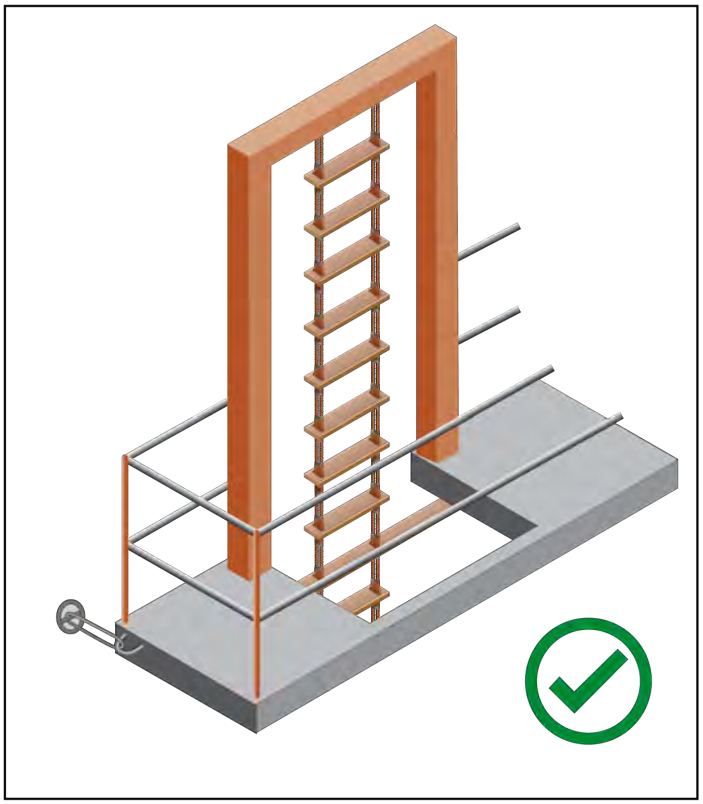


Figure 15: Showing compliant arrangement.

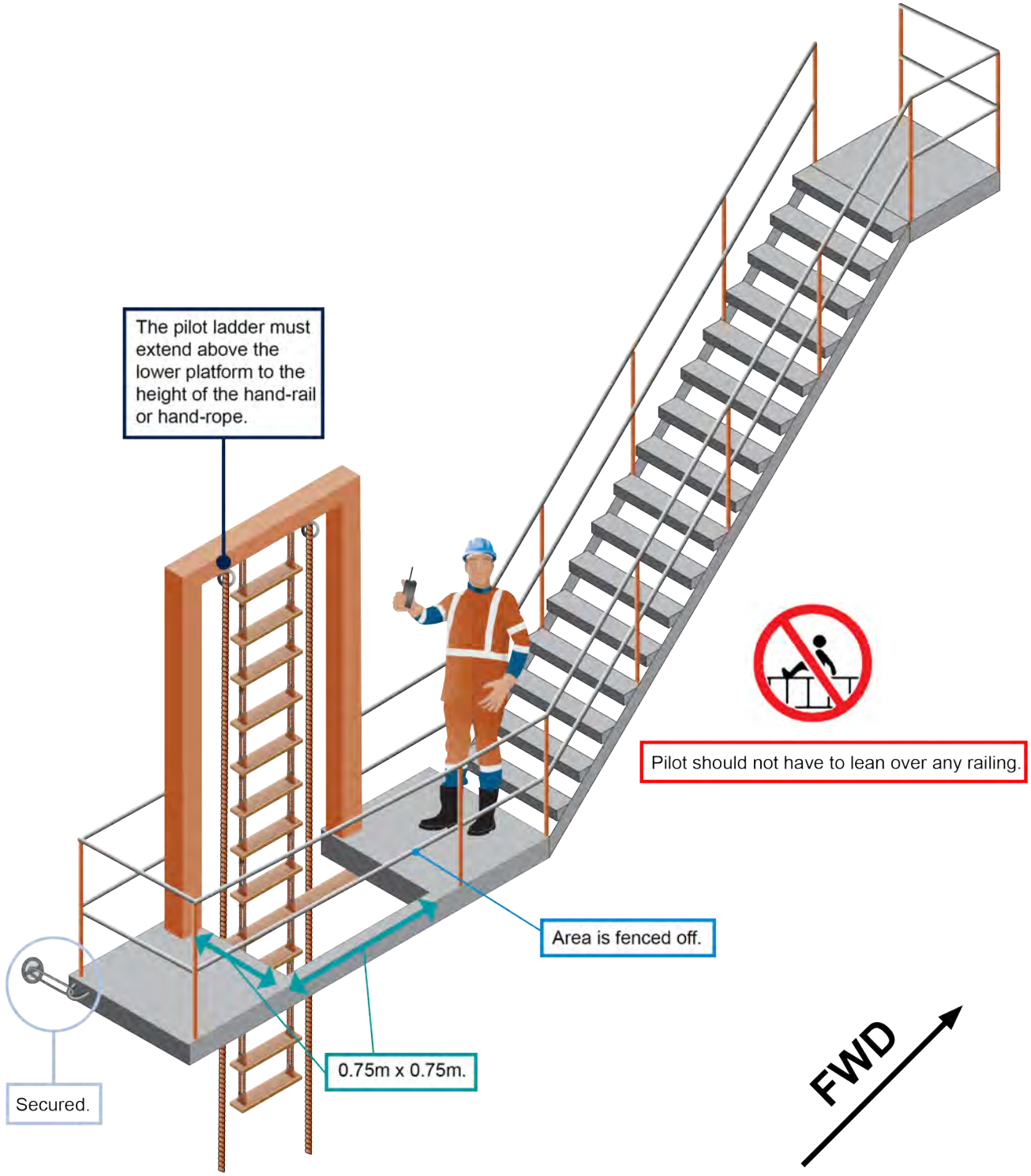


Figure 16: Trapdoor arrangement.

8.0 For ships using reels, winches, and side-doors

Reels and winches

All pilot ladder winch reels must have a means to prevent them from being accidentally moved or operated. This should be used when the pilot ladder is in use.

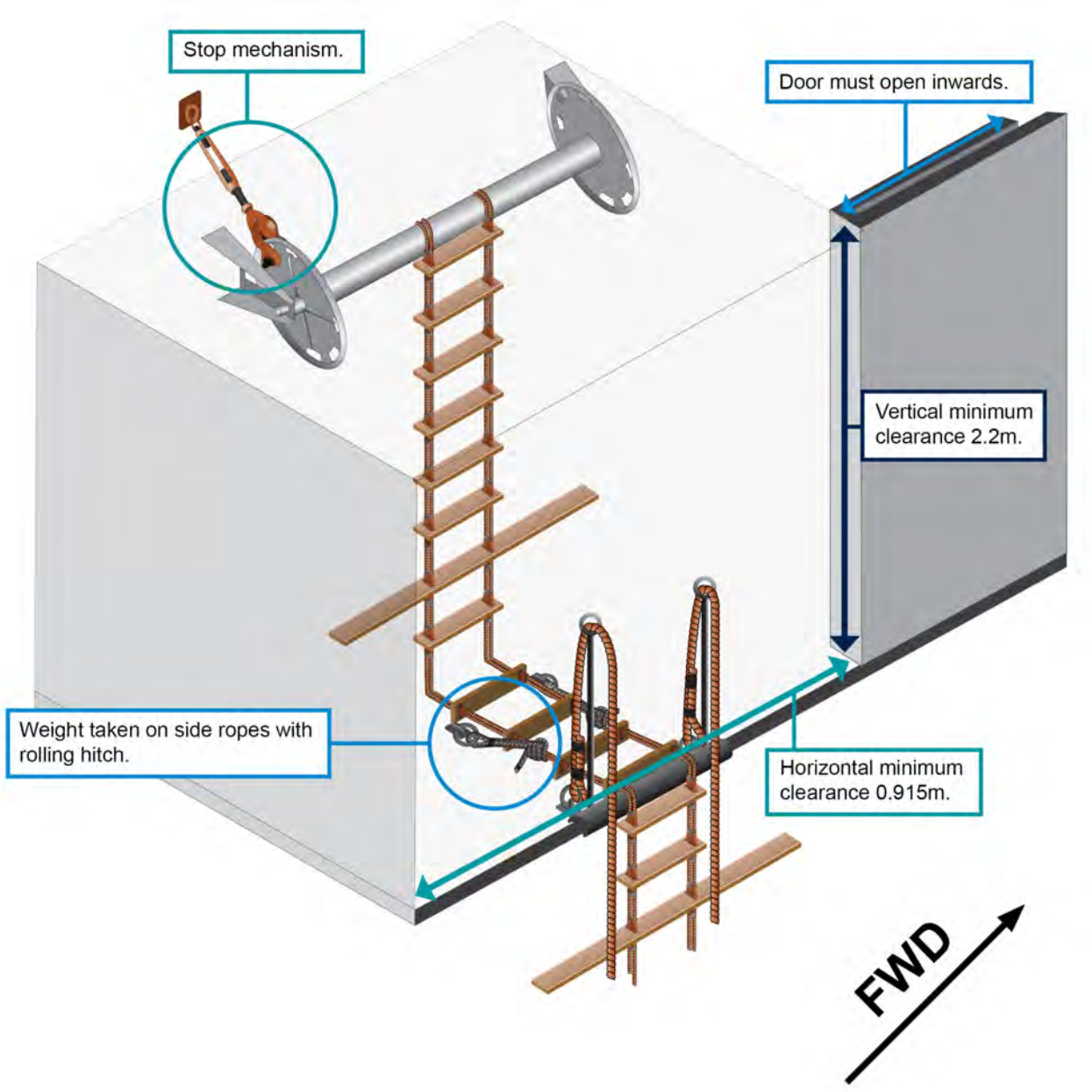


Figure 17: Reels and winches.

Side-doors

Side-doors allowing access from and to the pilot ladder.

- The door must open inwards.
- Have a platform for the pilot to access the pilot ladder that measures 0.75m x 0.75m.
- Pilot ladder should be fixed to the ship side 1.5m above the embarkation point.
- Not require the pilot to climb over objects such as railings.

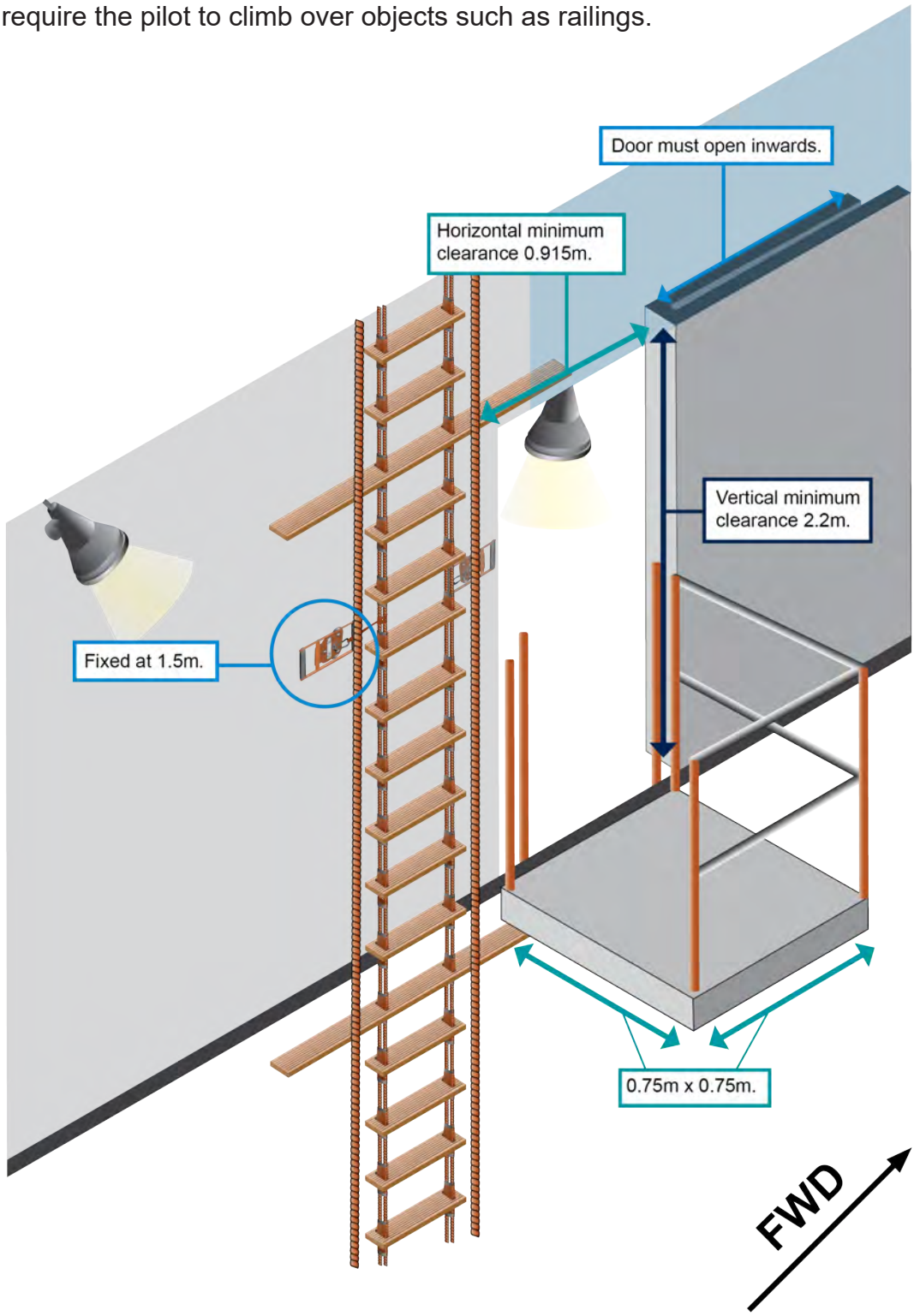


Figure 18: Side shell doors.

9.0 Access to navigational bridge

9.1 Deck cargoes

Deck cargo (such as timber or logs) can obstruct normal access between the transfer arrangement and the navigational bridge. To make sure safe, convenient, and unobstructed passage between these points, ships must use properly constructed, fenced, secured, and illuminated walkways, gangways and ladders.

Figure 19: Example of an unobstructed passage.

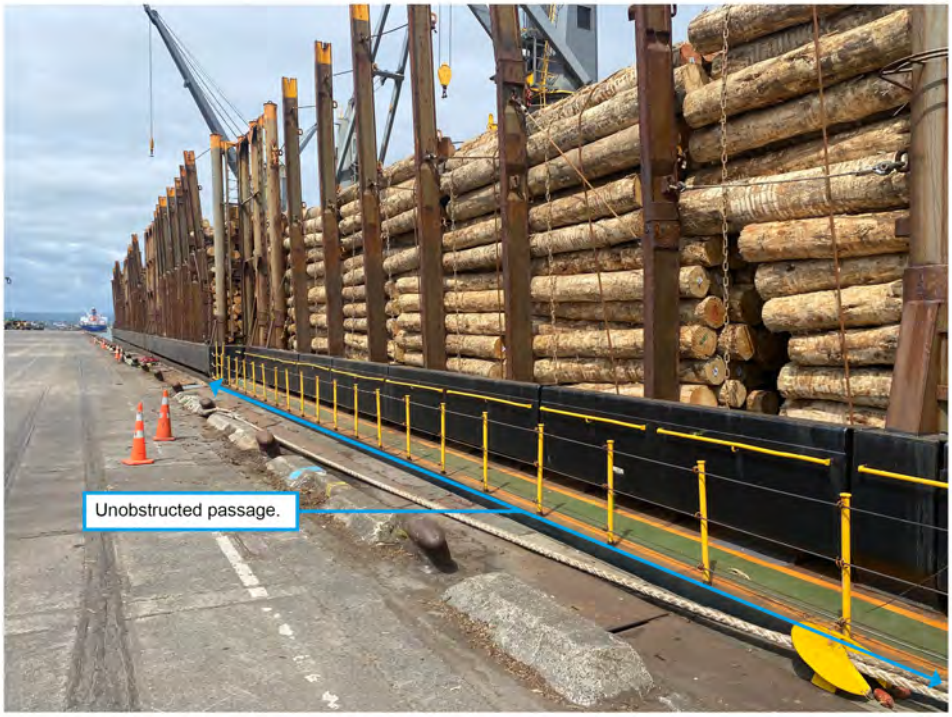


Figure 20: Example of an unobstructed passage.

10.0 Accommodation ladders in combination with pilot ladders

10.1 Maintenance and inspections

Accommodation ladders have wire ropes, pulleys or sheaves, motors, and sometimes hydraulics. These can fail and break, causing delays for ship and cargo, damage, and harm or severe injury (including death) to anyone using them (see figure 21 below). Accommodation ladders of aluminium construction that require aluminium welding require special equipment, materials and skills, without which such repairs can pose a serious safety hazard. As sea-air results in a corrosive environment, more inspections and maintenance may be required. Routine maintenance should be a part of the ship's SMS.

Below are some examples of maintenance that should be in place for accommodation ladders:

- Sheaves (aka pulley wheels) should be greased and free to turn, and any grooves (where present) should be clean and round.
- Weld seams should be checked for cracking.
- Hydraulic hoses should be checked for fatigue, aging and cracking.
- Hydraulic oil should be at the correct level, changed and checked for water content on a routine basis as per the ships SMS.
- Corrosion repaired as required.

The type and frequency of inspections and maintenance should be determined by a competent person. Manufacturer and industry guidance should also be considered when establishing processes and procedures for the ships SMS. Inspections should be duly recorded, and any appreciable change should be reported and acted on.

Inspections

The following are to be considered areas of critical importance when conducting inspections:

- Drum anchorage.
- At or near the wire rope's termination.
- Parts of the rope that pass through any type sheave or multiples sheaves (pulleys), including blocks.
- Parts resting in sheaves when wire rope is under load.
- Parts of the rope in contact with the drum and/or spooling device, particularly crossover zones and multiple layer spool.
- Any part in contact which may be subjected to abrasion or exposed to heat.

Maintenance included in the SMS should include a ‘before use’ and ‘after use’ inspection of the intended working section and 5 turns on the drum.

Intended working sections should be inspected for:

- abrasion and mechanical damage
- corrosion, (internal and external)
- kinks
- stretching and thinning of the rope
- broken wire strands
- high-stranding (such as birdcages and wire-loops)
- crushing or flattening or deformation
- hoing out-of-round/circle shape to ovoid/elliptic shape
- decrease in diameter
- heat damage or damage from arcing/electricity.

Wire ropes

Wire rope should be replaced every 5 years or inspected and load tested by approved person. However, this guidance may vary based on manufacturer and application, with some requiring replacement or inspection as frequently as 1 year. In all cases a company or ship SMS should comply with original equipment manufacturer guidance and class society rules, and always plan for ‘end of life’ cycle, where the rope is ultimately discarded and renewed. The full length of wire rope should be inspected every 12 months.

The wire rope should be routinely inspected including being opened up for internal inspection and should be:

- routinely inspected as many properties will change during its service period
- moved so that areas around pulleys can be greased.

Wires should be lightly greased, and should not be sheathed as this traps moisture and prevents them from being inspected.

Be aware that shock-loading can cause the rope to go beyond design forces.

During inspection, if damaged and broken wires are found on the wire rope near its termination, and the rest of the rope remains unaffected, the damaged wire rope section may be cropped off. The wire rope can then be shortened and the termination refitted.

Only a rope of the correct length, diameter, construction, type and direction of lay, and strength as specified by the manufacturer should be used, and recorded.

Refer to ISO 4309 for more information, or consult with the appropriate classification society or wire rope manufacturer/s.

Figure 21: Wire rope breakage.

For information relating to telescopic accommodation ladders, see Maritime NZ's webpage: **Telescopic accommodation ladders**

10.2 Risks with telescopic accommodation ladders

Serious injuries have occurred when deploying and retrieving telescopic accommodation ladders. Telescopic accommodation ladders typically consist of two sections; a fixed upper section, and a sliding lower section.

The incorrect deployment and retrieval of telescopic accommodation ladders can result in serious harm or loss of life. For example, a sudden and unintended movement of the ladder can result in falling from height, or being trapped between the two ladder sections.

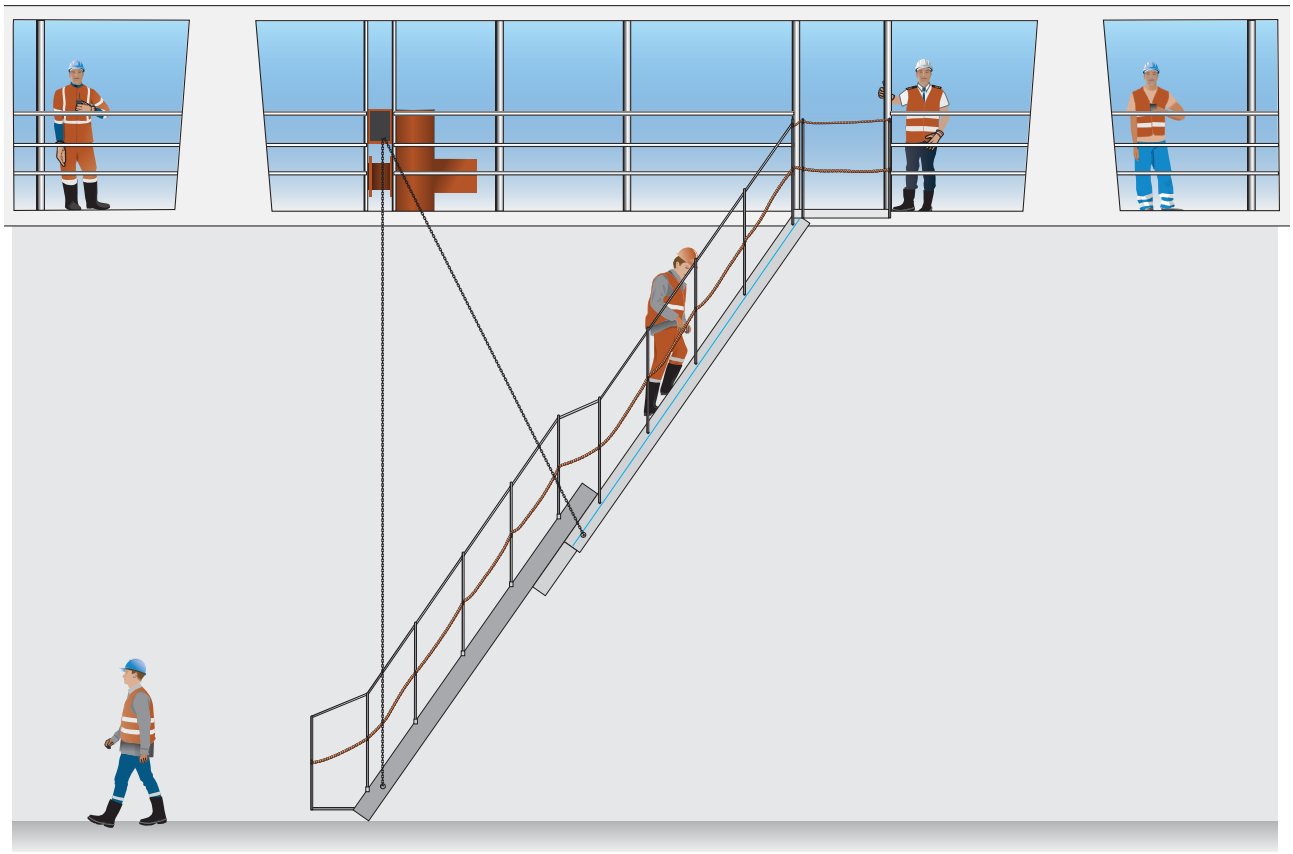


Figure 22: Ladder with winch-operated fall wires and chains for lowering, lifting, and stowing the ladder.

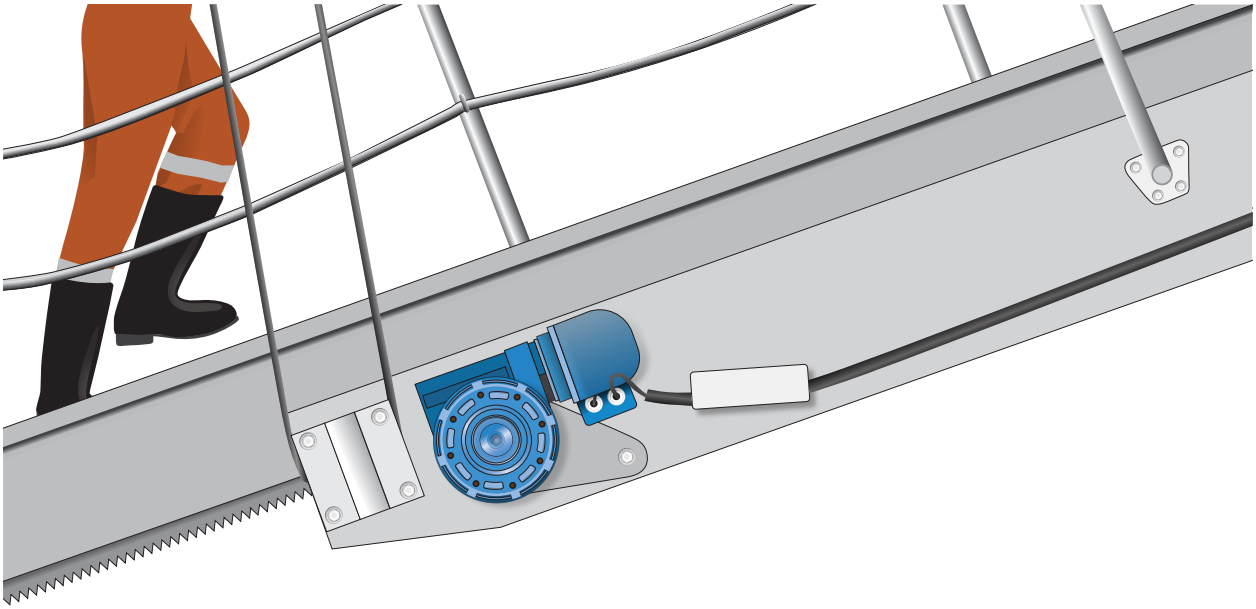


Figure 23: Ladder with motorised rack and pinion gears for extending and retracting the lower section of the ladder, and winch-operated fall wires for lowering, lifting, and stowage of the ladder.

Operators should:

- provide adequate training or supervision by a competent person so that workers can deploy, retrieve and stow ladders safely, in particular, the raising and collapsing of a ladder's handrails
- perform appropriate inspections of the ladder's components including fixed and sliding sections of the ladders, platforms, suspension points, davits, fall wires, sheaves, chains, winches, brake mechanism and remote control systems, as part of the ship's planned maintenance system
- make sure that safe methods of work and control measures are formalised in the form of documented procedures (such as standing instructions or checklists) form part of the ship's SMS.

For more information, see Maritime NZ's webpage: **Telescopic accommodation ladders**

11.0 Additional information

11.1 Further resources

- NZ Maritime Rules Part 53.
- Safety of Life at Sea (SOLAS) Chapter V Regulation 23 (SOLAS V/23).
- Safety of Life at Sea (SOLAS) Chapter II-1/3-9 on Means of embarkation on and disembarkation from ships.
- IMO Resolution A.1045 (27) –Pilot transfer arrangements.
- IMO Resolution A.1108(29) – Amendments to the Recommendations on Pilot Transfer Arrangements (Resolution A.1045(27)).
- MSC.1/Circ. 1428 –Pilot Transfer Arrangements – Required boarding arrangements for pilots.
- MSC.1/Circ.1495/Rev.1. – Unified Interpretation of SOLAS Regulation V/23.3.3 on Pilot Transfer Arrangements.
- ISO 799-1:2019 “Ships and marine technology –pilot ladders”.
- IACS UI SC257 –IACS interpretation for Pilot Transfer Arrangements (SOLAS V/23 as amended by Resolution MSC.308(88)).
- ISO 799-1:2019 Ships and marine technology – Pilot ladders –Part 1: Design and specification.
- ISO 799-2: 2021 Ships and marine technology – Pilot ladders –Part 2: Maintenance, use, survey, and inspection.
- ISO 799-3:2022 Ships and marine technology – Pilot ladders –Part 3: Attachments and associated equipment.
- IMPA “pilot transfer operations” PDF.
- Including any additional IMO and ISO publications and amendments.

11.2 Appendix 1: SMS pilot ladder inspection checklist examples

The following checklists are for information purposes only. Companies may choose to use some of the exemplar checklists to help develop and manage their processes and procedures as a part of their Safety Management System (SMS).

Table 1 – Pilot ladder pre-use inspection checklist to be completed by a competent deck officer prior to each use.

Date:

Pilot ladder identification number:

1.	Following procedures as described in ships SMS.	Y / N
2.	A valid certificate issued by class society is available on-board.	Y / N
3.	Has the ladder been in service more than the recommended service of 30 months?	Y / N / NA
4.	The steps and spreaders rest horizontally and evenly spaced (330mm +/- 20mm between steps). Check it is clean, with no paint and no chemicals.	Y / N
5.	The manufacturers 2 x designated securing ropes (more than 24Kn) are in good condition, and no splices or knots.	Y / N
6.	Check both ladder side ropes are in serviceable condition, and no splices (except above the top step) or knots.	Y / N
7.	Check both ladder side ropes are firmly attached to the ship strong point by rolling hitch using securing ropes.	Y / N
8.	The steps are in good condition. Not cracked, bent, or broken.	Y / N
9.	The step fixtures, chocks, splitting distance piece, seizing, whipping or clamp fixture, are secured and tight? (Steps do not rotate).	Y / N
10.	Number of replacement steps: (Must not be more than 2, if higher replace ladder).	Pass / Fail
11.	Result of this inspection is recorded in ships SMS.	Y / N
12.	Risk assessment associated with rigging of the pilot ladder. Reference number:	Y / N

13.	Man-ropes – 28 – 32 mm, manila grade 1, are in good condition and are readily available at location.	Y / N
14.	Magnetic clamp, more than 4.5kN are available, and tagged, if requested by pilot.	Y / N
15.	List any damage found:	Done / NA
16.	Is the pilot ladder fit for use?	Y / N

Name and rank of officer who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

Table 2 – Pilot ladder post-use inspection checklist (to be completed by a competent deck officer after each use).

Date:

Pilot ladder identification number:

1.	Following procedures as described in ships SMS.	Y / N
2.	The steps and spreaders rest horizontally and evenly spaced (330mm +/- 20mm between steps). Check it is clean, with no paint and no chemicals.	Y / N
3.	The steps are in good condition. Not cracked, bent, or broken.	Y / N
4.	Check both ladder side ropes are in serviceable condition. No knots or splices, except above the top step. List any damage found:	Y / N
5.	The step fixtures, chocks, splitting distance piece, seizing, whipping or clamp fixture, are secured and tight? (Steps do not rotate).	Pass / Fail
6.	Check securing ropes remain in serviceable condition. *If No – replace securing rope.*	Y / N
7.	Ladder is stored in accordance according to SMS, to prevent damage and exposure to pilot ladder.	Y / N
8.	Result of this inspection is recorded in ships SMS.	Y / N
9.	Is the ladder fit for purpose and ongoing use? *If No – replace ladder.*	Y / N

Name and rank of officer who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

Table 3 – Pilot ladder planned three monthly inspection to be carried out by a senior deck officer.

Date:

Pilot ladder identification number:

1.	Following procedures as described in ships SMS.	Y / N
2.	Certificate issued by class society.	Y / N
3.	Has the ladder been in service more than the recommended service of 30 months?	Y / N / NA
4.	The steps and spreaders rest horizontally and evenly spaced (330mm +/- 20mm between steps). Check it is clean, with no paint and no chemicals.	Y / N
5.	The manufacturers 2 x designated securing ropes (more than 24Kn) are in good condition, and no splices or knots.	Y / N
6.	Check both ladder side ropes are in serviceable condition, and no splices (except above the top step) or knots.	Y / N
7.	Check both ladder side ropes are firmly attached to the ship strong point by rolling hitch using securing ropes.	Y / N
8.	The steps are in good condition. Not cracked, bent, or broken.	Y / N
9.	The step fixtures, chocks, splitting distance piece, seizing, whipping or clamp fixture, are secured and tight? (Steps do not rotate).	Y / N
10.	Number of replacement steps: (Must not be more than 2, if higher replace ladder).	Pass / Fail
11.	Result of this inspection is recorded in ships SMS.	Y / N
12.	Risk assessment associated with rigging of the pilot ladder. Reference number:	Y / N
13.	Man-ropes – 28 – 32 mm, manila grade 1, are in good condition and are readily available at location.	Y / N
14.	Magnetic clamp, more than 4.5kN are available, and tagged, if requested by pilot.	Y / N

15.	List any damage found:	Done / NA
16.	Is the pilot ladder fit for ongoing use?	Y / N

Name and rank of officer who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

Table 4 – An annual inspection of pilot ladder to be carried out by classification society surveyor (alternatively, classification society may use its own checklist).

Date:

Pilot ladder identification number:

1.	Following procedures as described in ships SMS.	Y / N
2.	Review inspection and service history of pilot ladder.	Y / N
3.	Has the ladder been in service more than the recommended service of 30 months?	Y / N / NA
4.	Has the ladder been stored correctly to prevent damage and exposure?	Y / N
5.	The steps and spreaders rest horizontally and evenly spaced (330mm +/- 20mm between steps), not painted, no chemical preservatives or any other products used.	Y / N
6.	The manufacturers 2 x securing ropes (more than 24Kn) are in good condition and clearly tagged with matching serial number of the pilot ladder?	Y / N
7.	Check both ladder side ropes are in serviceable condition. No knots, splices except above the top step, and not covered by a sheath.	Pass / Fail
8.	Check securing ropes are in serviceable condition. No knots, splices, and not covered by a sheath.	Pass / Fail
9.	The steps are in good condition. Not cracked, bent, or broken.	Y / N
10.	Number of replacement steps: (Must not be more than 2, if higher replace ladder).	Pass / Fail
11.	The step fixtures are secured tightly (chocks, splitting distance piece)?	Y / N
12.	Seizing, whipping or clamp fixture securing steps are secure and tight?	Y / N
13.	Man-ropes – 28 – 32 mm, manila grade 1, are in good condition.	Y / N
14.	Magnetic clamp, more than 4.5kN are inspected	Y / N

15.	List any damage found:	Done / NA
16.	Is the pilot ladder fit for ongoing use?	Y / N

I hereby certify that the above pilot ladder is fit for ongoing use:

Name: **Class:**

Date: **Port:**

Table 5 – Planned maintenance or pre-use inspection for an accommodation ladder wire rope.

Certificate checked for validity (date of expiry date compared to current date):	Y / N
Date of entry into service:	
Length of service (recommended not more than 5 years):	
Date the rope was end-for-ended:	
Date was the wire rope was last tested:	

Wire ropes:		
1.	Sheaves greased and free to turn.	Y / N
2.	Sheave grooves clean and round.	Y / N
3.	Ropes inspected for: 1. abrasion and mechanical damage 2. corrosion, (internal and external) 3. kinks 4. stretching and thinning of the rope 5. broken wire strands 6. high-stranding (such as birdcages and wire-loops) 7. crushing or flattening or deformation 8. going out-of-round/circle shape to ovoid/elliptic shape (O 0) 9. decrease in diameter 10. heat damage or damage from arcing/electricity.	Y / N
4.	Wires lightly greased.	Y / N
5.	The wire rope should be routinely opened-up or splayed apart so that the inside of the wire can be inspected.	Y / N

Accommodation ladder:		
1.	Inspect ladder steps and weld seems.	Y / N
2.	Inspect stanchion holders.	Y / N
3.	Inspect hand-rails or ropes.	Y / N
4.	Inspect pulleys and pivot points.	Y / N
5.	Inspect bolts, nuts and other fasteners (rivets, etc.)	Y / N
6.	Inspect limit switches are correctly positioned and functional.	Y / N
7.	Inspect machinery, winches, and motors.	Y / N
8.	List any damage found:	Done / NA
9.	Is the accommodation ladder fit for ongoing use?	Y / N

Name and rank of officer who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

Table 6 – three (3) monthly inspection of accommodation ladder to be carried out by senior deck officer with senior engineer officer.

Date:	
Accommodation ladder number:	
Certificate checked for validity (date of expiry date compared to current date):	Y / N
Date of entry into service:	
Length of service (recommended not more than 5 years):	
Date the rope was end-for-ended:	
Date was the wire rope was last tested:	

Wire ropes:		
1.	Pulleys greased and free to turn.	Y / N
2.	Groves clean and round.	Y / N
3.	Ropes inspected for: 1. abrasion and mechanical damage 2. corrosion, (internal and external) 3. kinks 4. stretching and thinning of the rope 5. broken wire strands 6. high-stranding (such as birdcages and wire-loops) 7. crushing or flattening or deformation 8. going out-of-round/circle shape to ovoid/elliptic shape (O 0) 9. decrease in diameter 10. heat damage or damage from arcing/electricity.	Y / N

Wire ropes:		
4.	Wire ropes routinely inspected.	Y / N
5.	Wires lightly greased.	Y / N
6.	The wire rope should be routinely opened-up or splayed apart so that the inside of the wire can be inspected.	Y / N

Accommodation ladder:		
1.	Inspect ladder steps and weld seems.	Y / N
2.	Inspect stanchion holders.	Y / N
3.	Inspect hand-rails or ropes.	Y / N
4.	Inspect pulleys and pivot points.	Y / N
5.	Inspect bolts, nuts and other fasteners (rivets, etc.)	Y / N
6.	Inspect limit switches are correctly positioned and functional.	Y / N
7.	Inspect machinery, winches, and motors.	Y / N
8.	List any damage found:	Done / NA
9.	Is the accommodation ladder fit for ongoing use?	Y / N

Name and rank of officer 1 who performed the inspection

Name: **Rank:**

Name and rank of officer 2 who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

Table 7 – Annual inspection to be carried out by senior deck officer with senior engineer officer.

Date:	
Accommodation ladder number:	
Certificate checked for validity (date of expiry date compared to current date):	Y / N
Date of entry into service:	
Length of service (recommended not more than 5 years):	
Date the rope was end-for-ended:	
Date was the wire rope was last tested:	

Wire ropes:		
1.	Pulleys greased and free to turn.	Y / N
2.	Groves clean and round.	Y / N
3.	Ropes inspected for: 1. abrasion and mechanical damage 2. corrosion, (internal and external) 3. kinks 4. stretching and thinning of the rope 5. broken wire strands 6. high-stranding (such as birdcages and wire-loops) 7. crushing or flattening or deformation 8. going out-of-round/circle shape to ovoid/elliptic shape (O 0) 9. decrease in diameter 10. heat damage or damage from arcing/electricity.	Y / N

Wire ropes:		
4.	Wire ropes routinely inspected.	Y / N
5.	Wires lightly greased.	Y / N
6.	The wire rope should be routinely opened-up or splayed apart so that the inside of the wire can be inspected.	Y / N

Accommodation ladder:		
1.	Inspect ladder steps and weld seems.	Y / N
2.	Inspect stanchion holders.	Y / N
3.	Inspect hand-rails or ropes.	Y / N
4.	Inspect pulleys and pivot points.	Y / N
5.	Inspect bolts, nuts, and other fasteners.	Y / N
6.	Inspect limit switches are correctly positioned and functional.	Y / N
7.	Inspect machinery, winches, and motors.	Y / N
8.	Have the accommodation ladders including associate winch and fittings been inspected and maintained periodically in accordance with SOLAS and SMS?	Y / N
9.	Does the vessel hold record of annual thorough examination and operational test of combination ladder and associated winch?	Y / N
10.	Have the wires been inspected and maintained periodically in accordance with SOLAS and SMS, with special regard to areas passing through sheaves and the standing length of the wire(s)?	Y / N
11.	Have the wires been replaced at periodic intervals in accordance with SOLAS and SMS?	Y / N
12.	Have the combination ladder and associated winch been load tested in accordance with requirement?	Y / N

Accommodation ladder:		
13.	Does vessel hold the certificate of wires installed on accommodation ladders?	Y / N
14.	Are the specification and Minimum Breaking Load (MBL) of wire in accordance with maker's instructions?	Y / N
15.	Have the accommodation ladders been marked at each end showing the restrictions on the safe operation and loading, including the maximum and minimum permitted design angles of inclination, design load, maximum load on bottom end plate, etc.?	Y / N
16.	Is there a lifebuoy, fitted with both a light and a lifeline provided in the vicinity of embarkation and disembarkation arrangement?	Y / N
17.	List any damage found:	Done / NA
18.	Is the accommodation ladder fit for ongoing use?	Y / N

Name and rank of officer 1 who performed the inspection

Name: **Rank:**

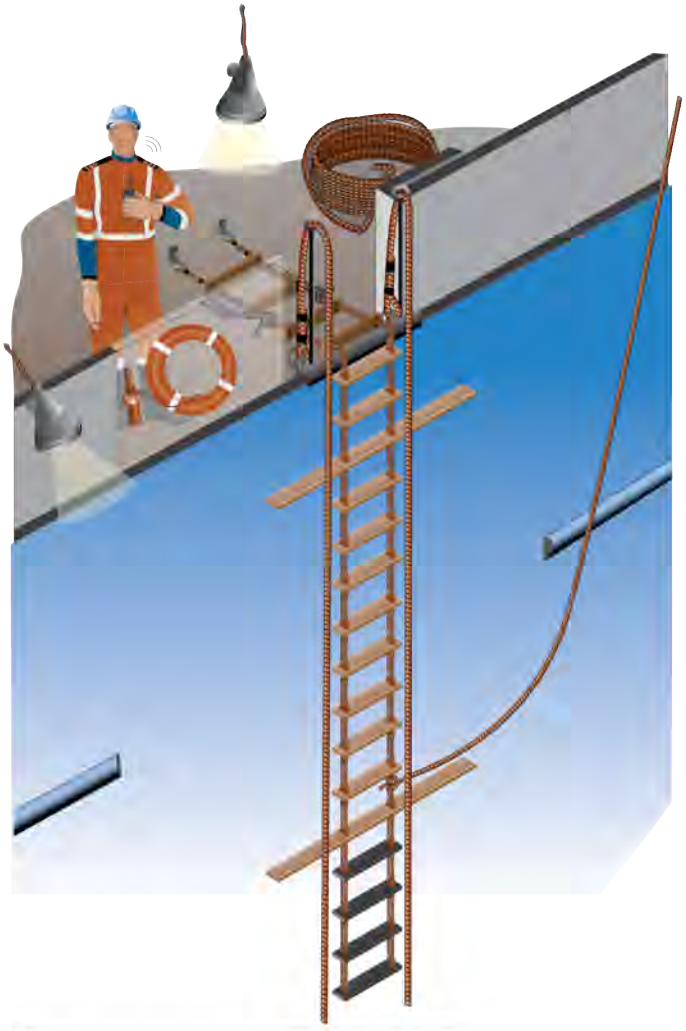
Name and rank of officer 2 who performed the inspection

Name: **Rank:**

Checklist acknowledge and signed by master

Name: **Signature:**

11.3 Appendix 2: Pilot ladder maintenance and servicing checklist

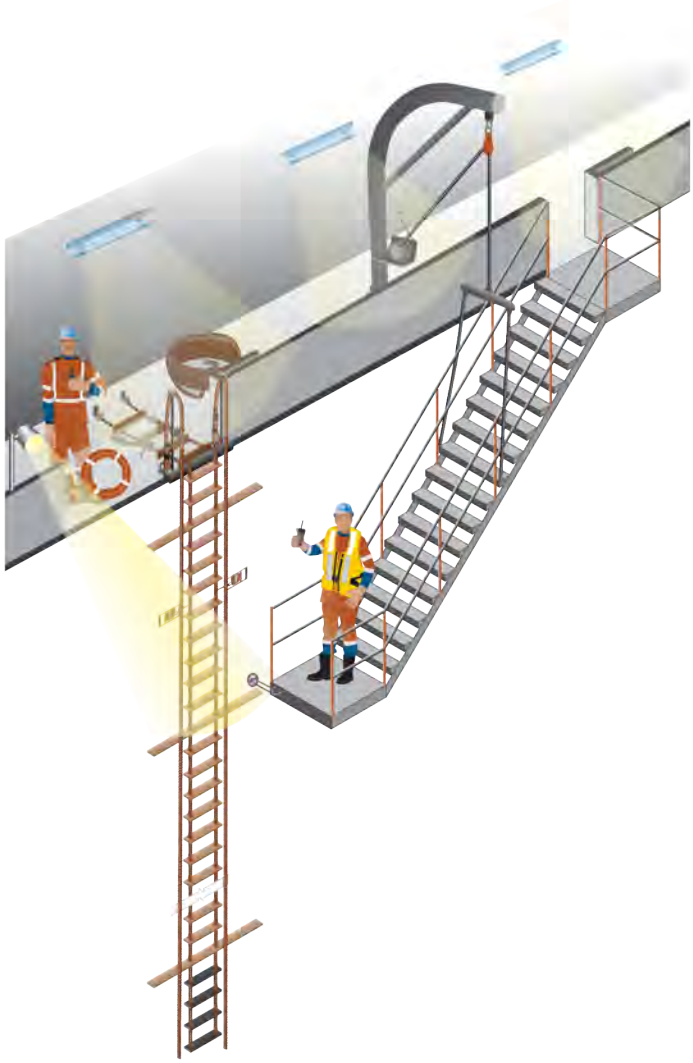


Has the ladder been set up and tested by designated officer?	Yes	No
Means of communication and tested?	Yes	No
Side rope secured to ship with rolling hitch to strong point?	Yes	No
Lifebuoy with self-igniting light ready for use?	Yes	No
Light in aft position facing forward available and working?	Yes	No

Heaving line readily available?	Yes	No
Stanchions secured to ship at two positions?	Yes	No
Is the hard edge of the deck rounded?	Yes	No
Sharp edge/anti chafing?	Yes	No
If required retrieval line or 'tripping line' set up and is attended by personnel?	Yes	No
Secured forward of the ladder on the ship?	Yes	No
Man ropes attached to secure attachment points and deployed or readily available according to pilots request?	Yes	No
Man ropes have no: splices, covers, or sheath?	Yes	No
Man ropes in overall good condition?	Yes	No
Side ropes are continuous and no splicing?	Yes	No
Able to inspect ropes and wires (no covers or sheath)?	Yes	No
Ropes are in good condition?	Yes	No
Ladder is flat against the side of ship?	Yes	No

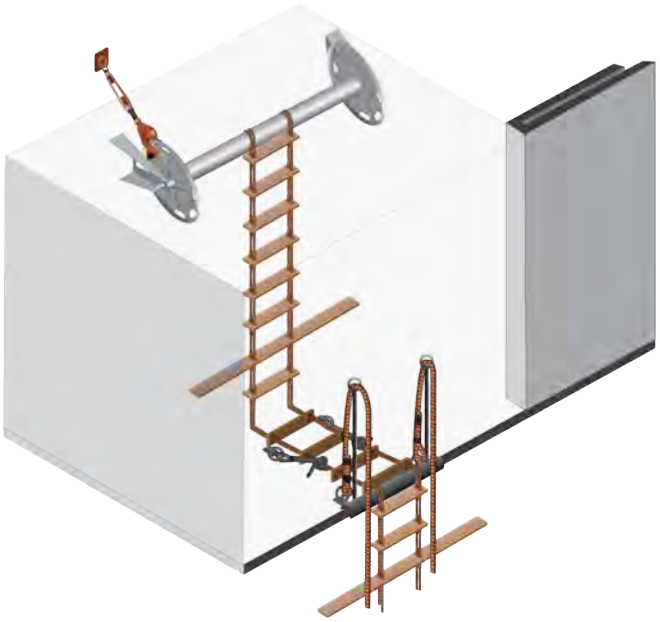
Steps and ropes have been inspected and are not damaged?	Yes	No
Two or less replacement steps?	Yes	No
Are the ropes seizing?	Yes	No
Clamps and whippings in good condition?	Yes	No
Chocks are checked and confirmed: Not loose, broken, or missing?	Yes	No
Are pilot steps and spreader in horizontal position?	Yes	No
Equal separation between steps 33cm +/- 2cm?	Yes	No
No knots and no shackles?	Yes	No
No loops present at the bottom of the ladder?	Yes	No
Four steps under the first spreader made of rubber?	Yes	No

Heaving line readily available?	Yes	No
Stanchions secured to ship at two positions?	Yes	No
Is the hard edge of the deck rounded?	Yes	No
Sharp edge/anti chafing?	Yes	No
If required retrieval line or 'tripping line' set up and is attended by personnel?	Yes	No
Secured forward of the ladder on the ship?	Yes	No
Man ropes attached to secure attachment points and deployed or readily available according to pilots request?	Yes	No
Man ropes have no: splices, covers, or sheath?	Yes	No
Man ropes in overall good condition?	Yes	No
Side ropes are continuous and no splicing?	Yes	No
Able to inspect ropes and wires (no covers or sheath)?	Yes	No
Ropes are in good condition?	Yes	No
Ladder is flat against the side of ship?	Yes	No



Additional combination rigging requirements

Does the pilot ladder extend 2m above the platform and secured to ship side 1.5m above the lower platform?	Yes	No
Is the lower platform of the accommodation ladder secured to the ships side?	Yes	No
Pilot ladder directly next to the lower platform?	Yes	No
Is the combination ladder and wire rope in good condition?	Yes	No
Are the steps and side railings free of grease?	Yes	No
Is there at least 5 meters of space under the platform?	Yes	No
Is the platform level?	Yes	No
If the pilot ladder is rigged through the trapdoor - extending above the platform to the height of the handrails or 2m?	Yes	No



Documentation

Does the pilot ladder have a certificate of the manufacturer?	Yes	No
Does the pilot ladder have an identification tag (number/serial number)?	Yes	No
If older than 30 months, has the pilot ladder been load tested by an approved person?	Yes N/A	No

Additional reel/winch rigging requirements

Mechanically locked?	Yes	No
Securely attached to the ship?	Yes	No

Disclaimer

This publication provides general guidance on your duties under relevant legislation (including the Maritime Transport Act 1994, Maritime Rules, Marine Protection Rules and the Health and Safety at Work Act 2015).

It is not possible for Maritime New Zealand to address every situation that could occur at work, and you must make sure you are:

– operating according to the latest Maritime Rules, Marine Protection Rules, and other legislation; and

– obtaining legal advice where appropriate.

You need to think about this guidance and how best to apply it to your particular circumstances.

Maritime New Zealand regularly reviews and revises guidance to make sure that it is up-to-date and reflects any changes in legislation. However, this guidance might not be current, so to confirm that you are referring to the latest version of this publication check **maritimenz.govt.nz**.

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