

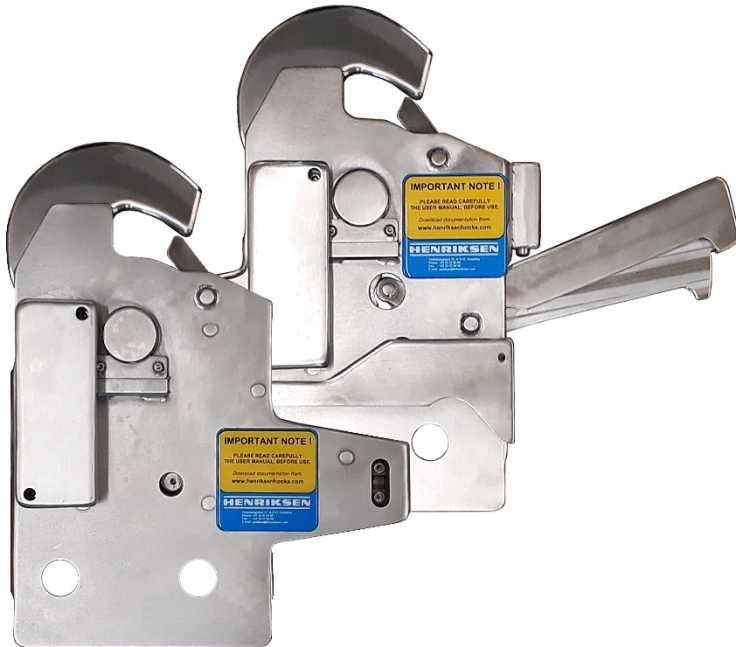
HENRIKSEN HOOKS

HOOKS
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REMOTE RELEASE OFF-LOAD HOOKS

TWIN SYSTEM



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Rev.: --

M000307

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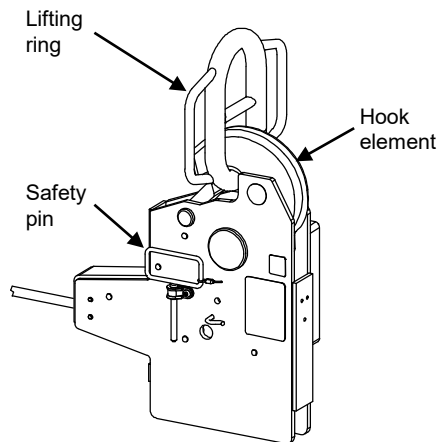
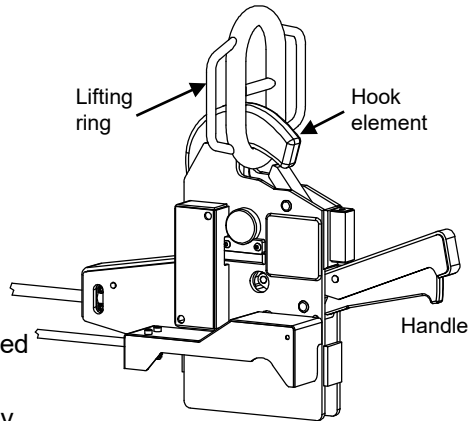
REDUCING OPERATIONAL RISK

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www.henriksenhooks.com

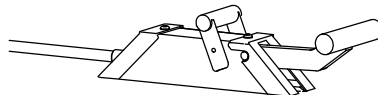
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LAUNCH

- 1** Check the following on both hooks before launch:
- the hook elements are in closed position
 - the handle is in the high (closed) position on the master hook
 - the safety pin is **not** inserted into the slave hook
 - the lifting rings are properly placed
 - the hooks are free of any impurities or ice



- 2** Check that the remote handle is in closed position, refer to the illustration.





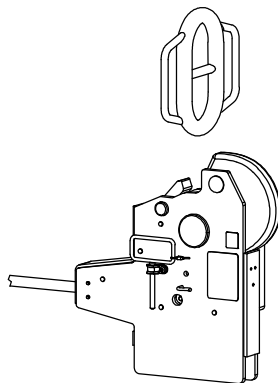
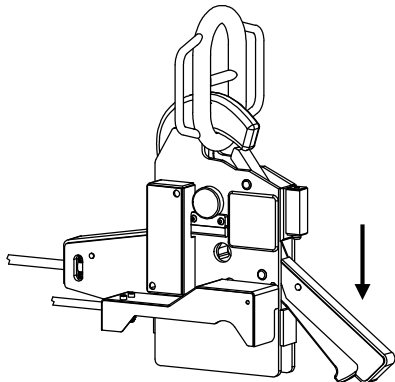
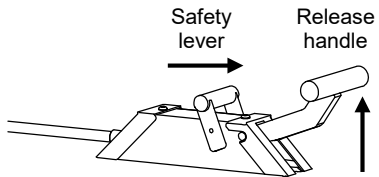
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LAUNCH

- 3** Start the lowering process with a continuous motion.
- 4** Activate the hooks when the boat is close to the water surface:
Option 1: Pull the safety lever and set the remote release handle to open position. Check that the handle of the master hook moves into the low (activated) position.
Option 2: Set the handle of the master hook to low (activated) position.

NOTE:
Set the remote handle to closed position and the handle of the master hook to high (closed) position to cancel the activated state of the hooks if necessary.

- 5** When the boat is waterborne and **both** hooks are off-loaded, the hooks will open automatically **at the same time** and release the lifting rings.

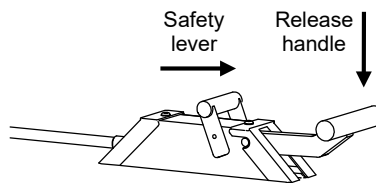


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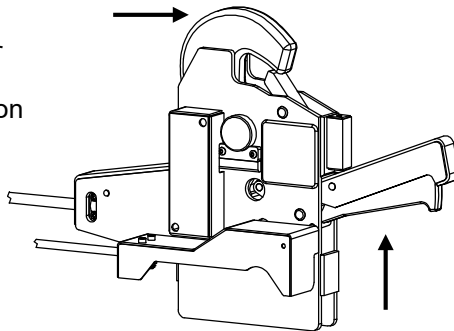
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RESET

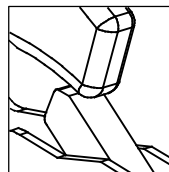
- 1 Set the remote handle to the closed position.



- 2 Lift the handle on the master hook to move the hook elements to closed position on both hooks.



- 3 Check visually that the hook elements are closed and synchronized: the position of the tip of the hook element and the tip of the latch compared to each other are the same on both hooks, refer to the illustration.

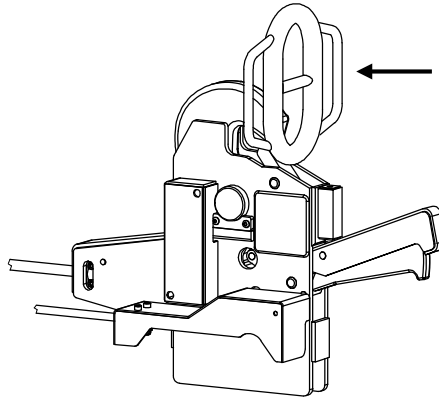


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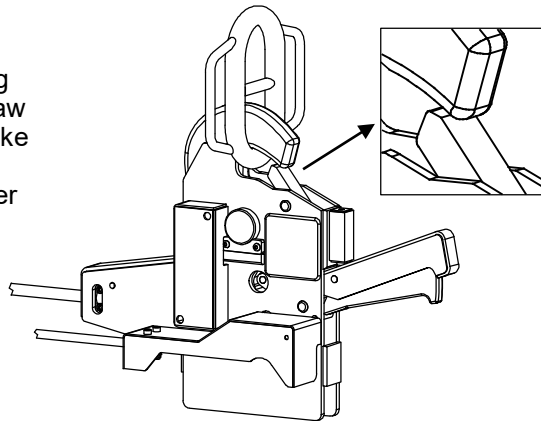
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RECOVERY

- 1** Make sure that the hooks are reset.
- 2** Place the lifting ring properly into the jaw of the forward hook and make sure that the latch is completely locked, refer to the illustration.



- 3** Place the second lifting ring properly into the jaw of the aft hook and make sure that the latch is completely locked, refer to the illustration.



- 4** The hooks are ready to recover the boat.

NOTE: Both the master and the slave hook can be applied as forward hook. But it is important to always start the recovery at the forward hook.

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MANUAL OVERRIDE

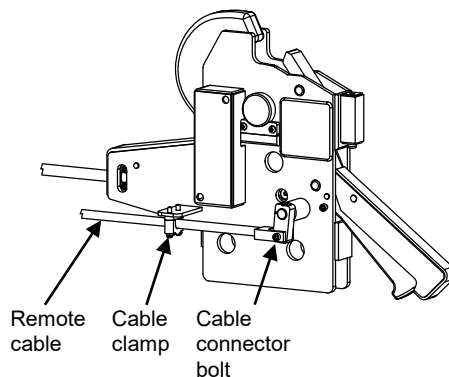
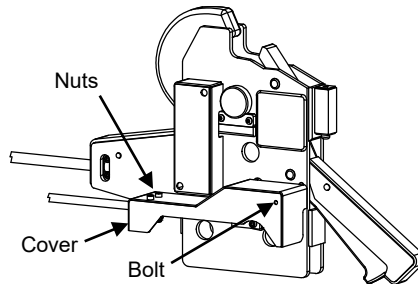
The hooks can be operated manually in case of damage of the push/pull cable system:

- Damaged remote cable (between the remote unit and the master hook)
- Damaged link cable (between the master hook and the slave hook)

The launch and the reset processes are different in these cases, however the recovery process is the same as in the normal operation mode.

DAMAGED REMOTE CABLE PREPARATION BEFORE MANUAL OVERRIDE

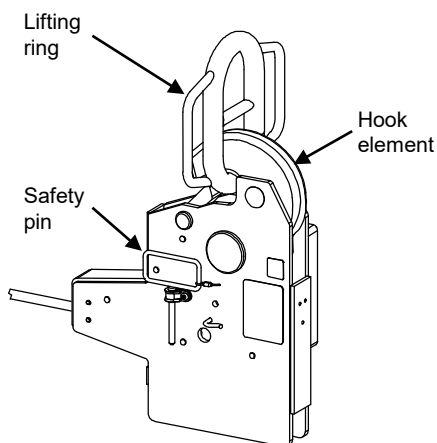
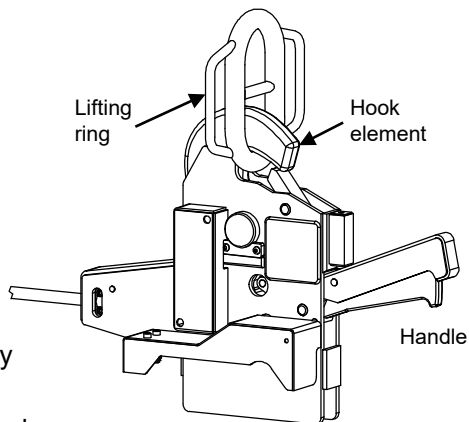
- 1 Open the master hook.
- 2 Remove the bolt and the nuts.
- 3 Remove the cover.
- 4 Remove the cable connector bolt.
- 5 Remove the cable clamp.
- 6 Remove the remote cable.
- 7 Mount the cover onto the hook.



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LAUNCH

- 1 Check the following on both hooks before launch:
 - the hook elements are in closed position
 - the handle is in the high (closed) position on the master hook
 - the lifting rings are properly placed
 - the safety pin is **not** inserted into the slave hook
 - the hooks are free of any impurities or ice

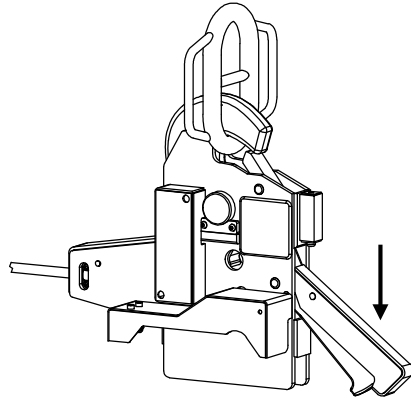


- 2 Start the lowering process with a continuous motion.

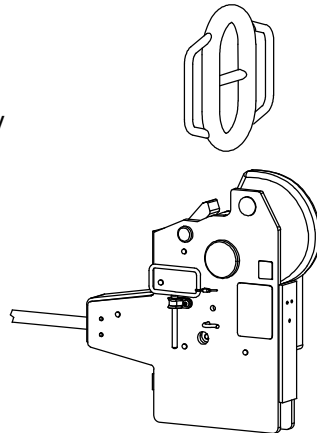
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LAUNCH

4 When the boat is close to the water surface compress the handle lever on the master hook, and set the handle to the low (activated) position to activate the hooks.



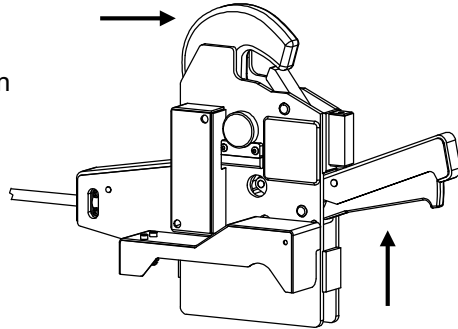
5 When the boat is waterborne and **both** hooks are off-loaded, the hooks will open automatically **at the same time** and release the lifting rings.



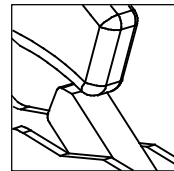
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RESET

- 1** Lift the handle on the master hook to move the hook elements to closed position on both hooks.



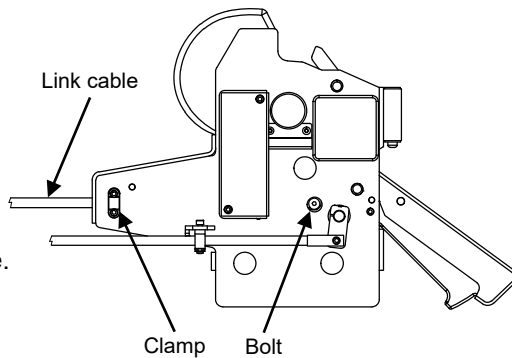
- 2** Check visually that the hook elements are closed and synchronized: the position of the tip of the hook element and the tip of the latch compared to each other are the same on both hooks, refer to the illustration.



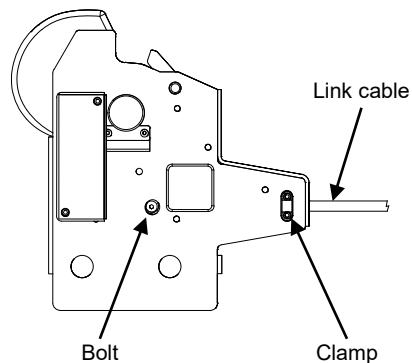
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DAMAGED LINK CABLE PREPARATION BEFORE MANUAL OVERRIDE

- 1 Open the master hook.
- 2 Remove the cover, see page 6 for more details.
- 3 Remove the bolt from the hook element to disconnect the link cable.
- 4 Remove the bolts from the cable clamp and remove the link cable.
- 5 Mount the cover onto the hook.



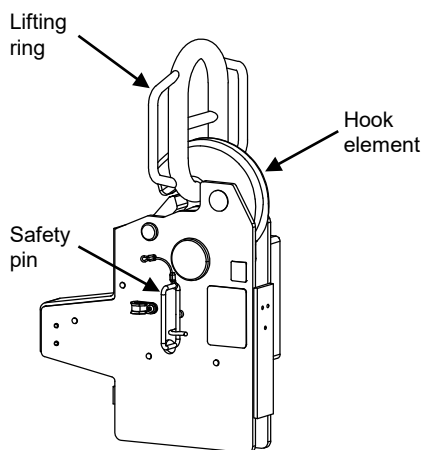
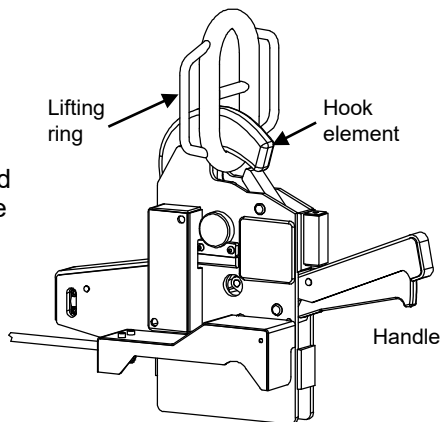
- 6 Make sure that the slave hook is open.
- 7 Remove the bolt from the hook element to disconnect the link cable.
- 8 Remove the bolts from the cable clamp and remove the link cable.



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LAUNCH

- 1 Check the following on both hooks before launch:
 - the link cable is disconnected from both the master and the slave hook.
 - the hook elements are in closed position
 - the handle is in the high (closed) position on the master hook
 - the safety pin is properly inserted into the slave hook
 - the lifting rings are properly placed
 - the hooks are free of any impurities or ice

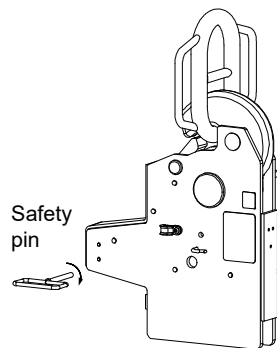


- 2 Start the lowering process with a continuous motion.

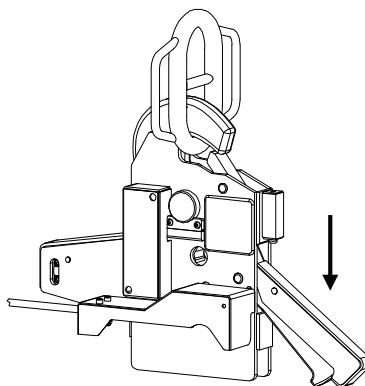
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LAUNCH

- 3** When the boat is waterborne and **both** hooks are off-loaded activate and open the aft hook first:
- twist the safety pin clockwise and pull it out, and the hook will open immediately and release the aft lifting ring.



- 4** Activate and open the forward hook:
- Set the handle of the hook into the open position and the hook will open immediately and release the forward lifting ring.

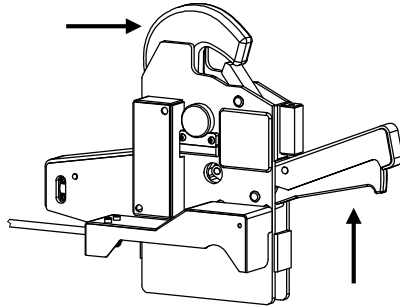


NOTE: Both the master and the slave hook can be applied as forward hook. But it is important to always activate and open the aft hook first.

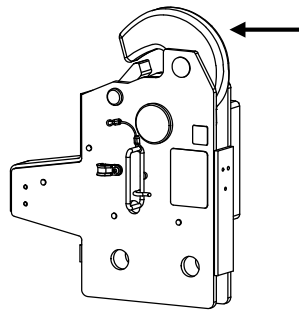
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RESET

- 1** Lift the handle on the master hook to move the hook element to closed position.



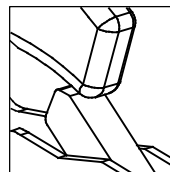
- 2** Set the hook element of the slave hook into closed position and hold it in this position.



- 3** Insert the safety pin and release the hook element.

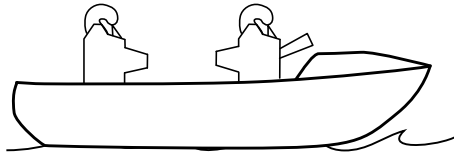
Make sure that the safety pin is properly placed, refer to the illustration.

- 4** Check visually that the hook elements are closed and synchronized: the position of the tip of the hook element and the tip of the latch compared to each other are the same on both hooks, refer to the illustration.



GENERAL CONSIDERATIONS

- 1 We recommend that the hooks are mounted facing in the same direction. Both the master and the slave hook can be applied as forward hook.



- 2 Consider the ergonomical details before mounting the components of the twin system. It shall be easy to install, remove, and safe to operate and inspect the hooks and the remote unit.
- 3 Use as straight cable installation path as possible as unnecessary curves may reduce the efficiency of the remote system.
- 4 Use an installation path for the cables that prevents tripping hazard, and protect the cables against wear and tear.
- 5 Make sure that the minimum bending radius of the push/pull cables will be more than 200 mm / 8 inch after the cable are installed.
- 6 We strongly recommend to use standard Henriksen Lifting Rings, because the ring dimensions are designed to **geometrically fit** together with the Henriksen Hooks.
See more details in our **HLR** document.
- 7 We offer standard Henriksen Bolt Sets and Shims for mounting.
See more details in our **Bolt Set** and **Shims** documents.
- 8 Consider prevention against icing on the hooks.



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RECOMMENDED BOLTS AND LOCKNUTS

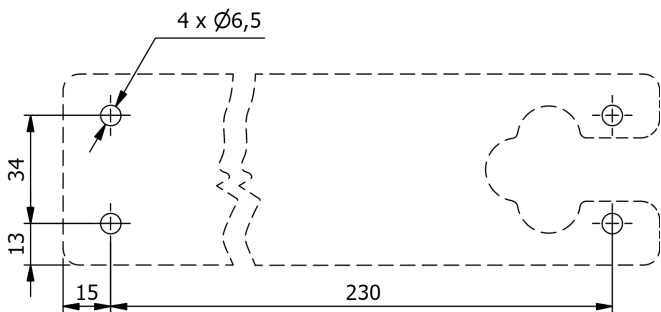
Hook type	Bolts and locknuts dimensions (minimum A4 70 quality) *	Max. torque (Nm)
HMKTWH 3,5	M24	70
HMKTWH 8	M30	70

* The bolt should be unthreaded in the lifting cross-section.
 Bolts can be ordered from Henriksen, the length is specified by the boat builder.

CABLE OVERVIEW

Cable	Cable type
Link cable	HH090019 CABLE 6433
Remote cable	HH090034 CABLE 64(3)33

REMOTE UNIT - HOLE POSITIONS



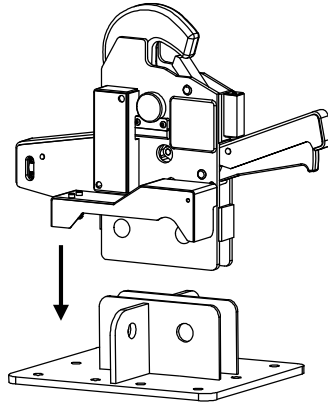
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- 1** Place the hook between the plates of the lifting arrangement of the boat.

We recommend:

- to use two outside mounting plates if possible
- to apply shims to reduce the gap between the mounting plates and the hook.

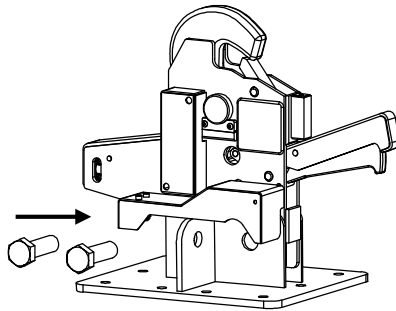
Check that the handle points in the preferred direction.



- 2** Insert the mounting bolts through the holes on the lifting arrangement and the hook.

WARNING:

Use only recommended bolts, see the table on page 15.



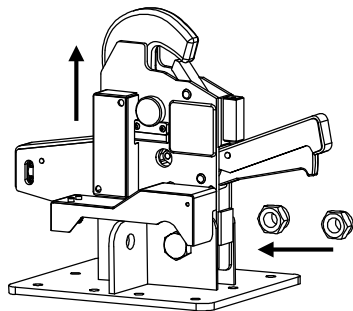
- 3** Mount the locknuts.

We recommend to hold the hook in lifted position when tightening the nuts.

WARNING:

Use only recommended locknuts and torques, see the table on page 15.

Always use new locknuts.



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LINK CABLE – MASTER HOOK

- 1** Open the master hook.
- 2** Grab the link cable and pull the cord out fully.
- 3** Place the cable connector to the end of the cable.
- 4** Adjust the position of the cable connector to align with the hole in the hook element when the cable clamp groove is in correct position (see the red arrows on the picture below).



Cable clamp groove

Connector

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LINK CABLE – MASTER HOOK

- 5** Secure the cable connector with the nut on the cable end.
- 6** Insert the cable into the hook.
- 7** Connect the cable connector to the hook element with the bolt.
Apply Loctite 243 or equivalent on the bolt before tightening.
- 8** Secure the cable with the cable clamp and the bolts.
Apply Loctite 243 or equivalent on the clamp bolts before tightening.



Cable clamp

Bolt in the
hook element

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LINK CABLE – SLAVE HOOK

- 1** Open the slave hook.
- 2** Place the cable connector to the end of the cable.
- 3** Adjust the position of the cable connector to align with the hole in the hook element when the cable clamp groove is in correct position (see the red arrows on the picture below).



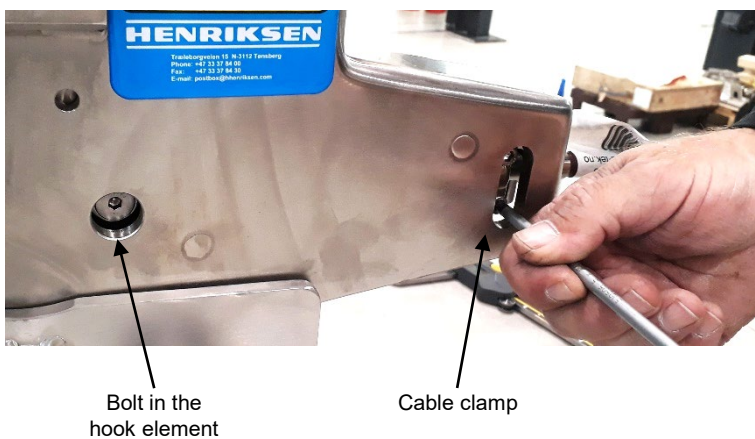
Connector

Cable clamp groove

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LINK CABLE – SLAVE HOOK

- 4** Secure the cable connector with the nut on the cable end.
- 5** Insert the cable into the hook.
- 6** Connect the cable connector to the hook element with the bolt. Tighten gently.
- 7** Secure the cable with the cable clamp and the bolts. Tighten gently.



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LINK CABLE – ADJUSTMENTS

- 8** Close the hooks by lifting the handle on the master hook.
- 9** Measure the position of the hook elements on both hooks.
If the positions are identical, then open the hooks and go to step 12.
If the positions are not identical, then open the hooks and adjust the position of the cable connector at the slave hook.



- 10** Disconnect the link cable from the slave hook.
- 11** Adjust the position of the connector on the cable end as necessary, and continue from step 4.
- 12** Tighten the bolt in the hook element and the cable clamp bolts. Apply Loctite 243 or equivalent on the bolts before tightening.

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REMOTE CABLE – MASTER HOOK

- 1 Check the remote cable ends, pull the cord out on both ends of the cable, one after another. The visible cord lengths are equal in one position, and different in the other position.

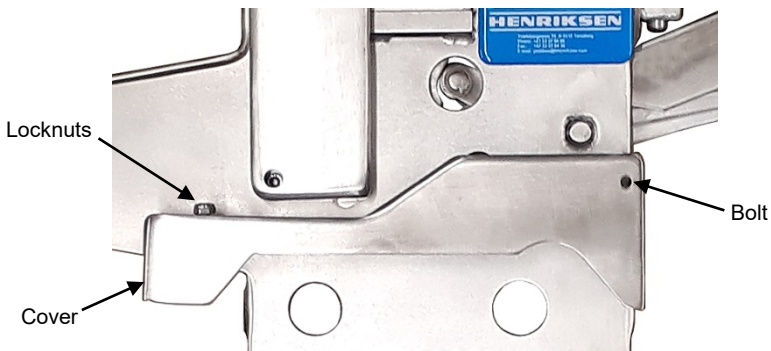
Connect the cable end with the shorter cord length to the master hook, and the cable end with the longer cord length to the remote unit.



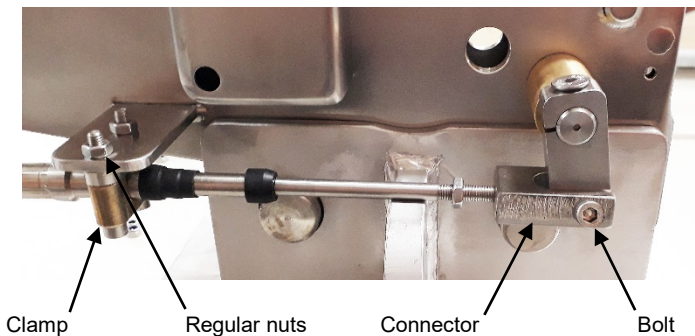
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REMOTE CABLE – MASTER HOOK

- 2 Close the master hook.
- 3 Remove the two locknuts and the bolt, and remove the cover.



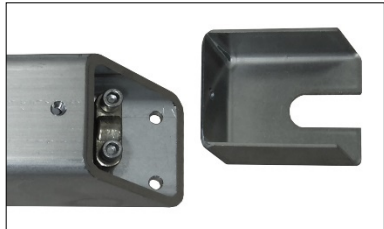
- 4 Connect the cable to the hook with the connector and the bolt, and secure it with the clamp. Do not tighten yet.



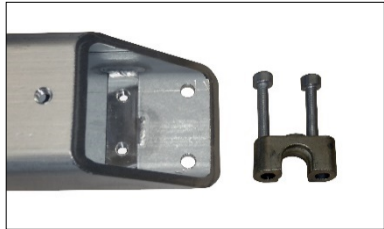
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REMOTE CABLE – REMOTE UNIT

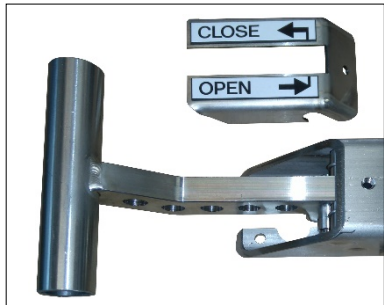
1 Remove the cover from the remote unit on the cable entry side.



2 Remove the cable clamp.



3 Remove the cover from the remote unit on release handle side.



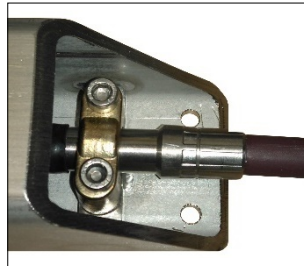
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REMOTE CABLE – REMOTE UNIT

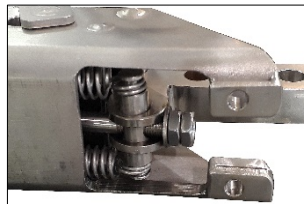
- 4** Remove the nut from the end of the cable on the remote side, and thread the cable through hole in the bolt of the remote handle mechanism.



- 5** Lock the cable with the cable clamp. Tighten the screws carefully to prevent damage on the cable.



- 6** Set a washer and two nuts on the cable end. Do not tighten yet.



- 7** Spray a small amount of lubricant oil into the remote unit.

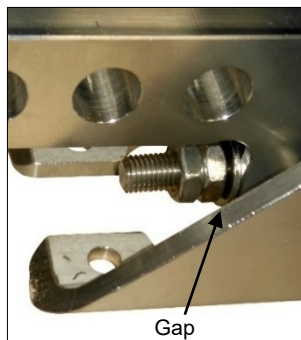
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REMOTE CABLE – REMOTE UNIT

8 Make sure that the remote handle can be set properly to both open and closed positions and adjust the position of the nut on cable end at the remote unit if necessary.

9 Set the release handle into closed position and tighten the nuts.

Make sure that there is a little gap between the washer and the release handle and there is no tension in the cable, refer to the illustration.



10 Consider the ergonomical details and mount the remote unit to the dashboard with 4 pcs. M6 / Ø6 screws depending of the dashboard material.

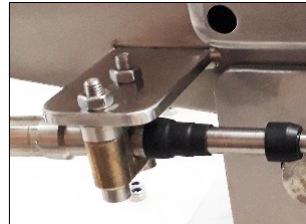
11 Install the covers back onto the remote unit.

12 Make sure that the rubber gaskets are still properly placed on both ends of the cable.

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REMOTE CABLE – MASTER HOOK

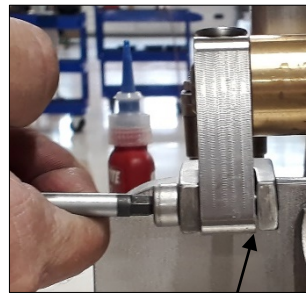
- 1** Secure the cable with the clamp and the nuts.
Apply Loctite 243 or equivalent on the nuts before tightening.



- 2** Secure the cable connector with the nut.
Apply Loctite 243 or equivalent on the cable end before tightening.



- 3** Tighten the bolt at the cable connector.
Apply Loctite 243 or equivalent on the bolt before tightening.
Check the gap between the cable connector and the arm by using a feeler gauge. The gap should be minimum 0,5 mm, refer to the illustration.



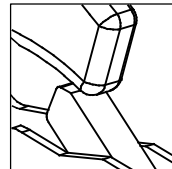
Gap

- 4** Mount the cover back onto the hook with the bolt and the locknuts.

FUNCTIONAL TEST

Do a functional test of the following after mounting the hooks, the cables and the remote unit on the boat:

- When both hooks are unloaded, they will open fully and immediately at the same time when you activate/open them with the remote unit.
- Load or simulate the load only on the aft hook and check that the activated hooks will not open until the load is removed.
- Load or simulate the load only the on forward hook and check that the activated hooks will not open until the load is removed.
- The hook elements can open freely.
- The rings can be inserted simply and safely.
- The installation path for the cables does not cause tripping hazard and the cables are protected against wear and tear.
- Check visually that the hook elements are synchronized: the position of the tip of the hook element and the tip of the latch compared to each other are the same on both hooks in closed position, refer to the illustration.

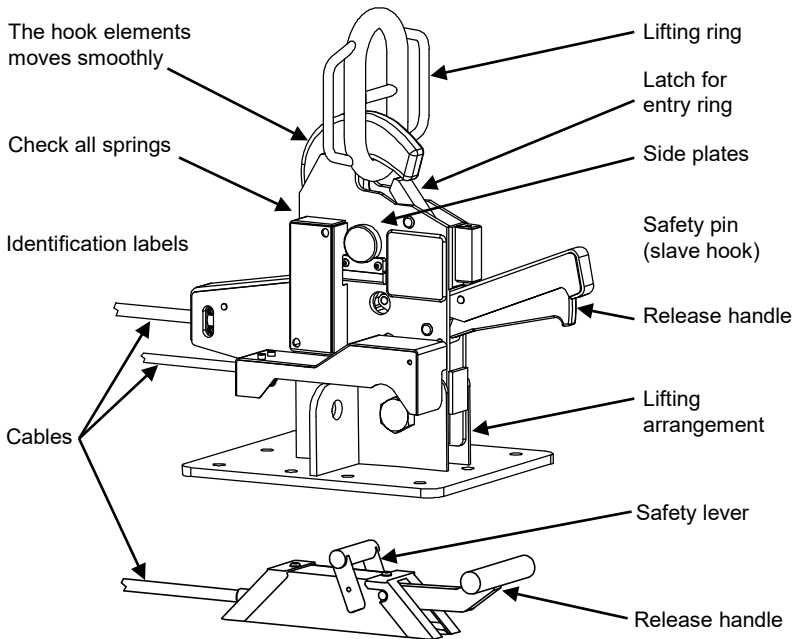
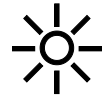


We recommend to prevent the hooks and the remote unit against any ice to build up.



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- 1** For safety reasons carry out the control in good lighting conditions.
- 2** Remove all impurities (salt, grease, dust, etc.) with fresh water. Remove ice if necessary.
- 3** Check that the following parts are free from deformations and defects:

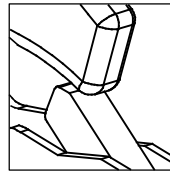


Contact the manufacturer in case of any deviation!

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4 Do a functional test of the following:

- When both hooks are unloaded, they will open fully and immediately at the same time when you activate/open them with the remote unit.
- Load or simulate the load only on the aft hook and check that the activated hooks will not open until the load is removed.
- Load or simulate the load only on the forward hook and check that the activated hooks will not open until the load is removed.
- The hook elements can open freely.
- The rings can be inserted simply and safely.
- The installation path for the cables does not cause tripping hazard and the cables are protected against wear and tear.
- Check visually that the hook elements are synchronized: the position of the tip of the hook element and the tip of the latch compared to each other are the same on both hooks in closed position, refer to the illustration.



5 DO NOT PAINT ANY PART OF THE HOOK!



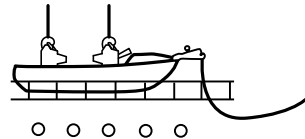
Contact the manufacturer in case of any deviation!



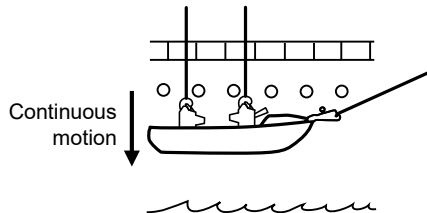
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SAFE LAUNCH

1 The hook operator connects the lifting rings and the painter line before launch, and then gives a signal to the crane operator that the lowering process can start.

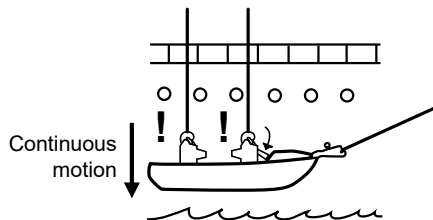


2 The crane operator starts the lowering process with a continuous motion.



3 The operators make sure that there are no obstacles under the boat.

The hook operator then activates the lifting hooks when the boat is close to the water surface.



NOTE:

In case of manual override follow the instructions as described in the “**Manual Override**” chapter.

4 The hook operator stands back and takes a safe stand-by position.

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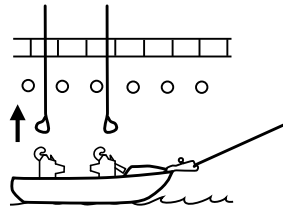
SAFE LAUNCH

- 5** When the boat gets waterborne and both lifting hooks are off-loaded, the hooks will open automatically and release the lifting rings.

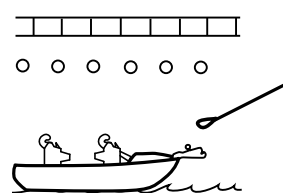
NOTE:

In case of manual override follow the instructions as described in the **“Manual Override”** chapter.

The crane operator lifts the lifting rings to avoid collision with the boat or the crew.



- 6** The coxswain or the hook operator releases the painter line when the boat and the crew is ready.



- 7** The coxswain maneuvers the boat ahead and away from the vessel.

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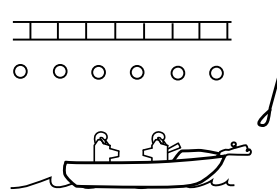


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SAFE RECOVERY

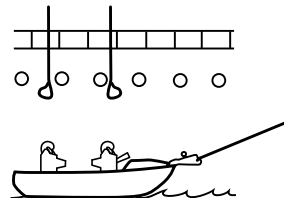
1 The hook operator makes sure that both the lifting hooks and the painter hook are reset.

2 The coxswain maneuvers the boat close to the vessel to let the hook operator safely get the painter line.



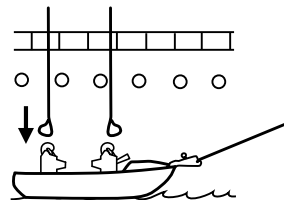
3 The hook operator connects the painter line. The coxswain aligns the direction of the boat to the vessels direction.

4 The coxswain reduces the speed of the boat and the painter line is tensioned. The coxswain then makes sure to keep the correct direction of the boat and tension in the painter line.



The boat shall then be in the correct position below the lifting rings.

5 The crane operator lowers the lifting rings to let the hook operator safely get them.



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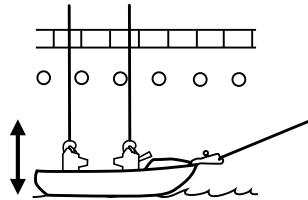


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SAFE RECOVERY

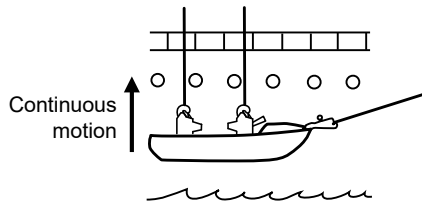
6 The hook operator connects the lifting rings first to the forward, then to the aft hook, and gives a signal to the crane operator.

The crane operator starts the automatic tensioning system (if available) to give tension in the wire.

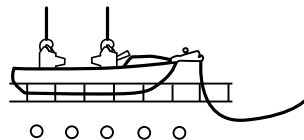


7 The hook operator stands back and takes a safe stand-by position.

8 The crane operator starts the lifting process with a smooth motion as the boat moves upwards on a wave.



9 The crane operator completes the lifting process with a continuous motion and places the boat into the crib.



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