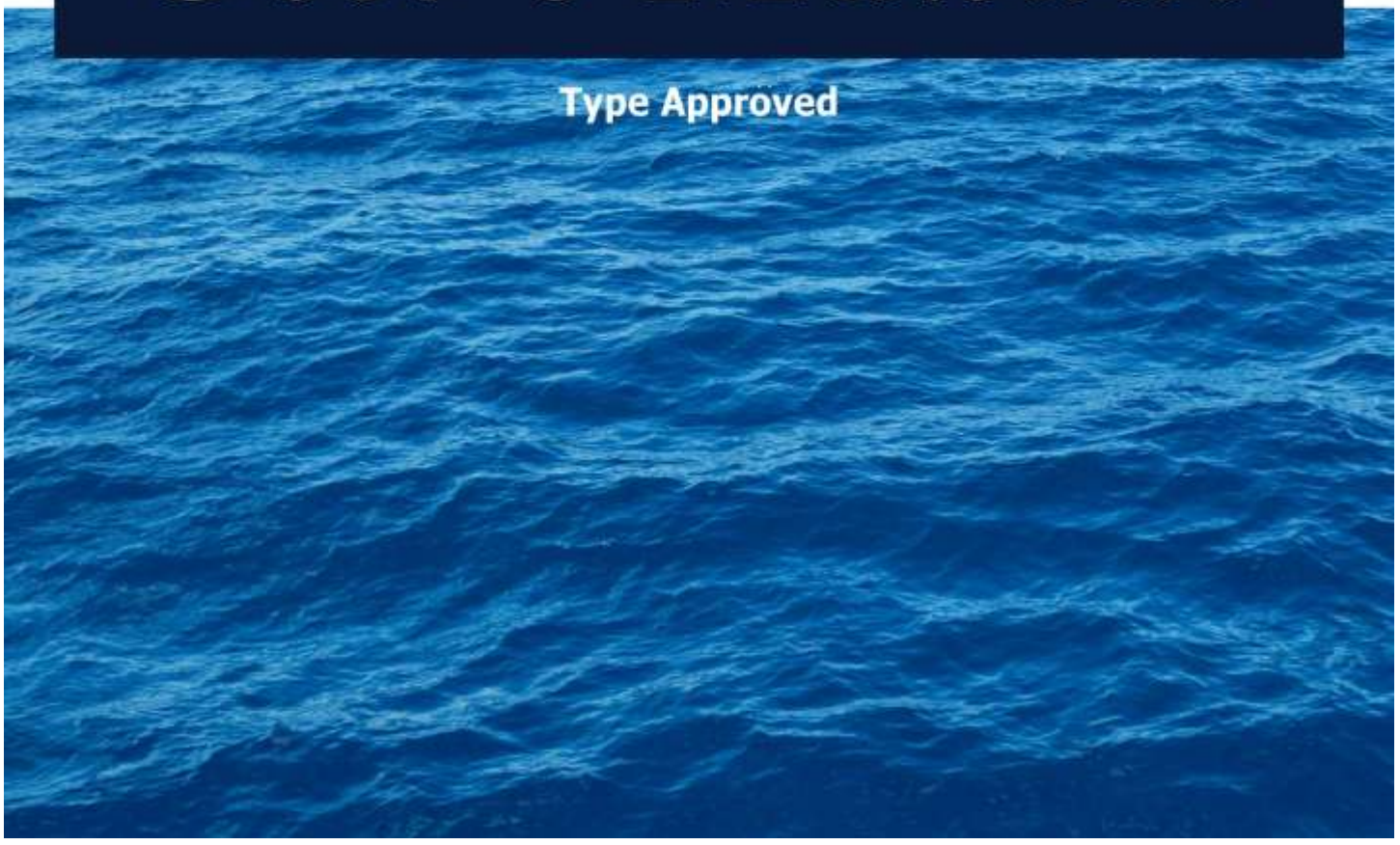
HERO®

Man Overboard Rescue Equipment

User's Manual

Type Approved



READ THE USER'S MANUAL SECTIONS THAT APPLY TO YOUR PRODUCTS PRIOR TO USE

WARNING:

This equipment is intended for the emergency rescue of a person in water. It is important to understand the intrinsic risks associated with all rescue and water survival environments, from potential injury all the way to death. The rescue systems offered by C-Hero, LLC is intended to aid the thoroughly trained rescuer(s), who has familiarity with the equipment being utilized, and the survival victim(s). The risk of injury or death cannot be completely eliminated or foreseen. Equipment training, maintenance and continual reviews of user proficiency is vital to the proper and safe use of all rescue and water survival equipment. It is the responsibility of the purchasing and end user organization or individual to:

- On our website, enroll in eTraining (our computer based online training)
- The warranty for each product is based on your successful participation in eTraining.
- Ensure that all individuals involved with the equipment have been fully trained.
- Ensure that the equipment is properly maintained and ready for use.

FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH

Table of Contents

Training videos are available at C-Hero.com and eTraining Check them out HERE

Table of Contents
continued

Training videos are available at C-Hero.com and eTraining Check them out HERE

Product & Major Parts List

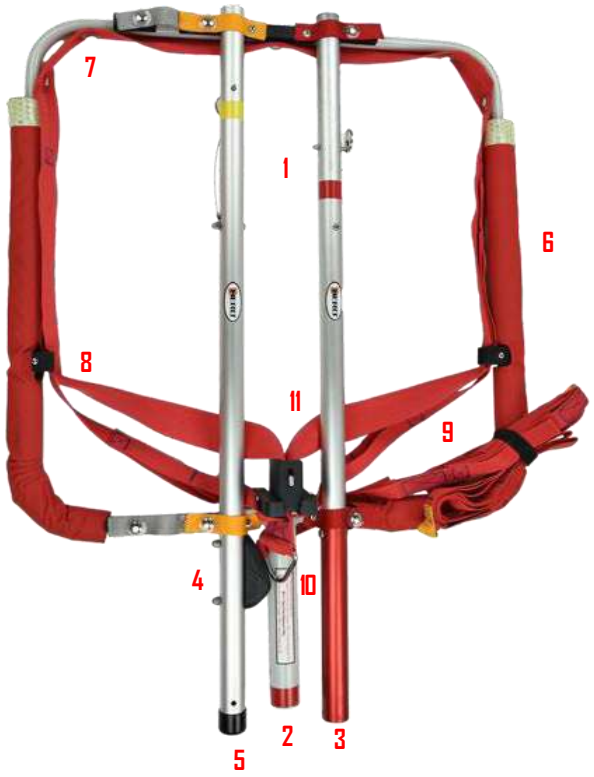


Image A1 Rescue Kit 8 Loaded

Image A2 Rescue Kit 11 Loaded

1. RK 8 - (2) 3' X 1.25" OD coupled poles with tethered pins. Foam filled if floatation selected
   RK 11 - (3) 3' X 1.25" OD coupled poles with tethered pins. Foam filled if floatation selected
2. Pole connector on hoop with quick connect pins for top/first pole section
3. Coupler securely installed on top/first pole section, with quick connect pins, for bottom/second pole installation
4. V-Cleat on bottom pole section for holding 11mm lift line
5. Bottom pole end cap with prepared hole for tether line (not included)
6. 2' hoop. Foam wrapped with Sunbrella® cover and SOLAS compliant reflective tape if floatation selected (as shown in images above
7. (3) male snaps on rear of hoop, (1) on each side, for a total of (5), with matching female snaps on strap
8. Two (2) rubber web strap holding blocks, one (1) on each side bottom of hoop
9. 2" X 7' closed loop lifting strap rated at 3,500lbs
10. Integrated lifting triangle rated at 5,000lbs
11. One way Slide Buckle & Slide Buckle holder *enclosed separately for customer installation
12. Rescue Kit can be loaded with either the Lifting Strap or the Manual Recovery Strap
13. Overall weight: 8.9lbs

Set Up

Supplied RK 8 - (2) connecting poles / RK 11 (3) connecting poles, aluminum rescue hoop, lifting strap or manual recovery strap with slide buckle, slide buckle holder and connecting hardware.

Installation

1. The buckle holder & the hardware have been shipped in a plastic bag that is stapled to the hoop. All hardware for the buckle holder is provided in this bag.
2. Assemble the buckle holder with the countersunk holes facing out so that the provided 5/32" Allen cap screws will
   fit flush. *5/32" Allen wrench is not included.

Adjustment Note *The slide buckle holding tension can be adjusted with the 7/16" side nuts. We recommend using LOCTITE® to properly re-secure the nuts after adjustments are completed.*

Image A4 Slide Buckle Holder

Image A5 Slide Buckle Inserted into Buckle Holder

3. Lay the poles and rescue hoop out. Hoop with the flat side down and buckle holder facing up.
   RK 8
   a. The pole with the red band fits into the hoop, then through pin.
   b. The pole with the yellow band fits into the red coupler, V cleat facing up, then through pin.
   RK 11
   c. The pole with the red ban fits into the hoop, then through pin.
   d. The pole with the yellow band fits into the red coupler, then through pin.
   e. The third and final pole goes into the second red coupler, V cleat facing up, then through pin.

Image A6 Final Pole Section with V-Cleat Facing Up

4. The end of the last pole has a prepared hole for a tether (not included).
5. Place the slide buckle into the holder matching the UP arrow.
6. Place the slide buckle into the holder per **Image A5**, matching up arrow.
7. The lifting triangle goes on the outside of the slide buckle holder per **Image A5.**
8. Move the lever on the top of the slide buckle, pulling all the Strap webbing towards the center of the hoop. Make sure there are no twists before attaching, as shown in **Image A7**.

Set Up *continued*

Loading the Lifting Manual Recovery Strap into RK Hoop

1. Attach the buckle holder, to the hoop plate, with the countersunk holes facing out so that the provided 5/32”
   Allen cap screws will fit flush.
   Adjustment Note: The slide buckle holding tension can be adjusted with the 7/16” side nuts. We recommend using Loctite to properly secure the nuts.
2. Fasten the (3) snaps to the rescue hoop’s crossbar, then the (2) snaps on the sides, finally load the webbing into the rubber holder blocks (one per side). The best technique is to place the bottom edge of the strap into the bottom seat of the rubber. Then, work the top edge completely under the rubber as shown in **Image A8.** The rubber can be spread open and rolled (within reason) to aid in loading the strap.

Image A7 Strap stretched out with no twists

Image A8 Strap loaded into one of the (2) lower rubber holding blocks

3. It is always best to load the Lifting/Manual Recovery Strap into the Rescue Hoop while it is on deck.

Image A9 Strap with all (5) snaps attached and (2) rubber blocks loaded

A helpful demonstration video to load your Lifting Strap

Important Reminder
Make sure that the lifting strap is secured under both the top & bottom lips of both rubber blocks.

Operation

Using the RK 8 & 11 - Lifting & Manual Recovery Strap to attach to a Person in Water (PIW)

WARNING ***Do not position the lifting strap around the neck or abdomen of the PIW (Person in Water) prior to the lift. This can cause severe injury or death. Always use your legs when lifting, not your back.***

1. We recommend that you always use a **Rescue Dummy** during MOB drills to eliminate any possibility of deckhand injuries. The United States Coast Guard requires that *"each drill must, as far as practicable, be conducted as if there was an actual emergency".*
2. Connect the lift line snap hook to the triangle and on to the V cleat mounted on the pole, with tension, as this keeps the line out of the way.
3. Use the Rescue Pole to maneuver the PIW either closer to, or to another part of, the boat.
4. In most cases the PIW will be floating vertically. The lift line and slide buckle should end up facing the PIW. The
idea is to "surf" the web strap on the body and under the arm pits in a smooth, quick action.
5. To get the pole over the head, the lift line and buckle should start turned away from the head of the person. See **Image A10** below for reference.
6. In the event the body is floating horizontally, it may be easier to start with the Rescue Pole hoop going over the feet with the lift line facing the PIW.

Note *The Rescue Kit 8 & 11 – Lifting & Manual Recover Strap can be used upside down and will indeed work. However, you will have to lift the pole up with the PIW as the Slide Buckle will not have disengaged from the Buckle Holder.*

7. Start by putting the pole with the lift line and slide buckle facing away from the PIW. Go over either arm and into that armpit. The rotate the pole to go over the head, down the body and back up to seat into both armpits. Lift line and buckle will still be facing the PIW. See **Images A11** & **A12** below.

Image A10 Start under one arm, up to the arm pit and rotate hoop over the head

Image A11 Move pole down and hoop down to get under the other arm

Image A12 Position the hoop up and under both armpits

Operation *continued*

Using the RK 8 & 11 – Lifting & Manual Recovery Strap to attach to a Person in Water (PIW)

8. Hold the Rescue Pole hoop against the back of the PIW while maintaining the strap seated in the armpits. Take hold of the lift line and push the pole to the person. This is key as the pole pushes the one-way slide buckle to the PIW's chest.
9. Pull back on the pole in a quick and short (jerking) movement to release the Slide Buckle from the holder.
10. Remove the pole from the PIW and bring safely aboard.
11. We have found that using the rescue hoop only, on deck, with someone else helps with understanding how it works. Use the technique described in number 8 above but user your finger, instead of the lift line, on the steel triangle. Practicing in a controlled environment of a swimming pool or at the dock is the easiest way to master the Rescue Kit pole whether loaded with the standard Lifting Strap or the Manual Recovery Strap.

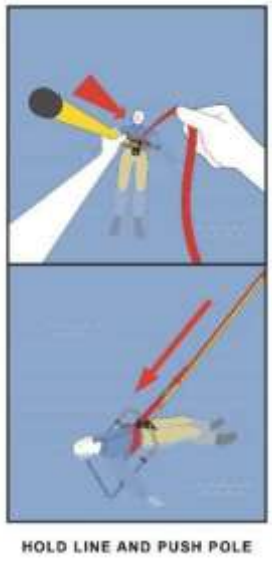


Image B12

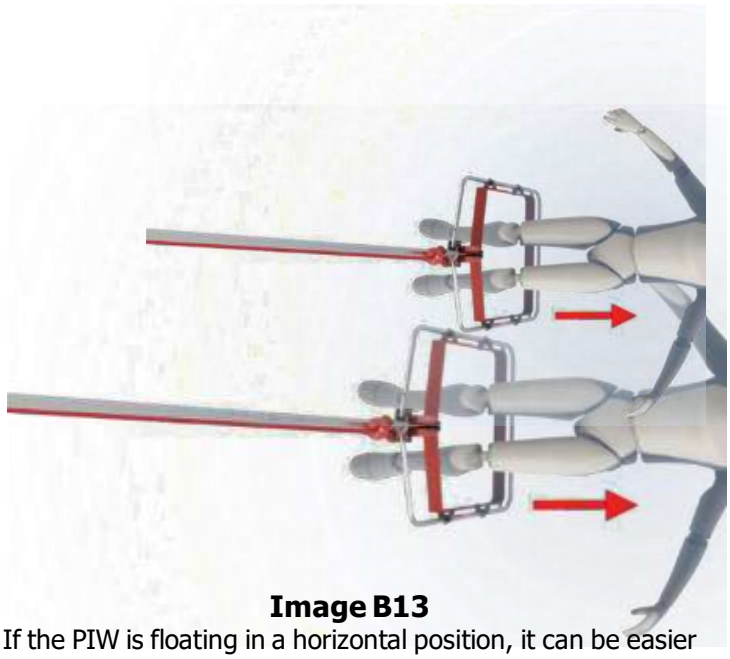


Image B13

If the PIW is floating in a horizontal position, it can be easier to work the hoop starting with the feet and legs. Be sure the lift line is facing toward the PIW's head, or the Rescue Pole will come up with the PIW.

Inspection & Storage

Inspection

1. Every month **before** MOB Drill, inspect all screws & pins on the slide buckle and holder for tightness, damage and wear.
2. Every month **after** MOB Drill, rinse and inspect rubber blocks and webbing for damage, wear, cracking & fraying. If found, report the items to your supervisor for replacement.

   Pro Tip: Use WD-40 on all snaps for corrosion protection!

3. Once a year, remove and inspect the hoop float covers, re install thereafter.

Storage

1. Inspect after every use and rinse with freshwater, before stowing, to make ready for the next drill or rescue.
2. The RK 8 & 11 – Lifting / Manual Recovery Strap fully loaded should look like **Image A15** below. It is ready for storage and ready for the next MOB drill or an actual rescue.

Image A15 Rescue Kit - Lifting Strap correctly loaded and ready for storage, drill, or actual rescue.

3. The RK 8 & 11 – Lifting / Manual Recovery Strap should always be stored in a fully loaded condition, so that it's ready for immediate use in an emergency.

Man Overboard Drills
Lifting Strap Procedures
with Davit or Manually

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the Rescue Davit on the desired bitt, deploy the davit and swing outboard. Or deploy your own davit.
6. Get the Rescue Kit pole ready, by checking the following:
   a. The Lifting Strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Kit pole and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. **For Manual Recovery Strap:** When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety. Remove the Rescue Kit pole and lift the rescue dummy with the Manual Recovery Strap handles.

Note: *The strap handles can be pulled apart at the Velcro connections for a 2-person lifting operation.*

11. **Lifting Strap:** Remove the Rescue Kit pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. **C-Hero® Rescue Davits**: On the 7 Series use the side handle to swing the rescue dummy to the side of the boat and bring it back aboard. On the 5 and 9 Series continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing you to grasp and bring the rescue dummy back aboard. On the 3 Series capture the rescue dummy and pull towards the bullworks while slowly releasing line through the brake.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

VR - Rescue Pole with Lifting Strap
MWL 400 lbs.

Product & Major Parts List

Image B1 VR 14 – Lifting Strap Rescue Pole

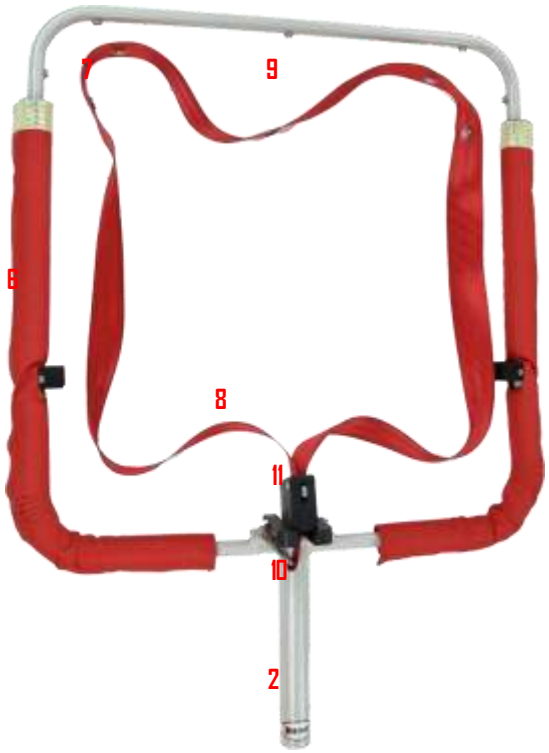


Image B2 VR 14 – Lifting Strap Hoop

1. Two (2) 6’ X 1.25” OD connected poles with tethered pins. Foam filled poles if floatation selected
2. Pole connector on hoop with quick connect pins for top/first pole section
3. Coupler securely installed on top/first pole section, with quick connect pins, for bottom/second pole installation
4. V-Cleat on bottom/second pole for holding 10mm lift line
5. Bottom/second pole end cap with prepared hole for tether line (not included)
6. 2’ hoop. Foam wrapped with Sunbrella® cover and SOLAS compliant reflective tape if floatation selected
7. (3) male snaps on rear of hoop, (1) on each side, for a total of (5), with matching female snaps on strap
8. Two (2) rubber web strap holding blocks, one (1) on each side bottom of hoop
9. 2” X 7’ closed loop lifting strap rated at 3,500lbs
10. Integrated lifting triangle rated at 5,000lbs
11. One way Slide Buckle & Slide Buckle holder *enclosed separately for customer installation
12. Overall weight: 11lbs.

VR – Rescue Pole with Lifting Strap

Set Up

Supplied Two (2) connecting poles, aluminum rescue hoop, lifting strap with slide buckle, slide buckle holder and connecting hardware.

1. Lay the poles and rescue hoop out. Hoop shall be laid with the flat side down and buckle holder facing up.
   a. The top/first pole section, with the aluminum coupler per installed, fits into the hoop pole connector.
   b. The bottom/second pole section, with the black V-cleat, fits into the first pole.
   c. The V-cleat should face up as shown in **Image B5** below. This corresponds with the direction of the slide buckle holder which is labeled with an Up-arrow sticker.

Image B3 – Slide Buckle holder

Image B4 – Slide Buckle inserted in Buckle Holder, attached to hoop

Set Up *continued*

Loading the Lifting Strap into the Rescue Hoop

2. Attach the buckle holder to the hoop plate, with the countersunk holes facing out so that the provided 5/32" Allen cap screws will fit flush.
   Adjustment Note: The slide buckle holding tension can be adjusted with the 7/16" side nuts. We recommend using Loctite to properly secure the nuts.
3. Fasten the (3) snaps to the rescue hoop's crossbar, then the (2) snaps on the sides, finally load the webbing into the rubber holder blocks (one per side). The best technique it to place the bottom edge of the strap into the bottom seat of the rubber. Then, work the top edge completely under the rubber as shown in **Image B7.** The rubber can be spread open and rolled (within reason) to aid in loading the strap.

Image B6 Lifting Strap stretched out with no twists

Image B7 Lifting Strap loaded into one of the (2) lower rubber holding blocks

4. It is always best to load the Lifting Strap into the Rescue Hoop while it is on deck.

Image B8 Lifting Strap with all (5) snaps attached & rubber blocks loaded

A helpful demonstration video to load your Lifting Strap

Important Reminder Make sure that the lifting strap is secured under both the top & bottom lips of both rubber blocks.

VR - Rescue Pole with Lifting Strap

Operation

Using the VR 14 – Lifting Strap to attach to a Person in Water (PIW)

⚠ **WARNING** ***Do not position the lifting strap around the neck or abdomen of the PIW (Person in Water) prior to the lift. This can cause severe injury or death. Always use your legs when lifting, not your back.***

1. We recommend that you always use a **Rescue Dummy** during MOB drills to eliminate any possibility of deckhand injuries. The United States Coast Guard requires that *"each drill must, as far as practicable, be conducted as if there was an actual emergency."*
2. Connect the lift line snap hook to the triangle and on to the V cleat mounted on the pole, with tension, as this keeps the line out of the way.
3. Use the Rescue Pole to maneuver the PIW either closer to, or to another part of, the boat.
4. In most cases the PIW will be floating vertically. The lift line and slide buckle should end up facing the PIW. The
   idea is to "surf" the web strap on the body and under the arm pits in a smooth, quick action.
5. To get the pole over the head, the lift line and buckle should start turned away from the head of the person. See **Image B9** below for reference.
6. In the event the body is floating horizontally, it may be easier to start with the Rescue Pole hoop going over the feet with the lift line facing the PIW.
   Note *The VR 14 – Lifting & Manual Recover Strap can be used upside down and will indeed work. However, you will have to lift the pole up with the PIW as the Slide Buckle will not have disengaged from the Buckle Holder.*
7. Start by putting the pole with the lift line and slide buckle facing away from the PIW. Go over either arm and into that armpit, then rotate the pole to go over the head, down the body and back up to seat into both armpits. Lift line and buckle will still be facing the PIW.
   See **Images B10** & **B11** below.

Image B9 Start under one arm, up to the arm pit and rotate hoop over the head

Image B10 Move pole down and hoop down to get under the other arm

Image B11 Position the hoop up and under both armpits

Operation *continued*

Using the VR 14 – Lifting Strap to attach the strap to a Person in Water (PIW)

12. Hold the Rescue Pole hoop against the back of the PIW while maintaining the strap seated in the armpits. Take hold of the lift line and push the pole to the person. This is key as the pole pushes the one-way slide buckle to the PIW's chest.
13. Pull back on the pole in a quick and short (jerking) movement to release the Slide Buckle from the holder.
14. Remove the pole from the PIW and bring safely aboard.
15. We have found that using the rescue hoop only, on deck, with someone else helps with understanding how it works. Use the technique described in number 8 above but user your finger, instead of the lift line, on the steel triangle. Practicing in a controlled environment of a swimming pool or at the dock is the easiest way to master the Rescue Kit pole whether loaded with the standard Lifting Strap or the Manual Recovery Strap.

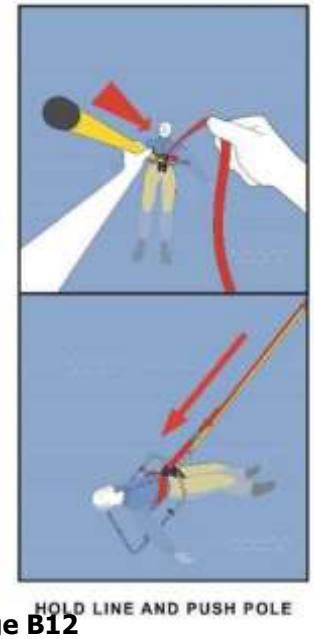


Image B12

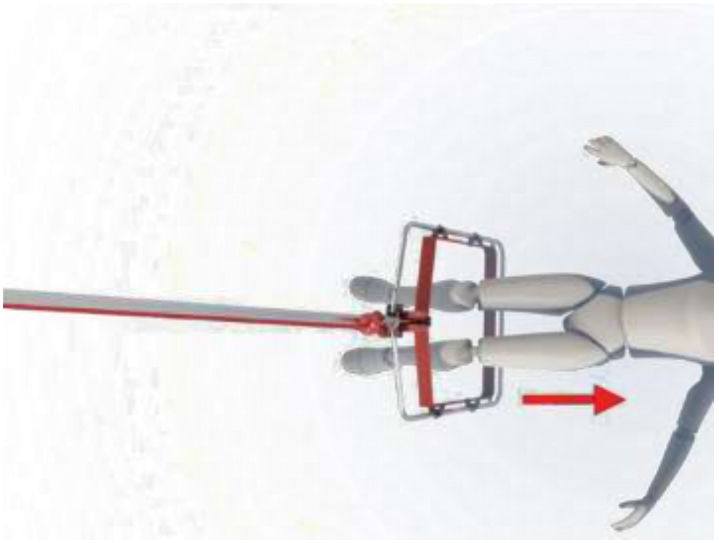


Image B13 If the PIW is floating in a horizontal position, it can be easier to work the hoop starting with the feet and legs. Be sure the lift line is facing toward the PIW's head.

NOTE: For using a **block & tackle** instead of a C-Hero Davit, see the next page

Prusik Strap

Adapting the VR Rescue Pole for Block and Tackle Use

Setup:

- **1** Start with the rescue pole on deck, and confirm the block & tackle is hanging from the davit. Pull the blocks apart all the way, so there is enough slack.
- Tie an overhand knot on the end of the lift line to prevent it from running out.
- Attach the snap hook from the lower sheave to the lifting triangle on the rescue pole.
- **2, 3 & 4** Wrap the white Prusik Strap loop twice around the bundle of lines in between the 2 sheaves, approximately 1' from the V cleat on the rescue pole.
- **5** Finish by inserting the yellow line in the eye of the loop. The loop can be slid down to fit the yellow line in the V cleat.
- **6** Pull the yellow line tight, then put into the V cleat.

Rescue:

- Maneuver the pole on the body, and under the arms.
- Take hold of the yellow line and PUSH the pole to the person. (**Do not** pull the yellow line)
- Take the Prusik Strap off the bundle of lines and remove the pole from the body.
- Pull on the end of the line from the upper block and get the person back aboard.
- Discuss company protocol for a recovered person, including shock, injuries or hypothermia.
- Keep the Prusik Strap with the pole and ready for the next rescue.

VR - Rescue Pole with Lifting Strap

Inspection & Storage

Inspection

1. Every month **before** MOB Drill, inspect all screws & pins on the slide buckle and holder for tightness, damage, and wear.
2. Every month **after** MOB Drill, rinse and inspect rubber blocks and webbing for damage, wear, cracking & fraying. If found, report the items to your supervisor for replacement.

Pro Tip: Use WD-40 on all snaps for corrosion protection!

3. Once a year, remove and inspect the hoop float covers, re-install thereafter.

Storage

1. Inspect after every use and rinse with freshwater, before stowing, to make ready for the next drill or rescue.
2. The VR 14 – Lifting Strap fully loaded should look like **Image B14** below. It is ready for storage and ready for the next MOB drill or an actual rescue.

Image B14 VR 14 - Lifting Strap correctly loaded and ready for storage, drill, or actual rescue.

3. The pole should be stowed somewhere close to the designated area where rescues intend to be conducted and out of the sun.
4. The VR 14 – Lifting Strap should always be stored in a fully assembled and loaded condition, so that it's ready for immediate use in an emergency, as shown above.
   Note: *One or two of the poles can be stored separately if needed due to space limitations. Sunbrella® Rescue Hoop covers are available from C-Hero®.*
5. If you remove the bottom/second pole section (with the black V-cleat) for storage, the V cleat must always align with the slide buckle holder when re attaching.

Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit on the desired bitt, and deploy. Or deploy your own davit.
6. Get the Rescue Pole ready, by checking the following:
   a. The Rescue Strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the C-Hero Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy. Or winch up your own davit.
12. **C-Hero® Rescue Davits**: On the 7 Series use the side handle to swing the rescue dummy to the side of the boat and bring it back aboard. On the 5 and 9 Series continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing you to grasp and bring the rescue dummy back aboard. On the 3 Series capture the rescue dummy and pull towards the bullworks while slowly releasing line through the brake.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

HR – Rescue Pole with Horizontal Lifting Strap
MWL 400 lbs.

Product & Major Parts List

Image C1 HR 24 - Horizontal Body Sling Rescue Pole

Image C2 HR 24 - Horizontal Body Sling Hoop

1. Two (2) 6’ X 1.25” OD connected foam filled poles with tethered pins
2. Pole connector on hoop with quick connect pins for top/first pole section
3. Coupler securely installed on top/first pole section, with quick connect pins, for bottom/second pole installation
4. V-Cleat on bottom/second pole for holding 11mm lift line
5. Bottom/second pole end cap with prepared hole for tether line (not included)
6. 2’-4” hoop, foam wrapped with Sunbrella® cover and SOLAS compliant reflective tape
7. Three (3) male snaps on rear of hoop with three (3) matching female snaps on strap
8. Four (4) rubber web strap holding blocks, two (2) on each side of hoop
9. 2” X 7’ closed loop lifting strap rated at 3,500lbs
10. Integrated lifting triangle rated at 5,000lbs
11. One way slide buckle pre-installed on the lifting strap
12. Slide Buckle holder *enclosed separately for customer installation
13. Top cover with seven (7) snaps, SOLAS compliant reflective tape and integrated ½” foam for float assist
14. The enclosed folded up mesh Body Sling lifts the PIW in a horizontal position
15. Overall weight: 13.5lbs

HR – Rescue Pole with Horizontal Lifting Strap

Set Up

Supplied Two (2) connecting poles, aluminum rescue hoop, lifting strap with integrated mesh Body Sling with slide buckle, slide buckle holder and connecting hardware.

Installation

1. The buckle holder & the hardware have been shipped in a plastic bag that is stapled to the hoop. All hardware for the buckle holder is provided in this bag.
2. Assemble the buckle holder with the countersunk holes facing out so that the provided 5/32" Allen cap screws will fit flush. *5/32" Allen wrench is not included.

Adjustment Note The slide buckle holding tension can be adjusted with the 7/16" side nuts. We recommend using LOCTITE® to properly resecure the nuts after adjustments are completed.

Image C3 Slide Buckle Holder

Image C4 Slide Buckle has 1" strap around it

3. Lay the poles and rescue hoop out. Hoop shall be laid with the flat side down and buckle holder facing up.
   a. The top/first pole section, with the aluminum coupler per installed, fits into the hoop pole connector.
   b. The bottom/second pole section, with the black V-cleat, fits into the first pole.
   c. The V-cleat should face up as shown in **Image C5** below. This corresponds with the direction of the slide buckle holder which is labeled with an UP-arrow sticker.

Image C5 Both Rescue Pole sections, ready for attachment to hoop

4. Use the attached pins to secure the poles together.
5. The end of the bottom/second pole section has a prepared hole for a tether (not included).

Set Up *continued*

Loading the Lifting Strap & Attached Mesh Body Sling

1. Confirm that the red top cover, with C-Hero® RESCUE" is snapped on
   a. The hoop gets loaded from the bottom. Turn the hoop over so it's resting safely on the slide buckle holder, with the "UP" sticker facing down.
   b. Loading instructions are from the snap end, or opposite the slide buckle holder.

Image C6

2. The rescue hoop is ready to load mesh PIW (Person in Water) sling.

Image C7

3. Pick up the black sling from the center of the YELLOW weighted end labeled "END."
   a. The sling and webbing will be hanging, the writing "To ^ HOOP" on the BLUE strap material should be facing up or the center of the webbing, so you can read it.
4. Check to make sure there are no twists in any of the web straps.

Image C8

Set Up *continued*

Loading the Lifting Strap & Attached Mesh Body Sling

continued

5. Lay the sling flat over the end of the hoop, aligning both the center snap from the large red lifting strap and the hoop snap.
   a. Move the slide buckle all the way to the end of the steel lifting triangle.
   b. The slide buckle should have the "UP" sticker facing down.

   Note The two (2) RED sling release straps, with button snaps go between the bar and the BLUE labeled "TO ↑HOOP."

Image C9

6. Secure the center snap of the 2" lifting strap to the hoop center snap.
   Flip the sling releases over the large 2" RED lifting strap out of the way.

Image C10

7. Move the small RED webbing, coming from both sides of the YELLOW weighted END of the Body Sling.
   a. Fold the black Body Sling, starting from the BLUE labeled "TO ↑HOOP" end and fold evenly in an accordion style, approximately 2" folds to evenly fill the RED top pocket neatly.
   b. To aid in the accordion folds, follow the WHITE fold stitches found on the black Body Sling. Lay into the RED top hoop pocket
   c. The YELLOW weighted END of the Body Sling will end up on the top of the folds and should be lying flat & neatly in the RED top hoop pocket.

Image C11

Set Up *continued*

Loading the Lifting Strap and attached Mesh PIW Sling - Continued

8. **Image C12:** Pull the smaller 1" RED side web straps, coming from the ends of the YELLOW "END", tight as you load into the rubber blocks first then the larger 2" RED straps after, to hold the 1" within the blocks. The rubber can be spread open and rolled (within reason) to aid in loading the strap.
   a. Check for no twists on either the RED smaller 1" & larger 2" straps. Do the same within each of the rubber blocks.

Image C12

9. Turn the hoop over, so the slide buckle holder is facing up, and then position the RED smaller 1" strap over and around the Slide Buckle Holder.
   a. Move the Slide Buckle as needed to fit into the Holder. Both the Slide Buckle & Holder must both have the "UP" sticker in the same direction, as shown in **Image C13**.
   b. Check to make sure that the RED larger 2" strap is properly secured withing all of the rubber blocks. The rubber can be spread open and rolled (within reason) to aid in loading the strap.
   c. Note: The RED smaller 1" straps get loaded into the rubber blocks first. The RED lager 2" straps get loaded after. They must both be completely secured within the blocks and behind both the upper and lower lip.

Image C13

10. **Image C14:** Fully loaded HR 14 - Horizontal Body Sling is ready to go for a drill or a rescue.

Image C14

HR – Rescue Pole with Horizontal Lifting Strap

Set Up *continued*

Loading the Lifting Strap & Attached Mesh Body Sling *continued*

HR – Rescue Pole with Horizontal Lifting Strap

Operation

Using the HR 14 to attach the Horizontal Body Sling to a Person in Water (PIW)

WARNING ***Do not position the lifting strap around the neck or abdomen of the PIW (Person in Water) prior to the lift. This can cause severe injury or death. Always use your legs when lifting, not your back.***

1. We recommend that you always use a **Rescue Dummy** during MOB drills to eliminate any possibility of deckhand injuries. The United States Coast Guard requires that *"each drill must, as far as practicable, be conducted as if there was an actual emergency".*
2. Connect the lift line snap hook to the triangle and on to the V cleat mounted on the pole, with tension, as this keeps the line out of the way.
3. Use the Rescue Pole to maneuver the PIW either closer to, or to another part of, the boat.
4. In most cases the PIW will be floating vertically. The lift line and slide buckle should end up facing the PIW. The
   idea is to "surf" the web strap on the body and under the arm pits in a smooth, quick action.
5. To get the pole over the head, the lift line and buckle should start turned away from the head of the person. See **Image C15** below for reference.
6. In the event the body is floating horizontally, it may be easier to start with the Rescue Pole hoop going over the feet with the lift line facing the PIW.

Note *The HR 14 - Horizontal Body Sling must be placed around the PIW with the Slide Buckle facing up and to the front while the Body Sling itself at their back*.

7. Start by putting the pole with the lift line and slide buckle facing away from the PIW. Go over either arm and into that armpit. The rotate the pole to go over the head, down the body and back up to seat into both armpits. Lift line and buckle will still be facing the PIW. See **Images C16** & **C17**.

Image C15 Start under one arm, up to the arm pit and rotate hoop over the head

Image C16 Move pole down and hoop down to get under the other arm

Image C17 Position the hoop up and under both armpits

Note *The above images do not show the HR 14 - Horizontal Body Sling. However, the technique is the same.*

Operation *continued*

Using the HR 14 to attach the Horizontal Body Sling to a Person in Water (PIW) *continued*

8. Hold the Rescue Pole hoop against the back of the PIW while maintaining the strap seated in the armpits. Take hold of the lift line and push the pole to the person. This is key as the pole pushes the one-way slide buckle to the PIW's chest. If the mesh Horizontal Body Sling is not fully deployed, you can use the pole or the lift line to stretch out the sling, moving the rescue dummy to a horizontal lift position.
9. Pull back on the pole in a quick and short (jerking) movement to release the Slide Buckle from the holder.
10. Remove the pole from the PIW and bring safely aboard.
11. We have found that using the rescue hoop only, on deck, with someone else helps with understanding how it works. Use the technique described in number 8 above but user your finger, instead of the lift line, on the steel triangle. Practicing in a controlled environment of a swimming pool or at the dock is the easiest way to master the Rescue Kit pole whether loaded with the standard Lifting Strap or the Manual Recovery Strap.

Note *A tether will keep the HR 14 from getting away from you. A tether is not included. Moving the lift line away from the head of the PIW, while pulling up till there is tension on the line, will position or stretch out the sling.*

Image C18

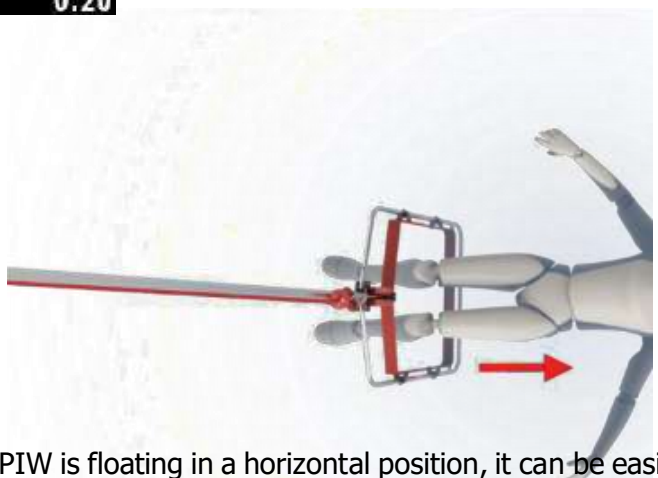


Image C19 If the PIW is floating in a horizontal position, it can be easier to work the hoop starting with the feet and legs. Be sure the lift line is facing toward the PIW's head.

Inspection & Storage

Inspection

1. Every month **before** MOB Drill, inspect all screws & pins on the slide buckle and holder for tightness, damage, and wear.
2. Every month **after** MOB Drill, rinse and inspect rubber blocks and webbing for damage, wear, cracking & fraying. Inspect all stitches in the sling before folding to make ready for storage. If found, report the items to your supervisor for replacement.

   Pro Tip: Use WD-40 on all snaps for corrosion protection!
3. Once a year, remove and inspect the hoop float covers, re install thereafter.

Storage

1. Inspect after every use and rinse with freshwater, before stowing, to make ready for the next drill or rescue.
2. The HR 14 with the folded Body Sling, loaded, should look like **Image 20** below. It is ready for storage and ready for the next MOB drill or an actual rescue.
3. The pole should be stowed somewhere close to the designated area where rescues intend to be conducted and out of the sun.
4. The HR 14 - Horizontal Body Sling should always be stored in a fully assembled and loaded condition, so that it's ready for immediate use in an emergency. See **Image 20** below.

   Note *One or two of the poles can be stored separately if needed due to space limitations.*
5. If you remove the bottom/second pole section (with the black V-cleat) for storage, the V cleat must always align with the slide buckle holder when re-attaching.

Image 20 Ready for storage and use in an MOB drill or rescue

Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit on the desired bitt, and deploy. Or deploy your own lifting davit.
   a. Get the HR 14 - Horizontal Body Sling ready, by checking the following:
   b. The top cover is snapped on, the sling is loaded & snapped, and all straps are seated within the rubber blocks.
   c. All connections are tight, including the connection of the two pole sections
   d. The V-cleat is lined up with the Slide Buckle and holder
6. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
7. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
8. Deploy the Rescue Pole and put it over the rescue dummy and under the arms, as close to the armpits as possible.
9. When in place, hold the lift line firmly, making sure that the slide buckle is in the center of the front of the rescue dummy. Push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
10. Hold the lift line until the pole clears the rescue dummy by way of the feet. If the mesh Horizontal Body Sling is not fully deployed, you can use the pole or the lift line to stretch out the sling, moving the rescue dummy to a horizontal lift position. Take slack out at the winch if needed.
11. Close the line brake and winch up the rescue dummy on your C-Hero Rescue Davit. Or your own lifting davit.
12. On a 7 Series - Swivel series C-Hero® Davit, use the side handle to swing the rescue dummy to the side of the boat and bring it back aboard. On a 5 Series - Fixed Plus series C-Hero® Davit, continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing to grasp and bring the rescue dummy back aboard. On a 3 Series - Fixed series C-Hero® Davit, corral the rescue dummy with a pool hook and pull towards the bullworks while slowly releasing line through the brake.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

RS – Rescue Pole with Manual Recovery Strap

Product & Major Parts List

Image D1 RS – 14-foot Manual Recovery Strap Rescue Pole

Image D2 RS – 14-foot Manual Recovery Strap Hoop

1. Two (2) 6' X 1.25" OD connected foam filled poles with tethered pins
2. Pole connector on hoop with quick connect pins for top/first pole section
3. Coupler securely installed on top/first pole section, with quick connect pins, for bottom/second pole installation
4. V-Cleat on bottom/second pole for holding 11mm lift line
5. Bottom/second pole end cap with prepared hole for tether line (not included)
6. 2' hoop, foam wrapped with Sunbrella® cover and SOLAS compliant reflective tape if floatation selected
7. (3) male snaps on rear of hoop, (1) on each side, for a total of (5), with matching female snaps on strap
8. Two (2) rubber web strap holding blocks, one (1) on each side of
9. 2" X 7' closed loop lifting strap
10. Integrated lifting triangle rated at 5,000lbs
11. Two (2) 1,750lbs rated 1" Recovery Strap (Velcro'd® together for single person lift or split for two-person lift)
12. One way slide buckle pre-installed on the lifting strap
13. Slide Buckle holder *enclosed separately for customer installation
14. Overall weight: 11lbs

RS – Rescue Pole with Manual Recovery Strap

Set Up

Supplied Two (2) connecting poles, aluminum rescue hoop, lifting Recovery strap with slide buckle, slide buckle holder and connecting hardware.

1. **Installation** The buckle holder & the hardware have been shipped in a plastic bag that is stapled to the hoop. All hardware for the buckle holder is provided in this bag.
2. Assemble the buckle holder with the countersunk holes facing out so that the provided 5/32" Allen cap screws will fit flush. *5/32" Allen wrench is not included.

   Adjustment Note *The slide buckle holding tension can be adjusted with the 7/16" side nuts. We recommend using LOCTITE® to properly resecure the nuts after adjustments are completed.*

Image D3 Slide Buckle Holder

Image D4 Slide Buckle Inserted into Buckle Holder

3. Lay the poles and rescue hoop out. Hoop shall be laid with the flat side down and buckle holder facing up.
   a. The top/first pole section, with the aluminum coupler per installed, fits into the hoop pole connector.
   b. The bottom/second pole section, with the black V-cleat, fits into the first pole.
   c. The V-cleat should face up as shown in **Image D5** below. This corresponds with the direction of the slide buckle holder which is labeled with an UP-arrow sticker.

Image D5 Both Rescue Pole Sections

4. Use the attached pins to secure the poles together.
5. The end of the bottom/second pole section has a prepared hole for a tether (not included).

Set Up *continued*

Loading the Recovery Strap into the Rescue Hoop

6. Place the slide buckle into the slide buckle holder, see **Image 6** below, matching the UP arrows.

Image D6 Slide Buckle inserted into the Slide Buckle Holder

Image D7 Manual Recovery Strap stretched out with no twists

7. The lifting triangle and the small strap both go on the outside of the buckle holder.
8. Move the lever on the top of the slide buckle, pulling all the webbing towards the center of the hoop. Make sure there are no twists before attaching. See **Images D6 & D7**.
9. Install the slide buckle into the slide buckle holder.
10. Fasten the five (5) snaps to the rescue hoop (**Image D8**), then load the webbing into the rubber holder blocks (one per side). The best technique it to place the bottom edge of the strap into the bottom seat of the rubber. Then, work the top edge in completely under the rubber as shown in **Image D9**. The rubber can be spread open and rolled (within reason) to aid in loading the strap.
11. It is always best to load the Lifting Strap in the hoop while it's on deck.

Image D8 Lifting Strap with the five snaps attached

Image D9 Lifting Strap loaded into one of the two rubber holding blocks

Important Reminder Make sure the lifting strap is secured under both the top & bottom lips of both of the rubber blocks.

12. Attach both sides of the lifting webbing with the Velcro®.
13. Use a light pressure on the strap, aligned with no twists, with the yellow section of the strap within the V-cleat.

Operation

Using the Rescue Pole with Manual Recovery Strap to attach the Lifting Strap to a Person in Water (PIW)

⚠ **WARNING** ***Do not position the lifting strap around the neck or abdomen of the PIW (Person in Water) prior to the lift. This can cause severe injury or death. Always use your legs when lifting, not your back.***

1. We recommend that you always use a **Rescue Dummy** during MOB drills to eliminate any possibility of deckhand injuries. The United States Coast Guard requires that *"each drill must, as far as practicable, be conducted as if there was an actual emergency".*
2. Connect the lift line snap hook to the triangle and on to the V cleat mounted on the pole, with tension, as this keeps the line out of the way.
3. Use the Rescue Pole to maneuver the PIW either closer to, or to another part of, the boat.
4. In most cases the PIW will be floating vertically. The lift line and slide buckle should end up facing the PIW.
   The idea is to "surf" the web strap on the body and under the arm pits in a smooth, quick action.
5. To get the pole over the head, the lift line and buckle should start turned away from the head of the person. See **Image D10** below for reference.
6. In the event the body is floating horizontally, it may be easier to start with the Rescue Pole hoop going over the feet with the lift line facing the PIW.

Note *The RS 14 – Lifting & Manual Recover Strap can be used upside down and will indeed work. However, you will have to lift the pole up with the PIW as the Slide Buckle will not have disengaged from the Buckle Holder.*

7. Start by putting the pole with the lift line and slide buckle facing away from the PIW. Go over either arm and into that armpit. The rotate the pole to go over the head, down the body and back up to seat into both armpits. Lift line and buckle will still be facing the PIW. See **Images D11** & **D12** below.

Image D10 Start under one arm, up to the arm pit and rotate hoop over the head

Image D11 Move pole down and hoop down to get under the other arm

Image D12 Position the hoop up and under both armpits

Note *The above images do not show the RS 14 – Manual Recovery Strap. However, the technique is the same.*

Operation *continued*

Using the RS 14 – Manual Recovery Strap to attach the Lifting Strap to a Person in Water (PIW)

8. Hold the Rescue Pole hoop against the back of the PIW while maintaining the strap seated in the armpits. Take hold of the lift line and push the pole to the person. This is key as the pole pushes the one-way slide buckle to the PIW's chest.
9. Pull back on the pole in a quick and short (jerking) movement to release the Slide Buckle from the holder.
10. Remove the pole from the PIW and bring safely aboard.
11. We have found that using the rescue hoop only, on deck, with someone else helps with understanding how it works. Use the technique described in number 8 above but user your finger, instead of the lift line, on the steel triangle. Practicing in a controlled environment of a swimming pool or at the dock is the easiest way to master the Rescue Kit pole whether loaded with the standard Lifting Strap or the Manual Recovery Strap.
12. Two people can lift by pulling apart the Velcro® holding the two lengths of the Recovery Strap.

13. Practicing in the controlled environment of a swimming pool, or at the dock, is the easiest way to master the RS 14 – Manual Recovery Strap.
14. Move to a lower part of the boat if you need to get closer to the PIW to effect a rescue.
15. Two people can lift by pulling apart the Velcro® holding the two lengths of the Recovery Strap.

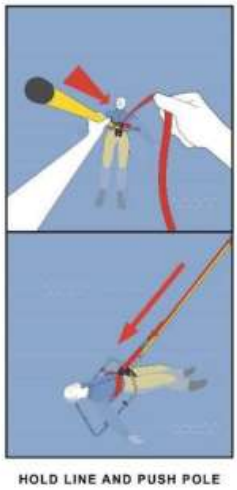


Image D13

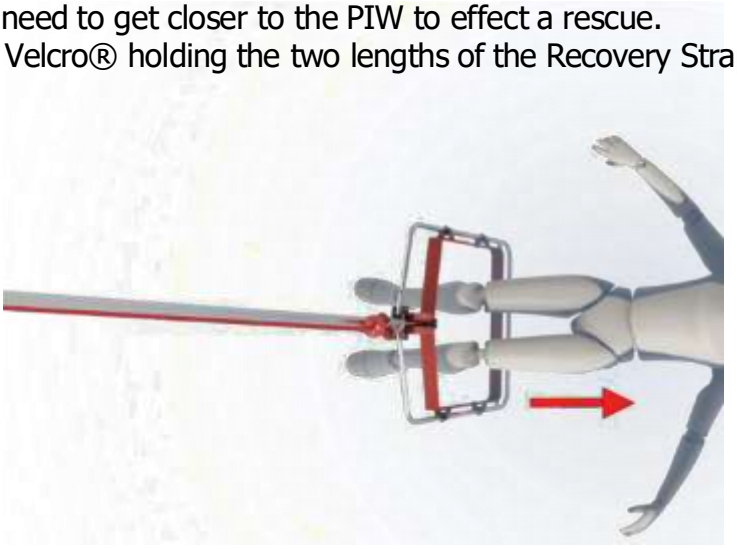


Image D14 If the PIW is floating in a horizontal position, it can be easier to work the hoop starting with the feet. Be sure the lift line is facing toward the PIW's head.

Inspection & Storage

Inspection

1. Every month **before** MOB Drill, inspect all screws & pins on the slide buckle and holder for tightness, damage and wear.
2. Every month **after** MOB Drill, rinse and inspect rubber blocks and webbing for damage, wear, cracking & fraying. If found, report the items to your supervisor for replacement.

Pro Tip: Use WD-40 on all snaps for corrosion protection!

3. Once a year, remove and inspect the hoop float covers, re install thereafter.

Storage

1. Inspect after every use and rinse with freshwater, before stowing, to make ready for the next drill or rescue.
2. The VR-12 Rescue Pole with the lifting strap full loaded should look like **Image D15** below. It is ready for storage and ready for the next MOB drill or an actual rescue.
3. The RS 14 – Manual Recovery Strap should always be stored in a fully assembled and loaded condition, so that it is ready for immediate use in an emergency, as shown below.
   Note: One or two poles can be stored separately if needed due to space limitations. Optional hoop covers are available from C-Hero®.
4. If you remove the V-cleat end of the rescue pole for storage, the pole with the V-cleat must always align with the buckle holder when you re-attach it.

Image D15 The entire RS 14 – Manual Recovery Strap ready for storage, drill, or actual rescue.

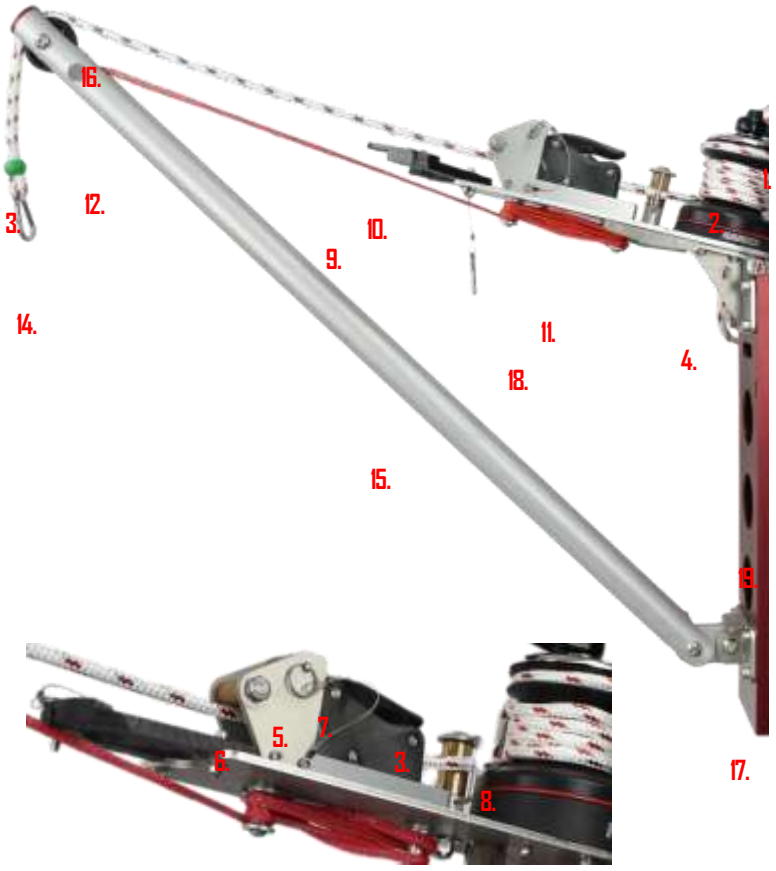
Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy, it is time to ready the pole.
5. While the boat is maneuvering back to the rescue dummy.
6. Get the RS 14 – Manual Recovery Strap ready, by checking the following:
   a. The Manual Recovery Strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Deploy the Rescue Pole and put it over the rescue dummy and under the arms, as close to the armpits as possible.
9. When in place, hold the lift line firmly, making sure that the slide buckle is in the center of the front of the rescue dummy. Push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
10. Remove the Rescue Pole and lift the rescue dummy with the Manual Recovery Strap handles. Note: The strap handles can be pulled apart at the Velcro connections for a 2-person lifting operation.
11. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

3B - Series 3 Fixed Davit
Bitt Mount
MWL 300 lbs.

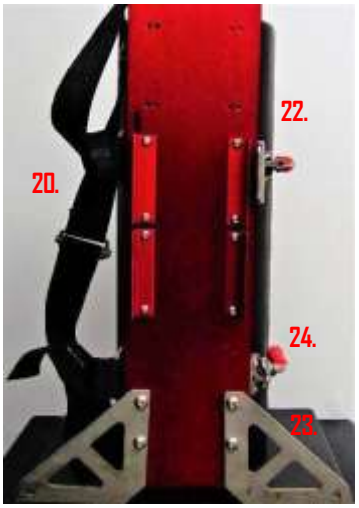
Product & Major Parts List

1. 10” Winch handle
2. Winch – 20 ST
3. Lift line brake assembly
4. Winch plate
5. Brake safety plates
6. Brake Roller
7. Brake safety pin & rubber stop
8. Winch fairlead & guide
9. Tension line – 6mm
10. Davit boom arm gate
11. Tension line adjustment buttons
12. Tension line boom pin & cotter pin
13. Lift line w stopper ball – 11mm
14. Snap hook – 8kN rated
15. Boom
    a. Bitt Mount – 6’-8” standard
    b. Flat Mount – 4’-3” standard
16. Boom sheave
17. Boom connection to Rescue Davit & bolt
18. Safety pin for Davit boom arm gate
19. Base channel (red)



Bitt Mount Installation

20. Upper & lower straps
21. Optional holes for rear angle feet for narrower bitts
22. Rear angle feet (4 units in red / 2 piece in clear anodized)
23. Side stabilizers
24. Strap latch clamps



3B - Series 3 Fixed Davit
Bitt Mount

Bitt Mount – Setup

One Time for the Vessel

Supplied: Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware.

Other Tools Needed: Allen Wrenches: 5/32", & 5/16", Pliers, Tape Measure, NEVER•SEEZ® (Regular Grade or Mariner's Choice), duct tape, LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

Note: The C-Hero® Bitt Mount Rescue Davit will fit on most bitts with no adjustments. *If the height is between 23" and 30" and the diameter is between 8½" and 13½", you will be able to use the davit as shipped. Sections 2 and 3 are only needed if your bitt is not within the above measurements.*

1. **Select Bitt - Measure - Inspect:** Select a bitt to be used for rescues.

   Typically, the bitt on the quarter is used because it is closer to the water. The bow bitt might be the only choice if there are no bitts aft or the bitts aft are too tall. The forward bitt for the davit works fine, as the crews will use the Rescue Pole aft, so it is closer to the water.

   Any welds that are in the way, or a top flange that needs to be cut down, in just the area the unit will go, should be done now. Use a small grinder and metal cutting wheel if needed.
   Note: *Ensure that the grinding of weld(s) or other modifications do not diminish the integrity of the bitt itself.* **Height of Bitt**: Most bitts are 23" - 28" tall, and the upper strap is set in the top position at the factory for this height.

   If your bitt is under 23" the upper strap will need to be moved down to the middle set of holes. The rear angle feet, being continuous, will accommodate any height bitt. Measure the outboard side of the bitt, as shown in **Image E2**.

Image E1 Measure bitt diameter

Image E2 Measure bitt height

Bitt Mount – Setup *continued*
One Time for the Vessel

Image E3 Depicts how the Rescue Davit should fit, not bottoming out and touching the bitt between the rear angle feet *7 Series shown – 3 Series mounting is identical*

Image E4 A properly installed Bitt Mount Rescue Davit *7 Series shown – 3 Series mounting is identical*

Image E5 Depicts a big top flange & how it was cut off to make the Rescue Davit work *7 Series shown – 3 Series mounting is identical*

Image E6 The bitt dome top was welded on. Weld will be cleaned up where the davit will sit *7 Series shown – 3 Series mounting is identical*

Bitt Mount – Setup *continued*

One Time for the Vessel

NOTE: ***You may skip Step 2. below if your bitt height is taller than 23″***

2. Upper Strap – Move:

To move the upper strap, use a 5/32″ Allen wrench to move the clamp, and a 5/16″ Allen wrench on the end of the strap connected to unit, with a 3/4″ box wrench. When putting the strap in its lower position, use a piece of tape over the box wrench to hold the nut in, (your hand won't fit in the tubing). Make sure the strap is straight, like the bottom strap.

Rear Angle Feet Found On Rear Davit:

The clear anodized angle pieces seat against the bitt to provide a sound connection to the Rescue Davit. They are long enough to accommodate both shorter and taller davits. Therefore, no adjustment to these pieces are necessary.

NOTE: ***You may skip Step 3. below if your bitt diameter is wider than 8 1/2″***

3. Rear Angle Adjustment Feet – Move In:

The inside holes on the back of unit, should be used for smaller diameter bitts, (less than 8½″ [21.59 cm] diameter). Use a 5/32″ Allen wrench to relocate. The back of the unit should not bottom out against the bitt.

Image E7 Quad foot version shown. For shorter bitts, the top red feet and band attachments have been moved down to the lower sets of holes.
All 4 feet would also be moved closer for a bit diameter less than 8 ½″

Image E8 - Dual foot version

Bitt Mount – Setup *continued*

One Time for the Vessel

Strap Buckle Assemblies

4. **Top Strap**
   a. Open the top clamp, and thread the strap through it, making sure there are no twists.
   b. To **Tighten** the strap, pull it tight against the bitt, and close the clamp.

Image E9 Top buckle thread

Image E10 Top buckle finished

5. **Bottom Strap**
   a. Check the bottom strap to make sure the strap is not twisted, and the hook will be facing away from the bitt, as shown in **Image E13**.
   b. **To Tighten** the strap, once the hook is in, pull the tail of the strap tight, and close the clamp.
   c. **To Loosen** the strap, open the clamp move the adjuster, and take the hook out of the clamp.
   d. Stow the bottom strap in the base.

Image E11 Bottom buckle thread

Image E12 Bottom buckle finished

Image E13 Bottom hook in place

Image E14 – Showing green tether

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate. As shown with the green tether in the image to the left

Bitt Mount – Setup *continued*

Davit Boom Assembly

1. **Boom Installation**
   a. Stand the base unit up against the bulkhead.
   b. Take the nut and bolt off the davit connection point.
   c. c. Lay the davit boom on the deck (**Image E15**), with the slot for the tension line facing up (towards the unit). Tighten with a 5/16" Allen wrench and ¾" wrench using Never-Seez® (Regular Grade or Mariner's Choice).

Image E15 Boom connection point on base

Image E16 Boom connected to davit base

2. **Boom Red Tension Line Installation**
   a. Take the pin out of the end of the davit boom.
   b. Prop up the davit boom then grab the red tension line from under the winch plate.
   c. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it shown in **Image E17** below.

Image E17 Tension line around the pin inside of the boom. Cotter pin has been inserted and bent to secure in place.

Bitt Mount – Setup *continued*

Lift Line

1. Lift Line Installation

a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image E17** above**.**
b. Check the lift line to make sure that it is not crossed with the tension line.
c. Lead the lift line into front of the rope brake, under the bronze roller.
d. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
e. Use a rolling motion to get the line through the brake, then through the winch fairlead guide.
f. The winch gets loaded clockwise, with 4 wraps, over the chrome tailing arm and into the tailing jaws.
g. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
h. Tie an overhand knot on the end of the lift line, to prevent it from running out.
i. Winch handle (**Image E20**) goes into the top of the winch, use thumb lock.
j. Snap the line brake closed. Best practice is to store the winch handle in the winch.
k. **To Stow the Davit Boom**: Pivot the davit boom arm back to the end of the winch plate. While holding the boom, squeeze both sides of the davit gate together, then pin it.

NOTE: *The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.*

Image E18 Line brake open

Image E19 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image E20 Winch handle with thumb lock

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt

1. Davit Ready Fit Check

a. The bitt should be checked first to assure that any welds or any top flange interference was previously addressed.
b. Open both clamps and place the tether on the bitt to be used. Place the unit on the outboard side of the bitt and put the top strap over the bitt. Check that the feet on the back are touching the bitt, and not the unit. Tighten the clamp when ready.

Image E21 Top strap with clamp ready to be closed

c. The bottom strap goes on after the top strap and comes off the bitt before the top strap comes off (when removing). Take the strap out of the base and place the hook into the open clamp facing away from the bitt, pull the strap tight and close the clamp.
d. To loosen the strap, open the clamp and move the adjuster, take the hook out of the clamp, which is shown in **Image E22.**
e. Stow the bottom strap in the base.
f. To release the davit: Hold the red tension line, and reach out to the davit gate, and pull the pin. Swing the gates out of the way.

Image E22 Hook is in the clamp

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt *continued*

1. Davit Boom Height Adjustment While Attached To Bitt

NOTE: *The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.*

a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45- degree angle on the davit boom is optimum***.

b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image 23**, and the video below.

Image E23 Boom height adjustment with davit securely attached to the bitt. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

c. Use a figure "8" or round turns around the buttons as shown in **Images E24** & **E25**.

d. It may take a couple of times to get the desired angle.

e. Once the boom angle is set, check to make sure the wraps are tight and properly seated. Twist the tension line on one of the buttons to help seat the wraps from not coming off.

Image E24 Beginning wrap to adjust boom height angle

Image E25 Tension line start rear button only

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt *continued*

Image E26 Tension line putting two twists counterclockwise

Image E27 Tension line wrapping finished

Image E28 Rescue davit attached & ready to deploy
*7 Series shown – 3 Series bit attachment is the same

Image E29 During a MOB drill
*7 Series shown –
3 Series looks similar upon deployment

2. **The Bitt Mount Rescue Davit One Time Adjustments Are Now Complete**
   a. The Rescue Davit location and selected rescue bitt information should be visibly posted.
   b. Initial setup is a perfect time to refer to this manual for pictures of different types of bitts.
   c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. Move the Rescue Davit to the bitt to be used.
3. Connect a tether line (not supplied) to something secure and open both clamps.
4. Dual Bitts: Attach the Rescue Davit to the outboard side of the selected bitt.
5. Put the top strap over the bitt. Close the clamp and check the strap tension, adjust as needed.
6. Take the hook out of the tubing base and place it into the open clamp with the hook facing away from the bitt. Pull the tail of the strap tight and close the clamp.
7. Hold the red tension line and release the storage gate pin all while slowly lowering the davit boom.
8. Connect the lift line snap hook to the Rescue Strap's steel triangle and secure the lift line to the pole's V-cleat.
9. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
10. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
11. Deploy the Rescue Pole and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
12. When the PIW is ready to be lifted, pull the slack out at the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image E30.**
13. The 3 Series includes a 20:1, ratcheting clockwise winch. Winch the PIW up using the winch handle. When the green stopper ball is at the davit end, continue to lift the PIW.
14. The green stopper ball lifts the boom until the boom touches the end of the winch plate, and positions the PIW at the highest position, have crew bring the PIW and pull onto the boat. See **Image E32** as to what system will look like.
15. Grasp the PIW carefully and get their feet onboard. Then open the rope brake and slowly take wraps off the winch.
16. Push on the brake handle to lower the PIW while pulling them onboard.

⚠ ***Never open the line brake with a load on the lift line without*** *wraps on the winch.*

Image E30 Line brake closed, line wrapped in winch jaws & ready to lift

ImageE31 Line brake open

Operation *continued*

Rescue & Detach

Image E32 Boom topped off to the end of the winch plate.
Bring PIW with a safety hook and pull back aboard

Pro Tip: Using a Shepard's hook can help the crew grab the person

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Detach From Bitt:

1. ***Always use your legs when lifting and not your back.***
2. Use the red tension line to lift the davit boom and secure it as the davit gate with the tethered pin.
3. The lift line should all be loaded on the winch with only one (1) foot of line after the winch. The lift line should be coiled neatly and ready for the next use.
4. Open the lower clamp first and move the adjusting buckle to slack the strap. Take the snap hook out of the clamp and secure the strap in the base.
5. Open the top clamp and carefully remove the Rescue Davit from the bitt, once on deck take off the tether line.

NOTES:

a. Do not hang the unit horizontally, with it hanging on the davit boom gate.
b. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
c. Moving a Rescue Davit to another boat? Refer to this manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Inspect both Top & Bottom straps and clamps.
3. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
4. Check boom tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image 1.**

Image E33

Image E34

Inspection – Every Six (6) Months

1. Complete monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, davit mount and cover.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect the overall condition of the Rescue Davit and log.
3. Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.* See **Image E34.**
4. Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken® White Winch Grease (or equivalent).* See **Image E33.**
5. *Spinlock® rope* clutch needs to be lubricated with *WD-40®* silicone spray.
6. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts and latch clamps.

Storage

1. **Best practice:** Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead **mount and cover.**
   You will store the winch handle in that cover.
2. Do not hand the unit horizontally, with it hanging on the davit boom gate.
3. Store out of the sun if at all possible.

Man Overboard Drills

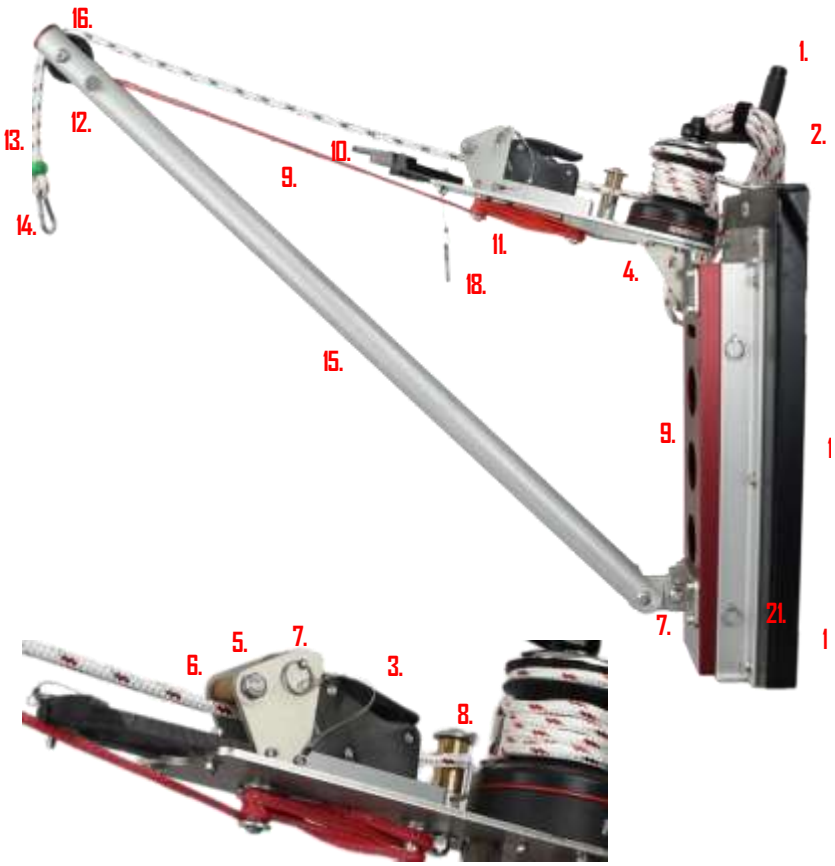
1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, mount the C-Hero Rescue Davit and deploy.
6. Get the Rescue Pole ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On the 3 Series - Fixed series C-Hero® Davit, guide the dummy and pull towards the bullworks while slowly releasing line through the brake.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

3F – 3 Series Fixed Davit
Flat Mount
MWL 300 lbs.

Product & Major Parts List

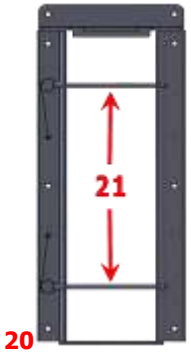
1. 10” Winch handle
2. Winch – 20 ST
3. Lift line brake assembly
4. Winch plate

6. Brake Roller
7. Brake safety pin & rubber stop
8. Winch fairlead & guide
9. Tension line – 6mm
10. Davit boom arm gate
11. Tension line adjustment buttons
12. Tension line boom pin & cotter pin
13. Lift line w stopper ball – 11mm
14. Snap hook – 8kN rated
15. Boom
    c. Bitt Mount – 6’-8” standard
    d. Flat Mount – 4’-3” standard
17. Boom connection to rescue davit & bolt
18. Safety pin for davit boom arm gate
19. Base channel (red)



Flat Mount Installation

20. Davit flat mount
21. Tethered stainless steel pins



Flat Mount – Setup

One Time for the Vessel

Supplied Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware. Flat mount frame with (2) two tethered pins.

Tools & Supplies Needed: 3/4" box wrench**,** Allen wrenches: 5/32" & 5/16", (8) eight 3/8" stainless steel bolts, or stainless steel U-bolts (handrail installation), pliers, NEVER•SEEZ® (Regular Grade or Mariner's Choice), LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

Installation Of The Flat Mount

1. Determine the best location for the Flat Mount Rescue Davit, considering that it needs to be strong enough to support the loads, your company engineer, or boat architect **must** be involved and approve the mounting location and procedure.
2. Attach mount with (8) eight 3/8" bolts or with U-Bolts if mounting to a handrail or railing what will adequately handle the load. Stainless steel bolts are required to comply with up to a 350 lb. MWL. Bolts are not supplied.
3. Additionally, the thread connection strength can be increased by using a Heli coil when blind threading. See **Image F2** below**.**
4. If your vessel manufacturer or company engineer cannot assist with mounting questions you may have, call C-Hero®.
5. The mounting should take into consideration the Flat Mount's standard 4'-3" long davit boom. Mount as high as possible, approximately shoulder height, and close to the vessel's edge.
6. A 6'-8" long davit boom is available but only if the mounting to the vessel will support it.

Image F1: 3 Series – Fixed in the clear anodized flat mount frame

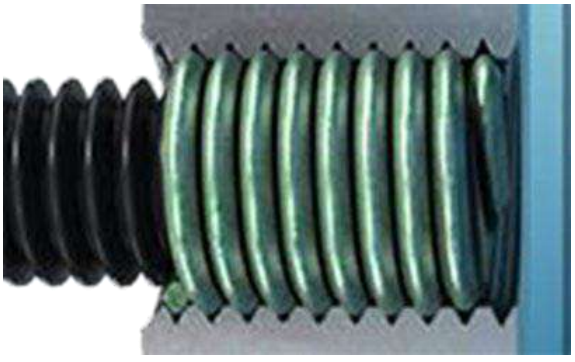


Image F2 Heli coil example

Flat Mount – Setup *continued*

Davit Boom Assembly

1. **Boom Installation**
   a. Stand the base unit up against the bulkhead.
   b. Take the nut and bolt off the davit connection point.
   c. Lay the davit boom on the deck (**Images F3 & F4**), with the slot for the tension line facing up (towards the unit). Tighten with a 5/16" Allen wrench and 3/4" wrench, using Never-Seez® (Regular Grade or Mariner's Choice).

Image F3 Boom connection point on base

Image F4 Boom connected to davit base

2. **Boom Red Tension Line Installation**
   a. Take the pin out of the end of the davit boom.
   b. Prop up the davit boom then grab the red tension line from under the winch plate.
   c. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it shown in **Image F5** below.

Image F5 Tension line around the pin inside of the boom.
Cotter pin has been inserted and bent to secure in place.

Flat Mount – Setup *continued*

Lift Line

1. Lift Line Installation

a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image F5** above**.**
b. Check the lift line to make sure that it is not crossed with the tension line.
c. Lead the lift line into front of the rope brake, under the bronze roller.
d. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
e. Use a rolling motion to get the line through the brake, then through the winch fairlead guide.
f. The winch gets loaded clockwise, 4 wraps, over the chrome tailing arm and into the tailing jaws.
g. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
h. Tie an overhand knot on the end of the lift line, to prevent it from running out.
i. Winch handle (**Image F9**) goes into the top of the winch, use thumb lock.
j. Snap the line brake closed. Best practice is to store the winch handle in the winch.
k. **To Stow the Davit Boom**: Pivot the davit boom arm back to the end of the winch plate. While holding the boom, squeeze both sides of the davit gate together, then pin it.

NOTE: The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.

Image F6 Line brake open

Image F7 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image F8 Line released with hand on brake

Image F9 Winch handle with thumb lock

Flat Mount – Setup *continued*

Flat Mount & Boom Height Adjustment

Installation of the Rescue Davit into the mount

1. Tether the Rescue Davit if mounted over the water.
2. Tip the top of the Rescue Davit into the mount and under the top lip. Once engaged at the top, push the bottom of the Rescue Davit into the mount so that it fully seats flush.
3. Pin the Rescue Davit into the mount with both of the tethered through pins.
4. Hold the red tension line and release the pin while slowly lowering the davit boom.
5. Lower the davit boom slowly to its full extension.

NOTE: *The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.*

6. **Davit boom height adjustment while in flat mount**
   a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45- degree angle on the davit boom is optimum***.
   b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image F11**, and the video below.

Image F11 Boom height adjustment, with davit securely attached to the mount. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

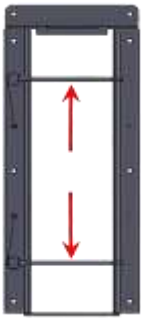


Image F10 Mount showing top lip and tethered stainless steel pins

Flat Mount – Setup *continued*

Boom Height Adjustment *continued*

Image F12 Beginning wrap to adjust boom height angle

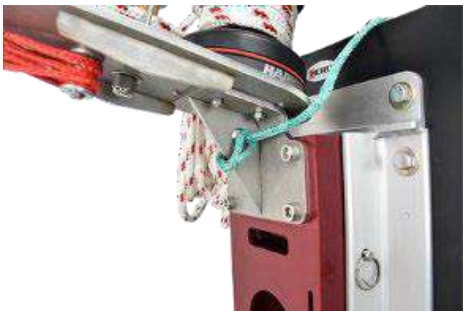
Image F13 Tension line start rear button only

Image F14 Tension line putting two twists counterclockwise

Image F15 Tension line wrapping finished

Flat Mount – Setup *continued*

Tethers & Examples



Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate**.** See **Image F16.**

Image F16 Tether Line *not included* Flat Mount shown

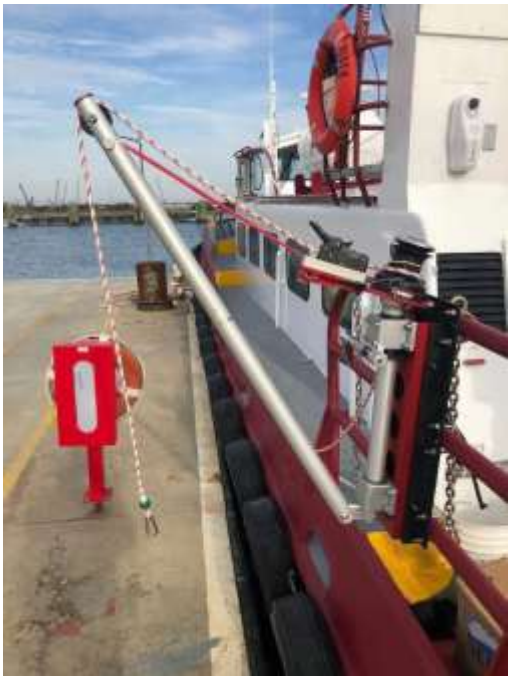


Image F17 Flat Mount rescue davit, on a crew boat, secured with stainless steel U bolts on a sturdy railing

Image F18 Flat Mount rescue davit on a passenger ferry boat

7. **The Flat Mount Rescue Davit One Time Adjustments Are Now Complete**
   a. The Rescue Davit location and location of the davit mount should be visibly posted.
   b. Moving a Davit from one boat to another? Refer to the manual for setup.
   c. Best practice is to store the handle in the winch.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. The Rescue Davit, if mounted over the water, needs to be tethered first. The tether is not supplied.
3. The winch handle should already be inserted into the top of the winch. Do not insert the winch over the water.
4. Tip the top of the davit into the mount and under the top lip. Push the bottom of the davit flush into the mount and insert the two tethered through pins.
5. Hold the red tension line and release the storage gate pin all while slowly lowering the davit boom.
6. Connect the lift line snap hook to the Rescue Pole's Strap steel triangle and secure the lift line to the pole's V- cleat.
7. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
8. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
9. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
10. When the PIW is ready to be lifted, pull the slack out at the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image F19.**
11. The 3 Series includes a 20:1, ratcheting counterclockwise winch. Winch the PIW up using the winch handle. When the green stopper ball is at the davit end, continue to lift the PIW.
12. The green stopper ball lifts the boom until the boom touches the end of the winch plate, and positions the PIW at the highest position, have crew bring the PIW and pull onto the boat.
13. Grasp the PIW carefully and get their feet onboard.
    Then open the rope brake and slowly take wraps off the winch. Push on the brake handle to lower the PIW while pulling them onboard.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Image 19 Line brake closed; line wrapped in winch jaws & ready to lift

Image F20 Line brake open

Operation *continued*

Rescue & Detach

Image F21 Boom topped off to the end of the winch plate. Bring PIW back aboard

Pro Tip: Using a Shepard's hook can help the crew grab the person

Detach From Mount:

1. ***Always use your legs when lifting and not your back.***
2. Use the red tension line to lift the davit boom into the davit gate, while holding the boom, squeeze both sides of the gate together and secure with the tethered pin.
3. The Rescue Davit can be left in place within the mount or taken off and stowed in a locker close by. We recommend a cover (available) to keep the unit out of the weather.
4. Make sure the tether remains on the Rescue Davit while it is over the water.
5. The lift line should be loaded on the winch with about 1 foot after. The line should be coiled and neatly and ready for use.
6. Pull both tethered through pins out of the davit mount.
7. Taking a firm hold of the Davit body, with the boom attached, and move the bottom of the davit out of the mount.
8. Take the tether line off of the Rescue Davit once it is safe to do so.

NOTES:

- **a.** Do not hang the unit horizontally, with it hanging on the davit boom gate.
- **b.** Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready, unless you are using the optional bulkhead mount and cover, where you will store the handle.
- **c.** Moving a Rescue Davit to another boat? Refer to the manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
3. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
4. Inspect all top of winch plate line rollers and lubricate as necessary.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image F22**.

Image F22

Image F23

Image F24

Inspection – Every Three (3) Months

1. Complete monthly inspection as described above.
2. Apply one drop of *McLube OneDrop Ball Bearing Conditioner & Lubricant* to the tethered pins found on the Flat Mount itself. See **Images F23 & F24**.

Inspection – Every Six (6) Months

1. Complete both monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, davit mount and cover.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect overall condition of the Rescue Davit and log.
3. Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.* See **Image F23**.
4. Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken® White Winch Grease (or equivalent).* See **Image F22**.
5. *Spinlock® rope* clutch requires to be lubricated with *WD-40®* silicone spray.
6. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts and latch clamps.

Storage

1. **Best practice:** Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional cover. You will store the winch handle in that cover.
2. Do not hand the unit horizontally, with it hanging on the davit boom gate.
3. Store out of the sun if at all possible.

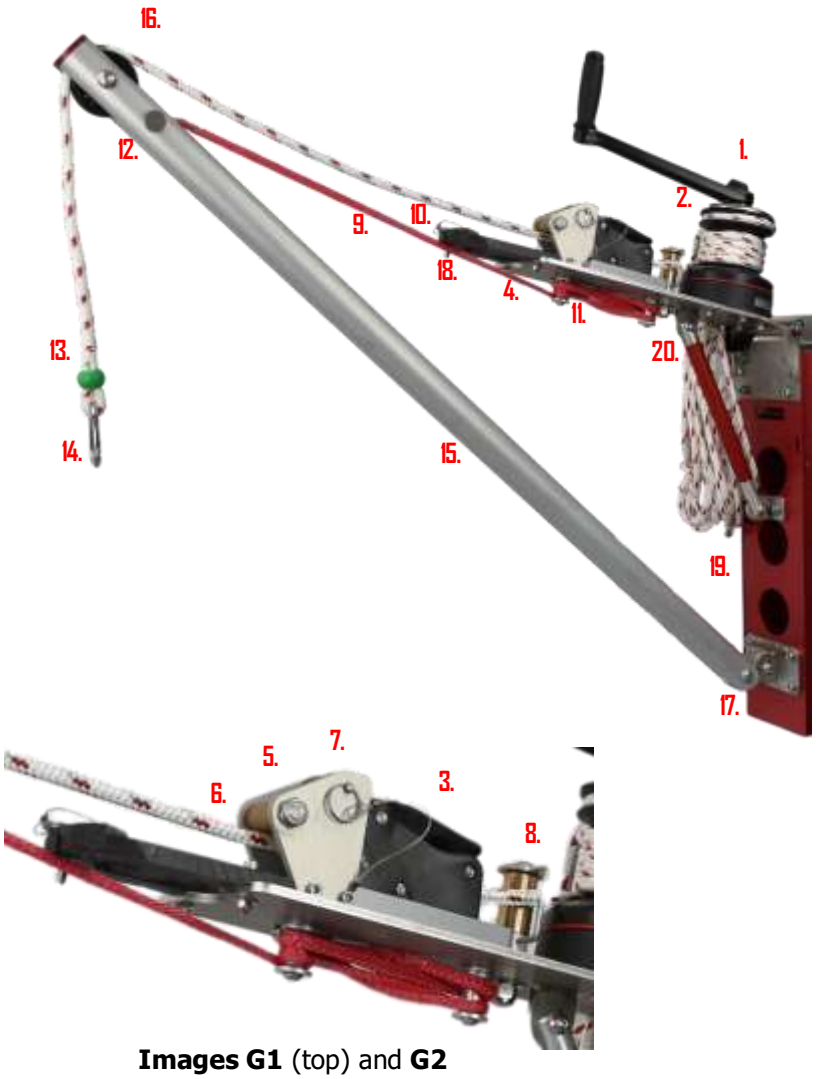
3 Series Davit: Flat Mount
Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit into its mount and deploy.
6. Get the Rescue Pole sling ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole sling and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On the 3 Series - Fixed series C-Hero® Davit, guide the dummy and pull towards the bullworks while slowly releasing line through the brake.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

5B – Series 5
Bitt Mount Davit
MWL 350 lbs.

Product & Major Parts List

1. 10” winch handle
2. Winch 35 ST
3. Lift line brake assembly
4. Winch plate
5. Brake safety plates
6. Brake Roller
7. Brake safety pin & rubber stop
8. Winch fairlead & guide
9. Tension line – 6mm
10. Davit boom arm gates
11. Tension line adjustment buttons
12. Tension line boom pin & cotter pin
13. Lift line w stopper ball – 11mm
14. Snap hook – 1,798lbs. / 8kN rated
15. Boom
    e. Bitt Mount – 6’-8” standard
    f. Flat Mount – 4’-3” standard
16. Boom sheave
17. Boom connection to rescue davit & bolt
18. Safety pin for davit boom arm gate
19. Base channel (red)
20. Winch plate shock



Images G1 (top) and **G2**

Bitt Mount Installation

21. Upper & lower straps
22. Optional holes for rear angle feet for narrower bitts
23. Rear angle feet (4 units in red / 2 units in clear anodized)
24. Side stabilizers
25. Strap latch clamps

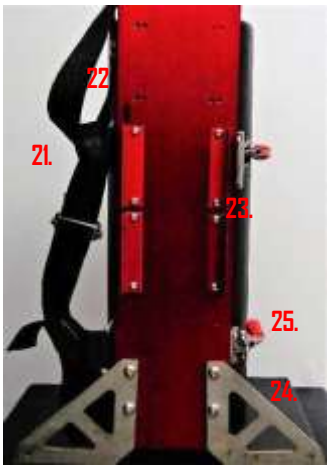


Image G3

Image G4

Bitt Mount – Setup

One Time for the Vessel

Supplied: Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware.

Other Tools Needed: Allen Wrenches: 5/32", & 5/16", Pliers, Tape Measure, NEVER•SEEZ® (Regular Grade or Mariner's Choice), duct tape, LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

Note: The C-Hero® Bitt Mount Rescue Davit will fit on most bitts with no adjustments. *If the height is between 23" and 30" and the diameter is between 8½" and 13½", you will be able to use the davit as shipped. Sections 2 and 3 are only needed if your bitt is not within the above measurements.*

1. **Select Bitt - Measure - Inspect:** Select a bitt to be used for rescues.
   Typically, the bitt on the quarter is used because it is closer to the water. The bow bitt might be the only choice if there are no bitts aft or the bitts aft are too tall. The forward bitt for the davit works fine, as the crews will use the Rescue Pole aft so it is closer to the water.

   Any welds that are in the way, or a top flange that needs to be cut down, in just the area the unit will go, should be done now. Use a small grinder and metal cutting wheel if needed.

   Note: Ensure that the grinding of weld(s) or other modifications do not diminish the integrity of the bitt itself.

   Height of Bitt: Most bitts are 23" - 28" tall, and the upper strap is set in the top position at the factory for this height.

   If your bitt is under 23" the upper strap will need to be moved down to the middle set of holes. The rear angle feet, being continuous, will accommodate any height bitt. Measure the outboard side of the bitt, as shown in **Image G6**.

Image G5 Measure bitt diameter

Image G6 Measure bitt height

Bitt Mount – Setup *continued*

One Time for the Vessel

Image G7 Depicts how the Rescue Davit should fit, not bottoming out and touching the bitt between the rear angle feet *7 Series shown – 5 Series mounting is identical*

Image G8 A properly installed Bitt Mount Rescue Davit - *7 Series shown – 5 Series mounting is identical*

Image G9 Depicts a big top flange & how it was cut off to make the Rescue Davit work *7 Series shown – 5 Series mounting is identical*

Image G10 The bitt dome top was welded on Weld will be cleaned up where the davit will sit *7 Series shown – 5 Series mounting is identical*

Bitt Mount – Setup *continued*

One Time for the Vessel

NOTE: ***You may skip Step 2. below if your bitt height is taller than 23"***

2. **Upper Strap – Move:**
   To move the upper strap, use a 5/32" Allen wrench to move the clamp, and a 5/16" Allen wrench on the end of the strap connected to unit, with a 3/4" box wrench. When putting the strap in its lower position, use a piece of tape over the box wrench to hold the nut in, (your hand won't fit in the tubing). Make sure the strap is straight, like the bottom strap.

   Rear Angle Feet Found On Rear Davit:
   These clear anodized angle pieces seat against the bitt to provide a sound connection to the Rescue Davit. They are long enough to accommodate both shorter and taller davits. Therefore, no adjustment to these pieces are necessary.

NOTE: ***You may skip Step 3. below if your bitt diameter is wider than 8 1/2"***

3. **Rear Angle Adjustment Feet – Move In:**
   The inside holes on the back of unit, should be used for smaller diameter bitts, (less than 8½" [21.59 cm] diameter). Use a 5/32" Allen wrench to relocate. The back of the unit should not bottom out against the bitt.

Image G11 Quad foot version shown. For shorter bitts, the top red feet and band attachments have been moved down to the lower sets of holes. All 4 feet would also be moved down for a bit diameter less than 8 ½"

Image G12 Dual foot version shown

Bitt Mount – Setup *continued*

One Time for the Vessel

Strap Buckle Assemblies

4. **Top Strap**
   a. Open the top clamp, and thread the strap through it, making sure there are no twists.
   b. To **Tighten** the strap, pull it tight against the bitt, and close the clamp.

Image G13 Top buckle thread

Image G14 Top buckle finished

5. **Bottom Strap**
   a. Check the bottom strap to make sure the strap is not twisted, and the hook will be facing away from the bitt as shown in **Image G17.**
   b. **To Tighten** the strap, once the hook is in, pull the tail of the strap tight and close the clamp.
   c. **To Loosen** the strap, open the clamp, move the adjuster, and take the hook out of the clamp.
   d. Stow the bottom strap in the base.

Image G15 Bottom buckle thread

Image G16 Bottom buckle finished

Image G17 Bottom hook in place

Image G18 Tether Line *not included* Flat Mount Shown

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate. See **Image G18**.

Bitt Mount – Setup *continued*

Davit Boom Assembly

6. **Boom Installation**
   a. Stand the base unit up against the bulkhead.
   b. Take the nut and bolt off the davit connection point.
   c. Lay the davit boom on the deck (**Image 15**), with the slot for the tension line facing up (towards the unit). Tighten with a 5/16" Allen wrench and 3/4" wrench, using Never-Seez® (Regular Grade or Mariner's Choice).

Image G19 Boom connection point on base

Image G20 Boom connected to davit base

7. **Boom Red Tension Line Installation**
   a. Take the pin out of the end of the davit boom.
   b. Prop up the davit boom then grab the red tension line from under the winch plate. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it as shown in **Image G21** below.

Image G21 Tension line around the pin inside of the boom. Cotter pin has been inserted and bent to secure in place.

Bitt Mount – Setup *continued*

Lift Line

8. **Lift Line Installation**

   a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image G21** on the previous page**.**
   b. Check the lift line to make sure that it is not crossed with the tension line.
   c. Lead the lift line into front of the rope brake, under the bronze roller.
   d. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
   e. Use a rolling motion to get the line through the brake, then through the winch fairlead guide.
   f. The winch gets loaded clockwise, 4 wraps, over the chrome tailing arm and into the tailing jaws.
   g. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
   h. Tie an overhand knot on the end of the lift line, to prevent it from running out.
   i. Winch handle (**Image G24**) goes into the top of the winch, use thumb lock.
   j. Snap the line brake closed. Best practice is to store the winch handle in the winch.
   k. **To Stow the Davit Boom**: Pivot the davit boom arm back to the end of the winch plate. While holding the boom, squeeze both sides of the davit gate together, then pin it.

NOTE: *The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.*

Image G22 Line brake open

Image G23 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image G24 Winch handle with thumb lock

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt

9. **Davit Ready Fit Check**

a. The bitt should be checked first to assure that any welds or any top flange interference was previously addressed.
b. Open both clamps and place the tether on the bitt to be used. Place the unit on the outboard side of the bitt and put the top strap over the bitt. Check that the feet on the back are touching the bitt, and not the unit. Tighten the clamp when ready.

Image G25 Top strap with clamp ready to be closed

c. The bottom strap goes on after the top strap and comes off the bitt before the top strap comes off (when removing). Take the strap out of the base and place the hook into the open clamp facing away from the bitt, pull the strap tight and close the clamp.
d. To loosen the strap, open the clamp and move the adjuster, take the hook out of the clamp, which is shown in **Image G26**.
e. Stow the bottom strap in the base.
f. To release the davit: Hold the red tension line, and reach out to the davit gate, and pull the pin. Swing the gates out of the way.

Image G26 Hook is in the clamp

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt *continued*

10. **Davit Boom Height Adjustment While Attached To Bitt**

NOTE: *The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.*

a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45- degree angle on the davit boom is optimum***.
b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image G27**, and the video below.

Image G27 Boom height adjustment, with davit securely attached to the bitt. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

c. Use a figure "8" or round turns around the buttons as shown in **Images G28** & **G29**.
d. It may take a couple of times to get the desired angle.
e. Once the boom angle is set, check to make sure the wraps are tight and properly seated. Twist the tension line on one of the buttons to help seat the wraps from not coming off.

Image G28 Beginning wrap to adjust boom height angle

Image G29 Tension line start rear button only

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt *continued*

Image G30 Tension line putting two twists counterclockwise

Image G31 Tension line wrapping finished

Image G32 Rescue davit attached & ready to deploy
*7 Series shown – 5 Series bit attachment is the same

Image G33 During a MOB drill
*7 Series shown – 5 Series looks similar upon deployment

ll. **The Bitt Mount Rescue Davit One Time Adjustments Are Now Complete**

a. The Rescue Davit location and selected rescue bitt information should be visibly posted.
b. Initial setup is a perfect time to refer to this manual for pictures of different types of bitts.
c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. Move the Rescue Davit to the bitt to be used.
3. Connect a tether line (not supplied) to something secure and open both clamps.
4. Dual Bitts: Attach the Rescue Davit to the outboard side of the selected bitt.
5. Put the top strap over the bitt. Close the clamp and check the strap tension, adjust as needed.
6. Take the hook out of the tubing base and place it into the open clamp with the hook facing away from the bitt. Pull the tail of the strap tight and close the clamp.
7. Hold the red tension line and release the storage gate pin all while slowly lowering the davit boom.
8. Connect the lift line snap hook to the Rescue Pole strap's steel triangle and secure the lift line to the pole's V- cleat.
9. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
10. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
11. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
12. When the PIW is ready to be lifted, pull the slack out of the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image G34**.
13. The 5 Series includes a 35:1 winch. Winch the PIW up using the winch handle. When the green stopper ball is at the davit end, continue to lift the PIW.
14. Once the green stopper ball lifts the boom and the winch plate to the stops the PIW will be at the highest position, directly in front of the Rescue Davit, and able to be pulled onto the boat, as shown in **Image G36** on the following page.
15. Grasp the PIW carefully and get their feet onboard. Then open the rope brake and slowly take wraps off the winch. Push on the brake handle to lower the PIW while pulling them onboard.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Image G34 Line brake closed, line wrapped in winch jaws and ready to lift

Image G35 Line brake open

Operation *continued*

Rescue & Detach

Image G36 Boom topped off to the end of the winch plate. PIW will be directly in front of Rescue Davit.

Detach From Bitt:

1. ***Always use your legs when lifting and not your back.***
2. Use the red tension line to lift the davit boom and secure it as the davit gate with the tethered pin.
3. The lift line should all be loaded on the winch with only one (1) foot of line after the winch. The lift line should be coiled neatly and ready for the next use.
4. Open the lower clamp first and move the adjusting buckle to slack the strap. Take the snap hook out of the clamp and secure the strap in the base.
5. Open the top clamp and carefully remove the Rescue Davit from the bitt, once on deck take off the tether line.

NOTES:

A. Do not hang the unit horizontally, with it hanging on the davit boom gate.
B. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover, where you will store the handle.
C. Moving a Rescue Davit to another boat? Refer to this manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Inspect both Top & Bottom straps and clamps.
3. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
4. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image G37**.

Image G37

Image G38

Inspection – Every Six (6) Months

1. Complete monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, winch plate shock, davit mount and cover.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect the overall condition of the Rescue Davit and log.
3. **Image G38 -** Lubricate boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.*
4. **Image G37 -** Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken White Winch Grease (or equivalent).*
5. *Spinlock® rope* clutch needs to be lubricated with *WD-40®* silicone spray.
6. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts and latch clamps.

Storage

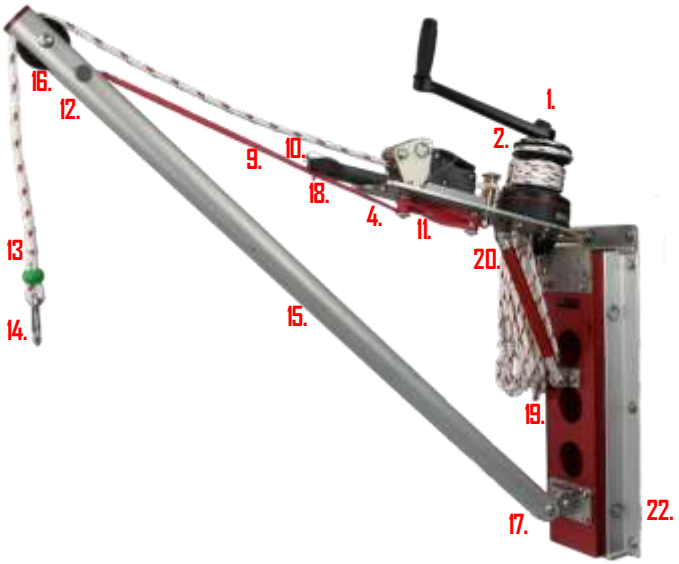
1. **Best practice:** Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
2. Do not hang the unit horizontally, with it hanging on the davit boom gate.
   Store out of the sun if at all possible.

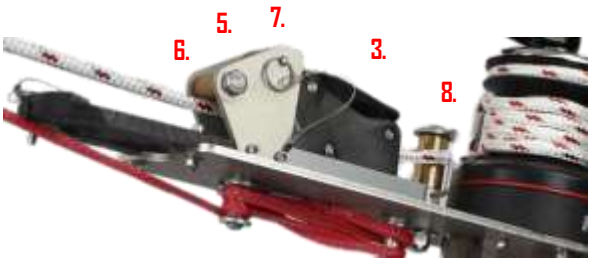
Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit on the desired bitt, and deploy the davit.
6. Get the Rescue Pole's strap ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole's strap and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On a 5 Series - Fixed Plus series C-Hero® Davit, continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing to grasp and bring the rescue dummy back aboard.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

Product & Major Parts List

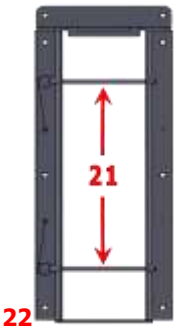
1. 10” Winch handle
2. Winch – 35 ST
3. Lift line brake assembly
4. Winch plate
5. Brake safety plates
6. Brake roller
7. Brake safety pin & rubber stop
8. Winch fairlead & guide
9. Tension line – 6mm
10. Davit boom arm gate
11. Tension line adjustment buttons
12. Tension line boom pin & cotter pin
13. Lift line w stopper ball – 11mm
14. Snap hook – 8kN rated
15. Boom
    g. Bitt Mount – 6’-8” standard
    h. Flat Mount – 4’-3” standard
16. Boom sheave
17. Boom connection to rescue davit & bolt
18. Safety pin for davit boom arm gate
19. Base channel (red
20. Winch plate shock





Flat Mount Installation

21. Tethered stainless steel pins
22. Davit flat mount



Flat Mount – Setup

One Time for the Vessel

Supplied Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware. Flat mount frame with (2) two tethered pins.

Tools & Supplies Needed: 3/4" box wrench**,** Allen wrenches: 5/32" & 5/16", (8) eight 3/8" stainless steel bolts, or stainless steel U-bolts (handrail installation), pliers, NEVER•SEEZ® (Regular Grade or Mariner's Choice), LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

I. **Installation Of The Flat Mount**

- **a.** Determine the best location for the Flat Mount Rescue Davit, considering that it needs to be strong enough to support the loads, your company engineer, or boat architect **must** be involved and approve the mounting location and procedure.
- **b.** Attach mount with (8) eight 3/8" bolts or with U-Bolts if mounting to a handrail or railing what will adequately handle the load. Stainless steel bolts are required to comply with up to 350 lb. MWL. Bolts are not supplied.
- **c.** Additionally, the thread connection strength can be increased by using a Heli coil when blind threading. See **Image H2** below**.**
- **d.** If your vessel manufacturer or company engineer cannot assist with mounting questions you may have, call C-Hero®.
- **e.** The mounting should take into consideration of the Flat Mount's standard 4'-3" long davit boom. Mount as high as possible, approximately shoulder height, and close to the vessel's edge.
- **f.** A 6'-8" long davit boom is available but only if the mounting to the vessel will support it.

Image H1 Series – Fixed Plus in the clear anodized flat mount

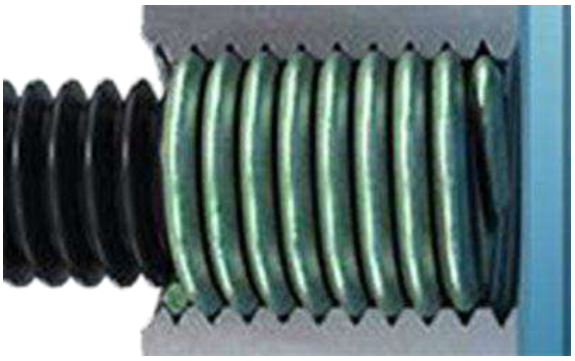


Image H2 Heli coil example

Flat Mount – Setup *continued*

Davit Boom Assembly

2. **Boom Installation**
   a. Stand the base unit up against the bulkhead.
   b. Take the nut and bolt off the davit connection point.
   c. Lay the davit boom on the deck (**Images H3 & H4**), with the slot for the tension line facing up (towards the unit). Tighten with a 5/16" Allen wrench and a ¾" wrench using Never-Seez® (Regular Grade or Mariner's Choice).

Image H3 Boom connection point on base

Image H4 Boom connected to davit base

3. **Boom Red Tension Line Installation**
   a. Take the pin out of the end of the davit boom.
   b. Prop up the davit boom then grab the red tension line from under the winch plate.
   c. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it shown in **Image H5** below.

Image H5 Tension line around the pin inside of the boom. Cotter pin has been inserted and bent to secure in place.

Flat Mount – Setup *continued*

Lift Line

4. **Lift Line Installation**
   a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image H5** on previous page**.**
   b. Check the lift line to make sure that it is not crossed with the tension line.
   c. Lead the lift line into front of the rope brake, under the bronze roller.
   d. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
   e. Use a rolling motion to get the line through the brake, then through the winch fairlead guide.
   f. The winch gets loaded clockwise, 4 wraps, over the chrome tailing arm and into the tailing jaws.
   g. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
   h. Tie an overhand knot on the end of the lift line, to prevent it from running out.
   i. Winch handle (**Image H9**) goes into the top of the winch, use thumb lock.
   j. Snap the line brake closed. Best practice is to store the winch handle in the winch.
   k. **To Stow the Davit Boom**: Pivot the davit boom arm back to the end of the winch plate. While holding the boom, squeeze both sides of the davit gate together, then pin it.

NOTE: *The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.*

Image H6 Line brake open

Image H7 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image H8 Line released with hand on brake

Image H9 Winch handle with thumb lock

Flat Mount – Setup *continued*

Flat Mount & Boom Height Adjustment

5. **Installation of the Rescue Davit into the mount**
   - **a.** Tether the Rescue Davit if mounted over the water.
   - **b.** Tip the topo f the Rescue Davit into the mount and under the top lip. Once engaged at the top, push the bottom of the Rescue Davit into the mount so that it fully seats flush.
   - **c.** Pin the Rescue Davit into the mount with both of the tethered through pins.
   - **d.** Hold the red tension line and release the pin while slowly lowering the davit boom.
   - **e.** Lower the davit boom slowly to its full extension.

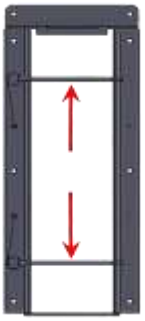


Image H10 Mount showing top lip and tethered stainless steel pins

NOTE: *The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.*

6. **Davit boom height adjustment while in flat mount**
   - a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45- degree angle on the davit boom is optimum***.
   - b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image H11**, and the video below.

Image H11 Boom height adjustment, with davit securely attached to the mount. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

Flat Mount *continued*

Boom Height Adjustment *continued*

Image H12 Beginning wrap to adjust boom height angle

Image H13 Tension line start rear button only

Image H14 Tension line putting two twists counterclockwise

Image H15 Tension line wrapping finished

Flat Mount – Setup *continued*

Tethers & Examples

Image H16 Tether Line (shown in green) not included

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate**.** See **Image H16**.

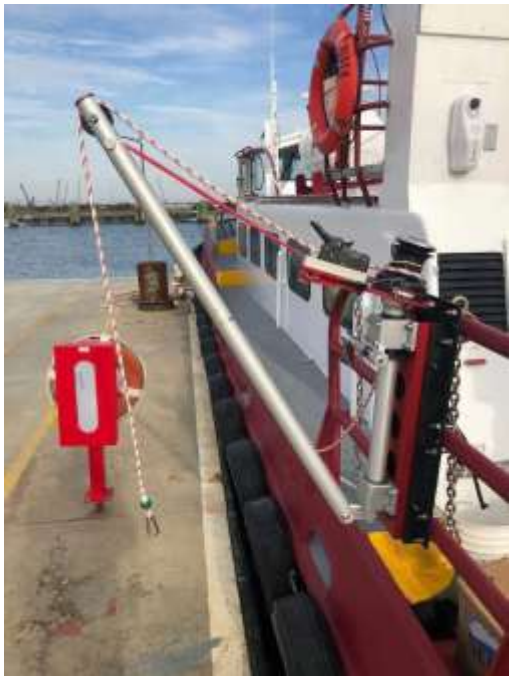


Image H17 Flat Mount rescue davit, on a crew boat, secured with stainless steel U bolts on a sturdy railing

Image H18 Flat Mount rescue davit on a passenger ferry boat

7. **The Flat Mount Rescue Davit One Time Adjustments Are Now Complete**

   a. The Rescue Davit location and location of the davit mount should be visibly posted.
   b. Moving a Davit from one boat to another? Refer to the manual for setup.
   c. Best practice is to store the handle in the winch.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. The Rescue Davit, if mounted over the water, needs to be tethered first. Tether is not supplied.
3. The winch handle should already be inserted into the top of the winch. Do not insert the winch over the water.
4. Tip the top of the davit into the mount and under the top lip. Push the bottom of the davit flush into the mount and insert the two tethered through pins.
5. Hold the red tension line and release the storage gate pin all while slowly lowering the davit boom.
6. Connect the lift line snap hook to the Rescue Pole's Strap steel triangle and secure the lift line to the pole's V- cleat.
7. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
8. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
9. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
10. When the PIW is ready to be lifted, pull the slack out of the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image H19**.
11. The 5 Series includes a 35:1 winch. Winch the PIW up using the winch handle. When the green stopper ball is at the davit end, continue to lift the PIW.
12. Once the green stopper ball lifts the boom and the winch plate to the stops, the PIW will be at the highest position, directly in front of the Rescue Davit and able to be pulled onto the boat.
13. Grasp the PIW carefully and get their feet onboard. Then open the rope brake and slowly take wraps off the winch. Push on the brake handle to lower the PIW while pulling them onboard.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Image H19 Line brake closed; line wrapped in winch jaws & ready to lift

Image H20 Line brake open

Operation *continued*

Rescue & Detach

Image H21 Boom topped off to the end of the winch plate. Bring PIW back aboard

Detach From Mount:

1. ***Always use your legs when lifting and not your back.***
2. Use the red tension line to lift the davit boom into the davit gate, while holding the boom, squeeze both sides of the gate together and secure with the tethered pin.
3. The Rescue Davit can be left in place within the mount or taken off and stowed in a locker close by. We recommend a cover (available) to keep the unit out of the weather.
4. Make sure the tether remains on the Rescue Davit while it is over the water.
5. The lift line should be loaded on the winch with about 1 foot after. The line should be coiled and neatly and ready for use.
6. Pull both tethered through pins out of the davit mount.
7. Taking a firm hold of the Davit body, with the boom attached, and move the bottom of the davit out of the mount.
8. Take the tether line off of the Rescue Davit once it is safe to do so.

NOTES:

a. Do not hang the unit horizontally, with it hanging on the davit boom gate.
b. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
3. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
4. Inspect all top of winch plate line rollers and lubricate as necessary.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image H22**.

Image H22

Image H22

Image H23

Inspection – Every Three (3) Months

1. Complete monthly inspection as described above.
2. Apply one drop of *McLube OneDrop Ball Bearing Conditioner & Lubricant* to the tethered pins found on the Flat Mount itself. See **Images H22 & H23.**

Inspection – Every Six (6) Months

1. Complete both monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, winch plate shock, davit mount and cover.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect overall condition of the Rescue Davit and log.
3. Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.* See Image H22.
4. Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken® White Winch Grease (or equivalent).* See Image H21.
5. *Spinlock® rope* clutch requires to be lubricated with *WD-40®* silicone spray.
6. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts.

Storage

1. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional cover. You will store the winch handle in that cover.
2. Do not hang the unit horizontally, with it hanging on the davit boom gate.
3. Store out of the sun if at all possible.

Man Overboard Drills – 5 Series Flat Mount

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit into the mount, and deploy the davit.
6. Get the Rescue Pole's strap ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole's strap and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On a 5 Series - Fixed Plus series C-Hero® Davit, continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing to grasp and bring the rescue dummy back aboard.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

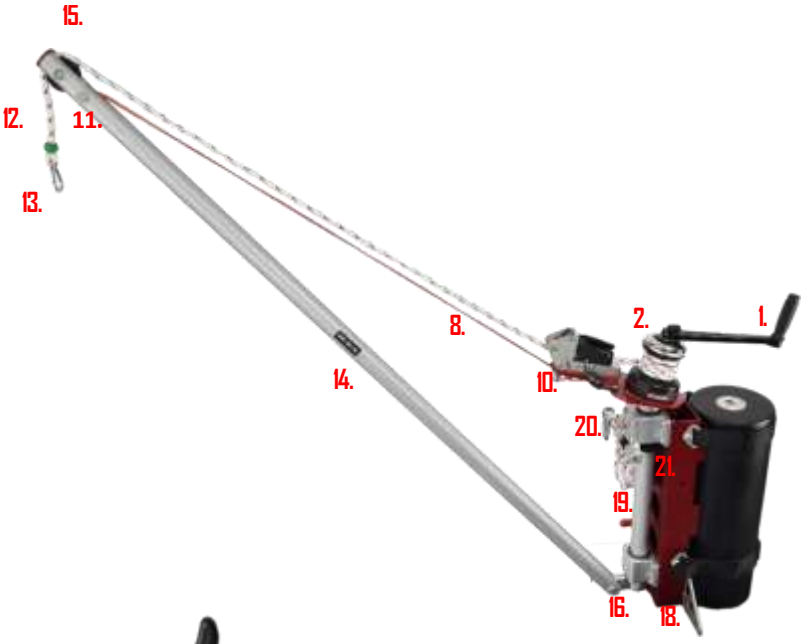
7B - Series 7 Swivel Davit
Bitt Mount
MWL 350 lbs.

Product & Major Parts List

1. 10" winch handle
2. Winch – 20 or 35 ST
3. Lift line brake assembly
4. Winch plate
5. Brake safety plates
6. Brake Roller
7. Brake safety pin
8. Tension line – 6mm
9. Davit boom arm gate
10. Tension line adjustment buttons
11. Tension line boom pin & cotter pin
12. Lift line w stopper ball – 11mm
13. Snap hook – 1,798lbs. / 8kN rated
14. Boom
    a. Bitt Mount – 6'-8" standard
    b. Flat Mount – 4'-3" standard
15. Boom sheave
16. Boom connection to rescue davit
17. Safety pin for davit boom arm gate
18. Base channel (red)
19. Vertical spindle tube with top and bottom blocks
20. Worm gear side handle
21. Spindle gear

Bitt Mount Installation

22. Upper & lower straps
23. Optional holes for rear angle feet on narrower bitts
24. Rear angle feet (4 units in red / 2 units in clear anodized)
25. Side stabilizers
26. Strap latch clamps



7B - Series 7 Swivel Davit Bitt Mount

Bitt Mount – Setup

One Time for the Vessel

Supplied: Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware.

Other Tools Needed: Allen Wrenches: 5/32", & 5/16", Pliers, Tape Measure, NEVER•SEEZ® (Regular Grade or Mariner's Choice), duct tape, LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

Note: The C-Hero® Bitt Mount Rescue Davit will fit on most bitts with no adjustments. If the height is between 23" and 30" and the diameter is between 8½" and 13½", you will be able to use the davit as shipped. Sections 2 and 3 are only needed if your bitt is not within the above measurements.

1. Select Bitt - Measure - Inspect: Select a bitt to be used for rescues.
2. Typically, the bitt on the quarter is used because it is closer to the water. The bow bitt might be the only choice if there are no bitts aft or the bitts aft are too tall. The forward bitt for the davit works fine, as the crews will use the Rescue Pole aft so it is closer to the water.
3. Any welds that are in the way, or a top flange that needs to be cut down, in just the area the unit will go, should be done now. Use a small grinder and metal cutting wheel if needed.
4. Note: *Ensure that the grinding of weld(s) or other modifications do not diminish the integrity of the bitt itself.* Height of Bitt: Most bitts are 23" - 28" tall, and the upper strap is set in the top position at the factory for this height.
5. If your bitt is under 23" the upper strap will need to be moved down to the middle set of holes. The rear angle feet, being continuous, will accommodate any height bitt. Measure the outboard side of the bitt, as shown in **Image J2**.

Image J1 Measure bitt diameter

Image J2 Measure bitt height

Bitt Mount – Setup *continued*

One Time for the Vessel

Image J3 Depicts how the Rescue Davit should fit, not bottoming out and touching the bitt between the rear angle feet

Image J4 A properly installed Bitt Mount Rescue Davit

Image J5 Depicts a big top flange & how it was cut off to make the Rescue Davit work

Image J6 The bitt dome top was welded on. Weld will be cleaned up where the davit will sit

Bitt Mount – Setup *continued*

One Time for the Vessel

NOTE: ***You may skip Step 2. below if your bitt height is taller than 23″***

6. Upper Strap – Move:

To move the upper strap, use a 5/32″ Allen wrench to move the clamp, and a 5/16″ Allen wrench on the end of the strap connected to unit, with a 3/4″ box wrench. When putting the strap in its lower position, use a piece of tape over the box wrench to hold the nut in, (your hand won't fit in the tubing). Make sure the strap is straight, like the bottom strap.

Rear Angle Feet Found On Rear Davit:

These clear anodized angle pieces seat against the bitt to provide a sound connection to the Rescue Davit. They are long enough to accommodate both shorter and taller davits. Therefore, no adjustment to these pieces are necessary.

NOTE: ***You may skip Step 3. below if your bitt diameter is wider than 8 1/2″***

7. Rear Angle Adjustment Feet – Move In:

The inside holes on the back of unit, should be used for smaller diameter bitts, (less than 8½″ [21.59 cm] diameter). Use a 5/32″ Allen wrench to relocate. The back of the unit should not bottom out against the bitt.

Image J7 Back feet, 4 feet version. For shorter bitts, the top red feet and band attachments have been moved down to the lower sets of holes. All 4 feet would also be moved down for a bit diameter less than 8 ½″

Image J8 Back feet, 2 feet version shown

Bitt Mount – Setup *continued*

One Time for the Vessel Strap Buckle Assemblies

8. Top Strap

a. Open the top clamp, and thread the strap through it, making sure there are no twists.
b. To **Tighten** the strap, pull it tight against the bitt, and close the clamp

Image J9 Top buckle thread

Image J10 Top buckle finished

9. Bottom Strap

a. Check the bottom strap to make sure the strap is not twisted, and the hook will be facing away from the bitt as shown in **Image J13**.
b. **To Tighten** the strap, once the hook is in, pull the tail of the strap tight and close the clamp.
c. **To Loosen** the strap, open the clamp and move the adjuster, and take the hook out of the clamp.
d. Stow the bottom strap in the base.

Image J11 Bottom buckle thread

Image J12 Bottom buckle finished

Image J13 Bottom hook in place

Image J14 Tether Line*not included*

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate. See **Image J14**.

Bitt Mount – Setup *continued*

Davit Boom Assembly

10. Boom Installation

a. Stand the base unit up against the bulkhead.

b. The side handle is used to move the boom left and right. Use this handle (**Image J15)** to bring the davit boom to the center of the unit. The bottom connection point will be pointing straight away from the davit body.

c. Take the nut and bolt off of the davit connection point.

d. Lay the davit boom on the deck with the slot for the tension line facing up (towards the unit). Tighten with a 5/16" Allen wrench and ¾" wrench, using Never-Seez® (Regular Grade or Mariner's Choice).

Image J15 Side handle

Image J16 Boom connected to davit base

11. Boom Red Tension Line Installation

a. Take the pin out of the end of the davit boom.

b. Prop up the davit boom then grab the red tension line from under the winch plate.

a. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pint to secure it shown in **Image J17**.

Image J17 Tension line around the pin inside of the boom. Cotter pin has been inserted and bent to secure in place.

Bitt Mount – Setup *continued*

Lift Line

12. **Lift Line Installation**
    a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in Image J17 on the previous page.
    b. Check the lift line to make sure that it is not crossed with the tension line.
    a. Lead the lift line into front of the rope brake, under the bronze roller.
    b. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
    c. Use a rolling motion to get the line through the brake.
    d. The winch gets loaded clockwise, 4 wraps, over the chrome tailing arm and into the tailing jaws.
    e. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
    f. Tie an overhand knot on the end of the lift line, to prevent it from running out.
    g. Winch handle (**Image J20**) goes into the top of the winch, use thumb lock.
    h. Snap the line brake closed. Best practice is to store the winch handle in the winch.
    i. **To Stow the Davit Boom**: Fold davit boom up against the winch plate and pin. See **Image J21** below.

NOTE: *The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.*

Image J18 Line brake open

Image J19 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image J20 Winch handle with thumb lock

Image J21 Davit boom stowed and pinned

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt

13. Davit Ready Fit Check

a. The bitt should be checked first to assure that any welds or any top flange interference was previously addressed.

b. Open both clamps and place the tether on the bitt to be used. Place the unit on the outboard side of the bitt and put the top strap over the bitt. Check that the feet on the back are touching the bitt, and not the unit. Tighten the clamp when ready.

Image J22 Top strap with clamp ready to be closed

c. The bottom strap goes on after the top strap and comes off the bitt before the top strap comes off (when removing). Take the strap out of the base and place the hook into the open clamp facing away from the bitt, pull the strap tight and close the clamp.

d. To loosen the strap, open the clamp and move the adjuster, take the hook out of the clamp, which is shown in **Image J23.**

e. Stow the bottom strap in the base.

f. To release the davit boom: Hold the red tension line, and reach out to the davit gate, and pull the pin. Swing the gate out of the way.

Image J23 Hook is in the clamp

Bitt Mount – Setup *continued*

Installation of Davit & Fit Check on Bitt *continued*

14. Davit Boom Height Adjustment While Attached To Bitt

NOTE: *The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.*

a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45- degree angle on the davit boom is optimum***.

b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image J24**, and the video below.

Image J24 Boom height adjustment, with davit securely attached to the bitt. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

c. Use a figure "8" or round turns around the buttons as shown in **Images J25 & J26**.

d. It may take a couple of times to get the desired angle.

e. Once the boom angle is set, check to make sure the wraps are tight and properly seated. Twist the tension line on one of the buttons to help seat the wraps from not coming off.

Image J25 Beginning wrap to adjust boom height angle

Image J26 Wraps on tension buttons with a half hitch finish

Bitt Mount – Setup *continued*

15. Final Adjustment on Deck – Tension Line Centering & Securing

a. The red tension line will get lead through the eye strap under the winch plate. This keeps the tension line centered and always at the ready. This should be completed on deck to avoid losing the bolt.
b. Remove the bolt from the eye strap holding the tension line, found on the end of the underside of the winch plate. Use a 5/32" Allen wrench. See **Image J27** below.
c. Loosen the second bolt just enough to be able to swing the eye strap towards the davit boom cradle.
d. Slip the red tension line through the eye strap. Secure the eye strap with the removed bolt and add a drop of LOCTITE. Then tighten the remaining bolt. It should look like **Image 28** below.

Image J27 Eye strap, one end unfastened and opened with tension line running through it

Image J28 Eye strap refastened with the tension line running through it

Bitt Mount – Setup *continued*

Image J29 Rescue davit attached & ready to deploy

Image J30 During a MOB drill

16. The Bitt Mount Rescue Davit One Time Adjustments Are Now Complete

a. The Rescue Davit location and selected rescue bitt information should be visibly posted.
b. Initial setup is a perfect time to refer to this manual for pictures of different types of bitts.
c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. Move the Rescue Davit to the bitt to be used.
3. Connect a tether line (not supplied) to something secure and open both clamps.
4. Dual Bitts: Attach the Rescue Davit to the outboard side of the selected bitt.
5. Put the top strap over the bitt. Close the clamp and check the strap tension, adjust as needed.
6. Take the hook out of the tubing base and place it into the open clamp with the hook facing away from the bitt. Pull the tail of the strap tight and close the clamp.
7. Hold the red tension line and release the davit gate pin all while slowly lowering the davit boom.
8. Connect the lift line snap hook to the Rescue Pole's steel triangle and secure the lift line to the pole's V-cleat.
9. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
10. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
11. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
12. When the PIW is ready to be lifted, pull the slack out at the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image J11**.
13. Winch the PIW up using the winch handle until the green stopper ball is at the davit end. Use the side handle to move the PIW to the side of the vessel.
14. Once the PIW is at the side of the vessel and if more clearance is needed, continue to crank the winch that will lift up the boom and elevate the PIW. To lower the PIW on the deck, leave the wraps on the winch, open the line brake as shown in **Image J32** and carefully ease the line off the winch to lower.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Image J31 Line brake closed; line wrapped in winch jaws & ready to lift

Image J32 Line brake open

Operation *continued*

Rescue & Detach

Image J33 Use side crank to swing boom and PIW over towards the deck. You can continue to crank the winch to elevate the boom further if more clearance is required

15. See **Image J33** above for what a typical 7 Series MOB drill looks like.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

16. Detach From Bitt:

a. ***Always use your legs when lifting and not your back.***
b. Center the davit boom. Then use the red tension line to lift the davit boom and secure it into the davit gate with the tethered pin.
c. The lift line should all be loaded on the winch with only one (1) foot of line after the winch. The lift line should be coiled neatly and ready for the next use.
d. Open the lower clamp first and move the adjusting buckle to slack the strap. Take the snap hook out of the clamp and secure the strap in the base.
e. Open the top clamp and carefully remove the Rescue Davit from the bitt, once on deck take off the tether line.

NOTES:

1. Do not hang the unit horizontally, with it hanging on the davit boom gate.
2. **Best practice**: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
3. Moving a Rescue Davit to another boat? Refer to this manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Inspect both top & bottom straps and clamps.
3. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
4. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image J34**.
6. Inspect and lubricate both the spindle and worm gear. See **Image J35**.

Image J34

Image J35

Image J36

Inspection – Every Three (3) Months

1. Complete monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect and lubricate both the spindle and worm gear. See **Image J34**.

Inspection – Every Six (6) Months

1. Complete monthly and every three-month inspection as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, winch plate shock, davit mount and cover.
4. Inspect and lubricate both the spindle and worm gear. See **Image J34**.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect overall condition of the Rescue Davit and log.
3. Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.* **See Image J36**.

1. Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken® White Winch Grease (or equivalent).* See Image 1.
2. *Spinlock® rope* clutch needs to be lubricated with *WD-40®* silicone spray.
3. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts and latch clamps.
4. Inspect and lubricate both the spindle and worm gear. See Image J34.

Inspection & Storage *continued*

Storage – Between Deployments

1. **Best practice:** Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
2. Do not hang the unit horizontally, with it hanging on the davit boom gate.
3. Store out of the sun if at all possible.

Image 37 Available davit cover

Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit on the desired bitt, deploy the davit and swing outboard.
6. Get the Rescue Pole ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole's strap and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On a 7 Series - Swivel series C-Hero® Davit, use the side handle to swing the rescue dummy to the side of the boat and bring it back aboard.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

7F - Series 7 Swivel Davit
Flat Mount
MWL 350 lbs.

Product & Major Parts List

1. 10” winch handle
2. Winch – 20 or 35 ST
3. Lift line brake assembly
4. Winch plate
5. Brake safety plates
6. Brake Roller
7. Brake safety pin
8. Tension line – 6mm
9. Davit boom arm gate
10. Tension line adjustment buttons
11. Tension line boom pin & cotter pin
12. Lift line w stopper ball - 11mm
13. Snap hook – 1,798lbs. / 8kN rated
14. Boom
    a. Bitt Mount – 6’-8” standard
    b. Flat Mount – 4’-3” standard
15. Boom sheave
16. Boom connection to rescue davit & bolt
17. Safety pin for davit boom arm gate
18. Base channel (red)
19. Vertical spindle tube with top & bottom blocks
20. Worm gear side handle
21. Spindle gear

Flat Mount Installation

22. Davit flat mount receiver
23. Tethered stainless steel pins

7F - Series 7 Swivel Davit Flat Mount

Flat Mount – Setup

One Time for the Vessel

Supplied: Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware. Flat mount frame with (2) two tethered pins.

Tools & Supplies Needed: 3/4" box wrench**,** Allen wrenches: 5/32" & 5/16", (8) eight 3/8" stainless steel bolts, or stainless steel U-bolts (handrail installation), pliers, NEVER•SEEZ® (Regular Grade or Mariner's Choice), LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

Installation Of The Flat Mount

1. Determine the best location for the Flat Mount Rescue Davit, considering that if needs to be strong enough to support the loads, your company engineer, or boat architect **must** be involved and approve the mounting location and procedure.
2. Attach mount with (8) eight 3/8" bolts or with U-Bolts if mounting to a handrail or railing what will adequately handle the load. Stainless steel bolts are required to comply with up to a 350lb. MWL. Bolts are not supplied.
3. Additionally, the thread connection strength can be increased by using a Heli coil when blind threading. See **Image K2** below**.**
4. If your vessel manufacturer or company engineer cannot assist with mounting questions you may have, call C-Hero®.
5. The mounting should take into consideration the Flat Mount's standard 4'-3" long davit boom. Mount as high as possible, approximately shoulder height, and close to the vessel's edge.
6. A 6'-8" long davit boom is available but only if the mounting to the vessel will support it.
7. There should be room for the davit to swing clear and the winch handle to be operated. The standard Harken 35:1 winch operates in both directions.
8. Ensure that there's enough room for the PIW that is being rescued to be swung, by the davit boom, to the edge of the vessel.
9. The worm drive side handle, that articulates the boom left and right, can be fit to the opposite side. Call C-Hero® at 415-891-8353 if you need help.

Image K1 7 Series – Swivel in the clear anodized flat mount frame

Image K2 Heli coil example

Flat Mount – Setup *continued*

Davit Boom Assembly

1. **Boom Installation**
   a. Stand the base unit up against the bulkhead.
   b. The side handle is used to move the boom left and right. Use this handle (**Image 3)** to bring the davit boom to the center of the unit. The bottom connection point will be pointing straight away from the davit body.
   c. Take the nut and bolt off of the davit connection point.
   d. Lay the davit boom on the deck with the slot for the tension line facing up (towards the unit).

Tighten with a 5/16" Allen wrench and a ¾" wrench using Never-Seez (Regular Grade or Mariner's Choice).

Image K3 Side handle

Image K4 Boom connected to davit base

2. **Boom Red Tension Line Installation**
   a. Take the pin out of the end of the davit boom.
   b. Prop up the davit boom then grab the red tension line from under the winch plate.
   c. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it shown in **Image K5** below.

Image K5 Tension line around the pin inside of the boom. Cotter pin has been inserted and bent to secure in place.

Flat Mount – Setup *continued*

Lift Line

3. Lift Line Installation

a. Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image K5** on the previous page**.**
b. Check the lift line to make sure that it is not crossed with the tension line.
c. Lead the lift line into front of the rope brake, under the bronze roller.
d. Pull the safety pin, open the brake arm, and the rubber will move out of the way.
e. Use a rolling motion to get the line through the brake.
f. The winch gets loaded clockwise, 4 wraps, over the chrome tailing arm and into the tailing jaws.
g. There should be about 1' of line from the winch. Roll the rubber to line up with the holes, then pin it.
h. Tie an overhand knot on the end of the lift line, to prevent it from running out.
i. Winch handle (**Image K9**) goes into the top of the winch, use thumb lock.
j. Snap the line brake closed. Best practice is to store the winch handle in the winch.
k. **To Stow the Davit Boom**: Fold davit boom up against the winch plate and pin.

NOTE: *The winch and rope brake should always be set before each use, check to ensure the tethered pin is in place with the rubber. The rope brake, when closed, allows the line to be pulled, but not let out.*

Image K6 Line brake open

Image K7 Line brake closed, line wrapped, in the winch jaws. Tailed off the chrome tailing arm and ready to lift.

Image K8 Line released with hand on brake

Image K9 Winch handle with thumb lock

Flat Mount – Setup *continued*

Flat Mount & Boom Height Adjustment

4. **Installation of the Rescue Davit into the mount**
   a. Tether the Rescue Davit if mounted over the water.
   b. Tip the top of the Rescue Davit into the mount and under the top lip. Once engaged at the top, push the bottom of the Rescue Davit into the mount so that it fully seats flush.
   c. Pin the Rescue Davit into the mount with both of the tethered through pins.
   d. Hold the red tension line and release the pins while slowly lowering the davit boom.
   e. Lower the davit boom slowly to its full extension.

NOTE: The red boom tension line is a fixed piece of line that is always connected and depending on the angle of the bitt, may need to be adjusted. This will help ensure the lift line will clear the tires and fenders.

5. **Davit boom height adjustment while in flat mount**
   a. Deploy the davit boom and lift line, and see where the snap hook hangs, it should clear the outboard rubber. ***In most cases a 45-degree angle on the davit boom is optimum***.
   b. The davit boom can be lifted by the red tension line, and slack taken out of it under the winch on the adjusting buttons, as shown in **Image K11**, and the video below.

Image K11 Boom height adjustment, with davit securely installed in the mount. Holding the red tension line, lift the boom to approximately to a 45-degree angle and wrap the red tension line around the tension line adjusting buttons found underneath the winch plate.

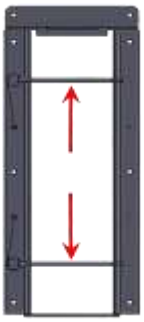


Image K10 - Mount showing top lip and tethered stainless steel pins

Flat Mount – Setup *continued*

Flat Mount & Boom Height Adjustment *continued*

6. Use a figure "8" or round turns around the buttons as shown in **Images K12 & K13.**
7. It may take a couple of times to get the desired angle.

8. Once the boom angle is set, check to make sure the wraps are tight and properly seated. Twist the tension line on one of the buttons to help seat the wraps from not coming off.

Image K12 Beginning wrap to adjust boom height angle

Image K13 Wraps on tension buttons with a half hitch finish

9. The red tension line will get lead through the eye strap under the winch plate. This keeps the tension line centered and always at the ready. This should be completed on deck to avoid losing the bolt.
10. Remove the bolt from the eye strap holding the tension line, found on the end of the underside of the winch plate.
    Use a 5/32" Allen wrench. See **Image K14** below.
11. Loosen the second bolt just enough to be able to swing the eye strap towards the davit boom cradle.
12. Slip the red tension line through the eye strap. Secure the eye strap with the removed bolt and add a drop of Never- Seez® (Regular Grade or Mariner's Choice). Then tighten the remaining bolt. It should look like **Image K15** below.

Image K14 Eye strap, one end unfastened and opened with tension line running through it

Image K15 Eye strap refastened with the tension line running through it

Flat Mount – Setup *continued*

13. Tethers & Examples

Image K16 Tether Line (shown in green) not included

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate**.** See **Image K16.**

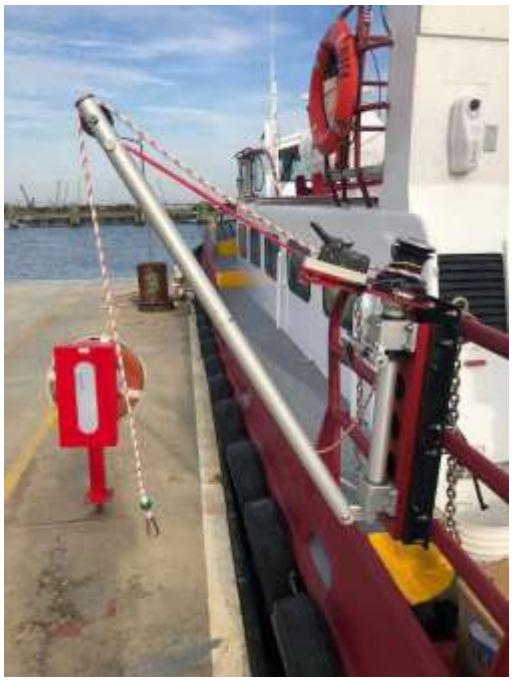


Image K17 Flat Mount rescue davit, on a crew boat, secured with stainless steel U bolts on a sturdy railing

Image K18 Flat Mount rescue davit on a passenger ferry boat

14. The Flat Mount Rescue Davit One Time Adjustments Are Now Complete

a. The Rescue Davit location and location of the davit mount should be visibly posted.
b. Moving a Davit from one boat to another? Refer to the manual for setup.
c. The best practice is to store the handle in the winch.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. The Rescue Davit, if mounted over the water, needs to be tethered first. Tether is not supplied.
3. The winch handle should already be inserted into the top of the winch.
4. Tip the top of the davit into the mount and under the top lip. Push the bottom of the davit flush into the mount and insert the two tethered through pins.
5. Hold the red tension line and release the storage gate pin all while slowly lowering the davit boom.
6. Connect the lift line snap hook to the Rescue Pole's steel triangle and secure the lift line to the pole's V-cleat.
7. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
8. If more lift line is needed, it is ok to take additional line off the winch but not out of the line brake.
9. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
10. When the PIW is ready to be lifted, pull the slack out of the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws. Snap the line brake closed, if not already, as shown in **Image K19**.

11. If the Flat Mount Rescue Davit is mounted to a bulkhead, the winch handle will need a ratcheting action as opposed to full rotations. Winch up the PIW until the green stopper ball touches the end of the boom tip.
12. Use the side handle to move the PIW to the side of the vessel.
13. Once the PIW is at the side of the vessel and if more clearance is needed, continue to crank the winch that will lift up the boom and elevate the PIW. To lower the PIW on the deck, leave the wraps on the winch, open the line brake as shown in **Image K20** and carefully ease the line off the winch to lower.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Image K19 Line brake closed, line wrapped in winch jaws & ready to lift

Image K20 Line brake open

Operation *continued*

14. Rescue & Detach

Image K21 Use side crank to swing boom and PIW over towards the deck. You can continue to crank the winch to elevate the boom further if more clearance is required *Bitt Mount shown but Flat Mount PIW retrieval identical*

15. See **Image K21** above for what a typical 7 Series MOB retrieval looks like.

⚠ ***Never open the line brake with a load on the lift line without wraps on the winch.***

Detach From Mount:

A. Always use your legs when lifting and not your back.
B. Center the davit boom arm while still secured within the flat mount. Use the red tension line to lift the davit boom and secure into the davit gate with the tethered pin.
C. The Rescue Davit can be left in place within the mount or taken off and stowed in a locker close by. We recommend a cover (available) to keep the unit out of the weather.
D. Make sure the tether remains on the Rescue Davit while it is over the water.
E. The Rescue Davit boom should be centered over the water before stowing. The lift line should be loaded on the winch with about 1 foot of line run out after it. The line should be coiled and neatly and ready for use.
F. Pull both tethered through pins out of the davit mount.
G. Taking a firm hold of the Davit body, with the boom attached, and move the bottom of the davit out of the mount.
H. Take the tether line off of the Rescue Davit once it is safe to do so.

NOTES:

a. Do not hang the unit horizontally, with it hanging on the davit boom gate.
b. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover, in which case, you will store the winch handle in that cover.
c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
3. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
4. Inspect all top of winch plate line rollers and lubricate as necessary.
5. Inspect and lubricate all bolts with Harken® White Winch Grease (or equivalent).
6. See Image 1.
7. Inspect and lubricate both the spindle and worm gear. See Image 4.

Image K22

Image K23

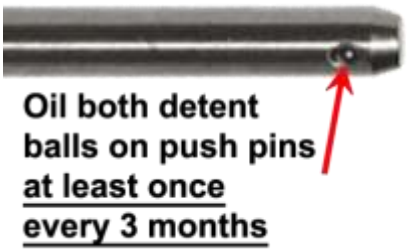


Image K24

Image K25

Inspection – Every Three (3) Months

1. Complete monthly inspection as described above.
2. **Image K23 -** Apply one drop of *McLube OneDrop Ball Bearing Conditioner & Lubricant* to the tethered pins found on the Flat Mount itself.
3. **Image K25-** Inspect and lubricate both the spindle and worm gear.

Inspection – Every Six (6) Months

1. Complete both monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, winch plate shock, davit mount and cover.
4. **Image K25 -** Inspect and lubricate both the spindle and worm gear.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect the overall condition of the Rescue Davit and log.
3. **Image K22** - Lubricate the *Harken®* winch as outlined in the HARKEN PAGE included towards the end of this manual. Be sure to use *Harken White Winch Grease (or equivalent).*
4. **Image K23** - Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.*
5. The *Spinlock® rope* clutch requires to be lubricated with *WD-40®* silicone spray.
6. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts and latch clamps.
7. **Image K25** - Inspect and lubricate both the spindle and worm gear.

Inspection & Storage *continued*

Storage – Between Deployments

1. **Best practice:** Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
2. Do not hang the unit horizontally, with it hanging on the davit boom gate.
3. Store out of the sun if at all possible.

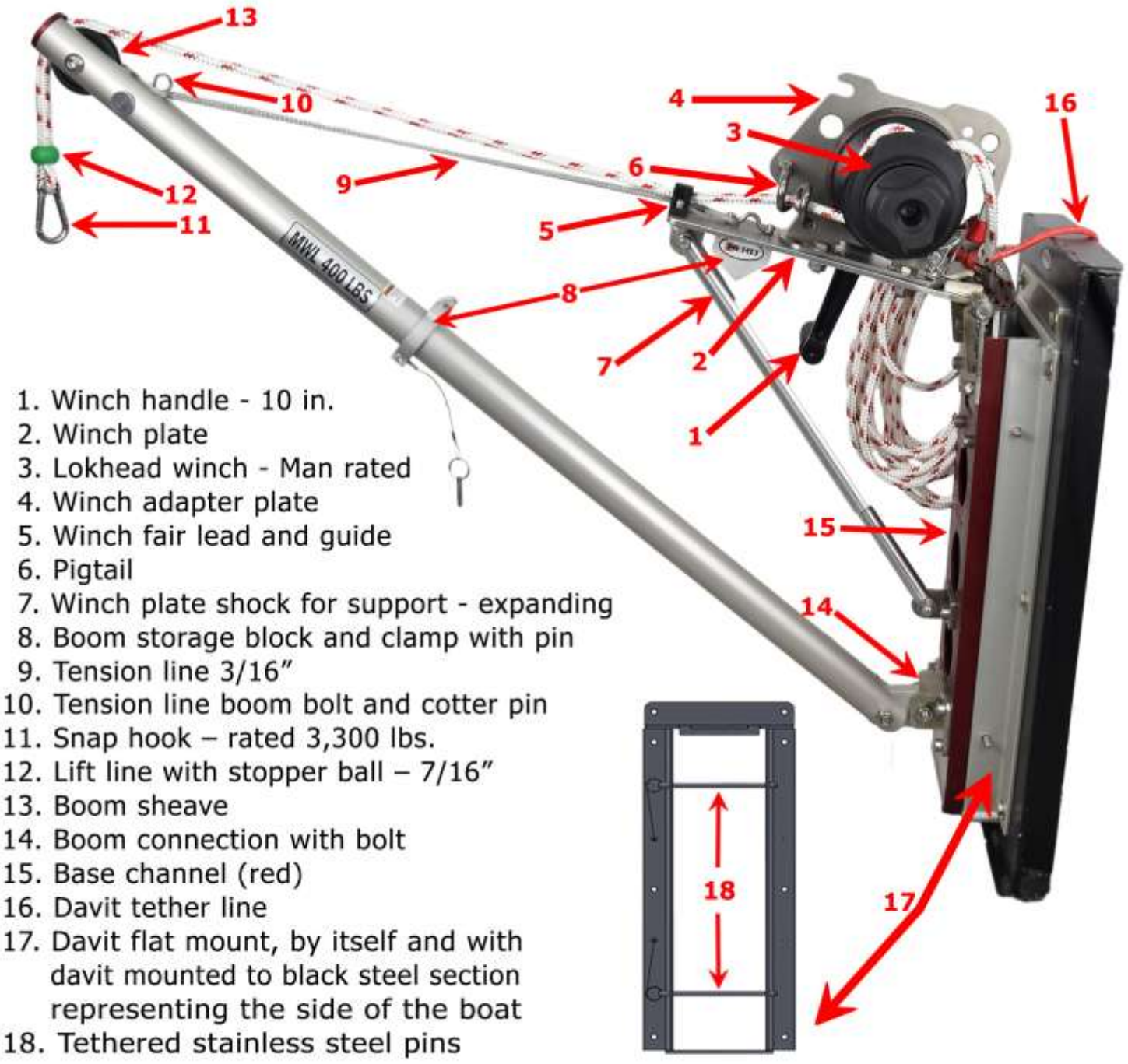
Image K26 Available davit cover

Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit into the mount, and deploy the davit and swing outboard.
6. Get the Rescue Pole ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line on a bitt not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole's strap and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line brake is closed, then winch up the rescue dummy.
12. On a 7 Series - Swivel series C-Hero® Davit, use the side handle to swing the rescue dummy to the side of the boat and bring it back aboard.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

9R – Series 9
Flat Mount Davit
MWL 400 lbs.

Product & Major Parts List



1. Winch handle - 10 in.
2. Winch plate
3. Lokhead winch - Man rated
4. Winch adapter plate
5. Winch fair lead and guide
6. Pigtail
7. Winch plate shock for support - expanding
8. Boom storage block and clamp with pin
9. Tension line 3/16”
10. Tension line boom bolt and cotter pin
11. Snap hook – rated 3,300 lbs.
12. Lift line with stopper ball – 7/16”
13. Boom sheave
14. Boom connection with bolt
15. Base channel (red)
16. Davit tether line
17. Davit flat mount, by itself and with davit mounted to black steel section representing the side of the boat
18. Tethered stainless steel pins

Image L1 - Product and Major Parts List

Flat Mount – Setup

One Time for the Vessel

Supplied Winch handle, lift line with stopper ball and snap hook, boom, tension line & connecting hardware. Flat mount frame with (2) two tethered pins.

Tools & Supplies Needed: 3/4" box wrench**,** Allen wrenches: 5/32" & 5/16", (8) eight 3/8" stainless steel bolts, or stainless steel U-bolts (handrail installation), pliers, NEVER•SEEZ® (Regular Grade or Mariner's Choice), LOCTITE® and a small diameter line for tethering to prevent davit from going overboard.

I. **Installation Of The Flat Mount**

- **a.** Determine the best location for the Flat Mount Rescue Davit, considering that it needs to be strong enough to support the loads, your company engineer, or boat architect **must** be involved and approve the mounting location and procedure.
- **b.** Attach mount with (8) eight 3/8" bolts or with U-Bolts if mounting to a handrail or railing what will adequately handle the load. Stainless steel bolts are required to comply with up to 400 lb. MWL. Bolts are not supplied.
- **c.** Additionally, the thread connection strength can be increased by using a Heli coil when blind threading. See **Image L3** below**.**
- **d.** If your vessel manufacturer or company engineer cannot assist with mounting questions you may have, call C-Hero®.
- **e.** The mounting should take into consideration the Flat Mount's standard 4'-3" long davit boom. Mount as high as possible, approximately shoulder height, and close to the vessel's edge.
- **f.** A 6'-8" long davit boom is available but only if the mounting to the vessel will support it.

Image L2 - 9R Davit mounted

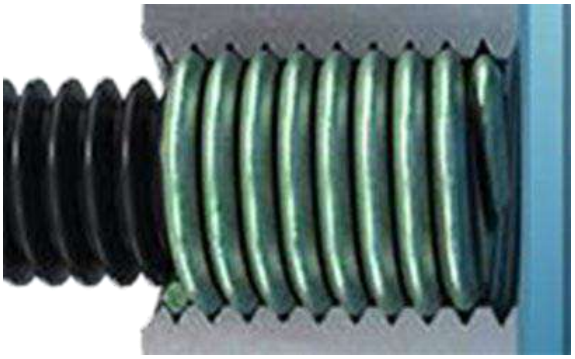


Image L3 - Heli coil example

Flat Mount – Setup *continued*

Davit Boom Assembly

2. Boom Installation
   - **a.** Stand the base unit up against the bulkhead.
   - **b.** Take the nut and bolt off the davit connection point. Lay the davit boom on the deck (**Images 3 & 4**), with the slot for the tension line facing up (towards the unit).
   - **c.** Tighten with a 5/16" Allen wrench and a ¾" wrench using Never-Seez® (Regular Grade or Mariner's Choice).

Image L4 - Boom connected to davit base

3. **Boom Red Tension Line Installation**
   - a. Take the pin out of the end of the davit boom.
   - d. Prop up the davit boom then grab the gray tension line from under the winch plate.
   - e. Place the eye of the red tension line in the slot and then pin it. Bend the cotter pin to secure it as shown in **Image L5** below.

Image L5 – Gray tension line is attached below the red/white lift line

Flat Mount – Setup *continued*

Lift Line

4. **Lift Line Installation**
   - **a.** Thread the lift line with stopper ball and into the sheave at the end of the davit boom. As shown in **Image 5** on the previous page.
   - **b.** Check the lift line to make sure that it is not crossed with the tension line.
   - **c.** Lead the lift line into the fairlead at the end of the winch plate.
   - **d.** Thread the line into the pigtail before the winch.
   - **e.** The winch gets loaded clockwise, 3 wraps, over the chrome tailing arm and into the tailing jaws.
   - **f.** There should be about 1' of line from the winch.
   - **g.** Tie an overhand knot on the end of the lift line, to prevent it from running out.
   - **h.** Winch handle goes into the top of the winch, use thumb lock.
   - **i.** Move the winch plate up till it stops, pull the gray tension line and secure the boom at the end of the winch plate with the pin.

5. **Proper Loading of the Lokhead Winch**

Step 1 - Pass the lift line inside the pigtail. Starting from the base, wind the line clockwise on the drum as shown in **Image L6**.

Step 2 - 3 wraps on the winch clockwise, ensuring the line doesn't override the winch, and over the chrome tailing arm as shown in **Image L7**.

Step 3 - Use your hand to move the cover, and place the line in the jaws, all the way around. The cover is shown in **Image L7**.

Image L6 – Lift line is through the pigtail and completing the first wrap around the drum.

Image L7 - 3 wraps on the winch clockwise, ensuring the line doesn't override the winch, and over the chrome tailing arm.

Flat Mount – Setup *continued*

Flat Mount & Boom Height Adjustment

6. **Installation of the Rescue Davit into the mount**
   - **a.** Tether the Rescue Davit if mounted over the water.
   - **b.** Tip the topo f the Rescue Davit into the mount and under the top lip. Once engaged at the top, push the bottom of the Rescue Davit into the mount so that it fully seats flush.
   - **c.** Pin the Rescue Davit into the mount with both of the tethered through pins.
   - **d.** Hold the gray tension line and release the pin while slowly lowering the davit boom.
   - **e.** Lower the davit boom slowly to its full extension.

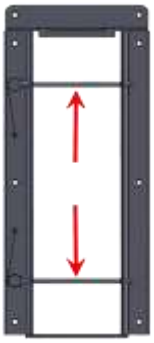


Image L8 - Mount showing top lip and the tethered stainless steel pins

NOTE: ***The gray tension line is a fixed length piece of line, with no adjustments needed. If more angle is needed, call c-hero for another tension line length.***

Image L9 – Winch handle, attached to the winch. Note the spring thumb lock to put handle on and off

Image L10 – Close-up of davit folded up & pinned

Flat Mount – Setup *continued*

7. Tethers & Examples

Image L11 - Tether Line
(shown in red) not included

Note: C-Hero® strongly recommends connecting a tether (not included) to the hole under the winch plate or around the winch plate.
See Image L11.

Image L12 - Davit Laying down, ready to be carried by the 2" boom.

Image L13 – Boom folded up and mounted

8. The Flat Mount Rescue Davit One Time Adjustments Are Now Complete

a. The Rescue Davit location and location of the davit mount should be visibly posted.
b. Moving a Davit from one boat to another? Refer to the manual for setup.
c. Best practice is to store the handle in the winch.

Operation

Attach, Deploy & Rescue

1. ***Always use your legs when lifting and not your back.***
2. The Rescue Davit, if mounted over the water, needs to be tethered first. Tether is not supplied.
3. The winch handle should already be inserted into the top of the winch. Do not insert the winch handle over the water.
4. Tip the top of the davit into the mount and under the top lip. Push the bottom of the davit flush into the mount and insert the two tethered through pins.
5. Hold the gray tension line and release the storage gate pin all while slowly lowering the davit boom.
6. Connect the lift line snap hook to the Rescue Pole's Strap steel triangle and secure the lift line to the pole's V- cleat.
7. Use the Rescue Pole to steady the person in water (PIW) at the lowest part of the vessel if possible.
8. If more lift line is needed, it is ok to take the line off the winch and tailing jaws.
9. Deploy the Rescue Pole's strap and put it over the PIW (or dummy if a drill) and under the arms, as close to the armpits as possible. Hold the lift line and push the pole in a quick and firm motion to tighten and secure the one-way slide buckle.
10. When the PIW is ready to be lifted, pull the slack out at the winch. Before lifting, check that the wraps on the winch aren't crossed, that the line is over the chrome tailing arm and in the jaws.
11. The 9 series includes a Lockheed winch. Winch the PIW up using the winch handle. When the green stopper ball is at the davit end, continue to lift the PIW.
12. Once the green stopper ball lifts the boom and the winch plate to the stops, the PIW will be at the highest position, directly in front of the Rescue Davit and able to be pulled onto the boat.
13. Then twist the brake knob **clockwise** on the opposite side of the winch handle, carefully ease the line out as shown in **Image L15**.

Image L14 - Correct way to load the winch, and ready

Image L15 - Twist the brake knob clockwise to ease line out slowly

Image L16 – WRONG: Lift line is not over the tailing arm, compare to L14

Operation *continued*

Rescue & Detach

Image L17 - Davit boom folded up & pinned

Detach From Mount:

1. ***Always use your legs when lifting and not your back.***
2. Move the winch plate up till it stops, pull the gray tension line and secure the boom at the end of the winch plate with the pin.
3. The Rescue Davit can be left in place within the mount or taken off and stowed in a locker close by. We recommend a cover (available) to keep the unit out of the weather.
4. Make sure the tether remains on the Rescue Davit while it is over the water.
5. The lift line should be loaded on the winch with about 1 foot after. The line should be coiled and neatly and ready for use.
6. Pull both tethered through pins out of the davit mount.
7. Taking a firm hold of the Davit body, with the boom attached, and move the bottom of the davit out of the mount.
8. Take the tether line off of the Rescue Davit once it is safe to do so.

NOTES:

a. Best to not stow davit hanging on the davit gate, but fine to carry using the boom as a handle.
b. Best practice: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional bulkhead mount and cover. You will store the winch handle in that cover.
c. Moving a Rescue Davit to another boat? Refer to the manual for setup.

Inspection & Storage

Inspection – After Each Monthly MOB Drill

1. Rinse and inspect the overall Rescue Davit.
2. Check that the cotter pin is bent at the pin securing the tension line to the end of the boom.
3. Check tension, lift and tether lines for damage and/or fraying. If any are found to be unsatisfactory, report them for replacement.
4. Inspect all top of winch plate line rollers and lubricate as necessary.
5. Inspect and lubricate all bolts with *Harken® White Winch Grease (or equivalent).* See **Image L18.**

Image L18

Image L19

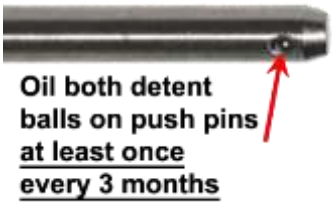


Image L20

Inspection – Every Three (3) Months

1. Complete monthly inspection as described above.
2. Apply one drop of *McLube OneDrop Ball Bearing Conditioner & Lubricant* to the tethered pins found on the Flat Mount itself. See **Images L19 and L20**.

Inspection – Every Six (6) Months

1. Complete both monthly inspections as described above.
2. Inspect the tension line, lift line, and lift line snap hook.
3. Inspect the winch plate line rollers, davit boom bolts, end of boom sheave, winch plate shock, davit mount and cover.

Inspection – Annually

1. Complete all monthly inspections as described above.
2. Inspect the overall condition of the Rescue Davit and log.
3. Lubricate end of boom sheave with *McLube OneDrop Ball Bearing Conditioner & Lubricant.* See **Image L18**.
4. The eTraining class on the Lokhead for the annual inspection, or to a dealer.
5. Check all lines for damage and/or fraying. Check all bolts, tension line adjustment buttons, tension eye strap bolts.

Storage

1. **Best practice**: Leave the winch handle in the winch using the thumb lock and keep the system ready unless you are using the optional cover. You will store the winch handle in that cover.
2. Best to not stow hanging on the davit gate, but fine to carry using the boom as a handle.
3. Store out of the sun if at all possible.

Man Overboard Drills

1. The United States Coast Guard requires Man Overboard drills to be performed as if it is an emergency, and your company safety program will specify frequency. We always recommend using a rescue dummy for drills, you should not have a crew member get in the water.
2. Someone immediately advises the wheelhouse that there is a rescue dummy in the water.
3. The wheelhouse sounds the general alarm, and 3 prolonged blasts on the ships whistle. Manually push MOB on the chart plotter. Use the loud hailer to let the crew know there is a man overboard.
4. Stop the boat.
   a. If applicable let traffic know your intentions on Ch. 13.
   b. The deckhand goes on deck with PPE, a handheld VHF to a prearranged Ch., and directs the Captain to the rescue dummy, and gets the boat close.
   c. While the boat is headed back to the rescue dummy, and you are keeping an eye on the rescue dummy is the time to ready the pole and lifting source.
5. While the boat is maneuvering back to the rescue dummy, put the C-Hero Rescue Davit the mount, and deploy the davit.
6. Get the Rescue Pole's strap ready, by checking the following:
   a. The strap is loaded correctly
   b. All connections are tight, including the connection of the two pole sections
   c. The V-cleat is lined up with the Slide Buckle and holder
7. Deploy a life ring and use it to get the rescue dummy alongside if the boat can't get closer. Tie off the line at the bitts not being used.
8. Connect the lift line snap hook to the Rescue Pole triangle, then put the line into the V-cleat.
9. Deploy the Rescue Pole's strap and put it over the rescue dummy and under the arms, as close to the armpits as possible.
10. When in place, hold the lift line firmly, and push the pole towards the rescue dummy. Always stay inside the bulwarks for safety.
11. Remove the pole from the rescue dummy, then pull the slack out at the Rescue Davit winch. Make sure the line is over the tailing arm, and in the jaws.
12. On a 9 Series C-Hero® Davit, continue to crank the winch until the winch plate tops, bringing the boom arm almost vertical, allowing to grasp and bring the rescue dummy back aboard.
13. Discuss company protocol for shock, injuries, or hypothermia of a recovered person as if this were a real emergency with a PIW.

Safety Warnings

General for all C-Hero® Rescue Equipment

Basics:

1. Always use your legs when lifting, not your back.
2. Make sure everyone has completed eTraining
3. Only use for its intended use, MOB Water Rescue
4. In bad weather try to expedite recoveries, sometimes you only get one shot at it
5. Do not use any unauthorized lines or parts
6. Always be safe on deck when rescuing someone, wearing your PPE
7. This equipment is for a designated boat, C-Hero® needs to know if moved to another boat
8. Only use original parts for the unit, available through C-Hero®
9. Be aware of the length of the davit when carrying to the bitt or mount, as to not damage anything.
10. Always use a rescue dummy for drills, and not a crewman

Rescue Poles:

1. Do not attach the lifting strap around the neck or abdomen for the lift, to avoid injury or death!
2. When using The Rescue Pole, be careful to not hit the PIW's head with hoop
3. Practice with the pole to ensure, that the crew can get the strap under the arms
4. Always tether the pole (Not included**)**

Rescue Davits:

1. Never open the line brake with load on the line without wraps on the winch.
2. Ensure that the Bitt Mount Davit has a good solid fit on the bitts, fits evenly, and is secure before use
3. Ensure that the Flat Mount Davit is securely in the mount, with the tethered pins inserted
4. Tie off unit near the bitt or mount with the tether before putting it on, so as to not lose it overboard
5. Do not lift past the lift line stopper ball, unless next to the boat
6. Contact C-HERO® if any damage has occurred to Rescue Davits
7. When using Flat Mount Davit against a bulkhead, watch pinch point on fingers

Winch (See Harken® page):

1. Read the Maintenance of winch and line brake, and only use appropriate lubricants
2. Make sure the line brake is closed before use. Do not use if lines are frayed
3. Hands:
4. Always keep hands away from the worm and spindle gears, and the vertical spindle
5. Keep hands and fingers clear of the davit gate, pinch point
6. Keep hands and fingers out of the way when tightening latch clamps
7. When using tension line buttons, be sure that the wraps are seated, with a half hitch

Inspections:

Inspect all lines, equipment, nuts, and bolts periodically to ensure safe use

WARRANTY WARNING: IMPROPER OPERATION

The C-Hero® warranty does not cover the improper use, nor the use without completing eTraining, of any C-Hero® products. This includes but is not limited to faulty maintenance, disassembling, and/or opening. Some items such as lines, web straps, and rubber holding blocks are not warranted for normal wear and tear, nor for excessive sun and exposure damage, and will need to be replaced periodically based upon storage methods used.

Troubleshooting

1. Rescue Poles

A. Pulled on the lift line and the strap didn't tighten, it just pulled out of the hoop.
The lift line is not to be pulled, but first held firmly, and then you push the pole.

B. The V-cleat is in the wrong position to work with the lift line.

The second pole that has the V-cleat on it needs to be turned so the V-cleat is in the same position as the slide buckle holder. Pull the pin and rotate.

C. The slide buckle falls out of the holder.
From time to time the Slide Buckle holder will need adjusting.
Use a 7/16" wrench on the nuts on the side nuts of the holder, check that it's not too tight.

D. After putting the lift strap on, couldn't get the pole out so it came up with the PIW.
The pole was used upside-down, and in that case, you can only take it off over the feet or bring the PIW up with the pole.

E. Dropped the pole, and it got lost in the current.
The end of the pole has a hole for a small tether line to prevent this. The line can be tethered to the vessel or the recovery person.

F. The bow is high, and it makes it hard to see the PIW for recovery.
Most tractor tugs have a high bow, walk back aft and use the pole where it's easier. A longer line is available if needed.

G. What if the lifting strap continues to tighten?
The lifting strap cannot tighten itself, it's a closed loop, the pole is just pushing a one-way slide buckle, to tighten the strap.

H. The lifting strap comes out of the rubber blocks too easily.
The lift strap must be put all the way in the rubber blocks, and under the lip on all blocks.

I. When using the Rescue Pole with Recovery Strap, the small web strap, was slack and in the way.
The Recovery Strap with the handles must be loaded around the Slide Buckle holder.

J. The Lifting Strap is hard or sunbaked, and it doesn't work very well.
The hoop at least should be stowed out of the weather and sun. A UV cover is available to lengthen the life span of the parts. Monthly inspections and a freshwater rinse will help also.

2. Rescue Davits:

A. The bitt mount won't fit my boat.
The base of the mount is fully adjustable and should fit all boats. The back feet move up and down, and the top strap can be moved down. The straps can be tightened with the over center clamps.

B. The bitts on my boat are angled, and the boom won't reach past the tires.
The angled bitt only affects the boom angle, if the red tension line is all the way extended and it still doesn't work, a longer tension line is needed.

C. The davit boom is too low.
The Rescue Davit comes with one size tension line. The boom will need to be lifted and adjusted by the red tension line.

D. The davit doesn't fit tightly against the bitt.
The top of the bitt probably has a flange and needs to be trimmed where the davit fits.

E. The top strap was moved to the lower spot, and the davit rocks on the bitt.
The top back feet need to be moved, so they make contact with the bitt. Use a 5/32" Allen wrench, to move them, if small feet are being used.

F. The top strap is too tall to connect with the bitt.
Bitts over 23" tall needs to have the top strap moved to the lower position. Use a 5/16" Allen and 3/4" box wrench, for the strap. The clamp is moved with a 5/32" Allen wrench.

G. The forward bitt is best for the wheelhouse to see, but too hard to use the pole.
The deck crew should be using a VHF radio on deck and walk aft while keeping the wheelhouse posted, then the PIW lifted up at the forward bitts.

H. After the PIW is at the side of the boat, they are too low to get back aboard.
The PIW should be lifted to the green stopper ball, then top the boom to bring the PIW closer.

I. The line brake won't hold the line from going out.
The line should be in the tailing jaws on the winch, and the line brake isa secondary. The line brake handle needs to be snapped down and closed.

J. The lift line on the winch requires extra help to keep the line out of the way.
The line should be wrapped over the tailing arm and into the jaws, so that it will self- tail.

K. The winch doesn't work, or it's just too hard to move while under a load.
The winch needs to be wrapped 4 times, so it doesn't slip. A 35:1 winch is available.

L. The worm gear has some rust on it, but still works.
The worm gear is mild steel and needs to be kept lubricated. Stainless gears would not work smoothly. Covers are available to keep everything out of the weather.

Snap Replacement

Instructions for Removing a Snap

1. Hold the snap with pliers or put it in a vise, the vise is easiest because the snap doesn't require a lot of pressure. You just want to keep the snap from spinning.
2. Use a 3/16" drill bit in either a hand drill or a drill press, hold the snap from moving and slowly drill the snap, as shown in Image 1. The snap acts like a rivet, so you're drilling out the part of the snap that has been rolled over for holding.
3. Remove the old snap.

Image 1

Instructions for Installing a Snap

1. Lay the strap out so there are no twists. Make sure your putting the snap in like the other ones.
2. Take the snap button with the plastic washer already on, and insert into the hole.
3. Put the base of the snap tool so that it's on a firm base, put a piece of steel under it.
4. Refer to Image 5 on how the tool is used, put the snap into the smooth concaved base of the tool.
5. Place the snap socket (female part) on to the shaft of the snap, as shown in Image 4.
6. Refer to Image 5 on how to place the tool and where to hold and hit the tool. Use a heavy mallot, carefully so as to not hit your hand. Hit the tool about 8 times while holding the tool straight.
7. Check to make sure it holds, after installing on the hoop.

Image 2

Image 3

Image 4

Image 5

Life Jacket Primer & MOB Survival

Think of your life jacket as a good shipmate that looks after you.

Companies require a life jacket to be worn when on the deck or around the water but should be viewed as **your survival** tool. When the question comes up, "What's the best lifejacket?" The one you **WEAR** is always the right answer. Thinking carefully about your life jacket usage before getting onboard can be a lifesaver.

This can also be part of a safety meeting or an MOB drill, which includes talking about and inspecting each other's lifejackets.

The only real chance for survival, is to be wearing your lifejacket,
but here are some important considerations:

Lifejackets

1. Do not make the mistake of wearing it just because the company says you must.
2. You are going to spend many hours with your life jacket on, so pack it right and be comfortable.
3. Companies usually supply a standard lifejacket with a strobe light. Some companies have rules about not using auto inflated collars, even though they can be easier to wear and less bulky, so keep your company's policies in mind if you want to buy a particular jacket.
4. Lifejackets that have pockets are easier to store signaling devices.
5. Secure each item such as a signal device, flashlight, pocket flares, or a whistle etc. with web straps or light line sewn onto the life jacket.
6. The strobe light should be a water activated type because it will signal even if you are knocked unconscious.
7. Rescue beacons are very helpful, and if you have a MOB alarm, all the better.
8. An MOB alarm like an ALERT is water activated and will go off immediately upon hitting the water. This will signal to the wheelhouse that someone is in the water.
9. Choose your lifejacket or pack the one that was issued to you with the things that can help you. This is something that should be taken seriously, and it's worth getting "right."
10. Make sure to check all batteries (MOB alarm, and strobe light), and inspect the lifejacket annually. Practicing with your lifejacket in a pool may sound funny, but it's worth getting acquainted with it and making sure it all works for you. The time and effort you put into this will be worth it because your life could depend on it.

MOB Survival Tips

The first minute in the water your PIW will go through the cold-water effect and start to shiver and adjust to the shock. Don't panic, just keep your head above water and control your breathing.

1. Signaling is the best (if at night use a flashlight, or a pencil flare, by day use a mirror).
2. Kicking off your boots will help you to swim, and also help in the recovery process.
3. Hypothermia can take from 10 minutes to 1 hour for it to take full effect, depending on the water temperature; and consciousness is lost.
4. Curl your PIW up into a ball and try to stay warm.

1. Set-up

a. Take the line from the lift line brake, which it just ahead of winch
b. Take four wraps clockwise
c. Lead the line over the tailing arm, and place the line into jaws at the top of the winch
d. Look carefully to make sure they're stacked neatly and not crossed
e. Pull on the line to tighten them up until there's resistance, leaving 1 foot to the bitter end
f. Make SURE the Harken® winch handle is seated and locked
g. 20ST winch handle rotates counter-clockwise
h. Optional 2-speed 35ST winch handle rotates both directions - 35:1 clockwise, and 19:1 counter-clockwise

2. Maintenance

Washing

a. Winches must be washed frequently with fresh water, and in any case, at least after each use.
b. Do not allow teak cleaning products (or other cleaners containing caustic solutions) to come into contact with winches and especially anodized, chrome plated or plastic parts.
c. Do not use solvents, polishes or abrasive pastes on the logos or stickers on the winches. Do not use polishes or abrasive pastes on anodized, chrome plated or plastics surfaces.
d. Make sure that the holes and drainage channels in the base of the winch are not obstructed so that water does not collect.

3. Maintenance Schedule

Winches must be visually inspected at least twice per year. In addition, they must be completely overhauled and cleaned. Use Harken® White Winch Grease at least very 12 months. After an inspection, replace worn or damaged components. **Harken Manual Online**. Do not replace or modify any part of the winch with a non original part.

4. Warning! 

Periodic maintenance must be carried out regularly. Lack of adequate maintenance shortens the life of the winch, can cause severe injury and invalidate the winch warranty. Installation and maintenance of winches must be carried out exclusively by specialized personnel. In the case of doubt contact Harken® Tech Service at **techservice@harken.it**

Spinlock XAS Line PowerClutch Operation and Maintenance

Operation of the XAS Line PowerClutch (Lift Line Brake)

1. Lift lever to release the brake
2. Insert lift line coming from the davit sheave into the line hole
3. Feed line through the PowerClutch and then pull out enough to load winch properly
4. Press down the brake lever, when ready for use
5. To lower someone, or if more slack is needed. make sure enough wraps are on the winch, then lift handle
6. Push handle forward against the rubber stop.

Safety Rules

1. Control release safely by checking snubbing the line on the winch drum
2. Never flick open the brake lever when clutch is heavily loaded, sudden and release may cause injury, as well as damage to the line, rig, and clutch
3. Use braided fiber line only (never use three strand or wire line)
4. Never use the clutch if damaged
5. Never use a clutch with a damaged line
6. Never use cleaning or lubricating solvents, polysulfide or polyurethane cased sealants: they degrade the product.
7. Do not modify any part of the clutch
8. Always use hand protection.
9. The maximum load achievable in practice is a function of line diameter and construction: generally bigger and firmer line has better load holding

Maintenance

This PowerClutch is made from the best quality materials for durability and low maintenance in the harsh marine environment.

1. Flush regularly with fresh water and apply a silicone spray or grease spray solvents type "WD-40".
2. Use of the wrong lubricants will degrade and weaken the molded composite components and can cause sudden structural failure. They will also degrade the bearing properties of composite bushes. Assurance To help ensure a long working life for every Spinlock product we supply easily installed parts and performance upgrades through Spinlock stock lists worldwide.

Man Overboard Rescue Equipment Drills and Maintenance					
Date	DRILL	MAINT	OTHER	Initials	Details, Notes, Etc.

DECATUR MARINE

AUDIT & SURVEY

Type Approval Certificate

Pursuant to good engineering practice, Decatur Marine has assessed the design of the below identified equipment and reviewed the equipment for conformance with Section 2.1

Operational Readiness of IMO Resolution A520(13) ***Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements***.

Decatur Marine makes no representations regarding type approval of the product in general or of conformance with any other guidance promulgated by the International Maritime Organization (IMO), provisions of SOLAS or the LSA Code promulgated after the date of this certificate.

Due to a wide variety of specifications, the manufacturer has full responsibility for continued compliance and conformance with any and all standards.

C-Hero

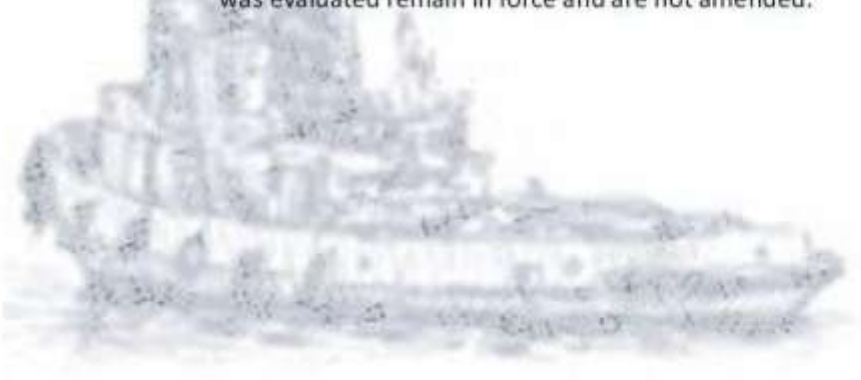
Model: VR-12 Rescue Pole and Rescue Davit

Presented to:

C-Hero
336 Bon Air Center, Suite 115
Greenbrae, CA 94904

Cert No: DM-TA-2018-001 **Date: 27 November 2018**

Intended Service:	General use on vessels with lower freeboards. This product may not be used as a replacement for any Life Saving Appliances required by the vessel's Flag Administration.
Service Restrictions:	General use on vessels with lower freeboards. This product may not be used as a replacement for any Life Saving Appliances required by the vessel's Flag Administration.
Comments:	This evaluation is not on behalf of any Flag Administration and this certificate is not issued based on any delegated authority. Application and use are to be to the manufacturer's instructions and the limitations set forth herein.
Term of Validity	This attestation is valid so long as the IMO documents against it was evaluated remain in force and are not amended.



Philip J Carmichael
Technical Director

Decatur Marine has used due diligence in the preparation of this certificate and it represents the information on the product supplied by the manufacturer as of the date and time the certificate was issued. This assessment was completed based on the supplied manufacturer's drawings and manuals. Decatur Marine cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; This assessment does not waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel.