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OWNER'S MANUAL

POWER-POLE® SIGNATURE SERIES – BLADE EDITION SHALLOW WATER ANCHOR

Installation Operation Maintenance



CAUTION: Read this owner's manual carefully. Become familiar with the controls, and know how to operate the Power-Pole shallow water anchor system safely.

US Pat No. 6,041,730

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Installation Tools

- 1/2" & 9/16" wrenches
- 1/2" & 9/16" sockets with ratchet
- electric or battery operated drill
- heat gun
- 4' foot straight edge
- marine grade sealant
- fine point marker
- tape measure
- wire cutters
- wire strippers
- wire terminal crimpers
- razor tubing cutter or utility razor blade
- small funnel
- 7/64", 9/64", 5/16", & 11/32" drill bits
- #2 Phillips-head bit or screwdriver

Hardware

- Qty(4) 5/16" x 3.5" all-thread transom mount bolts
- Qty(4) 5/16" neo-bond washers
- Qty(4) 5/16" fender washers
- Qty(4) 5/16" tall brass nuts
- Qty(2) 3/8" x 3/4" bolts
- Qty(2) 3/8" neo-bond washers
- Qty(2) #6 x 3/4" pan head screws
- Qty(4) #10 x 3/4" pan head screws
- Qty(1) rubber pump gasket
- Qty(2) ring connectors
- Qty(2) thru-hull bushings
- Qty(3) marine cable ties
- Qty(1) 5' black mesh tubing cover

Questions? We're here to help.

Call our technical support staff. [(813) 689-9932 option 2]

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Step 1: Choose Power-Pole® Shallow Water Anchor Mounting Location

Transom mounting

Vertical Positioning

A. Place a straight edge on the bottom of the hull directly below and centered from the desired mounting location. The lowest point of the Power-Pole shallow water anchor must be at least 4" above this straight edge.

-Note: If the Power-Pole shallow water anchor is mounted lower than the 4" minimum, the vessel may experience adverse handling effects. (See Image #1) **FPO_Image_#1**

Clearance

A. If the vessel is equipped with trim tabs that measure 9" or less in length, the standard 4" minimum mounting height will be sufficient. If the trim tabs are larger than 9", the Power-Pole shallow water anchor will need to be mounted higher up on the transom to prevent interference.

B. While holding the Power-Pole shallow water anchor in place, turn and tilt the motor as far as possible toward the unit. With the motor turned toward the unit, manually move the Power-Pole shallow water anchor through its entire range of motion to verify clearance.

C. Once clearance has been verified on the exterior portion of the vessel, check for adequate space on the inside of the transom mounting area. Make sure that the bolts will not have any obstructions, and that you will have plenty of space to tighten the 5/16" tall brass nuts.

Adapter plate mounting

A. If there is no suitable mounting location on the transom, your vessel will require an adapter plate.

B. We offer adapter plates to accommodate a wide variety of applications. Please contact one of our authorized dealers or a member of our sales staff for an adapter plate recommendation. [(813) 689-9932 option 1]

Step 2: Mounting the Power-Pole Shallow Water Anchor

Transom mounting

A. Once the mounting location has been selected, place the stern bracket against the transom, and mark the mounting holes with a fine point marker.

B. Carefully drill pilot holes in each of the four marked locations with a 9/64" drill bit. Then, drill out each of the four pilot holes with a 5/16" drill bit.

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C. Once all of the holes have been drilled, apply a liberal amount of marine grade sealant between the stern bracket and the hull, as well as around the 5/16" holes.

D. With a 1/2" wrench and 1/2" socket, fasten the stern bracket to the transom using (4) 5/16" x 3.5" all-thread transom mount bolts, (4) 5/16" neo-bond washers, (4) 5/16" fender washers, and (4) 5/16" tall brass nuts. The rubber backed neo-bond washers will protect the powder coated surface of the stern bracket, and they must not be over tightened. (See Image #2) **FPO_Image_#2**

Adapter plate mounting

A. All Power-Pole shallow water anchor adapter plates are accompanied by installation instructions. Refer to the included instructions while installing the adapter plate as well as the Power-Pole shallow water anchor. Please contact a member of our technical support staff with any questions. [(813) 689-9932 option 2]

Step 3: Choose HPU Mounting Location

A. Locate a dry compartment in the vessel with ample space to accommodate the HPU. The footprint of the HPU is approximately 6.5"x7".

-Note: Be sure to allow enough clearance surrounding the HPU such that the hydraulic tubing will not make a severe bend when exiting the compartment. Also, allow enough space to install the (2) 3/8" x 3/4" bolts through the mounting bracket and into the HPU.

Step 4: Installing the Hydraulic Pump Unit (HPU)

A. Remove the fill cap on the HPU, and fill the reservoir to the "full" line with the supplied quart of Green Marine® biodegradable hydraulic fluid or an ISO 32 hydraulic fluid.

WARNING – Using anything other than Green Marine biodegradable hydraulic fluid or an ISO 32 hydraulic fluid may cause damage to the HPU and will void your warranty.

B. Place the HPU bracket in the predetermined area of the vessel, and inscribe the four mounting hole locations with a fine point marker.

C. Using a 9/64" drill bit, carefully drill holes in the newly inscribed locations.

D. Fasten the bracket to the vessel using a #2 Phillips-head screwdriver and the (4) #10 x 3/4" pan head screws.

E. Once the bracket is securely fastened, use a 9/16" wrench to attach the HPU to its bracket using the (2) 3/8" x 3/4" bolts, (2) 3/8" neo-bond washers, and (1) rubber pump gasket. (See Image #3) **FPO_Image_#3**

F. Unravel the red and black wires on the HPU. Route the red wire to a 12 volt positive source via a battery switch, and route the black wire to a 12 volt negative source via a common ground post.

G. Prior to cutting the excess wire, ensure that there is an adequate amount of slack such that they may be easily disconnected in the future.

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H. Once the wires have been trimmed to length with wire cutters, install the (2) ring connectors using wire strippers and wire terminal crimpers.

I. Heat the (2) ring terminals with a heat gun until their respective jackets shrink completely and adhere to the wires.

WARNING – Do not connect the red or black wire at this time. These wires will be connected once the hydraulic tubing is installed.

Step 5: Installing the Hydraulic Tubing

A. The hydraulic tubing will be routed through the center of the stern bracket, which is ideal for an adapter plate mounting scenario. If the Power-Pole shallow water anchor is to be transom mounted, the hydraulic tubing will need to be re-routed through either side of the stern bracket. (See Image #4)
FPO_Image_#4

WARNING – Keep all debris out of the hydraulic tubing. Be sure to use the red end caps provided at all times while routing the hydraulic tubing throughout the boat. Debris in the tubing will cause damage to the HPU.

B. Once the hydraulic tubing has been routed through the proper portion of the stern bracket, guide the blue and black hydraulic tubing through the black mesh tubing cover.

-Note: The black mesh tubing cover may need to be trimmed to length.

C. At this point, the hydraulic tubing may be routed in one of two ways. It may be routed either over the transom or through the transom using the (2) supplied thru-hull bushings. If the hydraulic tubing is not being installed through the transom, route the tubing to the HPU as per your preference, and proceed to **Step E**. If the hydraulic tubing is to be installed through the transom, holes will need to be drilled for the thru-hull bushings.

-Note: When choosing a location for the holes, ensure that the tubing will form a natural curve when leaving the stern bracket, and also that said holes will be above the water line.

D. First, drill pilot holes in the transom with a 9/64" drill bit for each of the (2) thru-hull bushings. Then, drill out both pilot holes with an 11/32" drill bit. Once the holes are drilled, insert the (2) thru-hull bushings, and route the tubing to the HPU. (See Image #4)

-Note: Be sure to allow an adequate amount of slack in the hydraulic tubing between the stern bracket and the point that the tubing enters the vessel. Failure to do so will cause adverse operating behavior.

E. The tubing is now ready to be attached to the HPU. Route the tubing according to your preference, and trim the excess using a razor tubing cutter. All cuts made in the tubing must be as straight as possible to ensure that the compression fittings do not leak.

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-Note: For ease of future maintenance, leave enough excess hydraulic tubing such that the HPU can be moved out of the compartment with the tubing still attached.

F. While taking note of their orientation, remove the blue and black dust caps from the hydraulic compression fittings on the HPU.

G. Disassemble both of the compression fittings by removing their nuts and ferrules. With both the blue and black hydraulic tubing cut to length, feed each of them through a compression fitting nut as well as a compression fitting ferrule. (See Image #5) **FPO_Image_#5**

-Note: The tubing needs to pass through the ferrule far enough such that there is approximately a 1/2" length of tubing exposed. (See Image #5)

H. Insert the blue tubing into the compression fitting labeled UP (blue dust cap), and the black tubing into the fitting labeled DN (black dust cap). While holding the blue tubing fully inserted into its respective compression fitting base, begin threading the compression fitting nut onto the base. Repeat this step for the black tubing. (See Image #6) **FPO_Image_#6**

I. Tighten both compression fitting nuts with a 9/16" wrench while simultaneously holding their respective bases with a 1/2" wrench. (See Image #7) **FPO_Image_#7**

-Warning: The nuts must be tightened down far enough such that none of the compression fitting's threads are visible; otherwise, hydraulic failure may occur. (See Image #8) **FPO_Image_#8**

Step 6: Priming the HPU

A. Connect the red and black wires from the HPU to their respective locations. See **Step 4**. Once both wires are securely fastened, the green LED on the HPU should flash, thus indicating that the unit has power.

B. Use the "down" button on the HPU cover to cycle the Power-Pole shallow water anchor from the fully retracted position to the point where it makes contact with a solid surface.

C. Once the unit has reached the end of its range of motion, keep the "down" button depressed for 65 seconds in order to bleed all residual air from the hydraulic tubing. Next, retract the Power-Pole shallow water anchor with the "up" button. Once again, keep the button depressed for 5 seconds in order to bleed all residual air from the hydraulic tubing. Repeat this process three times in both directions or until satisfactory performance is achieved.

D. The HPU's hydraulic fluid level may need to be topped off after the final priming has been completed.

Step 7: Programming the HPU/HPUs

In order to utilize the full potential of the Power-Pole shallow water anchor, the HPU/HPUs must be assigned as either a single, port side, or starboard side unit. Follow the "single unit" instructions when installing only one Power-Pole shallow water anchor, and use the "dual units" instructions when

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installing two Power-Pole shallow water anchors. The “dual units” instructions must also be used when installing a second unit.

-Note: Assigning a single unit as either a port side or starboard side unit will cause adverse operating behavior.

Single unit

A. Locate the “program” button on the top of the HPU, and depress and hold it for 6 seconds until the LED steadily illuminates red in color. The LED will initially illuminate green (after 3 seconds), but will change to red after 6 seconds, thus indicating that the unit is ready to be programmed. (See Image #9) **FPO_Image_#9**

B. Next, depress and hold both the “up” and the “down” buttons on the HPU simultaneously. The LED will flash red 3 times indicating that that the programming has been completed successfully.

Dual units

A. Using the “up” and “down” buttons on both HPUs, determine which HPU controls the port side Power-Pole shallow water anchor and which one controls the starboard side. (See Image #9)

B. With both HPUs identified, begin with the starboard side unit. Locate the “program” button on the top of the HPU, and depress and hold it for 6 seconds until the LED steadily illuminates red in color. The LED will initially illuminate green (after 3 seconds), but will change to red after 6 seconds, thus indicating that the unit is ready to be programmed.

C. Next, depress and hold the “down” button on the starboard side HPU. The LED will flash red 1 time indicating that that the programming has been completed successfully, and the HPU has been assigned as the starboard side unit.

D. Repeat the programming procedure with the port side HPU, but instead depress and hold the “up” button on the HPU. This time the LED will flash red 2 times indicating that that the programming has been completed successfully, and the HPU has been assigned as the port side unit.

Step 8: Programming the Dash Switch and Remote Control

A. Locate the “program” button on the top of the HPU, and depress and hold it for 3 seconds until the LED steadily illuminates green in color. The unit is now ready to be programmed with a dash switch or remote control.

-Note: When installing dual units, this procedure need only be performed on one HPU.

B. Next, depress and release either the “up” or the “down” button on the dash switch 1 time. The green LED will initially turn off, and then it will flash steadily indicating that the programming has been completed. (See Image #10) **FPO_Image_#10**

C. The dash switch is now programmed. Test its functionality with both the “up” and the “down” buttons to ensure that the programming procedure was completed successfully.

D. Repeat the programming procedure with the remote control. (See Image #11) **FPO_Image_#11**

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Step 9: Installing the Dash Switch

- A. Locate a suitable area with a flat surface to mount the dash switch.
- B. While holding the dash switch in the desired location, use a fine point marker to inscribe the intended mounting screw locations.

WARNING – Before drilling pilot holes for the dash switch mounting screws, inspect the area beneath the mounting surface in order to ensure that the drill bit will not cause any damage.

- C. Using the 7/64" drill bit, carefully drill holes in the previously inscribed location.
- D. Fasten the dash switch to the vessel using a #2 Phillips-head screwdriver and the (2) #6 x 3/4" pan head screws.

Operating the Power-Pole Shallow Water Anchor

HPU Controls

- A. If needed, the "up" and "down" buttons of the top of the HPU can be used to retract and deploy the Power-Pole shallow water anchor.

Dash Switch

- A. The dash switch has three speed settings (slow, medium, & fast). Depressing and releasing the "speed" button on the dash switch will toggle through the three settings. **(See Image #10)**
- B. The LED on the dash switch will flash at a speed corresponding to either a slow, medium, or fast setting.
- C. With dual Power-Pole shallow water anchors installed, the dash switch can also be used to toggle between independent or simultaneous control of the anchors. Depressing and releasing the "directional" button on the dash switch will toggle through the three settings (port side only, starboard side only, or simultaneous control).
- D. The LED will flash either port side only, starboard side only, or on both sides to indicate the current control settings
- E. To raise or lower the Power-Pole shallow water anchor, press and hold either the "up" or "down" button on the dash switch. The anchor will only continue to move so long as you keep the button depressed.
- F. Alternately, the dash switch can be used to enable the auto mode. Double tapping (depressing and releasing 2 times within 1 second) either the "up" or the "down" button on the dash switch will cause the anchor to retract or deploy automatically. The Power-Pole shallow water anchor will continue to move in said direction until it either retracts completely or senses a solid bottom surface.

Remote Control

- A. To raise or lower the Power-Pole shallow water anchor, press and hold either the "up" or "down" button on the remote control. The anchor will only continue to move so long as you keep the button depressed. **(See Image #11)**

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B. Alternately, the remote control can be used to enable the auto mode. Double tapping (depressing and releasing 2 times within 1 second) either the “up” or the “down” button on the remote control will cause the anchor to retract or deploy automatically. The Power-Pole shallow water anchor will continue to move in said direction until it either retracts completely or senses a solid bottom surface.

Smart Phone Application

The Power-Pole shallow water anchor smart phone application will allow you to do the following:

- adjust the HPU’s slow, medium, and fast settings
- enable and disable the auto mode

The application is available for free in the Android Marketplace.

Precautions

- Prior to use, read this instruction manual carefully. Become familiar with the controls and how to operate your Power-Pole shallow water anchor properly.
- Do not allow children to operate or tamper with the Power-Pole shallow water anchor without adult supervision.
- Do not modify the unit in any way.
- Use only genuine Power-Pole shallow water anchor accessories.
- Always disconnect the 12 volt power source from the Power-Pole shallow water anchor before servicing.
- In the event of HPU failure, the Power-Pole shallow water anchor may be manually stowed by activating the pole protector valve.
 - o Do so by applying enough upward force to lift the unit into its upright position.
 - o If the Power-Pole shallow water anchor is not within reach, you may drive the boat toward shallow water. Doing so will apply enough upward force to lift the unit within reach.
- Be sure to have the Power-Pole shallow water anchor in the stowed (fully upright) position while operating your vessel at high speeds.
- Always maintain a safe distance between the Power-Pole shallow water anchor and your extremities. Avoid wearing loose clothing within close proximity of the unit. Failure to do so may result in bodily injury.
- Do not use the Power-Pole shallow water anchor as a form of assistance for entering or exiting the vessel.
- Never leave your boat unattended with the Power-Pole shallow water anchor as the primary anchorage.
- During situations with high wind or rough seas, the Power-Pole shallow water anchor may release holding pressure in order to protect your vessel’s transom.
- If any debris gets caught around the Power-Pole shallow water anchor, disconnect the 12 volt power source prior to removal.
- The devices listed in this installation manual comply with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) The devices may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

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NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Maintenance and Storage

- Inspect all hydraulic lines for kinking or abrasion prior to use.
- Inspect all hydraulic fittings for leaks and proper tightness prior to each use.
- CAUTION: If disconnecting the hydraulic lines, please read the following:
 - o Hydraulic lines are always pressurized; therefore, disconnecting them will cause a sudden high pressure release. This high pressure release may cause oil leakage from the lines and/or fittings. With the lines depressurized, the unit must be supported; otherwise it will fall to the fully deployed position. This may result in damage to the unit as well as bodily harm.
- Inspect all electrical connections to ensure that they are secure and free of corrosion every 3 months.
- Inspect all fasteners for proper tightness after every 100 cycles to ensure that the Power-Pole shallow water anchor is in safe working condition.
 - o **Note:** All 5/16" bolts (1/2" wrench) should be tightened to 4 ft•lbs (48 in•lbs) of torque, and all 3/8" bolts (9/16" wrench) should be tightened to 7 ft•lbs (84 in•lbs) of torque.
- Ensure that the Green Marine biodegradable hydraulic fluid level is within the indicator marks on the reservoir at all times.
- Thoroughly rinse all moving parts with fresh water after each use.
- Always ensure the Power-Pole shallow water anchor is in the stowed position when travelling.
- Lubricate the bushings at all hinge points with spray lithium grease every 6 months. (See **Image #12**) **FPO_Image_#12**