

RAPTOR

SHALLOW WATER ANCHOR

Installation Instructions

INTRODUCTION

THANK YOU

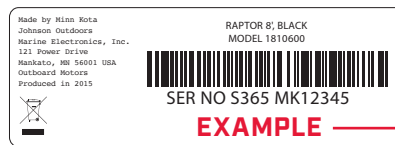
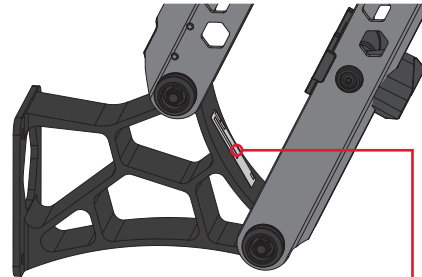
Thank you for purchasing the Minn Kota® Raptor shallow water anchor. This revolutionary shallow water anchor uses state-of-the-art technology to deliver unprecedented levels of boat control. Intuitive features and wireless control enable Raptor to accurately position your boat and improve your bait presentation. Raptor holds your boat in position so you can focus on fishing.

REGISTRATION

Remember to keep your receipt and immediately register your Raptor. To receive all the benefits of your product warranty, please fill out and mail the registration card.

SERIAL NUMBER

Your Minn Kota 11-character serial number is very important. It helps to determine the specific model and year of manufacture. When contacting Consumer Service or registering your product, you will need to know your product's serial number. We recommend that you write the serial number down so that you have it available for future reference.



NOTICE: The serial number on your Raptor is located on the mounting bracket beneath the Arm.

SAFETY CONSIDERATIONS

Please thoroughly read the user manual. Follow all instructions and heed all safety considerations. Use of this product is only permitted for persons that have read and understood these instructions. Minors may use this product only under adult supervision.

WARNING

You are responsible for the safe and prudent operation of your boat or vessel, and Raptor(s). This product does not relieve you from the responsibility of safe operation of your boat. It may be hazardous to operate your Raptor in rough or turbulent water conditions, such as fast currents or changing environmental conditions. Do not deploy your Raptor if these conditions are present, especially when the underwater topography is unknown. Failure to follow this warning may result in unexpected operation or failure of the Raptor to operate or anchor and could cause death or serious injury. You must avoid hazards to anchoring and always maintain a permanent watch so you can maintain proper control of your boat. You must always be prepared to regain manual control of your boat. Learn to operate your Minn Kota product in an area free from hazards and obstacles.

WARNING

The Raptor should be disconnected from the power source when it is not in use or is off the water for more than a month. When connecting the power-supply cables of the Raptor to the battery or power switch, ensure that they are not kinked or subject to chafe and route them in such a way that persons cannot trip over them. Before using the Raptor make sure that the insulation of the power cables is not damaged. Disregarding these safety precautions may result in electric shorts of battery(s) and/or the product. Always disconnect the Raptor from battery(s) before cleaning or checking the Raptor. In the event of unexpected operation, remove power leads from the battery. Avoid submerging the Pump Assembly as water may enter, considerable damage to the product can occur. This damage will not be covered by warranty. The constant noise pressure level of the Raptor during use is less than 70dB(A). The overall vibration level does not exceed 2,5 m/sec².

WARNING

Take care that neither you nor other persons approach the Raptor Spike too closely while operating, neither with body parts nor with objects. The Raptor is powerful and may endanger or injure you or others. While the Raptor is operating, watch out for persons swimming and for floating objects. Persons who lack the ability to run the Raptor or whose reactions are impaired by alcohol, drugs, medication, or other substances are not permitted to use this product.

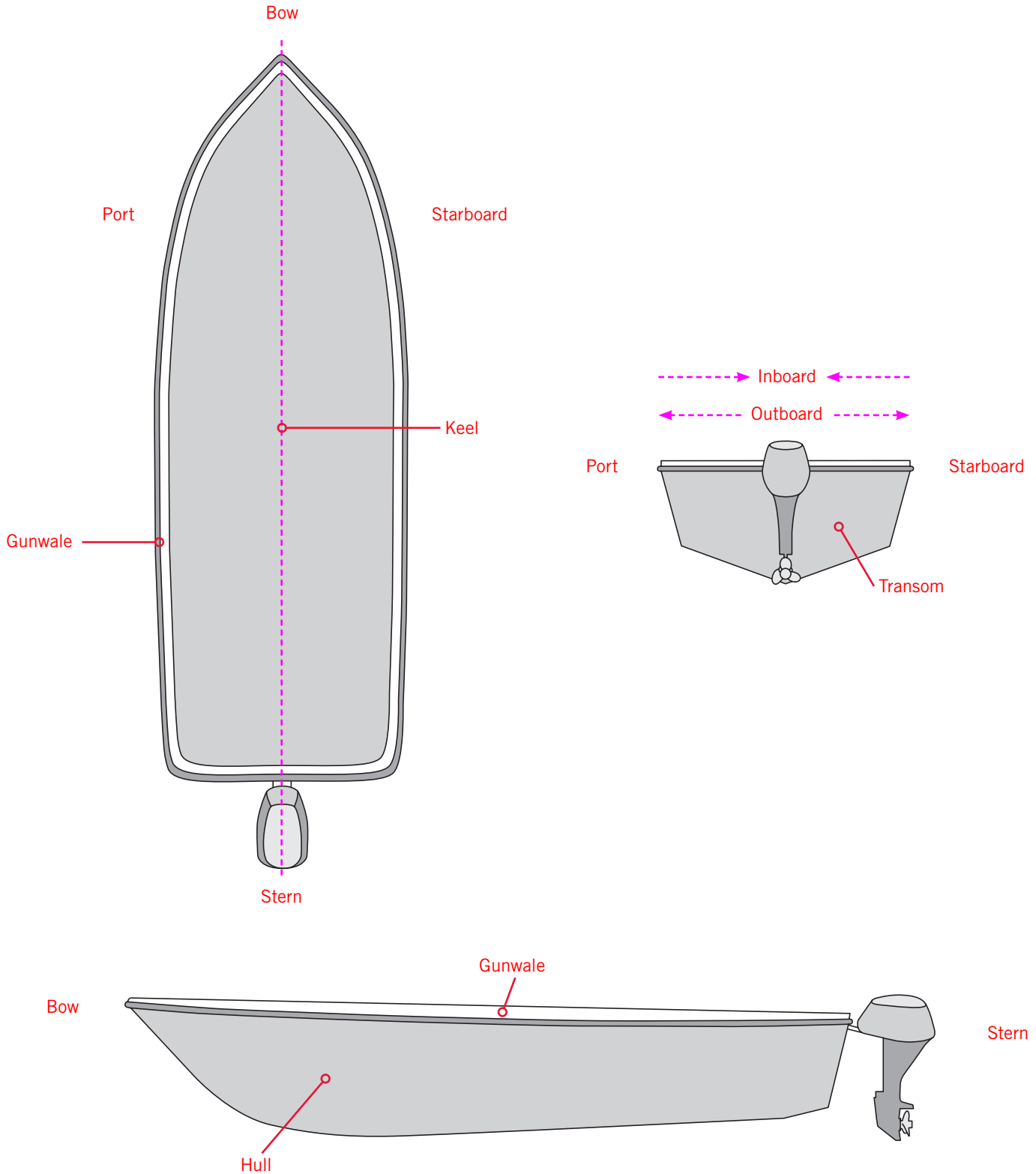
CAUTION

Never leave the boat unattended with the Raptor as your only boat anchor. The Raptor is not intended to provide primary anchorage.

WARNING

It is recommended to only use Johnson Outdoors approved accessories with your Raptor. Using non-approved accessories including those used to mount or control your product may cause damage, unexpected operation and injury. Be sure to use the product and all approved accessories, including remotes, safely and in the manner directed to avoid accidental or unexpected operation. Keep all factory installed parts in place including motor, electronic and accessory covers, enclosures and guards. Failure to adhere to this warning may affect your warranty.

KNOW YOUR BOAT



INSTALLATION

INSTALLING THE RAPTOR

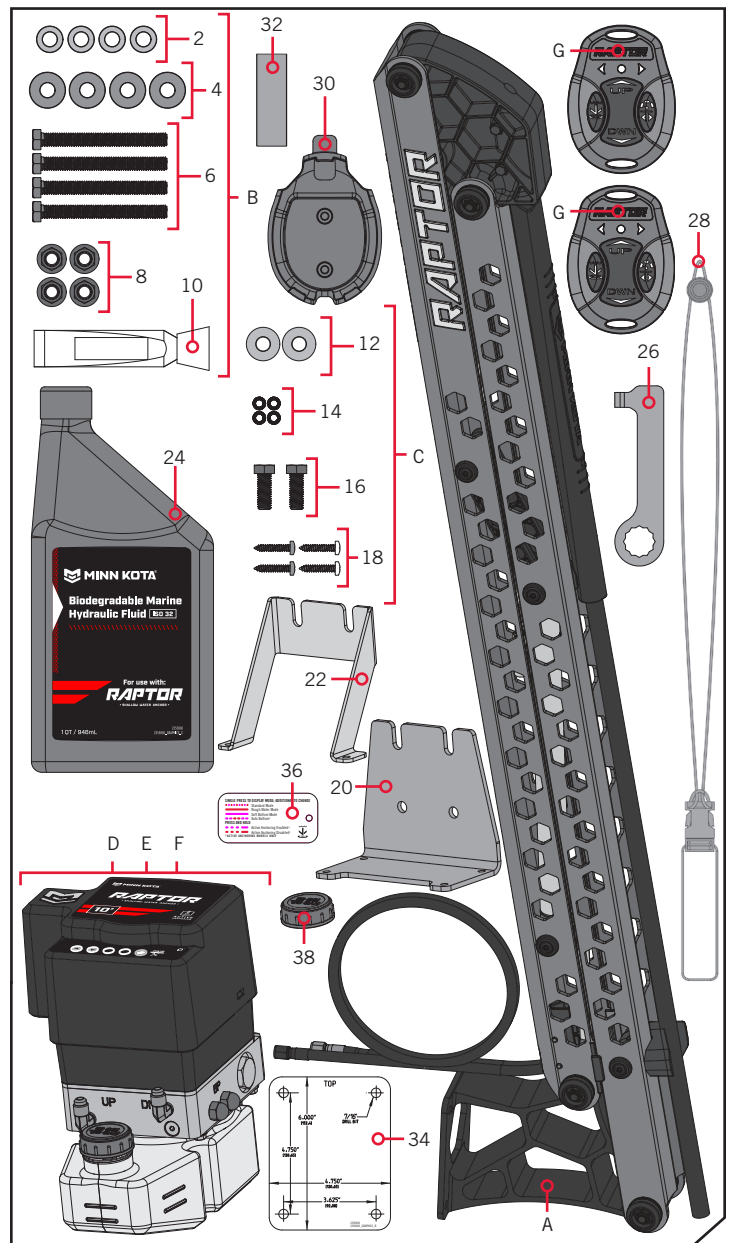
Your new Raptor comes out of the box with the hardware you'll need to install it directly to the transom of your boat. If you have an irregularly shaped transom that cannot accept a direct mount, or you prefer to mount the Raptor with an adapter bracket for ease of mounting and removal. For installation with a Raptor adapter bracket, refer to the installation instructions provided with the bracket. To install the Raptor directly to the boat, please follow the directions provided in these installation instructions. Please review the parts list, mounting considerations and tools needed for installation prior to getting started.

INSTALLATION PARTS LIST

Item / Assembly	Part #	Description	Qty.
A	✱	RAPTOR ASSEMBLY	1
B Items 2-10	2994943	BAG, ASM, RAPTOR HWD	1
2	2371758	WASHER-3/8 HD FLAT SS	4
4	2371759	WASHER-3/8 HD FENDER SS	4
6	2383421	SCREW-3/8-16X3 1/2 HHCS SS	4
8	2353102	NUT-3/8-16 FLANGE,NYLOK,SS	4
10	2378608	ANTI SEIZE TUBE, 4CC, TALON	1
C Items 12-18	2994944	BAG ASM, RAPTOR PUMP HDW	1
12	2351735	WASHER-3/8" BELLEVILLE SS	2
14	2351733	WASHER-#10 BELLEVILLE SERRATED	4
16	2353412	SCREW-3/8-16 X 1.0" HHCS SS	2
18	2353420	SCREW-#10-16X1.00 TY AB SS	4
20	2351933	BRACKET-MOUNTING, PUMP	1
22	2351934	BRACKET-REINFORCING	1
24	2357700	OIL-HYDRAULIC, QUART, RPTR	1
26	2358800	WRENCH-PRESSURE, RAPTOR	1
28	2390801	LANYARD, REMOTE	1
30	2371829	BRACKET,RMT DASH MNT HLDR	1
32	2375104	TAPE,MNTG,FOAM ULINE #S-10131	1
D	2774106	ASSEMBLY, MAIN PUMP STD 8' *8ft Standard*	1
E	2774105	ASSEMBLY, MAIN PUMP AA 8' *8ft AA*	1
F	2774107	ASSEMBLY, MAIN PUMP AA 10' *10ft AA*	1
G	2994156	TRANSMITTER ASM, RAPTOR	2
▲	2357141	INSTALL. INSTRUCTIONS,RPTR	1
▲	2357142	DISCLAIMER-DOWNLOAD,MANUAL	1
▲	2357140	MANUAL, RAPTOR ANCHOR	1
34	2358830	RAPTOR MOUNTING TEMPLATE	1
36	2354110	TAG, REMOTE, RAPTOR	1
38	2350200	CAP-FILL, RESERVOIR	1

✱ This part is included in an assembly and cannot be ordered individually.

▲ Not shown on Parts Diagram.



ANCHOR MOUNTING CONSIDERATIONS

MOUNTING CONSIDERATIONS

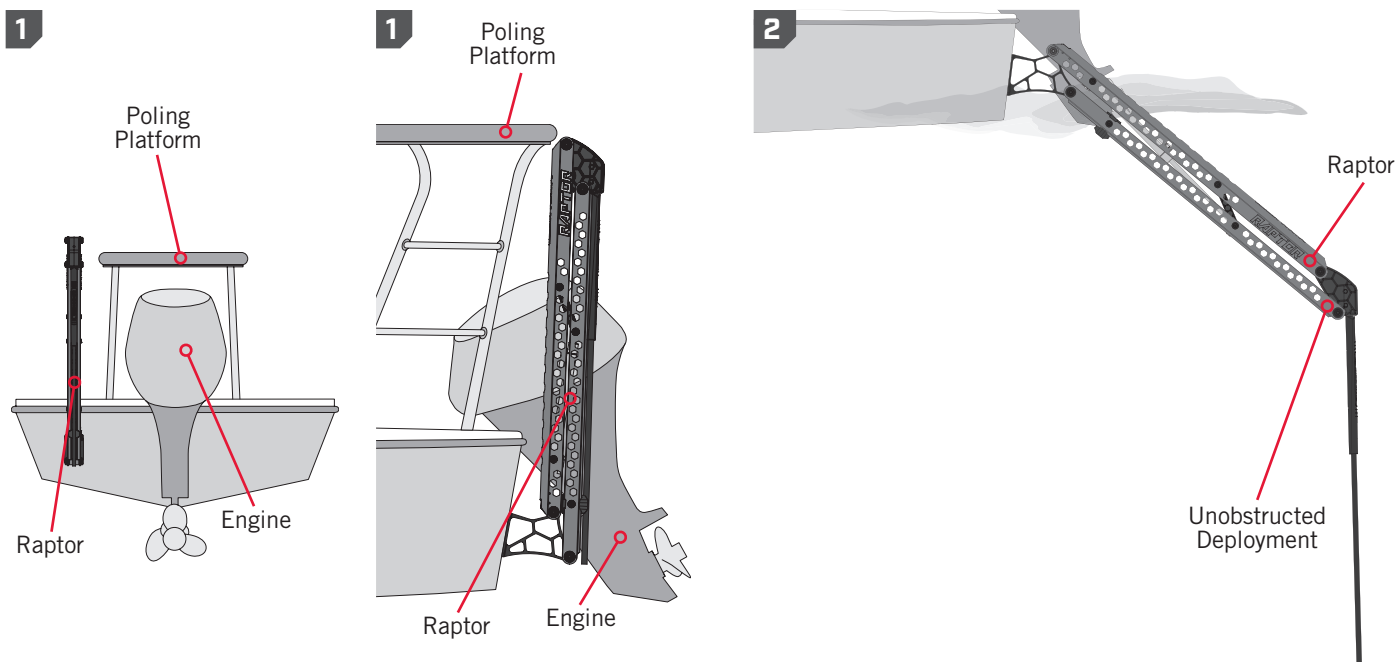
Anchor Mounting Considerations

Minn Kota recommends mounting the Raptor directly to the transom of the boat with the built-in Mounting Bracket. Your Raptor comes complete with all the necessary hardware to mount directly to the transom. The Raptor may also be mounted using an optional adapter bracket when direct transom mounting is not possible or desired due to obstructions or irregularly shaped transoms. When using an adapter bracket to mount the Raptor, please use the instructions included with the accessory.

In order to use the direct mount installation, the following conditions need to be met:

1. Unobstructed Mounting - When selecting the Raptor Mounting Bracket mounting location, examine your boat to ensure that you will not drill into any obstructions and that the hardware will be accessible for assembly. Make sure that the Transom is strong enough to accept the Raptor mounted at the intended location.

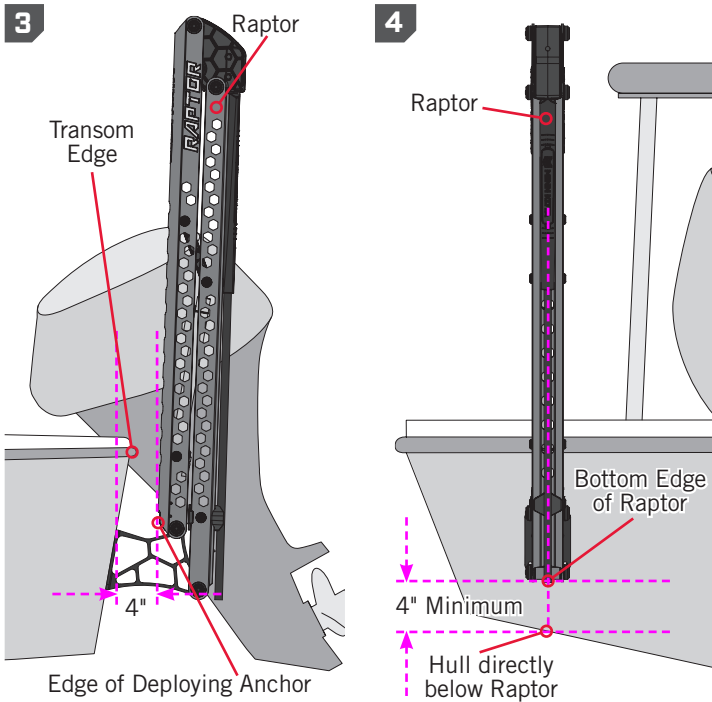
2. Unobstructed Deployment and Retraction - The Raptor is designed to mount on either the port or starboard side of the transom. The Raptor must have a clear, unobstructed path to deploy. Check to make sure that your proposed location will allow the anchor to deploy and retract without hitting trim tabs, poling platforms, ladders, the engine or other obstructions. You should also consider your fishing methods when selecting the mounting location.



⚠ CAUTION

Follow all instructions and heed all safety considerations. Minn Kota recommends having a second person help with installation. Not following proper installation and rigging instructions may result in injury. Mounting the Raptor too low can cause undue drag from the Raptor or Mounting Bracket when operating the boat. It is important to mount the Raptor as recommended to avoid unsafe driving conditions.

ANCHOR MOUNTING CONSIDERATIONS

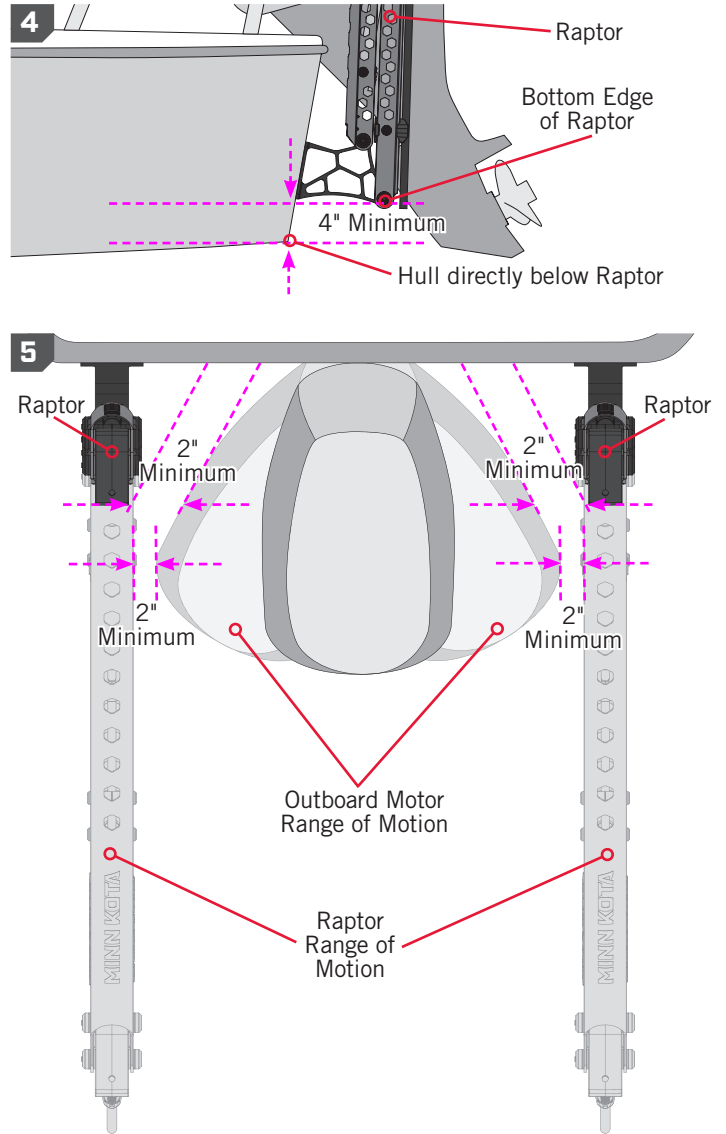


3. Transom to Raptor Clearance - The Raptor Mounting Bracket included with your unit will allow for approximately 4" of clearance or set back from the transom to the front edge of the deploying anchor.

4. Raptor to Hull Clearance - The bottom edge of the Raptor should never be less than 4" above the hull directly below the Raptor to prevent spray and drag conditions.

5. Raptor to Engine Clearance - When selecting a mounting location, make sure that no interference exists between the Raptor and your engine during normal operation. Once you have selected your mounting location, trim the engine all the way up and all the way down, and steer the engine fully to the left and right to confirm proper engine clearance. Ensure there is a minimum of two to three inches of clearance from any point on the Raptor in all states of stow and deploy.

If these conditions are not met, please consider using an optional Minn Kota adapter bracket accessory. There are many adapter brackets designed for the Raptor that allow for greater adjustability of the mount and allow for greater clearances to operate the Raptor.



NOTICE: In some instances, boat manufacturers have begun to make hollow boat Transoms. We recommend speaking to your local boat dealer or OEM Manufacturer for mounting recommendations.

Review the mounting considerations for the hydraulic pump and hose routing before installing the anchor to the boat.

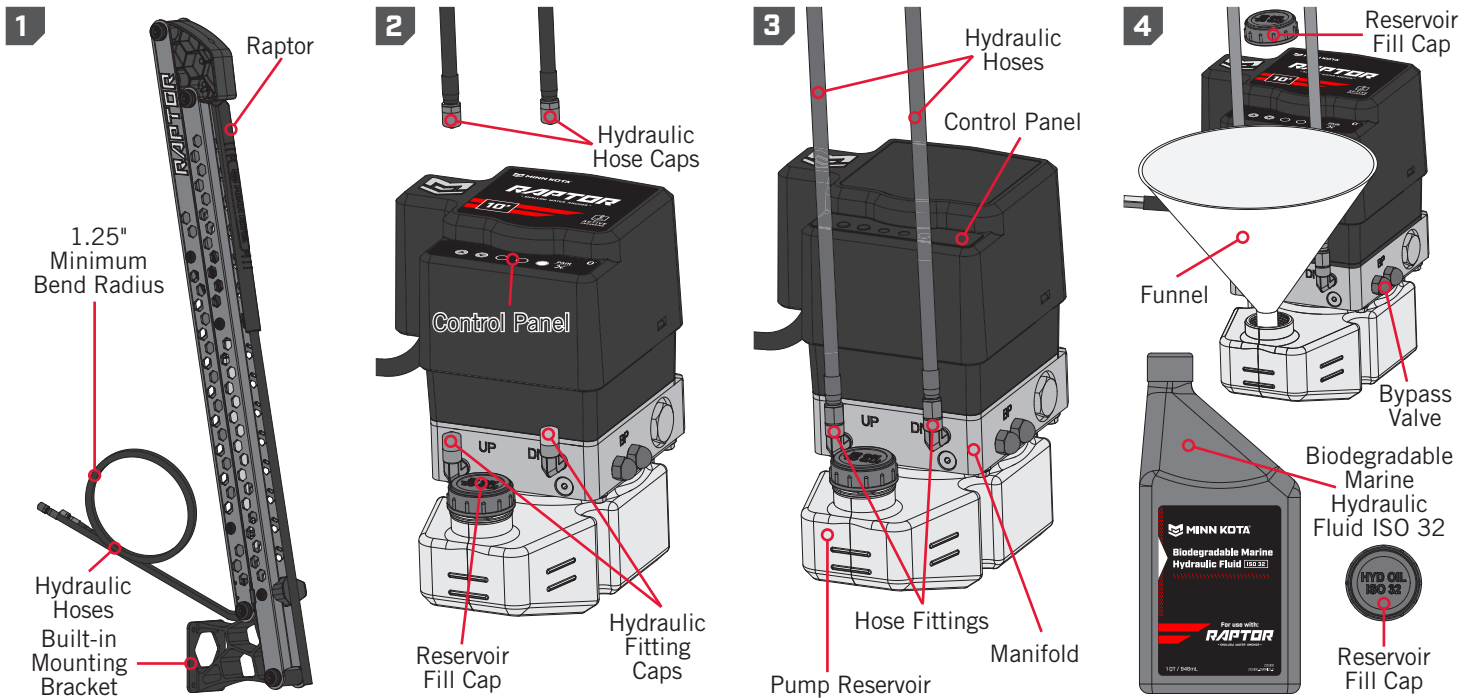
HYDRAULIC PUMP MOUNTING CONSIDERATIONS

Hydraulic Pump Mounting Considerations

Minn Kota recommends reviewing all mounting considerations for the hydraulic pump and hose routing for the Raptor to ensure that all circumstances are taken into account before installation.

In order to successfully route the hydraulic hoses and mount the hydraulic pump, please consider the following:

1. Hydraulic Hose Routing - The hydraulic hoses exit the anchor near the top of the built-in mounting bracket and will be routed to the hydraulic pump. When selecting the mounting location for the hydraulic pump, examine your boat to ensure that you can route hydraulic hoses to the intended hydraulic pump mounting location, and the hoses can be connected once the pump is mounted. Hoses may be routed over or through the hull of the boat. It is recommended to route hoses through an established routing on the boat, such as where the main engine lines are routed. If routing through an established routing on the boat such as the manufacturer's boot, ect, make sure they are re-rigged and tightened to their original state when installation is complete. If drilling holes in the hull of the boat is necessary, make sure that the drilled location is free from obstructions that could damage existing gas or electrical lines. Make sure that the hoses have enough slack so that the anchor can be deployed and stowed without creating pinch points or excessive tightness along the path for the intended mounting locations. Make sure that the hoses do not pass over any sharp surfaces or edges that could cause abrasions over time. Make sure that the hydraulic hoses are not kinked or bent when routing through the boat compartment. The minimum bend radius for hose routings is 1.25 inches. Hydraulic lines shall be routed away from heat sources. There shall be no joints or connections in hydraulic lines directly over exhaust lines or high temperature manifolds. Make sure that the routed hoses do not create a tripping hazard.



2. Keep Hydraulic Lines Clean - During installation, precautions must be taken to prevent the entrance of foreign material into components or hydraulic lines. Take note of the black and green caps on the hose fittings on the hydraulic pump and hydraulic hoses. Do not prematurely remove the protective caps from the ends of the hydraulic hoses that exit the anchor or the hose fittings on the pump assembly. Keep the fill cap on the pump reservoir in place unless filling the reservoir, to keep dirt and debris from entering.

3. Hose Attachment - Install the pump in a way so that there is space between the compartment or mounting locations and the pump to attach hoses. The hose fittings are located on the manifold of the hydraulic pump between the pump reservoir and control panel. Also be sure that the location will have room to allow the hoses to pass through and maintain proper hose placement that will prevent it from bending or kinking.

HYDRAULIC PUMP MOUNTING CONSIDERATIONS

4. Hydraulic Fluid and Filling Access - Make sure that the mounting location allows for the pump to be filled with hydraulic fluid. The cap to the pump assembly must be accessible to fill the hydraulic pump reservoir with hydraulic fluid. Be sure that the installation location allows access with a funnel or similar tool to aide in filling the reservoir. The pump is filled with fluid as noted on the red cap marked "Hyd Oil ISO 32". Biodegradable Marine Hydraulic Fluid ISO 32 (Item# 2357700) is provided for the installation.

5. Secured Mounting - Mount the pump in a secure location where it will remain affixed to a rigid surface. Hydraulic components shall be secured to the boat's structure in consideration of the potential forces transmitted. It is recommended to mount the hydraulic pump with the Two-piece Mounting Bracket provided. The Pump Assembly must be mounted vertically. If adjustments to the mounting need to be made, adjust the position of the Two-piece Bracket that will accommodate keeping the Pump Assembly vertical. Make sure that there is enough room to successfully use the tools needed to secure the installation hardware to the intended mounting location. Make sure that the hydraulic hoses will not be kinked or bent when attached to the pump. Options for mounting the pump include:

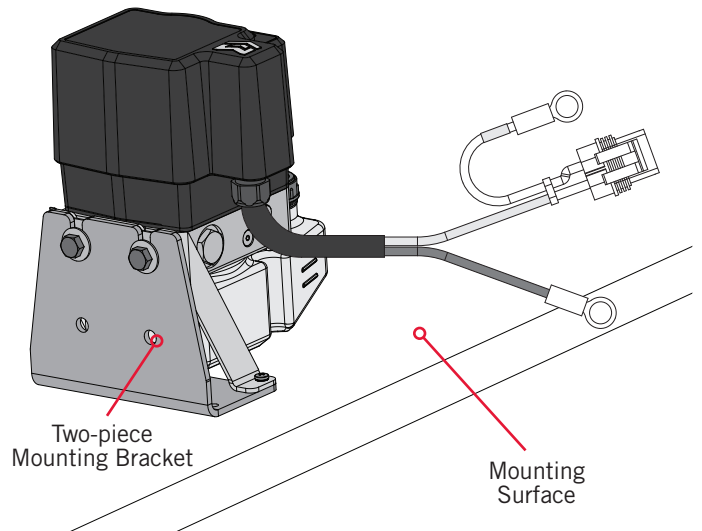
a. **Standard Installation** - Mounting the pump with the Two-piece Mounting Bracket.

b. **Modified Installation** - Mounting the pump using either both of the pieces from the Two-piece Mounting Bracket rotated to fit your specific mounting needs or just the Pump Mounting Bracket (Item #20) on its own rotated to fit your specific mounting needs.

c. **Direct Mounting** - Mounting the Hydraulic Pump directly to a secure structure on the boat without the use of the bracket.

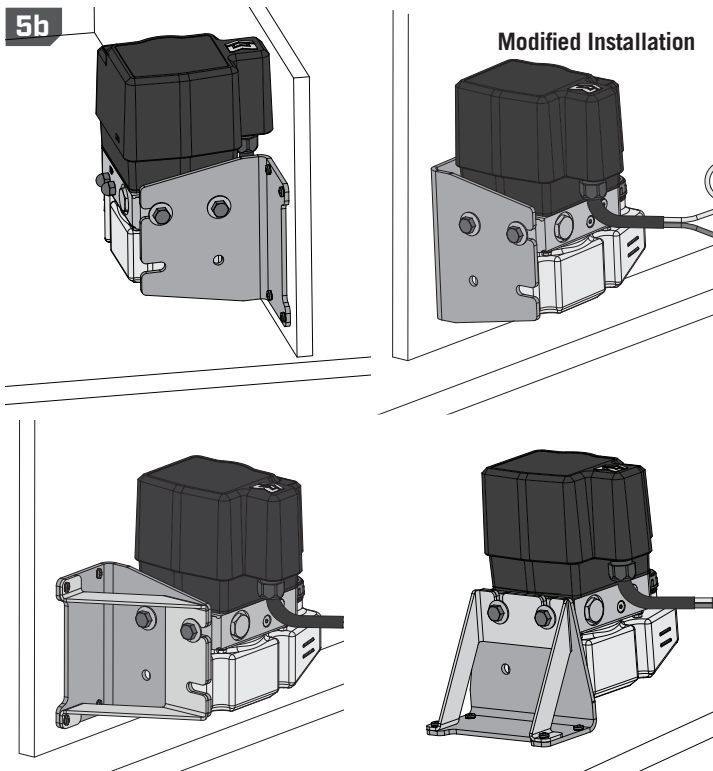
5a

Standard Installation



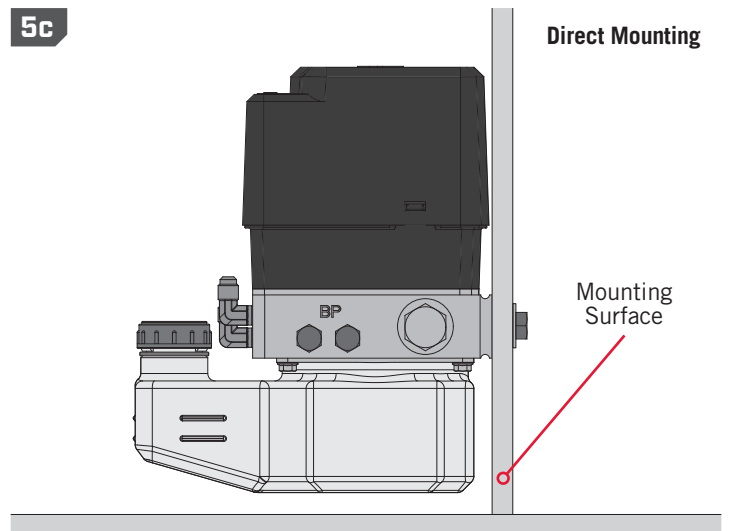
5b

Modified Installation



5c

Direct Mounting

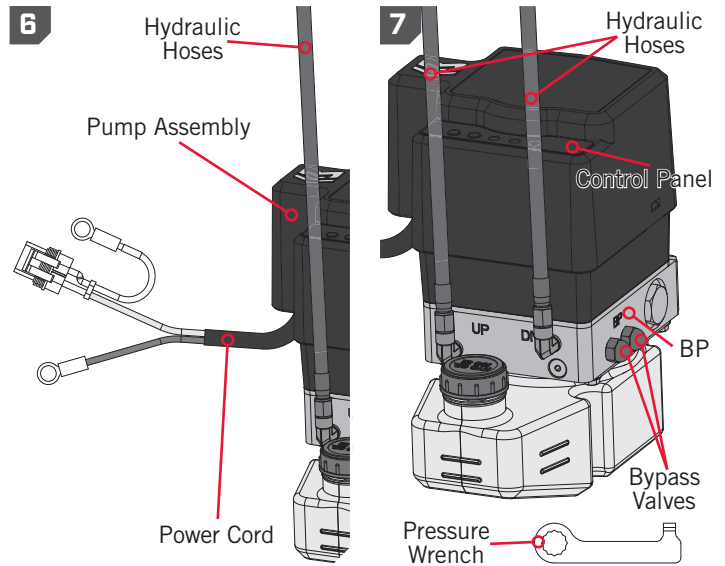


HYDRAULIC PUMP MOUNTING CONSIDERATIONS

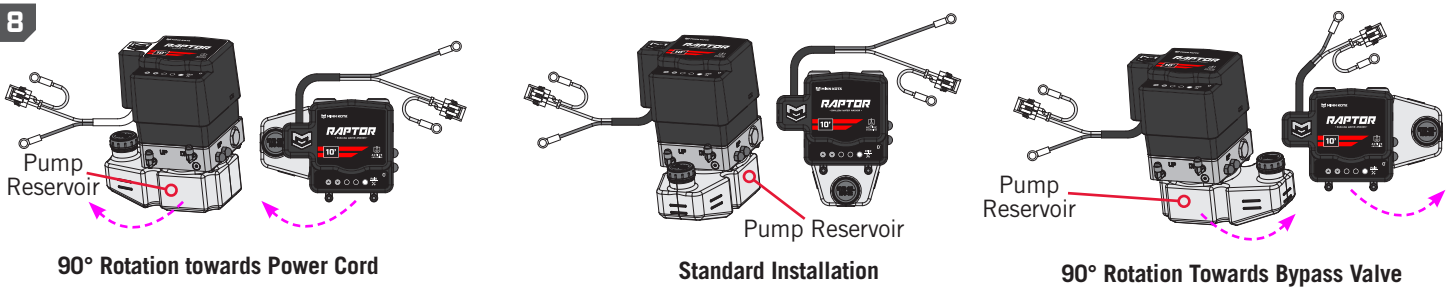
6. Power Source - Make sure that the power cord can reach its intended power source and will not pose as a tripping hazard. It is recommended to mount the pump as close to the power source as possible to create the least obtrusive routing for cables between the pump and power source.

7. Bypass Access - On the side of the hydraulic pump manifold, there are two acorn nuts that cover manual Bypass Valves in the event of the need to Emergency Stow. The installation kit comes with a Pressure Wrench (Item #2358800). Be sure that the installation location allows a minimum of 1-1/2 inch clearance around the "BP" on the pump manifold to access these acorn nuts and the Bypass Valves below them and enough space to utilize the Pressure Wrench. Store the pressure wrench in the boat.

8. Reservoir Clearance - When selecting the mounting location, it may be necessary to rotate the position of the reservoir on the hydraulic pump to accommodate for tight mounting locations. The hydraulic pump comes out of the box with the reservoir fill cap directly below the hydraulic hose fittings on the pump manifold. The reservoir can be rotated 90 degrees to either the right or the left so that the fill cap is either directly below the power cord, or directly below the bypass valves on the manifold to accommodate a variety of installation variability. If you need to rotate your Pump Reservoir, please see the "Rotating the Pump Reservoir" section of these instructions.



NOTICE: The orientation of the Reservoir on the pump may affect how the Two-piece Mounting Bracket is used.



WARNING

Do not run the Hydraulic Pump until after hydraulic fluid has been added. Running the Hydraulic Pump without hydraulic fluid can damage the pump.

TOOLS AND RESOURCES REQUIRED

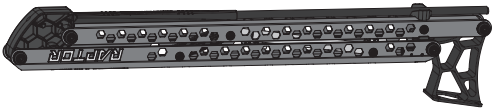
- Drill
- 5/16" Drill Bit
- 9/16" Box End or Socket Wrench
- Marine Grade Sealant
- Cable Ties
- 30ft/lb capacity Torque Wrench
- Awl or similar marking tool
- A second person to help with installation
- Funnel
- Masking Tape
- 7/16" Drill Bit
- 5/16" Deep Well Socket or 5/16" Ratchet Wrench
- 1/8" Drill Bit
- 3/4" Drill Bit
- Anti-seize
- 5/32" Drill Bit
- File, sand paper, or emery board
- #2 Phillips Bit
- Tie Wraps

INSTALLATION

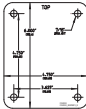
Installing the Raptor

1

ITEM(S) NEEDED



#A x 1

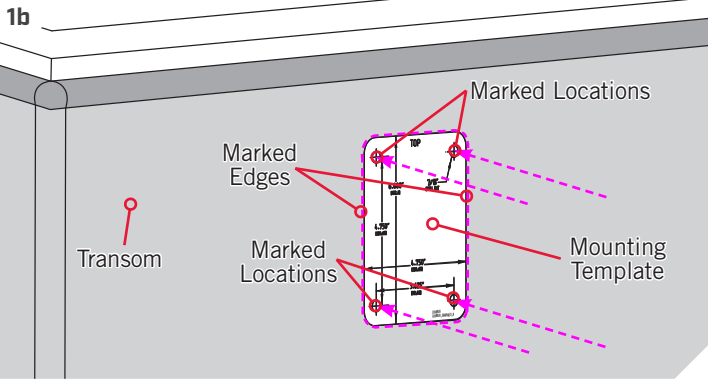
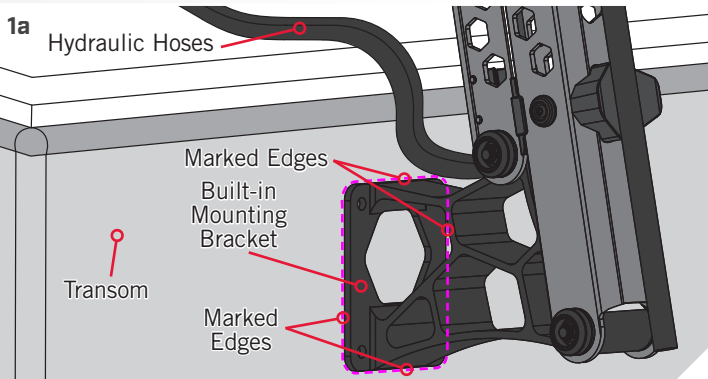


#34 x 1

- a. Review the Mounting Considerations to determine if it is acceptable to complete a direct mount of the Raptor Built-in Mounting Bracket. Move the Hydraulic Hoses away from the bracket and out of the way for installation. If acceptable, position the Built-in Mounting Bracket (Item #A) at the selected location and mark the edge of the Mounting Bracket with a pen or similar marking tool. Mark at least 2 of the 4 edges and then set the Mounting Bracket aside.

NOTICE: The Raptor weighs approximately 27lbs. It is recommended to have a second person help with installation.

- b. With the Raptor set aside, take the Mounting Template (Item #34) and place it along the marked edges. Using a level along the edge of the Mounting Template, rotate the position of the template so that it sits level. Use an awl or similar marking tool and mark all four Mounting Holes. All 4 Mounting Holes are used for the installation of the Raptor.

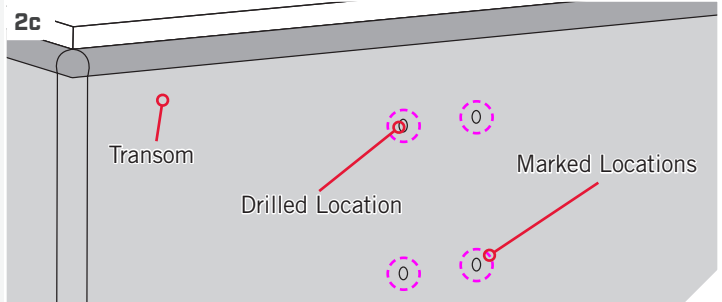


INSTALLING THE RAPTOR

2

- c. Double check that the mounting location is clear to drill holes and then use a Drill with a 7/16" Drill Bit to drill through the Transom/Stern of the boat on the marked locations.

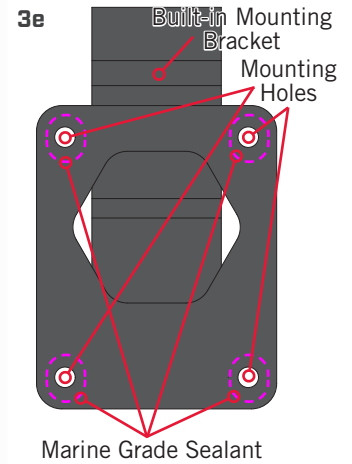
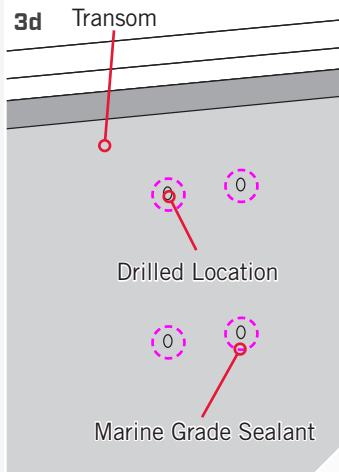
NOTICE: When drilling holes into fiberglass, it is helpful to first cover the surface with masking tape. This will help keep the boat surface unmarked and help with cleanup. Cover the surface and then mark the location to drill. Once the holes are drilled, remove the masking tape before continuing installation.



NOTICE: When drilling the marked holes, make sure that the drill bit is perpendicular to the Transom/Stern of the boat and that the holes are being drilled straight. Not drilling the holes straight will give the mounting hardware a poor fit.

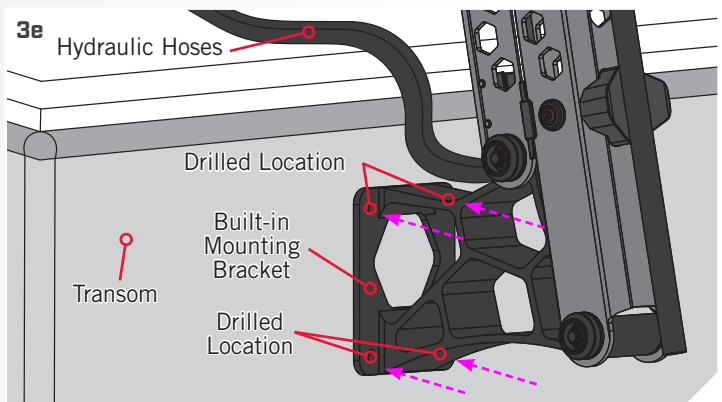
3

- d. Place a 1/8" bead of Marine Grade Sealant on the Transom of the boat around the drilled holes.
- e. Place the Marine Grade Sealant around the Mounting Holes on the face of the Built-in Mounting Bracket that will contact the boat Transom/Stern when mounted. Keep the sealant approximately centered between the outside edge of the Mounting Bracket and the Mounting Holes. Once the sealant is in place, align the Built-in Mounting Bracket in the desired orientation with the holes that were drilled in the Transom/Stern. Make sure that the Hydraulic Hoses are out of the way to install hardware.



CAUTION

Do not use the Built-in Mounting Bracket or Raptor as a step to enter the boat. The bracket will be slippery when wet and is not designed to support people. Using this product as a step may result in injury.



INSTALLING THE RAPTOR

4

ITEM(S) NEEDED

⊙ #2 x 4

⊙ #4 x 4

⊙ #6 x 4

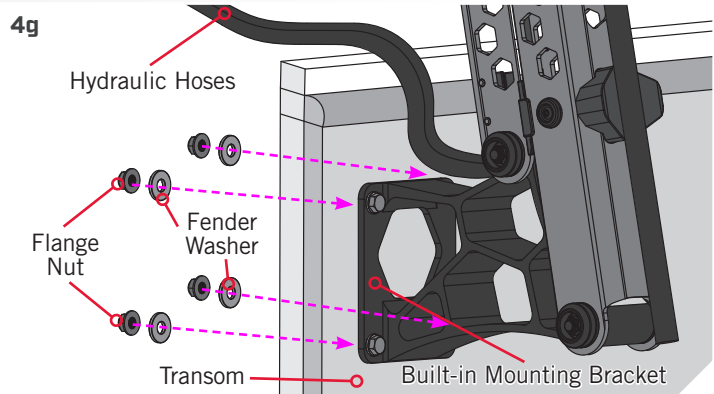
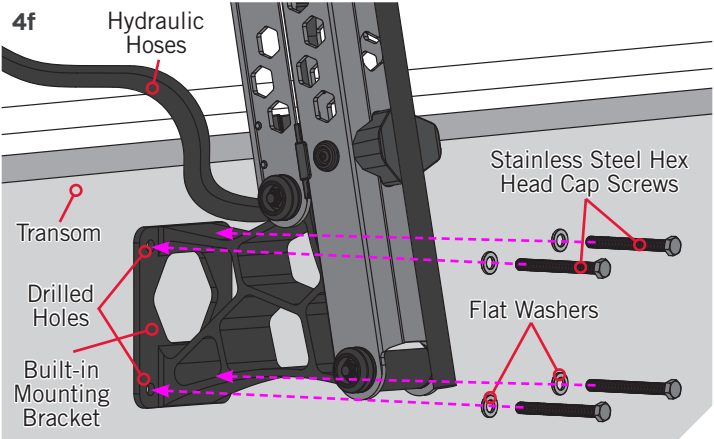
⊙ #8 x 4

⊙ #10 x 1

- f. Take each of the four 3-1/2" Stainless Steel Hex Head Cap Screws (Item #6) and place one Flat Washer (Item #2) on them. Apply anti-seize (Item #10) to the hardware. Place one screw in each of the Mounting Holes so that it passes through the Built-in Mounting Bracket and the drilled holes on the transom of the boat.
- g. Place a Fender Washer (Item #4) on the end of each Screw on the inside of the Transom and then secure each with a Flange Nut (Item #8). Apply anti-seize to the threads before tightening. Tighten the screws with a 9/16" Box End or Socket Wrench. Do not over-tighten. Tighten to 20 ft-lbs. Recheck mounting hardware periodically to make sure it remains tight.

NOTICE: To prevent seizing of the stainless steel hardware, do not use high speed installation tools. Applying an anti-seize may help prevent seizing.

NOTICE: If you are replacing a Talon with the Raptor, DO NOT REUSE the 5/16" Talon mounting hardware for mounting purposes.



ROTATING THE PUMP RESERVOIR

Rotating the Pump Reservoir

After reviewing the mounting considerations for your installation, you may have identified that the reservoir on your Pump Assembly needs to be rotated. If your installation requires rotating the Pump Reservoir, please follow the instructions below. If your installation does not require the Pump Reservoir to be rotated, please see "Installing the Hydraulic Pump" section of these instructions.

1

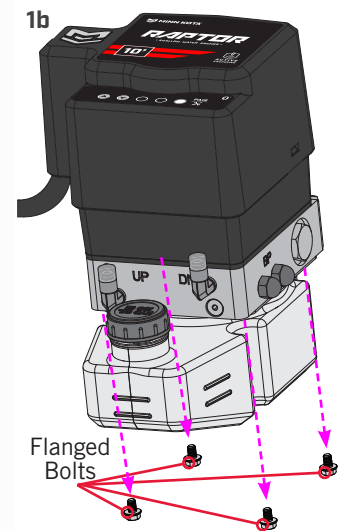
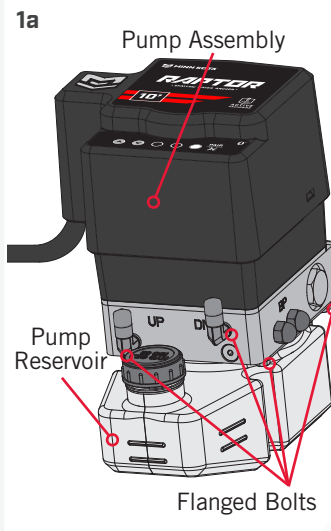
ITEM(S) NEEDED



#D, E, or F x 1

- Take the Pump Assembly (Assembly D, E, or F) and identify the four Flanged Bolts that hold the Pump Reservoir in place on the Pump Assembly.
- Using a 5/16" Deep Well Socket or 5/16" Ratchet Style Wrench, remove all four Flanged Bolts and set them aside.

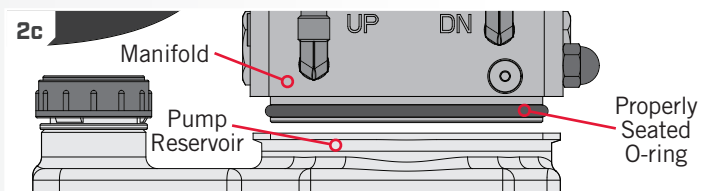
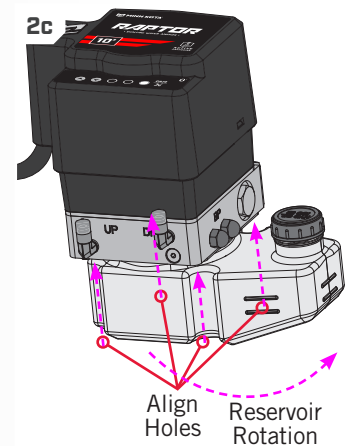
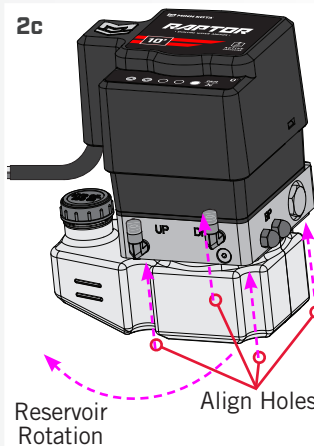
NOTICE: Do not pull the Pump Reservoir off of the Pump Assembly. It is recommended to rotate the Pump Reservoir in place to maintain a proper seal between pump components.



2

- Determine which direction the Pump Reservoir will be rotated. While firmly holding the top of the Pump Assembly, rotate the Pump Reservoir to its new position. Complete the rotation by making sure that the holes in the Pump Reservoir are aligned with the holes for the Flanged Bolt.

NOTICE: If the Pump Reservoir becomes detached from the Pump Assembly, make sure that the O-ring that sits on the bottom of the Pump Manifold is fully seated in the groove along the assembly. In the event that the reservoir needs to be pushed back in place on the Pump Assembly, make sure that the O-ring does not get pinched between the pieces. An improperly seated seal between components will affect pump operation.

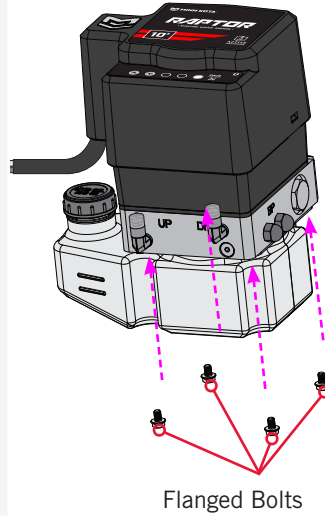


ROTATING THE PUMP RESERVOIR

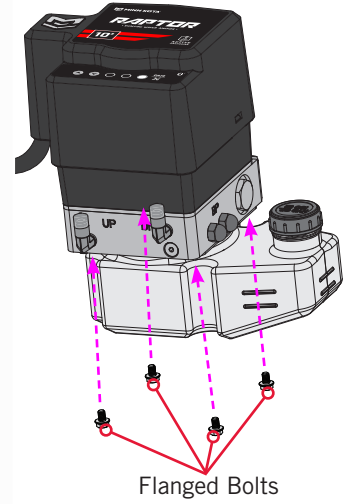
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- d. With the Pump Reservoir rotated and seated in place, use the 5/16" Deep Well Socket or 5/16" Ratchet-Style Wrench to replace the four Flanged Bolts. Tighten to 12 in-lbs.
- e. With the Flanged Bolts back in place, continue with the Hydraulic Pump installation.

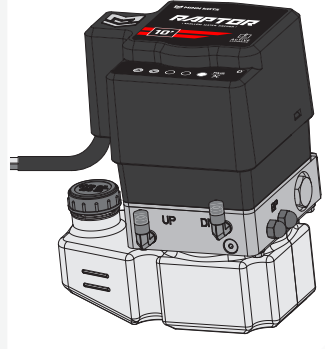
3d



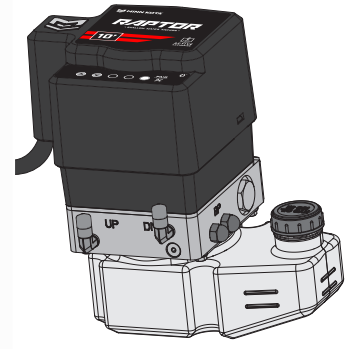
3d



3e



3e



INSTALLING THE HYDRAULIC PUMP

Installing the Hydraulic Pump

Review the mounting considerations at the beginning of the installation. If it is necessary to rotate the Pump Assembly, refer to the "Rotate the Pump Assembly" section of these instructions. When ready to install the pump, follow the directions below.

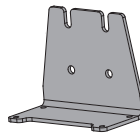
NOTICE: Installation for your Pump Assembly may vary from the standard installation. Review the mounting considerations for variations in mounting.

1

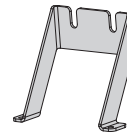
ITEM(S) NEEDED



#D, E, or F x 1



#20 x 1



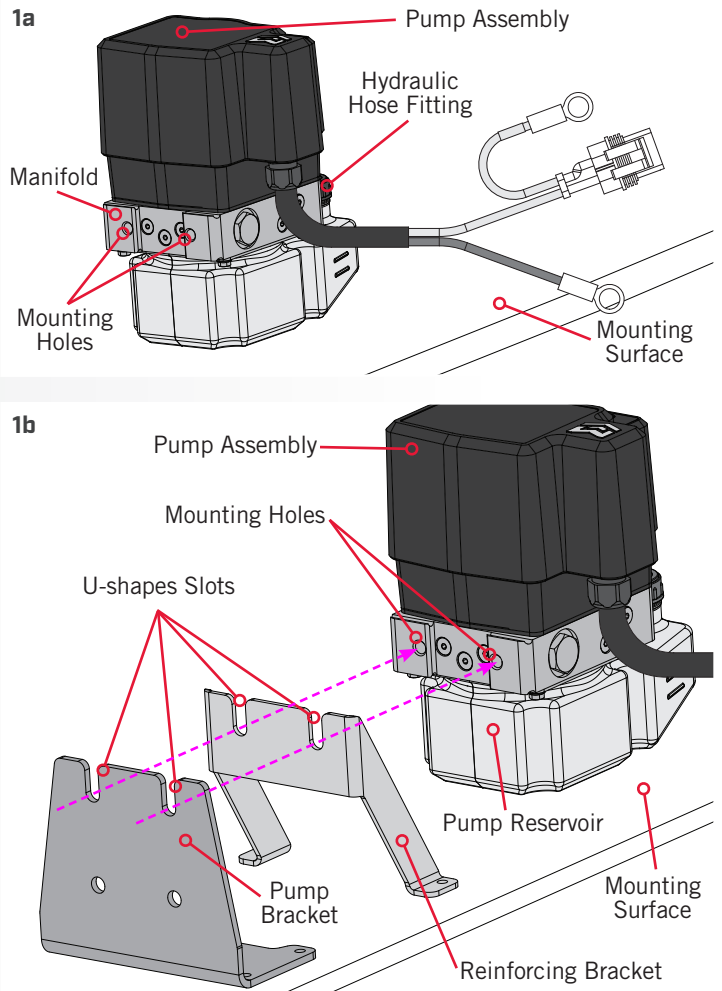
#22 x 1

CAUTION

Avoid the risk of electric shock. Do not connect the Pump Assembly to a power source before installation.

- Take the Pump Assembly (Assembly D, E, or F) and identify the two mounting holes on the Manifold. The mounting holes are on the opposite side of the pump from the brass colored Hydraulic Hose Fittings. Position the Pump Assembly at the intended mounting location. Review the mounting considerations and make sure the selected location is acceptable.
- The Two-piece Mounting Bracket consists of the Pump Bracket (Item #20) and the Reinforcing Bracket (Items #22). For a standard installation, the Reinforcing Bracket sits nested on top of the Pump Bracket with the U-shaped slots aligned. Take the Two-piece Mounting Bracket and align the U-shaped slots.
- Slide the Pump Bracket and Reinforcing Bracket together and then slide the Pump Assembly into the bracket. The angled sides of the Reinforcing Bracket fit along each side of the Pump Reservoir in a standard installation. Review the mounting considerations and position the Pump Assembly with the Two-piece Bracket in the intended mounting location.

NOTICE: If the Pump Reservoir is rotated for installation, it will not be possible to install the Reinforcing Bracket. The position of the Pump Bracket may vary for your installation based on conditions outlines in the mounting considerations.



NOTICE: The Pump Assembly must be mounted vertically. If adjustments to the mounting need to be made, rotate the position of the Two-piece bracket to accommodate the necessity to keep the pump vertical.

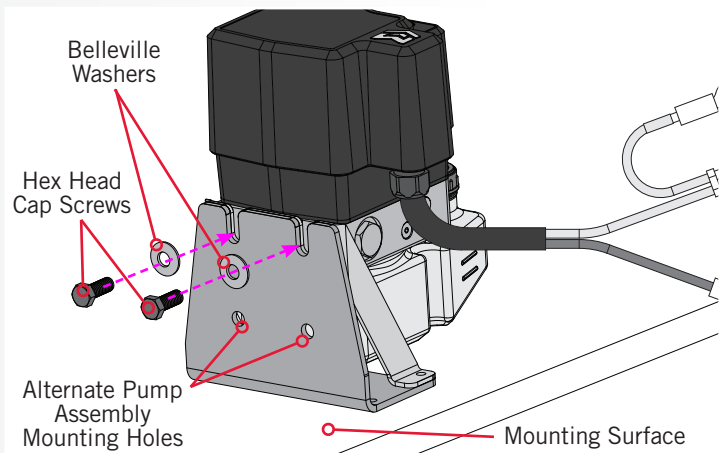
INSTALLING THE HYDRAULIC PUMP

2

ITEM(S) NEEDED



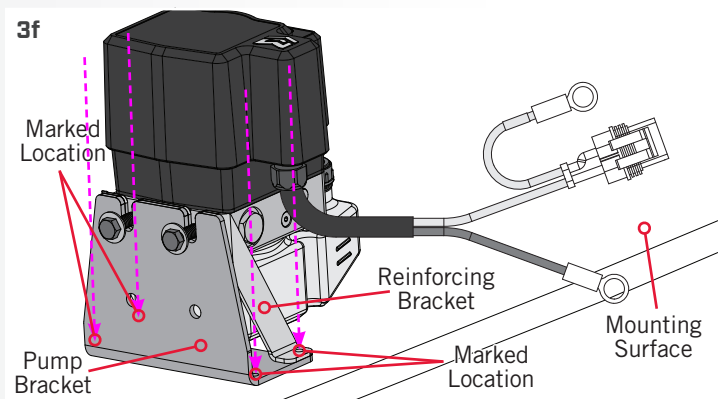
- d. The U-shaped Slots on the Mounting Bracket allow for adjustability between the Pump and the mounting bracket. Take both Hex Head Cap Screws (Item #16) and place one 3/8" Belleville Washer (Item #12) on each. The Hex Head Cap Screws will hold the Pump in place along the U-shaped slots. Insert the bolts with the washers in place so that they are partially installed into the Mounting Holes on the Pump. The washers should sit on the outside of the Mounting Bracket, farthest from the Pump Assembly, on the screws. Hand tighten or use a 9/16" Wrench just until the bolts are placed. It may be easier to first install the screws and washers partially and then lower the Pump Assembly to fit in the U-shaped slot on the brackets, making sure the washer is closest to the screw head.
- e. Once partially installed, check the mounting location and determine the final position of the Pump Assembly and mounting bracket at the intended mounting location.



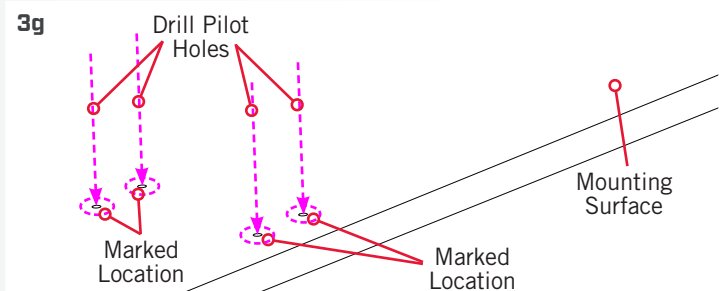
NOTICE: The U-shaped slots and the larger holes on the Pump Bracket may be used to mount the Pump Assembly to the bracket. The holes used will depend on individual mounting circumstances.

3

- f. Once positioned, take a pen or similar marking tool and mark the Mounting Surface where the Reinforcing Bracket and Pump Bracket overlap at the Mounting Hole on each side of the Pump Reservoir. Also mark the bottom holes on the Pump Bracket. It is recommended to mark all four Mounting Holes in the Mounting Bracket.
- g. Set the Pump Assembly aside and use a Drill with a 1/8" Drill Bit to drill Mounting Holes in the Mounting Surface at the marked locations.



NOTICE: When drilling holes, especially into fiberglass, it is helpful to first cover the surface with masking tape. Use a 5/32" Drill Bit when drilling into Fiberglass for the Pilot Holes. Masking Tape will help keep the boat surface unmarked and help with cleanup. Cover the surface and then mark the location to drill. Once the pilot holes are drilled, remove the masking tape before continuing installation.



INSTALLING THE HYDRAULIC PUMP

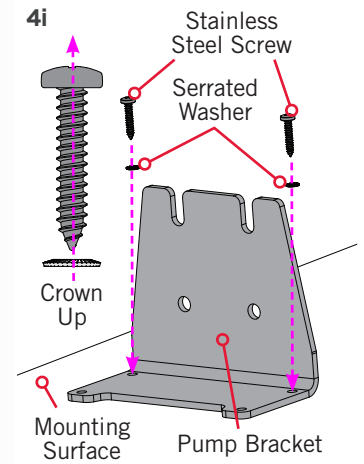
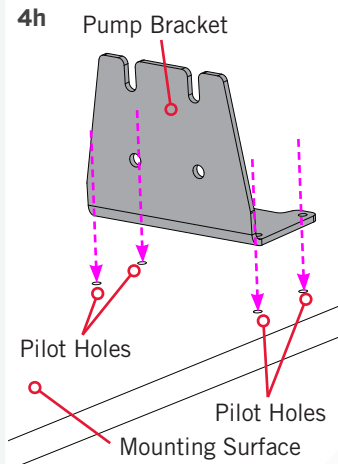
4

ITEM(S) NEEDED

○ #14 X 2

🔩 #18 X 2

- h. Replace the Pump Bracket only and align the Mounting Holes with the Pilot Holes.
- i. Take two 1" Stainless Steel Screws (Item #18) and two Serrated Washers (Item #14). Place one washer on the end of each screw so that the crown of the washer is facing up towards the head of the screw. Install the Screws with drill and a #2 Phillips Bit. The screws should pass through the Serrated Washer and Pump Bracket and then into the Mounting Surface.



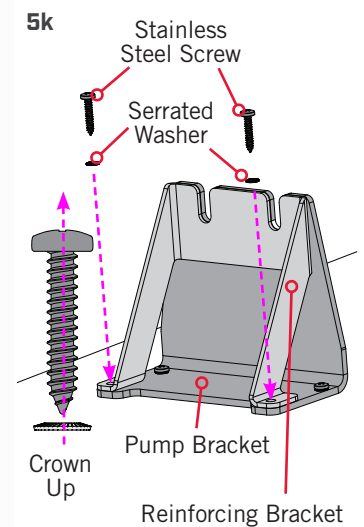
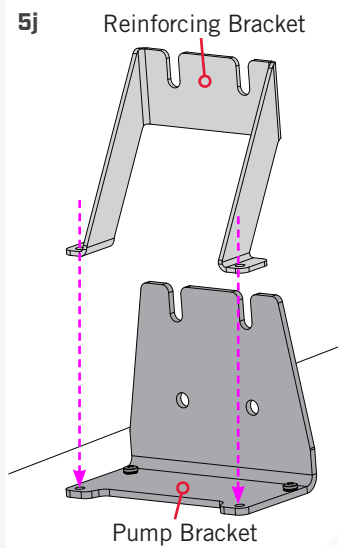
5

ITEM(S) NEEDED

○ #14 X 2

🔩 #18 X 2

- j. With the two Screws installed, replace the Reinforcing Bracket onto the Pump Bracket so that the mounting holes are again aligned.
- k. Take the two remaining 1" Stainless Steel Screws (Item #18) and two Serrated Washers (Item #14). Place one washer on the end of each screw so that the crown of the washer is facing up towards the head of the screw. Install the Screws with a Drill and a #2 Phillips Bit in the overlapping holes of the Two-Piece Mounting Bracket. The Screws should pass through the Serrated Washer, Reinforcing Bracket and Pump Bracket and into the Mounting Surface.



NOTICE: If the Pump Reservoir is rotated for installation, it will not be possible to install the Reinforcing Bracket. To complete installation, it is recommended to use all four Stainless Steel Screws and Serrated Washers to secure the Pump Bracket to the Mounting Surface.

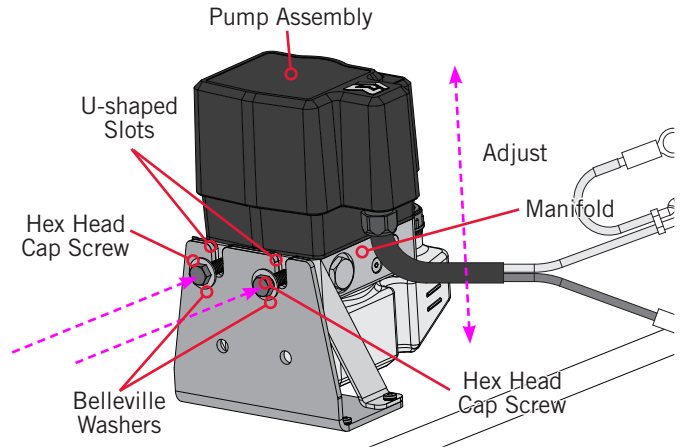
INSTALLING THE HYDRAULIC PUMP

6

- i. With the Two-Piece Mounting Bracket fully installed, replace the Pump Assembly on the Mounting Bracket. Make sure that the Belleville Washers sit between the head of the screw and the Mounting Bracket. The Pump Assembly is secured to the mounting bracket by tightening the Hex Head Cap Screws that were previously put in place on the Manifold.
- m. Slide the Pump Assembly either up or down in the U-shaped slots to find the position that works best for your installation. When satisfied with the position, tighten the hardware with a 9/16" Wrench to 12 ft-lbs.

NOTICE: When direct-mounting the Pump Assembly, only the two Hex Head Cap Screws are used for installation. If direct mounting the Pump Assembly, use a Drill with a 7/16" Drill Bit to drill Pilot Holes in the Mounting Location. Secure the Pump Assembly in place by placing a Belleville Washer on each screw. Then place the screw through the mounting surface and into the mounting holes on the Manifold of the Pump Assembly.

5j



7

ITEM(S) NEEDED



#26 X 1

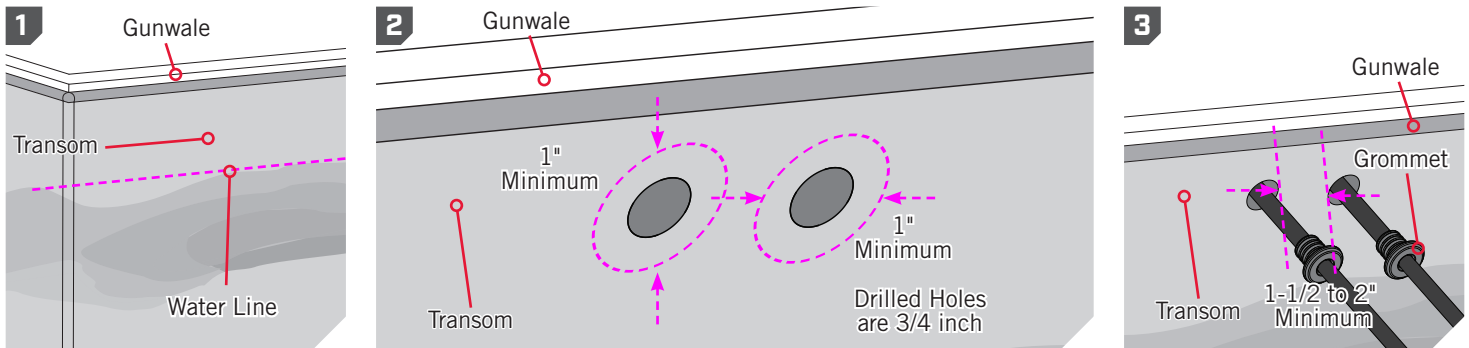
- n. Take the Pressure Wrench (Item #26) and store it in a secure location on the boat. The Pressure Wrench is only needed if pressure in the hydraulic system needs to be manually relieved. To learn more, please refer to the Owner's Manual.

INSTALLING HYDRAULIC HOSES

Installing Hydraulic Hoses

Review the Mounting Considerations at the beginning of installation and then locate the Hydraulic Hoses attached to the Raptor. There will be a green Cap on one hose, designated as the hose controlling the UP/retract function. The hose with the black cap is designated for the DOWN/deploy function. The hose with the black cap (DOWN) extends further from the Raptor due to its mounting position within the Raptor. **Determine if hydraulic hoses may be routed through an established route on the boat to the Hydraulic Pump.** The Hydraulic Hoses are 15 feet in length. If longer hoses are needed for your installation, Minn Kota recommends the Raptor Hydraulic Hose Extension Kit 2771401. If holes need to be drilled to provide a suitable routing for the installation location of the connected components, please give consideration to the following:

- 1. Above Water Line** - If drilling holes to route the Hydraulic Hoses through the Hull, Transom, or other appropriate structure of the boat, make sure that the holes drilled are above the water line when the boat sits in water.
- 2. Minimum Clearance** - It is recommended to place the holes a minimum of 1 inch from any obstruction to allow for complete installation of the Grommet. This may include structural changes to the selected location such as seams or structural supports and the presence of any existing hardware such as ladders, brackets and existing accessories.
- 3. Hole Spacing** - Two separate holes will need to be drilled for the Hydraulic Hoses. There is a rubber Grommet on each hose. The intention is to use the Grommet to cover the space between the hose and the transom where the holes are drilled. To allow space for the hoses and a proper seal on the Grommet, drill the holes between 1-1/2 and 2 inches apart.



WARNING

- Only use hydraulic hose approved by Johnson Outdoors with the Raptor. The use of unapproved hydraulic components may cause damage, unexpected operation, or injury.
- Do not allow hoses to kink, twist, curl, be crushed or bent in a manner that blocks or reduces the flow of fluid within the hose. The minimum bend radius for the hydraulic hoses is 1.25 inches.
- Do not overtighten hydraulic connections.

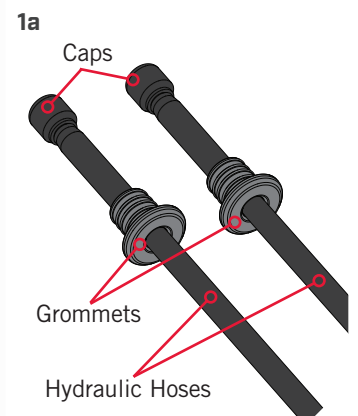
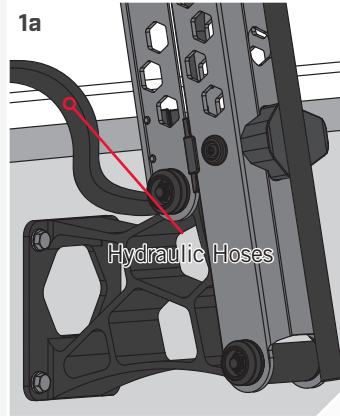
INSTALLING HYDRAULIC HOSES

1

- a. Locate the Hydraulic Hoses that exit the Raptor, and note the Grommet on each hose. If the Hydraulic Hoses are tie wrapped in a circle, it may be necessary to carefully cut the tie wrap with a scissors or similar cutting tool and unwrap the hoses. There will be a green Cap on one hose, designated as the hose controlling the UP/retract function. The hose with the black cap is designated for the DOWN/deploy function.

CAUTION

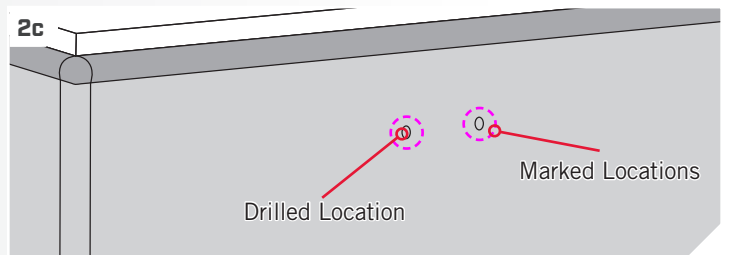
Do not remove the black and green Caps from the end of the Hydraulic Hoses until instructed to do so. Keeping the Caps in place until needed will keep the hydraulic lines clean. Dirt in the hydraulic fluid may affect hydraulic operation.



NOTICE: If routing the Hydraulic Hose through an established routing system on the boat, the Grommets may be removed.

2

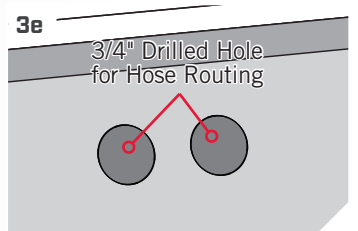
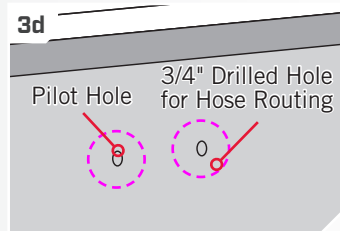
- b. Review the installation considerations for the hoses at the beginning of this section. Select, measure and mark the location on the boat that will be drilled for routing the Hydraulic Hoses using a measuring tool and a pen or similar marking tool.
- c. Make sure that the drilled location is clear to drill holes and pull the Hydraulic Hoses aside so they do not pose an obstruction and to clear the marked location. Using a Drill with a 5/16" Drill Bit, drill Pilot Holes through the Marked Locations.



NOTICE: When drilling holes into fiberglass, it is helpful to first cover the surface with masking tape. Use a 5/16" Drill Bit when drilling into Fiberglass for the Pilot Holes. Masking Tape will help keep the boat surface unmarked and help with cleanup. Cover the surface and then mark the location to drill. Once the pilot holes are drilled, remove the masking tape before continuing installation.

3

- d. Once the Pilot Holes are drilled, use a Drill with a 3/4" Drill Bit in each 5/16" Pilot Hole. The final holes for hose routing should have a diameter of 3/4" each.
- e. Use a file, sand paper or an emery board to smooth the edge of the drilled hole, to smooth the edges, that contact the Hydraulic Hoses and make placement of the Grommets easier.



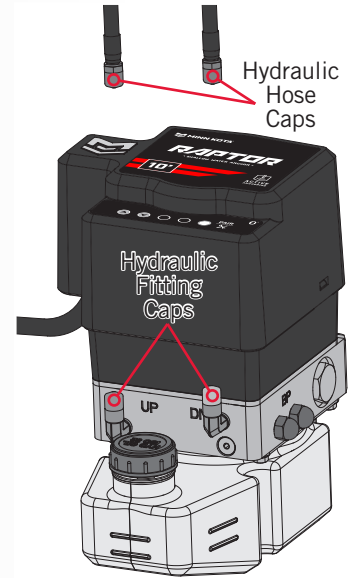
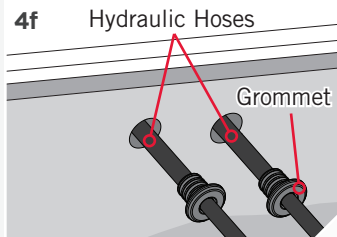
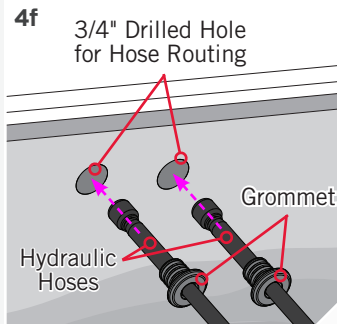
INSTALLING HYDRAULIC HOSES

4

- f. Take the Hydraulic Hoses with the green and black Caps still in place and insert one hose into each drilled hole. If necessary, slide the Grommets back so that the Hydraulic Hose has enough slack on the other side of the drilled location to reach the Pump Assembly.
- g. Route most of length of the Hydraulic Hoses into the hull so that each hose can be attached to the Hydraulic Hose Fittings on the Pump Assembly. While pulling the hoses thru the hull make sure that the hoses do not kink. Most of the hose should be routed into the boat, but leave slack outside the hull for the anchor to deploy and not pull the hose, but not excessive slack that it would cause the hoses to kink. Then return to the Hydraulic Hoses and Grommets at the Drilled Location.

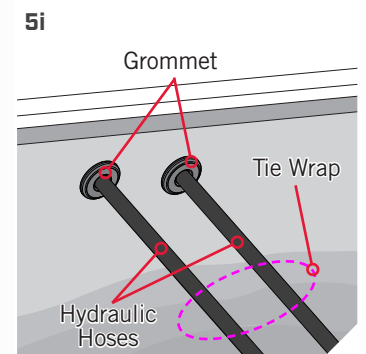
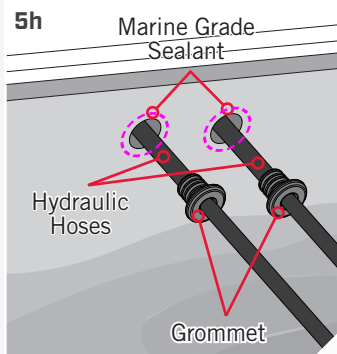
CAUTION

Avoid the risk of electric shock. Do not connect the Pump Assembly to a power source when installing hoses.



5

- h. With the hoses routed to the Pump Assembly, the Mounting surface should be sealed. To seal the space around the grommet and finish installing it, first apply 1/8" bead of marine grade sealant around each Drilled Hole. The sealant should be reasonably close to the edge of the hole so that it will sit under the edge of the Grommet when pressed in place.
- i. Once the sealant is applied, press the Grommets in place so they are seated against the mounting surface. When the hose routing is complete, it is recommended to loosely secure the Hydraulic Hoses together with a tie wrap between the anchor and the main entrance point on the boat to keep the hose routing clean.



INSTALLING HYDRAULIC HOSES

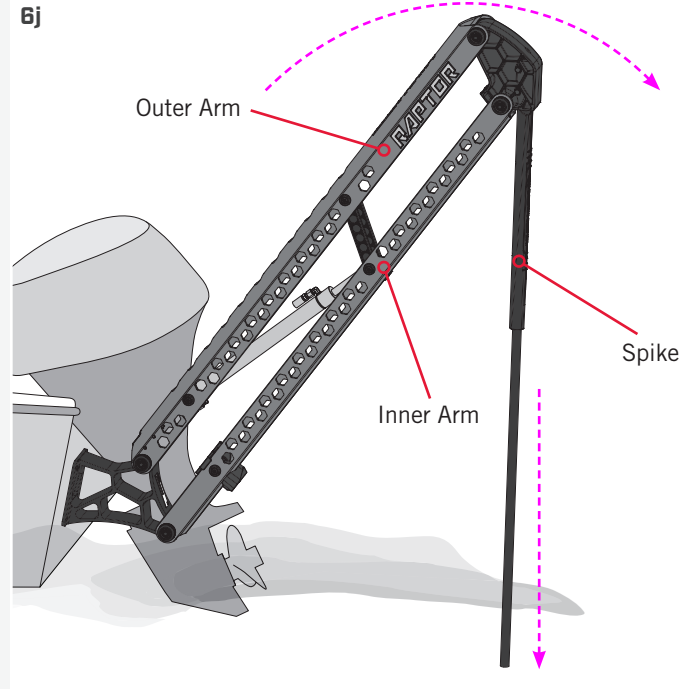
6

- j. With the Hydraulic Hoses and Grommets installed, use a second person to carefully lower the Raptor so that the Spike is resting on the ground. Watch for pinch points when lowering the anchor and make sure that the anchor is clear from obstructions or persons before lowering it to the ground.

⚠ CAUTION

Be sure that the Raptor is clear of obstructions and persons while deploying or retracting. The spaces between the Outer Arm, Inner Arm, Spike and brackets of the Raptor can create a pinch point. Do not come in contact with an area of the Raptor that may cause a pinch point while it is moving in any direction to avoid the risk.

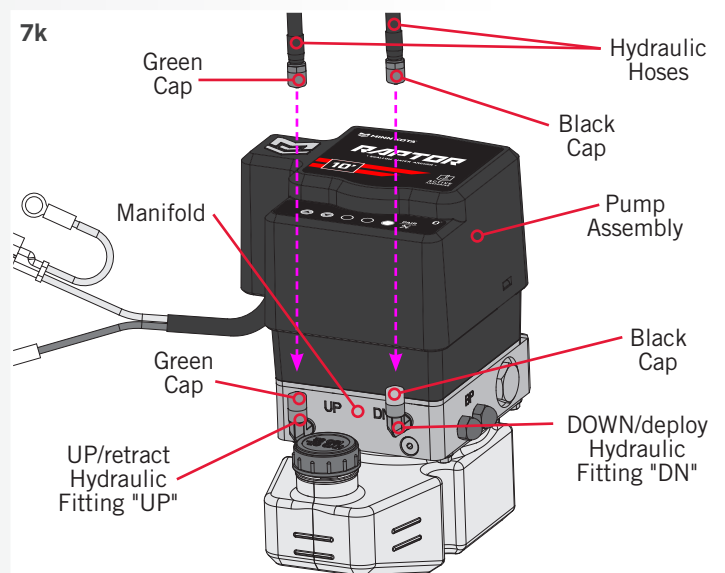
6j



7

- k. Return to the routed hoses and the Hydraulic Fittings on the Pump Assembly. The Hydraulic Fitting with the green Cap on the Manifold will correspond to the UP/retract function. It will be marked on the Manifold with "UP". The Hydraulic Fitting with the black Cap on the Manifold will correspond to the DOWN/deploy function. The Hydraulic Fitting will be marked on the Manifold with "DN". The Hydraulic Hose with the green Cap will be matched to the Hydraulic Fitting with the green Cap. The Hydraulic Hose with the black Cap will be matched to the Hydraulic Fitting with the black Cap.

7k



⚠ CAUTION

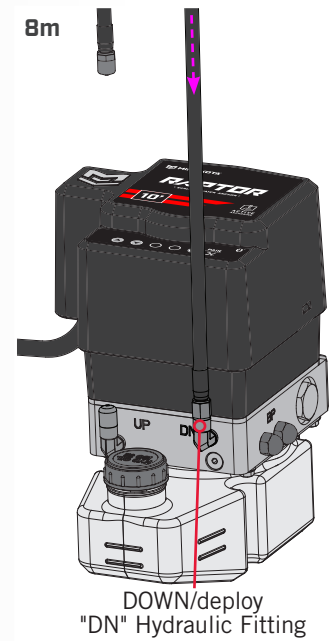
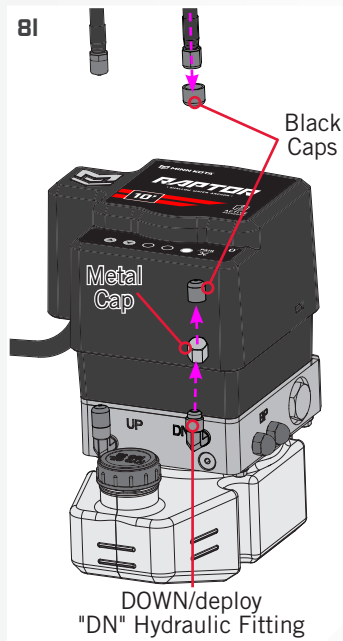
Make sure that the Raptor anchor is deployed and the Spike is touching the ground if hydraulic pressure is not present. This includes before the Pump Assembly is filled with hydraulic fluid and any time changes to the Hydraulic Circuit are made. Changes to the Hydraulic Circuit may include adjustments to the Hydraulic Hoses, or adjustments to the bypass valves. Changes to pressure in the Hydraulic Circuit may cause the Raptor to fall and pose a striking hazard due to gravity. Rest the Spike on the ground to avoid this hazard.

INSTALLING HYDRAULIC HOSES

8

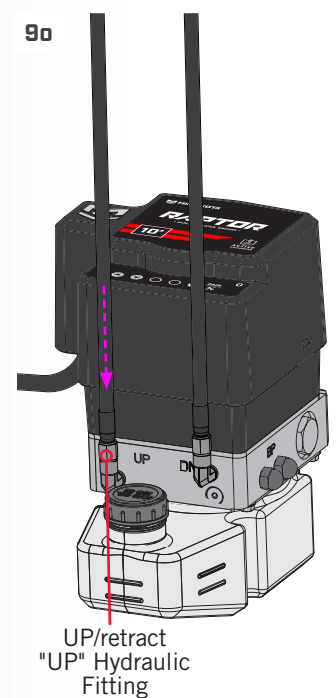
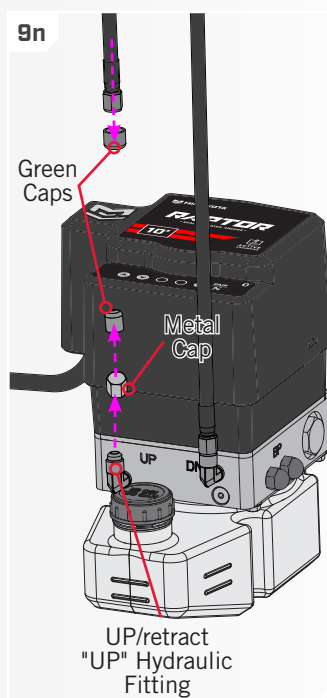
- l. Remove the black Cap on the Hydraulic Hose and the black Cap on the "DN" Hydraulic Fitting. The Hydraulic Hose with the black Cap will be the longer of the two hoses that come from the Raptor. Under the black Cap on the "DN" Hydraulic Fitting is a Metal Cap sealing the fitting. Using a 9/16" Wrench remove the Metal Cap, turning in a counterclockwise direction.
- m. Attach the Hydraulic Hose to the "DN" Hydraulic Fitting, by turning the threaded connection on the Hydraulic Hose onto the Hydraulic Fitting on the pump by turning 5 to 7 times by hand. If the threads are not freely turning, the threads are misaligned. Lift off and try again. Hand-tighten in a clockwise direction until seated. Then finish tightening with a 9/16" Wrench to 120 in-lbs.

NOTICE: Do not apply anything to the ends of the Hydraulic Hoses or the Hydraulic Fittings on the pump.



9

- n. Remove the green Cap on the Hydraulic Hose and the green Cap on the "UP" Hydraulic Fitting. The Hydraulic Hose with the green Cap will be the one that has the shorter extension from the Raptor. Under the green Cap on the "UP" Hydraulic Fitting is a Metal Cap sealing the fitting. Using a 9/16" Wrench remove the Metal Cap, turning in a counterclockwise direction.
- o. Attach the Hydraulic Hose to the "UP" Hydraulic Fitting, by turning the threaded connection on the Hydraulic Hose onto the Hydraulic Fitting on the pump by turning 5 to 7 times by hand. If the threads are not freely turning, the threads are misaligned. Lift off and try again. Hand-tighten in a clockwise direction until seated. Then finish tightening with a 9/16" Wrench.



INSTALLING THE REMOTE BRACKET

Installing the Remote Bracket

The Raptor comes with two remotes. Mounting the Remote Bracket to your boat is an option installation. The Remote Bracket is only intended to hold one remote. Mounting the Remote Bracket in the boat is based on personal preference. It is recommended to mount the Remote Bracket to a flat surface where the remote can be easily accessed for anchor control. Avoid a space where the buttons on the remote may be accidentally actuated. To mount the bracket, follow the steps below:

1

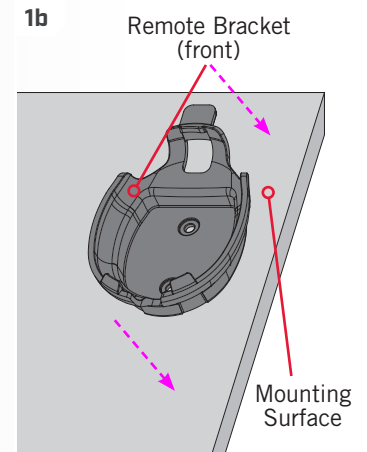
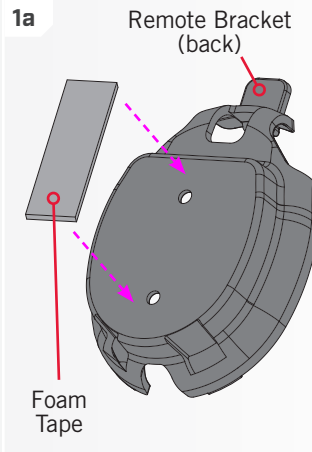
ITEM(S) NEEDED

 #32 X 1



#30 X 1

- Select a flat mounting location for the Remote Bracket. Check the location for fit and function of the Bracket Holder. Clean and thoroughly dry the mounting surface. Once satisfied with the location, take the Foam Tape (Item #32) and pull the backing off of one side of it. Install the Foam Tape with the exposed adhesive facing toward bracket, approximately centered on the back of the Remote Bracket (Item #30). Press and hold in place for 30 seconds.
- Remove the backing on the outside of the Foam Tape to expose the adhesive. Place the Bracket Holder to the mounting location. Firmly press and hold for 30 seconds.



2

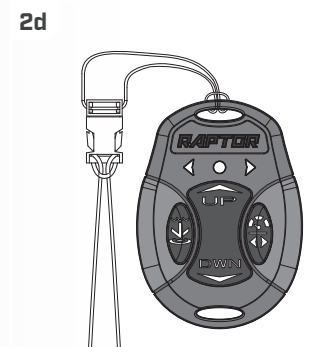
ITEM(S) NEEDED

 #28 X 1



#G X 1

- Take one of the Raptor remotes (Assembly G) and place it in the Bracket Holder.
- It is also optional to place the Lanyard (Item #28 X 1) on either of the Raptor remotes.



NOTICE: The two Raptor remotes that come with the Raptor from the factory are pre-paired. If the network connection between the remotes and the anchor is interrupted, please see "Pairing the Raptor" section of these instructions.

BATTERY & WIRING INSTALLATION

BOAT RIGGING & PRODUCT INSTALLATION

For safety and compliance reasons, we recommend that you follow American Boat and Yacht Council (ABYC) standards when rigging your boat. Altering boat wiring should be completed by a qualified marine technician. The following specifications are for general guidelines only.

CAUTION

Please read the following information before connecting your Raptor(s) to your battery in order to avoid damaging your product and/or voiding your warranty.

CAUTION

These guidelines apply to general rigging to support your Minn Kota product. Powering multiple Raptors or additional electrical devices from the same power circuit may impact the recommended conductor gauge and circuit breaker size. If you are using wire longer than that provided with your unit, follow the conductor gauge and circuit breaker sizing table below. If your wire extension length is more than 25 feet, we recommend that you contact a qualified marine technician.

CAUTION

An over-current protection device (circuit breaker or fuse) must be used. Coast Guard requirements dictate that each ungrounded current-carrying conductor must be protected by a manually reset, trip-free circuit breaker or fuse. The type (voltage and current rating) of the fuse or circuit breaker must be sized accordingly. The table below gives recommended guidelines for circuit breaker sizing.

CONDUCTOR GAUGE AND CIRCUIT BREAKER SIZING TABLE

This conductor and circuit breaker sizing table is only valid for the following assumptions:

1. No more than 2 conductors are bundled together inside of a sheath or conduit outside of engine spaces.
2. Each conductor has 105° C temp rated insulation.
3. No more than 5% voltage drop allowed at full power based on published product power requirements.

Max Amp Draw	Circuit Breaker	Wire Extension Length				
		5 feet	10 feet	15 feet	20 feet	25 feet
70 Amps	30 Amp @ 12 VDC	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG

NOTICE: Wire Extension Length refers to the distance from the batteries to the Raptor leads. Maximum Amp Draw values only occur intermittently during select conditions and should not be used as continuous amp load ratings.

Reference

United States Code of Federal Regulations: 33 CFR 183 – Boats and Associated Equipment ABYC E-11: AC and DC Electrical Systems on Boats

SELECTING THE CORRECT BATTERIES



SELECTING THE CORRECT BATTERIES

The Raptor will operate with any lead acid, marine 12 volt battery. For best results, Minn Kota recommends connecting to the starting battery. The Raptor may operate with a Lithium Ion battery. Maintain battery at full charge. Proper care will ensure having battery power when you need it, and will significantly improve the battery life. Failure to recharge lead-acid batteries (within 12-24 hours) is the leading cause of premature battery failure. Use a multi-stage charger to avoid overcharging. We offer a wide selection of chargers to fit your charging needs.

The Raptor draws a small amount of residual current from the battery even when not in use. If the Raptor will not be used for more than a month, the Raptor power leads should be disconnected from the battery. Avoid connecting the Raptor to the same batteries that a trolling motor or other accessories are connected to. It is recommended the Raptor be connected to the Starting Battery through a battery selector or power disconnect switch. This will disconnect power to the Raptor when the Power Switch is "off". If you are not using a battery selector/power disconnect switch, the Raptor may be connected directly to the Starting Battery.

WARNING

Never connect the (+) and the (-) terminals of the same battery together. Take care that no metal object can fall onto the battery and short the terminals. This would immediately lead to a short and extreme fire danger.

For proper ABYC compliance, when the factory fuse has been removed, the user must install a 30A fuse within 7" of the positive battery terminal.

NOTICE: The in-line re-settable 30A fuse is designed to protect the system. If this fuse repeatedly trips, faulty wiring could be the cause and must be corrected. If the re-settable fuse itself is suspect, Minn Kota recommends contacting customer service for a proper replacement.

CONNECTING THE BATTERIES

12 Volt Systems

1. If connecting to an optional battery selector/power disconnect switch, turn it to the "off" position prior to connecting the power cable.
2. Connect positive (+) white lead to positive (+) battery terminal, or switch positive.
3. Connect negative (-) black lead to negative (-) battery terminal, or switch negative.

WARNING

Observe proper polarity and follow instructions in your boat owner's manual regarding polarity.

4. The Pump Assembly will beep to indicate Power "on". There is NO "on/off" switch. To remove power from the Pump Assembly, the Raptor must be powered "off" by removing the leads from the battery terminals, or switch.

WARNING

Do not run the Hydraulic Pump until after hydraulic fluid has been added. Running the Hydraulic Pump without hydraulic fluid can damage the pump.

CONNECTING THE BATTERIES



WARNING

- The Raptor draws a small amount of residual current from the battery even when not in use. If the Raptor is not be used for more than a month, or while the battery/batteries are being charged, the Raptor power leads should be disconnected from the battery. It is recommended the Raptor be connected to the Starting Battery through a battery selector or power disconnect switch. This will disconnect power to the Raptor when the Power Switch is "off". If you are not using a battery selector/switch, the Raptor may be connected directly to the starting battery.
- Keep lead wire connections tight and solid to the battery or switch terminals.
- The Starting Battery should be located in a ventilated compartment to avoid sparks from combustible materials.

WARNING

Never disconnect hydraulic components while power is applied and bypass valves are not open.

COMPLETING INSTALLATION

COMPLETING THE RAPTOR INSTALLATION

At this point in the installation, the Raptor anchor and Pump Assembly have been successfully mounted to the boat and connected to a power source. The Hydraulic Hoses have also been routed and connected to the Pump Assembly. Since the motion of the anchor is also controlled by the use of hydraulics, to complete the installation, the Pump Assembly needs to be filled with hydraulic fluid and go through a deploy/retract sequence to bleed the hydraulic lines. The final steps in installation will include confirming the Bluetooth connection between the remotes that come paired with the anchor from the factory and the Pump Assembly. Before using the Raptor for its intended purpose, confirm that the installation of the components is complete and then finalize the installation for successful operation.

CAUTION

Because of the mechanical pressure from the use of hydraulics, avoid injury by making sure the mechanical installation of the Raptor anchor and Pump Assembly is complete before finalizing the installation. Hydraulic pressure from unsecured components may cause unexpected operation and movement of components.

COMPLETING THE INSTALLATION

Filling the Pump with Hydraulic Fluid and Bleeding the Hydraulic Lines

In order to complete the installation, the Pump Assembly needs to be connected to a power source. If the Pump is not connected to a power source, review the "Battery & Wiring Installation" section of these instructions.

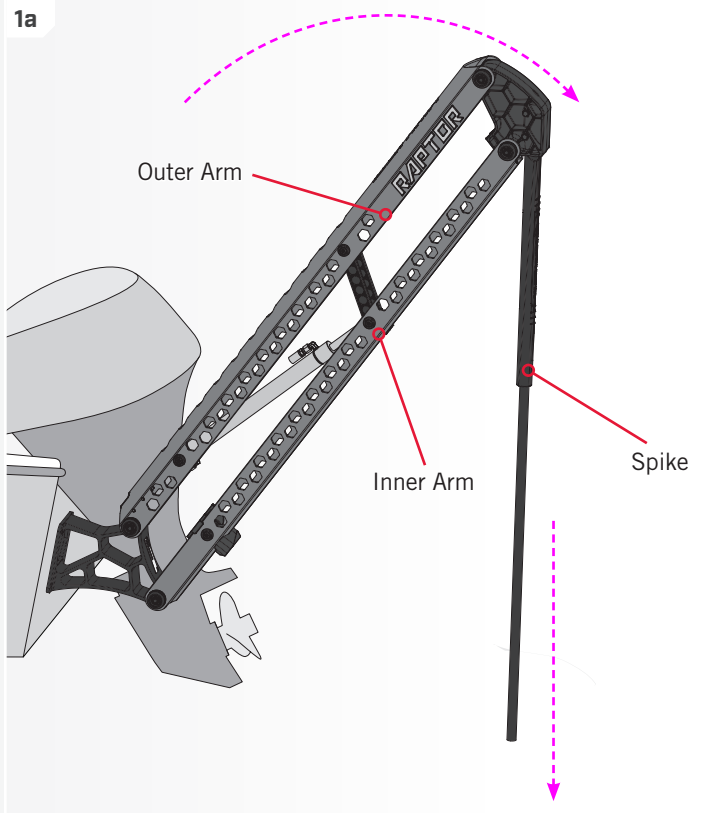
- 1 a. The Raptor anchor should be extended so that the Spike is resting on the ground. If the Spike is not resting on the ground from the previous installation steps, carefully lower the anchor with the help of a second person. Watch for pinch points when manually moving the Raptor.

CAUTION

Be sure that the Raptor is clear of obstructions and persons while deploying or retracting. The spaces between the Outer Arm, Inner Arm, Spike and brackets of the Raptor can create a pinch point. Do not come in contact with an area of the Raptor that may cause a pinch point while it is moving in any direction to avoid the risk. Stay clear of the anchor if it is not held in place under the power of the Hydraulic Circuit or physical restraint. Not lowering the Spike before filling the Hydraulic Circuit and bleeding the hydraulic lines can result in a striking hazard created by the force of gravity on an unsecured anchor. Lower the Spike to avoid the risk.

WARNING

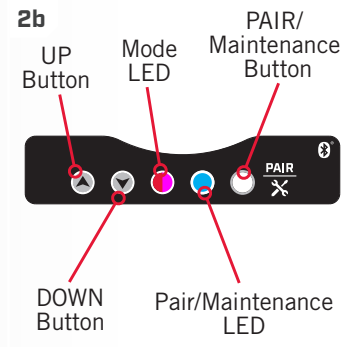
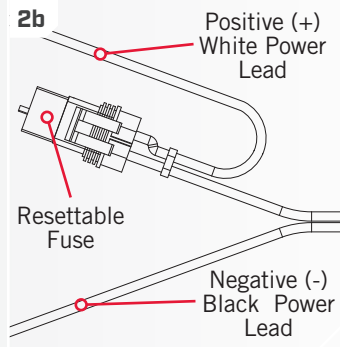
Do not run the Hydraulic Pump until after hydraulic fluid has been added. Running the Hydraulic Pump without hydraulic fluid can damage the pump.



FILLING THE PUMP WITH HYDRAULIC FLUID AND BLEEDING THE HYDRAULIC LINES

2

- b. When the Pump Assembly was attached to a power source, it beeped to indicate Power "on". To test that there is power to the Pump Assembly, remove the Resettable Fuse from the positive (+) white power lead and re-insert it. When Power is restored, the LED's will flash in a series and then the pump will beep. The Mode LED will flash red ● at the same time as the Pair/Maintenance LED flashes blue ●. Then the LEDs will shut off and the Mode LED will flash green ●. When the Mode LED turns off, the pump will beep to confirm that power is restored. The Pump Assembly is ready to be filled with Hydraulic Fluid.



⚠ CAUTION

The Pump Assembly is connected to a power source during this step of the installation. Review the "Battery & Wiring Installation" section of these instructions to become familiar with the risks involved in working with electrical currents.

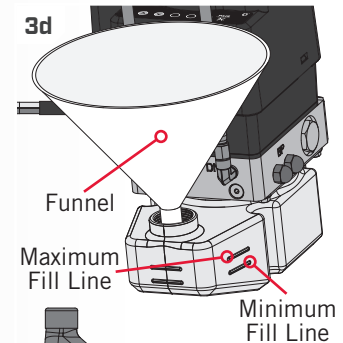
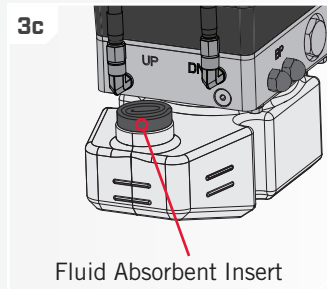
3

ITEM(S) NEEDED



#24 X 1

- c. Remove the Fluid Absorbent Insert sealing the Pump Assembly by pulling it out. Remove the Insert completely and discard it.
- d. Place a clean Funnel or similar tool onto the Reservoir. Notice the maximum and minimum fill lines on the Reservoir. The Raptor Pump Reservoir is designed to hold 1 quart of Hydraulic Fluid. Take the Biodegradable Marine Hydraulic Fluid ISO 32 (Item #24) and fill the Reservoir with at least half of the quart until the Reservoir is filled to the Maximum Fill Line.



⚠ CAUTION

Biodegradable Marine Hydraulic Fluid ISO 32

First Aid: Keep out of reach of children - do not induce vomiting

Eye Contact: Flush affected eyes with water for at least 15 minutes.

Skin Contact: Wash any exposed skin portion thoroughly with soap and water.

NOTICE: Raptor is 100% quality and performance tested with hydraulic fluid. Discard residual fluid absorbent insert. For shipping purposes only.



Biodegradable Marine Hydraulic Fluid ISO 32

NOTICE: Minn Kota recommends using Biodegradable Marine Hydraulic Fluid ISO 32 (Part #2357700.)

FILLING THE PUMP WITH HYDRAULIC FLUID AND BLEEDING THE HYDRAULIC LINES

4

ITEM(S) NEEDED

 #38 X 1

- e. Take the Reservoir Cap (Item #38) and place it on the Pump Reservoir. Close to finger tight by turning the Reservoir Cap clockwise.
- f. Use the Up ▲ and Down ▼ Buttons on the Hydraulic Pump to cycle through the retract (up) and deploy (down) sequence. After one to two deploy and retract cycles, check the Reservoir to make sure that the Hydraulic Fluid is not below the Minimum Fluid Line.

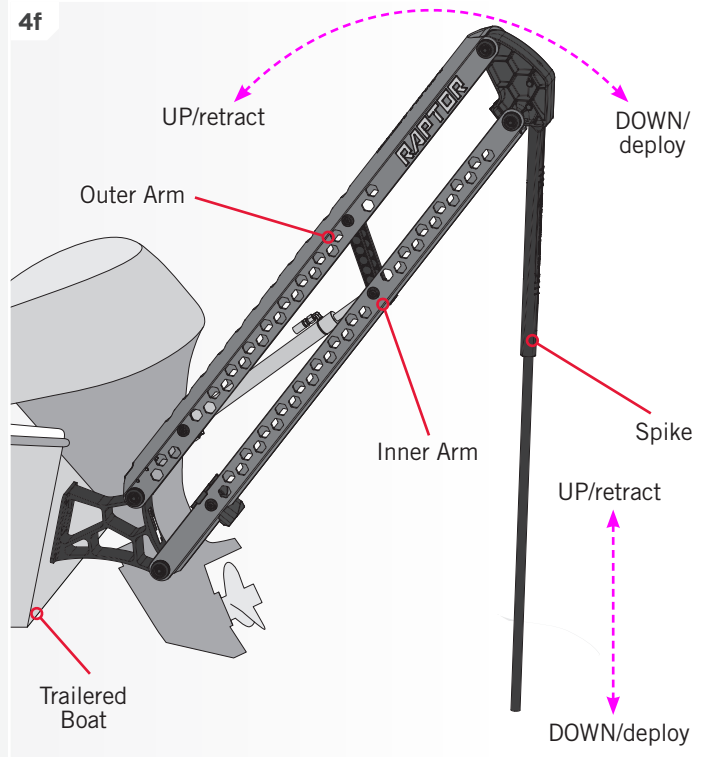
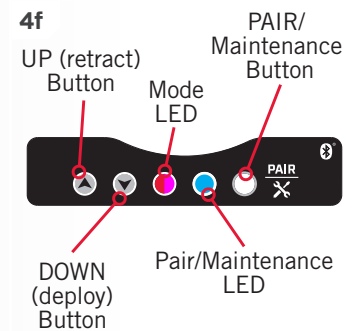
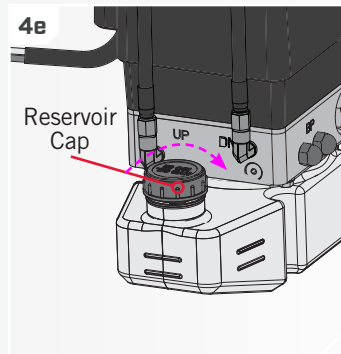
NOTICE: If the Reservoir Cap (Part #2350200) becomes lost or dirty, order a new one online at minnkotamotors.com.

NOTICE: During the first few cycles it is normal for the anchor to have little movement when the Up and Down Buttons are pressed. The Hydraulic Lines and Cylinder must fill with Hydraulic Fluid before normal, smooth movements will take place.

WARNING

Take care that neither you nor other persons approach the Raptor Spike too closely while operating, neither with body parts nor with objects. The Raptor is powerful and may endanger or injure you or others. While the Raptor is operating, watch out for persons and obstructions while controlling the Raptor.

- g. If the Hydraulic Fluid is below the minimum, add more, by following the procedure above. Then cycle the Raptor through a minimum of ten deploy and retract cycles.
- h. Once ten cycles are completed, return to filling the Reservoir. If the Hydraulic Fluid is below the minimum, add more, by following the procedure above. Repeat five more retract and deploy cycles. Finish with the Raptor in the fully retracted state.



FILLING THE PUMP WITH HYDRAULIC FLUID AND BLEEDING THE HYDRAULIC LINES

5

- i. Before normal use of the Raptor, trailer the boat to a body of water. Unload the boat into the water and drive it to water that is no less than the depth of your anchor or a minimum of 10 feet. It is recommended to go into no less than 10 feet of water to ensure that the anchor is able to actuate in its full range of motion to bleed Hydraulic Fluid through the circuit and remove any air present.

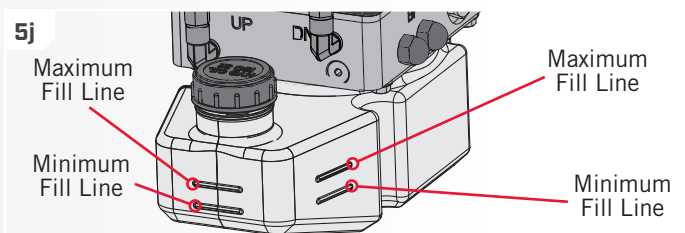
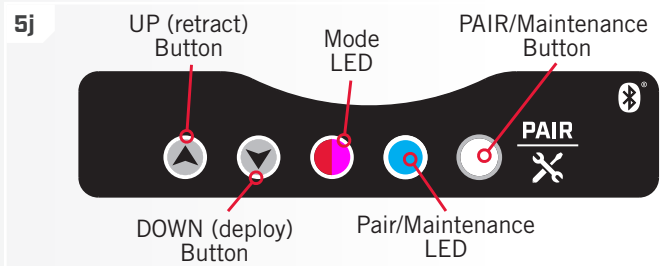
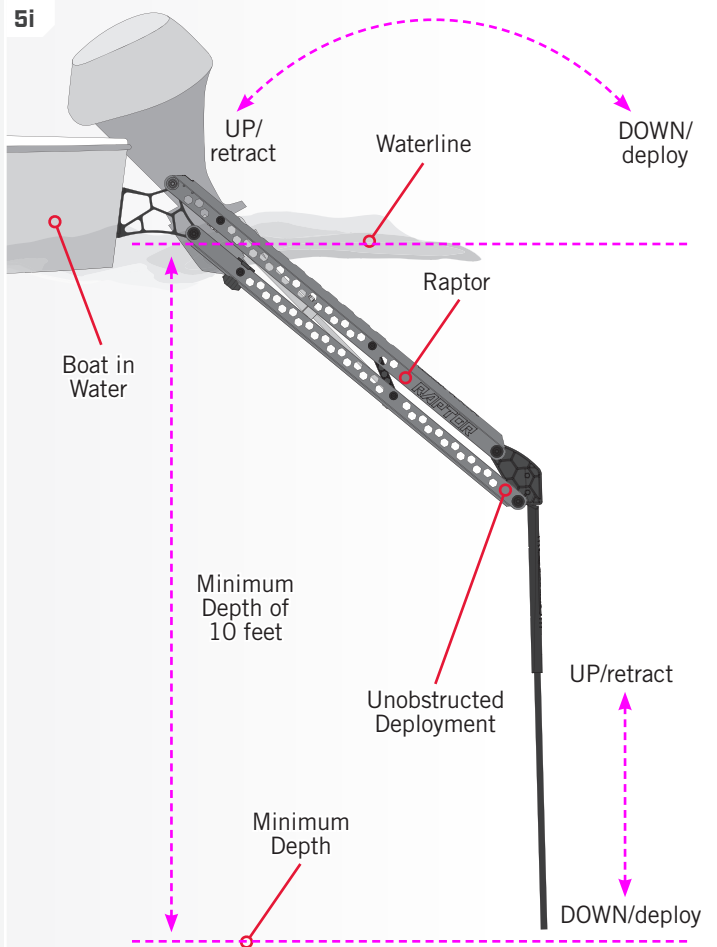
CAUTION

To successfully complete the installation and clear air from the Hydraulic Circuit, it is necessary to purge the circuit of air. Failure to purge the Hydraulic Circuit may result in unexpected anchor operation. Purging the Hydraulic Circuit requires the anchor to fully retract and deploy. Complete the on-water deploy and retract sequences to fully purge the lines.

- j. Actuate the pump to its full length of travel using the Up ▲ and Down ▼ Buttons on the Hydraulic Pump to cycle through the deploy (down) and retract (up) sequence. Repeat the cycle ten times. Finish with the Raptor in the retracted state. Once complete, the Hydraulic Circuit is ready for normal use.
- k. The Raptor should be in the retracted state and the Hydraulic lines should be fully purged. Double check the reservoir to make sure that the Hydraulic Fluid is filled to the Maximum Fill Line. After filling the reservoir, if there is Hydraulic Fluid left, retain it for future maintenance. Periodically check the Hydraulic Fluid level in the future to make sure that it is adequate.

NOTICE: The Maximum Fill Line and the Minimum Fill Line are located on three sides of the Reservoir so that checking the Hydraulic Fluid level is easily identifiable regardless of Reservoir orientation.

NOTICE: After the Hydraulic Pump has been bled, review the hose routing to make sure it is clean and secure it in place with ties. Review the "Secure the Hydraulic Hoses" section of the manual for details.



SECURING THE HYDRAULIC HOSES

Securing the Hydraulic Hoses

Once the Hydraulic Pump has been bled, the Hydraulic Hoses should be set for their final hose routings. It is important to secure hoses to ensure that the hose routings remain clean and maintained for safe operation. Minn Kota recommends securing the Hydraulic Hoses with tie wraps along the hose routings.

WARNING

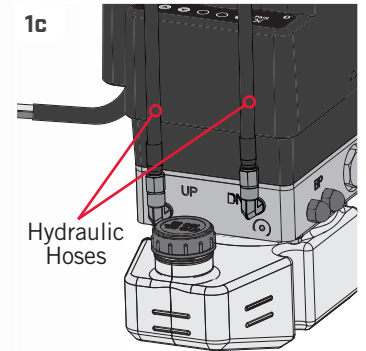
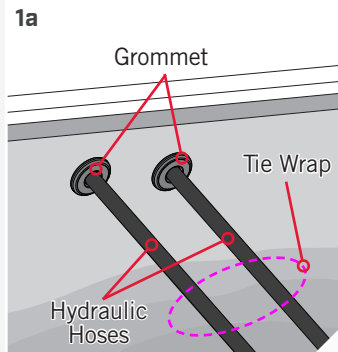
- Periodically inspect hoses for signs of wear or damage. Operation of the Raptor system with a worn or damaged hydraulic hose may cause damage, unexpected operation or injury.
- In the event a hydraulic hose ruptures, bursts or becomes disconnected during operation, immediately shut off power at the pump assembly and manually relieve pressure in the hydraulic system using the manual bypass valves.
- Do not grasp a leaking pressurized hose with your hands. Do not feel for hydraulic leaks with your hands. The force of escaping hydraulic fluid can cause serious injury.

1

- a. Begin by examining the Hydraulic Hoses between the Raptor and the entry point on the boat. Where necessary place a Tie Wrap to secure any loose hose.

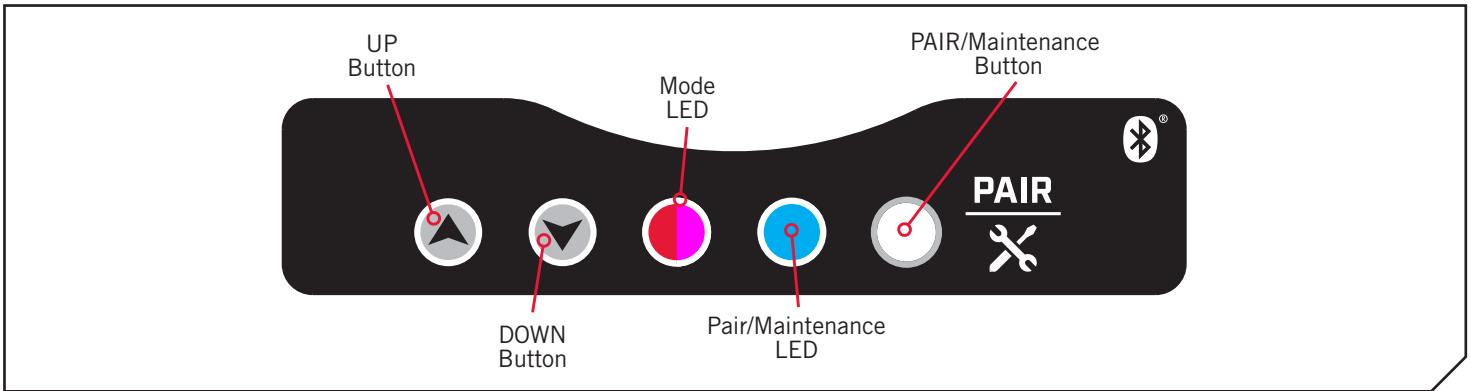
NOTICE: Review the mounting consideration at the beginning of the installation instructions for recommendations on Hydraulic Hose routings.

- b. Follow the hose routing along the established route on the boat. Secure the Hydraulic Hoses so they can be maintained within the intended routing.
- c. Follow the Hydraulic Hoses all the way back to the Hydraulic Pump and use a Tie Wrap to secure the Hydraulic Hoses any place necessary.



RAPTOR CONTROL

CONTROLLING THE RAPTOR WITH THE INDICATOR PANEL




















UP

Press and hold to retract the anchor. The anchor will continue to retract when the button is held until the button is released.



DOWN

Press and hold to deploy the anchor. The anchor deploys until the button is released or the anchor has reached its full range of deployment.

Mode LED

Used to identify the different Anchor Modes. The Mode LED     flashes between green and red for a period of three seconds when the anchor is in Standard Mode. Rough Water mode is identified when the Mode LED  illuminates red and Soft Bottom when the Mode LED  illuminates green. The Mode LED     flashes green and green and then red and red when Auto Bottom is selected. The Mode LED is used to identify Active Anchoring. Mode LED  will briefly pulse green when Active Anchoring is enabled and the Mode LED  will briefly pulse red when it is disabled. The Mode LED     will continue to pulse between green and red while Active Anchoring is enabled and the anchor is deployed. The Mode LED  will also flash red to identify system errors.

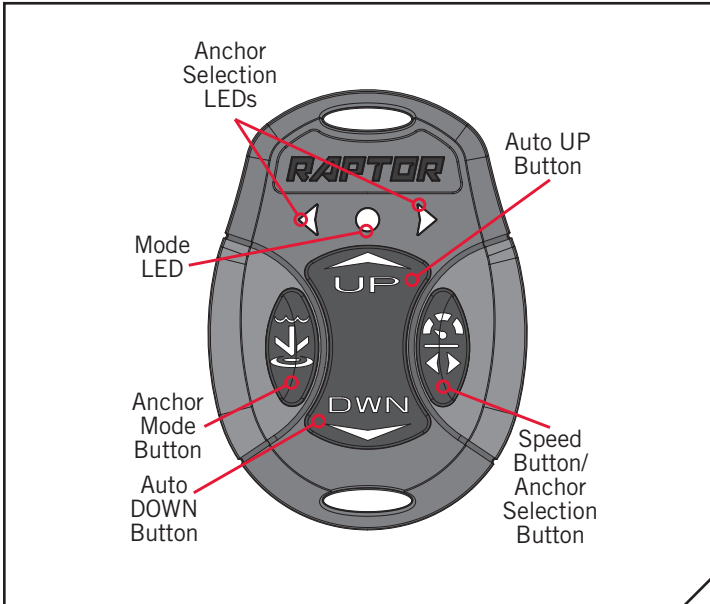
Pair/Maintenance LED

While the anchor is in PAIR Mode, the Pair/Maintenance LED  will flash blue. While in Maintenance Mode, the Pair/Maintenance LED  will illuminate blue.

PAIR/Maintenance Button

Single press to enter PAIR Mode. The anchor will stay in PAIR Mode until successfully paired, the PAIR button is pressed again to cancel it or until the PAIR process times out after 30 seconds. Press and hold the PAIR button to enter Maintenance Mode. While in Maintenance Mode, the anchor motor is disabled. To cancel Maintenance Mode, press the PAIR button again.

CONTROLLING THE RAPTOR WITH THE REMOTE



Auto Up Button

Single press to auto retract the anchor. Press and hold to continually retract the anchor. The anchor will continue to retract when the button is held until the button is released. Also used to pair the Remote to a Raptor.



Auto Down Button

Double press to auto deploy the anchor. Double press and hold the second press to continually deploy the anchor. The anchor will continue to deploy when the button is held until it reaches its full range of operation or until the button is released. Also used to pair the Remote to a Raptor.



CAUTION

Never leave the boat unattended with the Raptor as your only boat anchor. Raptor is not intended to provide primary anchorage. This includes operating the remote at a safe distance. It is not recommended to leave the boat while operating the Raptor with the remote. Doing so is at the owner's risk. This product does not relieve you from the responsibility of safe operation of your boat.



Anchor Mode Button

Single press to display the current Anchor Mode. While the mode is displayed, continue to single press through the Anchor Modes to change them. This will toggle through the Anchor Modes of Standard, Rough Water, Soft Bottom and Auto Bottom. Standard Mode is identified when the Mode LED flashes between red and green. Rough Water mode is identified when the Mode LED flashes red and Soft Bottom when the Mode LED flashes green. Auto Bottom Mode is only available on the Active Anchoring Model and is identified by a Mode LED that flashes slowly from green to green and then red to red. On the Active Anchoring Model, the Anchor Mode button will also enable and disable Active Anchoring. Active Anchoring is engaged and disengaged by a single press and hold. When the Mode LED displays green it is enabled and when the Mode LED displays red it is disabled.



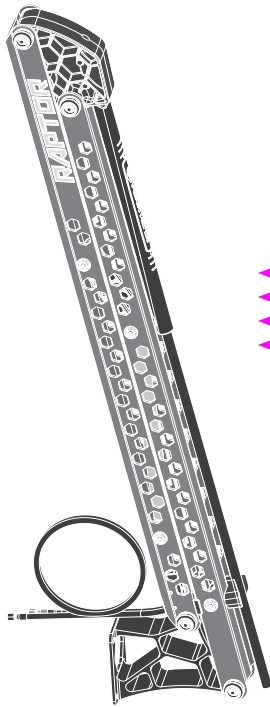
Speed Button / Anchor Selection Button

Single press to display the current operating speed. While the speed is displayed, continue to single press through the operating speed to toggle between slow, medium and fast. The Mode LED will flash red three consecutive times at the speed that corresponds with the selected speed. Pressing and holding the button will toggle the remote to control either the Port, Starboard or both anchors (when two anchors are paired in the system). The Raptor Selection LEDs will illuminate to correspond to the anchor(s) selected. The right LED will illuminate when the Starboard anchor is selected and the left LED will illuminate when the Port anchor is selected. Both the right and left LEDs illuminate when both anchors are selected.

NOTICE: The two Raptor remotes that come with the Raptor from the factory are pre-paired. If the network connection between the remotes and the anchor is interrupted, please see the "Pairing the Raptor" section of these instructions.

PAIRING THE RAPTOR

NETWORK FOR A SINGLE RAPTOR



Fish Finder - Pairs to one Humminbird® HELIX or SOLIX

i-Pilot - Pairs to one i-Pilot® or i-Pilot® Link™






Bluetooth enable Device - Pairs to one Bluetooth enabled device, (iOS or Android) such as a tablet or smartphone

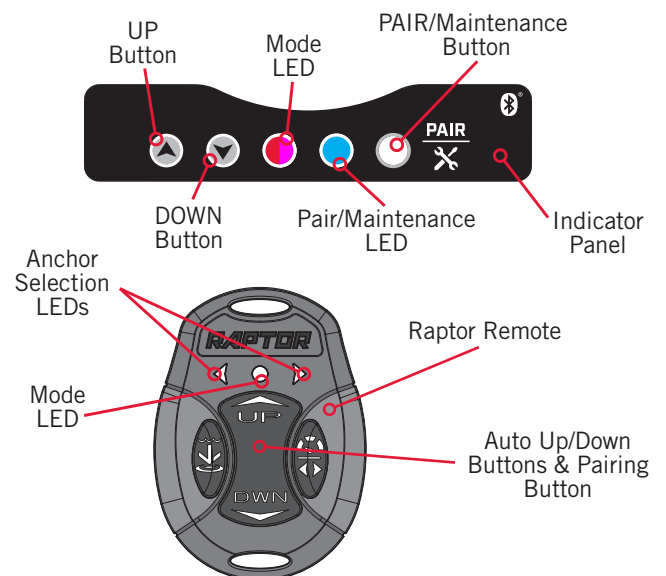
Remotes - Pairs up to 4 remotes, including foot switches

PAIRING A REMOTE TO A SINGLE RAPTOR

Every Raptor comes direct from the factory with 2 remotes already paired to the Raptor. If more remotes are paired to the Raptor than the network allows, the Raptor will pair the new remote and remove the remote that was least recently used from the network.

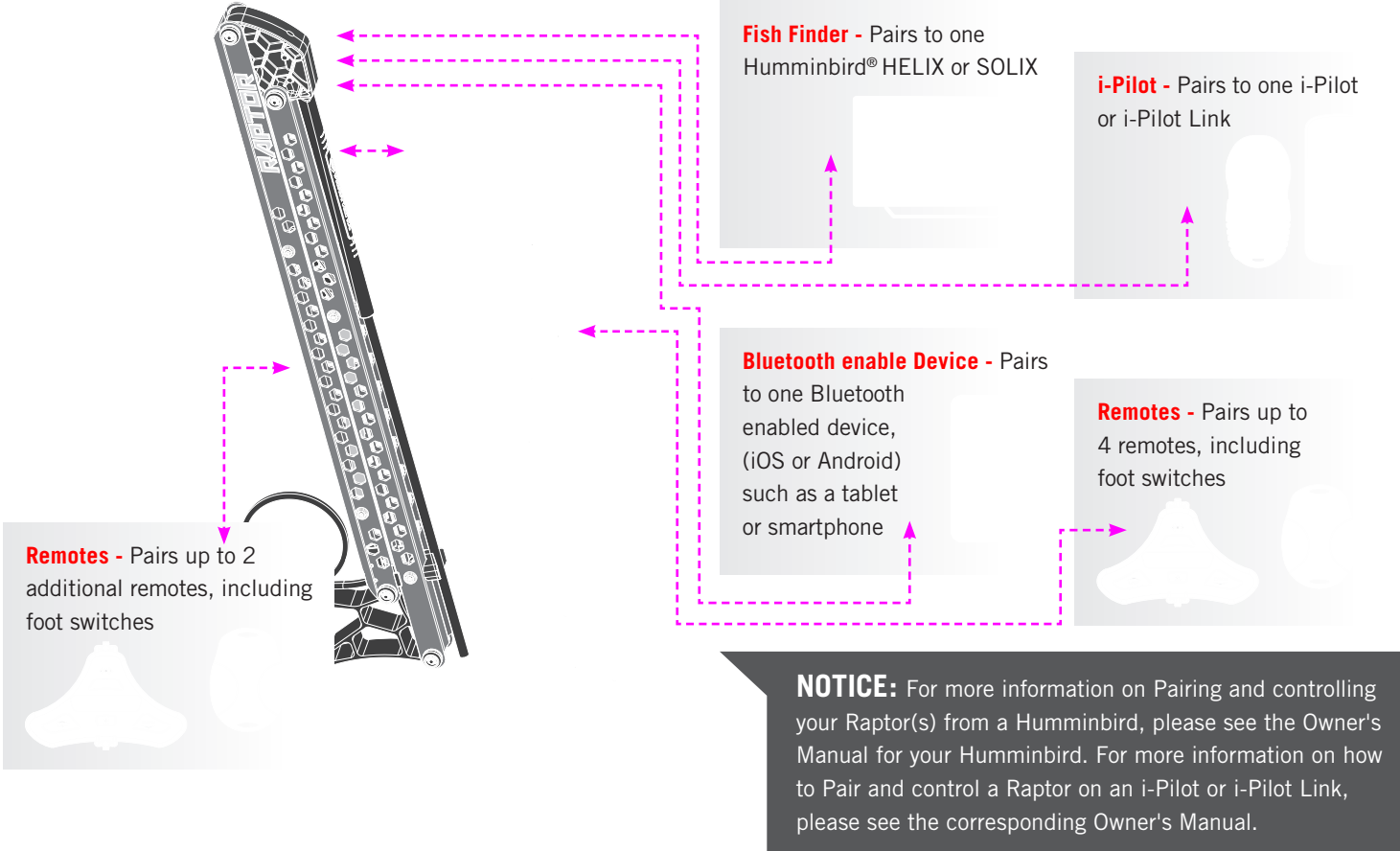
1

- Press and hold the Up  button and the Down  button on the Remote at the same time until the Anchor Selection LEDs and the Mode LED on the Remote begin to scroll  red, green, red and red. Then release them.
- Immediately press the Pair  button on the Indicator Panel located on the Raptor Pump Assembly. The PAIR/Maintenance LED will begin to flash  blue. The Raptor and Remote will go into Pairing Mode for 30 seconds. If a signal with three fast beeps occurs, the Raptor and Remote have successfully paired. If 30 seconds pass while in Pairing Mode and they do not successfully pair, a chirp will sound from the Pump Assembly, signaling that the Pairing has timed out.
- If the Pair is unsuccessful, repeat the process.



PAIRING THE RAPTOR



NETWORK FOR TWO RAPTORS

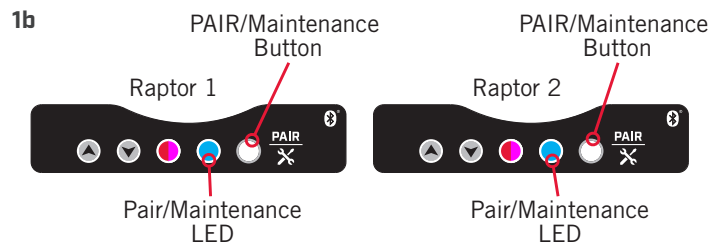
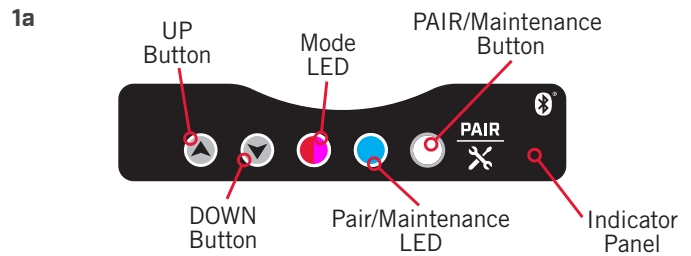





PAIRING THE RAPTOR

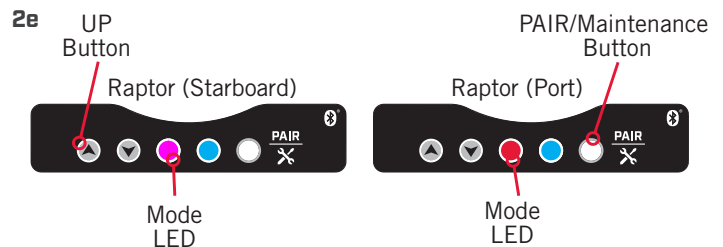
PAIRING TWO RAPTORS AND PROGRAMMING THE MOUNTING LOCATION

Every Raptor comes direct from the factory with two Remotes already paired to the Raptor. When installing two Raptors, it will first be necessary to clear all devices from both Raptor networks. To clear the pairing in each Raptor, follow the instructions in the "Clearing Paired Remotes or Devices from the Raptor" section of the Owner's Manual. Once both Raptor networks are cleared, the Raptors can then be paired together. The clear Raptor networks will allow the system to complete an automated process during pairing that will designate the Port and Starboard positions of the two Raptors as installed on the boat. The process below is used to pair the Raptors together, and to designate which side of the boat that each Raptor is installed on. Once complete, the Raptor remotes will need to be re-paired to the dual Raptor system. Please see the "Pairing a Remote to Two Raptors" section of this manual to pair a remote. Additional Bluetooth enabled devices may now be added to the One Boat Network such as a Humminbird fish finder, an i-Pilot or i-Pilot Link system, and a device such as a smartphone or tablet.

- 1**
 - a. Press the Pair  button on the Indicator Panel on one of the Raptors. The PAIR/Maintenance LED will begin to flash  blue. Immediately follow this step on the second Raptor.
 - b. The Raptors are in Pairing Mode and will search for each other for 30 seconds. If they do not Pair after 30 seconds, an error tone will sound signaling that the Pairing has timed out. If this occurs, start the process again.
 - c. If the Raptors successfully Pair, a confirmation tone with three fast beeps will occur. At this point, the Raptors have successfully paired, and now need to be programmed to designate the Port or Starboard locations. This process will automatically begin when two Raptors have successfully paired to each other.



- 2**
 - d. The Mode Indicator LED will turn green  on both Raptors. On the Indicator Panel of the Starboard Raptor, press the Up  button. The Raptor will accept the selection. The Mode LED of the Raptor on the Port side will flash red  and then the LEDs on both Raptors will turn off. Now the Raptors are successfully Paired together and know their mounted position.








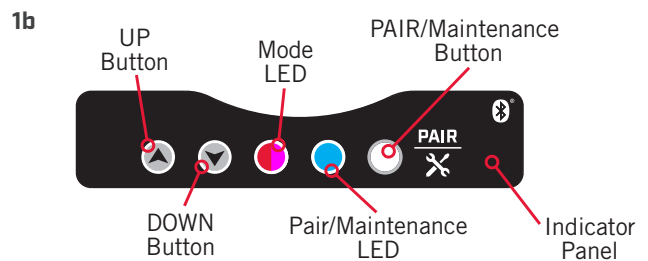
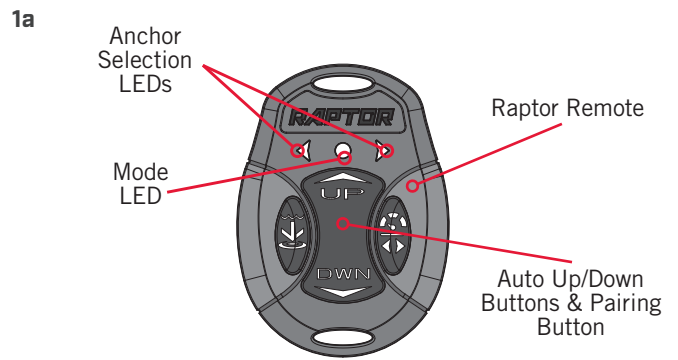
NOTICE: When the process is complete, all remotes that were paired to an individual Raptor will need to be re-paired. Please see the "Pairing a remote to two Raptors" section of this manual.

PAIRING THE RAPTOR

PAIRING A REMOTE TO TWO RAPTORS


In order to Pair a remote to the Raptor, please be sure to first Pair the Raptors together. When two Bluetooth Raptors are paired together, all remotes that were paired to an individual Raptor will unpair. Please see the "Pairing Two Raptors and Programming the Mounting Location" section of this manual. If the two Raptors are already paired together, a remote can be paired to the dual Raptors. Either Raptor in the network can be used to Pair a remote to the dual Raptor. If more remotes are paired to the dual Raptors than the network allows, the Raptor will pair the new remote and remove the remote that was least recently used from the network. When the pairing process is complete, the remote will be able to control both Raptors.

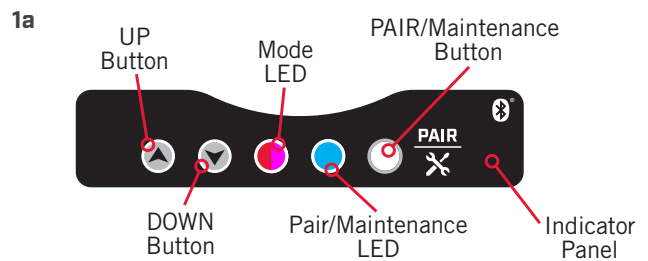
- 1 a. Press and hold the Up  button and the Down  button on the Remote at the same time until the Anchor Selection LEDs and the Mode LED on the Remote begin to scroll  red, green, red and red. Then release them.
- b. Immediately press the Pair  button on the Indicator Panel located on the Pump Assembly of one of the Raptors. The PAIR/Maintenance LED on both Raptors will begin to flash  blue. The Raptor and Remote will go into Pairing Mode for 30 seconds.
- c. If a signal with three fast beeps occurs, the Raptor and Remote have successfully paired. If 30 seconds pass while in Pairing Mode and they do not successfully pair, a chirp will sound from the Pump Assembly signaling that the Pairing has timed out.
- d. If the Pair is unsuccessful, repeat the process.



CLEARING PAIRED REMOTES OR DEVICES FROM THE RAPTOR

The Raptor was designed so that all paired devices can be cleared from memory.



- 1 a. Retract the anchor on the Raptor by pressing the Up  button located on the Indicator Panel on the Pump Assembly.



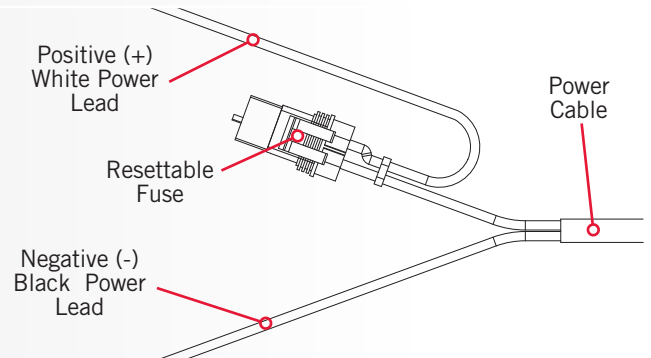
PAIRING THE RAPTOR

2

NOTICE: This may require assistance from another person.

- b. Turn the power to the Raptor "off" by removing the resettable Fuse located on the Raptor Power Cable.
- c. While holding in the Up  button on the Indicator Panel, restore power to the Raptor. You will hear a long steady tone.
- d. After the steady tone stops, release the Up  button. Wait a full 30 seconds. Remove the fuse to power cycle the Raptor again and then replace the fuse.
- e. The Raptor memory is now clear of all previously paired devices.




2b



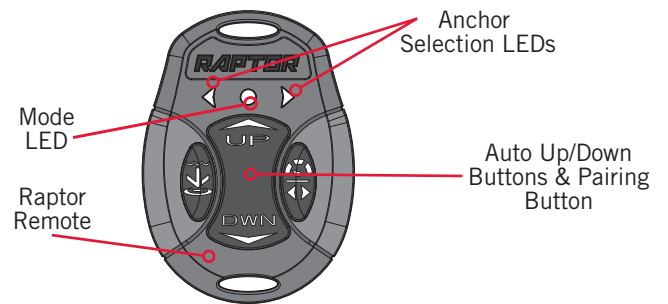
CLEARING A PAIRED RAPTOR FROM THE REMOTE

The Remote was designed so that a paired Raptor can be cleared from memory.

1

- a. Press and hold the Up  button and the Down  button on the Remote at the same time until the Anchor Selection LEDs and the Mode LED on the Remote begin to scroll  red, green, red and red. Then release them. The Remote will go into Pairing Mode for 30 seconds. Once Pairing times out the paired Raptor will be cleared.

NOTICE: Putting the Remote into Pairing Mode, even if it is accidental, without Pairing the Remote to a Raptor will clear a paired Raptor.



THE RAPTOR APP

Raptor App Home Screen

Minn Kota offers a Raptor app that can be used to control and update the Raptor using a Bluetooth® enabled device. The Raptor app is available for download on iOS devices through the Apple App store or on Android™ devices through the Google Play Store.

HEADER



Menu

When selected, the Menu gives additional options to control the Raptor such as anchor speed, software updates, the setup guide, and additional product control and support.

NOTICE: When the device is not connected to a Raptor, the Menu will bring up the option to enter Demo Mode. Once the device is connected to a Raptor, Demo Mode is exited and the option is not available.

APP BUTTONS



Auto Up

Single press to auto retract the anchor. Press and hold to continually retract the anchor. The anchor will continue to retract when the button is held until the button is released.



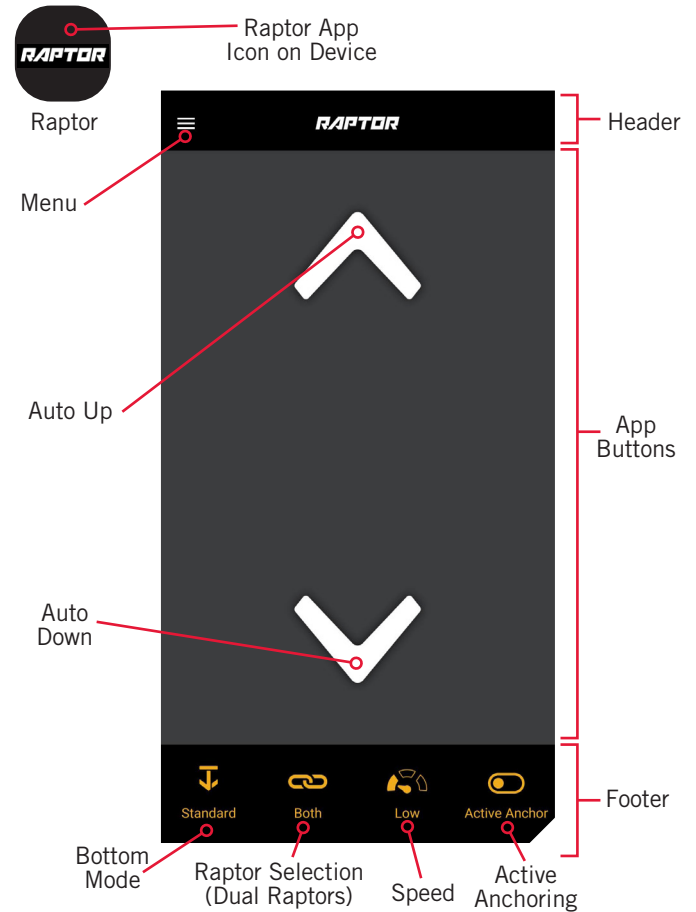
Auto Down

Double press to auto deploy the anchor. Double press and hold the second press to continually deploy the anchor. The anchor will continue to deploy when the button is held until it reaches its full range of operation or until the button is released.



Pause

When pressed it interrupts the current action. The Raptor(s) will remain at the current depth until another command is sent. The action for both deploying and retracting the anchor can be paused. The pause button may appear in place of the Auto Up or Auto Down buttons during deploying or retracting and will disappear when pressed while the unit is paused.



Direction Indication

Shows the direction of deployment and retraction when the Raptor is in use.

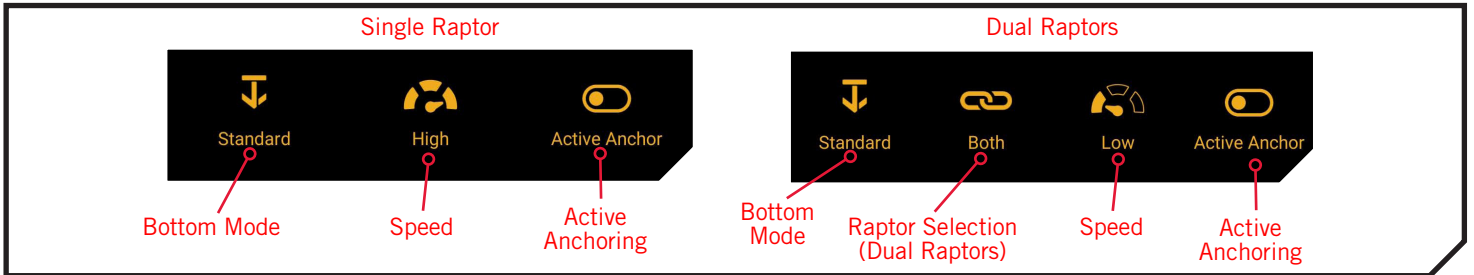
NOTICE: Specifications subject to change without notice. This diagram is for reference only and may differ from your actual app interface. The Raptor App will only work with Bluetooth® enabled Raptors. Be sure that you download the correct app as other Minn Kota® apps will not work with your Raptor.

NOTICE: Active Anchoring is only available in select models and the selection will be disabled in the Standard Model.


THE RAPTOR APP



FOOTER




Standard Mode

When put in Standard Mode, the Mode Indicator LED in the Indicator Panel will toggle between red and green  and then turn off.




Rough Water Mode

In Rough Water Mode, the Mode LED on the Indicator Panel will be lit red . In Rough Water Mode, the anchor will operate with maximum down-force when anchoring.

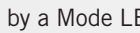


Soft Bottom Mode

In Soft Bottom Mode, the Auto Deploy will operate at a reduced power with a single hit. During calm conditions or on water with muddy or soft sandy bottoms, Soft Bottom Mode will prevent the Raptor from over-anchoring. In Soft Bottom Mode, the Mode Indicator LED will flash green  on the Indicator Panel.



Auto Bottom Mode

In Auto Bottom Mode, the anchor uses pressure readings to determine how best to anchor the Raptor. Auto Bottom Mode is only available on Raptor's equipped with Active Anchoring and is identified by a Mode LED  that flashes slowly from green to green and then red to red when activated.



Raptor Selection - Both

Indicates both the Port and Starboard Raptors are selected and will be controlled while operating. Press to Toggle between having both Raptors selected or controlled individually. This option is only seen when the app is set up to control two Raptors.



Raptor Selection - Individual

Indicates the Raptors will be controlled individually while operating. Press to Toggle between controlling Raptors individually or together.





Speed Button

Toggles the Speed that the anchor retracts and deploys between low, medium and High. The respective speeds can be set in a Range in the App Menu.



Active Anchoring

Enables Active Anchoring and allows the Raptor to adjust to changes in pressure while anchored. Active Anchoring is engaged and disengaged by a single press. When the Mode LED  displays green it is enabled and when the Mode LED  displays red it is disabled. If Active Anchoring is not available for your model, the selection will be gray.



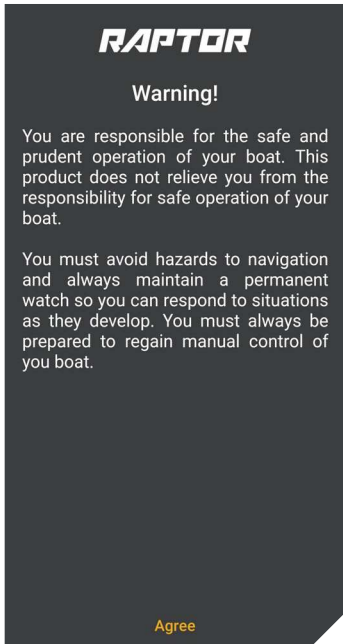
Low Battery

Displayed when the App recognizes that the Raptor is powered by a low battery.

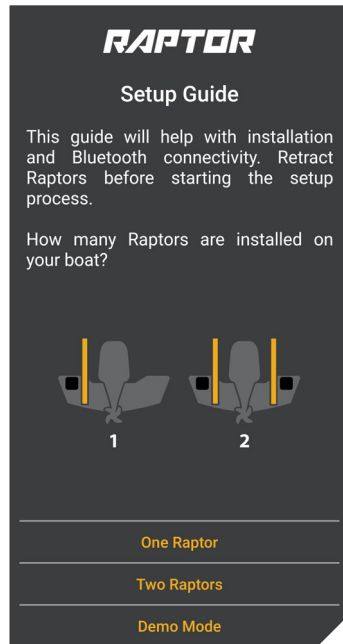
NOTICE: The Raptor Selection options are only visible when the Raptor App is set up to control two Raptors.

LAUNCHING THE APP & DEMO MODE

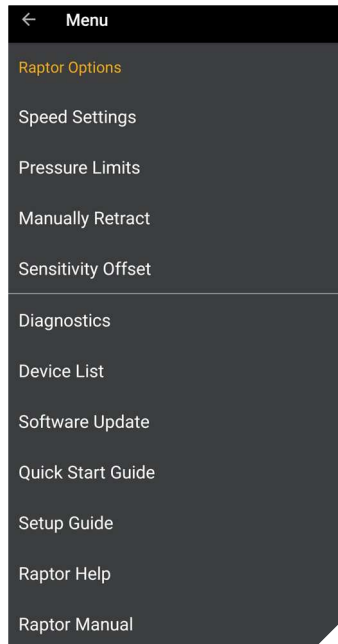
Launching the app when it is not paired with the Raptor will allow you to try it in Demo Mode. The first time the app is launched, you must agree with the disclaimer in order to continue. Become familiar with the app screens in order to understand how to operate your Raptor with the app.



The Disclaimer screen appears when the app is launched for the first time.



The Setup Guide appears after the Disclaimer when the device is not paired or actively communicating with a Raptor.



The Menu brings up a variety of control options for the Raptor. The options will depend on if and how many Raptors are paired.



The Raptor Control Screen when one Raptor is paired to the device. This screen differs slightly when two devices are paired.

WARNING


You are responsible for the safe and prudent operation of your boat. This product does not relieve you from the responsibility for safe operation of your boat.

You must avoid hazards to navigation and always maintain a permanent watch so you can respond to situations as they develop. You must always be prepared to regain manual control of your boat.

THE RAPTOR APP

Check the Application and Raptor Software Version on the App

When a Raptor is paired with a device, the Raptor app on the device records information about the paired Raptor(s), including the software version installed on each. This information can be used to detect if a Raptor requires a software update. To check the software version on paired Raptor(s), follow the steps below.

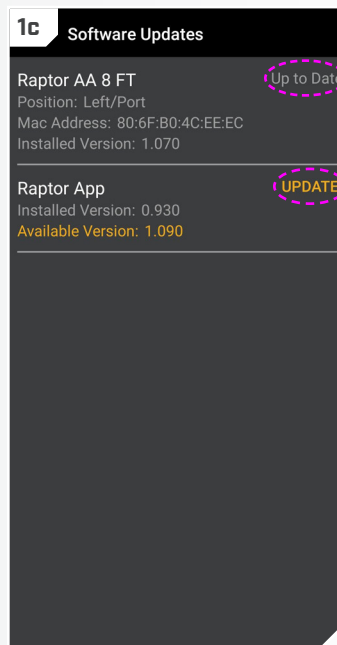
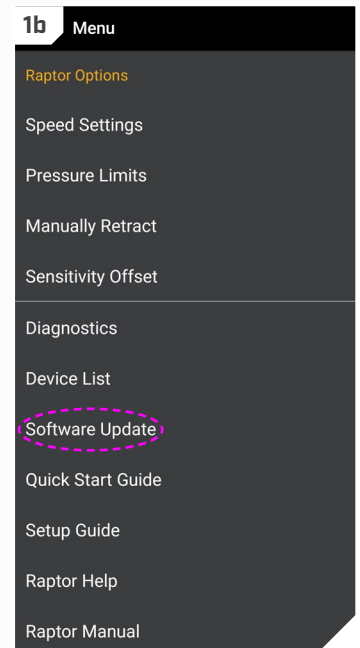
- 1
 - a. From the Raptor app Home screen, press the Menu  Button.
 - b. In the Menu Screen, find the Software Update option and select it.
 - c. The Software Updates Screen will appear. The Software List will show any Raptors that are paired with the app and the Raptor App Software Version.

NOTICE: Noting the version of the Raptor and/or App, before and after updates, helps to identify if the updates were successful.

NOTICE: If the App cannot communicate directly with the Raptor, the App will show the version of software that it detected the last time the device was paired and communicating with the Raptor.

- 1
 - d. If there are no Raptors paired, the list will only show information for the Raptor App. If Raptors are paired and communicating, the name of each device will be colored white. If the Raptors are paired but are not communicating the Raptor name will be colored gray.



NOTICE: If the Raptor App or Raptor software needs an update, the App will list "UPDATE" next to it. If the software is up-to-date, the App will list "Up to Date".

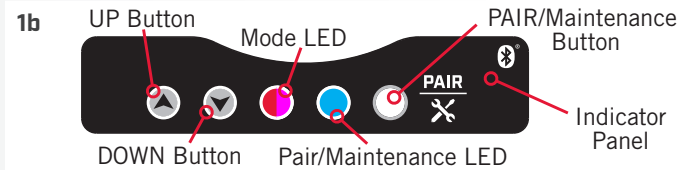
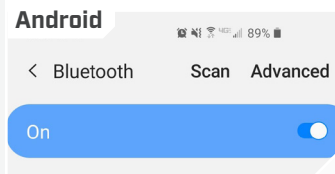


Pairing a Device with a Single Raptor

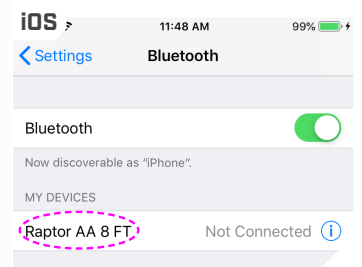
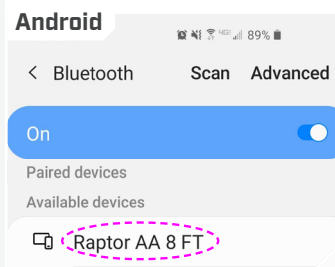
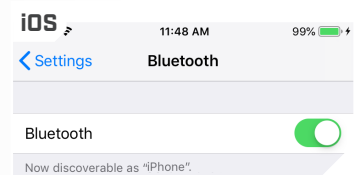
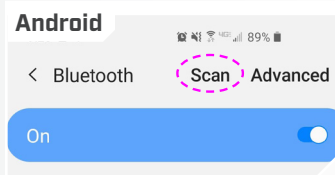
The Raptor App can be used to control the Raptor using a device that is paired to the Raptor with a Bluetooth connection. Before pairing the device with the Raptor, the Raptor App should first be successfully downloaded. You can confirm that the app was successfully downloaded by opening it on your device. Once confirmed, close the App to begin the pairing process.

NOTICE: Your device will only be able to connect to a Raptor and be paired if the device is Bluetooth enabled.

- 1
 - a. On the device you intend to pair with the Raptor, turn Bluetooth “on” and keep your device on that screen.
 - b. Press the Pair  button on the Indicator Panel located on the Raptor Pump Assembly. The PAIR/Maintenance LED will begin to flash  blue. The Raptor will go into Pairing Mode for 30 seconds.



- 2
 - c. If on an Android device, select the Scan button to begin the process on your device. On an iOS device, as soon as the Bluetooth menu is opened, the scan starts automatically. The Raptor will appear on the list of available devices once it is recognized by the device.
 - d. Select the Raptor from the list of available devices. This will pair the Raptor to the device. Once you hear the beeps, the Raptor is successfully paired.



NOTICE: When the device Bluetooth is scanning for the Raptor, the Raptor must be in Pairing Mode. If the Raptor or the device time out, the process on both will need to be re-initiated.

- 3
 - e. In order for the device and your Raptor to stay connected, Bluetooth needs to remain "on". Once the device is paired with the Raptor, the device will connect and begin communicating with each other. When the Raptor is paired to the device and communicating with it, the Raptor App will automatically recognize that the Raptor is paired.
 - f. If the pair is unsuccessful, repeat the process.

NOTICE: When a device is paired with the Raptor, the paired device and Raptor know each other. When a paired device and a Raptor are connected they can actively communicate with each other. In order for the Raptor App to detect the Raptor, it needs to be paired and communicating with the Raptor.



THE RAPTOR APP

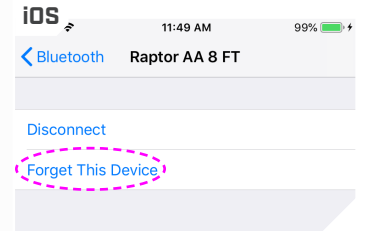
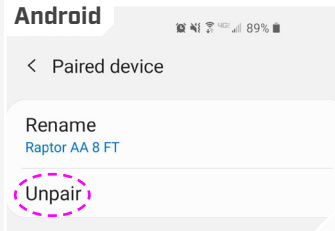
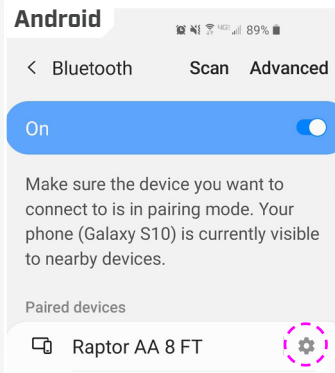
Pairing a Device with Two Raptors

In order for the Raptor App to pair two Raptors to the device, the Raptors first need to be paired together. To learn how to pair two Raptors together, read the "Pairing Two Raptors and Programming the Mounting Location" section of the Raptor Manual. Once the Raptors are paired together, follow the directions for "Pairing a Device with a Single Raptor". Only one Raptor needs to be paired with the device where the Raptor App is installed.

Forgetting a Raptor on a Device

Once a device is paired to a Raptor, it will remember the device, even if the device and the Raptor are not actively communicating. In some cases, it may be necessary to clear the memory on the device and forget any paired Raptors. To do this, use the Bluetooth settings on the device.

- 1
 - a. Open the Bluetooth settings on the device.
 - b. A list of paired devices will appear. The appearance of the list from an Android to an iOS device will look different.
 - c. On an Android device, select the Settings  icon next to the device in the list of Paired Devices. When the next screen appears, find the option to Unpair the device and select it.
 - d. On an iOS device, select the "i"  icon next to the device in the list of My Devices. When the next Screen appears, find the option to Forget this Device and select it.
 - e. Once the device is unpaired or forgotten, the device is no longer paired or communicating with the device and will not be visible to the Raptor App or device.



Raptor Control and Disable Auto-Lock

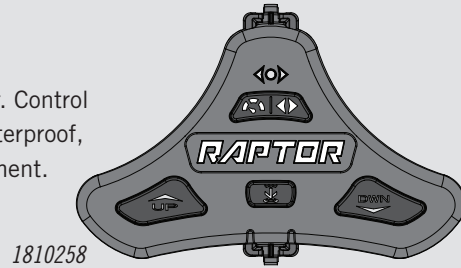
Most devices are programmed to Auto-Lock the device screen after a certain amount of time has lapsed where the device has been inactive. In these cases, when the user had the Raptor app open to control the Raptor and returns to the device, the screen may be locked. In order to control the Raptor, the device will first need to be unlocked to control the Raptor with the app. This Auto-Lock feature can be disabled from the Raptor app in order to immediately control the Raptor after the device has been inactive. To turn Auto-Lock "on", open the Raptor app and navigate to the Menu. Scroll to the bottom of the Menu and find the Disable Auto-Lock setting. When the toggle is slid "on" and appears yellow, the Disable Auto-Lock is engaged and will prevent the device screen from locking when the device experiences moments of inactivity. With this feature enabled, the device will immediately control the Raptor.

RECOMMENDED ACCESSORIES

› RAPTOR CONTROL

RAPTOR WIRELESS FOOT SWITCH ›

Raptor wireless foot switch allows for hands free control of your Raptor. Control one or two Raptors independently or simultaneously. Foot switch is waterproof, includes LED indicator lights and has an easy access battery compartment. Convenient Modular deck mount for easy removal and storage.



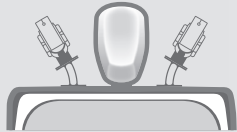
1810258

› RAPTOR MOUNTING ADAPTER BRACKETS

Raptor mounting brackets come in a variety of configurations to meet your mounting needs. They feature a light weight, aluminum construction for superior strength. Constructed with a powder coated exterior for corrosion resistance and include stainless steel mounting hardware. All brackets include a 5-year warranty.

DIRECT MOUNT ANGLE BRACKET ›

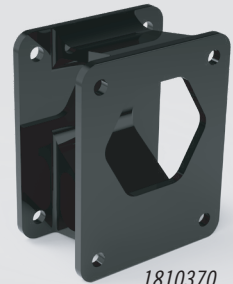
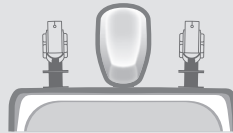
In direct transom mount applications, maximizes holding power by providing optimal angle for Raptor deployment.



1810371

3" SETBACK BRACKET ›

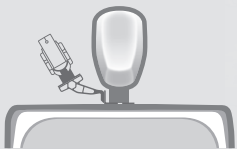
Provides 3" of additional setback to all mounting applications where specific clearances are required.



1810370

UNIVERSAL SANDWICH ADAPTER ›

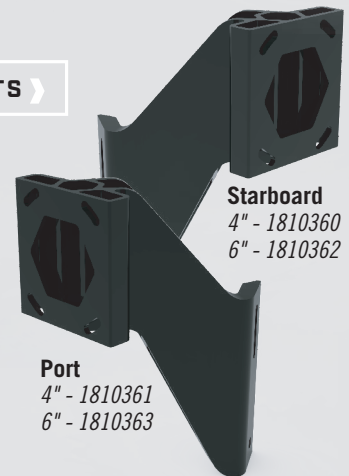
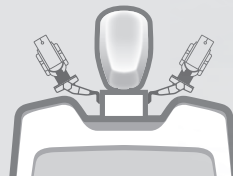
Mounts between your jack plate and transom or between the outboard and transom, for use in port or starboard applications.



1810372

JACK PLATE BRACKETS ›

Mounts directly to your jack plate on the Port or Starboard side of your boat. Comes in a 4" or 6" rise.



Starboard
4" - 1810360
6" - 1810362

Port
4" - 1810361
6" - 1810363