

FORTREX[®]

BOW-MOUNT TROLLING MOTOR

Installation Instructions

INTRODUCTION

THANK YOU

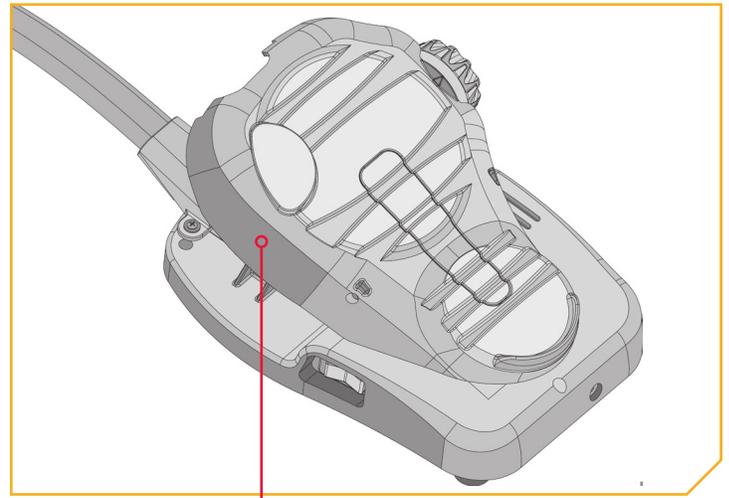
Thank you for choosing Minn Kota. We believe that you should spend more time fishing and less time positioning your boat. That's why we build the smartest, toughest, most intuitive trolling motors on the water. Every aspect of a Minn Kota trolling motor is thought out and rethought until it's good enough to bear our name. Countless hours of research and testing provide you the Minn Kota advantage that can truly take you "Anywhere. Anytime." We don't believe in shortcuts. We are Minn Kota. And we are never done helping you catch more fish.

REGISTRATION

Remember to keep your receipt and immediately register your trolling motor. A registration card is included with your motor or you can complete registration on our website at minnkota.johnsonoutdoors.com/register.

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. A duplicate copy of your serial number label has been included. We recommend that you write the serial number down so that you have it available for future reference.



NOTICE: The serial number on your Fortrex is located near the Momentary Switch underneath the side of the Foot Pedal.

MOTOR INFORMATION (For Consumer Reference Only)

Model: _____

Serial Number: _____

Purchase Date: _____

Store Where Purchased: _____

NOTICE: Do not return your Minn Kota motor to your retailer. Your retailer is not authorized to repair or replace this unit. You may obtain service by: calling Minn Kota at (800) 227-6433; returning your motor to the Minn Kota Factory Service Center; sending or taking your motor to any Minn Kota authorized service center. A list of authorized service centers is available on our website, at minnkota.johnsonoutdoors.com. Please include proof of purchase, serial number and purchase date for warranty service with any of the above options.

SAFETY CONSIDERATIONS

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

WARNING

You are responsible for the safe and prudent operation of your vessel. We have designed your Minn Kota product to be an accurate and reliable tool that will enhance boat operation and improve your ability to catch fish. 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. Learn to operate your Minn Kota product in an area free from hazards and obstacles.

WARNING

Never run the motor out of the water, as this may result in injuries from the rotating propeller. The motor should be disconnected from the power source when it is not in use or is off the water. When connecting the power-supply cables of the motor to the battery, 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 motor 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 motor. Always disconnect motor from battery(s) before cleaning or checking the propeller. Avoid submerging the complete motor as water may enter the lower unit through control head and shaft. If the motor is used while water is present in the lower unit considerable damage to the motor can occur. This damage will not be covered by warranty.

WARNING

Take care that neither you nor other persons approach the turning propeller too closely, neither with body parts nor with objects. The motor is powerful and may endanger or injure you or others. While the motor is running watch out for persons swimming and for floating objects. Persons who lack the ability to run the motor or whose reactions are impaired by alcohol, drugs, medication, or other substances are not permitted to use this motor. This motor is not suitable for use in strong currents. The constant noise pressure level of the motor during use is less than 70dB(A). The overall vibration level does not exceed 2,5 m/sec².

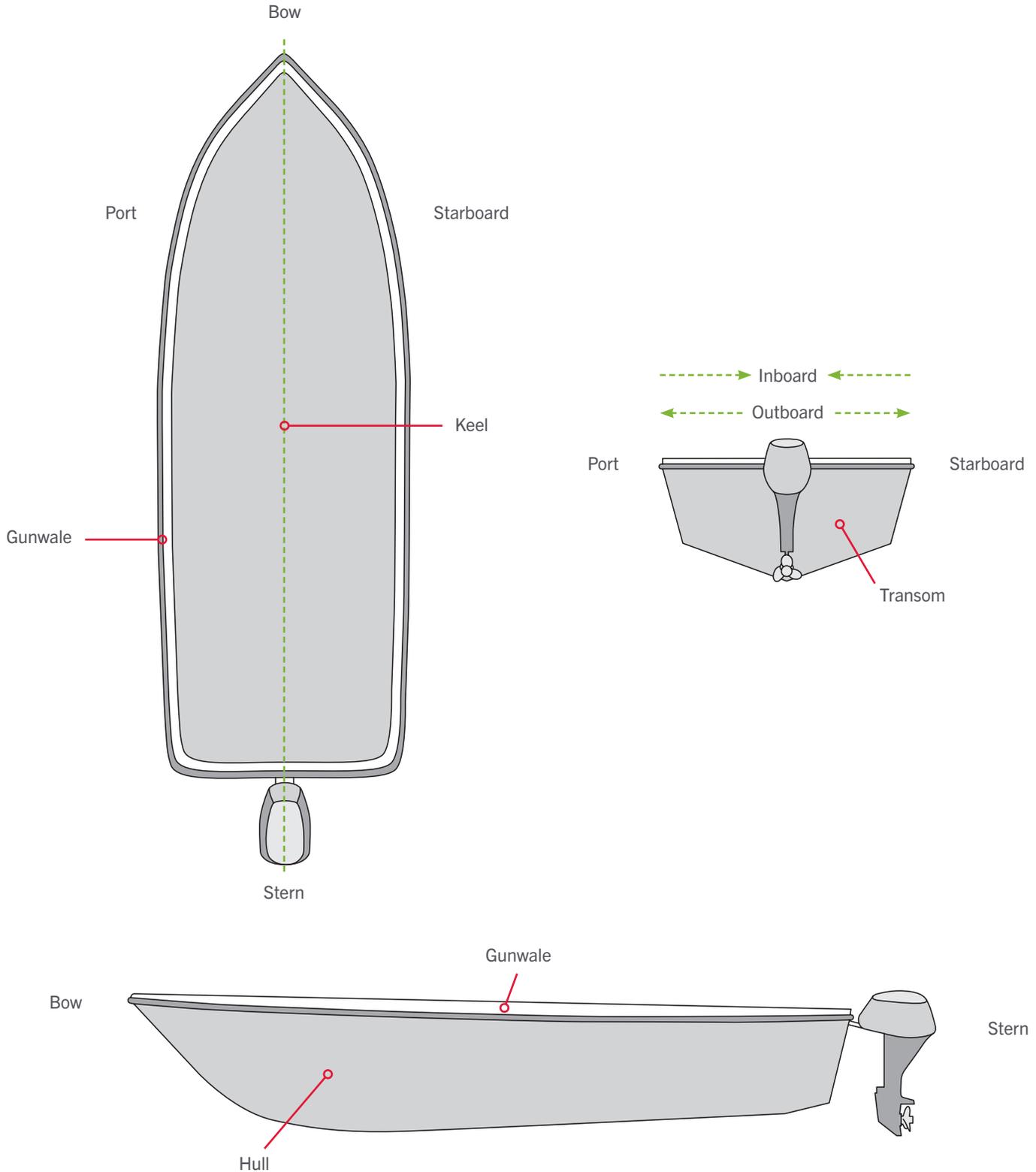
WARNING

When stowing or deploying the motor, keep fingers clear of all hinge and pivot points and all moving parts. In the event of unexpected operation, remove power leads from the battery.

WARNING

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

KNOW YOUR BOAT



INSTALLATION

INSTALLING THE FORTREX

Your new Fortrex comes with everything you'll need to directly install it to the boat. This motor can be directly mounted to the boat or coupled with a Minn Kota quick release bracket for ease of mounting and removal. For installation with a quick release bracket, refer to the installation instructions provided with the bracket. For compatible quick release mounting bracket, please visit minnkota.johnsonoutdoors.com. To install the motor directly to the boat, please follow the instructions provided in this manual. Please review the parts list, mounting considerations and tools needed for installation prior to getting started. For additional product support and to locate your nearest dealer, please visit minnkota.johnsonoutdoors.com.

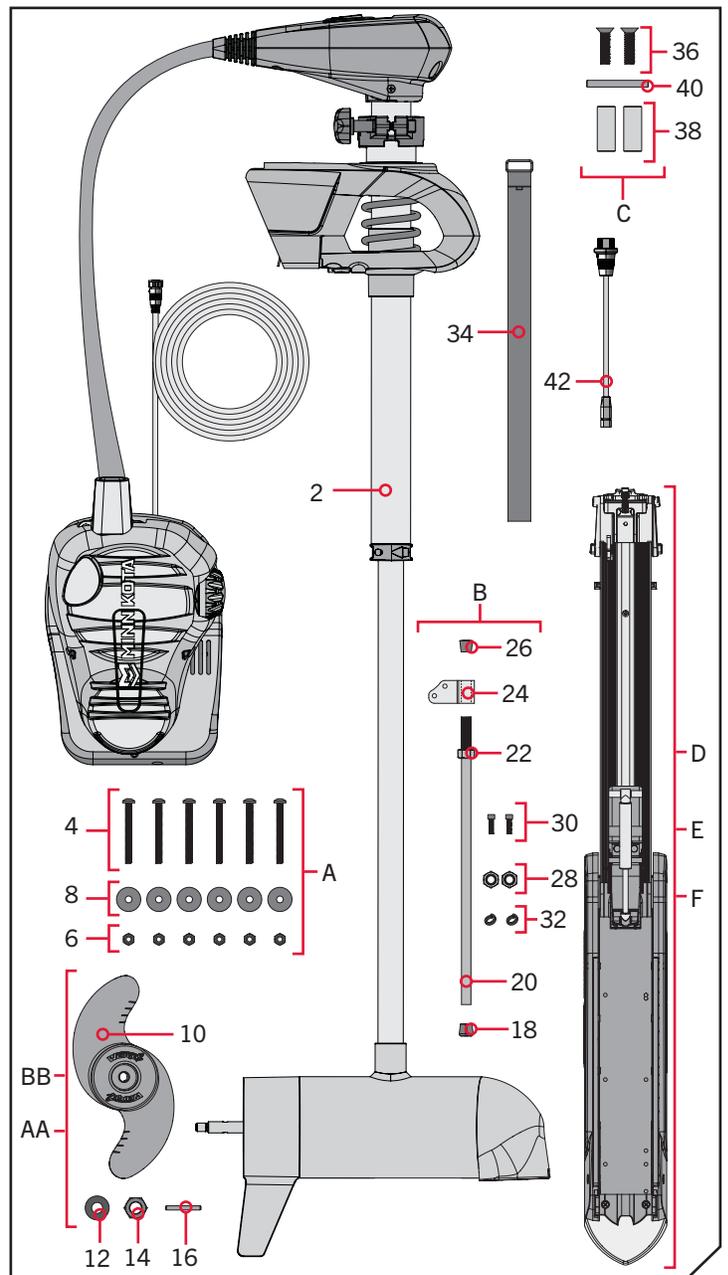
INSTALLATION PARTS LIST

Item / Assembly	Part #	Description	Qty.
2	✳	MOTOR ASSEMBLY	1
A Items 4 to 8	2994887	INSTALLATION HARDWARE BAG ASSEMBLY	1
4	2263468	SCREW 1/4 - 20 X 2.5" SS PPH	6
6	2263103	NUT 1/4 - 20 SS NYLOCK	6
8	2261713	WASHER 1/4 FLAT 18-8 SS	6
AA Items 10 to 16	1378132	80# THRUST PROP KIT	1
BB Items 10 to 16	1378160	112# THRUST PROP KIT	1
10	2331160	PROP-WW2 (4.5)W/ADP.RING	1
12	2091701	WASHER-PROP (LARGE)	1
14	2093101	NUT-PROP NYLOC,LG, MX101 3/8 SS	1
16	2262658	PIN-DRIVE 1" 3/16" S/S	1
B Items 18 to 32	2991925	BRACKET STABILZR ARM ASY	1
18	2265100	BUMPER STABILIZER	1
20	2263624	STABILIZER ROD	1
22	2263107	NYLON HEX NUT 3/4 - 10 UNC	1
24	2281929	BRACKET	1
26	2260221	VINYL CAP	1
28	2223100	NUT 5/16-18 NYLOCS SS	2
30	2263422	BOLT 5/16-18 X 1" SS CAP SCREW	2
32	2281700	5/16 "ID X .457 OD HIGH COLLAR LOCK WASHER	2
34	2263806	STRAP, HOLD DOWN	1
C Items 36 to 40	2994912	BAG ASSY, FORTREX MOUNT HDW	1
36	2283410	SCREW-1/4-20 X .500" PFH	2
38	2281710	SPACER, GAS SPRING, FORTREX	2
40	2282610	PIN, UPPER SHOCK	1
▲	2287106	MANUAL FORTREX FC FW	1
▲	2287111	INSTALLATION GUIDE FTX, FC	1
▲	2297165	MANUAL DISCLAIMER DOWNLOAD	1
D	2991650	MNT FW 80# 45", 112#/HC 52"*80 LB 45"*112 LB 52"*	1
E	2991652	MNT ASM FTX FW 80# 52/62"*80 LB 52"*80 LB 62"*	1
F	2991653	MNT ASM FTX FW 112# 45"*112 LB 45"*	1
42	2994961	BAG ASM, CABLE ADPT, 490537-2 *490537-2* *MKR-MI-1*	1

▲ Not shown on Parts Diagram.

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

□ The Bow-Mount Stabilizer Assembly is not required or included on the 80lb 45" Fortrex.



ASSEMBLY OF THE BOWGUARD TO THE MOUNT

MOUNTING CONSIDERATIONS

It is recommended that the motor be mounted as close to the keel or centerline of the boat as possible. Make sure the area under the mounting location is clear to drill holes and install nuts and washers. Make sure the motor rest is positioned far enough beyond the edge of the boat. The motor must not encounter any obstructions as it is lowered into the water or raised into the boat when stowed and deployed. Consider a quick release or adapter bracket with the installation of your motor. To view a list of accessories, please visit minnkota.johnsonoutdoors.com.



View accessories available for your trolling motor at .

TOOLS AND RESOURCES REQUIRED

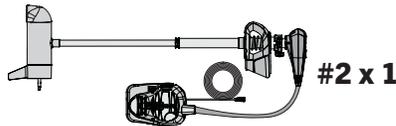
- (2) #3 Phillips Screwdriver
- 1/4" Allen Wrench
- Drill
- 9/32" Drill Bit
- 7/16" Box End Wrench
- A person to help with installation
- Torque Wrench
- File or Sandpaper
- Hack Saw
- Marker or Pencil
- 9/16" Deep Well Socket
- Vise Grip or Pliers
- Rubber Washers
- #2 Phillips Screwdriver
- Anti-seize
- Ruler
- (3) Screws 1/2" or 3/16"

INSTALLATION

Assembly of the Bowguard to the Mount

1

ITEM(S) NEEDED

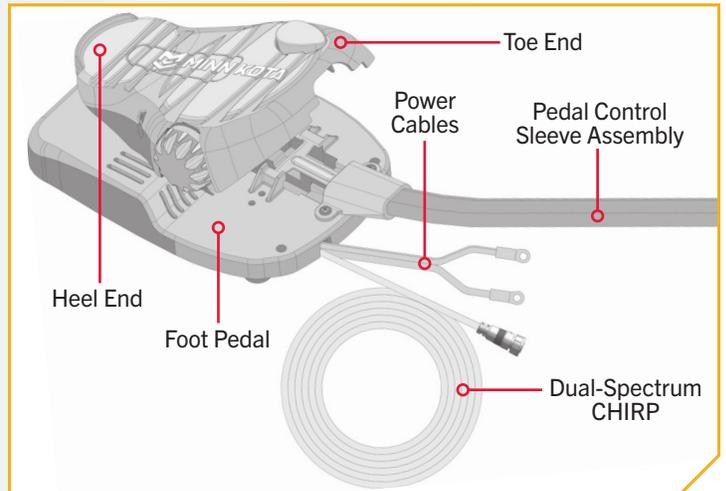


- a. The Power Cables for the Fortrex trolling motor exit the Foot Pedal. The Foot Pedal is a part of the Motor Assembly (Item #2) and is attached to the Bowguard by way of the Pedal Control Sleeve Assembly. Before beginning installation of the trolling motor, confirm that the trolling motor Power Cables are not connected to a power source.

WARNING

Avoid the risk of electric shock or unexpected motor operation. Always make sure the Power Cables are not connected to a power source before beginning installation.

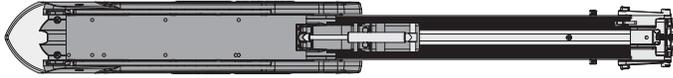
NOTICE: This motor weighs approximately 55 lbs. We recommend having a second person help with the installation.



ASSEMBLY OF THE BOWGUARD TO THE MOUNT

2

ITEM(S) NEEDED



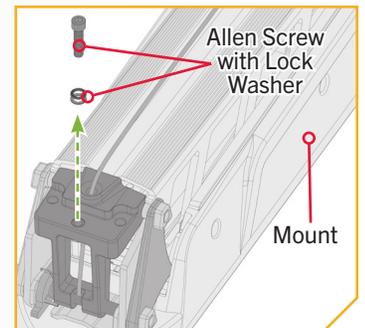
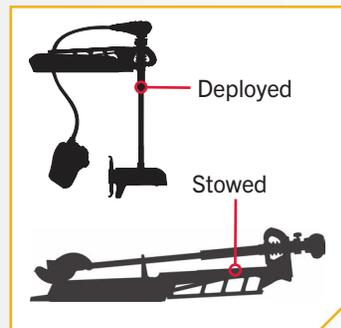
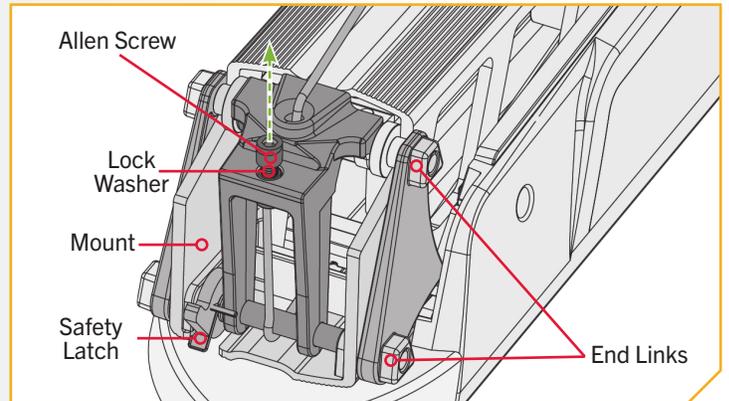
#D x 1 or #E x 1 or #F x 1

- b. Before installing the Mount to the boat, install the Bowguard to the Mount. Ensure the Mount is positioned flat on a level surface.

WARNING

Avoid injury from a falling motor. Place the mount and trolling motor on a level surface to prevent it from falling.

- c. Place the Mount (Assembly #D, #E or #F) on an elevated, level surface such as a workbench or the tailgate of a pickup. The Mount, as removed from the box, should be in the deployed position.
- d. Locate the two 5/16" Allen Screws and Lock Washers. They are on the top of the Mount. Remove the 5/16" Allen Screw and Lock Washer from the Mount using the 1/4" Allen Wrench.



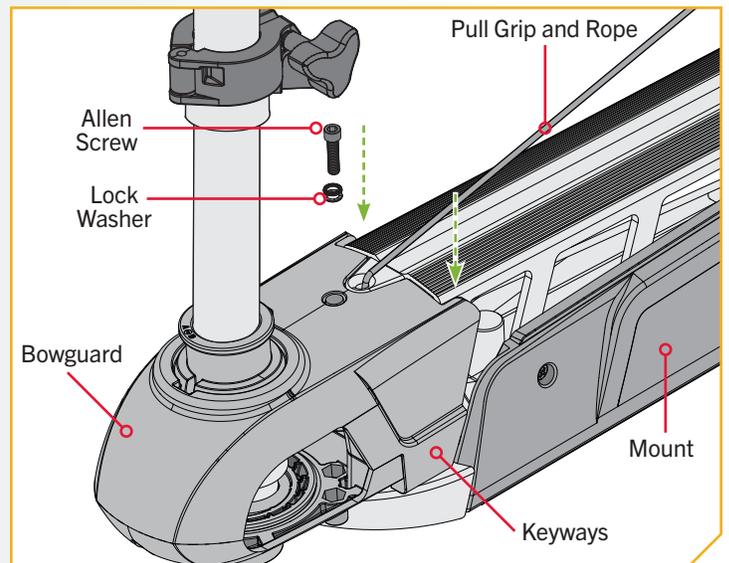
3

- e. Align the Keyways on the inside of the Bowguard on the Motor Assembly with the End Links on the Mount. Lower the motor assembly straight down until seated.
- f. Reinstall the 5/16" Allen Screw and the Lock Washer with a 1/4" Allen Wrench and tighten to 10-12 ft-lbs.

WARNING

Carefully lower the Bowguard into place to avoid creating a pinch point between the Bowguard and Mount.

NOTICE: The 5/16" Allen Screw must be tight when installed and periodically tightened to 10-12 ft/lbs. This will allow the motor to be stowed properly. Tighten the Allen Screw when the Mount is in the deployed position.



INSTALLING THE MOUNT

› Installing the Mount

During installation, it is recommended to mount the motor to the boat before installing the Gas Spring Pin. The Gas Spring Pin is installed in the Gas Spring Cylinder. The Gas Spring Cylinder is located on the inside of the Outer Arm, which is a part of the Mount. At this point in the installation, the Gas Spring Cylinder is not fully installed and may move around inside the Mount when stowing and deploying the motor. The Gas Spring Cylinder can become damaged while deploying the motor and the damage will prevent the Lift-Assist feature from operating correctly once fully assembled. Make sure that the Gas Spring Cylinder does not get damaged in the Mount.

⚠ CAUTION

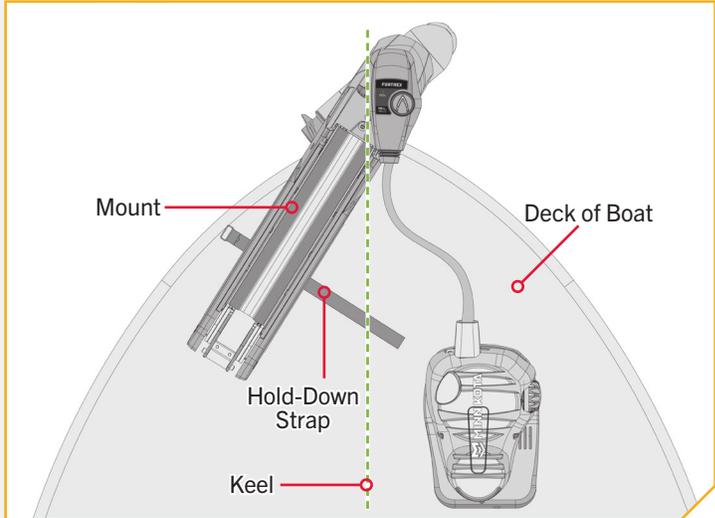
The Gas Spring Cylinder can become damaged in the Mount while stowing or deploying the motor because it is not yet fully installed. Damage will prevent the Lift-Assist feature from operating correctly once fully assembled. Make sure that the Gas Spring Cylinder does not get damaged by keeping it inside the Outer Arm of the Mount.

1

ITEM(S) NEEDED

 #34 x 1

- a. Review the mounting considerations at the beginning of the Installation section for proper placement. The motor is intended to be mounted on the bow of the boat deck. Place the Mount as close to the centerline or keel of the boat as possible.
- b. Ensure the motor is in the stowed position on the deck of the boat. Stow the motor into the flat position by pulling the Pull Grip and Rope to disengage the latch bar, allowing the motor to fold into the flat position. Check placement with the motor in the stowed and deployed positions.
- c. Place the Hold-Down Strap (Item #34) under the base of the Mount Plate so that it is below the Mount when installed.



NOTICE: Check that the Motor can properly stow and deploy at the intended mounting location. The Mount should latch closed when deployed. A proper deployment requires engaging the Pull Grip and Rope when the Motor is stowed to unlatch the Mount. If the latch on the Mount does not engage when deployed, it could indicate that the Mount is not flat on the Boat Deck. Use rubber washers to level the Mount on the Boat Deck if the Mount is not latching when deployed.

INSTALLING THE MOUNT

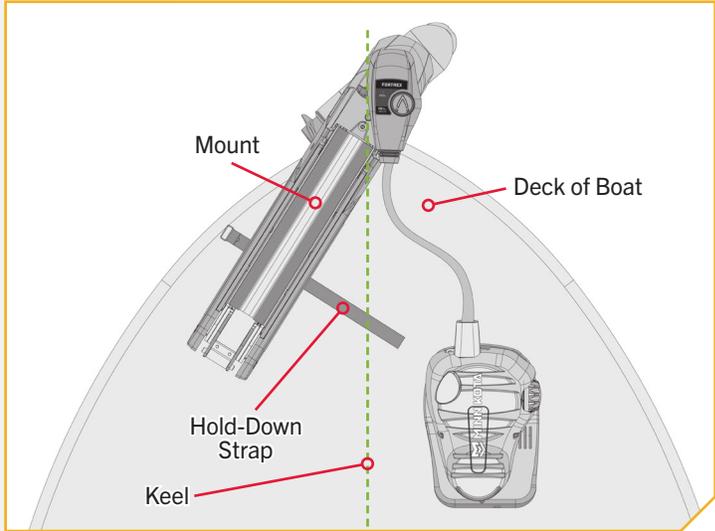
2

- d. Install the Mount on either the Port or Starboard side of the bow, based on personal preference. Test the placement of the Hold-Down Strap to be sure it can hold the Mount as placed. The position of the buckle on the Hold-Down Strap, either inboard or outboard, is based on personal preference. The hook and loop on the Hold-Down Strap should face downward for the Hold-Down Strap to function correctly.



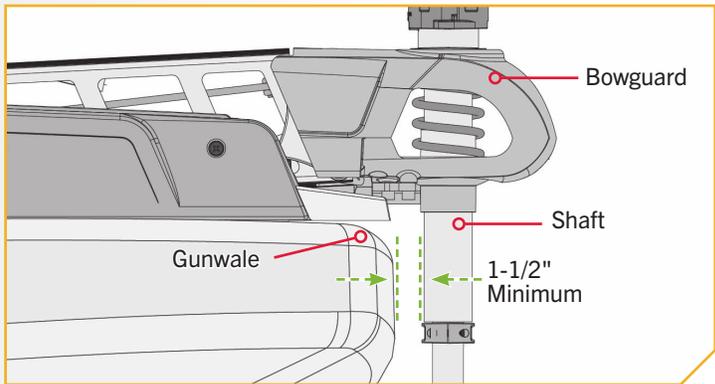
WARNING

When the motor is being transported, on water or land, it is important to place the motor completely out of water. The motor should be positioned up close to the Bowguard. Always secure the Depth Collar Knob for added security during transport and then secure the Hold-Down Strap. This provides a secure stow and holds the motor in place during transportation when it is subject to high levels of shock and vibration. Failure to secure the motor may result in injury or damage to the unit.



3

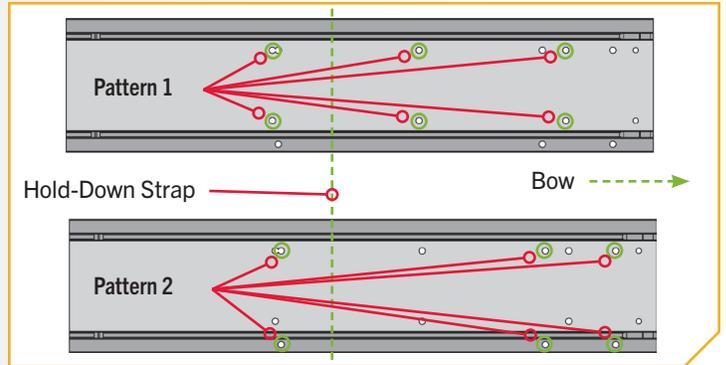
- e. Check the placement of the motor in the deployed position. With the motor deployed, ensure that the Bowguard and Shaft are a minimum of 1-1/2" out past the Gunwale of the boat. When stowed and deployed, the Lower Unit must not encounter any obstructions.
- f. Check the placement of the Hold-Down Strap when the motor is in the stowed and deployed positions and adjust if necessary.



INSTALLING THE MOUNT

4

- g. Once the Mount is in position, determine which bolt pattern to use. The motor will have either a Short Mount or a Long Mount. The bolt pattern selected will depend on the deck space available on your boat.
- h. It is recommended to mark six holes in the base of the Mount and to have three bolts on each side of the Mount Plate. Mark the holes with a Marker or Pencil.
- i. Drill through the deck of the boat using a 9/32" Drill Bit on the marked locations.
- j. Be sure the Hold-Down Strap under the base of the Mount Plate sits between the second and third set of bolts according to the mounting pattern selected. Double check that it can close around the Mount when stowed.
- k. Move the motor to the stowed position to install the hardware once the placement of the Hold-Down Strap is set.



NOTICE: If Pattern 2 is used, the right side plate must be removed using a #2 Phillips Screwdriver to access the mounting holes in the base of the Mount.



WARNING

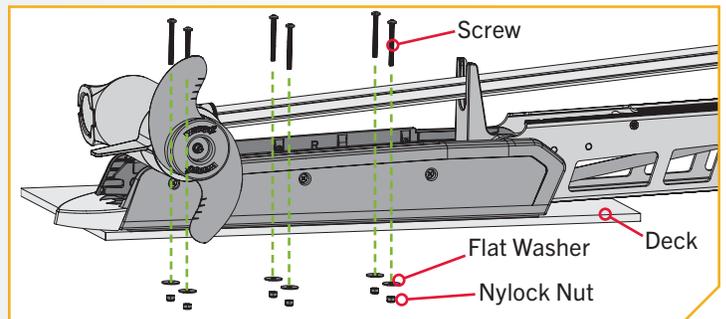
For installation, do not remove the shaft/motor from the Bowguard. The Bowguard spring is under tension and must always remain secured.

5

ITEM(S) NEEDED

- #6 x 6
- #8 x 6
- ┆ #4 x 6

- l. Take six 1/4-20 x 2 1/2" Screws (Item #4) and put one in each of the drilled locations. The Screw should pass through the Mount Plate and the Boat Deck.
- m. Take six Flat Washers (Item #8) and six Nylock Nuts (Item #6) for installation. Place a Flat Washer and then a Nylock Nut at the end of each screw. While holding each Nylock Nut with a 7/16" Box End Wrench, use a #3 Phillips Screwdriver to tighten each Screw. Make sure all hardware is secure.



NOTICE: To prevent seizing of the stainless steel hardware, do not use high speed installation tools. Wetting the screws or applying an anti-seize may help prevent seizing. If possible, secure all sets of mounting bolts, nuts and washers.

› Installing the Gas Spring Pin

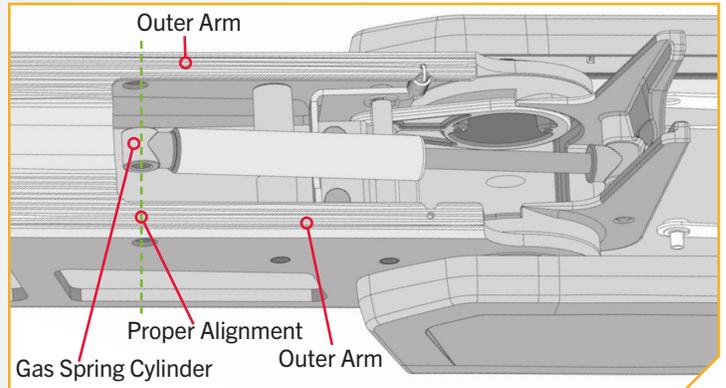
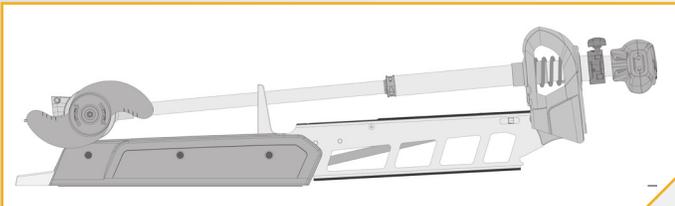
The Fortrex contains a Gas Spring Cylinder inside the Mount. The Gas Spring works to enable Lift-Assist when stowing the motor and is located inside the Outer Arm, a part of the Mount. At this point in the installation, the Gas Spring Cylinder is not fully assembled and may move around inside the Mount when stowing and deploying the motor. The Gas Spring can become damaged while moving the Mount, preventing the Lift-Assist feature from operating correctly once fully assembled. Handle the motor carefully to ensure that the Gas Spring Cylinder is not damaged in the Mount during installation. With the Bowguard installed on the Mount and the Mount secured to the boat deck, install the Gas Spring Pin.

WARNING

The gas assist lift mechanism in this unit is under high spring pressure when the motor is in the deployed position. Do not remove the Bowguard from the Mount without disconnecting one end of the gas spring. Failure to do this can create a condition where accidental pulling of the Pull Grip and Rope may cause the mount to spring open rapidly, striking anyone or anything in the direct path.

1

- a. Place the motor in the stowed position. Disengage the latch bar with the Pull Grip and Rope to allow the motor to unfold into a flat position.
- b. Once in the stowed or flat position, the Gas Spring Pin and Spacers can be installed.



WARNING

Moving parts can cut or crush. The gas assist lift mechanism is under pressure. Disconnect the Gas Spring Cylinder if it is necessary to removing the motor or Bowguard from the Mount for any reason. Do not engage the Pull Grip and Rope until the Gas Spring Cylinder is disconnected if the Bowguard is removed from the Mount.

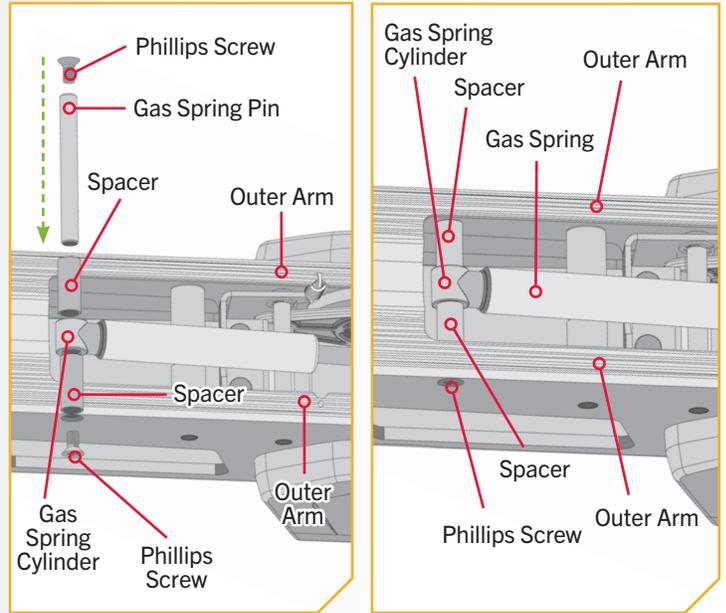
PLACING THE BOW-MOUNT STABILIZER

2

ITEM(S) NEEDED

#36 x 2 **#38 x 2** **#40 x 1**

- c. Locate the upper Gas Spring Pin (Item #40) and Spacers (Item #38) in Bag Assembly C. Align the end of the Gas Spring Cylinder with the holes in the Outer Arm.
- d. Install the Gas Spring Pin through the Outer Arm, then through a Spacer, the end of the Gas Spring Cylinder and another Spacer.
- e. Install one Phillips Screw (Item #36) on each end of the Gas Spring Pin and secure with two #3 Phillips screwdrivers. Hold one Phillips Screw with the screwdriver while tightening the opposite Phillips screw.
- f. Tighten both Phillips Screws until the heads are flush with the Outer Arm.



Placing the Bow-Mount Stabilizer

The Bow-Mount Stabilizer is used to stabilize the Bowguard and reduce bouncing when the motor is stowed and transported. Attention to detail is needed for successful installation of the stabilizer. We recommend to have the Bow-Mount Stabilizer installed by a qualified marine installer.

NOTICE: The Bow-Mount Stabilizer is not required or included on the 80lb 45" Fortrex.

CAUTION

Adjusting the Aluminum Rod too tightly removes the end play needed for proper latch pin engagement and doing so could prevent the mount from fully latching in the stowed position. Improper latching may cause damage. If installed correctly, the tip of the Aluminum Rod should lift off of the boat deck about 1/4" without the mount unlatching. Cutting the Aluminum Rod too short will cause inadequate support of the mount. Lack of mount support may cause damage.

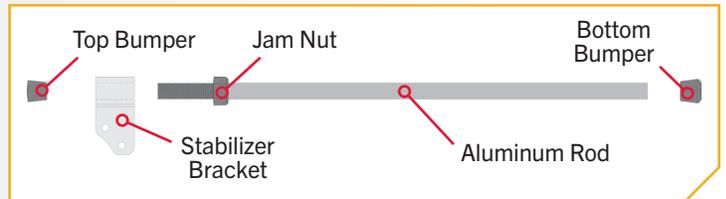
PLACING THE BOW-MOUNT STABILIZER

1

ITEM(S) NEEDED

■ #26 x 1  #24 x 1  #20 x 1  #22 x 1 ■ #18 x 1

- a. Place the motor in the stowed position.
- b. Un-thread the Aluminum Rod (Item #20) from the Stabilizer Bracket (Item #24) by removing the Top Bumper (Item #26) and unscrewing the bracket. Also remove the Bottom Bumper (Item #18). Keep the Jam Nut (Item #22) in place.



2

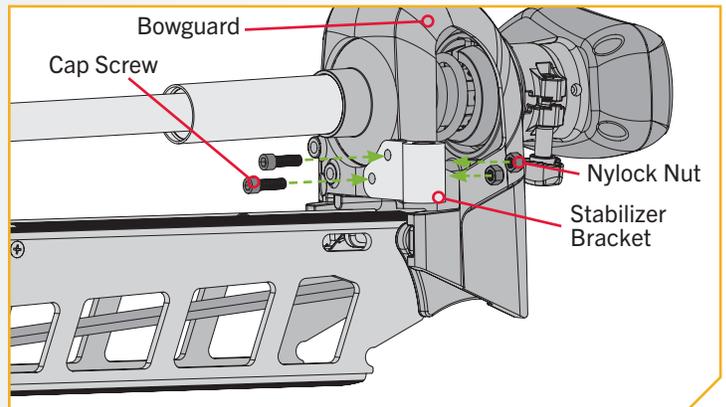
ITEM(S) NEEDED

⌈ #30 x 2 ○ #32 x 2 ● #28 x 2

- c. Determine the desired orientation of the Stabilizer Bracket either Port or Starboard and attach it to the bottom of the Bowguard.

NOTICE: The Bow-Mount Stabilizer Bracket can be installed on the left or right side of the Bowguard.

- d. Put the 5/16" Cap Screws (Item #30) through the Stabilizer Bracket and the mounting holes on the Bowguard. Secure the 5/16" Cap Screws with the 5/16-18 Nylock Nut (Item #28). The Nylock Nuts fit into a hex pocket on the inside of the Bowguard behind the spring. Secure with a 1/4" Allen Wrench. Tighten to 10 ft-lb.



NOTICE: The two Lock Washers (Item #32) are not used when installing on the Fortrex.

PLACING THE BOW-MOUNT STABILIZER

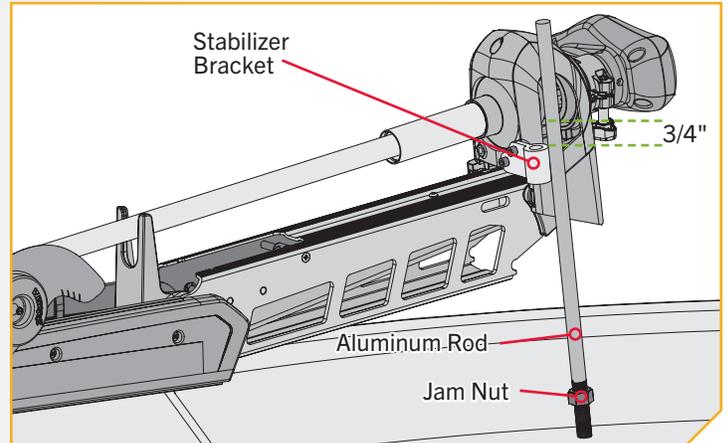
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- e. Use a ruler to measure the proper length of the Aluminum Rod by standing it, with the threaded end down, onto the deck surface so that it sits vertically right next to the Stabilizer Bracket.
- f. Mark the Aluminum Rod with a pencil or marker 3/4" past the top of the Stabilizer Bracket.

CAUTION

Cutting the Aluminum Rod too short will cause inadequate support of the mount. Lack of mount support may cause damage.

- g. Cut the Aluminum Rod with a Hack Saw at the mark. Round the cut edge of the rod with a file or sandpaper to remove any sharp edges.

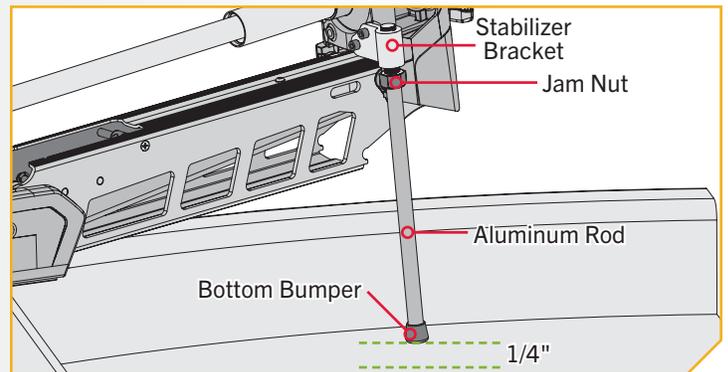


4

- h. Replace the Bottom Bumper on the Aluminum Rod, opposite from the threads.
- i. Thread the Aluminum Rod into the Stabilizer Bracket with the Bottom Bumper towards the boat deck.
- j. Adjust the Aluminum Rod up or down in the Stabilizer Bracket so that the Bottom Bumper just touches the support surface.

CAUTION

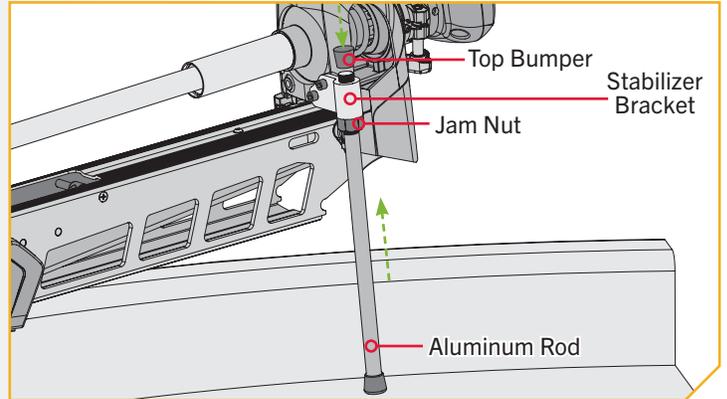
Adjusting the Aluminum Rod too tightly removes the end play needed for proper latch pin engagement and doing so could prevent the mount from fully latching in the stowed position. Improper latching may cause damage. If installed correctly, the tip of the Aluminum Rod should lift off of the boat deck about 1/4" without the mount unlatching.



MOUNTING THE FOOT PEDAL

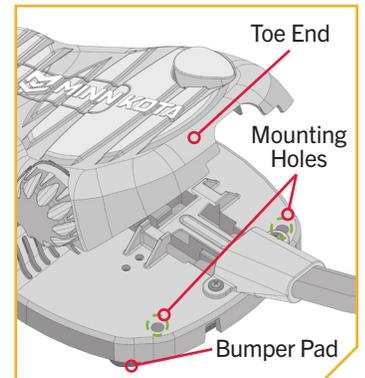
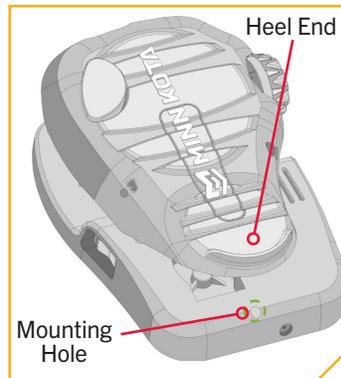
5

- k. Once in the correct position, tighten the Jam Nut upwards against the Stabilizer Bracket. This will prevent the Aluminum Rod from turning.
- l. Install the Top Bumper if there are threads exposed on the Aluminum Rod above the Stabilizer Bracket.



Mounting the Foot Pedal

We recommend securing the Foot Pedal to the boat deck to prevent it from being damaged during transport and to make motor operation more efficient. It is recommended to use the Mounting Holes on the Foot Pedal for a secure mount. The Foot Pedal has three Mounting Holes. One Mounting Hole is located under the Heel End of the Foot Pedal. The other two are located under the Toe End of the Foot Pedal. We recommend using a 1/8" or 3/16" diameter screw and only tighten enough to slightly compress the Bumper Pads underneath the Foot Pedal.



DUAL SPECTRUM CHIRP



DUAL SPECTRUM CHIRP >

Your trolling motor may be pre-installed with a transducer system featuring Humminbird's Dual Spectrum CHIRP. CHIRP stands for "Compressed High Intensity Radar Pulse". Dual Spectrum CHIRP is a 2D sonar transducer with a temperature sensor that is integrated into the lower unit of the trolling motor. Humminbird also utilizes a proprietary, best-in-class transducer designed and built to maximize fish detail, as well as coverage area. Dual Spectrum CHIRP scans the water for fish similar to the way the seek function on your truck's radio scans the airwaves for FM stations. By covering a wide range of frequencies, CHIRP produces more accurate, more detailed returns of fish, structure, and the bottom.

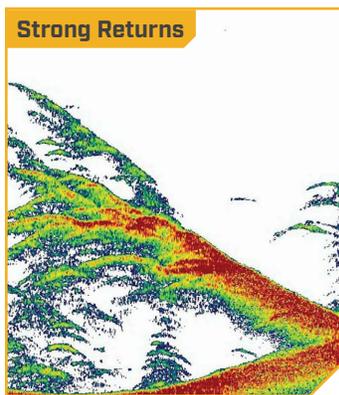
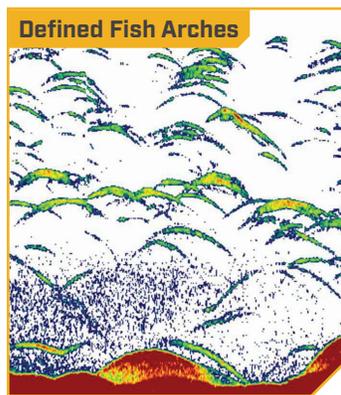
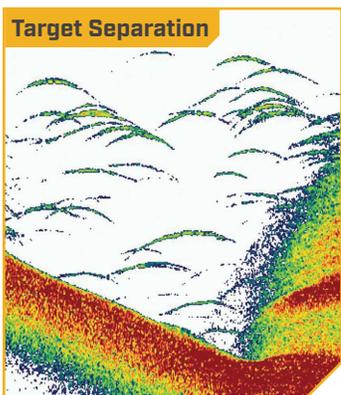
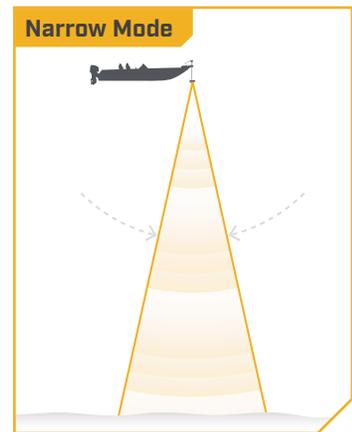
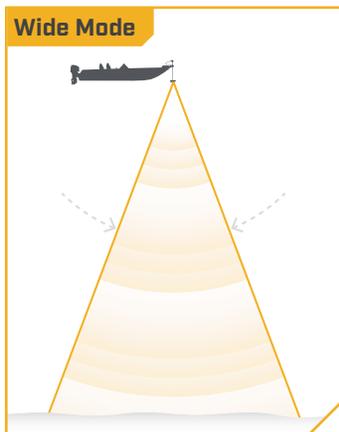
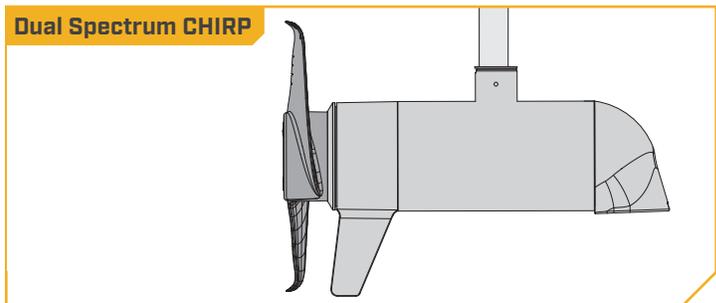
Humminbird's Dual Spectrum CHIRP gives you full spectrum capability, plus the power to select your own start and end frequencies by operating in two different modes. Wide Mode for maximum coverage and Narrow Mode for maximum detail. Wide mode allows you to search deep and wide. Is it used for watching your lure while vertical jigging, or gaining a more expansive view in shallow water. Narrow Mode is used to hone in on the small stuff that makes a big difference. Narrow Mode provides a precise perspective of the water below, helping you target individual fish, or identify fish hidden in structure and/or tight to the bottom.

Dual Spectrum CHIRP features:

SUPERIOR TARGET SEPARATION - Separating fish from their habitat is the name of the game. And now, you'll be able to tell the difference more easily between bait and game fish, and nearby structure and vegetation.

CLEARLY DEFINED FISH ARCHES - We've got bad news for your arch nemesis. Large game fish will show up on your screen as long, well-defined arches, for quick identification and accurate lure presentation.

STRONG RETURNS WITHOUT NOISE - Stop seeing things that aren't there. A high signal-to-noise ratio translates to better defined targets, less clutter and greater certainty that what you're looking at on-screen is legit.



////////////////////////////////////
The integrated design of the Dual Spectrum CHIRP transducer protects it in the lower unit of the trolling motor from underwater hazards and prevents tangles and damage to the transducer cables. In certain situations, air bubbles may adhere to the surface of the Dual Spectrum CHIRP transducer and affect the performance. If this happens, simply wipe the surface of the transducer with your finger.

› Considerations for Connecting and Routing Dual Spectrum CHIRP

If Dual Spectrum CHIRP is pre-installed on your trolling motor, one Dual Spectrum CHIRP accessory cable will exit the Foot Pedal. The cable will come installed from the factory. Dual Spectrum CHIRP requires this cable to be connected to an output device such as a Humminbird® fish finder. The Dual Spectrum CHIRP cable is "Apex and Solix Ready". Connecting the trolling motor equipped with a Dual Spectrum CHIRP transducer to a compatible fish finder gives you a 2D sonar view of what is happening directly below your trolling motor. To determine if your fish finder is compatible with Dual Spectrum CHIRP, please visit minnkota.johnsonoutdoors.com to check compatibility. The Dual Spectrum CHIRP cable from the trolling motor Foot Pedal may be plugged directly into a Solix or Apex, directly into an Extension Cable or directly into a Humminbird® Helix Adapter Cable.

EXTENSION CABLES - The Dual Spectrum CHIRP cable from the trolling motor may not be long enough to reach your fish finder. If the cable length does not reach the desired fish finder installation location, extension cables are available. A 10-foot extension cable ([EC M3 14W10 - 10' transducer extension cable - 720106-1](#)) and a 30-foot extension cable ([EC M3 14W30 - 30' transducer extension cable - 720106-2](#)) are available from humminbird.johnsonoutdoors.com. Both the 10-foot and 30-foot extension cables also come "Apex and Solix Ready". The Extension Cables may plug directly into a Solix or Apex or directly into a Helix Adapter Cable.

HUMMINBIRD HELIX ADAPTER CABLES - If connecting to a Humminbird® Helix fish finder, an adapter cable accessory is included that will allow the connection of any compatible Humminbird® Helix fish finder. The Helix adapter cable will plug directly into the Helix fish finder.

OTHER FISH FINDER ADAPTER CABLES - If connecting to other fish finders on the market, check for compatibility or any required adapter cables online at minnkota.johnsonoutdoors.com.

Incorrect rigging will cause sonar interference and can damage your trolling motor, electronics, and other boat accessories. To minimize trolling motor interference, ensure that the fish finder and trolling motor are powered by separate batteries. Please refer to the "Battery & Wiring Installation" and "Motor Wiring Diagram" sections of the Owner's Manual for correct rigging instructions.

The Dual Spectrum CHIRP cables are shielded to minimize interference. To protect this shielding, the cables should not be pulled tight against sharp angles or hard objects. If using cable ties, do not over-tighten. Any excess cable should be bundled in a loose loop of no less than 4" in diameter. The connection cable should be routed to the fish finder following Minn Kota recommendations on routing the cables to optimize mobility and maximize functionality. Follow the instructions below for completing all connections and then follow the instructions for "Routing Connection Cables" to complete the output cable installation.

CAUTION

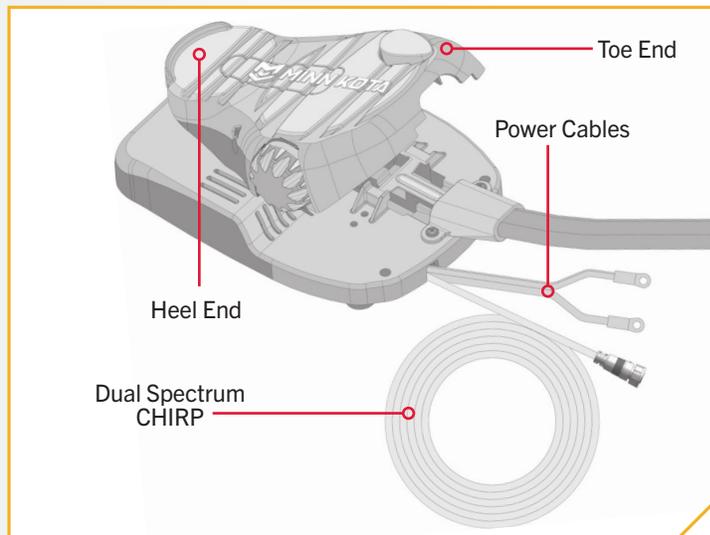
Failure to follow the recommended wire routing for installed features, if equipped, may cause damage to the product and void your product warranty. Route cables away from pinch points or other areas that may cause them to bend in sharp angles. Routing the cables in any way other than directed may cause damage to the cables by being pinched or severed. Do not over-tighten cable ties or clips as it may damage the wires.

DUAL SPECTRUM CHIRP

1

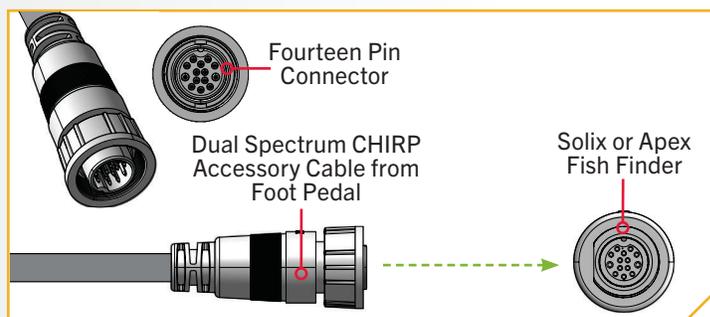
NOTICE: Your fish finder should be turned off until this procedure is complete.

- a. Locate the Fourteen Pin Connector on the end of the Dual Spectrum CHIRP accessory cable. The cable will come installed from the factory and exit the base of the Foot Pedal.
- b. Determine if the Plug on the end of the Dual Spectrum CHIRP accessory cable will be attached directly to:
 - 1) a Humminbird® Solix or Apex fish finder,
 - 2) a Dual Spectrum CHIRP Extension Cable,
 - 3) a Helix Adapter Cable or a compatible fish finder adapter cable.



2

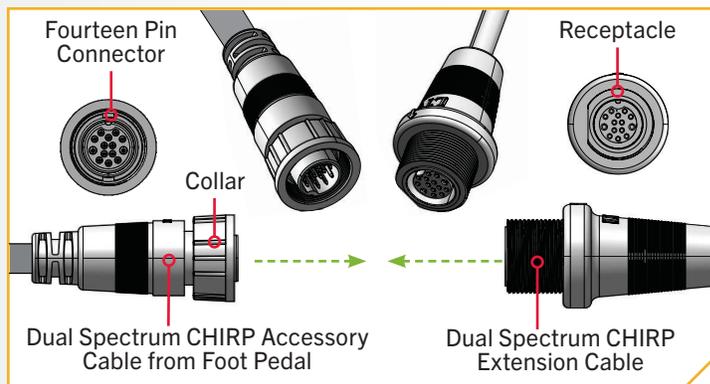
- c. If installing directly to a Solix or Apex, the connection will be flat on the back of the fish finder display.
- d. Align the pins on the Accessory Cable with the receptacle on the fish finder. Notice the keyed connectors. Tighten the Collar from the accessory cable to secure the connection. Once directly installed to the Solix or Apex, the connection is complete.



3

- e. If installing directly to a Dual Spectrum CHIRP Extension Cable, align the pins on the accessory cable with the receptacle on the extension cable. Notice the keyed connectors. Tighten the Collar from the accessory cable to secure the connection.
- f. If the Dual Spectrum CHIRP extension cable will be attached directly to a Humminbird® Solix or Apex, the connection will look exactly like the installation directly into a Humminbird Solix or Apex fish finder.

NOTICE: A 10-foot extension cable (EC M3 14W10 - 10' transducer extension cable - 720106-1) and a 30-foot extension cable (EC M3 14W30 - 30' transducer extension cable - 720106-2) are available from humminbird.johnsonoutdoors.com.



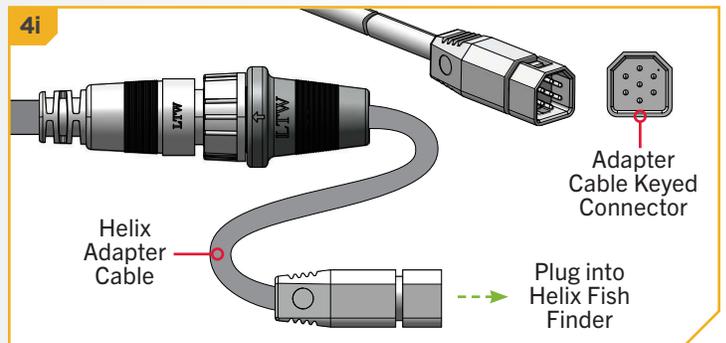
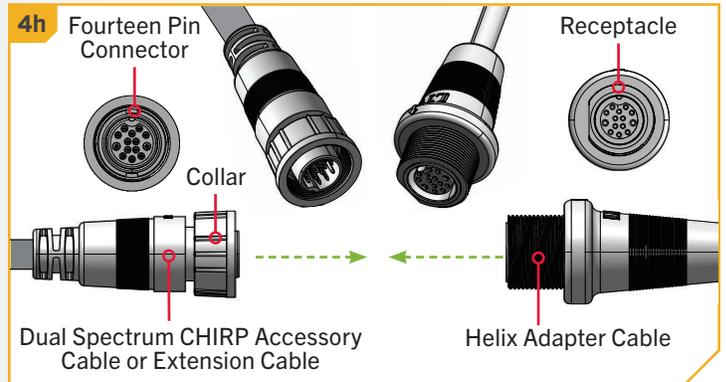
4

ITEM(S) REQUIRED



- g. If installing directly to a Helix Adapter Cable, align the pins on the accessory cable or extension cable with the receptacle on the Helix Adapter Cable (Item #42). Notice the keyed connectors. Tighten the Collar from the accessory cable or extension cable to secure the connection.
- h. If the Helix Adapter Cable will be attached directly to a Humminbird® Helix, plug it in the Helix Adapter Cable Keyed Connection on the back of the fish finder.

NOTICE: If connecting to other fish finders on the market, check for compatibility or any required adapter cables online at minnkota.johnsonoutdoors.com.



ROUTING CONNECTION CABLES

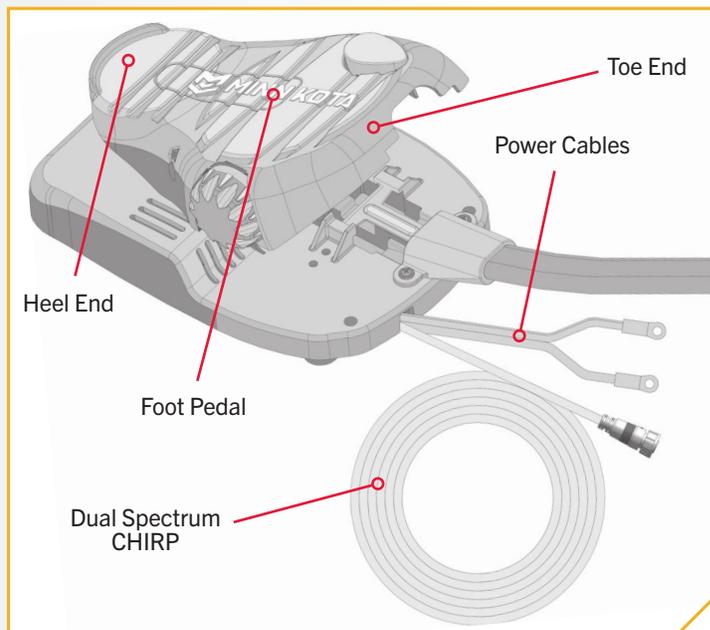
› Routing Connection Cables

Please follow these instructions for routing any and all of the cables present for any pre-installed feature that may come with your trolling motor. This routing should be followed no matter the type of connection cable present.

- 1** a. Locate the Dual Spectrum CHIRP accessory cable at the base of the Foot Pedal.

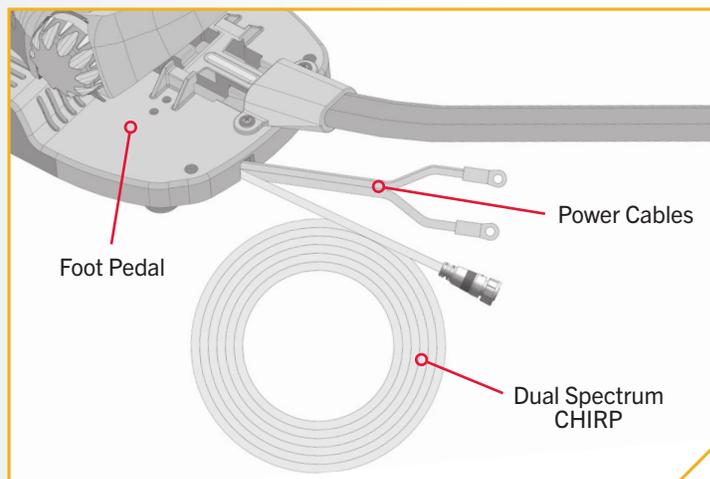
CAUTION

Failure to follow the recommended wire routing for the Dual Spectrum CHIRP cable may cause damage to the product and void your product warranty. Route cables away from pinch points or other areas that may cause them to bend in sharp angles. Routing the cables in any way other than directed may cause damage to the cables by being pinched or severed.



- 2** b. Identify where the Dual Spectrum CHIRP accessory cable is connected to an output device. Route the cable along an established routing system in the boat.
- c. Use cable ties to loosely secure cables if needed.

NOTICE: After the cable(s) exit(s) the Foot Pedal, it should be routed through an established routing system on the boat, in an area with minimal interference. Power cables or other elements may produce interference for the sonar signals. Inspect the selected route carefully to ensure that there are no sharp edges, obstacles, or obstructions that may damage the cables.



CAUTION

Improperly securing the Connection Cables may cause damage to the product and void your product warranty. Do not over tighten cable ties as it may damage the wires.

› Installing the Prop

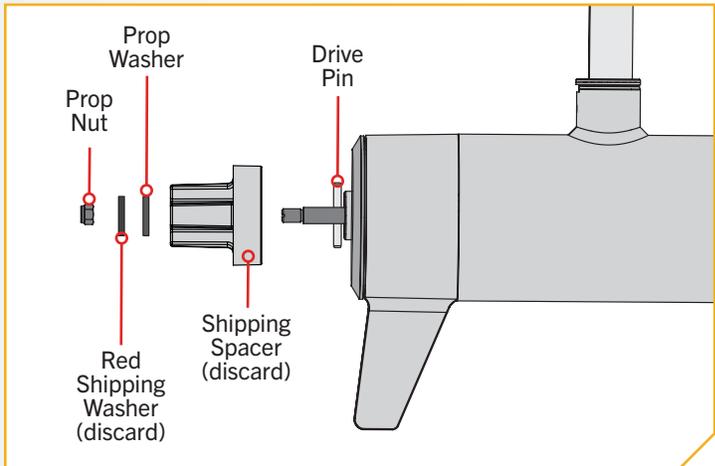
1

⚠ CAUTION

Disconnect the motor from the battery before beginning any Prop work or maintenance.

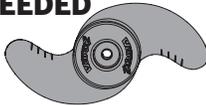
- a. While holding the Shipping Spacer with a pliers or vise grip, remove the Prop Nut, Red Shipping Washer, Prop Washer and Spacer, being careful not to lose the Drive Pin. Reuse the Prop Nut, Prop Washer and Drive Pin to attach the Propeller.

NOTICE: The Shipping Spacer and Red Shipping Washer are for shipping purposes only and must be discarded. The Red Shipping Washer will rust if used to attach the Propeller.



2

ITEM(S) NEEDED



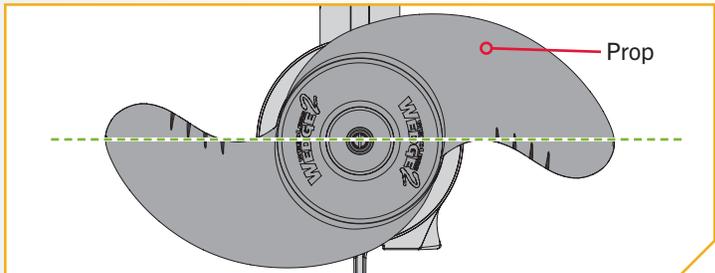
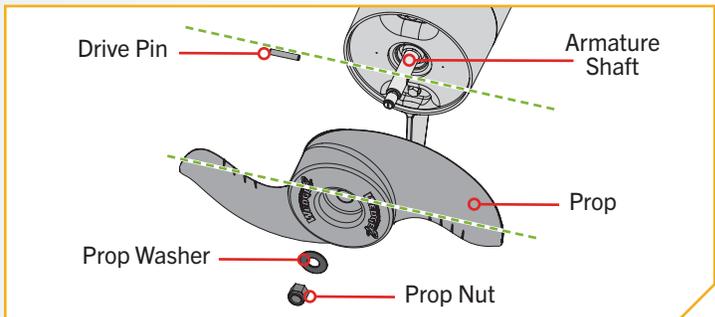
#10 x 1

● #12 x 1

⊙ #14 x 1

— #16 x 1

- b. Take the Drive Pin (Item #16) and slide it through the Hole in the Armature Shaft. Position the Drive Pin horizontally by grasping the Armature Shaft and rotating it with the Drive Pin in place.
- c. Align the Prop (Item #10) so it is also horizontal and parallel with the Drive Pin. Slide the Prop onto the Armature Shaft and Drive Pin until it is seated against the lower unit.
- d. Install the Prop Washer (Item #12) and the Prop Nut (Item #14) onto the end of the Armature Shaft.



INSTALLING THE PROP

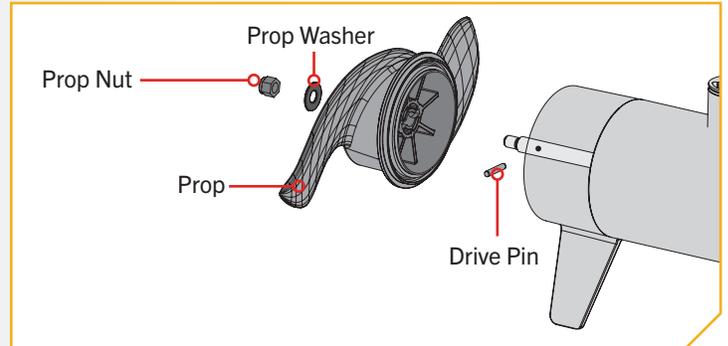
3

- e. While holding the Prop horizontal, tighten the Prop Nut with a 9/16" Deep Well Socket.
- f. Tighten the Prop Nut to 25-35 in-lbs.



CAUTION

Do not over-tighten as this can damage the prop.



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

These guidelines apply to general rigging to support your Minn Kota motor. Powering multiple motors 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 to the trolling motor used. 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 3% voltage drop allowed at full motor power based on published product power requirements.

Motor Thrust / Model	Max Amp Draw	Circuit Breaker		Wire Extension Length				
		Amp	Minimum	5 feet	10 feet	15 feet	20 feet	25 feet
80 lb.	56	60 Amp	24 VDC	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG
112 lb.	52	60 Amp	36 VDC	8 AWG	8 AWG	8 AWG	6 AWG	4 AWG

NOTICE: Wire Extension Length refers to the distance from the batteries to the trolling motor leads. Consult website for available thrust options. 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 motor will operate with any lead acid, deep cycle marine 12 volt battery/batteries. For best results, use a deep cycle, marine battery with at least a 105 amp-hour rating. 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. If you are using a crank battery to start a gasoline outboard, we recommend that you use a separate deep cycle marine battery/batteries for your Minn Kota trolling motor. For more information on battery selection and rigging, please visit minnkota.johnsonoutdoors.com. Minn Kota trolling motors can run on Lithium Ion batteries. However, they are specifically designed to run on traditional lead acid batteries (flooded, AMG or GEL). Lithium Ion batteries maintain higher voltages for longer periods of time than lead acid. Therefore, running a Minn Kota trolling motor at speeds higher than 85% for a prolonged period could cause permanent damage to the motor.

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.

CAUTION

Refer to “Conductor Gauge and Circuit Breaker Sizing Table” in the previous section to find the appropriate circuit breaker or fuse for your motor. For motors requiring a 60-amp breaker, the Minn Kota MKR-27 60-amp circuit breaker is recommended.

CAUTION

Please read the following information before connecting your motor to your batteries in order to avoid damaging your motor and/or voiding your warranty.

ADDITIONAL CONSIDERATIONS

› Using Alternator Chargers

Your Minn Kota trolling motor may be designed with an internal bonding wire to reduce sonar interference. Most alternator charging systems do not account for this bonding wire, and connect the negative posts of the trolling motor batteries to the negative posts of the crank/starting battery. These external connections can damage connected electronics and the electrical system of your trolling motor, voiding your warranty. Review your charger’s manual carefully or consult the manufacturer prior to use to ensure your charger is compatible.

Minn Kota recommends using Minn Kota brand chargers to recharge the batteries connected to your Minn Kota trolling motor, as they have been engineered to work with motors that include a bonding wire.

› Additional Accessories Connected to Trolling Motor Batteries

Significant damage to your Minn Kota motor, your boat electronics, and your boat can occur if incorrect connections are made between your trolling motor batteries and other battery systems. Minn Kota recommends using an exclusive battery system for your trolling motor. Where possible, accessories should be connected to a separate battery system. Radios and sonar units should not be connected to any trolling motor battery systems as interference from the trolling motor is unavoidable. If connecting any additional accessories to any trolling motor battery system, or making connections between the trolling motor batteries and other battery systems on the boat, be sure to carefully observe the information below.



CONNECTING THE BATTERIES IN SERIES

The negative (-) connection must be connected to the negative terminal of the same battery that the trolling motor negative lead connects to. In the diagrams below this battery is labeled “Low Side” Battery. Connecting to any other trolling motor battery will input positive voltage into the “ground” of that accessory, which can cause excess corrosion. Any damage caused by incorrect connections between battery systems will not be covered under warranty.

› Automatic Jump Start Systems and Selector Switches

Automatic jump start systems and selector switches tie the negatives of the connected batteries together. Connecting these systems to the “High Side” Battery or “Middle” Battery in the diagrams below and will cause significant damage to your trolling motor and electronics. The only trolling motor battery that is safe to connect to one of these systems is the “Low Side” Battery.

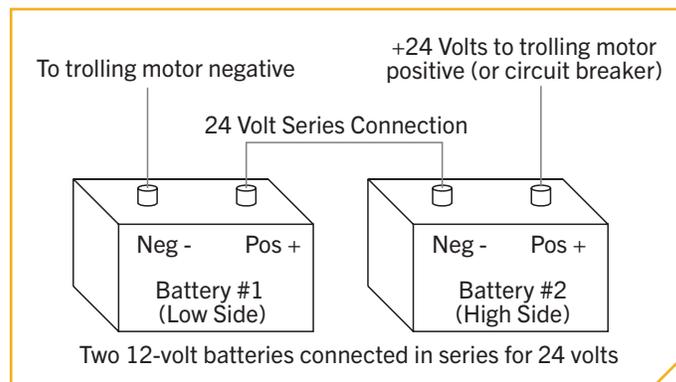
NOTICE: The internal bonding wire is equipped with a 3-amp fuse. Improper connections described above carrying in excess of 3 amps will blow this fuse and no further damage will be exhibited. If this occurs, RF interference from the trolling motor affecting sonar units and other electronics will be more significant. If the fuse is blown the wiring error should be found and addressed prior to replacing the fuse. The replacement fuse should be 3 amps or less. An intact fuse does not imply correct rigging; significant damage can be done by incorrect wiring without approaching 3 amps of current.

CONNECTING THE BATTERIES IN SERIES (IF REQUIRED FOR YOUR MOTOR)

› 24-Volt Systems

Two 12-volt batteries are required. The batteries must be wired in series, only as directed in the wiring diagram, to provide 24 volts.

1. Make sure that the motor is switched off (speed selector on “0”).
2. Connect a connector cable to the positive (+) terminal of battery 1 and to the negative (-) terminal of battery 2.
3. Connect positive (+) red motor lead to positive (+) terminal on battery 2.
4. Connect negative (-) black motor lead to negative (-) terminal of battery 1.



⚠ WARNING

For safety reasons do not switch the motor on until the propeller is in the water. If installing a leadwire plug, observe proper polarity and follow instructions in your boat owner’s manual.

⚠ WARNING

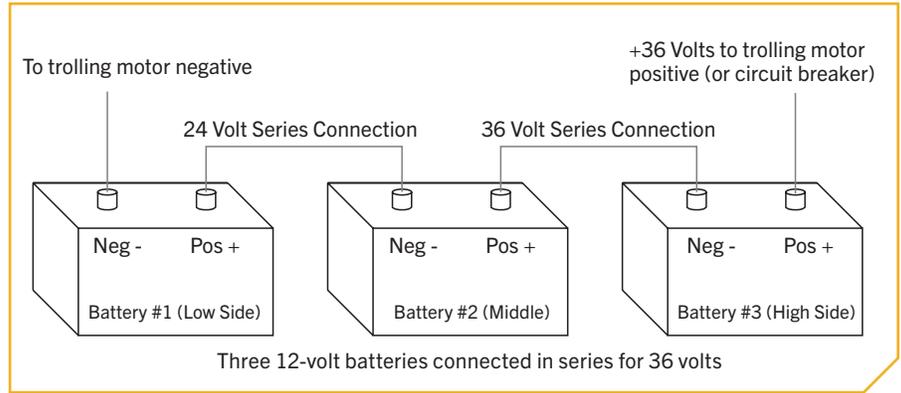
- For safety reasons, disconnect the motor from the battery or batteries when the motor is not in use or while the battery/batteries are being charged.
- Improper wiring of 24/36 volt systems could cause battery explosion.
- Keep leadwire wing nut connections tight and solid to battery terminals.
- Locate battery in a ventilated compartment.

CONNECTING THE BATTERIES IN SERIES

36-Volt Systems

Three 12-volt batteries are required. The batteries must be wired in series, only as directed in the wiring diagram, to provide 36 volts.

1. Make sure that the motor is switched off (speed selector on "0").
2. Connect a connector cable to the positive (+) terminal of battery 1 and to the negative (-) terminal of battery 2 and another connector cable from the positive (+) terminal of battery 2 to the negative (-) terminal of battery 3.
3. Connect positive (+) red motor lead to positive (+) terminal on battery 3.
4. Connect negative (-) black motor lead to negative (-) terminal of battery 1.



WARNING

For safety reasons, do not switch the motor on until the propeller is in the water. If installing a leadwire plug, observe proper polarity and follow instructions in your boat owner's manual.

WARNING

- For safety reasons, disconnect the motor from the battery or batteries when the motor is not in use or while the battery/batteries are being charged.
- Improper wiring of 24/36 volt systems could cause battery explosion.
- Keep leadwire wing nut connections tight and solid to battery terminals.
- Locate battery in a ventilated compartment.

This completes the installation of your Fortrex. A complete Owner's Manual can be downloaded at minnkota.johnsonoutdoors.com.

NOTES



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RECOMMENDED ACCESSORIES

ON-BOARD & PORTABLE BATTERY CHARGERS

Stop buying new batteries and start taking care of the ones you've got. Many chargers can actually damage your battery over time – creating shorter run times and shorter overall life. Digitally controlled Minn Kota chargers are designed to provide the fastest charge that protect and extend battery life.



MK212PCL



MK210D



MK110PD

TALON SHALLOW WATER ANCHOR

Talon is the only shallow water anchor with up to 15' of anchoring depth, multiple anchoring modes, and control from the bow, transom, console, remote or mobile device.



BUILT-IN WORK LIGHT

Lets you tie lines and work from the transom any time of day — or night. Includes both white and blue LED lights with three brightness settings.



BLUETOOTH® CONNECTIVITY

Lets you control Talon from your mobile device and easily update it. Also opens up communication to other control options.



UP TO 15' DEEP

Control more water and catch more fish with the first 15' shallow water anchor.



MORE CONTROL OPTIONS

- Control Panel
- Wireless Remote
- Mobile App
- Wireless Foot Switch
- Humminbird® Connectivity



MINN KOTA ACCESSORIES

We offer a wide variety of trolling motor accessories, including:

- 60-Amp Circuit Breaker
- Mounting Brackets
- Stabilizer Kits
- Extension Handles
- Battery Connectors
- Battery Boxes
- Quick Connect Plugs



minnkota.johnsonoutdoors.com



Part #2287111

Minn Kota Consumer & Technical Service
Johnson Outdoors Marine Electronics, Inc.
PO Box 8129
Mankato, MN 56001

121 Power Drive
Mankato, MN 56001
Phone (800) 227-6433
Fax (800) 527-4464



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