

ULTERRA™

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.

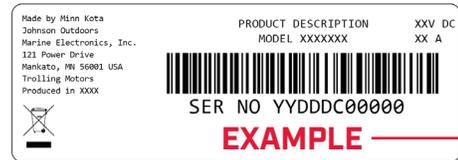
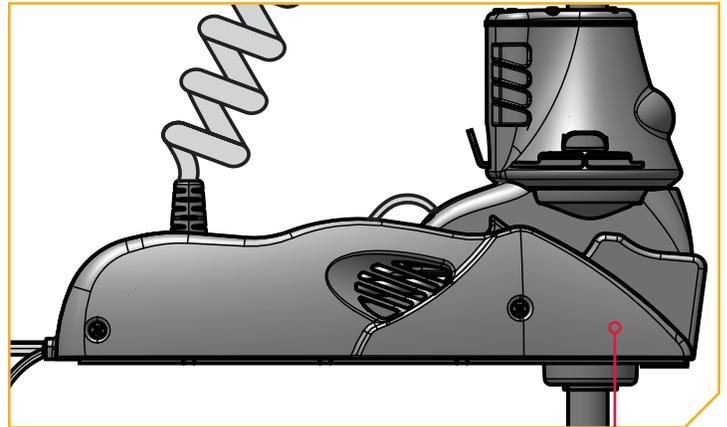
REGISTRATION

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 minnkotamotors.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, which can also be entered into the One-Boat Network® App for future reference.

NOTICE: The serial number on your Ulterra is located inside the mount near the motor rests.



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, minnkotamotors.com. Please include proof of purchase, serial number and purchase date for warranty service with any of the above options.

Made for iPhone® 11 and iPhone X

For updated iOS, Humminbird® and Minn Kota® compatibility, visit minnkotamotors.com



Use of the Made for Apple badge means that an accessory has been designed to connect specifically to the Apple product(s) identified in the badge, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. iPhone is a trademark of Apple Inc., registered in the U.S. and other countries. The trademark "iPhone" is used in Japan with a license from Airphone K.K.

Android™ is a trademark of Google LLC. The Android™ robot is reproduced or modified from work created and shared by Google and used according to terms described in the Creative Commons 3.0 Attribution License.

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.

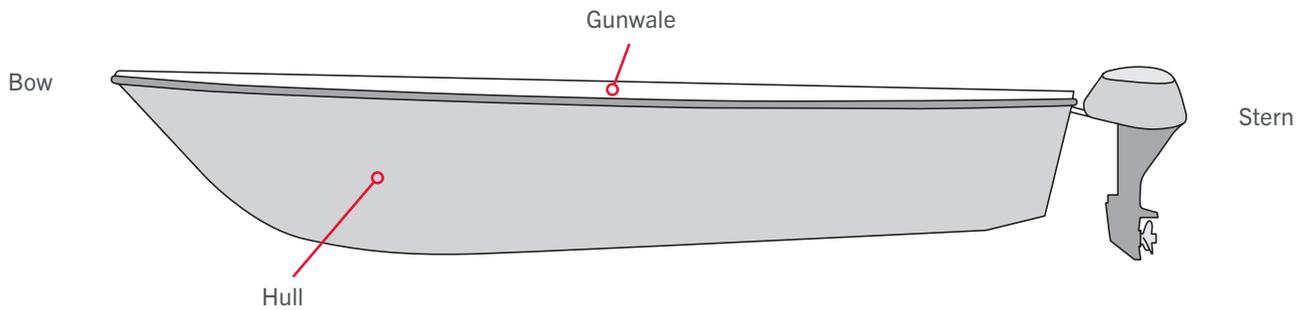
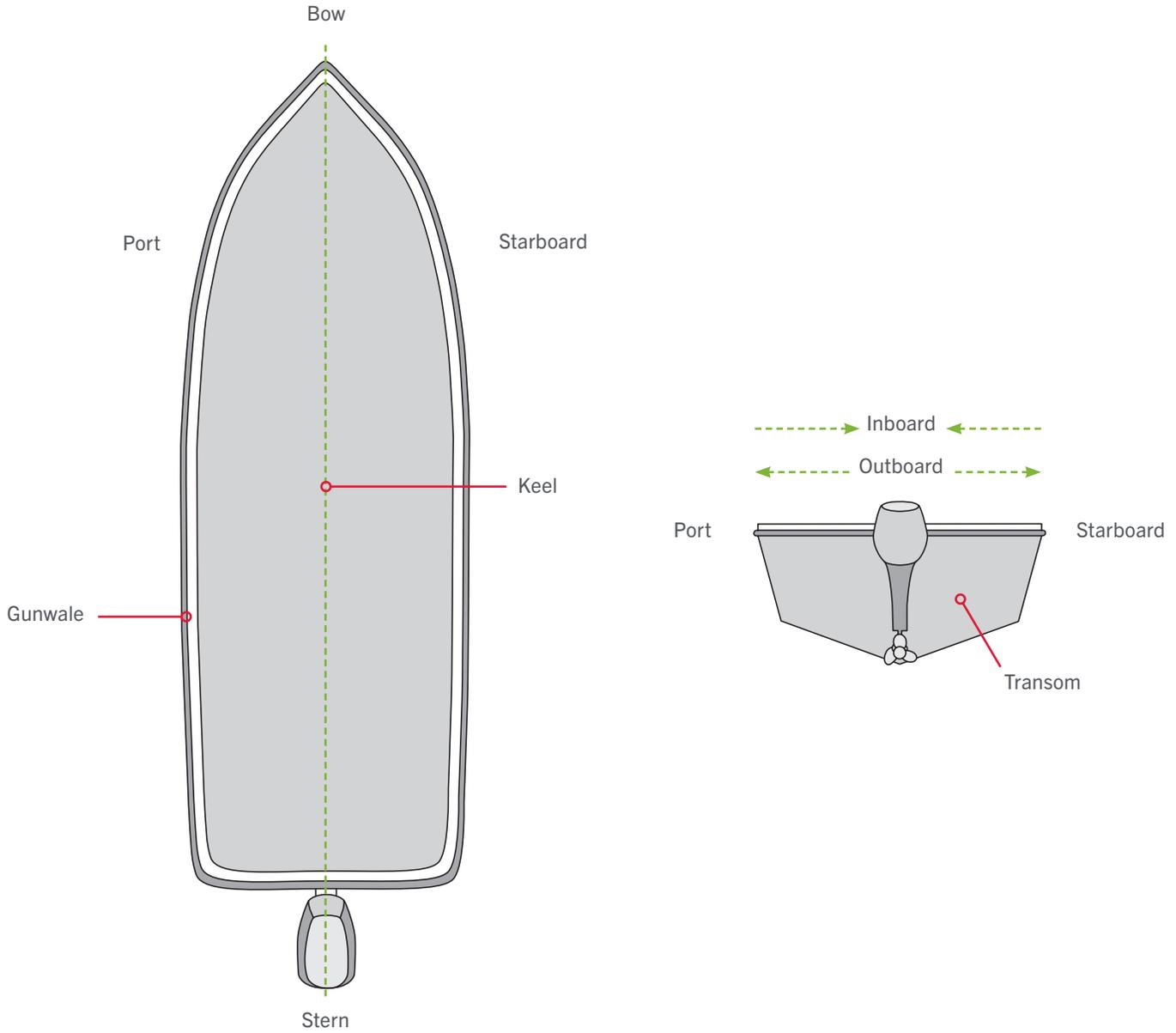
WARNING

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 ULTERRA

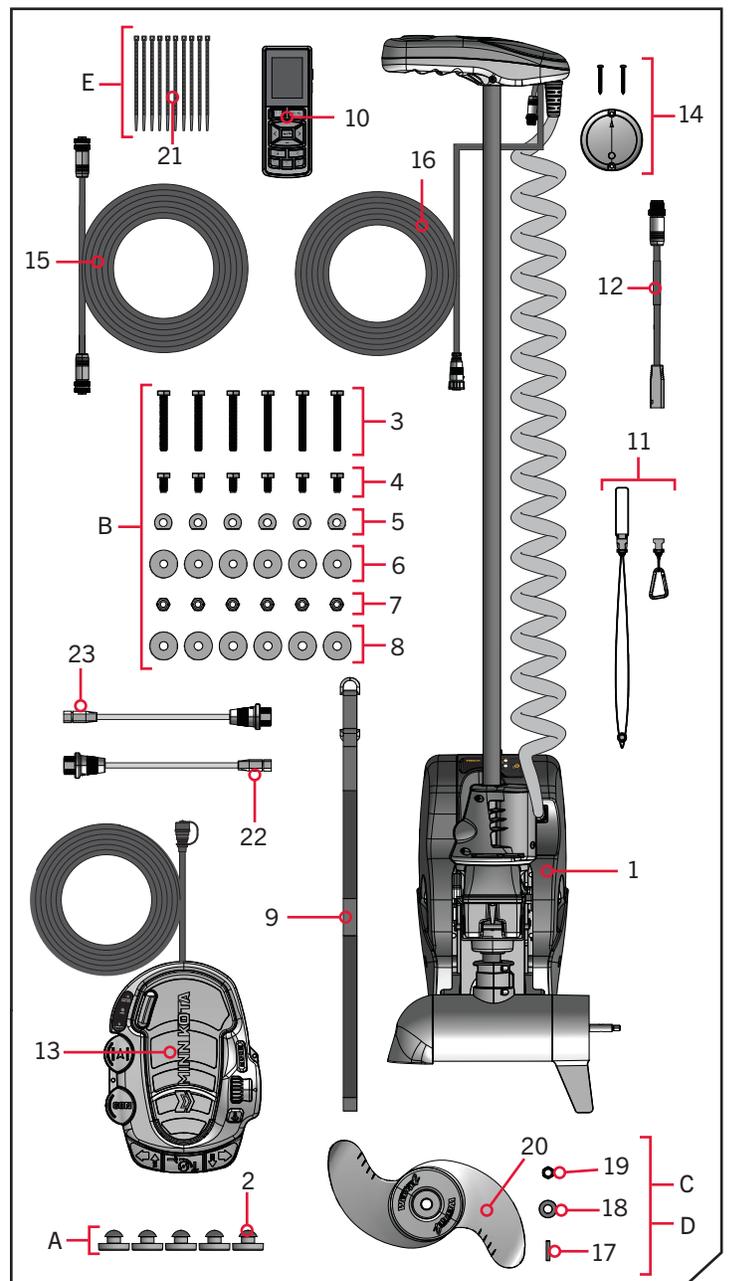
Your new Ulterra comes with everything you'll need to directly install it to the boat. This motor can be directly mounted to the boat or it may be coupled with a Minn Kota quick release bracket for ease of mounting and removal. For installation with a quick release bracket, refer to the installation instructions provided with the bracket. For more information on compatible quick release mounting brackets, please visit minnkotamotors.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 minnkotamotors.com.

INSTALLATION PARTS LIST

Item /Assembly	Part #	Description	Qty.
1	✘	MOTOR ASSEMBLY	1
A (Includes 2)	2994859	BAG ASY-TERROVA/V2,RUB.BUMPERS	1
2	2325110	PAD,FOOT PEDAL PD	5
B (Includes 3-8)	2994917	BAG ASSY, ULTERRA MTG HARDWARE	1
3	2203430	SCREW-1/4-20 X 2.0 HHCS SS	6
4	2203431	SCREW-1/4-20 X 0.5 HHCS SS *FOR QRB*	6
5	2201725	WASHER-CLIPPED, 1/4", 1.00" OD	6
6	2261713	WASHER-1/4 FLAT 18-8 SS	6
7	2263103	NUT-1/4-20 NYLOCK SS	6
8	2301720	WASHER-MOUNTING - RUBBER	6
9	2203801	STRAP, HOLD DOWN, ULTERRA	1
10	411690-1	TROLLING MOTOR REMOTE	1
11	2390802	LANYARD w/CARABINR,IP RMT	1
12	490380-1	CABLE, ETHERNET PIGTAIL-700 HD	1
13	2994743	FT PEDAL ASM ULTERRA 1.5	1
14	2996400	HEADING SENSOR ASSEMBLY	1
15	490384-4	CABLE, ETHERNET (M12-M12), 30'	1
16	490575-3	CABLE, ADPTR, 14 PIN, 110"-DSC *DSC*	1
	490507-1	CABLE, ADP-INT MDI 14 M12-120" *MDI*	1
C (Includes 17-20)	1378132	PROP IND 2331160 WDL5 WDG II *80LB THRUST*	1
D (Includes 17-20)	1378160	PROP KIT 2341160 112# WW2 *112LB THRUST*	1
17	2262658	PIN-DRIVE 1" X 3/16" S/S	1
18	2091701	WASHER-PROP (LARGE) MAX101	1
19	2093101	NUT-PROP,NYLOC,LG,MX101 3/8 SS	1
20	2331161	PROP-WW2 4" WELDED *80LB THRUST*	1
	2341161	PROP-WW2 4.5" WELDED *112LB THRUST*	1
E (Includes 21)	2996300	TIE WRAP ASM, 60"	1
21	2206300	TIE,WRAP, LOW PROFILE 4"	10
22	2994961	BAG ASM, CABLE,ADPTR, 490537-2 *MKR-MI-1*	1
23	2994960	BAG ASM, CABLE,ADPTR, 490518-1 *MKR-MDI-2*	1
▲	2207121	MANUAL, ULTERRA 1.5	1
▲	2207122	MANUAL, INSTL GUIDE,ULT1.5	1
▲	2207123	QUICK. REF. GUIDE, ULT1.5	1
▲	2397110	MANUAL, iPILOT 4.0	1
▲	2397115	GUIDE-QUICK REFERENCE iP 4.0	1
▲	2394900	INSTRUCTIONS, HEADING SENSOR	1
▲	2294950	INSTRUCTIONS,OBN & REMOTE PAIR	1

▲ Not shown on Parts Diagram.

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



INSTALLING THE ULTERRA

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 minnkotamotors.com.



View accessories available for your trolling motor at minnkotamotors.com.

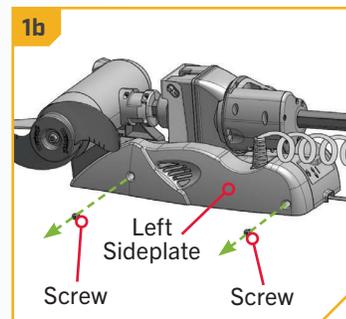
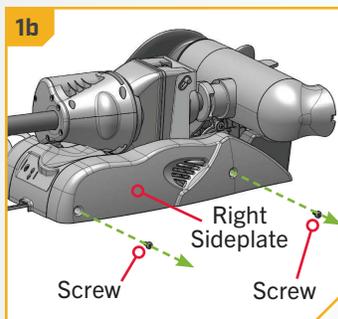
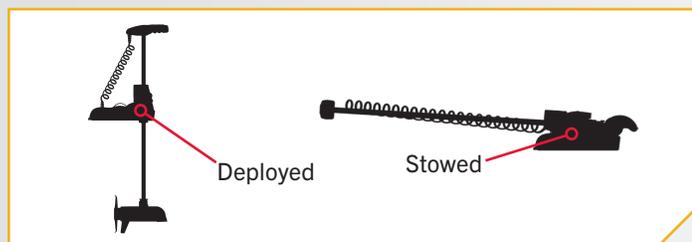
TOOLS AND RESOURCES REQUIRED

- #2 Phillips Screwdriver
- #3 Phillips Screwdriver
- Drill
- 9/32" Drill Bit
- A second person to help with the installation
- 7/16" Box End Wrench
- 9/16" Box End Wrench
- Flat-blade Screwdriver
- Pliers or Vice Grip
- Awl or similar marking tool

INSTALLATION

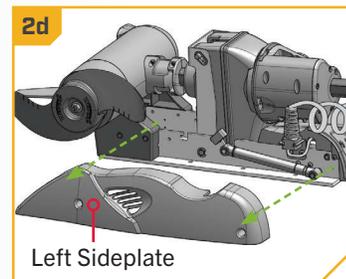
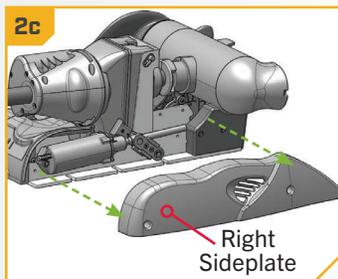
INSTALLING THE ULTERRA

- Place the Motor on an elevated, level surface such as a workbench or the tailgate of a pickup. The motor, as removed from the box, should be in the stowed position.
 - Remove the four sideplate screws using a #3 Phillips Screwdriver. Two of these screws will be located on each side of the Motor Mount.



NOTICE: This motor weighs approximately 70 lbs. Minn Kota recommends having a second person help with the installation.

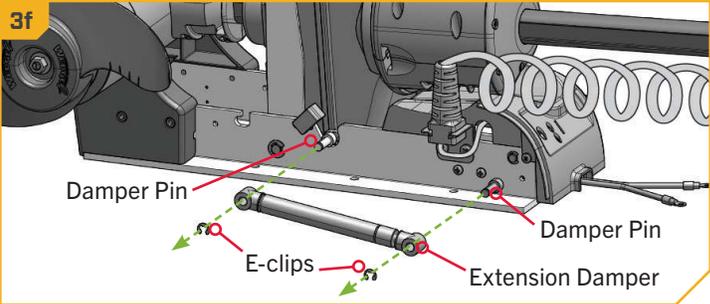
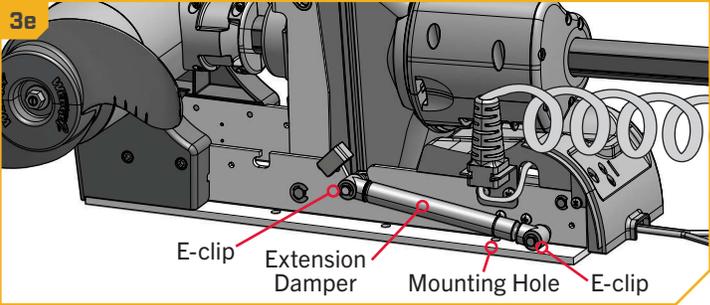
- Remove the Right Sideplate to access the Mounting Slots.
 - Remove the Left Sideplate to access the Mounting Holes.



INSTALLING THE ULTERRA

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- e. Under the Left Sideplate, the Extension Damper obstructs access to the front-left Mounting Hole.
- f. Using a small Screwdriver, remove the two 5/16" E-clips holding the Extension Damper in place. Once the E-clips are removed, slide the Extension Damper off the Damper Pins to expose the front-left Mounting Hole. Set the two E-clips and Extension Damper in a safe place so that they are not misplaced. They will be reassembled later in the installation.

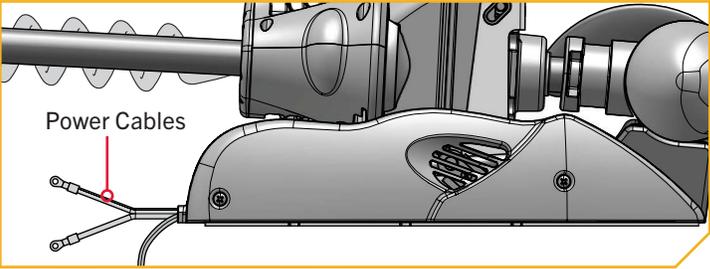


4

- g. Make sure the Power Cables from the battery are disconnected or that the breaker, if equipped, is "off."

⚠ WARNING

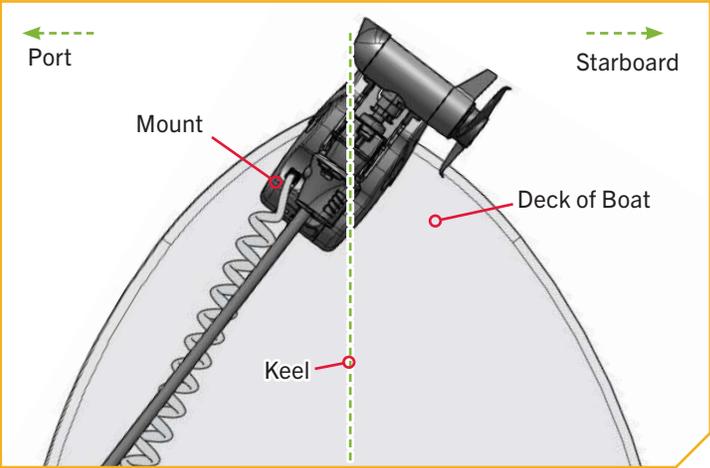
Make sure the motor is mounted on a level surface and is not connected to a power source.



5

- h. Place the motor on the bow of the boat. Place the motor as close to the centerline or keel of the boat as possible. The motor can be installed on either the Port or Starboard side of the boat based on personal preference. Review the mounting considerations at the beginning of the installation section.

NOTICE: The Emergency Strap (Item #9) is used for manually stowing the Ulterra. The Emergency Strap is not secured during installation. Store it on your boat in the event that you would need to manually stow the motor. To learn how, please refer to the "Manually Stowing the Ulterra" section of this manual.



INSTALLING THE ULTERRA

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ITEM(S) NEEDED

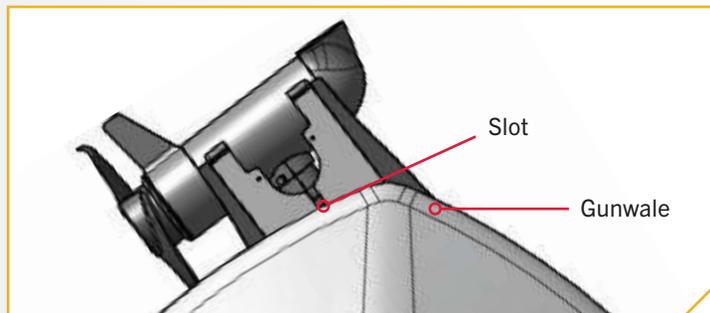
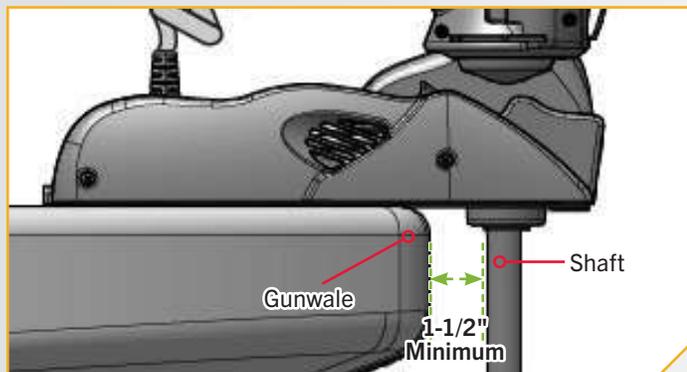
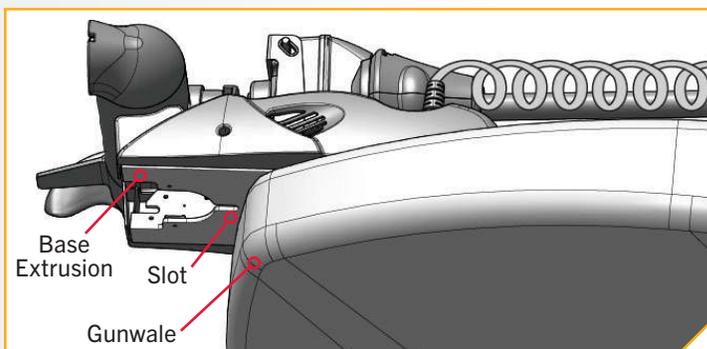


WARNING

Illustrations are for reference only. Do not deploy the motor until it is fully mounted to the boat. Deploying your motor before it is mounted to the boat may cause injury.

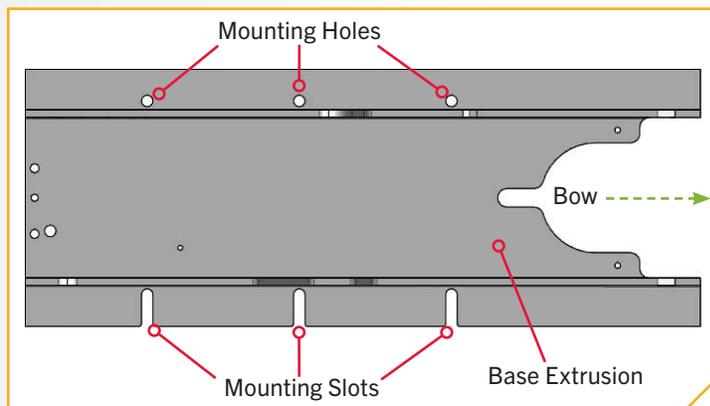
- i. Make sure the slot on the underside of the Base Extrusion is aligned with the outermost part of the gunwale of the boat. This will ensure that the Shaft has a minimum clearance of 1-1/2" when it is deployed. The lower unit, when stowed and deployed, must not encounter any obstructions.
- j. Check to be sure that the Motor Mount is level. Use the Rubber Washers (Item #8) provided to create a level surface, if necessary.

NOTICE: Failure to allow 1-1/2" of clearance for the Shaft when mounting may cause failures when the motor stows and deploys. Follow recommended mounting considerations to avoid obstructions when operating the motor.



7

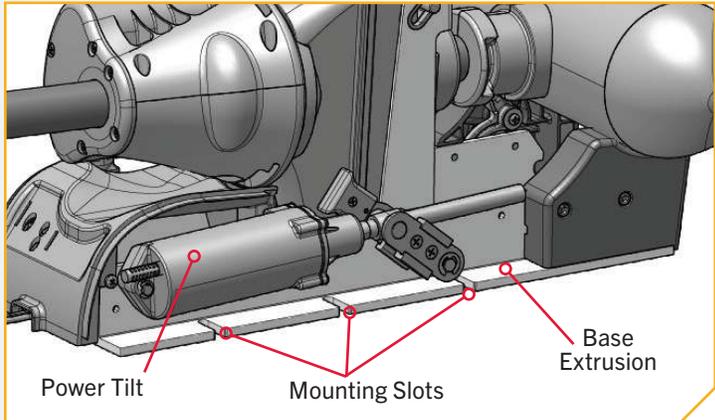
- k. With an Awl or similar tool, mark all six mounting holes in the Base Extrusion.
- l. Make sure the area under the mounting location is clear to drill holes and install nuts and washers. Drill through the marked holes using a 9/32" Drill Bit.



INSTALLING THE ULTERRA

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m. Mount the motor to the boat using the provided hardware. Start with the side of the Motor where the Power Tilt is located. This is the opposite side of the Base Extrusion from where the Extension Damper was removed. The base of the Motor where the Power Tilt is located has Mounting Slots and the side where the Extension Damper is located has Mounting Holes.



9

ITEM(S) NEEDED



#3 x 3



#5 x 3



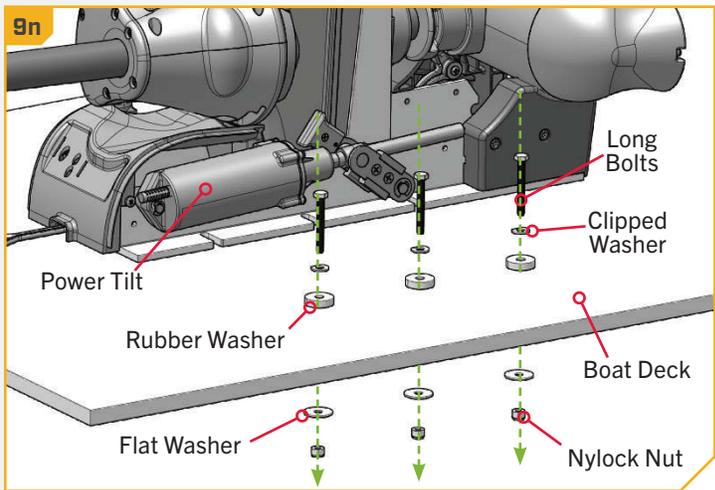
#6 x 3



#7 x 3

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.

n. Install the motor using three each of the Long Bolts (Item #3), Clipped Washers (Item #5), Rubber Washers (if needed), Flat Washers (Item #6) and Nylock Nuts (Item #7). Position the Clipped Washers so that the flat side of the washer faces towards the Base Extrusion. The Bolt should pass through the Clipped Washer, the Rubber Washer (if needed) and then the Boat Deck. The Bolt should be secured by first adding the Flat Washer to the Bolt and securing with a Nylock Nut. Tighten with a 7/16" Box End Wrench. Leave at least 1/4" space between the Bolt and Clipped Washer and the deck of the boat. This will leave enough space to slide the Base Extrusion between the Clipped Washer and Rubber Washer and into place.



CAUTION

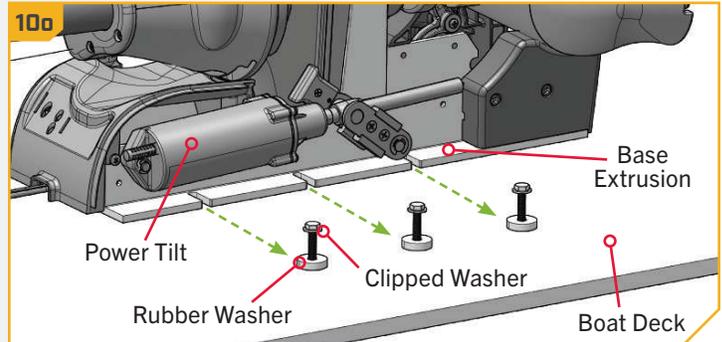
Use extra care to avoid pinching and damaging the sensor wires that run along the side of the Base Extrusion when installing and tightening the motor mounting bolts.

NOTICE: The Short Bolts (Item #4) are only used when installing the Ulterra to a quick release bracket. If installing the Ulterra to a quick release bracket, please refer to the instructions that came with the bracket for more information. Quick release bracket installation instructions can also be viewed online at minnkotamotors.com.

INSTALLING THE ULTERRA

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- o. Slide the Base Extrusion into place under the Bolts that were just installed.
- p. The Base Extrusion should slide between the Clipped Washer and the Rubber Washer (if used). Hold the Clipped Washers up on the Long Bolt, so the Clipped Washer will sit on top of the Base Extrusion.



11

ITEM(S) NEEDED



#3 x 3

#5 x 3



#6 x 3

#7 x 3

- q. Place the hardware on the Damper side of the mount into the Mounting Holes to secure the Base Extrusion.

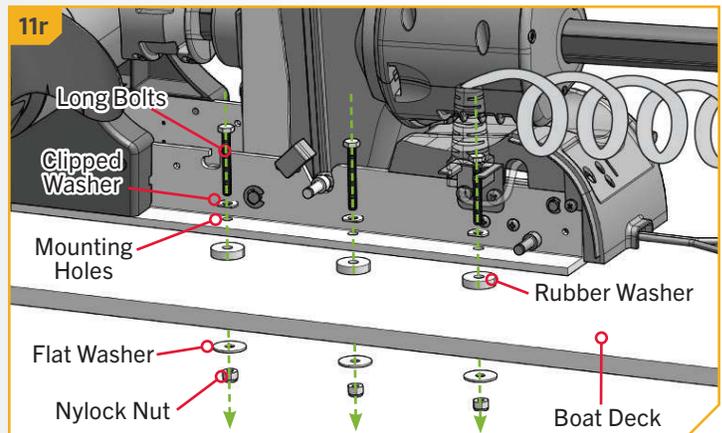
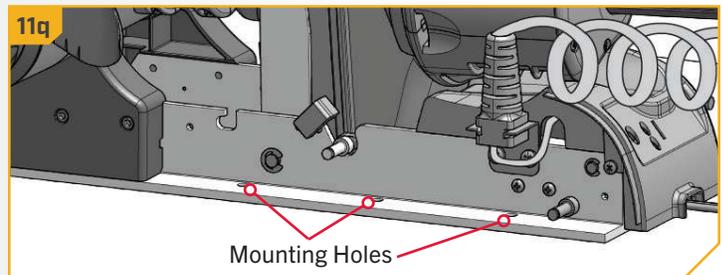
NOTICE: To prevent seizing of the stainless-steel hardware, do not use high speed installation tools. Wetting the screws or applying an anti-seize may help prevent seizing.

- r. Install the motor using three each of the Long Bolts (Item #3), Clipped Washers (Item #5), Rubber Washers (if needed), Flat Washers (Item #6) and Nylock Nuts (Item #7). Position the Clipped Washers so that the flat side of the washer is towards the Base Extrusion. The Bolt should pass through the Clipped Washer, Base Extrusion, Rubber Washer (if used), and then through the Boat Deck. Place a Flat Washer on each Bolt and then secure with a Nylock Nut. Tighten with a 7/16" Box End Wrench. Make sure all hardware is secure.

NOTICE: The Short Bolts (Item #4) are only used when installing the Ulterra to a quick release bracket. If installing the Ulterra to a quick release bracket, please refer to the instructions that came with the bracket for more information. Quick release bracket installation instructions can also be viewed online at minnkotamotors.com.

CAUTION

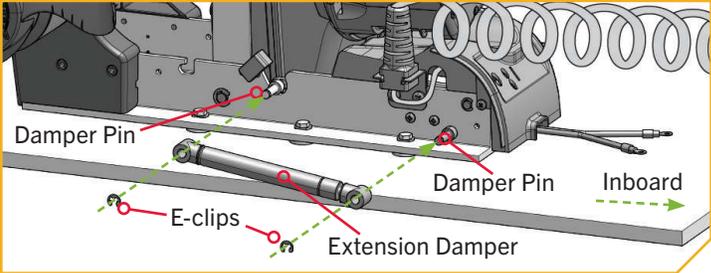
Use extra care to avoid pinching and damaging the sensor wires that run alongside the Base Extrusion when installing and tightening the motor mounting bolts.



INSTALLING THE ULTERRA

12

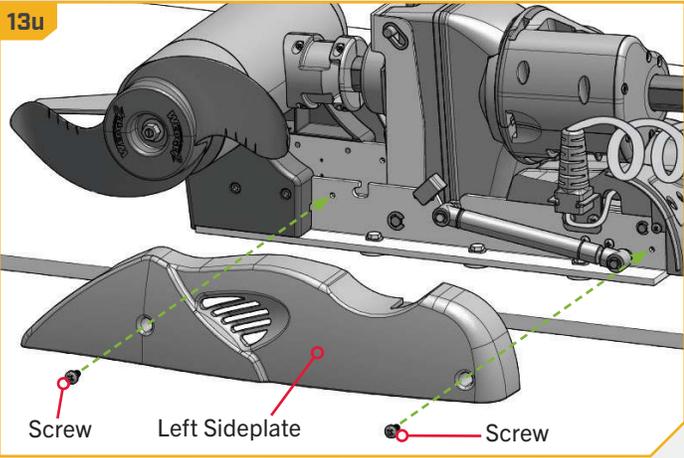
- s. At this point in the installation process, the Motor should be secured to the deck of the boat and can now be reassembled. The Extension Damper can be slid back in place on the Damper Pins. This should be done so the shaft on the Damper is pointing inboard. Reinstall the two 5/16" E-clips.



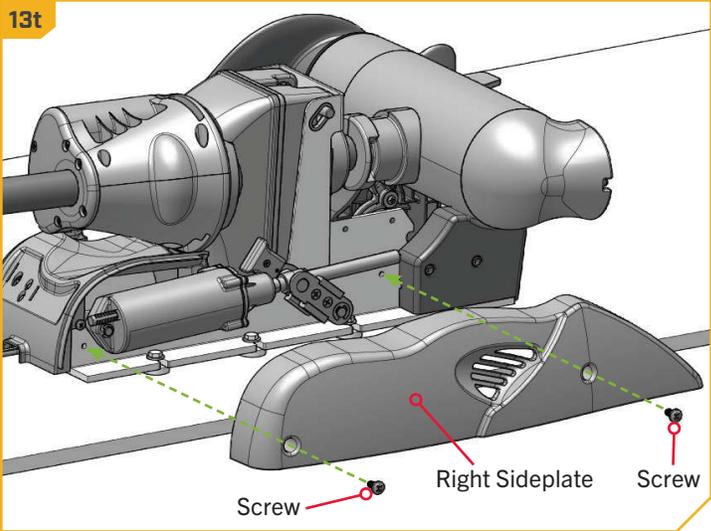
13

- t. Replace the Right Sideplate.
- u. Replace the Left Sideplate.
- v. Replace the four Sideplate Screws using a #3 Phillips Screwdriver.

13u



13t



14

ITEM(S) NEEDED



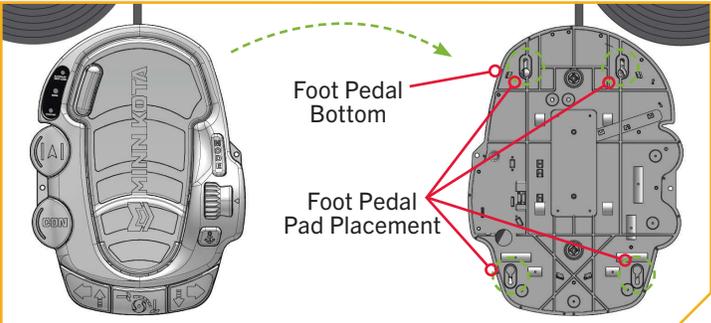
#13 x 1



#2 x 4

- w. Take the Foot Pedal (Item #13) and turn it over. Place a Foot Pedal Pad (Item #2) in each of the pad locations.

NOTICE: The pads are recommended when using the Foot Pedal on non-carpeted surfaces.

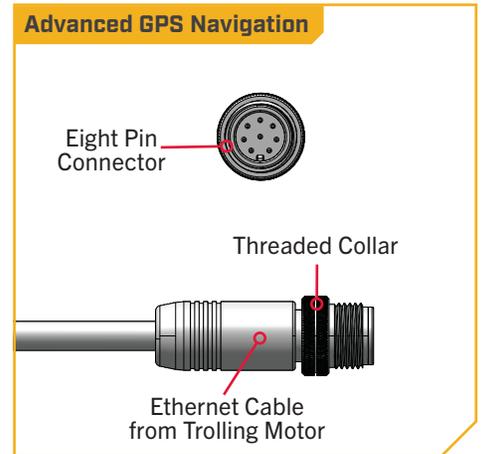
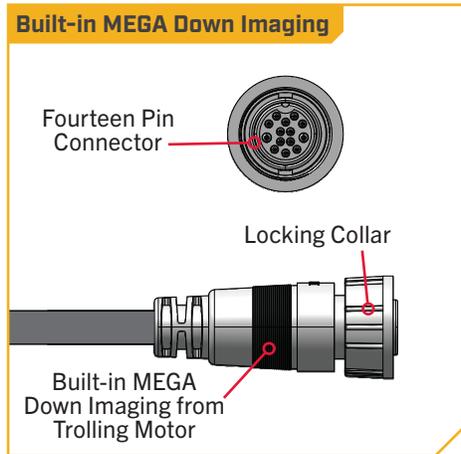
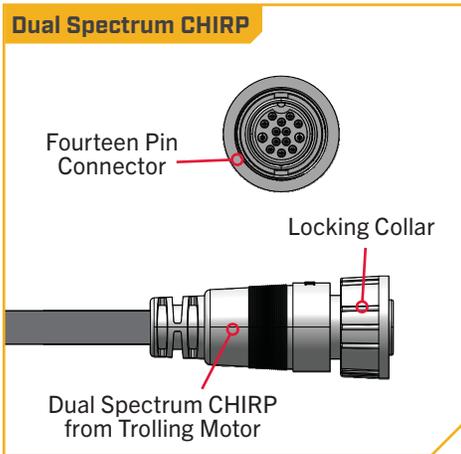


IDENTIFYING TROLLING MOTOR FEATURES BY THEIR ASSOCIATED CABLES

IDENTIFYING TROLLING MOTOR FEATURES AND THEIR ASSOCIATED CABLES

Feature & Cable Identification

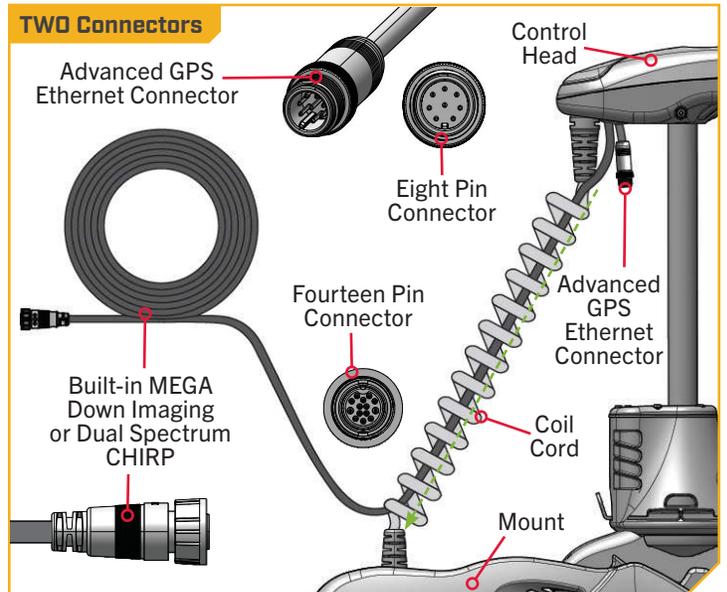
The Ulterra is pre-installed with Advanced GPS Navigation - including the ability to connect via Ethernet to a Humminbird unit. It is also installed with sonar, either Dual Spectrum CHIRP or Built-in MEGA Down Imaging. Dual Spectrum CHIRP and Built-in MEGA Down Imaging will be installed in combination with Advanced GPS Navigation. All of these features require Accessory Cables to be connected to an output device. The connectors are present on the trolling motor and have cables that exit below the Control Head or exit the Coil Cord at the base of the Mount. To better identify Accessory Cables present, refer to the diagrams that detail what the Dual Spectrum CHIRP, Built-in MEGA Down Imaging and Advanced GPS Navigation connectors look like.



Identifying Connectors

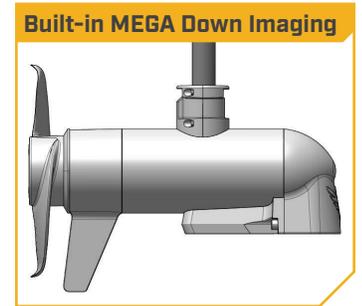
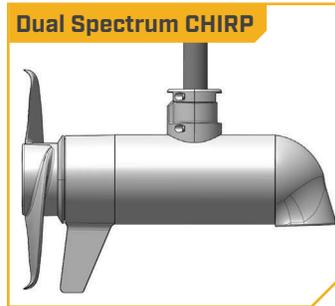
Every Ulterra will have **TWO** connectors present below the Control Head. The trolling motor will be equipped with:

Advanced GPS Navigation & Dual Spectrum CHIRP or Built-in MEGA Down Imaging - Advanced GPS Navigation is pre-installed on your trolling motor. One Eight Pin Advanced GPS Ethernet Connector will exit the base of the Control Head and rest just below the Control Head next to the Coil Cord. If the Advanced GPS Navigation on the trolling motor will be used with a fish finder, an Ethernet Cable may be attached to the Advanced GPS Ethernet Connector below the Control Head. See the "Advanced GPS Navigation" section of this document for details on how to install the Advanced GPS Ethernet Connector to a Humminbird.



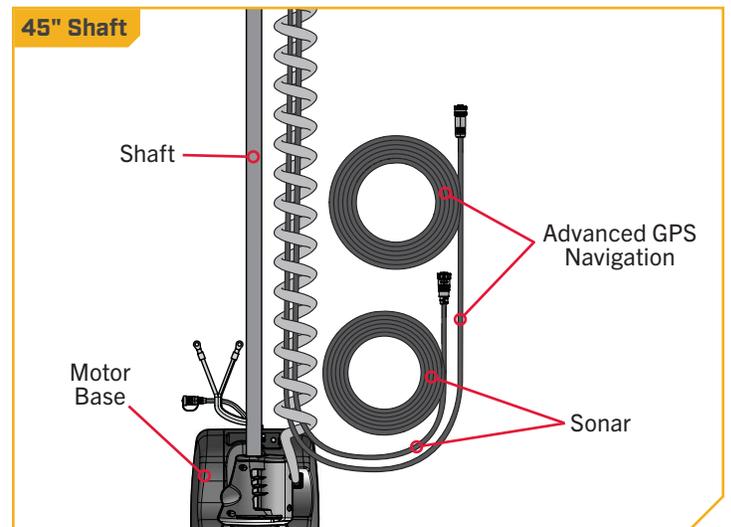
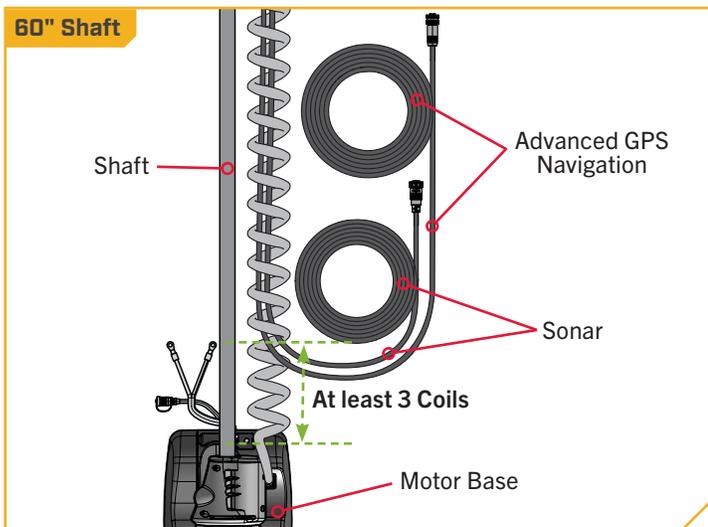
CRITICAL CABLE ROUTING

Dual Spectrum CHIRP or Built-in MEGA Down Imaging is pre-installed on your trolling motor. One Sonar Accessory Cable will exit the base of the Control Head and run down the center of the Coil Cord. The end of the Cable will have a Fourteen Pin Connector. Motors with Dual Spectrum CHIRP or Built-in MEGA Down Imaging will also have a transducer in the Lower Unit. The appearance of the transducer will vary depending on sonar type.



› Critical Cable Routing

On motors with a 60-inch shaft, Accessory Cables (including Advanced GPS Navigation and Dual Spectrum CHIRP or Built-in MEGA Down Imaging) must exit the Coil Cord leaving **three or more** open coils between where the cables exit and the motor base, as assembled from the factory. Routing the Accessory Cables in any other manner will not allow the motor to stow properly. When identifying features and establishing connections, make sure to follow the critical cable routing.



FEATURE & CABLE MANAGEMENT

› Feature & Cable Management

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.

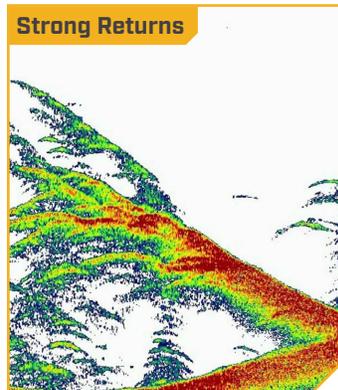
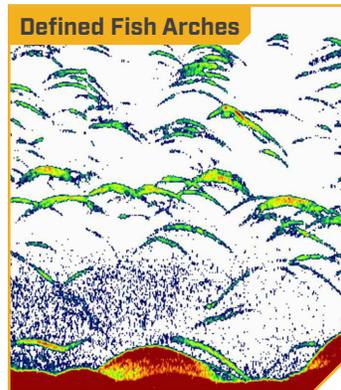
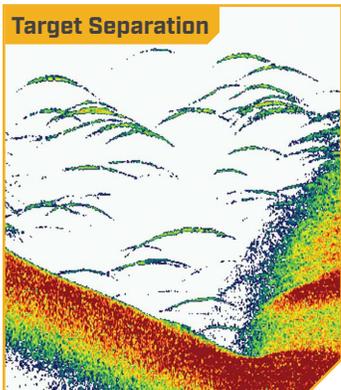
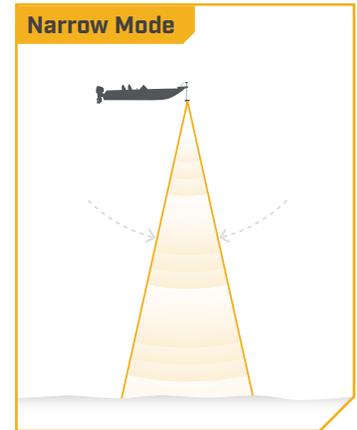
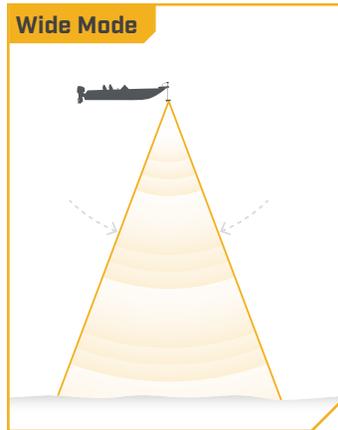
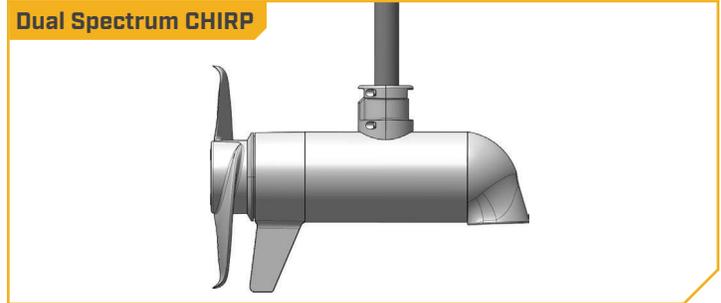
Humminbird's Dual Spectrum CHIRP gives you full spectrum capability, plus the power to select your own start and end frequencies by operating in two different modes. Wide Mode for maximum coverage and Narrow Mode for maximum detail. Wide mode allows you to search deep and wide. Is it used for watching 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.

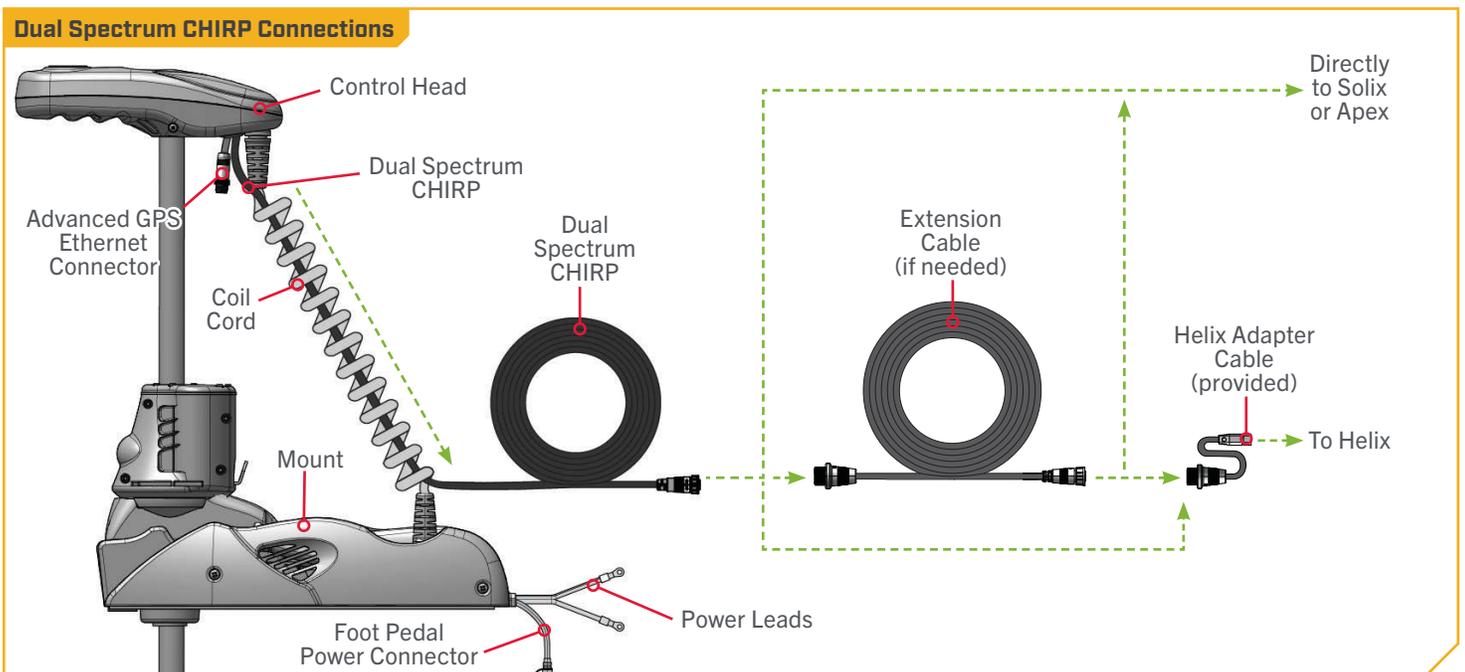
› Considerations for Connecting and Routing Dual Spectrum CHIRP

If Dual Spectrum CHIRP is pre-installed on your trolling motor, one Dual Spectrum CHIRP accessory cable will exit the base of the Control Head and run down the center of the Coil Cord. Dual Spectrum CHIRP requires cables to be connected to an output device such as a Humminbird® fish finder. The Dual Spectrum CHIRP cable that exits the Coil Cord 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 minnkotamotors.com to check compatibility. The Dual Spectrum CHIRP cable from the trolling motor 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.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 490537-2 MKR-MI-1 is used on Helix 8, 9, 10, 12 and 15 G2N models and newer. The 490518-1 MKR-MDI-2 is used for Helix 7 G3, G4, G3N and G4N models. The Helix adapter cables 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 minnkotamotors.com.



DUAL SPECTRUM CHIRP

All Dual Spectrum CHIRP Ulterra motors are equipped with an internal bonding wire. 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 this 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 "Securing Accessory Cables" to complete the output cable installation.

CAUTION

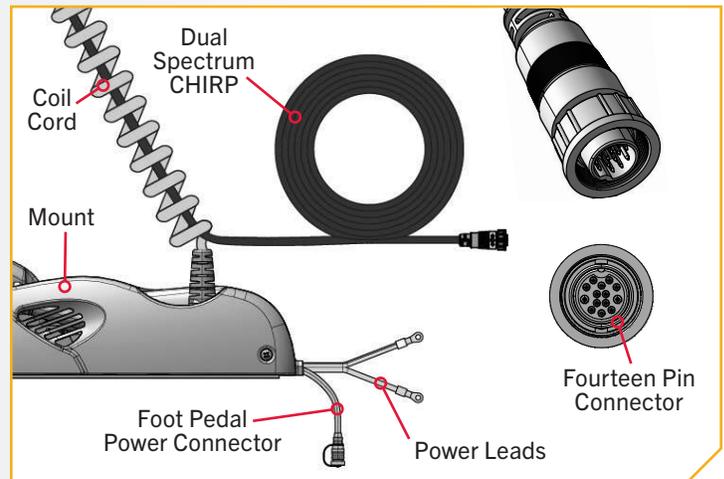
Failure to follow the recommended wire routing for installed features, if equipped, may cause damage to the product and void your product warranty. Route cables away from pinch points or other areas that may cause them to bend in sharp angles. Routing the cables in any way other than directed may cause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

1

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

- a. Place the motor in the deployed position.
- b. Locate the Fourteen Pin Connector on the end of the Dual Spectrum CHIRP accessory cable. The cable will exit the base of the Control Head and run down the center of the Coil Cord.
- c. Determine if the Plug on the end of the Dual Spectrum CHIRP accessory cable will be attached directly to:

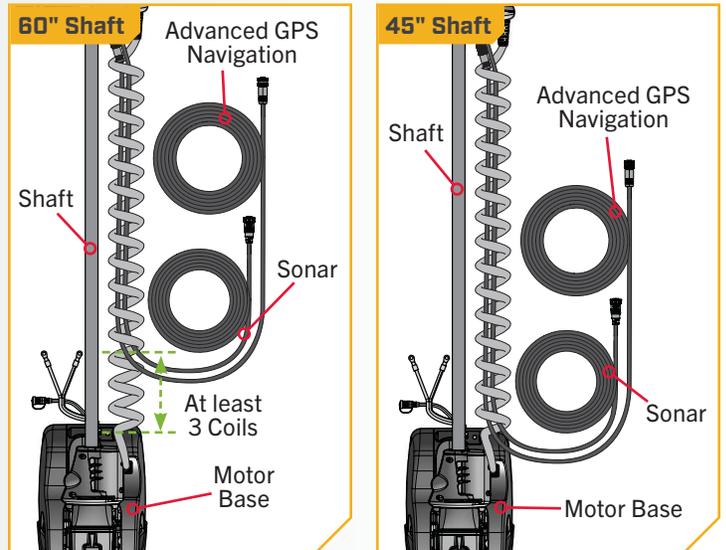
- 1) a Humminbird® Solix or Apex fish finder,
- 2) a Dual Spectrum CHIRP Extension Cable,
- 3) a Helix Adapter Cable or a compatible fish finder adapter cable.



2

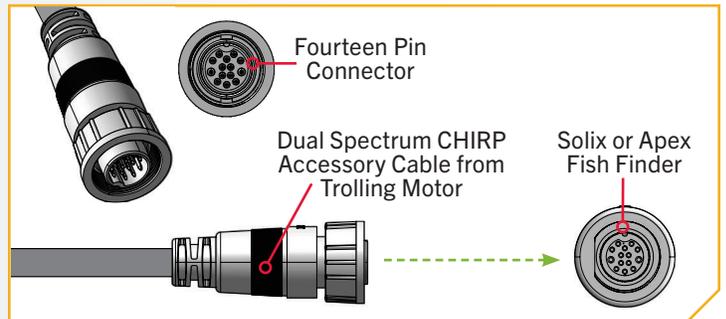
- d. Verify the length of your motor shaft to determine if Critical Cable Routing applies to your trolling motor. If the trolling motor shaft is 60 inches long, adjust the Dual Spectrum CHIRP Cable to exit the Coil Cord three coils before the Motor Base. Review the “Critical Cable Routing” section of this document for more details.

NOTICE: CRITICAL CABLE ROUTING. On motors with a 60" shaft, accessory cables must exit the Coil Cord leaving three or more open coils between where the cables exit and the Motor Base, as assembled by the factory. Routing the cables in any other manner will not allow the motor to stow properly. Please see the “Critical Cable Routing” and “Securing Accessory Cables” sections of this document for details.



3

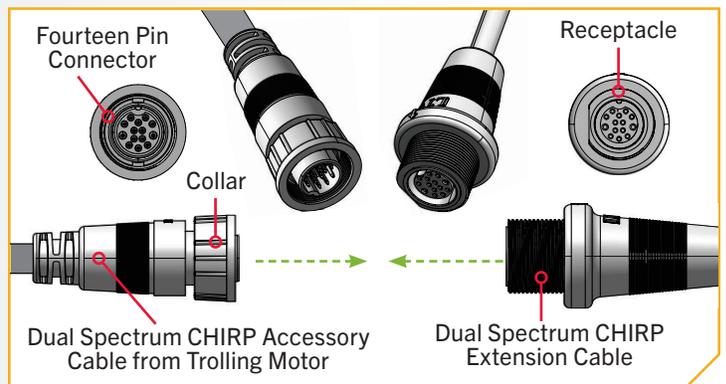
- e. If installing directly to a Solix or Apex, the connection will be flat on the back of the fish finder display.
- f. Align the pins on the Accessory Cable with the receptacle on the fish finder. Notice the keyed connectors. Tighten the Collar from the accessory cable to secure the connection. Once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



4

- g. 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.
- h. 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.

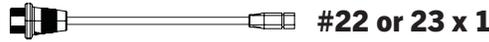
NOTICE: A 10-foot extension cable (EC M3 14W10 - 10' transducer extension cable - 720106-1) and a 30-foot extension cable (EC M3 14W30 - 30' transducer extension cable - 720106-2) are available from humminbird.com.



BUILT-IN MEGA DOWN IMAGING

5

ITEM(S) NEEDED



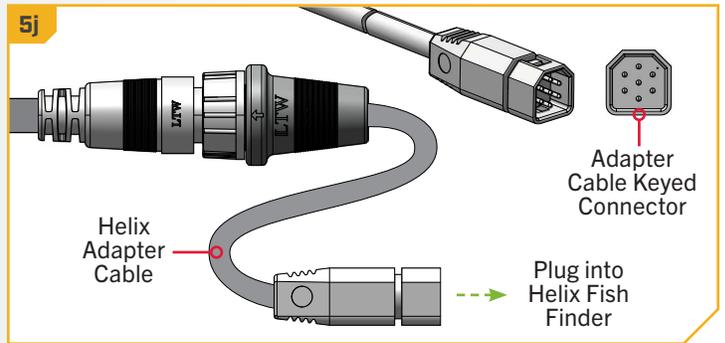
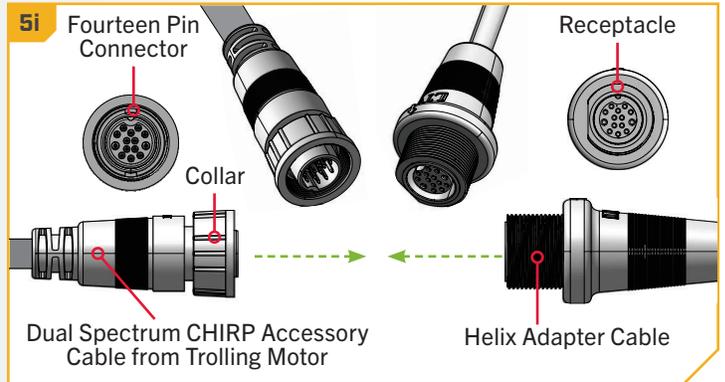
- i. If installing directly to a Helix Adapter Cable, align the pins on the accessory cable or extension cable with the receptacle on the Helix Adapter Cable (Item #22 or 23). Notice the keyed connectors. Tighten the Collar from the accessory cable or extension cable to secure the connection.

NOTICE: The 490537-2 MKR-MI-1 (Item #22) is a Helix Adapter Cable used on Helix 8, 9, 10, 12 and 15 G2N models and newer. The 490518-1 MKR-MDI-2 (Item #23) is a Helix Adapter Cable used for Helix 7 G3, G4, G3N and G4N models. Both cables are included.

- j. 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 minnkotamotors.com.

- k. If your trolling motor has more than one external connector for an output device, complete the connection for that specific output and then follow the instructions for "Securing Accessory Cables" to complete the output cable installation.



NOTICE: If unsure of what features your trolling motor may be installed with that require connection to an output device, please review the "Identifying Trolling Motor Features and Their Associated Cables" section in this document.

BUILT-IN MEGA DOWN IMAGING >

Built-in MEGA Down Imaging delivers nearly 3X the output of standard Side Imaging®, and takes fishfinding into the megahertz frequency for the very first time. It uses a razor-thin, high-frequency beam to create picture-like images of structure, vegetation and fish. With Humminbird MEGA imaging sonar built right into the trolling motor, you now have a crystal clear view of what's directly beneath the boat, without having to manage all of the cables that come with external transducers. The Built-in MEGA DI transducer is only available on new models equipped from the factory and cannot be added to an existing trolling motor.

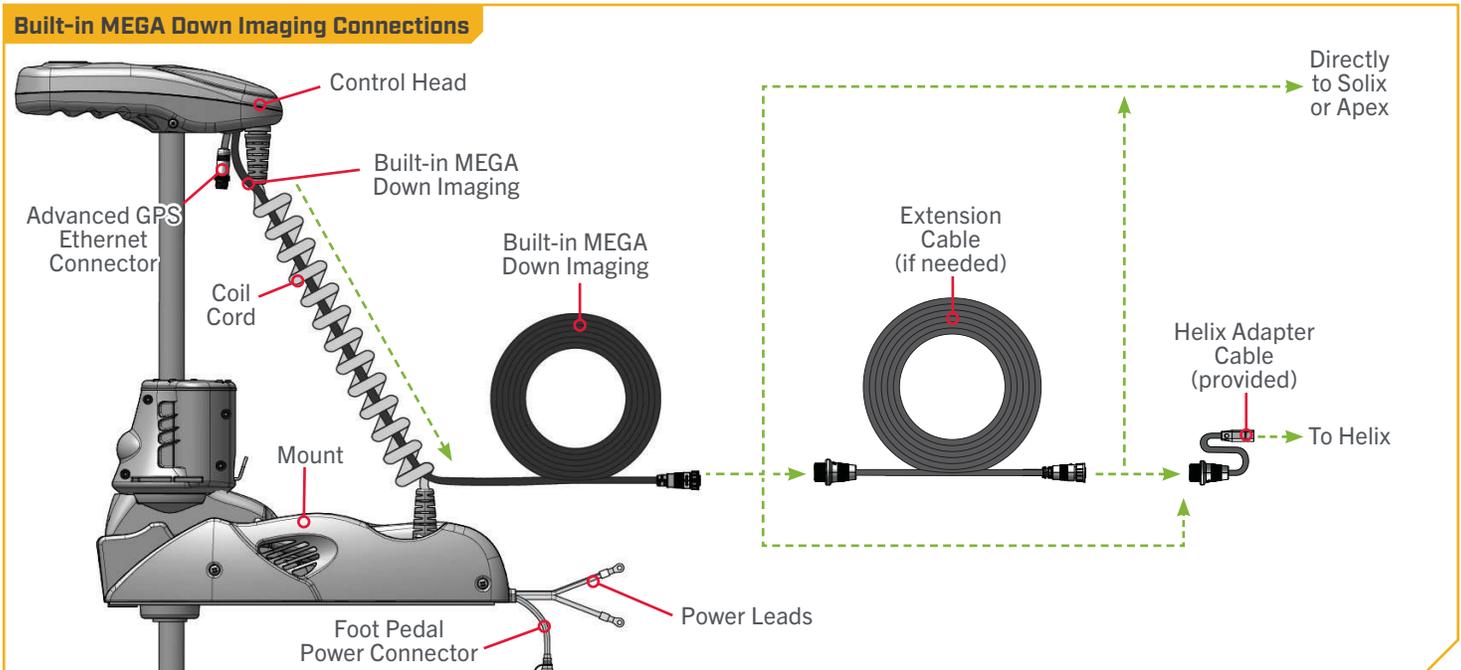
› Considerations for Connecting and Routing Built-in MEGA Down Imaging

If Built-in MEGA Down Imaging is pre-installed on your trolling motor, one Built-in MEGA Down Imaging accessory cable will exit the base of the Control Head and run down the center of the Coil Cord. Built-in MEGA Down Imaging requires cables to be connected to an output device such as a Humminbird® fish finder. The Built-in MEGA Down Imaging cable that exits the Coil Cord is "Apex and Solix Ready". Connecting the trolling motor equipped with a Built-in MEGA Down Imaging 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 Built-in MEGA Down Imaging, please visit minnkotamotors.com to check compatibility. The Built-in MEGA Down Imaging cable from the trolling motor 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 Built-in MEGA Down Imaging 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.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 490537-2 MKR-MI-1 is used on Helix 8, 9, 10, 12 and 15 G2N models and newer. The 490518-1 MKR-MDI-2 is used for Helix 7 G3, G4, G3N and G4N models. The Helix adapter cables 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 minnkotamotors.com.



BUILT-IN MEGA DOWN IMAGING

⚠ CAUTION

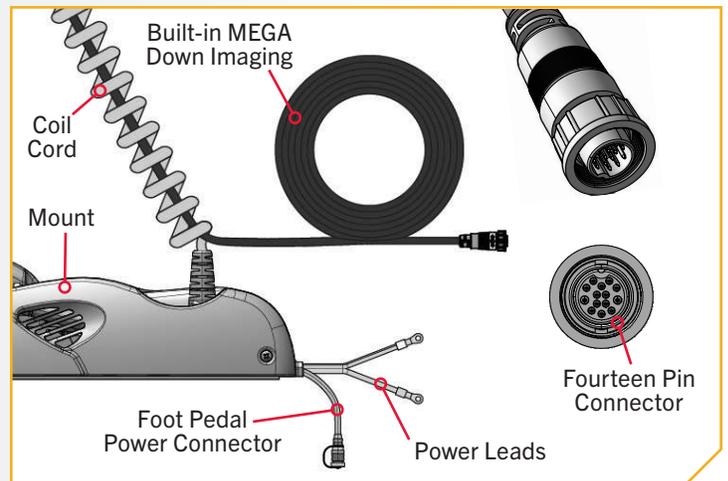
Failure to follow the recommended wire routing for installed features, if equipped, may cause damage to the product and void your product warranty. Route cables away from pinch points or other areas that may cause them to bend in sharp angles. Routing the cables in any way other than directed may cause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

NOTICE: You can only view Down Imaging with a MEGA DI or MEGA SI HELIX G2N, G3N or G4N Series model and a required adapter, or with any SOLIX or APEX Series model. The built-in transducer cannot supply MEGA Imaging to Humminbird models that do not already have the capability. If you have a G2/G2N, G3/G3N, G4/G4N HELIX that is not a MEGA SI or MEGA DI model, you will still get 2D Dual Spectrum CHIRP Sonar from the transducer. SOLIX G1 and HELIX G2 and G2N units need to be running the latest software update to view sonar from motors with Built-in MEGA Imaging. You can get the latest version of software for your fish finder on humminbird.com. Built-in MEGA Imaging is not supported by HELIX G1 models or other brands of fish finders.

1

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

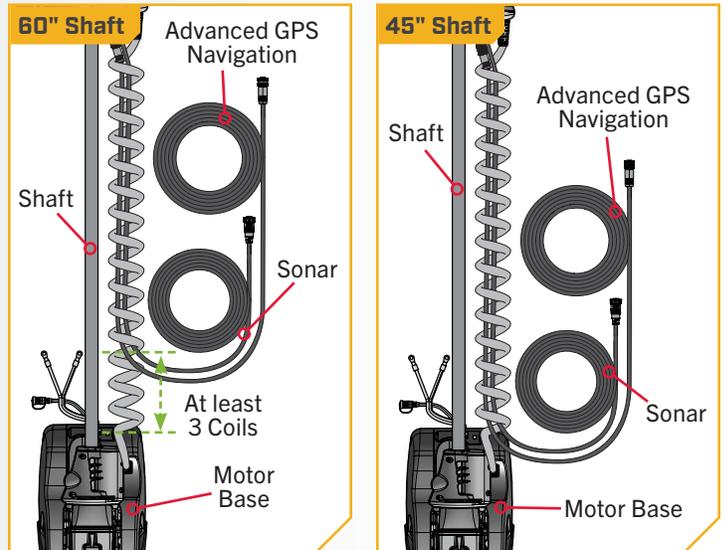
- a. Place the motor in the deployed position.
- b. Locate the Fourteen Pin Connector on the end of the Built-in MEGA Down Imaging accessory cable. The cable will exit the base of the Control Head and run down the center of the Coil Cord.
- c. Determine if the Plug on the end of the Built-in MEGA Down Imaging Cable accessory cable will be attached directly to:
 - 1) a Humminbird® Solix or Apex fish finder,
 - 2) a Built-in MEGA Down Imaging Extension Cable,
 - 3) a Helix Adapter Cable or a compatible fish finder adapter cable.



2

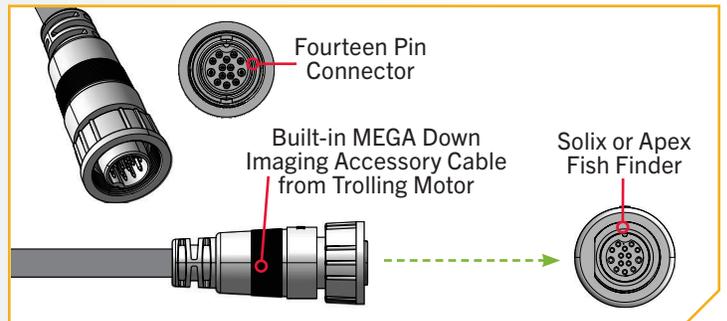
- d. Verify the length of your motor shaft to determine if Critical Cable Routing applies to your trolling motor. If the trolling motor shaft is 60 inches long, adjust the Built-in MEGA Down Imaging Cable to exit the Coil Cord three coils before the Motor Base. Review the “Critical Cable Routing” section of this document for more details.

NOTICE: CRITICAL CABLE ROUTING. On motors with a 60" shaft, accessory cables must exit the Coil Cord leaving three or more open coils between where the cables exit and the motor base, as assembled by the factory. Routing the cables in any other manner will not allow the motor to stow properly. Please see the “Critical Cable Routing” and “Securing Accessory Cables” sections of this document for details.



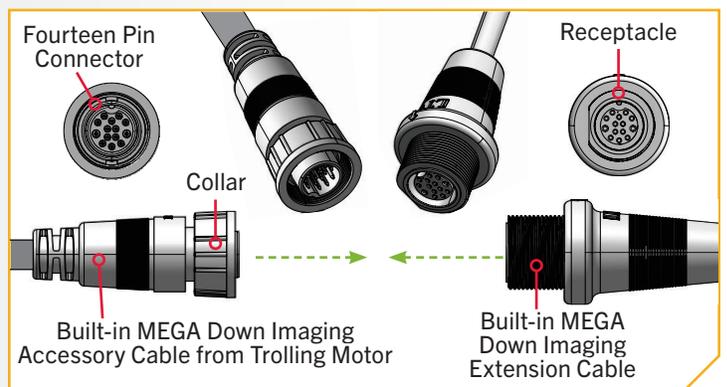
3

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



4

- g. If installing directly to a Built-in MEGA Down Imaging 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.
- h. If the Built-in MEGA Down Imaging 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.com.

BUILT-IN MEGA DOWN IMAGING

5

ITEM(S) NEEDED



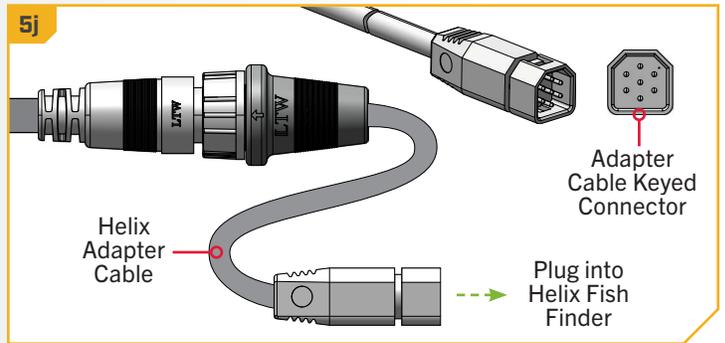
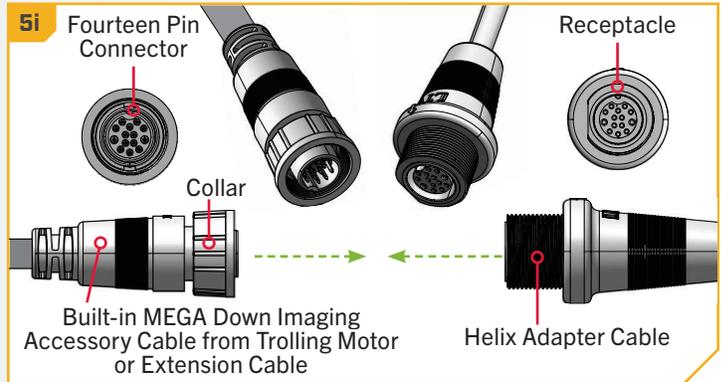
- i. If installing directly to a Helix Adapter Cable, align the pins on the accessory cable or extension cable with the receptacle on the Helix Adapter Cable (Item #22 or 23). Notice the keyed connectors. Tighten the Collar from the accessory cable or extension cable to secure the connection.

NOTICE: The 490537-2 MKR-MI-1 (Item #22) is a Helix Adapter Cable used on Helix 8, 9, 10, 12 and 15 G2N models and newer. The 490518-1 MKR-MDI-2 (Item #23) is a Helix Adapter Cable used for Helix 7 G3, G4, G3N and G4N models. Both cables are included.

- j. 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 minnkotamotors.com.

- k. If your trolling motor has more than one external connector for an output device, complete the connection for that specific output and then follow the instructions for "Securing Accessory Cables" to complete the output cable installation.



NOTICE: If unsure of what features your trolling motor may be installed with that require connection to an output device, please review the "Identifying Trolling Motor Features And Their Associated Cables" section in this document.

ADVANCED GPS NAVIGATION >

Your Minn Kota trolling motor and Humminbird fish finder communicate with each other to change the way you fish. Advanced GPS Navigation offers a large array of features including controlling speed, steering, Spot-Lock, and the ability to record and retrace paths on the water, all at your fingertips. To learn more about the GPS capabilities available with your new motor, please refer to the Advanced GPS Navigation Owner's Manual by visiting minnkotamotors.com.

The wireless remote and GPS controller make up the Advanced GPS Navigation system. A wireless remote comes paired to the controller from the factory. The GPS controller contains a very sensitive compass and is where all GPS satellite and remote signals are received. The GPS controller is located in the trolling motor Control Head and may be connected to a fish finder from a connection cable that exits the Control Head. If the Advanced GPS Navigation system will be used with a fish finder, the Ethernet link between the trolling motor and the fish finder should be connected.

> Considerations for Connecting and Routing Advanced GPS Navigation

If Advanced GPS Navigation is pre-installed on your trolling motor, one eight-pin Advanced GPS Ethernet Connector will exit the base of the Control Head and dangle just below the Control Head next to the Coil Cord. If the Advanced GPS Navigation on the trolling motor will be used with a fish finder, an Ethernet Cable will need to be attached to the Advanced GPS Ethernet Connector below the Control Head. Consider the distance between the trolling motor and the fish finder to determine how to complete the Ethernet connection.

ETHERNET CABLES - Minn Kota provides one 30 ft Ethernet cable (**AS EC 30E - 30' Ethernet Cable - 720073-4**) with every trolling motor equipped with Advanced GPS Navigation. The 30 ft Ethernet cable will accommodate a standard Ethernet connection for most installations to a Humminbird fish finder and is "Apex and Solix Ready". If the distance between the trolling motor and Humminbird fish finder is relatively small and a shorter cable is preferred, alternate cable lengths are available from humminbird.com. These options include:

- 10 ft - (**AS EC 10E - 10' Ethernet Cable - 720073-2**)
- 15 ft - (**AS EC 15E - 15' Ethernet Cable - 720073-5**)
- 20 ft - (**AS EC 20E - 20' Ethernet Cable - 720073-3**)

Every length of Ethernet cable plugs directly into a Solix or Apex or directly into a Helix Adapter Cable.

HUMMINBIRD HELIX ADAPTER CABLES - Minn Kota provides one Helix Adapter Cable (**AS EC QDE - Ethernet Adapter Cable - 720074-1**) with every trolling motor equipped with Advanced GPS Navigation. If the Ethernet connection is being made between the trolling motor and any Humminbird® Helix fish finder, the Helix Adapter Cable should be used. The Helix Adapter Cable directly connects the Ethernet Cable to a Helix fish finder.

ETHERNET EXTENSION CABLES - If the 30 ft Ethernet cable provided with your trolling motor with Advanced GPS Navigation is not long enough to reach the fish finder, an Ethernet Extension cable should be used. The Ethernet Extension cable is available from humminbird.com and is available in a 30 ft length (**AS ECX 30E - 30' Ethernet Extension Cable - 760025-1**). The Ethernet Extension Cable will plug directly into any length of Ethernet cable.

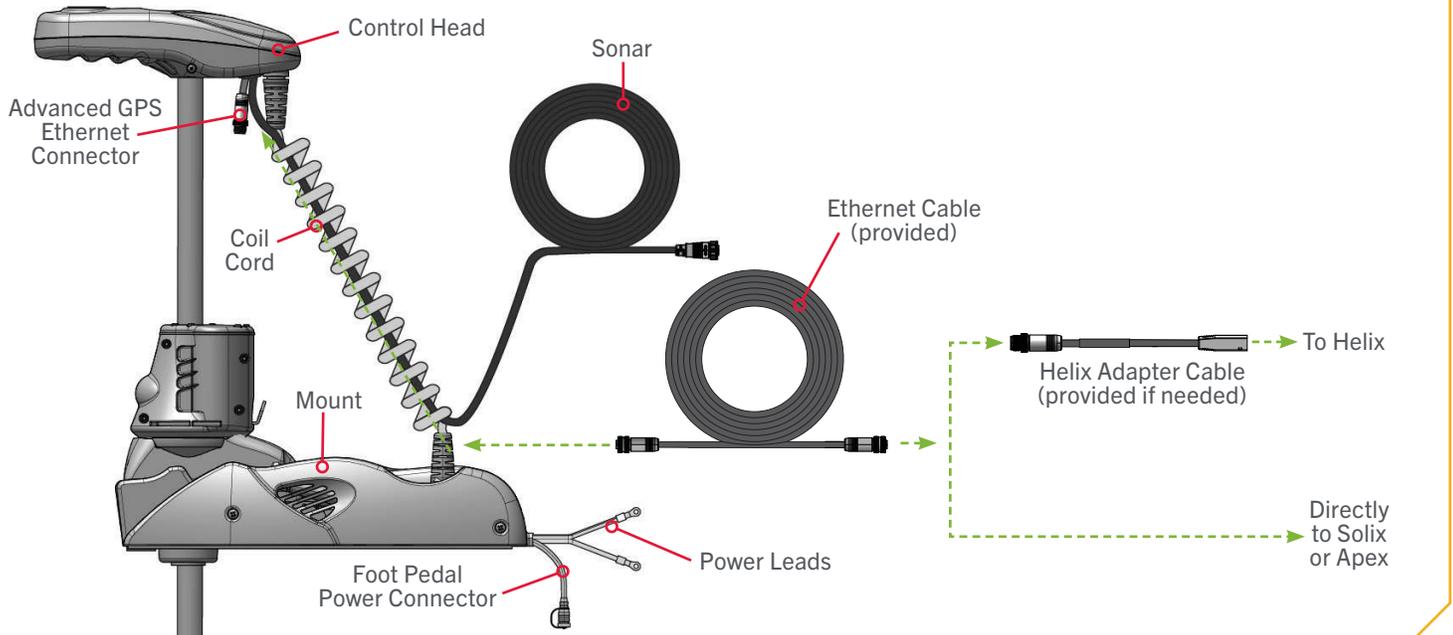
NOTICE: Minn Kota recommends routing the Ethernet Cable or Ethernet Extension Cable through the Coil Cord when making the Ethernet connection. The cables will be installed from the Mount to the Control Head through the Coil Cord and parallel to any Dual Spectrum CHIRP or Built-in MEGA Down Imaging Cable. Bypassing the Coil Cord when routing the Ethernet Cable or Ethernet Extension Cable is not recommended.

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 as it may damage the wires.

ADVANCED GPS NAVIGATION

GPS Ethernet Connection

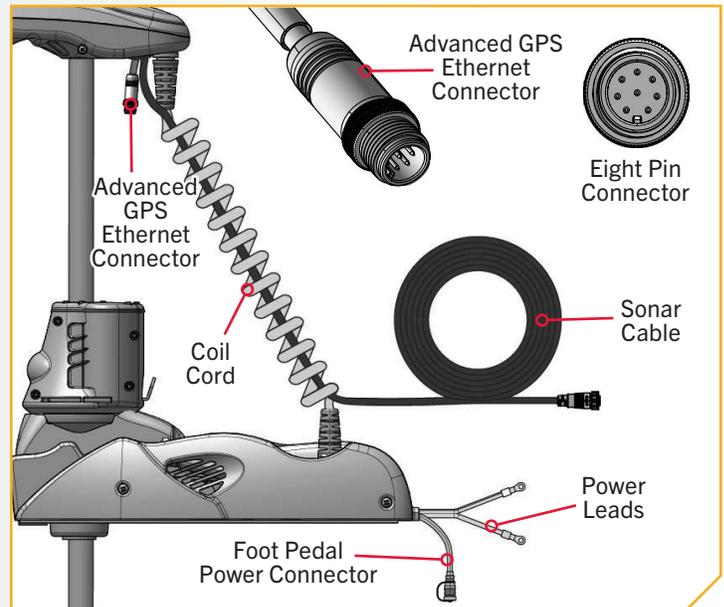


1

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

- a. Place the motor in the deployed position.
- b. Locate the Eight Pin Advanced GPS Ethernet Connector below the Control Head. The Advanced GPS Ethernet Connector will exit the base of the Control Head and will rest just below the Control Head next to the Coil Cord.

NOTICE: Ulterra trolling motors with Advanced GPS Navigation are also equipped with Sonar. Sonar is pre-installed from the factory and may be either Dual Spectrum CHIRP or Built-in MEGA Down Imaging. A Sonar Cable will be present below the control head and run through the middle of the Coil Cord. Review the “Identifying Trolling Motor Features and Their Associated Cables” of this document to identify and learn more about Sonar.



2

ITEM(S) NEEDED

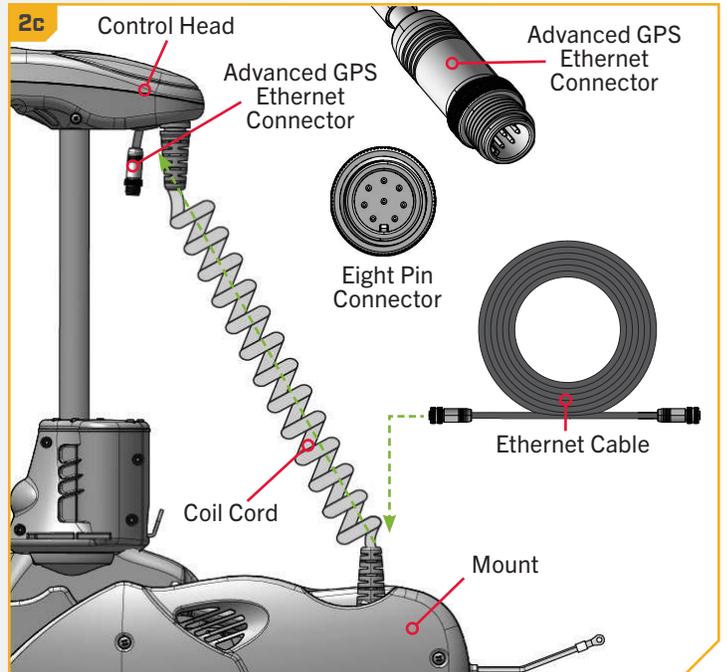


- c. Identify the keyed Receptacle on the Ethernet Cable (Item #15). It will be keyed to fit with the Eight Pin Advanced GPS Ethernet Connector below the Control Head.

NOTICE: The Ethernet Cable has a Receptacle for the Advanced GPS Ethernet Connector on both ends and either end may be connected.

NOTICE: The 30' Ethernet Cable (AS EC 30E - 30' Ethernet Cable - 720073-4) is provided. If an alternate length is preferred, alternate cable lengths are available from humminbird.com.

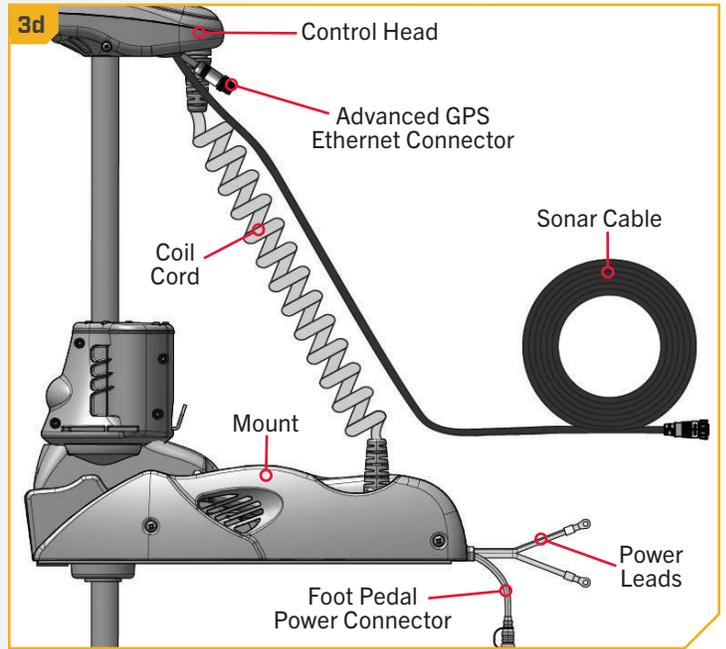
NOTICE: A 30' Ethernet Extension Cable (AS ECX 30E - 30' Ethernet Extension Cable - 760025-1) is available from humminbird.com and should be used if the standard 30' Ethernet Cable provided with your trolling motor is not long enough to reach the fish finder.



ADVANCED GPS NAVIGATION

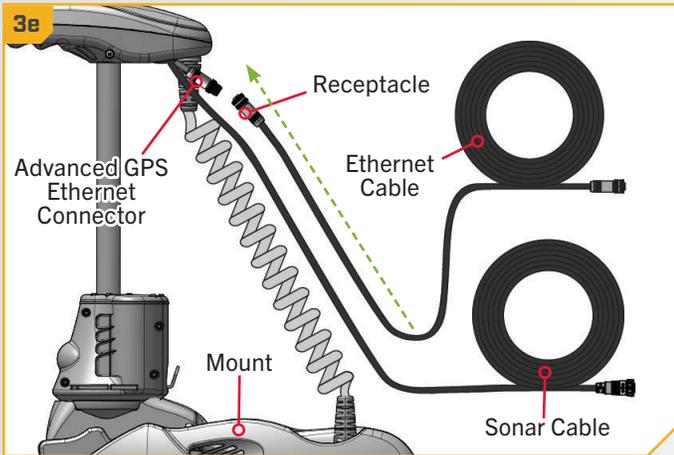
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- d. Take the Sonar Cable and unwind it from the inside of the Coil Cord, working from the Mount towards the Control Head. Once loose, the Sonar Cable will run parallel to the Coil Cord, but hang freely. Once all cables are connected, the final installation will require for any cables present to be wound back inside the Coil Cord. The final installation will vary based on motor features and shaft length. Please see the “Securing Accessory Cables” section of this document for details once all connections are complete.
- e. Take the Receptacle on the Ethernet Cable and run it parallel to the Sonar Cable. Allow enough slack in the cable to attach the Receptacle to the Advanced GPS Ethernet Connector.



NOTICE: CRITICAL CABLE ROUTING. On motors with a 60" shaft, accessory cables must exit the Coil Cord leaving three or more open coils between where the cables exit and the motor base, as assembled by the factory. Routing the cables in any other manner will not allow the motor to stow properly. Please see the “Securing Accessory Cables” section of this document for details.

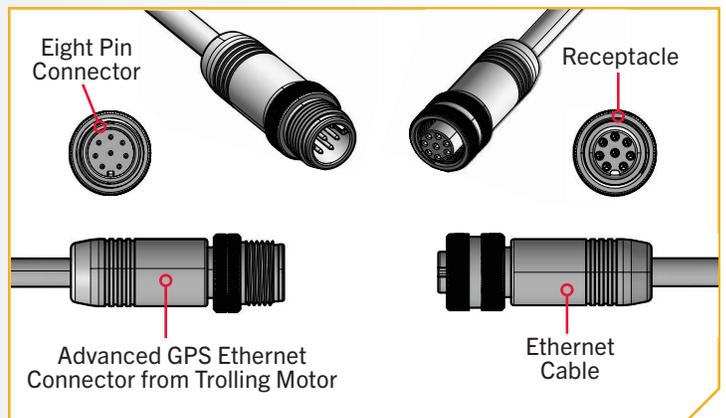
3e



4

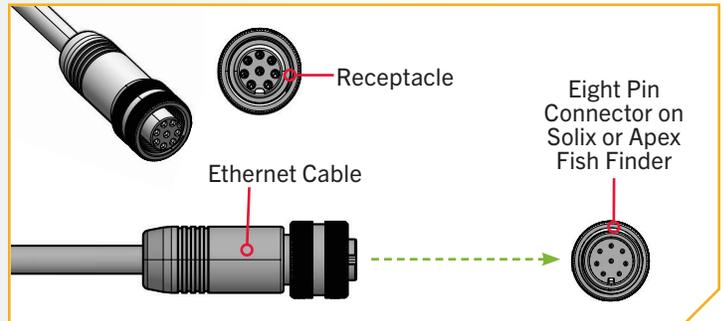
- f. To install the Ethernet Cable, align the pins on the Advanced GPS Ethernet Connector with the Receptacle on the Ethernet Cable. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection.
- g. The Ethernet Cable will plug directly into a Solix or Helix Fish Finder or directly into a Helix Adapter Cable.

NOTICE: The 30' Ethernet Cable (AS EC 30E - 30' Ethernet Cable - 720073-4) is provided. If an alternate length is preferred, alternate cable lengths are available from humminbird.com.



5

- h. If installing directly to a Solix or Apex, the connector will be flat on the back of the fish finder display.
- i. Align the Receptacle on the Ethernet Cable with the Eight Pin Connector on the Apex or Solix fish finder. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection. Once directly installed to the Solix or Apex, the connection is complete.



6

ITEM(S) NEEDED

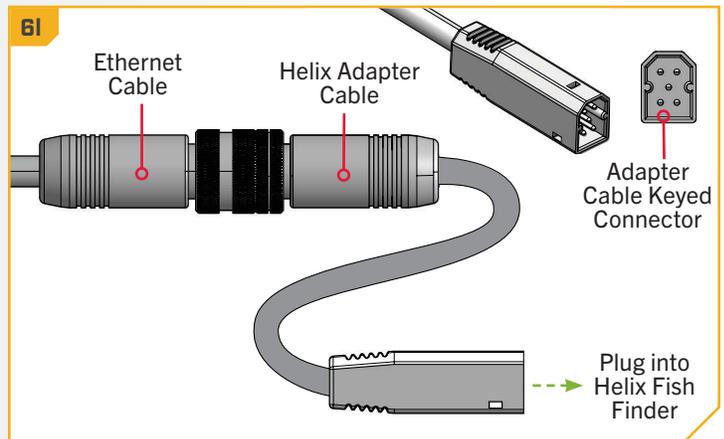
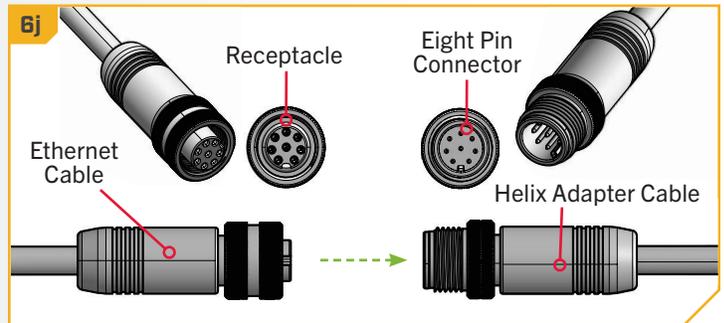


- j. If installing directly to a Helix Adapter Cable (Item #12), align the Receptacle on the Ethernet Cable with the Eight Pin Connector on the Helix Adapter Cable provided. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection.

NOTICE: Minn Kota provides one Helix Adapter Cable (AS EC QDE - Ethernet Adapter Cable - 720074-1) with every trolling motor equipped with Advanced GPS Navigation.

- k. The Helix Adapter Cable directly connects the Ethernet Cable to a Helix fish finder. Locate the Helix Adapter Cable Keyed Connector on the back of the fish finder. Plug the Helix Adapter Cable into the back of the Helix fish finder to complete the connection.
- l. If your trolling motor has more than one feature that requires connection to an output device, complete the connection for that specific output and then follow the instructions for "Securing Accessory Cables" to complete the Accessory Cable installation.

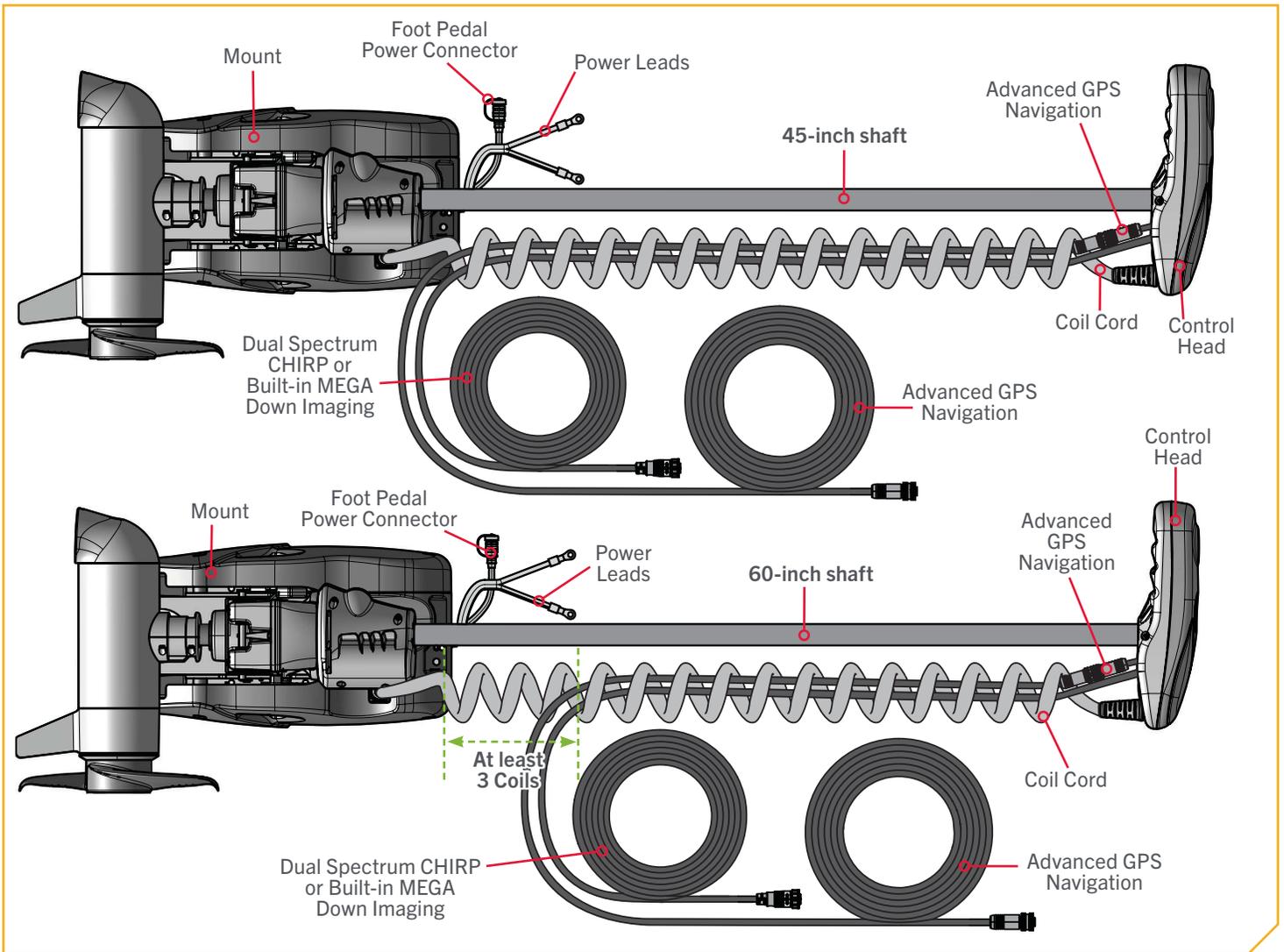
NOTICE: If unsure of what features your trolling motor may be installed with that require connection to an output device, please review the "Identifying Trolling Motor Features And Their Associated Cables" section of this manual.



SECURING ACCESSORY CABLES

› Securing Accessory Cables

Before securing the cables, please review the "Identifying Trolling Motor Features and Their Associated Cables" section of this document. When identifying features, it is very important to secure the cables if **two** connections are present below the Control Head. **All cables must follow the Critical Cable Routing.** To review, please see the "Critical Cable Routing" section of this document. All Accessory Cables that will be used on the trolling motor must be routed and all connections secured before completing the installation in this section. To review how feature cables should be routed and connected, please review the "Advanced GPS Navigation" and "Dual Spectrum CHIRP" or "Built-in MEGA Down Imaging" sections of this document.



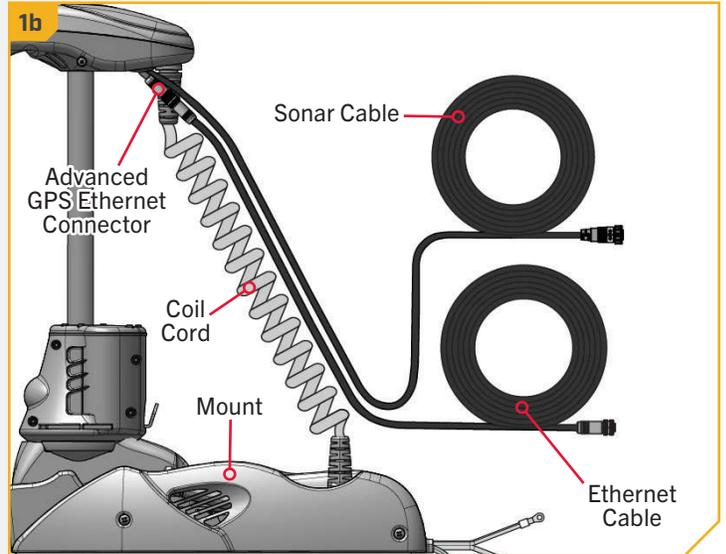
⚠ CAUTION

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 the cable ties as it may damage the wires.

SECURING ACCESSORY CABLES

1

- a. Confirm all Accessory Cables are connected to an output device as desired. With the motor in the deployed position, locate the Advanced GPS Ethernet Connector below the Control Head.
- b. Starting just below the Control Head, take both the Accessory Cables and make sure they are free from the Coil Cord and parallel to each other. Run them from the Control Head to the Mount keeping them straight and parallel the entire length.



2

ITEM(S) NEEDED

 #21 x 10

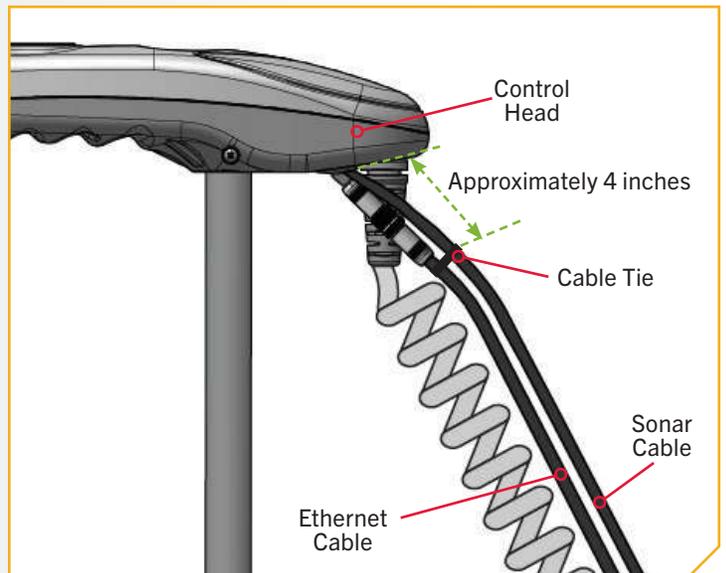
- c. Starting approximately 4 inches below the Control Head, take a Cable Tie (Item #21) and place it around the Accessory Cables. The Cable Tie should be around the Ethernet Cable and Sonar Cable, but not the Coil Cord.

NOTICE: Do NOT secure the Cables to the Coil Cord. ONLY secure the Cables with the Cable Ties to each other.

- d. Secure the Cable Tie around the Cables until it is fingertip tight. Do not over-tighten the Cable Tie as it will cause damage to the Cables.

 **CAUTION**

Do not over-tighten the Cable Ties as it may damage the wires.



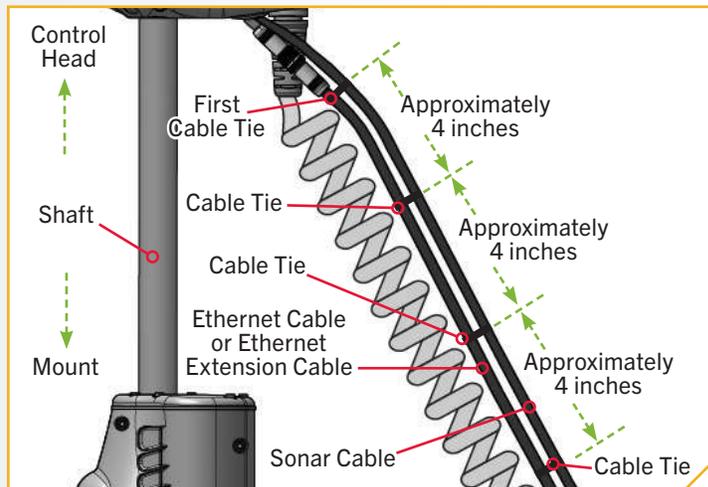
SECURING ACCESSORY CABLES

3

- e. Follow the Cables from the Control Head to the Mount and place additional Cable Ties every 4 inches around the Cables after the first Cable Tie. The number of Cable Ties needed will vary depending on the length of your trolling motor Shaft.

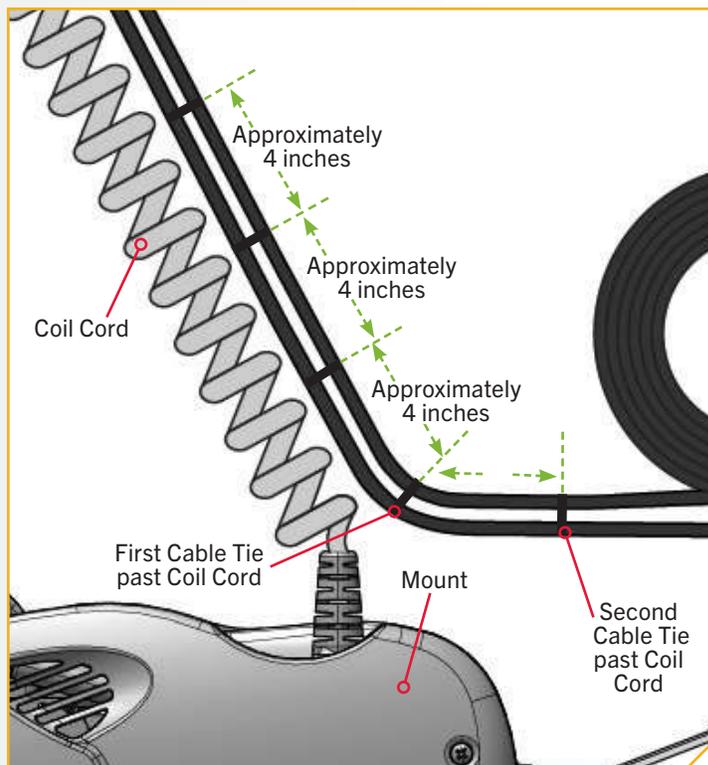
NOTICE: If additional Cable Ties are needed, a Service Assembly (#2996300 TIE WRAP ASM, 60") is available from the Parts Ordering Portal at minnkotamotors.com.

NOTICE: Secure the Cable Ties fingertip tight. It is recommended to have them **ONLY** tight enough so that they do not slide around on the Connection Cables and hold the cables together.



4

- f. Continue placing Cable Ties around the Accessory Cables until there are two Cable Ties in place past the end of where the Coil Cord enters the Mount.

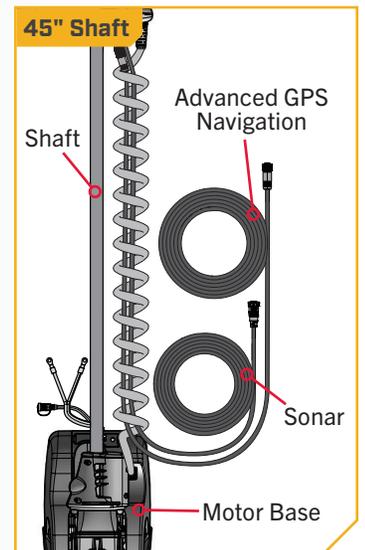
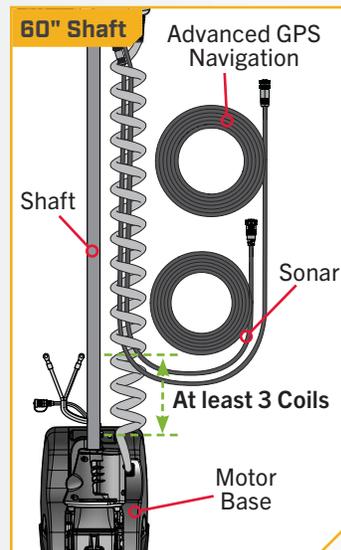
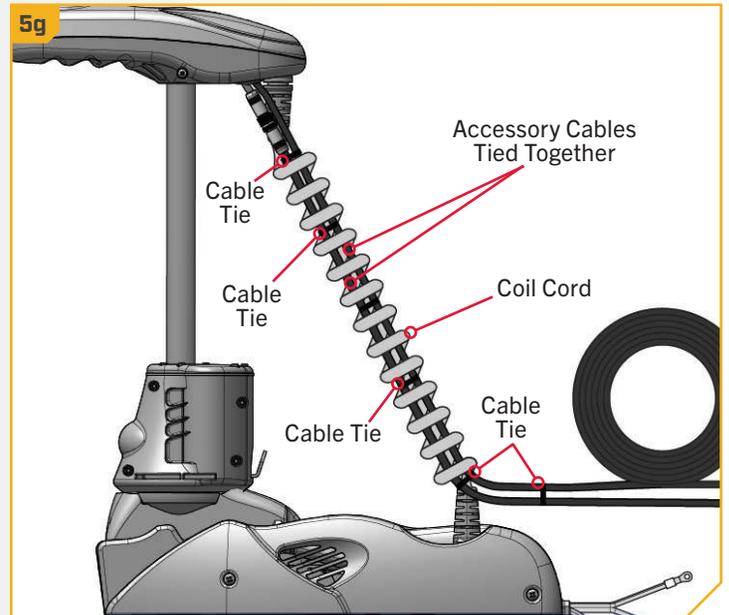


SECURING ACCESSORY CABLES

5

- g. With the Cable Ties in place, take the Accessory Cables that are tied together and wind them back into the Coil Cord. When successfully placed inside the Coil Cord, they should float freely on the inside of the Coil Cord. To successfully place the Accessory Cables inside the Coil Cord, it may be necessary to temporarily disconnect Accessory Cables that are attached to Extension or Adapter Cables or output devices such as a fish finder.
- h. Place the Motor into the stowed position. Verify the length of your motor shaft to determine if Critical Cable Routing applies to your trolling motor. If the trolling motor shaft is 60 inches long, adjust the Accessory Cables to exit the Coil Cord three coils before the Motor Base. Review the “Critical Cable Routing” section of this document for more details.

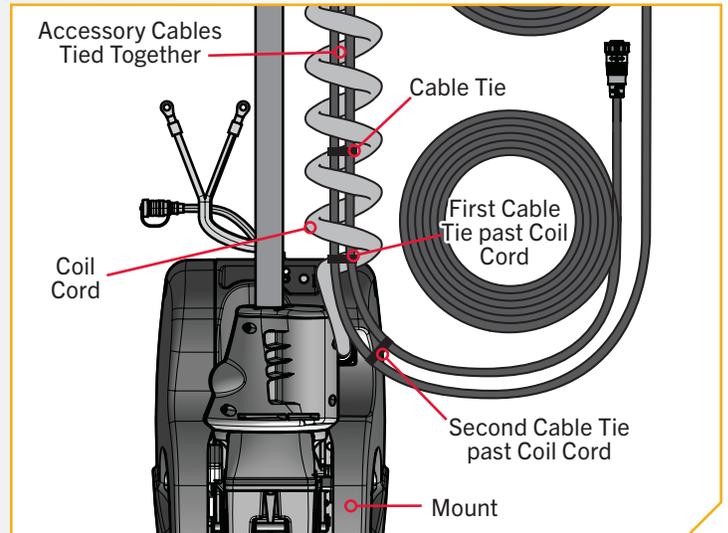
NOTICE: Minn Kota recommends routing the Accessory Cables through the Coil Cord. Bypassing the Coil Cord when routing Accessory Cables is not recommended.



SECURING ACCESSORY CABLES

6

- i. Look at the placement of the Cable Ties and make sure that at least 2 Cable Ties are present on the Accessory Cables after they exit the Coil Cord. If additional Cable Ties are needed, it may be necessary to place the motor back into the deployed position to add additional Cable Ties at an increment of approximately 4 inches past the last Cable Tie.
- j. If no additional Cable Ties are needed, make sure to properly reconnect any Accessory Cables that may have been disconnected while winding the Accessory Cables into the Coil Cord.



Installing the Prop

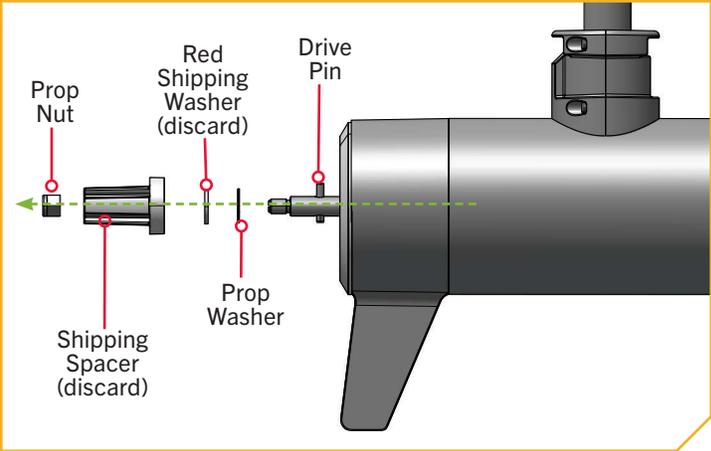
1

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.

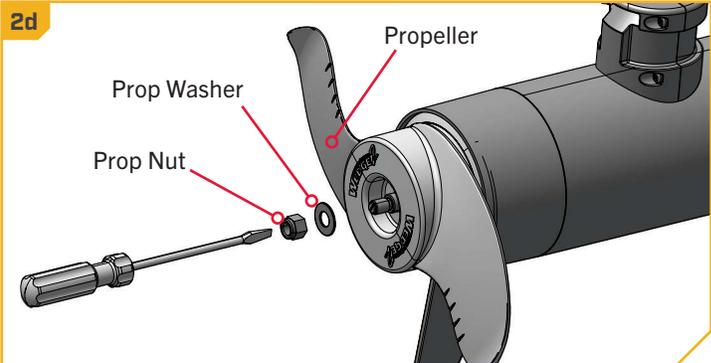
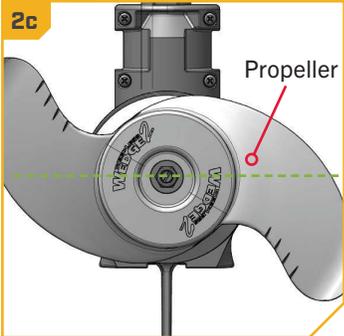
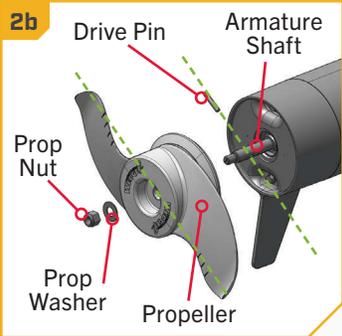


2

ITEM(S) NEEDED



- b. Take the Drive Pin (Item #17) 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 Propeller (Item #20) so it is also horizontal and parallel with the Drive Pin. Slide the Propeller onto the Armature Shaft and Drive Pin until it is seated against the lower unit.
- d. Install the Prop Washer (Item #18) and the Prop Nut (Item #19) onto the end of the Armature Shaft.
- e. Holding the end of the Armature Shaft with a Flat-Blade Screwdriver, tighten the Prop Nut with a 9/16" Open End Wrench.
- f. Tighten the Prop Nut 1/4 turn past snug at 25-35 in-lbs.



CAUTION

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

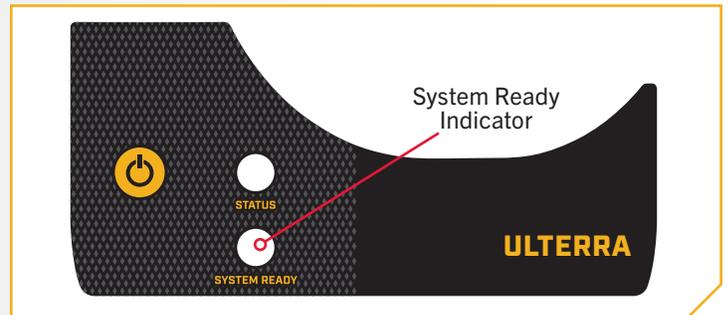
STOWING AND DEPLOYING THE MOTOR WITH THE FOOT PEDAL

QUICK STOW & DEPLOY >

Use the following procedures to stow and deploy the motor. Keep in mind that if your motor is stalling at a 45-degree angle when attempting to stow, this indicates that batteries are too low to fully stow the motor. If this occurs, re-engage power, deploy the motor, trim the motor to its highest setting, and turn power off until batteries can be recharged. Once batteries are charged, attempt to stow the motor again.

STOWING AND DEPLOYING THE MOTOR WITH THE FOOT PEDAL

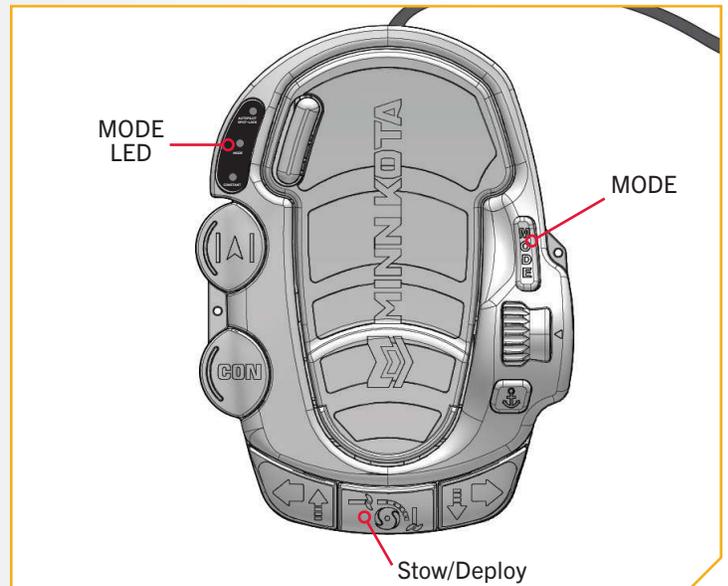
1. a. Locate the Indicator Panel at the base of the Mount.
b. Make sure that the motor is on by checking that the green LED above the System Ready Indicator is on.



2. c. On the Foot Pedal, press the MODE Button until the amber LED in the center of the Indicator Panel on the Foot Pedal is illuminated. This puts the Foot Pedal in Ulterra Mode.

NOTICE: You can only stow and deploy your motor while in Ulterra mode.

- d. To deploy the motor when it is stowed, double press the Stow/Deploy button. To stow the motor when it is deployed, press the Stow/Deploy button.



NOTICE: The deploy sequence can be stopped at any time by pressing the Stow/Deploy button. The stow sequence can be stopped at any time by pressing either Trim buttons or the Stow/Deploy button.

WARNING

When stowing or deploying the motor, keep fingers clear of all hinges, pivot points and all moving parts. When stowing and deploying the motor, ensure that it doesn't contact the boat, trailer, or any other obstruction.

STOWING AND DEPLOYING THE MOTOR WITH THE ONE-BOAT NETWORK APP

STOWING AND DEPLOYING THE MOTOR WITH THE ONE-BOAT NETWORK APP

Minn Kota trolling motors equipped with Advanced GPS Navigation are compatible with devices enabled with the One-Boat Network®. The One-Boat Network (OBN) app is a free iOS and Android application that you can download to a mobile device, providing unparalleled control over all your One-Boat Network® connected products. Refer to the full One-Boat Network App Operations Guide at humminbird.com for full details on the One-Boat Network.



▶ Stowing the Motor with the OBN App

- 1
 - a. Open the OBN app on the mobile device.
 - b. From the OBN home screen, tap on the Motor menu.
 - c. Before the Motor app home screen will open, select Agree on the on-screen prompt.

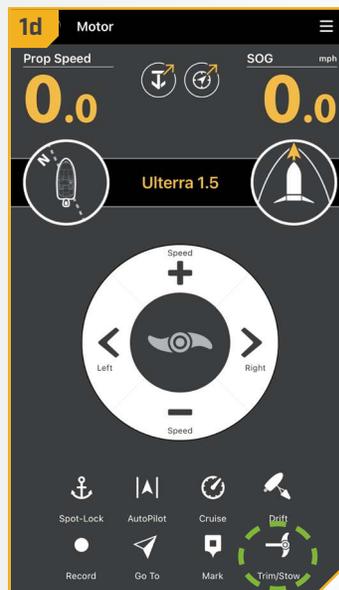
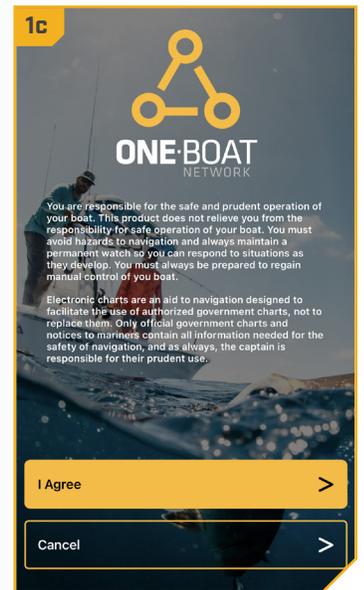
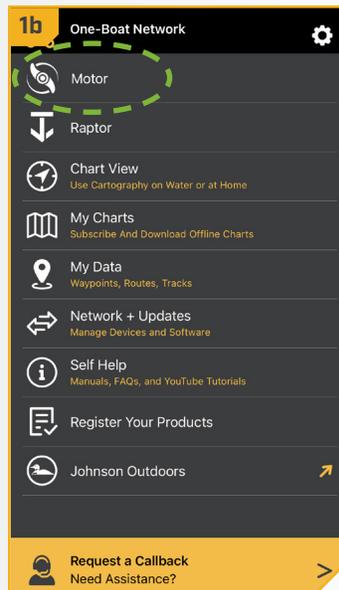
NOTICE: The on-screen prompt will only display once each time the app is launched. If the prompt has displayed, the Motor app home screen appears after.

- d. Tap Trim/Stow on the bottom of the screen to open the Trim/Stow/Deploy menu.
- e. Tap Stow to automatically stow the motor. The Prop will be disabled and "Motor Stowed" will display on the screen.

WARNING

As soon as Stow is tapped, the motor will automatically stow. Be sure the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is being stowed to prevent accidental contact with the rotating propeller.

NOTICE: While the motor is stowing, it is possible to stop the action by tapping Pause. To resume, tap the desired action.



STOWING AND DEPLOYING THE MOTOR WITH THE ONE-BOAT NETWORK APP

› Deploying the Motor with the One-Boat Network App

1

- Open the OBN app on the mobile device.
- From the OBN home screen, tap on the Motor menu.
- Before the Motor app home screen will open, select Agree on the on-screen prompt.

NOTICE: The on-screen prompt will only display once each time the app is launched. If the prompt has displayed, the Motor app home screen appears after.

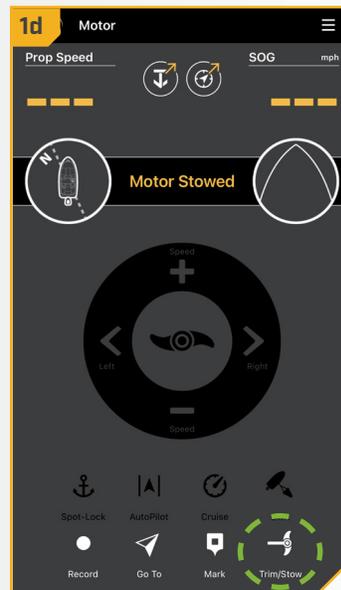
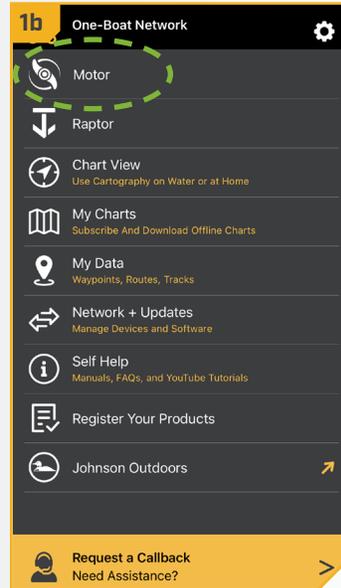
- Tap Trim/Stow on the bottom of the screen to open the Trim/Stow/Deploy menu.
- Tap Deploy to automatically deploy the motor. Normal motor operation will follow.



WARNING

As soon as Deploy is tapped, the motor will automatically deploy. Be sure that the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing or deploying to prevent accidental contact with the rotating propeller.

NOTICE: While the motor is deploying, it is possible to stop the action by tapping Pause. To resume, tap the desired action.



STOWING AND DEPLOYING THE MOTOR WITH THE WIRELESS REMOTE

STOWING AND DEPLOYING THE MOTOR WITH THE WIRELESS REMOTE

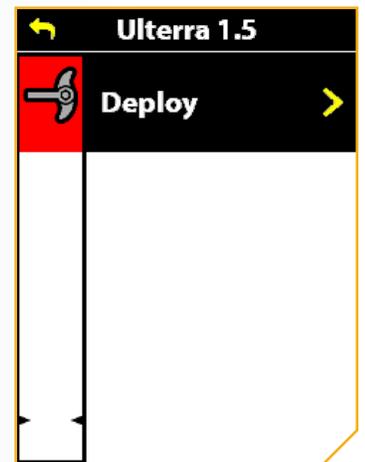
The Advanced GPS Navigation Wireless Remote comes paired from the factory to the Ulterra. To learn more about Wireless Remote features, please view the Advanced GPS Navigation Wireless Remote owner's manual online at minnkotamotors.com.

The Wireless Remote comes with motor-specific functions. For Ulterra trolling motors, this includes stowing, deploying, and trimming the motor. The Ulterra Menu is the primary location on the Advanced GPS Navigation Wireless Remote where Ulterra-specific functions can be accessed. Become familiar with how to access the Ulterra Menu to optimize trolling motor use.

Opening the Ulterra Menu with the One-Boat Network Side Button

1. a. Ensure that the Wireless Remote is paired to the Ulterra. Stow and deploy commands can be accessed from the Ulterra menu on the Wireless Remote.
b. Press the One-Boat Network (OBN)  side button to open the Ulterra menu.

NOTICE: By default, the OBN  side button is mapped to the Ulterra menu when the Wireless Remote is paired to an Ulterra trolling motor. To check OBN  side button functions based on your trolling motor, or for pairing instructions, refer to the Wireless Remote owner's manual at minnkotamotors.com.

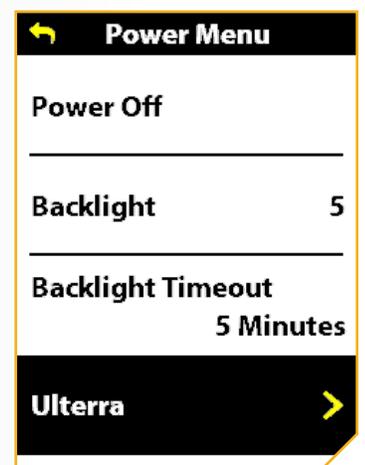
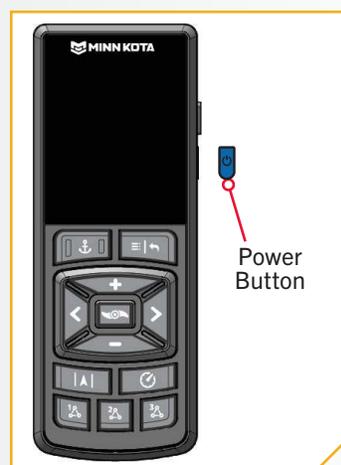


Opening the Ulterra Menu with the Power Button

1. a. Ensure that the Wireless Remote is paired to the Ulterra. Stow and deploy commands can be accessed from the Ulterra menu on the Wireless Remote.

NOTICE: For pairing instructions, refer to the Wireless Remote owner's manual at minnkotamotors.com.

- b. Press the Power  button on the side of the Wireless Remote to open the Power Menu.
c. With the Speed Up  or Speed Down  button, scroll to the Ulterra menu.
d. With the Ulterra menu highlighted, press the Steer Right  button to open the Ulterra menu.



STOWING AND DEPLOYING THE MOTOR WITH THE WIRELESS REMOTE

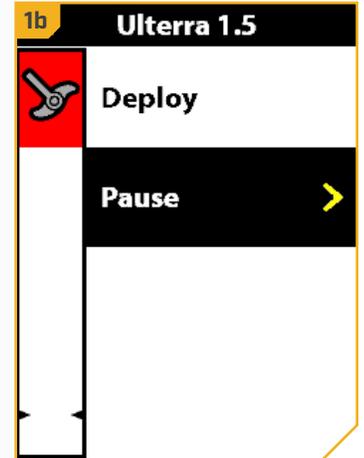
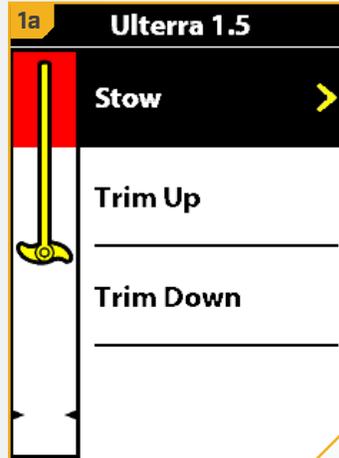
› Stowing the Motor with the Wireless Remote

- 1** a. Open the Ulterra menu. Use the Steer Right  button to select Stow. Once selected, the motor will automatically stow and the Prop will be disabled.

WARNING

As soon as Stow is selected, the motor will automatically stow. Be sure the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is being stowed to prevent accidental contact with the rotating propeller.

NOTICE: While the motor is stowing, it is possible to stop the action. Use the Steer Right  button to select Pause. To resume, press the Steer Right  button again to select Stow.



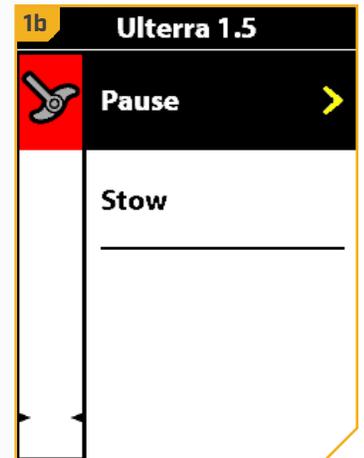
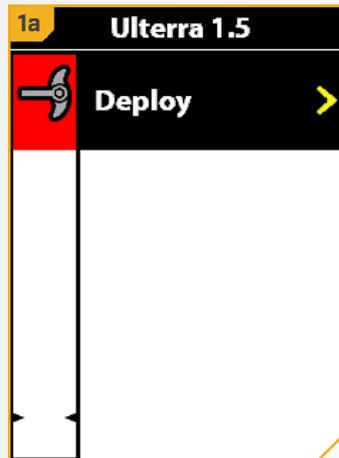
› Deploying the Motor with the Wireless Remote

- 1** a. Open the Ulterra menu. Use the Steer Right  button to select Deploy. Once selected, the motor will automatically deploy. Normal motor operation will follow.

WARNING

As soon as Deploy is selected, the motor will automatically deploy. Be sure that the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing or deploying to prevent accidental contact with the rotating propeller.

NOTICE: While the motor is deploying, it is possible to stop the action. Use the Steer Right  button to select Pause. To resume, press the Steer Right  button again to select Deploy.



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 minnkotamotors.com. Minn Kota trolling motors can run on lithium-ion batteries. However, they are specifically designed to run on traditional lead-acid batteries (flooded, AGM 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-19 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 following information.

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.

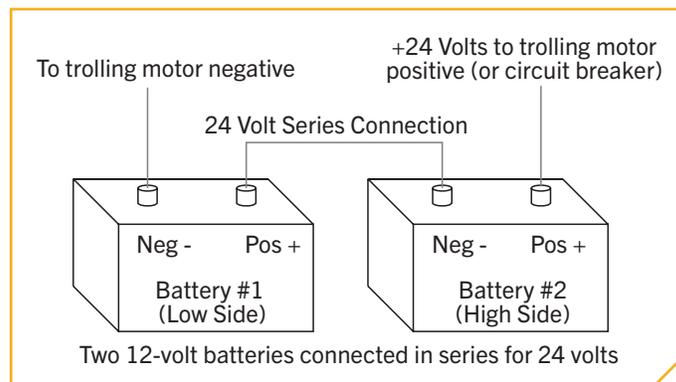
NOTICE: The internal bonding wire is equipped with a 3-amp fuse. Improper connections described above carrying in excess of 3 amps will blow this fuse and no further damage will be exhibited. If this occurs, RF interference from the trolling motor affecting sonar units and other electronics will be more 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

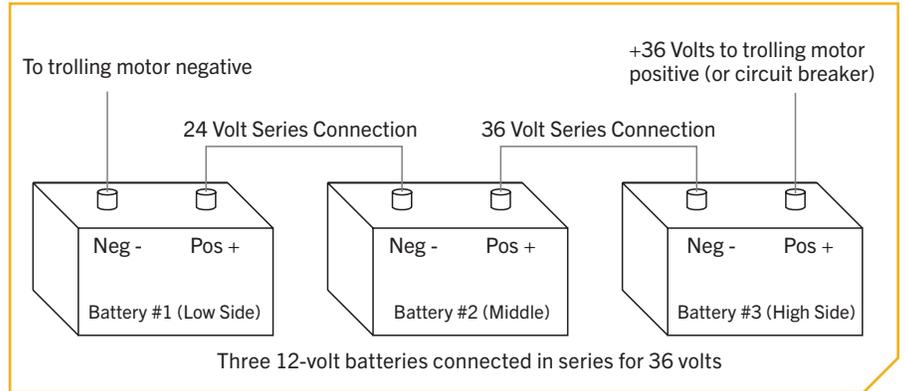
- For safety reasons, disconnect the motor from the battery or batteries when the motor is not in use or while the battery/batteries are being charged.
- Improper wiring of 24/36 volt systems could cause battery explosion.
- Keep leadwire wing nut connections tight and solid to battery terminals.
- Locate 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 Ulterra. A complete Owner's Manual can be downloaded at minnkotamotors.com.

NOTES



A large area for taking notes, consisting of 25 horizontal lines spaced evenly down the page.



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
- Advanced GPS Navigation System Remote



▶ 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



minnkotamotors.com



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