

MINN KOTA®

ULTERRA™

BOW-MOUNT TROLLING MOTOR

Owner's Manual

INTRODUCTION

THANK YOU

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

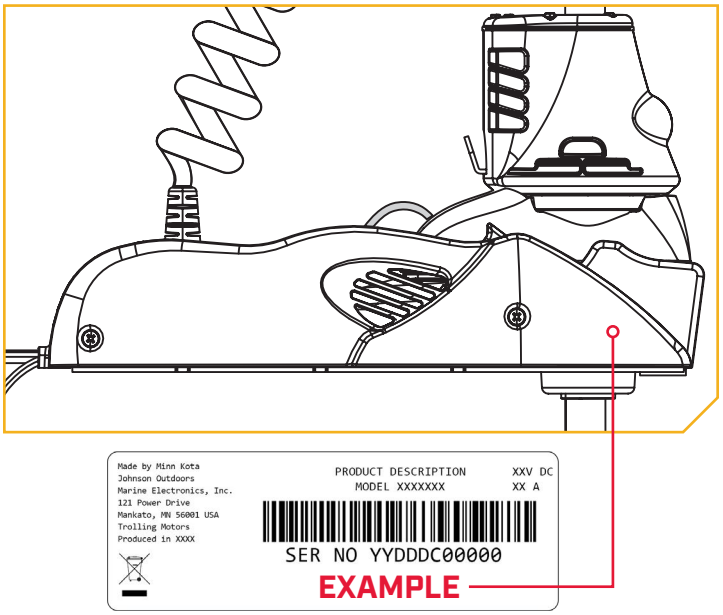
REGISTRATION

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

NOTICE: The serial number on the Ulterra is located inside the Mount, near the Motor Ramp.



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 sending or taking your motor to any Minn Kota authorized service center. A list of authorized service centers is available on our website at minnkota.johnsonoutdoors.com. Please include proof of purchase, serial number and purchase date for warranty service.

Made for iPhone® 11 and iPhone X

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

Made for iPhone

Made for Android™

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.

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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.

⚠ WARNING

When trimming the motor, keep fingers clear of all hinges, pivot points and all moving parts.

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⚠ WARNING

The motor is not safely stowed for transport until the red Status STATUS LED on the Indicator Panel is illuminated.

⚠ WARNING

While Trim Up or Trim Down is pressed, the motor will automatically trim. Be sure the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is being trimmed to prevent accidental contact with the rotating Prop.

⚠ 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 stowing or deploying to prevent accidental contact with the rotating Prop.

⚠ 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 Prop.

⚠ 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 stowing or deploying to prevent accidental contact with the rotating Prop.

⚠ 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 Prop.

⚠ 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.

⚠ WARNING

Take care that neither you nor other persons approach the turning Prop too closely, neither with body parts nor with objects. The motor is powerful and may endanger or injure you or others. Stay clear of the Prop and watch out for accidental engagement.

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WARRANTY

WARRANTY ON MINN KOTA FRESHWATER TROLLING MOTORS

Minn Kota Freshwater Trolling Motors - Limited Lifetime Warranty On Composite Shaft And Limited Two-Year Warranty On The Entire Product

Johnson Outdoors Marine Electronics, Inc. ("JOME") extends the following limited warranty to the original retail purchaser only. Warranty coverage is not transferable.

Minn Kota Limited Two-Year Warranty on the Entire Product

JOME warrants to the original retail purchaser only that the purchaser's new Minn Kota freshwater trolling motor will be materially free from defects in materials and workmanship appearing within two (2) years after the date of purchase. JOME will (at its option) either repair or replace, free of charge, any parts found by JOME to be defective during the term of this warranty. Such repair, or replacement shall be the sole and exclusive liability of JOME and the sole and exclusive remedy of the purchaser for breach of this warranty.

Minn Kota Limited Lifetime Warranty on the Composite Shaft

JOME warrants to the original retail purchaser only that the composite shaft of the purchaser's Minn Kota trolling motor will be materially free from defects in materials and workmanship appearing within the original purchaser's lifetime. JOME will provide a new composite shaft, free of charge, to replace any composite shaft found by JOME to be defective during the term of this warranty. Providing a new composite shaft shall be the sole and exclusive liability of JOME and the sole and exclusive remedy of the purchaser for breach of this warranty; and purchaser shall be responsible for installing, or for the cost of labor to install, any new composite shaft provided by JOME.

Exclusions and Limitations

This limited warranty does not apply to products that have been used in saltwater or brackish water, commercially or for rental purposes. This limited warranty does not cover normal wear and tear, blemishes that do not affect the operation of the product, or damage caused by accidents, abuse, alteration, modification, shipping damages, acts of God, negligence of the user or misuse, improper or insufficient care or maintenance. **DAMAGE CAUSED BY THE USE OF OTHER REPLACEMENT PARTS NOT MEETING THE DESIGN SPECIFICATIONS OF THE ORIGINAL PARTS WILL NOT BE COVERED BY THIS LIMITED WARRANTY.** The cost of normal maintenance or replacement parts which are not in breach of the limited warranty are the responsibility of the purchaser. Prior to using products, the purchaser shall determine the suitability of the products for the intended use and assumes all related risk and liability. Any assistance JOME provides to or procures for the purchaser outside the terms, limitations or exclusions of this limited warranty will not constitute a waiver of the terms, limitations or exclusions, nor will such assistance extend or revive the warranty. JOME will not reimburse the purchaser for any expenses incurred by the purchaser in repairing, correcting or replacing any defective products or parts, except those incurred with JOME's prior written permission. **JOME'S AGGREGATE LIABILITY WITH RESPECT TO COVERED PRODUCTS IS LIMITED TO AN AMOUNT EQUAL TO THE PURCHASER'S ORIGINAL PURCHASE PRICE PAID FOR SUCH PRODUCT.**

Minn Kota Service Information

To obtain warranty service in the U.S., the product believed to be defective, and proof of original purchase (including the date of purchase), must be presented to a Minn Kota Authorized Service Center. Go to minnkota.johnsonoutdoors.com/us/support/service-providers/locate to find a Minn Kota Authorized Service Center. Any charges incurred for service calls, transportation or shipping/freight to/from the Minn Kota Authorized Service Center, labor to haul out, remove, re-install or re-rig products removed for warranty service, or any other similar items are the sole and exclusive responsibility of the purchaser. Products purchased outside of the U.S. must be returned prepaid with proof of purchase (including the date of purchase and serial number) to any Authorized Minn Kota Service Center in the country of purchase. To contact Minn Kota Technical Support go to minnkota-help.johnsonoutdoors.com/hc/en-us. **Products repaired or replaced will be warranted for the remainder of the original warranty period, or for 90 days from the date of repair or replacement, whichever is longer. For any product that is returned for warranty service that JOME finds to be not covered by or not in breach of this limited warranty, there will be a billing for services rendered at the prevailing labor rate of the applicable Minn Kota Authorized Service Center and for a minimum of at least one hour.**

Service Provider Locator

Contact Technical Support

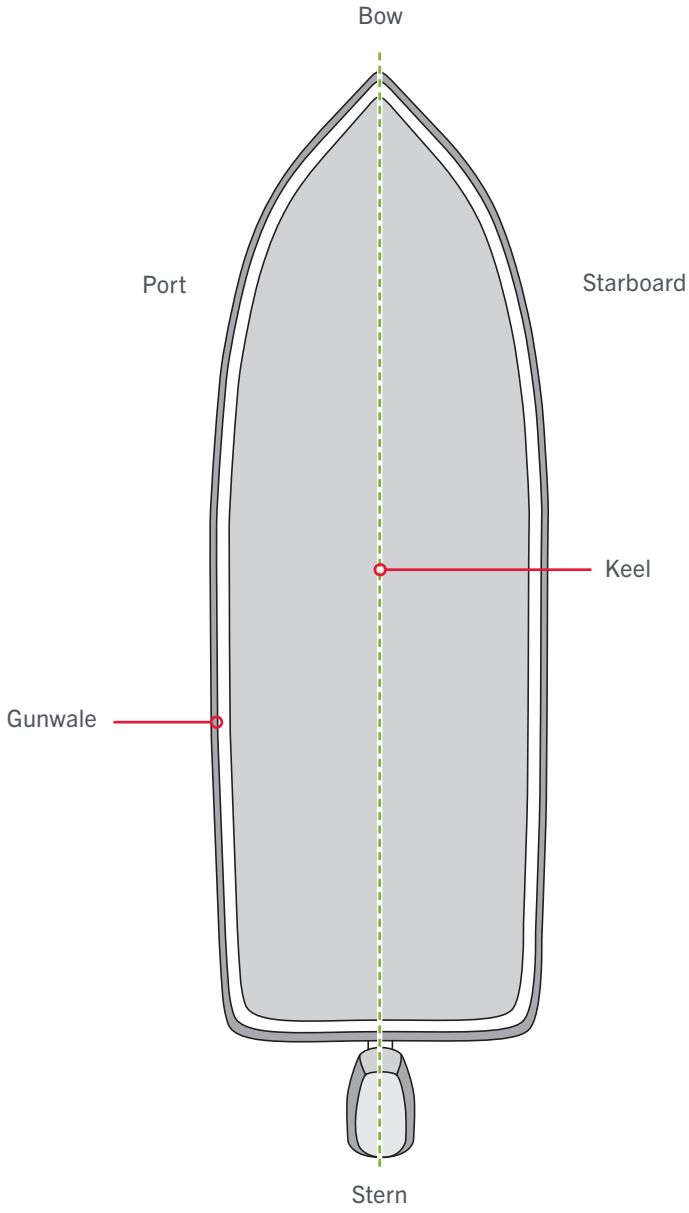
NOTICE: Do not return your Minn Kota product to your retailer. Your retailer is not authorized to repair or replace products.

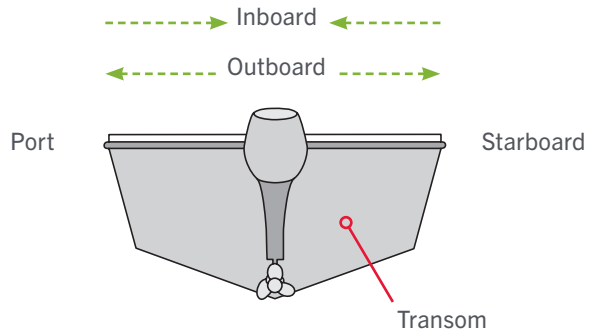
NOTICE: THERE ARE NO EXPRESS WARRANTIES OTHER THAN THESE LIMITED WARRANTIES. IN NO EVENT SHALL ANY IMPLIED WARRANTIES INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, EXTEND BEYOND THE DURATION OF THE RELEVANT EXPRESS LIMITED WARRANTY. IN NO EVENT SHALL JOME BE LIABLE FOR PUNITIVE, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES. Without limiting the foregoing, JOME assumes no responsibility for loss of use of product, loss of time, inconvenience or other damage.

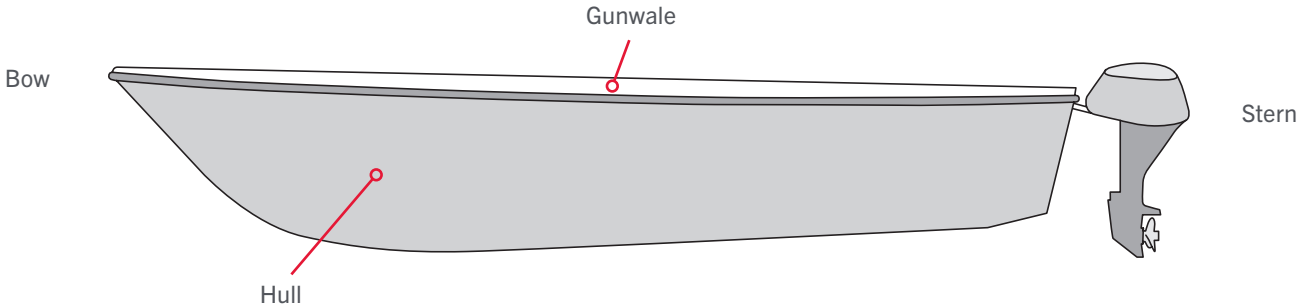
Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and/or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

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KNOW YOUR BOAT

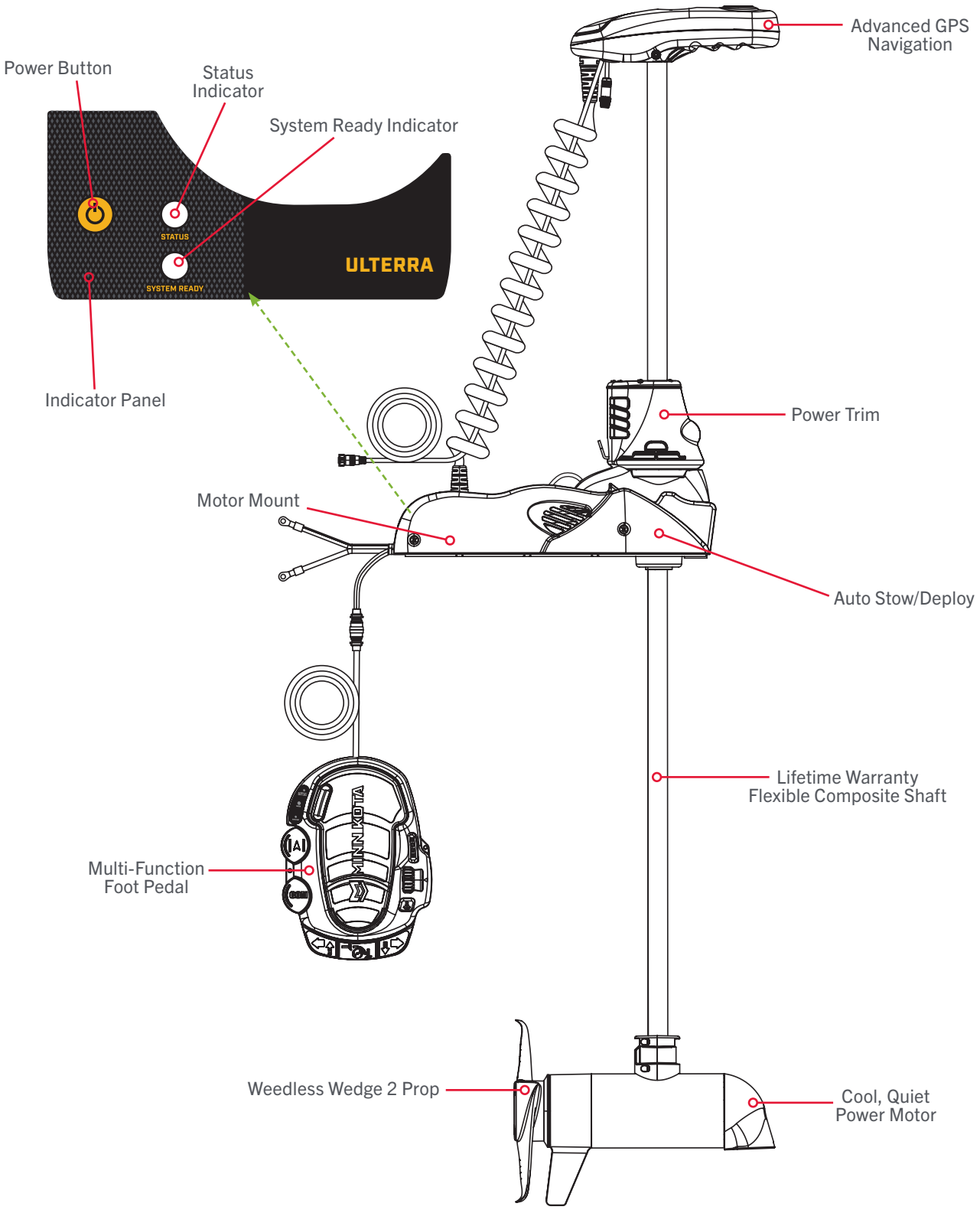






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FEATURES



NOTICE: Specifications subject to change without notice. This diagram is for reference only and may differ from your actual motor.

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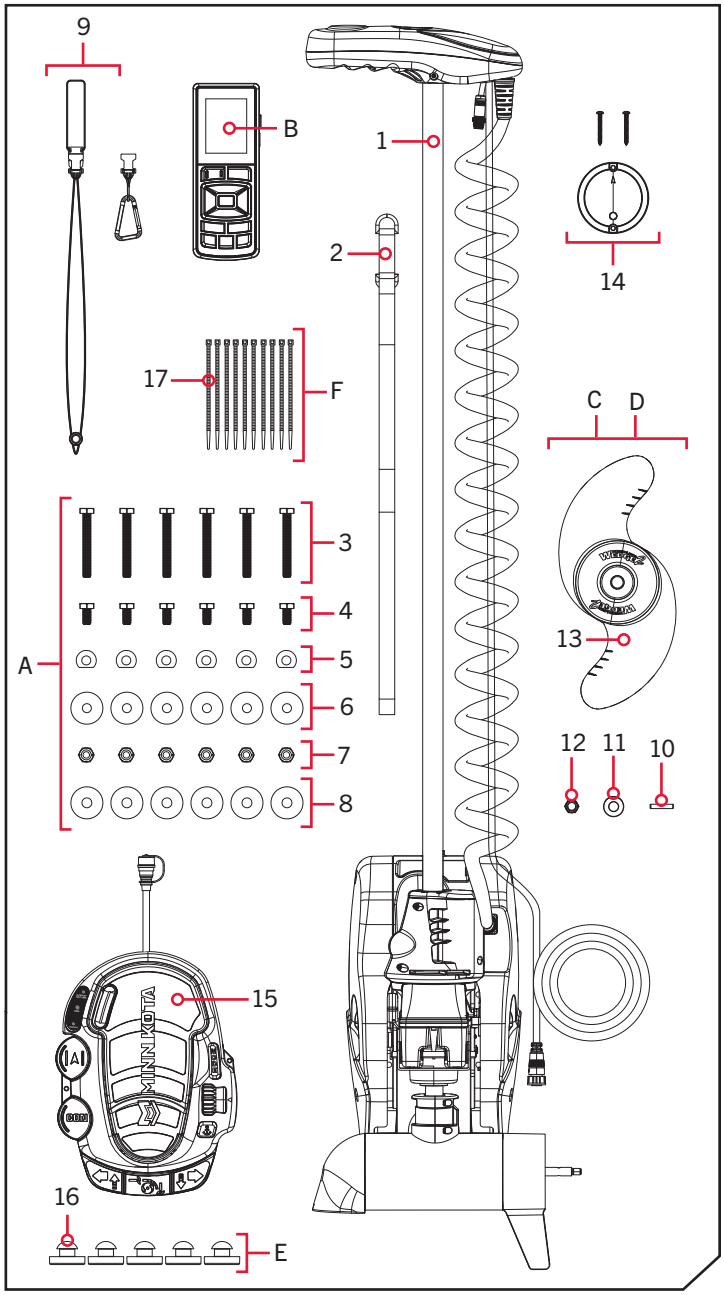
INSTALLATION

INSTALLING THE ULTERRA

The Ulterra comes with everything you'll need to directly install it to the boat. Mount the motor directly to the bow or pair it with a Minn Kota quick release bracket for easy mounting and removal. For compatible quick release brackets and to locate the nearest dealer, visit minnkota.johnsonoutdoors.com. To install the motor directly to the boat, follow the instructions provided in this document. Please review the parts list, mounting considerations and tools needed for installation before getting started. For additional product support, visit minnkota.johnsonoutdoors.com.

INSTALLATION PARTS LIST ❯

Item /Assembly	Part #	Description	Qty.
1	✖	MOTOR ASSEMBLY	1
2	2203801	STRAP, HOLD DOWN, ULTERRA	1
A (Includes 3 to 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
B	411690-1	TROLLING MOTOR REMOTE	1
9	2390802	LANYARD w/CARABINR,IP RMT	1
C (Includes 10 to 13)	1378132	PROP IND 2331160 WDLS WDG II *80LB THRUST*	1
D (Includes 10 to 13)	1378160	PROP KIT 2341160 112# WW2 *112LB THRUST*	1
10	2262658	PIN-DRIVE 1" X 3/16" S/S	1
11	2091701	WASHER-PROP (LARGE) MAX101	1
12	2093101	NUT-PROP,NYLOC,LG,MX101 3/8 SS	1
13	2331161	PROP-WW2 4" WELDED *80LB THRUST*	1
	2341161	PROP-WW2 4.5" WELDED *112LB THRUST*	1
14	2996405	HEADING SENSOR ASSEMBLY	1
15	2994743	FT PEDAL ASM ULTERRA 1.5	1
E (Includes 16)	2994859	BAG ASY-TERROVA/V2,RUB.BUMPERS	1
16	2325110	PAD,FOOT PEDAL PD	5
F (Includes 17)	2996300	BAG ASM, TIE WRAPS, LOW PRO 4"	1
17	2206300	TIE,WRAP, LOW PROFILE 4"	10
▲	2207138	INSTALL GUIDE, ULTERRA	1
▲	2207139	CHECKLIST, ULTERRA	1
▲	2207140	QUICK REF GUIDE ULTERRA B-2	1
▲	2207143	QRG INSTINCT/ULTERRA 4.0	1
▲	2394905	INSTRUCTIONS, HEADING SENSOR ADV GPS	1



▲ *Not shown on Parts Diagram.*

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

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MOUNTING CONSIDERATIONS

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

View accessories available for your trolling motor at minnkota.johnsonoutdoors.com.

TOOLS AND RESOURCES REQUIRED

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

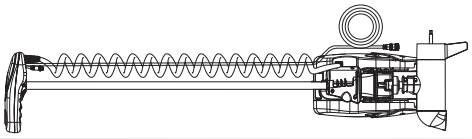
INSTALLATION

INSTALLING THE ULTERRA

The following instructions describe how to mount the Ulterra directly to the boat deck. If installing the Ulterra with a Quick Release Bracket, refer to the document included with the Quick Release Bracket.

1

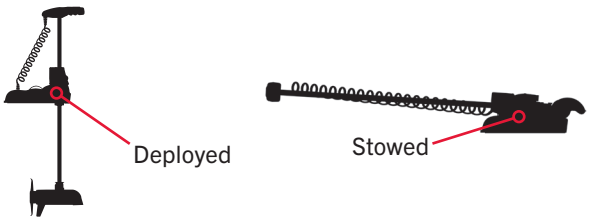
ITEM(S) NEEDED



#1 x 1

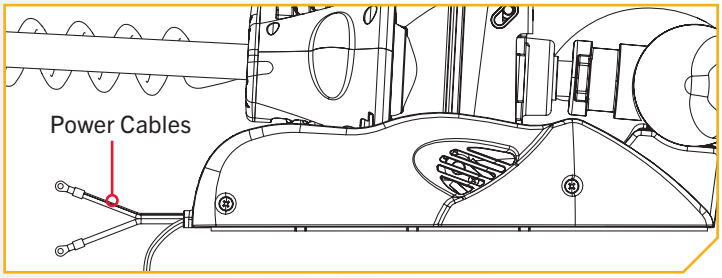
a. Place the trolling motor (Item #1) on an elevated, level surface, such as a workbench or the tailgate of a pickup. The motor, as removed from the box, should be in the stowed position.

b. Make sure the Power Cables are not connected to a power source or that the battery breaker, if equipped, is “off.”



⚠ WARNING

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



NOTICE: The trolling motor weighs approximately 70 lb. Minn Kota recommends having a second person help with the installation.

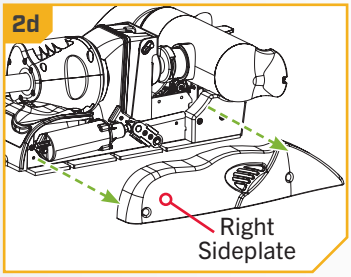
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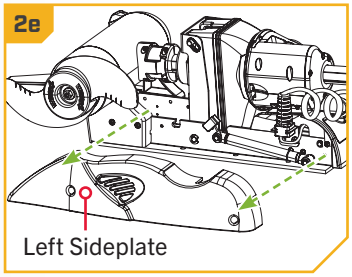
2

c. Remove the four sideplate screws using a #3 Phillips Screwdriver. Two of these screws will be located on each side of the Motor Mount.

d. Remove the Right Sideplate to access the Mounting Slots.

e. Remove the Left Sideplate to access the Mounting Holes.

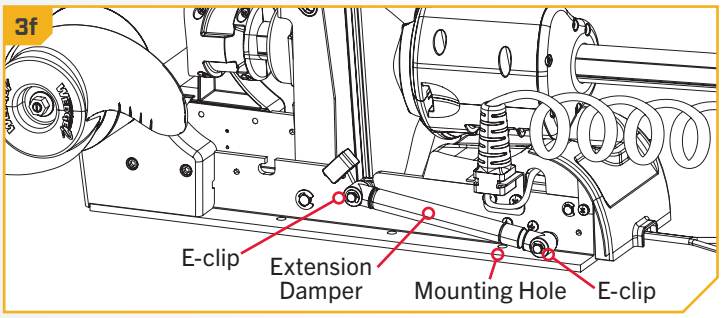


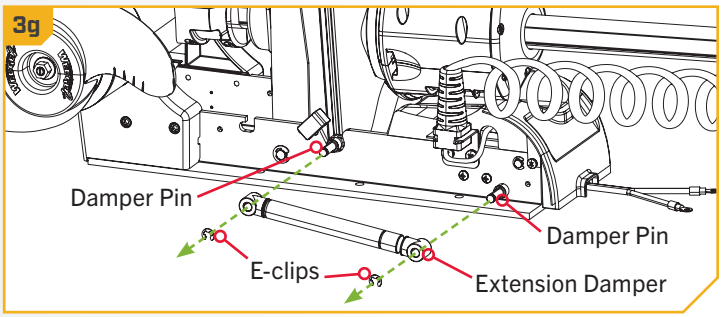


3

f. Under the Left Sideplate, the Extension Damper obstructs access to the front-left Mounting Hole.

g. 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.

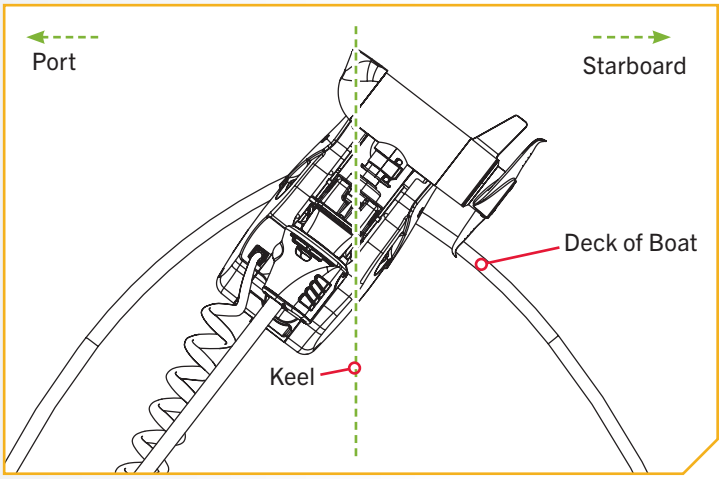




4

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

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, refer to the "Manually Stowing the Ulterra" section in the Ulterra Owner's Manual.



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5

ITEM(S) NEEDED



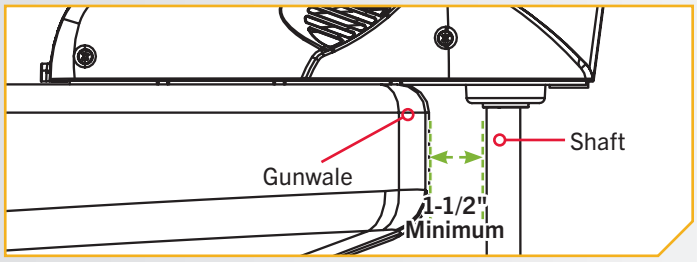
#8 x 6

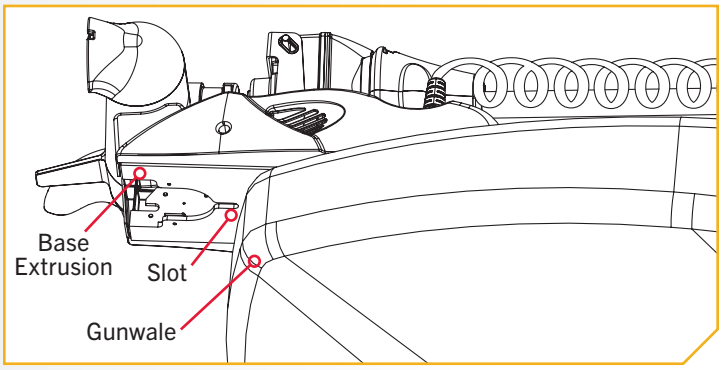
⚠ WARNING

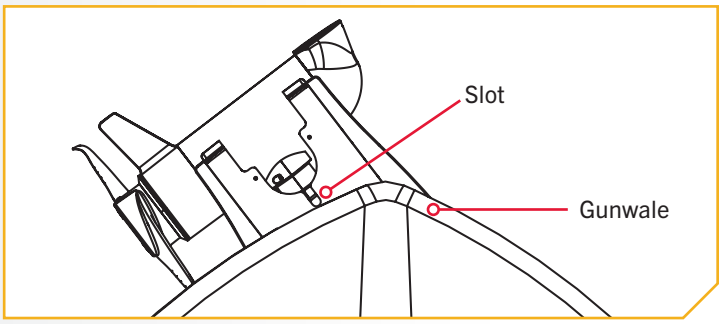
Illustrations are for reference only. Do not deploy the motor until it is fully mounted to the boat. Deploying your motor before it is mounted to the boat may cause injury.

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 required clearance of 1-1/2" when it is deployed. For proper clearance, the entire Slot must be visible beyond the gunwale. The lower unit, when stowed and deployed, must not encounter any obstructions.

j. Check to be sure that the Motor is level. Use the Rubber Washers (Item #8) 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.

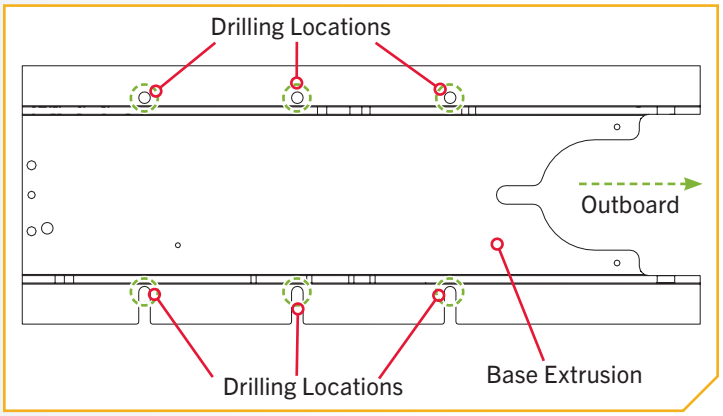
6

k. With the motor at the intended mounting location, take an Awl or similar tool and 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. Slide the motor aside to drill the mounting holes.

m. Drill through the boat deck using a Drill and a 9/32" Drill Bit on all six marked locations.

NOTICE: The mounting surface for the Ulterra must be flat. Rubber Washers may be used to shim the Base Extrusion flat before hardware is tightened.

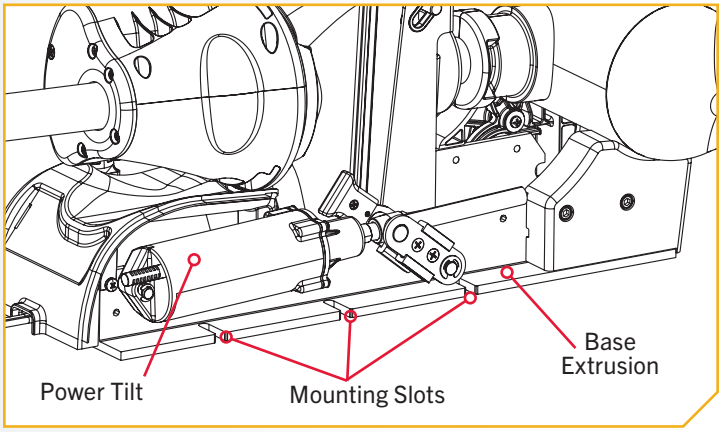


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7

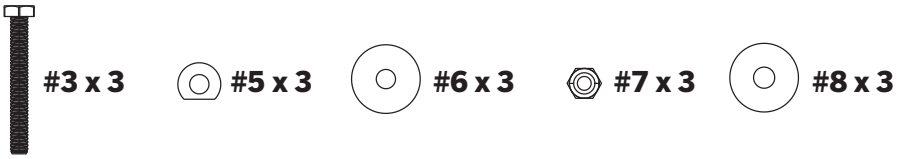
n. Mount the motor to the boat using the provided hardware. Begin with the side of the Base Extrusion that has the Power Tilt and Mounting Slots.

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 minnkota.johnsonoutdoors.com.



8

ITEM(S) NEEDED

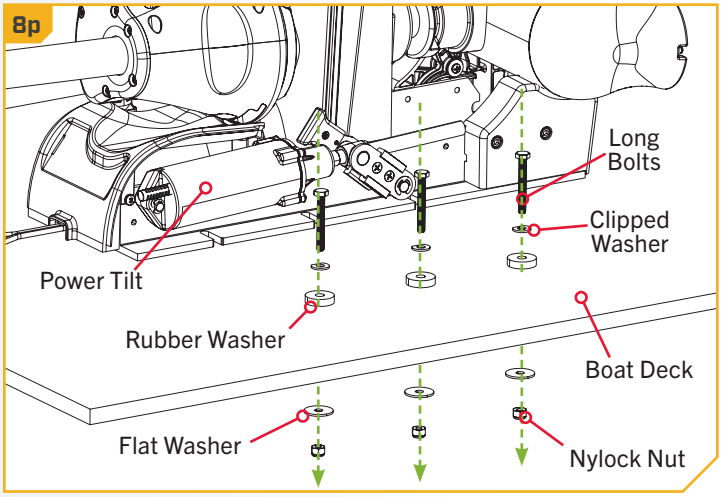


NOTICE: To prevent seizing of the stainless steel hardware, do not use high-speed installation tools. Wetting the screws or applying an anti-seize may help prevent seizing.

o. If Rubber Washers (Item #8) are needed, place a Rubber Washer over each of the drilled holes.

p. Take three each of the Long Bolts (Item #3) and Clipped Washers (Item #5). Place a Clipped Washer onto each Long Bolt, then insert the Long Bolts into the drilled locations. The Long Bolt should pass through the Clipped Washer, Rubber Washer (if used), and then the boat deck. Leave at least 1/4" space between the Clipped Washers and the boat deck or Rubber Washers. This will leave enough space to slide the Base Extrusion between the Clipped Washer and into place. Position the Clipped Washers so that the flat side of the washer faces toward the Base Extrusion.

q. Place a Flat Washer (Item #6) and then a Nylock Nut (Item #7) at the end of each Long Bolt. Tighten with a 7/16" Box End Wrench.



⚠ CAUTION

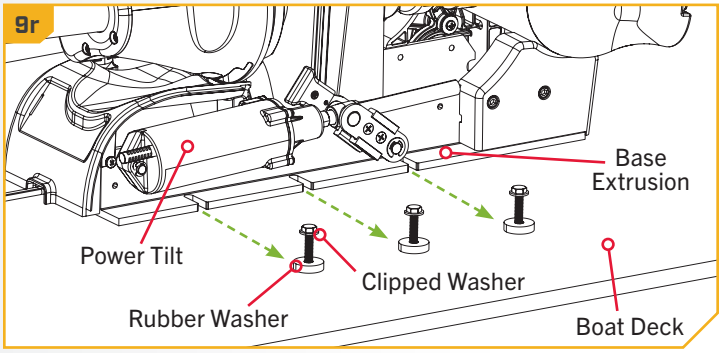
Use extra care to avoid pinching and damaging the sensor wires that run along the side of the Base Extrusion when installing and tightening mounting hardware.

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9

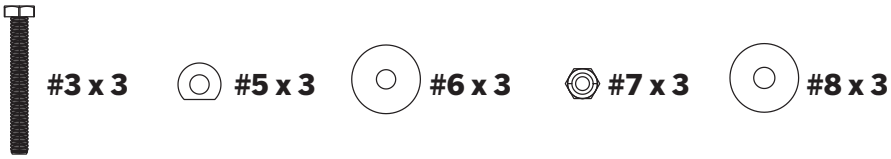
r. Slide the Base Extrusion into place under the Long Bolts that were just installed. The Base Extrusion should slide between the Clipped Washer and the Rubber Washer (if used). Hold the Clipped Washers up on the Long Bolt so the Clipped Washer will sit on top of the Base Extrusion. The flat side of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

s. Ensure that all hardware is secure against the Base Extrusion.



10

ITEM(S) NEEDED



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.

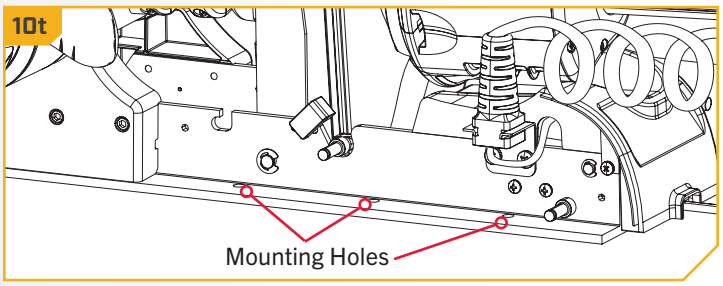
t. Move to the other side of the Base Extrusion to complete the installation. This side of the Motor has Mounting Holes and the Extension Damper. If Rubber Washers (Item #8) are used, put a Rubber Washer over each of the drilled holes.

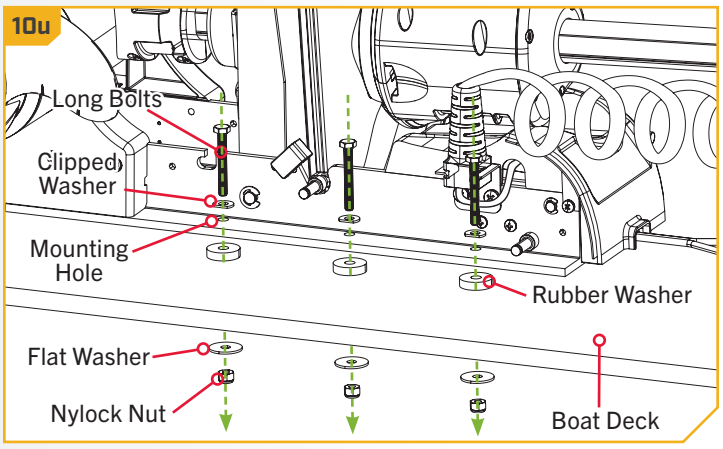
u. Take three each of the Long Bolts (Item #3) and Clipped Washers (Item #5). Place a Clipped Washer onto each Long Bolt, then insert the Long Bolts into the Mounting Holes. Position the Clipped Washers so that the flat side of the washer faces toward the Base Extrusion. The Long Bolt should pass through the Clipped Washer, Base Extrusion, Rubber Washer (if used), and into the boat deck.

v. Place a Flat Washer (Item #6) and then a Nylock Nut (Item #7) at the end of each Long Bolt. Tighten with a 7/16" Box End Wrench. Make sure all hardware is secure.

⚠ CAUTION

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

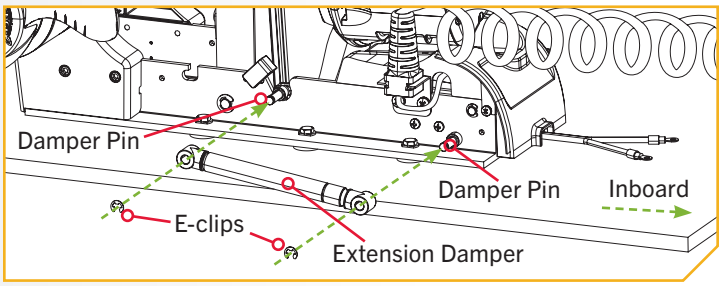




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11

w. At this point in the installation process, the Motor should be secured to the deck of the boat and can now be reassembled. Slide the Extension Damper 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.

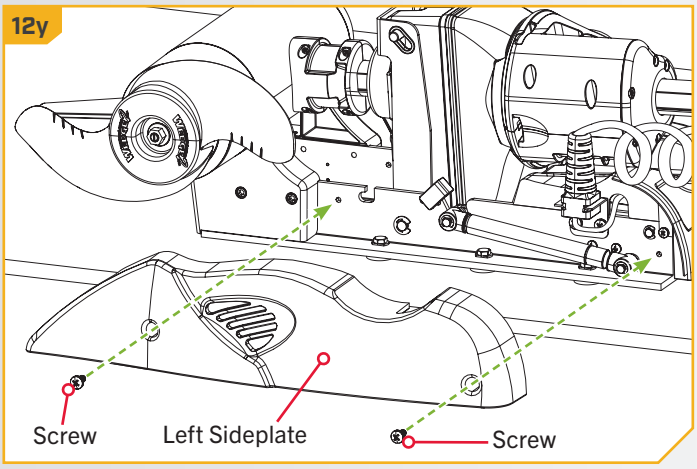


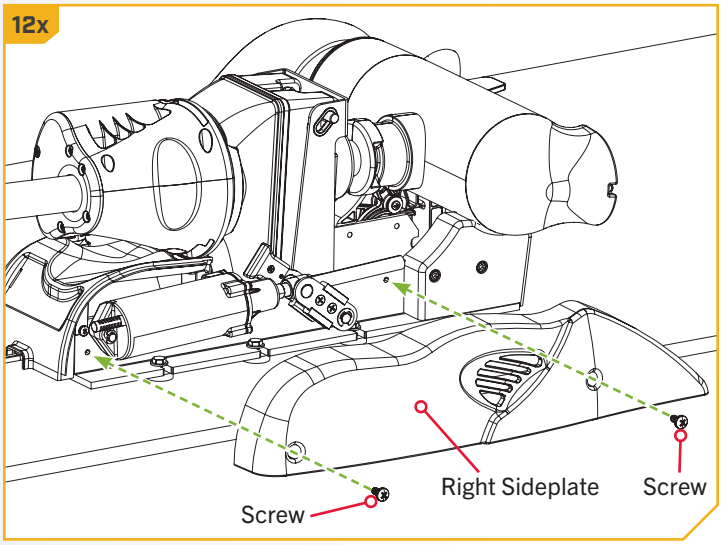
12

x. Replace the Right Sideplate.

y. Replace the Left Sideplate.

z. Replace the four Sideplate Screws using a #3 Phillips Screwdriver.





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INSTALLING THE FOOT PEDAL

1

ITEM(S) NEEDED

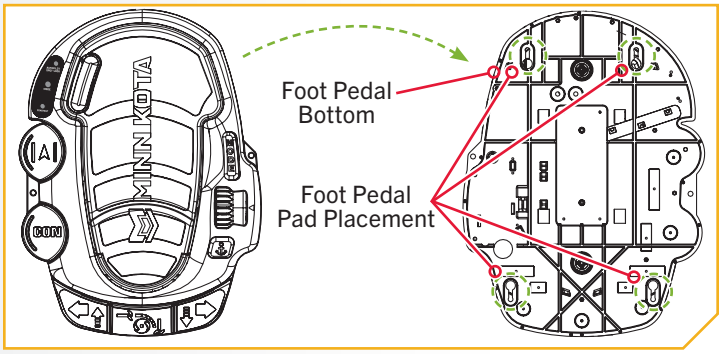


#15 x 1

#16 x 4

a. Take the Foot Pedal (Item #15) and turn it over. Put a Foot Pedal Pad (Item #16) in each of the pad locations.

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



2

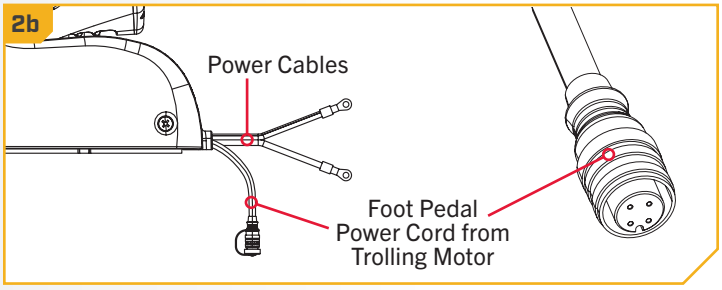
b. Locate the Foot Pedal Power Cord that exits the Mount of the trolling motor, next to the Power Cables. Unscrew the Cap on the Plug at the end of the Foot Pedal Power Cord.

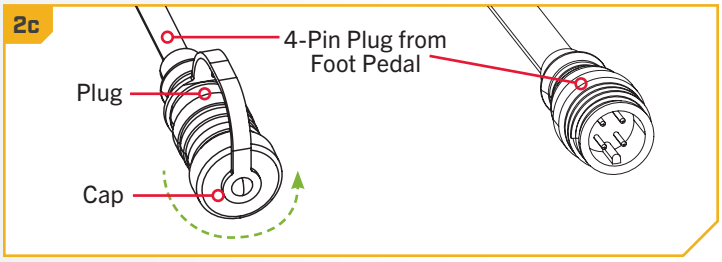
c. Locate the 4-Pin Plug from the Foot Pedal and unscrew the Cap.

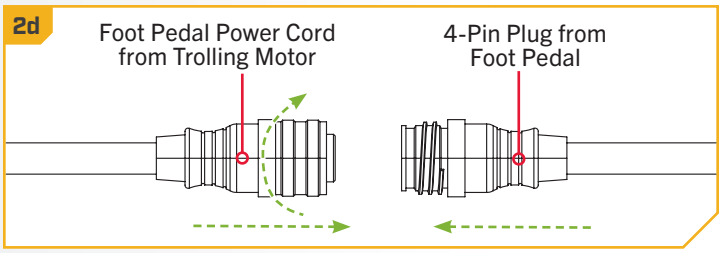
d. Align the 4-Pin Plug from the Foot Pedal with the Plug from the trolling motor. Firmly push the Plugs together. Secure the connection by rotating the collar on the Foot Pedal Power Cord in a clockwise direction.

NOTICE: The connectors are keyed to prevent reversed installation.

NOTICE: When the Foot Pedal Power Cord is not in use, ensure that the Cap is on and firmly secured.







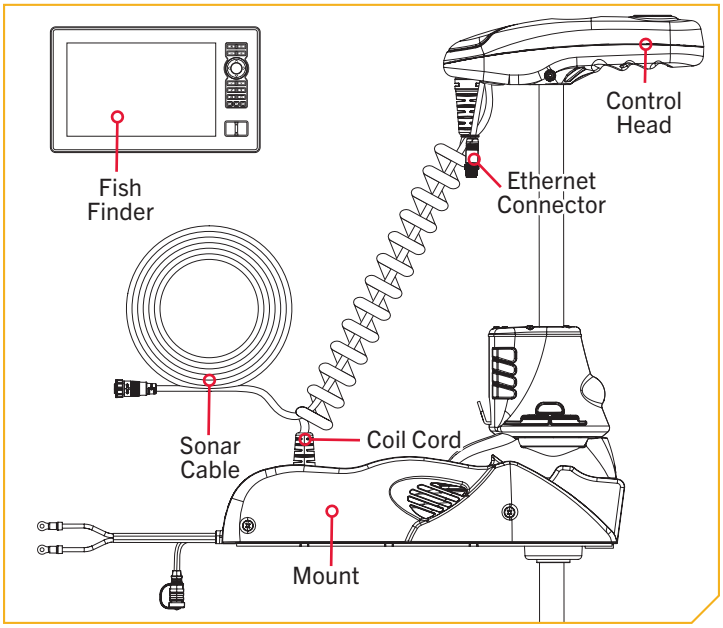
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SONAR AND ETHERNET CONNECTION

The trolling motor has sonar, either Dual Spectrum™ CHIRP or Down Imaging®. A Sonar Cable exits the base of the Control Head and runs down the center of the Coil Cord. A Fourteen-pin Connector on the end of the Sonar Cable attaches to a Minn Kota® fish finder with Humminbird® Imaging. Motors with Dual Spectrum CHIRP or Down Imaging also have a transducer in the Lower Unit. The appearance of the transducer varies based on the sonar type. Connect the Sonar Cable to a fish finder. See the Owner's Manual online at minnkota.johnsonoutdoors.com for more details about the sonar features and additional options for fish finder compatibility, adapter cables, and cable routing.

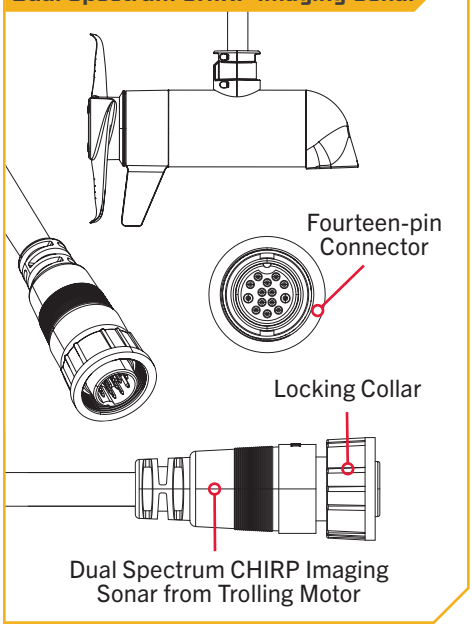
The trolling motor connects to a Minn Kota fish finder via a wireless connection. For more details on establishing a wireless connection, please see the "Pair the Trolling Motor to a Fish Finder" section of this document. If a wired connection is preferred, the Ulterra uses the optional AS EC 30E - 30' Ethernet Cable (720073-4). The optional cable is available online at minnkota.johnsonoutdoors.com. View more details on optional Ethernet cables, adapter cables, and fish finder compatibility online at minnkota.johnsonoutdoors.com and in the Owner's Manual.

HUMMINBIRD® IMAGING

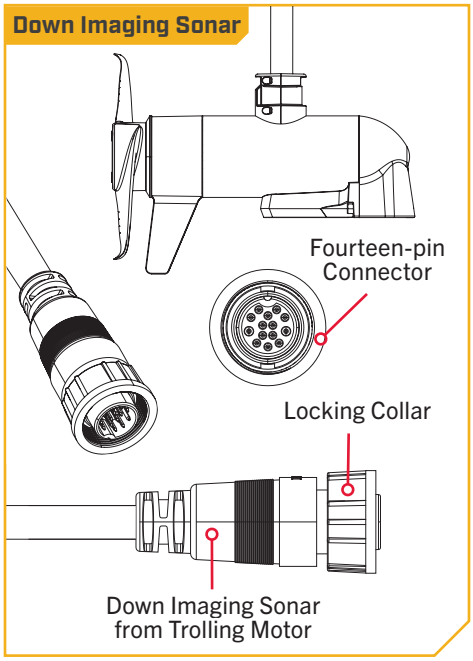


NOTICE: When pairing multiple devices wirelessly with the trolling motor, Minn Kota Fishing App, Raptor or Talon shallow water anchors, multiple Minn Kota Remotes, and Minn Kota or Humminbird fish finders, Minn Kota recommends a wired Ethernet Cable between the trolling motor and fish finder for optimal performance.

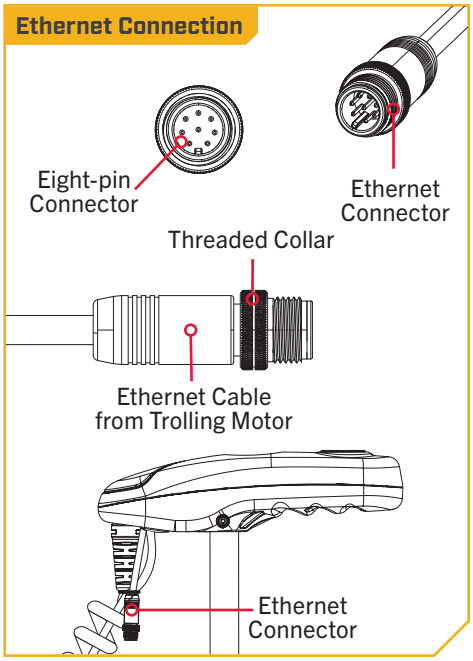
Dual Spectrum CHIRP Imaging Sonar



Down Imaging Sonar



Ethernet Connection

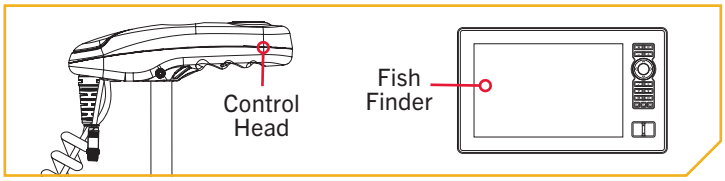


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Pair the Trolling Motor to a Fish Finder

The trolling motor connects to a Minn Kota® fish finder via a wireless connection. Complete the prop installation and the battery and cabling installation, then pair the trolling motor to the fish finder. The trolling motor and fish finder must be powered on to complete the pairing process. The following Minn Kota fish finder models are compatible with a wireless connection to the trolling motor:

- SOLIX® G3
- APEX™
- XPLORE™
- A Series™
- X Series™

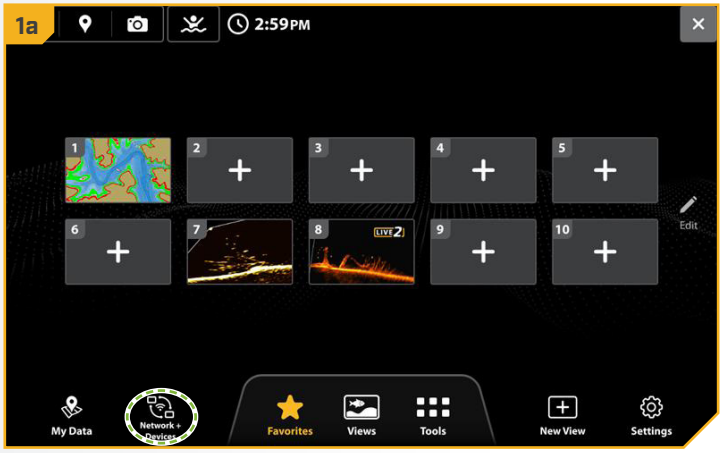


Additional fish finders are compatible with a wired connection using the AS EC 30E - 30' Ethernet Cable (720073-4). The optional cable is available online at minnkota.johnsonoutdoors.com. View more details on optional Ethernet cables, adapter cables, and fish finder compatibility online at minnkota.johnsonoutdoors.com and in the Owner's Manual. Fish finders with a wireless connection do not need an Ethernet cable. To pair the trolling motor with the fish finder, follow the instructions below.

1

a. Power on the fish finder and the trolling motor. From the fish finder home screen, select "Network & Devices".

b. Select "Add Devices" and locate "Trolling Motor". In the Trolling Motor section, select "Connect".

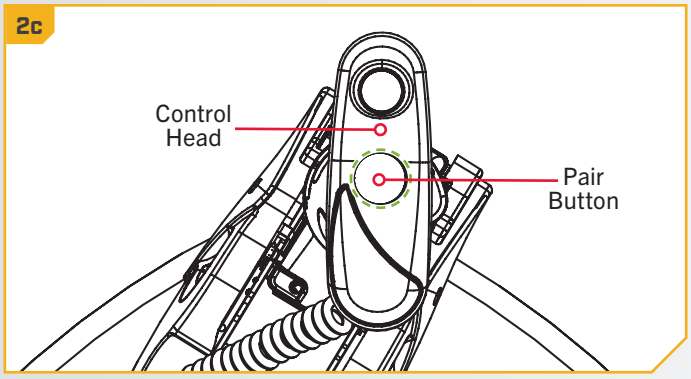




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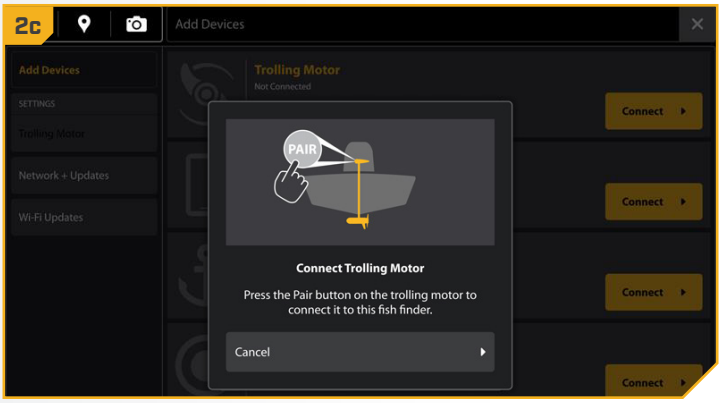
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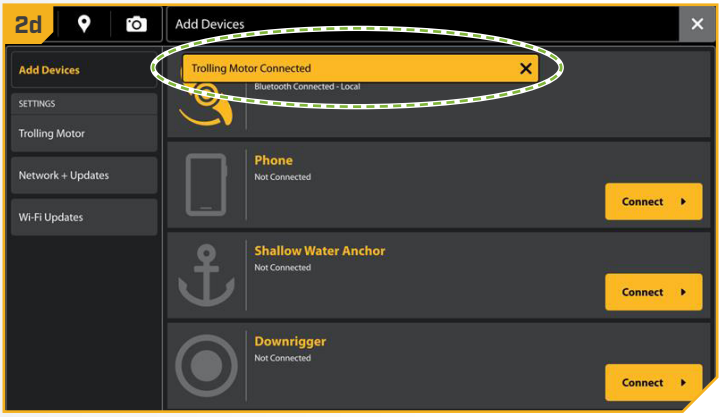
c. Press and hold the Pair button on the trolling motor Control Head.



NOTICE: For more details on the behavior of the Pair button, please see the Wireless Remote Owner's Manual.

d. When successfully paired, the trolling motor will emit three beeps, and is paired to the fish finder. The fish finder will display "Trolling Motor Connected."





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Installing a Wired Ethernet Connection

A wired ethernet connection is not needed if the trolling motor is paired to the Minn Kota fish finder. If a wired connection is preferred, the Ulterra requires the use of the AS EC 30E - 30' Ethernet Cable (720073-4) available online at minnkota.johnsonoutdoors.com. Follow the directions below to connect the Ethernet Cable to the Eight-pin Ethernet Connector below the Control Head.

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

⚠ CAUTION

Failure to follow the recommended wire routing for installed features, if equipped, may cause damage to the product and void the 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 tie as it may damage the wire.

1

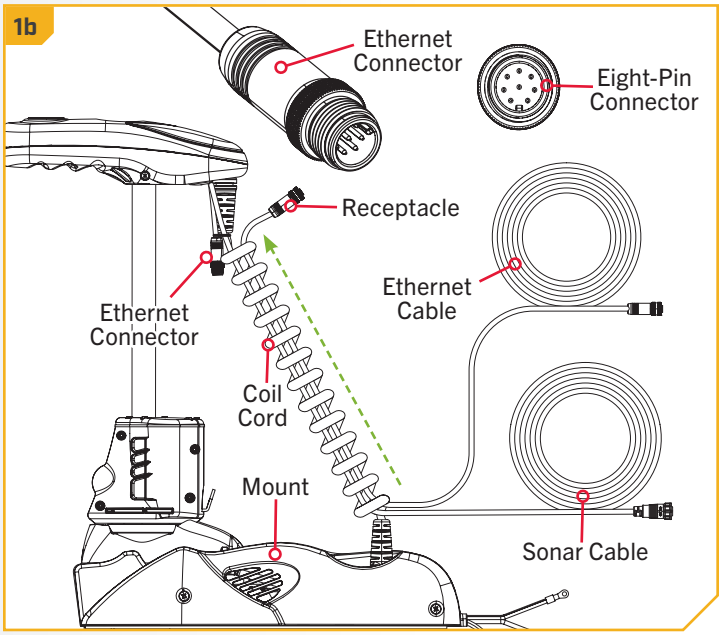
a. Place the motor in the deployed position.

b. Locate the Eight-pin Ethernet Connector below the Control Head. The Ethernet Connector exits the base of the Control Head and will rest just below the Control Head next to the Coil Cord.

c. The Ethernet Cable has a Receptacle on both ends. Starting at the Mount, route the Receptacle from one end of the cable parallel to the Sonar Cable inside the Coil Cord, to the Ethernet Connector.

NOTICE: Minn Kota recommends routing the Ethernet 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 the Sonar Cable. Bypassing the Coil Cord when routing the Ethernet Cable is not recommended.

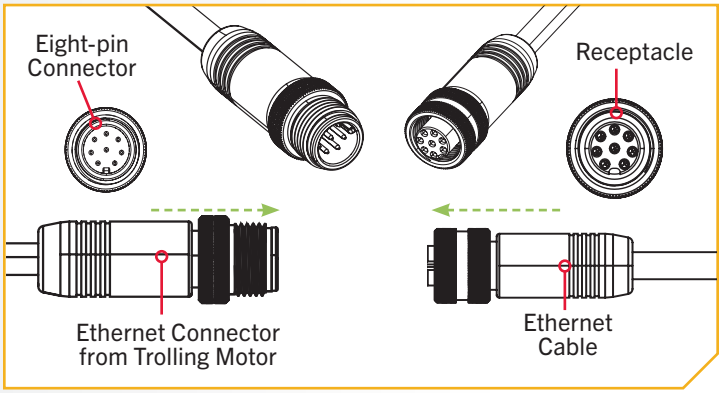
1b



2

d. The Ethernet Cable floats freely inside the Coil Cord. Allow enough slack in the cable to attach the Receptacle to the Ethernet Connector.

e. To install the Ethernet Cable, align the pins on the Ethernet Connector with the Receptacle on the Ethernet Cable. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection.

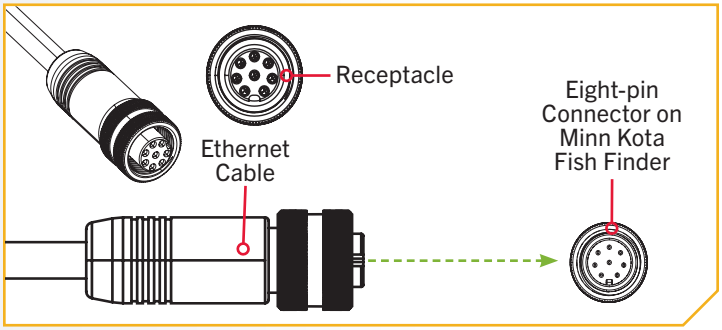


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3

f. The Receptacle on the end of the Ethernet Cable exits the Coil Cord and connects to the Fish Finder. Align the keyed connectors of the Receptacle on the Ethernet Cable with the Eight-pin Connector on the Minn Kota fish finder. Tighten the Collar from the Ethernet Cable to secure the connection.

NOTICE: If the Ethernet Cable is not long enough to reach the fish finder, use a 30' Ethernet Extension Cable (AS ECX 30E - 760025-1) from minnkota.johnsonoutdoors.com. The Ethernet Extension Cable plugs directly into any length of Ethernet Cable.



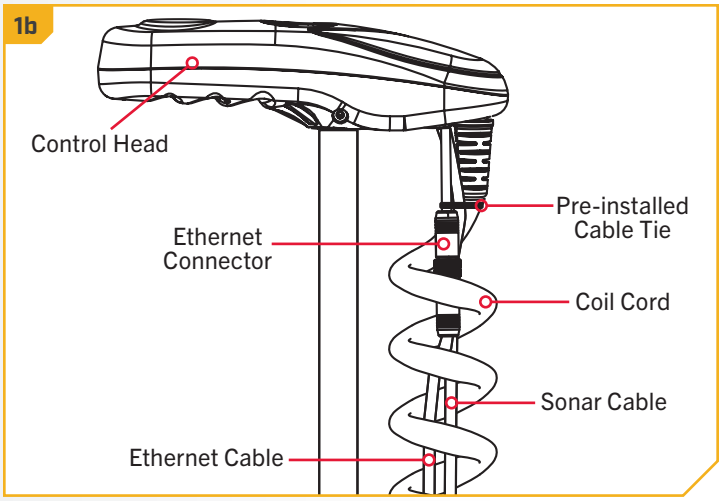
NOTICE: To make a wired ethernet connection between the trolling motor and a Humminbird® Helix fish finder, find the correct adapter cable by checking compatibility online at minnkota.johnsonoutdoors.com.

4

g. Confirm all Cables are connected to an output device as desired.

NOTICE: The Sonar Cable and Ethernet Connector come from the factory secured to the Coil Cord with a pre-installed Cable Tie. Keep the pre-installed Cable Tie in place.

h. The Sonar Cable and Ethernet Cable will be tied together inside the Coil Cord using Cable Ties. Ensure the Cables are parallel to each other inside the Coil Cord. Run the Cables from the Control Head to the Mount, keeping them straight and parallel the entire length.



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5

ITEM(S) NEEDED

#17 x 10

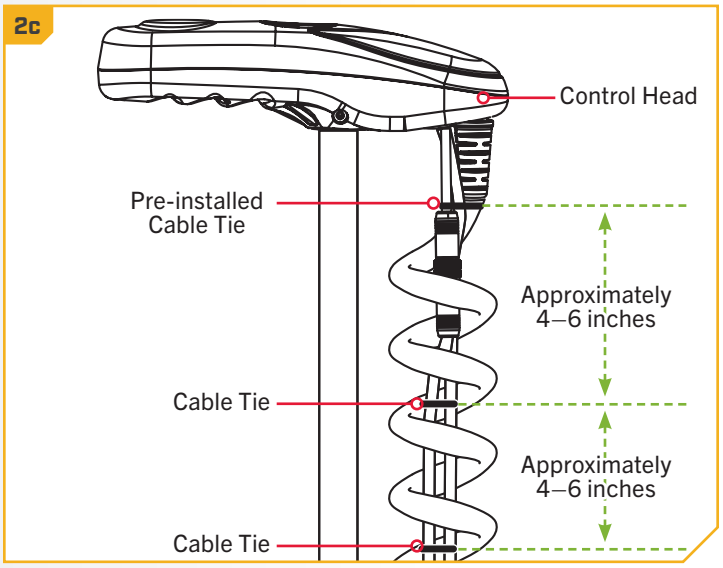
i. Starting approximately 4–6 inches below the pre-installed Cable Tie, take a Cable Tie (Item #17) and place it around the Sonar Cable and Ethernet Cable. **Do NOT capture the Coil Cord with the Cable Tie.** The Sonar Cable and Ethernet Cable should be secured together with a Cable Tie, but float freely on the inside of the Coil Cord. Keep the pre-installed Cable Tie in place.

NOTICE: Do NOT secure the Cables to the Coil Cord. ONLY secure the Sonar and Ethernet Cables to each other using Cable Ties.

j. Secure the Cable Tie around the Cables until it is fingertip tight. Do not over-tighten the Cable Tie as it may damage the Cables.

⚠ CAUTION

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

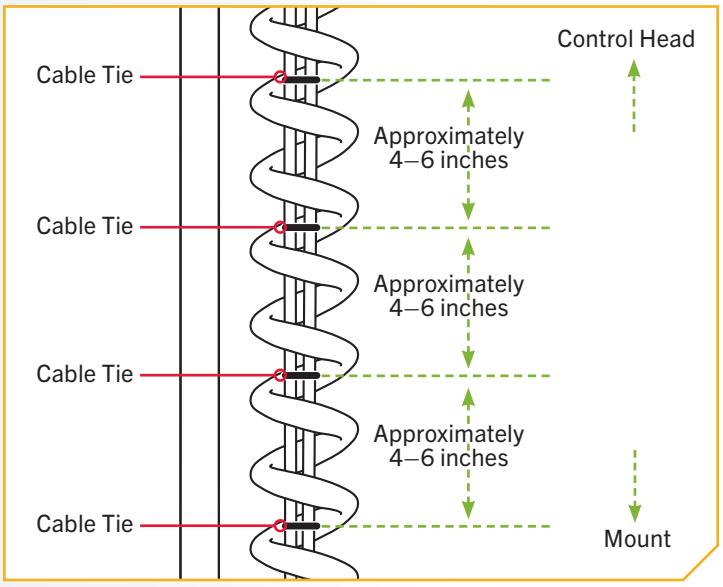


6

k. Follow the Cables from the Control Head to the Mount and place additional Cable Ties every 4–6 inches. The number of Cable Ties needed will vary depending on the length of the trolling motor Shaft.

NOTICE: If additional Cable Ties are needed, a Cable Tie Bag Assembly (Assembly #F) is available from the Parts Ordering Portal at minnkota.johnsonoutdoors.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 Cables and hold the Cables together.



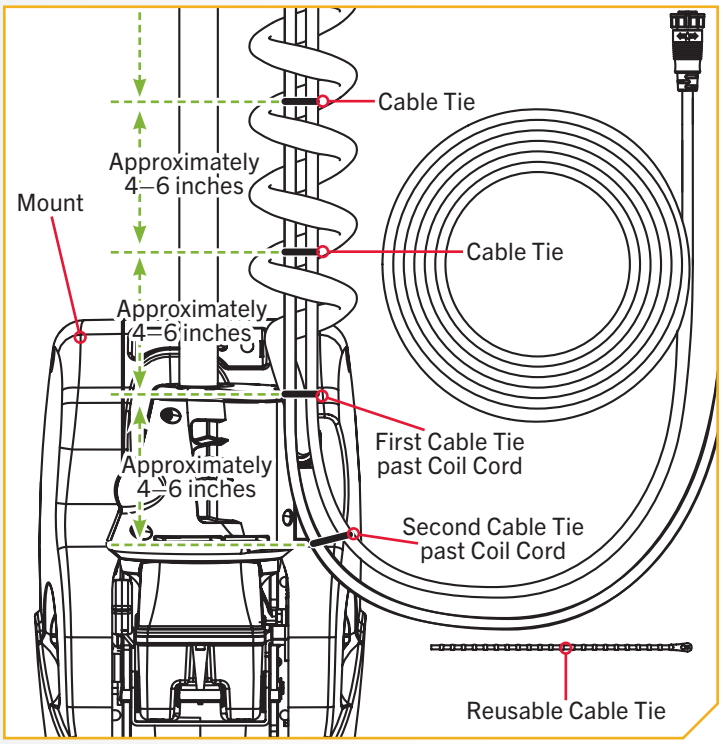
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7

l. Continue placing Cable Ties every 4–6 inches along the Accessory Cables until there are two Cable Ties in place past the end of the Coil Cord where it enters the Mount.

m. Look at the placement of the Cable Ties and ensure that at least two Cable Ties are present on the Cables after they exit the Coil Cord. If no additional Cable Ties are needed, properly reconnect any Cables that may have been disconnected.

n. Leave 6” of slack where the Cables exit the Coil Cord. Bundle any excess length in a loose loop of no less than 4” in diameter. Secure loosely with the Reusable Cable Tie.



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Installing the Sonar Connection

When Dual Spectrum CHIRP or Down Imaging Sonar are pre-installed on your trolling motor, one Sonar Cable exits the base of the Control Head and runs down the center of the Coil Cord. Both types of sonar require the Sonar Cable to be connected to an output device such as a Minn Kota fish finder with Humminbird® Imaging. Connecting the trolling motor equipped with a transducer to a compatible fish finder provides a 2D sonar view of what is happening directly below the trolling motor. To learn more about Dual Spectrum CHIRP and Down Imaging Sonar, see the "Using & Adjusting the Motor" section of the Owner's Manual.

The following Minn Kota fish finder models allow for the connection of the Sonar Cable directly from the trolling motor:

- SOLIX® G3
- A Series™
- XPLORE™
- APEX™
- X Series™

The Sonar Cable from the trolling motor may be plugged directly into a fish finder, Extension Cable or Adapter Cable. Extension Cables and Adapter Cables are available online at minnkota.johnsonoutdoors.com. To determine if your fish finder is compatible with Dual Spectrum CHIRP or Down Imaging Sonar, please visit minnkota.johnsonoutdoors.com to check compatibility.

The Sonar 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 to optimize mobility and maximize functionality. All Ulterra motors with sonar 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. Refer to the "Battery & Wiring Installation" section of this manual for correct rigging instructions.

⚠ CAUTION

Failure to follow the recommended wire routing for installed features, if equipped, may cause damage to the product and void the 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 tie as it may damage the wire.

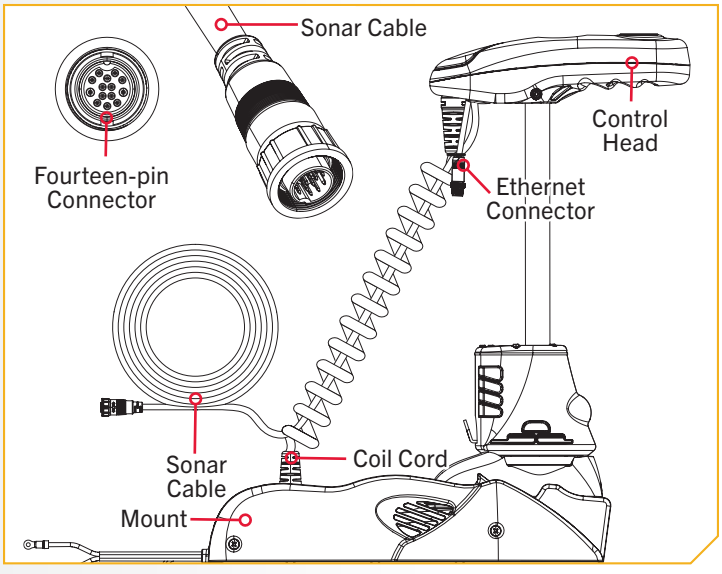
1

NOTICE: The 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 at the end of the Sonar Cable. The Sonar Cable exits the base of the Control Head and runs down the center of the Coil Cord.

NOTICE: The Sonar Cable comes from the factory secured to the Coil Cord with a Cable Tie. Do not remove or adjust the Cable Tie retaining the Sonar Cable.

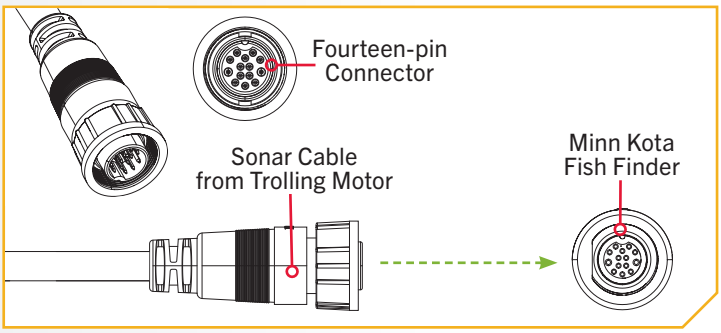


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2

c. The Sonar Cable floats freely inside the Coil Cord. Allow enough slack in the cable to attach the Fourteen-pin Connector to the fish finder.

d. Align the Fourteen-pin Connector on the Sonar Cable with the Receptacle on the Minn Kota fish finder. Tighten the Collar from the Sonar Cable to secure the connection.



NOTICE: If the Sonar Cable is not long enough to reach the fish finder, use a 10-foot Sonar Extension Cable (EC M3 14W10 - 720106-1) or a 30-foot Sonar Extension Cable (EC M3 14W30 - 720106-2). Both Extension Cables are available from minnkota.johnsonoutdoors.com. The Sonar Cable plugs directly into a Sonar Extension Cable.

NOTICE: To complete the Sonar connection between the trolling motor and a Humminbird® Helix fish finder, find the correct adapter cable by checking compatibility online at minnkota.johnsonoutdoors.com.

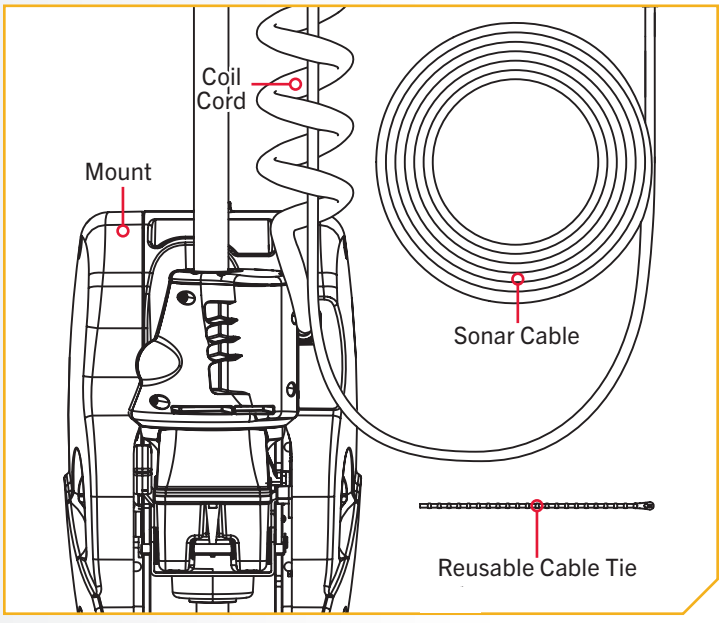
NOTICE: If connecting to other fish finders on the market, check for compatibility or any required adapter cables online at minnkota.johnsonoutdoors.com.

3

e. Confirm the Sonar Cable is connected to the fish finder as desired. Leave 6” of slack where the Sonar Cable exits the Coil Cord. Bundle any excess cable in a loose loop of no less than 4” in diameter. Secure loosely with a Cable Tie.

⚠ CAUTION

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



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INSTALLING THE PROP

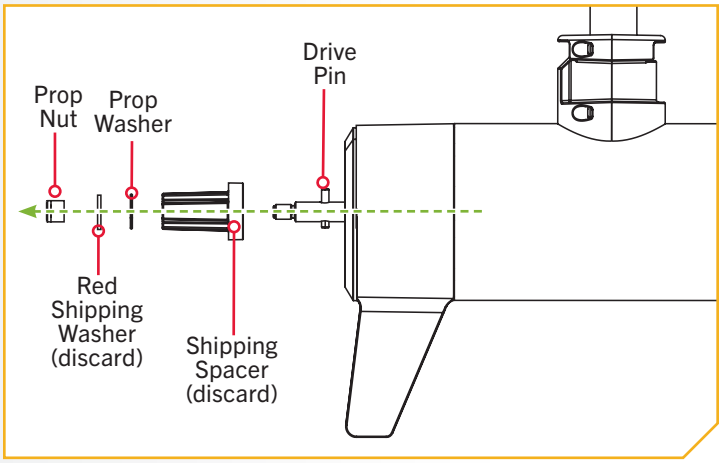
1

⚠ CAUTION

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

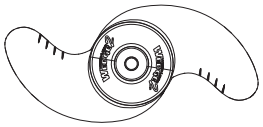
a. While holding the Shipping Spacer with a pliers or vise grip, remove the Prop Nut, Red Shipping Washer, Prop Washer and Spacer, being careful not to lose the Drive Pin. Reuse the Prop Nut, Prop Washer and Drive Pin to attach the Prop.

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 Prop.



2

ITEM(S) NEEDED



#13 x 1 **#10 x 1** **#11 x 1** **#12 x 1**

b. Take the Drive Pin (Item #10) and slide it through the Hole in the Armature Shaft. Position the Drive Pin horizontally by grasping the Armature Shaft and rotating it with the Drive Pin in place.

c. Align the Prop (Item #13) so it is also horizontal and parallel with the Drive Pin. Slide the Prop onto the Armature Shaft and Drive Pin until it is seated against the lower unit.

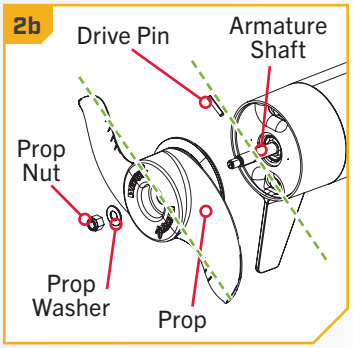
d. Install the Prop Washer (Item #11) and the Prop Nut (Item #12) onto the end of the Armature Shaft.

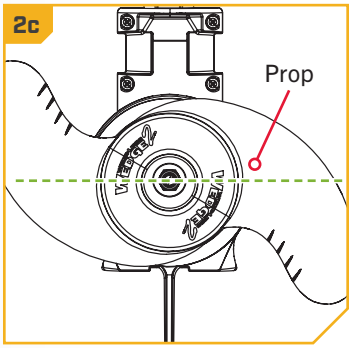
e. Holding the end of the Armature Shaft with a Flat-Blade Screwdriver, tighten the Prop Nut with a 9/16" Open End Wrench.

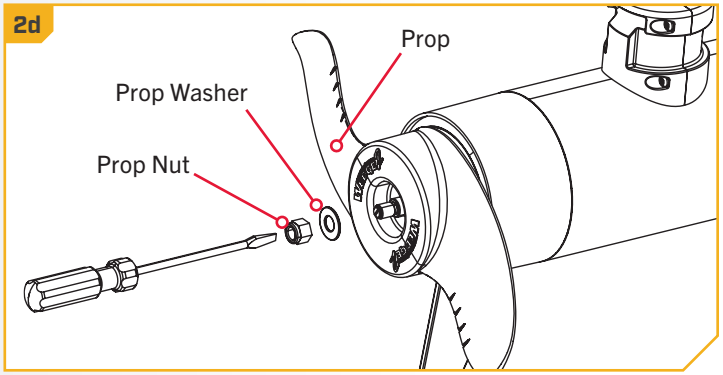
f. Tighten the Prop Nut 1/4 turn past snug at 25-35 in-lbs.

⚠ CAUTION

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







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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

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SELECTING THE CORRECT BATTERIES

The motor will operate with any lead-acid, deep-cycle marine 12-volt battery/batteries. For best results, use a deep-cycle marine battery with at least a 105 amp-hour rating. Maintain battery at full charge. Proper care will ensure having battery power when you need it, and will significantly improve the battery life. Failure to recharge lead-acid batteries (within 12-24 hours) is the leading cause of premature battery failure. Use a multi-stage charger to avoid overcharging. We offer a wide selection of chargers to fit your charging needs. If you are using a crank battery to start a gasoline outboard, we recommend that you use a separate deep-cycle marine battery/batteries for your Minn Kota trolling motor. For more information on battery selection and rigging, please visit minnkota.johnsonoutdoors.com. Minn Kota trolling motors can run on lithium-ion batteries. However, they are specifically designed to run on traditional lead-acid batteries (flooded, 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.

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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.

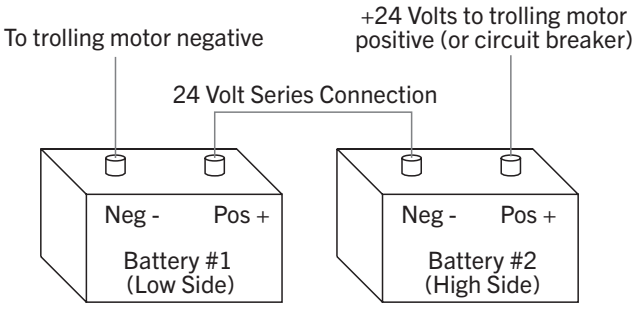
NOTICE: The internal bonding wire is equipped with a 3-amp fuse. Improper connections described above carrying in excess of 3 amps will blow this fuse and no further damage will be exhibited. If this occurs, RF interference from the trolling motor affecting sonar units and other electronics will be more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



Two 12-volt batteries connected in series for 24 volts

⚠ 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.

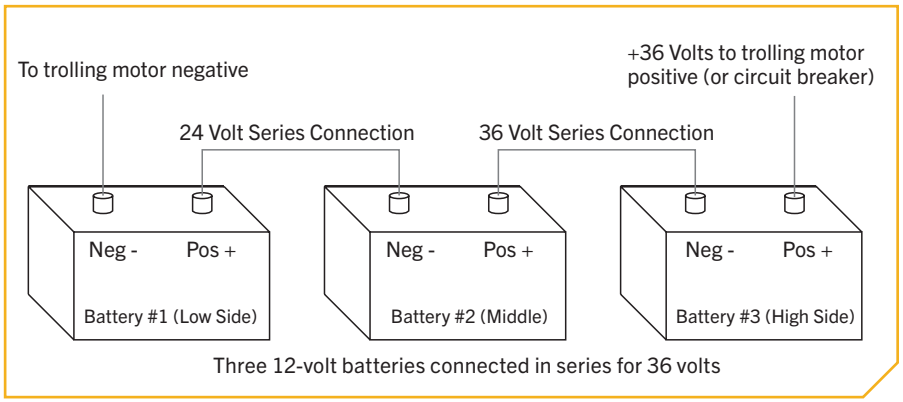
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CONNECTING THE BATTERIES IN SERIES

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 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.



Three 12-volt batteries connected in series for 36 volts

⚠ 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.

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MINN KOTA SYSTEM

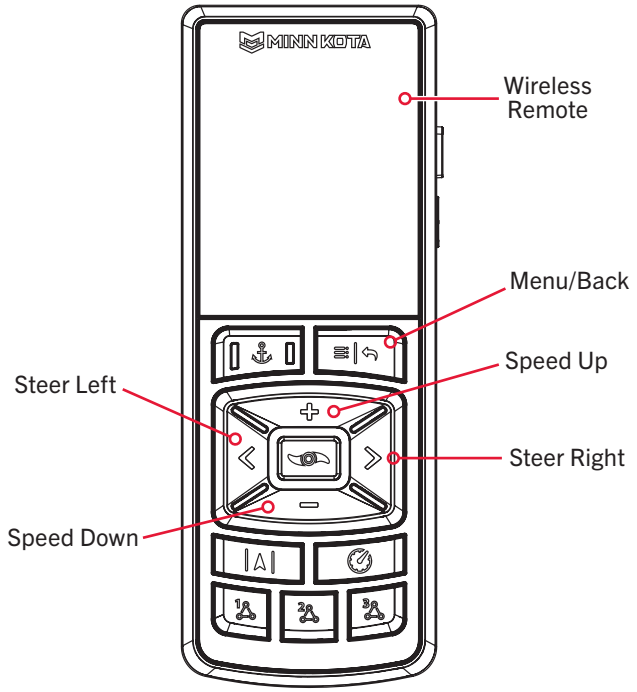
OPTIMIZING THE PERFORMANCE OF THE ULTERRA WITH THE WIRELESS REMOTE OR MINN KOTA FISHING APP

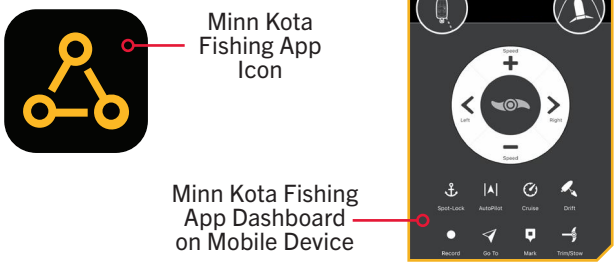
The Minn Kota System is an integrated fishing system that unites trolling motors, fish finders, sonar, mapping, shallow water anchors, and more into a single, seamless experience. Connecting the trolling motor to additional Minn Kota System products enhances the fishing experience and allows anglers to focus less on managing gear and more on fishing.

The Ulterra trolling motor features Advanced GPS Navigation and comes from the factory paired with a Wireless Remote. The Wireless Remote offers one way to control the trolling motor and Advanced GPS Navigation features such as Spot-Lock and Drift Mode. To learn more about Wireless Remote features, refer to the Wireless Remote Owner's Manual online at minnkota.johnsonoutdoors.com.

Pair the trolling motor to the Minn Kota Fishing App to provide more control over the Minn Kota System. The Minn Kota Fishing App is a free iOS and Android application you can download to a mobile device, providing unparalleled control over all of your Minn Kota System products. Find instructions to pair the trolling motor with a mobile device in the app.

Use the Wireless Remote or the Minn Kota Fishing App to finalize trolling motor settings for features such as Calibration and Heading Offset for the Heading Sensor. Ensure the trolling motor is connected to a power source before adjusting settings. Minn Kota recommends completing all settings for the Heading Sensor to enhance trolling motor control.





⚠ 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. Stay clear of the Prop and watch out for accidental engagement.

NOTICE: If the Wireless Remote is lost or becomes non-functioning during navigation, and the Minn Kota Fishing App is unavailable, disconnect the motor from power to cancel all active navigation and turn off the Prop.

NOTICE: Ensure that the trolling motor is connected to a power source before adjusting Minn Kota Fishing App settings.

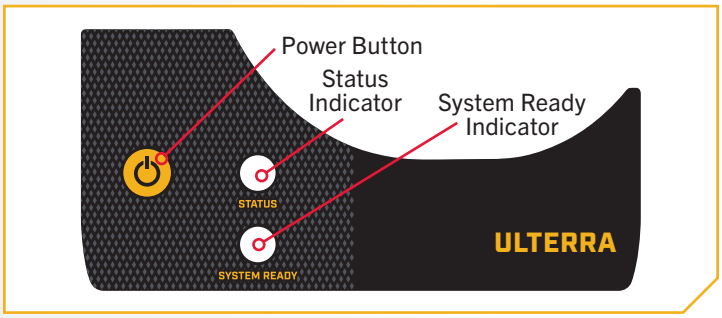
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Verifying Power

1

a. Locate the Indicator Panel at the front of the Mount. Power on the trolling motor by pressing the Power button on the Indicator Panel. When the trolling motor is on, the System Ready Indicator will be green.

b. To turn the motor "off," press and hold the Power button for approximately three seconds until the green light turns off. When the Motor is powered off, the System Ready Indicator will not be illuminated.



Powering on the Wireless Remote

1

ITEM(S) NEEDED


#10 x 1


#11 x 1

a. Power on the trolling motor.

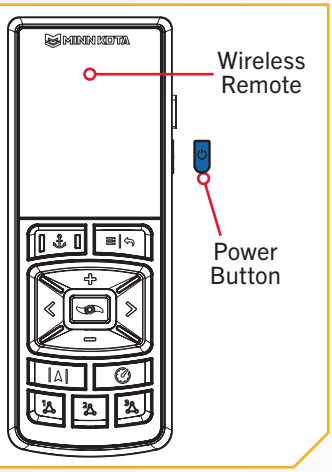
b. To turn on the Wireless Remote (Item #10), press and hold the Power button on the side of the Remote.

c. A message will appear on the display screen. Read the disclaimer, then press the Steer Right button to select "I Agree."

d. The content on the display screen will populate. Remote functions to manually control the motor are now active, including Speed Up, Speed Down, Steer Left, Steer Right, and Prop On/Off.

e. When the Advanced GPS Navigation system has obtained a minimum GPS signal strength of one bar, all remaining functions will become available.

NOTICE: The Wireless Remote comes from the factory paired to the Ulterra.





NOTICE: A Remote Cradle accessory (1866675) can be purchased for mounting the Wireless Remote or attaching the Remote to a belt clip. Attaching the Lanyard (Item #11) to the Wireless Remote is optional.

INSTALLING THE HEADING SENSOR

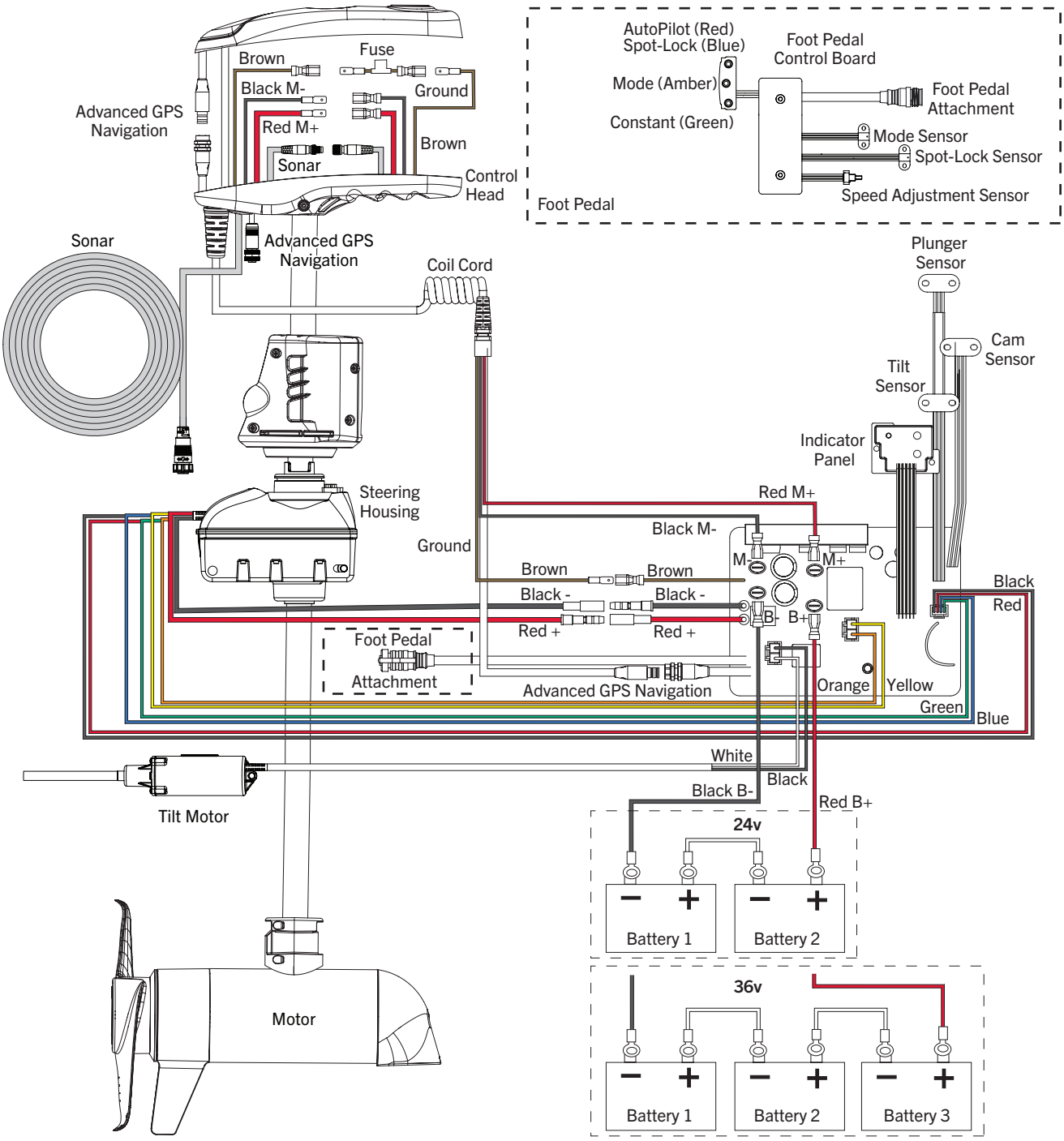
An external Heading Sensor (Item #14) is included with the Ulterra. The Heading Sensor provides boat heading information to the trolling motor. The boat heading is used for navigation features such as Spot-Lock Jog. For instructions on installing and calibrating the Heading Sensor, refer to the document provided with the Heading Sensor.

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MOTOR WIRING DIAGRAM

ULTERRA WITH DUAL SPECTRUM CHIRP OR DOWN IMAGING SONAR

The following Motor Wiring Diagram applies to all Ulterra models that come factory installed with Advanced GPS Navigation and either Dual Spectrum CHIRP or Down Imaging Sonar.



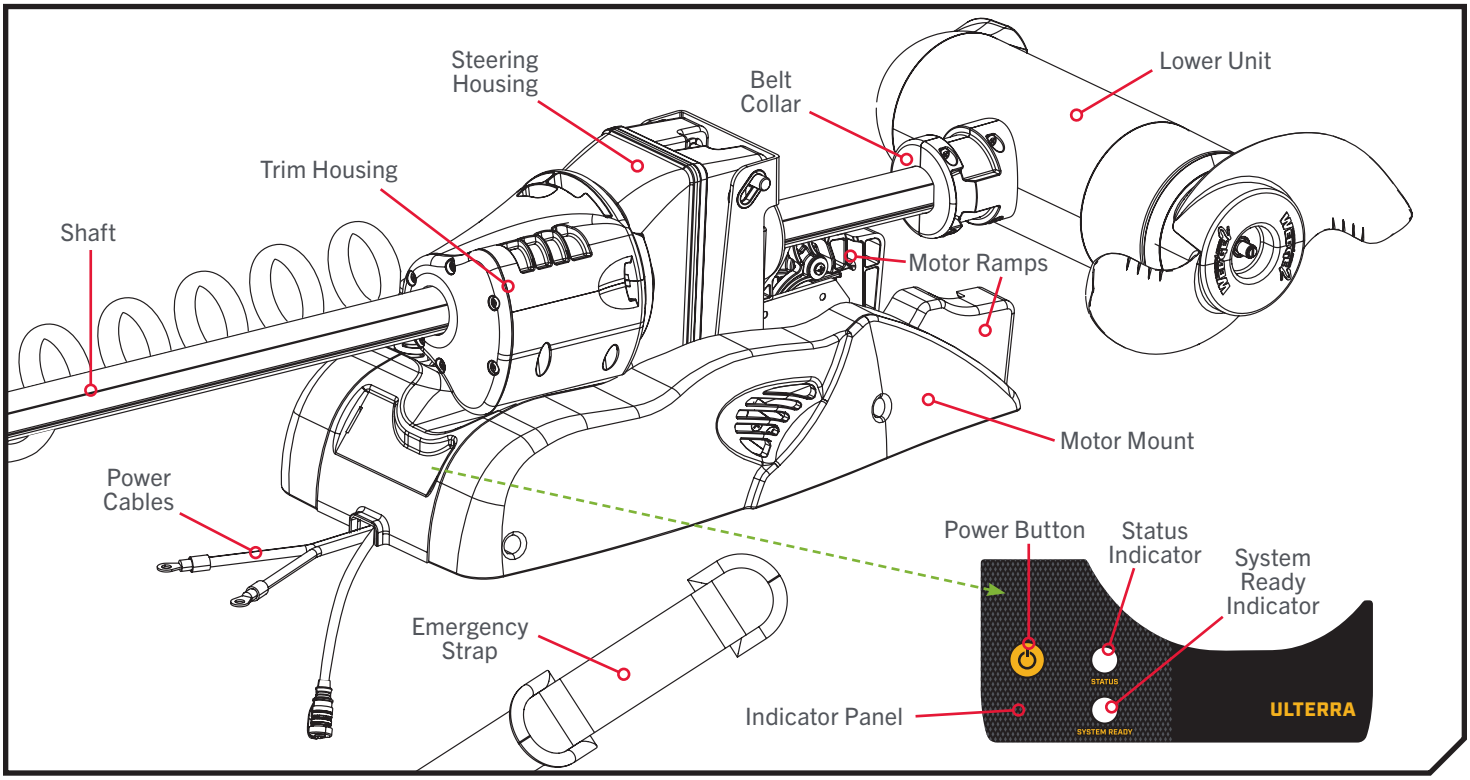
NOTICE: This is a multi-voltage diagram. Double-check your motor's voltage for proper connections. Over-Current Protection Devices are not shown in this illustration.

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USING & ADJUSTING THE MOTOR

MOUNT FEATURES

Become familiar with the features of the motor to maximize the capabilities this product offers.



Motor Mount

The Motor Mount is designed to securely hold the motor in place on the deck of the boat. It functions to stow and lock the motor flat on the deck when not in use by providing secure stowage for transport. The motor mount also positions the motor when it is in the deployed position.

⚠ WARNING

When stowing or deploying the motor, keep fingers clear of all hinges, pivot points, pinch points and all moving parts.

Motor Ramps

The Motor Ramps function to hold the Lower Unit in place when the motor is stowed. The Lower Unit will rest on the Motor Ramps when stowed, helping to secure it in place.

Emergency Strap

The Emergency Strap must be used to place pressure on the motor shaft to hold the lower unit tightly against the Motor Ramps when the motor is manually stowed. The Emergency Strap should be secured every time the motor is manually stowed to prevent damage from high wind, rough water, or vibrations, including while the boat is trailered. See the “Manually Stowing the Ulterra” section of the manual for more information on when the Emergency Strap is needed.

Belt Collar

The Belt Collar holds the lower portion of the Lift Belt in place. The Lift Belt runs along the motor Shaft and is used to stow and deploy the motor. See the “Adjusting the Lift Belt” section of this manual if the Lift Belt becomes loose anywhere along the Shaft above the Belt Collar.

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⚠ WARNING

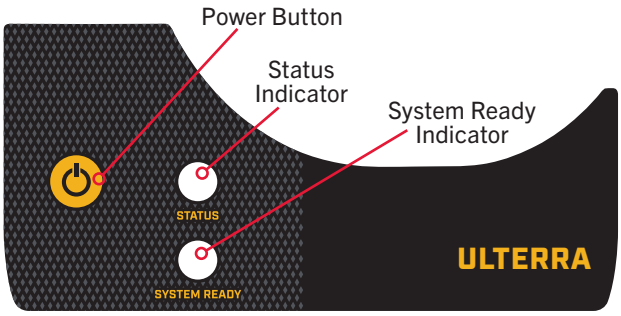
When transporting the motor, it is important to always stow the motor and ensure the Lower Unit is securely placed on the Motor Ramps. The Status LED on the Indicator Panel must illuminate red to indicate a secure stow. A secure stow holds the motor in place during transportation when it is subject to high levels of shock and vibration. Failure to securely stow the motor may result in injury or damage to the unit.

⚠ CAUTION

Ensure that the Power button is turned off when the motor is not in use. For safety reasons, disconnect the motor from the batteries when the motor is not in use or while the batteries are charging. If the motor control is left on and the Prop rotation is blocked, severe motor damage can result.

INDICATOR PANEL

The Indicator Panel is located on the end of the Mount, by the Power Cables. Power to the motor is turned "on" and "off" through the Power button on the Indicator Panel. The LEDs on the Indicator Panel communicate the status of the motor.



Indicator Panel

Power Button

The Ulterra must be powered “on” and “off” manually. On the Indicator Panel, press the Power button to turn the motor “on.” When the motor is powered on, the System Ready LED will illuminate green. To turn the motor “off,” press and hold the Power button for approximately three seconds until the green light turns off. The Ulterra has an auto-shutoff and will automatically power off after 90 minutes of inactivity in the stowed position.

NOTICE: Remember to turn the power off when the motor is not in use to prevent the motor from draining the battery.

LED Patterns

STATUS

The Status LED will illuminate red when the motor is stowed and the Lower Unit is resting securely on the Motor Ramps. The Status LED will not be illuminated when the motor is deployed or the Lower Unit is off of the Motor Ramps. When the motor is stowing or deploying, the red Status LED will flash.

⚠ WARNING

The motor is not safely stowed for transport until the red Status LED on the Indicator Panel is illuminated.

SYSTEM READY

The System Ready LED will illuminate green when the motor is powered on and indicates normal operation. When the motor is powered off, the System Ready LED will not be illuminated. If the green light does not remain illuminated after power-up, this is an indication of insufficient voltage/power. For more information, refer to the "Advanced Troubleshooting" section of this manual.

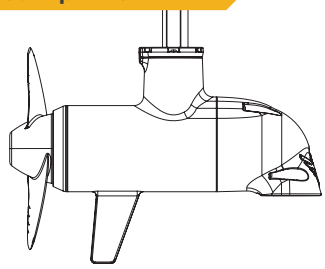
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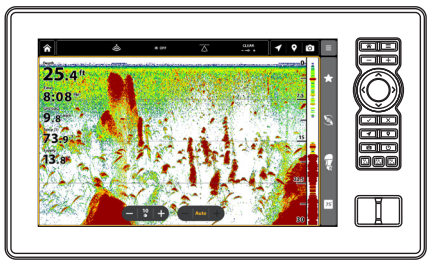
ADVANCED GPS NAVIGATION

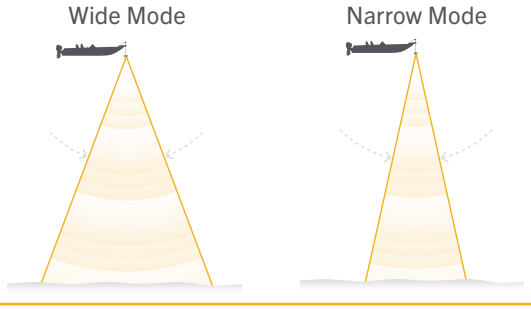
The Ulterra comes with Advanced GPS Navigation. Advanced GPS Navigation offers popular trolling motor control features, including Spot-Lock, AutoPilot, Drift Mode, Dodge Mode, and Cruise Control. Trolling motors with Advanced GPS Navigation pair with Minn Kota fish finders to use the power of the Minn Kota System to enhance motor control, display detailed maps, and built-in sonar powered by Humminbird Imaging. The Minn Kota System seamlessly integrates what your fish finder sees with what your trolling motor does, turning sonar and mapping data into auto-navigation and precise boat positioning so you can stay focused on fishing. Advanced GPS Navigation features are controlled with either the Wireless Remote, Minn Kota Fishing App, or Minn Kota fish finder. To learn more about the GPS capabilities available with your new motor, please refer to the Advanced GPS Navigation Owner's Manual by visiting minnkota.johnsonoutdoors.com.

DUAL SPECTRUM CHIRP

Dual Spectrum CHIRP







The Ulterra trolling motor may be pre-installed with a transducer system powered by Humminbird Imaging featuring Dual Spectrum CHIRP. A Dual Spectrum CHIRP transducer includes a temperature sensor that is integrated into the lower unit of the trolling motor. By covering a wide range of frequencies, Dual Spectrum CHIRP produces more accurate, more detailed returns of fish, structure, and the bottom. The integrated design of the Dual Spectrum CHIRP transducer protects it in the trolling motor lower unit from underwater hazards and prevents tangles and damage to the transducer cables. Dual Spectrum CHIRP has superior target separation, defining fish from their habitat. Large game fish will appear on the display as long, well-defined arches for quick identification and accurate lure presentation.

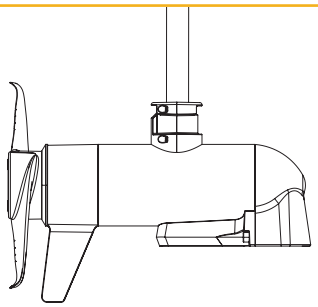
When connected to a Minn Kota fish finder with Humminbird Imaging, Dual Spectrum CHIRP provides full-spectrum capability and the ability to select start and end frequencies by operating in two different modes. Wide Mode for maximum coverage and Narrow Mode for maximum detail. Wide Mode allows you to search deep and wide. Wide Mode is used for watching a 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 target individual fish or identify fish hidden in structure and/or tight to the bottom.

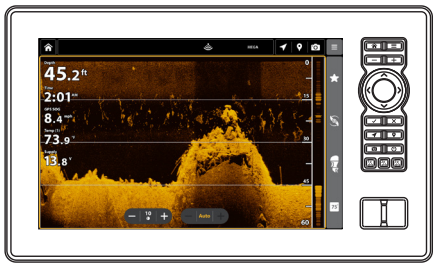
NOTICE: In certain situations, air bubbles may adhere to the surface of the Dual Spectrum CHIRP transducer and affect the performance. If this happens, wipe the transducer surface to clear the bubbles.

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DOWN IMAGING SONAR

Down Imaging Sonar





The Ulterra trolling motor may be installed with Down Imaging® Sonar. Trolling motors with Down Imaging Sonar have a specialized transducer built into the lower unit that can provide Down Imaging and Dual Spectrum CHIRP Sonar when connected to a Minn Kota fish finder with Humminbird Imaging.

When the transducer provides Down Imaging Sonar, it uses the same razor-thin, high-frequency beam to create picture-like images of structure, vegetation, and fish. But unlike Side Imaging, Down Imaging returns are oriented the same way as traditional down-looking sonar returns, such as Dual Spectrum CHIRP, with the most recent information appearing on the right side of the screen.

When connected to a Minn Kota fish finder with Humminbird Imaging, the trolling motor collects images and combines them into a single image on the display. See the bottom, rocks, weed beds, and crevices to understand your bottom type by locating areas of interest. Easily distinguish fish from structure, see the direction fish are facing, and even target individual species. The fish finder can magnify image details with the zoom feature or mark the GPS location of promising cover or structure directly on the screen. See fish so defined that you can practically target each one individually. For more information about fine-tuning the images on the Minn Kota fish finder display, please see the fish finder Owner's Manual. For more information about connecting the trolling motor to a fish finder, please see the "Sonar and Ethernet Connection" section of this Owner's Manual.

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STOWING AND DEPLOYING THE ULTERRA

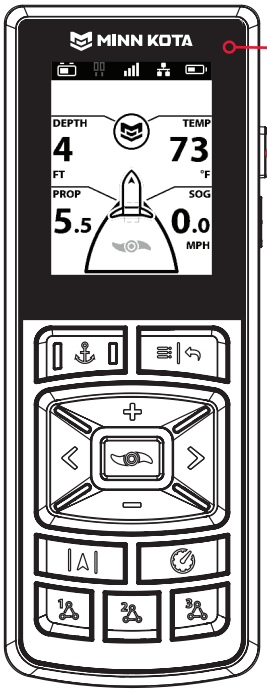
The Ulterra® gives you push-button command from anywhere on the boat. Stow, deploy or trim the motor up and down by using the buttons on your Advanced GPS Navigation Wireless Remote, Foot Pedal, Minn Kota Fishing App, or a connected Minn Kota® fish finder. It's instant. Effortless. And it makes Ulterra the easiest-to-use motor on the water.

Use the following procedures to stow and deploy the motor. If the motor stalls when attempting to stow, the motor may be encountering an error. Check for obstructions or low motor batteries. If the batteries are too low to fully stow the motor, re-engage power, deploy the motor, trim the lower unit 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 WITH THE WIRELESS REMOTE

Stow and deploy the Ulterra trolling motor with the Wireless Remote. When a Wireless Remote is paired to an Ulterra, the Stow/Deploy/Side button function defaults to Stow/Deploy. The Power Menu provides access to the Ulterra Menu as an alternate option to stow or deploy capable trolling motors. In addition, program the 1, 2, and 3 buttons to the Stow/Deploy function.

NOTICE: The 1, 2, and 3 buttons can be programmed to the Stow/Deploy function. When programmed to the 1, 2, or 3 button, the Stow/Deploy feature will behave identically to the Stow/Deploy/Side button for the Ulterra trolling motor.



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Deploying the Motor with the Stow/Deploy/Side Button

1

NOTICE: The Stow/Deploy/Side button / has two functions. The function changes depending on the trolling motor with which the Wireless Remote is paired. The default function of the Stow/Deploy/Side button for the Ulterra, Ulterra QUEST, or RT Instinct QUEST is to stow and deploy the motor. The button can be programmed to any function for all other motors.

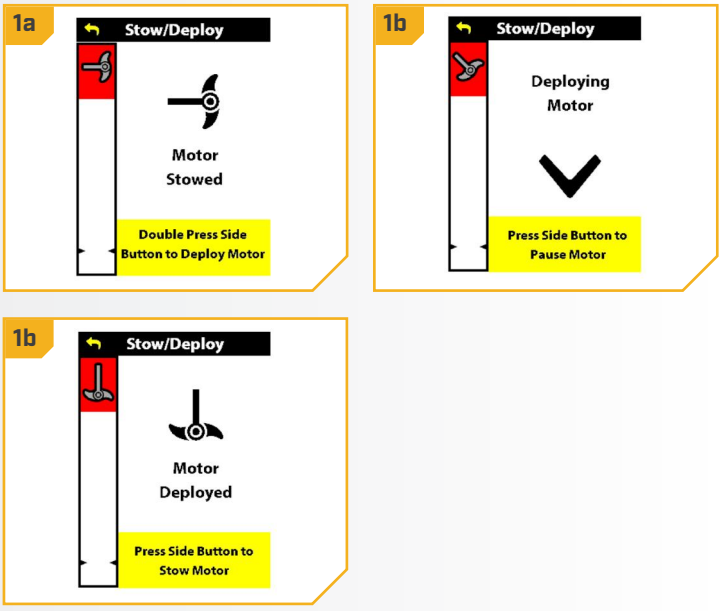
a. When the motor is stowed, double-press the Stow/Deploy/Side button on the Wireless Remote to deploy the Ulterra motor.

⚠WARNING

As soon as the Stow/Deploy/Side button is selected, the motor automatically deploys. Be sure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing and deploying to prevent accidental contact with the rotating propeller.

b. The Ulterra motor deploys. When the deployment process is complete, normal motor operation follows.

NOTICE: To pause the action while the motor is deploying, press the Stow/Deploy/Side button.



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Deploying the Motor with the Power Menu

1

NOTICE: The Power Menu times out after 10 seconds of inactivity. When the Ulterra Menu is used to stow or deploy the motor, the menu closes after the stow or deploy completes. If the stow or deploy is paused, the Ulterra Menu closes after 10 seconds of inactivity.

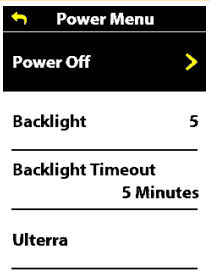
a. Press the Power button on the Wireless Remote to open the Power Menu.

b. Use the Speed Up or Speed Down button to find Ulterra.

c. Press the Steer Right button to select Ulterra.

NOTICE: The Ulterra Menu is only found in the Power Menu on the Wireless Remote paired with an Ulterra or Ulterra QUEST.

1a



1b



NOTICE: The Deploy option is only displayed when the motor is stowed.

2

d. Press the Steer Right button to select Deploy. The Ulterra motor deploys.

WARNING

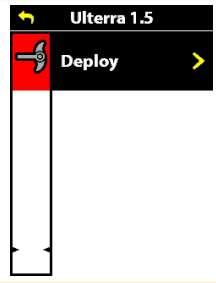
As soon as Deploy is selected, the motor automatically deploys. Ensure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing and deploying to prevent accidental contact with the rotating propeller.

e. To pause the action while deploying, press the Steer Right button and select Pause.

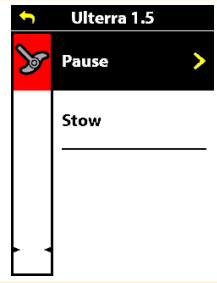
f. To resume the Deploy action, press the Steer Right button to select Deploy.

g. If the motor continues, it completes the deploy process, and normal motor operation follows.

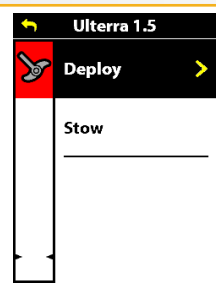
2d



2e



2f



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Stowing the Motor with the Stow/Deploy/Side Button

1

NOTICE: The Stow/Deploy/Side button / has two functions. The function changes depending on the trolling motor with which the Wireless Remote is paired. The default function of the Stow/Deploy/Side button for the Ulterra, Ulterra QUEST, or RT Instinct QUEST is to stow and deploy the motor. The button can be programmed to any function for all other motors.

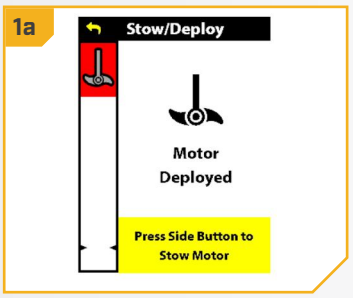
a. When the motor is deployed, press the Stow/Deploy/Side button in the Wireless Remote to stow the Ulterra motor.

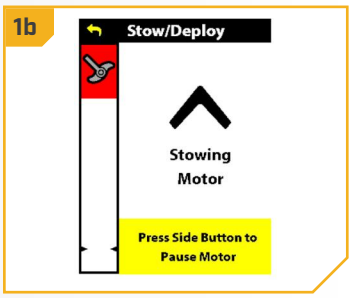
⚠ WARNING

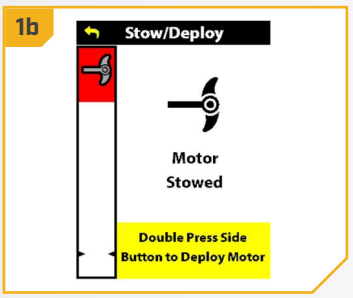
As soon as the Stow/Deploy/Side button is selected, the motor automatically stows. Ensure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing and deploying to prevent accidental contact with the rotating propeller.

b. The Ulterra motor stows. When the stow process is complete, normal motor operation follows.

NOTICE: To pause the action while the motor is stowing, press the Stow/Deploy/Side button.







⚠ WARNING

The Ulterra motor is not safely stowed for transport until the red Status LED on the Indicator Panel is illuminated.

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Stowing the Motor with the Power Menu

1

NOTICE: The Power Menu times out after 10 seconds of inactivity. When the Ulterra Menu is used to stow or deploy the motor, the menu closes after the stow or deploy completes. If the stow or deploy is paused, the Ulterra Menu closes after 10 seconds of inactivity.

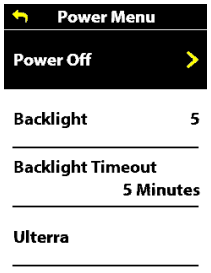
a. Press the Power button on the Wireless Remote to open the Power Menu.

b. Use the Speed Up or Speed Down button to find Ulterra.

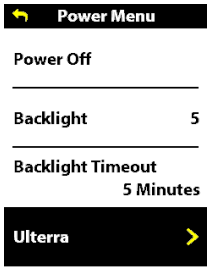
c. Press the Steer Right button to select Ulterra.

NOTICE: The Ulterra Menu is only found in the Power Menu on the Wireless Remote paired with an Ulterra or Ulterra QUEST.

1b



1c



NOTICE: The Stow option is only displayed when the motor is deployed.

2

d. Press the Steer Right button to select Stow. The Ulterra motor stows.

WARNING

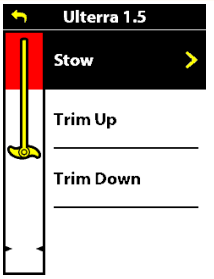
As soon as Stow is selected, the motor automatically stows. Ensure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is stowing and deploying to prevent accidental contact with the rotating propeller.

e. To pause the action while stowing, press the Steer Right button and select Pause.

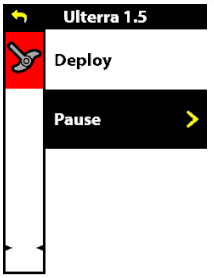
f. To resume the Stow action, press the Steer Right button to select Stow.

g. If the motor continues, it completes the stow process, and normal motor operation follows.

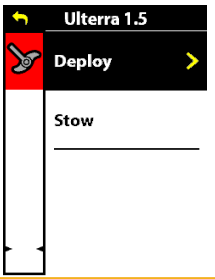
2d



2e



2f



WARNING

The Ulterra motor is not safely stowed for transport until the red Status LED on the Indicator Panel is illuminated.

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STOWING AND DEPLOYING WITH THE MINN KOTA FISHING APP

Deploying with the App

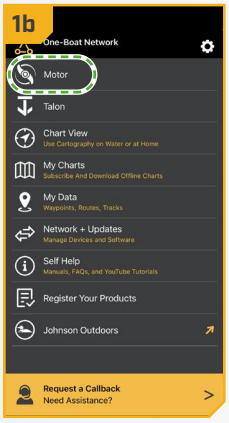
1

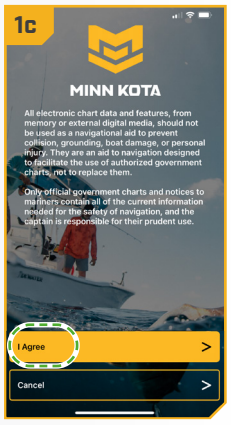
a. Open the Minn Kota Fishing App on the mobile device. Ensure the mobile device is paired with the trolling motor.

b. From the app home screen, tap the Motor menu. The Motor menu opens the Motor home screen.

c. Before the Motor home screen will open, tap 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 home screen appears after.





2

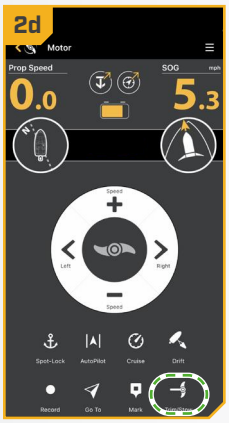
d. Tap Trim/Stow on the bottom of the screen to open the Trim/Stow/Deploy menu.

e. Tap Deploy to automatically deploy the motor. Normal motor operation will follow.

⚠ WARNING

As soon as Deploy is tapped, the motor will automatically deploy. Ensure 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 Prop.

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





NOTICE: To avoid churning or agitation of surface water, ensure that the top of the motor is submerged at least 12" below the surface of the water.

⚠ WARNING

The motor is not safely stowed for transport until the red Status LED on the Indicator Panel is illuminated.

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STOWING AND DEPLOYING WITH THE MINN KOTA FISHING APP

Stowing with the App

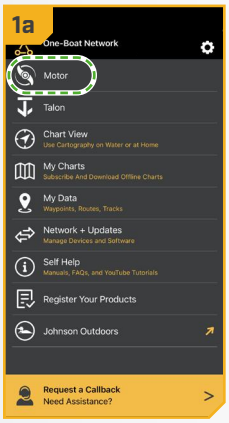
1

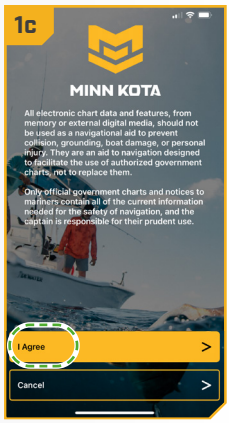
a. Open the Minn Kota Fishing App on the mobile device. Ensure the mobile device is paired with the trolling motor.

b. From the app home screen, tap the Motor menu. The Motor menu opens the Motor home screen.

c. Before the Motor home screen will open, tap 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 home screen appears after.





2

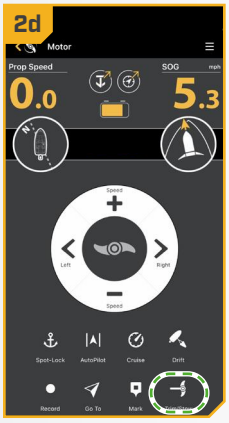
d. Tap Trim/Stow on the bottom of the screen to open the Trim/Stow/Deploy menu.

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. Ensure 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 Prop.

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





⚠ WARNING

The motor is not safely stowed for transport until the red Status STATUS LED on the Indicator Panel is illuminated.

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STOWING AND DEPLOYING WITH THE FOOT PEDAL

1

a. On the Foot Pedal, press the MODE button to put the Foot Pedal into Stow/Deploy Mode. The amber MODE LED on the Indicator Panel will illuminate when in Stow/Deploy Mode.

NOTICE: The Foot Pedal can only stow and deploy the motor while in Stow/Deploy Mode.

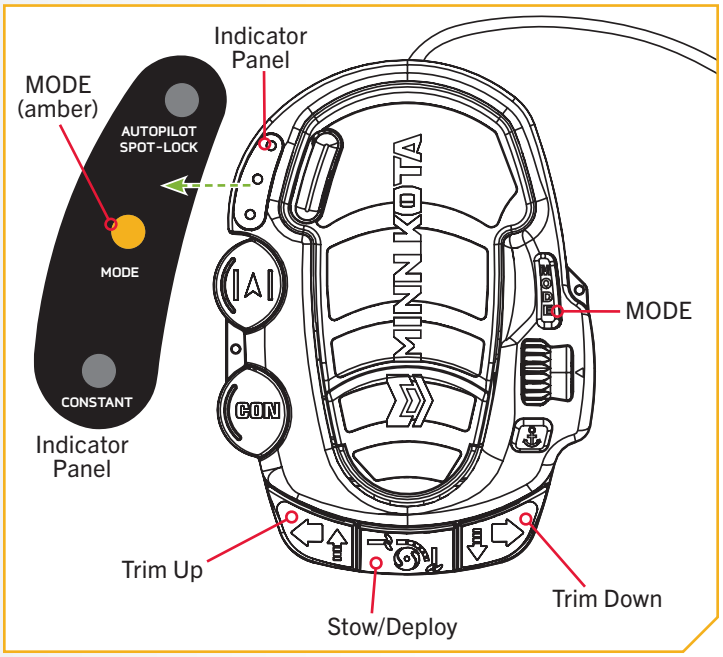
b. To deploy the motor when it is stowed, double-press the Stow/Deploy button. To stow the motor when it is deployed, single-press the Stow/Deploy button.

⚠ 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.

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

NOTICE: To avoid churning or agitation of surface water, ensure that the top of the motor is submerged at least 12" below the surface of the water.



⚠ WARNING

The motor is not safely stowed for transport until the red Status LED on the Indicator Panel is illuminated.

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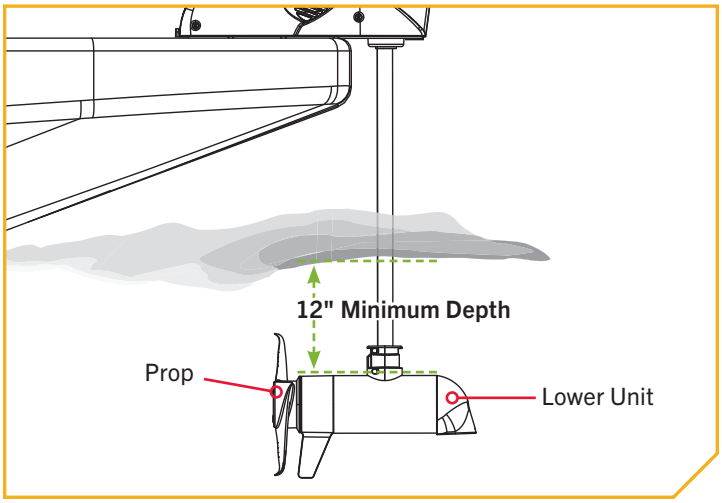
ADJUST THE TRIM ❯

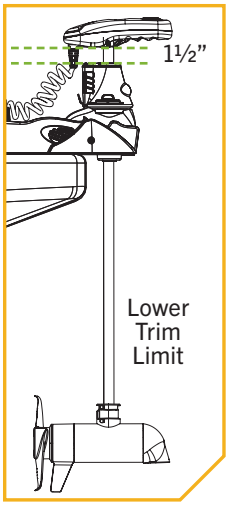
ADJUSTING THE DEPTH (TRIM) OF THE ULTERRA

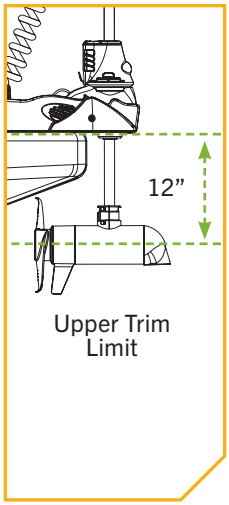
Once the boat is on the water, it may be necessary to adjust the trim of the Lower Unit up or down to achieve an optimum depth for motor performance. When setting the depth of the motor, be sure the top of the Lower Unit is submerged at least 12” below the surface of the water to avoid churning or agitation of surface water. It may be necessary to trim the motor up or down, depending on how the boat is responding. Trim up to avoid hitting underwater objects and trim down if the Prop is coming out of the water.

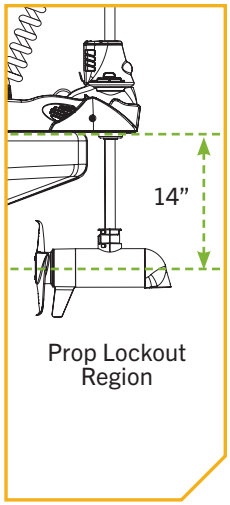
The Prop will temporarily stop while trimming the motor and resume once trimming is stopped. The motor is programmed to operate safely and limit Prop rotation when the Lower Unit is trimmed within certain limits. Trim limits are in place to avoid damage to the unit. A Lower Trim Limit is set approximately 1½” from the bottom of the Control Head to the top of the Trim Housing. An Upper Trim Limit is set 12” from the bottom of the Mount to the center of the Lower Unit. A Prop Lockout Region, defined as 14” from the bottom of the Mount to the center of the Lower Unit, is used to eliminate the possibility of the motor contacting the boat hull. All functions, except for manual steering and recording an iTrack, are canceled upon trimming into this region.

NOTICE: To avoid churning or agitation of surface water, ensure that the top of the motor is submerged at least 12" below the surface of the water.







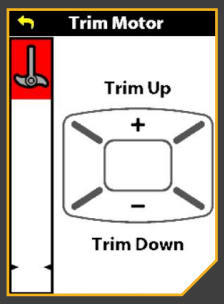


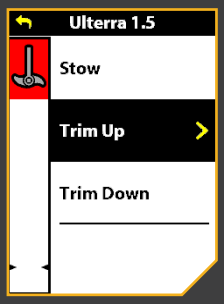
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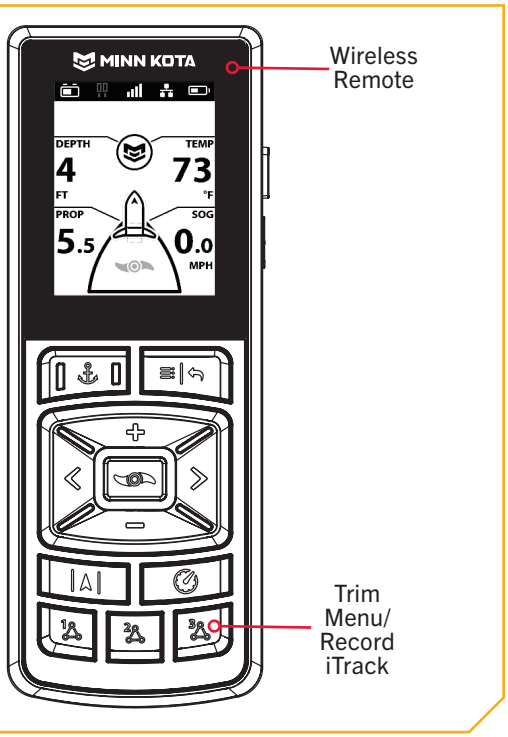
TRIMMING WITH THE WIRELESS REMOTE

When trimming the motor using the Wireless Remote, the Trim Menu is the default function for the 3 button for Ulterra, Ulterra QUEST, or RT Instinct QUEST motors. In addition, the 1 and 2 buttons can be programmed to the Trim Menu. The Power Menu provides access to the Ulterra Menu as an alternate option to trim capable trolling motors.

NOTICE: The red area is the Prop Lockout Zone. The Prop will be automatically disabled if the lower unit is trimmed into this zone, and the Prop icon will turn gray. To restore Prop functionality, trim the lower unit out of the Prop Lockout Zone. The Prop icon will turn yellow when the lower unit is out of the Prop Lockout Zone.







WARNING

As soon as Trim Up or Trim Down is selected, the motor automatically trims. Be sure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is trimmed to prevent accidental contact with the rotating Prop.

WARNING

When trimming the motor, keep fingers clear of all hinges, pivot points and all moving parts.

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Adjusting the Trim with the 3 Button

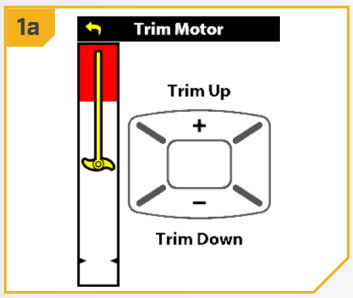
1

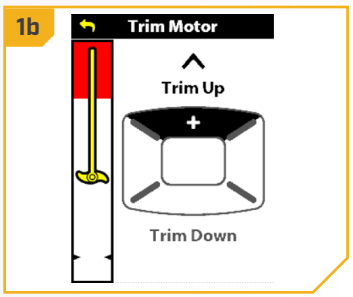
NOTICE: The Trim Menu does not have a timeout. While the Trim Menu is open, steering and prop control are enabled. The Trim Menu is the default function for the 3 button for Ulterra, Ulterra QUEST, or RT Instinct QUEST motors.

a. Ensure the motor is deployed, and press the 3 button.

b. Use the Speed Up button to Trim Up and the Speed Down button to Trim Down. Trim Up raises the motor, and Trim Down lowers the motor.

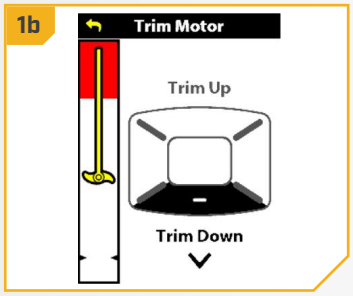
NOTICE: The Trim Menu only opens when the motor is deployed.

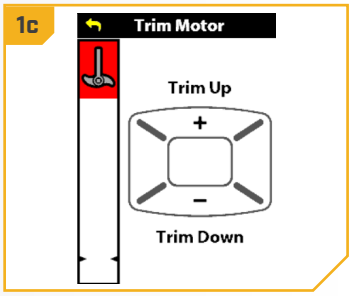




WARNING

As soon as Trim Up or Trim Down is selected, the motor automatically trims. Ensure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is trimmed to prevent accidental contact with the rotating Prop.





c. The motor no longer raises, and the Prop locks when Trim Up is selected and the motor reaches the Prop Lockout Zone. If the motor is trimmed to the Prop Lockout Zone, the Prop stays locked, even when the Trim Menu is closed. Trim the motor down and out of the Prop Lockout Zone to restore functionality.

d. When the lower trim limit is reached, the motor no longer lowers when Trim Down is selected. Press the Menu button to close the Trim Menu.

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Adjusting the Trim with the Power Menu

1

NOTICE: The Power Menu times out after 10 seconds of inactivity. To access motor control while trimming, use the Trim Menu programmed to a button. The Trim Menu is the default for the 3 button for Ulterra, Ulterra QUEST, or RT Instinct QUEST motors.

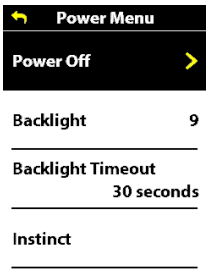
a. Ensure the motor is deployed and press the Power button on the Wireless Remote to open the Power Menu.

b. Use the Speed Up or Speed Down button to find Ulterra.

c. Press the Steer Right button to select Ulterra.

NOTICE: The Ulterra Menu is only found in the Power Menu on the Wireless Remote paired with an Ulterra or Ulterra QUEST.

1a



1b



NOTICE: The Trim option only displays when the motor is deployed.

2

d. Use the Speed Up or Speed Down button to select Trim Up or Trim Down. Trim Up raises the motor, and Trim Down lowers the motor.

e. Press and hold the Steer Right button to select Trim Up or Trim Down.

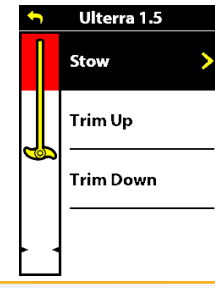
WARNING

As soon as Trim Up or Trim Down is selected, the motor automatically trims. Ensure the motor is clear of obstructions and has a clear path of travel. The Prop is disabled while the motor is trimmed to prevent accidental contact with the rotating Prop.

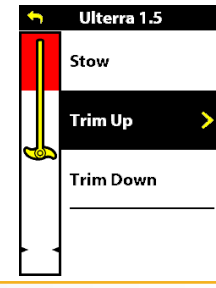
f. The motor no longer raises, and the Prop locks when Trim Up is selected and the motor reaches the Prop Lockout Zone. If the motor is trimmed to the Prop Lockout Zone, the Prop stays locked, even when the menu is closed. Trim the motor down and out of the Prop Lockout Zone to restore functionality.

g. When the lower trim limit is reached, the motor no longer lowers when Trim Down is selected.

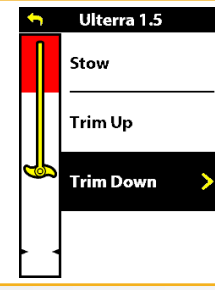
2d



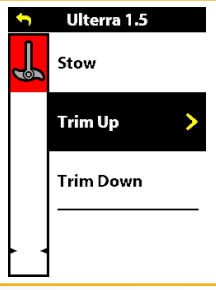
2e



2e



2f



WARNING

When trimming the motor, keep fingers clear of all hinges, pivot points and all moving parts.

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TRIMMING WITH THE MINN KOTA FISHING APP

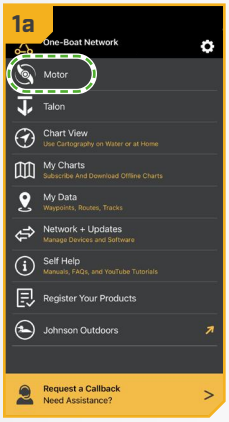
1

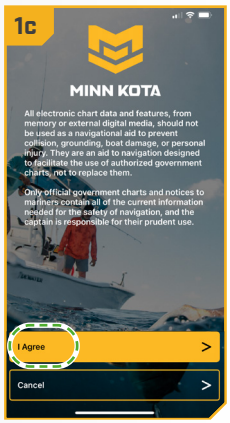
a. Open the Minn Kota Fishing App on the mobile device. Ensure the mobile device is paired with the trolling motor.

b. From the app home screen, tap the Motor menu. The Motor menu opens the Motor home screen.

c. Before the Motor home screen will open, tap 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 home screen appears after.



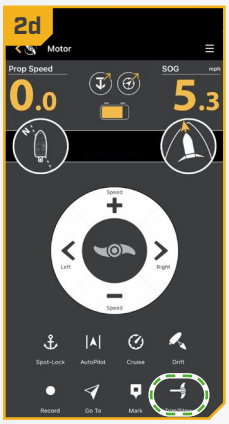


2

d. Tap Trim/Stow on the bottom of the screen to open the Trim/Stow/Deploy menu.

e. To trim the motor up, press and hold Trim Up ⩓. Continue to hold until the lower unit is at the desired height.

f. To trim the motor down, press and hold Trim Down ⩔. Continue to hold until the lower unit is at the desired height.

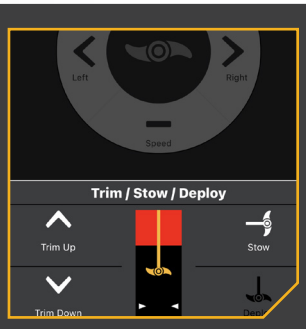




WARNING

While Trim Up or Trim Down is pressed, the motor will automatically trim. Ensure the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is being trimmed to prevent accidental contact with the rotating Prop.

NOTICE: The red area is the Prop Lockout region. The Prop will be automatically disabled if the lower unit is trimmed into this zone, and the Prop icon will turn gray. To restore Prop functionality, trim the lower unit out of the Prop Lockout region.



WARNING

When trimming the motor, keep fingers clear of all hinges, pivot points and all moving parts.

NOTICE: To avoid churning or agitation of surface water, ensure that the top of the motor is submerged at least 12" below the surface of the water.

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TRIMMING WITH THE FOOT PEDAL

1

a. On the Foot Pedal, press the MODE button so that the amber MODE LED on the Indicator Panel is illuminated, putting the Foot Pedal in Stow/Deploy Mode.

NOTICE: The motor can only trim while in Stow/Deploy Mode.

⚠ WARNING

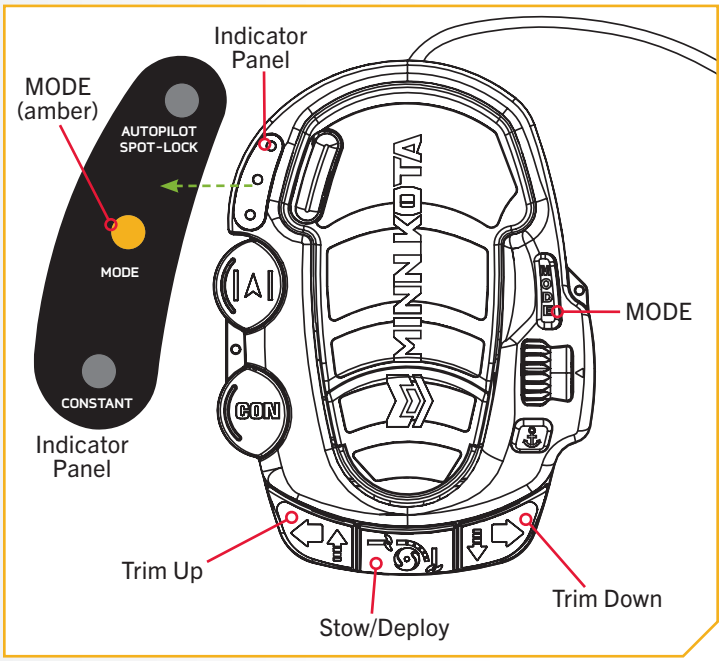
When trimming the motor, keep fingers clear of all hinges, pivot points, and all moving parts.

⚠ WARNING

While Trim Up or Trim Down is pressed, the motor will automatically trim. Be sure the motor is clear from obstructions and has a clear path of travel. The Prop is disabled while the motor is being trimmed to prevent accidental contact with the rotating Prop.

b. To trim the motor up, press the Trim Up button located on the bottom left of the Foot Pedal.

c. To trim the motor down, press the Trim Down button located on the bottom right of the Foot Pedal.



NOTICE: To avoid churning or agitation of surface water, ensure that the top of the motor is submerged at least 12" below the surface of the water.

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Installing an External Transducer

An external transducer is not included with your trolling motor. An external transducer can be installed onto motors that have Advanced GPS Navigation. Installing an external transducer is not recommended for motors with Down Imaging Sonar.

1

a. Mount the External Transducer according to directions provided with the transducer.

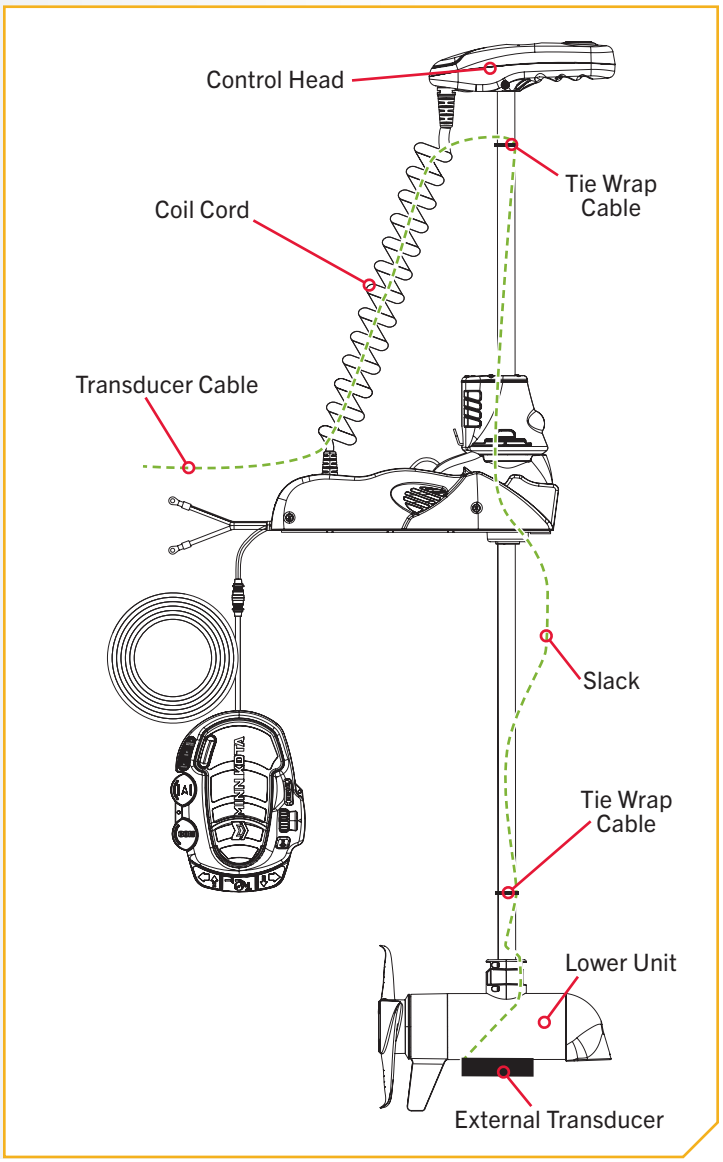
b. Leave enough slack in the Transducer Cable between the Lower Unit and Control Head to allow the motor to properly stow and deploy.

c. Use two tie wrap cables to secure the Transducer Cable to the Shaft just above the Lower Unit and just below the Control Head.

d. Run the Transducer Cable through the Coil Cord to the power supply.

⚠ CAUTION

Failure to follow the recommended wire routing for the Sonar and External Transducer Cables may cause damage to the product and void your product warranty. Take care to test the length and placement of all cables to ensure that there is enough slack where needed and that cables are free of entanglement by moving parts. Routing the cables in any way other than as directed may cause damage to the cables via pinching or severing.



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Changing the Prop Orientation

When the motor is mounted onto the boat, the orientation of the Prop may be changed to face either Port or Starboard to accommodate different boat cover configurations. Complete the following steps to change the Prop orientation.

⚠ WARNING

When the motor is powered "off" while off the Motor Ramps, never turn the lower unit of the motor manually (by hand). This will affect the alignment of the motor and cause it to stow improperly.

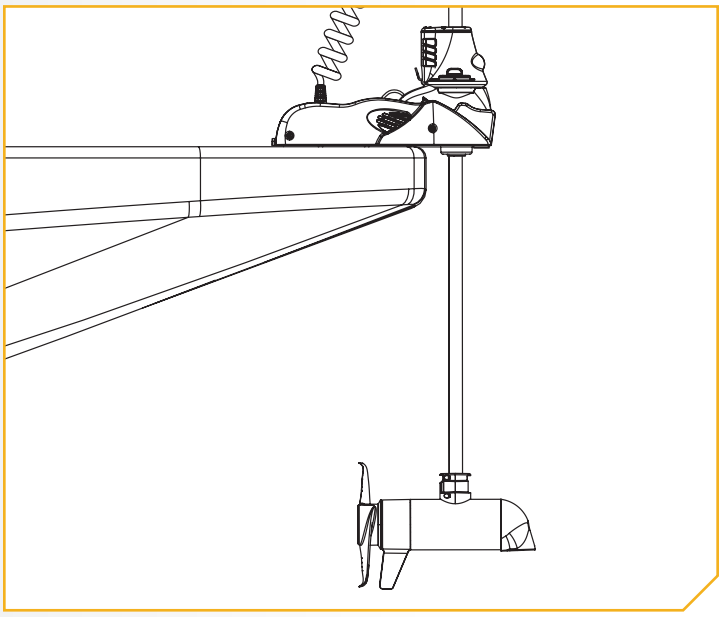
1

a. Ensure the motor is connected to a power source and turn the motor "on."

⚠ 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.

b. Deploy the motor using the wireless remote, Minn Kota Fishing App, or the Stow/Deploy Button on the Foot Pedal.

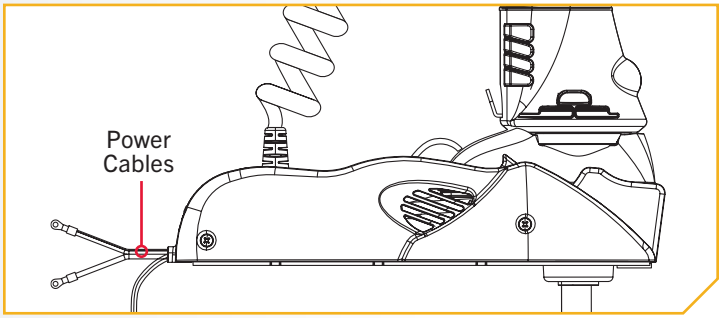


2

c. Turn the motor "off." Ensure the Power Cables from the battery are disconnected, or that the breaker, if equipped, is "off."

⚠ WARNING

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



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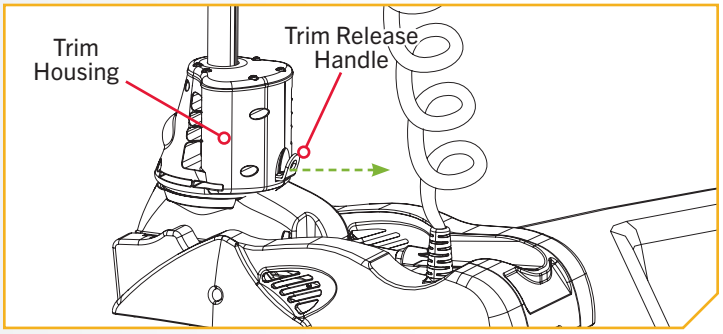
CHANGING THE PROP ORIENTATION

3

d. Locate the Trim Release Handle on the side of the Trim Housing. Grasp the Trim Release Handle and pull it out.

⚠ WARNING

When using the Trim Handle or moving the Trim Housing, keep fingers clear of all hinges, pivot points and all moving parts above and below the Trim Housing.



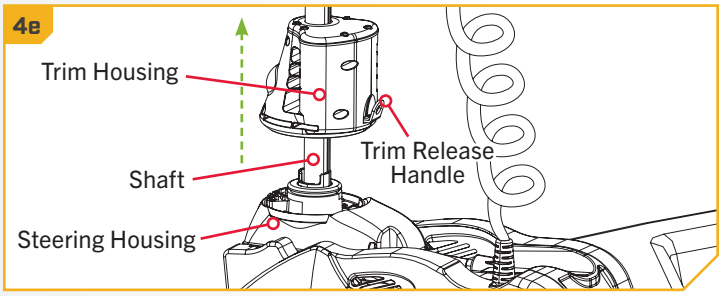
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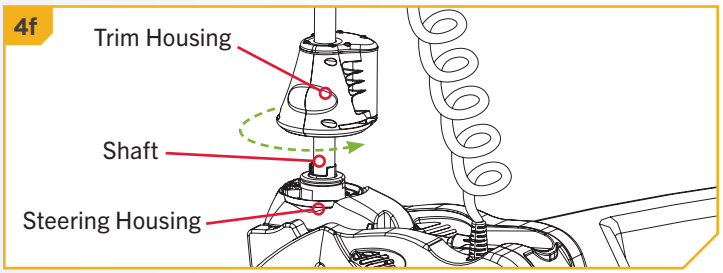
⚠ WARNING

When lifting the Trim Housing off the Steering Housing, power connections are exposed. Keep fingers and metal objects clear of exposed connections. The power from the connection is removed after ten seconds once the connection is exposed.

e. While holding the Trim Release Handle out, grasp the Trim Housing and Shaft and lift them up off the Steering Housing. Wait a minimum of ten seconds while holding it in this position.

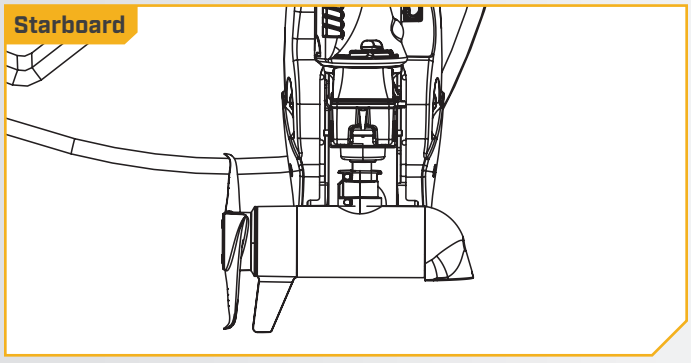
f. While holding Trim Housing and Shaft up, rotate them 180 degrees.

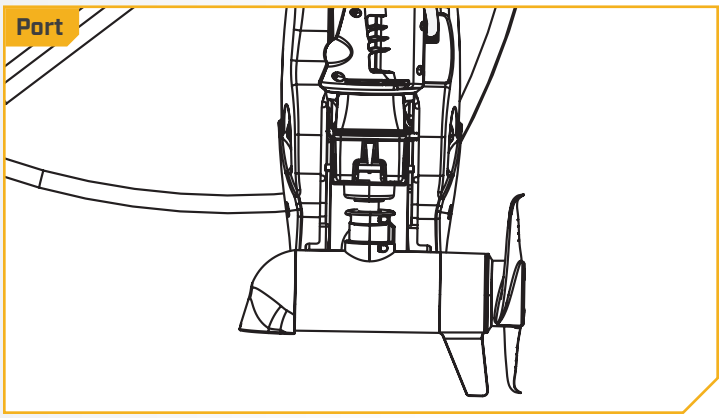




5

g. The Trim Housing and Shaft may be turned either clockwise or counterclockwise, depending on the desired Prop orientation and the necessary accommodations that will be needed for each individual situation.





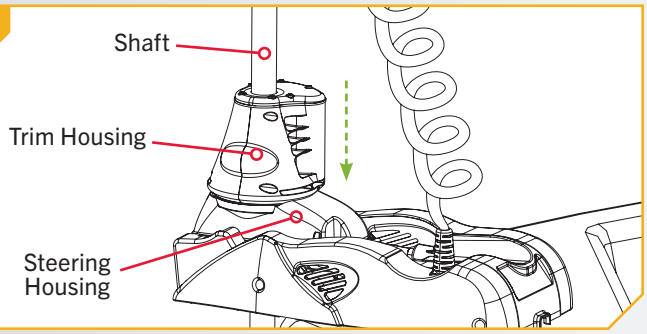
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6

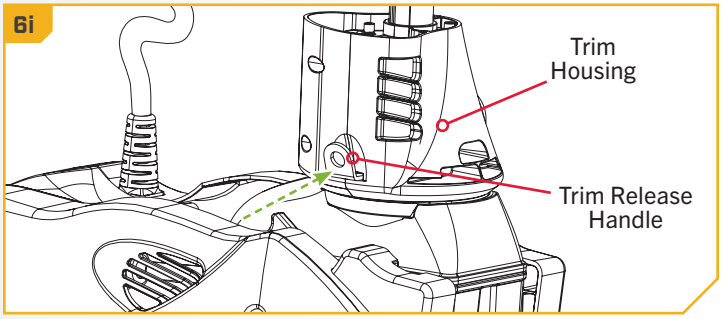
h. Once in the proper orientation, lower the Trim Housing and Shaft onto the Steering Housing.

i. Let the Trim Release Handle move back into place.

6h



6i

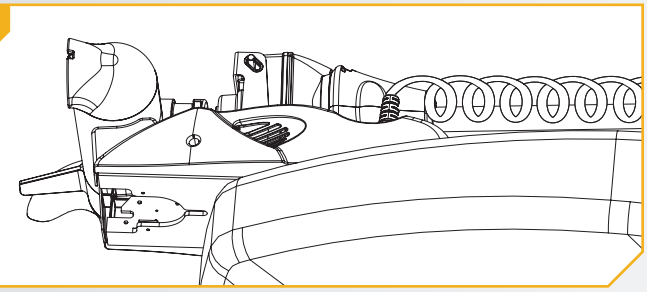


7

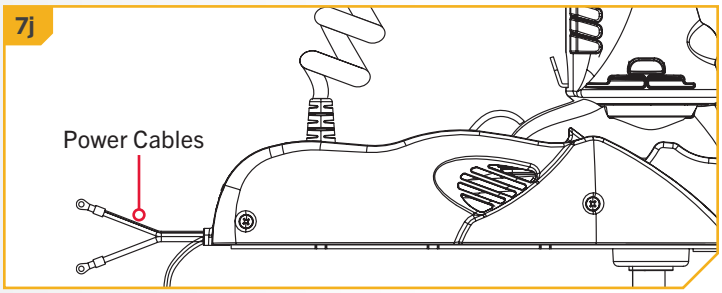
j. Reconnect the Power Cables to the battery and ensure the breaker, if equipped, is turned “on.” Turn the motor “on.”

k. Stow the motor using the wireless remote, Minn Kota Fishing App, or the Stow/Deploy Button on the Foot Pedal to check the orientation of the Prop.

7k



7j



⚠ 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.

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Adjusting the Lift Belt

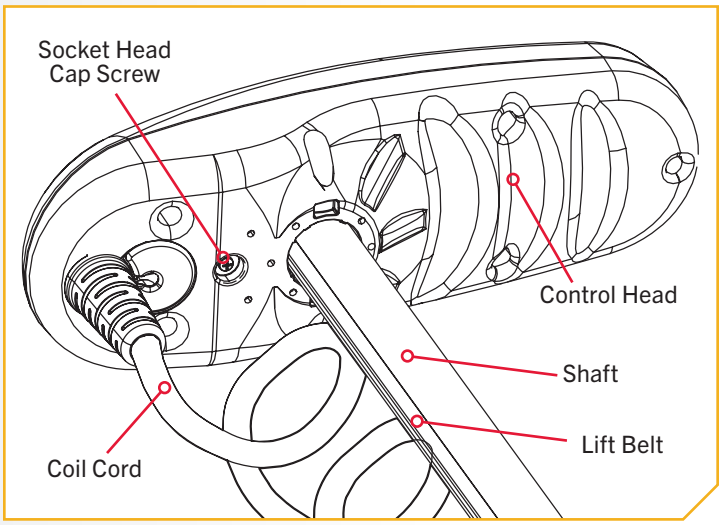
The Lift Belt assists in trimming the Lower Unit up and down. Periodically, slack may appear in the Lift Belt along the Shaft of the motor. The screw that holds the tension on the Lift Belt may occasionally require small adjustments to maintain tension on the belt.

1

a. Locate the Socket Head Cap Screw on the Bottom of the Control Head. It can be found between the Coil Cord and Shaft. This is the screw that is adjusted to increase the tension on the Lift Belt.

b. Using a 5/32" Allen Wrench, turn the Socket Head Cap Screw clockwise to tighten the Lift Belt.

c. The screw should be tightened to 8 to 10 inch-lbs.



Greasing the Latch Pin and Power Tilt Motor Shaft

In order for the Ulterra to maintain optimum performance, it is recommended that the Latch Pin and the Motor Shaft for the Power Tilt be greased every season. It is recommended to use a marine-grade grease.

1

a. Deploy the motor.

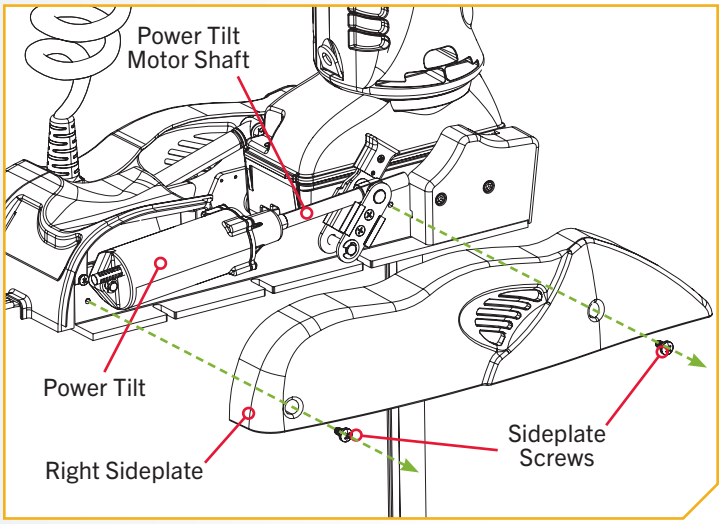
b. Using a #3 Phillips Screwdriver, remove the Right Sideplate by removing the two screws that hold the sideplate in place. Removing the Right Sideplate will expose the Power Tilt and allow access to the Motor Shaft.

c. Apply a marine-grade grease to the Power Tilt Motor Shaft.

d. Replace the Right Sideplate.

⚠ WARNING

When orientating the motor, keep fingers clear of all hinges, pivot points and all moving parts.

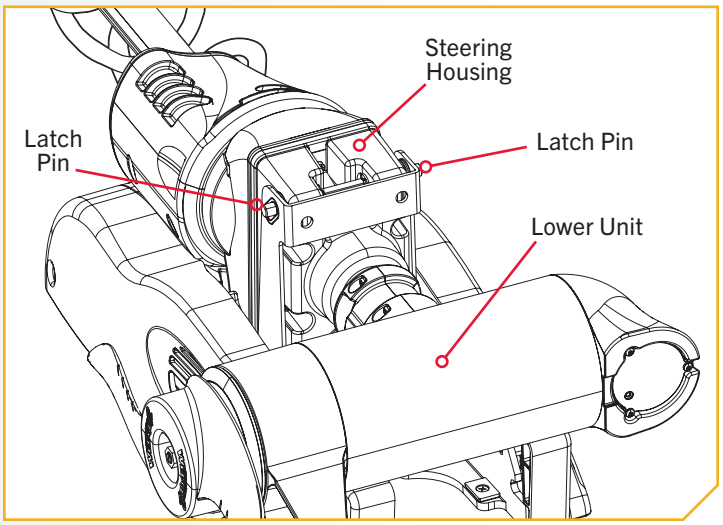


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2

e. Stow the motor and locate the Latch Pin at the bottom of the Steering Housing.

f. Apply marine-grade grease to both ends of the Latch Pin to maintain optimal performance.

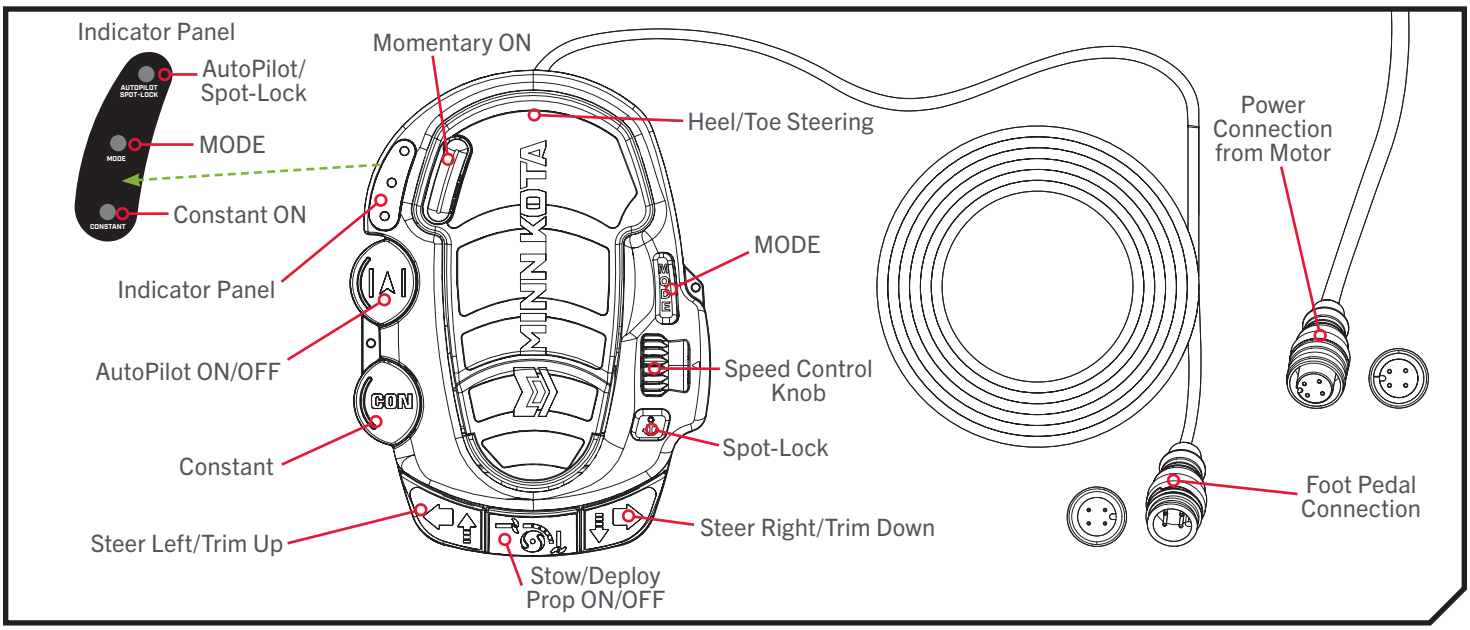


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USING THE FOOT PEDAL

CONTROLLING SPEED & STEERING WITH THE FOOT PEDAL

The Foot Pedal is used to operate the trolling motor. The controls on the Foot Pedal are easy to use by either foot or hand. The motor can also be controlled with the Advanced GPS Navigation Wireless Remote or Minn Kota Fishing App. Refer to the respective accessory's owner's manual for instructions. To learn more about accessories compatible with the Ulterra, visit minnkota.johnsonoutdoors.com.



MODES

The Foot Pedal has two modes of operation: Normal Mode and Stow/Deploy Mode. To alternate between Modes, press the MODE button on the right side of the Foot Pedal, just above the Speed Control Knob. The MODE LED on the Indicator Panel illuminates amber when Stow/Deploy Mode is engaged. Switching between Modes alters the functions of the three buttons at the bottom of the Foot Pedal. These buttons include:

Button Location	Normal Mode	Stow/Deploy Mode
Left	Steer Left	Trim Up
Center	Prop ON/OFF	Stow/Deploy
Right	Steer Right	Trim Down

⚠ WARNING

Practice proper ergonomics when operating the Foot Pedal to prevent injury.

Normal Mode

When in Normal Mode, the buttons at the bottom of the Foot Pedal function to Steer Left, Steer Right, and turn the Prop ON/OFF. The amber MODE LED on the Indicator Panel will not be illuminated when in Normal Mode.

Stow/Deploy Mode

When in Stow/Deploy Mode, the buttons at the bottom of the Foot Pedal function to Trim Up, Trim Down, and Stow/Deploy the Lower Unit. The amber MODE LED on the Indicator Panel will be illuminated during Stow/Deploy Mode.

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⚠ WARNING

You are responsible for the safe and prudent operation of your vessel. We have designed the Foot Pedal 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 Foot Pedal and trolling motor in an area free from hazards and obstacles.

FOOT PEDAL OPERATION

Motor Speed

The Speed Control Knob is located between the MODE and Spot-Lock buttons on the right side of the Foot Pedal. Turn the Speed Control Knob forward to increase speed and backward to decrease speed. The Speed Control Knob can be set in a range from 0 to 10. Speed can be adjusted in both Normal Mode and Stow/Deploy Mode. Speed can also be adjusted using the Wireless Remote or Minn Kota Fishing App.

Heel/Toe Steering

Push the Toe End of the Foot Pedal down to turn right and push the Heel End down to turn left. The position and direction of the Control Head directly correspond to the position of the motor. Use the Foot Pedal to control the steering direction during manual operation. Heel/Toe Steering functions the same in Normal Mode and Stow/Deploy Mode. The direction of the motor can also be controlled with the Wireless Remote or Minn Kota Fishing App.

⚠ CAUTION

The steering system is designed to turn the motor 360 degrees. Be careful to avoid over-wrapping the Coil Cord around the trolling motor Shaft.

Steer Right/Steer Left

The Steer Right ⇨ and Steer Left ⇦ buttons are located at the bottom of the Foot Pedal. They function to steer the motor to the right and left when the Foot Pedal is operating in Normal Mode. The amber MODE LED on the Indicator Panel will not be illuminated when in Normal Mode. Holding the Steer Right or Steer Left buttons down will continue to steer the motor to the left or right. Small steering changes of less than one degree can be made by quickly tapping the Steer Right and Steer Left buttons. The position and direction of the Control Head directly corresponds to the position of the motor. The direction of the motor can also be controlled with the Wireless Remote or Minn Kota Fishing App.

Trim Down/Trim Up

The Trim Down ⇩ and Trim Up ⇧ buttons are located at the bottom of the Foot Pedal. They function to trim the motor up and down when the Foot Pedal is in Stow/Deploy Mode. The amber MODE LED on the Indicator Panel will be illuminated when in Stow/Deploy Mode. The Trim Down button trims the motor down and the Trim Up button trims the motor up.

⚠ WARNING

When trimming 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.

Prop ON/OFF

The Prop ON/OFF button is located at the bottom of the Foot Pedal. It functions to momentarily turn the Prop on and off when the Foot Pedal is operating in Normal Mode. The MODE LED on the Indicator Panel will not be illuminated when in Normal Mode. The Prop will turn on when pressure is applied to the button and turn off when pressure is removed. The Prop button does not change the behavior of the Prop when the Constant button is engaged.

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FOOT PEDAL OPERATION

Stow/Deploy

The Stow/Deploy button is located at the bottom of the Foot Pedal. It functions to stow and deploy the motor when the Foot Pedal is operating in Stow/Deploy Mode. The amber MODE LED on the Indicator Panel will illuminate when in Stow/Deploy Mode. When the motor is deployed, press the Stow/Deploy button to stow it. When the motor is stowed, double-press the Stow/Deploy button to deploy it. When stowing and deploying the motor, the operational function of the Foot Pedal or paired remote is automatically disabled. The Prop is also disabled when the motor is stowing or deploying.

⚠ 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.

⚠ WARNING

When transporting the motor, it is important to always stow the motor and make sure it is secured in place. A secure stow holds the motor in place during transportation when it is subject to high levels of shock and vibration. Failure to stow the motor may result in injury or damage to the unit.

Constant

The Constant CON button is located on the left side of the Foot Pedal, below the AutoPilot button. It toggles the motor between Constant motor operation and Momentary motor operation. The green CONSTANT LED on the Indicator Panel will be illuminated when the motor is in Constant motor operation. In Constant motor operation, the Prop will continually run at the speed set by the Speed Control Knob or remote, regardless of whether force is being applied to the Momentary button or Prop ON/OFF button.

NOTICE: The motor will not auto correct to drive straight when it encounters an obstruction.

Momentary

In Momentary motor operation, the Prop will only run while downward force is applied to the Momentary button. The Momentary button is on the Toe End of the Foot Pedal. Applying downward pressure to the Momentary button will turn the Prop "on." The motor will then run at the speed set by the Speed Control Knob, Wireless Remote or Minn Kota Fishing App. Removing downward force from the Momentary button will turn the Prop "off." No indicator light is associated with the Momentary button. The Momentary button functions similarly to the Prop ON/OFF button but works in both Normal Mode and Stow/Deploy Mode.

⚠ CAUTION

If the Prop encounters an obstruction while in Constant or Momentary motor operation, while the Prop is running, the increased electrical current generated by the obstruction will signal the motor to decrease power to the Prop in order to prevent damage. If the current overload is detected for more than 20 seconds, the Prop will be disabled to prevent damage to the motor. In this event, the operator can turn the Prop back on after clearing the obstruction.

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AutoPilot

The AutoPilot button is located on the left side of the Foot Pedal, below the Indicator Panel. Pressing the AutoPilot button toggles AutoPilot on and off. The AUTOPILOT LED on the Indicator Panel illuminates red when AutoPilot is engaged. AutoPilot can be used in both Normal Mode and Stow/Deploy Mode. When AutoPilot is initiated from the Foot Pedal, the default AutoPilot mode is determined by the Wireless Remote. AutoPilot can also be engaged and disengaged using the remote. For more specific directions on how to use AutoPilot, refer to the Wireless Remote Owner's Manual.

Spot-Lock

The Spot-Lock button is located on the lower-right side of the Foot Pedal and is labeled with an anchor symbol. When the Spot-Lock button is pressed, the location of the motor is recorded to a temporary Spot-Lock location. To engage Spot-Lock, press the Spot-Lock button. To disengage, press the Spot-Lock button again. The SPOT-LOCK LED on the Indicator Panel illuminates blue when Spot-Lock is engaged. Spot-Lock can be engaged in Normal Mode and Stow/Deploy Mode, and switching between Modes does not cancel Spot-Lock. Spot-Lock can also be controlled with the Wireless Remote or Minn Kota Fishing App.

When engaging Spot-Lock, a tone will be emitted from the Control Head. When disengaging Spot-Lock with the Spot-Lock button, no tone will be emitted. Steering the motor with the Foot Pedal or adjusting the speed using the Speed Control Knob will cancel Spot-Lock, and a tone consisting of several short beeps will emit from the Control Head.

NOTICE: In the default Audio Mode, a tone is emitted from the Control Head when Spot-Lock or AutoPilot is engaged. If the Audio Mode is set to Alarm Only, a tone will not be emitted when engaging Spot-Lock or AutoPilot. To learn more about Audio Modes, refer to the Wireless Remote Owner's Manual online at minnkota.johnsonoutdoors.com.

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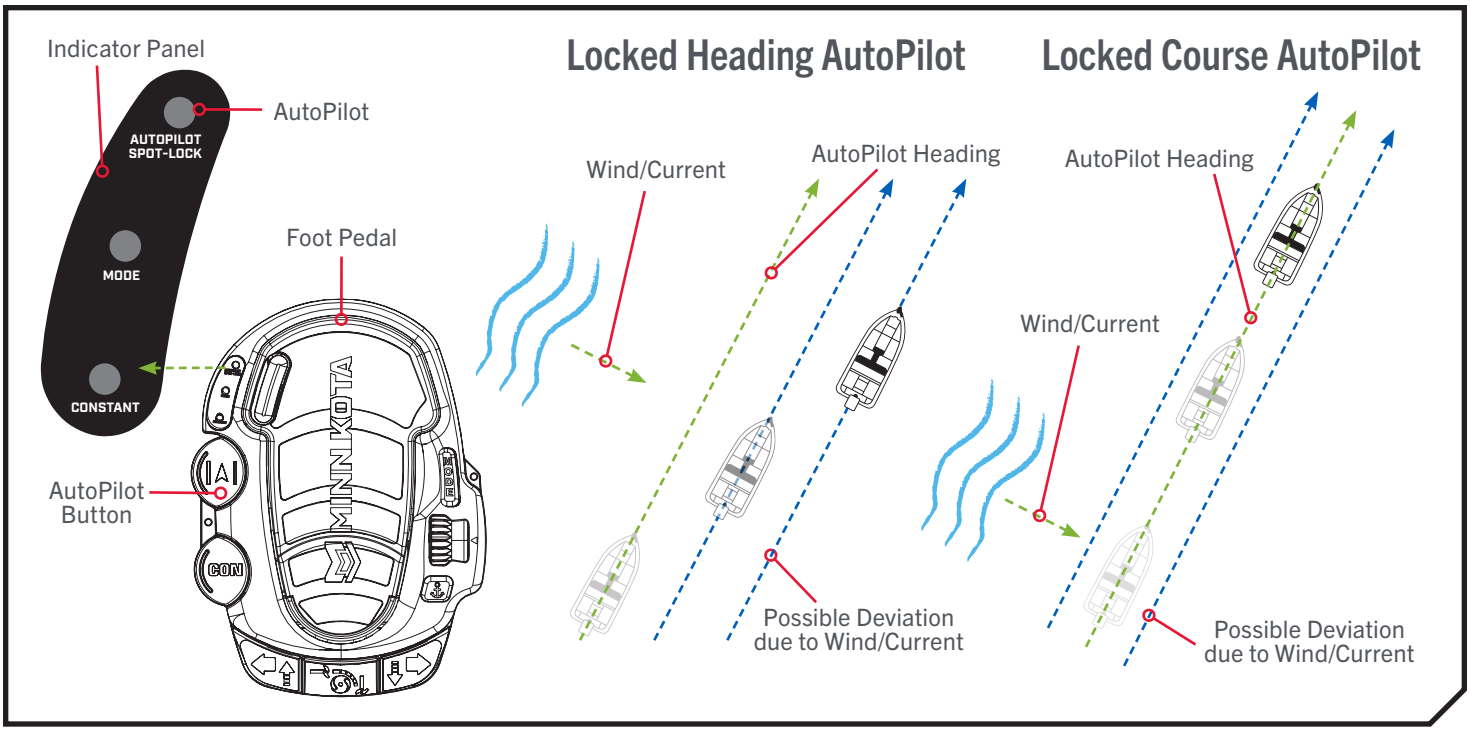
AUTOPILOT

AUTOPILOT AND THE ADVANCED GPS NAVIGATION SYSTEM

AutoPilot on the Advanced GPS Navigation System uses an internal compass to keep the trolling motor pointed in the same compass direction. The AutoPilot |A| button toggles AutoPilot on and off. The AUTOPILOT SPOT-LOCK LED on the Indicator Panel illuminates red when AutoPilot is engaged.

AUTOPILOT MODES

Two different modes of AutoPilot are available: Locked Heading AutoPilot and Locked Course AutoPilot. Both are collectively referred to as AutoPilot. There are distinct differences between the two AutoPilot Modes and how they control the boat. Both Locked Heading and Locked Course AutoPilot are valuable tools anglers can use for accurate and precise bait presentation. Minn Kota highly recommends getting on the water and trying both Locked Heading AutoPilot and Locked Course AutoPilot in various fishing situations and applications. The AutoPilot mode can be set using the Advanced GPS Navigation Wireless Remote or the Minn Kota Fishing App.



Locked Heading AutoPilot

AutoPilot uses an internal compass to provide heading lock. When Locked Heading AutoPilot is on, it keeps the motor pointed in the same compass direction. If a manual steering correction is made, Locked Heading AutoPilot locks onto the new compass heading to which the boat was steered. This method of heading tracking does not take into account external forces such as a side wind or currents, which can allow side drift.

Locked Course AutoPilot

Locked Course AutoPilot uses not only compass heading but also GPS data to correct for cross winds, currents, and other external forces to keep the boat on the intended course. When Locked Course AutoPilot is on, it creates a course that the trolling motor will follow. When the user steers to a new heading, a new course is created. Locked Course AutoPilot will keep the boat on the course in most conditions. When very extreme conditions exist, such as very strong winds or currents, the trolling motor may not have enough power to control the boat smoothly. In these extreme cases, it may be best to use Locked Heading AutoPilot and let the boat move with the wind or current if the motor is not powerful enough to overcome it.

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⚠ CAUTION

This unit uses a magnetic compass to detect direction of travel. The compass can be adversely affected by magnets or large, ferrous metal objects near (within 12” of) the trolling motor control head.

Obstructions on the Prop may cause excessive vibration of the motor head. This vibration can cause the compass to wander and erratic steering to occur. Clear the obstruction to return the motor to normal operation.

The trolling motor has an automatic steering shutdown for safety. In conditions where an obstruction prevents the motor from turning, or in extremely windy conditions, the automatic steering may stop. Any steering input will reset the system to normal.

When AutoPilot is "on" and the trolling motor is pulled out of the water to the stow position, the steering motor will continue to run until the motor is stowed properly. Once the motor is stowed properly, AutoPilot will turn "off" and the AutoPilot Indicator will no longer be illuminated.

CONTROLLING AUTOPILOT ›

› Toggle AutoPilot On/Off

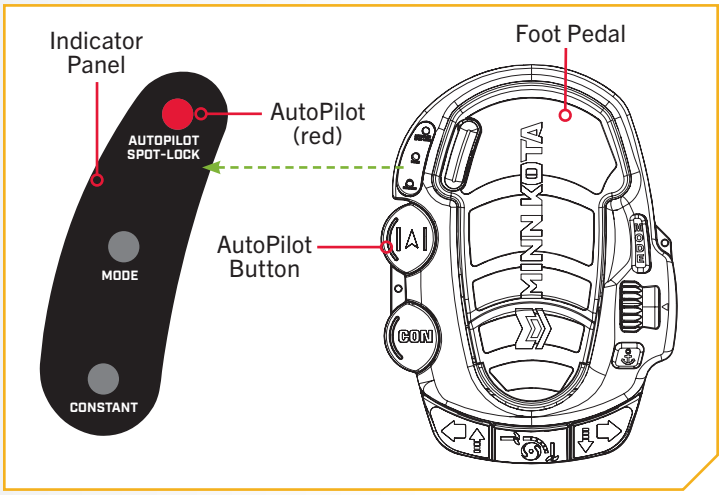
1

a. While the motor is running, AutoPilot can be turned on by pressing the AutoPilot | ▲ | button located on the Foot Pedal.

b. The AUTOPILOT SPOT-LOCK LED on the Indicator Panel will illuminate red when AutoPilot is engaged. With AutoPilot turned on, steer the motor as desired.

NOTICE: After steering to a new direction, there is a short delay before the direction is locked in to allow the compass to stabilize. When broad speed changes are made, the AutoPilot heading may change slightly. This is normal.

c. To turn AutoPilot off, press the AutoPilot | ▲ | button.



⚠ CAUTION

When AutoPilot is on and the trolling motor is pulled out of the water to the stow position, the steering motor will continue to run. Turn AutoPilot off to stop the motor. If AutoPilot is left on, the steering motor will shut off automatically after 10 seconds. The trolling motor should not be stored in this condition for long periods as power is still being applied to all electronics. Always turn Autopilot off and disconnect the motor from the battery when storing the boat.

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SPOT-LOCK

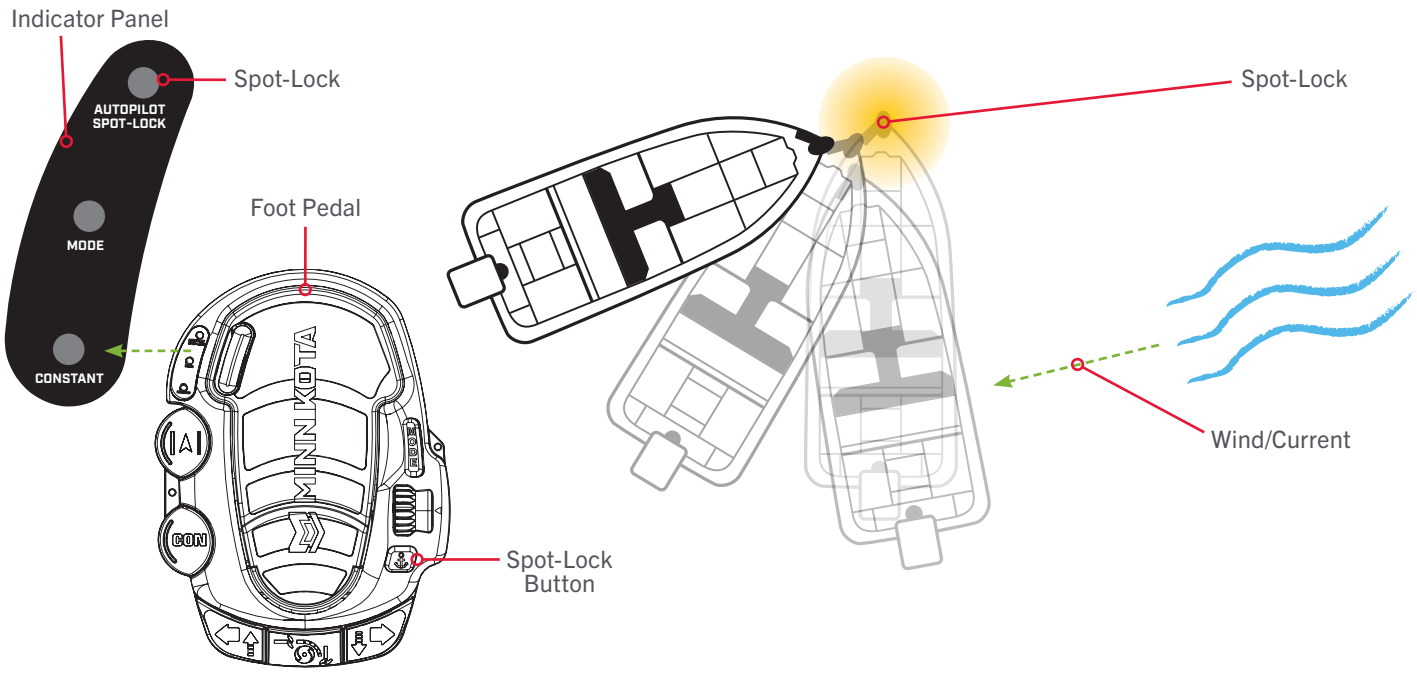
HOW SPOT-LOCK WORKS

Spot-Lock uses a single point of reference that is recorded when the Spot-Lock button is pressed. The reference point is a set of GPS coordinates captured at the location of the trolling motor at the moment the button is pressed. This point is recorded and can be saved into one of the Spot-Lock memory locations. Spot-Lock works by recognizing the GPS coordinates and will automatically navigate the boat to keep it at the Spot-Lock location. If the motor recognizes it is not positioned at the Spot-Lock location, it will control motor speed and direction in an attempt to keep the motor on the Spot-Lock. For more specific instructions on using Spot-Lock, refer to the Wireless Remote owner's manual online at minnkota.johnsonoutdoors.com.

NOTICE: Spot-Lock is based on the location of the trolling motor, not on the location or direction of the boat. Outside forces such as wind and current will cause the boat to move. Spot-Lock will navigate to maintain the motor on the Spot-Lock location, regardless of the position of the boat.

⚠ WARNING

Watch for a turning Prop when working with Spot-Lock. The Prop will automatically turn on when Spot-Lock is engaged, even if the engagement is accidental. A turning Prop can cause injury. The Prop will turn "on" for Spot-Lock, regardless of the Prop Auto On setting used on the other control methods in the Advanced GPS Navigation System.



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CONTROLLING SPOT-LOCK ›

› Toggle Spot-Lock On/Off

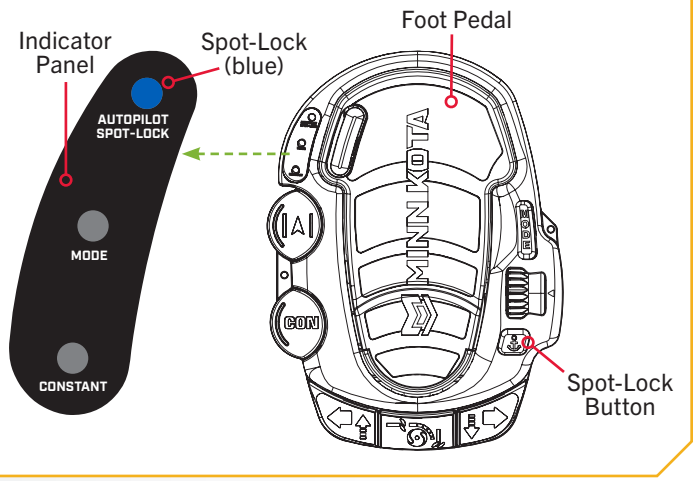
1

a. While the motor is running, Spot-Lock can be turned on by pressing the Spot-Lock button located on the Foot Pedal. The SPOT-LOCK LED on the Indicator Panel illuminates blue when Spot-Lock is engaged.

NOTICE: In the default Audio Mode, a tone is emitted from the Control Head when Spot-Lock is engaged. If the Audio Mode is set to Alarm Only, a tone will not be emitted when engaging Spot-Lock. To learn more about Audio Modes, refer to the Wireless Remote owner's manual online at minnkota.johnsonoutdoors.com.

b. To disengage Spot-Lock, press the Spot-Lock button or press any button on the Foot Pedal to manually steer the trolling motor.

NOTICE: If the Spot-Lock button is accidentally pressed, press the Spot-Lock button again to cancel Spot-Lock.



NOTICE: Adjusting the speed using the Speed Control Knob or manually steering the motor will disengage Spot-Lock, and a tone consisting of several short beeps will emit from the Control Head. Manually steering or adjusting the Prop speed with the Wireless Remote or Minn Kota Fishing App will also cancel Spot-Lock.

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SERVICE & MAINTENANCE

PROP REPLACEMENT

TOOLS AND RESOURCES REQUIRED

- 9/16" Open End Wrench
- Flat-Blade Screwdriver

INSTALLATION

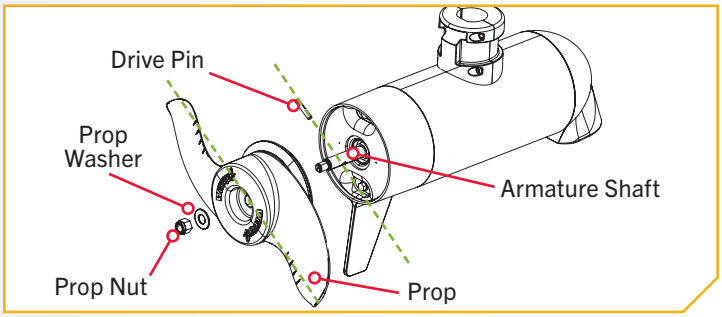
1

a. Disconnect the motor from all sources of power prior to changing the Prop.

b. Hold the Prop and loosen the Prop Nut with a pliers or a wrench.

c. Remove the Prop Nut and Prop Washer.

NOTICE: If the Drive Pin is sheared or broken, it is necessary to hold the shaft stationary with a flat-blade screwdriver, pressed into the slot on the end of the shaft, while the Prop Nut is loosened.



⚠ CAUTION

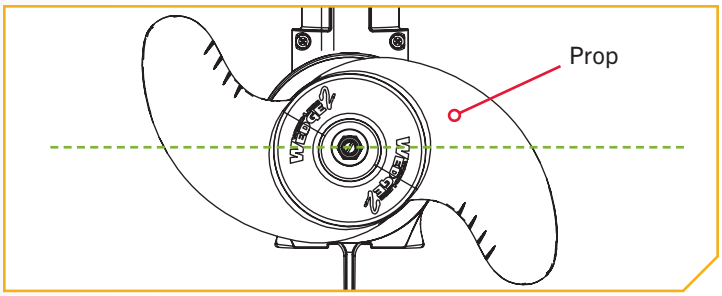
Disconnect the motor from the battery before beginning any Prop work or maintenance.

2

d. Turn the old Prop horizontal and pull it straight off. If the Drive Pin falls out, push it back in.

⚠ CAUTION

If the Prop does not readily slide off, take care not to bend the Armature Shaft while removing the Prop. Pull the Prop evenly off the Armature Shaft.



3

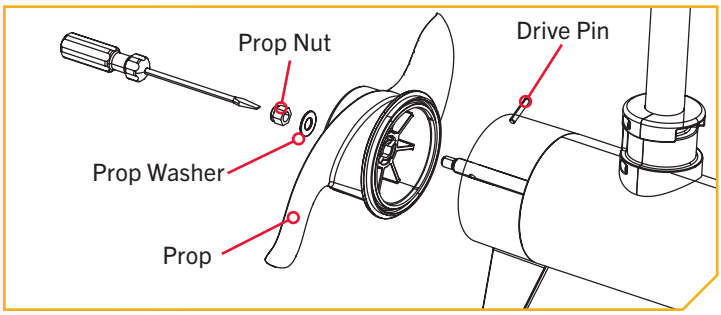
e. Align the new Prop with the Drive Pin.

f. Install the Prop Washer and Prop Nut.

g. 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.



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› Stowing from the Ulterra Motor

In the unlikely event that your foot pedal, wireless remote or Minn Kota Fishing App becomes non-functioning, you can stow the Ulterra from the base of the motor.

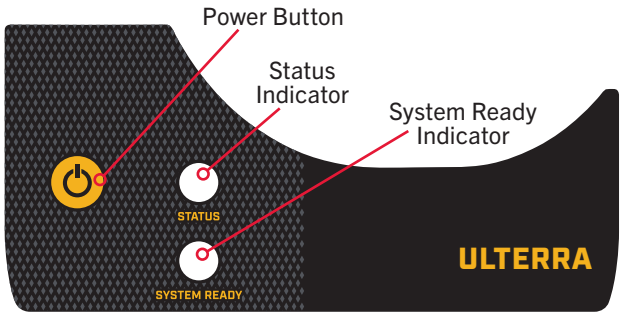
1

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 next to the System Ready Indicator is on.

c. Press and hold the Power Button located on the Indicator Panel for ten seconds.

d. The red and green LEDs next to the Status (red) and System Ready (green) Indicators will flash alternately, and the motor will begin to stow.



⚠ WARNING

During this procedure the motor will go into an automated sequence. Keep fingers clear of all hinges, pivot points and all moving parts. Ensure that the motor, or parts of the motor do not contact the boat, trailer, persons, or any other obstruction.

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Trim/Stow Reset Procedure

In the unlikely event the Ulterra will not trim or stow, the following procedure will reset the motor and restore functionality. If the Ulterra does not reset, repeat the procedure. If the second attempt fails, please contact your local authorized service center for technical support. Find Authorized Service Centers online at minnkota.johnsonoutdoors.com.

1

⚠WARNING

During this procedure, the motor will go into an automated sequence. Keep fingers clear of all hinges, pivot points, and moving parts. Ensure that the motor, or parts of the motor, do not contact the boat, trailer, persons, or any other obstruction.

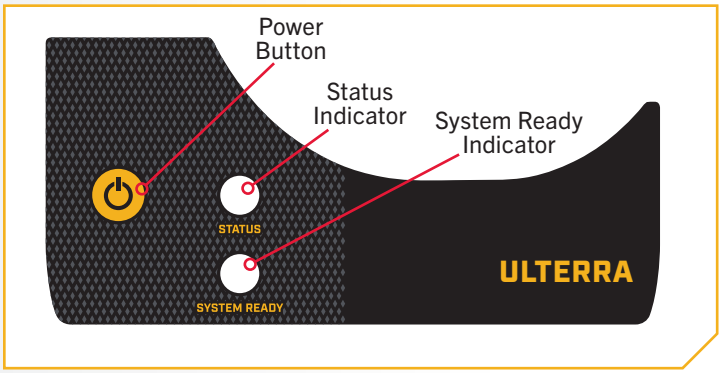
a. Locate the Indicator Panel at the base of the Mount.

b. Press and hold the Power Button located on the Indicator Panel to turn the motor off. Ensure that the motor is off by checking that the green LED light next to the System Ready Indicator is off.

c. Press the Power Button until the green LED illuminates and the motor is turned on.

d. Wait three seconds.

NOTICE: If the Lower Unit of the motor is trimmed within six inches of the Mount and the boat Hull is obstructing the motor's turning radius, manually turn the Control Head of the motor so that the Lower Unit is perpendicular to the Motor Ramps prior to beginning this procedure.



2

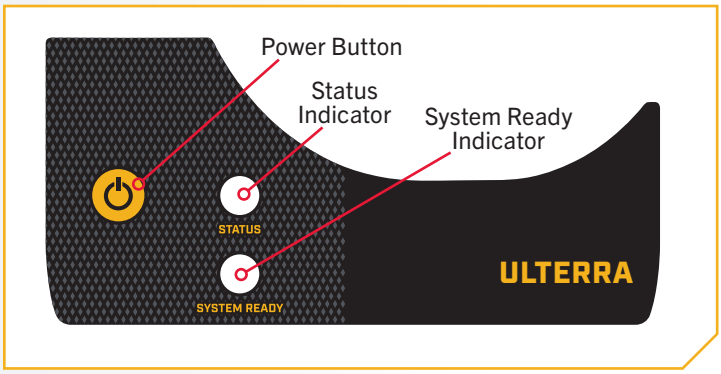
e. Press the Power Button three times consecutively within a two-second period.

f. The red and green LEDs will flash continuously and the Ulterra will go through the following automated sequence:

g. The motor will position itself into the proper orientation.

h. The motor will automatically trim up to the Mount and then trim down approximately six inches.

i. The flashing red LED next to the System Ready Indicator will turn off, and the flashing green LED next to the Status Indicator will become solid green.



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Manually Stowing the Ulterra

In the unlikely event that the motor will not stow from the wireless remote, Minn Kota Fishing App, or the Foot Pedal, the following alternative stow methods should solve the issue:

1. Trim/Stow Reset Procedure
2. Stowing from the Ulterra Motor
3. If your batteries lose power to the level that the motor will not stow, the motor will most likely stall at a 45 degree angle. If this occurs, reengage power, deploy the motor, trim the lower unit to its highest setting, and turn power off until batteries can be recharged. Once batteries are charged, attempt to stow motor again.

If all three alternative methods have been attempted and the motor will still not stow, there is a method to manually stow the motor.

⚠ CAUTION

Once the motor has been manually stowed, it will be non-operational until it is manually reset by an authorized service center.

If a manual stow must be done, follow the instructions below:

TOOLS AND RESOURCES REQUIRED

- #2 Phillips Screwdriver
- #3 Phillips Screwdriver
- Flat-Blade Screwdriver

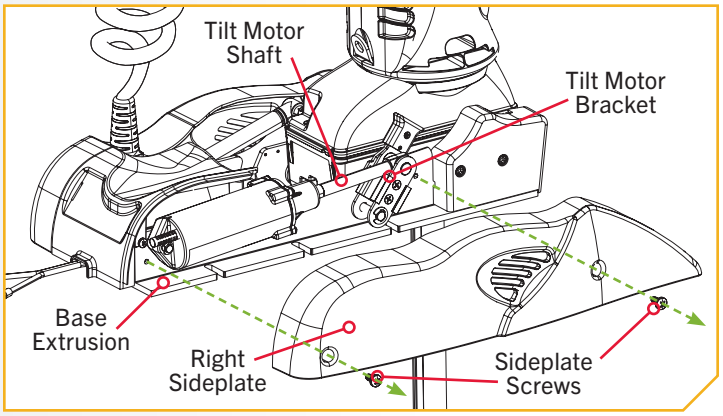
INSTALLATION

1

a. While the motor is in the deployed position, use a #3 Phillips Screwdriver to remove the two screws that hold the Right Sideplate in place.

⚠ WARNING

Moving parts can cut or crush. When using the Trim Handle or moving the Trim Housing, keep fingers clear of all hinges, pivot points and all moving parts. The Tilt Motor Shaft and Tilt Motor Bracket can create a shear point between the Base Extrusion. Use caution when the sideplate is removed and mechanical parts are in motion.



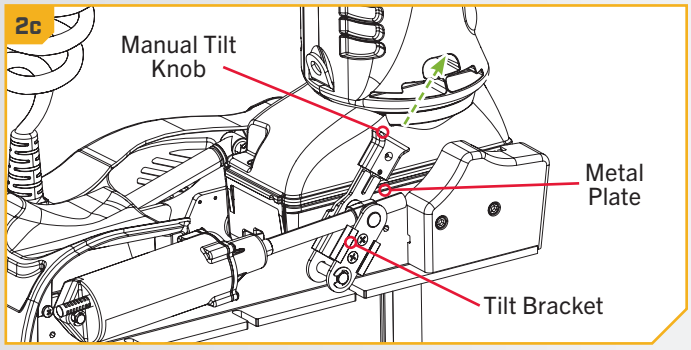
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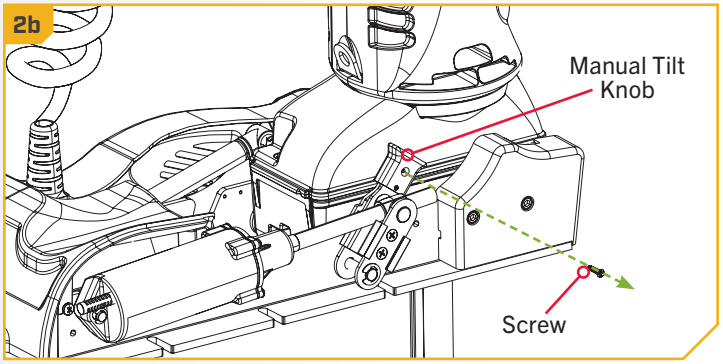
MANUALLY STOWING THE ULTERRA

2

b. Using a #2 Phillips Screwdriver, remove the screw on the Manual Tilt Knob.

c. The Manual Tilt Knob holds two Metal Plates together. Using a Flat-Blade Screwdriver, pry up on the Manual Tilt Knob until it releases the metal plate closest to the Tilt Bracket.



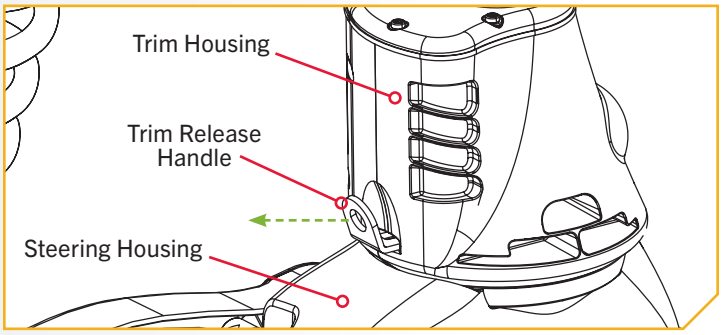


3

d. Locate the Trim Release Handle on the Side of the Trim Housing. Grasp the Trim Release Handle and pull it out.

⚠ WARNING

When using the Trim Handle or moving the Trim Housing, keep fingers clear of all hinges, pivot points and all moving parts above and below the Trim Housing.



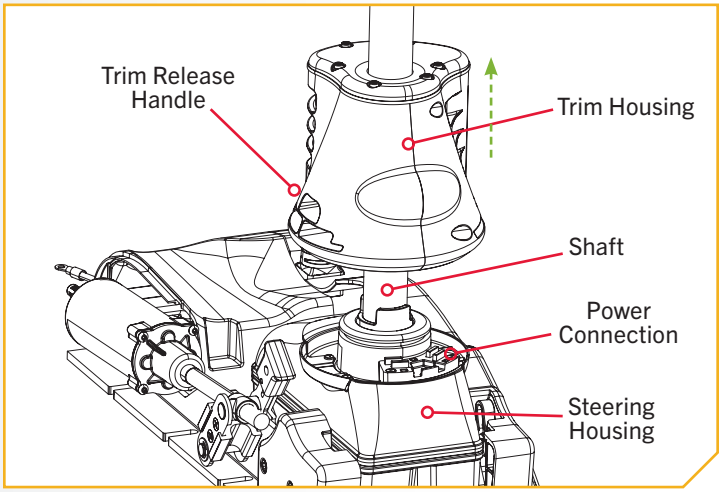
4

e. While holding the Trim Release Handle out, grasp the Trim Housing and Shaft and lift them up off the Steering Housing.

f. Lift up on the Trim Housing until Shaft and Trim Housing can be pulled up by hand.

⚠ WARNING

When lifting the Trim Housing off the Steering Housing, power connections are exposed. Keep fingers and metal objects clear of exposed connections. The power from the connection is removed after ten seconds once the connection is exposed.



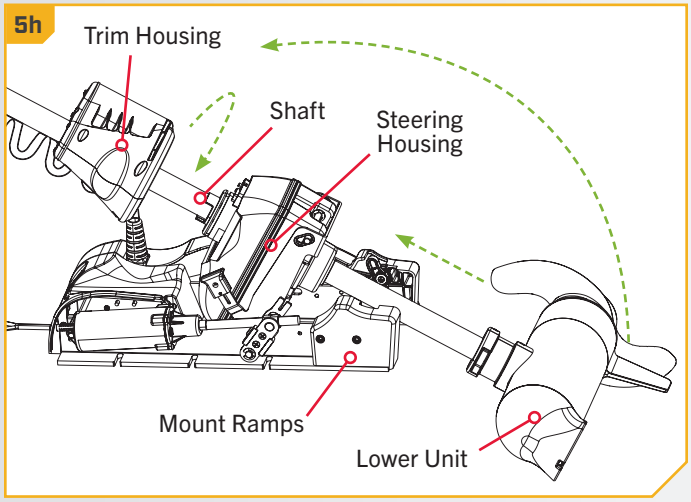
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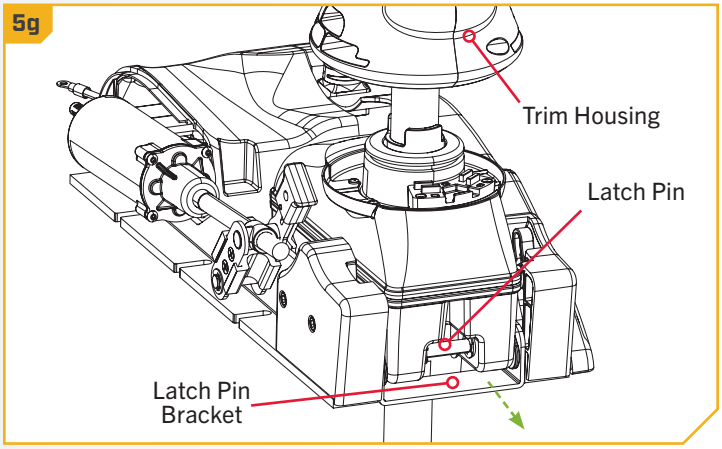
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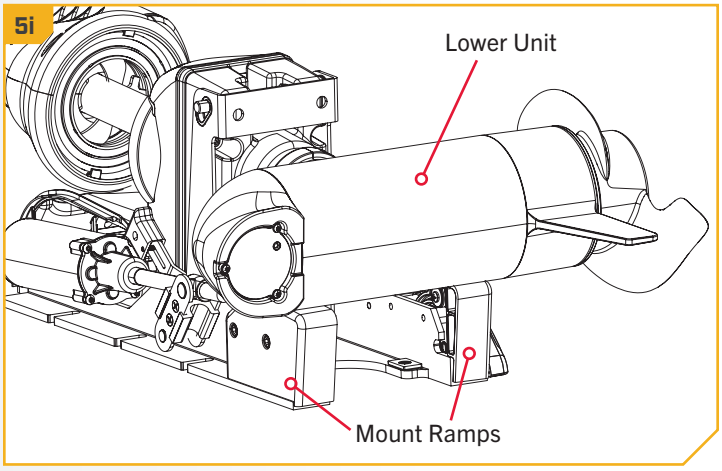
g. While the Trim Housing and Shaft are lifted up, release the Latch Pin Bracket.

h. Lift and rotate the Shaft and Trim Housing in and down towards the stowed position.

i. Pull the Lower Unit onto the Mount Ramps.

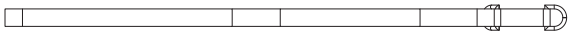






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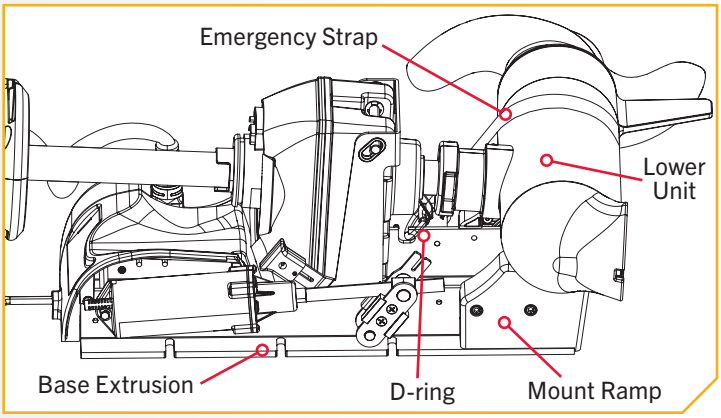
ITEM(S) NEEDED



#2 x 1

j. Secure the Lower Unit onto the Mount Ramps using the Emergency Strap (Item #2) that was provided with the motor. The D-ring on the Emergency Strap can be hooked into the Base Extrusion below the Left Sideplate.

k. With the D-ring secured, wrap the Emergency Strap around the Lower Unit and secure it to itself. The Emergency Strap should be pulled tight enough that the Lower Unit rests securely on the Mount Ramps.

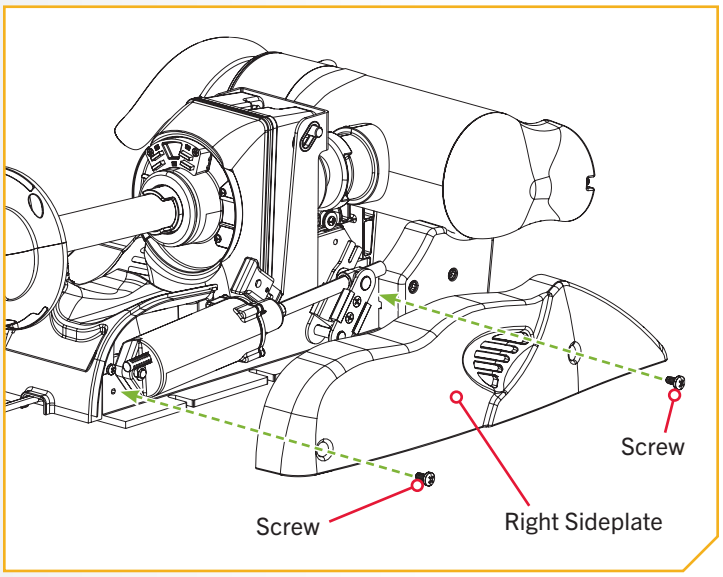


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MANUALLY STOWING THE ULTERRA

7

I. With the motor secured in the stowed position, use a #3 Phillips Screwdriver to replace the Right Sideplate, if desired. Do this by replacing the two screws that hold the sideplate in place.



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GENERAL MAINTENANCE

- After use, the entire motor should be rinsed with freshwater. This series of motor is not equipped for saltwater exposure.
- The composite shaft requires periodic cleaning and lubrication for proper retraction and deployment. A coating of an aqueous-based silicone spray will improve operation.
- The Prop must be inspected and cleaned of weeds and fishing line after every use. Fishing line and weeds can get behind the Prop, damage the seals and allow water to enter the motor.
- Verify that the prop nut is secure each time the motor is used.
- To prevent accidental damage during transportation or storage, disconnect the battery whenever the motor is off the water. For prolonged storage, lightly coat all metal parts with an aqueous-based silicone spray.
- For maximum battery life, recharge the battery(s) as soon as possible after use. For maximum motor performance, restore battery to full charge prior to use.
- Keep battery terminals clean with fine sandpaper or emery cloth.
- The Prop is designed to provide weed-free operation with very high efficiency. To maintain this top performance, the leading edge of the blades must be kept smooth. If they are rough or nicked from use, restore to smoothness by sanding with fine sandpaper.
- Keep the Foot Pedal well dry and clean. Debris that gets in the Foot Pedal can cause interference of pedal operation. It is recommended to use compressed air to clean the Foot Pedal after each use.

TROUBLESHOOTING

1. Motor fails to run or lacks power:
   - Check battery connections for proper polarity.
   - Make sure the battery is charged.
   - Make sure terminals and wires are clean and corrosion-free. Use fine sandpaper or emery cloth to clean terminals.
   - Check circuit protection devices.
   - Check battery water level. Add water if needed.
2. Motor loses power after a short running time:
   - Check battery charge. If low, restore to full charge, or replace.
3. You experience Prop vibration during normal operation:
   - Remove and rotate the prop 180°. See removal instructions in the "Prop Replacement" section. Replace Prop if worn.
4. Experiencing interference with your fish finder:
   - You may, in some applications, experience interference in your depth finder display. We recommend that you use a separate deep-cycle marine battery for your trolling motor and that you power the depth finder from the starting/cranking battery. If problems persist, contact technical support online at minnkota.johnsonoutdoors.com.
5. Motor contacts an object while trimming, causing an audible tone:
   - Reverse the direction of trimming to clear motor from obstruction.
6. Motor contacts an object while stowing, causing an audible tone:
   - Reverse the current cycle to clear the motor from the obstruction. Reverse the stow/deploy action with the wireless remote, Minn Kota Fishing App, or by pressing the Stow/Deploy button on the Foot Pedal.

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7. Motor fails to trim:
   - Check main lift-belt tension per the "Motor Adjustments" section.
8. Motor fails to stow or deploy:
   - Check for obstructions preventing the motor from deploying or stowing.
   - Ensure that the manual tilt knob is engaged. See the "Emergency Stow Procedures" section for details.
   - Check charge state of trolling motor batteries. If trolling motor battery icon on remote is flashing, battery charge is too low for operation.
9. Prop will not turn on:
   - Ensure batteries are sufficiently charged.
   - For safety reasons, there is a Prop lock-out region (approx. 14” from mounting base to lower unit centerline). Ensure that the lower unit is not in this region.

NOTICE: For all other malfunctions, visit an Authorized Service Center. You can search for an Authorized Service Center in your area by visiting minnkota.johnsonoutdoors.com.

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ADVANCED TROUBLESHOOTING

The following advanced scenarios may help you troubleshoot your Ulterra motor.

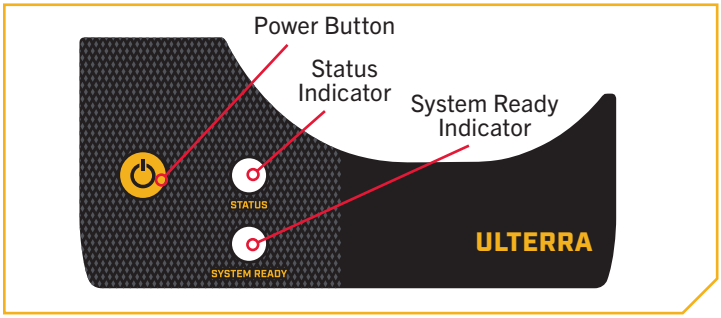
⚠ CAUTION

Always wear safety glasses and gloves. Disconnect all power to the trolling motor before beginning any work or maintenance. Johnson Outdoors Inc. is not responsible for any damage due to improper rigging or installation. If you do not have the skills, experience and tools to perform the following maintenance and repairs, we recommend you seek the help of a Minn Kota Authorized Service Center. A list of Authorized Service Centers can be found at minnkota.johnsonoutdoors.com.

Case 1

The Ulterra motor does not turn on when the Power Button on the Indicator Panel is pressed and released. The green "System Ready" and red "Status" LEDS do not light up.

CAUSE: Inadequate voltage, reversed polarity, or the Power Switch/LED circuit board has come loose from the backside of the Control Panel Cover.



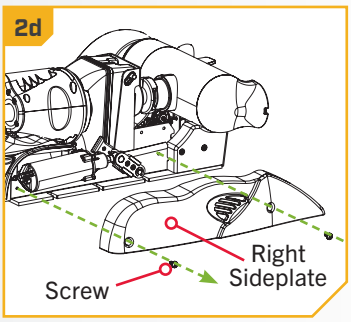
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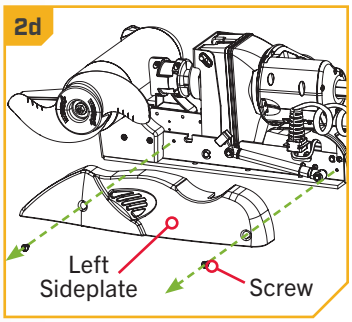
CORRECTIVE ACTION:

a. Verify that the correct voltage is being supplied to the Ulterra motor (24 volts for 80lb thrust and 36 volts for 112 lb thrust) and that polarity has not been inadvertently reversed. Refer to the "Battery and Wiring Installation" section of this manual for additional details on wiring.

b. If no problems are found with the voltage and power delivery/wiring system, then the Power Switch/LED circuit board may have come loose from the control panel during shipment.

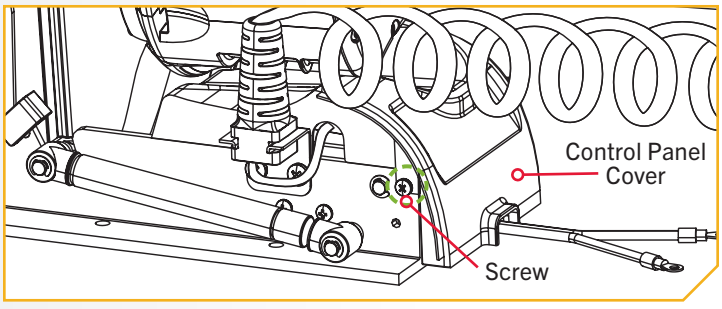
c. To check for this, remove both sideplates. With a #3 Screwdriver, remove the four Sideplate screws that retain the motor sideplates (two screws each in the left and right sideplates).





2

d. With the Sideplates removed, loosen the two small 10-32 x 3/8" Phillips Head Screws that hold the Control Panel Cover in place, one screw on each side. Lift up the Cover as much as possible; due to the motor being stowed, there is not much room for this. Look inside along the back surface of the Control Panel Cover to see if the Power Switch/LED circuit board is in place.



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3

e. If the Power Switch/LED circuit board has come loose, it will need to be reconnected. For easier access, the motor must be deployed or partially deployed so that the Control Panel Cover can be lifted up. Connect the motor to the appropriate voltage to enable deployment. The power can be switched ON by reaching in with a small object, such as a blade screwdriver, and pressing down on the actuator of the Power Switch. The green and red LEDs should light up and the Ulterra can then be deployed via the Foot Pedal, Minn Kota Fishing App, or wireless remote in the normal manner.

f. With the motor deployed (or partially deployed), the Control Panel Cover can be lifted up to expose the main control board assembly. The Power Switch/LED board snaps into place on the inside surface of the Control Panel Cover.

NOTICE: If deploying the motor on a boat or bench top, the deploy sequence can be stopped by pressing the Stow/Deploy button.

NOTICE: Note the switch/LED circuit board is attached to the main control board by means of the ribbon lead.

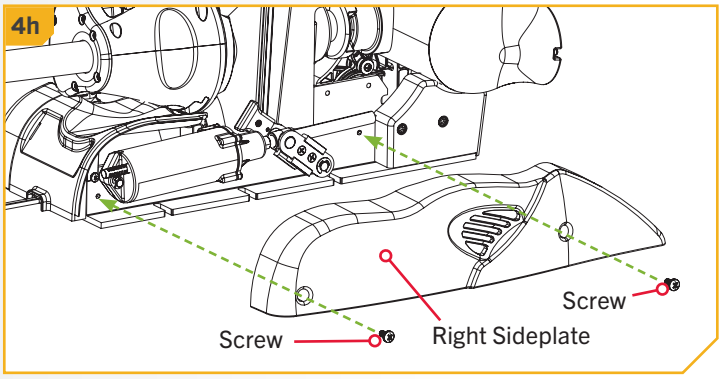
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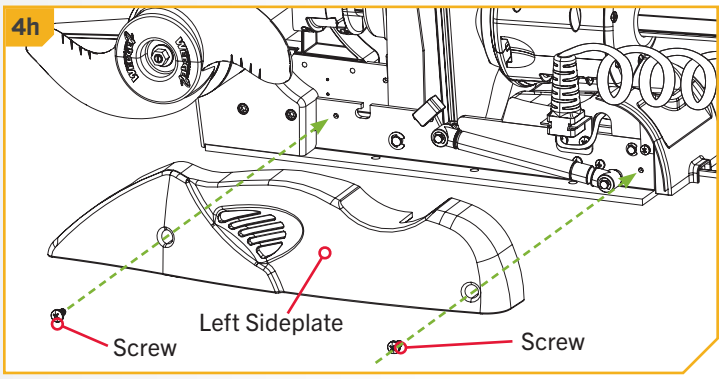
g. When re-installing the switch, align the actuator pin with the openings in the cover and push the board into position with the two catches, one on each side of the board, engaged to hold the board in place.

h. Reinstall the Control Panel Cover and sideplates to complete the repair.

i. Test the Power Button ON/OFF function several times to ensure proper switch retention. Test stow/deploy the motor, as you are able to on the boat or bench, to confirm functionality.

NOTICE: To turn the motor off with the Power Switch, hold the switch button down for three seconds. The green and red LEDs should go out when this is done. Release the Power Switch, wait about 3 seconds, then press and release the Power Switch. The green and red LEDs should come back on.



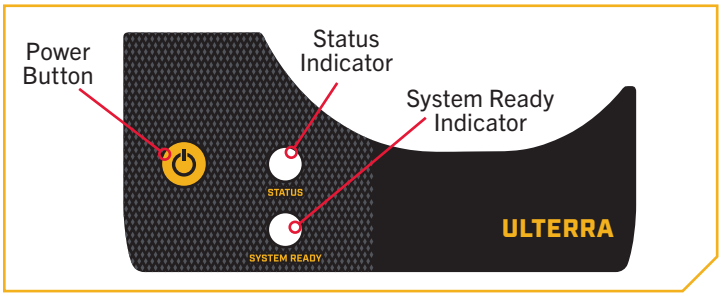


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Case 2

Ulterra motor green "System Ready" and red "Status" LEDs come on when the Power Button is pressed but immediately go off when the Power Button is released.

CAUSE: Inadequate voltage is being supplied to the Ulterra motor. The 80lb thrust is designed to operate on 24 volts and 112lb thrust is designed to operate on 36 volts. If voltage is low, the Ulterra motor will not stay on when the Power button is pressed and released; or, if the green and red LEDs *do* stay on, they will go out when the command is sent to deploy or stow the motor.



1

CORRECTIVE ACTION:

a. The only option when this occurs is to provide adequate voltage to the motor. Check batteries for individual voltage values, as well as the combined voltage across all the batteries in a series-connected battery system. Then check the voltage at the motor battery positive (B+) and battery negative (B-) wires directly at the Ulterra motor to check for a voltage drop. Correct any wiring issues and/or recharge batteries, as required.

NOTICE: For more information, refer to the "Battery & Wiring Installation" section of this manual. It may also be helpful to refer to the Motor Wiring Diagram.

Case 3

Ulterra motor will not deploy when the Stow/Deploy button on the foot pedal is pressed. When troubleshooting, determine if an error tone is present or not and proceed to either the No Error Tone or Error Tone sections below.

NO ERROR TONE

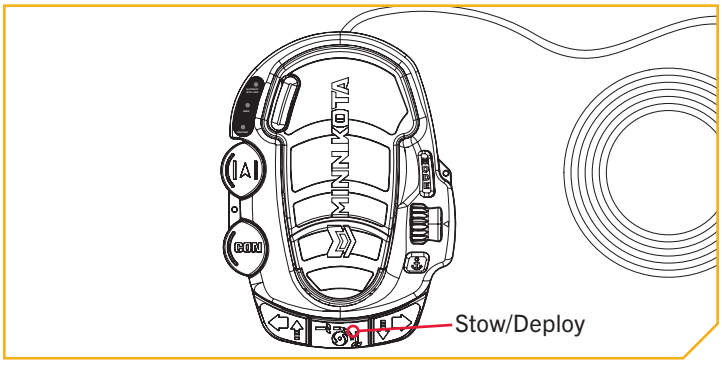
If no error tone is noted when sending the deploy command:

CAUSE 1: The Ulterra owner/operator may not have the foot pedal in Stow/Deploy Mode and/or may not be pressing the Stow/Deploy button on the foot pedal twice in quick succession. To learn more about Foot Pedal Modes, please refer to the "Using the Foot Pedal" section of the manual.

1

CORRECTIVE ACTION:

a. This is not a problem with the motor. The foot pedal is designed to require two quick presses of the Stow/Deploy button to avoid accidental deployment of the motor. The only corrective action required is to advise that two button presses in quick succession are required to deploy the motor when using the corded foot pedal (foot pedal must be in "Ulterra" mode). To learn more about Foot Pedal Modes, please refer to the "Using the Foot Pedal" section of this manual.



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CAUSE 2: This malfunction is often found to be a result of unintentional/accidental damage to one or more of the three wires that connect the Hall Effect Ulterra motor sensors to the main control board. The red, blue, and black wires going to each sensor are enclosed in black or gray mesh tubing running along both sides of the motor base extrusion. These wires can be accidentally damaged, pinched, or cut if care is not used during motor installation. Make certain that the mounting bolts did not damage the wires when mounting the motor to the boat or Quick Release Bracket. The cutting of any of the sensor wires will cause the motor to be inoperative.

1 **CORRECTIVE ACTION:**

a. Seek the help of a Minn Kota Authorized Service Center. A list of Authorized Service Centers can be found online at minnkota.johnsonoutdoors.com.

ERROR TONE ❯

If an error tone is noted when sending the deploy command (this indicates a current limit issue):

CAUSE 1: An audible error tone when attempting to deploy the motor is an indication that something is restricting or preventing movement of the motor unit and shaft.

1 **CORRECTIVE ACTION:**

a. To verify that the deployment issue is caused by something that is restricting or binding the motor shaft, we suggest removing the front-right motor ramp.

b. **If the motor does not deploy properly with the ramp removed**, contact your local authorized Minn Kota Service Center. Locate one online at minnkota.johnsonoutdoors.com.

c. **If the motor deploys properly with the ramp removed,** this confirms a binding issue. Review the alternate causes below to identify the cause and corrective action to follow.

- **CAUSE:** Low or inadequate voltage to the motor/trim housing.
  CORRECTIVE ACTION: Verify that the wiring, connections, plug connections, and battery series connections are all clean and secure. Test the voltage at battery leadwires to ensure correct/adequate voltage is being supplied to the motor.
- **CAUSE:** A foreign object may be pinched between the steering housing and the aluminum mounting base extrusion.
  CORRECTIVE ACTION: Check to make certain that the power cable to the steering housing is not getting pinched between the housing and base.
- **CAUSE:** Dirt or other contaminants may be built-up on the composite shaft, causing the shaft to stick or bind rather than slide smoothly through the steering housing.
  CORRECTIVE ACTION: Thoroughly clean and wipe down the shaft with a silicone-rich, water-based spray such as Armor All or similar product.

NOTICE: You may need to assist the motor deploy sequence by pushing out on the head of the motor while sending a deploy command prior to cleaning.

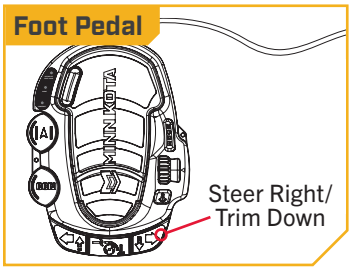
- **CAUSE:** Verify that the damper is installed correctly (leg down/toward the control board) and provides resistance to movement.
  CORRECTIVE ACTION: Remove the damper to test it.
- **CAUSE:** Inspect the Tilt Nut Bracket under the right sideplate. Verify that it is not bent and that the Tilt Nut does not show signs of damage.
  CORRECTIVE ACTION: Replace damaged parts.
- **CAUSE:** Watch the Tilt Motor when it is running. Look for any wobble in the screw shaft as an indication it is bent.
  CORRECTIVE ACTION: Replace damaged parts.

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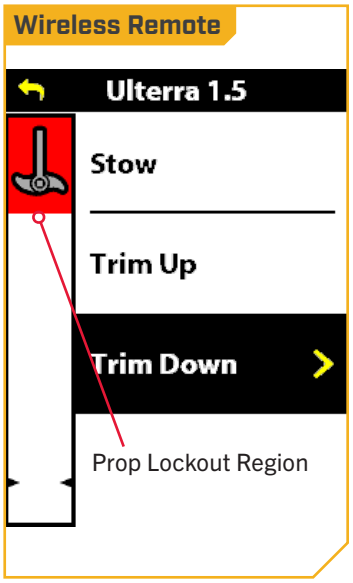
Case 4

Motor is deployed, with the motor lower unit less than 14-15 inches below the aluminum base extrusion. It will not steer in either direction and the motor lower unit will not run.

CAUSE: Motor is in the “prop lockout region.” This feature is used to eliminate the chance of the motor lower unit or prop contacting the boat hull. For more information, refer to the "Foot Pedal Adjustments" section of the manual. If using the Foot Pedal to trim the motor, it must be in Stow/Deploy Mode. Learn more about Modes and Foot Pedal operation in the "Using the Foot Pedal" section of this manual.





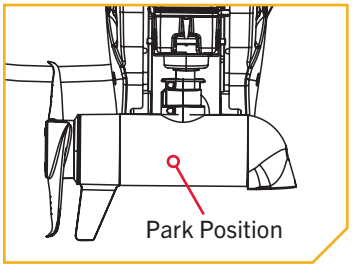


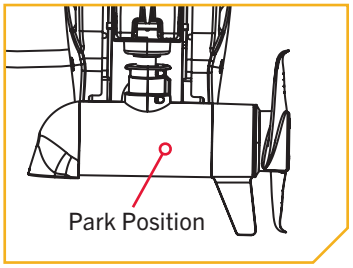
1 **CORRECTIVE ACTION:**

a. Trim the motor down to move the lower unit out of the lockout region.

Case 5

The Ulterra motor does not properly position the motor lower unit in the Park Position when stowing. The motor lower unit is not turned to position at 90 degrees (relative to the motor mounting base) so that it lays horizontally when the Ulterra motor pulls the motor on to the motor ramps.





CAUSE: The Ulterra motor has been deployed, power switched OFF or disconnected, and the motor lower unit may have been manually turned by hand, or rotated as a result of hitting an obstruction. When this occurs, the Ulterra motor’s Park Position is lost and the motor lower unit will no longer be positioned properly when stowing.

1 **CORRECTIVE ACTION:**

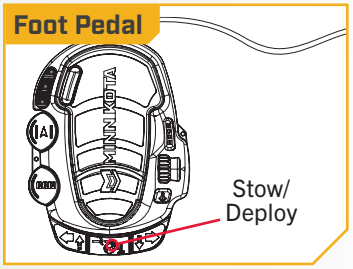
a. To correct this issue, the Ulterra motor must be deployed in the usual manner. For more information on how to deploy the motor with a Foot Pedal, wireless remote, or the Minn Kota Fishing App, refer to each accessory's corresponding manual.

NOTICE: If the motor was stowed with the prop pointing up or down, you may need to depress the button on the front-left motor ramp to deploy the motor. Release that button when the motor starts to deploy.

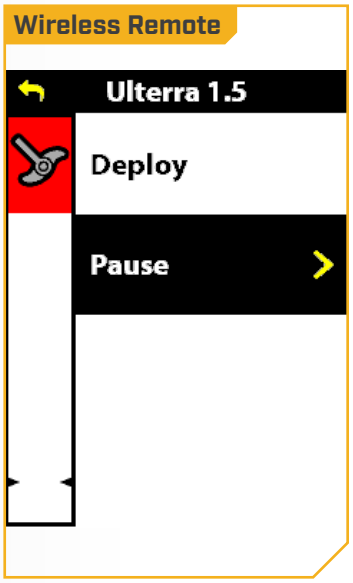
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2

b. Send a command to stow the motor via the wireless remote, Minn Kota Fishing App or Foot Pedal. Allow the Ulterra motor to steer the lower unit, raise straight up, rotate the shaft and motor assembly into the horizontal/stow position, then you must STOP the stow sequence before the Ulterra starts to pull the lower unit on to the motor ramps.
To stop the stow sequence:
Foot Pedal: Press the Stow/Deploy button.
Wireless Remote: Select Pause.
Minn Kota Fishing App: Tap Pause.





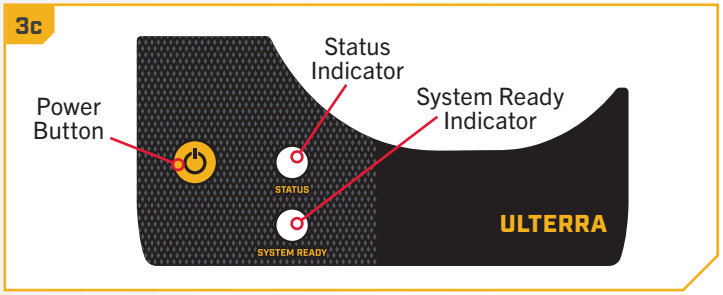


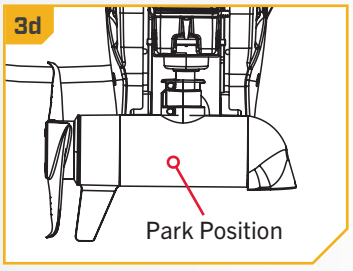
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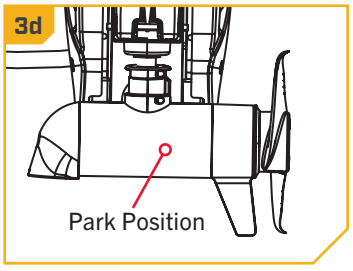
c. At this point, turn the Ulterra OFF by pressing and holding the Power Button on the Indicator Panel for about three seconds, until the green System Ready LED turns off.

d. Wait about five seconds, then manually rotate the motor lower unit into the Park Position by grasping and turning either the lower unit or the control head. The motor should be positioned so that it is laying horizontally at 90 degrees to the mounting base, with the prop to the left or right (per your preference).

e. Turn the power back on at the Indicator Panel and stow/deploy the motor to test and confirm that the Park Position has been reset correctly. Repeat this procedure, if necessary, to tweak the Park Position.







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Case 6

The Ulterra motor does not rotate into the horizontal position when stowing, or the vertical position when deploying, at the appropriate time. During the stow sequence, the motor lower unit should come straight up and begin to rotate into the horizontal position when the lower unit is about twelve (12) to thirteen (13) inches below the aluminum base extrusion. During the deploy sequence, the motor lower unit should extend about five (5) to six (6) inches out from the steering housing and then begin to rotate into the vertical position.

CAUSE: The trim module has lost its position count and needs to be reset.

1

CORRECTIVE ACTION:

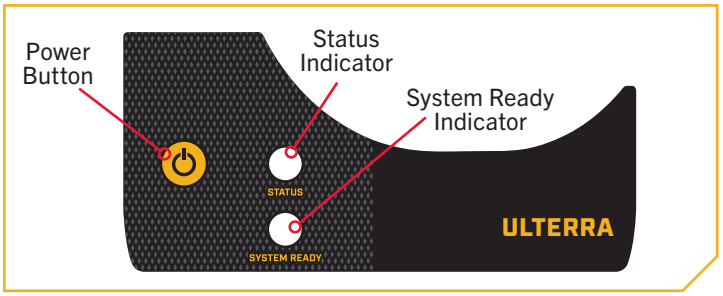
a. Refer to the Trim/Stow Reset Procedure in this manual.

NOTICE: To do the Trim/Stow Reset Procedure, the motor MUST be in the deployed position, with the motor and shaft assembly vertical, and the latch pin in the steering housing engaged into the aluminum base extrusion catches.

Case 7

The Ulterra motor "Status" LED is solid red while the green "System Ready" LED blinks twice every four seconds. Prop does not respond to input via foot pedal, remote or app.

CAUSE: Motor fault detected; circuitry error.



1

CORRECTIVE ACTION:

a. The only option when this occurs is to power cycle the motor. If the problem persists after turning the power off and on, seek the help of a Minn Kota Authorized Service Center. A list of Authorized Service Centers can be found online at minnkota.johnsonoutdoors.com.

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FOR FURTHER TROUBLESHOOTING AND REPAIR

Minn Kota offers several options to help you troubleshoot and/or repair your product. Please read through the options listed below.

Buy Parts Online

You can buy parts online directly from our website at minnkota.johnsonoutdoors.com. From screws to sideplates, you can order replacement parts for your Minn Kota products.

Frequently Asked Questions

Find answers to general inquiries, battery and rigging installation, and networking scenarios. We have FAQs available on our website at minnkota.johnsonoutdoors.com to help answer all of your Minn Kota questions.

Contact Us

You can contact our consumer service department with questions regarding your Minn Kota products. To inquire, visit minnkota.johnsonoutdoors.com.

Authorized Service Centers

Minn Kota has over 1,100 authorized service centers in the United States and Canada where you can purchase parts or get your products repaired. Please visit our website to locate a service center in your area at minnkota.johnsonoutdoors.com/us/support/service-providers/locate.

Scan to visit Minn Kota service online.

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COMPLIANCE STATEMENTS

ENVIRONMENTAL COMPLIANCE STATEMENT

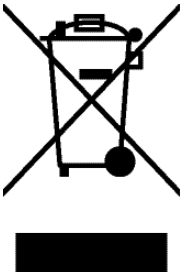
It is the intention of JOME to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE

EU Directive 2002/96/EC “Waste of Electrical and Electronic Equipment Directive (WEEE)” impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.



DISPOSAL

Minn Kota motors are not subject to the disposal regulations EAG-VO (electric devices directive) that implements the WEEE directive. Nevertheless never dispose of your Minn Kota motor in a garbage bin but at the proper place of collection of your local town council.

Never dispose of battery in a garbage bin. Comply with the disposal directions of the manufacturer or his representative and dispose of them at the proper place of collection of your local town council.

REGULATORY COMPLIANCE INFORMATION

Motors with Advanced GPS Navigation

For regulatory information on motors with Advanced GPS Navigation, please refer to the Advanced GPS Navigation Manual online at minnkota.johnsonoutdoors.com.

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FCC COMPLIANCE

This device complies with Part 15 of the FCC rules. **Operation is subject to the following two conditions:**

1. This device may not cause harmful interference.
2. This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Johnson Outdoors Marine Electronics, Inc. could void the user's authority to operate this equipment.

NOTICE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. **If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:**

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INDUSTRY CANADA COMPLIANCE

This product meets the applicable Industry Canada technical specifications. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by Johnson Outdoors Marine Electronics, Inc. could void the user's authority to operate this equipment.

ENVIRONMENTAL RATINGS

Ambient operating temperature range: -10C to 50C
Ambient operating humidity range: 5% to 95%
Maximum operating altitude: 10,000 feet

ULTERRA COMPLIANCE

Advanced GPS Navigation Equipped Motors

CONTROLLER

- FCC: T7V1316
- IC: 216Q-1316

REMOTE

- FCC: QOQ-GM220P
- IC: 5123A-GM220P

OR

- FCC: QOQBLE121LR
- IC: 5123A-BGTBLE121LR

RADIO OPERATION

NON-EUROPEAN

- Frequency band: 915 MHz to 921 MHz
- Maximum RF power transmitted: 0 dBm

EUROPEAN

- Frequency band: 864 MHz to 870 MHz
- Maximum RF power transmitted: 0 dBm

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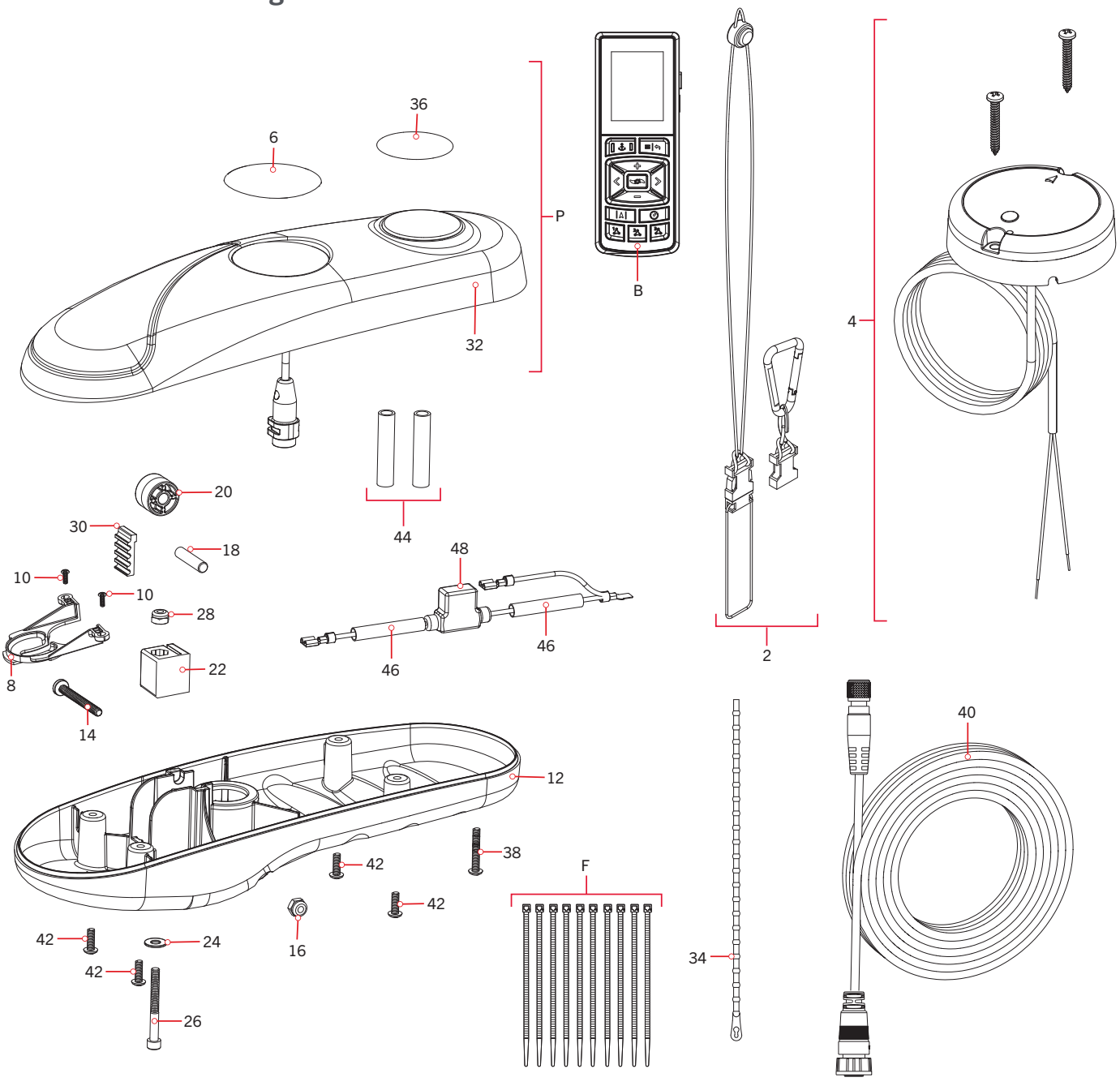
PARTS DIAGRAM & PARTS LIST

ULTERRA - 80/112 LBS THRUST - 24/36 VOLT - 45"/60" SHAFT

The parts diagram and parts list provide Minn Kota® WEEE compliance disassembly instructions. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased. Tools required, but not limited to: flat head screwdriver, Phillips screwdriver, socket set, pliers, wire cutters.

ULTERRA CONTROL HEAD

Control Head Parts Diagram



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Control Head Parts List

Assembly	Part #	Description	Notes	Quantity
P	2774124	CTRL KIT 4.0, DB ULTERRA 1.5		1
B	411690-1	TROLLING MOTOR REMOTE		1
F	2996300	BAG ASM, TIE WRAPS, LOW PRO 4"		1
Item	**Part #**	**Description**	**Notes**	**Quantity**
2	2390802	LANYARD w/CARABINR,IP RMT		1
4	2996405	HEADING SENSOR ASSEMBLY		1
6	2395562	DECAL,PUSH BTN TOP 80 LB	*80LB THRUST*	1
	2395563	DECAL,PUSH BTN TOP 112 LB	*112LB THRUST*	1
8	2224706	PLUG, SCREW-DOWN, BLK		1
10	2372103	SCREW. #6 x 3/8 PLASTITE		2
12	2202506	CONTROL BOX BOTTOM, FW		1
14	2383407	SCREW-#10-24 X 2" PPH ZINC		1
16	2333101	NUT-HEX #10-24 UNC-2B NYL SS		1
18	2202635	PIN-DOWEL, 1/4" OD SS		1
20	2202335	PULLEY, BELT, TOP		1
22	2202800	BLOCK, BELT		1
24	2201721	WASHER-#10 SAE, SS		1
26	2203411	SCREW-#10-24,SHCS,SS, RIE 4606		1
28	2333101	NUT-HEX #10-24 UNC-2B NYL SS		1
30	2200800	BELT-RACK, LOWER		1
32	2200208	CONTROL BOX COVER, FW		1
34	2206305	TIE WRAP, REUSABLE RED, 8"		1
36	2395524	DECAL, DOMED FW		1
38	2203403	SCREW-#6 X 1.0 BRASS HI-LO		1
40	490575-3	CABLE, ADPTR, 14 PIN, 110"-DSC	*DUAL SPECTRUM CHIRP*	1
	490507-1	CABLE, ADP-INT MDI 14 M12-120"	*DOWN IMAGING*	1
42	2372100	SCREW-#8-18 X 5/8 THD* (SS		4
44	2065400	WIRE INSULATOR-LGE 1-3/4,BLUE		2
46	2375400	SHRINK TUBE-1/4OD X 1-3/4		2
48	2218201	FUSE HOLDER ASSEMBLY		1
▲	2207137	MANUAL, ULTERRA B-27		1
▲	2207138	INSTALL GUIDE, ULTERRA B-27		1
▲	2207140	QUICK. REF. GUIDE, ULTERRA B-27		1
▲	2397110	MANUAL, iPILOT 4.0		1
▲	2207143	QRG INSTINCT/ULTERRA		1
▲	2394900	INSTRUCTIONS, HEADING SENSOR		1
▲	2015800	HANG TAG. "CAUTION...TILT HINGE"		1

▲ *Not shown on Parts Diagram.*

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

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Item	Part #	Description	Notes	Quantity
▲	2207139	CHECKLIST, ULTERRA B-27		1
▲	2256300	TIE WRAP-6.0" BLACK		2
	2256300	TIE WRAP-6.0" BLACK	*60" DOWN IMAGING*	4
▲	2006819	LABEL-CARTON "CAUTION HEAVY"		1
▲	2205412	SHRINK TUBE-.75 ID X 2"		1
▲	2206301	TIE WRAP LOW PROFILE 8"		1

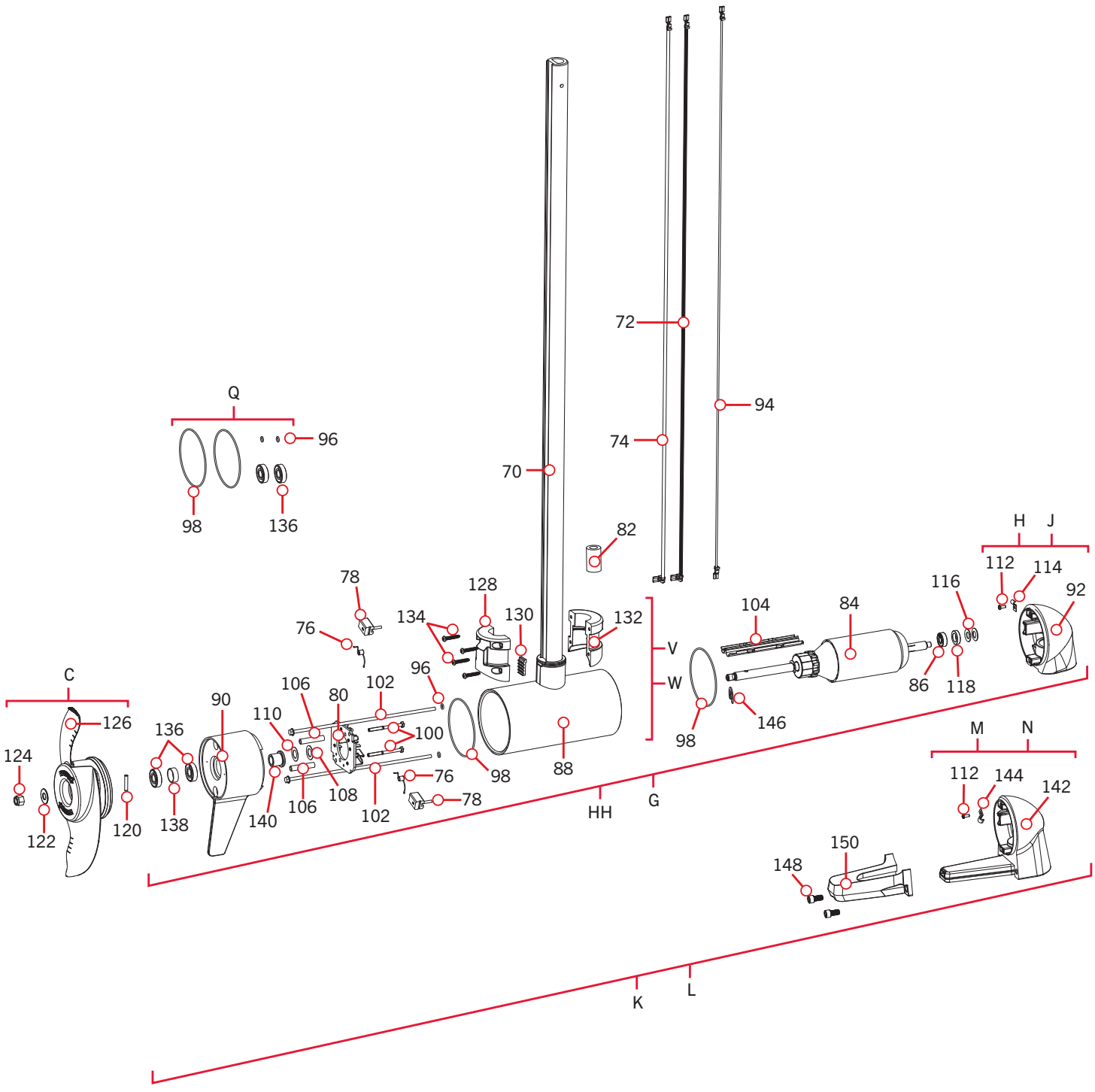
▲ *Not shown on Parts Diagram.*

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

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ULTERRA 24-VOLT 4” MOTOR ›

› 24-Volt 4” Motor Parts Diagram



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24-Volt 4” Motor Parts List

Assembly	Part #	Description	Notes	Quantity
V	2777098	CTR HSG ASY, CB, 80#, FW, 45" TUBE	*TUBE*	1
W	2777099	CTR HSG ASY, CB, 80#, FW, 60" TUBE	*TUBE*	1
HH	2777125	MTR/TUBE ASM 24V DSC 45"80#	*DUAL SPECTRUM CHIRP* *45"*	1
G	2777126	MTR/TUBE ASM 24V DSC 60"80#	*DUAL SPECTRUM CHIRP* *60"*	1
H	2993020	PLN END HSG/TRDCR 4.0 DSC	*DUAL SPECTRUM CHIRP* *45"*	1
J	2993025	PLN END HSG/TRDCR 4.0 DSC	*DUAL SPECTRUM CHIRP* *60"*	1
K	2777137	MTR/TUBE ASM 80# 45"ULT/MDI BT	*DOWN IMAGING* *45"*	1
L	2777136	MTR/TUBE ASM 80# 60"ULT/MDI BT	*DOWN IMAGING* *60"*	1
M	2993051	PLN END HSG/TRNDCR 4.0 MDI 63"	*DOWN IMAGING* *45"*	1
N	2993054	PLN END HSG/TRNDCR 4.0 MDI 79"	*DOWN IMAGING* *60"*	1
C	1378132	PROP IND 2331160 WDLS WDG II	*80LB THRUST*	1
Q	2889460	SEAL & O-RING KIT	*80LB THRUST*	1
Item	Part #	Description	Notes	Quantity
70	✖	PULT-RGB1.30-D25	*DUAL SPECTRUM CHIRP* *45"*	1
	✖	PULT-RGB1.30-D25	*DUAL SPECTRUM CHIRP* *60"*	1
	✖	PULT-MGB1.30-D25-63CHCBSE2	*DOWN IMAGING* *60"*	1
	✖	PULT-MGB1.30-D25-48CHCBSE2	*DOWN IMAGING* *45"*	1
▲	✖	SEAL,BUNG UPPER,FW		1
▲	✖	SEAL,BUNG LOWER		1
72	640-016M	LEADWIRE BLK 10AWG 56 1/2 XLP	*45"*	1
	640-022M	LEADWIRE BLK 10 AWG 72.5 XLP	*60"*	1
74	640-118M	LEADWIRE RED 10 AWG 56 XLP	*45"*	1
	640-126M	LEADWIRE RED 10AWG 71" XLP	*60"*	1
▲	✖	BRUSH HOLDER		2
76	975-041	SPRING - TORSION		2
78	188-094	BRUSH W/TERMINAL		2
80	9-738-015	BRUSH PLATE-4" terminal		1
82	✖	BEAD-FERRITE	*DOWN IMAGING*	1
▲	✖	RIVET-.25"		6
▲	2260730	CONNECTOR 1/4 MALE TAB QD		2
84	2-100-214	ARM ASSY 24V 4" 80# (WW2)		1
86	140-010	BEARING - BALL		1
88	✖	CTR HSG ASY 4.0 FW -MGNTZ	*ASSEMBLY D OR E*	1
90	2-300-170	BRUSH END HSG ASY 4.0 FW		1
92	✖	PLN END HSG 4.0" US2.5/DSC PNT	*DUAL SPECTRUM CHIRP*	1
94	640-315M	LEADWIRE BROWN 18 AWG 62" GPT	*45"*	1
	640-316M	LEADWIRE BROWN 18 AWG 71" GPT	*60"*	1

▲ *Not shown on Parts Diagram.*

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

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PARTS DIAGRAM & PARTS LIST

Item	Part #	Description	Notes	Quantity
96	701-009	O-RING	*THRU BOLT*	2
98	701-043	O-RING		2
100	830-027	SCREW - SELF-THREAD 10-32X2.25		2
102	830-095	THRU BOLT 12-24 x 9.79		2
104	582-013	CLIP, RETAINING SHORT		1
106	973-025	SPACER - BRUSHPLATE		2
108	990-051	WASHER - STEEL THRUST		1
110	990-052	WASHER - NYLATRON		1
112	2302104	SCREW-#6-20 X 3/8 THD CUTS,RIE		1
114	230-038	CABLE CLAMP	*DUAL SPECTRUM CHIRP*	1
116	992-010	WASHER - BELLEVILLE		2
118	990-045	SPACER - THRUST		1
120	2262658	PIN-DRIVE 1" X 3/16" S/S		1
122	2091701	WASHER-PROP (LARGE) MAX101		1
124	2093101	NUT-PROP,NYLOC,LG,MX101 3/8 SS		1
126	2331161	PROP-WW2 4" WELDED		1
128	2201505	COLLAR, BELT CLAMP		1
130	2200800	BELT-RACK, LOWER		1
132	2201500	COLLAR, CLAMP		1
134	3393480	SCREW-#10 X 1.0" PPH HI-LO SS		4
136	880-025	SEAL		2
138	725-095	PAPER TUBE - SEAL BORE		1
140	144-017	BEARING - FLANGE		1
142	✖	PLAIN END HOUSING, PNT 4.0 DI	*DOWN IMAGING*	1
144	230-040	CABLE CLAMP, 1/4" STEEL	*DOWN IMAGING*	1
146	788-040	RETAINING RING		1
148	830-110	SCREW 5-16 - 18 X 5/8 SHCS SS	*DOWN IMAGING*	2
150	792-001	GUARD TRANSDUCER, PNT 4.0 DI	*DOWN IMAGING*	1
▲	✖	DSC XDUCER ASSY 62" HW T	*DUAL SPECTRUM CHIRP*	1
	✖	DSC XDUCER ASSY 79" HW T	*DUAL SPECTRUM CHIRP*	1
▲	✖	BUILT- IN MDI 63" SW	*DOWN IMAGING*	1
	✖	BUILT- IN MDI 80" SW	*DOWN IMAGING*	1
▲	✖	SCREW-#6-32 X 1/2" TORX PH SS		3

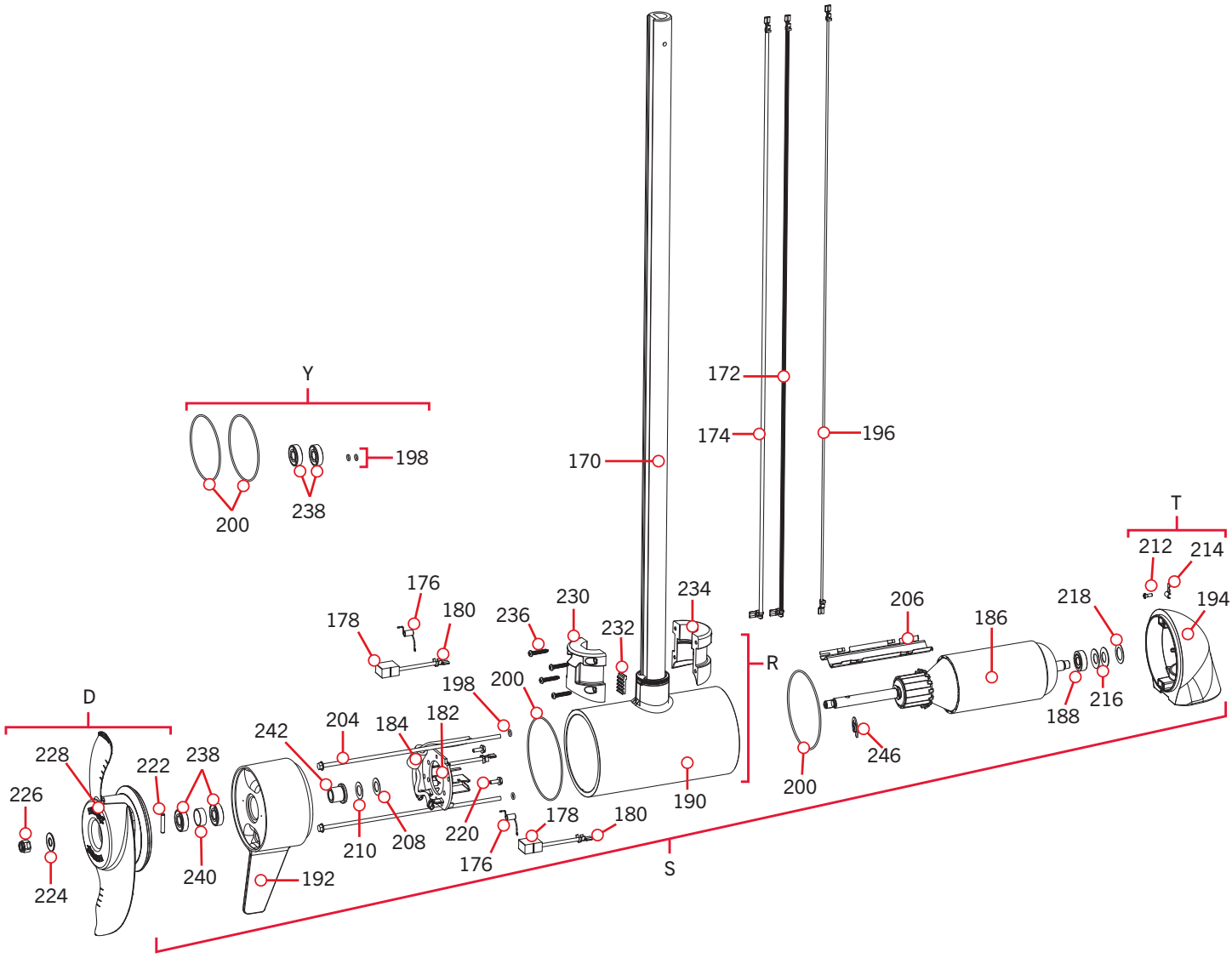
▲ *Not shown on Parts Diagram.*

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

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ULTERRA 36-VOLT 4.5” MOTOR ›

36-Volt 4.5” Motor Parts Diagram



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36-Volt 4.5” Motor Parts List

Assembly	Part #	Description	Notes	Quantity
R	2777249	CTR HSG ASY,CB,112#,FW,60"TUBE	*TUBE*	1
S	2777064	MTR/TUBE ASM 36V DSC 60"112#	*DUAL SPECTRUM CHIRP*	1
T	2993024	PLN END HSG/TRDCR 4.5 DSC	*DUAL SPECTRUM CHIRP*	1
D	1378160	PROP KIT 2341160 112# WW2	*112LB THRUST*	1
Y	2881450	SEAL & O-RING KIT 112#		1
Item	**Part #**	**Description**	**Notes**	**Quantity**
170	✖	PULT-RGB1.30-D25		1
▲	✖	SEAL,BUNG UPPER,FW		1
▲	✖	SEAL,BUNG LOWER		1
172	640-045M	LEADWIRE BLK 10AWG 76 1/2" GPT	*DOWN IMAGING*	1
174	640-145M	LEADWIRE RED 10AWG 75 7/8" GPT		1
▲	✖	BRUSH HOLDER		2
176	975-045	SPRING-TORSION		2
178	188-095	BRUSH		2
180	2260731	TERMINAL 1/4" MALE TAB-THREE		2
▲	✖	RIVET-.25"		8
182	9-738-011	BRUSH PLATE		1
184	2307312	BEAD-FERRITE	*M SKU*	1
186	2-100-245	ARMATURE ASY 4.5"LWR UNIT		1
188	140-014	BEARING-BALL 6000		1
190	✖	CTR HSG ASY 4.5" MAG FW CB TER	*ASSEMBLY R*	1
192	2-300-175	BRUSH END HSG 4.5" FW		1
194	✖	PLN END HSG 4.5" US2.5 PNT FW	*DUAL SPECTRUM CHIRP* *ASSEMBLY T*	1
196	640-316M	LEADWIRE BROWN 18 AWG 71" GPT		1
198	701-009	O-RING	*THRU BOLT*	2
200	701-098	O-RING, 98MM X 2MM		2
204	830-094	THRU BOLT 12-24 X10.31		2
206	582-016	CLIP-RETAINING, SONAR		1
208	990-051	WASHER - STEEL THRUST		1
210	990-052	WASHER - NYLATRON		1
212	2302104	SCREW-#6-20 X 3/8 THD CUTS,RIE		1
214	230-038	CABLE CLAMP	*DUAL SPECTRUM CHIRP*	1
216	992-011	WASHER-BELLEVILLE		2
218	990-011	WASHER-SHIM OD 1",ID.630"SS		1
220	2053410	SCREW-#8-32 X 1/2 TRI-LOBE HEX		2
222	2262658	PIN-DRIVE 1" X 3/16" S/S		1
224	2091701	WASHER-PROP (LARGE) MAX101		1

▲ *Not shown on Parts Diagram.*

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

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Item	Part #	Description	Notes	Quantity
226	2093101	NUT-PROP,NYLOC,LG,MX101 3/8 SS		1
228	2341161	PROP-WW2 4.5" WELDED		1
230	2201505	COLLAR, BELT CLAMP		1
232	2200800	BELT-RACK, LOWER		1
234	2201500	COLLAR, CLAMP		1
236	3393480	SCREW-#10 X 1.0" PPH HI-LO SS		4
238	880-025	SEAL		2
240	725-095	PAPER TUBE		1
242	144-017	BEARING - FLANGE		1
246	788-040	RETAINING RING		1
▲	✖	DSC XDUCER ASSY 79" HW T	*DUAL SPECTRUM CHIRP*	1
▲	✖	SCREW-#6-32 X 1/2" TORX PH SS		3

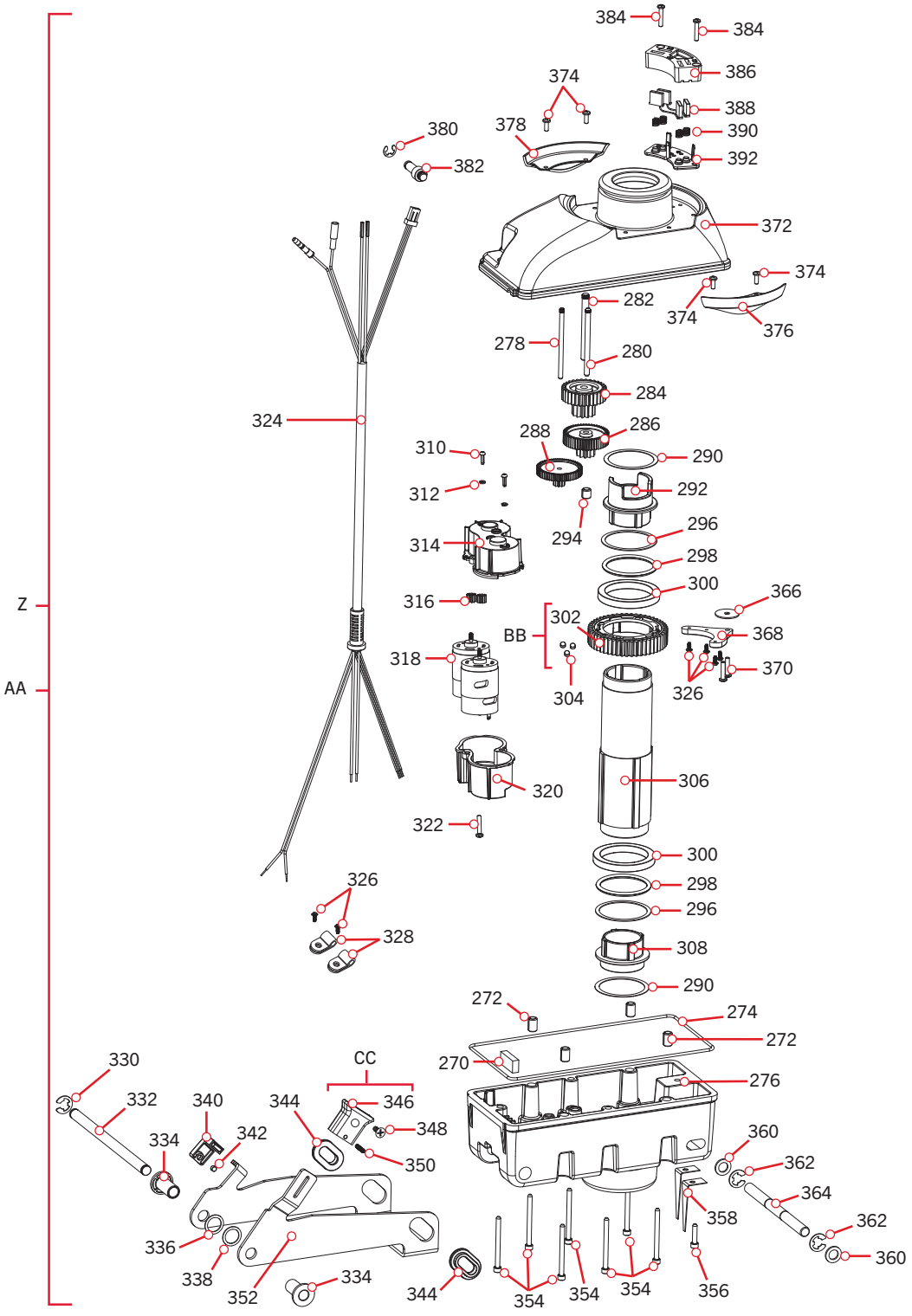
▲ *Not shown on Parts Diagram.*

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

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ULTERRA STEERING HOUSING

Steering Housing Parts Diagram



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Steering Housing Parts List

Assembly	Part #	Description	Notes	Quantity
Z	2996521	ASM, STEERING 24V	*80LB THRUST*	1
AA	2996522	ASM, STEERING 36V	*112 LB THRUST*	1
BB	2772200	OUTPUT GEAR W/MAGNETS		1
CC	2770100	RELEASE KNOB WITH SCREW KIT		1
Item	**Part #**	**Description**	**Notes**	**Quantity**
270	2308601	BREATHER FILTER, DR.HOUSING		1
272	✖	PIN-ROLL 5/16" X 1/2"		4
274	2324604	O-RING, CASE SEAL		1
276	✖	HOUSING-STEERING, BTM, FW	*SEE Z OR AA*	1
278	✖	SHAFT-GEAR, FIRST CLUSTER		1
280	✖	SHAFT-GEAR,INTERMED.CLUSTER		1
282	✖	SHAFT-GEAR, THIRD CLUSTER		1
284	2302255	GEAR & PINION,DR. HSG, STAGE 4		1
286	2302250	GEAR & PINION,DR. HSG, STAGE 3		1
288	2322210	GEAR & PINION, DR.HSG, STAGE 2		1
290	2321704	WASHER-THRUST, STEERING		2
292	2201510	COLLAR-DRIVE, OUTPUT TUBE		1
294	2321730	SPACER,GEAR CLUSTER,STEER HSG		1
296	2321720	SHIM,O-RING		2
298	2324608	O-RING,224,STR HSG		2
300	2327308	BEARING-BALL,SEALED,6809-2RS		2
302	2322200	GEAR-OUTPUT		1
304	✖	MAGNET-.187X.125 NCKL PLT(N/A)	*SEE BB*	3
306	2322030	TUBE-OUTPUT, MACHINED		1
308	2321510	COLLAR-DRIVE,BOTTOM		1
310	2053422	SCREW-M3-.5 X 10 PPH, ZPS		2
312	2051710	LOCKWASHER-SPLIT, 3MM, ZP		2
314	2322520	CASE-MOTOR,STRG HSG,TOP		1
316	2322215	GEAR-PINION, DR.HSG, STAGE 1		1
318	✖	MOTOR, STEERING 24V T2	*80LB THRUST*	1
	✖	MOTOR, STEERING 36V FW T2	*112LB THRUST*	1
320	2322525	CASE-MOTOR,STRG HSG,BTM		1
322	2043412	SCREW-#8-18 X 3/4 TY AB SS PPH		1
324	✖	LEADWIRE,STEERING MTR, 8 COND.		1
326	2373440	SCREW-#4-24 X 1/4 PHCR SS		6
328	2052510	CABLE CLAMP, 3/16", NYLON		2
330	2263011	E-RING 3/8 DIA. SHAFT*		1

▲ *Not shown on Parts Diagram.*

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

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PARTS DIAGRAM & PARTS LIST

Item	Part #	Description	Notes	Quantity
332	2202601	PIN-PIVOT, DRIVEHOUSING, ZP		1
334	2207310	BUSHING,STEERING HSG, PIVOT		2
336	2201730	WASHER-FLAT, .56 ID NYLON	*BLACK*	1
338	2201731	WASHER-FLAT, NYLON	*WHITE*	1
340	2208600	HOLDER-MAGNET w/MAGNET		1
342	✖	MAGNET-.187X.125 NCKL PLT(N/A)		1
344	2207305	BUSHING, LATCH PIN		2
346	2200100	KNOB, TILT RELEASE		1
348	2203407	SCREW-#6-32 X .625" PFH, SS		1
350	2383463	SCREW-#6-32 X .625"SET SS		1
352	2201910	BRACKET, TILT, ZP		1
354	2323408	SCREW-#8-32 X 2.0 SHCS SS		7
356	2323410	SCREW-#8-32 X .75 SHCS SS		1
358	2322702	SPRING, LATCH PIN SS		2
360	2321702	WASHER-FLAT .375 NYLON		2
362	2263011	E-RING 3/8 DIA. SHAFT*		2
364	2202626	PIN-LATCH, SS		1
366	2201723	WASHER-#6, .625 OD, SS		1
368	2201920	BRACKET-SENSOR, STEERING HSG		1
370	2302100	SCREW-#6-20 X 1/2 THD CUTS		2
372	✖	STEERING HSG COVER FW BLK		1
374	2332103	SCREW-#6-20 X 3/8 THD*(SS)		4
376	2205905	ADAPTER, STEERING HSG RIGHT		1
378	2205900	ADAPTER, STEERING HSG LEFT		1
380	2263006	E-RING, 5/16, S/S GAS ASSIST		1
382	2202902	STANDOFF, OIL DAMPENER		1
384	2203408	SCREW-#6-32 X 1.00" PPH, NYLON		2
386	✖	BLOCK-BRUSH, SLIPRING		1
388	✖	BRUSH SHUNT ASSEMBLY		2
390	✖	BUMPER BRUSH BLOCK		4
392	✖	INSULATOR, BLOCK-BRUSH		1
▲	✖	HOUSING, CONNECTOR WPJ		1
▲	3394602	WASHER-FLAT #8 SS		7

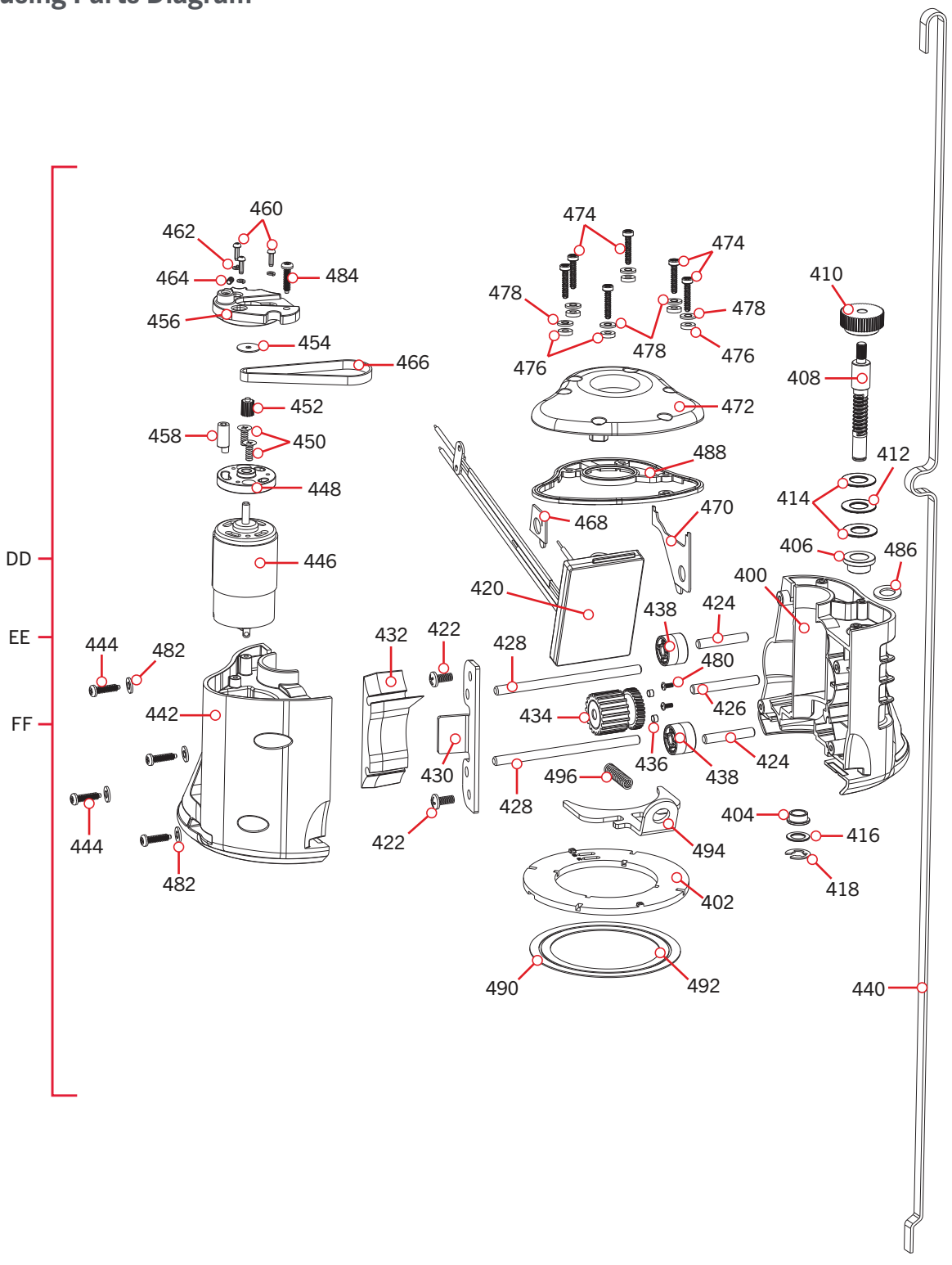
▲ *Not shown on Parts Diagram.*

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

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ULTERRA TRIM HOUSING

Trim Housing Parts Diagram



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Trim Housing Parts List

Assembly	Part #	Description	Notes	Quantity
DD	2887807	ASSY,TRIM MODULE, FW, 45"	*45"*	1
EE	2887803	ASSY,TRIM MODULE, FW, 60"	*60"*	1
FF	2887843	ASSY,TRIM MOD "M",FW, 60"	*60"* *M SKU*	1
Item	**Part #**	**Description**	**Notes**	**Quantity**
400	✖	HOUSING-TRIM, GEAR SIDE		1
402	✖	CARRIER, SLIPRING CONTACTS		1
404	✖	BUSHING, TRIM, BOTTOM		1
406	✖	BUSHING-HAT 1/2"SHFT BRNZ		1
408	✖	SHAFT-WORM		1
410	✖	PULLEY, TRIM JACKSHAFT, MACH.		1
412	✖	BEARING-THRUST, NEEDLE		1
414	✖	WASHER-THRUST, 1/2"		2
416	✖	WASHER-THRUST, 3/8"		1
418	✖	E-RING 3/8 DIA. SHAFT*		1
420	✖	BOARD ASSY, WIRELESS TRIM		1
422	✖	SCREW-#4-24 X 1/4 PHCR SS TY B		2
424	✖	PIN, BELT PULLEY		2
426	✖	PIN, 2' X 1/4"		1
428	✖	PIN-DOWEL, 1/8"		2
430	✖	BRACKET, DRIVE BLOCK		1
432	✖	BLOCK, TUBE DRIVE		1
434	✖	GEAR/PULLEY-WORM, CLUSTER ASM		1
436	✖	MAGNET-.187X.125 NCKL PLT(N/A)		2
438	✖	PULLEY, BELT, TOP		2
440	2770816	BELT-LIFT 45" 5MM HTD		1
442	✖	HOUSING-TRIM, MOTOR SIDE		1
444	✖	SCREW -4MM DELTA PT SS		4
446	✖	MOTOR, TRIM		1
448	✖	PLATE-ADAPTER, LIFT MOTOR STEER MACH		1
450	✖	SCREW-M4 X 10 PFH, ZP		2
452	✖	PULLEY, LIFT MOTOR, MACHINED		1
454	✖	WASHER-#6, .625 OD, SS		1
456	✖	PLATE-MOTOR		1
458	2058411	TENSIONER-BELT		1
460	2053422	SCREW-M3-.5 X 10 PPH, ZPS		3
462	2051710	LOCKWASHER-SPLIT, 3MM, ZP		3
464	2053420	SCREW-SET-#8-32 X 1/4" S/S		1

▲ *Not shown on Parts Diagram.*

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

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Item	Part #	Description	Notes	Quantity
466	2200810	BELT-TRIM		1
468	2206914	GASKET, TRIM HSG ASM, LFT, BLK		1
470	2206915	GASKET, TRIM HSG ASM, RIGHT BLK		1
472	2206410	COVER, TRIM HOUSING		1
474	2203401	SCREW -4MM DELTA PT SS		6
476	3391732	WASHER, SEALING		6
478	3394602	WASHER-FLAT #8 SS		6
480	2373440	SCREW-#4-24 X 1/4 PHCR SS		2
482	3394602	WASHER-FLAT #8 SS		4
484	2203401	SCREW-4MM DELTA PT SS		1
486	✖	O-RING, 014-BUNA N, ULTERRA		1
488	2206911	GASKET, TRIM HOUSING ASSEBMLY BLK		1
490	✖	RING-CONTACT, SLIPRING LARGE		1
492	✖	RING-CONTACT, SLIPRING SMALL		1
494	✖	HANDLE, TRIM HSG RELEASE, ZP		1
496	✖	SPRING-5/16" OD, SS		1

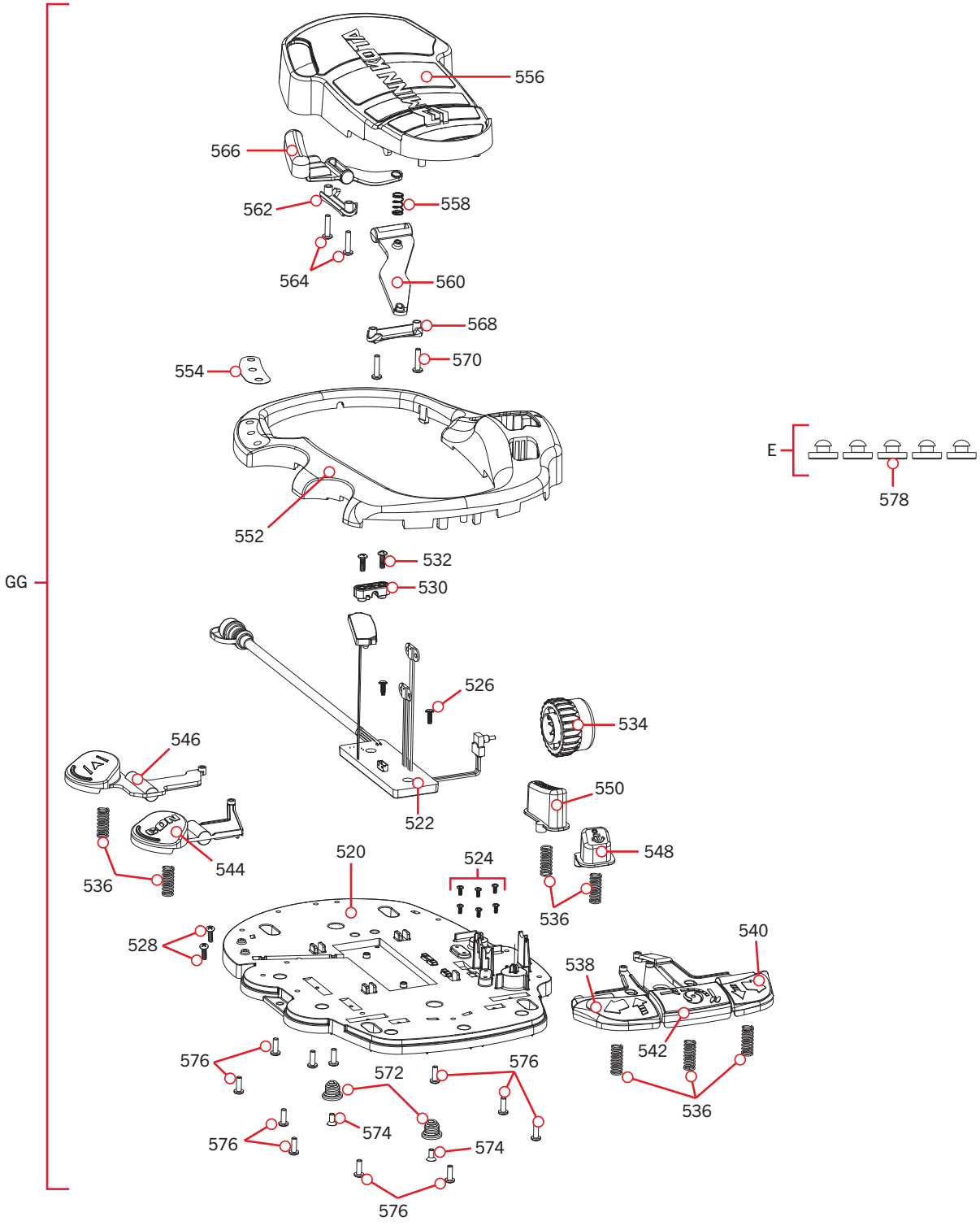
▲ *Not shown on Parts Diagram.*

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

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ULTERRA FOOT PEDAL

Foot Pedal Parts Diagram



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Foot Pedal Parts List

Assembly	Part #	Description	Notes	Quantity
GG	2994743	FT PEDAL ASM ULTERRA 1.5		1
E	2994859	BAG ASY-TERROVA/V2,RUB.BUMPERS		1
Item	**Part #**	**Description**	**Notes**	**Quantity**
520	2204501	BASE PLATE, FOOT PEDAL		1
522	✖	PCB ASSY, ULTERRA		1
524	2373440	SCREW-#4-24 X 1/4 PHCR SS TY B		6
526	2372103	SCREW-#6 X .375 PLASTITE SS		2
528	2302100	SCREW-#6-20 X 1/2 THD CUTS		2
530	2322900	STRAIN RELIEF, FOOT PEDAL		1
532	2372100	SCREW-#8-18 X 5/8 THD* (SS		2
534	2320100	KNOB-SPEED, FOOT PEDAL		1
536	2322704	SPRING, LARGE SHORT SS		7
538	2203710	BUTTON,LFT STR w/TRIM UP ARROW		1
540	2203711	BUTTON,RGT STR w/TRIM UP ARROW		1
542	2203715	BUTTON, MOMENTARY/STOW-DEPLOY		1
544	2323715	BUTTON,MOM/CON,FT PEDAL		1
546	2323726	BUTTON, AP FOOT PEDAL		1
548	2203720	BUTTON, SPOT LOCK,ULTERRA/TRRV		1
550	2203725	BUTTON, MODE, ULTERRA		1
552	2200201	COVER, HEEL TOE FT PEDAL OBN		1
554	2205605	DECAL, 3 INDICATORS, ULTERRA		1
556	2324401	PEDAL,HEEL/TOE FOOT PEDAL		1
558	2322714	SPRING (LEE #LC-029E-4-S) SS		1
560	2328600	FLEX FINGER, FOOT PEDAL		1
562	2321300	CLAMP-LEFT, FT PEDAL		1
564	2223430	SCREW-#8x3/4 PPH,TYPE 25,SS		2
566	2323710	BUTTON,MOM LEFT,FT PEDAL		1
568	2321300	CLAMP-LEFT, FT PEDAL		1
570	2223430	SCREW-#8x3/4 PPH,TYPE 25,SS		2
572	2322706	SPRING-BARREL SS		2
574	2323421	SCREW-#8-18 X 1/2" PFH SS TY B		2
576	2301310	SCREW-#8-18 X 1/2 (SS)*		11
578	2325110	PAD, FOOTPEDAL		5

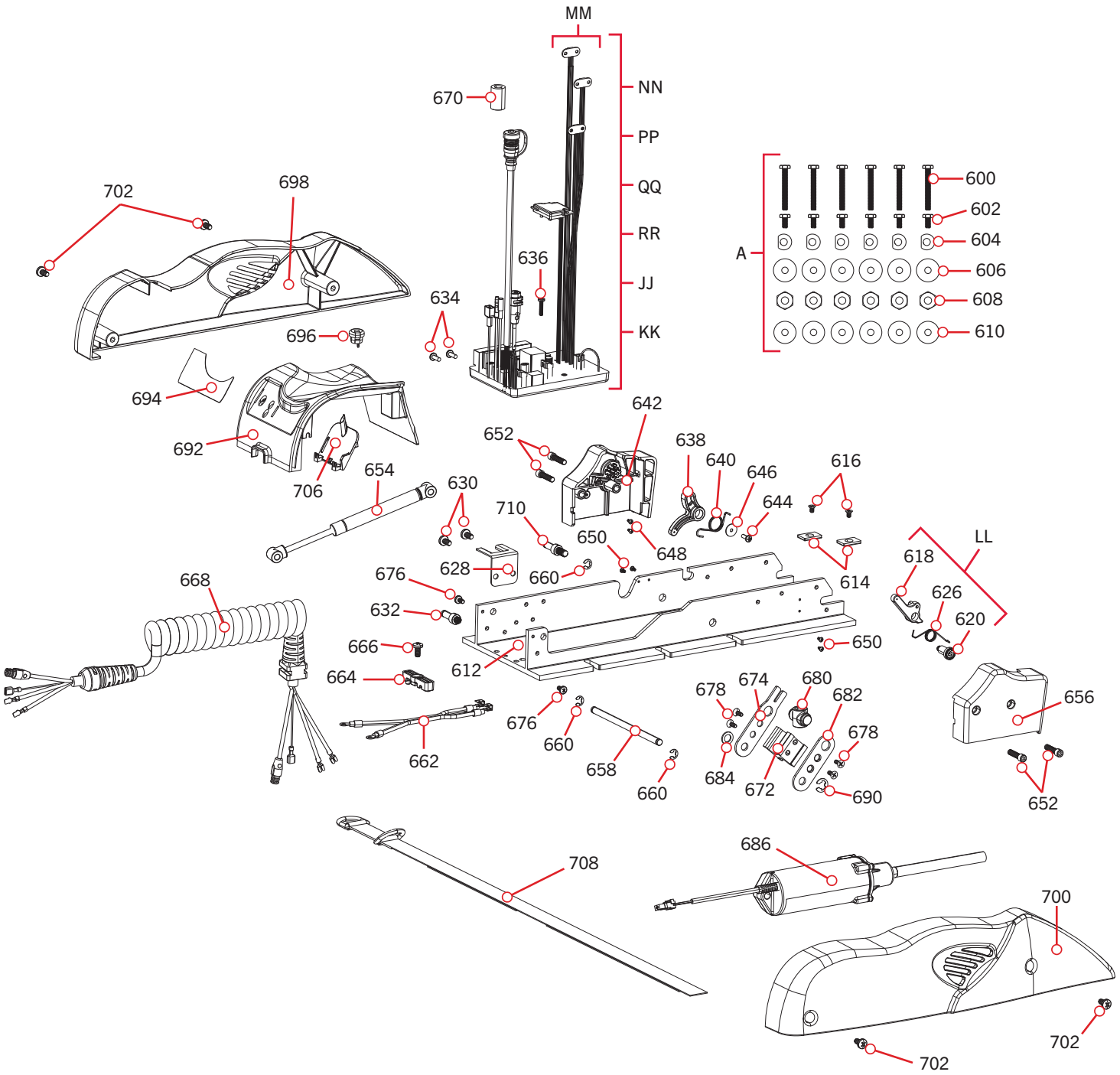
▲ *Not shown on Parts Diagram.*

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

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ULTERRA MOUNT

Mount Parts Diagram



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Mount Parts List

Assembly	Part #	Description	Notes	Quantity
A	2994917	BAG ASSY, ULTERRA MTG HARDWARE		1
LL	2777903	CAM MAGNET ASM, ULTERRA		1
MM	2880350	SENSOR WIRE W/BUTT CONNECTORS		1
NN	2774070	MAIN CTRL BRD,US/AU/CA,24V,60"	*80LB THRUST* *60"*	1
PP	2774071	MAIN CTRL BRD,US/AU/CA,24V,45"	*80LB THRUST* *45"*	1
QQ	2774072	MAIN CTRL BRD,US/AU/CA,36V,60"	*112LB THRUST* *60"*	1
RR	2774073	MAIN CTRL BRD, EUR, 24V, 60"	*80LB THRUST* *60"* *EUROPE*	1
JJ	2774074	MAIN CTRL BRD, EUR, 24V, 45"	*80LB THRUST* *45"* *EUROPE*	1
KK	2774075	MAIN CTRL BRD, EUR, 36V, 60"	*112LB THRUST* *60"* *EUROPE*	1
Item	Part #	Description	Notes	Quantity
600	2203430	SCREW-1/4-20 X 2.0 HHCS SS		6
602	2203431	SCREW-1/4-20 X 0.5 HHCS SS		6
604	2201725	WASHER-CLIPPED, 1/4", 1.00" OD		6
606	2261713	WASHER-1/4 FLAT 18-8 SS		6
608	2263103	NUT-1/4-20 NYLOCK SS		6
610	2301720	WASHER-MOUNTING - RUBBER		6
612	2201901	BASE, MACHINED, FW		1
614	2205105	PAD, STOP		2
616	2203420	SCREW-#10-24 X 5/16 PFH		2
618	2207913	CAM, PIN SENSOR w/MAGNET SW		1
620	2203504	BOLT-SHOULDER,PLASTIC OVERMOLD		1
626	2042711	SPRING-TORSION, SS		1
628	2200821	CLIP-CORD, ZP		1
630	2323404	SCREW-1/4-20 X 1/2" T-L ZP		2
632	2202902	STANDOFF, OIL DAMPENER		1
634	2323406	SCREW-#10-24 X .50 CRPH SS		2
636	2373487	SCREW-#8-32 X 3/4" PPH MACH SS		1
638	2207905	RAMP/ACTUATOR ASM w/MAGNET		1
640	2202708	SPRING-TORSION,RGT HND WIND,SS		1
642	2203946	RAMP-MOTOR, LEFT 80# FW	*80LB THRUST*	1
	2203947	RAMP-MOTOR, LEFT 112# SW	*112LB THRUST*	1
644	2301310	SCREW-#8-18 X 1/2 (SS)*		1
646	2201723	WASHER-#6, .625 OD, SS		1
648	2373440	SCREW-#4-24 X 1/4 PHCR SS TY B		2
650	2053411	SCREW-#4-40 X 1/4 PPH ZP		4
652	2263453	SCREW-1/4-20 X 1" SHCS S/S		4
▲	2200825	CLIP, SENSOR CABLE		2

▲ *Not shown on Parts Diagram.*

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

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PARTS DIAGRAM & PARTS LIST

Item	Part #	Description	Notes	Quantity
654	2208800	DAMPER, HYBRID, 80#	*80LB THRUST*	1
	2208802	DAMPER, HYBRID, 112#	*112LB THRUST*	1
656	2203911	RAMP-MOTOR, RIGHT, 80#	*80LB THRUST*	1
	2203912	RAMP-MOTOR, RIGHT, 112#	*112LB THRUST*	1
658	2202605	PIN, ACTUATOR, SS		1
660	2263006	E-RING,5/16,S/S GAS ASSIST		3
662	2090651	LEADWIRE,10 GA,PD/GENESIS		1
664	2321310	STRAIN RELIEF		1
666	2323405	SCREW-1/4-20 X 1/2" MCH SS		1
668	2991272	COIL CORD ASY 54/60"U.SONAR		1
670	2307313	BEAD-FERRITE		1
672	2203625	EXTRUSION-TILT,TIE BAR,ANODIZE		1
674	2204201	ARM-LIFT, INNER, ZP		1
676	2383447	SCREW-#10-32 X 3/8" PPH SS		2
678	2203410	SCREW-#10-32 X .5"		4
680	2203100	NUT, TILT MOTOR		1
682	2204206	ARM-LIFT, OUTER, ZP		1
684	2321702	WASHER-FLAT .375 NYLON		1
686	2997817	ASSEMBLY, TILT MOTOR, ULTERRA		1
690	2263011	E-RING 3/8 DIA. SHAFT*		1
692	2206510	HOUSING-CONTROL, BLACK		1
694	2205613	DECAL-PWR SWTCH,U1.5, FW		1
696	2202910	STRAIN RLF,HEYC SR 6N3-4		1
698	2203907	SIDEPLATE, LEFT		1
700	2203902	SIDEPLATE, RIGHT		1
702	2323405	SCREW-1/4-20 X 1/2" MCH SS		4
▲	2256300	TIE WRAP-5.5" BLACK		2
▲	2052510	CABLE CLAMP, 3/16", NYLON		2
706	2200823	CLIP, POWER BUTTON		1
708	2203801	STRAP, HOLD DOWN, ULTERRA		1
710	2202904	STANDOFF, DAMPENER STEERING		1
▲	2205412	SHRINK TUBE-.75 ID X 2"		1

▲ *Not shown on Parts Diagram.*

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

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NOTES

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RECOMMENDED ACCESSORIES

PRECISION 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

SHALLOW WATER ANCHORS

When you find fish, we're down. From the relentless Raptor to the trusted power of Talon, when you're ready to lock down fish in shallow water, we have your weapon.



RAPTOR
SHALLOW WATER ANCHOR

TALON
SHALLOW WATER ANCHOR

How to Dominate in Shallow Water

A shallow water anchor revolutionizes the way you stay on fish. Both Raptor and Talon give fish nowhere to run and nowhere to hide. Zero in on your target by keeping your boat in the exact position and orientation you want, with a whisper-quiet anchor and no prop to disturb sediment or spook fish.

Anchor in Anything

Raptor and Talon can adjust their anchoring force based on what kind of bottom you're anchoring into, so you get the right amount of power you need for a secure hold in rocks, silt, mud or sand. Raptor can even sense the bottom automatically, dialing in the right amount of force for the job.

Control from Anywhere

Raise and lower your anchor from the unit, a dedicated remote control, wireless remote, Minn Kota app, or Minn Kota fish finder.

MINN KOTA ACCESSORIES

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

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



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