

RIPTIDE TERROVA

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.

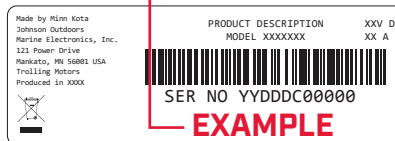
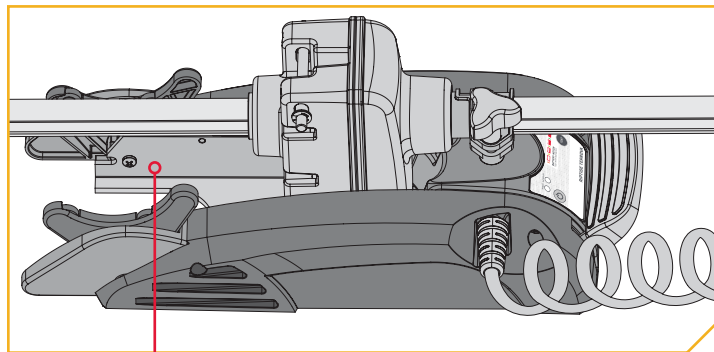
REGISTRATION

Remember to keep your receipt and immediately register your trolling motor 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 your Riptide Terrova is located inside the mount below the motor rests.



MOTOR INFORMATION (For Consumer Reference Only)

Model: _____

Serial Number: _____

Purchase Date: _____

Store Where Purchased: _____

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

Made for iPhone® 11 and iPhone X

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



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

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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.

WARRANTY

MINN KOTA SALTWATER/RIPTIDE TROLLING MOTORS

Minn Kota Saltwater/Riptide 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 saltwater 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 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 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 Customer Service 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 Customer
Service

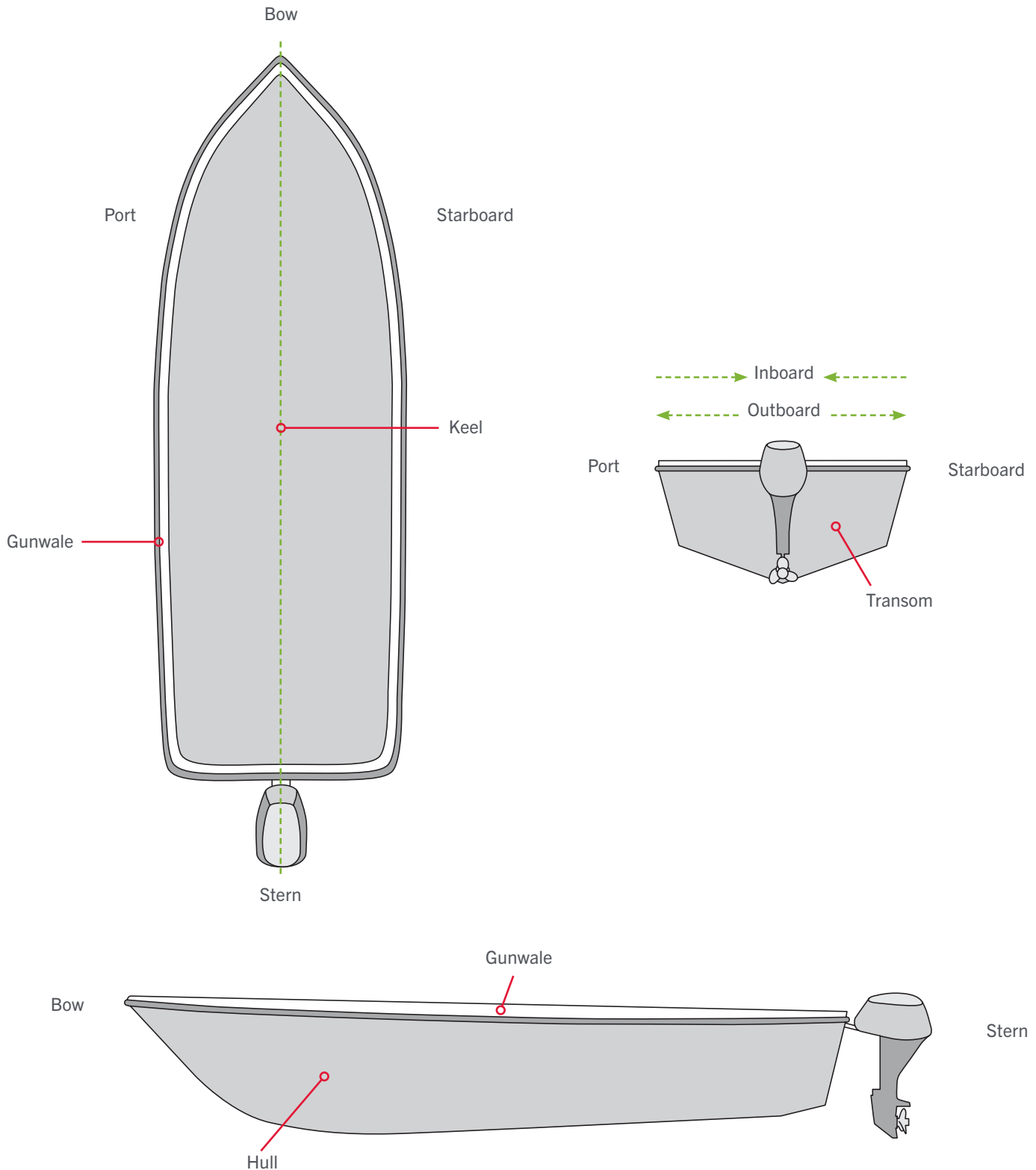


NOTICE: Do not return your Minn Kota product to your retailer. Your retailer is not authorized to repair or replace products.

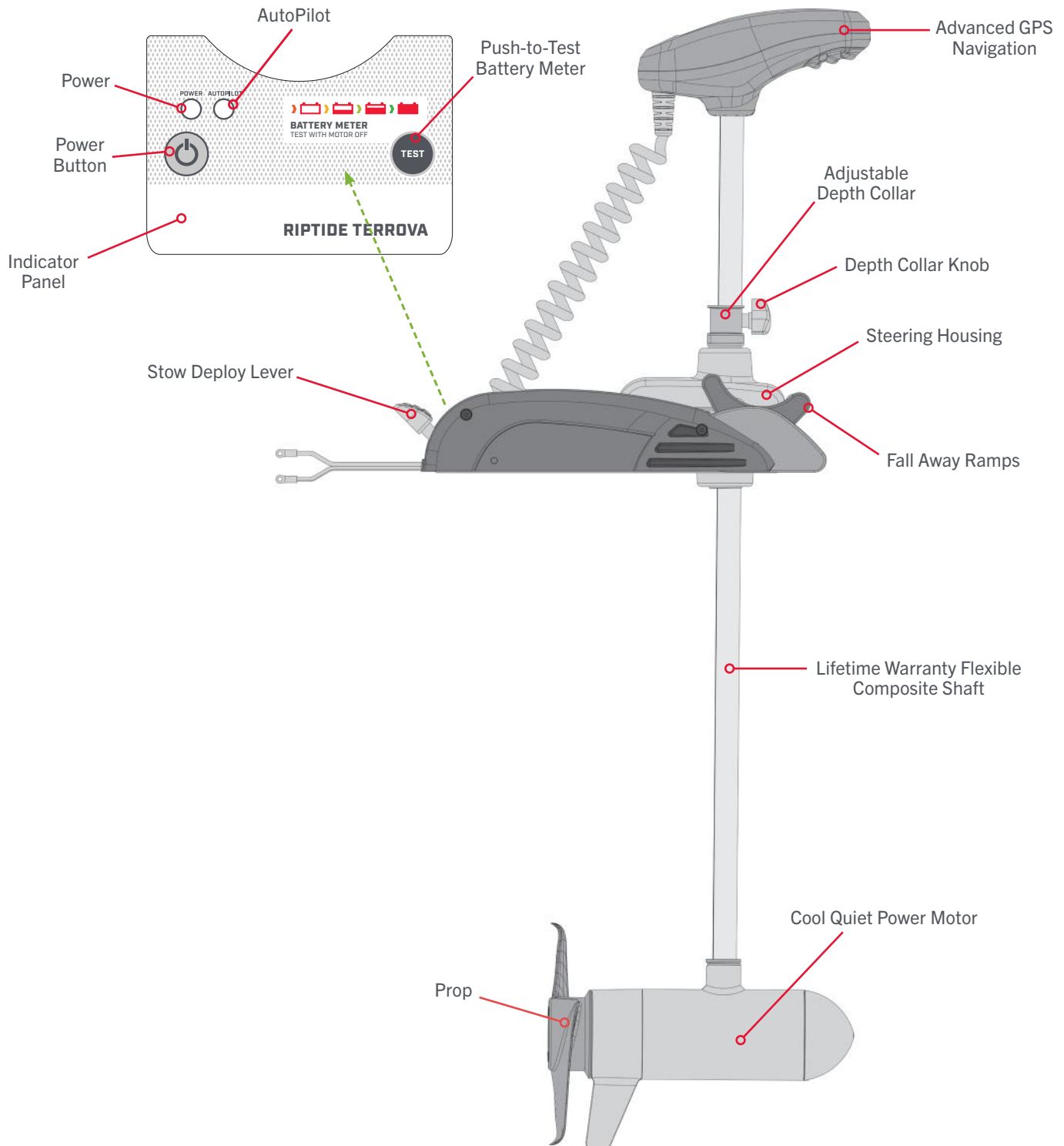
NOTICE: THERE ARE NO EXPRESS WARRANTIES OTHER THAN THESE LIMITED WARRANTIES. IN NO EVENT SHALL ANY IMPLIED WARRANTIES INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, EXTEND BEYOND THE DURATION OF THE RELEVANT EXPRESS LIMITED WARRANTY. IN NO EVENT SHALL JOME BE LIABLE 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.

KNOW YOUR BOAT



FEATURES



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

INSTALLATION

INSTALLING THE RIPTIDE TERROVA

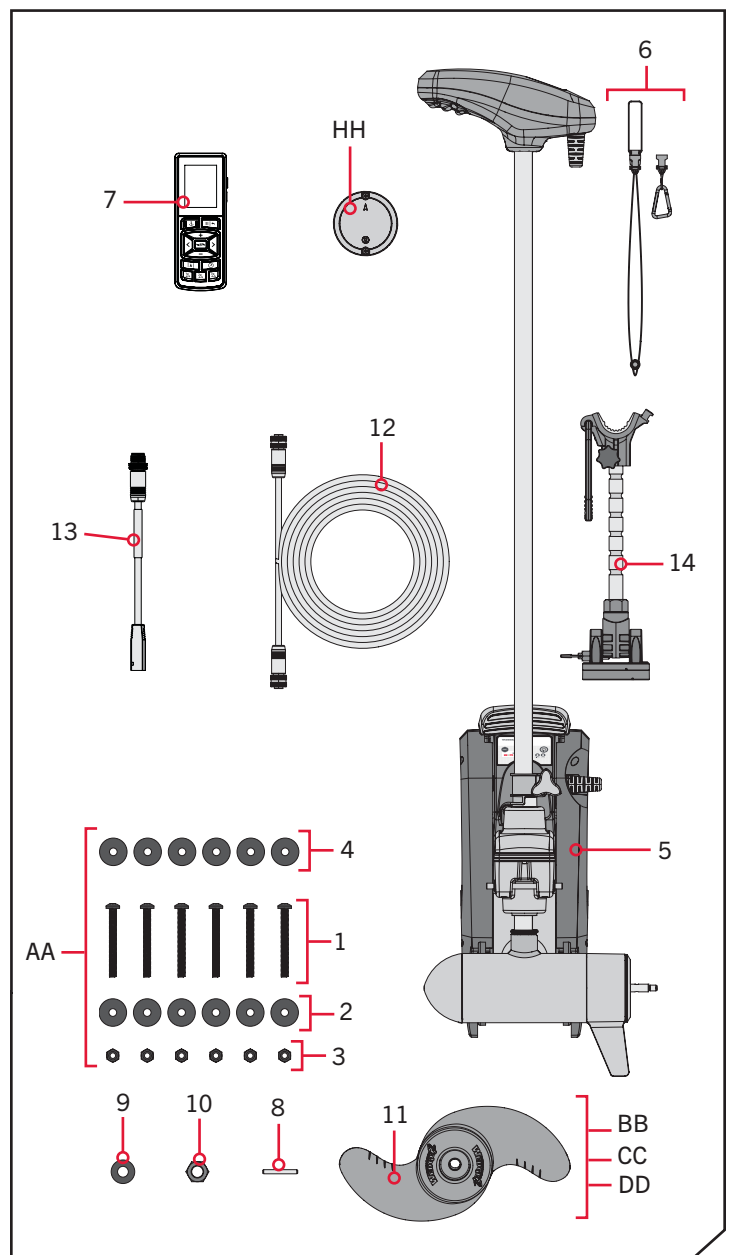
Your new Riptide Terrova comes with everything you'll need to directly install it to the boat. This motor can be directly mounted to the boat or coupled with a Minn Kota quick release bracket for ease of mounting and removal. For installation with a quick release bracket, refer to the installation instructions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

INSTALLATION PARTS LIST

Item /Assembly	Part #	Description	Qty.
AA Includes 1-4	2994864	BAG ASSEMBLY - (BOLT, NUT, WASHERS)	1
1	2263462	SCREW-1/4-20 X 2" S/S PPH ADJT	6
2	2261713	WASHER-1/4 FLAT 18-8 SS	6
3	2263103	NUT-1/4-20 NYLOCK SS	6
4	2301720	WASHER-MOUNTING - RUBBER	6
5	✱	MOTOR ASSEMBLY	1
6	2390802	LANYARD w/CARABINER IP RMT U2	1
7	411690-1	TROLLING MOTOR REMOTE	1
BB Includes 8-11	1378131	PROP IND 2091160 WDLs WDG II *55LB*	1
CC Includes 8-11	1378132	PROP IND 233160 WDLs WDG II *80LB*	1
DD Includes 8-11	1378160	PROP KIT 2341160 112# WW2 *112LB*	1
8	2092602	PIN-DRIVE 1.06 X 1/8 SS 17-4 *55LB*	1
	2262659	PIN-DRIVE 1" X 3/16 SS 17-4 *80LB* *112LB*	1
9	2151726	WASHER-5/16 STD (S/S) *55LB*	1
	2091701	WASHER-PROP (LARGE) *80LB* *112LB*	1
10	2053101	NUT-PROP,NYLOC (MED) 5/16 SS *55LB*	1
	2093101	NUT-PROP,NYLOC,LG, 3/8 SS *80LB* *112LB*	1
11	2091161	PROP-WW2 3 5/8" MACHINED *55LB*	1
	2331161	PROP-WW2 4" WELDED *80LB*	1
	2341161	PROP-WW2 4.5" WELDED *112LB*	1
12	490384-4	CABLE, ETHERNET (M12-M12), 30'	1
13	490380-1	CABLE, ETHERNET PIGTAIL-700 HD	1
14	2992371	STABILIZER, BWMT ES TM ASM *72"* *87"*	1
HH	2996400	HEADING SENSOR ASSEMBLY	1
▲	2327135	MANUAL, RT TERROVA 3 PM	1
▲	2327137	MANUAL-INSTLL GD RT T3 PM	1
▲	2377179	INSTR.SHEET, MKA-60 STABILIZER *72"* *87"*	1
▲	2397110	MANUAL, WIRELESS REMOTE	1
▲	2397115	GUIDE-QUICK REFERENCE iP 4.0	1
▲	2294950	INSTRUCTIONS, OBN & REMOTE PAIR	1
▲	2207131	STANDARD QS SETUP GUIDE	1
▲	2394900	INSTRUCTIONS, HEADING SENSOR	1

▲ Not shown on Parts Diagram.

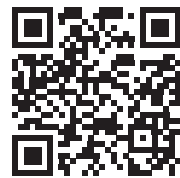
✱ This part is included in an assembly and cannot be ordered individually.



INSTALLING THE RIPTIDE TERROVA

MOUNTING CONSIDERATIONS

It is recommended that the motor be mounted as close to the 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

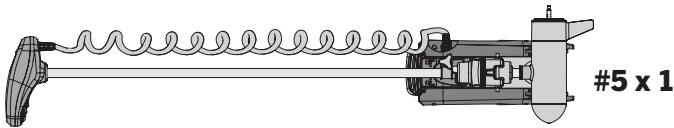
- #3 Phillips Screwdriver
- Drill
- 9/32" Drill Bit
- 7/16" Box/Open End Wrench
- 9/16" Box/Open End Wrench
- Pliers or Vice Grip
- A second person to help with the installation
- Flat-blade Screwdriver
- Awl or similar Marking Tool

INSTALLATION

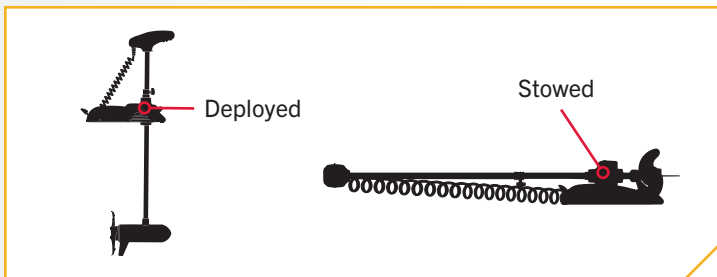
INSTALLING THE RIPTIDE TERROVA

1

ITEM(S) NEEDED



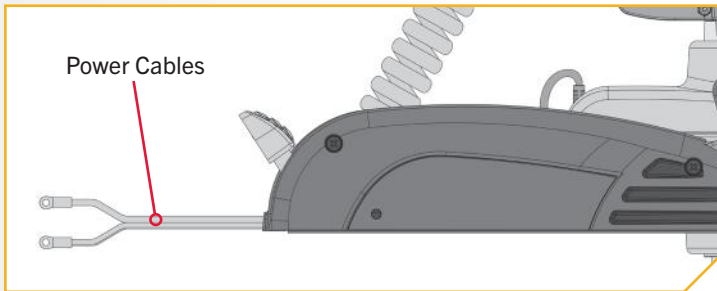
- Place the trolling motor (Item #5) on an elevated, level surface, such as a workbench or the tailgate of a pickup. The motor, as removed from the box, should be in the stowed position.
- Make sure the Power Cables are not connected to a power source or that the battery breaker, if equipped, is "off."



WARNING

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

NOTICE: The trolling motor weighs approximately 65 lb. Minn Kota recommends having a second person help with the installation.

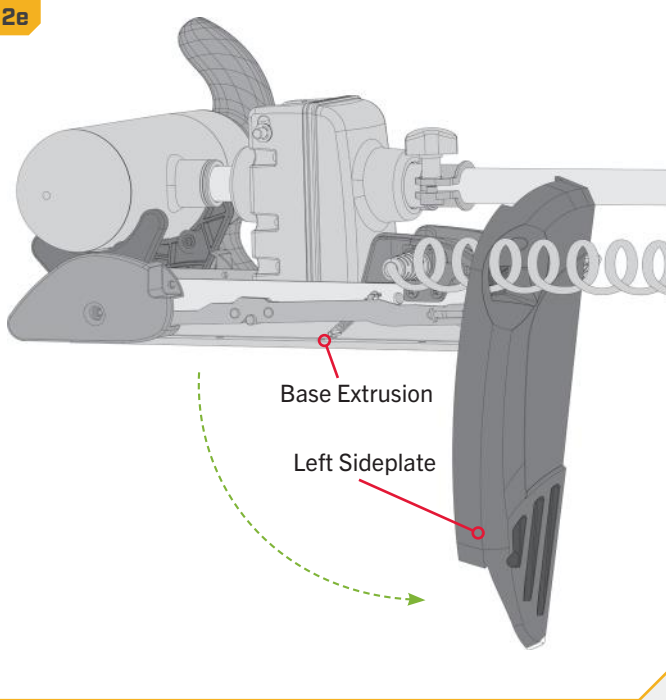


INSTALLING THE RIPTIDE TERROVA

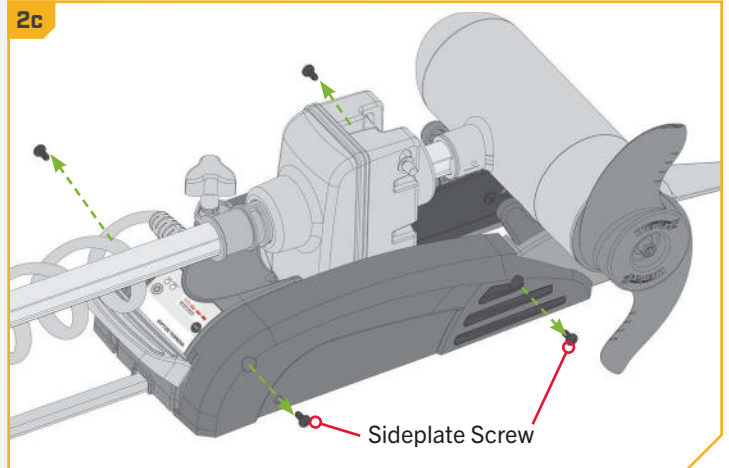
2

- c. Remove the four sideplate screws using a #3 Phillips Screwdriver. Two of these screws will be located on each side of the mount.
- d. Remove the Right Sideplate.
- e. Swing the Left Sideplate out and away from the Base Extrusion.

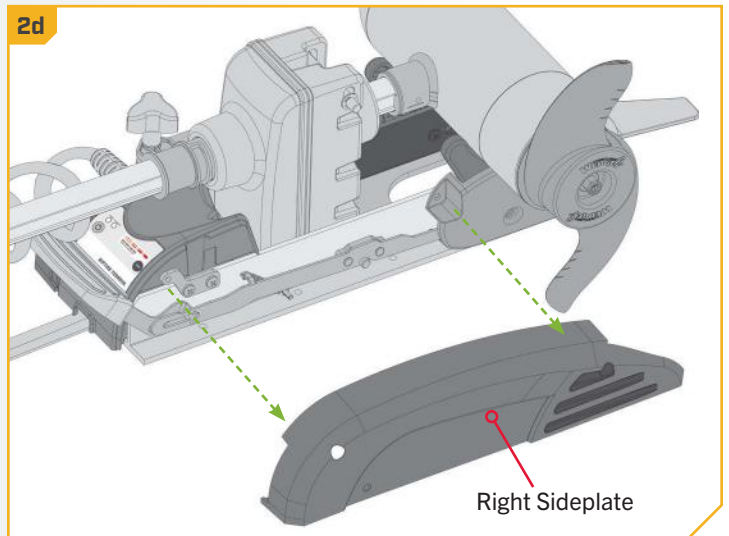
2e



2c

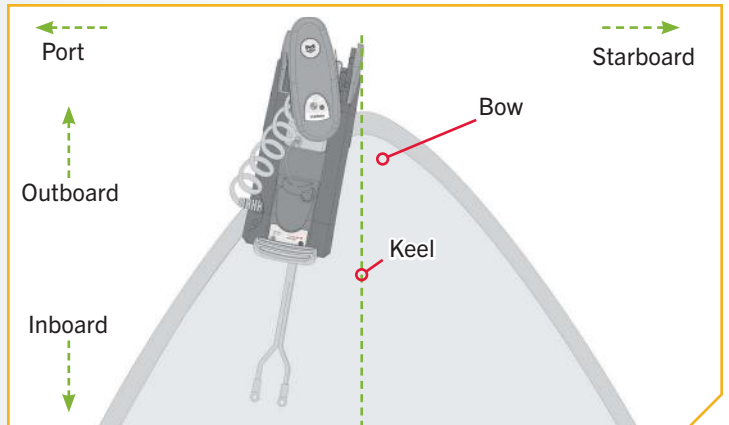


2d



3

- f. 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. Check placement with the motor in the stowed and deployed positions.



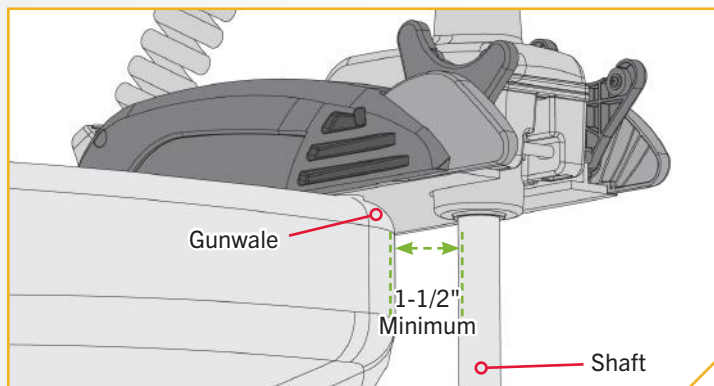
4

ITEM(S) NEEDED

● #4 x 6

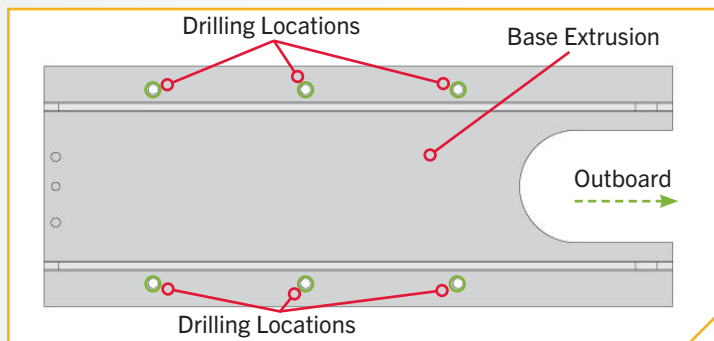
- g. When the motor is in the deployed position, make sure that the Shaft is 1-1/2" out past the Gunwale of the boat. The lower unit, when stowed and deployed must not encounter any obstructions.
- h. Check to be sure that the mount is level. Use the Rubber Washers (Item #4) provided to create a level surface if necessary.

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



5

- i. With the motor at the intended mounting location, take an Awl or similar tool and mark all six mounting holes in the Base Extrusion.
- j. 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.
- k. Drill through the boat deck using a Drill and a 9/32" Drill Bit on all six marked locations.



INSTALLING THE RIPTIDE TERROVA

6

ITEM(S) NEEDED

#1 x 6

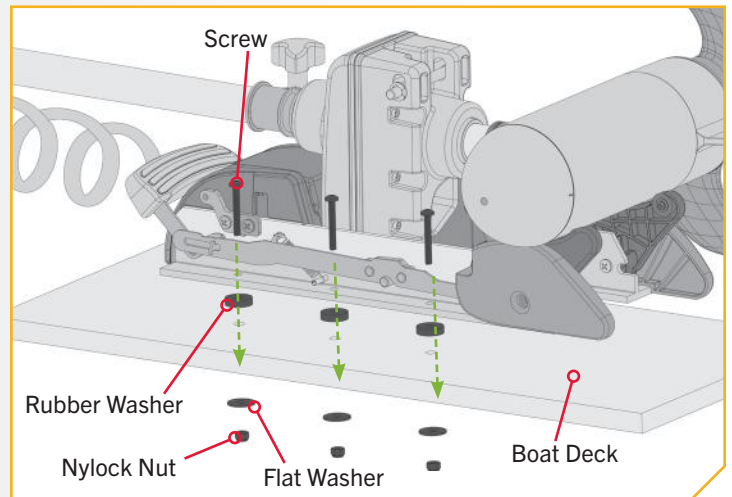
#4 x 6

#2 x 6

#3 x 6

- I. Put a 1/4-20 x 3 1/2" (Item #1) Screw into each of the drilled locations. The Screw should pass through the Base Extrusion and the boat deck. If the Rubber Washers (Item #4) are used, they should sit between the Base Extrusion and boat deck. Make sure to secure the motor with screws on each side of the Base Extrusion.
- m. Place a Flat Washer (Item #2) and then a Nylock Nut (Item #3) at the end of each screw and secure with a 7/16" Box End Wrench. Make sure all hardware is secure.

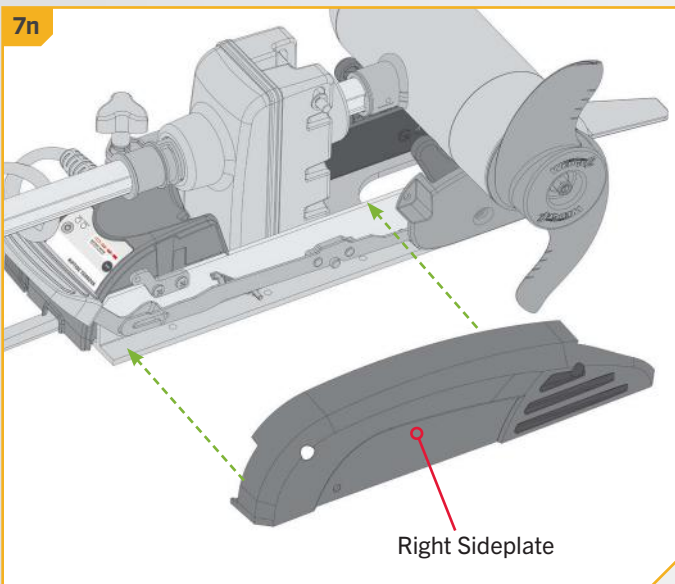
NOTICE: To prevent seizing of the stainless steel hardware, do not use high speed installation tools. Wetting the screws or applying an anti-seize may help prevent seizing.



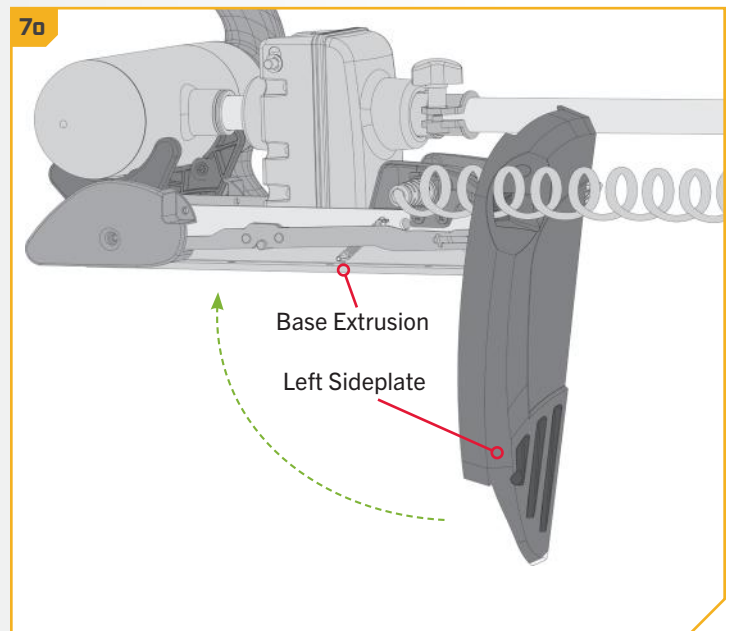
7

- n. Replace the Right Sideplate.
- o. Swing the Left Sideplate back into its correct position on the Base Extrusion.

7n



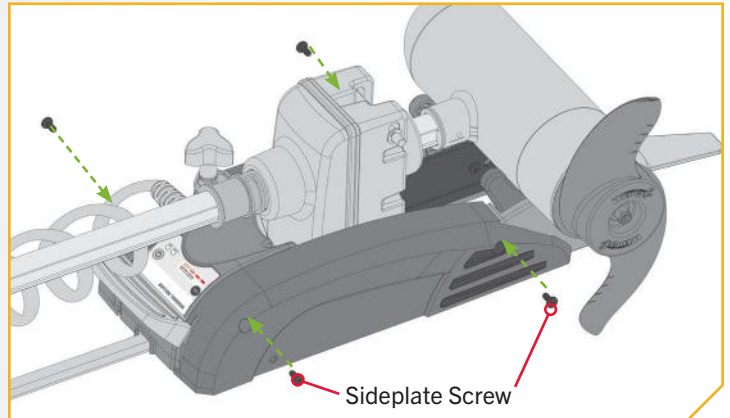
7o



POWERING ON THE WIRELESS REMOTE

8

- p. Replace the four sideplate screws using a #3 Phillips Screwdriver. Two of these screws will be located on each side of the mount.



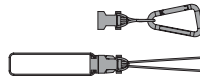
› Powering on the Wireless Remote

1







ITEM(S) NEEDED



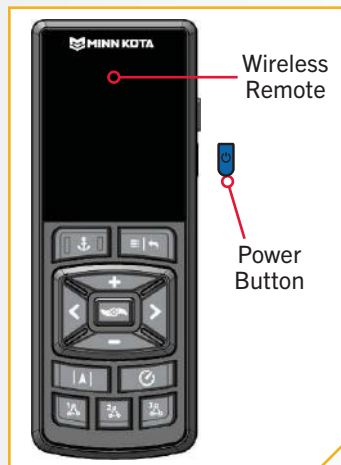
#7 x 1



#6 x 1

- Power on the trolling motor.
- To turn on the Wireless Remote (Item #7), press and hold the Power  button on the side of the Remote.
- A message will appear on the display screen. Read the disclaimer, then press the Steer Right  button to select "I Agree."
- 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.
- When the Advanced GPS Navigation system has obtained a minimum GPS signal strength of one bar, all remaining functions will become available.

NOTICE: Attaching the Lanyard (Item #6) to the Wireless Remote is optional.



Warning!

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

I Agree



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

NOTICE: A Remote Cradle accessory (1866675) can be purchased for mounting the Wireless Remote or attaching the Remote to a belt clip.

ADVANCED GPS NAVIGATION

ADVANCED GPS NAVIGATION »

ROUTING THE ADVANCED GPS NAVIGATION CABLE

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

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

» Considerations for Connecting and Routing Advanced GPS Navigation

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

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

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

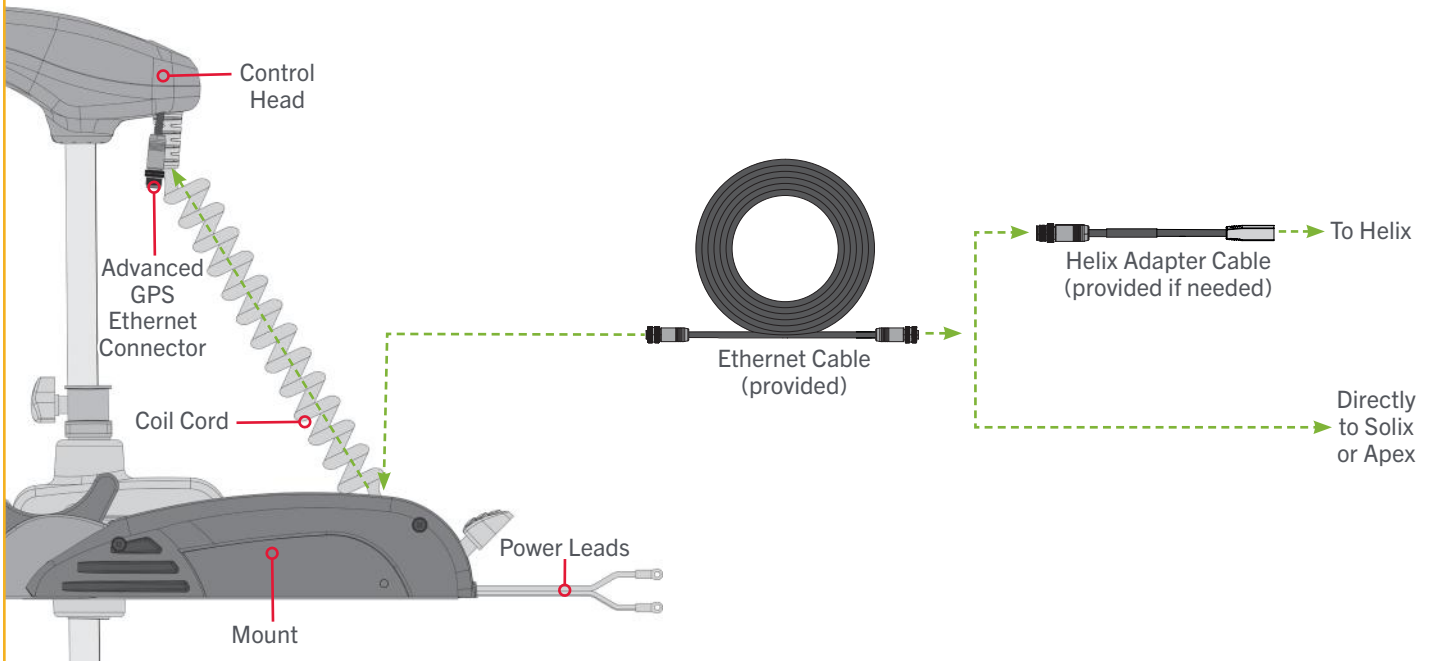
Every length of Ethernet cable plugs directly into a Solix or Apex or directly into a Helix Adapter Cable.

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

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

NOTICE: Minn Kota recommends routing the Ethernet Cable through the Coil Cord when making the Ethernet connection. The cable will be installed from the Mount to the Control Head through the Coil Cord. Bypassing the Coil Cord when routing the Ethernet Cable is not recommended.

GPS Ethernet Connection



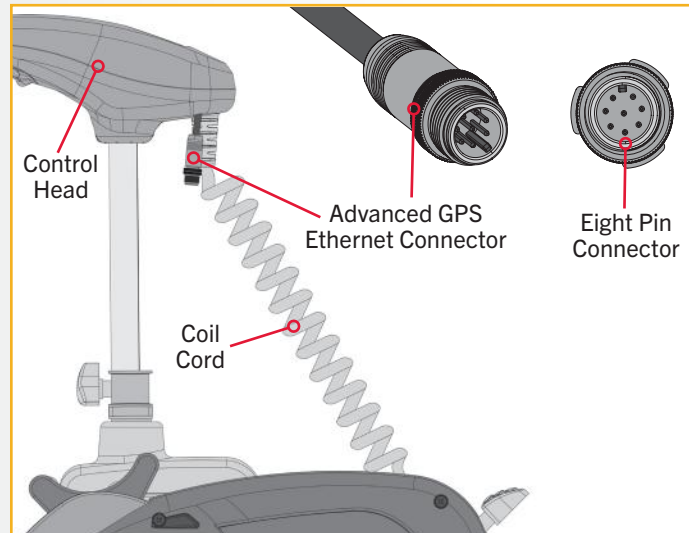
CAUTION

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

1

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

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



ADVANCED GPS NAVIGATION

2

ITEM(S) NEEDED



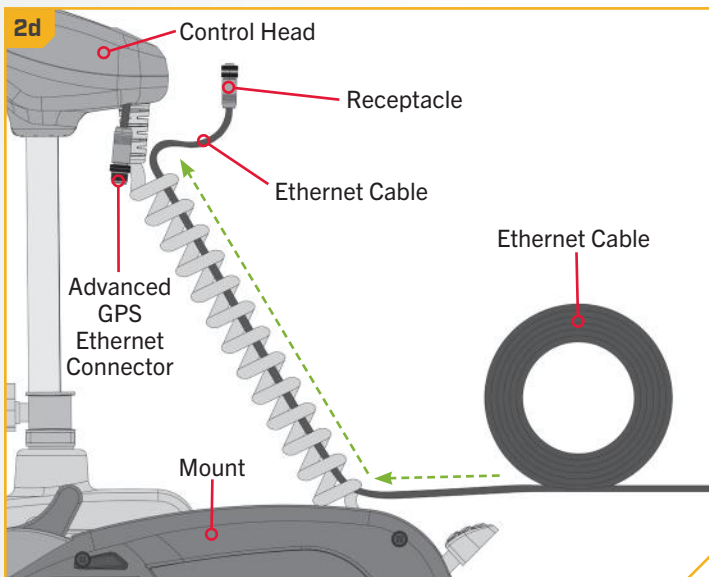
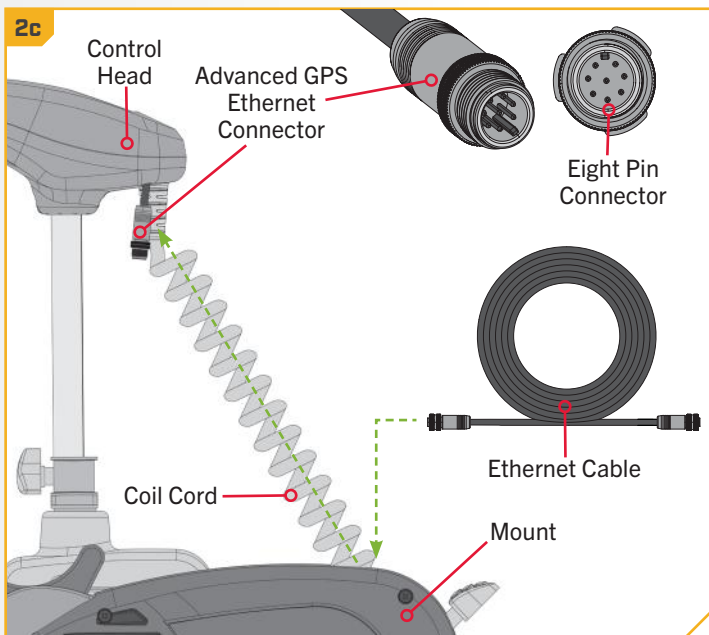
- c. Identify the keyed Receptacle on the Ethernet Cable (Item #12). It will be keyed to fit with the Eight Pin Advanced GPS Ethernet Connector below the Control Head.

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

- d. Leading with either Receptacle, take the Ethernet Cable and run it through the center of the Coil Cord, starting at the end of the Coil Cord attached to the Mount and working up towards the Control Head. Allow enough slack in the cable to attach the Receptacle to the Advanced GPS Ethernet Connector.

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

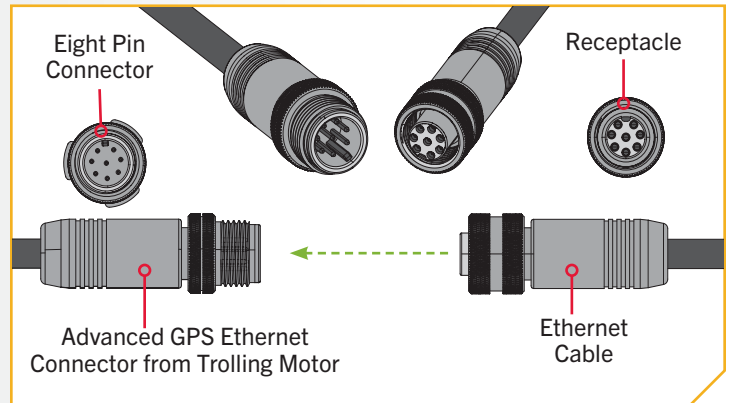
NOTICE: Minn Kota recommends routing the Ethernet Cable through the Coil Cord when making the Ethernet connection. The cable will be installed from the Mount to the Control Head through the Coil Cord and parallel to the Advanced GPS Cable. Bypassing the Coil Cord when routing the Ethernet Cable is not recommended.



3

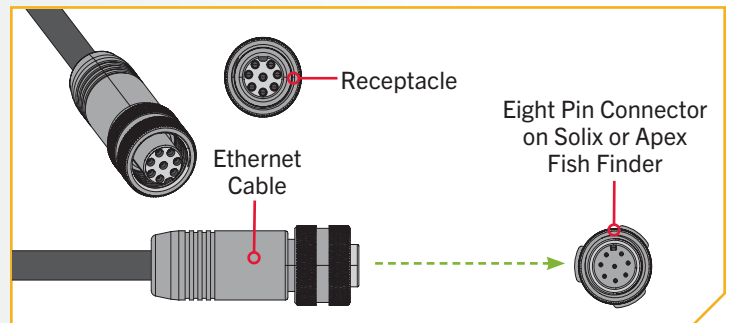
- e. To install the Ethernet Cable, align the pins on the Advanced GPS Ethernet Connector with the Receptacle on the Ethernet Cable. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection.
- f. The Ethernet Cable will plug directly into a Solix or Helix Fish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

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



4

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



ADVANCED GPS NAVIGATION

5

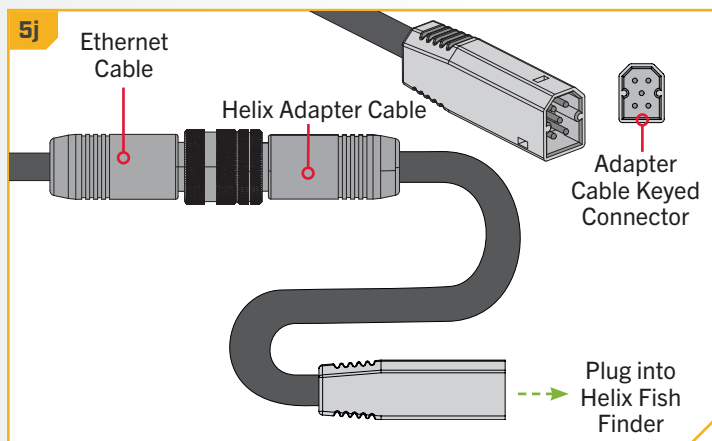
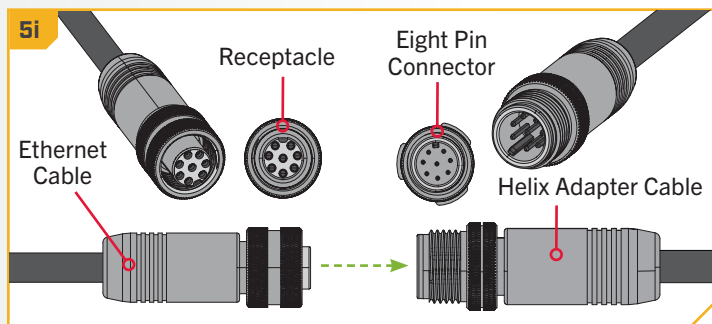
ITEM(S) NEEDED

 #13 x 1

- i. If installing directly to a Helix Adapter Cable (Item #13), align the Receptacle on the Ethernet Cable with the Eight Pin Connector on the Helix Adapter Cable provided. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection.

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

- j. The Helix Adapter Cable directly connects the Ethernet Cable to a Helix fish finder. Locate the Helix Adapter Cable Keyed Connector on the back of the fish finder. Plug the Helix Adapter Cable into the back of the Helix fish finder to complete the connection.



Installing the Prop

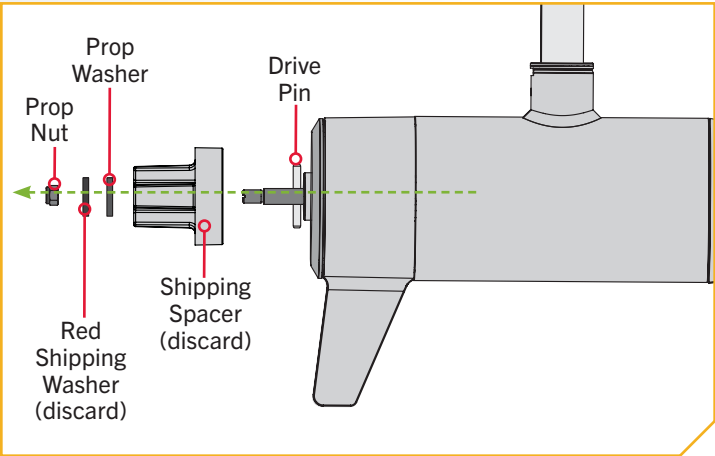
1

CAUTION

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

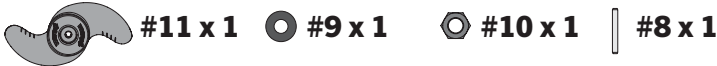
- a. While holding the Shipping Spacer with a pliers or vise grip, remove the Prop Nut, Red Shipping Washer, Prop Washer and Spacer, being careful not to lose the Drive Pin. Reuse the Prop Nut, Prop Washer and Drive Pin to attach the Prop.

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.

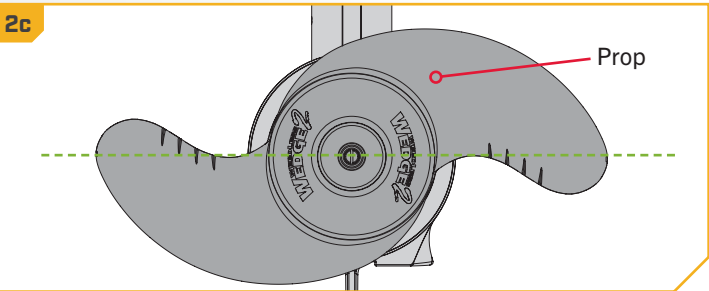
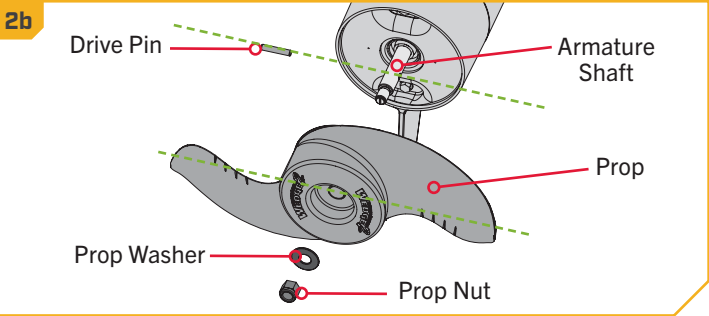


2

ITEM(S) NEEDED



- b. Take the Drive Pin (Item #8) 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 #11) 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 #9) and the Prop Nut (Item #10) onto the end of the Armature Shaft.



INSTALLING THE PROP

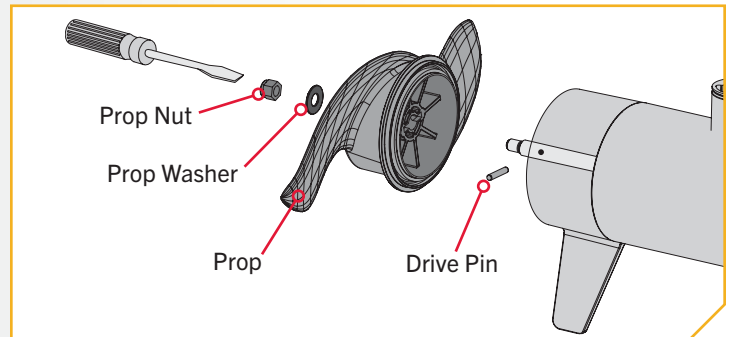
3

- e. Holding the end of the Armature Shaft with a Flat Blade Screwdriver, tighten the Prop Nut with a 9/16" Box End or Open End Wrench.
- f. Tighten the Prop Nut 1/4 turn past snug to 25-35 in-lbs.



CAUTION

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



BATTERY & WIRING INSTALLATION

BOAT RIGGING & PRODUCT INSTALLATION

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

CAUTION

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

CAUTION

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

CONDUCTOR GAUGE AND CIRCUIT BREAKER SIZING TABLE

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

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

Motor Thrust / Model	Max Amp Draw	Circuit Breaker		Wire Extension Length				
		Amp	Minimum	5 feet	10 feet	15 feet	20 feet	25 feet
55 lb.	50	50 Amp	12 VDC	8 AWG	4 AWG	2 AWG	2 AWG	1 AWG
80 lb.	56	60 Amp	24 VDC	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG
112 lb.	52	60 Amp	36 VDC	8 AWG	8 AWG	8 AWG	6 AWG	4 AWG

NOTICE: Wire Extension Length refers to the distance from the batteries to the trolling motor leads. Consult website for available thrust options. Maximum Amp Draw values only occur intermittently during select conditions and should not be used as continuous amp load ratings.

Reference

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

SELECTING THE CORRECT BATTERIES

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

⚠ CAUTION

ADDITIONAL CONSIDERATIONS

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



› Additional Accessories Connected to Trolling Motor Batteries

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

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.

CONNECTING THE BATTERIES

› 12-Volt Systems

- 1. Make sure that the motor is switched off (speed selector on “OFF” or “0”).
- 2. Connect positive (+) red lead to positive (+) battery terminal.
- 3. Connect negative (–) black lead to negative (–) battery terminal.

**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.

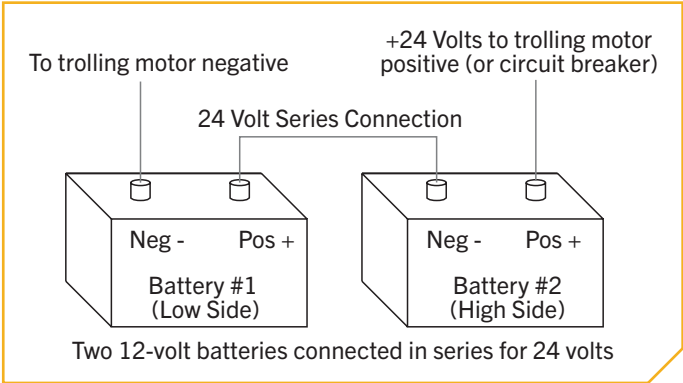
CONNECTING THE BATTERIES IN SERIES

CONNECTING THE BATTERIES IN SERIES [IF REQUIRED FOR YOUR MOTOR]

24-Volt Systems

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

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



WARNING

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

WARNING

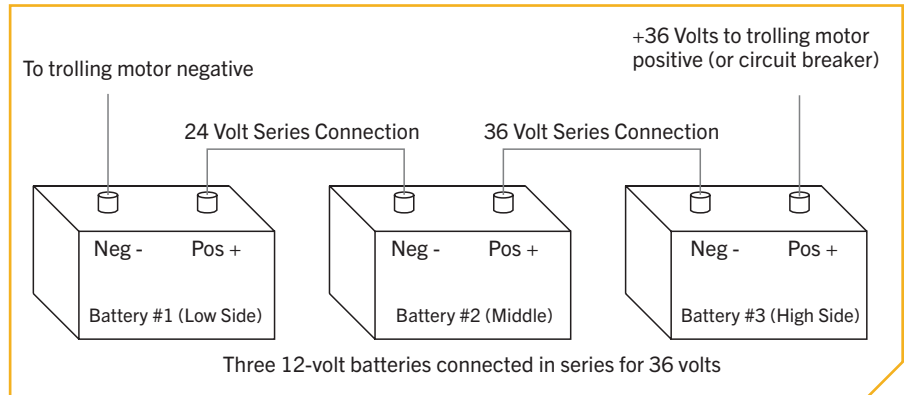
- For safety reasons, disconnect the motor from the battery or batteries when the motor is not in use or while the battery/batteries are being charged.
- Improper wiring of 24/36 volt systems could cause battery explosion.
- Keep leadwire wing nut connections tight and solid to battery terminals.
- Locate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

CONNECTING THE BATTERIES IN SERIES

36-Volt Systems

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

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



WARNING

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

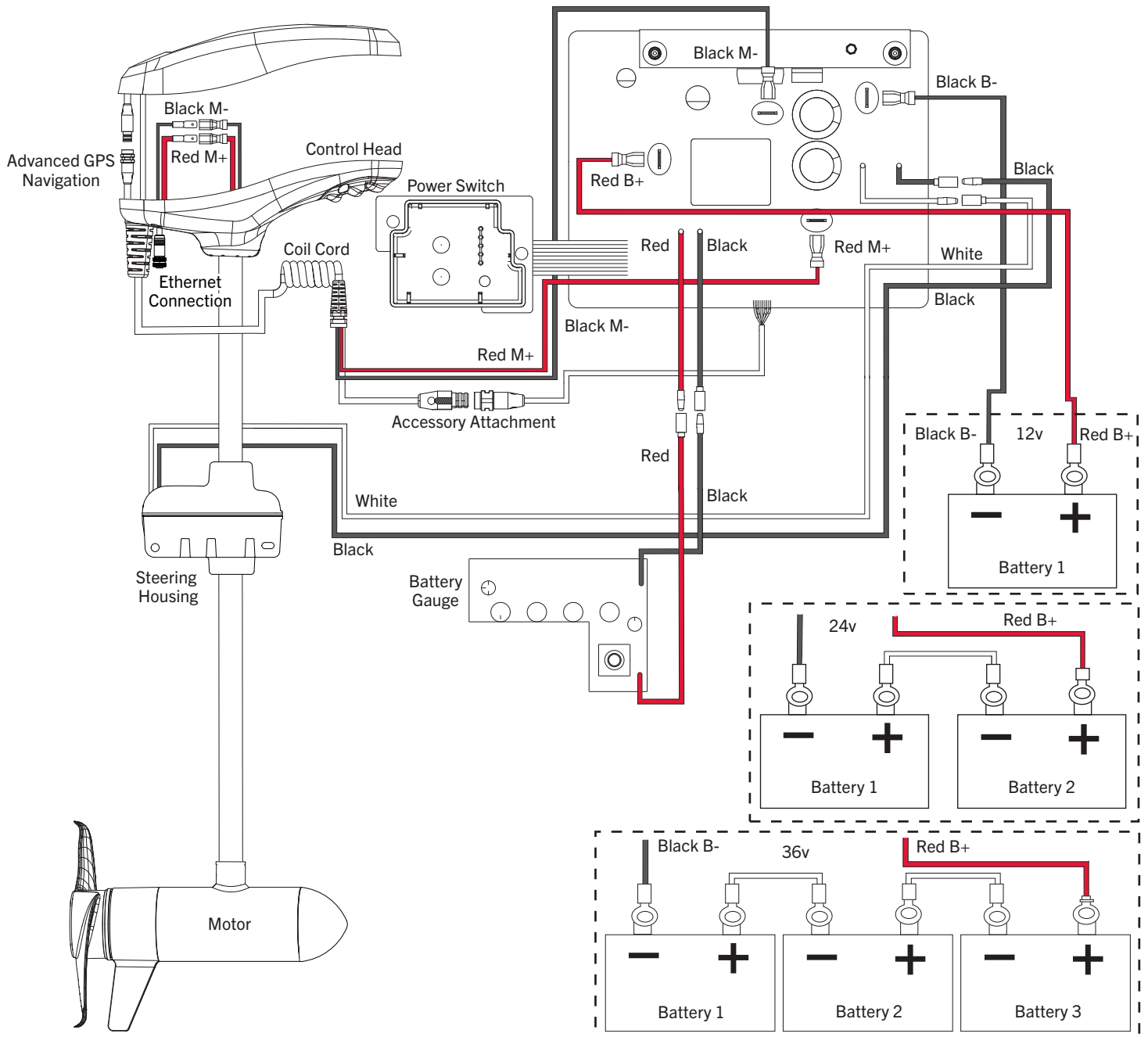
WARNING

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

MOTOR WIRING DIAGRAM

RIPTIDE TERROVA

The following Motor Wiring Diagram applies to all Riptide Terrova models.

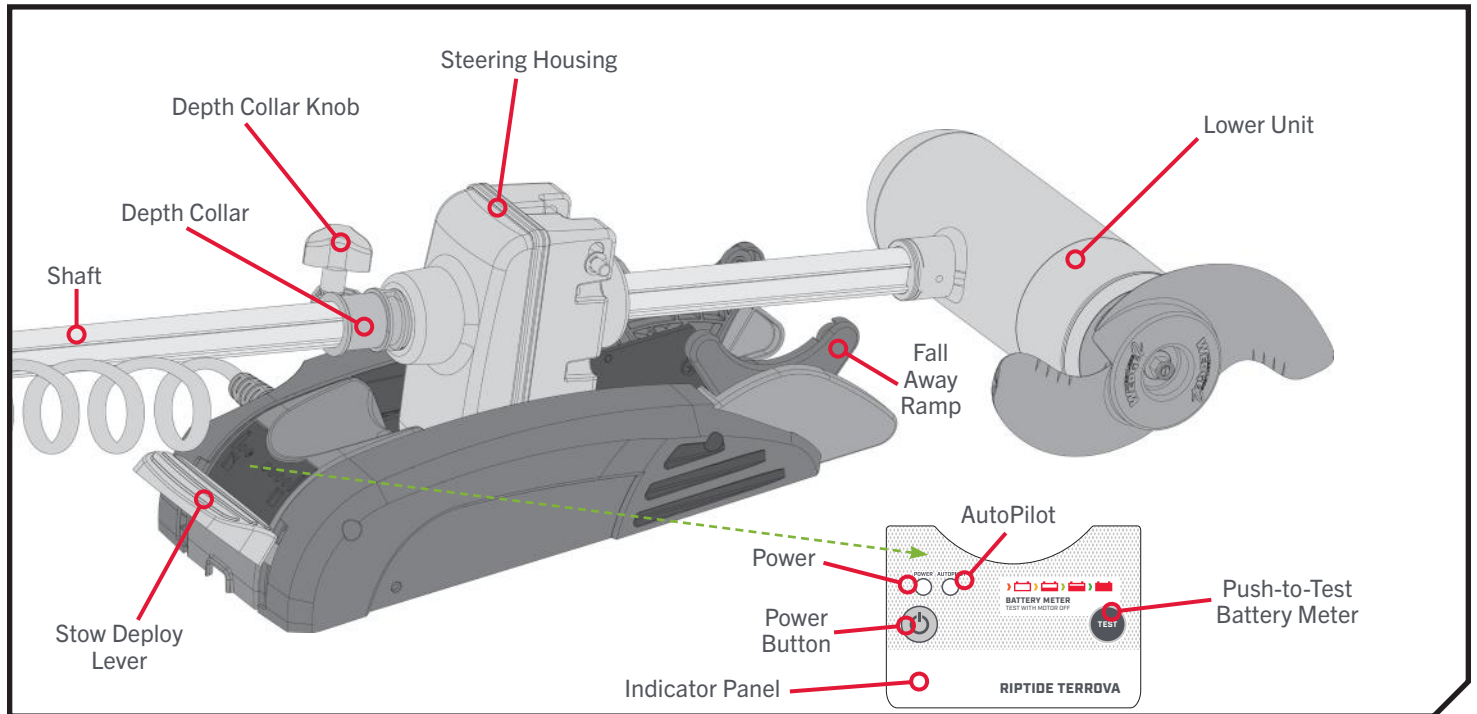


NOTICE: This is a multi-voltage diagram. Double-check your motor's voltage for proper connections. Over-Current Protection Devices are not shown in this illustration.

USING & ADJUSTING THE MOTOR

MOUNT FEATURES

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






› Depth Collar & Depth Collar Knob

The Depth Collar is located on the Shaft above the Steering Housing. It functions to hold the motor at the proper depth while deployed. It also functions to hold the Lower Unit in place when stowed while not in use and during transport. The Depth Collar Knob is used to loosen and tighten the Depth Collar so that it can slide up and down the motor shaft.

› Fall Away Ramps

The Fall Away Ramps hold the Lower Unit when the Motor is stowed and rotate to release the Lower Unit as the unit is being deployed. When the Stow Deploy Lever is pressed it unlocks the position of the Fall Away Ramps and the Ramps rotate to guide the Lower Unit back onto the mount when the motor is stowed.

› Power Button

The Power button  is located on the Indicator Panel on the Mount. The Riptide Terrova must be manually powered "on" and "off." When the Motor is powered "on," the Power Indicator will be illuminated green . When the Motor is powered "off," the Power Indicator will not be illuminated .

NOTICE: Do not completely remove the Depth Collar Knob from the Depth Collar Assembly. Doing so allows a washer-shaped spacer to fall out of the Depth Collar. This spacer plays a key role in creating tension for the Depth Collar to clamp and function properly.

WARNING


When the motor is being transported, it is important to place the Depth Collar snug against the Steering Housing and tighten. This provides a secure stow and holds the motor in place during transportation when it is subject to high levels of shock and vibration. Failure to secure the motor may result in injury or damage to the unit.

WARNING

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



STOWING AND DEPLOYING THE MOTOR



**CAUTION**

For safety reasons, disconnect the motor from the battery/batteries when the motor is not in use or while the battery/batteries are being charged. If the motor control is left on and the propeller rotation is blocked, severe motor damage can result.

› AutoPilot

The AutoPilot Indicator is located on the Indicator Panel on the Mount. It is illuminated green  when AutoPilot is engaged and it is not illuminated  when AutoPilot is not engaged.

› Stow Deploy Lever

The Stow Deploy Lever is located at the top of the mount. The Stow Deploy Lever functions to unlatch the Fall Away Ramps which rotate to guide the Lower Unit. The Stow Deploy Lever is actuated by pressing it down.

STOWING AND DEPLOYING THE MOTOR

› To Deploy the Motor


Loosen the Depth Collar then push firmly down on the Stow Deploy Lever. Slide the motor forward, out from the Fall Away Ramp. Lower the motor to the desired depth. Make sure it clicks into a secure, vertical position. Once at the desired depth, slide the Depth Collar against the Steering Housing and tighten.

› To Stow the Motor

Loosen the Depth Collar and depress the Stow Deploy Lever. Raise the motor by pulling up on the Shaft or Control Head. Pull the motor toward the stern until it rests securely on the Fall Away Ramp and the Fall Away Ramps captures the Lower Unit. Slide the Depth Collar down and secure it against the top of the Steering Housing to secure the motor in place and prevent accidental deployment.

**WARNING**

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


**WARNING**

The Control Head will create a pinch point if the Depth Collar Knob is loosened and the Control Head slides to the top of the Depth Collar. Grasp the Shaft and prevent it from sliding all the way down to prevent the pinch point.

Practice proper ergonomics when stowing and deploying the motor to prevent injury.

**WARNING**

Moving parts can cut or crush. Keep fingers clear of all moving parts.

**WARNING**

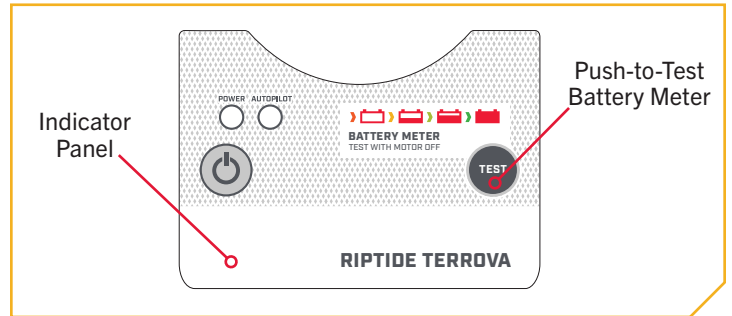
If the Prop encounters an obstruction while running, the increased electrical current being generated by the obstruction will signal the motor to decrease the power to the Prop to prevent damage. If the current overload is detected for more than 20 seconds, the Prop will be disabled to prevent damage to the motor. In this event, the operator can turn the Prop back on after being sure that the obstruction has been cleared.

PUSH-TO-TEST BATTERY METER

PUSH-TO-TEST BATTERY METER

This motor is equipped with a Push-to-Test Battery Meter. The LED located on the Indicator Panel on the Mount of the motor. The Battery Meter provides an accurate display of the remaining charge in the battery. It is only accurate when the motor is off. The meter reads as follows:

- One light indicates recharge.
- Two lights indicate low charge.
- Three lights indicate good charge.
- Four lights indicate full charge.



NOTICE: No lights indicates no battery connection or an incorrect battery connection.

ADJUSTING THE DEPTH OF THE MOTOR

MOTOR ADJUSTMENTS >

ADJUSTING THE DEPTH OF THE MOTOR

Once the boat is on the water, it may be necessary to adjust 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 motor is submerged at least 12" below the surface of the water to avoid churning or agitation of surface water.

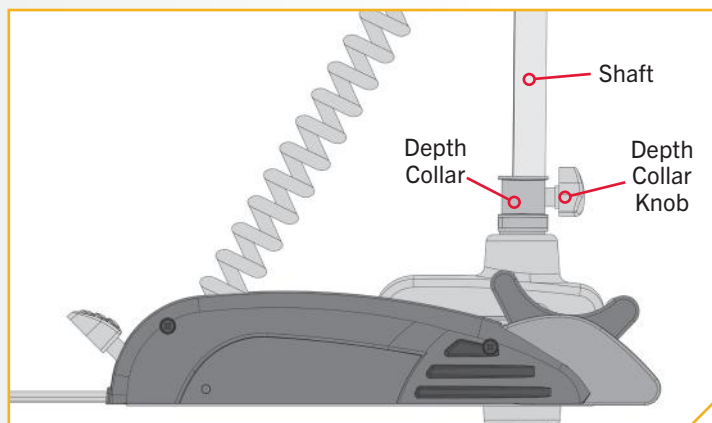
1

- With the motor in the deployed position, locate the Depth Collar on the Shaft above the Steering Housing.
- While holding the Shaft, loosen the Depth Collar Knob until the Shaft can slide up and down freely.



WARNING

The Control Head will create a pinch point if the Depth Collar Knob is loosened and the Control Head slides to the top of the Depth Collar. Grasp the Shaft and prevent it from sliding all the way down to prevent the pinch point.



2

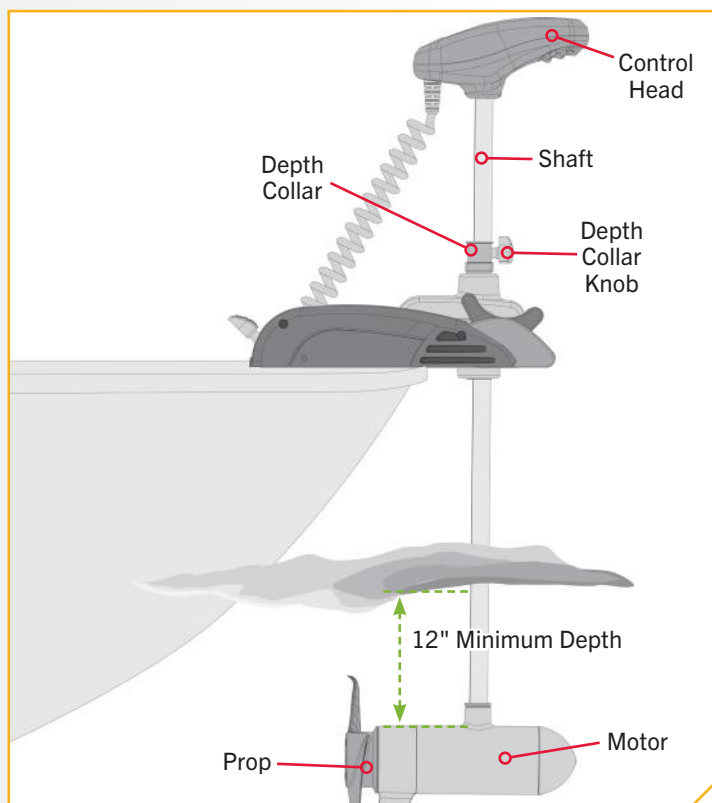
- Raise or lower the motor to the desired depth.
- Turn the motor Control Head to the desired position.
- Slide the Depth Collar against the Steering Housing and tighten the Depth Collar Knob to secure the motor in place.

NOTICE: Be sure the top of the motor is submerged at least 12" below the surface of the water to avoid churning or agitation of surface water.



WARNING

Watch for sharp points that can be a puncture hazard. Always use care when handling the motor.



ADJUSTING THE LOWER UNIT FOR A SECURE STOW

ADJUSTING THE LOWER UNIT FOR A SECURE STOW

When the Motor is stowed, the Lower Unit should rest on the Fall Away Ramps, a part of the Motor Mount. It is recommended to secure the motor using the following instructions to avoid damage to the motor and shaft from vibrations during transport.

1

- a. Before transporting the boat over water or land, stow the motor to determine where the Lower Unit rests on the Fall Away Ramps.

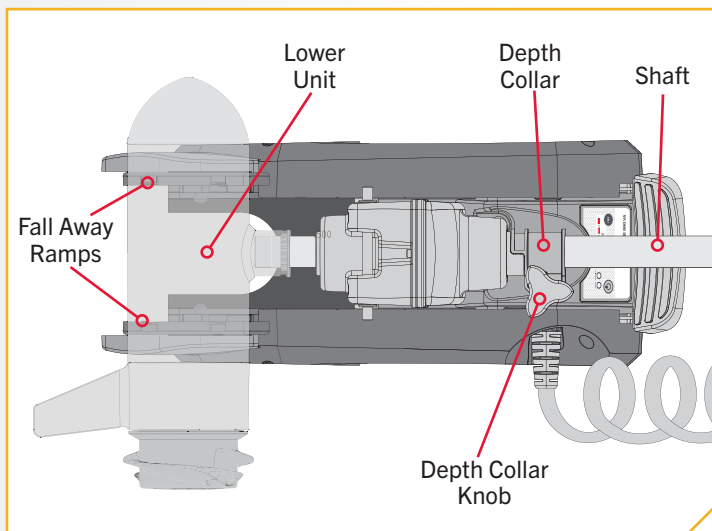
NOTICE: The correct positioning of the Lower Unit will place it directly on the Fall Away Ramps.

- b. If the Lower Unit does not sit on the Fall Away Ramps, deploy the motor, and stow it again.
- c. Be sure to press the Stow Deploy Lever and adjust the Motor to allow it to rest on the Fall Away Ramps.



CAUTION

The Lower Unit should be placed on the Mount Ramps every time the motor is transported. If the Lower Unit is improperly placed, either above or below the Motor Rest Area, damage to the Lower Unit or Shaft will occur and the Shaft will be incorrectly captured. Not following the recommended placement for the Lower Unit will cause damage to the product and void your product warranty.



NOTICE: Slide the Depth Collar down and secure it against the top of the Steering Housing when stowed to secure the motor in place and prevent accidental deployment.



WARNING

When the motor is stowed, the Depth Collar must be positioned against the Steering Housing and tightened in place with the Knob to prevent accidental deployment, which may result in injury or damage to the trolling motor, accessories, or boat.



WARNING

When the motor is being transported, it is important to place the Depth Collar snug against the Steering Housing and tighten. This provides a secure stow and holds the motor in place during transportation when it is subject to high levels of shock and vibration. Failure to secure the motor may result in injury or damage to the unit.

INSTALLING AN EXTERNAL TRANSDUCER

INSTALLING AN EXTERNAL TRANSDUCER

An external transducer is not included with your trolling motor. An external transducer can be installed onto the motor.

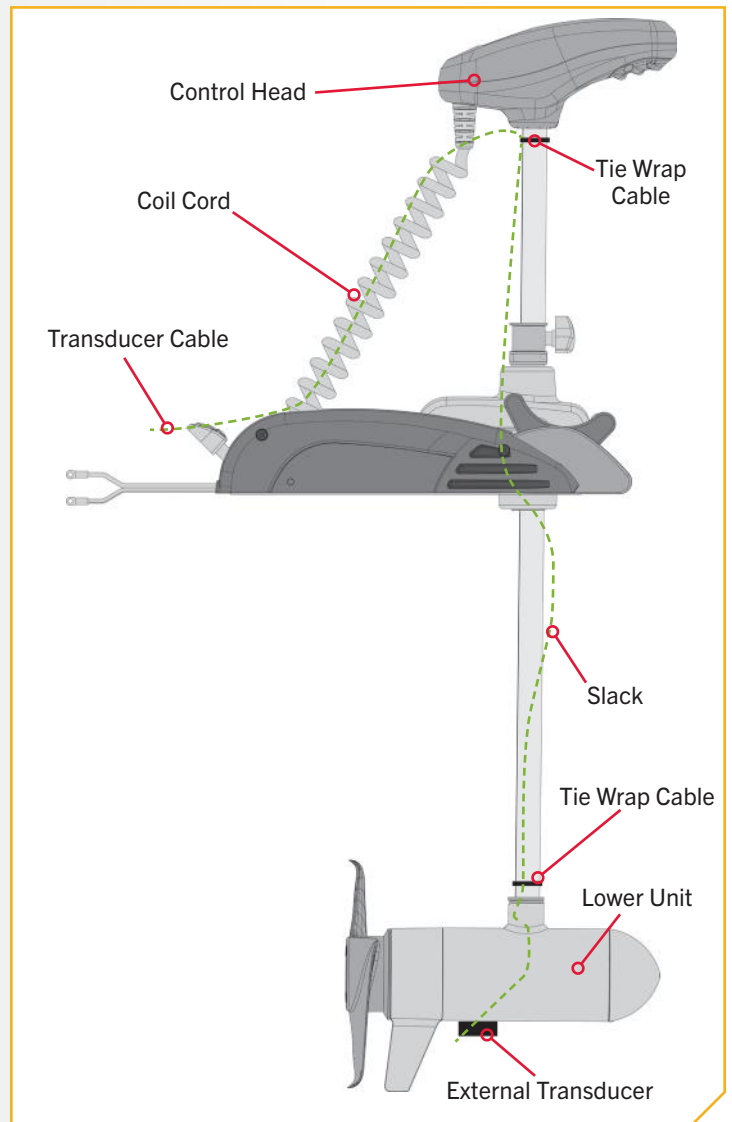
1

- Mount the External Transducer according to directions provided with the transducer.
- Leave enough slack in the Transducer Cable between the Lower Unit and Control Head to allow the motor to properly stow and deploy.
- Use two tie wrap cables to secure the Transducer Cable to the Shaft just above the Lower Unit and just below the Control Head.
- Run the Transducer Cable through the Coil Cord to the power supply.



CAUTION

Failure to follow the recommended wire routing for the Advanced GPS Navigation and External Transducer Cables may cause damage to the product and void your product warranty. Take care to test the length and placement of cable to be sure that there is enough slack where needed and that cables are free of being entangled in moving parts. Routing the cables in any way other than directed may cause damage to the cables by being pinched or severed.



SERVICE & MAINTENANCE

PROP REPLACEMENT

TOOLS AND RESOURCES REQUIRED >

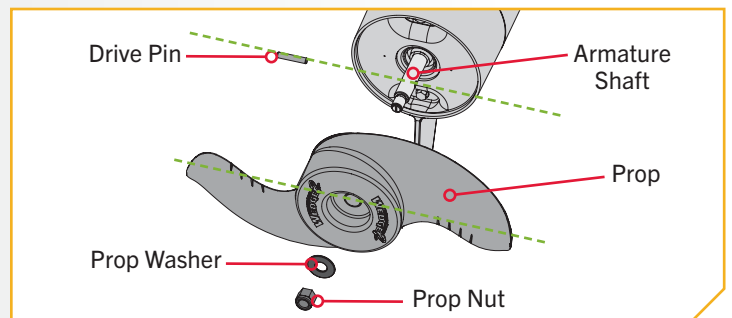
- 9/16" Open End Wrench
- Flat Blade Screwdriver

INSTALLATION >

1

- Disconnect the motor from all sources of power prior to changing the Prop.
- Hold the Prop and loosen the Prop Nut with a pliers or a wrench.
- Remove the Prop Nut and Prop Washer.

NOTICE: If the Drive Pin is sheared or broken, you will need to hold the shaft stationary with a flat blade screwdriver pressed into the slot on the end of the shaft while you loosen the Prop Nut.



CAUTION

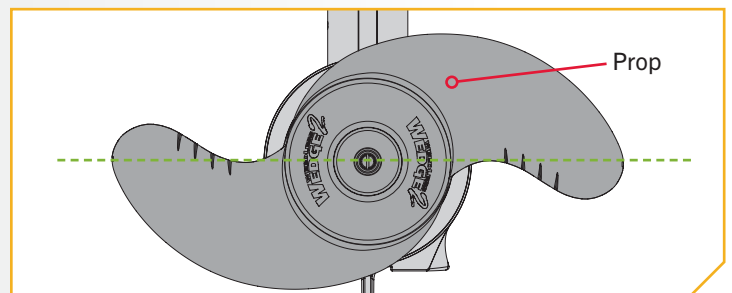
Disconnect the motor from the battery before beginning any Prop work or maintenance.

2

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

CAUTION

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

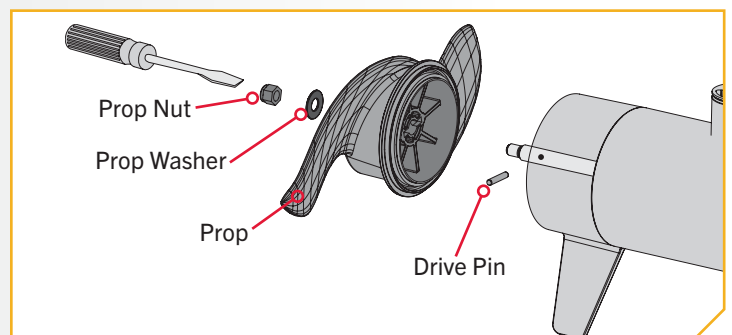


3

- Align the new Prop with the Drive Pin.
- Install the Prop Washer and Prop Nut.
- Tighten the Prop Nut 1/4 turn past snug at 25-35 inch-lbs.

CAUTION

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



SERVICE & MAINTAINANCE

GENERAL MAINTENANCE

- After every use, the entire motor should be rinsed with freshwater, then wiped down with a cloth dampened with an aqueous-based silicone spray. Do not spray water into the ventilation openings in the head of the motor.
- 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 of 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 (flooded lead-acid only).
- 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 smooth by sanding with fine sandpaper.

TROUBLESHOOTING

1. Motor fails to run or lacks power:
 - Check battery connections for proper polarity.
 - Make sure terminals are clean and corrosion free. Use fine sandpaper or emery cloth to clean terminals.
 - 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.
3. If you experience prop vibration during normal operation:
 - Remove and rotate the prop 180°. See removal instructions in the "Prop Replacement" section.
4. Experiencing interference with your fishfinder:
 - 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 still persist, call our service department at 1-800-227-6433.

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, or by calling our customer service number at 800-227-6433.

FOR FURTHER TROUBLESHOOTING AND REPAIR

We offer 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.



Call Us (for U.S. and Canada)

Our consumer service representatives are available Monday – Friday between 7:00 a.m. – 4:30 p.m. CST at 800-227-6433. If you are calling to order parts, please have the 11-character serial number from your product, specific part numbers, and credit card information available. This will help expedite your call and allow us to provide you with the best consumer service possible. You can reference the parts list located in your manual to identify the specific part numbers.



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 800 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.



Scan to visit
Minn Kota
service online.

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 wheelee 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.

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