

# **KAYAK TERROVA**

## **BOW-MOUNT TROLLING MOTOR**

**Installation Instructions**

# INTRODUCTION

## THANK YOU

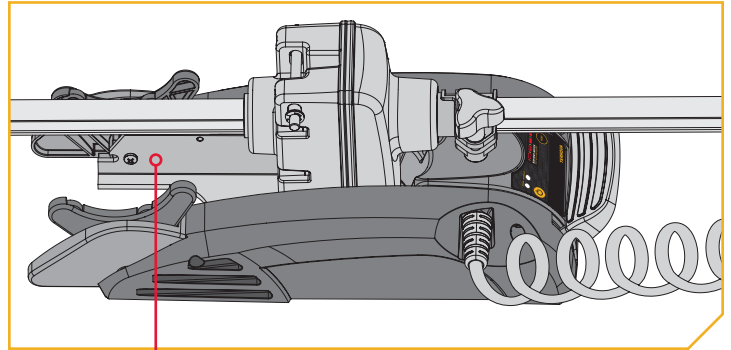
Thank you for choosing Minn Kota. We believe that you should spend more time fishing and less time positioning your watercraft. That's why we build the smartest, toughest, most intuitive trolling motors on the water. Every aspect of a Minn Kota trolling motor is thought out and rethought until it's good 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

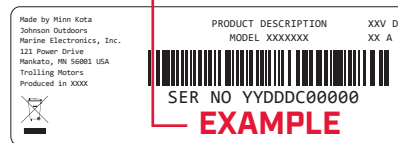
Remember to keep your receipt and immediately register your trolling motor on our website at [minnkota.johnsonoutdoors.com/us/register](http://minnkota.johnsonoutdoors.com/us/register).

## 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 Kayak 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](http://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](http://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.

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

# SAFETY CONSIDERATIONS

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

## **WARNING**

Trolling motor must only be used with kayaks that have been manufactured to accommodate a trolling motor. Consult your kayak manufacturer or dealer for proper use and application.

## **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/sec<sup>2</sup>.

## **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.

## **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 24" of) trolling motor control head. Obstructions on the propeller 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.

# SAFETY CONSIDERATIONS



## **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.

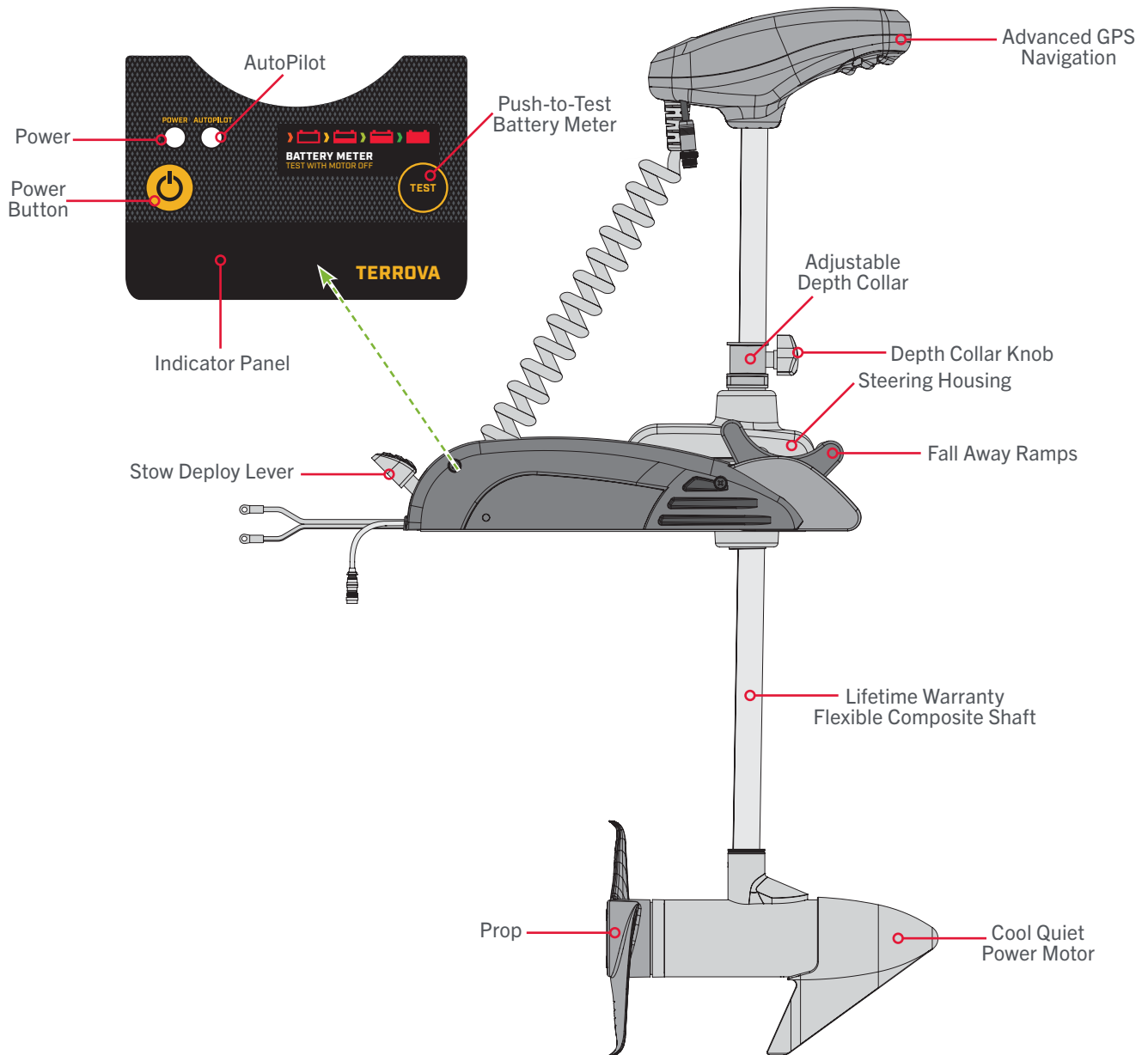
## **WARNING**

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**.
- **KEEP** new and used batteries **OUT OF REACH** of **CHILDREN**
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body.



1. This product contains a button/coin cell battery. Heed all safety considerations:
  - a) Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
  - b) Even used batteries may cause severe injury or death.
  - c) Call a local poison control center for treatment information.
  - d) The compatible battery type is CR2450.
  - e) The nominal battery voltage is 3.0 VDC.
  - f) Non-rechargeable batteries are not to be recharged.
  - g) Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating of 70 °C) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns.
2. This product contains a replaceable button/coin cell battery. Heed all safety considerations:
  - a) Ensure the batteries are installed correctly according to polarity (+ and -).
  - b) Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
  - c) Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
  - d) Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

# FEATURES



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

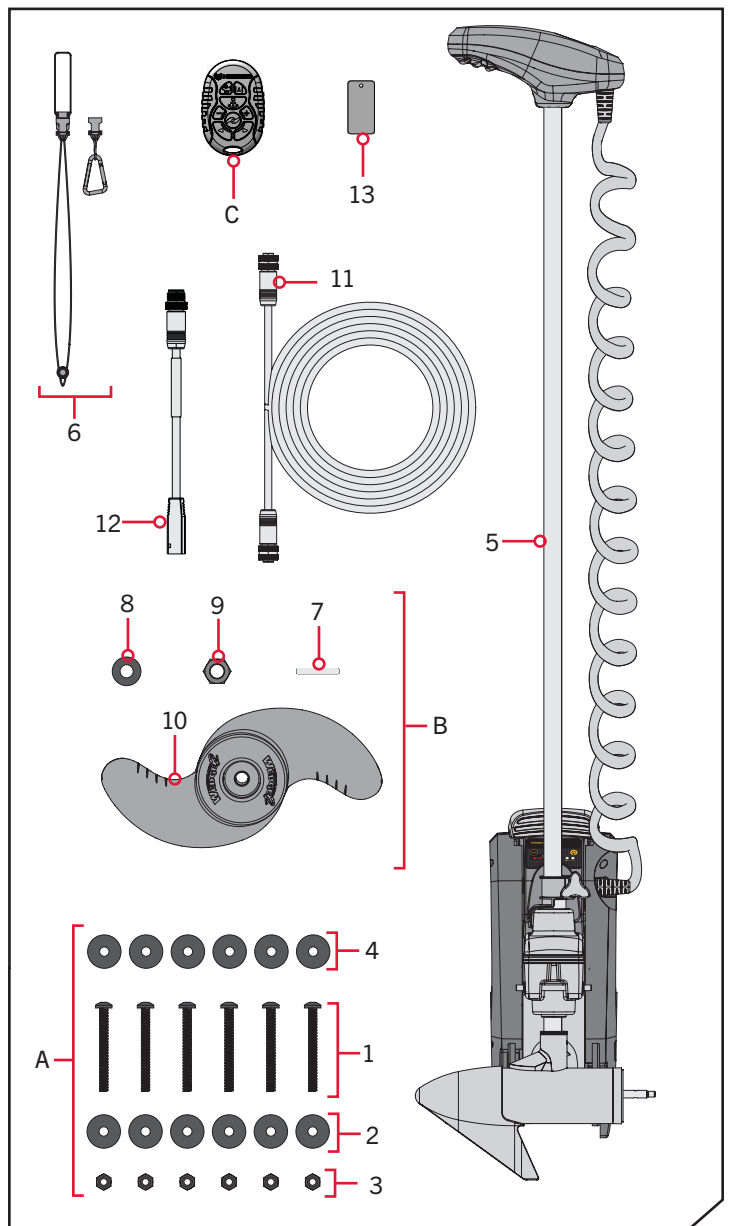
# INSTALLATION

## INSTALLING THE KAYAK TERROVA

Your new Kayak Terrova comes with everything you'll need to directly install it to the watercraft. This motor can be directly mounted to the watercraft 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](http://minnkota.johnsonoutdoors.com). To install the motor directly to the watercraft, 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](http://minnkota.johnsonoutdoors.com).

### INSTALLATION PARTS LIST

Item / Assembly	Part #	Description	Qty.
A (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
B (Includes 7-10)	1378131	PROP IND 2091160 WDLS WDG II	1
7	2092600	PIN-DRIVE 1.06" LG (SS)	1
8	2151726	WASHER-5/16 STD (S/S)	1
9	2053101	NUT-PROP,NYLOC (MED) 5/16 SS	1
10	2091161	PROP-WW2 3 5/8" MACHINED	1
11	490384-6	CABLE, ETHERNET (M12-M12), 15'	1
12	490380-1	CABLE, ETHERNET PIGTAIL-700 HD	1
C	2994175	REMOTE ASM, MICRO REMOTE	1
13	2394110	TAG, MICRO REMOTE	1
▲	2327145	MANUAL, KAYAK TERROVA	1
▲	2327144	MANUAL-INSTALL GUIDE, KYAK TER	1
▲	2297165	MANUAL-DISCLAIMER,DWNLOAD INFO	1
▲	2294950	INSTRUCTIONS,OBN & REMOTE PAIR	1
▲	2207131	STANDARD QS SETUP GUIDE	1
▲	2394910	INSTR.SHEET, MICRO	1
▲	2394912	QCK. REF GUIDE, MICRO REMOTE	1
▲	2327146	MANUAL-INSTALL GUIDE, SAFESWIT	1
▲	2998801	KIT, SAFETY SWITCH	1



▲ Not shown on Parts Diagram. ✘ This part is included in an assembly and cannot be ordered individually.

# INSTALLING THE KAYAK TERROVA

## MOUNTING CONSIDERATIONS

It is recommended that the motor be mounted as close to the centerline of the kayak 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 watercraft. The motor must not encounter any obstructions as it is lowered into the water or raised into the watercraft 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](http://minnkota.johnsonoutdoors.com).



View accessories available for your trolling motor at [minnkota.johnsonoutdoors.com](http://minnkota.johnsonoutdoors.com).

## TOOLS AND RESOURCES REQUIRED

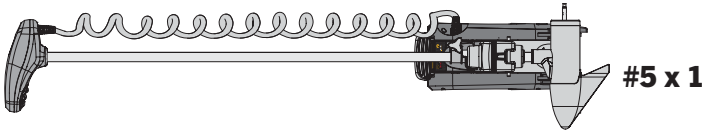
- #3 Phillips Screwdriver
- Drill
- 9/32" Drill Bit
- 7/16" Box/Open End Wrench
- 1/2" Box/Open End Wrench
- Pliers or Vice Grip
- A second person to help with the installation
- Flat-blade Screwdriver
- Awl or similar Marking Tool

## INSTALLATION

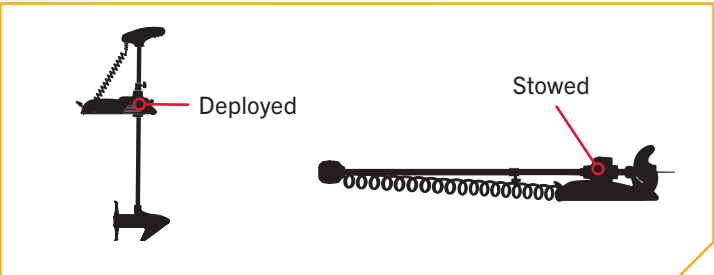
### INSTALLING THE KAYAK TERROVA

1

#### ITEM(S) NEEDED



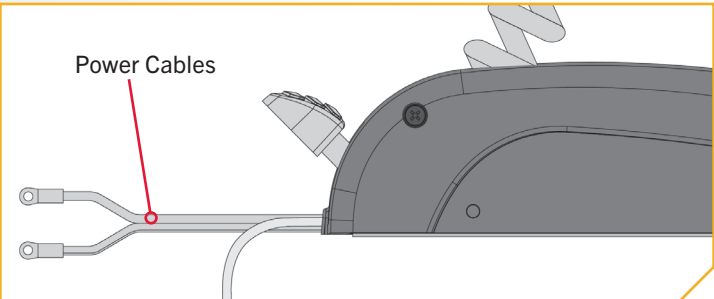
- Place the trolling motor (Item #5) on an elevated, level surface, such as a workbench or the tailgate of a pickup. The motor, as removed from the box, should be in the stowed position.
- Make sure the Power Cables are not connected to a power source or that the battery breaker, if equipped, is "off."



**WARNING**

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

**NOTICE:** The trolling motor weighs approximately 35 lbs. Minn Kota recommends having a second person help with the installation.

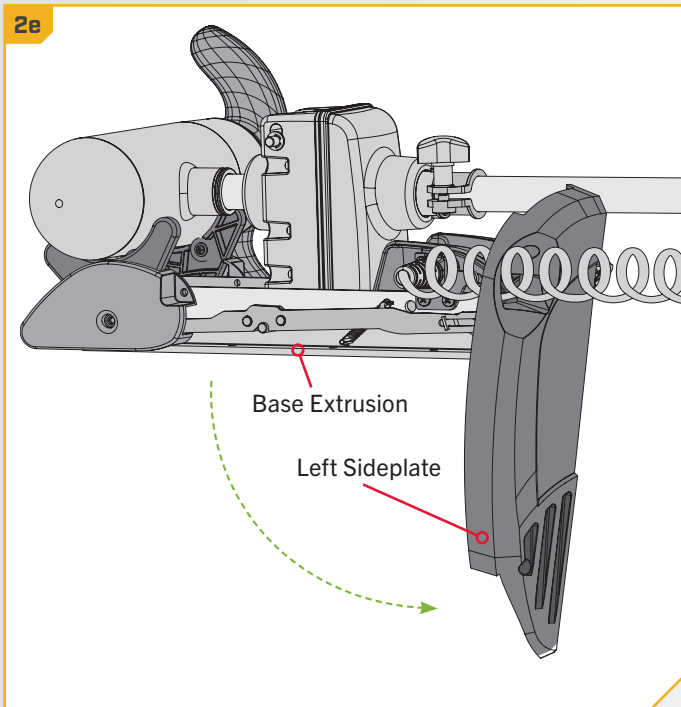


# INSTALLING THE KAYAK TERROVA

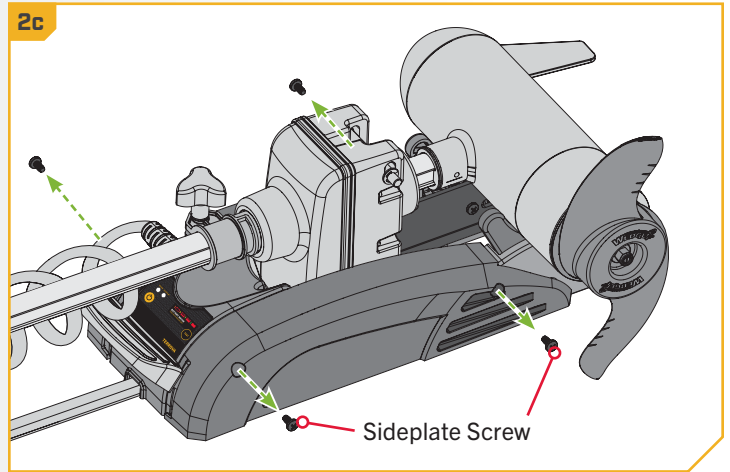
2

- 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.

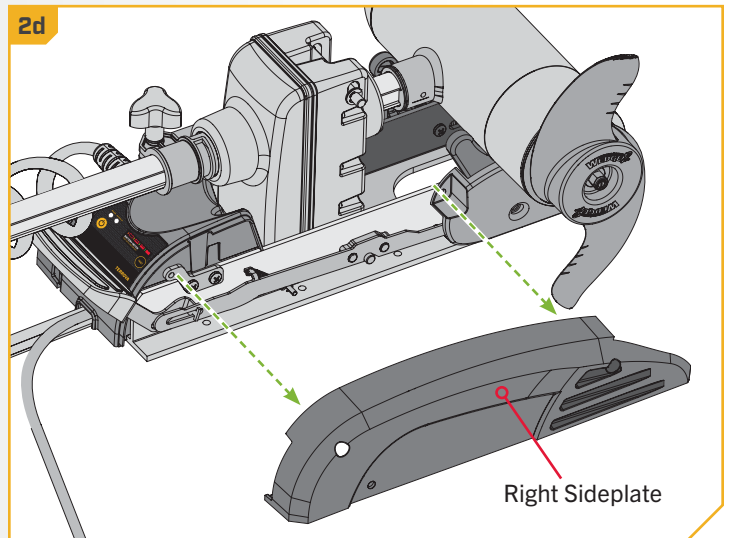
2e



2c

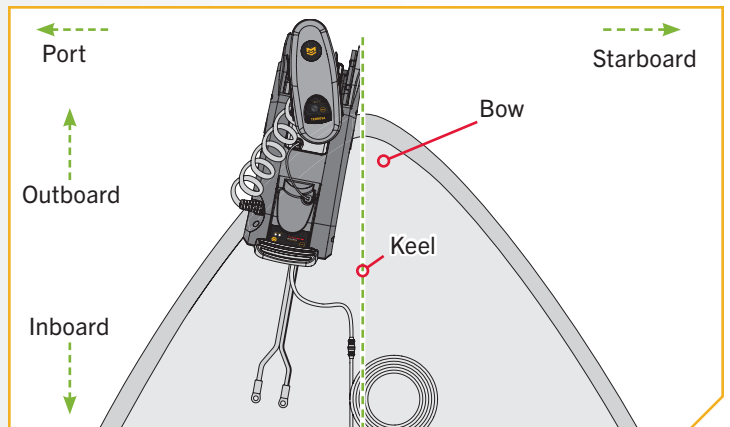


2d



3

- f. Review the mounting considerations at the beginning of the installation. Place the motor on the bow of the watercraft 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 watercraft, based on personal preference. Check placement with the motor in the stowed and deployed positions.



# INSTALLING THE KAYAK TERROVA

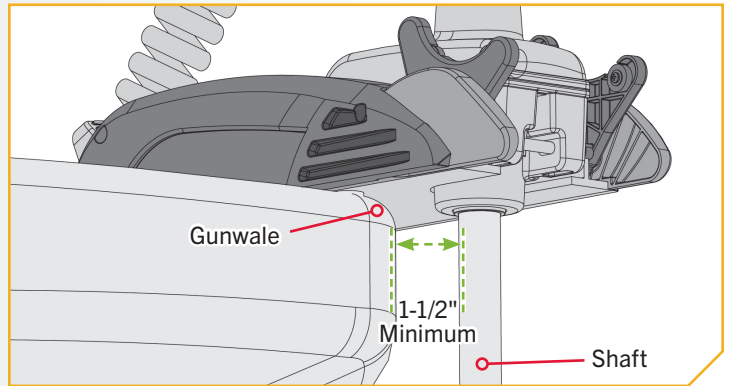
4

## ITEM(S) NEEDED

● #4 x 6

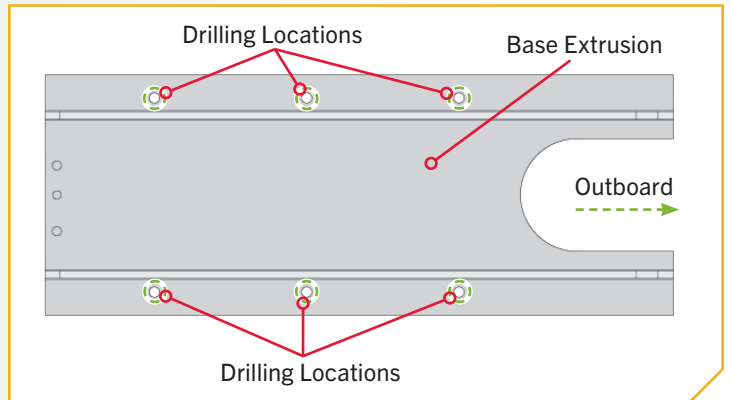
- g. When the motor is in the deployed position, make sure that the Shaft is 1-1/2" out past the Gunwale of the kayak. The lower unit, when stowed and deployed must not encounter any obstructions.
- h. Check to be sure that the mount is level. Use the Rubber Washers (Item #4) provided to create a level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

**NOTICE:** The mounting surface for the trolling motor 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 watercraft deck using a Drill and a 9/32" Drill Bit on all six marked locations.



# INSTALLING THE KAYAK TERROVA

6

## ITEM(S) NEEDED

● #2 x 6



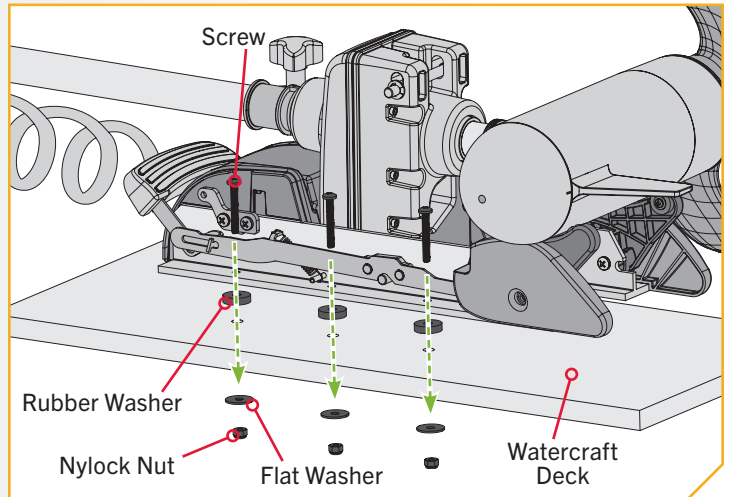
▮ #1 x 6

○ #3 x 6

● #4 x 6

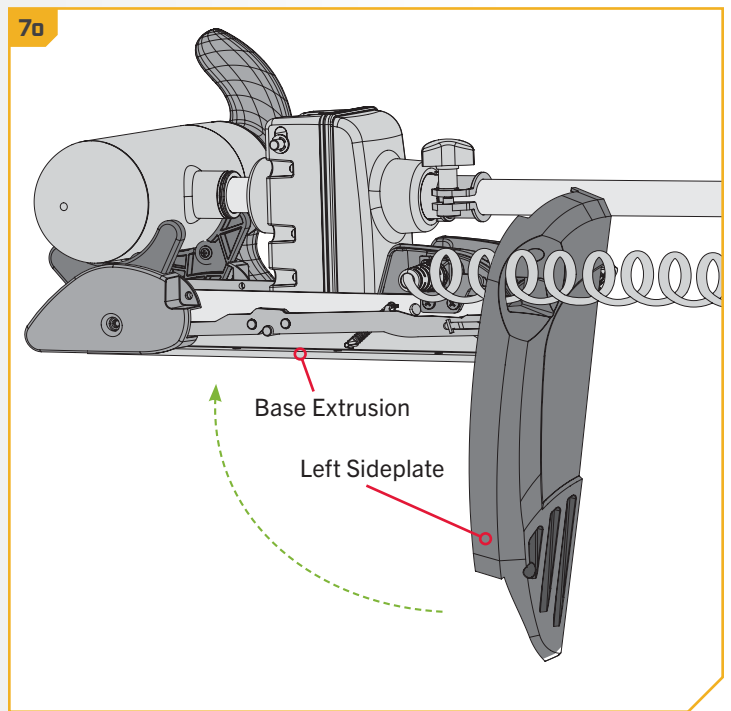
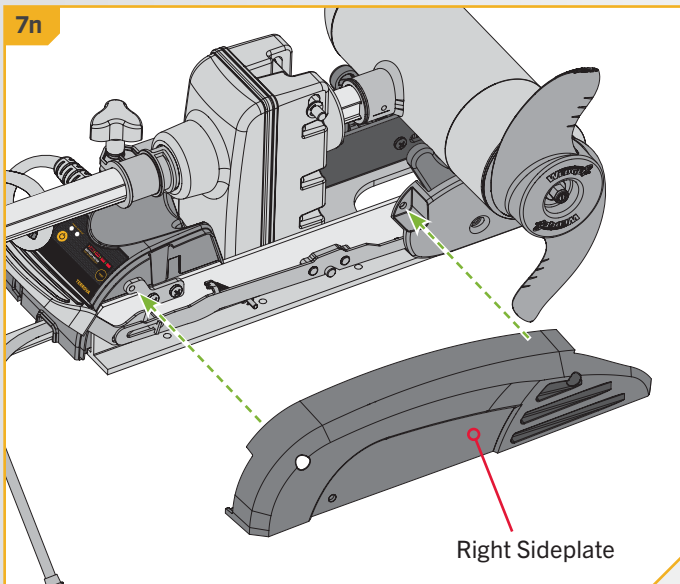
- i. Put a 1/4-20 x 2" (Item #1) Screw into each of the drilled locations. The Screw should pass through the Base Extrusion and the watercraft deck. If the Rubber Washers (Item #4) are used, they should sit between the Base Extrusion and watercraft deck. Make sure to secure the motor with screws on each 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

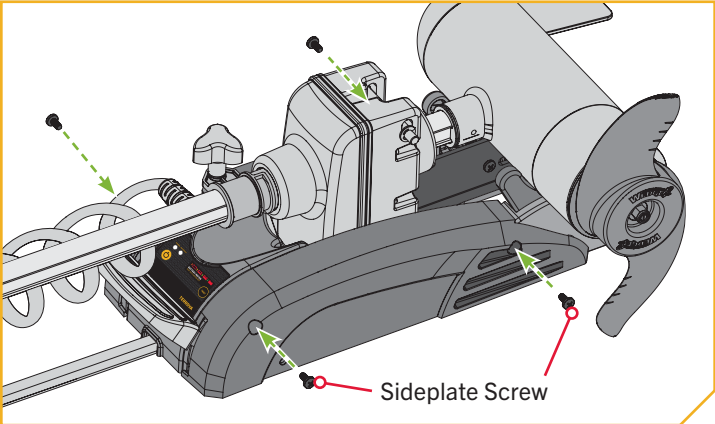
- n. Replace the Right Sideplate.
- o. Swing the Left Sideplate back into its correct position on the Base Extrusion.



# INSTALLING THE KAYAK TERROVA

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.



# ADVANCED GPS NAVIGATION

## ADVANCED GPS NAVIGATION >

Your Minn Kota trolling motor and Humminbird fish finder communicate with each other to change the way you fish. Advanced GPS Navigation offers a large array of features including controlling speed, steering, Spot-Lock, and the ability to record and retrace tracks 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](http://minnkota.johnsonoutdoors.com).

The remote and GPS controller make up the Advanced GPS Navigation system. A micro 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 must be connected.

## > Considerations for Connecting and Routing Advanced GPS Navigation

Advanced GPS Navigation is pre-installed on your trolling motor. One eight pin Advanced GPS Ethernet Connector exits 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 15 ft Ethernet cable (AS EC 15E - 15' Ethernet Cable - 720073-5) with every trolling motor equipped with Advanced GPS Navigation. The 15 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](http://humminbird.johnsonoutdoors.com). These options include:

- 10 ft - (AS EC 10E - 10' Ethernet Cable - 720073-2)
- 20 ft - (AS EC 20E - 20' Ethernet Cable - 720073-3)
- 30 ft - (AS EC 30E - 30' Ethernet Cable - 720073-4)

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 15 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](http://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.

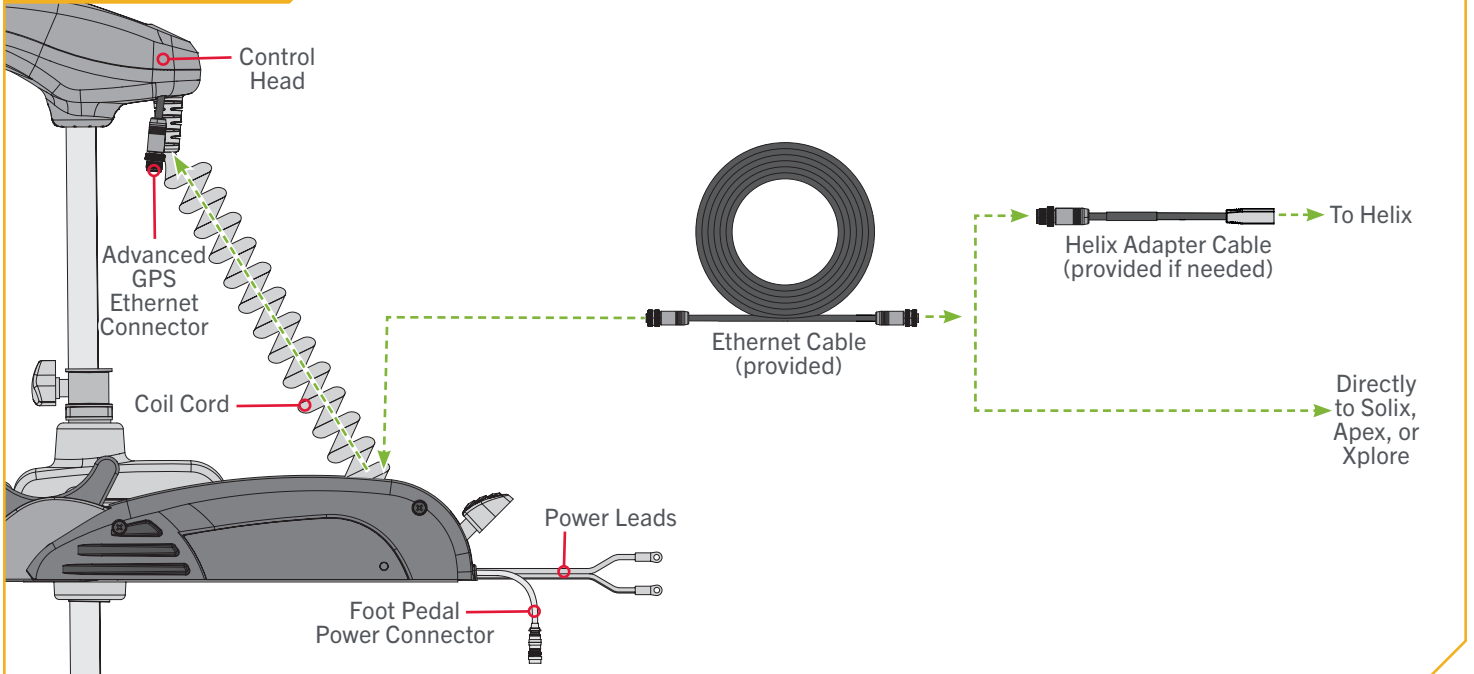
**NOTICE:** Minn Kota recommends routing the Ethernet Cable or Ethernet Extension Cable through the Coil Cord when making the Ethernet connection. The cables will be installed from the Mount to the Control Head through the Coil Cord. Bypassing the Coil Cord when routing the Ethernet Cable or Ethernet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



## CAUTION

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

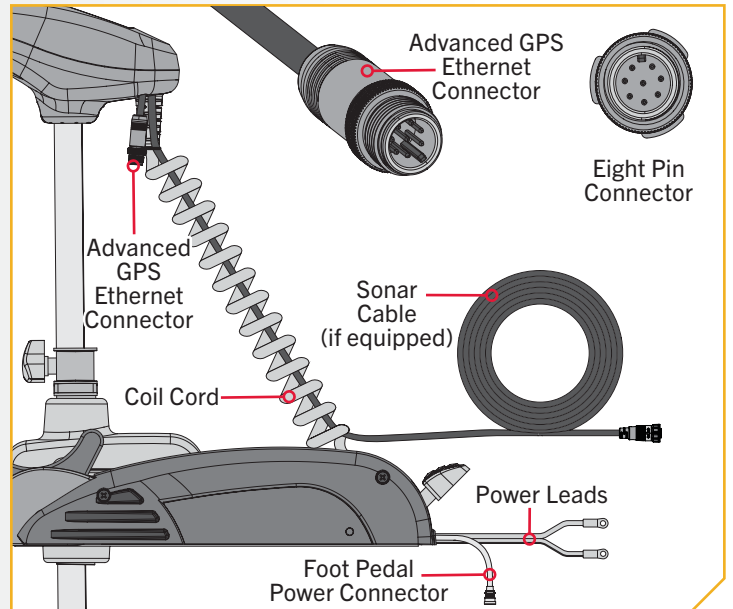
## GPS Ethernet Connection



1

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

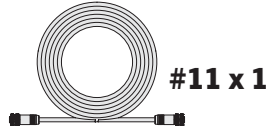
- a. Place the motor in the deployed position.
- b. Locate the Eight Pin Advanced GPS Ethernet Connector below the Control Head. The Advanced GPS Ethernet Connector will exit the base of the Control Head and will rest just below the Control Head next to the Coil Cord.



# ADVANCED GPS NAVIGATION

2

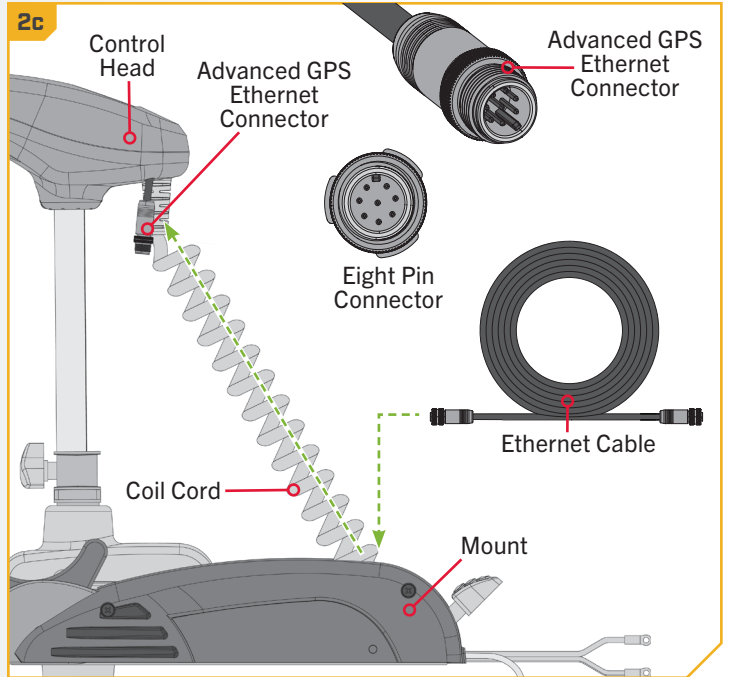
## ITEM(S) NEEDED



- c. Identify the keyed Receptacle on the Ethernet Cable (Item #11). 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.

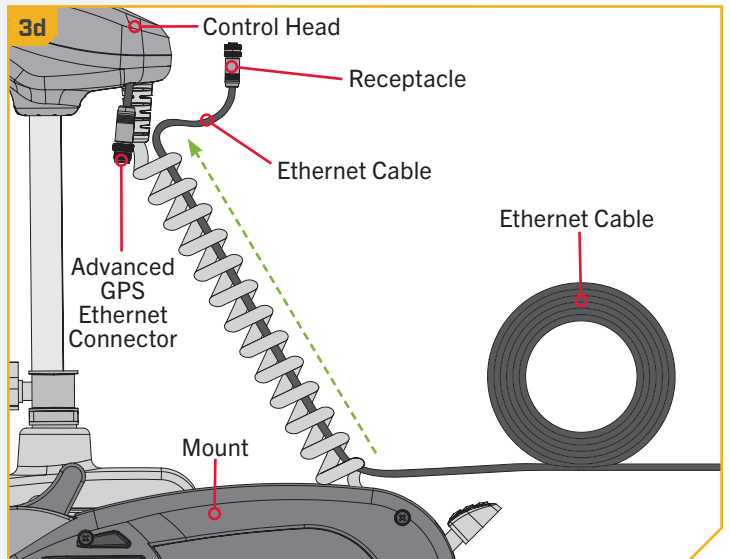
**NOTICE:** The 15' Ethernet Cable (AS EC 15E - 15' Ethernet Cable - 720073-5) is provided. Alternate cable lengths are available from [humminbird.johnsonoutdoors.com](http://humminbird.johnsonoutdoors.com).



3

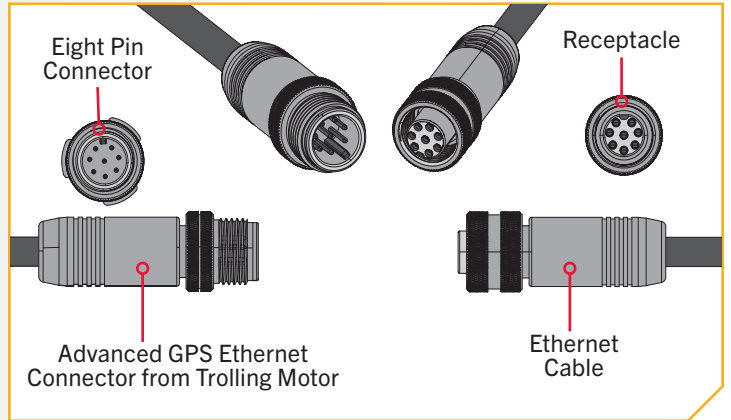
- d. Take the Receptacle on the Ethernet Cable and run it through the center of the Coil Cord, starting at the end of the Coil Cord attached to the Mount and working up towards the Control Head. Allow enough slack in the cable to attach the Receptacle to the Advanced GPS Ethernet Connector.

**NOTICE:** Minn Kota recommends routing the Ethernet Cable through the Coil Cord when making the Ethernet connection. Bypassing the Coil Cord when routing the Ethernet Cable is not recommended.



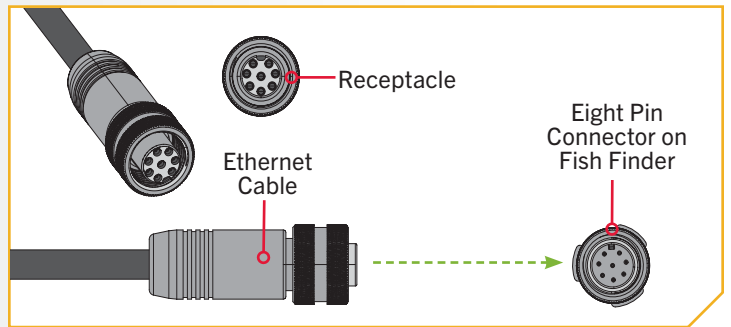
## 4

- 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, Helix, or Xplore Fish Finder or directly into a Helix Adapter Cable.



## 5

- g. **If installing directly to a Solix, Apex, or Xplore,** 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 fish finder. Notice the keyed connectors. Tighten the Collar from the Ethernet Cable to secure the connection. Once directly installed to the Solix, Apex, or Xplore the connection is complete.



# ADVANCED GPS NAVIGATION

6

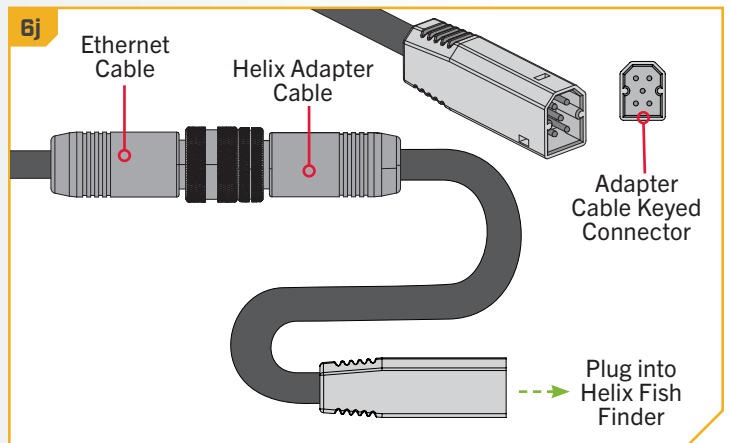
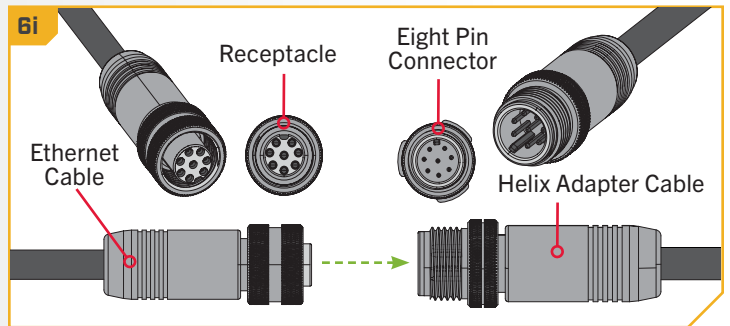
## ITEM(S) NEEDED



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

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

- 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

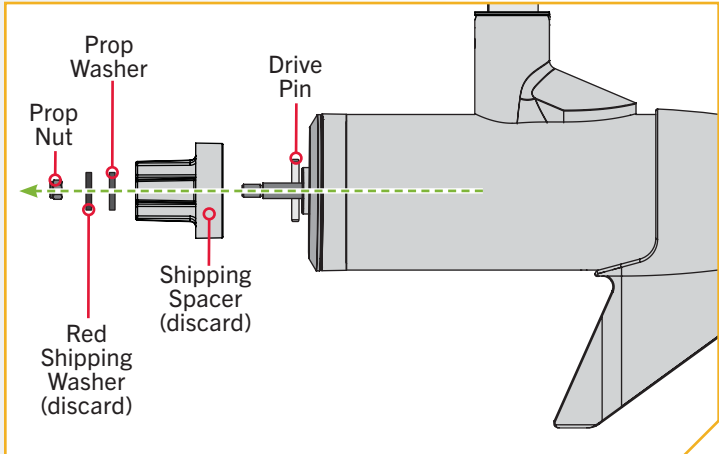
1

**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.

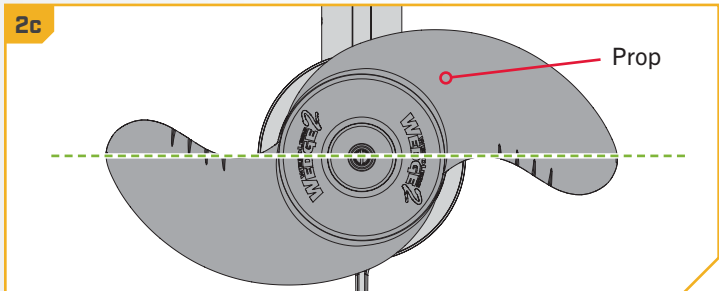
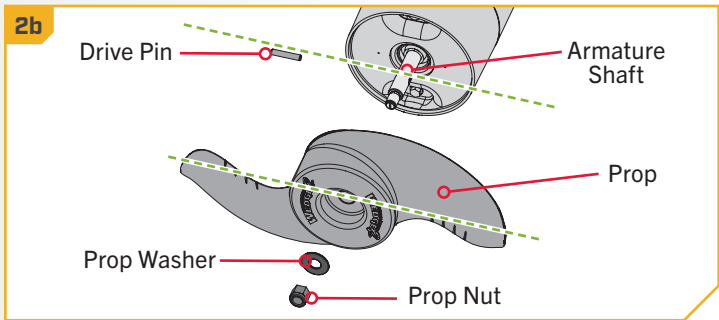


2

ITEM(S) NEEDED

- #7x 1
- #8 x 1
- #9x 1
-  #10 x 1

- b. Take the Drive Pin (Item #7) and slide it through the Hole in the Armature Shaft. Position the Drive Pin horizontally by grasping the Armature Shaft and rotating it with the Drive Pin in place.
- c. Align the Prop (Item #10) so it is also horizontal and parallel with the Drive Pin. Slide the Prop onto the Armature Shaft and Drive Pin until it is seated against the lower unit.
- d. Install the Prop Washer (Item #8) and the Prop Nut (Item #9) onto the end of the Armature Shaft.



## INSTALLING THE PROP

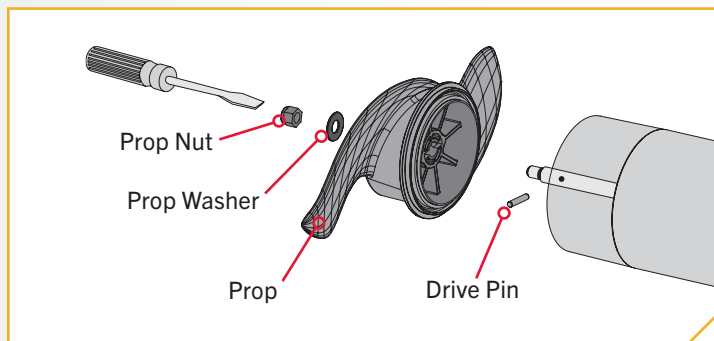
3

- e. Holding the end of the Armature Shaft with a Flat Blade Screwdriver, tighten the Prop Nut with a 1/2" 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

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 Kayak Terrova motor. Powering multiple motors or additional electrical devices from the same power circuit may impact the recommended conductor gauge and circuit breaker size. Extend the Kayak Terrova lead wires no more than 9 feet using 10 AWG with 90°C minimum insulation single strand wire. To accommodate longer lead wire extensions with proper wire sizing, seek the help of a certified marine installer.

### 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.

## 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](http://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

Find an appropriate circuit breaker or fuse for the trolling motor. For motors requiring a 60-amp breaker, the Minn Kota MKR-27 60-amp circuit breaker is recommended.

### CAUTION

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

# BATTERY & WIRING INSTALLATION

## ADDITIONAL CONSIDERATIONS

### › Using Alternator Chargers

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

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

### › Additional Accessories Connected to Trolling Motor Batteries

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

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.

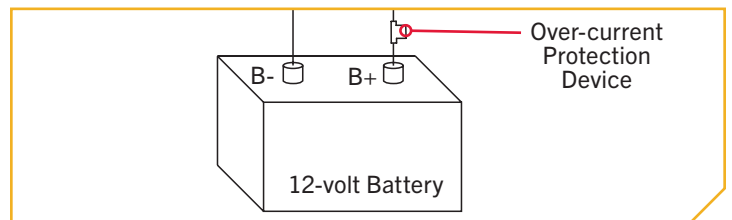
### › Automatic Jump Start Systems and Selector Switches

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 multi-battery systems 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 multi-battery 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.

## 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.
- Keep leadwire wing nut connections tight and solid to battery terminals.
- Locate battery in a ventilated compartment.

# ONE-BOAT NETWORK

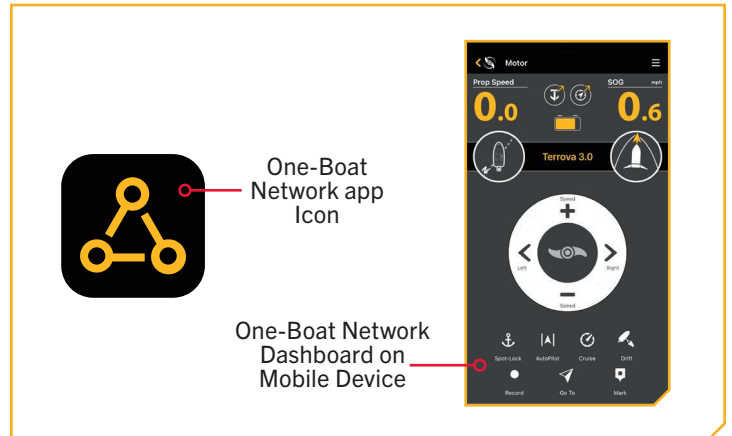
## OPTIMIZING THE PERFORMANCE OF THE KAYAK TERROVA WITH THE ONE-BOAT NETWORK APP

Minn Kota® and Humminbird® have joined forces to bring you the One-Boat Network (OBN). To get the most from your One-Boat Network, we encourage you to download the One-Boat Network app onto your smart device. The One-Boat Network® app is a free iOS and Android application that you can download to a mobile device, providing unparalleled control over all of your One-Boat Network connected products.

Minn Kota recommends connecting the trolling motor to the OBN app to assist in these steps. For instructions on pairing the OBN app to the trolling motor, refer to the OBN Quick Start Guide included with the motor. For more information on the OBN app, refer to the One-Boat Network Owner's Manual online at [minnkota.johnsonoutdoors.com](http://minnkota.johnsonoutdoors.com).

Completing the installation of the Kayak Terrova through the One-Boat Network app should be done following the Prop installation. Ensure that the trolling motor is connected to a power source before adjusting One-Boat Network settings.

**NOTICE:** Ensure that the trolling motor is connected to a power source before adjusting One-Boat Network settings.



## 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.

## BOAT SCALE

Trolling motor performance can be impacted by factors including, but not limited to, wind, water conditions, boat specifications, battery health, wiring, etc.

Boat Scale provides a method of adjusting how the trolling motor will perform to account for these and other variables. The Kayak Terrova comes from the factory with a Boat scale of -2. Boat Scale can be adjusted up (+2) or down (-2) to increase or decrease how the motor control software applies power while using a navigation mode like Spot-Lock.

An example showing the need to reduce Boat Scale would be while using Spot-Lock and the motor is over-correcting or making frequent adjustments. In this case, try reducing Boat Scale -1 to reduce this behavior. If the behavior continues, reduce Boat Scale to -2.

An example showing the need to increase Boat Scale while using Spot-Lock would be the motor is drifting away from its target location frequently or needs help to make corrections. Try increasing Boat Scale to +1 to help improve the trolling motor accuracy in this case. If the behavior continues, increase Boat Scale to +2.

**NOTICE:** Minn Kota recommends setting the Boat Scale for the Kayak Terrova to -2.

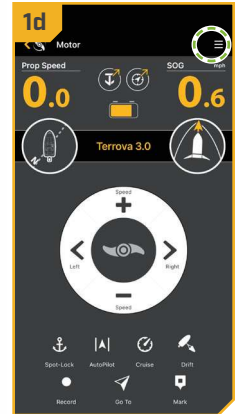
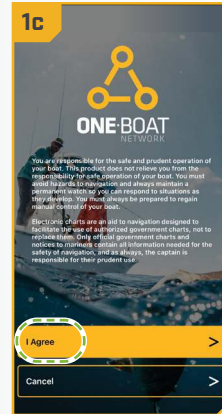
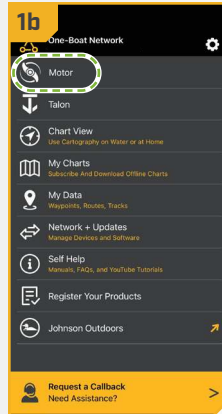
# ONE-BOAT NETWORK

## ▶ Adjusting Boat Scale with the One-Boat Network App

1

- Open the One-Boat Network (OBN) app on a mobile device. Make sure the mobile device is paired with the trolling motor and that the motor is powered "on."
- From the OBN home screen, tap the Motor menu. The Motor menu opens the Motor home screen.
- Before the Motor home screen will open, tap Agree on the on-screen prompt.

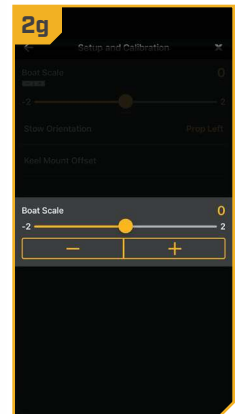
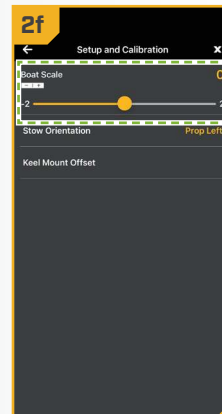
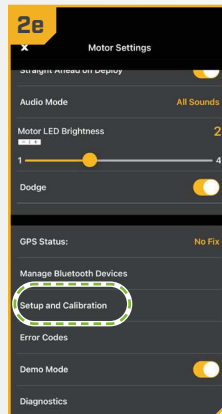
**NOTICE:** The on-screen prompt will only display once each time the app is launched. If the prompt has displayed, the Motor home screen appears.



- On the Motor home screen, locate the Motor Settings button in the upper-right corner and tap it.

2

- In the Motor Settings menu, find and tap Setup and Calibration.
- In Setup and Calibration, find and tap Boat Scale.
- Set the feature to decrease Boat Scale to -2 for the Kayak Terraova.



This completes the installation of your Kayak Terraova. A complete Owner's Manual can be downloaded at [minnkota.johnsonoutdoors.com](http://minnkota.johnsonoutdoors.com).