

FORTREX[®]
BOW-MOUNT TROLLING MOTOR
USER MANUAL

CE MASTER USER MANUAL (FOR CE CERTIFIED MODELS)

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.

REMEMBER TO KEEP YOUR RECEIPT AND IMMEDIATELY REGISTER YOUR TROLLING MOTOR.

NOTE: 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; 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. Please include proof of purchase, serial number and purchase date for warranty service with any of the above options.

Please thoroughly read this user manual. Follow all instructions and heed all safety and cautionary notices below. 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.

ATTENTION: 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.

CAUTION: 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 whose 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 2,5m/sec².

LOCATING YOUR 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. We recommend that you write the serial number down in the space provided below so that you have it available for future reference.

The serial number on your Fortrex is located near the momentary switch underneath the side of the foot pedal.

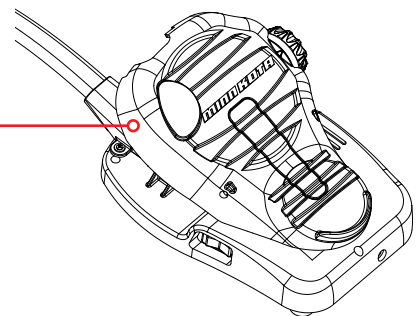
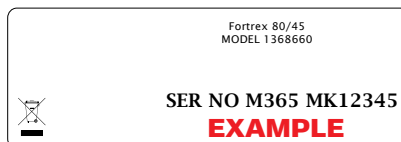


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TWO-YEAR LIMITED WARRANTY

WARRANTY ON MINN KOTA FRESHWATER TROLLING MOTORS

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

MINN KOTA LIMITED TWO-YEAR WARRANTY ON THE ENTIRE PRODUCT

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

MINN KOTA LIMITED LIFETIME WARRANTY ON 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 & LIMITATIONS

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

MINN KOTA SERVICE INFORMATION

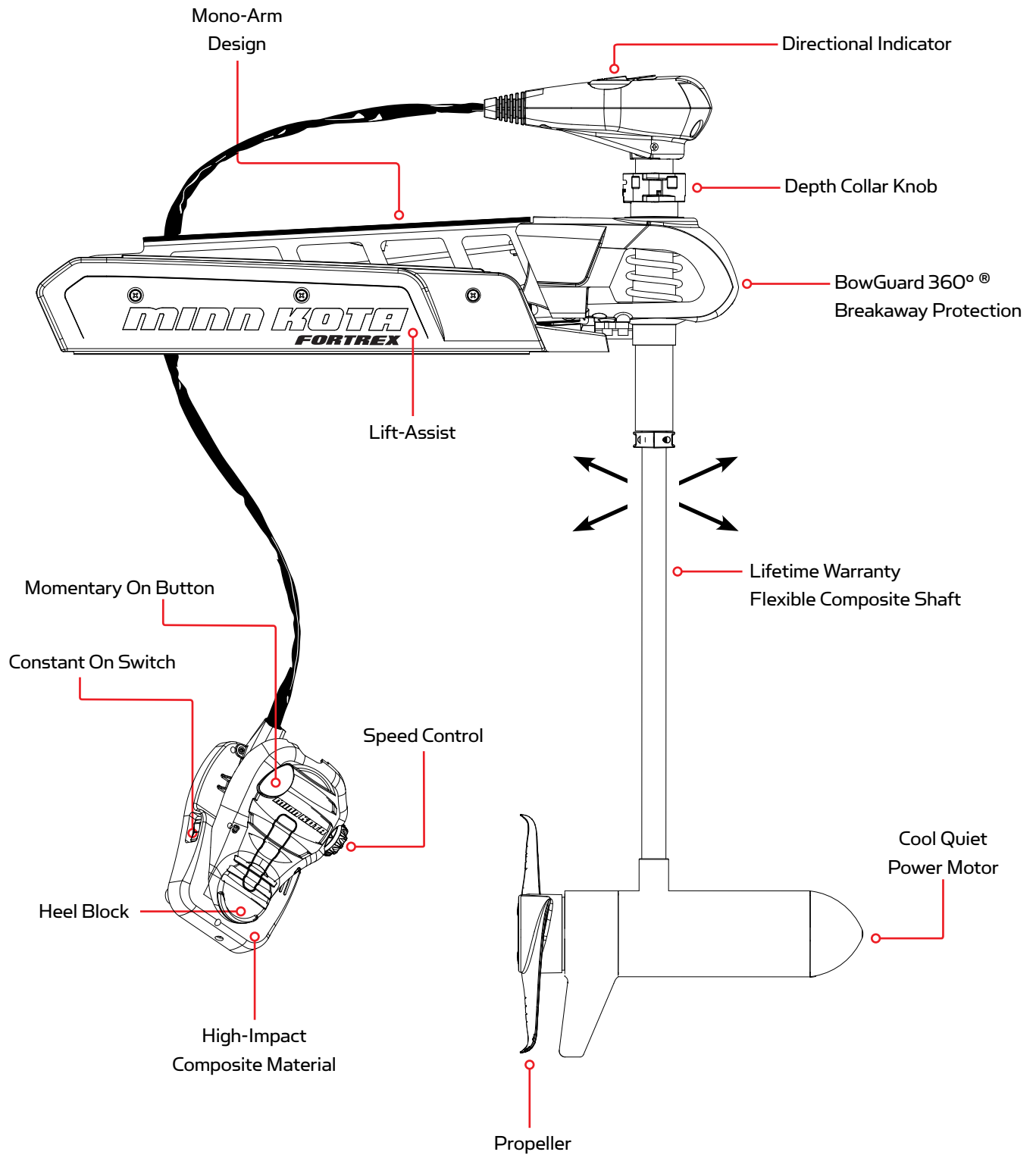
To obtain warranty service in the U.S., the product believed to be defective, and proof of original purchase (including the date of purchase), must be presented to a Minn Kota Authorized Service Center or to Minn Kota's factory service center in Mankato, MN. Any charges incurred for service calls, transportation or shipping/freight to/from the Minn Kota Authorized Service Center or factory, 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. Warranty service can be arranged by contacting a Minn Kota Authorized Service Center or by contacting the factory. **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 posted labor rate and for a minimum of at least one hour.**

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

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.

FEATURES



Specifications subject to change without notice.

This diagram is for reference only and may differ from your actual motor.

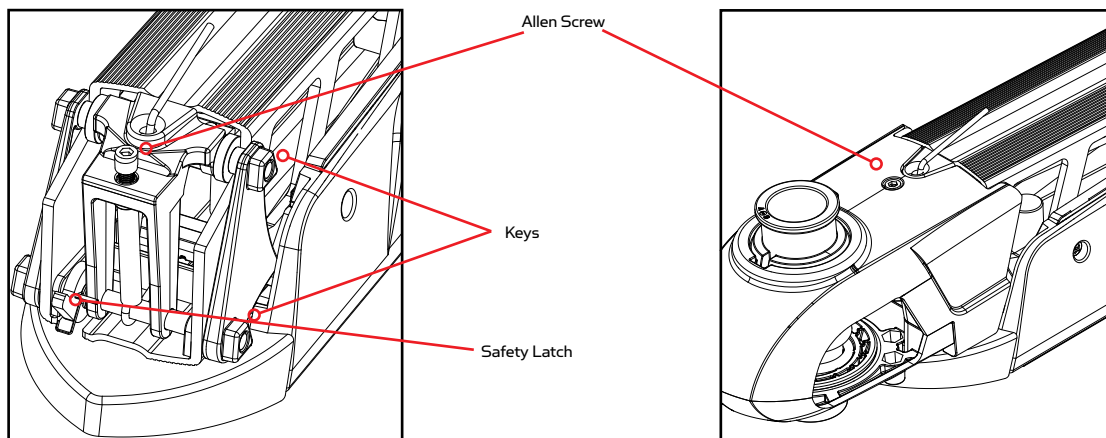
MOUNT INSTALLATION

TOOLS AND RESOURCES REQUIRED:

- Phillips Screw Driver
- 1/4" Allen Wrench
- Drill
- 9/32" Drill Bit
- 7/16" Box End Wrench
- A second person to help with the installation

ASSEMBLY OF MOTOR TO MOUNT

1. Place the mount on an elevated surface such as a workbench or tailgate of pickup.
2. Remove the 5/16" Allen screw and lock washer from the mount using an Allen wrench.



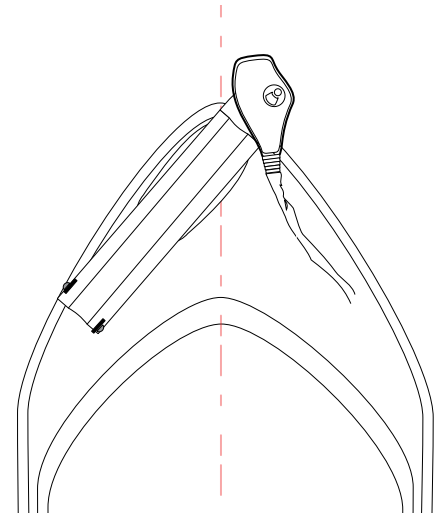
3. Align the key ways on the inside of the Bowguard with the end links on the mount. Lower the motor assembly straight down until seated.
4. Install the 5/16" Allen screw / lock washer and tighten to 10-12 ft/lbs.
5. Stow the motor into the flat position by pulling the rope/handle to disengage the latch bar, allowing the motor to fold into the flat position.
6. Once in the stowed or flat position, the gas spring pin can be installed. Follow the steps below to install the gas spring pin and spacers:
 - Locate the upper gas spring pin and spacers in bag assembly
 - Align the end of the gas spring with the holes in the outer arm.
 - Install pin, spacers and Phillips flat head screws,
 - Tighten screws until the heads are flush with the outer arm.
7. Motor / mount can now be installed onto the boat. Proceed to next page for mounting instructions.

ATTENTION: The 5/16" Allen screw must be tight when installed and periodically tightened to 10-12 ft/lbs (Step 4), which will allow the motor to be stowed properly. Tighten the Allen screw when the mount is in the deployed position.

INSTALLATION OF THE BOW-MOUNT

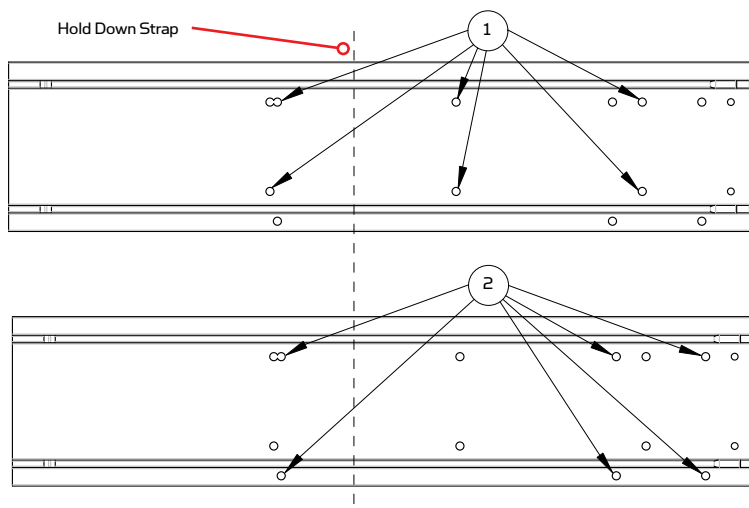
We recommend that you have another person help with this procedure.

- For installation, **DO NOT REMOVE THE SHAFT/MOTOR FROM THE BOWGUARD. The Bowguard spring is under tension and must always remain secured.**
- Place the mount, with the motor in the fully stowed (flat) position, on the deck of the boat:
 - The motor should be mounted as close to the centerline of the boat as possible when it is deployed (see illustration).
 - Make sure bow area under the chosen location is clear and unobstructed for drilling.
 - Make sure the motor rest is positioned far enough beyond the edge of the boat. The motor, as it is lowered into the water or raised into the boat, must not encounter any obstructions
- Once in position, determine which bolt pattern to use (see below), mark at least 4 of the holes (2 on each side) in the bow plate and drill through with a 9/32" drill bit. Either pattern may be used when installing the motor.
 - Pattern 1: Minnkota 3" bolt pattern standard motors.
 - Pattern 2: Alternate 4" bolt pattern commonly used.



NOTE: If pattern 2 is to be used, the right side plate must be removed to access the mounting holes in the bow plate.

- Install hold down strap between the motor and deck of boat between second and third set of mounting holes.



- Mount the plate to the bow through the drilled holes using the provided (1/4-20 x 3-1/2") bolts, nuts and washers.

NOTE: If possible, secure all sets of mounting bolts, nuts and washers.
- Install the bow mount stabilizer (if included). See next section for installation instructions.

WARNING: The gas assist lift mechanism in this unit is under HIGH SPRING PRESSURE when the motor is in the deployed position. DO NOT remove the Bowguard assembly from the mount without disconnecting one end of the gas spring (see Removal of Bowguard section). Failure to do this can create a condition where accidental pulling of the rope may cause the mount to spring open rapidly, striking anyone or anything in the direct path.

INSTALLING THE BOWMOUNT STABILIZER

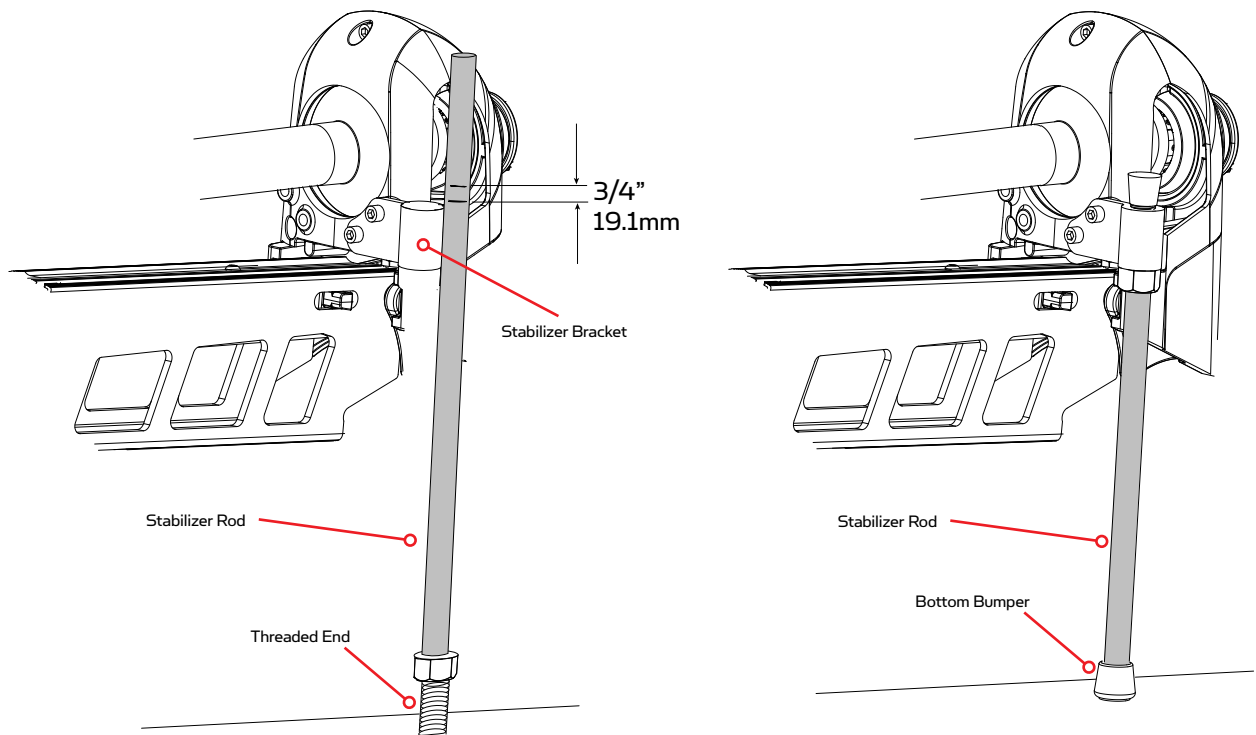
1. Place motor in the stowed position.
2. Unthread the composite rod from the bracket and attach bracket to the bottom of the Bowguard using the 5/16" cap screws and nuts. The nuts fit into pocket on the inside of the Bowguard behind the spring.

NOTE: The bracket can be installed on the left or right side of the Bowguard.

3. Pull the bumper off the stabilizer rod and place the rod next to the bracket as shown in illustration.
4. Place the threaded end down onto the deck surface and mark the rod 3/4" above the top of the bracket.
5. Cut the rod to the mark and round the cut edge with a file or sandpaper.
6. Install the bottom bumper to the stabilizer rod and thread the rod into the bracket.
7. Adjust the stabilizer rod up or down to so that the tip just touches the support surface. See illustration below.

WARNING: Adjusting the rod too tightly removes the end play needed for proper pin engagement and doing so could prevent the mount from fully latching in the stowed position. If installed correctly, the rod tip should lift off the deck about 1/4" without the mount unlatching.

8. Once adjusted, tighten the jam nut against the bracket, which will prevent the rod from turning.
9. Install top cap if threads are exposed.



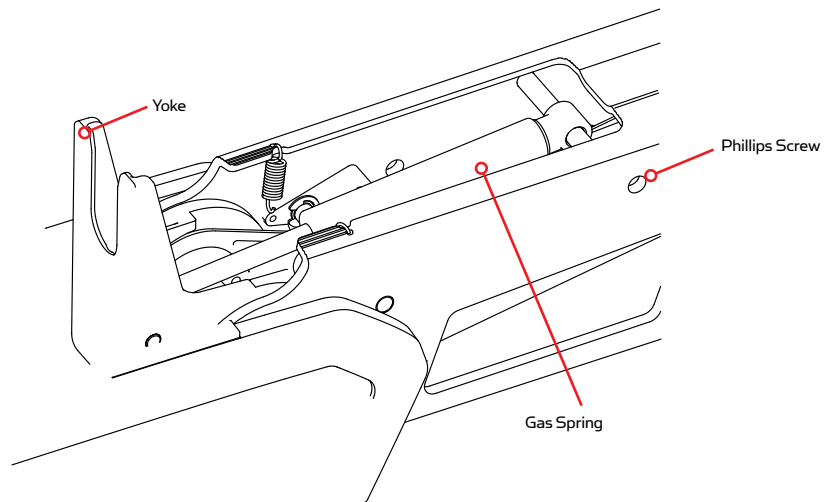
REMOVAL OF THE BOWGUARD

WARNING: The gas assist lift mechanism in this unit is under HIGH SPRING PRESSURE when the motor is in the deployed position. DO NOT remove the Bowguard assembly from the mount without disconnecting one end of the gas spring. Failure to do this can create a condition where accidental pulling of the rope may cause the mount to spring open rapidly, striking anyone or anything in the direct path.

A) DISCONNECT THE GAS SPRING:

You must disconnect the gas spring before removing the Bowguard assembly from the motor mount. To disconnect the gas springs, follow the instructions below:

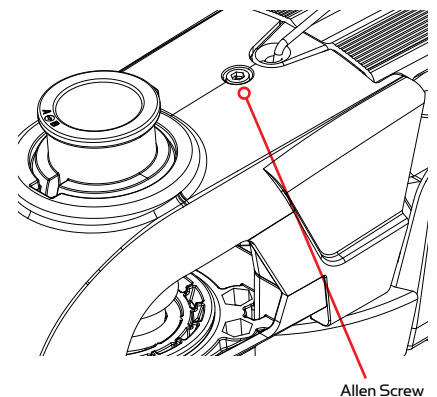
1. With the mount in the stowed position, locate the upper cylinder pin.
2. Using two Phillips screwdrivers, remove 1 of the Phillips flat head screws.
3. Remove pin and spacers from outer arm.
4. Now it is safe to deploy the motor and remove the motor assembly.



B) REMOVE THE BOWGUARD

1. Once you disconnect the gas spring, place the motor in the deployed position.
2. Remove the 5/16" cap screw and lock washer located on the top of the Bowguard, in front of the pull rope.
3. Lift motor/Bowguard assembly straight up until Bowguard is free from mount.

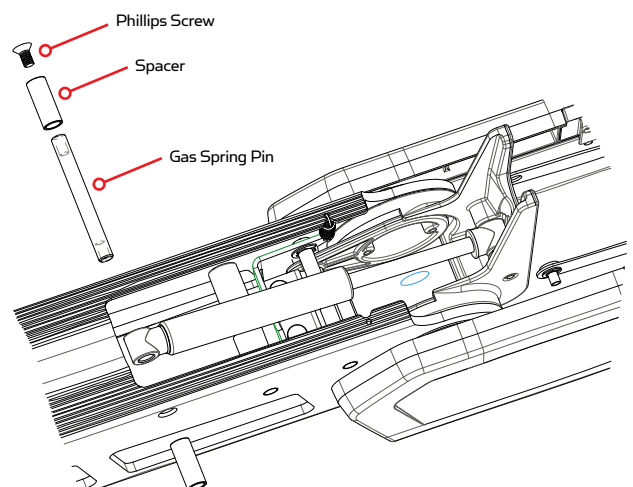
NOTE: Rope and latch bar should never be pulled with the motor removed as the assembly is under HIGH PRESSURE.



C) RE-ASSEMBLING THE BOWGUARD

1. Align the key ways on the inside of the Bowguard with the ends links on the mount. Lower the assembly straight down until seated. Re-install the 5/16" cap screw and washer and tighten.
2. Reconnect the gas spring by following the steps below:
 - Locate the upper gas spring pin and spacers.
 - Align the end of the gas spring with the holes in the outer arm.
 - Install pin, spacers and Phillips flat head screws,
 - Tighten screws until the heads are flush with the outer arm.

NOTE: Screws have a pre-applied thread locker, DO NOT apply additional thread locker to screws as that may prevent future removal.



WARNING: Moving parts can crush or cut. Gas assist lift mechanism is under pressure. Disconnect gas spring before removing motor from mount. Do not pull rope until gas spring is disconnected.

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.

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.

Reference:

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

CONDUCTOR GAUGE AND CIRCUIT BREAKER SIZING TABLE

Motor Thrust / Model	Max Amp Draw	Circuit Breaker	Wire Extension Length *				
			5 feet	10 feet	15 feet	20 feet	25 feet
30 lb.	30	50 Amp @ 12 VDC	10 AWG	10 AWG	8 AWG	6 AWG	4 AWG
40 lb., 45 lb.	42		10 AWG	8 AWG	6 AWG	4 AWG	4 AWG
50 lb., 55 lb.	50	60 Amp @ 12 VDC	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG
70 lb.	42	50 Amp @ 24 VDC	10 AWG	10 AWG	8 AWG	8 AWG	6 AWG
80 lb.	56	60 Amp @ 24 VDC	8 AWG	8 AWG	8 AWG	6 AWG	6 AWG
101 lb.	46	50 Amp @ 36 VDC	8 AWG	8 AWG	8 AWG	8 AWG	8 AWG
Engine Mount 101	50	60 Amp @ 36 VDC	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG
112 lb.	52	60 Amp @ 36 VDC	8 AWG	8 AWG	8 AWG	8 AWG	8 AWG
Engine Mount 160	116	(2) x 60 Amp @ 24 VDC	2 AWG	2 AWG	2 AWG	2 AWG	2 AWG
E-Drive	40	50 Amp @ 48 VDC	10 AWG	10 AWG	10 AWG	10 AWG	10 AWG

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

1. No more than 3 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 5% voltage drop allowed at full motor power based on published product power requirements.

***Wire Extension Length refers to the distance from the batteries to the trolling motor leads.**

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 ampere 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.

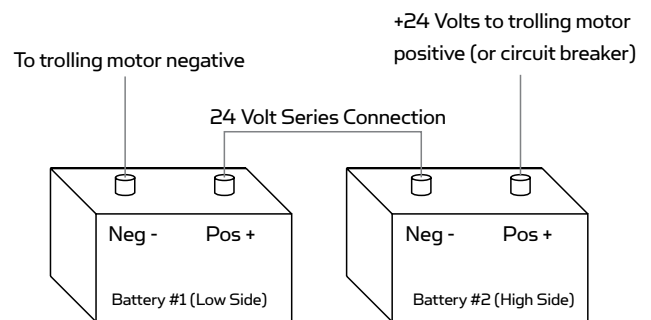
Advice Regarding Batteries:

- 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.
- It is highly recommended that a circuit breaker or fuse be used with this trolling motor. Refer to “Conductor Gauge and Circuit Breaker Sizing Table” in the previous section to find the appropriate circuit breaker or fuse for your motor. For motors requiring a 60-amp breaker, the Minn Kota MKR-19 60-amp circuit breaker is recommended.

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

24 VOLT SYSTEMS:

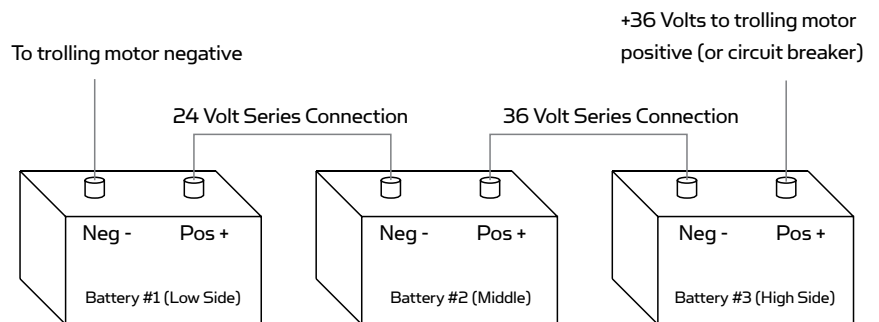
1. Make sure that the motor is switched off (speed selector on “0”).
2. Two 12 volt batteries are required.
3. The batteries must be wired in series, only as directed in wiring diagram, to provide 24 volts.
 - a. Connect a connector cable to the positive (+) terminal of battery 1 and to the negative (-) terminal of battery 2.
 - b. Connect positive (+) red motor lead to positive (+) terminal on battery 2.
 - c. Connect negative (-) black motor lead to negative (-) terminal of battery 1.
4. 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. See wiring diagram on following pages.



Two 12-volt batteries connected in series for 24 volts

36 VOLT SYSTEMS:

1. Make sure that the motor is switched off (speed selector on “0”).
2. Three 12 volt batteries are required.
3. The batteries must be wired in series, only as directed in wiring diagram, to provide 36 volts.
 - a. 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.
 - b. Connect positive (+) red motor lead to positive (+) terminal on battery 3.
 - c. Connect negative (-) black motor lead to negative (-) terminal of battery 1.
4. 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. See wiring diagram on following pages.



Three 12-volt batteries connected in series for 36 volts

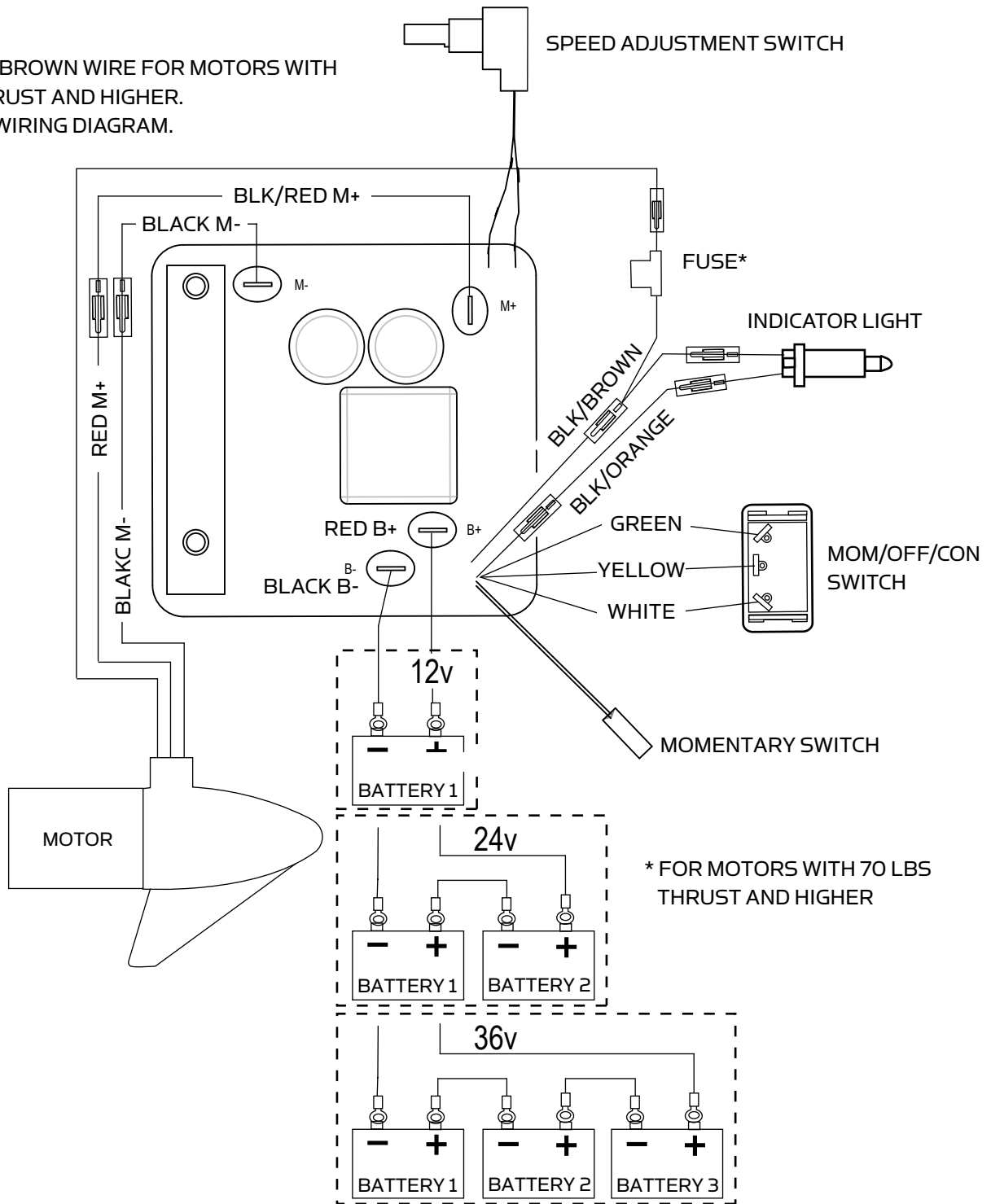
CAUTION

- **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.**
- **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.**

MOTOR WIRING DIAGRAM

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

OPTIONAL BROWN WIRE FOR MOTORS WITH 70 LBS THRUST AND HIGHER. SEE BOAT WIRING DIAGRAM.



USING AND ADJUSTING THE MOTOR

STOWING AND DEPLOYING THE MOTOR

WARNING:

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

MOUNT FEATURES

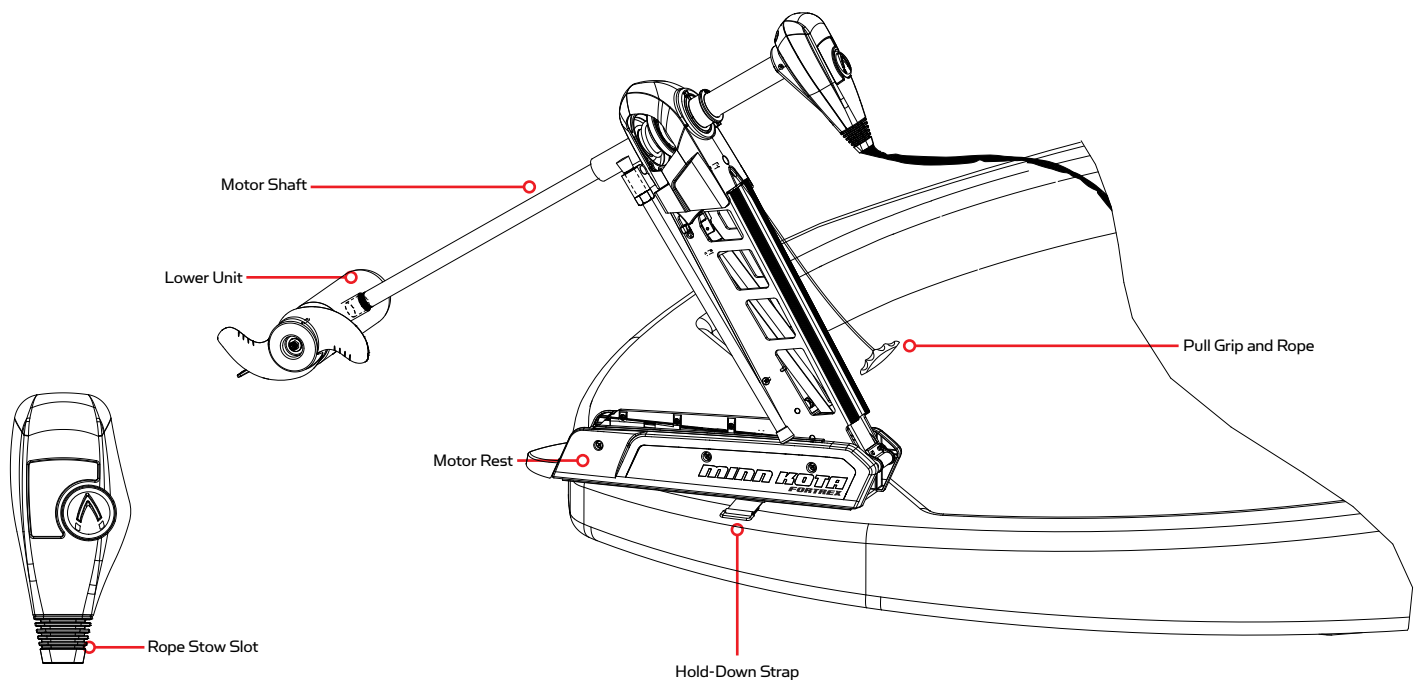
- The motor mount is designed to fold back and lock the motor flat on the deck when not in use and to provide secure stowage for transport.
- The pull grip and rope releases the lock bar, which automatically engages when the unit is lowered or raised into position. The pull grip and rope should be used to both lower and raise the unit.
- The motor rest positions the lower unit as it comes in contact with the nose of the mount and guides it onto the motor rest.
- The yoke captures the motor shaft and keeps the lower unit centered on the motor rest.
- The hold-down strap must be used to place pressure on the motor shaft to hold the lower unit tightly against the motor rest when stowed.
- The pull grip and rope can be stored by placing the pull grip into the rope stow slot on the control box of the motor.

TO DEPLOY THE MOTOR

Simply pull back and lift the motor off of the mount with the pull grip and rope. Lower the motor into the water using the pull grip and rope. The motor will lock into the deployed position automatically.

TO STOW THE MOTOR

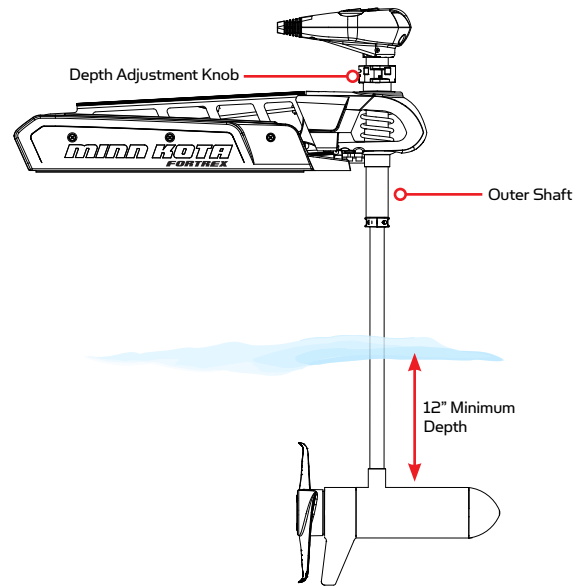
Pull back and lift the motor out of the water with the pull grip and rope. Lower the motor lower unit onto the motor rest using the pull grip and rope. The motor will lock into the stowed position automatically. Wrap the hold-down strap over top of the motor shaft to secure the motor.



ADJUSTING THE DEPTH OF THE MOTOR

The propeller tip must be submerged at least 12" to avoid churning or agitation of surface water.

1. With the motor deployed, firmly grasp the outer shaft or control head and hold it steady.
2. Loosen the depth adjustment knob until the shaft slides freely.
3. Raise or lower the motor to the desired depth.
4. Turn the motor control head to the desired position.
5. Tighten depth adjustment knob to secure the motor in place.

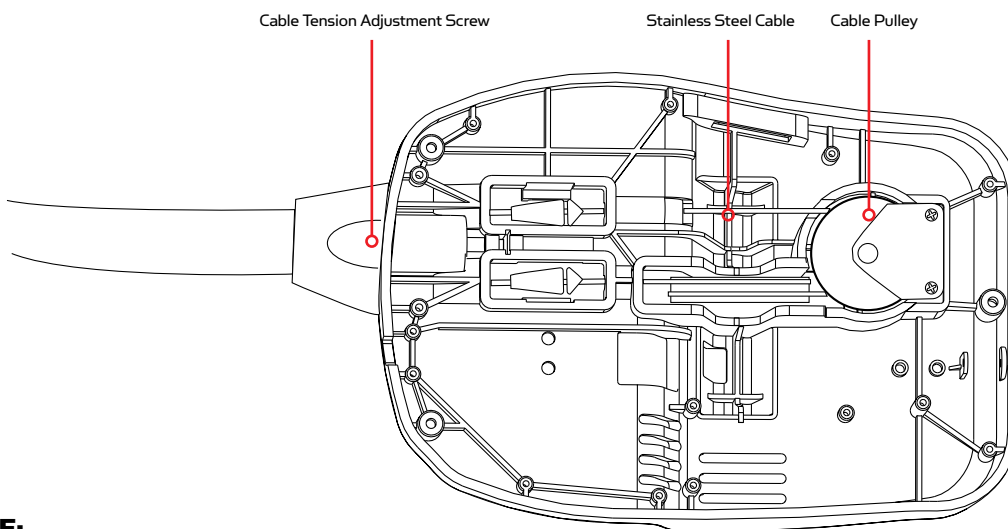


ADJUSTING THE STEERING CABLE

The steering cable tension is pre-set at the factory but will, through normal use, need occasional adjustment.

Adjust the tension of the cables by turning the cable tension adjustment screw (Phillips pan-head screw) located near the bottom of the foot pedal, just under the steering cable cover.

Turn the screw clockwise to increase tension and counter-clockwise to decrease tension.

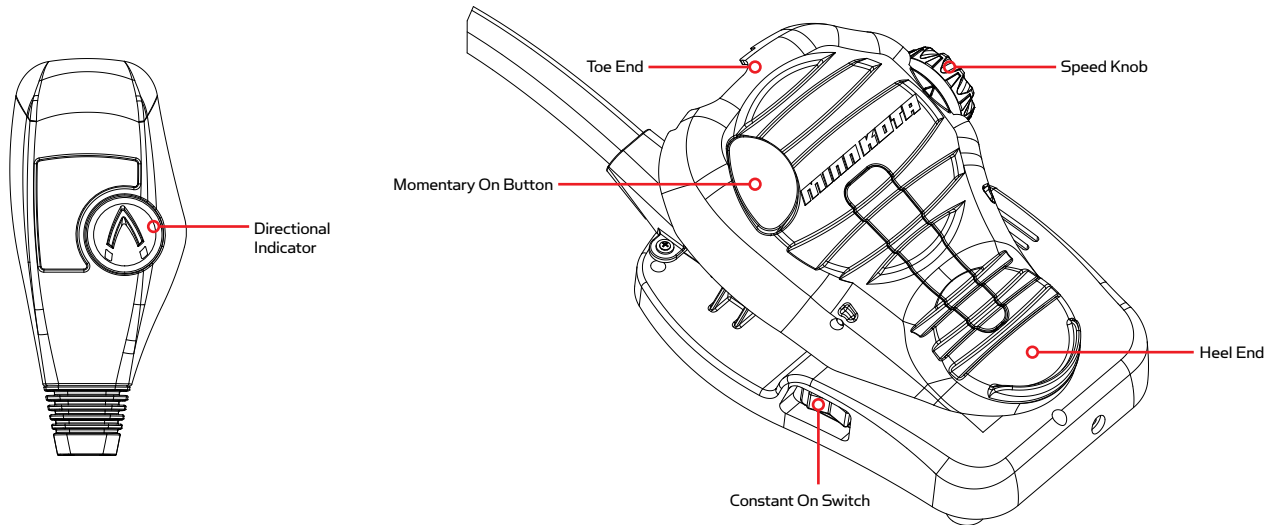


NOTE:

If the cable becomes too loose, it may disengage the wrap drum in the control box or the pulley in the foot pedal.

CONTROLLING SPEED & STEERING WITH THE FOOT PEDAL

Most controls on the foot pedal are easy to operate by either foot or hand:



TO ADJUST MOTOR SPEED

Turn the speed knob clockwise to increase speed and counter-clockwise to decrease speed.

TO OPERATE THE MOTOR IN MOMENTARY MODE

The default mode of operation for the foot pedal is Momentary. In this mode, the motor will only run while downward force is applied to the Momentary On button on the top of the foot pedal. A toe touch to the Momentary button on the top of the foot pedal will turn the propeller on in this mode. Removing downward force on the Momentary button will turn the propeller off.

TO OPERATE THE MOTOR IN CONSTANT MODE

To switch to Constant Mode, flip the side-mounted Constant On switch until the propeller starts. In Constant Mode, the propeller will continually run, regardless of whether force is being applied to the Momentary On button on the top of the foot pedal.

TO TURN LEFT OR RIGHT

Push the toe end of the foot pedal down to turn right and push the heel end of the foot pedal down to turn left. The indicator on the motor head shows the direction of the motor. The motor will not maintain its own heading. You must keep your foot on the pedal to control steering during operation.

TO REVERSE THE MOTOR

The motor always travels in the direction of the indicator. You can reverse the direction of the motor by turning the motor 180° from straight ahead.

CAUTION:

- **Make sure the Constant On switch is in the off position when not in use. If the motor control is left on and the propeller rotation is blocked, severe motor damage can result.**
- **Be sure to turn the motor off after each use.**
- **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.**

SERVICE & MAINTENANCE

PROPELLER REPLACEMENT

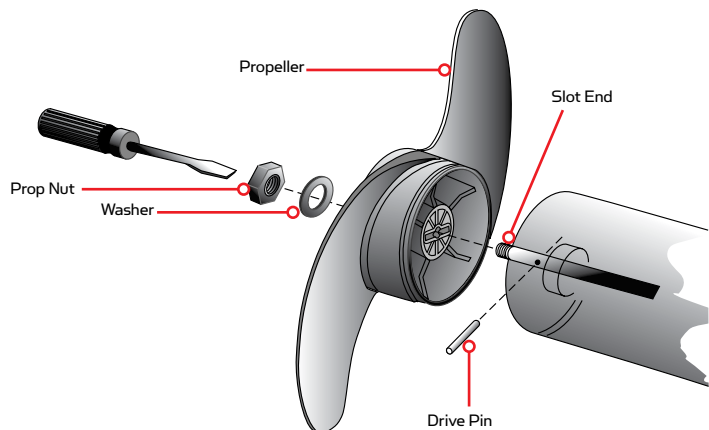
TOOLS AND RESOURCES REQUIRED:

- Box End Wrench
 - 1/2" for motors with 70 lbs thrust or lower.
 - 9/16" for motors with 80 lbs thrust or higher.
- Screwdriver (optional)

CAUTION:

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

NOTE: The propeller on your motor may differ from the one pictured.



1. Disconnect the motor from all sources of power prior to changing the propeller.
2. Hold the propeller and loosen the prop nut with pliers or a wrench.
3. Remove the prop nut and washer. If the drive pin is sheared or broken, you will need to hold the shaft stationary with a blade screwdriver pressed into the slot on the end of the shaft.
4. Turn the old prop to horizontal (as illustrated) and pull it straight off. If drive pin falls out, push it back in.
5. Align the new propeller with the drive pin.
6. Install the prop washer and prop nut.
7. Tighten the prop nut 1/4 turn past snug [25-35 inch lbs.] Do not over tighten as this can damage the prop.

GENERAL MAINTENANCE

- After use, the entire motor should be rinsed with freshwater. This series of motors is not equipped for saltwater exposure.
- The propeller must be inspected and cleaned from 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 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.
- The propeller 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.
- The rail covers on the motor rest are intended to be a wear item and may need to be replaced periodically.

TROUBLESHOOTING & REPAIR

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. Motor is difficult to steer:
 - Check steering cables for proper tension. Adjust as necessary.
4. You experience prop vibration during normal operation:
 - Remove and rotate the prop 180°. See removal instructions in the Propeller Replacement Section.
5. Experiencing interference with your fishfinder:
 - You may, in some applications, experience interference in your depth fi nder display. We recommend that you use a seperate deep cycle marine battery for your trolling motor and that you power the depth fi nder from the starting/cranking battery.

COMPLIANCE STATEMENTS

ENVIRONMENTAL COMPLIANCE STATEMENT:

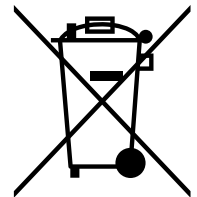
It is the intention of JOME to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

WEEE DIRECTIVE:

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

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

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



DISPOSAL:

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

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

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

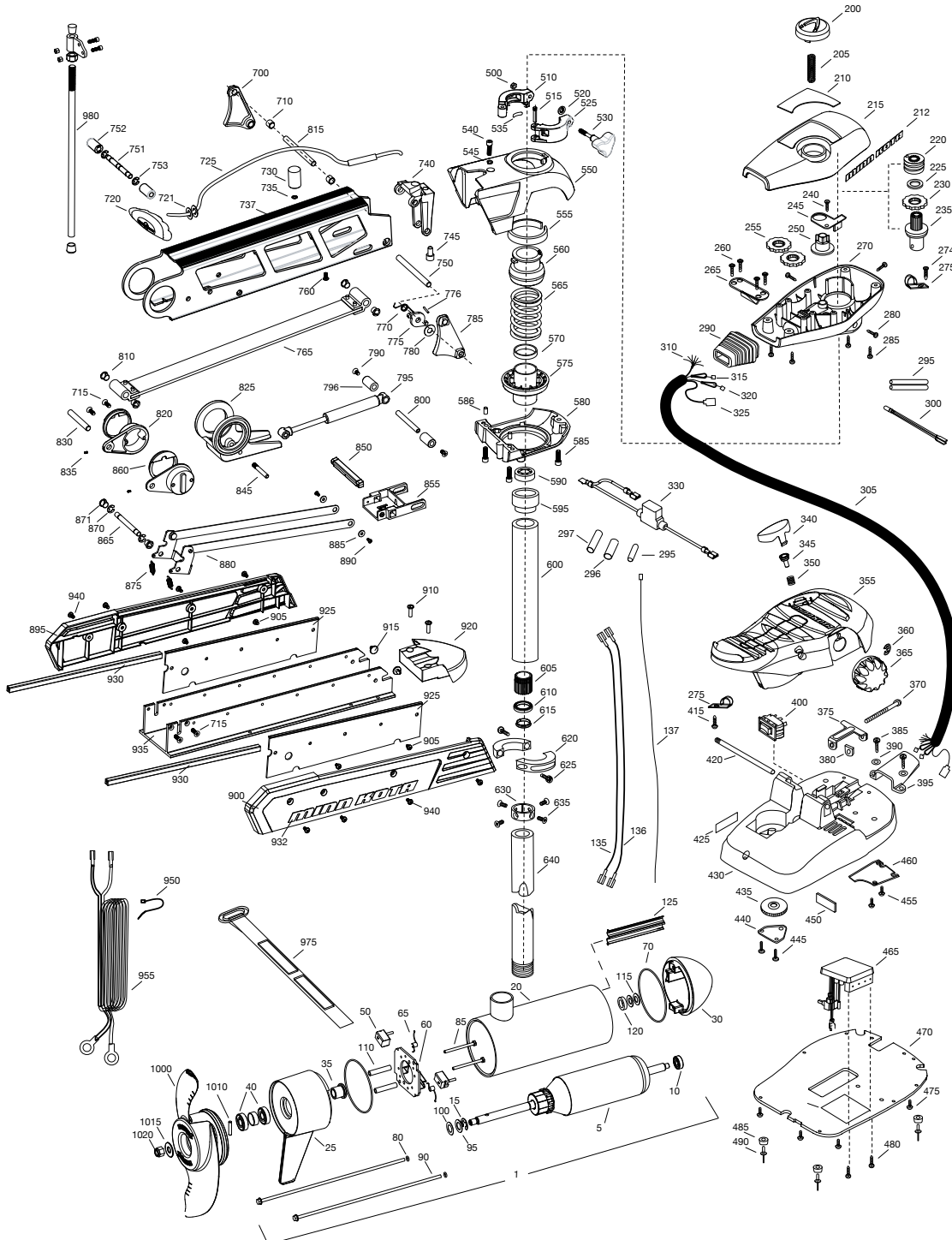
PARTS DIAGRAM

FORTREX 80

80 LBS THRUST - 24 VOLT - 52"/62" SHAFT

This page provides Minn Kota® WEEE compliance disassembly instructions. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

Tools required, but not limited to: flat head screw driver, Phillips screw driver, socket set, pliers, wire cutters.



PARTS LIST

FORTREX 80

80 LBS THRUST - 24 VOLT - 52"/62" SHAFT

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	2316217	24V MOTOR 52" FW
	1	2316219	24V MOTOR US2 62"
	1	2326241	24V MOTOR US2 52"
	1	2326242	24V MOTOR US2 62"
5	1	2-100-214	ARMATURE ASSEMBLY
10	1	140-010	BEARING
15	1	788-040	RETAINING RING
20		2-200-160	CENTER HOUSING ASSEMBLY
25	1	2-300-160	BRUSH END HOUSING ASSEMBLY
30	1	421-276	PLAIN END HOUSING ASSEMBLY STD
	1	9421-289	PLAIN END HOUSING US2 52"
	1	9421-290	PLAIN END HOUSING US2 62"
35	1	144-017	FLANGE BEARING
40	2	880-025	SEAL
50	2	188-094	BRUSH
60	1	9-738-004	BRUSH PLATE ASSEMBLY
65	2	975-041	BRUSH SPRING
70	2	701-043	O-RING, MOTOR
80	2	701-009	O-RING, THRU-BOLT
85	2	830-027	SCREW, 10-32 X 2
90	2	830-094	THRU-BOLT
95	2	990-051	WASHER, STEEL
100	2	990-052	WASHER, NYLATRON
110	2	973-025	SPACER, BRUSH PLATE
115	2	992-010	WASHER, BELLEVILLE
120	1	990-045	SPACER, THRUST
125	1	582-013	CLIP, RETAINING, SHORT, US2 ONLY
135	1	640-020	LEADWIRE, BLACK
136	1	640-125	LEADWIRE, RED
137	1	640-317	GROUNDWIRE, BROWN, US2 ONLY
200	1	2990140	INDICATOR ASSEMBLY
205	1	2282730	SPRING, INDICATOR
210	1	2285605	DECAL, COVER 80#, FW
	1	2285606	DECAL, COVER 80# US2, FW
212	2	2285616	DECAL, CONTROL BOX, FW
215	1	2280200	COVER, CONTROL BOX
220	1	2232360	PULLEY, CABLE DRUM
225	1	2261730	WASHER, NYLON
230	1	2267800	GEAR, INDICATOR
235	1	2996247	TOP BEARING, PINION DRIVE
240	1	2301310	SCREW 8-18 X 1/2
245	1	2261905	BRACKET, INDICATOR
250	1	2262221	INDICATOR, DRIVE
255	2	2267800	GEAR, INDICATOR
260	4	2223430	SCREW 8 X 3/4
265	1	2261901	BRACKET, CONDUIT
270	1	2282500	CONTROL BOX
274	1	2372100	SCREW 8-18 X 5/8
275	2	2263201	CLAMP, WIRE HARNESS
280	3	2053414	8-32 X 1/2 TRI-LOBE
285	4	2372100	SCREW 8-18 X 2/8
290	1	2265110	BOOT, CONTROL BOX
295	3	2355410	SHRINK TUBE 3/8
296	2	2335400	SHRINK TUBE 1/2" OD X 2"
297	1	2975400	SHRINK TUBE 1/4" OD X 1 3/4"
300	1	2264015	LIGHT, INDICATOR

ITEM	QTY	PART NUMBER	DESCRIPTION
305	1	2265430	CABLE JACKET, 5'
310	1	2261220	WIRE HARNESS, MAX
315	1	2267505	CABLE ASSEMBLY, RIGHT, 5'
320	1	2267515	CABLE ASSEMBLY, LEFT, 5'
325	1	2211410	CABLE EXTENSION, US2 175"
330	1	2218200	FUSE HOLDER ASSEMBLY US2 ONLY
340	1	2993705	PUSH BUTTON W/ MAGNET
345	1	2260810	CLIP, REED SENSOR
350	1	2302732	SPRING, PEDAL BUTTON
355	1	2994496	FOOT PEDAL W/ PLUG
360	1	2263000	E-RING, KNOB
365	1	2280115	KNOB, SPEED CONTROL VARS
370	1	2263466	SCREW 1/4-20 X 2
375	1	2263210	BRACKET, CONDUIT ADJUSTMENT
380	1	2263140	NYLOCK KEEPER
385	2	2372100	SCREW 8-18 X 5/8
390	2	2261714	WASHER, MAX FOOT PEDAL
395	1	2265115	BOOT, FOOT PEDAL
400	1	2254031	SWITCH, MOM/OFF/CON
415	1	2332103	SCREW 6-20 X 3/8
420	1	2260511	PIN, PIVOT, FOOT PEDAL
425	1	2266610	DECAL, ON/OFF SWITCH
430	1	2992104	FOOT PEDAL BASE
435	1	2262301	PULLY, FOOT PEDAL
440	1	2266401	COVER, PULLEY
445	2	2301310	SCREW 8-18 X 1/2
450	1	2266413	TENSION SCREW
455	2	2332103	SCREW 6-20 X 3/8
460	1	2266412	SWITCH PLATE, FOOT PEDAL
465	1	2264056	CONTROL BOARD MAX 24/36
■	1	2884019	SWITCH-REED, MAGNETIC W/CONNECTORS
470	1	2264511	BOTTOM PLATE, MAX
475	5	2372100	SCREW 8-18 X 5/8
480	2	2223455	SCREW 10-32 X 1/2 ZP
485	4	2265126	BUMPER PAD, FOOT PEDAL
490	4	2378600	POP RIVET, 3/16 X 3/4 ALUM
■	1	2991550	CLAMP COLLAR ASSEMBLY
500	1	2073102	NUT, 1/4-28 SS
510	1	2071550	COLLAR CLAMP, "A" SIDE
515	1	2072621	PIN, KNURLED
520	1	2071718	WASHER #10 NYLON RETAINING
525	1	2071555	COLLAR CLAMP, "B" SIDE
530	1	2281505	KNOB - SOFT GRIP, FW
535	1	2075120	PAD, URETHANE, DEPTH COLLAR
540	1	2263422	SCREW 5/16-18 X 1
545	1	2281700	WASHER 5/16 LOCK
■	1	2991754	BOW GUARD ASSEMBLY 45", 52"
■	1	2991755	BOW GUARD ASSEMBLY 62"
550	1	2281942	BRACKET, TOP
555	1	2280001	BEARING, TOP BRACKET
560	1	2071541	SPRING SLEEVE, UPPER
565	1	2282700	SPRING, BOWGUARD
570	1	2281525	SPACER, SPRING 62" ONLY
575	1	2281520	SPRING SLEEVE, LOWER
580	1	2991725	BRACKET, BOTTOM
585	3	2263423	SCREW 5/16-18 X 1 SHCS

PARTS LIST

FORTREX 80 80 LBS THRUST - 24 VOLT - 52"/62" SHAFT

ITEM	QTY	PART NUMBER	DESCRIPTION
586	2	2262632	PIN, SPRING 1/4 X 5/8
590	1	2266000	BEARING, BALL, STEEL
595	1	2266260	BEARING RACE
600	1	2992086	TUBE W/ BEARING RACE 24" 52"
	1	2992088	TUBE W/ BEARING RACE 28 1/2" 62"
605	1	2267307	BUSHING OUTER TUBE
610	1	2266116	BEARING, CARTRIDGE
615	1	2266001	BEARING, SPLIT RING
620	2	2261622	COLLAR HALF
625	2	2263453	SCREW, 1/4-20 X 1 SHCS
630	1	2071560	COLLAR, TUBE
635	4	2223468	SCREW 8-32 X 7/16 FLT HD
640	1	2032006	TUBE 52"
	1	2032007	TUBE 62"
■	1	2991722	MNT ASM FTX FW 80# 52/62" (SUB)
700	1	2280800	LINK, BOWGUARD MOUNT, LEFT
710	2	2287303	BUSHING, UPPER PINS
715	4	2283411	SCREW, 1/4-20 X 1" FHS RIE TORX
720	1	2880400	PULL GRIP ASSEMBLY
721	2	2261732	WASHER
725	1	2771601	ROPE ASSEMBLY
730	1	2281516	SPACER, INNER ARM
735	1	2281702	WASHER, LOCK 1/4
737	1	2284212	OUTER ARM
740	1	2992322	ROPE GUIDE ASSEMBLY
745	1	2281530	INSERT, THREADED
750	1	2282608	PIN, 7/16 X 5 5/32
751	1	2282602	PIN, 3/8 X 3 3/4
752	2	2261505	SPACER
753	2	2263011	E-RING, 3/8 SHAFT
760	1	2223418	SCREW, 1/4-20 X 1/2 BHCS
765	1	2993821	INNER ARM ASSEMBLY, SHORT
770	1	2042711	SPRING, TORSION
775	1	2283620	LATCH, SAFETY
776	1	2282611	PIN, SAFETY LATCH
780	1	2281704	WASHER 7/16 NYLON
785	1	2280805	LINK, BOWGUARD MOUNT, RIGHT
790	2	2283410	SCREW 1/4-20 X 1/2 PFH
795	1	2288404	GAS SPRING (CYLINDER)
796	2	2281710	SPACER, GAS SPRING
800	1	2282610	PIN, UPPER, SHOCK
810	4	2280005	BEARING, NYLINER 7/16"
815	1	2282600	PIN, 7/16 X 4 7/8
820	2	2281932	BRACKET, REAR PIVOT
825	1	2281501	YOKE, SHOCK MOUNT
830	1	2282606	PIN, 7/16 X 4 1/2
835	2	2283402	SCREW, SET, 6-32 X 1/4
845	1	2282604	PIN, KNURLED 5/16 X 2
850	1	2283615	LATCH BAR
855	1	2283610	BRACKET - LATCH/STRAP, ROPE PULL
860	2	2287300	BUSHING, REAR PIVOT
865	1	2282602	PIN, 3/8 X 3 3/4
870	2	2263011	E-RING, 3/8 SHAFT
871	2	2280008	BEARING, IGLIDE
875	2	2282720	SPRING, EXTENSION
880	1	2773601	LATCH STRAP ASSEMBLY, SHORT

ITEM	QTY	PART NUMBER	DESCRIPTION
885	2	2261732	WASHER 8, NYLON
890	2	2373450	SCREW 8-18 X 3/8
■	1	2883940	SIDEPLATE KIT, FW, LONG
895	1	2283945	SIDEPLATE, LEFT, LONG, FW
900	1	2283940	SIDEPLATE, RIGHT, LONG, FW
905	4	2323403	SCREW-1/2-20 X .375 MCH SS CRPH
910	2	2073408	SCREW 1/4-20 X 7/8
915	2	2286700	PLUG, SPACER
920	1	2283900	RAMP, MOTOR
925	2	2283631	RAIL, MACH., MOTOR REST
930	2	2286400	COVER-RAIL, MOTOR REST (SUB)
932	2	2285502	DECAL, SIDEPLATE, FW
935	1	2281913	BASE-EXTRUSION, LONG, MACH
940	8	2323405	SCREW 1/4-20 X 1/2
950	1	2256300	TIEWRAP
955	1	2261238	LEADWIRE
975	1	2773806	STRAP HOLD DOWN
980	1	2991925	BRACKET STABILIZER ASSEMBLY
	1	2265100	BUMPER (CRUTCH TIP)
	1	2263624	ANODIZED ALUMINUM 3/4" ROD, 22"
	1	2263107	HEX NUT 3/4-10 NYLON
	1	2281929	STABILIZER ARM BRACKET
	1	2260221	VINYL CAP
	1	2223100	NYLOCK STAINLESS STEEL NUT
	1	2263422	SCREW - 5/16-18 X 1"
■		1378132	PROPELLER KIT WW2
■		2994876	PROPELLER BAG ASSY
1000	1	2331160	PROPELLER WW2
1010	1	2262658	DRIVE PIN, LARGE
1015	1	2091701	WASHER, PROP, LARGE
1020	1	2093101	NUT, NYLOCK, PROP, LARGE
■		2994887	MOUNTING HARDWARE BAG ASSY
■		2889460	SEAL & ORING KIT

■ THIS ITEM IS PART OF AN ASSEMBLY.

*THIS ITEM IS PART OF A KIT AND ONLY LISTED FOR VIEWING PURPOSES.

RECOMMENDED ACCESSORIES

ON-BOARD & PORTABLE BATTERY CHARGERS

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



MK345PC



MK210D



MK110P

TALON SHALLOW WATER ANCHOR

Talon deploys faster, holds stronger and runs quieter than any other shallow water anchor. Available in depths up to 12' and bold color options including camo, it boasts an arsenal of features and innovations that no other anchor can touch:



- Vertical, Multi-Stage Deployment
- User-Selectable Anchoring Modes
- 2x Anchoring Force
- Fast Deploy
- Auto Up/Down
- Triple Debris Shields
- Built-In Wave Absorption
- Noise Dissipation
- Versatile Adjustments

MINN KOTA ACCESSORIES

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



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