



Anywhere. Anytime.



**OWNER'S MANUAL FOR  
MINN KOTA PORTABLE  
BATTERY CHARGERS  
Model: MK110P, 210P**

**Service Information:**

Please call our service department at 1-800-227-6433 if you have any problems with your battery charger. A technical support representative will be happy to assist you.



## **1) IMPORTANT SAFETY INSTRUCTIONS**

- a) SAVE THESE INSTRUCTIONS! This manual contains important safety and operating instructions applicable to the safe and efficient use of your Minn Kota battery charger.
- b) The Minn Kota battery charger is a powerful electrical device. If incorrectly installed, configured or operated, the battery charger can damage batteries and / or electrical equipment. Please read thoroughly the instructions and safety information contained in this manual before operating the battery charger.
- c) Use of an attachment not recommended or sold by Johnson Outdoors Inc. may result in risk of fire, electric shock, or injury to persons or property.
- d) The charger is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the charger.
- e) To reduce risk of damage to electric plug or cord, pull by the plug rather than the cord when disconnecting the battery charger.
- f) An extension cord should not be used unless absolutely necessary. Use of the improper extension cord could result in a risk of fire or electric shock. If extension cord must be used, make sure:
  - i) That pins of plug of the extension cord are the same number, size and shape of those of the plug on the battery charger;
  - ii) That extension cord is properly wired and in good electrical condition;
  - iii) That wire in extension cord is proper size as follows:

Minimum recommended AWG wire size for various length extension cords used with the Minn Kota battery charger:

Length of Cord in Feet	25	50	100
AWG Size	16	14	12

- g) Do not operate the battery charger with a damaged cord or plug.
- h) Do not operate the battery charger if it has received a sharp blow, been dropped or otherwise damaged in any way.
- i) Do not disassemble the charger. Incorrect reassembly may result in a risk of electric shock or fire.
- j) To reduce risk of electric shock, unplug the charger from outlet before attempting any maintenance or cleaning. Disconnecting the leads will not reduce this risk.
- k) To reduce risk of shock or spark, never touch the battery clips together while the charger is plugged into an outlet or extension cord.
- l) External connections to the battery charger shall comply with all local, state, and federal regulations.

### **WARNING: RISK OF EXPLOSIVE GASES**

WORKING IN THE VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. BATTERIES CONTAIN SULFURIC ACID AND PRODUCE EXPLOSIVE GASES. A BATTERY EXPLOSION COULD RESULT IN LOSS OF EYESIGHT OR SERIOUS BURNS. FOR THIS REASON, IT IS OF UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.

TO REDUCE THE RISK OF BATTERY EXPLOSION, FOLLOW THESE INSTRUCTIONS AND THOSE PUBLISHED BY THE BATTERY MANUFACTURER FOR ANY EQUIPMENT YOU INTEND TO USE IN THE VICINITY OF THE BATTERY. REVIEW CAUTIONARY MARKINGS ON THESE PRODUCTS AND ON ENGINE, MOTOR OR OTHER EQUIPMENT REQUIRING BATTERY USAGE.

**WARNING** – DO NOT ATTEMPT TO REPAIR OR SERVICE THE CHARGER YOURSELF. OPENING THE CHARGER MAY EXPOSE YOU TO HIGH VOLTAGES, THE RISK OF ELECTRIC SHOCK, AND OTHER HAZARDS.

## **2) PERSONAL PRECAUTIONS**

- a) Consider having someone close enough nearby to come to your aid when you work near a lead acid battery.
- b) Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- c) Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.

- d) If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
- e) Never smoke or allow a spark or flame in vicinity of battery, engine, motor or other flammable or explosive equipment.
- f) Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short circuit battery or other electrical part that may cause explosion.
- g) Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead acid battery. A lead acid battery can produce a short circuit current high enough to weld such items, causing severe burns.
- h) Use the Minn Kota battery charger for charging and maintaining FLOODED / WET CELL, MAINTENANCE FREE, AND AGM / STARVED ELECTROLYTE batteries only. It is not intended to supply power to low voltage electrical systems other than for charging and maintaining batteries. Do not use the charger for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage to property.
- i) NEVER charge a frozen battery.

### **3) PREPARING TO CHARGE**

- a) If necessary to remove battery from boat or vehicle to charge or maintain, always remove grounded terminal from battery first (if applicable). Make sure all accessories in the boat or vehicle are off, so as not to cause an arc.
- b) Be sure area around battery is well ventilated while battery is being charged or maintained.
- c) Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- d) Add distilled water in each cell until battery acid reaches level specified by battery manufacturer. Do not overfill. For a battery without removable cell caps, such as valve regulated lead acid batteries, carefully follow manufacturer's recharging instructions.
- e) Study all battery manufacturers' specific precautions and recommended rates of charge while charging.

### **4) DC AND AC CONNECTION PRECAUTIONS**

**DANGER** – Never alter AC cord or plug provided – if it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

- a) The Minn Kota charger will only charge 12 volt 6 cell lead acid batteries. Do not connect the output of the charger to any other voltage or type of battery.
- b) The charger's DC output leads are designed to be temporarily connected to the battery.
- c) Connect and disconnect DC output leads only after removing the AC plug from the electric outlet.
- d) The charger output leads must be connected with the correct polarity for the charger to function. The RED lead must be connected to the POSITIVE terminal of the battery and the BLACK lead must be connected to the NEGATIVE terminal of the battery.

### **5) CHOOSING THE CHARGING LOCATION**

- a) The input (AC) power cord is 6 feet long and the output (DC) battery leads are also 6 feet long. Make sure that all the DC battery leads can reach the batteries and that the AC power cord can reach the power source. Do not splice any battery lead or power cord, as this voids the three year Limited Warranty.
- b) Even though the Minn Kota charger is capable of operating in a high ambient temperature environment, a minimum of 6 inches of unobstructed area should be allowed on all sides of the unit for proper air circulation and cooling. Proper cooling and circulation will allow the charger to operate at peak efficiency.

#### **CONNECTING THE BATTERIES TO THE CHARGER:**

**WARNING** – MAKE SURE THE CHARGER IS DISCONNECTED FROM AC POWER AND THE ON/OFF SWITCH IS IN THE OFF POSITION BEFORE CONNECTING THE BATTERY TO THE OUTPUT LEADS.

**CAUTION** - Before making any connections to batteries in a confined space, open the door or hatch of the compartment and allow it to air out for 15 minutes. This allows any gasses that have accumulated in the compartment to escape.

c) FOLLOW THESE STEPS WHEN THE BATTERY IS INSTALLED IN A VEHICLE. A SPARK NEAR THE BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:

- 1) Position AC and DC cords to reduce risk of damage by hood, door, or moving engine parts.
- 2) Stay clear of fan blades, belts, pulleys and other parts that can cause injury to persons.
- 3) Check polarity of battery posts. POSITIVE (POS, P, +) battery post is usually larger in diameter than NEGATIVE (NEG, N, -) post.
- 4) Determine which post of the battery is grounded (connected) to the chassis (if any). If negative post is grounded to the chassis (as in most vehicles), see (5) below. If positive post is grounded to the chassis, see (6) below. If neither is grounded, the order in which the output leads are connected does not matter.
- 5) For negative-grounded vehicle, connect POSITIVE (RED) clip from battery charger to POSITIVE (POS, P, +) ungrounded post of battery first. Then connect NEGATIVE (BLACK) clip to NEGATIVE (NEG, N, -) grounded post of battery.
- 6) For positive-grounded vehicle, connect NEGATIVE (BLACK) clip from battery charger to NEGATIVE (NEG, N, -) ungrounded post of battery first. Then, connect POSITIVE (RED) clip to POSITIVE (POS, P, +) grounded post of battery.
- 7) When disconnecting charger, turn switch off, disconnect AC power cord from electric outlet, and then remove clips from battery posts.
- 8) See operating instructions for length of charge information.

d) FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE BOAT OR VEHICLE. A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR BATTERY:

- 1) Check polarity of battery posts. POSITIVE (POS, P, +) battery post is usually larger in diameter than NEGATIVE (NEG, N, -) post.
- 2) Connect POSITIVE (RED) charger clip to POSITIVE (POS, P, +) post of battery.
- 3) Connect NEGATIVE (BLACK) charger clip to NEGATIVE (NEG, N, -) post of battery.
- 4) Do not face battery when making final connection.
- 5) When disconnecting charger, always do so in reverse sequence of the connecting procedure.
- 6) A marine (boat) battery must be removed and charged on shore. This charger is not designed for wet conditions and is not water resistant. An on-board charger can be used to charge a battery in the boat.

## 6) OPERATING INSTRUCTIONS

Make sure the DC output leads are connected properly to the batteries. Double check the polarities of the output leads. See diagram on page 6.

### INDICATOR LIGHTS:

To begin charging, connect the charger to AC power. The following will be displayed on the charger:

- 1) A GREEN power light is lit to indicate AC power is applied.
- 2) A YELLOW light is lit for each bank to indicate the battery is charging.
- 3) A GREEN light is lit for each bank to indicate the battery is fully charged and in maintenance mode.
- 4) A RED light for each bank is lit if any of the following apply:
  - a) No battery is connected to an output cord.
  - b) The battery voltage is below 4.0 volts. The bank will not charge a battery in this condition. (see note below)
  - c) The battery is connected reverse polarity.

**NOTE** – A 12 volt battery with an open-circuit voltage below 4 volts has either been discharged to the point of internal damage, may be heavily sulfated, or may have internal shorted cells. Attempting to charge a battery in this state is dangerous. The battery should be replaced.

**CAUTION** – If a RED light is lit, disconnect the AC power from the charger immediately. Determine the reason based on the above information and take the necessary corrective action to remedy the situation. If you are unable to remedy the situation and need help, call the Minn Kota Service Department at 1-800-227-6433 and a technical support representative will be happy to assist you.

**CAUTION** – Generators with a modified square wave output can damage this MINN KOTA charger. Generators with a sine wave output can be used to power this charger.

### INLINE FUSE:

Each output cord has an inline fuse on the RED lead. This fuse serves as protection from surges and short circuits caused by a damaged charger output cable. If a fuse blows, replace it with the exact type and rating of the original fuse. Improper battery connections will normally not cause a fuse to blow since this is handled by the chargers internal circuitry.

## 7) MAINTENANCE / CLEANING / STORAGE INSTRUCTIONS

**WARNING** – TO REDUCE RISK OF ELECTRIC SHOCK, DO NOT PERFORM ANY SERVICING OTHER THAN THOSE CONTAINED IN THE OPERATING INSTRUCTIONS.

Check battery charger for dirt, oil, battery corrosion, etc. Use a water and baking soda solution for cleaning corrosion. Wipe clean using a dry cloth.

Check battery clips for dirt, oil, and battery corrosion; then disconnect from battery posts and clean as necessary with water and baking soda solution and dry with a clean cloth.

When the charger is not in use, coil the power cord to prevent damage.

If power cord or plug becomes damaged, you may contact the Minn Kota Service Repair Department for service repair information. Otherwise, dispose of the battery charger in compliance with local law. Damaged cords and plugs can cause electric shock or electrocution.

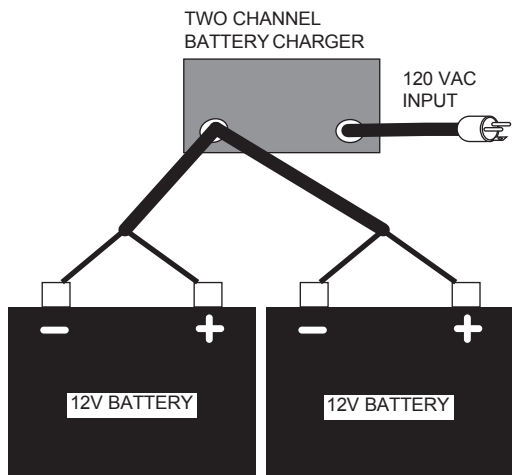
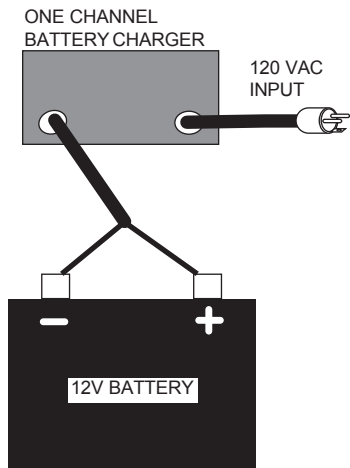
When storing the battery charger, store in a clean dry area.

**NOTE** – 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.

**CAUTION** – Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Specifications:

Model	Part No.	System Volts	Banks	Output per Bank (amps)	Total Output (amps)	Input Cable	Output Cable	Size L x W x H	Weight (lbs)	Input Current (120VAC, 60Hz)
MK110P	1820110	12	1	10	10	18AWG - 6'	16AWG - 6'	7" x 9" x 7-3/4"	6.5	1.8A
MK210P	1822110	12 / 24	2	5	10	18AWG - 6'	16AWG - 6'	7" x 9" x 7-3/4"	6.7	1.8A



NOTE: If batteries are connected in series for 12/24 - 24V, the series connection wire should be left in place during charging.

## ENVIRONMENTAL COMPLIANCE STATEMENT:

It is the intention of Johnson Outdoors Inc. 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.

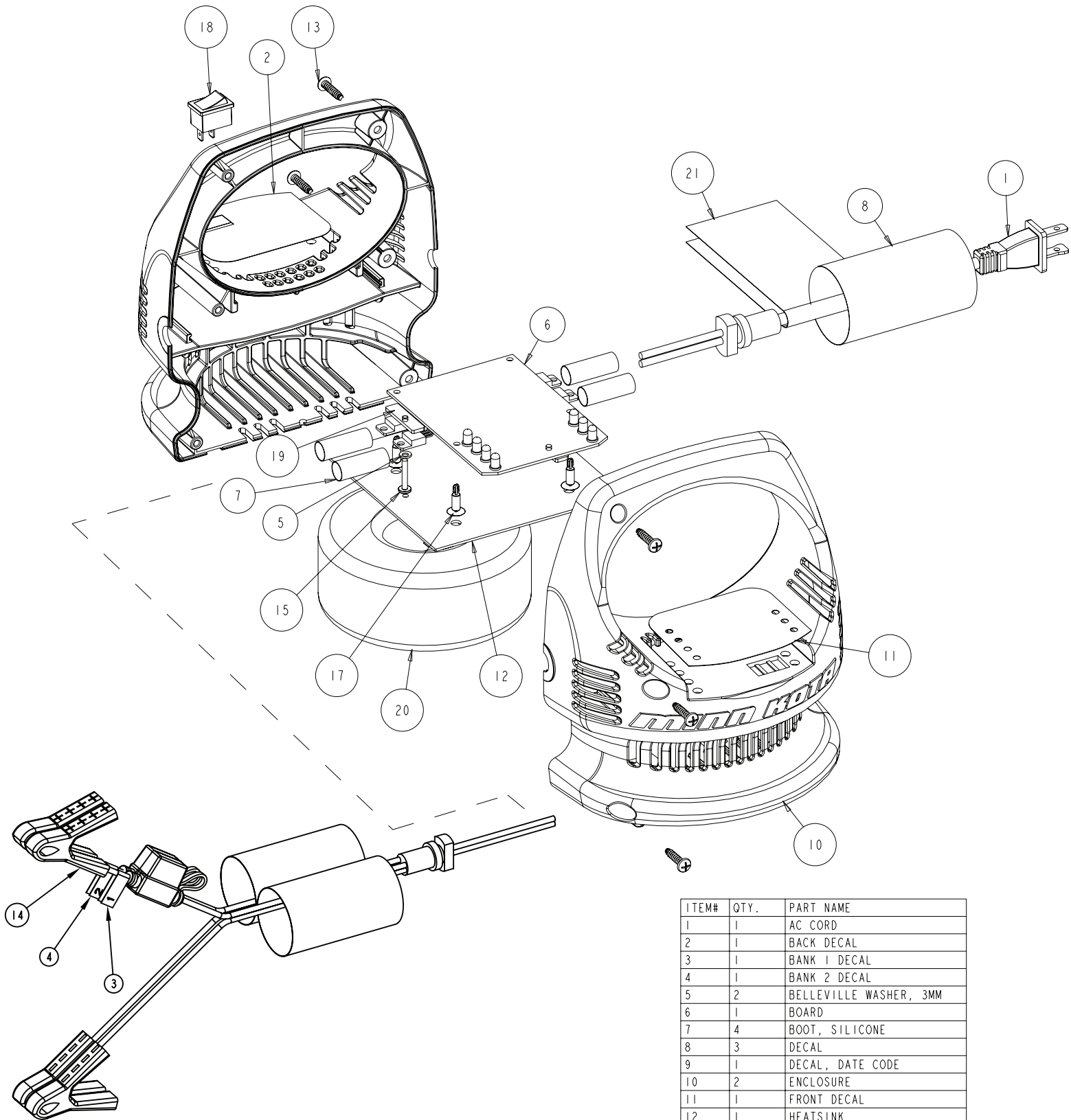
### WEEE Directive:

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.





ITEM#	QTY.	PART NAME
1	1	AC CORD
2	1	BACK DECAL
3	1	BANK 1 DECAL
4	1	BANK 2 DECAL
5	2	BELLEVILLE WASHER, 3MM
6	1	BOARD
7	4	BOOT, SILICONE
8	3	DECAL
9	1	DECAL, DATE CODE
10	2	ENCLOSURE
11	1	FRONT DECAL
12	1	HEATSINK
13	6	HOUSING SCREW
14	1	OUTPUT CORD
15	2	SCREW
16	1	SERIAL NUMBER
17	4	STAND OFF, 10MM
18	1	SWITCH
19	2	T-BAR
20	1	TRANSFORMER
21	1	WARNING LABEL

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..

## LIMITED THREE YEAR WARRANTY:

Johnson Outdoors Marine Electronics, Inc. warrants to the original purchaser that the purchaser's entire Minn Kota® battery charger is free from defects in materials and workmanship appearing within three (3) years after the date of purchase. Johnson Outdoors Marine Electronics, Inc. will, at its option, either repair or replace, free of charge, any parts found to be defective during the term of this warranty. Such repair or replacement shall be the sole liability of Johnson Outdoors Marine Electronics, Inc. and the sole remedy of the purchaser for breach of this warranty.

This limited warranty does not apply to chargers used commercially, nor does it cover normal wear and tear, blemishes that do not affect the operation of the charger, or damage caused by accidents, abuse, alteration, modification, misuse or improper care or maintenance. The cost of normal maintenance or replacement of parts which are not defective are the responsibility of the purchaser.

To obtain warranty service in the U.S., the charger and proof of original purchase (including the date of purchase), must be sent to Minn Kota®'s factory service center at 121 Power Drive, Mankato, MN 56001. Any charges incurred for service calls, transportation or shipping/freight to/from the Minn Kota® Factory 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. Warranty service can be arranged by contacting the factory at: 1.800.227.6433, 1.507.345.4623 or fax 1.800.527.4464.

Chargers purchased outside of the U.S. must be returned prepaid with proof of purchase to Johnson Outdoors Canada, 4180 Harvester Road, Burlington, Ontario Canada L7L 6B6, Phone 1.905.634.0023.

Note: Do not return your Minn Kota® charger or parts to your retailer. Your retailer is not authorized to repair or replace them.

**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 ONE YEAR FROM THE DATE OF PURCHASE. IN NO EVENT SHALL JOHNSON OUTDOORS MARINE ELECTRONICS, INC. BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.**

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.

"WARNING: This product contains chemical(s) known to the state of California to cause cancer and/or reproductive toxicity."



Look for us on the web at <http://www.minnkotamotors.com>