

# **SUPER START®**

**OWNERS MANUAL**

**Model: SPSS2**

**Automatic Battery Charger/Maintainer**



**PLEASE SAVE THIS OWNERS MANUAL AND READ BEFORE EACH USE.** This manual will explain how to use the battery charger safely and effectively. Please read and follow these instructions and precautions carefully.



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## IMPORTANT SAFETY INSTRUCTIONS

### WARNING – RISK OF EXPLOSIVE GASES

WORKING IN THE VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. FOR THIS REASON, IT IS IMPORTANT THAT YOU FOLLOW THESE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.

**To reduce the risk of a battery explosion, follow these instructions and those published by the manufacturer of the battery and any equipment you intend to use in the vicinity of the battery. Review the cautionary markings on these products and on the engine.**

**WARNING:** Pursuant to California Proposition 65, this product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

- Keep out of reach of children.
- Use the battery charger on 6 and 12V LEAD-ACID, GEL and AGM-type rechargeable batteries with recommended rated capacities of 12Ah (6V) and 12-35Ah (12V), as used in automobiles, trucks, tractors, airplanes, vans, RVs, trolling motors, etc. This charger is not intended to supply power to low-voltage electrical systems, other than in a motor-starting application.

**WARNING:** Do not use battery charger with dry cell batteries that are commonly used with home appliances. These batteries may burst and cause injury or damage to property.

- Use only attachments recommended or sold by the battery charger's manufacturer. Use of non-recommended attachments may result in a fire, electric shock, or injury.
- Locate the battery charger's power cord so it cannot be stepped on, tripped over, or subjected to damage or stress.
- Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way. Take it to a qualified professional for inspection and repair.
- Do not disassemble the charger. Take it to a qualified professional when service or repair is required.
- To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.
- Do not use an extension cord.
- Always charge the battery in a well-ventilated area.
- Do not set the charger on flammable materials, such as carpeting, upholstery, paper, cardboard, etc.
- Never smoke or allow sparks or flames in the vicinity of the battery or engine.

## **WARNING: RISK OF EXPLOSIVE GAS.**

- Operate the charger as far away from the battery as DC charger cables permit.
- Do not expose the charger to rain or snow.
- NEVER charge a frozen battery.
- NEVER overcharge a battery.
- NEVER set a battery on top of the charger.
- NEVER place the charger directly above a battery being charged. Gases from the battery will corrode and damage the charger.
- NEVER touch the battery clips together when the charger is energized.
- When disconnecting the battery charger, pull by the plug, not by the cord. Pulling on the cord may cause damage to the cord or plug.
- Do not operate the charger with damaged cord or plug.
- NEVER allow battery acid to drip onto the charger.

## **PERSONAL SAFETY PRECAUTIONS**

- Wear complete eye protection and protective clothing when working near lead-acid batteries. Always have someone nearby for help.
- Have plenty of fresh water, soap and baking soda nearby for use, in case battery acid contacts your eyes, skin, or clothing. Wash immediately with soap and water and seek medical attention.
- If battery acid comes in contact with eyes, flush eyes immediately for a minimum of 10 minutes and get medical attention.
- Neutralize any acid spills thoroughly with baking soda before attempting to clean up.
- Remove all personal metal items from your body, such as rings, bracelets, necklaces and watches. A battery can produce a short circuit current high enough to weld a ring to metal, causing a severe burn.
- Do not drop a metal tool onto the battery.
- If it is necessary to remove the battery from the vehicle to charge it, always remove the grounded terminal first.

## **ASSEMBLY INSTRUCTIONS**

Remove all cord wraps and uncoil the cables prior to using the battery charger.

## FEATURES



1. LED indicators:
  - ⏻ AC POWER (red)
  - 🔌 CHARGING (yellow/orange)
  - 🔌 CHARGED/MAINTAINING (green)
2. Battery clamp quick-connect
3. Ring terminal quick-connect

## CONTROL PANEL

### LED INDICATORS

- ⏻ **AC POWER (red) LED lit:** There is AC power supplied to the battery charger.
- 🔌 **CHARGING (yellow/orange) LED lit:** The charger is charging the battery.
- 🔌 **CHARGING (yellow/orange) LED flashing:** The charger is in abort mode.
- 🔌 **CHARGED/MAINTAINING (green) LED pulsing:** The battery is fully charged and the charger is in maintain mode.

## GROUNDING AND AC POWER CORD CONNECTIONS

This battery charger is for use on a nominal 120 volt circuit. The electrical outlet must be properly installed and grounded in accordance with all local codes and ordinances. The plug pins must fit the receptacle (outlet). Do not use with an ungrounded system. **NOTE:** Pursuant to Canadian Regulations, use of an adapter plug is not allowed in Canada. Use of an adapter plug in the United States is not recommended and should not be used.

### USING AN EXTENSION CORD

The use of an extension cord is not recommended. If you must use an extension cord, follow these guidelines:

- Pins on plug of extension cord must be the same number, size, and shape as those of plug on charger.
- Ensure that the extension cord is properly wired and in good electrical condition.
- Wire size must be large enough for the AC ampere rating of charger, as specified:






Length of cord (feet):	25	50	100	150
AWG* size of cord:	18	18	16	14

\*AWG-American Wire Gauge

## OPERATING INSTRUCTIONS






**IMPORTANT:** Do not start the vehicle with the charger connected to the AC outlet, or it could damage the charger.

### CHARGING A BATTERY IN THE VEHICLE

1. Turn off all the vehicle's accessories.
2. Keep the hood open.
3. Clean the battery terminals.
4. Place the charger on a dry, non-flammable surface.
5. Lay the AC/DC cables away from any fan blades, belts, pulleys and other moving parts.
6. For a negative-ground vehicle (as in most vehicles), connect the charger's POSITIVE (RED) clamp to the POSITIVE (POS, P, +) battery post. Next, connect the charger's NEGATIVE (BLACK) clamp to the vehicle chassis or engine block, away from the battery.
7. For a positive-ground vehicle, connect the charger's NEGATIVE (BLACK) clamp to the NEGATIVE (NEG, N, -) battery post. Next, connect the charger's POSITIVE (RED) clamp to the vehicle chassis or engine block away from the battery. NEVER connect any clamps to the carburetor, fuel lines or sheet-metal body parts.
8. Connect the charger to an electrical outlet. The AC POWER  (red) LED will light.
9. If you've connected everything correctly, the CHARGING  (yellow/orange) LED should be lit, indicating that the charger is charging, and the AC POWER  (red) LED will go off. If the CHARGING  LED does not light, check the connections or have the battery checked/replaced.
10. When the battery is fully charged, the CHARGED/MAINTAINING  (green) LED will pulse.
11. When charging is complete, disconnect the charger from the AC power, remove the clamps from the vehicle's chassis, and then remove the clamp from the battery terminal.

### CHARGING A BATTERY OUTSIDE OF THE VEHICLE

1. Place battery in a well-ventilated area.
2. Clean the battery terminals.
3. Connect a 24-inch long, 6-gauge (AWG) insulated battery cable to the NEGATIVE (NEG, N, -) battery post (i.e., jumper cable) (not provided).
4. Connect the POSITIVE (RED) clamp to the POSITIVE (POS, P, +) battery post.
5. Position yourself and the "negative post extension" cable as far away from the battery as possible, and connect the NEGATIVE (BLACK) clamp to the cable's free end.

6. Connect the charger to the electrical outlet. The AC POWER  (red) LED will light.
7. If you've connected everything correctly, the CHARGING  (yellow/orange) LED should be lit, indicating that the charger is charging, and the AC POWER  (red) LED will go off. If the CHARGING  LED does not light, check the connections or have the battery checked/replaced.
8. When the battery is fully charged, the CHARGED/MAINTAINING  (green) LED will pulse.
9. When charging is complete, disconnect the charger from the AC power, disconnect the negative clamp, and finally the positive clamp.
10. A marine (boat) battery must be removed and charged on shore.

### **USING THE QUICK-CONNECT CABLE CONNECTORS**

Connect either of the two output cable assemblies to the charger in a matter of seconds. Make sure to place the charger on a dry, non-flammable surface.

**IMPORTANT:** Never connect the clamp and ring terminal connectors together for use in other applications, such as external battery or other power source charging, or to extend the output cable length, as reverse polarity and/or overcharge conditions will occur.

### **BATTERY CLAMP QUICK-CONNECT**

1. Connect the end of the charger output cable to the end of the battery clamp quick-connect.
2. Follow the steps in previous sections to connect the output clamps to the battery.
3. After a good electrical connection is made to the battery, plug the power cord into a grounded 120V AC electrical wall outlet.

### **RING TERMINAL QUICK-CONNECT**


The ring connectors permanently attach to the battery, providing easy access to quickly connect the charger to your battery. This application is appropriate for motorcycles, lawn tractors, ATVs and snowmobiles.

1. To permanently attach to a battery, loosen and remove each nut from the bolt at the battery terminal.
2. Connect the red POSITIVE connector ring to the POSITIVE battery terminal.
3. Connect the black NEGATIVE connector ring to the NEGATIVE battery terminal.
4. Replace and tighten the nuts to secure.
5. Connect the cable to the end of the charger output cord.  
Take care to keep the wires and plug away from metal and moving parts.
6. Plug the charger's power cord into a grounded 120V AC electrical wall outlet.

### **AUTOMATIC CHARGING MODE**

When an automatic charge is performed, the charger switches to the maintain mode automatically after the battery is charged.

## CHARGE COMPLETION AND MAINTAIN MODE (FLOAT MODE MONITORING)


Charge completion is indicated by the CHARGED/MAINTAINING  (green) LED. When pulsing, the charger has stopped charging and switched to the Maintain Mode of operation. **NOTE:** If the charger has to provide its maximum maintain current for a continuous 12 hour period, it will go into Abort Mode (see Aborted Charge section). This is usually caused by a drain on the battery, or the battery could be bad. Make sure there are no loads on the battery. If there are, remove them. If there are none, have the battery checked or replaced.

### MAINTAINING A BATTERY


The SPSS2 maintains both 6 and 12 volt batteries, keeping them at full charge. **It is not recommended for industrial applications.**

**NOTE:** The maintain mode technology allows you to safely charge and maintain a healthy battery for extended periods of time. However, problems with the battery, electrical problems in the vehicle, improper connections or other unanticipated conditions could cause excessive current draws. As such, occasionally monitoring your battery and the charging process is required.

### DESULFATION MODE

If the battery is left discharged for an extended period of time, it could become sulfated and not accept a normal charge. If the charger detects a sulfated battery, the charger will switch to a special mode of operation designed for such batteries. If successful, normal charging will resume after the battery is desulfated. Desulfation could take up to 10 hours. If desulfation fails, charging will abort and the CHARGING  (yellow/orange) LED will flash.

### ABORTED CHARGE

If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the CHARGING  (yellow/orange) LED will flash. To reset after an aborted charge, unplug the charger from the AC outlet, wait a few moments, then plug it back in.


## MAINTENANCE AND CARE

A minimal amount of care can keep your battery charger working properly for years.

- Clean the clamps each time you are finished charging. Wipe off any battery fluid that may have come in contact with the clamps, to prevent corrosion.
- Occasionally cleaning the case of the charger with a soft cloth will keep the finish shiny and help prevent corrosion.
- Coil the input and output cords neatly when storing the charger. This will help prevent accidental damage to the cords and charger.
- Store the charger unplugged from the AC power outlet, in an upright position.
- Store inside, in a cool, dry place. Do not store the clamps clipped together, on or around metal, or clipped to the cables.



## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REASON/SOLUTION
The charger will not turn on when properly connected.	AC outlet is dead.	Check for open fuse or circuit breaker supplying AC outlet.
	Poor electrical connection.	Check power cord and extension cord for loose fitting plug.
	The quick-connect inline fuse may be blown. Reversing the connections at the battery will cause this.	Check the fuse. If it is blown, replace it with one of the same size and rating (2A/32V).
I cannot select a 6V or 12V setting.	The charger is equipped with Auto Voltage Detection, which automatically detects the voltage and charges the battery.	No problem; this is normal.
CHARGING  (yellow/orange) LED is flashing.	Indicates the charger is in abort mode.	See "Aborted Charge" in the OPERATING INSTRUCTIONS section.

## SPECIFICATIONS

Input voltage ..... 120V AC @ 60Hz, 0.4A  
 Output voltage..... 6V or 12V, with Auto Voltage Detection  
 Output current rating ..... 1A @ 6V DC and 12V DC

## REPLACEMENT PARTS

Battery clamp cable assembly .....3899002668  
 Ring terminal cable assembly .....2299002276

## BEFORE RETURNING FOR REPAIRS

**For troubleshooting info, contact customer service for assistance:**  
**services@schumacherelectric.com • www.batterychargers.com**  
**or call 1-800-621-5485, Monday-Friday 7:00AM to 5:00PM CST**

For **REPAIR OR RETURN**, contact Customer Service at 1-800-621-5485.  
**DO NOT SHIP UNIT** until you receive a **RETURN MERCHANDISE AUTHORIZATION (RMA)** number from Customer Service at Schumacher Electric Corporation.

## LIMITED WARRANTY

### **WARRANTY NOT VALID IN MEXICO.**

**SCHUMACHER ELECTRIC CORPORATION, 801 BUSINESS CENTER DRIVE, MOUNT PROSPECT, IL 60056-2179, MAKES THIS LIMITED WARRANTY TO THE ORIGINAL RETAIL PURCHASER OF THIS PRODUCT. THIS LIMITED WARRANTY IS NOT TRANSFERABLE OR ASSIGNABLE.**

Schumacher Electric Corporation (the "Manufacturer") warrants this battery charger for five (5) years from the date of purchase at retail against defective material or workmanship that may occur under normal use and care. If your unit is not free from defective material or workmanship, Manufacturer's obligation under this warranty is solely to repair or replace your product with a new or reconditioned unit at the option of the Manufacturer. It is the obligation of the purchaser to forward the unit, along with proof of purchase and mailing charges prepaid to the Manufacturer or its authorized representatives in order for repair or replacement to occur.

Manufacturer does not provide any warranty for any accessories used with this product that are not manufactured by Schumacher Electric Corporation and approved for use with this product. This Limited Warranty is void if the product is misused, subjected to careless handling, repaired, or modified by anyone other than Manufacturer or if this unit is resold through an unauthorized retailer.

Manufacturer makes no other warranties, including, but not limited to, express, implied or statutory warranties, including without limitation, any implied warranty of merchantability or implied warranty of fitness for a particular purpose. Further, Manufacturer shall not be liable for any incidental, special or consequential damage claims incurred by purchasers, users or others associated with this product, including, but not limited to, lost profits, revenues, anticipated sales, business opportunities, goodwill, business interruption and any other injury or damage. Any and all such warranties, other than the limited warranty included herein, are hereby expressly disclaimed and excluded. Some states do not allow the exclusion or limitation of incidental or consequential damages or length of implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and it is possible you may have other rights which vary from this warranty.

**THIS LIMITED WARRANTY IS THE ONLY EXPRESS LIMITED WARRANTY AND THE MANUFACTURER NEITHER ASSUMES OR AUTHORIZES ANYONE TO ASSUME OR MAKE ANY OTHER OBLIGATION TOWARDS THE PRODUCT OTHER THAN THIS WARRANTY.**

## WARRANTY CARD

**SAVE ON POSTAGE! ACTIVATE YOUR WARRANTY ONLINE –  
THE QUICK & EASY WAY! Go to [www.batterychargers.com](http://www.batterychargers.com) to register your  
product online. (No internet access? Send in the completed warranty card.)**



5 YEAR LIMITED  
WARRANTY PROGRAM  
REGISTRATION

**MODEL:** \_\_\_\_\_ **DESCRIPTION:** \_\_\_\_\_

This is the only express limited warranty, and the manufacturer neither assumes nor authorizes anyone to assume or make any other obligation. There is no other warranty, other than what is described in the product owner's manual.

The warranty card should be submitted within 30 days of purchase. The customer must keep the ORIGINAL receipt because it will be required for any warranty claims. This warranty is not transferable. Send warranty card only.

**DO NOT SEND UNIT TO THIS ADDRESS FOR REPAIR.**

**Mail this card to:**

**Schumacher Electric Corporation  
801 Business Center Drive  
Mount Prospect, IL 60056-2179**

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

Store Name Where Purchased \_\_\_\_\_ Date of Purchase \_\_\_\_\_

Store Location \_\_\_\_\_ UPC Number \_\_\_\_\_

Serial Number \_\_\_\_\_ (SEE PRODUCT)

**For faster warranty activation, go to [www.batterychargers.com](http://www.batterychargers.com) to register your product online.**