

Jump Starter and DC Power Source

OWNERS MANUAL

FOR MODELS

DSR168

DSR168G

PLEASE SAVE THIS OWNERS MANUAL AND READ BEFORE EACH USE.

This manual will explain how to use the jump starter safely and effectively. Please read and follow these instructions and precautions carefully.



CONTAINS SEALED, NON-SPILLABLE LEAD-ACID BATTERY. MUST BE DISPOSED OF PROPERLY.

WARNING: Possible explosion hazard. Contact with battery acid may cause severe burns and blindness. Keep out of reach of children.

1. IMPORTANT SAFETY INSTRUCTIONS

WARNING – When using this product, basic precautions should always be followed, including the following:

- 1.1 Read all the instructions before using the product. Failure to do so could result in serious injury or death.
- 1.2 To reduce the risk of injury, close supervision is necessary when the product is used near children.
- 1.3 Do not put fingers or hands into the product.
- 1.4 Do not expose the power pack to rain or snow.
- 1.5 Use of an attachment not recommended or sold by the power pack manufacturer may result in a risk of fire, electric shock, or injury to persons.
- 1.6 To reduce risk of damage to the electric plug and cord, pull the plug rather than the cord when disconnecting the power pack.
- 1.7 Do not use a battery pack or appliance that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- 1.8 Do not operate the power pack with a damaged cord or plug, or a damaged output cable.
- 1.9 Do not disassemble the power pack, take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.
- 1.10 To reduce the risk of electric shock, unplug the power pack from the outlet before attempting any instructed servicing.
- 1.11 **WARNING – RISK OF EXPLOSIVE GASES.**
 - a. **WORKING IN VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF THE UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE POWER PACK.**
 - b. To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of the battery. Review cautionary markings on these products and on engine.

2. PERSONAL PRECAUTIONS

- 2.1 Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
- 2.2 Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
- 2.3 Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
- 2.4 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.
- 2.5 NEVER smoke or allow a spark or flame in vicinity of battery or engine.
- 2.6 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.
- 2.7 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 a ring or the like to metal, causing a severe burn.
- 2.8 When charging the internal battery, work in a well ventilated area and do not restrict ventilation in any way.

- 2.9** Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- 2.10** Do not expose a power pack to fire or excessive temperature. Exposure to fire or temperature above 265°F (130°C) may cause explosion.
- 2.11** Have servicing performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.
- 2.12** Attach output cables to a battery and chassis as indicated below. Never allow the output clamps to touch one another.
- 2.13** Changes or modifications not expressly approved by Schumacher Electric could void the user's authority to operate this device.
- 2.14** 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.

3. CONNECTING THE JUMP STARTER

**WARNING! A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION.
TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:**

- 3.1** Attach the output cables to the battery and chassis as indicated below. Never allow the output clips to touch each other.
- 3.2** Position the DC cables to reduce the risk of damage by the hood, door and moving or hot engine parts.
NOTE: If it is necessary to close the hood during the jump starting process, ensure that the hood does not touch the metal part of the battery clips or cut the insulation of the cables.
- 3.3** Stay clear of fan blades, belts, pulleys and other parts that can cause injury.
- 3.4** Check the polarity of the battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.
- 3.5** Determine which post of the battery is grounded (connected) to the chassis. If the negative post is grounded to the chassis (as in most vehicles), see step 3.6. If the positive post is grounded to the chassis, see step 3.7.
- 3.6** For a negative-grounded vehicle, connect the POSITIVE (RED) clip from the jump starter to the POSITIVE (POS, P, +) ungrounded post of the battery. Connect the NEGATIVE (BLACK) clip to the vehicle chassis or engine block away from the battery. Do not connect the clip to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- 3.7** For a positive-grounded vehicle, connect the NEGATIVE (BLACK) clip from the jump starter to the NEGATIVE (NEG, N, -) ungrounded post of the battery. Connect the POSITIVE (RED) clip to the vehicle chassis or engine block away from the battery. Do not connect the clip to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.
- 3.8** When disconnecting the jump starter, turn all switches to off (if applicable), remove the clip from the vehicle chassis, then remove the clip from the battery terminal.

4. FEATURES



Jump Starter

1. Battery clamps
2. 12V DC socket
3. Digital display
4. Display button

4.1 DIGITAL DISPLAY

The digital display can be used to indicate the percent of charge or the voltage and percentage of the jump starter's internal battery.

- To check the voltage level of the jump starter's internal battery, make sure the clips are attached to their plastic storage holders and not touching each other, and then press the Display button on the front of the jump starter. The display will indicate the battery's voltage. Press the Display button a second time to show the battery's percentage. Charge the internal battery if the display shows it is under 100%.
- While charging, press the Display button to check the internal battery's charging status. The digital display will show the battery's percent of charge. A fully charged battery will read 100%.

NOTE: The internal battery's percent of charge is most accurate when the jump starter has been disconnected from all devices and charging sources for a few hours.

- To check the voltage level of the vehicle's battery, connect the clips to the vehicle's battery and then press the Display button. The display will indicate the combined voltage of the jump starter's internal battery and the vehicle battery.
- To check the connected vehicle's battery status, press the Display button a second time. The digital display will show the combined percentage of the jump starter's internal battery and the vehicle battery.

5. CHARGING THE INTERNAL BATTERY OF THE JUMP STARTER

IMPORTANT! CHARGE IMMEDIATELY AFTER PURCHASE, AFTER EACH USE AND EVERY 30 DAYS, TO KEEP THE UNIT'S INTERNAL BATTERY FULLY CHARGED AND PROLONG BATTERY LIFE.

5.1 CHECKING THE LEVEL OF THE INTERNAL BATTERY

To check the status of charge for internal battery:

1. Make sure the rotary switch is in the OFF position
2. Press the display button in the front of the jump starter.
3. The digital display will show the percent of charge of the internal battery. A fully charged battery will read "100%".

If the displayed number is below 100%, charge the unit as soon as possible. Complete charging may take up to 48 hours for units equipped with 2 batteries.

5.2 CHARGING THE INTERNAL BATTERY

IMPORTANT! An AC cord 18-AWG or larger is required to charge the unit, but it's NOT INCLUDED.

An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord needs to be used, make sure:

- That the pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger.
- That the extension cord is properly wired and in good electrical condition.

- That the wire size is large enough for the AC ampere rating of the charger, as specified below:

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

*AWG-American Wire Gauge

1. To charge the unit, plug-in an 18-AWG or larger AC cord on the AC connector by the side of the unit.
2. Plug the AC cord into a live 120V AC electrical wall outlet.
3. When unit starts charging, the digital display will show a cycling red dot. Complete charging may take up to 48 hours for units equipped with 2 batteries.
4. To verify the level of charge while charging, press the display button in the front of unit. The digital display will show the percent of charge of the battery.
5. When the internal battery is fully charged, the display will show a 100%. The unit will go automatically into maintain mode, to maintain the battery fully charged without damaging it. When in maintain mode, the display will show a "100%" fading slowly, until the AC cord is disconnected.
6. Charge the unit as soon as possible after each use.

5.3 CHARGING THE INTERNAL BATTERY WHILE DRIVING

You may also charge the internal battery while driving, using a male-to-male charger cable (part number 94500109 – sold separately).

IMPORTANT: WHEN USING A 12V PORT CHARGING CABLE, DO NOT CHARGE THE INTERNAL BATTERY FOR MORE THAN 30 MINUTES OR LEAVE THE BATTERY UNATTENDED. IT COULD EXPLODE, CAUSING PROPERTY DAMAGE OR PERSONAL INJURY.

1. Make sure the car is running.
2. Insert one end of the accessory cable into the 12V DC power outlet.
3. Insert the other end of the accessory cable into the vehicle's accessory outlet (lighter socket).

NOTE: Using this method to charge the battery overrides the maintain mode and the battery can be overcharged.

4. Monitor the progress of the charge by pressing the Display button twice. Do not leave the battery unattended or it could explode, causing property damage and personal injury. When the battery is fully charged, disconnect the accessory cable from the jump starter, and then from the lighter socket of the vehicle.

NOTE: Completely disconnect the charger cable when the engine is not running.

6. OPERATING INSTRUCTIONS

6.1 JUMP STARTING A VEHICLE ENGINE

IMPORTANT: Using the jump starter without a battery installed in the vehicle will damage the vehicle's electrical system.

IMPORTANT: Do not use the jump starter while charging its internal battery.

1. Turn the vehicle's ignition OFF before making cable connections.
2. Connect the jump starter to the battery, following the precautions listed in section 3.

WARNING! RISK OF EXPLOSION.

3. Crank the engine. If the engine does not start within 3-8 seconds, stop cranking and wait at least 1 minute before attempting to start the vehicle again. (This permits the battery to cool down.)
4. After the engine starts, disconnect the black clip (-), then the red clip (+) in that order, and clip them back onto the jump starter storage holders.
5. Recharge the jump starter as soon as possible after use.

NOTE: If the jump starter is connected to a battery for more than five minutes, four beeps will sound. This is a reminder to turn the jump starter off and/or disconnect it from the vehicle's battery when not in use.

WARNING! RISK OF EXPLOSION.

To prevent sparking, NEVER allow the clips to touch together or to contact the same piece of metal. Never attempt to jump start a frozen battery.

6.2 POWERING A 12V DC DEVICE:

The jump starter is a power source for all 12V DC accessories that are equipped with a 12V accessory plug. Use it for power outages and fishing or camping trips. Estimated usage time is listed in the following chart.

1. Make sure the device to be powered is OFF before inserting a 12V DC accessory plug into the 12V DC socket.
2. Ensure the battery clips are securely clipped on the storage holders.
3. Open the protective cover of the 12V DC power outlet on the front of the jump starter.
4. Plug the 12V DC device into the 12V DC power outlet, and turn on the 12V DC device (if required).
5. If the 12V DC device draws more than 15A or has a short circuit, the internal circuit breaker of the jump starter will trip and disconnect the power to the device. Disconnect the 12V DC device. The breaker will automatically reset a short time after an overload is disconnected.
6. Recharge immediately after unplugging the 12V DC device.

NOTE: The DC power outlet is wired directly to the internal battery. Extended operation of a 12V DC device may result in excessive battery drain.

12V DC ESTIMATED RUN-TIMES

APPLIANCE TYPE	EST. WATTAGE	EST. RUN TIME
Cell phone, fluorescent light	4 watts	66 hrs.
Radio, fan, depth finder	9 watts	29.3 hrs.
Camcorder	15 watts	17.6 hrs.
Electric tool	24 watts	11 hrs.
Electric cooler	48 watts	5.5 hrs.
Car vacuum, air compressor	80 watts	3.3 hrs.

NOTE: Actual time may vary. Times are based on the internal battery being fully charged.

7. MAINTENANCE INSTRUCTIONS

- 7.1 After use and before performing maintenance, unplug and disconnect the jump starter.
- 7.2 Use a dry cloth to wipe all battery corrosion and other dirt or oil from the battery clips, cords and the jump starter case.
- 7.3 Ensure that all of the jump starter components are in place and in good working condition.
- 7.4 All servicing should be performed by qualified service personnel.

8. MOVING AND STORAGE INSTRUCTIONS

- 8.1 Store inside, in a cool, dry place.
- 8.2 Do not store the clips on the handle, clipped together, on or around metal, or clipped to cables. The clips on the jump starter are live and will produce arcing or sparking if they come in contact with each other. To prevent accidental arcing, always keep the clips on the storage holders when not using it to jump start a vehicle.
- 8.3 If the jump starter is moved around the shop or transported to another location, take care to avoid/ prevent damage to the cords, clips and jump starter. Failure to do so could result in personal injury or property damage.

IMPORTANT: Do not use and/or store the jump starter in or on any area or surface where damage could occur if the internal battery should unexpectedly leak acid.

8.4 IMPORTANT:

- CHARGE IMMEDIATELY AFTER PURCHASE
- KEEP FULLY CHARGED

Charge the jump starter's internal battery immediately after purchase, after every use and every 30 days. All batteries are affected by temperature. The ideal storage temperature is at 70 ° F. The internal battery will gradually self-discharge (lose power) over time, especially in warm environments. Leaving the battery in a discharged state may result in permanent battery damage. To ensure satisfactory performance and avoid permanent damage, charge the internal battery every month.

9. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The jump starter won't jump start my car.	Clamps are not making a good connection to the battery.	Check for poor connection to battery and frame. Make sure connection points are clean.
	The jump starter's battery is not charged.	Check the battery charge status by pressing the Display button on the front of the unit. The display will show the percentage of charge.
	The vehicle's battery is defective.	Have the battery checked.
The jump starter won't power my 12V device.	The 12V device is not turned on.	Turn on the 12V device.
	The jump starter's battery is not charged.	Check the battery charge status by pressing the Display button on the front of the unit. The display will show the percentage of charge.
	The 12V device draws more than 15A or has a short circuit.	Disconnect the 12V device. The internal breaker will automatically reset after a minute or two. Try using the 12V device again.
The battery in the jump starter won't hold a charge.	The battery is bad (will not accept a charge).	Replace the battery.
The digital display does not light when the AC cord is properly connected.	AC outlet is dead	Check for an open fuse or circuit breaker at the supplying AC outlet.
	Poor electrical connection.	Check power cord and extension cord for a loose-fitting plug or a damaged cord.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Digital display is showing the following message:		
"SUL"	The battery is sulfated.	The charger is in desulfation mode, trying to recover internal battery. Continue charging for up to 10 hours. If desulfation is successful, charging process will resume automatically and digital display will show a cycling red dot.
"F02"	A sulfated battery couldn't be recovered.	Desulfation was not successful. Internal battery may be defective. Have it checked or replaced.
"F01"	The battery voltage is still under 10V after 2 hours of charging.	Verify that nothing is draining the battery. Make sure that USB feature is OFF and there are no external devices connected to the clamps or the 12VDC port. If there are any, remove them and try to charge again. If there are none, the internal battery won't hold a charge, it may be defective. Have it checked or replaced.
"F08"	The battery voltage drops below 12.2V for 2 hours or longer in Maintain Mode.	Same as above.

10. BEFORE RETURNING FOR REPAIRS

For REPAIRS OR RETURNS, visit 365rma.com

Visit schumacherelectric.com for Replacement Parts.

11. LIMITED WARRANTY

For information on our one-year limited warranty, please visit schumacherelectric.com or call 1-800-621-5485 to request a copy.

Go to schumacherelectric.com to register your product online.



The Schumacher logo is a registered trademark of Schumacher Electric Corporation.