



POWERED BY SCHUMACHER

PROBOOSTER

Models:

DSR108, DSR109

Ultracapacitor Batteryless Jump Starters

OWNERS MANUAL



DSR108



DSR109

PLEASE SAVE THIS OWNER'S MANUAL AND READ BEFORE EACH USE.
This manual will explain how to use the ProBooster safely and effectively.
Please read and follow these instructions and precautions carefully.



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CONTENTS

IMPORTANT SAFETY INSTRUCTIONS.....	3
PERSONAL SAFETY PRECAUTIONS.....	3
FEATURES	4
OPERATING INSTRUCTIONS.....	4
SPECIFICATIONS	6
REPLACEMENT PARTS	6
FREQUENTLY ASKED QUESTIONS	6
BEFORE RETURNING FOR REPAIRS.....	7
LIMITED WARRANTY	8
WARRANTY CARD	21

1. IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS.

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.

- 1.1 Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal operation. It is important that you follow these instructions each time you use the ProBooster.**
- 1.2** To reduce the risk of battery explosion, follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of a battery. Review cautionary marking on these products and on the engine.
- 1.3** Keep out of reach of children.
- 1.4** Use only in a well-ventilated area.
- 1.5** Do not disassemble the ProBooster. Take it to a qualified service professional if service or repair is required. Incorrect assembly may result in fire or electrical shock.
- 1.6** Never operate the ProBooster if it is damaged.
- 1.7** Do not set the ProBooster on flammable materials, such as carpeting, upholstery, paper, cardboard, etc.
- 1.8** Place the ProBooster as far away from the battery being jumped as the cables will permit.
- 1.9** Do not expose the ProBooster to rain or snow.
- 1.10** Never place the ProBooster directly above battery being jumped.
- 1.11** To prevent arcing, never allow the clamps to touch together or to contact the same piece of metal.
- 1.12** If someone else uses the ProBooster, ensure they are well informed on how to use it safely, and have read and understood the operating instructions.
- 1.13** The ProBooster is NOT designed to be installed as a replacement for a vehicle battery.
- 1.14** Do not use for dry cell batteries that are commonly used with home appliances.
- 1.15** Make sure your vehicle is in “park” and the emergency brake is engaged.
- 1.16** Turn off ALL electronics in your vehicle (air conditioner, heat, radio, lights, chargers, etc.).
- 1.17** Make sure the key is in the “OFF” position. For smart-key fobs (push-to-start vehicles), make sure the vehicle is completely OFF before jump starting.

2. PERSONAL SAFETY PRECAUTIONS

- 2.1** Wear complete eye protection and protective clothing when working near lead-acid batteries. Always have someone nearby for help.
- 2.2** 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.
- 2.3** If battery acid comes in contact with eyes, flush eyes immediately for a minimum 10 minutes and get medical attention.
- 2.4** Neutralize any acid spills thoroughly with baking soda before attempting to clean up.
- 2.5** 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.
- 2.6** Never smoke or allow a spark or flame in the vicinity of the battery or engine.

3. FEATURES



1. Voltage indicator LEDs
2. Condition (Override/Fault) LED indicator
3. GLOW mode button
4. On/Off button
5. 12V DC charging cable
6. Wrench
7. Jumper clamps
8. 12V 10A Input port
9. 5V/2A Micro USB Input port

4. OPERATING INSTRUCTIONS

Pre-Charging

The DSR ProBooster must be pre-charged before it can be used to jump start your vehicle. The “Standard Mode” instructions will guide you on using your current vehicle’s “weak” battery to pre-charge the ProBooster. If your vehicle’s battery is completely discharged, or does not allow you to pre-charge the ProBooster, see “Alternative Pre-Charge Methods”.

Standard Mode

In most cases, the weak battery can fully recharge the ProBooster.

Follow these steps to pre-charge your ProBooster and get your car started:

1. For a negative-ground vehicle (as in most vehicles), connect the POSITIVE (RED) clamp to the POSITIVE (POS, P, +) battery post. Next, connect the NEGATIVE (BLACK) clamp to the vehicle chassis or engine block, away from the battery.
2. For a positive-ground vehicle, connect the NEGATIVE (BLACK) clamp to the NEGATIVE (NEG, N, -) battery post. Next, connect the POSITIVE (RED) clamp to the vehicle chassis or engine block away from the battery.
3. The ProBooster will turn on automatically. Indicators will show the voltage of the vehicle’s battery.
4. Press the ON/OFF button. The ProBooster will start to recharge itself. LED indicators show the ProBooster’s voltage during charging.
5. After the 14V indicator stops blinking, turn on the engine.

Alternative Pre-charge Methods

If your vehicle’s battery is completely discharged, or is unable to charge the ProBooster, the Fault indicator will turn on during charging. You can use one of the following alternative pre-charging methods:

- **From a battery (i.e, friend’s car)**
Connect the ProBooster’s red (POSITIVE) output clamp to the POSITIVE post of the battery. Next, connect the black (NEGATIVE) output clamp to a heavy, unpainted metal part of the chassis or engine block, away from the battery. **DO NOT connect clamp to the negative battery post, carburetor, fuel line or a sheet metal part.** Press the ON/OFF button. The ProBooster will start to charge itself. After the 14V indicator stops blinking, disconnect the ProBooster by removing the output clamp from the chassis or engine block, followed by the output clamp from the battery post.
- **From a USB**
The ProBooster can be recharged from any 5V 2A USB port, using a Micro USB adapter (not included). Recharging starts automatically.
- **From a 12V socket**
The ProBooster can be recharged from a donor car’s 12V socket. Plug in the 12V adapter. Charging starts automatically. Once you have fully charged your ProBooster, you can continue with the connection and starting instructions in Standard Mode. If your vehicle’s battery is completely discharged, and you are unable to start the vehicle in Standard Mode, you may need to use the Override Mode starting instructions.

Override Mode

If the Standard mode fails, follow these steps to use Override mode:

NOTE: The GLOW function will not operate in this mode.

- Always read the vehicle manufacturer's instruction manual.
 - An initial battery indication of below 12V may suggest that there is an internal fault.
1. Pre-charge the ProBooster, using one of the "Alternative Pre-Charge Methods".
 2. Remove the vehicle's positive (red) lead from the battery terminal (fig. 1). Ensure that the ProBooster is switched off. Connect the ProBooster's positive clamp to the vehicle positive lead, NOT the battery terminal (fig. 1).

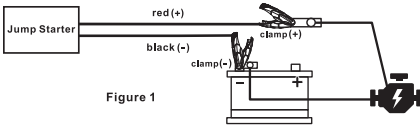


Figure 1

3. Press the ON/OFF button. NOTE: the ProBooster will switch off if not used within 2 minutes; restart the process if this happens. Press and hold the ON/OFF button until the Override/Fault indicator flashes green. This indicates that Override mode is initializing. When the Indicator shows a steady green, the Override mode is active.
4. Start the engine. (The ability for an engine to continue to run without a battery connected will vary, depending on the make and model of the vehicle).

WARNING: Do not leave the engine running without the ProBooster or the battery being connected. Failure to comply could result in damage to the vehicle ECU. The manufacturer will not accept responsibility for any damage caused by incorrect use of this product.

5. As soon as the engine starts, and keeping the ProBooster clamp and battery lead connected, attach the positive lead to the positive battery terminal and tighten the terminal clamp (fig. 2). After the positive lead has been secured to the battery terminal switch off the ProBooster and disconnect from the battery.

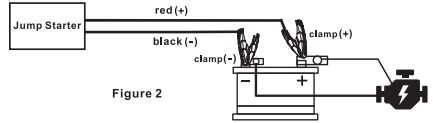


Figure 2

Glow Mode:

In cold weather, the glow plugs in most diesel vehicles will energize first to heat up the engine chamber before the engine start, as indicated by the GLOW sign on the dashboard. The process needs a current of 40-60Amp and takes about 4-6 seconds. In this case, after the ProBooster is fully recharged and connected, press the GLOW button, and then turn on the ignition.

NOTE: GLOW is inactive under Override Mode.

Condition Indicator

The condition indicator turns RED under following conditions:

- Reverse connection
 - Battery voltage is lower than 3 Volt
- The Condition indicator turns GREEN under Override Mode.
- The Condition indicator blinks between RED and GREEN under Glow mode.

Working Cycle

MODEL	MAXIMUM OPERATIONS IN A ROW	MINIMUM INTERVAL BETWEEN SESSIONS
DSR108	5 times	15 minutes
DSR109	3 times	20 minutes

IMPORTANT: Allow sufficient cooling time between two working sessions. Failure to do so may cause damage to the ProBooster.

5. SPECIFICATIONS

Input	12V DC 10A, 5V DC 2A
Working temperature	-40°C to 65°C (-40°F to 150°F)
Starting current	
DSR108	450A
DSR109	800A
Recharge time from battery	
DSR108	90 seconds
DSR109	150 seconds
Recharge time from 12V socket	
DSR108	200 seconds
DSR109	400 seconds
Recharge time from USB	
DSR108	20-40 minutes
DSR109	40-60 minutes

6. REPLACEMENT PARTS

12V DC cig charging cable	3899003573Z
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7. FREQUENTLY ASKED QUESTIONS

Q: Is this ProBooster safe for the ECU and car's computer?

A: Unlike traditional jump starters, this ProBooster uses ultracapacitors instead of a battery. The voltage of capacitors is restricted to a range which is safe for all kinds of ECU. Therefore, there is no risk from overvoltage.

Capacitors have a very small capacity, about 0.2-0.4Ah. They will fully recharge from the alternator within couple seconds once the vehicle is started. Disconnecting the ProBooster will not cause any load dump, so there is no voltage spike produced.

Q: Will the transfer of residual energy to the ProBooster damage the weak battery?

A: No. This ProBooster draws only 0.2-0.4Ah energy from the battery. A weak car battery normally has a capacity of 10-30Ah and can recharge the ProBooster many times without any adverse effects.

Q: How many jump starts can a fully recharged ProBooster perform?

A: This ProBooster is designed to start only once when fully recharged. It recharges itself after each use, which takes only about 100 seconds. Therefore, it can jump start many times as needed, successively.

Q: How long can the ProBooster hold a charge?

A: This ProBooster will self-discharge to 0 in a few days, but it can be instantly recharged from a weak battery within 100 seconds and ready for use.

Q: What is the life span of this ProBooster?

A: This ProBooster can be used more than 10,000 times before noticeable loss of performance. Ultracapacitors remain operable for more than 10 years.

Q: What is the effect of low temperature on this ProBooster?

A: The ultracapacitors in the ProBooster keep the same starting current, even at extreme cold weather—down to -30°C.

	20°C	0°C	-10°C	-20°C	-30°C	-40°C
Lead-Acid	300Amp	180Amp	120Amp	100Amp	50Amp	30Amp
Lithium-Ion	300Amp	190Amp	120Amp	80Amp	60Amp	40Amp
Ultracapacitor	300Amp	300Amp	300Amp	300Amp	280Amp	250Amp

Q. Is my ultracapacitor ProBooster safe?

A. It is extremely safe. Ultracapacitor technology is one of the foremost advantages over the battery-based jump starters. Ultracapacitors are specially designed to receive and release a large electrical current of instant power.

This ProBooster is also equipped with short circuit/reverse polarity protection.

Therefore, short circuit due to unintended use will not damage the ultracapacitors. They will not overheat and cause fire or explosion.

NOTE: Reverse polarity and short circuit protection is disabled during Override Mode.

Q. Does the ProBooster need to be regularly recharged?

A. No. The ProBooster relies on the instant recharging of ultracapacitors rather than stored electric energy. Therefore, it does not need regular recharge and can be stored for years. It's totally maintenance free!

Q. What is OVERRIDE mode?

A. The ECU of some cars does not allow engine to start if battery's voltage is lower than 8V. In this situation, the positive lead needs to be disconnected from the car battery, and instead connected directly to the ProBooster. Then the ECU can detect the high voltage provided by the ProBooster.

WARNING: CAREFULLY READ USER'S MANUAL BEFORE USING OVERRIDE MODE.

Q. What is GLOW?

A. In cold weather, the glow plugs in most diesel vehicles will energize first to heat up the engine chamber before the engine start, as indicated by the GLOW sign on the dashboard. The process needs a current of 40-60Amp and takes about 4-6 seconds. In this case, after the ProBooster is fully recharged and connected, press the GLOW button, and then turn on the ignition.

Q. What size of engines can be used with this ProBooster?

A. Success of a jump start depends on many factors such as battery condition, temperature, age of the car, etc.

Here is general guide of ProBooster choice for different engine size:

		GASOLINE		DIESEL		
Model	Cranking Current	Warm No Battery	Cold No Battery	Warm No Battery	Cold Weak Battery	Cold No Battery
DSR108	450Amp	>6.0L	>5.0L	>3.0L	>3.0L	>1.6L
DSR109	800Amp	>8.0L	>6.0L	>5.0L	>4.0L	>3.0L

8. BEFORE RETURNING FOR REPAIRS

For more information about troubleshooting, 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.

9. LIMITED WARRANTY

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 ProBooster for one (1) year 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.

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US Patent Pending 14/443,021; European Patent Pending 15167725.9

WARRANTY CARD

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Go to www.batterychargers.com to register your product online.



1 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 to register your product online.