STRONGWAY™

2/12/25 AMP AUTOMATIC BATTERY CHARGER

Owner's Manual

⚠ WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #5828413

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Strongway product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381.**

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⚠ WARNING

• Explosive gases! Prevent flames and sparks. Provide adequate ventilation during charging.

• For indoor use. Do not expose to rain.

• For charging 6/12V rechargeable lead acid automotive type and 12V LiFePO4 batteries of the size detailed in the specifications table.

• Do not attempt to charge non-rechargeable batteries. Never charge a frozen battery.

• Do not charge other types of batteries like Nickel Cadmium (NiCad), Nickel-Metal Hydride (Ni-MH), Dry-Cell, etc.

• During charging, the battery must be placed in a well-ventilated area, as far as possible from any flame or ignition sources.

• This battery charger is not intended for persons with reduced physical, mental and/or sensory abilities. Similarly, persons who lack experience or knowledge (including children) should be supervised or given suitable instruction.

• Young children should be supervised to ensure that they do not play with the appliance.

• Disconnect the 120V mains supply before making or breaking the connections to the battery.

• The battery charger must be plugged into an earthed or grounded socket outlet.

• Connection to mains supply must be in accordance with National wiring rules

• If the AC cord is damaged, do not use it. Have the cord replaced or repaired by a qualified person.

• Corrosive substances can escape from the battery. Use suitable personal protective equipment (PPE) including eye protection and keep skin covered where possible. If contact with battery acid occurs, flush the area with plenty of water for at least 10 minutes and promptly seek medical attention.

⚠ WARNING

PERSONAL SAFETY

• Stay alert, watch what you are doing, and use common sense when operating the jump starter.

• Do not use the unit while you are tired or under the influence of drugs, alcohol, or medication.

• Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing, and gloves away from the battery.

• Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield.

• Ensure the power switch is off after each use.

⚠ WARNING

WORK AREA SAFETY

• Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit.

• Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.

• Do not use this battery charger where there is a risk of causing a fire or an explosion, e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite flammable liquids, gases, or dust.

• Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.

• Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

TECHNICAL PARAMETERS

Part Number	5828413
Charger Type	Intelligent Automatic - 7 Stages
Input Voltage	120 VAC / 60Hz
Input Current	5.5A (Engine Start: 15A)
Nominal Output Voltage	6V & 12V
Output Current	2/12/25A(12V); 2/12A (6V)
Engine Start Current	12V-75A (5S ON, 180S OFF)
Battery Type	Lead-Acid (STD, AGM, GEL) and LiFePO4 (LFP)

MAIN FEATURES

6/12V DOUBLE VOLTAGE OUTPUT

The battery charger is designed to charge most 6V and 12V Lead-Acid batteries (AGM GEL, and STD), and 6/12V LiFePO4 Batteries. It also can provide 75A stable current to auxiliary jump start\boost vehicle and 13.6V stable power supply.

MICROPROCESSOR TECHNOLOGY

The latest technology in battery chargers converts 120VAC to 6/12V DC charging power using electronic components, unlike traditional battery chargers that rely on large heavy transformers. This allows the charger to be lightweight and compact without sacrificing performance. To increase safety, polarity protection prevents the output leads from sparking due to accidental reverse connection or short circuit.

MAXIMISING BATTERY PERFORMANCE

Your battery will run longer when charged using a 7-stage charger, ensuring you get the most from your battery.

MAXIMISE BATTERY LIFE

Batteries used regularly will last longer when charged using a 7-stage charger, extending battery work life.

AUTOMATIC MICROPROCESSOR CONTROL

The charger can be left connected to the battery without the risk of overcharging. Once the battery is full, the battery charger will automatically monitor the battery and top up the battery when required to ensure it is always ready for use.

DIGITAL DISPLAY / BACKLIGHT

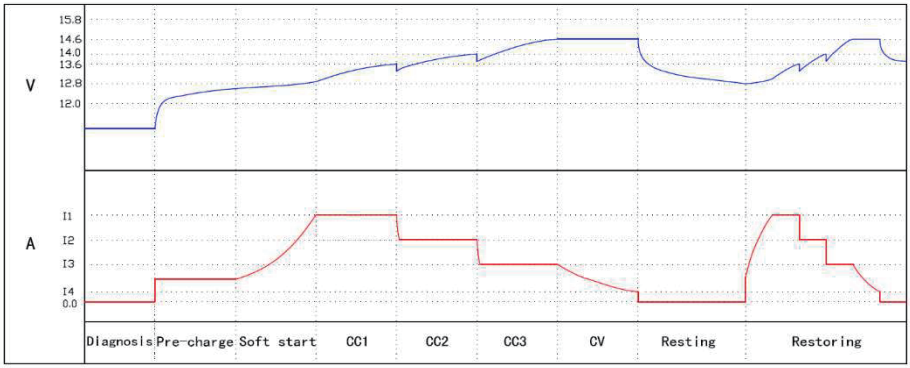
The digital screen provides a clear, easy-to-read display and a backlight provides visibility in poor light or when dark. During process screen provides actual battery voltage prior to selecting a “CHARGE OPTION”, and displays the voltage and current being applied during charging.
When the charge cycles are complete and the battery is fully charged, the digital display will show FUL. If the clamps are connected incorrectly or if the battery is damaged or unable to be charged, the display will show a warning icon.
Note - Batteries with a battery voltage below 10.5V may have been permanently damaged - it is recommended that batteries not be discharged to below 10.5V.

PRODUCT ILLUSTRATION

1: Battery status LED indicators	2: Digital screen
3: Volts and Current LED indicators	4: Test button
5: START/STOP button	6: Charge rate selection button
7: Battery type selection button	8: Charge mode and Volts selection button

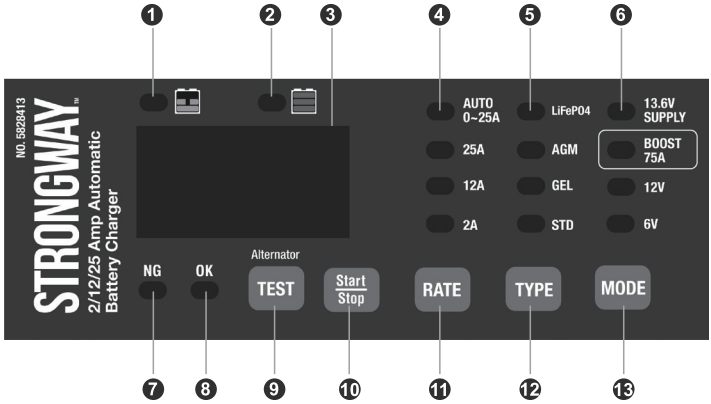
CHARGING STAGE INTRODUCTION

The following tables detail the VOLTAGE (Volts) and CURRENT (Amps) applied to the battery over time. These different settings and charge values are necessary to achieve maximum battery charge and optimize battery condition



Stage	Function	Description
1	**Diagnosis**	The charger checks the battery condition and calculates the required charging parameters.
2	**Pre-Charge**	Pre-charge the battery voltage below 12V to a safe voltage above 11V with a small current and automatically move to the next step.
3	**Soft Start**	At an increased voltage, the current is slowly increased over time to activate the battery and improve battery charging efficiency.
4	**Bulk Charge (Constant Current)**	The Bulk Charge settings will reduce the time to charge and ensure better battery health.
	CC1	Quickly charge to 13.6V with maximum current and automatically turn to the next step.
	CC2	Current is reduced.
	CC3	The current is further reduced for an improved charge while minimizing electrolytic loss and excess temperature.
5	**Constant Voltage**	With the increase of battery voltage, the charging current to the battery will then be reduced to avoid battery overcharge.
6	**Resting**	When the voltage is less than the set value of the judgement for the bad battery, enter the float charging to the battery for a short time of maintenance, and then move to the error mode; if the voltage is greater than the set value, wait for battery to re-charge.
7	**Restoring**	The charger will continue charging the battery with a small current to keep the battery voltage in a full state. If the battery voltage drops below 12V, stages 1-5 will repeat.

DISPLAY SUMMARY



1. Battery Capacity Status – Charging
2. Battery Capacity Status – Full
3. Digital Screen
4. Charging Rate LED Indicator
5. Battery Type LED Indicator
6. Power Supply & Boost & Charging Voltage LED Indicator
7. NG (for Alternator Test)
8. OK (for Alternator Test)
9. Alternator Test Selection Button
10. Start/Stop Button
11. Charging Rate Selection Button
12. Battery Type Selection Button
13. Charging Mode Selection Button

OPERATION INSTRUCTION

BEFORE CHARGE

1. Remove the battery from the vehicle before charging if possible.
2. Ensure that all the electrical accessories in the vehicle are off.
3. Carefully follow the battery manufacturer's instructions to recharge.
4. Ensure the surrounding area is well-ventilated during charging.

   Note - BEFORE attaching the battery clamps, disconnect (unplug) the battery charger from any supply socket outlet, or ensure the mains supply power is switched to OFF.

STEP 1 - BATTERY MANUFACTURER RECOMMENDATIONS

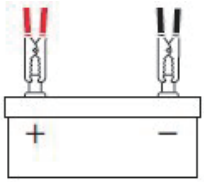
Before using the battery charger, study the battery manufacturer's recommendations, rates of charge, and any condition peculiar to the battery being charged.

STEP 2 - CHECK THE ELECTROLYTE LEVEL

Prior to charging the battery, remove the vent caps and check the electrolyte level.
Note - For batteries without cell caps, follow the battery manufacturer's maintenance and charging instructions.

STEP 3A - CONNECTION WITH BATTERY OUT OF THE VEHICLE

Connect the POSITIVE (RED) lead/battery clamp from the charger to the POSITIVE battery post. Connect the NEGATIVE (BLACK) lead/battery clamp from the charger to the NEGATIVE battery post.
Note - The POSITIVE terminal of a battery is defined in RED color and may be represented by POS, P, or (+); The NEGATIVE terminal of a battery is defined in BLACK color and may be represented by NEG, N, or (-). Wiggle or swivel the clamps several times – this action ensures integrity of the connection and minimizes sparks/arcing.



STEP 3B - CONNECTION WITH THE BATTERY MOUNTED IN THE VEHICLE

Determine if the vehicle is Positively (+) or Negatively (-) earthed.

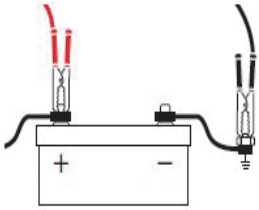
Note - The battery terminal NOT connected to the chassis MUST be connected to the Battery Charger first (1st). The second (2nd) clamp from the Battery Charger must be connected to the chassis, away from the battery and fuel lines.

Refer to the following guides for the correct battery clamp connection sequence:

Negatively Earthed (Most Vehicles)

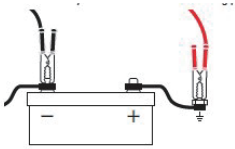
Note - Negatively earthed vehicles usually have a cable (usually BLACK or GREEN) connecting the Negative battery terminal to the vehicle's chassis.

Connect the POSITIVE (RED) lead/battery clamp from the battery charger to the Positive (+) battery terminal. Connect the NEGATIVE (BLACK) lead/ battery clamp from the battery charger to the vehicle's chassis - away from the fuel lines or moving parts.



Positively Earthed

Connect the NEGATIVE (BLACK) lead/battery clamp from the battery charger to the Negative (-) battery terminal. Connect the POSITIVE (RED) lead/battery clamp from the battery charger to the vehicle's chassis - away from the fuel lines or moving parts.



STEP 4 - CONNECT TO MAINS POWER

Connect the battery charger to a 120V mains power socket and turn on the mains power.

The LED screen will display the actual battery voltage detected between the two clamps.

STEP 5 - SELECT RATE/TYPE/VOLTAGE

Select the charging options for the battery and press corresponding buttons on the front case.

-Press the RATE button to select among 2A/12A/25A/Auto 0~25A.

-Press the TYPE button to select the battery type among STD/GEL/ AGM/LifePO4.

-Press the MODE button to select the battery size between 6V and 12V.

-Press the Start/Stop button to start charging.

Note - If the battery charger does not detect a properly connected battery, or detects an incorrect battery voltage, ER1 will display on the screen and charging will not commence.

STEP 6 - CHARGING

While charging, the YELLOW Battery Status LED indicator on the top left section is lit up, and the real-time voltage of the battery will be displayed on the LED screen.

STEP 7 - DISCONNECTION

Once charging is completed, the GREEN Battery Status LED indicator on the top left section will light up, and FUL will be displayed on the screen. BEFORE removing the battery clamps, press Start/Stop button to stop the charging, and disconnect (unplug) the battery charger from the supply socket outlet.

Note - If left connected, the charger will monitor the battery and maintain the battery ready for use - preventing slow discharge over time, which is detrimental to lead acid batteries.

Battery out of the Vehicle

Remove the NEGATIVE (BLACK) connection first. Then remove the POSITIVE (RED) terminal clamp.

Battery mounted in the Vehicle

Remove the chassis connection first.

Then remove the other battery clamp from the battery terminal.

13.6V Power Supply (15 Amp Maximum)

-Choose 13.6V Power Supply by short-pressing the MODE button.
-Ensure that no Error code displays before start.
-Confirm that two clamps are correctly connected to the battery (Positive (+, P, RED) clamp to positive pole and Negative (-, N, BLACK) to negative pole).
-The charger will output a 15 Amp maximum 13.6V DC power supply.

Important! Stop charging by pressing Start\Stop button before removing the clamps!

75A Engine Boost Mode (Engine Start/Jump Start)

-Select 75A Boost mode by short-pressing the mode button.
-Apply Positive (+, P, RED) clamp to the positive terminal of the vehicle battery. Apply Negative (-, N, BLACK) clamp to the negative terminal of the vehicle battery.
-Ensure that no error displays before start.
-Short press the Start/Stop button to start pre-charge on engine boost mode.
-Confirm that the digital screen displays voltage and the charging LED turns ON.
-Ignite/Start the engine, the charger will output 100A Max. current automatically when it detects ignition/start.
-Wait for 180 seconds after using engine boost mode to cool down the charger.

Alternator Test

-Connect the clamps correctly without plugging into the AC socket, and the display will show the real-time voltage.
-Press the “TEST” button to check the highest recorded voltage. “OK” (green light) indicates that the voltage is between 13.3V-15.5V; “NG” (“Not Good”, red light) means that the voltage is below 13.3V or higher than 15.5V.

Q&A

Q. Why does the charger not charge after plugging into the AC power source?

A. There are various reasons that the charger does not work, please check the status as follows,

-Check if any Error LED displays

-Check if clips are well connected to the battery

-Check if the AC power source is well connected to

Q. Why does the charger display an error during charging?

A. ER1 Under Voltage -The charger does not detect voltage. Check the connection between the clamps and the battery. Check if the battery voltage is too low.

ER2 Bad Battery – The battery cannot accept charging. Check the battery status or replace the battery.

ER3 Over-heat Warning – The charger is overheated and has stopped charging.

ER4 Reverse Polarity – The clamps are connected reversely.

Q. Can I use the charger as a power supply?

A. Yes. The charger could be used as a power supply, it will offer a 13.6V/15 AMPS max power supply to electronic applications.

Q. Why is there no output on the battery charger's battery clamps when it is turned on?

A. The charger incorporates reverse polarity and short circuit protection that makes it much safer to use. For this reason, the charger will only output power when connected to a battery exhibiting a voltage above 0.5 volts (0.5V).

Q. What is a Faulty Cell?

A. 12 Volt batteries contain 6 cells (24 volts batteries contain 12 cells) - one faulty cell is enough to ruin your battery. If the "ERROR" LED illuminates after a period of charge, you should test the cells using a hydrometer. If one reading is lower than the rest it indicates a faulty cell. It is pointless to continue charging, as the battery needs replacing.

LIMITED WARRANTY

Northern Tool and Equipment Company, Inc. “We" or "Us" warrants to the original purchaser only ("You" or "Your") that the Strongway product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect. misuse, or as result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim, any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You, This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law, The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.

STRONGWAY™

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