

# STRONGWAY™

## 6/12V, 2/10/20/40/200 AMP WHEEL 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 #5820315**

**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 battery (AGM, STD) 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 type 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. 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	5820315
Charger Type	6/12V Wheel Charger
Input Voltage	120 VAC / 60Hz
Input Current	10A (Engine start – 40A)
Nominal Output Voltage	6V & 12V
Output Current	6V DC-2/40A, 12V DC-2/10/40A
Engine Start	12V DC-200A (5s ON, 180s OFF)
Battery Type	Lead-acid (STD, AGM)

## MAIN FEATURES

### **Multiple Charge Mode Options**

The latest technology of this battery chargers converts 120V AC to 6/12V DC charging power in various charging Current and Charging mode: 6V/2A and 12V/2A maintain mode to keep battery health and prolong work life. 12V/40A rapid charging mode offers powerful charging effect for battery.

### **Dual Output Volts workable for more battery**

6/12V dual Output Volts available to charge most battery type beside Vehicle, also work for Motorbike, Lawn mower, ATV, etc.

### **Powerful Engine Start Current**

This wheel charger offers powerful Engine Start Current: 12V-200A to dead Auto battery, helpful to start vehicle with totally discharged battery inside as emergency use.

### **Various Display Mode – Easy Read and Operation**

Digital Display & LED indicators refers various information: Voltage, Current, Optional Charging mode and status. Friendly to end user with easy read and operate display. Moreover, the LED indicators keep monitor charging progress.

### **Heavy Duty Clamp and Cable.**

4AWG CCA Heavy duty output cable and heavy-duty metal clamps supports high performance of wheel charger and offers durable work-life.

### **Trolley design with wheel easy move and storage.**

Robust metal case with trolley design, easily rolling to move and storage.

## PRODUCT ILLUSTRATION

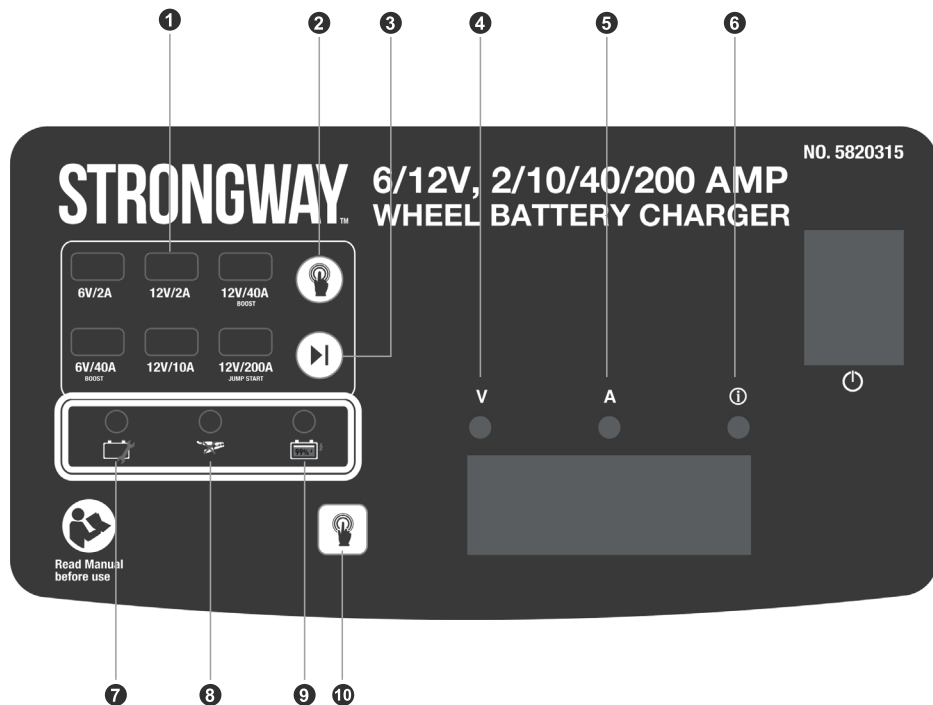


1. Charge rate LED indicators and select button
2. Display information selection button
3. Stretchable handle
4. ON/OFF Power switch
5. Digital display screen
6. Dissipation window
7. Trolley wheel

## ACCESSORIES

Accessories	Qty
Main unit with stretchable handle	1
Wheels, axle, foot set	1
Manual	1

## BATTERY CHARGER DISPLAY SUMMARY



LED / button	Condition/Mode
1	Charge rate/Engine start mode
2	Charge rate/Engine start mode Selection button
3	Start / Stop button
4	Volts display indicator
5	AMPs display indicator
6	Status display indicator
7	Re-conditioning Mode
8	Reverse Polarity Connection Indicator
9	Maintenance Mode
10	Display information selection button

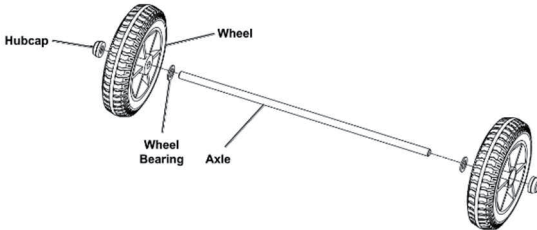
## ASSEMBLY INSTRUCTION



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

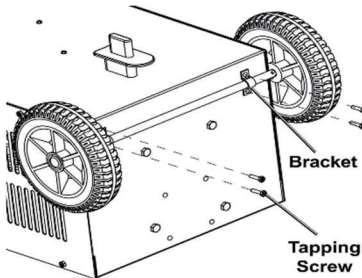
**TO PREVENT SERIOUS INJURY: Unplug the charger, disconnect any battery, and allow charger to cool completely before assembling or making any adjustments to the charger.**

### ASSEMBLE WHEEL SET:



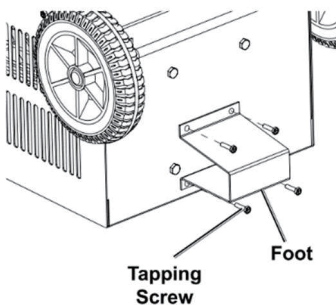
#### **A: Attach Wheels to Axle**

- 1-Slide wheel bearing onto Axle.
- 2-Slide wheel onto Axle.
- 3-Attach hubcap to Axle by tapping gently with rubber mallet
- 4-Repeat on the other side wheel



#### **B: Attach Wheel Assembly**

- 1-Lay the wheel charger down gently& slowly (try to avoid shock on the case)
- 2-Attach wheel charger assembly with two brackets and four tapping screws.



#### **C: Attach Wheel Foot**

- 1-Attach foot with four Tapping screws.  
(Ensure all 4 screws are fixed well to keep unit balance)

## CHARGING INSTRUCTION

### Preparing to Charge

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#### **⚠️ WARNING**

**Use this Charger/Starter only on flooded lead-acid batteries. Other batteries may be damaged or may overheat, leak, or catch fire. DO NOT PLUG IN CHARGER/STARTER UNTIL DIRECTED TO DO SO**

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#### **TO PREVENT SERIOUS INJURY:**

Wear **ANSI-approved** splash-resistant safety goggles and heavy-duty rubber work gloves whenever connecting, disconnecting, or working near battery. Battery acid can cause permanent blindness.

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1. If necessary to remove battery from vehicle to charge, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
2. Make sure area around battery is well ventilated while battery is being charged
3. Clean battery terminals. Be careful to keep corrosion from in contact with eyes.
4. 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.
5. Study all battery manufacturer's specific precautions while charging and recommended rates of charge.
6. Determine voltage of battery by referring to vehicle owner's manual and make sure it matches output rating of battery Charger/Starter. If Charger/Starter has adjustable charge rate, charge battery initially at lowest rate.
7. A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.

**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.

## CHARGING INSTRUCTION

The following instruction will allow you to determine how long it will take to bring a specific battery to full charge.

2. Determine the size of the battery in Amp-Hour or Reserve Capacity.

If the ratings are not printed on the battery, contact your local battery dealer for this information.

These are the only ratings that can be used to determine length to charging time.

3. Use the battery rating, the charge level of the battery, and amp setting to be used on the charger in the formula provided below.

$$\frac{\text{Amp Hour Rating of Battery} \times \text{Percent of Charged Needed}}{\text{Amp Setting Selected on Charge}} = \text{Hours to Charge}$$

4. If the battery is rated in Reserve Capacity, use the following formula to convert reserve capacity to amp-hours.

$$\frac{\text{Reserve Capacity}}{2} + 15.5 = \text{Amp-Hour Rating}$$

**NOTE:** The length of charge times are approximate and vary from the battery to battery.

Always follow the battery manufacturer's specific charging instructions.

## CHARGING RATE/TIME

**Table B**

Battery Size/Rating		12V Charge Rate			
		Charging Time (based on battery at 50% charge)			
		2A	10A	40A Boost	
Small batteries (Motorcycle, Garden Tractor, etc.)		6-12 Ah	3 - 6 hr	Do not use these rates for small batteries	
Cars/Trucks	200-315 CCA	40-60 RC	13 - 20 hr	2 1/2 - 4 hr	1/2 - 3/4 hr
	315-550 CCA	60-85 RC	20 - 35 hr	4 - 7 hr	3/4 - 2 hr
	550-875 CCA	85-125 RC	35 - 55 hr	7 - 11 hr	2 - 3 hr

# CHARGING INSTRUCTION

## 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

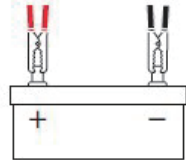
Prior to charging the battery, remove the vent caps and check the electrolyte level.

**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.



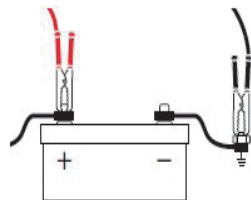
## STEP 3B - CONNECTION WITH THE BATTERY MOUNTED IN THE VEHICLE

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:

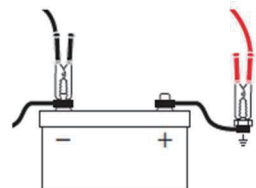
### Negatively Earthed (Most Vehicles)

**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 wheel charger to a 120V AC mains power socket and turn on the ON/OFF switch. 12V/2A LED indicator flash and digital screen with display real time Voltage of battery connected.

**Note** – If not reverse connection, the "Reverse" LED indicators will flash and digital screen displays "REVER".

**Note** – If Clamps disconnect, short connect or Battery internal Volts < 0.5V, digital screen will display "WRONG"

#### **STEP 5 - SELECT VOLTAGE / OPTION**

Choose the correct charge voltage and Current rate by short-pressing the Charge rate / Engine start mode Selection button. The corresponding RATE LED indicator will light up.

#### **STEP 6 - CHARGING**

Press the START/STOP button to start a charge.

#### **STEP 7 - DISCONNECTION**

Once battery fully charged, digital screen will display "Full". BEFORE removing the battery clamps, press the START/STOP button to stop 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

## CHARGING INSTRUCTION



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

**Do not use Start setting to charge batteries. Use to jump start only!**



**Battery acid can cause permanent blindness! TO PREVENT SERIOUS INJURY: Wear ANSI - approved splash-resistant safety goggles and heavy-duty rubber work gloves whenever connecting, disconnecting, or working near battery.**

### NOTICE

Some vehicles with onboard computers may be damaged from the high-current starting output. Thoroughly read the vehicle service manual before start this procedure.

Note: During extremely cold weather or when battery is severely exhausted, charge the battery at 10A for about five minutes before attempting to start engine.

**STEP 1:** Unplug Charger/Starter.

**STEP 2:** Make sure setting of Engine Start charge rate matches the vehicle battery. The emergency starter function should optimally supply at least 50% required battery CCA rating.

**STEP 3:** Position AC and DC cables to reduce risk of damage by hood, door, or moving engine part.

**STEP 4:** Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.

**STEP 5:** Determine which battery post is grounded (connected) to the chassis.

If negative post is grounded to chassis (as in most vehicles), connect clamps as below:

A: Connect POSITIVE (RED) clamp from battery Charger/Starter to POSITIVE (POS, P, +) ungrounded post of battery.

B: Connect NEGATIVE (BLACK) clamp to vehicle chassis or engine block away from battery. Do not connect clamp to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block

If positive post is grounded to the chassis, connect clamps as below:

A: Connect NEGATIVE (BLACK) clamp from battery Charger/Starter to NEGATIVE (NEG, N, -) ungrounded post of battery.

B: Connect POSITIVE (RED) clamp to vehicle chassis or engine block away from battery. Do not connect clamp to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.

**STEP 6:** Plug Charger/Starter into grounded 120V6.receptacle.

**STEP 7:** Turn Power Switch on.

**STEP 8:** Press Function Select Button until "12V 200A" LED indicator start lights up.

**STEP 9:** Press Start/Stop button to start function.

**STEP 10:** Turn ignition key. If engine fails to start, charge battery at 10A for an additional five minutes before attempting to start again.

**STEP 11:** After the engine starts, press Start/Stop button to stop function, then turn Power switch off.

**STEP 12:** Unplug power cord, remove clamp from vehicle chassis, and then remove clamp from battery terminal.

**STEP 13:** After use, clean and store the charger indoors out of children's reach.

## MAINTENANCE INSTRUCTION

### WARNING

**TO PREVENT SERIOUS INJURY:** Unplug the Charger/Starter, disconnect any battery, and allow Charger /Starter to cool completely before performing any inspection, maintenance, or cleaning procedures.

**TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:** Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

**1. BEFORE EACH USE,** inspect the general condition of the Charger/Starter: Check for:

- Loose hardware
- Cracked or broken parts damaged electrical wiring or cable insulation
- Any other condition that may affect its safe operation.

**2. AFTER EACH USE,** wipe external surfaces of the tool with clean cloth.

**3. WARNING!** If the supply cord of this Charger/Starter is damaged, it must be replaced only by a qualified service technician.

**DO NOT OPEN CHARGER / STARTER HOUSING, NO USER-SERVICEABLE PARTS INSIDE.**

## 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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Northern Tool & Equipment Company, Inc.  
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[www.northerntool.com](http://www.northerntool.com)

**Made in Vietnam**