

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

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CEN-TECH®

6/12V AUTOMATIC BATTERY CHARGER WITH ENGINE JUMP START



Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

63423

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein.
Tools required for assembly and service may not be included.

⚠ WARNING

Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.

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SAFETY

CEN-TECH®




ASSEMBLY

WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

OPERATION

V	Volts
~	Alternating Current
A	Amperes
CCA	Cold Cranking Amps
RC	Reserve Capacity
Ah	Ampere-hours

	WARNING marking concerning Risk of Eye Injury. Wear ANSI-approved splash-resistant safety goggles.
	Read the manual before set-up and/or use.
	WARNING marking concerning Risk of Fire. Follow connection procedure.

MAINTENANCE

IMPORTANT SAFETY INSTRUCTIONS

1. **SAVE THESE INSTRUCTIONS** – This manual contains important safety and operating instructions for this battery charger.
2. Do not expose charger to rain or snow.
3. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
4. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
5. An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:
 - a. That pins on plug of extension cord are the same number, size, and shape as those of plug on charger;
 - b. That extension cord is properly wired and in good electrical condition; and
 - c. That wire size is large enough for AC ampere rating of charger as specified in Table A.
6. Do not operate charger with damaged cord or plug – replace the cord or plug immediately.
7. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
8. Do not disassemble charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
9. To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
10. **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 UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.**
 - 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 battery. Review cautionary marking on these products and on engine.
11. **PERSONAL PRECAUTIONS**
 - a. Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
 - b. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
 - c. Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
 - d. 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.
 - e. NEVER smoke or allow a spark or flame in vicinity of battery or engine.
 - f. 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.
 - g. 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.
 - h. Use charger for charging a LEAD-ACID battery only. It is not intended to supply power to a low voltage electrical system other than in a starter-motor application. Do not use battery charger for charging dry-cell batteries that are commonly used with home appliances. These batteries may burst and cause injury to persons and damage to property.
 - i. NEVER charge a frozen battery.

Table A: Recommended minimum AWG size for extension cords for battery chargers

AC input rating, amperes*		AWG size of cord			
		Length of cord, feet			
Equal to or greater than	But less than	25	50	100	150
8	10	18	14	12	10
10	12	16	14	10	8
12	14	16	12	10	8
14	16	16	12	10	8
16	18	14	12	8	8
18	20	14	12	8	6

* If the input rating of a charger is given in watts rather than in amperes, the corresponding ampere rating is to be determined by dividing the wattage rating by the voltage rating – for example:
 $1250 \text{ watts} / 125 \text{ volts} = 10 \text{ amperes}$

12. PREPARING TO CHARGE

- 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.
- Be sure area around battery is well ventilated while battery is being charged.
- Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- 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.
- Study all battery manufacturer's specific precautions while charging and recommended rates of charge.
- Determine voltage of battery by referring to vehicle owner's manual and make sure it matches output rating of battery charger. If charger has adjustable charge rate, charge battery initially at lowest rate.

13. CHARGER LOCATION

- Locate charger as far away from battery as DC cables permit.
- Never place charger directly above battery being charged; gases from battery will corrode and damage charger.
- Never allow battery acid to drip on charger when reading electrolyte specific gravity or filling battery.
- Do not operate charger in a closed-in area or restrict ventilation in any way.
- Do not set a battery on top of charger.

14. DC CONNECTION PRECAUTIONS

- Connect and disconnect DC output clips only after setting any charger switches to "off" position and removing AC cord from electric outlet. Never allow clips to touch each other.
- Attach clips to battery and chassis as indicated in 15(e), 15(f), and 16(b) through 16(d).


15. FOLLOW THESE STEPS WHEN BATTERY IS INSTALLED IN VEHICLE. A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF A SPARK NEAR BATTERY:

- Position AC and DC cables to reduce risk of damage by hood, door, or moving engine part.
- Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
- Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has larger diameter than NEGATIVE (NEG, N, -) post.

- Determine which post of battery is grounded (connected) to the chassis. If negative post is grounded to chassis (as in most vehicles), see (e). If positive post is grounded to the chassis, see (f).
- For negative-grounded vehicle, connect POSITIVE (RED) clip from battery charger to POSITIVE (POS, P, +) ungrounded post of battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts.
- For positive-grounded vehicle, connect NEGATIVE (BLACK) clip from battery charger to NEGATIVE (NEG, N, -) ungrounded post of battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts.
- When disconnecting charger, turn switches to off, disconnect AC cord, and then remove clip from battery terminal.
- See operating instructions for length of charge information.

16. FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE. A SPARK NEAR THE BATTERY MAY CAUSE BATTERY EXPLOSION. TO REDUCE RISK OF A SPARK NEAR BATTERY:

- Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has a larger diameter than NEGATIVE (NEG, N, -) post.
- Connect POSITIVE (RED) charger clip to POSITIVE (POS, P, +) post of battery.
- Position yourself and free end of cable as far away from battery as possible – then connect NEGATIVE (BLACK) charger clip to free end of cable.
- Do not face battery when making final connection.
- When disconnecting charger, always do so in reverse sequence of connecting procedure.
- A marine (boat) battery must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.

- 
 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.

- Do not use Start setting to charge batteries. Use to jump start only.
- Maintain labels and nameplates on the charger. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- This product is not a toy. Keep it out of reach of children.

21. Unplug the Battery Charger from its electrical outlet before connecting its cables to a battery, or performing any inspection, maintenance, or cleaning procedures.
22. **Use this Charger with flooded lead-acid batteries only.** When charging a maintenance-free battery, always monitor the progress of the charge by viewing the Charge Meter. Do not overcharge a maintenance-free battery.
23. Do not attempt to charge non-rechargeable or defective batteries.
24. Do not charge more than one battery at one time.
25. Have your charger serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the charger is maintained.
26. Do not use charger while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating charger may result in serious personal injury.
27. Before moving charger, disconnect power supply and battery, then allow charger to cool.
28. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
 - Avoid operating alone.
 - Properly maintain and inspect to avoid electrical shock.
 - Properly ground power cord. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
29. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



SAVE THESE INSTRUCTIONS.

Grounding and AC Power Cord Connection Instructions

Charger should be grounded to reduce risk of electric shock. Charger is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER – Never alter AC cord or plug provided – if it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

CAUTION – Risk of Fire or Electric Shock. Connect battery charger directly to grounding receptacle (three-prong). An adapter should not be used with battery charger.

Specifications

Electrical Rating	120VAC / 60Hz / 10A (40A for boost)	
Charge Settings	6V	12V
	2A 40A Boost	2A 10A 40A Boost
Starter Settings	12V, 200A 5 second maximum with 180 second minimum rest	
Battery Cables	6' Red = Positive Black = Negative	
Power Cord	6' 5"	

SAFETY

Assembly Instructions



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.

WARNING

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.

Note: For additional information regarding the parts listed in the following pages, refer to *Parts List and Diagram* on page 14.

ASSEMBLY

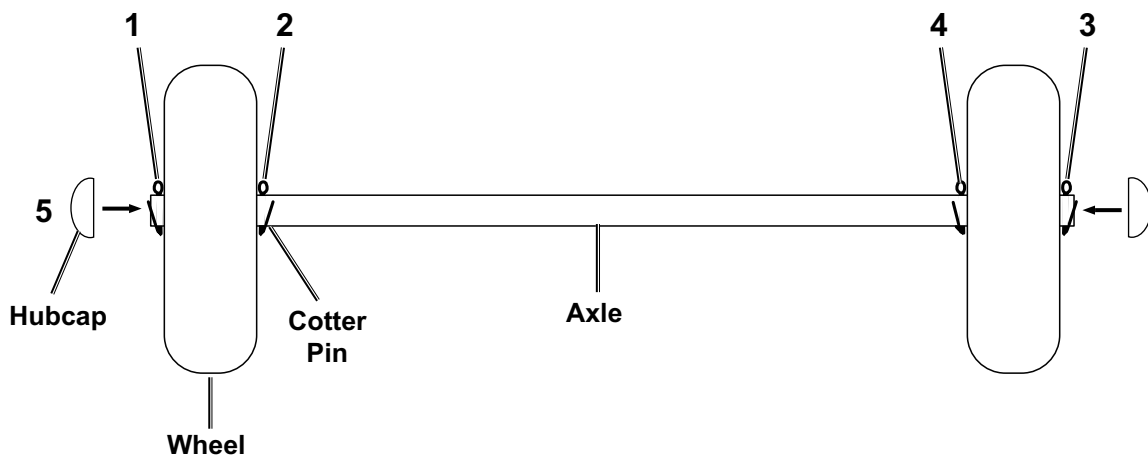
Attach Wheels to Axle

1. Push Cotter Pin (41) through hole on outside left end of Axle (42). Bend ends of Cotter Pin up.

Slide one Wheel (21) onto Axle, against Cotter Pin, **make sure the Hub Cap side is facing out.**
2. Push Cotter Pin through hole on Axle next to Wheel. Bend ends of Cotter Pin up.
3. **Slide other Wheel onto Axle.** Push Cotter Pin through hole on outside right end of Axle. Bend ends of Cotter Pin up.
4. Slide Wheel against Cotter Pin, **make sure the Hub Cap side is facing out.**

Push Cotter Pin through hole on Axle next to Wheel. Bend ends of Cotter Pin up.
5. Snap Hubcaps (22) onto Axle.

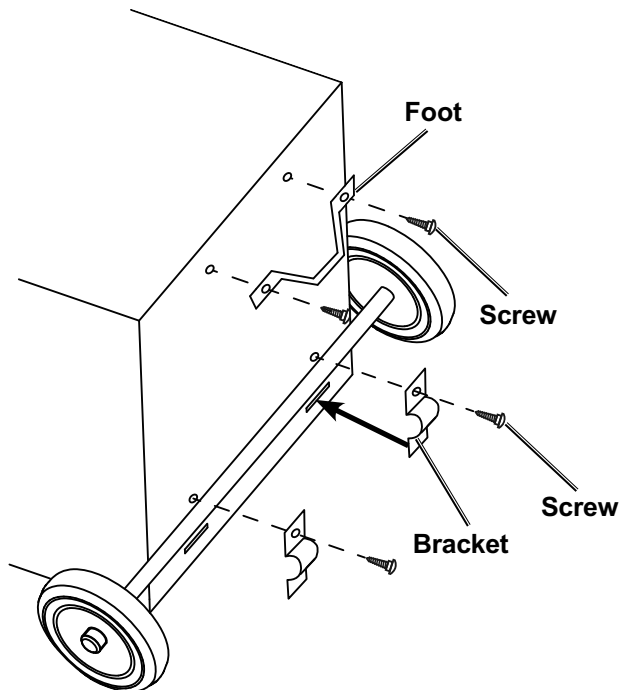
OPERATION



MAINTENANCE

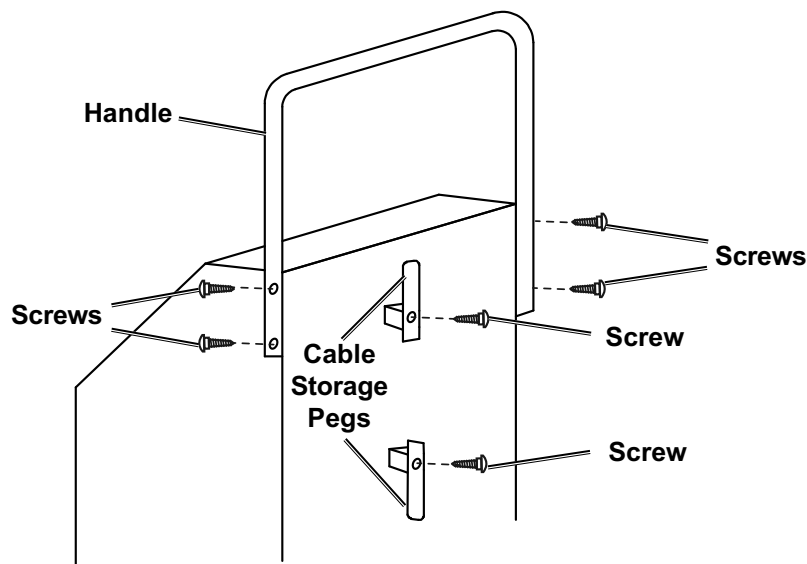
Attach Wheel Assembly and Foot

1. Lay Charger down.
2. Attach Wheel Assembly:
 - a. Align Wheel Assembly between slots and screw holes.
 - b. Slide solid ends of Brackets (43) into slots.
 - c. Secure Brackets with two Screws (24).
3. Attach Foot (23) with two Screws (24).



Attach Handle and Cable Storage Pegs

1. Attach Handle (16):
 - a. Remove two top screws on each side of Charger.
 - b. Align Handle with mounting holes.
 - c. Attach Handle with screws.
2. Attach Cable Storage Pegs (26) with two Screws (27).



Operating Instructions



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.

WARNING

TO PREVENT SERIOUS INJURY:

Assemble Charger/Starter according to Assembly Instructions before use.

DO NOT PLUG IN CHARGER/STARTER UNTIL DIRECTED TO DO SO.

Controls



1. **Function Select Button:** Press to cycle through below functions:

- 6V/12V 2A** - Slow Charge.
- 12V 10A** - Fast Charge.
- 6V/12V 40A Boost** - Quick charge.

NOTICE: Read the vehicle operator's manual before using engine start.

- 12V 200A Engine Start.**

2. **Start/Stop** - Start or stop function.

3. **LED Indicators:**

- RECONDITIONING:** Comes on when Battery is deeply discharged.
- CABLES REVERSED:** Comes on when battery Cables are reversed.
- MAINTENANCE:** Comes on when battery is fully charged.
- VOLTAGE:** Comes on when voltage is being displayed.

e. **CURRENT:** Comes on when amperage is being displayed.

f. **STATUS:** Comes on when status is being displayed. Example: **CHARG** will display while battery is charging.

4. **Display Select:** Cycles through Voltage, Current and Status displays.

5. **Digital Display:**

- XX.XX V:** Voltage.
- XX.XX A:** Amperage.
- EF-02:** Short circuit.
- EF-01:** Cables reversed.
- CHAG:** Charging.
- FULL:** Charged.
- XX S:** Cooling countdown.
- EF-03:** Reconditioning failed.
- EF-04:** Charge aborted.

Preparing to Charge

⚠️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.



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.

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 coming 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.

BATTERIES WITH HYDROMETER EYE:

Do not depend on hydrometer eye to determine battery charge level.

Charger/Starter Location

1. Locate Charger/Starter as far away from battery as DC cables permit.
2. Never place Charger/Starter directly above battery being charged; gases from battery will corrode and damage Charger/Starter.
3. Never allow battery acid to drip on Charger/Starter when reading electrolyte specific gravity or filling battery.
4. Do not operate Charger/Starter in a closed-in area or restrict ventilation in any way.
5. Do not set a battery on top of Charger/Starter.

TABLE B: CHARGING RATE/TIME

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

WARNING! TO PREVENT SERIOUS INJURY, FIRE, AND PROPERTY DAMAGE: Monitor charging during use.

Charging Battery Installed in Vehicle

⚠️ WARNING

A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION.
TO REDUCE RISK OF A SPARK NEAR BATTERY FOLLOW THESE INSTRUCTIONS EXACTLY.
DO NOT PLUG IN CHARGER/STARTER UNTIL DIRECTED TO DO SO.



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.

WARNING! TO PREVENT SERIOUS INJURY: Do not use Start setting to charge batteries. Use to jump start only.

COLD BATTERIES: Begin charging at lowest rate, increase rate as battery reaches normal temperature.
DO NOT CHARGE A FROZEN BATTERY.

1. Unplug Charger/Starter.
2. Position AC and DC cables to reduce risk of damage by hood, door, or moving engine part.
3. Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
4. Check polarity of battery posts. POSITIVE (POS, P, +) battery post usually has larger diameter than NEGATIVE (NEG, N, -) post.
5. Determine which battery post is grounded (connected) to the chassis. If negative post is grounded to chassis, see a. If positive post is grounded to the chassis, see b.
 - a. **For negative-grounded vehicle** (as in most vehicles):
 - Connect POSITIVE (RED) clip from battery Charger/Starter to POSITIVE (POS, P, +) ungrounded post of battery.
 - Connect NEGATIVE (BLACK) clip to vehicle chassis or engine block away from battery. **Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.**

b. For positive-grounded vehicle:

- Connect NEGATIVE (BLACK) clip from battery Charger/Starter to NEGATIVE (NEG, N, -) ungrounded post of battery. Connect POSITIVE (RED) clip to vehicle chassis or engine block away from battery. **Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.**

6. Plug Charger/Starter into grounded 120V receptacle.
 7. Turn Power Switch on.
 8. Press Function Select Button until desired function lights up. **Refer to Table B on page 9.**
- WARNING! TO PREVENT SERIOUS INJURY: Do not use 12V 200A Start function for charging.**
9. Press Start/Stop button to start function.
 10. When finished, turn Power Switch off, unplug power cord, remove clip from vehicle chassis, and then remove clip from battery terminal.
 11. After use clean, then store the charger indoors out of children's reach.

Charging Battery Outside Vehicle

⚠️WARNING

A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION.
TO REDUCE RISK OF A SPARK NEAR BATTERY FOLLOW THESE INSTRUCTIONS EXACTLY.
DO NOT PLUG IN CHARGER/STARTER UNTIL DIRECTED TO DO SO.



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.

WARNING! TO PREVENT SERIOUS INJURY: Do not use Start setting to charge batteries. Use to jump start only.

COLD BATTERIES: Begin charging at lowest rate, increase rate as battery reaches normal temperature. **DO NOT CHARGE A FROZEN BATTERY.**

1. Unplug Charger/Starter.
2. Attach at least a 24-inch-long 6-gauge (AWG) insulated battery cable to NEGATIVE (NEG, N, -) battery post.
3. Connect POSITIVE (RED) charger clip to POSITIVE (POS, P, +) post of battery.

CAUTION! Do not face battery when making final connection.

4. Position yourself and free end of battery cable as far away from battery as possible – then connect NEGATIVE (BLACK) charger clip to free end of battery cable.

5. Plug Charger/Starter into grounded 120V receptacle.
6. Turn Power Switch on.
7. Press Function Select Button until desired function lights up. **Refer to Table B on page 9.**

WARNING! TO PREVENT SERIOUS INJURY: Do not use 12V 200A Start function for charging.

8. Press Start/Stop button to start function.
9. When finished, turn Power Switch off and unplug power cord.
10. When disconnecting Charger/Starter, always do so in reverse sequence of connecting procedure and break first connection while as far away from battery as practical.
11. After use clean, then store the Charger/Starter indoors out of children's reach.

Engine Starting

⚠ WARNING

A SPARK NEAR BATTERY MAY CAUSE BATTERY EXPLOSION.
TO REDUCE RISK OF A SPARK NEAR BATTERY FOLLOW THESE INSTRUCTIONS EXACTLY.
DO NOT PLUG IN CHARGER/STARTER UNTIL DIRECTED TO DO SO.



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.

NOTICE

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

WARNING! TO PREVENT SERIOUS INJURY: Do not use Start setting to charge batteries. Use to jump start only.

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.

1. Unplug Charger/Starter.
2. Make sure setting of Engine Start charge rate matches the vehicle battery. The emergency starter function should optimally supply at least 50% of required battery CCA rating.
3. Position AC and DC cables to reduce risk of damage by hood, door, or moving engine part.
4. Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons.
5. Determine which battery post is grounded (connected) to the chassis. If negative post is grounded to chassis, see a. If positive post is grounded to the chassis, see b.
 - a. **For negative-grounded vehicle** (as in most vehicles):
 - Connect POSITIVE (RED) clip from battery Charger/Starter to POSITIVE (POS, P, +) ungrounded post of battery.
 - Connect NEGATIVE (BLACK) clip to vehicle chassis or engine block away from battery. **Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.**
 - b. **For positive-grounded vehicle:**
 - Connect NEGATIVE (BLACK) clip from battery Charger/Starter to NEGATIVE (NEG, N, -) ungrounded post of battery. Connect POSITIVE (RED) clip to vehicle chassis or engine block away from battery. **Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.**
6. Plug Charger/Starter into grounded 120V, 20A receptacle.
7. Turn Power Switch on.
8. Press Function Select Button until **12V 200A Start** lights up.
9. Press Start/Stop button to start function.
10. Turn ignition key. If engine fails to start, charge battery at 10A for an additional five minutes before attempting to start again.
11. After the engine starts, press Start/Stop button to stop function, then turn Power Switch off.
12. Unplug power cord, remove clip from vehicle chassis, and then remove clip from battery terminal.
13. After use clean, then store the charger indoors out of children's reach.

Maintenance Instructions



Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠️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 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.**

PLEASE READ THE FOLLOWING CAREFULLY

SAFETY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List and Diagram

Parts List

ASSEMBLY

Part	Description	Qty
1	Bottom Housing	1
2	Motor 120VAC/0.5A	1
3	Transformer	1
4	Front Housing	1
5	Front Plate	1
6	Power Switch	1
7	MCU PCB	1
8	Tapping Screws	5
9	Power PCB	1
10	Heat Sink	1
11	Back Housing	1
12	Red Positive Cable	1
13	Power Cord	1
14	Black Negative Cable	1
15	Handle Cover	1
16	Handle	1
17	Bolt M5X16	6
18	Tapping Screws ST4.2X32	4
19	Tapping Screws ST4.2X22	22
20	Side Housing	2
21	Wheel	2
22	Hubcap	2

Part	Description	Qty
23	Foot	1
24	Tapping Screws	4
25	Control Panel	1
26	Cable Storage Peg	2
27	Tapping Screws	4
28	Black Wire	1
29	White Wire	1
30	Black Wire	1
31	Black Wire	1
32	Blue Wire	1
33	White Wire	1
34	Black Wire	1
35	Red Wire	1
36	Nut M4	6
37	Circuit Breaker	2
38	Copper Connection Strap	3
39	Nut M5	5
40	Bolt M5x12	6
41	Cotter Pin	4
42	Axle (not shown)	1
43	Bracket (not shown)	2

OPERATION

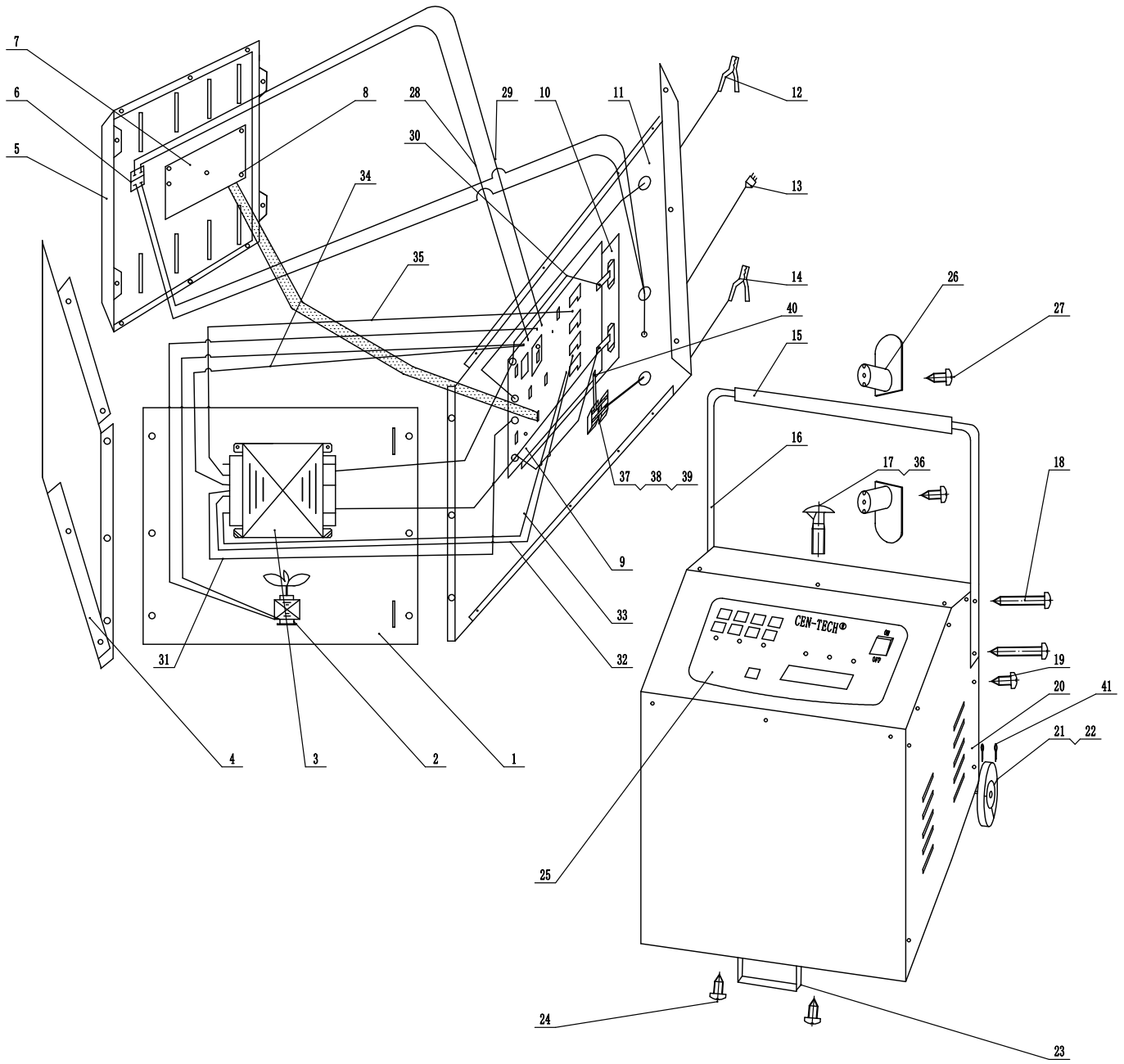
MAINTENANCE

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Internal parts are not user-serviceable and are not available. Specify UPC 193175313393 when ordering parts.

Assembly Diagram



SAFETY

ASSEMBLY

OPERATION

MAINTENANCE

Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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