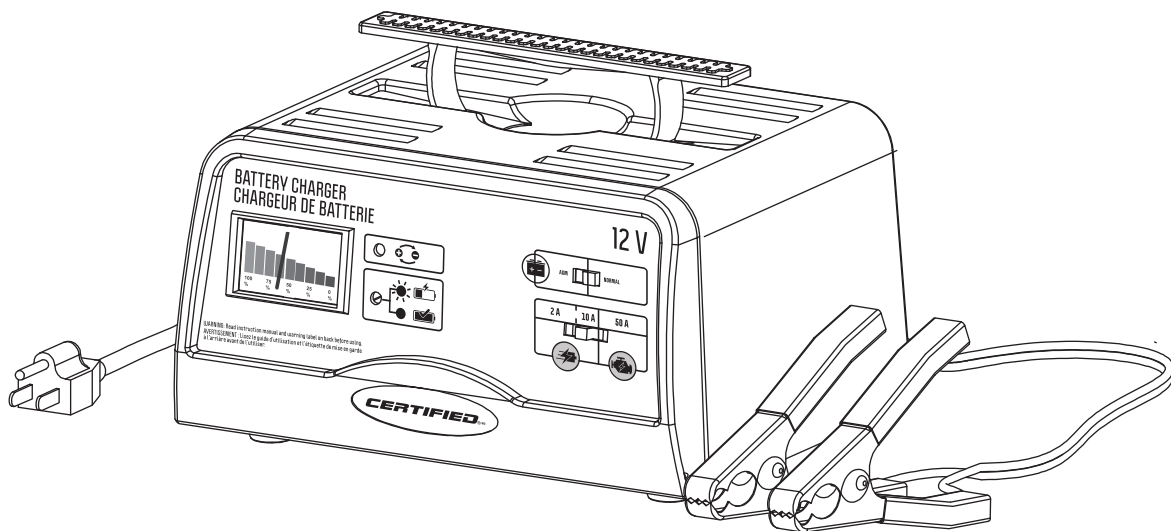


CERTIFIED®

Model number 011-1988-8

BATTERY CHARGER



IMPORTANT:

This manual contains important safety and operating instructions. Read all instructions and follow them with use of this product. Questions? Call Customer Hotline: 1-844-428-7277.

INSTRUCTION MANUAL

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SAFETY INFORMATION



It s very important to read this instruction manual carefully and understand it thoroughly before using the product. Keep this instruction manual for future use. Should this product be passed on to a third party, this instruction manual must be included. The symbols listed below are used to indicate this information.

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.
	Potential hazard that will result in serious injury or loss of life.
	Potential hazard that could result in serious injury or loss of life.
	Potential hazard that may result in moderate injury or damage to equipment.
	Installation, operation, or maintenance information that is important but not hazard related.

SAFETY PRECAUTIONS

- Read all instructions, warning, and cautions printed on the battery charger, battery and vehicle or equipment using battery.
- Use battery charger on LEAD-ACID type rechargeable batteries only. It is not intended to supply power to low-voltage electrical systems other than in an automotive 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.
- 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.
- To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
- DO NOT expose charger to rain or snow.

Model number 011-1988-8 | contact us 1-844-428-7277

SAFETY INFORMATION

- 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.
- 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.
- To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
- NEVER charge a frozen battery. If battery acid becomes frozen, bring into a warm area to thaw before charging.
- Connect and disconnect DC output clips only after removing AC cord from electric outlet. NEVER touch battery clamps together when the charger is on. This may cause a spark.
- This product is not a toy. Keep it out of reach of children.
- Although this charger has an automatic cut off; do NOT depend solely on automatic cut off. Leaving charger unattended can result in fire and property damage.
- 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.

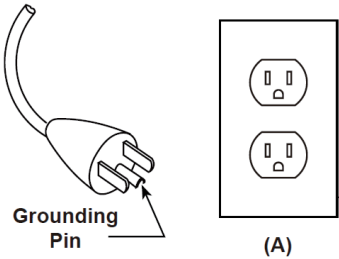
PERSONAL SAFETY INSTRUCTIONS

- Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
- Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
- Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
- 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.
- NEVER smoke or allow a spark or flame in vicinity of battery or engine. Batteries generate explosive gases!
- 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.

- 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.
- Always operate battery charger in an open, well-ventilated area.

AC ELECTRICAL CONNECTIONS
PLUGGING CHARGER IN

Your charger requires a 120 V AC electrical wall outlet receptacle installed according to 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.

USING AN EXTENSION CORD

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

- That pins on plug of extension cord are the same number, size, and shape as those of plug on charger;
- Extension cord is properly wired and in good electrical condition; and
- Wire size is large enough for AC ampere rating of charger as specified in Table A.

Table A: Recommended minimum AWG size for extension cords for battery chargers					
AC input rating, amperes*		AWG size of cord			
		Length of cord			
Equal to or greater than	But less than	25' (7.6 m)	50' (15.2 m)	100' (30.5 m)	150' (45.7 m)
0	2	18	18	18	16
2	3	18	18	16	14
3	4	18	18	16	14
4	5	18	18	14	12
5	6	18	16	14	12
6	8	18	16	12	10
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 watts/125 volts = 10 amperes

SAFETY INFORMATION

WARNING!

Handling the cord on this product or objects associated with the use of this product may expose you to lead. Wash hands after handling.

WARNING! RISK OF EXPLOSIVE GASES

Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason it is of the utmost importance that each time before using your charger, you read and follow the instructions provided exactly. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer.

WARNING!

NO NOT operate the charger if it has a damaged power cord or plug. Have the cord replaced.

WARNING! RISK OF EXPLOSIVE GASES

Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason it is of the utmost importance that each time before using your charger, you read and follow the instructions provided exactly. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer.

PREPARING TO CHARGE

CHARGER LOCATION

- Locate charger as far away from battery as DC cables permit.
- Be sure to position the power cord to prevent it from being stepped on, tripped over or damaged.
- 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.
- ALWAYS charge a battery in a well-ventilated area.
- Do not set a battery on top of charger.
- DO NOT expose charger to rain or snow.

BATTERY PREPARATION

- When removing battery from vehicle to charge it, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are OFF in order to prevent sparks.

- Be sure that the area around the battery is well ventilated while being charged.
- Clean the battery terminals. Be careful to keep corrosion or battery acid from getting in or around your eyes.
- If required, add distilled water in each cell until battery acid reaches levels specified by battery manufacturer. This helps purge excessive gas from cells. Do not overfill. For a battery without cell caps, carefully follow manufacturer's recharging instructions.
- Study all of the battery manufacturer's specific precautions and recommendations.
- Make sure you have a 12 volt lead-acid battery; determine the battery type before charging.
- If charger has adjustable charge rate, charge battery initially at lowest rate.



NOTICE!

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!

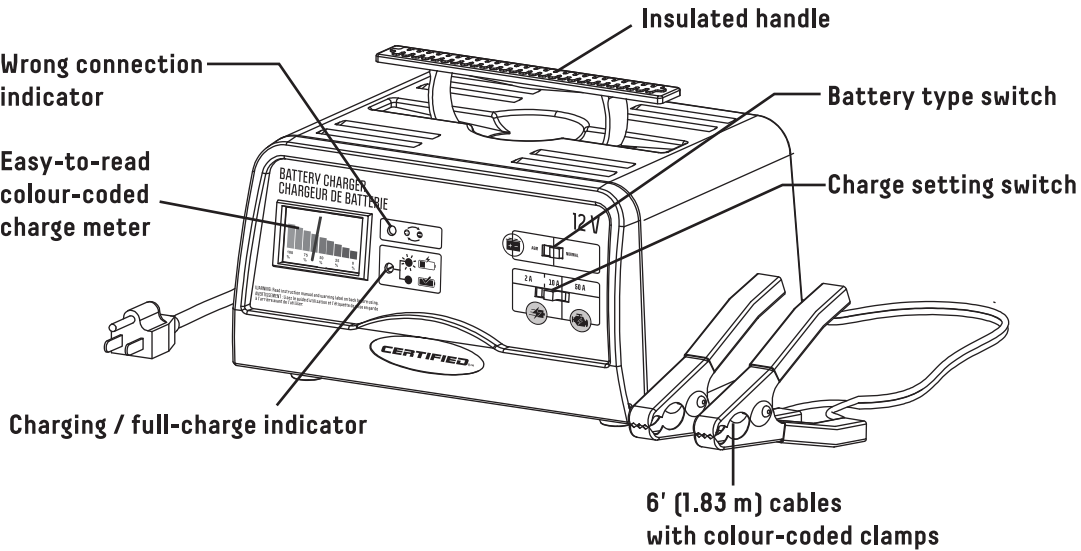
A spark near a battery may cause a battery explosion!

NOTE: a marine battery installed in a boat must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.

Battery chargers may get hot during operation. DO NOT set charger on flammable materials like carpeting, upholstery, paper, cardboard, etc. Charger may damage leather and plastic.

OPERATION INSTRUCTIONS

BATTERY CHARGER CONTROLS



WRONG CONNECTION:

This indicates that the cables are connected improperly. Immediately disconnect the cables and connect them properly to prevent damage to the battery.

CHARGING / FULL CHARGE:

LED light	Explanation
Flashing green light	Battery is charging
Solid green light	Battery is fully charged

NOTE: This is disabled in start mode.

CHARGE SETTING SWITCH:

Use this to switch between charging and engine start modes and change the output amperage.

NOTE: Do not use 50 A Emergency Engine Start function for charging.

AMP RATING	BATTERY CAPACITY RANGE		RECOMMENDED APPLICATIONS
	CHARGING	MAINTENANCE	
50 A	-	-	For emergency engine start
10 A	40 to 200 Ah	40 to 200 Ah	Car, Truck, SUV, RV, Farm Tractor, Boat
2 A	20 to 40 Ah	20 to 200 Ah	Motorcycle, Car, Truck, SUV, RV, Farm Tractor, Boat

* This battery charger is used for 12V batteries only.

BATTERY TYPE SWITCH:

Use this to set the battery type:

- Set to NORMAL for flooded, maintenance-free batteries or gel batteries.
- Set to AGM for Absorbed Glass Mat batteries.

CHARGE METER (10 AMP CHARGE MODE ONLY):

Sometimes conditions such as a cold battery, a sulfated battery, or a deeply discharged lead calcium battery may cause Charge Meter to read near a full charge when charging process is only beginning.

Note: The percent of charge scale is intended as a visual aid to help simplify reading the state of charge. The percent of charge is based on current drawn by the battery. For this reason, accuracy will vary with the size and battery type. Typically, a 28 Ah gel cell battery will draw less current at end of charge than a 140 Ah wet cell battery. This means that the indication for a fully charged large battery may be slightly less than 100%.

Charge Meter (10 amp charge mode only):

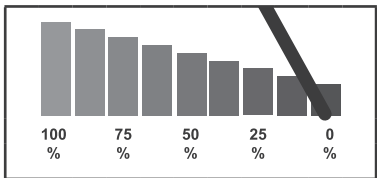


Figure B: DISCHARGED BATTERY
Initial charge current to the battery is at maximum.

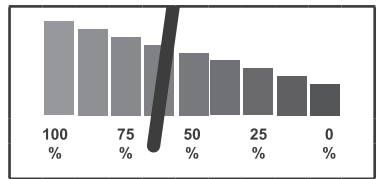


FIGURE C: BATTERY ALMOST FULLY CHARGED
Charge current to the battery is reduced.

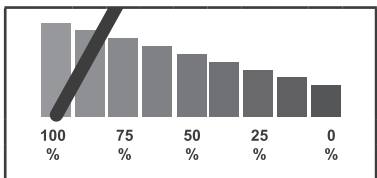
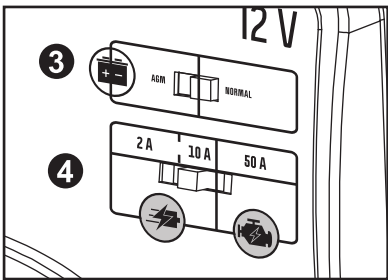
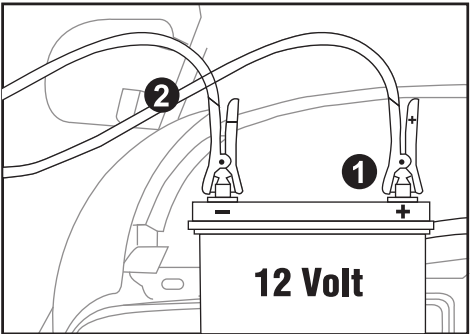
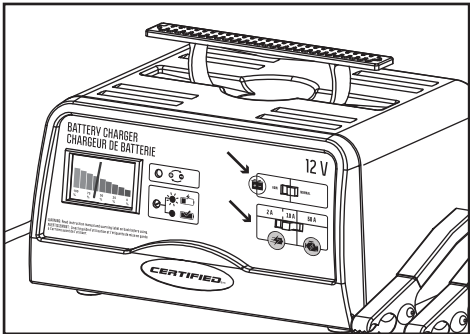


Figure D: FULLY CHARGED BATTERY
Charge current to the battery is minimal and the green LED is on.

CHARGING BATTERIES INSTALLED IN VEHICLE

WARNING! Do not use 50 A Engine Start setting to charge batteries. Use to jump start only.
WARNING! The below instructions are for a negative ground system (most common). If your vehicle is a positive ground system (very uncommon), reverse steps 1 and 2. Please consult your vehicle's manual to confirm your vehicle's ground system.

1. Connect the positive (red) clamp from a battery charger to a positive (POS, P, +) ungrounded post of battery.
2. Connect the negative (black) clamp to the negative (NEG, N, -) battery terminal.
DO NOT connect clip to carburetor, fuel lines, or sheet-metal body parts.



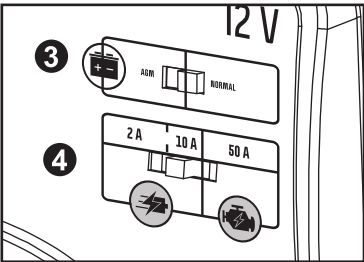
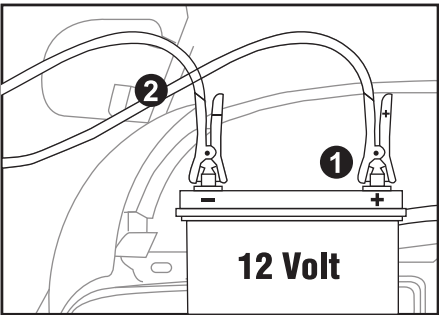
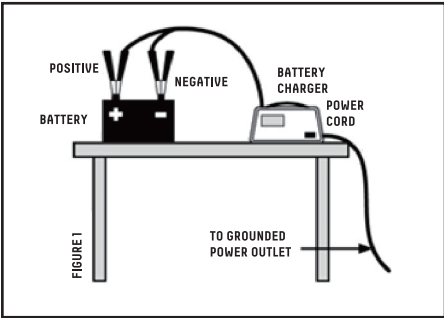
NOTICE: If the Wrong Connection indicator lights, the cables are connected improperly. Immediately disconnect the cables and connect them properly to prevent damage to the battery.

NOTE:

Remove the AC plug from the electrical outlet before connecting and disconnecting the AC output clamps.
Check polarity of battery posts. A positive (POS, P, +) battery post usually has a larger diameter than a negative (NEG, N, -) battery post.
Never allow the DC output clamps to touch each other. This may cause a spark.
Position AC and DC cords to reduce the risk of damage by hood, door, or moving engine part.
Stay clear of fan blades, pulleys, and parts that can cause injury.

- 3. Set Battery Type switch according to battery type:
 - Set to **NORMAL** for flooded, maintenance-free batteries or GEL batteries.
 - Set to **AGM** for Absorbed Glass Mat batteries.
- 4. Set Charge Setting switch to **2 A Trickle Charge** or **10 A Quick Charge**.
If charging is attempted, charge at a lower rate and carefully monitor charge level to avoid battery damage.
- 5. After switches are set, connect charger AC supply cord to 120 volt electric outlet. Do not face the battery when making this connection.
- 6. Monitor the charging process. The Charge Complete green indicator will light up when the battery is fully charged.
- 7. When disconnecting the battery charger, disconnect in the reverse sequence: disconnect AC cord, then remove the negative first (or positive first for positive ground systems).
- 8. After use, clean then store the charger indoors out of children’s reach.

CHARGING BATTERIES INSTALLED OUTSIDE VEHICLE



NOTICE: If the Wrong Connection indicator lights, the cables are connected improperly. Immediately disconnect the cables and connect them properly to prevent damage to the battery.

- WARNING!** Do not use 50 A Engine Start setting to charge batteries. Use to jump start only.
- 1. Connect the positive (red) clamp from a battery charger to a positive (POS, P, +) ungrounded post of battery.
 - 2. Connect the negative (black) clamp to the negative (NEG,N,-) battery terminal. **DO NOT** connect clip to carburetor, fuel lines, or sheet-metal body parts.
 - 3. Set Battery Type switch according to battery type:
 - Set to **NORMAL** for flooded, maintenance-free batteries or gel batteries.
 - Set to **AGM** for Absorbed Glass Mat batteries.
 - 4. Set Charge Setting switch to **2 A Trickle Charge** or **10A Quick Charge**.
To avoid battery damage, refer charge setting switch information on page 8.
 - 5. After switches are set, connect charger AC supply cord to 120 volt electric outlet. Do not face the battery when making this connection.
 - 6. Monitor the charging process. The Charge Complete green indicator will light up when the battery is fully charged.
 - 7. When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while as far away from battery as practical.
 - 8. After use, clean then store the charger indoors out of children’s reach.

NOTE:
Remove the AC plug from the electrical outlet before connecting and disconnecting the DC output clamps.
Check polarity of battery posts. A positive (POS, P, +) battery post usually has a larger diameter than a negative (NEG, N, -) battery post.
Never allow the DC output clamps to touch each other. This may cause a spark.
Position AC and DC cords to reduce the risk of damage by hood, door, or moving engine part. Stay clear of fan blades, pulleys, and parts that can cause injury.



WARNING!
A spark near a battery may cause a battery explosion!
NOTE: a marine battery installed in a boat must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.



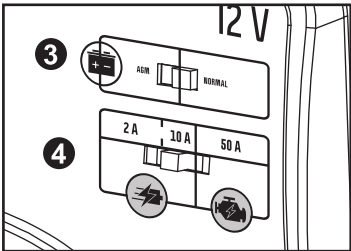
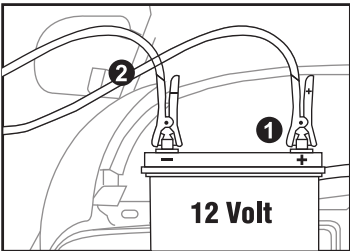
WARNING!
A spark near a battery may cause a battery explosion!
NOTE: a marine battery installed in a boat must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.

12 V ENGINE STARTING

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. During extremely cold weather or when battery is severely exhausted, charge the battery for about five minutes before attempting to turn on engine.
WARNING! Do not use 50 A Engine Start setting to charge batteries. Use to jump start only.

- 1. For negative-grounded vehicle, connect the positive (red) clamp from a battery charger to a positive (POS, P, +) ungrounded post of battery.
- 2. Connect the negative (black) clamp to the negative (NEG, N, -) battery terminal.
DO NOT connect clip to carburetor, fuel lines, or sheet-metal body parts.



NOTICE: If the Wrong Connection indicator lights, the cables are connected improperly. Immediately disconnect the cables and connect them properly to prevent damage to the battery.

- 3. Set Charge Setting switch to 50 A Emergency Engine Start.
- 4. After switches are set, connect charger AC supply cord to 120 volt electric outlet.
- 5. **WARNING! TO PREVENT SERIOUS INJURY, FIRE, AND DAMAGE TO CHARGER AND BATTERY,** follow 5 second maximum with 180 seconds minimum rest duty cycle when using the Start mode.
- 6. To start the engine, turn ignition key.
ONLY KEEP CHARGER IN START MODE UP TO 5 SECONDS AT A TIME.
- 7. If engine fails to start, charge battery for an additional five minutes before attempting to start.
- 8. After the engine starts, unplug the power cord from outlet before disconnecting the DC cable clamps.



CAUTION!
RISK OF PROPERTY DAMAGE! Using the engine start feature without a battery installed in the vehicle could cause serious damage to the vehicle's electrical system.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit will not work	<ul style="list-style-type: none">• No AC power at the AC wall outlet• Faulty extension cord• Faulty 120 V AC charger• Charger is not plugged in the AC outlet	<ul style="list-style-type: none">• Plug into a different AC outlet• Replace extension cord• Replace unit• Plug in the AC outlet
The engine start will not start	<ul style="list-style-type: none">• CHARGE SETTING SWITCH is not in the 50 A mode• Battery isn't in the vehicle• Severely discharged battery (but otherwise good battery)• Vehicle battery is damaged• Mechanical issue with vehicle	<ul style="list-style-type: none">• Select 50 A mode• Make sure your battery is in your vehicle• Charge the battery for about three minutes before attempting to turn on engine• Replace vehicle battery• Have the vehicle serviced
Charger will not turn off within 36 hours	<ul style="list-style-type: none">• Battery is defective, can't recover• AC power supply is low• Charge setting output does not match your battery, especially using 2 A charging rate on large batteries	<ul style="list-style-type: none">• Disconnect battery charger and have battery tested or replaced• Plug charger into another suitable grounded AC outlet• Check and use a suitable current to charge the battery
Charging current is less than rated current of charger	<ul style="list-style-type: none">• Battery is partially charged• Battery is defective (battery plates are crusted) and will not accept a full charge• AC power supply is low	<ul style="list-style-type: none">• Continue charging• Have battery checked and replace battery• Check and use a suitable current to charge the battery
Meter needle moves to extreme right, remains a short time, then returns to zero, accompanied by a clicking sound	<ul style="list-style-type: none">• Severely discharged battery (but otherwise good battery)• Battery is defective (will not accept charge)• Charger is cycling after circuit breaking overload	<ul style="list-style-type: none">• Allow charging to continue until battery has recovered sufficiently to take a charge (Circuit breaker will continue to cycle and needle will swing side to side until battery has recovered)• Have battery checked• Wait until charger automatically resets itself (DO NOT RETURN FOR SERVICE)

MAINTENANCE INSTRUCTIONS

- Clean cords and clamps each time you are finished using the charger.
- Wipe off any battery fluid or debris that might have come in contact with the clamps to prevent corrosion.
- Store the power and output cable neatly to prevent damage.
- Occasional cleaning of the battery charger case with a soft cloth will help protect the finish.
- **ALWAYS** unplug the charger when not in use.
- Keep the charger stored in a cool, dry place.

TECHNICAL SPECIFICATIONS

Input	120 V AC, 60 Hz, 2 A, 9 A (Start)
Output	12 V DC - 10 A, 12 V DC - 2 A, 12 V DC Engine Start - 50 A
Ambient Operating Temperature	-20 to 40°C (-4 to 104°F)
Compatible Battery Voltage	12 V (nominal)
Compatible Battery Types	All lead-acid (Wet, MF, AGM and Gel)
Compatible Battery Capacities	20 to 200 Amp-hour
Dimensions (L x W x H)	9 1/2 x 7 1/2 x 5 1/4" (24.5 x 19 x 13.5 cm)
Weight	10 lb (4.7 kg)



Do not dispose of this product in household garbage at the end of its life cycle; hand it over at a collection point for the recycling of electrical and electronic appliances. The symbols on the product, the instructions for use, or the packaging will inform about methods for disposal.

WARRANTY

This Certified product carries a one (1) year warranty against defects in workmanship and materials. At its discretion, Certified Canada agrees to have any defective part(s) repaired or replaced free of charge, within the stated warranty period, when returned by the original purchaser with proof of purchase. This product is not guaranteed against wear or breakage due to misuse and/or abuse.



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