



Models: XC6, XC10, XC12 & XCS15

Automatic Battery Charger



XC6



XC10



XC12



XCS15

⚠ WARNING READ THE ENTIRE MANUAL BEFORE USING THIS PRODUCT.
FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH.

IMPORTANT: READ AND SAVE THIS SAFETY AND INSTRUCTION MANUAL.

SAVE THESE INSTRUCTIONS – This manual will show you how to use your charger safely and effectively. Please read, understand and follow these instructions and precautions carefully, as this manual contains important safety and operating instructions. The safety messages used throughout this manual contain a signal word, a message and an icon.

The signal word indicates the level of the hazard in a situation.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or bystanders.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or bystanders.



Indicates a potentially hazardous situation which, if not avoided, could result in moderate or minor injury to the operator or bystanders.



Indicates a potentially hazardous situation which, if not avoided, could result in damage to the equipment or vehicle or property damage.



Pursuant to California Proposition 65, this product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

1. IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS –

This manual contains important safety and operating instructions.



RISK OF ELECTRIC SHOCK OR FIRE.



1.1 Keep out of reach of children.

1.2 Do not expose the charger to rain or snow. Use only recommended attachments. Use of an attachment not recommended or sold by Schumacher® Electric Corporation may result in a risk of fire, electric shock or injury to persons or damage to property.

- 1.3 To reduce the risk of damage to the electric plug or cord, pull by the plug rather than the cord when disconnecting the charger.
- 1.4 An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:
- That the pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger.
 - That the extension cord is properly wired and in good electrical condition.
 - That the wire size is large enough for the AC ampere rating of the charger as specified in section 8.
- 1.5 To reduce the risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning. Simply turning off the controls will not reduce this risk.
- 1.6 Do not operate the charger with a damaged cord or plug; have the cord or plug replaced immediately by a qualified service person.
- 1.7 Do not operate the charger if it has received a sharp blow, been dropped or otherwise damaged in any way; take it to a qualified service person.
- 1.8 Do not disassemble the charger; take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.



RISK OF EXPLOSIVE GASES.



1.9 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 UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE CHARGER.

- 1.10** To reduce the risk of a battery explosion, follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of the battery. Review the cautionary markings on these products and on the engine.
- 1.11** This charger employs parts, such as switches and circuit breakers, that tend to produce arcs and sparks. If used in a garage, locate this charger 18 inches or more above floor level.

2. PERSONAL PRECAUTIONS



RISK OF EXPLOSIVE GASES.

- 2.1** NEVER smoke or allow a spark or flame in the vicinity of a battery or engine.
- 2.2** 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.
- 2.3** Be extra cautious to reduce the risk of dropping a metal tool onto the battery. It might spark or short-circuit the battery or other electrical part that may cause an explosion.
- 2.4** Use this charger for charging LEAD-ACID batteries only. It is not intended to supply power to a low voltage electrical system other than in a starter-motor application. Do not use this 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.
- 2.5** NEVER charge a frozen battery.
- 2.6** NEVER overcharge a battery.
- 2.7** Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
- 2.8** Have plenty of fresh water and soap nearby in case battery acid contacts your skin, clothing or eyes.
- 2.9** Wear complete eye and body protection, including safety goggles and protective clothing. Avoid touching your eyes while working near the battery.
- 2.10** If battery acid contacts your skin or clothing, immediately wash the area with soap and water. If acid enters your eye, immediately flood the eye with cold running water for at least 10 minutes and get medical attention right away.
- 2.11** If battery acid is accidentally swallowed, drink milk, the whites of eggs or water. DO NOT induce vomiting. Seek medical attention immediately.

3. PREPARING TO CHARGE



RISK OF CONTACT WITH BATTERY ACID. BATTERY ACID IS A HIGHLY CORROSIVE SULFURIC ACID.

- 3.1** If it is necessary to remove the battery from the vehicle to charge it, always remove the grounded terminal first. Make sure all of the accessories in the vehicle are off to prevent arcing.
- 3.2** Be sure the area around the battery is well ventilated while the battery is being charged.
- 3.3** Clean the battery terminals before charging the battery. During cleaning, keep airborne corrosion from coming into contact with your eyes, nose and mouth. Use baking soda and water to neutralize the battery acid and help eliminate airborne corrosion. Do not touch your eyes, nose or mouth.
- 3.4** Add distilled water to each cell until the battery acid reaches the level specified by the battery manufacturer. Do not overfill. For a battery without removable cell caps, such as valve regulated lead acid batteries (VRLA), carefully follow the manufacturer's recharging instructions.
- 3.5** Read, understand and follow all instructions for the charger, battery, vehicle and any equipment used near the battery and charger. Study all of the battery manufacturer's specific precautions while charging and recommended rates of charge.
- 3.6** Determine the voltage of the battery by referring to the vehicle owner's manual. These chargers are equipped with autovoltage detection of 6 or 12 volts only.
- 3.7** Make sure that the charger cable clips make tight connections.

4. CHARGER LOCATION



RISK OF EXPLOSION AND CONTACT WITH BATTERY ACID.

4.1 Locate the charger as far away from the battery as the DC cables permit.

4.2 Never place the charger directly above the battery being charged; gases from the battery will corrode and damage the charger.

4.3 Do not set the battery on top of the charger.

4.4 Never allow battery acid to drip onto the charger when reading the electrolyte specific gravity or filling the battery.

4.5 Do not operate the charger in a closed-in area or restrict the ventilation in any way.

5. DC CONNECTION PRECAUTIONS

5.1 Connect and disconnect the DC output clips only after setting all of the charger switches to the "off" position (if applicable) and removing the AC plug from the electrical outlet. Never allow the clips to touch each other.

5.2 Attach the clips to the battery and chassis, as indicated in sections 6 and 7.

6. FOLLOW THESE STEPS WHEN BATTERY IS INSTALLED IN VEHICLE



A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:

6.1 Position the AC and DC cables to reduce the risk of damage by the hood, door and moving or hot engine parts. NOTE: If it is necessary to close the

hood during the charging process, ensure that the hood does not touch the metal part of the battery clips or cut the insulation of the cables.

6.2 Stay clear of fan blades, belts, pulleys and other parts that can cause injury.

6.3 Check the polarity of the battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.

6.4 Determine which post of the battery is grounded (connected) to the chassis. If the negative post is grounded to the chassis (as in most vehicles), see step 6.5. If the positive post is grounded to the chassis, see step 6.6.

6.5 For a negative-grounded vehicle, connect the POSITIVE (RED) clip from the battery charger to the POSITIVE (POS, P, +) ungrounded post of the battery. Connect the NEGATIVE (BLACK) clip to the vehicle chassis or engine block away from the battery. Do not connect the clip to the carburetor, fuel lines or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block.

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

6.7 Connect charger AC supply cord to electrical outlet.

6.8 When disconnecting the charger, turn all switches to off, disconnect the AC cord, remove the clip from the vehicle chassis and then remove the clip from the battery terminal.

6.9 See CALCULATING CHARGE TIME for length of charge information.

7. FOLLOW THESE STEPS WHEN BATTERY IS OUTSIDE VEHICLE



A SPARK NEAR THE BATTERY MAY CAUSE A BATTERY EXPLOSION. TO REDUCE THE RISK OF A SPARK NEAR THE BATTERY:

7.1 Check the polarity of the battery posts. The POSITIVE (POS, P, +) battery post usually has a larger diameter than the NEGATIVE (NEG, N, -) post.

7.2 Attach at least a 24-inch (61 cm) long 6-gauge (AWG) insulated battery cable to the NEGATIVE (NEG, N, -) battery post.

- 7.3 Connect the POSITIVE (RED) charger clip to the POSITIVE (POS, P, +) post of the battery.
- 7.4 Position yourself and the free end of the cable you previously attached to the NEGATIVE (NEG, N, -) battery post as far away from the battery as possible – then connect the NEGATIVE (BLACK) charger clip to the free end of the cable.
- 7.5 Do not face the battery when making the final connection.
- 7.6 Connect charger AC supply cord to electrical outlet.
- 7.7 When disconnecting the charger, always do so in the reverse order of the connecting procedure and break the first connection while as far away from the battery as practical.
- 7.8 A marine (boat) battery must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.

8. GROUNDING AND AC POWER CORD CONNECTIONS



RISK OF ELECTRIC SHOCK OR FIRE.

8.1 This battery charger is for use on a nominal 120-volt circuit. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. The plug pins must fit the receptacle (outlet).

- 8.2 **▲DANGER** Never alter the AC cord or plug provided – if it does not fit the outlet, have a proper grounded outlet installed by a qualified electrician. An improper connection can result in a risk of an electric shock or electrocution.

NOTE: Pursuant to Canadian Regulations, use of an adapter plug is not allowed in Canada. Use of an adapter plug in the United States is not recommended and should not be used.

- 8.3 Recommended minimum AWG size for extension cord:

AC input rating, amperes*		AWG size of cord Length of cord, feet (m)			
At least	But less than	25 (7.6)	50 (15.2)	100 (30.5)	150 (45.6)
0	2	18	18	18	16
2	3	18	18	16	14
3	4	18	18	16	14

*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:
1200 watts/120 volts = 10 amperes


9. ASSEMBLY INSTRUCTIONS


Remove all cord wraps and uncoil the cables prior to using the battery charger.


10. CONTROL PANEL

NOTE: Not all controls are available on all models.


LED Indicators

A.C. POWER  (red) LED lit: Indicates that there is AC power supplied to the battery charger.

CONNECTED  (red) LED lit: Indicates that the charger is properly connected to the battery.

CHARGING  (yellow) LED lit: Indicates the charger has detected a battery and is charging it.

CHARGING  (yellow) LED flashing: Indicates the charger is in abort mode.

CHARGED  (green) LED lit: Indicates the battery is fully charged and the charger is in maintain mode.

NOTE: See the Operating Instructions section for a complete description of the charger modes.




Digital Display (models XC12 and XCS15)

The display will show the battery VOLTAGE when the charger is not charging a battery. When it goes into charging mode, the display will automatically change to ON (to show charging has started) and then show the percent-of-charge of the battery being charged and either 6 or 12 (the voltage the charger determined the battery is). If you manually stop the charging process (by pressing the CHARGE RATE button) before the battery is fully charged the display will show OFF.

- **Battery %** – The Digital Display shows an estimated charge percent of the battery connected to the charger battery clips.
- **Voltage** – The Digital Display shows the voltage at the charger battery clips in DC volts, or the voltage the charger determines the battery is depending on what mode the charger is in.

Charge Rate Button

Use this button to set the maximum charge rate. Press the button until the desired charge rate is selected.




- **Maintain**  - Used to keep stored, lead-acid batteries charged. Charges and maintains small batteries. Maintains large batteries.
- **Slow Charge Rate**  – Intended for charging small batteries such as those commonly used in garden tractors, snowmobiles and motorcycles. Also used to completely charge deep cycle batteries.
- **Fast Charge Rate**  - Use for charging automotive, marine and light truck batteries.

NOTE: See the CALCULATING CHARGE TIME section for the actual amp ratings.

NOTE: Once the charger has started charging the battery; if you press the Charge Rate button once, the output current is shut off. If you press the Charge Rate button again, the current will go back on at the same setting it was when it was turned off. For example: The charger is charging a battery at the fast charge rate setting. If you press the Charge Rate button, the output is turned off. If you press the Charge Rate button again, the output will turn back on at the fast charge rate setting.

Battery Type Button (models XC10, XC12 and XCS15)

Use this button to set the type of battery to be charged.

- **Regular** – Set the button to .
- **AGM** – Set the button to .
- **GEL** – Set the button to .

11. OPERATING INSTRUCTIONS



⚠WARNING This battery charger must be properly assembled in accordance with the assembly instructions before it is used.

Charging

1. Ensure that all of the charger components are in place and in good working condition, for example, the plastic boots on the battery clips.
2. Connect the battery following the precautions listed in sections 6 and 7.
3. Connect the AC power following the precautions listed in section 8.
4. Select the appropriate settings for your battery.

NOTE: This charger is equipped with an auto-start feature. It will not supply current to the battery clips until a battery is properly connected. Meaning, the clips will not spark if touched together.


Battery Connection Indicator

If the charger does not detect a properly connected battery, the CONNECTED LED  will not light. Charging will not begin if the CONNECTED LED  is not on.

Automatic Charging Mode

When a charge rate is selected, the charger is set to perform an automatic charge. When an automatic charge is performed, the charger switches to the maintain mode (see below) automatically after the battery is charged.

Aborted Charge

Models XC6 and XC10: If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the CHARGING  LED will flash. In that state, the charger ignores all buttons. To reset after an aborted charge, unplug the charger from the AC outlet, wait a few moments and plug it back in.


Aborted Charge

Models XC12 and XCS15: If charging cannot be completed normally, charging will abort. When charging aborts, the charger's output is shut off and the digital display will show an error code (see the Troubleshooting section for a description of the error codes). In that state, the charger ignores all buttons. To reset after an aborted charge, unplug the charger from the AC outlet, wait a few moments and plug it back in.


Desulfation Mode

Desulfation could take up to 8 hours. If desulfation fails, charging will abort. See Aborted Charge section.

Completion Of Charge

Charge completion is indicated by the CHARGED LED . When lit, the charger has stopped charging and switched to the Maintain Mode of operation.

Maintain Mode (Float-Mode Monitoring)

When the CHARGED LED  is lit, the charger has started Maintain Mode. In this mode, the charger keeps the battery fully charged by delivering a small current when necessary. The voltage is maintained at a level determined by the battery type selected.

NOTE: If the charger has to provide its maximum maintain current for a continuous 12 hour period it will go into Abort Mode (see Aborted Charge section). This is usually caused by a drain on the battery or the battery could be bad. Make sure there are no loads on the battery. If there are remove them. If there are none, have the battery checked or replaced.

Maintaining a Battery (2A Charge Rate)

The Schumacher XC line are battery chargers with a maintenance setting that maintains both 6 and 12 volt batteries, keeping them at full charge. On this setting, it can charge small batteries and maintain both small and large batteries. If you are maintaining a fully charged large battery, you will properly utilize the maintenance setting. However, if you use the maintenance setting to charge a large battery, such as a marine deep cycle battery, that was not fully charged, you may lose some of the battery's capacity. This would cause the large battery to be unable to hold a charge and become useless. Therefore, we do not recommend charging a large battery on the maintenance setting.

NOTE: The maintain mode technology utilized in Schumacher's chargers allows you to safely charge and maintain a healthy battery for extended periods of time. However, problems with the battery, electrical problems in the vehicle, improper connections or other unanticipated conditions could cause excessive current draws. As such, occasionally monitoring your battery and the charging process is recommended.

Using the Battery Voltage Tester (Models XC12 and XCS15 only)

1. With the charger unplugged from the AC outlet, connect the charger to the battery following the instructions given in sections 6 and 7.
2. Plug the charger AC power cord into the AC outlet, following the instructions given in section 8.
3. If necessary, press the BATTERY TYPE button until the correct type is indicated.
4. Read the voltage on the digital display. Keep in mind that this reading is only a battery voltage reading; a false surface charge may mislead you. Compare the reading to the chart below.

6 Volt Battery Voltage Reading	12 Volt Battery Voltage Reading	Battery Condition
6.4 or More	12.8 or More	Charged
6.1 to 6.3	12.2 to 12.7	Needs Charging
Less than 6.1	Less than 12.2	Discharged

Power-Up Idle Time Limit: If no button is pressed within 10 minutes after the battery charger is first powered up, the charger will automatically switch from tester to charger if a battery is connected. In that case, the charger will be set to charge at the maintain mode and gel cell battery type.




Testing After Charging: After the unit has been changed from tester to charger (by selecting a charge rate), it remains a charger. To change the battery charger back to a tester, press the CHARGE RATE button until all charge rate LEDs are off.

12. CALCULATING CHARGE TIME




Find your battery's rating on the chart below, and note the charge time given for each charger setting. The times given are for batteries with a 50% charge prior to recharging. Add more time for severely discharged batteries.

NR means that the charger setting is NOT RECOMMENDED.




Model XC6

BATTERY SIZE/RATING			CHARGE RATE/CHARGING TIME		
			2 AMP 	4 AMP 	6 AMP 
SMALL BATTERIES	Motorcycle, Garden Tractor, etc.	6 – 12 Ah	2 - 3 ¼ hrs	1 - 2 hrs	45 min - 1 ¼ hrs
		12 – 32 Ah	3 ¼ - 10 hrs	2 - 5 hrs	1 ¼ - 3½ hrs
CARS/ TRUCKS	200-315 CCA	40 – 60 RC	NR	5 ¼ - 7 ¼ hrs	3 ¼ - 4 ¾ hrs
	315-550 CCA	60 – 85 RC	NR	7 ¼ - 9 ¼ hrs	4 ¾ - 6 hrs
	550-1000 CCA	85 – 190 RC	NR	9 ¼ - 17 ½ hrs	6 - 11 ½ hrs
MARINE/ DEEP-CYCLE		80 RC	NR	8 ¾ hrs	6 hrs
		140 RC	NR	NR	9 hrs
		160 RC	NR	NR	10 hrs
		180 RC	NR	NR	11 hrs




Model XC10

BATTERY SIZE/RATING			CHARGE RATE/CHARGING TIME		
			2 AMP 	6 AMP 	10 AMP 
SMALL BATTERIES	Motorcycle, Garden Tractor, etc.	6 – 12 Ah	2 - 3 ¼ hrs	45 min - 1 ¼ hrs	NR
		12 – 32 Ah	3 ¼ - 10 hrs	1 ¼ - 3½ hrs	NR
CARS/ TRUCKS	200-315 CCA	40 – 60 RC	NR	3 ¼ - 4 ¾ hrs	2 ¼ - 3 hrs
	315-550 CCA	60 – 85 RC	NR	4 ¾ - 6 hrs	3 - 3 ¾ hrs
	550-1000 CCA	85 – 190 RC	NR	6 - 11 ½ hrs	3 ¾ – 7 hrs
MARINE/ DEEP-CYCLE		80 RC	NR	6 hrs	3 ½ hrs
		140 RC	NR	9 hrs	5 ½ hrs
		160 RC	NR	10 hrs	6 hrs
		180 RC	NR	11 hrs	6 ½ hrs

Model XC12

BATTERY SIZE/RATING			CHARGE RATE/CHARGING TIME		
			2 AMP 	8 AMP 	12 AMP 
SMALL BATTERIES	Motorcycle, Garden Tractor, etc.	6 – 12 Ah	2 - 3 ¼ hrs	NR	NR
		12 – 32 Ah	3 ¼ - 10 hrs	NR	NR
CARS/ TRUCKS	200-315 CCA	40 – 60 RC	NR	2 ¼ - 4 ¼ hrs	2 - 2 ½ hrs
	315-550 CCA	60 – 85 RC	NR	3 ½ - 4 ½ hrs	2 ½ - 3 hrs
	550-1000 CCA	85 – 190 RC	NR	4 ½ - 8¼ hrs	3 – 5 ¼ hrs
MARINE/ DEEP-CYCLE		80 RC	NR	4 ½ hrs	3 hrs
		140 RC	NR	6 ¼ hrs	4 ½ hrs
		160 RC	NR	7 ½ hrs	5 hrs
		180 RC	NR	8 ¼ hrs	5 ½ hrs

Model XCS15

BATTERY SIZE/RATING			CHARGE RATE/CHARGING TIME		
			2 AMP 	10 AMP 	15 AMP 
SMALL BATTERIES	Motorcycle, Garden Tractor, etc.	6 – 12 Ah	2 - 3 ¼ hrs	NR	NR
		12 – 32 Ah	3 ¼ - 10 hrs	NR	NR
CARS/ TRUCKS	200-315 CCA	40 – 60 RC	NR	2 ¼ - 3 hrs	1 ½ - 2 hrs
	315-550 CCA	60 – 85 RC	NR	3 - 3 ¾ hrs	2 - 2 ½ hrs
	550-1000 CCA	85 – 190 RC	NR	3 ¾ – 7 hrs	2 ½ - 4 ½ hrs
MARINE/ DEEP-CYCLE		80 RC	NR	3 ½ hrs	2 ½ hrs
		140 RC	NR	5 ½ hrs	3 ½ hrs
		160 RC	NR	6 hrs	4 hrs
		180 RC	NR	6 ½ hrs	4 ½ hrs

13. MAINTENANCE INSTRUCTIONS

- 13.1 After use and before performing maintenance, unplug and disconnect the battery charger (see sections 6, 7 and 8).
- 13.2 Use a dry cloth to wipe all battery corrosion and other dirt or oil from the battery clips, cords, and the charger case.
- 13.3 Ensure that all of the charger components are in place and in good working condition, for example, the plastic boots on the battery clips.
- 13.4 Servicing does not require opening the unit, as there are no user-serviceable parts.
- 13.5 All other servicing should be performed by qualified service personal.

14. MOVING AND STORAGE INSTRUCTIONS

- 14.1 Store the charger unplugged, in an upright position. The cord will still conduct electricity until it is unplugged from the outlet.
- 14.2 Store inside, in a cool, dry place (unless you're using an on-board Marine Charger).
- 14.3 Do not store the clips on the handle, clipped together, on or around metal, or clipped to cables.
- 14.4 If the charger is moved around the shop or transported to another location, take care to avoid/prevent damage to the cords, clips and charger. Failure to do so could result in personal injury or property damage.

15. TROUBLESHOOTING

Failure Codes

ERROR CODE	DESCRIPTION	REASON/SOLUTION
F01	The battery voltage is still under 10V (for a 12V battery) or 5V (for a 6V battery) after 2 hours of charging.	Could be caused by trying to charge a 6 volt battery on the 12 volt setting, or the battery could be bad, have it checked or replaced.
F02	The charger cannot desulfate the battery.	The battery could not be desulfated, have it checked or replaced.
F03	The battery was unable to reach the "full charged" voltage.	Could be caused by trying to charge a large battery or bank of batteries on too low of a current setting or the battery may have a shorted cell. Try again with a higher current setting or have the battery checked or replaced.
F04	The connections to the battery are reversed.	The battery is connected backwards. Unplug the charger and reverse the connections to the battery.
F05	The charger was unable to keep the battery fully charged in maintain mode.	The battery won't hold a charge. Could be caused by a drain on the battery or the battery could be bad. Make sure there are no loads on the battery. If there are remove them. If there are none, have the battery checked or replaced.

If you get a failure code, you have to check the connections and settings and/or replace the battery.

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
CONNECTED light is not on.	The battery is not connected correctly.	Check for poor connection to battery and frame. Make sure connection points are clean. Rock clips back and forth for a better connection.
CHARGING light is blinking.	Charger is in abort mode. Battery may also be faulty. This will happen if the battery did not reach full charge within 48 hours. May be due to a very large battery or a bank of batteries requiring more power than the charger can deliver in 48 hours.	Reset the charger by unplugging it. Select the desired CHARGE RATE and BATTERY TYPE again, if necessary.
The CHARGED light turns on a few minutes or less after connecting the battery.	The battery may be fully charged or recently charged, leaving the battery voltage high enough to appear to be fully charged. The battery may be faulty (sulfated).	If the battery is in a vehicle, turn the headlights on for a few minutes to reduce the battery voltage and try charging again. Also try a lower CHARGE RATE selection. A sulfated battery will eventually accept a charge. Continue charging for a few hours. If not, have the battery checked or call customer service.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Indicator lights are lit in an erratic manner, not explained in the Operating Instructions.	A button may have been pressed while the charger was being plugged in.	Make sure nothing is touching the control panel, then unplug the unit and plug it in again.
The measured current is much lower than what was selected.	The charger reached the maximum voltage and is reducing the current.	No problem; this is a normal condition.
Charger will not turn on when properly connected.	AC outlet is dead. Poor electrical connection.	Check for open fuse or circuit breaker supplying AC outlet. Check power cord and extension cord for loose fitting plug.
Battery clips do not spark when touched together.	The charger is equipped with an auto-start feature. It will not supply current to the battery clips until a battery is properly connected. Unlike traditional chargers, the clips will not spark if touched together.	No problem, this is a normal condition.