

# QUICKCHARGER

NICAD & NICKEL METAL HYDRIDE BATTERIES



## Operating Instructions

# IMPORTANT SAFETY INFORMATION

## READ BEFORE USE

The following precautions must be observed when operating the QuickCharger. To reduce the risk of electric shock, fire or injury, please read the points below before using the unit, and follow the rules during use. Failure to observe these safety rules will render the warranty void.

## USING THE QUICKCHARGER

- Place the QuickCharger on a dry, stable surface. Do not position the unit above a heater or a heating vent. Do not place the unit where it can fall into or come into contact with water. Do not place the unit on a vibrating surface such as a washing machine.
- If the unit comes into contact with water or any other liquids, immediately unplug your QuickCharger. Do not remove the unit from the liquid until you have done so.
- Do not place anything over the QuickCharger during use. Never drop anything on the unit.
- Do not use any adapter other than the one supplied by the manufacturer. The use of any other adapter renders the warranty void.
- Do not use extension cords or plug adapters with this unit.
- The use of any attachments not intended for this battery charger may involve the risk of fire, electric shock or other personal injury.
- Do not disassemble the charger. It should be serviced or repaired by qualified service personnel only. Incorrect assembly may result in an electric shock or fire.
- Do not alter the provided AC-DC adapter in any way. If it does not fit into an AC outlet, have a qualified technician install the proper outlet. An improper connection may result in an electric shock.
- Never use the charger as a DC power source for any electrical equipment.
- The QuickCharger is for indoor use only. Do not expose it to rain or excessive moisture.
- Do not use chemical agents to clean the QuickCharger or adapter. Before cleaning the charger, disconnect the charger from the AC-DC outlet. Clean the metal contact with a soft cloth only.
- Check the QuickCharger and the AC-DC adapter regularly. Do not use the unit if there is any sign of damage.

## BATTERY SAFETY RULES

- **Only recharge AAA, AA, C & D size Nickel Cadmium or Nickel Metal Hydride batteries. DO NOT ATTEMPT TO RECHARGE ALKALINE BATTERIES OR ANY OTHER TYPE OF BATTERY.**
- Do not try to recharge batteries that are rusty, corroded, damaged or leaking.
- Remove rechargeable batteries from electrical equipment before charging them.
- Make sure the polarity marked on the rechargeable battery matches the polarity marked in the QuickCharger compartment.

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## Introduction

Thank you for purchasing the C. Crane QuickCharger. The QuickCharger is the most advanced and versatile battery charger made. Its highly sophisticated microprocessor-controlled system quickly charges batteries without creating damaging heat. Its discharge circuit conditions batteries to improve capacity and life. The QuickCharger will charge up to four "AAA", "AA", "C" and "D" size Nickel Cadmium (NiCad) or Nickel Metal Hydride (NiMH) batteries. It will fully charge the new high capacity rechargeable batteries.

## SAVE THIS INFORMATION FOR FUTURE REFERENCE

NOTE: PLEASE CHECK ALL PACKAGING BEFORE THROWING AWAY.

ENCLOSED YOU SHOULD FIND:

- 1 charger unit
- 1 AC-DC adapter
- 1 instruction manual

# Quick Start

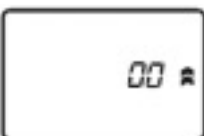
Before powering your charger be sure to read the Safety Instructions on page 2.




1. Make sure there are no batteries installed in the charger.



2. Plug the small end of the AC-DC adapter into the back of the charger. Then plug the larger end of the adapter into a wall socket.



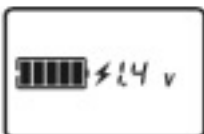
3. The QuickCharger will perform a short self-test and then the Loading symbol  will flash indicating the Charger is ready to use.



4. Open the lid using both hands. Install up to four batteries of the same size and type as indicated, with the negative side toward the buttons.



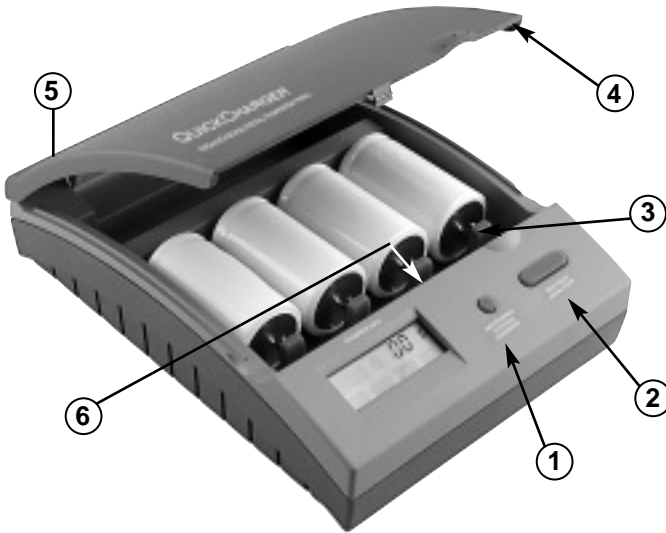
5. Close the lid and the QuickCharger will evaluate your batteries and charging will begin.



Note: The charger start switch is activated only when the charger's lid is closed.

Do not charge NiCad and NiMH batteries at the same time. Do not mix battery sizes. For best results, charge batteries of the same brand and condition.

## Charger / Button Identification





- |  |                                 |
|--|---------------------------------|
| 1) Discharge System Override                 | 4) Charger Lid                  |
| 2) Battery Analyzer                          | 5) AC/DC Power Jack             |
| 3) Spring Loaded<br>Negative Battery Contact | 6) Lid Activated Charger Switch |

## Button Function Information

### Battery Analyzer Button

Use the Battery Analyzer to check a battery's charge and suitability for recharging. If you have several batteries to recharge at once, analyze each one separately first. You should then recharge the batteries in groupings of similar voltages.



**The charger will only analyze the battery while the lid is open.** Insert only one battery at a time. If you press the Battery Analyzer Button with more than one battery in the charger the display will give you the average voltage and capacity of all of the batteries.

Insert one battery in the charger. With the lid open, press the Battery Analyzer Button. Within ten seconds the QuickCharger will display the battery capacity and voltage. The number of bars displayed in the battery icon will indicate the battery capacity  (five bars equal full capacity). If the battery is not suitable for recharging, the Bad Battery symbol  will appear. Do not attempt to recharge any battery that has been identified as a Bad Battery.

Note: Some NiCad batteries may display a full charge when analyzed, but may still not be fully charged. Such batteries need to be revitalized as indicated on page 8.

## Discharge System Override Button

You can use the Discharge System Override button to either discharge a battery "on command" or to skip the discharge cycle.

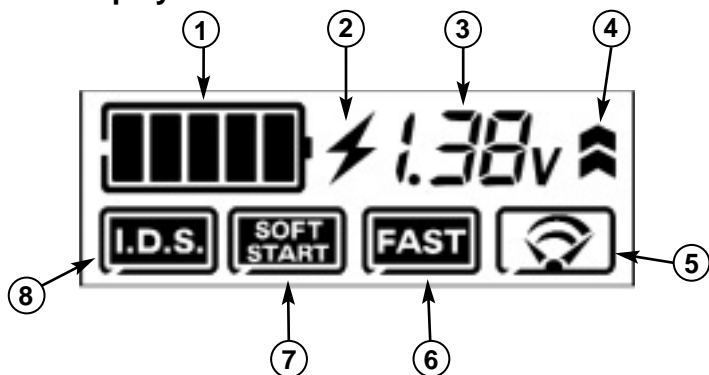
When NiCad batteries are loaded in the Charger the Intelligent Discharge System (I.D.S.),  symbol on the display, it may start to discharge the batteries in preparation for recharging. If you wish to skip this step and charge the batteries quicker, press and hold the Discharge System Override button until the Charger switches to the Soft Start  mode.

If you are unsure of the condition of your batteries, it is best not to skip the discharge step when recharging Nicad batteries as the battery capacity may be reduced over time due to the "memory effect".

Theoretically, you do not need to discharge NiMH batteries although it seems to bring them up to full performance faster when they are brand new. Therefore, you may override the Discharge System to speed up charging when NiMH batteries are used.

You may wish to condition older NiCad batteries or newer batteries that have been sitting around a long time but still seem to have a relatively high voltage. You can use the Discharge System Override button to force a discharge cycle on this type of battery to increase capacity. When placing this type of battery in the charger wait until the Charger goes into the Soft Start mode, then press and hold the Discharge System Override button for about three seconds until the I.D.S. symbol is displayed. The batteries will be discharged and then recharged. If the voltage is too low, it will go into the discharge cycle automatically. For more information on conditioning batteries with low capacity see the section on revitalizing NiCad batteries on page 8.

## Charge Info Display



- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 1) Battery Symbol                   | 5) Top-Off/Trickle Charge Indicator |
| 2) Charged Battery Indicator        | 6) Fast Charge                      |
| 3) Battery Voltage                  | 7) Soft Start                       |
| 4) No Batteries in Charger/Lid Open | 8) Intelligent Discharge System     |

# Display Information

**Intelligent Discharge System:** When the I.D.S. symbol is displayed, this shows that the Intelligent Discharge System is active and the batteries are being discharged.



**Soft Start Charging:** The Soft Start symbol will be displayed as the Charger starts to charge the batteries.



**Fast Charging:** The Fast symbol will be displayed after the Soft Start cycle.



**Battery Symbol:** This displays the capacity of an analyzed battery or a charged battery. It will also indicate the battery's charge or discharge mode. During I.D.S. the bars in the battery symbol will move from the right to left. During Soft Start the bars will move from the left and right toward the center. During Fast Start the bars will move from left to right.



**Top-Off/Trickle Charge Symbol:** During the Top-Off charge mode the Top-Off/ Trickle Charge symbol will be displayed. Four *Battery Symbol* bars on the left will remain on and the fifth bar will flash as the Top-Off/ Trickle Charge symbol flashes from left to right. The batteries are 85% to 90% charged at this point. When the batteries are fully charged the charger will enter the Trickle Charge mode. All five of the bars in the Battery Symbol will remain on and the Charged Battery Indicator symbol will appear and the Top-Off/ Trickle Charge symbol will continue to flash from left to right at a slower speed. The batteries may remain in the charger in the Trickle Charge mode until needed.



**Charged Battery Indicator:** The Charged Battery symbol appears when the charging is complete. You can leave the batteries in the charger indefinitely.



**Battery Voltage:** Displays the voltage of the batteries in the charger.



**Bad Battery:** The Bad Battery symbol will appear if the battery is bad and cannot be recharged.



**No Batteries:** The No Battery symbol will flash when there are no batteries in the Charger, or when batteries have been inserted and the Charger cover is still open.



## Typical Charging Sequence

Open the Charger Lid using two hands, install the batteries and close the lid. The Charger will analyze the batteries and will either start discharging, or enter Soft Start. After Soft Start the charger will begin Fast Charge. When the batteries are 80-90% charged the Charger will start Top Off. When the batteries are fully charged the charged battery symbol will be displayed. The QuickCharger will continue to apply a Trickle Charge to maintain the batteries voltage until you are ready to use them.

Note: Voltage readings during "Fast Charge" may exceed 1.60v. When the battery has finished charging, it is normal for the voltage to drop down to between 1.30 and 1.40v.

## Typical Charging Times

Battery Type	Battery Size	Capacity mAh	Approximate Charging Times	
			2 Batteries	4 Batteries
<b>NiMH</b> (charging without IDS)	AAA	600	1 Hr. 20 Min.	2 Hrs. 40 Min.
	AA	1600	2 Hrs. 27 Min.	4 Hrs. 54 Min.
	C	4500	4 Hrs. 33 Min.	9 Hrs. 6 Min.
	D	9000	8 Hrs.	16 Hrs.
<b>NiCad</b> (charging with IDS)	AAA	240	55 Min.	1 Hr. 50 Min.
	AA	850	1 Hr. 55 Min.	3 Hrs. 50 Min.
	C	2400	3 Hrs. 8 Min.	6 Hrs. 16 Min.
	D	4400	10 Hrs. 45 Min.	21 Hrs. 30 Min.

The above charging times are for fresh, new batteries. A battery's charging time may vary depending on the brand, capacity and condition of the battery.

## Revitalizing NiCad Batteries

Used batteries that have acquired a "memory effect" or new batteries that have been stored for a long time may not be able to be brought up to their full capacity in one charge cycle. The batteries' chemistry can cause the QuickCharger's micro-processor to think that the batteries are fully charged when they are only partially charged. If this condition exists you will need to go through several charging and discharging cycles to get the batteries to their full capacity.

Charge three or four batteries with the same capacity, size, type, and brand at one time until the charger indicates the batteries are fully charged. Open the Charger's lid, and then close the lid. When the charger enters the Soft Start mode, press the Discharge System Override button for about three seconds to force the charger into the Discharge mode (I.D.S.). Repeat the charge and discharge cycle several times.


The batteries should then be charged to their full capacity and will be able to be charged normally.



## TROUBLESHOOTING GUIDE

SYMPTOMS	POSSIBLE CAUSES	SOLUTIONS
The unit doesn't work.	<i>Wrong AC adapter.</i>	Use with supplied adapter only.
	<i>Defective AC-DC adapter.</i>	Replace it with a new adapter.
A battery is inserted and the ANALYZE button is pressed, but the charger does not analyze.	<i>Loose or bad contact.</i>	Reinsert the battery and secure it firmly. Press the ANALYZE button again.
	<i>Lid closed.</i>	Open the lid and press the ANALYZE button again.
	<i>Battery short circuit.</i>	Remove the bad battery and insert another battery. Press the ANALYZE button again.
	<i>Defective unit.</i>	Contact your dealer.
The charger does not leave the "analyze" mode after 10 seconds (i.e., the display animation is still running).	<i>ANALYZE button held.</i>	Release the ANALYZE button.
	<i>Defective unit.</i>	Contact your dealer.
The charger does not start to charge even though the battery is inserted and the lid is closed.	<i>Bad battery connection.</i>	Reinsert the battery, making sure it is properly connected.
	<i>Lid will not close.</i>	Make sure the lid is closed and locked in place by pressing just above the lid button.
	<i>Battery inserted with wrong polarity.</i>	Correct the polarity
	<i>Dirty contacts.</i>	Clean the contacts with a soft cloth.

## TROUBLESHOOTING GUIDE

SYMPTOMS	POSSIBLE CAUSES	SOLUTIONS
The LCD display is faulty when the power is first turned on.	<i>Static hangup.</i>	Remove all batteries. Unplug the jack and wait 5 seconds before plugging the unit in again.
Battery charging starts before the lid is closed.	<i>Defective unit.</i>	Contact your dealer.
Pressing the DISCHARGE OVERRIDE button does not stop the discharge cycle.	<i>Defective unit.</i>	Contact your dealer.
Pressing and holding the DISCHARGE OVERRIDE button for 3 seconds does not switch to IDS mode.	<i>Charger is not in Soft-Start Charging mode.</i>	Press and hold DISCHARGE OVERRIDE button for 3 seconds to switch to IDS mode only in Soft-Start mode.
Some of the recharged batteries have a low battery life or no output at all.	<i>More than one battery being recharged at the same time. Some are loose or have bad contact.</i>	Put those batteries back into the charger and close the lid to recharge again. See Revitalizing NiCad Batteries on page 8.
	<i>Bad battery</i>	Properly dispose of the faulty battery.
Display shows 	<i>Bad battery</i>	Properly dispose of the faulty battery.

# Storing The QuickCharger

- Remove all the batteries before disconnecting the adapter from the unit.
- Check the AC-DC adapter regularly. Replace the adapter if damaged.
- Always unplug the QuickCharger after use and store the unit in a dry place.
- Disconnect the charger by pulling the plug rather than the cord to reduce the risk of damage to the AC-DC adapter.

## Specifications

Battery Sizes and Types: Charges one to four AAA, AA, C, or D size Nickel Cadmium or Nickel Metal Hydride batteries. **DO NOT CHARGE ALKALINE OR LITHIUM BATTERIES.**

Adapter: DC 12V 500mA, center positive with barrel jack. Use supplied adapter only.

We reserve the right to make technical changes without notice.

### ONE YEAR LIMITED WARRANTY

C. Crane Company Inc. warrants this product to be free from defects in material and workmanship under normal use and conditions for a period of one year from the date of original purchase on parts and labor.

Should service be necessary for any reason due to manufacturing defect or malfunction during the warranty period C. Crane Company Inc. will repair or replace at its discretion, the defective merchandise at no charge (except for your packing and shipping cost), upon delivery of this item to C. Crane Company's service center with a copy of proof of purchase date.

Should service be required:

- 1) Remove the batteries (if applicable) and carefully pack the unit along with the AC power cord in original packing cartons or a suitable well padded corrugated box.
- 2) Enclose a copy of proof of date of purchase and a note describing your specific problem or call 1-800-522-8863 and we will take care of the paperwork.
- 3) Ship the unit **insured** via UPS, Parcel Post or Priority Mail.

NOTE: Please read these instructions thoroughly and use this product only as directed. This warranty does not cover:

- A) Damage by accident, misuse, abuse, negligence, or damage caused by attempting to charge alkaline batteries.
- B) Units that have been repaired or altered by persons other than C. Crane Company Inc.
- C) Damages caused by leaking batteries.

This warranty is valid only in the United States of America and does not extend to owners of the products subsequent to the original purchase. Any applicable implied warranties, including the warranty of merchantability, are limited in duration to a period of one year from the date of original purchase at the retail and no warranties, whether expressed or implied, shall apply to this product thereafter. Under no circumstances shall C. Crane Company Inc. be liable for any loss or damage, direct or consequential arising out of the use of, or inability to use this product, (Some states do not allow limitation or implied warranties or exclusion of consequential damage, therefore, these restrictions may not apply to you).

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

C. Crane Company Inc.  
1001 Main Street  
Fortuna, CA 95540  
800-522-8863