
HOBIBICO

SERIES 900 CHARGERS

Model 910-920



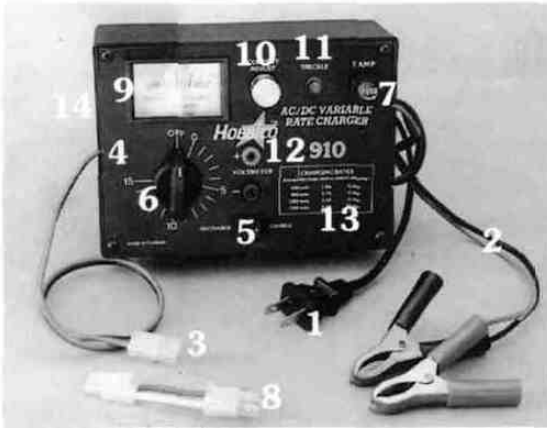
910 Variable Rate and 920 Digital Variable Rate AC/DC Multi-Chargers

INTRODUCTION

The Hobbico **Series 900 Chargers** are designed to quickly and safely charge nickel cadmium battery packs. These chargers operate wherever 110 120V AC and 12V DC voltage is available. Each comes with a 5 1/2 foot AC input power cord, a 3 foot DC input power cord and a 24 inch output charge cord with a Kyosho Style Connector (Tamiya Adapter included). A Trickle Charge Mode will begin after the quick charge cycle to safely top off the battery pack. A precision 15 minute timer and powerful transformer insure a deep long lasting charge every time.

The Hobbico **Model 910, Variable Rate AC/DC Multi-Charger** is a most versatile charger. Its variable rate current adjustment lets you charge any NiCd battery pack containing four to seven cells of 500mAh to 1700 mAh capacity in fifteen minutes. Its super heavy duty transformer can pump out charge after charge without overheating. Other deluxe features include a dependable 15 minute timer, an accurate ammeter, voltage monitoring jacks, trickle pilot light and charge and discharge circuit. A professional charger for the serious racer.

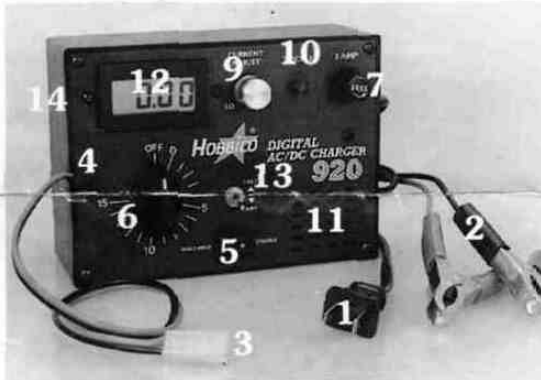
The Hobbico **Model 920, AC/DC Digital Variable Rate Multi-Charger** is designed for all out performance. It works from both 110V AC and 12V DC source voltages. Its accurate 4 digit display and volt/amp switch allow you to monitor battery voltage or current without the use of expensive test equipment. Its variable rate current adjustment lets you charge any NiCd battery pack containing 4 to 7 cells of 500 to 1700 mAh capacity in just 15-20 minutes. Its super heavy duty transformer can pump out charge after charge without overheating with the aid of an innovative heat vent. Other deluxe features include a dependable 15 minute timer, trickle pilot light charge and discharge circuit and fuse holder.



Model 910

Variable Rate Multi-Charger

- 1 120V AC Input Power Cord (5.5 ft)
- 2 12V DC Input Power Cord (3 ft)
- 3 Kyosho Style Output Charge Cord (24 in)
- 4 Black Anodized Face Plate
- 5 Charge/Discharge Switch
- 6 Precision 15 Minute Timer
- 7 1 Amp Fuse Holder
- 8 Tamiya Style Adapter
- 9 Accurate Easy To Read Ammeter
- 10 Variable Rate Current Adjustment
- 11 Trickle Charge Light
- 12 Voltage Monitoring Jacks
- 13 Charging Rate Chart
- 14 7 Cell Boost Switch



Model 920

Digital Variable Rate Multi-Charger

- 1 120V AC Input Power Cord (5.5 ft)
- 2 12V DC Input Power Cord (3 ft)
- 3 Kyosho Style Output Charge Cord (16 in)
- 4 Black Anodized Face Plate
- 5 Charge/Discharge Switch
- 6 Precision 15 Minute Timer
- 7 1 Amp Fuse Holder
- 8 Tamiya Style Adapter (not shown)
- 9 Variable Rate Current Adjustment
- 10 Trickle Charge Light
- 11 Heat Vent
- 12 Precision Digital Volt/Ammeter
- 13 Voltage/Ammeter Switch
- 14 7 Cell Boost Switch

PEAK CHARGING

Peak is the state of charge when a nickel cadmium battery reaches its maximum capacity. During charging, the battery voltage increases slowly. As the battery nears peak, the amount of current (amps) it accepts decreases. At peak, the battery voltage drops 0.2 of a volt, identifying a full charge. Quick charging after this point will cause excessive heat and may damage the battery.

920 Charging Rate Chart

Battery Capacity (mAh)	Charge Rate (amperes)	Charge Time (minutes)
1700	3.5	32
1400	3.5	27
1200	3.5	23
600	2.0	15
500	1.7	15

All steps refer to both chargers except where indicated

DISCHARGING:

Note: The charger does not require input power/or discharge cycle operation

Run the battery in your model until it slows to be sure it is discharged to the proper level. This point is called discharge cut-off. You may also discharge your batteries in the following manner:

- Connect the Battery to the Output Connector (3).
- Move the Charge/Discharge Switch (5) to the **DISCHARGE** position.
- Move the volt/amp (13) select switch to the desired display function. (Model 920)
- Turn the Timer (6) clockwise to begin the Discharge Cycle.
- Monitor the meter closely: if you are measuring current, watch for a significant drop in amperage. (A 6-cell 1200 mAh pack will drop to 1.5 amps at cut-off). If you are measuring voltage, the voltage decreases slowly. The pack is at cut-off when each cell equals .9 volts average. (A 6-cell 1200 mAh pack will read 5.4 volts at cut-off).
6 cells x .9 volts = 5.4 volts.

DO NOT discharge the batteries below the cut-off point. This may cause the cells to reverse polarity, damaging the battery pack.

QUICK CHARGING:

Never leave batteries unattended during quick charging (See Care and Maintenance)

- Discharge the Battery Pack (*see Discharging instruction above*).
- Connect the Input Power, either 120V AC Cord (1) or 12V DC Cord (2).
- If you are using 12V DC. connect the red lead to the positive (+) terminal and the black lead to the negative (-).
- Connect the Battery to be charged to the Output Cord (3).
- Move the Charger/Discharge Switch (5) to the **CHARGE** position.
- Turn Variable Rate Current Adjustment (9) completely counterclockwise (minimum)
- Set the Volt/Amp Switch (13) to Amp setting. (Model 920)
- If you are charging a 7-cell pack, set the 7-cell Boost Switch (14) to negative (-). This disables the current adjust knob and allows maximum output current to be delivered to the battery. Note: When using the boost switch, drop charge time by 5 minutes.
- Set the Timer (6) to the desired amount of charge time.
- Turn the Current Adjustment to the desired charge rate. (See Charging Rate Chart)
- Insert Voltmeter leads into the voltage monitoring jacks (12). (Model 910)
- Move the Volt/Amp Switch to volts. (Model 920) The voltage will increase slowly until it is fully charged (See Peak Charging). After peak. the voltage begins to dropping. When this occurs, switch to trickle charging or cancel charging.
- The Timer will automatically switch to Trickle Charge at the end of the quick charge cycle. The Trickle Charge Light will glow at this time.
- If the battery becomes warm to the touch, this is a good indication that it is full charged.
- You may periodically wish to let the battery trickle charge for a few hours after quick charging. This will equalize the cells which increases capacity and run time.

- **Never** charge any battery less than 7-cells with the 7-cell boost switch in the ON position'
- **Never** leave battenes unattended during quick charge!
- To give your batteries long life **never** overcharge them Overcharging can cause the cells to emit a great deal of heat and may damage the battery pack
- **Always** let your batteries cool before charging and after discharging
- When charging with AC the chargers face plate will become warm This is due to the heat radiated by the transformer Let the charger cool after each cycle to protect it from overheating
- When replacing the fuse, **only use one of equal value (1 ampere)** Using higher rated fuses may damage the charger and void the warranty.
- If the digital display functions erratically or does not operate, replace the 9 volt battery under the face plate

HOBBICO SERIES 900 CHARGER FIVE YEAR WARRANTY

HOBBICO warrants this **HOBBICO SERIES 900 CHARGER** to be free from defects in materials and workmanship for a period of five (5) years from the date of purchase During that period we will repair or replace at our option any charger that does not meet these standards You will be required to provide proof of purchase date (receipt or invoice)

If during the five year warranty period the **HOBBICO SERIES 900 CHARGER** shows defects caused by abuse misuse or accident it will be repaired or replaced at our option at a service charge not greater than 50% of the current retail list price The charger will be returned to you COD

NOTE:

Under no circumstances will the buyer be entitled to consequential or incidental damages

Warranty coverage is subject to the following conditions;

1. Chargers **cannot** be modified in any way
2. Worn parts, do to normal use, such as wires, cords, fuses, and connectors are **not** covered
3. Damage resulting from reverse polarity connections of source or charging batteries is **not** covered

For service to your **HOBBICO SERIES 900 CHARGER** either in or out of warranty, please include a wntten detailed description of the problem and return address Send the unit post paid to

**Hobby Services, 1610 Interstate Drive, Champaign, IL 61821
(217) 398-0007**