



KrinkingKART™

Professional Jump-Start Unit

(With capacitor power)
Operation Manual

Revision Date: 3/12



ACTION

THIS CART IS POWERED BY A SUPER CAPACITOR. THIS CAPACITOR OR CAPACITORS ARE VERY POWERFUL AND SHOULD BE TREATED WITH RESPECT. THE LARGE 120-KILOJOULE SIZE IS CAPABLE OF 28,000-WATTS OF POWER. FOR THIS REASON WE ISSUE THE FOLLOWING "WARNING" AND "CAUTION".

WARNING

Eye protection (wear safety glasses) is recommended when performing any procedures with or on the capacitor cart

WARNING

DO NOT short circuit the capacitor terminals. It may be followed by burning or igniting of combustible materials adjacent to the point of short circuit. In case of an accidental short circuit it is necessary to disconnect the capacitor immediately from the electrical circuit taking relevant safety measures.

WARNING

DO NOT touch both negative and positive capacitor terminals at the same time. Serious injury may occur.

WARNING

These capacitors contain an electrolyte composed of potassium hydroxide solution. Requirements of operation shall be observed to avoid electrolyte leakage. Electrolyte may cause chemical burn if spilled onto unprotected skin. If the capacitors are destroyed due to impact, it is necessary to take actions preventing electrolyte from spilling onto unprotected skin of attending personnel. If bodily contact occurs, flush with water for 15 minutes. If burning persists seek medical attention. Potassium hydroxide is contained in many household drain cleaners.

WARNING

Never attempt to jump start a battery with frozen electrolyte. A frozen battery could explode from applying a charge. (If battery voltage is less than 2-volts when switch is in battery position, check battery prior to proceeding).

CAUTION

Noncompliance with the requirements set forth in this manual may result in capacitor failure. Such requirements shall be reviewed prior to and observed in the operation of the cart.

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INTRODUCTION:

This cart is designed to be an auxiliary power source for jump starting vehicles. The capacitor stores power and discharges this power when you need it.

Following are some of its' features:

- Long service life, 500,000 + cycles.
- Performance unaffected by cold temperatures
- Requires NO maintenance
- Can be recharged in one minute
- Can provide 28,000-watts of power
- Reverse polarity protection
- Non Pneumatic Tires
- Auxiliary Charge Switch
- Optional Wireless Control

Following are some parameters for the capacitors used in various carts:

	<u>12V</u>	<u>24V</u>	
Nominal Voltage Window	6.5 - 13	13 - 26	
Max Voltage	14.5	29	
* Ultimate Maximum Voltage	16	32	
Ultimate Minimum Voltage	4	8	
Operating Temperature Range	-40° to 122°F	-40° to 122°F	
Maximum Power	35kJ - 17.5kw	70kJ - 26kw	120kJ - 35kw

* The ultimate voltage is not the operating voltage. Occasional charges, up to this voltage, are allowed.

CAUTION:

The duration of the capacitor's life depends on the operating condition and in particular observing the operation voltage window.

OPERATION:

There are several models of capacitor carts which all use the following steps. You should check the operation label on your cart for specifics.

1. Check the capacitor's state of charge by rocking the voltmeter switch to the Left and holding.
 - For optimal operation the gauge should read in the green band. With dual voltage cart the gauge should read 13v-14v in 12volt mode and 25v-28v in 24volt mode.
 - **CAUTION** must be taken **NOT** to push the push-button or remote switch or the cables will be live. The cables **MUST NOT BE CONNECTED OR DISCONNECTED** while they are live.
2. Ensure that the vehicle you are going to jump-start is the same voltage as your cart (i.e. *12v to 12v and 24v to 24v, dual voltage cart make sure the correct voltage is selected*).
3. Connect the RED cable clamp to the positive (+) battery post and the BLACK cable clamp to the negative (-) battery post or a good ground.
4. The cart is wired for polarity protection, a buzzer will sound and the LED will be RED if clamps are put on backwards. The cart will remain inoperative until the problem is resolved.
5. After proper cable hook-up is achieved, the LED will be GREEN.
6. Rock the voltmeter switch to the right. This gives you the reading of the battery voltage of the vehicle to be jump-started. This also allows the cart to be used.
7. Unwrap the momentary Push button switch and get into the vehicle to be started.
8. Perform the vehicle's normal start procedure. Engage the Push button switch and than immediately engage the starter.
 - The engine should crank immediately.
9. When the engine starts and is running on its' own, keep the Push button switch engaged for 15-30 seconds to recharge the capacitor(s).
 - If the engine does not start in 12-seconds of cranking time there may be other vehicle problems unrelated to battery power.

- If you elect to recharge the capacitor using a running vehicle, repeat steps 3-6 start the vehicle and engage the Push button switch or capacitor low voltage recharge switch until capacitor is fully charged.
- For optimal operation the gauge should read in the green band. With dual voltage cart 13v-14v in 12 volt mode and 25v-28v in 24volt mode.

10. ***Make sure the voltmeter switch is in the off position.*** This is a safety feature so that if someone accidentally hits the button switch, the clamps do not become live.

11. Disconnect the jumper cables and store properly.

Following are some operation situations you may encounter.

- Capacitor at low voltage: Charge the capacitor using a running vehicle. To do this, follow steps 3-6 using the capacitor low voltage recharge switch.
- Capacitor voltage will naturally drop down to 12 volts on a 12 volt unit or drop down to 24 volts on a 24 volt unit in a couple of days if the cart is not used (at the green/amber band). The voltage will hold there for several weeks, this is normal. The KrankingKART unit will operate sufficiently at this voltage.
- Dead Short Battery: The capacitor will discharge very quickly when energized. But, probably will not start the vehicle or even crank the engine. You will need to replace the damaged battery or batteries.
 - Recharge the capacitor quickly, as storage at a very low voltage will shorten the capacitor's life.
- Battery Cables: **DO NOT** use any other cables than those provided on the KrankingKART. The KrankingKART unit is capable of delivering 3000 amps or more in the first few seconds.
- Cart Cables too short: The cable length supplied has been tested to provide maximum capacitor output. Adding more length can affect the output delivered. It is highly **DISCOURAGED** to alter the cable length.

OPERATION of Wireless Control KrankingKART™:

1. Check the capacitor's state of charge by rocking the voltmeter switch to the left and holding.
 - For optimal operation the gauge should read in the green band. With dual voltage cart the gauge should read 13v-14v in 12volt mode and 25v-28v in 24volt mode.
 - **CAUTION** must be taken **NOT** to push the remote button switch or the cables will be live. The cables **MUST NOT BE CONNECTED OR DISCONNECTED** while they are live.
2. Ensure that the vehicle you are going to jump-start is the ***same voltage as your cart (i.e. 12v to 12v and 24v to 24v, dual voltage cart make sure the correct voltage is selected)***.
3. Connect the RED cable clamp to the positive (+) battery post and the BLACK cable clamp to the negative (-) battery post or a good ground.
4. The cart is wired for polarity protection, a buzzer will sound and the LED will be RED if clamps are put on backwards. The cart will remain inoperative until the problem is resolved.
5. After proper cable hook-up is achieved, the LED will be GREEN.
6. Rock the voltmeter switch to the right. This gives you the reading of the battery voltage of the vehicle to be jump-started. This also allows the cart to be used.
7. Push the Timer Activation Switch to the RESET position to activate timer.
8. Get into the vehicle to be started with the Hand-held Transmitter.
9. Perform the vehicle's normal start procedure. Push the button on the Hand-held Transmitter and than immediately engage starter.
 - The engine should crank immediately.
10. When the engine starts and is running on its' own, the KrankingKART will remain active for a total of 30 seconds to charge the capacitor.
 - If the engine does not start in 12-seconds of cranking time there may be other vehicle problems unrelated to battery power.
 - If you elect to recharge the capacitor using a running vehicle, repeat through steps 3-7, start vehicle.
 - For optimal operation the gauge should read in the green band. With dual voltage cart 13v-14v in 12 volt mode and 25v-28v in 24volt mode.
11. **Make sure the voltmeter and timer switches are off.** This is a safety feature so that if someone accidentally hits the button switch, the clamps do not become live.
12. Disconnect the jumper cables and store properly.

Following are some operation situations you may encounter.

- Capacitor at low voltage: Charge the capacitor using a running vehicle. To do this, follow steps 3-6 using the capacitor low voltage recharge switch.
- Capacitor voltage will naturally drop down to 12 volts on a 12 volt unit or drop down to 24 volts on a 24 volt unit in a couple of days if the cart is not used. The voltage will hold there for several weeks. This is normal. The KrankingKART unit will operate sufficiently at this voltage.
- Dead Short Battery: The capacitor will discharge very quickly when energized. But, probably will not start the vehicle or even crank the engine. You will need to replace the damaged battery or batteries.
 - Recharge the capacitor quickly, as storage at a very low voltage will shorten the capacitor's life.
 - Will not harm the dead short battery.
- Battery Cables: DO NOT use any other cables than those provided on the KrankingKART. The KrankingKART unit is capable of delivering 3000 amps or more in the first few seconds.
- Cart Cables to Short: The cable length supplied has been tested to provide maximum capacitor output. Adding more length can affect the output delivered. It is highly DISCOURAGED to alter the cable length.

For any service feel free to call our customer service at (800) 527-8278.

MAINTENANCE

There is **NO** maintenance required.

STORAGE

- If the cart is not used for a month or more please charge the KrankingKART to the operating voltage prior to storage. If the KrankingKART is stored at a low voltage (6-volts or less) for an extended period of time its' service life will be reduced.
- Always store and transport the cart in a vertical position. The capacitor vents are located on the top. The vent is activated only under extreme pressure situations and does not open under normal operating conditions.

LIMITED WARRANTY

KBI products are warranted to the original purchaser against failure due to defective material and/or workmanship for a period of one (1) year from the date of purchase except when a variance is expressly stated in the Owners Manual.

This warranty does not cover any product worn out or altered, used for a purpose other than for which it is intended, or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any product found to be defective under this warranty is limited to the repair or replacement of the defective product without charge, and KBI shall not be liable for any consequential or incidental damages, including labor charges.

In order to qualify for this warranty, the alleged defective product must be returned directly to the KBI factory (or authorized Service Center), postage or freight prepaid. Final determination of defects will be made by KBI in accordance with procedures established by KBI. No agent, employee, or representative of KBI has any authority to bind to any affirmation representation, or warranty concerning KBI Products, except as stated herein. See comprehensive policy for complete details.



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