



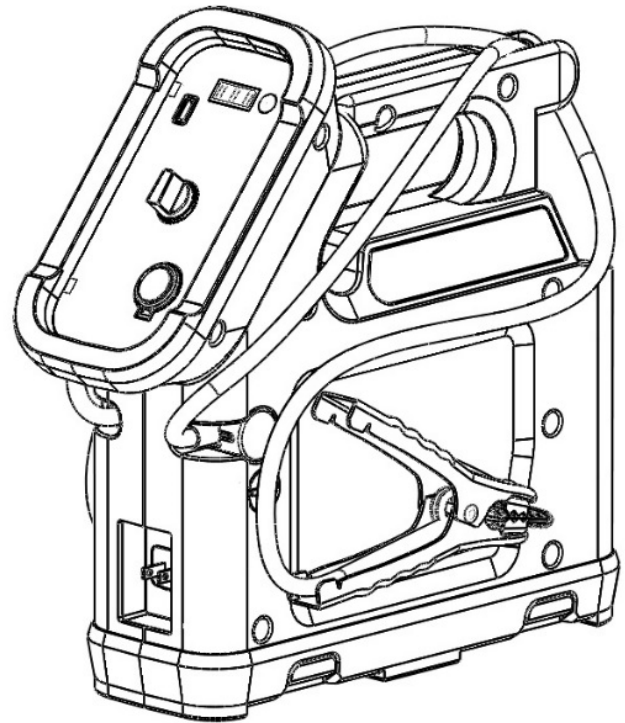
# KS400/KS401

## KwikStart ProHD

### Operation and Maintenance Manual

#### FEATURES:

- 22Ah / 360CCA Battery
- 300 Amp Plastisol Coated Steel Clamps
- Internal Charger 12V / 600mA
- Digital LED Display
- Heavy Duty 4AWG Copper Cables  
3FT KS400, 7FT KS401
- USB Power Output
- 12V Power Socket
- DC to DC extension cord (Included)
- Storage Area for Accessories
- Rubber Base for Slip Resistance and Drop Protection
- Designed for Field Repair



Made in USA of US and imported parts

**California Proposition 65 Warning**

**WARNING:** This product contains chemicals, including lead, known to the State of California to cause cancer, birth defects and other reproductive harm.

***Wash hands after handling.***

# IMPORTANT SAFETY INSTRUCTIONS

- 1. SAVE THESE INSTRUCTIONS** – This manual contains important safety and operating instructions.



**Contains sealed, non-spillable lead acid battery. Must be disposed of properly.**

- 2. 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 utmost importance that when using the unit, you read this manual and follow the instructions exactly.
  - To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery. Review cautionary marking on these products and on engine.
- 3. PERSONAL PRECAUTIONS**
  - Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
  - Wear complete eye protection, and clothing protection. Avoid touching eyes while working near battery.
  - Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
  - If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eyes, immediately flood eyes 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.
  - 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.
  - Use this unit for charging or boosting a LEAD-ACID battery only. Do not use 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.
  - NEVER charge a frozen battery.
  - NEVER allow clamps to touch together or contact the same piece of metal to prevent arcing.

- 4. IMPORTANT SAFETY INSTRUCTIONS**
  - Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons and/or property.
  - When using the AC or DC power extension cords, pull on the plug and NEVER ON THE WIRE when disconnecting.
  - Do not recharge the unit with a damaged charger or power extension cord. Replace them immediately.
  - The unit may be used under any weather condition. Rain, snow, hot, or cold temperatures.
  - Do not submerge in water.
  - Do not operate with flammables such as gasoline etc...
  - If the unit receives a sharp blow or is otherwise damaged, in any way, have it checked by a qualified service person. If the unit is leaking battery acid do not ship it. Take it to the closest battery recycler in your area.
  - Do not disassemble the unit. Have it checked by a qualified service person.

- To prevent shock and spark hazard at clamps, ALWAYS place the switch in the OFF position when the KS400/KS401 is not in use.

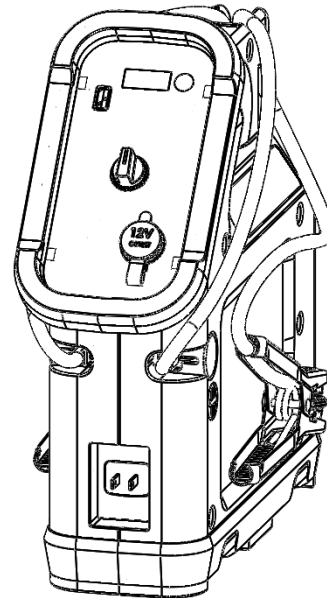
The unit should never be left in a total discharged state for any period of time. Damage to the battery could be permanent with poor performance as a result. When not in use, leave the unit's internal charger connected to AC power or recharge every six (6) months.

## RECHARGING PROCEDURES

When new, your KS400/KS401 should be charged for a minimum of 30 hours, unless the unit status is in good condition. (See figure 2)

| DISPLAY        | STATUS                  |
|----------------|-------------------------|
| Voltage → Gd.9 | Unit in Good Condition  |
| Voltage → Gd.8 |                         |
| Voltage → Gd.7 | Charge Unit Soon        |
| Voltage → ch.6 |                         |
| Voltage → ch.5 |                         |
| Voltage → ch.4 | Charge Unit Immediately |
| Voltage → lo.3 |                         |
| Voltage → lo.2 |                         |

Figure 2. Test Button, Charging, Power Level and Charged LED's



NOTE: There are two ways to recharge the KS400/KS401. The first method is automatic charging with the internal charger (preferred). The second is through the DC power port through the DC power extension cord. The second method is not automatic and requires watching because the KS400/KS401 could be damaged due to overcharging.

- Using the Internal Charger:** The KS400/KS401 is automatically charged when using the internal charger. A two pin male plug on the front of the KS400/KS401 is connected through a smart circuit board to the KS400/KS401 making recharging automatic. Overcharging is not a problem when using the internal charger and the KS400/KS401 internal charger can be left connected to an AC power source indefinitely.
  - Connect the AC power extension cord onto the KS400/KS401's male plug. (See figure 3)
  - Plug the AC power extension cord into a correctly wired AC receptacle (the display will light with the charging voltage and the grade of charge)
  - Allow the KS400/KS401 to charge until the charge status is Gd.9. Check by pushing the status button.

- d. Once the unit has a Gd.9 status, charge the unit another three to six hours, (three hours is acceptable but to ensure maximum output capability, six hours is preferred).
  - e. If you are not going to need the KS400/KS401 right away you may leave the KS400/KS401'S internal charger connected to the AC power source. We recommend that the KS400/KS401's internal charger remain connected to an AC power source whenever the KS400/KS401 is not in use.
2. **USING THE DC POWER EXTENSION CORD.** Plug one end of the DC power extension cord into the KS400/KS401's power receptacle and the other end into a vehicle's lighter outlet (the vehicle's engine should be running first). Push the test button **once every hour** to check the unit status by pushing the "Status Button" **DO NOT OVERCHARGE!** This is not an automatic method of charging the KS400/KS401. You must frequently monitor the charging process to ensure the KS400/KS401 is not overcharged. Overcharging will damage your KS400/KS401.  
Note: Status button needs to be pressed to check power level.

## OPERATING INSTRUCTIONS USED AS A BATTERY CHARGER

The KS400/KS401 is intended, primarily, to be used to start or restart a vehicle when the battery in the vehicle has become run down to the point that it will not start the vehicle without assistance. However, the KS400/KS401 can also be used to restore some charge to the vehicle battery.

1. Plug the DC power extension cord from the KS400/KS401 into the vehicle's cigar lighter outlet for 30 minutes.

NOTE: Some vehicle's ignition keys must be turned to accessory to activate the cigar lighter socket.

2. Remove the DC power extension cord and start the car.

NOTE: A defective battery may refuse to accept a charge from the KS400/KS401.

## USED AS AN EMERGENCY JUMP STARTER

NOTE: For optimum performance, do not store below 50°F when using as a jump starter.

1. Turn ignition off before making cable connections.
2. Use in a well-ventilated area.
3. SHIELD EYES.
4. Clamp the positive (red +) clamp to the positive terminal on the weak battery (for negative ground system).
5. Clamp the negative (black -) clamp to the vehicle frame (ground). Make sure the cables are not in the path of moving belts or fan.

NOTES:

- a. If cables are attached in reverse, 888→REV will flash on the display.
  - b. When the cables are connected and the unit switch is in the OFF position the display will flash "888→SW→ON→Vdc" (vehicle battery voltage is displayed).
6. Turn unit switch to the "ON" position. Display will flash "888→SW→ON→Vdc".
  7. Stay clear of batteries while jump starting.
  8. Start the vehicle (turn on the vehicle ignition).

NOTE: If the vehicle does not start within 6 seconds, let the KS400/KS401 internal battery cool for 3 minutes before attempting to start the vehicle again or damage to the KS400/KS401 may occur.

9. When the vehicle is started, turn unit switch to "OFF" position, disconnect the negative (-) battery clamp from the vehicle frame.
10. Disconnect the positive (+) clamp.

## USED AS AN ALTERNATIVE POWER SUPPLY FOR VEHICLES

The KS400/KS401 is an essential tool for all who replace automobile batteries. Most vehicles have some type of electronic component

with memory, such as alarm systems, computers, radios, phones, etc... and when the vehicle's battery is replaced, memory is lost. However, if the cigar lighter power extension cord is plugged from the KS400/KS401 into the vehicle's cigar lighter socket, the memories can be saved.

Note: Some vehicles may require the KS400/KS401 to be connected to the vehicle's OBD2 connector to save all memory functions. The **MS6209** memory saver may be purchased separately for these applications.

## MULTI PURPOSE POWER SUPPLY

The KS400/KS401 is also a portable power supply for all 12 VDC accessories equipped with a male cigar lighter plug or USB connector. The DC outlet and USB port have automatic overload protection.

To use the USB port, press and hold the Status button for 5 seconds, the display will flash "USB". To turn off the USB press and hold the Status button for another 5 seconds, the display will flash "USB OFF".

**Note: To prevent battery voltage drop ALWAYS turn off the USB port.**

For maximum battery life do not discharge below 11V.

When the KS400/KS401 is used with an inverter, it can operate appliances normally powered by 120 VAC or 220 VAC in Europe.

Recommended inverter for the KS400/KS401 is 300 watts

maximum. For more information contact your nearest KS400/KS401 dealer.

## !!! IMPORTANT !!! BATTERY REMOVAL AND DISPOSAL



**Contains sealed, non-spillable lead acid battery. Must be disposed of properly.**

The battery inside this KS400/KS401 is a sealed lead-acid battery.

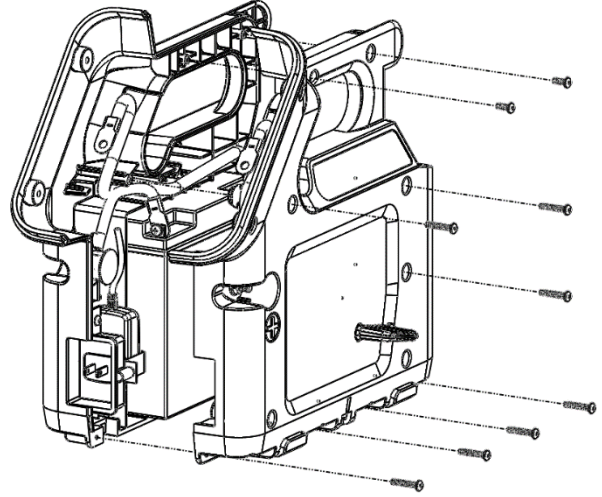
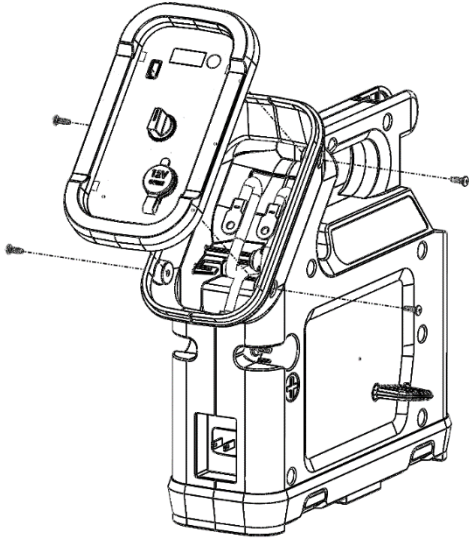
**By LAW**, it is required to be removed and recycled or disposed of properly. While there are regulations that must be followed throughout your country, your local governments may have additional regulations to be followed in your area.

When the battery in this product is in need of replacement, remove it according to the instructions provided below and take it to your local recycling center for proper recycling or disposal. If you don't have a local recycling center that handles sealed lead-acid batteries, contact your local environmental agency for instructions.

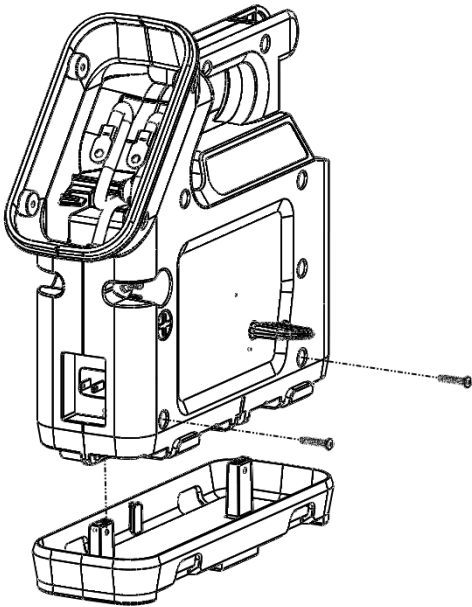
## BATTERY REMOVAL INSTRUCTIONS

Begin by making sure the unit's power switch is in the "OFF" position. You will need a T20 Torx head screwdriver and a 3/8" socket.

1. Remove (4) screws from display and pull display away from unit. Note: Wire connections do not need to be disconnected.
2. Remove (2) screws closest to the foot. Pull out the sides of foot



so it can detach from the holding notches and pull off. Note: Display not shown for clarity.



3. Remove (9) screws from positive side housing. Pull housing away and place to the side. Note: Display and Foot not shown for clarity.
4. Disconnect the cables attached to the battery. **TO PREVENT ACCIDENTAL ARCING**, be careful not to touch both battery terminals with the tools being used to remove the hardware.
5. Take battery out of the negative side housing.
6. Install new battery. Reverse above procedure to put unit back together.

### Replacement Parts

| <u>Part No.</u> | <u>Description</u>  |
|-----------------|---|
| 611402.....     | 3 Foot long DC Cables (includes Positive and Negative cables) |
| 611403.....     | 7 Foot Long DC Cables (includes Positive and Negative cables) |
| 611413.....     | 6 Foot long DC-DC cigar plug adapter cable                    |
| 625504.....     | Battery   |