



MODEL 6127 & 6127XL KWIKSTART PRO SERIES OPERATORS MANUAL

SAVE THESE INSTRUCTIONS

This manual contains important safety and operation instructions for the engine starter/battery charger you have purchased. You may need to refer to these instructions at a later date.

INTRODUCTION

The KwikStart Pro Series is a wheel around starter/charger designed to start and charge 12-volt vehicles/batteries. It has a battery compartment to house the starting battery and a fully automatic charger to recharge the starting battery quickly, or can be used as a charger to charge other 12-volt batteries. Because of the internal battery you do not need to be near an AC power source when starting vehicles as you would with a battery charger.

BATTERY SAFETY

When installing the battery in the unit, starting cars, or charging other batteries, you should be aware of and alert to the hazards of working near the lead-acid battery. Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery. If battery acid contacts skin or clothing, wash immediately with soap and water.

IF ACID ENTERS EYE IMMEDIATELY FLOOD EYE WITH RUNNING COLD WATER FOR AT LEAST 10 MINUTES AND SEEK MEDICAL ATTENTION IMMEDIATELY. NEVER USE EYE DROPS OR OTHER MEDICATION BEFORE SEEING A DOCTOR.

Neutralize spilled acid with a solution of baking soda (1 pound per gallon of cold water) or household ammonia (1 pint per gallon of cold water).

While batteries are being charged, an explosive gas mixture forms inside each cell. Some of this gas escapes through the vent holes in the fill caps and may remain around the battery in an explosive condition. Sparks or flames igniting this gas mixture will burn back through the vent hole and explode inside the battery cell. Such an explosion is dangerous not only because of its own force but also because of the battery acid which it could spray on anything in the vicinity.

TO PREVENT BATTERY EXPLOSION

Be sure that the area around the battery is well ventilated. Do not smoke, cause sparks, or have an open flame near any battery that has recently been charged or has been used to start a vehicle.

Do not break live electrical circuits at the terminals of batteries. A spark may occur at that point causing an explosion. Always disconnect the clamp attached to the frame of the vehicle first.

DO NOT BOOST OR CHARGE A FROZEN BATTERY; TRAPPED GASES MAY CAUSE AN EXPLOSION.

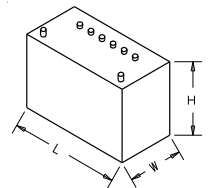
DO NOT OPERATE THE UNIT WITHOUT AN INTERNAL BATTERY, THE INTERNAL BATTERY TERMINALS MAY SHORT AND CAUSE ARCING.

CHOOSING AN INTERNAL BATTERY FOR YOUR UNIT

When choosing a battery for your unit, several factors must be considered.

1. **PHYSICAL SIZE:** The unit will accommodate any of several group sizes of batteries. The maximum dimensions that a battery may have and still fit are: Model 6127: Length: = 10 ½", Width: = 7", Height: = 9 ½"
Most Common: Standard Group 24
Model 6127XL: Length: = 13", Width: = 7", Height: = 9 ½"
Most Common: Standard Group 31

A battery of these sizes will be readily available from most battery retailers or wholesalers. Your battery salesman can help you pick a battery of this size or from another group size if you desire.



2. **ELECTRICAL SIZE:** In most cases, the primary function of the battery is to provide power to crank an engine during starting. This requirement involves a large discharge in amperes over a short span of time. The COLD CRANKING AMPS (CCA) rating of a battery is defined as: The discharged load in amperes which a new, fully charged battery at 0°F (-17.8°C) can deliver for 30 seconds and maintain a voltage of 1.2 volts per cell or higher.

If you are going to use your unit as a 12-volt power supply to run trouble lights or other equipment, the RESERVE CAPACITY of a battery will be your principle concern in choosing a battery. Reserve Capacity is defined as: The number of minutes a new, fully charged battery at 80°F (26.7°C) can be discharged at 25 amperes and maintain a voltage of 1.75 volts per cell or higher.

The exact size of the battery you choose will depend upon the type of use the unit is subjected to. Factors that should be considered when picking a battery include:

1. Number of cars per day to be started.
2. Size of engines to be started.
3. Condition of engines to be started.
4. Ambient temperatures that unit will be used in. (The colder the temperature, the larger the battery required.)
5. Amount of time between starts.

The minimum size battery recommended is 500 Cold Cranking Amps, 100 minute Reserve Capacity. For maximum performance, install the highest rated battery available.

3. **TYPE OF BATTERY:** If you are going to use your unit as a DC power supply for tools, etc; you should install a "Deep Cycle" or "High Cycle" type battery. These batteries have a high Reserve Capacity rating and are designed so that repeated full discharges will not harm their performance.

4. **TERMINAL POSTS:** The unit is designed to accommodate either "Top Post" batteries or "Side Post" batteries.

DC CONNECTION PRECAUTIONS

Connect and disconnect DC output clamps only after setting the DC clamp switch to the OFF position and removing AC cord from electric outlet. NEVER ALLOW CLAMPS TO TOUCH EACH OTHER.

When attaching the DC clamps to the battery post, twist or rock back and forth several times to make a good connection. This tends to keep the clamps from slipping off the terminals and helps reduce sparking.

ENGINE STARTING INSTRUCTIONS

Follow these instructions for maximum safety:

- a. To reduce risk of damage; position AC cord and DC cables away from hood, door, or moving engine parts.
- b. Stay clear of fan blades, belts, pulleys, and other parts that can cause serious injury to person(s).
- c. Check polarity of battery posts. The Positive (POS, P, +) post usually has a larger diameter than the Negative (NEG, N, -) post.
- d. Determine which post of battery is grounded (connected) to the chassis. If the negative post is grounded to the vehicle chassis (as in most vehicles) see Item (e). If the positive post is grounded to the vehicle chassis, see Item (f).

WARNING: DO NOT CONNECT CLAMP(S) TO CARBURETOR, FUEL LINES, OR SHEET METAL BODY PARTS.

- e. For a negative grounded vehicle, set DC clamp switch to OFF position and connect Positive (Red) clamp to the Positive, ungrounded post of battery. Touch or connect Negative (Black) clamp to the Negative battery post. If light comes on, reverse the first connection and repeat test. When light does not come on, connect negative clamp to vehicle chassis or engine block away from battery. Connect to a heavy gauge metal part of frame or engine block.
- f. For a positive grounded vehicle, set DC clamp switch to OFF position and connect Positive (Red) clamp to vehicle chassis or engine block away from battery. Touch or connect Negative (Black) clamp to the Negative battery post. If light comes on, reverse the first connection and repeat test. When you get no indication light, disconnect positive clamp from engine frame, connect negative clamp to negative battery post and reconnect positive clamp to vehicle chassis.

After the correct clamp connections have been made, set the DC clamp switch to ON and start the stalled engine as soon as possible. Leaving the unit connected to the dead battery may discharge the battery. MAKE SURE POLARITY LIGHT IS OFF BEFORE TURNING UNIT ON.

When disconnecting clamps set the DC clamp switch to OFF, remove clamp from vehicle chassis and then remove clamp from battery terminal.

RECHARGE INTERNAL BATTERY

The battery charger in this unit is equipped with a solid-state control circuit, which will automatically bring the battery to a full state of charge and then shut off. The unit may be left plugged into a power socket after the battery is charged without fear of overcharging the battery. Recharge the internal battery every 10-14 days if the unit is stored without power cord plugged in.

Indicator Light Definitions:

Continuous Red Light ----- Indicates AC power is on.

Continuous Green Light ---- Indicates correct internal battery connection. If when the internal battery is connected, the green light does not light, check for proper polarity or poor connections. If the internal battery voltage is below 1 volt the green light will not come on.

Continuous Yellow Light --- Indicates charging.

Blinking Yellow Light ----- Indicates battery is near end of charge and is in the float charge mode.

Blinking Green Light ----- Indicates charging is complete and is in standby mode.

Notes:

Five Second Delay - To avoid sparking, the charger control test for correct polarity and secure connections before applying current to the battery. When connected properly, the green light will come on for 5 seconds before the yellow light comes on.

Battery Charge ----- After testing the battery, the control will select a charging rate suitable for the voltage and state of the battery. A small battery or a nearly charged battery will cause the charger to rapidly step down in current to avoid heating and gassing.

Finish Charge ----- In order to reach a 100% state of charge on the battery, a finish charge cycle has been programmed into the charger. During the finish cycle the yellow light will blink. If the battery is good, there will be enough charge in the battery at this time to start a vehicle when the yellow light is blinking.

Battery Maintainer -- If the charger is left connected to the battery, it will begin recharging if the terminal voltage falls below 12.5VDC.

VRLA Batteries ----- All sealed batteries are valve regulated batteries. There are two types, gel cell or absorptive glass mat (AGM). VRLA batteries have voltage limit restrictions during charging to prevent gassing because of their sealed construction prevents replenishing the electrolyte.

Operating Instructions:

1. Plug AC cord into outlet. The RED light should come on.
2. If the internal battery is connected properly, the GREEN light will come on for 5 seconds.
3. The YELLOW light will come on when the GREEN light goes off and charging will begin.
4. When the battery is between 80% and 99% state of charge when the YELLOW light is blinking. The charger is in the finish charge mode.
5. The battery has been fully charged when the GREEN light is blinking. No current is supplied to the battery and the charger is in the standby mode.

PREPARING TO CHARGE EXTERNAL BATTERY

When the unit is being used to charge an external battery, it is being used as a "Parallel Charger". Most of the charger's output goes to charge the most discharged battery until both batteries are equally charged, and then both batteries charge up together. To charge external batteries, it is important to have the internal battery fully charged.

Take the following steps to prepare an external battery for charging.

1. If necessary to remove battery from vehicle to charge, always remove the grounded terminal from the battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc. If battery is removed from vehicle, see "CHARGING BATTERY OUTSIDE VEHICLE" section.
Note: A battery installed in a boat must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use.
2. Be sure battery posts are clean. Be carefully to keep corrosion from coming in contact with eyes.
3. Be sure the area around the battery is well ventilated while the battery is being charged. Gas can be forcefully blown away by using a piece of cardboard or other non-metallic material as a fan.
4. Add distilled water in each cell until battery acid reaches level specified by the battery manufacturer. This helps purge excessive gas from cells. Do Not Overfill
5. If battery does not have cell caps, check manufacturer's instructions for check water level.
6. Replace filler caps.
7. Locate the charger as far away from the battery as the DC cables permit.
8. Do not charge a frozen battery. Trapped gases in battery may cause it to explode.
9. Do not set battery on top of charger.

CHARGING BATTERY INSIDE VEHICLE

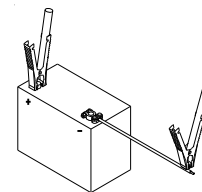
When battery to be charged is installed in a vehicle, connect clamps to battery as outlined in section "ENGINE STARTING INSTRUCTIONS". See "RECHARGE INTERNAL BATTERY" for charging operating instructions.

Note: Charger will be charging the Internal Battery while the DC clamp switch is in the OFF position. Only when the DC clamp switch is turned to the ON position will charging begin on the External Battery.

CHARGING BATTERY OUTSIDE A VEHICLE

Follow these steps when battery is outside vehicle:

1. Check polarity of battery post. Positive (POS, P, +) battery post usually has a larger diameter than Negative (NEG, N, -) post.
2. Attach at least a 24 inch long, 6 gauge insulated battery cable to the negative battery post.
3. Set DC clamp switch to OFF position.
4. Connect Positive (Red) clamp to positive post of battery.
5. Touch or connect Negative (Black) clamp to far end of cable attached to Negative post. If light comes on, the positive clamp and cable are on the incorrect post and should be switched. Repeat test, if light does not come on.
6. Position yourself and the free end of cable as far away from battery as possible. Do not face the battery when making the final connection.
7. Connect Negative (Black) charger clamp to free end of cable.
8. Connect AC cord. See "RECHARGE INTERNAL BATTERY" for charging operating instructions.
9. Set DC clamp switch to ON position. **MAKE SURE POLARITY LIGHT IS OFF BEFORE TURNING UNIT ON.** Do not face the battery when turning the DC clamp switch to the ON position.
Note: Charger will be charging the Internal Battery while the DC clamp switch is in the OFF position. Only when the DC clamp switch is turned to the ON position will charging begin on the External Battery.
10. When disconnecting charger, set the DC clamp switch to OFF and disconnect AC cord before disconnecting the clamps. Always disconnect clamps in reverse sequence of connecting procedure and break first connection as far away from battery as practical.



STORING AND TRANSPORTING

Always store and transport the unit in an upright position. If the unit is laid on its back, electrolyte will leak out of the battery and cause serious damage. THE TILT CREATED BY WHEELING THE UNIT AROUND WITH THE HANDLE WILL NOT CAUSE ELECTROLYTE TO LEAD FROM THE BATTERY IF IT HAS NOT BEEN OVER FILLED.

The unit should always be stored indoors in a warm place. A battery at 0°F has only 40% the starting capacity of a battery stored at 80°F.

ALWAYS STORE THE OUTPUT CLAMPS ON THE INSULATED STORAGE BAR. THE CLAMPS SHOULD NOT TOUCH THE METAL HANDLE. NEVER ATTACH THE CLAMPS ON THE HANDLE. NEVER LET THE CABLES DANGLE AND TOUCH THE CABINET. NEVER ATTACH THE CLAMPS TO THE CABLE INSULATION.

ATTACHING CLAMPS TO METAL HANDLE, ATTACHING CLAMPS TOGETHER OR SHORTING CLAMPS IN ANY MANNER WILL DAMAGE THE UNIT AND MAY CAUSE PERSONAL INJURY.

If clamps are accidentally attached to the metal or short circuited in another manner immediately disconnect the clamps or set the DC clamp switch to the OFF position.

MAINTENANCE

To obtain maximum, reliable safe service from the unit, it is important that routine maintenance be performed on the unit.

ONCE A MONTH:

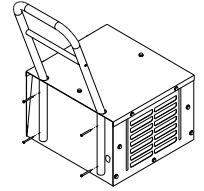
- Inspect output clamps. If jaws are worn or insulation burned, clamps should be repaired or replaced.
- Check AC cord and DC cables for damage. If insulation is cracked or broken, cord should be replaced.
- Touch jaw of Negative Clamp to jaw of Positive Clamp. If battery is fully charged and light does not come on, Polarity light should be replaced.
- Battery liquid level should be checked in each cell, if possible. Water should be added to any cell where liquid is low. Do not overfill. Check battery case for cracks and leaks.
- Check that all battery hold down straps, are tight.
- Check that screws, which hold cables to battery terminals, are tight.

ONCE EVERY FOUR MONTHS:

- Clean the top of the battery, if necessary. This can be done using water and a clean cloth. The addition of baking soda to the water will make the job easier. If baking soda is used, be sure that none of it gets into cells of the battery.
- Clean all corrosion from the battery posts and from the inside of the battery terminals.
- After cleaning, a thin film of motor oil, axle grease, or commercially available corrosion preventative wiped onto battery posts and terminals will help reduce corrosion.
- Interior of the battery box should be cleaned by wiping with a rag soaked in baking soda and water.

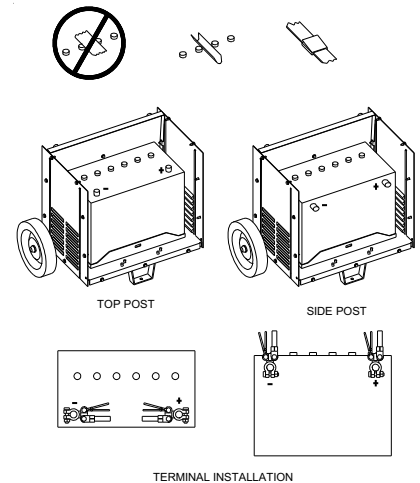
ASSEMBLY AND BATTERY INSTALLATION INSTRUCTIONS

Handle Installation: Attach handle to rear of charging unit with four #10 oval head sheet metal screws provided. Handle should go through holes in lid as shown. Attach output clamps to insulated storage bar as shown in "STORAGE INSTRUCTIONS".

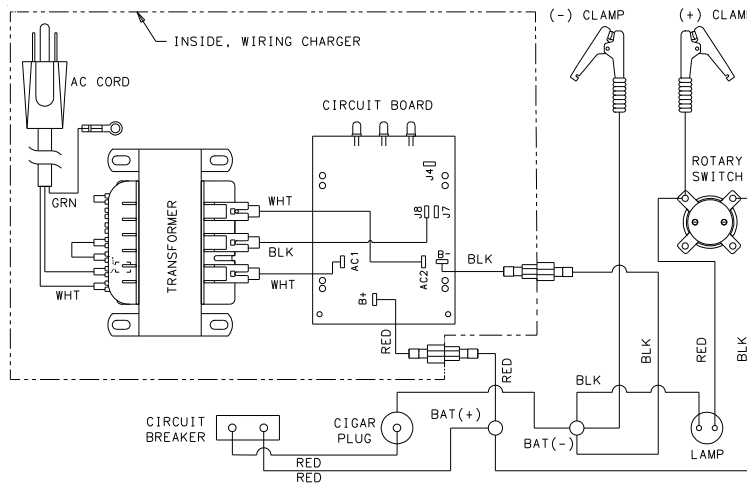


Battery Installation:

- Set battery on tray in battery compartment as shown.
THE POSITIVE POST OF THE BATTERY SHOULD ALWAYS BE TOWARD THE RIGHT SIDE (SWITCH SIDE) OF THE CABINET.
- Tighten and secure the battery hold-down strap. If the strap goes over cell caps, the strap should be pulled down between the cell caps to allow for routine maintenance and to keep battery secure.
- Be sure the battery posts are clean and in good condition before attaching the terminals to them. A thin film of motor oil or axle grease wiped onto the battery posts before attaching the cables will reduce corrosion.
- Battery Terminal Installation for Top Post Batteries: Attach battery terminals to battery as shown. The unit's positive battery terminal is the one with the red heat shrink on the cable. Battery terminals should not be installed so as to overlap the filler caps. Battery Terminals should not be turned toward the side panels.
- Battery Terminal Installation for Side Terminal Batteries: If your side terminal battery does not have posts, and has only threaded inserts, you will need to purchase a set of screw in adapters available at an auto parts store. Attach battery terminals to battery posts as shown. The unit's positive battery terminal is the one that has red heat shrink around the cable.
- Double check the polarity of your connections. The positive battery terminal (the one with red heat shrink on the cables) should be attached to the positive post.
- Install panels back on battery box.
- The unit is now ready for use. If the battery you installed was discharged or in an unknown state of charge, you will want to charge it. Connect the AC cord to power supply.



WIRING DIAGRAM



6127 & 6127XL REPAIR PARTS LIST

1. Transformer.....	610515	7. Circuit Breaker	611336
2. PCB.....	611333	8. AC Cord	611337
3. Cable set.....	611334	9. Switch, Rotary	900127
4. Clamps (1 pair w/jaws).....	6202	10. Cigar, Plug.....	611257
5. Battery Tray and Strap Model: 6127	610593	11. Indicator, Lamp.....	611361
6. Battery Tray and Strap Model: 6127XL	611335		

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