PRO-LOGIX

Service Manual for
PRO-LOGIX Wheel Charger
Model Nos. PL3730, PL3750,
MT6360, MT6380

⚠WARNING

Failure to follow instructions may cause damage or explosion, always shield eyes.
Read entire instruction manual before use.

Please read and retain these instructions for the continued safe use of your new charger. This manual contains important safety information. DO NOT OPERATE this equipment UNTIL YOU HAVE READ this safety summary!

SAFETY SUMMARY

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

SAVE THESE INSTRUCTIONS – This manual contains important safety and operating instructions for Model Nos. PL3730 and PL3750.

⚠WARNING	
	Read these instructions completely before using the ***SOLAR*** Battery Charger and save them for future reference. Before using the ***SOLAR*** Battery Charger to charge a battery, read these instructions and the instruction manual/safety information provided by the car, truck, boat or equipment manufacturer. Following all manufacturers' instructions and safety procedures will reduce the risk of accident.
	Working around lead-acid batteries may be dangerous. Lead-acid batteries release explosive gases during normal operation, charging and jump starting. Carefully read and follow these instructions for safe use. Always follow the specific instructions in this manual and on the ***SOLAR*** Battery Charger each time you use the ***SOLAR*** Battery Charger. All lead-acid batteries (car, truck and boat) produce hydrogen gas which may violently explode in the presence of fire or sparks. **Do not smoke, use matches or a cigarette lighter while near batteries.** Do not handle the battery while wearing vinyl clothing because static electricity sparks are generated when vinyl clothing is rubbed. Review all cautionary material on the ***SOLAR*** Battery Charger and in the engine compartment.
	Always wear eye protection, appropriate protective clothing and other safety equipment when working near lead-acid batteries. Do not touch eyes while working on or around lead-acid batteries.
	Always store clamps away from each other or common conductors. Improper storage of clamps may cause the clamps to come in contact with each other, or a common conductor, which would be hazardous if the charger was plugged into an AC outlet.
	Use extreme care while working within the engine compartment, because moving parts may cause severe injury. Read and follow all safety instructions published in the vehicle's Owner's Manual.
	Batteries being charged with the ***SOLAR*** Battery Charger unit likely contain liquid acids which are hazardous if spilled.

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.***

WARNING – Shock Hazards

1. This battery charger is intended for indoor use only. Do not expose the charger to rain or snow.
2. NEVER attempt to charge a marine (boat) battery while the boat is on or near the water. A boat must be on a trailer and located indoors before attempting to charge its battery(s). The boat manufacturer's battery charging instructions must be followed exactly.
3. NEVER set the charger, output cable or clamps, or AC power cord plug in water or on wet surfaces.
4. NEVER use this charger on a pier or dock. Charger could fall in water, creating an electric shock hazard.
5. NEVER attempt to plug in or operate the battery charger with defective or damaged wires, power cord, or power cord plug. Have any of these parts that are defective or damaged replaced by qualified personnel IMMEDIATELY.
6. NEVER attempt to plug in the charger or operate its controls with wet hands or while standing in water.
7. NEVER alter the AC power cord or power cord plug provided with the battery charger.
8. NEVER use an attachment not recommended or sold by Clore Automotive for use with this specific model battery charger. Use of such attachment may result in risk of fire, electric shock or injury to persons.
9. ALWAYS plug in and unplug the AC power cord by grasping the power cord plug, NOT THE POWER CORD, to reduce risk of damaging power cord.
10. ALWAYS unplug the battery charger from the AC outlet before attempting any cleaning or maintenance. Turning the charger's control(s) OFF, alone, will not remove all electricity from the charger, and will not reduce this risk.

WARNING – Risk of Explosive Gases

1. Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal operations and, at an even higher level, during charging. If anything is allowed to ignite these gases, the battery may explode, sending pieces of the battery and extremely caustic battery acid out in all directions and with extreme force. Since just the slightest spark is sufficient to ignite these gases, it is of UTMOST IMPORTANCE that you read this manual and follow the instructions exactly, before using your battery charger.
2. NEVER operate this battery charger near any fuel tanks or gas cylinders. This charger can produce sparks that could ignite gases and cause an explosion.
3. NEVER attempt to permanently mount this battery charger on a marine or recreational vehicle.
4. NEVER attempt to connect this charger's output cables directly to the battery(s) in the bilge or engine compartment of a boat. Follow the boat manufacturer's battery charging instructions exactly.

WARNING – Battery Explosion Hazards

1. NEVER connect both battery charger clamps directly to the two posts of the same battery. See *Operation Instructions* for connection procedures.
2. NEVER allow the DC output clamps to touch each other.
3. ALWAYS be extra cautious to reduce the risk of dropping a metal object, such as a tool, onto or near the battery. Doing so could produce a spark or short circuit the battery or other electrical part that could cause an explosion.
4. NEVER operate the battery charger in a closed-in area or restrict ventilation in any way.
5. ALWAYS make sure the area around a battery is well ventilated while it is being charged. Gas can be forcefully blown away by using a piece of cardboard or other non-metallic material as a fan.
6. ALWAYS make sure that the AC power cord is unplugged from the AC outlet or extension cord BEFORE connecting or disconnecting the battery charger clamps, to prevent arcing or burning.
7. ALWAYS locate the battery charger as far away from the battery as the DC output cables will permit.

8. ALWAYS move the charger clamps back and forth several times on the battery post and the other point of connection at the time of initial connection. This helps keep the clamps from slipping off their points of connection which helps reduce the risk of sparking. DO NOT rock the clamp connected to the battery post AFTER the second connection (at a point away from the battery) is made or sparking may occur at the battery post.
9. ALWAYS check the cable and wire connections at the battery(s) for tightness BEFORE starting to charge. A loose connection can cause sparks or excessive heating which could cause a battery explosion.
10. ALWAYS make sure the battery compartment is open and well ventilated before charging.

WARNING – Moving Parts Hazards

1. NEVER connect the battery charger clamps to a vehicle when the engine is running.
2. ALWAYS stay clear of fan blades, fan belts, pulleys and other moving engine parts when working near an engine. Moving engine parts can cause severe personal injury, including dismemberment.
3. ALWAYS make sure that the battery charger cables and clamps are positioned so they will not come in contact with any moving engine parts.
4. NEVER wear loose clothing or long hair around moving parts because they may get caught and cause severe injury or death.

WARNING – Burn Hazards

1. NEVER lean on or rest against the engine or cooling system parts when the vehicle is running.
2. ALWAYS stay clear of the cooling system, engine, and engine manifold. These engine components get very hot and retain heat for a long time. Touching any of these components can cause severe burns.

WARNING – Pinch Point

Keep hands clear when closing the lid. Fingers can get trapped causing injury or loss of fingers

WARNING – Sharp Edges

Protect hands and fingers while servicing the unit, various components have sharp edges, burrs and / or pins that may cause injury.

WARNING – Electro Static Discharge

To avoid charger damage from electrostatic discharge: Wear a properly grounded ESD wrist strap when servicing this charger

PERSONAL PRECAUTIONS

1. Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
4. 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 get medical attention immediately.
5. NEVER smoke or allow a spark or flame in vicinity of battery or engine.
6. 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.
7. 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 other jewelry to metal, causing a severe burn.
8. Use charger for charging LEAD-ACID batteries only. It is not intended to supply power to a low voltage electrical system other than in a starter-motor application. Do not use battery charger 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.
9. NEVER charge a frozen battery, as battery explosion can result.

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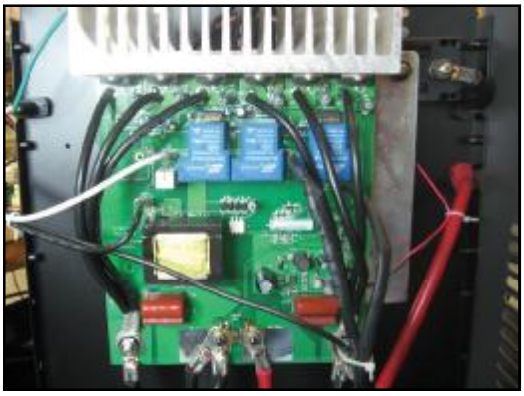
OVERVIEW

PRO-LOGIX Wheel Chargers, Model Nos. PL3730 and PL3750, are microprocessor-controlled battery chargers that feature 3 functional modes: automatic charging, manual charging and engine start assistance. The chargers are capable of properly charging (in auto charge mode) a wide variety of battery types, including Conventional, AGM, Gel Cell, Spiral Wound, Deep Cycle and Marine batteries.

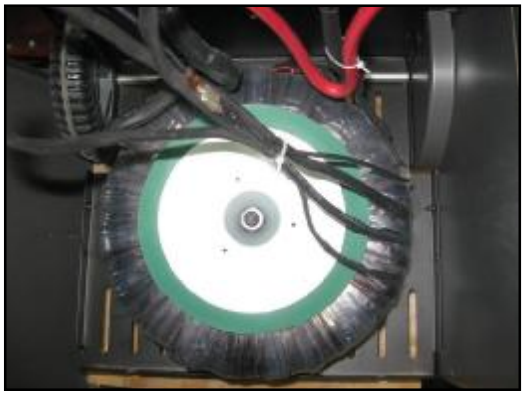
Charging is controlled by a microprocessor, which triggers a bank of SCRs that rectify the output of the large Transoid™ transformer located in the bottom of the case. Battery voltage and charging current are monitored by the microprocessor to ensure that proper charging parameters are maintained, based on the battery type indicated in the charging set-up.

A 4-line alphanumeric LCD display provides specific details regarding the charging process and alerts the operator to specific charging errors or faults that may occur. A series of status lights on the front panel indicate operating function, charging condition and operating errors.

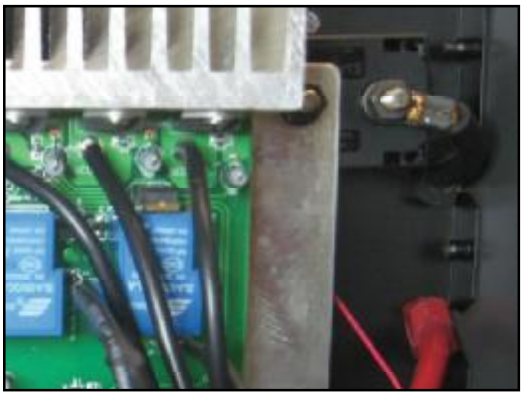
- Model No. PL3730 charges 6 and 12 Volt batteries automatically at four rate settings: 60A, 40A, 15A and 5A. It also provides 275A engine starting assistance in 12V mode.
- Model No. PL3750 features the same settings for 6/12V charging, plus features three automatic 24V charge rates: 30A, 15A, and 5A. It also provides 250A engine starting assistance in 12V mode.



SCR Board Assembly includes a PCB, heat sink, aluminum plate and four plastic standoffs, which hold it to the rear panel.

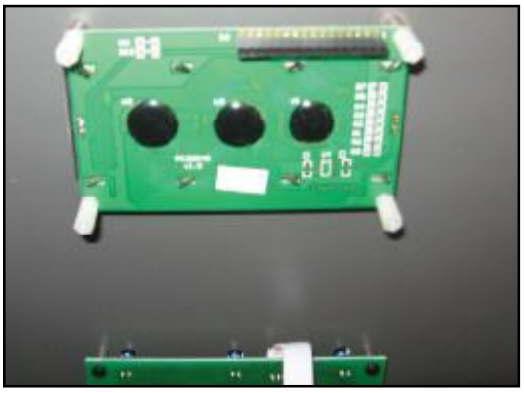


Transformer is found in the base of the unit.

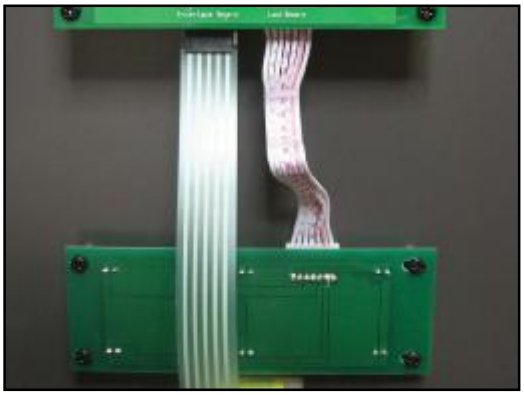


Circuit Breaker is fastened to the aluminum plate of the SCR board assembly.

MCU Board is mounted behind the LCD display assembly on the front panel.



LCD board is under the MCU board on the front panel.

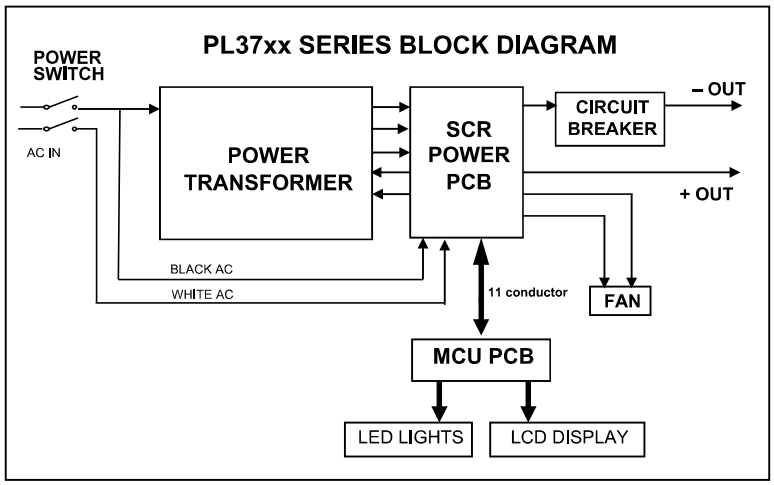


LED board is mounted to the front panel below the LCD board.

Membrane Switch panel is adhesive fastened to the front panel with connections fed through a slot in the panel.

Power Switch is on the front panel.

Theory of Operation



Please reference “PL37xx Series Block Diagram” as you review this section.

Power for charging and boosting comes from the transformer, which has specific taps on the primary side for each specific charging voltage. When a specific charging voltage and other charging parameters are chosen and the operator presses START, a relay on the corresponding primary tap is closed to supply the necessary power to the transformer. Immediately after this occurs, an inrush protection relay closes to prevent a surge of current to be drawn from the power outlet.

Voltage supplied by the transformer is selected by relays on the SCR board. The MCU is programmed to wait until after the relays have completed their operation before starting to trigger the SCRs. Thereafter, the SCRs are gradually increased in their triggering to ramp up the output current. A voltage produced by the drop across the current shunt is sent back to the MCU from the SCR board, as is the voltage from across the battery cables. The MCU board uses these readings to control current and voltage.

In Automatic Charging Mode, the voltage limit for charging is set based on the battery type indicated during the charging set-up. Charging is current limited by the amperage chosen by the operator. The multi-phase PRO-LOGIX charging process is executed through the completion of Phase 4, when the charger moves to Rest Phase.

Manual charging uses a voltage limit value, as indicated during the charge set-up, to prevent excess battery voltage. Charging duration is limited by a timer, as specified during charging set-up.

Engine Start Mode (6V and 12V only) sets no limit on current or voltage. The only limit is time. The function times out after 2 minutes, whether or not an engine start is attempted. In addition, a time limit of 10 seconds is set after the first detection of engine starting current output (to protect the charger from over-cranking).

Service Menu Functions / Calibration

To access all Service Menus, hold down the TOGGLE and SELECT buttons simultaneously during power-up. Quick Calibrate and Calibrate are the first selections available in the Service Menu.

Quick Calibrate resets values for zero voltage and current and charging voltage while Calibrate also resets the calibration of charging current. This is required when either the MCU or SCR board is replaced. Quick calibrate does not recalibrate charging current.

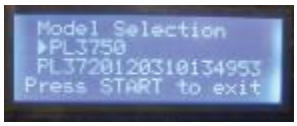
If a load bank capable of current of greater than 40A at 12 Volts is available, the Calibrate procedure should be used instead of Quick Calibrate. If a suitable load is not available, Quick Calibrate will still give satisfactory results even though the current calibration may not be as accurate as the original factory setting.

Manual Charge in the Service Menu is different from the normal menu Manual Charge. The Service Menu version allows for setting the exact portion of the cycle that the SCRs are triggered. The charge voltage is chosen as in other charging menus. Instead of a current setting, a PWM value is chosen by using the function and select buttons to scroll up and down the values from 0 to 200, with 0 being no SCR triggering and 200 being maximum triggering.

CPU Debug is a screen which shows values that the MCU board detects. The key value here is the Line value.

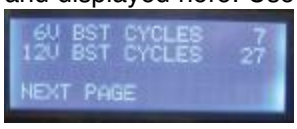
If Line is OK, the MCU board is receiving pulses from the SCR board when it detects a zero crossing of the AC power. These pulses synchronize the triggering of the SCRs. If Line Leads Err, the pulses from the SCR board are not being received at the MCU board. The AN0 line will show a value if the cables are connected to a battery or power supply.

The Model screen allows for changing the Model in the MCU between PL3730 and PL3750. It is also the screen that continues to show the serial number after the welcome screen is gone.



If the MCU board is replaced, changing the model may be required if the unit receiving the board is a different model than the setting in the new MCU board.

Cycle count function will display data on how the unit has been used. A count of total usage of each voltage of charging and boosting is collected and displayed here. Use the Select button to scroll through the data.



The last 10 uses in more detail are also displayed.

Language Menu is accessed by Power-up with Toggle button held down. The display language can be selected from English, Spanish or French.

PERFORMANCE TEST INSTRUCTION

Required Equipment

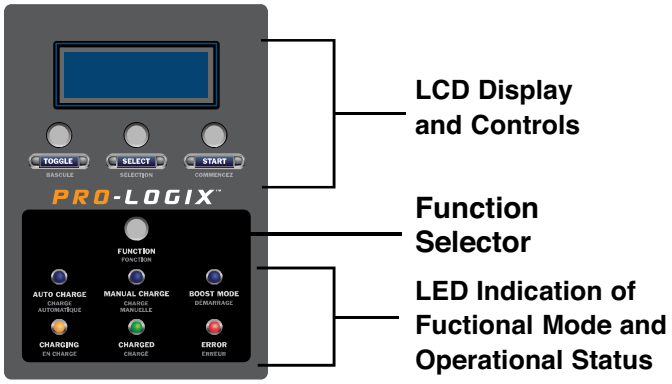
A. Digital Multimeter
B. Clamp DC Ammeter capable of 400 Amperes
C. 12 Volt battery for charging test
D. Optional: Resistor Load Bank

Testing for Normal Operation

A. Plug in AC power. If an extension cord is used, be sure that it is of sufficient gauge to support the current of the charger. Turn on unit. Power switch should light. (NOTE: If you happen to see A/C Line Low that is a clue, if you are using an extension cord, that the cord is of inappropriate gage for the length and it is dropping the voltage too much.)
B. When unit turns on, note all the LED lights on the front panel light for a short period of time. The LCD display should have a back light and display first the model and serial numbers, then the Automatic Charging 15 Amp AGM starting screen.
C. Connect clamps to a 12 Volt battery. The battery voltage should appear on the screen. Verify that the voltage reading is correct for the battery that is connected and press START. Charging current Amps value should appear on the screen. Verify the current with clamp Ammeter on an output cable.
D. Two methods are recommended to perform this test.
    a. The preferred method is to use a resistor load capable of drawing over 200 Amperes at 12 Volts, around 0.06ohms and 1000 watts capable.
    b. If this load is not available, a large 12 Volt battery can be used if there is sufficient venting.

WARNING: Hydrogen gas will be created during this test when the battery is used for loading. Be sure that test is performed in a well ventilated area away from all potential sparks or other ignition sources.

TROUBLESHOOTING



Power Switch Not Illuminating

– Make sure power outlet has power.
– Check power cord for damage.
– Check for voltage at power switch.
– Replace power switch.

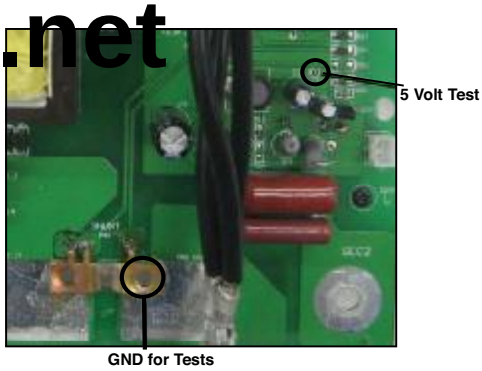
No Lights/ No LCD Backlight

– Check ribbon cable from SCR board to MCU board to be sure the connector ends are seated firmly in the sockets on the boards.
– Check to see if the LED on the MCU board is lit, indicating DC power to the board.
– If no LED light, check with voltmeter for the presence of 5 volts at the test point on the SCR board. The positive output cable can be used as the negative test point for the voltmeter. Testing for voltage at the SCR board does not require that the ribbon cable to the MCU board be connected. If no voltage is found, the SCR board is defective. If 5 Volts is present, either the MCU board or the ribbon cable is defective.
– If the LED on the MCU board is lit but the LCD display is not lit, either the connections between the MCU board and the LCD are at fault or the LCD is defective.
– If the LED on the MCU is lit and the LCD is lit but the LED lights do not light, the ribbon cable to the LED board may be disconnected or defective.

Unit Trips House Breaker for Power Outlet

– Unplug the unit. Measure with an ohmmeter the resistance across the power plug with the power switch on. It should be between 80 and 120 ohms. Also check for low resistance to the ground pin of the power plug.
– Remove side panels and disconnect White AC wire from SCR board. Reconnect to AC power. If there is still excess current, there is a problem in the line cord or power switch.

– If removing the White/Yellow wire from the SCR board clears the problem, disconnect all tap wires from the transformer to the SCR board and secure them away from contacting anything. Use the ohmmeter to see if the fault is cleared.



Unit Lights Up But Has No Output.

– Power the unit. The unit will default to automatic charging 15 Amps AGM.
– Connect the output clamps to a battery. Confirm that the display shows the battery's voltage on the top line of the display. If there is not a voltage value displayed, check the ribbon cable from the SCR board to the MCU board. Also check the circuit breaker on the negative lead and the output cable connections to the breaker and the SCR board.
– Disconnect from the battery. Press START and note the voltage after bypassing the warning screen with the SELECT button. The voltage should be about 14.8 volts. Press START to stop the output.
– Press TOGGLE to select charging voltage. Choose 6 volts. Press the START button then press the SELECT button to override the warning. The voltage should be about 7.4 Volts. Press Start to stop the output.
– Press TOGGLE again if the unit is PL3750 to choose 24 Volts. Press START then press SELECT to override the warning. The voltage should be about 29.6 Volts. Press START to stop the output.
– If some voltage settings produce output but others do not, first check the transformer lead connections to the SCR board. The wire may have pulled loose or the connection may have been damaged.
– If there is no output at any voltage setting, perform a transformer continuity test. Disconnect the unit from AC power and any battery. Disconnect one of the primary taps from the SCR board. Check continuity from that wire to the black wires on the power switch that connect to the transformer and the SCR board. If you find continuity, there is a defect in either the SCR board or the MCU board. If you find no continuity, the transformer is defective.
– If there is no output and the transformer is not defective, substitute for testing a known good MCU board and ribbon cable. Enter the Service Menu and go to the CPU Debug screen. Check for Line OK. If not OK, there is a problem with the SCR board. If there is still no output, the SCR board is defective. Replace the substitute with the original MCU board.

If There Is Output But Less Than Full Current.

– Connect the output cables to a battery, preferably one that is at least partially discharged. Power the unit with the side panels removed. Choose the appropriate settings for the battery and press START. Clamp the ammeter around each bundle of three wires on each side of the SCR board. If there is a large difference in the current from one side to the other, there is a problem at the SCR board.
– Check for broken wires or bad connections from the transformer secondary leads to the SCR board wires and to the board itself. You can also verify that both sides of the transformer have about the same AC voltage at the connections to the board. If you have voltage on both sides but lack current on one side, the SCR board is defective.
– If there is only a small difference in current between sides but still trouble at high current levels, check each individual wire of the three wire bundle for current. There may be only one or two SCRs not passing current This test will confirm a defect on the SCR board if one or more wires show no current or very low current compared to the others.

If, Before Charging, Battery Voltage Displayed Is Not Correct.

– Compare the voltage measured by a multi-meter at the battery to the voltage on the screen. If there is a difference of over 0.5 volts:
– Check for bad connections at the ribbon cable from the SCR board to the MCU board.
– Check for cable connection problems at the circuit breaker and at the positive cable connection to the SCR board.
– If the problem persists, perform the Quick Calibration described in the Service Menu Functions / Calibration found in the introduction section of the Table of Contents.
– If the problem persists, change the MCU Board per instructions in this manual.

If all LED lights do not light at startup, check the cable to the LED board. Otherwise replace the board. If there is still a problem, try replacing the MCU board.

If there are inoperable buttons on the Control Panel, first try replacing the MCU board as a test. If the buttons still do not work, put back the original MCU board and replace the membrane switch panel.

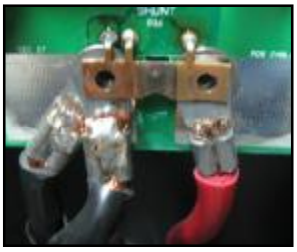
COMPONENT REPLACEMENT

SCR Board assembly

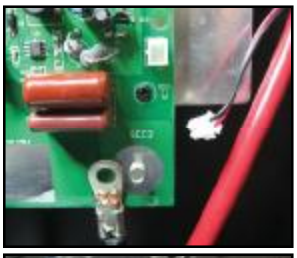
A. Remove transformer leads and other wiring. Disconnect all transformer leads. They are connected by .25 inch fast-on terminals. Note the location of their connection points for reconnection. If the transformer leads are not marked, place labels for ease of identification. Disconnect the Black and White AC leads coming from the power switch by pulling them off the .25 inch fast-on terminals.

B. Note the markings on the PCB. Disconnect the 11 conductor ribbon cable if not already removed. Use a 7/16 inch or 11mm wrench to remove the negative output cable connection from the circuit breaker.

C. Use 10mm wrenches or drivers to remove the bolts holding the transformer secondary cables to the PCB.



D. Use 9/32 or 7mm tools to remove the bolts and washers holding the transformer center tap and positive output cable from the PCB and the current shunt.



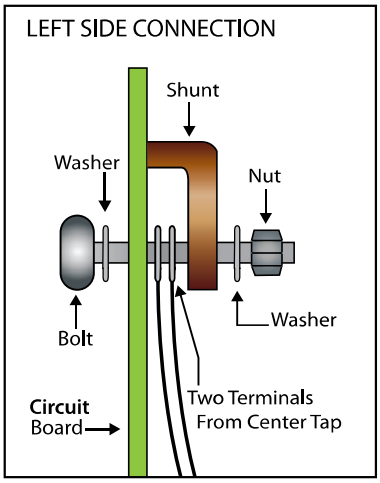
E. Carefully slide the wire terminals and spacer washer from under the shunt. Unplug the fan power wires from the PCB.

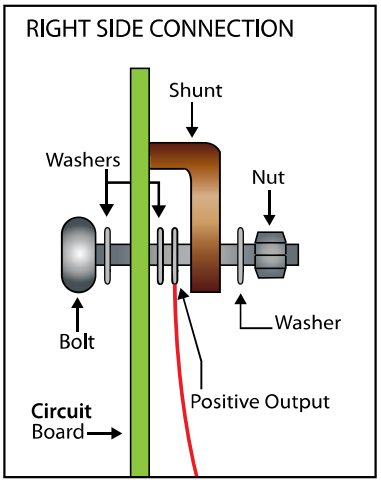
F. From the back of the unit, remove four screws which attach the plastic standoffs on the back of the aluminum plate to the case. Note that the screw on the upper left as you face the back is shorter than the other three. Hold the SCR board assembly in one hand while removing the last screws. The assembly will lift out. Remove the circuit breaker from the aluminum plate with 7/16 or 11mm wrench.

SCR Board Mounting Screws

PL3730 SCR Board Assembly with Attachment Hardware

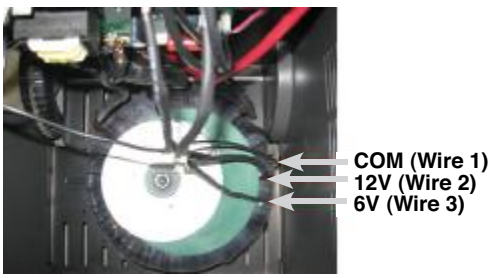
G. Attach the circuit breaker to the new assembly. Place the new assembly at the back of the unit and reinsert the four screws into the holes and standoffs, keeping the shorter screw on the upper left.

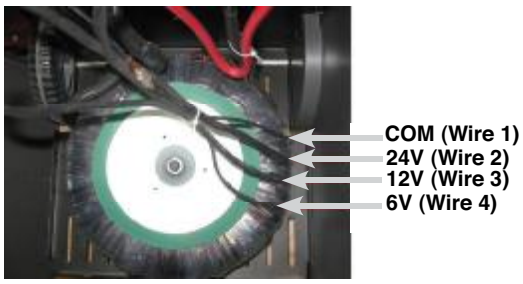




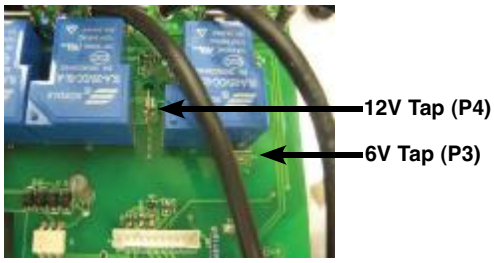
H. Place the positive cable terminal and spacer washer under the right side of the current shunt. The washer must be next to the PCB. Insert the bolt with washers next to the head from the rear of the PCB through the washer and terminal and out the hole in the current shunt. Attach with a nut and flat washer. Place the two terminals from the center tap of the transformer under the left side of the current shunt. Insert the bolt with washers next to the head through the PCB, the terminals and the shunt. Attach with a nut and flat washer.

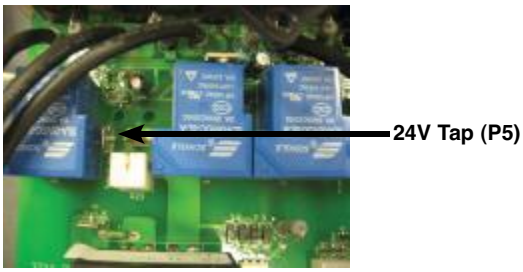
I. Insert a bolt through the left and right side transformer lead attachment holes and secure the transformer terminals and the SCR lead terminals. Attach the negative cable to the circuit breaker. Push on the Black and White AC wires to their terminals.





J. Locate the 6 Volt tap wire from the transformer. Connect it to the 6V terminal on the PCB. Locate the 12 Volt tap wire and connect it to the 12V terminal. Locate the 24 Volt tap wire (PL3750) and connect it to the 24V terminal on the PCB. If not identified otherwise the tap wires can be identified by the pictures at the bottom of the prior page.

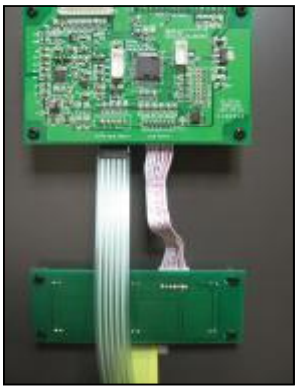




K. Connect the 11 conductor ribbon cable to the SCR board and the MCU board.

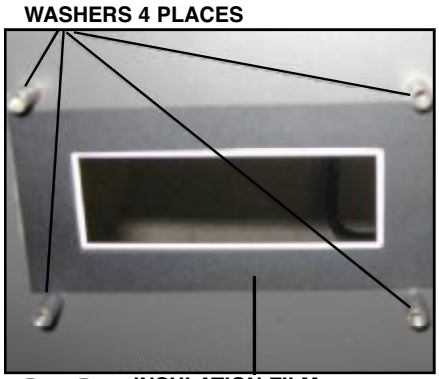
MCU Board Assembly

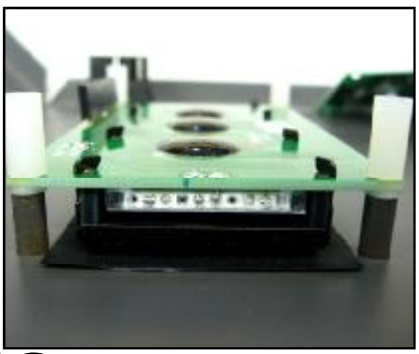
A. Disconnect the ribbon cables going to the SCR board and the LED board. Disconnect the printed ribbon cable to the membrane switch assembly. Remove the four screws holding the assembly. Remove the PCB assembly from the LCD display board connections.
B. Install new board connecting the board to the LCD display at the interboard connector. Replace the four screws. Use the new ribbon cable supplied to reconnect to the SCR board. Reconnect the other cables.



LCD Display Board Assembly

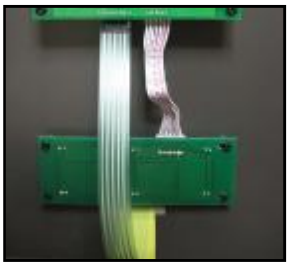
A. Disconnect the ribbon cables going to the SCR board and the LED board. Disconnect the printed ribbon cable to the membrane switch assembly. Remove the four screws holding the assembly. Remove the PCB assembly from the LCD display board connections.
B. Remove the four nylon threaded standoffs by unscrewing them from the case metal standoffs. As these are removed, also remove the nylon washer below the LCD board at the standoff.
C. Make certain that there is an insulation film applied to the front panel where the LCD could contact the metal panel before replacing the assembly. Make certain that the plastic washers are between the metal standoffs of the front panel and the PCB of the LCD assembly when the plastic standoffs are reinstalled.
D. After the plastic standoffs are tight, put back the MCU board and reconnect all cables.





LED Board Assembl

A. Disconnect the ribbon cable to the MCU board. Remove the screws holding the LED board.
B. Connect ribbon cable and reattach LED board with four screws.



Membrane Switch Panel

A. Disconnect the printed cable from the MCU board. To aid in aligning the new switch panel, mark the position of each side with a sharp marking pen. Carefully pry the Membrane switch panel from the front panel, working from the top to the bottom
B. Clean any adhesive residue off the front panel before installing the new switch panel.
C. Insert the printed cable of the new panel through the slot in the front panel. Peel the paper off the adhesive from the bottom of the panel only up to above the windows for the LED lights. Do not let the ribbon cable rub against sharp edges of the metal.

D. It is recommended that the unit be powered so that lights can be turned on while the switch panel is installed to achieve better alignment of the windows to the LED lights. Carefully lay the lower part of the panel over the LED holes and observe that all LEDs are visible clearly through the windows. Observe the position of the panel with respect to the marks made before removing the old panel. Do not press down on the panel until all lights are aligned and the panel is straight. Once the alignment is correct, peel back the rest of the paper and slowly place the switch panel by an upward motion until the whole panel is flat on the front panel of the unit. Press down firmly on the panel to adhere the switch panel to the metal front panel.

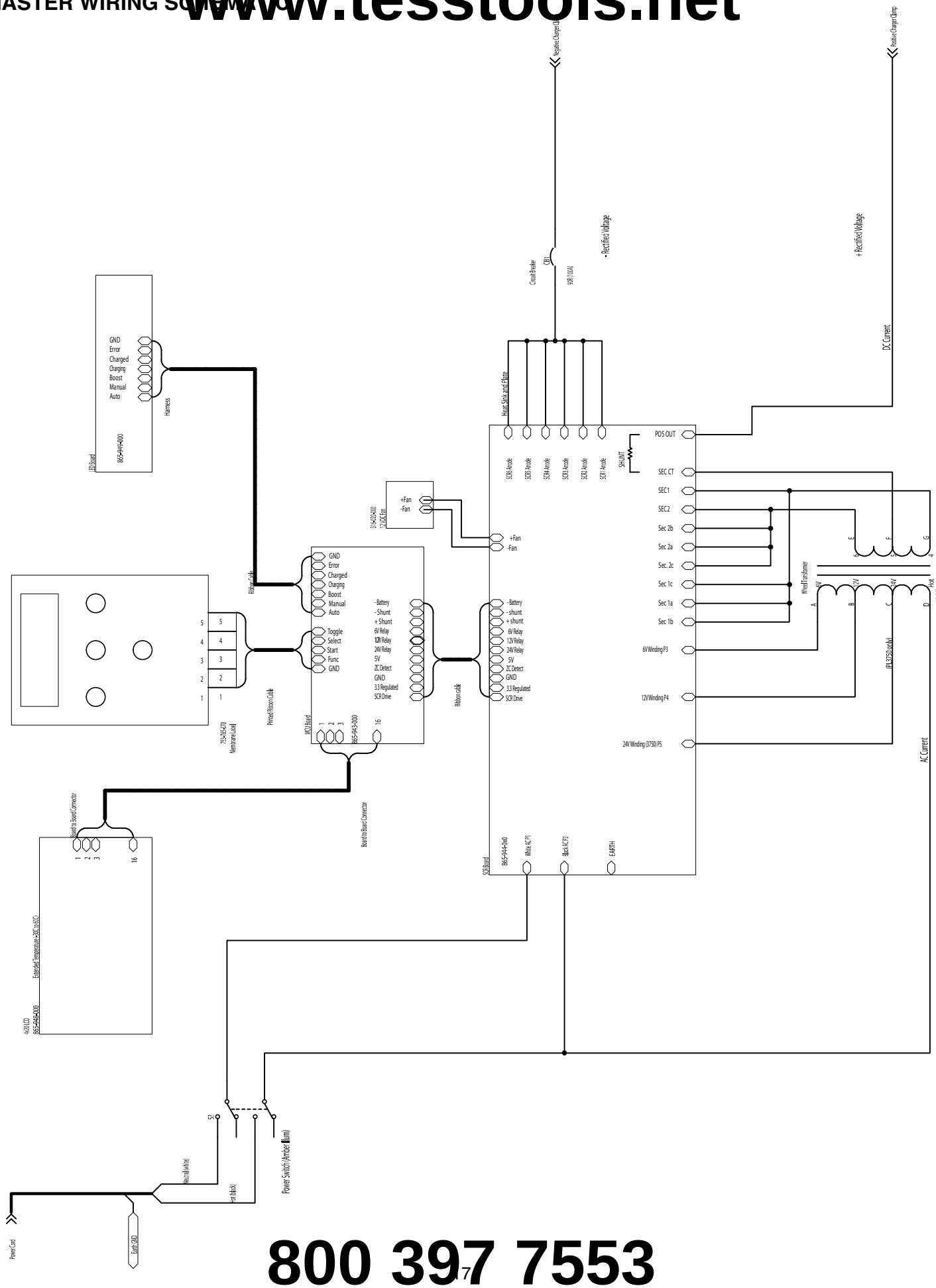
Fan

A. The SCR board assembly needs to be partially removed to gain access to the fan. Remove the negative cable from the circuit breaker to allow for movement of the SCR board assembly.
B. Disconnect the fan wires from the SCR board. Loosen or remove the four screws from the back of the unit which hold the SCR board assembly. Remove the screws holding the fan.
C. Replace the fan, the screws, and the wires and cable. Make sure that the red wire for the fan connects to the lower pin of the connector on the SCR board.


Power Switch

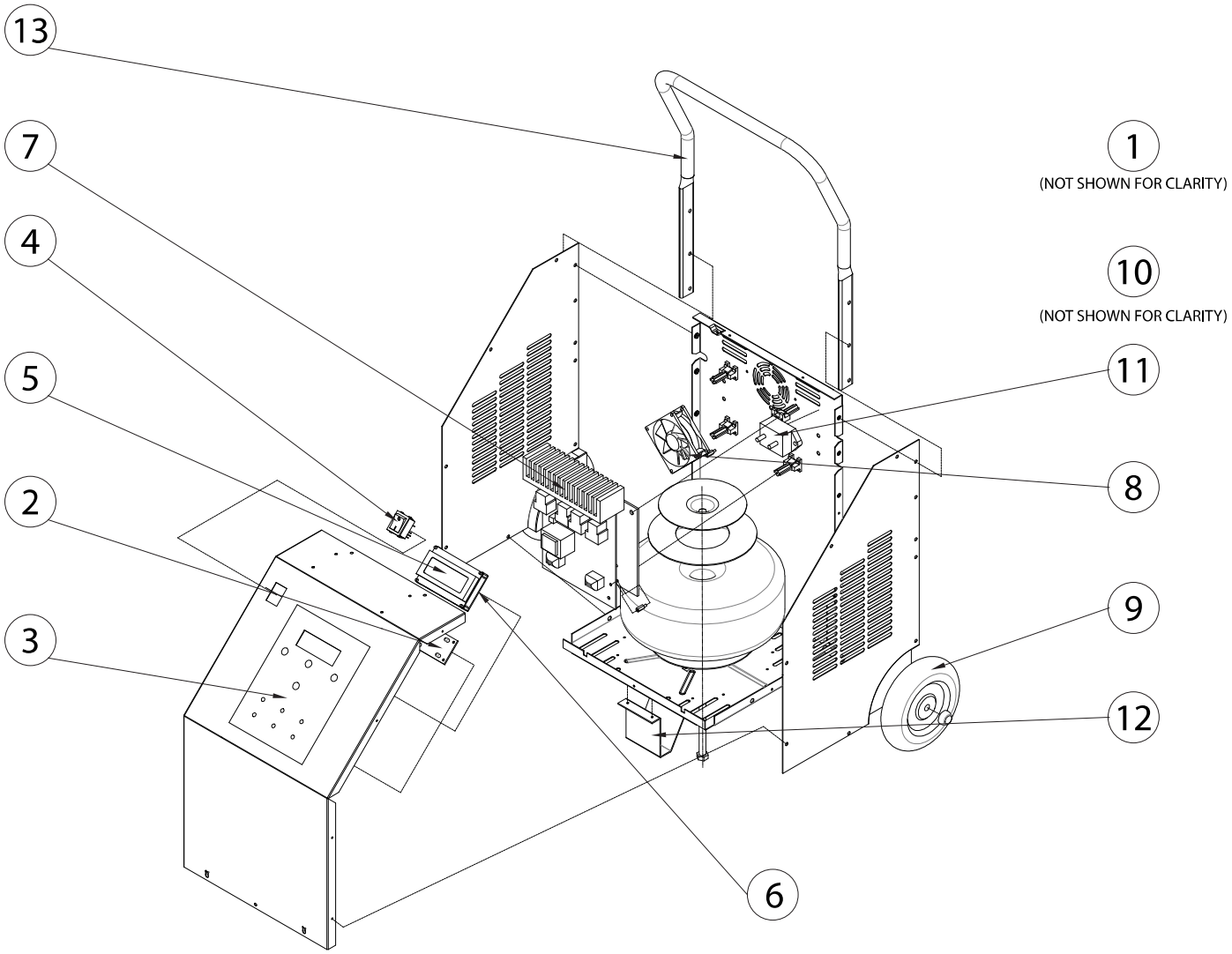
A. Remove the wires to the SCR board from the switch. Remove the power cord wires. Note that the power cord wires are on the bottom terminals and the unit wires are on the middle terminals of the switch.
B. Compress the fastening tangs to remove the switch. Replace the switch, noting the position of the markings on the switch rocker. Place the line cord wires on the bottom terminals and the unit wires on the middle terminals.


MASTER WIRING SCHEMATIC



Exploded Parts Diagram

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	248-380-666	INPUT CORD ASS'Y, PL37XX SERIES CHRGR
2	1	248-949-666	LED BOARD KIT, PL37XX SERIES CHRGR
3	1	753-785-666	MEMBRANE LABEL KIT, PL37XX SERIES
4	1	246-535-666	POWER SWITCH KIT, PL37XX SERIES
5	1	865-948-666	LCD BOARD REPLACEMENT KIT, PL37XX
6	1	865-943-666	MCU BOARD REPLACEMENT KIT, PL37XX
7	1	865-944-666	SCR BOARD REPLACEMENT KIT, PL37XX
8	1	316-020-666	COOLING FAN REPLACEMENT KIT, PL37XX
9	1	413-115-666	WHEELS/AXLES/HUBS SET
10	1	238-006-666	CABLE/CLAMP KIT
11	1	246-211-666	CIRCUIT BREAKER, SERV (SLA135)
12	1	412-749-666	FOOT REPLACEMENT, WHEEL CHARGERS
13	1	412-751-666	REPLACEMENT HANDLE, WHEEL CHARGERS



PRO-LOGIX

Service Manual for
PRO-LOGIX Wheel Charger
Model Nos. PL3730, PL3750

842-403-500