



La MARCHÉ®

MODEL

A13

CHARJALL

Instruction Manual

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IMPORTANT SAFETY INSTRUCTIONS
FOR THE
LA MARCHE POWER CONVERSION EQUIPMENT
SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions for the La Marche Power Conversion Equipment.

Before using this equipment, read all instructions and cautionary markings on (1) unit, (2) battery, and (3) product using the battery.

CAUTION: To reduce risk of injury and/or damage to the batteries, use only the type of batteries specified on the charger.

Do not expose equipment to rain or snow.

Do not operate equipment if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.

Do not disassemble this unit; take it to a qualified serviceman when service or repair is required. Incorrect re-assembly may result in a risk of electric shock or fire.

To reduce risk of electric shock, disconnect this unit from the AC supply, or batteries and loads before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

WARNING – THERE IS A RISK OF EXPLOSIVE GASSES AND WORKING IN THE VICINITY OF A BATTERY IS DANGEROUS. SOME BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF UTMOST IMPORTANCE THAT EACH TIME BEFORE USING THIS UNIT, YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.

To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery.

Review cautionary marking on all products.

PERSONAL PRECAUTIONS:

1. Someone should be within range of your voice or close enough to come to your aid when you work near a battery.
2. Have plenty of fresh water and soap nearby in case the battery electrolyte contacts skin, clothing, or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
4. If the battery electrolyte contacts skin or clothing, wash immediately with soap and water. If the electrolyte enters the eye, immediately flood the eye with running cold water for at least ten (10) minutes and get medical attention immediately.
5. Never smoke or allow a spark or flame in vicinity of a battery.
6. Be extra cautious, DO NOT drop metal onto a battery. It might spark or short-circuit the battery or cause an explosion.
7. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a battery. A battery can produce a short-circuit current high enough to weld these items causing severe burns.
8. NEVER charge a frozen battery.

PREPARING TO CHARGE

1. If it is necessary to remove the battery connections, always remove grounded terminal from the battery first. Make sure all loads are disconnected and unit is off, so as not to cause an arc.
2. Be sure the area around the battery is well ventilated while the battery is being charged.
3. When cleaning battery terminals, be careful to keep corrosion from coming in contact with eyes.
4. Study all the battery manufacturer's specific precautions such as removing or not removing cell caps while charging, recommended rates of charge, and maintenance procedures.

UNIT LOCATION

- Never place this unit directly above the standard flooded battery. Gases from the battery will corrode and damage equipment. A sealed maintenance free or valve regulated lead acid (VRLA) may be placed below this equipment.
- Never allow the battery electrolyte to drip on this unit when reading the specific gravity or filling the battery.
- Do not operate this unit in a closed-in area or restrict ventilation in any way.
- Do not set any battery on top of this unit.

DC CONNECTION PRECAUTIONS

Connect and disconnect DC output cables only after setting all of this unit's switches to off position and removing AC input supply.

GROUNDING INSTRUCTIONS

This battery charger should be connected to a grounded, metal, permanent wiring system; or an equipment grounding conductor should be run with circuit conductors and connected to equipment-grounding terminal or lead on battery charger. Connections to battery should comply with all local codes and ordinances.

CAUTION: DO NOT PULL ON OUTPUT CABLES WHEN DISCONNECTING CHARGER FROM BATTERY.

RECEIVING INSTRUCTIONS

CAUTION: To ensure safe installation and operation, the information given in the instruction manual should be read and understood before installing or using the equipment.

Unpacking and Inspection: Examine the shipping crate upon arrival. If there is obvious damage, describe on the receiving documents. Within a few days after delivery, the equipment should be uncrated and carefully inspected for hidden damages. When removing packaging material, be careful not to discard any equipment, parts, or manuals. If any damage is detected you should:

1. File a claim with the carrier within five (5) days.
2. Send a copy of the claim to La Marche Mfg. Co.
3. Call La Marche Mfg. For a RETURN MATERIAL AUTHORIZATION NUMBER.

Failure to properly file a claim for shipping damages, or provide a copy of the claim to La Marche Mfg., may void warranty service for any physical damages reported for repair.

HANDLING

WARNING: Equipment can be very heavy, and top-heavy. Use adequate manpower or equipment for handling. Until the equipment is securely mounted, care must be used to prevent the equipment from being accidentally tipped over.

NOMENCLATURE PLATES

Each piece of La Marche Mfg. Equipment shipped is identified by part number on the nomenclature plate.

ADJUSTMENTS

All equipment is shipped from the factory fully checked and adjusted. Do not make any adjustments unless the equipment has been powered-up and the settings have been determined to be incorrect.

SPARE PARTS

To minimize downtime during installation or normal service, it is advisable to purchase spare fuses, circuit boards and other recommended components. Please refer to the list of recommended spare parts and their La Marche Mfg. Part numbers included with the instruction manual. It is recommended that spare fuses be ordered for all systems.

To order spare parts, please contact La Marche Mfg. (847)-299-1188 during business hours and ask for the Parts Department.

INSTALLATION AND OPERATING INSTRUCTIONS

Be certain to check the line voltage with the voltage specified on the nameplate of the Charjall.

The Charjall is provided with DC output cables with insulated clips for convenient quick connection to the battery. Be certain when connecting the DC leads to the battery that the positive lead (red) is connected to the positive of the battery and the negative lead (black) is connected to the negative of the battery.

AC and DC fuses are provided on a terminal board within the unit for complete protection. The on/off switch and variable control knob are the only moving parts on the Charjall.

With the Charjall in operation, the AC plug connected and the DC cables attached to the battery, turn the knob control to "O" and turn on the AC switch. Turn the knob control slowly and watch the ammeter for indication. Continue to turn the control knob until the desired charger level is reached. Do not over-adjust beyond the maximum output specified by the nameplate. Check the battery with a hydrometer to determine the state of charge of the battery. When the battery reaches its gassing point, be certain the charge rate is 5 amperes per hundred amp hour capacity of the battery (i.e. battery capacity 120 AH finishing rate is 6 amperes).

The CHARJALL will charge any battery from 1 cell to the maximum number specified by the nameplate.

MAINTENANCE PROCEDURE

Frequency of the checks outlined below will be determined primarily by the surround environment, extent of dust, shop dirt, etc. to which units are exposed. Recommend that, as a start, units be checked monthly. This check can then be adjusted based on conditions found. NOTE: Remove power source from units before proceeding.

1. Blow accumulated dust, etc., from units with low pressure air. NOTE: Air must be dry.
2. Check wiring connections for tightness and evidence of overheating.
3. Clean brush tracks using a lint-free cloth and isopropyl alcohol. Examine tracks for evidence of arcing or overheating. NOTE: Repetitive arcing at the same location on the track indicates a problem that will eventually damage the brush track. Occasional randomly occurring light sparkles are acceptable. Do not use any abrasive material to clean or polish the brush tracks.
4. Examine brushes for wear, chipping or breakage. Replace as necessary when worn to approximately 50% of the narrow portion which contacts the brush track. Check brush springs for possible loss of spring force. This can occur if unit has been excessively overheated. Compare with a new brush assembly if in doubt. Assemblies with damaged brushes or springs must be replaced.
5. Brushes removed from the brush block for inspection must be reinstalled exactly as removed and will not require reseating. However, if the brush block is removed, reseating of the brushes will be required, as it is unlikely that the block will be in the same angular position when replaced.
6. Proceed as follows for seating new brushes or reseating assemblies removed for inspection.
 - a) Cut a strip of 400 grit "wet or dry" type emery paper approximately 2" wide and 6-8" long. Place in position on the brush track, behind the brush block with grit side facing the brushes. Install the brushes in the brush block and seating on the emery paper. Assure that the brushes are free in the block by carefully lifting by the shunt lead close to the brass plate. NOTE: Brushes must be free in the holder block.
 - b) Holding the emery paper snug against the brush track, move the rotor back and forth over a 2-3" distance on the emery paper and note the carbon imprint on the paper. When this indicates that all of the brushes have seated full width, hold the paper and move the rotor near one end of the paper. Make a short movement back (1-2") and then back off the end of the paper. Blow out the carbon dust and the unit can be placed back in operation.

General Maintenance Procedure

Yearly

1. Blow out rectifier/inverter with a low-pressure air hose.
2. Make sure all connections are tight.
3. Perform a visual check on all internal components.
4. Check front panel meters and alarms for accuracy.

4th Year

REPEAT ABOVE WITH THE ADDITION OF:

1. Check relay contacts for pitting or corrosion.
2. Check capacitors for leakage.

7th Year

REPEAT ALL, WITH THE ADDITION OF:

1. Filter, resonating capacitors and control relays should be replaced.

10th Year

REPEAT ALL WITH THE ADDITION OF: (except replacing capacitors, they should be replaced every 7 years)

1. Check magnetics, components and wiring for signs of excessive heat.

MANUFACTURER'S WARRANTY

All La Marche Manufacturing Co. equipment has been thoroughly tested and found to be in proper operating condition upon shipment from the factory and is warranted to be free from any defect in workmanship and material that may develop within one year from date of purchase. In addition to the standard one (1) year warranty, La Marche warrants its magnetics and power diodes on a parts replacement basis only for one (1) additional year under normal use.

Any part or parts of the equipment (except fuses, d.c. connectors and other wear-related items) that prove defective within a one (1) year period shall be replaced without charge providing such defect, in our opinion, is due to faulty material or workmanship and not caused by tampering, abuse, misapplication or improper installation. Magnetics and power diodes are warranted for two (2) years after date of purchase. During the last one (1) year of this two (2) year warranty period, the warranty covers parts replacement only, and no labor or other services are provided by La Marche, nor is La Marche obligated to reimburse the owner or any other person for work performed.

Should a piece of equipment require major component replacement or repair during the first year of the warranty period, these can be handled in one of two ways:

1. The equipment can be returned to the La Marche factory to have the inspections, parts replacements and testing performed by factory personnel. Should it be necessary to return a piece of equipment or parts to the factory, the customer or sales representative must obtain authorization from the factory. If upon inspection at the factory, the defect was due to faulty material or workmanship, all repairs will be made at no cost to the customer during the first year. Transportation charges or duties shall be borne by purchaser.
2. If the purchaser elects not to return the equipment to the factory and wishes a factory service representative to make adjustments and/or repairs at the equipment location, La Marche's field service labor rates will apply. A purchase order to cover the labor and transportation cost is required prior to the deployment of the service representative.

In accepting delivery of the equipment, the purchaser assumes full responsibility for proper installation, installation adjustments and service arrangements. Should minor adjustments be required, the local La Marche sales representative should be contacted to provide this service only.

All sales are final. Only standard LaMarche units will be considered for return. A 25% restocking fee is charged when return is factory authorized. Special units are not returnable.

In no event shall La Marche Manufacturing Co. have any liability for consequential damages, or loss, damage or expense directly or indirectly arising from the use of the products, or any inability to use them either separately or in combination with other equipment or materials, or from any other cause. In addition, any alterations of equipment made by anyone other than La Marche Manufacturing Co. renders this warranty null and void.

La Marche Manufacturing Co. reserves the right to make revisions in current production of equipment, and assumes no obligation to incorporate these revisions in earlier models.

The failure of La Marche Manufacturing Co. to object to provisions contained in customers' purchase orders or other communications shall not be deemed a waiver of the terms or conditions hereof, nor acceptance of such provisions.

The above warranty is exclusive, supersedes and is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness. No person, agent or dealer is authorized to give any warranties on behalf of the Manufacturer, nor to assume for the Manufacturer any other liability in connection with any of its products unless made in writing and signed by an official of the manufacturer.