

► Congratulations, you've just purchased one of the most effective products available for ensuring optimum lead-acid battery performance.

The Clarke Battery Maintenance System (CBMS) is NOT a charger. It is a proven electronic device that uses patented pulse technology to help make batteries work harder and last longer by preventing the main cause of battery problems and failure: crystalline sulfation buildup on the battery plates.

Installing the CBMS is very easy, just follow the simple instructions inside.



Clarke[®]
Battery Maintenance System

5-Year Limited Warranty

What Does This Warranty Cover? This warranty covers any defects in workmanship or materials in any circuit board in the Clarke Battery Maintenance System product under normal use and service.

How Long Does The Coverage Last? This warranty runs for five (5) years from the date of purchase.

What Will Clarke Do? Clarke will, at its option, replace or repair any defective CBMS at no charge.

What Does This Warranty Not Cover? This warranty does not cover any parts other than the CBMS. In addition, Clarke will not be responsible under this warranty if Clarke determines that (1) upon examination that the CBMS failure was (A) caused by misuse, neglect, accident, alteration, or abnormal condition of operating or handling (including the failure to install the product in accordance with Clarke's instructions and observe the warnings on the product and the instruction manual), or other conditions beyond the control of Clarke or (B) damaged in transit to Clarke, or (2) the owner is not the original purchaser. IN NO EVENT SHALL CLARKE BE LIABLE FOR ANY DIRECT, SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR EXEMPLARY DAMAGES, EXPENSES, LOST SAVINGS OR LOST PROFITS OR ANY OTHER DAMAGES OF ANY KIND FROM ANY BREACH OF THIS WARRANTY OR OTHERWISE. Some states, provinces or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

How To Get Service? Send the product postage prepaid with proof of purchase (sales receipt) within the warranty period to the authorized reseller where the product was purchased or contact Clarke directly.

How Does State, Province or Country Law Apply? This warranty gives you specific legal rights, and you may also have other rights which vary from state to state, province to province or country to country.

THIS WARRANTY IS THE SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Clarke[®]

14600 21st Avenue North
Plymouth, MN 55447-9983

INSTALLATION MANUAL



Clarke[®]
Battery Maintenance System



Clarke[®]

The Clarke Battery Maintenance System is protected by assigned and / or pending U.S. and international patents.

WARNING: Because of the possibility of personal injury, always use extreme caution when working with lead-acid batteries.

Mounting the Clarke Battery Maintenance System

We suggest you mount the Clarke Battery Maintenance System (CBMS) near the batteries and NOT on the batteries themselves. Make sure it is situated in a location where it is protected and will not accidentally be disturbed by mechanics, etc.

For permanent installation, use two round head screws to attach the CBMS to the surface of the equipment in a protected area.

Connect Lugs To Battery Terminals

For batteries connected in series to equal 24 or 36 volts, use the appropriate CBMS unit designed for each voltage. [See Fig. 1 for an example of how a 24-Volt CBMS is installed on two (2) 12 volt batteries and Fig. 2 for a 36-volt CBMS on three (3) 12-volt batteries].

IMPORTANT: The positive CBMS wire (red) must be connected to the positive (+) battery terminal and the negative CBMS wire (black) to the negative (-) battery terminal in order for unit to work. These are the terminals that attach to the large red and black pack cables.

Once both CBMS wires are connected to the battery terminals correctly, it will allow the unit to send a pulsating dc current into the battery which will prevent and even remove the buildup of crystalline sulfates on the plates.

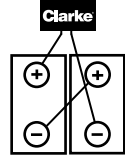


Fig.1. 24-Volt

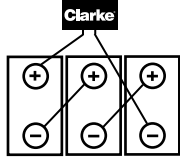


Fig.2. 36-Volt

LED

Each CBMS unit has an LED on top. The LED will blink when the wires are attached to the battery terminals and the unit is activated. Once the unit is installed, if the LED does not light it may be due to one of the following reasons:

1. The CBMS has been installed incorrectly (reversed polarity or a short circuit).
2. There is a bad connection.
3. The battery has a short circuit.

Basic Care and Cleaning

The CBMS is completely weatherproof so normal moisture will not damage it. If the circuit box gets dusty or dirty, simply clean it with a damp cloth. DO NOT use cleaning solvents.

Call For More Information

For more information on installing and using the Clarke Battery Maintenance System, contact your local Clarke dealer.

For the dealer nearest you call 1-800-253-0367 or visit our Web site at www.clarkeus.com.

Precautions

- Make sure the correct terminal lugs are connected to the correct terminals (red on positive and black on negative). Reversing connections could damage the CBMS unit.
- Any solvents that may be harmful to plastic should not be used on or near the unit.
- Secure ALL Clarke Battery Maintenance System wires and verify they are a safe distance from moving parts before beginning machine operation.

Warning

Because the Clarke Battery Maintenance System (CBMS) uses a minimal amount of the battery's energy in its conditioning process; external recharging may be required to replace the drain caused by internal discharge. If used continuously on a stored machine over long periods of time, the CBMS could eventually drain the power within the battery. To counter this discharge, re-charge the battery at least monthly.

The pulsating dc current produced by this product may interfere with the correct operation of some electronic devices when the unit is placed near the antenna. In order to insure no interference, the circuit box should be placed away from the antenna.

Clarke® WARRANTY REGISTRATION

THIS CARD MUST BE COMPLETELY FILLED OUT AND RETURNED TO CLARKE WITHIN 30 DAYS AFTER INSTALLATION OF BOTH 1) A FULL SET OF NEW CLARKE BATTERIES, AND 2) THE CLARKE BATTERY MAINTENANCE SYSTEM UNIT TO OBTAIN 3 YEAR PRO-RATED BATTERY WARRANTY. SEND THIS CARD TO: CLARKE WARRANTY DEPARTMENT, 14600 21st Avenue North, Plymouth, MN 55447-9983.

Battery Part No. _____ No. of Batteries _____ Date Purchased _____ Date Installed _____
Clarke Battery Maintenance Module Serial No. _____ Product or Model system was installed in: _____
Model Product Code _____ Model (Machine) Serial Number _____
Contact Name of Installer _____ Telephone _____
Company (owner of machine) _____
Street Address _____
City, State, Zip Code _____

THIS CARD MUST BE RETURNED TO CLARKE IN ORDER TO OBTAIN THE 3-YEAR PRO-RATED BATTERY WARRANTY (180 DAYS FULL WARRANTY). THE 3-YEAR BATTERY WARRANTY IS ONLY GOOD WHEN A FULL SET OF NEW BATTERIES HAS BEEN INSTALLED. ONLY FAILED BATTERIES WILL BE WARRANTED.