



**barmacinc**

Barclay MacDonald Company Inc

Email: [sales@barmacinc.com](mailto:sales@barmacinc.com)



**Postal Address**  
1543 Bayview Ave, Ste 532,  
Toronto, Ontario M4G 3B5

**Fax**  
1-866-922-7622  
(Local Fax: 416-489-6957)

**Telephone**  
1-877-722-7622  
(Local: 416-489-9637)

**Lab and field tests by individuals, companies and government agencies around the world have proven that our ReNew-IT Pulse Technology works.** It is literally the most effective method available for ensuring lead-acid battery performance, increasing battery efficiency and reducing battery-related costs.

Twelve years ago, PulseTech applied our technology to a full line of innovative and unique products designed to make batteries stronger so they will work harder and last longer than ever before. Today, we offer over 50 products designed to help you reduce battery-related problems and costs.

To get an idea of exactly how important our technology is to the performance of all your vehicles, consider this: **The main cause of vehicle failure is battery failure. The main cause of battery failure is sulfation buildup on the battery plates. And ReNew-IT Pulse Technology prevents sulfation buildup.**

The funny thing is, in most cases your battery is still good. You just can't reach the energy inside. That means you have to buy another battery even though the one you have may still be usable. PulseTech products help prevent this problem -- once and for all.

## How We Make Batteries Stronger

Our products connect directly to the battery. They then emit a pulsating dc current that removes the sulfate deposits from the plates and returns them to the battery acid as active electrolyte. When installed permanently, our products also help keep sulfates from building up again so your battery is in peak condition all the time. In most cases, some of our products can even help renew dead batteries already suffering from sulfation buildup and help bring them back to life.

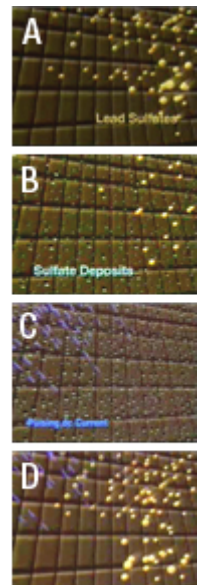
Here's how it works:

**Figure A:** Lead-acid batteries work by releasing energy through an interaction that occurs between the positive and negative lead plates and the lead sulfates in the electrolyte.

**Figure B:** Sulfation buildup occurs as lead sulfates form on the battery plates during the normal charge/discharge cycles. During this process, some of the sulfates enlarge to the point where they won't accept energy so they stay on the plate. Over time these sulfates can build up until efficiency is reduced and finally the battery dies.

**Figure C:** ReNew-IT Pulse Technology works to prevent sulfation buildup by removing the sulfate deposits from the plates through a unique *Ion Transfer* process. The lead sulfates then return to the battery acid as *active* electrolyte. When connected on a regular basis, our battery maintenance systems will also keep the sulfates from building up again. ([Click here](#) to see the results of a discharge test showing the effects of ReNew-IT Pulse Technology on a sulfated plate).

**Figure D:** With the plates clean, the battery will perform at peak efficiency, battery life is extended dramatically and charge acceptance is greater so batteries recharge faster and with better quality. That means the battery charges to full capacity so more energy is available to your vehicle.



## Get TRUE Battery Power

Our technology works with all types of lead-acid batteries including sealed, gel cell & AGM. By keeping the plates "clean", batteries charge faster and deeper so they work harder and last longer than you ever thought possible. They also have greater charge acceptance so your battery will recharge faster and release all of its stored energy. With more available energy so your vehicles last longer between recharges and your electronic accessories work better. You get the true power of your batteries.



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Some of our patented products also prevent the normal loss of battery power on stored vehicles and equipment no matter how long they sit unused -- even months at a time.

They even help protect the environment. Since batteries last longer, it reduces the danger of contamination caused by lead and sulfuric acid dumped from prematurely discarded batteries.

### **Unique Technology**

What makes our technology so unique and so effective is the distinct **pulse waveform** that defines it. This waveform has a strictly controlled rise time, pulse width, frequency, and amplitude of current and voltage pulse. No other battery maintenance system in the world has this specific waveform which means *no other* system can provide the same exceptional benefits as PulseTech products.