

PulseTalk

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INDUSTRY SPOTLIGHT

Golf & Electric Vehicles

PulseTech products help golf cars and other electric-powered vehicles run longer. Want to play an extra 18 holes? You can't with badly sulfated batteries. That's why you need PowerPulse, RediPulse and Solargizer. Available in 36- and 48-volt systems, these units help prevent the buildup of lead-sulfates on battery plates.



No matter what type of electric vehicle you use, you need Pulsetech. By keeping the plates clean, batteries can accept and release a full charge. This means your golf cars have the power they need to run longer between recharges.

Plus, clean batteries also charge faster. In some cases, recharge time can be cut 30-50%. That means PulseTech products can pay for themselves with the money saved in charging costs alone!



TESTIMONIAL

"Solargizer test results were very exciting. During the entire 16-month period, (the Canadian military) haven't had to replace a single battery, despite leaving the electrical system on when parking test vehicles over the weekend."

John Sims
Mil Com Technical Services

SUCCESS STORY

Waste Company Improves Battery Performance

With thousands of lead-acid batteries in use every day, Waste Management, the largest waste disposal company in North America, is well aware of the expense and labor involved in battery-related issues and replacements. That's why, when the company learned of the potential reduction in battery-related costs it could receive by using the ReNew-IT Pulse Technology® battery performance systems offered by PulseTech, it was very interested in taking a closer look.

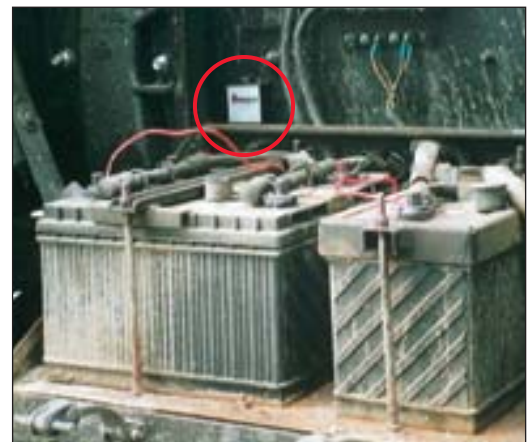
PROBLEM: Like many commercial trucking companies, Waste Management had to jump-start or replace lead-acid batteries on a regular basis, especially in cold climates. This was costly and time consuming.

SOLUTION: In 1996, PulseTech products, including the Industrial 12-Volt Solargizer and the 12-Volt PowerPulse, were installed on a cross-section of collection vehicles consisting of various types, makes and age.

RESULTS: Cold Cranking Amps (CCA) on over 85% of the trucks using the technology improved so trucks started when they were needed. Also, overall battery replacement was reduced by 66%.

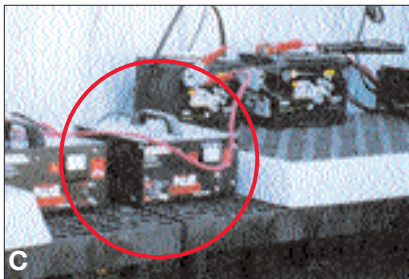
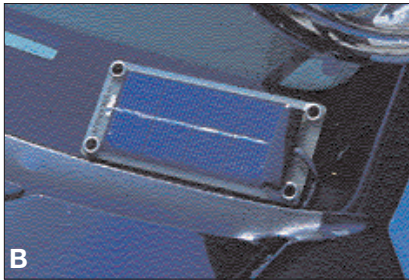
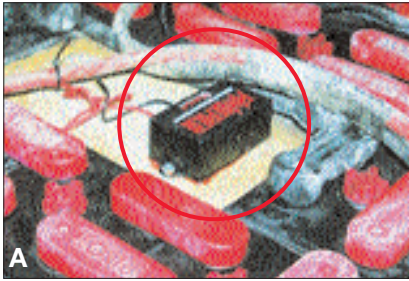
"It got down to 0°, but our trucks using pulse technology products all started," said Don Johnson, who was fleet support manager at the time, "In fact, we had to jump-start several trucks not using the products. The technology has more than paid for itself."

LEARN MORE: See your local PulseTech dealer to see how our products can help increase your battery reliability and performance. For a dealer near you, call us at 1-800-580-7554. Or visit us today at www.pulsetech.net.



(Top) After a year-long evaluation, Waste Management discovered that Solargizer and PowerPulse can save hours of labor time and literally millions on battery-related costs. Industrial 12-Volt Solargizer solar panel (middle) and circuit box (bottom) on a waste truck.

SAMPLE INSTALLS



Installing PulseTech products is easy and well worth the time. Shown above are examples of actual customer installations:

- A. A 36-volt PowerPulse system (735X036) installed on a forklift.
- B. The Industrial 12-Volt Solargizer (735X130) installed on a police cruiser.
- C. A Pulse Charger/World Version (746X725) recovering dead batteries in the maintenance facility of a large city.
- D. An electric highway message board using an Industrial 12-Volt Solargizer (735X130) to maintain the batteries.

TECHTALK FAQ

Presenting a series of frequently-asked questions regarding the benefits of PulseTech products and how they can help your customers:

Is it possible to recover a dead battery that will no longer accept a charge?

Yes. Although our products are designed for keeping good, new batteries in peak condition for a longer period of time, some of them can, in most cases, be used to bring batteries that will not accept and hold a charge back to useful condition.

Here's what you do: Use a PulseTech 475 (741X475) or PT510 Digital Battery Analyzer (741X510) to determine if the battery is a good candidate for recovery (Note: Even though the analyzer may read "REPLACE BATTERY," it could still be recoverable.)

The ideal way to recover a battery is to use our Pulse Charger®/World Version (746X725). Make sure the cells are filled with distilled water and attach the battery to the Pulse Charger. Set the Pulse Charger in the *Pulse & Charge* mode and watch the charger for 20 minutes. If the *Charge Complete* light begins to flash, it is indicating a problem and the battery is probably not recoverable. If the light does not flash, you can proceed.

Put the Pulse Charger on *Pulse Only* mode and pulse the battery for at least 24 hours; then switch to *Pulse & Charge*. The battery should be fully charged within 14 hours. At that point, the Pulse Charger will

shut off automatically so it won't overcharge. Although it is no longer charging, it will continue to pulse the battery.

You can also use the RediPulse Pro-10® (746X900) and the Pulse Recovery System® (746X650) to recover more than one battery at a time. In the case of the Pro-10, the battery must have a charge level of at least 11 volts.

Use the 475 or PT510 analyzer as described above, then attach the battery to a PRS module and pulse for 24 hours. Next, use one of the analyzers to check the battery for improvement. If there has been at least a 20% increase in Cold Cranking Amps (CCA), you may proceed.

Next, attach the battery to the Pulse Charger on *Pulse & Charge* mode and charge it until the charge cycle is complete. If you do not have a Pulse Charger, use a standard charger and attach it to the battery while the battery is still attached to the PRS unit. This way the battery will be charged and pulsed at the same time. Charge the battery for about four hours, then check for improvement.

Keep in mind that some very badly sulfated battery plates could take several days to clean. Also, not all batteries can be totally recovered. If a battery has a short circuit or physical damage, it is impossible to bring back. ❗

Scientifically-Proven Technology

Independent studies by researchers at Oakland University and Ohio State University recently confirmed that ReNew-It Pulse Technology increases battery efficiency and battery life dramatically. These two-year studies showed that our technology allowed a more even distribution of lead-sulfate crystals over the surface area of the battery plates. It also revealed a significant reduction in the size of crystals. These changes greatly improve a battery's ability to store and provide energy.

Our technology also prevents sulfate-induced corrosion that is the primary cause of shedding of active material on the plates. As a result, the life span of the battery is increased dramatically.



(Left) A battery plate covered in heavy sulfation buildup which reduces the battery's ability to accept, store and release energy. (Right) ReNew-It Pulse Technology™ cleans these lead-sulfate deposits off the plates and converts them to active electrolyte. This process exposes the active material on the battery plates which means batteries are stronger so you get up to three times longer life and maximum performance.



Visit this local PulseTech dealer today: