

INDUSTRY SPOTLIGHT

Commercial Trucking

Stronger batteries mean more reliable and efficient trucks.

Long-haul, delivery, service, waste and other commercial trucks all have tremendous battery usage. For example, while they do have on-board charging systems "key off" battery demands are punishing due to GPS, cab heaters, radios, televisions, and other electronic accessories.



Better, cleaner batteries are not a luxury in this industry — they are a necessity. Stronger batteries mean expensive problems such as jump starts (costing \$100 to \$500 each) are virtually eliminated.

Depending on truck type and usage, several PulseTech products can be used. **PowerPulse**® is ideal for frequently-used trucks, while **Solargizer**® and the **Solargizer Solar Charger** are perfect for trucks that are used infrequently and have higher than normal power demands due to on-board electronics equipment.



TESTIMONIAL

"I've been using PulseTech Products for over eight years. The last three years, I have been using Solargizer on my bass boat. On those long tournament days, Solargizer helps keep battery power up. You won't find me without it."

Bonita Staples
Pro Angler & Outdoor Writer

SUCCESS STORY

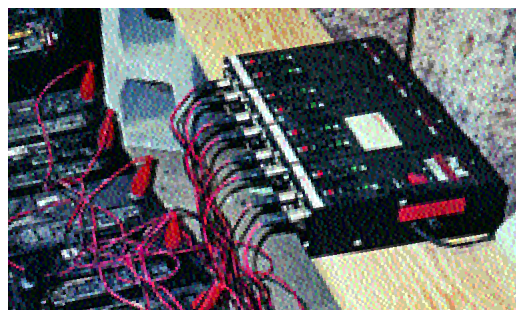
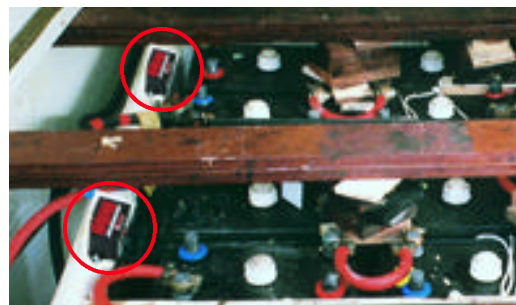
PulseTech Solves Battery Problems For Marine Company

Located in North Vancouver, British Columbia, Seaspan International Ltd. is Canada's largest industrial marine transportation company. It provides services from Mexico to Alaska for the forest industry primarily, including transporting logs, lumber, lumber residuals, petroleum products, chemicals, pulp and paper to and from coastal mills.

The Seaspan fleet includes 20,000-ton self-loading, self-dumping log barges—the largest in North America—and tugs that range in power from 600 to 6,000 horsepower. Fortunately, they don't have the largest battery problem in the industry. That's because they use the **PowerPulse**®, **Solargizer**® and **Pulse Recovery System**® from PulseTech.

PROBLEM: Seaspan barges are used consistently for nine months, then they sit idle during the winter when the logging camps are shut down. In the past, the batteries would sulfate heavily while sitting unused. This buildup on the plates created huge problems. The batteries either would not hold a charge for long or wouldn't accept a charge at all which meant they had to be recharged or replaced at the beginning of every logging season.

SOLUTION: As the various barges and pieces of equipment are tied up in the shipyard, Solargizer and PowerPulse are installed depending on the application. PowerPulse is being used on the Seaspan Rigger, Seaspan Harvester and Seaspan Forester barges. The Seaspan Forester is the largest self-dumping log barge in the world and carries 21,000 cubic meters of logs per trip.



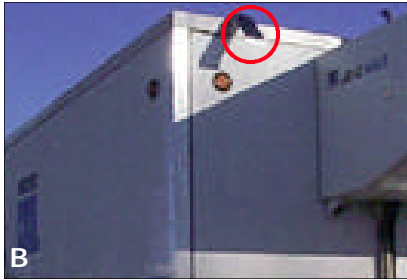
(Top) Since installing the **PowerPulse Battery Maintenance System** on its transport barges and other equipment, Seaspan International has had no battery problems. (Bottom) The company also uses the **Pulse Recovery System** to improve and recover several batteries at its barge maintenance facility.

Besides Solargizer and PowerPulse, Seaspan is also using the **Pulse Recovery System** to recover and improve several fleet batteries at its barge maintenance facility in North Vancouver.

RESULTS: To date, SeaSpan has had no battery problems that have occurred after installation.

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

SAMPLE INSTALLS



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

- A. An Industrial 12-Volt Solargizer (735X130) installed on a combine for a major commercial farming in California.
- B. A reefer trailer with an Industrial 12-Volt Solargizer (735X130).
- C. The circuit box of a 36-Volt Solargizer (735X200) on a golf cart at a Texas country club.
- D. A Pulse Charger/World Version (746X725) charging batteries for a solar race car built by the University of Missouri-Rolla.

TECHTALK FAQ

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

How quickly will sulfation buildup occur on a brand new battery?

The rate of sulfation buildup on a battery will vary greatly depending on battery usage and condition. It will occur faster on batteries that are used infrequently but will still affect frequently-used vehicles (see next question).

Also, keep in mind that even brand new batteries may already be sulfated when they are installed on your vehicle. According to a leading service manual in the battery industry, "since sulfation buildup is likely to occur whenever batteries are neglected for long periods of time, it can occur in new batteries in stock as well as used ones."

Sulfation buildup begins to occur the moment battery acid is added to a battery. So as new batteries sit in storage or on a store shelf, they, too, can suffer from this buildup.

In order to ensure battery performance at all times, it is best if a ReNew-IT Pulse Technology product — such as RediPulse, PowerPulse and Solargizer — is put on your battery the moment it is installed in your vehicle.


Since sulfate buildup occurs more often in infrequently-used batteries, will I need

ReNew-IT Pulse Technology even if a vehicle is operated on a frequent basis?

Absolutely. Even frequently-used batteries charged by the alternator on a consistent basis may suffer from sulfate accumulations. This is especially true for cars, taxis, express delivery trucks, buses and other vehicles.

According to a leading service manual in the battery industry, "it is possible for a vehicle to develop an *undercharged* battery if it is constantly driven at slow speeds and left idling for long periods, as in heavy traffic and combined with high electrical load conditions". Since the vehicle is moving at slower speeds or idling, the alternator is not allowed to charge at an optimum rate.

The result is a battery that is not fully charged even though the vehicle is running all day. And since it isn't fully charged, it will begin to sulfate. A vicious circle is then created because the more the battery sulfates, the less energy it will accept and the battery will be undercharged even more. Ultimately, it too will die.

By keeping the battery plates clean with ReNew-IT Pulse Technology, the battery capacity is increased so it will accept and store energy more efficiently which will help eliminate the problem of battery undercharging. 

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.



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