

# The Cell™

New technology that increases vehicle mileage and lowers emissions

By Diane Mettler

IN TODAY'S troubled economic and environmental climate, the transportation industry is faced with dual challenges — increasing the bottom line while satisfying new environmental regulations. Bob Potchen, vice president of Precombustion Technologies Inc. (PTI), developed a practical solution to both problems.

As a former trucker himself, Bob has a soft spot for this industry's needs. He assembled a team of free-thinking engineers to pool their years of commercial manufacturing knowledge to develop a user-friendly technology that enhanced reliability and efficiency.

Two and half years of R&D and four pending patents later, PTI unveiled The Cell™.

## Tool for the future

"The Cell™ is a stepping-stone into an energy independent future," says Bob. "Its unique design allows it to produce large quantities of higher quality Hydroxy Gas™ — a unique combination of hydrogen and oxygen created from water." (See sidebar.)

He adds, "The Cell™ eliminates overheating issues and maintains a continuous pressurized flow through the unit. This flow cleans the plate surfaces inside the cell, and maintains water levels, both of which have been issues in other companies' designs."

## What is Hydroxy Gas™?

Hydroxy Gas™ functions as a catalyst, improving the combustion of hydrocarbon fuels.

It breaks apart long molecule chains that would otherwise go unburned and become toxic emissions. Although it takes energy to make Hydroxy Gas™ from water, the result is greater overall efficiency — especially in older, inefficient engines.

Even modern engines are unable to completely burn the long molecule chains in gasoline and diesel fuels. This is why catalytic converters were mandated, at a cost of reduced efficiency and performance.

## Testing reveals outstanding results

Extensive dynamometer tests have demonstrated that the addition of Hydroxy Gas™ into the internal combustion engine produces a significant increase in engine

power output and efficiency. The flame front speed is greatly increased and overall combustion is more complete.

"Instead of burning only 30 percent of the diesel injected into the engine, the addition of Hydroxy Gas™ as a catalyst allows up to 80 percent of the fuel to be burned," says Bob. "That's a 50 percent increase in energy use and 50 percent or more decrease in available emissions."

Extensive emissions tests have also proven that The Cell™ allows older and worn engines to exceed the upcoming Tier 4 EPA emissions standards without having to re-power the vehicle with expensive new engines and/or expensive, complex and difficult to maintain emissions control systems.

The resulting gains in efficiency translate to incredible savings in fuel costs. The emissions reductions translate to more savings in oil change intervals and engine life, as well as enabling fleet owners to avoid costly engine upgrades to meet stricter emissions regulations.

Ongoing trials can be viewed on PTI's Web site — [www.thecell.cc](http://www.thecell.cc). Some of the real work results are nothing short of amazing. Diesel trucks, like Kenworth and Volvo, are experiencing, on average, a 50 percent improvement in gas mileage.

## Prepped for production

It's not just the trucking industry that can take advantage of this new technology. Construction equipment, boats and hopefully soon, even homes can be fitted with The Cell™ for heating.

PTI is already getting a huge response from the trucking and marine industry, anxious to experience more miles per gallon, more power, and better acceleration, while lowering emissions. In response, PTI has geared up manufacturing, opening a second plant in Texas.

"The company has streamlined The Cell's™ design and manufacturing process, and is ready to meet the growing customer need," says Bob. "PTI will also be backing up their product with a solid two-year worldwide warranty program and a guarantee of 20 percent gains in mileage."

To date PTI has operated only through word of mouth. That message must be a good one because Bob says, "This company is bursting at the seams." ■

