

## ENGINE ROOM

# STEAM ON THE WATER

The eco-friendly Cyclone engine will power an attempt to shatter the Steam Water Speed Record this summer.

*Above: A model of the Steam Land Speed Record car. Left: The Cyclone Mark V viewed from the front. Below: Frankie Fruge and Harry Schoell with GG MOM.*



“Steam power” and “speed record” are two phrases that seldom occur in the same sentence—at least not in last 100 years. But in a little shop in Pompano Beach, Florida, these words are being spoken together frequently by a talented team of engineers working on a revived clean-energy propulsion technology.

Well-known boat builder and inventor Harry Schoell, designer of the Delta Conic hull (seen on Larson boats, among others) and one of the first trimmable surface drives, helms the Pompano-based company. Called Cyclone Power Technologies, its goal is to develop a modern-day steam engine capable of propelling the fastest commercial steam-powered boat—and car—in history.

Schoell and his team have designed and

By ALLAN GREENE

are currently bench-testing radial steam engines ranging in size from 5 to 350 horsepower. Rest assured, these are not “your grandfather’s steam engines”—they are powerful, highly efficient and extremely eco-friendly.

How powerful? The heat-regenerative, 6-cylinder Cyclone 100-horsepower Mark V engine, for example, boasts 860 ft. lbs. of torque, housed in a compact and lightweight package. How efficient? First-generation prototype Cyclone engines are testing out at over 30-percent efficiencies—better than gas-powered engines. How eco-friendly? Cyclone engines are designed to run on almost any fuel that will burn. So far, gas, diesel, ethanol, methanol, propane, butane, natural gas, syngas, powdered coal and more than 30 other non-imported fuels have been tested in the Mark V, and it is also designed to run on 100-percent carbon-neutral bio-fuels made from algae, palm oil or orange peels—and burn these fuels much more cleanly than internal combustion engines.

“Instead of having multiple engines burning a single type of fuel, our goal is to have one engine that powers different vehicles and burns just about anything,” Harry said. “Our motto is ‘One planet, one engine.’”

His hope is that the modern Cyclone steam engine could one day help wean the U.S. off foreign oil—perhaps even domestic



*The automotive version of the Cyclone Mark V engine will be powering the upcoming attempt on the Steam Land Speed Record, and ultimately should be ready for consumer, commercial and military use.*

oil. In fact, one of the amazing features of the Cyclone engine is that it is completely water-lubricated—it requires no motor oil

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whatsoever. Unlike the internal combustion engine, the Cyclone is a naturally clean engine, even without costly exhaust after-treatment. The engine's patented combustion chamber burns fuel so completely, and at such low pressures, that it produces virtually no NOx and very few carbon particle emissions.

This summer, Cyclone plans to place its Mark V Cyclone engine in the Schoell-designed 21-foot raceboat *GG MOM*. At the throttle will be Cyclone Co-Founder Frankie Fruge, gunning for a record that will establish *GG MOM* as fastest steam-powered boat in history—and make her the fastest great-grandmother on earth.

Until 1911, with the rise of the internal combustion engine, all the World Water Speed Records were held by steam-powered, propeller-driven vessels, including Nathanael Herreshoff's *Stiletto*, William B. Cogswell's *Feiseen*, =Charles Algernon Parsons' *Turbinia*, and Charles R. Flint's *Arrow*. The *Arrow* still holds the unofficial Steam Water Speed Record at 45 miles per hour. Frankie and her female crew plan to shatter that mark by reaching speeds of 60 miles per hour on the flat waters of Palm Beach's Lake Ida.

There's one other feature that could excite the boat enthusiast. The Cyclone engine is very quiet. This speed attempt is not going to sound like offshore thunder, and maybe one day, neither will your speedboat or sportfisher.

Not long after, an automotive version of the Mark V Cyclone engine will power a car designed to break the Steam Land Speed Record. A record of 127 mph was set in 1906, with American driver Fred Marriot at the wheel of a Stanley Steamer. In 2009, The British group "Team Inspiration" broke the long-standing mark with an average speed of 148-miles-per-hour. Now, Cyclone has joined forces with veteran steam car racer Chuck Williams and his Team, Steam USA, to wrest the record back from the British. Their record run will take place on the Bonneville Salt Flats later this year. With the standard 100-horsepower Mark V Cyclone engine, a speed of about 165 miles per hour is expected on land. Later runs will use a modified Mark V achieving 200 horsepower, with a goal of reaching speeds in the 220 mile-per-hour range. Both surf and turf record runs should provide a solid demonstration of the capabilities of modern steam power – a green engine technology whose time has come...once again. 

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