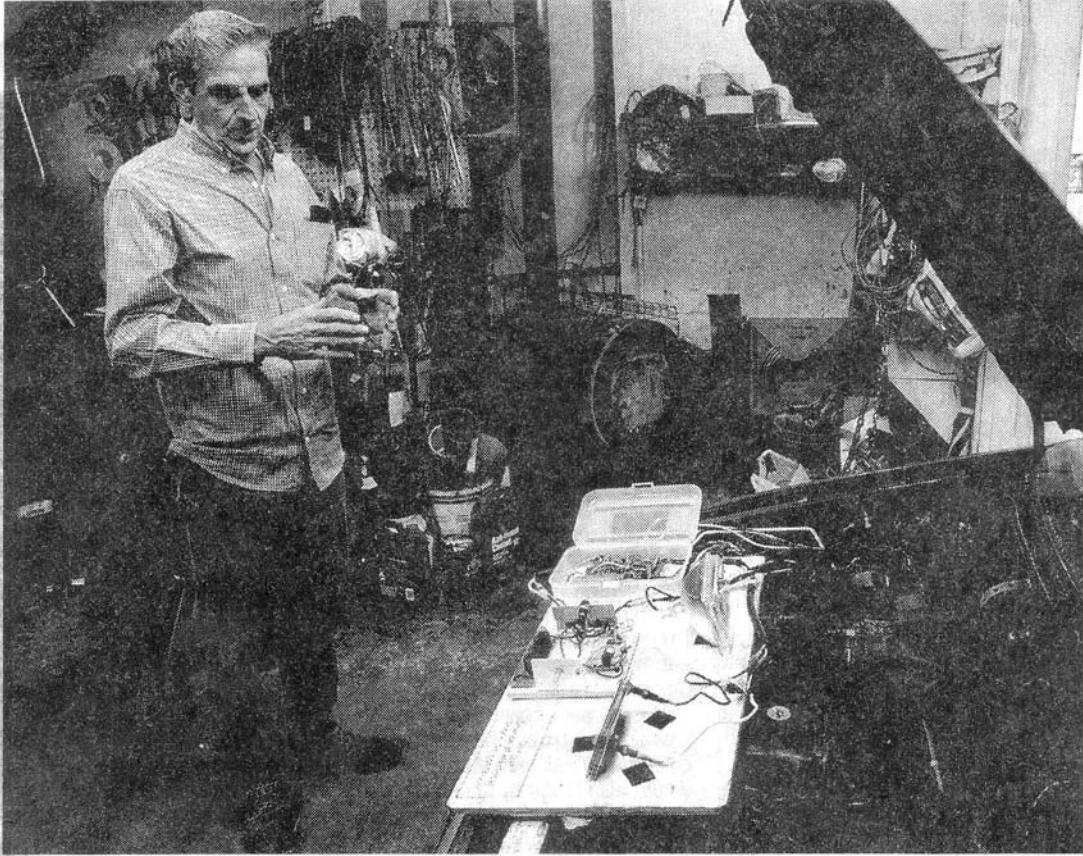


(NOTE: This is reformatted from Meramec Journal 12/20/06)

De Soto pair working on hydrogen car



ANDREW JANSEN PHOTO

Bill Caine explains how the car fueled by hydrogen gas will work at his shop in De Soto.

Bill Caine and Dave Williamson never gave up on alternative fuels

"You can just stop at the creek and fill up your car." Bill Caine-Engine builder

By Sarah AuBuchon (Staffwriter)

Bill Caine and Dave Williamson are hoping cars fueled by water will be the wave of the future. The De Soto duo is always looking for fuel alternatives. First there was a car powered by acetylene in the early '80s. Then there was the '70 Plymouth Fury that ran on fumes. While the pair has yet to build a prototype, they are in the process of revamping a 1993 Ford Festiva that they claim will run on ordinary tap water. "You can just stop at the creek and fill up your car," Caine said. "We ain't pulling nobody's leg. There are no gimmicks to it." The two are working on a microprocessor they claim performs a regulated form of electrolysis, where water is electrically charged and gives off hydrogen gas. Eventually, the microprocessor, which Williamson said would fit into a shirt pocket, will run off the car's electrical system and produce hydrogen fuel. "There are no fumes," Williamson said. "The only thing you may have would be moisture, but you could put a little collection box on your tailpipe to collect the water and let it go right back into your tank." Williamson said ordinary electrolysis requires an acid or salt mixture to separate the hydrogen. It also creates waste heat and raises the water temperature by one degree every few seconds and uses three times more energy than it creates. The microprocessor uses ordinary tap water, reduces the current flow and does not produce large amounts of heat.

Debbi Smith, vice president of the National Hydrogen Association, said electrolysis takes distilled or purified water and does not require an acid or salt. She said it cannot be done with ordinary tap water. "I'm really skeptical. It sounds to me like what they are making is a vaporizer you buy in the store when you have a cold," she said. "You cannot use distilled water in those. What they could be making is steam. Smith said a car could run on hydrogen, but it would not be practical. "Your average car goes about 300 miles on a tank of gas," she said. "An internal combustion engine is only 25 percent efficient, with 75 percent going back into the air as emissions. When you talk about electrolysis, it is even less efficient so you need to compensate for that. You would have to have a huge storage tank, a huge electrolyzer, or both."

Williamson said hydrogen fuel would be much safer than gasoline. "It takes a flame of about 2,000 degrees to light," he said as he demonstrated an explosion of hydrogen gas using a very hot acetylene torch. "If someone hits your car, it won't blow up." Although water freezes at 32 degrees, Caine said adding a little alcohol to the water would eliminate that problem. "Women may ask. 'Can I put my husband's beer in it and drive on it?' You bet." Caine said there are allegedly 130 businesses trying to perfect hydrogen to use as motor fuel, but as far as he knows, he and Williamson are the only ones in Jefferson County. Caine said he didn't know when the car would be ready for a test drive, and he didn't think he would try to market it. "I'm just going to drive it and save gas," he said.

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