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Subject: Automotive turbine technology

In 1965 I was privileged to not only see but to get a ride in one of Chrysler Corporation's 25 prototype test cars. The Dr. (name not remembered) who had been selected to road test this vehicle for one year frequented a watering hole where my friends and I hung out near the Washington Navy Yard in Washington D.C. He was nearing the end of the year long test and told us of the problems they had encountered and the solutions used by Chrysler's engineers to address them. He was also quite animated in telling about the fuels used to power it. They tested it with liquid fuels, gaseous fuels, and even dry powder fuels. He explained that the performance was virtually the same regardless of the fuel type. All that was needed was the ability to atomize it and inject it into the combustion chamber of the turbine. The best part from his perspective (even in 1965) was the fact that the exhaust consisted of hospital pure air and water. Virtually all particulates from the intake air were consumed with the fuel in the high temperatures of the turbine engine. What a concept! Here was a vehicle that could be made to run on waste products and actually cleaned the atmosphere as it ran.

In the mid 70s, Andy Granatelli (pardon the spelling of his name) thought enough of the turbine engine to field a couple of race cars at the Indy 500. These cars consistently ran rings around every other conventional car on the track until a \$5.00 bearing failed causing them to drop from the race. After the embarrassing superiority of these cars was demonstrated, the racing establishment promptly banned them from all future racing venues. After that, the turbine concept simply slipped into oblivion like so many other good ideas that were never allowed to come to fruition. These early attempts tried to use the turbine engine for direct propulsion so they had to be relatively large and a lot of space had to be given to cooling the exhaust and simulating engine braking to avoid excessive brake wear.

With today's technology it would seem that a small turbine operating at its optimum power curve could be used to power a generator which could then power electric drive motors with excess power used to recharge the start-up and initial drive batteries. However, I have not heard of anyone who is investigating such an approach. The military and commercial aviation establishments have used a variation of this for years. While turbines are used for primary propulsion in ships and aircraft they also, it just so happens, drive generators which manufacture electric power for the needs of the craft. If that is practical and feasible then it requires no stretch of the imagination to visualize an automotive application. Small turbines are available to hobbyists to power models for goodness sakes so it logically should be possible. So why hasn't this been done?

In the mid 70's Chrysler Corporation was in dire financial straits. Lee Iacoca was brought in to use his influence in the Government to secure tax breaks and employee concessions in an effort to bring them back to solvency. This supposedly worked and they temporarily got back to normal but the whole turbine engine project suddenly disappeared. The general story given the public was that it was not practical or readily marketable due to production costs (wink wink).

Anecdotally a theory circulated that the real story involved clandestine negotiations between Mr. Iacoca and the oil industry big wigs and substantial under the table contributions were made to bail out Chrysler under the condition that the whole turbine engine concept be shelved and never

revisited. Whether this is true or not shall remain one of life's great mysteries but given the greed of American business and industry such a theory has some merit since big oil was caught unaware by this new concept and didn't have their finger in all of the potential fuel sources that this engine could utilize.

Now big oil is suddenly investing in alternative energy sources. Of course they are. If they invent it they control it and can capitalize on it. It's all about the dollar folks! Never mind the environment or our wallets. This could also explain the dearth of research being done in this area. Most large research institutions tend to be funded in large part by industry and it is highly unlikely that they would contribute to the development of a technology that would substantially erode their business unless they had complete control of it. It would truly be interesting to know if anyone has pursued this approach and shown it to be really impractical or is it just being suppressed in the interests of big business (ie. oil companies)? I am not an engineer and can't begin to understand the practicalities or complexities of applying such technology but I do know that if there is a dollar to be made some really amazing progress can be realized.