Unconventional, unusual, unlikely, unpolluting, uncombusting, unbelievable, unsurpassed...these are all words that have been used to describe the Electrek TH Uncar TH from Unique Mobility. What is the Uncar? Well, it is a state-of-the-art electric automobile.

Five years ago when Unique Mobility began development of an electric automobile, they considered converting a gas powered vehicle - a regular car - to the electric mode. However, they discarded the conversion approach as improper, and set out to develop their own - Uncar.

John Gould, president of Unique, notes that "We discarded the conversion approach because: first, it did not provide the necessary safety for the occupants of the vehicle; second, it would not deliver the performance that an electric vehicle should be capable of; and third, it did not offer the long term reliability and low maintenance cost that should be inherent in an electric vehicle."

Unique started development by discarding everything on a conventional vehicle that was inappropriate for an electric car. This left only tires, suspension, seats, windows, steering, brakes, and a few instruments. What went by the wayside were the metal body, heavy drive train, engine, metal frame, and other parts that for reasons of weight, corrosion, or electric conductivity were not appropriate for the Uncar. From that point, Unique used a systems design approach for the best integration of safety, body design, battery placement, suspension, power, and control. The final design utilized available state-of-the-art components which met program objectives and design requirements.

In areas where available components were not compatible with performance requirements, design specifications were prepared and new components with improved performance were developed.
The result of this work, and the five years of development and testing behind this work have brought Unique's "Electrek" car, to its current state of production readiness.

The Electrek is available either as a 2+2 sedan, or as a hatchback. The unitized body-chassis structure is completely fabricated from fiberglass reinforced plastic (FRP) for the best strength-to-weight advantage. fiberglass is resistant to electric shock and battery acid, is non-corrosive, has excellent noise and heat insulating properties, and can be assembled with a minimum number of body parts and mechanical fasteners (hence, no rattles).

The centrally located battery tunnel contains 16 six-volt batteries on a removable tray. This arrangement provides the best safety for passengers (on possibility of forward propulsion of batteries into occupants), improved vehicle handling and stability, and ease of maintenance and replacement. The battery compartment is designed for high strength and is sealed from the passenger compartment.

The controller used in the vehicles was designed by Unique Mobility. It is extremely efficient, light-weight, provides regenerative braking (partially recharges batteries), diagnostic readout on the instrument panel and fail-safe design to protect against battery short circuits, runaway motor, and inadvertent control functions which could jeopardize the safety of the vehicle or passengers.
The styling of the vehicle took into consideration not only eye appeal, but also configuration and profile. Corner radii and roof contours were designed to enhance aerodynamics. The flat smooth bottom with a minimum of protuberances, contributes significantly to the low drag of the vehicle. The tire selection by Unique was designed specifically to minimize rolling resistance. The result of Unique's efforts is a quality, high performance, quiet, front wheel drive vehicle with acceleration from 0 to 30 in 9 seconds, top speed of 75 mph, and a range of 100 miles at a constant 40 mph speed.

Unique estimates that the vehicle can be operated at a cost of about 1¢ per mile, well below the operating cost of even the most efficient compacts available on the market today. In addition, there are a number of factors that contribute to the potential reliability of the vehicle. First, there are a minimum number of moving parts in the vehicle, therefore, there is less to go wrong. Second, electric motors are inherently reliable. Third, the vehicle utilizes only the latest in solid state electronics so that there are no tubes to wear out, or other parts to malfunction. Lastly, unlike conventional vehicles where well over 50% of the maintenance is done on the motor, this car has an electric motor so that there is a minimum of required maintenance to be done.

It all adds up to a car that is unlike anything else available today, the Electrek Uncar from Unique Mobility.

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