

## Air Cars- Next Big Thing or Pie-in-the-sky?

by Jason Lomberg, Technical Editor



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When we think of advanced technology vehicles, we usually conjure hybrid electric, fuel-cell, and solar cars. But the term, in fact, encompasses a wide-variety of off-the-wall designs including our most fundamental resource- air. Compressed air, as a technology, is nothing new. Seen in everything from [power dusters](#) [1] to [UPS's](#) [2], compressed air has a wide scope of application. But as an ATV variant, compressed air is relatively new (and unproven). French-based [Motor Development International](#) [3] (MDI) has, since 1991, taken the lead in creating a viable air-powered vehicle.

CEO/founder of MDI and former race car engineer, Guy Negre, is credited with creating the air car. This may be due to his popularizing the colloquialism “air car,” an attention-grabbing title. Who doesn’t want to learn more about a vehicle powered by air? The technology has advanced to where we now have an air car hybrid. [Zero Pollution Motors](#) [4] (ZPM)

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is the US manufacturer of MDI's air car, and ZPM hopes to deliver the vehicle by 2010 (they will begin reservations in '09).

The title "Zero Pollution Motors" is a bit of a misnomer, since it's only emissions-free at speeds <35 MPH. At such velocities, it runs entirely on its compressed air tank, and emits zero pollutants. Over 35 MPH, the air car uses various fuel archetypes (be it gasoline, propane, ethanol, or bio fuels) to heat air inside a chamber as it enters the engine. At highway speeds, the air car expels 0.141 lbs of CO<sub>2</sub> per mile. The air car can accelerate up to 96 MPH, with 106 MPG, and a range of 848 miles on an 8 gallon tank. It should be noted that these are all estimates, and experts are skeptical of the figures, particularly the astronomical 106 MPG (compared to [46 MPG](#) [5] for the Prius, the current leader).

An obvious criticism of the air car is its weight. In comparing the [air car](#) [6] with my vehicle, the [1998 Chrysler Sebring](#) [7], the former weighs a paltry 1,874 lbs, while the latter is over 50 percent more at 2,967 lbs. Numerous studies have suggested that heavier cars are safer. As [pointed out](#) [8] by the [National Highway Traffic Safety Administration](#) [9] (NHTSA), "When two vehicles collide, the laws of physics favor the occupants of the heavier vehicle (momentum conservation). Furthermore, heavy vehicles were in most cases longer, wider and less fragile than light vehicles." There's the aesthetics issue. Will consumers buy a car that looks like the escape pod from Star Wars? Cutesy vehicles that resemble toy cars tend to do better in overseas markets than in the U.S. Will the air car jockey for position in the emerging ATV market, or fizzle away?

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[1] <http://www.criticalcleaning.com/CCDusters.htm>

[2]

[http://www.activepower.com/fileadmin/documents/data\\_sheets/coolair\\_ups\\_ds.pdf](http://www.activepower.com/fileadmin/documents/data_sheets/coolair_ups_ds.pdf)

[3] <http://www.mdi.lu/english/entreprises.php>

[4] <http://zeropollutionmotors.us/>

[5] <http://www.fueleconomy.gov/feg/noframes/24882.shtml>

[6] [http://zeropollutionmotors.us/?page\\_id=43](http://zeropollutionmotors.us/?page_id=43)

[7] <http://www.automotive.com/1998/12/chrysler/sebring/specifications/exterior-aerodynamics.html>

[8] <http://www.nhtsa.dot.gov/cars/rules/regrev/evaluate/pdf/809662.pdf>

[9] <http://www.nhtsa.dot.gov/>