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OFFBEAT FROM MENTAL FLOSS

Up, Up, and Away! Seven Modern Flying Car Designs

By Rob Lammle

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Almost since the invention of the automobile, people have dreamed of building a single vehicle that could drive on the road and take to the sky. Over the years there have been numerous attempts to build a viable "roadable aircraft" – a self-contained airplane/car hybrid – but few of these concepts ever made it off the drawing board. And even fewer made it off the ground. But with advances in technology and engineering, modern designs for the flying car are making that dream closer to reality.

1. AFA Sokol A400

One such design is the Sokol A400 from the Advanced Flying Automobile (AFA) Company of Huntington Beach, California. At first glance, the A400 looks like a new model sports car, with its swooping lines and sporty appearance. A look under the hood would further your assumption, as you would find a Chevy Corvette engine, capable of reaching speeds of 100MPH. However, at the touch of a button, telescopic wings emerge from the roof; a rear propeller pops up from the trunk; the "spoiler" becomes a vertical stabilizer that extends up over the car; and, finally, a pair of horizontal stabilizers appear from just behind the rear wheels. James Bond would be proud.

The A400 is still in the engineering phase, though a one-quarter scale model is currently being tested. AFA hopes to have a full-sized prototype built in the next few years, with production to begin within five years if possible. The projected cost to consumers looks to be somewhere in the range of \$300,000 - \$400,000.

2. The Milner AirCar

Another promising design is the AirCar by Milner Motors in Vancouver, Washington. This flying car is a four-door, four-seater with wings that fold up over the rear of the vehicle when driving, making it about the same width as a Toyota Corolla. It uses dual ducted fans (a propeller mounted inside a cylinder, which allows for more thrust than a standard propeller) to reach air speeds of up to 200MPH for a 1,000 mile flight range. To keep you under the speed limit on the ground, a separate 40-hp engine operates the wheels while driving.

According to the Milner website, a working prototype of the AirCar is currently being constructed. Once the design has been put into production, the estimated price is somewhere in the neighborhood of \$450,000.

3. Macro SkyRider XR2

One of the major concerns people have with the idea of a roadable aircraft is the safety issue surrounding a bunch of fast, flying objects all trying to occupy the same airspace. One company, Macro Industries, is taking this into consideration with the development of their four-passenger, vertical take-off and landing (VTOL) vehicle, the SkyRider XR2.

Macro is specifically building their flying car to integrate a "highway in the sky" computerized navigation system being developed by NASA. The new system will be similar to our current turn-by-turn GPS navigators, but will also be able to monitor air traffic to determine the best altitude and route to take to avoid other vehicles. SkyRider XR2 would take this system a step further by allowing you to simply program a destination and it will do the flying for you, making changes along the way based upon air traffic and weather conditions.

The SkyRider XR2 is still in the prototype phase while they look for investors to help fund the project. Once they're able to start building, they estimate the cost to be \$500,000 to \$1 million at first, but hope to get the cost down to \$50,000 once demand makes mass production possible.

But what if the most feasible flying car isn't a car at all? Two companies are working on flying motorcycles with very different takes on the concept.

4. Samson SkyBike

Samson Motorworks is developing the SkyBike, a two-passenger "Multi-Mode Vehicle" (MMV) with telescoping wings that appear from the sides of a shark-like body. Running on regular unleaded gasoline, the bike is expected to get 55 MPG on the ground and will be capable of flying 220 miles before refilling the tank. However, they're working on a hybrid version that will hopefully make this an even more efficient vehicle on the ground and in the air.

5. PAL-V One

Another three-wheeled vehicle comes from the company PAL-V Europe, but this model has a distinct twist: The PAL-V One looks like a car, handles like a motorcycle, but flies like a gyrocopter. The rotor blades fold up on the roof when not in use, and a rear-mounted propeller is hidden by the tail that slides in and out from the back. The PAL-V One will cruise at 125MPH for 500 miles, but unlike many flying car models, will travel at an altitude of only 4,000 feet – high enough to get out of street traffic, but low enough to stay away from normal planes.

Both flying motorcycles are still in development, with the SkyBike projected to become available in late-2009, and the PAL-V One ready as soon as 2011.

While these concept vehicles are fun to dream about, there are a few flying cars that are really taking off (pun entirely intended):

6. Parajet SkyCar

The Parajet SkyCar is designed to be an off-road vehicle, with the added ability of flying over obstacles like mountains or water. To accomplish lift, it uses a large, rear-mounted propeller that runs on bio-fuel and a parasail wing that extends from the top of the vehicle. This combination allows the car to fly for around 185 miles at nearly 70 MPH, all at a cruising altitude of 2,000 – 3,000 feet (maximum is 15,000 feet).

But the SkyCar isn't just a sketch on someone's drawing board. Starting on January 14, 2009, a team of adventurers – driving a caravan of motorbikes, 4-wheel drive vehicles, and the SkyCar – went on an expedition, traveling from London to Timbuktu. The team crossed through England, France, Spain, Morocco, and the Sahara Desert using the Skycar as aerial reconnaissance to help guide the caravan through the various types of terrain. Not only was the journey impressive, the SkyCar also set a record as the first bio-fuel flying car to cross the Straits of Gibraltar. The

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expedition ended on February 25 as riotous crowds welcomed the adventurers to the city center of Timbuktu. It was an amazing feat and a true testament to the feasibility of a roadable aircraft.

If you'd like your own aerial reconnaissance buggy, the SkyCar will soon be available with a projected purchase price in the neighborhood of \$100,000. Or you might want to wait for the next generation model currently being designed – a sleek, silver beast that would look good on the road or off.

7. Terrafugia Transition

However, if you're looking to navigate the urban jungle, you might want to consider The Transition from Terrafugia out of Woburn, Massachusetts. The Transition, designed by a team of MIT-trained engineers, is a roadable aircraft featuring motorized wings that fold out in about 30 seconds. When on the road, the wings fold up so close to the body that you can fit the vehicle inside a standard, single-car garage. Yet it's still roomy enough for two people and their luggage, including such luxuries as skiing equipment or golf clubs.

To get airborne, the Transition uses a large rear propeller that will send the vehicle through the sky at 115MPH for a range of 460 miles. Best of all, it uses standard unleaded gasoline and gets a respectable 30MPG on the road.

Much like the Parajet SkyCar, this isn't just the pipe dream of an ambitious inventor – as you can see in the video below, the Transition made its first runway test flight on March 5, 2009, with more extensive flights to follow soon.

Unlike other roadable aircraft, if you want your own Transition, you can actually order one right now with a \$10,000 down payment. The final purchase price will be in the neighborhood of \$194,000 and the first owners should be able to take flight in 2011.

It's hard to say if we'll all one day fly to work or to pick up the kids from soccer practice. But if these modern designs are any indication, the long-held dream of a flying car in every garage might just become a reality.

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