

# SureFly keeps focus on new day in safe, two-seater flight

May 7 2018, by Nancy Owano

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Credit: SureFly

SureFly's hybrid gas- and battery-powered vertical take-off and landing vehicle is making news after declaring success on its first flight—manned, untethered, lifting off for the first time, outside Cincinnati, Ohio.

The hybrid electric two-seat helicopter SureFly from truck company Workhorse.

In the video of the liftoff, SureFly CEO Steve Burns called attention to a number of features, including the training wheels, or outriggers.

The flight was actually a "hover" lasting only seconds. Yet Burns called the event "a huge milestone for our company."

What milestone? As far as test flights go in general, how is one impressed over a craft that was in the air for seconds, just making it off the ground?

There are answers for that.

Joel Stocksdales, *Autoblog*: "As you'll see, for its first time off the ground, it pretty much just hovers for a bit before landing again. But it does fly under its own power, and it's not connected to anything, which is an [important](#) milestone in its development," said Stocksdales.

"While a few feet of hover might seem insignificant," said Sasha Lekach, *Mashable*, the passenger drone startup is hailing the untethered lift-off with a pilot outside of Cincinnati, Ohio, as a huge [success](#)."

As more details about the helicopters are known, it does seem like a big deal worth watching. The way SureFly sees it, "after 78 years the helicopter has been [reinvented](#)."

The way in which [self driving cars](#) are making the highways safer, SureFly takes that benefit to aviation. You have heard the talk before, of flying taxis, of short-haul carriers above ground to create an option to road traffic, and this vehicle suggests it may come round before long.

This new flavor on helicopters touts safety as a key attribute. Its designers put battery backup and a ballistic parachute in the mix.

More stable vehicle than the typical helicopter, it has props connected to electric motors. The four carbon fiber arms fold down, for storage in standard garages.



Credit: SureFly

Nick Lavars in *New Atlas* summed up key features: The SureFly was designed to use a mix of diesel and electricity "to power eight contra-rotating propellers and carry up to 400 lb (180 kg) over a range of approximately [70](#) mi ( 112 km)."

SureFly listed the following features: electric driven props, having two

props per arm, contra rotating. The craft has 8 motors, and each drives a propeller. A gasoline piston engine drives dual generators to provide power to the prop motors. The dual lithium battery packs, 7.5kWh each, are for emergency landing power in the event of generator failures.

The maximum altitude was given as around 4,000 feet.

Well, since safety is touted, consider the next disaster level, because if all that should fail, the plan is to have a ballistic parachute in there as well, for bringing the whole craft down.

SureFly said it has an estimated 70-mile flight range, designed for short hop applications. The curb weight is 1,100 lbs.

As explained in the video, the pilot is going to tell the computer, 'take me over there,' and the computer is going to figure out how to do that.

Applications? Burns said there was a lot of short hop applications possible.

Stocksdale said, "SureFly proposes a wide variety of applications for its vertical-take-off-and-landing (VTOL) aircraft, including taxi, agricultural, military, first responder and commuting duty."

This two-seater could be carrying pilot and passenger, obviously, or pilot and cargo. The company did spell out applications such as precision agriculture, emergency responders, city commuters and the military.

The target [price](#) is under \$200,000.

Mechanical engineering, electrical engineering, aerospace engineering—it takes all those disciplines, said Burns, "to make it happen."



What's next? "It all seems like it's getting much closer to production," said Stocksdales.

Burns has his own game plan to execute. "For a craft like this, hovering is not much different than flying." He said in the next step, "we hover for maybe 5 feet, then 10 feet," and then eventually they can start to fly.

**More information:** [workhorse.com/surefly](https://workhorse.com/surefly)

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