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MOFD's new drone to help with emergencies, search and rescue

By Cathy Dausman



MOFD's new drone. Photo C. Dausman

With its agile new helper, the Moraga-Orinda Fire District now has an extra set of eyes in the sky - a six pound Unmanned Aerial Vehicle, or drone.

Its uses include search and rescue, medical emergencies and aerial photography in addition to fire service training.

The UAV, an Inspire 1 model manufactured by SZ DJI Technology Company was purchased with a recent \$10,000 gift from RESCUE ONE Foundation. The drone was outfitted with two swap-out upgrades: a high-resolution camera and a FLIR infrared camera. The drone can carry a payload of two pounds, making it capable of ferrying a small first aid kit or portable radio to a victim who can't be reached from the ground.

"We are pleased to be using this technology to help support our mission of all-risk emergency service and community risk reduction," said Fire Chief Stephen

Healy.

Commercial small drone operators are now licensed by the Federal Aviation Administration and only one MOFD employee - Capt. Michael Marquardt - is currently permitted to fly it. Marquardt has flown drones for the past 10 years, first as a hobby and now for MOFD.

"It takes a little time to learn how to fly these things," he said.

The drone was unveiled at a Moraga Fire Station 41 demonstration in April with an audience of MOFD employees, volunteers and members of the RESCUE ONE board of directors on hand. Its infrared camera quickly located a volunteer hiding under a nearby canopy of trees. Four days later it was called into service during a search for a UPS truck driver feared injured and lost after an accident in Lafayette's Hunsaker Canyon, where, said Marquardt, "it did exactly what it needed to do."

MOFD used the resource again May 11 when a vehicle overshot the embankment on Pinehurst Road south of Canyon Road and May 12 to monitor firefighting efforts during a residential structure fire in Orinda. It has also been used during training flights over Station 41.

Healy said MOFD does not fly the drone during a vegetation fire, and neither should anyone else. "It is actually illegal," he added, explaining that Cal Fire does not fly its aircraft in an area where drones are aloft. "If you fly, we don't," Healy said.

Before takeoff Marquardt consults smartphone apps B4UFLY, AirMap and ForeFlight to learn of possible airspace restrictions; he checks Aviation and 1-800-wx brief for weather reports.

A tablet computer controls the white with red stickered UAV with the red and green running lights and white strobe. It is capable of flying 60 miles per hour although Marquardt currently keeps it under 47 mph. It has a flight life of 23 minutes. While not waterproof, it operates with good stability in winds up to 23 miles per hour.

While FAA regulations require line-of-sight operations, a flight path under 400 feet and daylight only operations, the MOFD operator has obtained a waiver allowing flight operations after twilight.

The New York-based Center for the Study of the Drone says 347 public safety agencies nationwide use drones; 23 of those agencies are in California.

Alameda County Sheriff's office has six drones, and used one during Oakland's Ghost Ship warehouse fire in Oakland last December. Menlo Park Fire Protection District has three "large frame" drones plus a few handheld drones. Contra Costa County Fire Protection District, San Ramon Valley Fire Protection District, and the Rodeo-Hercules Fire Protection District are in the process of designing their own programs, Marquardt said.

"This is another tool - an extra set of eyes to keep firefighters safe," said MOFD Emergency Preparedness

Coordinator Dennis Rein. Marquardt agreed, adding "the possibilities are endless." And like any good pilot, he is still building flight time. He is scheduled to attend a Menlo Park Fire Protection District symposium on public service drone use June 2. "Every day there's something new (to learn) and I'm trying to stay on top of it," Marquardt said.

[Editor's note: Lamorinda Weekly reported earlier on local drone use in a November 5, 2014 story: <http://www.lamorindaweekly.com/archive/issue0818/Drones-in-Lamorinda-The-good-the-bad-the-unmanned.html>]

Reach the reporter at: cathy.d@lamorindaweekly.com

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