

New paradigm in police helos

By Matt Thurber

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Avionics

One of two Fairfax County (Va.) Police Department Bell 407s modified by Paradigm Aerospace is on display at the L-3 Communications booth (No. 2847). Chief pilot Paul Schaaf and pilot Mike Mountjoy flew the 407 from Fairfax to Heli-Expo on Saturday, which gave them an opportunity to test all the equipment installed by Paradigm.

The Fairfax Police's Helicopter Division operates two 407s—a 1996 and a 2000 model—and has used helicopters since 1983. The helicopters fly with one pilot and two crewmembers who are paramedic-trained police officers.

The 1996 model on display here has more than 7,000 hours total time and still looks new with two-year-old paint (by Paradigm) and fresh leather and plastic interior, along with a major upgrade to the instrument panel as well as external modifications. The department upgraded its existing helicopters, Schaaf said, because it plans to buy new ones, possibly Bell 429s, in the next few years and “we wanted to inject some new life into ours while we’re waiting.” Some of the equipment in the 407s will also be transferred to the new helicopters.

Paradigm technicians installed a Wescam MX-15 geo-stabilized infrared and video system on the nose. “We really wanted a high-power thermal-imaging system,” said Schaaf, “because 60 percent of our flying is at night.” The Wescam system delivers precision targeting and excellent stand-off range capability, he added, so pilots can hone searches from safer altitudes. The Wescam infrared system is integrated with an AeroComputer LE-5000 tactical moving-map system that plays on a large display in front of the front left seat and on a display in back. While tracking a suspect on the ground, the moving-map software can show the address of locations on the ground, overlaid by the infrared image. This helps the helicopter crews better direct ground personnel to specific locations, Schaaf said.

A Vectorbeam Technologies A800 Trakka searchlight is mounted on the belly aft of the cabin. This is the first Trakka helicopter installation ever done, according to Ed Pears, president of Paradigm Aerospace, which is based in Mt. Pleasant, Pa. The Trakka searchlight is slewed to match the view provided by the Wescam infrared system. But more important is the Trakka light's covert-illumination mode, which uses filters to allow certain spectrums of light to shine on ground objects. The spectrum is keyed to the crew's night-vision goggles, so they can see the illuminated target without lighting it up like a normal searchlight. Fairfax County's K-9 units also use NVGs, so they can see what the helicopter's searchlight is shining on. During the flight to Orlando, Schaaf and Mountjoy used the system at night and spotted a cow five miles ahead of the helicopter, locking on the Wescam from 8,500 feet at 130 mph. “I was watching her tail wag at two o'clock in the morning,” Schaaf said. “It's exciting.”

Other panel equipment—installed in the 407's original stack-size instrument panel instead of the former panel that took up the entire width of the cockpit—includes Chelton Flight Logic EFIS and Technisonics TDFM-7000 and TFM-550 tactical radios and A111 audio panels. Aeronautical Accessories high-visibility cockpit doors are also mounted.

Another modification done by the Paradigm team makes maintaining the 407s much easier, Schaaf said. The original EMS installation included a “medical wall” protecting the aft fuselage from contamination by transported patients. This wall was built such that it took technicians a full day to remove it to get at electronics boxes.

