

FIELD OF VIEW:

Maximize Technology Through Good Tactical Flying

By Rich Bookbinder, Pilot, California Highway Patrol (ret.)

As you orbit over an armed suspect at 500 feet, your tactical flight officer broadcasts over the radio. "Suspect jumping the fence from back of the residence to the front on the north-west corner of Elm and Douglas," he says.

The TFO zooms in tight on the suspect as he disappears around the front of the house. The officer pans the camera to where he expects to see the suspect come around the house. But the suspect has disappeared.

A TFO in an allied agency fixed-wing aircraft over the scene at 3,500 feet joins the radio chatter, saying he has the suspect in sight east-bound on Elm and directs an officer on Douglas to the suspect, who is taken into custody.

"How did we lose him?" your TFO asks.

The answer is field-of-view, altitude and positioning. The fixed-wing orbiting at 3,500 feet used technology to maintain the big picture. The higher orbit and camera's wider field-of-view allowed the crew to maintain visual contact with the suspect the entire time. The fixed-wing crew was also able to see nearby officers and direct them to the suspect.

Using proper altitude, airspeed and field-of-view takes time to learn. Modern airborne technology offers many benefits compared to the old days, and you can maximize the benefits by using sound tactical flying and other tricks of the trade.

Remember the following 6 critical areas, and your technology will dramatically improve your results.

1) Altitude is Your Friend

- Higher flight levels offer better field-of-view.
- Altitude permits more maneuvering room to keep suspects in sight and allows for higher orbiting speeds (see Figure 1).

- More safety options: An autorotation from 1,500 feet gives you many more landing options compared to 800 feet. From 800 feet you have less than 20 seconds from engine failure to ground.
- The aircraft presents a challenging target at 1,500 feet and 60 knots compared to 500 feet and 40 knots.

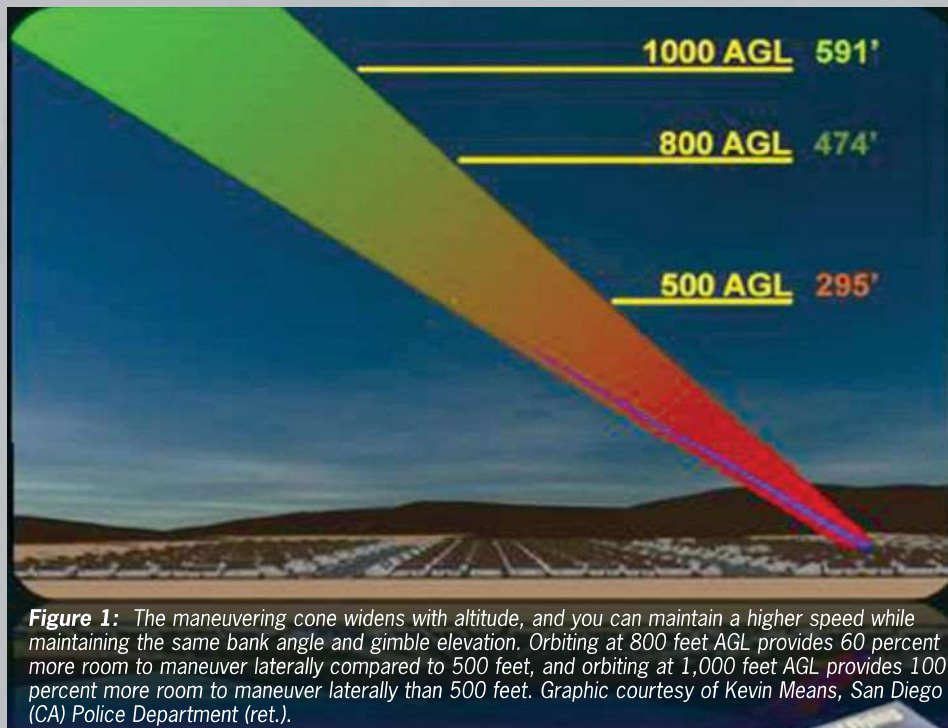


Figure 1: The maneuvering cone widens with altitude, and you can maintain a higher speed while maintaining the same bank angle and gimble elevation. Orbiting at 800 feet AGL provides 60 percent more room to maneuver laterally compared to 500 feet, and orbiting at 1,000 feet AGL provides 100 percent more room to maneuver laterally than 500 feet. Graphic courtesy of Kevin Means, San Diego (CA) Police Department (ret.).

- Helicopter and fixed-wing assets can work together to use altitude. When a suspect is hunkered down and the helicopter crew is unable to pinpoint his or her location, a FLIR equipped fixed-wing can remain high overhead, quietly watching the scene, while the helicopter crew shines a spotlight and makes noise. When the helicopter flies away, the suspect may pop up from his or her hiding spot.

2) Be Creative But Clear With Your Communications

- Aircrews may be able to obtain the name of a known suspect from dispatch or ground officers on some calls. During one incident, a crew called the suspect out by name when they thought he was hiding in a shed. When the suspect heard the voice overhead—"Jimmy, we know you are in the shed; you are surrounded; come out with your hands up"—he complied.
- While over a narcotics drug bust, my aircrew watched several suspects flee on foot. My partner keyed the PA and said, "Stop, or we'll send in the dogs." He then imitated a dog barking, and one of the suspects stopped in his tracks and laid on the ground. The technique may sound far-fetched, and if I hadn't seen it with my own eyes, I wouldn't have believed it.
- Consider shining your searchlight on the scene and chirping the aircraft siren if a suspect is becoming agitated with a ground officer on a solo stop with no backup. The suspect may comply with the officer because the aircrew is watching.
- Use clear, concise terminology, and know who you are talking to on the ground. I've seen calls where two sets of officers were in adjacent yards. The TFO intended to lead one set of officers to the suspect. The officers in the other yard thought the aircraft was talking to them and walked into a potential cross-fire situation. Clearly and concisely identify to whom you are talking.

3) Know What You're Looking At

- Watch for suspects removing and/or changing clothes and trying to blend in. I have seen officers pass suspects who removed clothing and walked calmly down the street to blend in. The aircrew had to convince the



Figure 2: The suspect shown almost got away when ground officers lost him after a long pursuit. The aircraft stayed with him as he calmly walked down the street trying to blend in. In this image from the video, the suspect watches two patrol cars drive right by him. The aircrew had to convince the ground officers it was the suspect.



Figure 3: During low sun angles and poor lighting conditions, IR can be used during the day to locate suspects in cluttered areas.

- ground officers they just passed the suspect (see Figure 2).
- Consider using IR during certain lighting and temperature conditions, even daylight hours (see Figure 3).
- Zoom out. As discussed, a wider field-of-view shows the big picture and allows you to see where responding officers are located so you can better advise them on location. Don't be sucked into a narrow field of view and lose your situational awareness. You may have to cycle between narrow and wide views (see Figures 4 and 5).

4) Use Fixed-Wing Advantages

- Fixed-wing assets offer benefits helicopters do not. Keep an open mind about them.
- Fixed-wing aircraft are more cost effective than helicopters during oper-

ations (about 25 percent of the hourly costs) and come at a fraction of the acquisition price.

- A fixed-wing platform is a formidable crime fighting tool when equipped with a quality IR imaging system.

5) Recognize Unique Challenges

- During laser strikes:
 - Consider protective glasses. My unit kept them in the aircraft. If a suspect struck us with a laser, we put them on while searching for the suspect.
 - Use color overlays on the FLIR image for video evidence. Using IR to locate a suspect, green lasers clearly show up on the overlay (see Figure 6).
- During hostile gun fire:



Figure 4: The suspects (shown circled in red) are clearly visible between two fences when viewed through IR. Using the daylight camera, they were nearly invisible.



Figure 5: Zooming out allows aircrews to see officers (circled in yellow) and suspects (circled in red) and direct ground troops to the appropriate location while avoiding hazards like cross-fire.



Figure 6: The color overlay feature on some infrared products allows aircrews to look for suspects in IR mode while recording events like this green laser strike for evidence. Wear glasses for protection while searching for laser suspects.

- Maintain a high altitude to avoid being struck.
- Use a wider lateral offset.
- Maintain high speed orbits and use speed variation to avoid the suspect tracking you.

6) Record as Much as Possible

- I was over a suspect who shot himself in his vehicle after a pursuit terminated. The suspect was wanted for shooting a deputy. During the stand-off, we recorded what we thought was a piece of gum coming out of the side window before the suspect slumped. It was actually a piece of his skull. Without the video clearly showing the shot trajectory, it would not have been possible to prove the suspect took his own life.
- In another incident, a third strike suspect in Oakland stopped on a major freeway after his car was spike-stripped. He came out of his vehicle and fired the first shot at officers before being shot by police. Because traffic was stopped on the freeway during the standoff, many people were out of their cars recording the incident. While a grainy cell phone video may show a suspect coming out of his car with his hands up, the helicopter's HD close up clearly showed he fired his gun at police first.
- During a pursuit of two motorcycles at 130 mph, the bikers split up. The aircraft stayed with the lead motorcycle until he stopped in a parking lot full of other motorcycles. The suspect tried to blend in and even met up with the other motorcyclist with whom he had originally fled police. The aircrew replayed video inflight to confirm the identity of the suspects and led officers to them.

MORE TO LEARN

This article only scratches the surface of tactical flying and technology. APSA offers a class dedicated to the subject, which goes into great detail. If you haven't already taken it, I would encourage you to attend the APSA Tactical Flying Course.

We can all learn from each other, so please share any unusual techniques and tactics you have successfully deployed. You can email your thoughts to me at rdbook@gmail.com, and your ideas could be integrated into the next APSA Tactical Flying Course.