The Dangers of Night Flying
By Al Russo, ATP, CFII, MEI

As we approach the summer months in SW Florida, with its high humidity and neighboring expanses of open water and unpopulated areas, we need to assess our night proficiency, and be mindful of the pitfalls that await us the next time we venture out after dark.

Every year too many pilots die after becoming spatially disoriented during night flying. Even with Visual Meteorological Conditions (VMC) reported all around, night flying is very different from flight during the daylight hours, and as the statistics show, it can be a surprising and subtle killer.

One of the most publicized examples of this was seen one hot, humid evening in July 1999, near Martha’s Vineyard, MA, when John Kennedy Jr. lost control of his Piper Saratoga. And closer to home, just last year we lost one of our own, a good pilot and friend, Ben Simpson, who died after departing Marco Island airport after sunset out over the Everglades.

Night flying in SW Florida is one of the more dangerous flight environments for any pilot who is not instrument proficient, let alone the VFR-Only private pilot without sharp attitude instrument skills. I mention SW Florida for two reasons. First, our subtropical weather with high humidity levels creates the perfect environment for haze. And, second, if you’ve flown out over the Everglades or the Gulf of Mexico at night, you’ve experienced first hand what it means to be flying in good reported visual conditions with the natural horizon barely visible.

The pilot controller glossary actually defines visibility as “The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day, and prominent lighted objects by night”. Visibility is one of those fundamental indicators we use to make “go” “no-go” decisions every time we fly. For night flying, the definition of visibility actually changes to reflect how well we can see lighted objects.

Therefore, at night, visibility reports alone cannot be used to determine one’s ability to maintain sight of the horizon in order to keep the aircraft under control. FAA Advisory Circular, AC 60-4A states that “surface references and the natural horizon may become obscured even though visibility may be above VFR minimums” and that “an inability to perceive the natural horizon or surface references is common during flights over water, at night, in sparsely populated areas, and in low-visibility conditions”. Can you think of anywhere in SW Florida that these conditions might exist?

And, according to the Airplane Flying Handbook, “If the natural horizon were to suddenly disappear, the untrained instrument pilot would be subject to vertigo, spatial disorientation, and inevitable control loss”. AC 60-4A tells us “During a recent 5 year period, there were almost 500 spatial disorientation accidents in the
United States. Tragically, such accidents resulted in fatalities over 90 percent of the time”.

In July of 1997, Part 61 of the Federal Aviation Regulations changed, requiring night training for Student Pilots, including cross country and 10 takeoffs and landings to a full stop. Shortly after the change, the Air Safety Foundation reported that the fatality rate for pilots at night was more than twice that of daytime flyers.

As pilots we need to know that:

- VMC at night may exist well above minimums at your departure point, and all throughout your route of flight. However, this is no assurance that you will have a visible horizon.
- Night flying preparation requires a more thorough and discerning look at the weather, especially with regard to humidity, and temperature dew-point spread, prior to your departure.
- Become familiar with the area you’re flying in at night prior to wheels up, and the potential for black-holes, large bodies of water and little or no natural horizon.
- Know how to use your autopilot if so equipped, and
- Stay proficient on those gauges by going up with a professional CFII regularly if you are instrument rated.

And, if you don’t have your instrument rating, now is a great time to earn one. It will make you a better pilot, and if you stay proficient, it just may come in handy one summer evening while you’re enjoying the beauty of night flying with “VMC” all around.

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