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Good N.I.G.H.T.

An Essential Checklist *for* Night Flying Safety

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In today's complex world of GPS, glass cockpits, and flight management systems, sometimes a simple rule of thumb or memory aid is the best way for a pilot to avoid an accident. For flying after dark, I use and teach "N.I.G.H.T." as one such flight planning aid. Each letter leads to a question or topic to consider before every night flight.

NOTAMS - did I check all relevant NOTAMS?

Every prudent pilot obtains a full briefing to get all of the information necessary to conduct a safe flight. NOTAMs are classified into two categories: NOTAM (D) or distant; and Flight Data Center (FDC) NOTAMs. If your flight is to a distant airport, the NOTAMs you receive typically will include information on navigational facilities, frequency changes, and regulatory amendments. NOTAM-Ds should also include information on runway or taxiway closures and airport lighting outages. A total or partial outage of a Visual Approach Slope Indicator (VASI) or Runway End Identifier Lights (REIL) system also will be reported in this format.

Today's flight planning apps make it easier than ever to sift, sort, and show precisely the NOTAMs you need for any given flight, so be sure you take advantage of this information.

Illusions - have I considered them?

Many different illusions can be experienced in flight; some can lead to spatial disorientation while others can lead to landing errors. Illusions rank among the most common factors cited as contributing to fatal accidents. They can include: illusions

leading to spatial disorientation (e.g., Coriolis illusion; graveyard spiral; somatogravic illusion; false horizon; autokinesis; elevator illusion and the inversion illusion); illusions leading to landing errors (e.g., runway width and slope illusions); featureless terrain illusions; atmospheric illusions; and ground lighting illusions.

Glide slope - is one available?

Check to see if a visual or electronic glide slope is available before departing to your destination. Although visual glide slope indicators are installed at most airports, it's important to note that they may be installed at only one runway end. Also, there are many variations. Some of the not-so-common indicators include the Tricolor System, Pulsating System, Alignment of Element System, and the Three-bar VASI.

In many places, today's GPS technology also offers an advisory glide path to smooth and stabilize your descent on non-precision approaches. Just be sure you review and understand the limitations of using such guidance.

How do I control airport lighting systems?

Operation of airport lighting systems (rotating beacons, approach lights, VASI, REIL, taxiway lights and runway lights) may be controlled by the control tower or by the pilot via the appropriate radio frequency. On runways with both approach lighting and runway lighting (runway edge lights, taxiway lights, etc.) systems, the approach lighting system takes precedence for air to ground radio control over the runway lighting system.

Important: Although the common traffic advisory frequency (CTAF) is used to activate lights at many airports, there's no prohibition on using other frequencies. Consult the Airport/Facility Directory or a standard instrument approach procedures publication to be sure you have the correct frequency before you arrive at an airport.

Terrain - how do I avoid it?

Avoiding terrain at night is easier if you use altitudes shown on VFR and IFR charts as part of your preflight planning.

On VFR charts, review the Maximum Elevation Figures (MEF), which are shown in quadrangles bounded by ticked lines of latitude and longitude and represented in THOUSANDS and HUNDREDS of feet above mean sea level. MEFs are determined by rounding the highest known elevation in the quadrangle, including terrain and obstruction (trees, towers, antennas, etc.) to the next 100 foot level. These altitudes are then adjusted upward between 100 to 300 feet.

On IFR enroute low altitude charts, you will find the Off Route Obstruction Clearance Altitude (OROCA) values. The OROCA guarantees 1,000 foot obstacle clearance in non-mountainous terrain and can be used at night to ensure obstacle clearance. In mountainous terrain, this altitude offers 2,000 feet of obstacle clearance.

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