

Going Down to the Wire

Helicopters and Low-Level Flight

By Steve Sparks (IHST & USHST team member)

If aircraft were measured from the ground up, helicopters would rank near the bottom. This isn't a criticism; it's just the nature of the beast. Helicopters spend a large portion of time flying close to the ground and, as a result, they are increasingly susceptible to wire strikes.

Analysis conducted by the United States Helicopter Safety Team (www.USHST.org) reveals that approximately 16 percent of all helicopter accidents are attributed to wire or obstacle strikes. In addition, 17 percent of these accidents results in fatalities. This unfortunate reality has led the USHST to emphasize greater awareness among helicopter pilots about the dangers of low-level flight.

Airspace Needs More Space

With the exception of Class A airspace, wires are strung throughout all classes of airspace from B to G. Whether in controlled or uncontrolled airspace, pilots must be vigilant because wires often go undetected by human eyes. You might even say they lurk in the shadows waiting to ensnare their victims. One wire "strike" and you're out, and that could mean it's "game over." Complying with FAA weather minimums does not exempt pilots from run-ins with wires and other obstacles. Remember, minimums are just that: minimums. So, maximizing time and space for see-and-avoid duties is a great strategy for eluding these often near-invisible hazards. Sometimes it's only a matter of seconds that can make the difference between escaping from or safely avoiding being ensnared in a wire strike accident.

Cutting Your Losses

Many safety devices installed on helicopters can aid situational awareness for avoiding wires. The Wire Strike Protection System, otherwise known as "wire cutters," is one of the most trusted and proven of these devices. This wire chomping mechanism literally cuts through undetected wires coming in contact with the helicopter. Although this system does not prevent wire strikes, cutting through the intruding danger can be a life saver.

Some of the newer detection systems use lasers to alert pilots of potential danger. These high-tech systems allow for greater use and flexibility on both normal and transport category helicopters. Several of these devices also can distinguish between current-carrying wires and non-current-carrying wires, regardless of wire composition and/or diameter.

In the Weeds

Agricultural pilots constantly operate in wire-infested environments. These professionals must focus their attention every second of every minute to ensuring their jobs get done safely and efficiently. The slightest distraction can get these pilots tangled up without warning. They must constantly keep their heads on a swivel to make sure their flight paths are clear.

During basic training, helicopter pilots learn the importance of conducting high and low reconnaissance prior to conducting low-level missions. Pilots should also identify clear areas that could be used as possible forced landing zones in case of an emergency. Sensory overload close to the ground is bad news, and it can overwhelm even the most experienced pilots. Remember, pushing aircraft and personnel limits is foolish and often deadly.

Have We MET?

Meteorological Evaluation Towers (METs) are a major threat to helicopters. METs are used to gather wind data for developing new wind farm sites. These slender, hard-to-see structures are supported by nearly-invisible guy-wires and often stand slightly below 200 feet above ground level to avoid the need to comply with FAA obstruction marking requirements (See FAA Advisory Circular 70/7460-1K for more).

FAA and NTSB personnel have investigated several accidents involving aircraft colliding with METs. Pilots often report problems seeing METs while flying until finding themselves uncomfortably close to one. As our nation aggressively pursues alternative energy sources, the outcrop of METs will only intensify. If you know of any unmarked METs lurking in your area, please contact an FAA Flight Service office and/or a local FAA Team representative to report the finding.

Prevention

Helicopter pilots can follow several basic procedures to mitigate wire strike accidents. For example, maintain maximum altitude as long as possible and use conservative routes when transitioning from point A to point B. The extra minutes invested following these basic steps will prevent many surprises from happening.

Bottom line: high voltage lines, guy wires, and other low-level obstacles are lethal when mixed with the operational envelope of helicopters. When it comes to maintaining aviation safety, take the path of least resistance and leave the “shock factor” to the wires.

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