

has it been checked?

Complacent acceptance of common weather patterns can have huge impacts on safety. The forecast was for clearing after the rain shower, but what was the dew-point spread? The winds are greater than forecast. Will this create reduced visibility in dusty, snowy areas or exceed wind limitations?

While conducting crop spraying, a new agent is used. Does that change the weight? Does that change the flight profile and, if so, what new hazards might be encountered? When things are going smoothly, it is time to heighten your awareness and become more attentive to your flight activities.

Advanced avionics have created a high degree of redundancy and dependability in modern aircraft systems, which can promote complacency and inattention. Routine flight operations may lead to a sense of complacency, which can threaten flight safety by reducing SA.

Loss of SA can be caused by a minor distraction that diverts the pilot's attention from monitoring the instruments or scanning outside the aircraft. For example, a gauge that is not reading correctly is a minor problem, but it can cause an accident if the pilot diverts attention to the perceived problem and neglects to control the aircraft properly.

### **Operational Pitfalls**

There are numerous common behavioral traps that can ensnare the unwary pilot. Pilots, particularly those with considerable experience, try to complete a flight as planned, please passengers, and meet schedules. This basic drive to achieve can have an adverse effect on safety and can impose an unrealistic assessment of piloting skills under stressful conditions. These tendencies ultimately may bring about practices that are dangerous and sometimes illegal and may lead to a mishap. Pilots develop awareness and learn to avoid many of these operational pitfalls through effective SRM training. [Figure 13-9]

### **Controlled Flight Into Terrain (CFIT) Awareness**

*An emergency medical services (EMS) helicopter departed for a night flight to transport an 11-day-old infant patient from one hospital to another. No record was found indicating the pilot obtained a weather briefing before departure. The pilot had a choice of taking either a direct route that crossed a remote area of rugged mountainous terrain with maximum ground elevations of about 9,000 feet or a route that was about 10 minutes longer and followed an interstate highway with maximum ground elevations of about 6,000 feet. Radar data, which show about 4 minutes of the helicopter's flight before coverage was lost due to mountainous terrain, are*

*consistent with the flight following the direct route.*

*A search was initiated about 4 hours after the helicopter did not arrive at the destination hospital, and the wreckage was located the following morning. Physical evidence observed at the accident site indicated that the helicopter was in level flight at impact and was consistent with CFIT. [Figure 13-10]*

CFIT is a type of accident that continues to be a major safety concern, while at the same time difficult to explain because it involves a pilot controlling an airworthy aircraft that is flown into terrain (water or obstacles) with inadequate pilot awareness of the impending disaster.

One constant in CFIT accidents is that outside visibility is limited, or the accident occurs at night and the terrain is not seen easily until just prior to impact. Another commonality among CFIT accidents is lack of SA. This includes not only horizontal awareness, and knowing where the helicopter is over the ground, but also vertical awareness.

Training, planning, and preparation are a pilot's best defenses for avoiding CFIT accidents. For example, take some time before takeoff to become familiar with the proposed flight and the terrain. Avoidance of CFIT begins before the helicopter departs the home location. Proper planning, including applied risk mitigation must occur before the aircraft is even started. Thorough assessment of terrain, visibility, pilot experience and available contingencies must be conducted. If necessary, delay or postpone the flight while on the ground. The decision to abort the flight is much easier to make in the planning room than in the air. In case conditions deteriorate once in flight. Have contingency options available.

While many CFIT accidents and incidents occur during nonprecision approaches and landings, great measures have been taken to improve instrument training, equipment and procedures. For the qualified pilot, instrument flight should not be avoided, but rather, trained as a viable option for safely recovering the aircraft. Like any other training, frequent instrument training builds confidence and reassurance.

Good instrument procedures include studying approach charts before leaving cruise altitude. Key fixes and airport elevation must be noted and associated with terrain and obstacles along the approach path. Pilots should have a good understanding of both approach and departure design criteria to understand fully the obstacle clearance margins built into them. Some pilots have the false belief that ATC provides obstacle clearance while en route off airways. The pilot is ultimately responsible for obstacle clearance.