

A POSITIVE FLIGHT ATTITUDE



Photos courtesy of TrinTec Industries



You have probably seen the “watch your attitude” shirt in your favorite pilot supply shop, along with its “bad attitude” evil twin. You may even have one or two in your wardrobe. Though the emblems are primarily intended as a witty way to advertise the wearer’s status as an aviator, general aviation would be a lot safer if pilots could avoid the “bad attitude” and take the “watch your attitude” reminder more seriously. As the pun implies, the need for a positive flight attitude applies not only to physical control of the airplane, but also—and perhaps more importantly—to the pilot’s attitude toward all aspects of the flight.

Be AWARE

The airplane’s physical attitude is relatively easy to understand. The pilot’s mental attitude is more complicated. Attitude can be defined as a complex mental state involving beliefs, feelings, values, and dispositions to act in certain ways. One of the trickiest aspects of mental attitude is that the beliefs, feelings, and values driving our disposition to act in certain ways are often as invisible to us as water is to a fish.

Assuming that safety is one of your primary aviation values, there *are* things you can do to become more aware of factors that contribute to a positive flight attitude in both senses of the term. These include: **Aircraft** – **Weather** – **Airspace** – **Risk Factors** – **External Pressures**.

Aircraft

For a positive flight attitude, aircraft awareness starts with the preflight inspection. The “Going Beyond Preflight” article on page 12 addresses this topic in detail, but the two basic requirements are to ensure that the aircraft you intend to fly is legally airworthy and in a condition for safe flight. To be airworthy, an aircraft must conform to its type design, which includes not only its equipment but also *documented* compliance with all required maintenance and inspections. Though it might seem logical to assume that a legally airworthy aircraft is in a condition for safe flight, the distinction is analogous to pilot health: You might be legally “airworthy” in terms of having a current pilot

medical certificate, but you are not in a condition for safe flight if, say, you had a heart attack last week or you woke up this morning with a debilitating case of the flu. While an aircraft may appear to meet all the legal/paperwork requirements for airworthiness, it is obviously not in a condition for safe flight if you find something like a significant nick in the propeller during your preflight inspection.

Another aspect of aircraft awareness is having a positive—and honest—attitude toward your ability to safely and competently fly that particular make and model. Your pilot certificate might specify “airplane single-engine land,” but the range of airplanes included in that category and class ranges from something as basic as a Piper *Cub* to a complex turboprop like the Pilatus *PC-12*. Are you legally current in the aircraft you are about to fly? Are you proficient, both in terms of the basic stick-and-rudder skills needed to keep the aircraft’s physical attitude established in a positive direction and also in terms of systems knowledge? Deficiencies in both areas have brought many pilots to grief.

Here is another way to think about it: Just as in formation flight, where two or more aircraft operate as a single flight, the pilot and the aircraft must fly as members of a team. As with any team, each member depends on the other’s competence and proficiency. The aircraft cannot compensate for the pilot’s lack of skill and the pilot cannot compensate for the aircraft’s lack of mechanical health or performance.

Weather

Understanding the concept of the pilot and aircraft as a formation team is key to a positive flight attitude toward weather awareness. Even the most capable and well-equipped aircraft can be dangerous in the hands of a pilot who does not understand—and respect—weather. Similarly, even the most weather-wise pilot must recognize that weather conditions that are safe to fly in a Cessna *Corvalis* may be perilous in a Piper *Pacer*.

The first step in weather awareness is to obtain a detailed weather briefing. Even more critical is knowing how to identify and then apply the most important pieces of information to the flight you are about to make. As you may have read in an article in the July/Aug. 2010 issue of *FAA Safety Briefing*, this task is more manageable if you remember that there are just three ways that weather affects an aviator: Weather can create wind, weather can reduce ceiling and visibility, and weather can affect aircraft performance.

To build your awareness of how weather issues will affect a given flight, you need to evaluate those conditions in terms of the specific pilot-aircraft team operating that flight:

1. Evaluate *wind* in terms of both pilot proficiency, for example crosswind skills, and aircraft capability, such as maximum demonstrated crosswind component.
2. Assuming that the aircraft is equipped for instrument flight, evaluate *reduced ceiling and visibility* in terms of not only the legal requirements for an instrument rating and the instrument currency required by 14 CFR 61.57, but also with respect to the pilot’s proficiency in basic attitude flying, instrument operating rules and procedures, and all other aspects of instrument flying.
3. When you review weather data, such as temperatures, be aware of how icing and high density altitude can reduce your aircraft’s *performance*. An aircraft is a machine and every pilot needs a rock-solid understanding of what a given flying machine can and cannot do. Even a “super pilot” faces hard limits on what a Super *Cub* can do in performance-limiting weather conditions.

Positive flight attitude applies not only to physical control of the airplane, but also to the pilot’s attitude toward all aspects of the flight.

Airspace

Even though few of us were around to actually experience the alleged “good old days” of wide open skies, most pilots I know wax lyrical about those times and grouse mightily about the proliferation of controlled and restricted airspace. Like it or not, congestion and security nevertheless drive requirements for regulating the National Airspace System.

Accordingly, a positive flight attitude for safety necessarily includes not just awareness, but also knowledge, understanding, and respect for aviation’s rules of the road. If you expect to fly in, or even near, Class B, Class C, or Class D airspace, it is a good idea to review the basic dimensions, communications, and clearance requirements for each type. Although Class E airspace does not require communication with ATC, it does include weather minimums designed to help with both VFR see-and-avoid and separation between VFR and IFR traffic operating in this airspace.



A positive flight attitude also includes meticulous attention to temporary flight restrictions (TFR). As you know, a TFR is a regulatory action that

temporarily restricts certain aircraft from operating within a defined area in order to protect persons or property in the air or on the ground. TFRs are issued

There are three ways weather affects an aviator: wind, reduced visibility, and aircraft performance.

through the Notices to Airmen (NOTAM) system, and specifically by means of a Flight Data Center (FDC) NOTAM. The regulations define several different types of TFRs, but one thing is common to them all: Since TFRs are, by definition, temporary in nature, it is extremely important to check the FDC NOTAMs before *every* flight you make—even those in familiar home airspace.

A discussion of airspace awareness is not complete without emphasizing the importance of understanding safe operations on the ground. When operating to any unfamiliar airport, especially one with a mixture of aircraft types, be sure to review the rules, practices, and procedures to avoid runway incursions and other dangerous events.

Last, but not least, airspace awareness includes knowledge of terrain and obstacles along your route of flight.

Risk Factors

Risk, the *chance* of injury, damage, or loss, is inherent in everything we do. As you may recall from “Building Blocks and Safety Circles” in the Jan./Feb. 2011 issue of *FAA Safety Briefing*, risk arises from hazards, which can be defined as any *source* of potential injury, damage, or loss. It stands to reason that your awareness of the hazards affecting various aspects of your flight is key to minimizing risk to persons (pilot, passengers, people on the ground) and property (aircraft, structures on the ground).

As explained in the FAA’s *Risk Management Handbook* (FAA-H-8083-2), the PAVE checklist is a methodical way to increase your awareness of hazards that might pose a risk for your flight:

- **P** – Although the “P” is primarily intended to spur thinking about hazards associated with the pilot (fatigue, illness, stress, lack of proficiency), it can also represent hazards that might arise from passengers, e.g., distraction to pilot.
- **A** – Use this part of the PAVE checklist to identify hazards related to the aircraft you are flying. Does it have known mechanical issues?
- **V** – Derived from “enVironment,” this part of the checklist reminds you to identify hazards arising from weather, airspace, terrain, and airports.
- **E** – External pressures (discussed below) often pose the most insidious dangers to a pilot. Awareness of these pressures is vital to safety of flight.


External Pressures

I speak from personal experience when I say that external pressures can pose the greatest hazard to safety awareness and, as the definition for attitude states, the “disposition to act in certain ways.” A pilot who recognizes a hazard will likely have the disposition to act in a safety-conscious manner. When a hazard goes unnoticed, however, the pilot may instead be disposed to act in ways that, if an accident occurs, inspire fellow aviators to roll their eyes over the “stupidity” of his or her behavior. Because they often arise from those unconscious but powerful beliefs, feelings, and values that we all hold, external pressures can have truly treacherous effects on pilot judgment.

My personal examples include several episodes that, had they ended badly, would have caused my fellow fliers to wonder how I could have been so dumb:

- I nearly had a continued VFR-into-IMC encounter in mountainous terrain. I came to my senses and reversed course when I realized that a subconscious reluctance to worry relatives waiting at the intended destination airport was pushing me to take unnecessary chances.
- In my excitement over passing a check ride taken at a distant airport, I forgot to check the fuel level before departing for the triumphant flight home. With darkness approaching and fatigue encroaching, I nearly succumbed to the idea that I could “probably” make it home on the fuel I had. The thought of having to explain that line of thinking after a fuel exhaustion accident prompted a much-needed fuel stop.
- A long-anticipated plan for a \$100-hamburger dinner at a popular airport restaurant with two fellow pilots created unconscious pressures on all of us. In our eagerness to execute the plan, we nearly talked ourselves into a marginal VFR night flight without being certain how much fuel was aboard. We realized what we were doing, secured the Cessna, and drove downtown instead.

Eternal Vigilance is the Price...

To paraphrase a famous quotation, eternal vigilance is the price of freedom from aviation accidents. I think we can all agree that it is a price well worth paying. 

Susan Parson is a special assistant in the FAA Flight Standards Service and editor of FAA Safety Briefing. She is an active general aviation pilot and flight instructor.

For More Information

FAA Risk Management Handbook (FAA-H-8083-2)

www.faa.gov/library/manuals/aviation/media/FAA-H-8083-2.pdf



Calling All Mechanics

Keep Informed with FAA's Aviation Maintenance Alerts

Aviation Maintenance Alerts (Advisory Circular 43.16A) provide a communication channel to share information on aviation service experiences. Prepared monthly, they are based on information FAA receives from people who operate and maintain civil aeronautical products.

The *Alerts*, which provide notice of conditions reported via a Malfunction or Defect Report or a Service Difficulty Report (SDR), help improve aeronautical product durability, reliability, and safety.

Recent alerts cover:

- electrical power failure on the Piper PA31-350
- stuck starter contactor on the Cessna 172M
- stretched cylinder studs on the Continental IO-360-G2B engine

Check out Aviation Maintenance Alerts at:

www.faa.gov/aircraft/safety/alerts/aviation_maintenance/

To submit an SDR, go to:

<http://av-info.faa.gov/sdrx/>