



Features

The Danger of Being Human

How to defeat the hazardous attitude that may lurk within

Poor pilot decision making has been documented as causing more than half of all fatal general aviation accidents--52 percent, which is more than all the other causes combined. So the fault lies *not* in failure to act. It is *not* a failure of stick-and-rudder skills. It is a result of bad pilot decisions in the cockpit.

Why do people who clearly have proper aptitude, good training, demonstrated ability (to a designated pilot examiner) and, quite often, lots of experience make fatal decisions?

Virtually every FAA handbook--*The Airplane Flying Handbook*, *The Aviation Instructor's Handbook*, *The Instrument Flying Handbook*, *The Rotorcraft Flying Handbook*, *The Glider Flying Handbook*, and others--offer answers to that question. All of these books, [most downloadable free on the Internet](#), contain recently added sections on a subject called *aeronautical decision making*. Key to good ADM is an understanding of "hazardous attitudes." Important to an understanding of hazardous attitudes--and that is a very specific term--is knowing that these attitudes can drastically affect our ability to make good decisions under stress.

That simply means our built-in attitudes have an important influence on decision making.

If you really want to get into pilot decision making, read the handbook that applies to how and what you fly, and get into FAA Advisory Circular 60-22. It addresses the subject in detail. It defines *personality* as "the embodiment of personal traits and characteristics...that are set at a very early age and extremely resistant to change."

In addition to teaching, honing, and checking the mechanical skills it takes to fly an airplane, another objective of flight training is to identify personality traits that have been shown to get in the way of making good decisions in the cockpit. The last part of the job often isn't done adequately.

When we identify elements of our own personalities that can cause trouble--your flight instructor will call them *hazardous*

attitudes--we need to train them out. At the very least, we must be aware of how they can adversely affect our personal cockpit decisions at critical times.

How hazardous attitudes affect pilot decisions

Personality is an integral part of all human beings. Even dangerous personality traits--and most specifically hazardous attitudes--are present, in varying degrees, in all of us. Most of the time, they lurk just below the surface, not apparent or influential in our routine operations. But in times of uncertainty, abnormality, or stress, they can cause big problems.

Check out the following list from FAA Advisory Circular 60-22, *Aeronautical Decision Making*, and see if you can identify with any of these conditions or behavior patterns:

- Peer pressure
- Inflexible or inappropriate mind sets
- Get-there-itis
- Duck-under syndrome
- Scud running
- Continuing visual flight into clouds
- Getting behind the aircraft
- Loss of situational or position awareness
- Flying without adequate fuel reserves
- Descent below the minimum descent altitude (for IFR operations)
- Operating outside the aircraft's flight envelope
- Neglecting flight planning, preflight, and/or checklists

All of these behaviors are manifestations of one or more *hazardous attitudes*, predispositions to act and/or decide in certain ways under stress.

There are five generally accepted hazardous attitudes: invulnerability, anti-authority, macho, impulsivity, and resignation. These five "decision errors" have contributed to accidents, and each of these terms means something specific.

Each attitude has been expressed as a phrase. The specific antidote for that attitude provides a before-the-fact remedy to it. By analyzing each of the attitudes and considering its antidote, you can prepare a psychological plan to avoid bad or hasty decisions that could get you into trouble.

Invulnerability is characterized by the phrase, "It won't happen to me"--and the antidote is knowing that it *can* happen to you. "Don't tell me!" is a symptom of anti-authority; the antidote is to follow the rules--they are usually right. Macho is exhibited by a strong "I can do it!" belief, and corrected with the knowledge that taking chances is foolish.

The characteristic of impulsivity, "Do something quickly!" is cured by slowing down and remembering that you must think

first. The attitude of resignation--"What's the use?"--is treated by the antidote of remembering that you're not helpless and acknowledging that you *can* make a difference.



Recognizing the hazardous attitudes

DILEMMA/LOW FUEL



Situation: You do not bother to check weather conditions at your destination. En route, you encounter headwinds. Your fuel supply is adequate to reach your destination, but there is almost no reserve for emergencies. You continue the flight and land with a nearly dry tank. What most influenced you to do this?

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Antiauthority: You feel that flight manuals always understate the safety margin in fuel tank capacity.
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Impulsivity: Being unhappy with the pressure of having to choose what to do, you make a snap decision.
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Invulnerability: You believe that all things usually turn out well, and this will be no exception.
- 

Macho: You do not want your friends to hear that you had to turn back.
- 

Resignation: You reason that the situation has already been determined because the destination is closer than any other airport.

DILEMMA/CHANGING WEATHER



Situation: You are on a flight to an unfamiliar, rural airport. Flight service states that VFR flight is not recommended since heavy coastal fog is forecast to move into the destination airport area about the time you expect to land. You consider returning to your home base where visibility is still good, but decide to continue as planned and land safely after some problems. Why did you reach this decision?

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Antiauthority: You resent the suggestion by flight service that you should change your mind.
- 


Impulsivity: You feel the need to decide quickly, so you take the simplest alternative.
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Invulnerability: You feel sure that things will turn out safely, and that there is no danger.
- 





Macho: You hate to admit that you cannot complete your original flight plan.
- 

Resignation: You reason that since your actions would make no real difference, you might as well continue.

DILEMMA/QUESTIONABLE BRAKES



Situation: While taxiing, you notice that your right brake pedal is softer than the left. Once airborne, you radio for information. Strong winds are reported at your destination. An experienced pilot who is a passenger recommends that you return to your departure airport. You continue the flight. Why?

-  **Antiauthority:** You feel that suggestions made in this type of situation are usually overly cautious.
-  **Impulsivity:** You immediately decide that you want to continue.
-  **Invulnerability:** Your brakes have never failed before, so you doubt that they will this time.
-  **Macho:** You are sure that if anyone could handle the landing, you can.
-  **Resignation:** You feel that you can leave the decision to the tower at your destination.

How can we learn from others?

Some flight instructors may suggest that you read aircraft accident reports, thinking that if you learn from the mistakes of others, you will be far less likely to repeat them. Accident reports tell us little beyond known facts about the aircraft and the flight: how much fuel was left in the tanks, what instruments or systems failed--the fault is seldom equipment failure--what the weather was and what it was forecast to be, and pilot experience. The facts and circumstances are usually there.

What is missing most often is the human element, and that's too often the real problem. Why did (or didn't) the pilot do what he or she did (or didn't do) to cause the accident?

One example is the case of a 36-year private pilot, who regularly flew his Cessna 150J from Sacramento, California, to San Carlos--near San Francisco International Airport, where he worked as an electrician. Early on the morning of February 7, 2000, on the way to work shortly before sunrise, his aircraft hit a lighted radio broadcast tower guide wire approximately two miles from his destination.

At one time during that flight, radar had tracked him to within a quarter-mile of the runway. Rescue workers had trouble finding the crash site because of dense ground fog. The weather at nearby San Francisco International was 200 feet overcast with one mile visibility in mist.

What do you think caused this accident? Might we learn anything else from the accident report?

First, the pilot had no instrument rating. He first checked weather for his flight just before 9 p.m. the previous night. Instrument meteorological conditions were forecast for most of the following morning. When he checked again at 4 a.m., the ceiling at San Francisco was broken at 400 feet; visibility was three miles in mist. The pilot reported that he had talked to a security guard at his destination, who said that he could see "stars above the clouds to the north and east."

After departing Sacramento at 5:40, the pilot called the San Francisco Tracon and obtained flight following. San Francisco

weather--10 miles from his destination--was three-quarters of a mile visibility with a ceiling of 200 feet. The Oakland weather was 100 feet overcast, visibility one mile. The pilot reported observing layered clouds.

Even for the casual observer, a walk through this scenario might reveal a case building throughout the night and morning for a no-go decision. Why did this accident happen?

The report doesn't answer that question for us. Final reports--usually published more than a year after a mishap--state the probable cause, although they rarely go any further than the facts and other objective descriptors of tragedy.

The probable cause in this case is listed as "The pilot's inadequate weather evaluation and continued flight into instrument meteorological conditions. Factors were the pilot's improper remedial action and his self-induced pressure."

But why would an experienced pilot and aircraft owner with more than 1,400 hours fly into circumstances that he knew from repeated briefings were dangerous and beyond his certification and authorization? I see symptoms of macho, invulnerability, and maybe some anti-authority as well. Applying the antidote to any one of those hazardous attitudes, at any point prior to the accident, should have led the pilot to turn around, or get into his car and drive to work.

The best thing we can do to be safe pilots and avoid accidents--aside from knowing our business and staying proficient--is to take a hard look at ourselves, figure out who we really are and what makes each of us tick, and then try to account for who we are in the decisions we make.

There's an antidote for most of what ails us. All we have to do is study hard, think about it, and try to figure out how we can correct our bad habits before they affect us in the cockpit.

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By Wally Miller

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