

## CHAPTER 4

# PILOT DECISION MAKING



Pilot Decision Making should not be a separate course delivered occasionally by the flight school. Decision making skills are best developed over time. Another term for decision making skills is judgment. Judgment is a process of analyzing situations and deciding the best course of action in dealing with those situations.

Flying is a new experience for most students, or more correctly it is a series of new experiences. You cannot expect someone to correctly assess and correctly react to a completely new situation or experience. The skills necessary to make good judgments must be developed and practiced.

Flying may not be such a new experience for other students. They may have many hours in the air as passengers with friends, relatives or employers. These students bring with them experiences, judgments, and

habits learned by watching someone who may not have had well developed decision making skills. They may bring with them an attitude that may make the learning of decision making skills very difficult. When working with this type of student, it is especially important to be conscientious and rigorous in acting as a good roll model, and in helping him or her develop good decision making skills every step of the way.

To date, the flight training industry has not done a very good job in developing good decision making skills in students. The accident rate in general aviation is unacceptable, particularly weather related accidents.

## **SITUATIONAL AWARENESS**

Situational awareness is one of the two main facets of pilot decision making. Situational awareness is always knowing what is going on around you. It is impossible to make an accurate assessment of a situation if you don't know what the situation is, or even if you don't know part of the situation. If you don't recognize a low fuel state or deteriorating weather, you can't correct for it.

### **Loss of Situational Awareness**

Loss of situational awareness may be fatal and can result from any, or a combination of:

- Lack of knowledge of the aircraft, the environment, navigation, or personal limitations.
- Lack of currency will affect knowledge. Teach your students the importance of knowledge and currency.

- Workload can increase to the point where it impossible to keep up with all of the required tasks. Teach your students to plan ahead, which is the key to keeping workload to satisfactory levels.
- Stress results in pre-occupation with the cause of the stress. Life is stressful and we cope. Many people even need some stress in their lives to make life interesting. You must however, teach your students to recognize when stress builds up to a point where judgment can be affected.
- Personality - Anti-authority, impulsive, invulnerable, macho, and fatalistic personality traits will cause people to not recognize some situations, or not act appropriately to them. People with these traits do not make safe pilots.
- False assumptions - People often react to what they expect to see or hear, rather than what they do see or hear. Partial information can lead to false assumptions. Teach your students to be alert and not miss anything that is going on around them.
- Fixation with one problem or task, to the exclusion of all else can easily result in the loss of situational awareness. Teach students to fly the aircraft first and foremost, and then deal with the problem as best they can.

## **RISK MANAGEMENT**

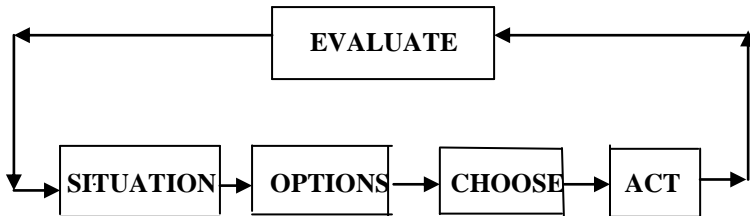
The second part of Pilot Decision Making is risk management. New pilots must learn which risks are acceptable and how to manage them while maintaining situational awareness.

### **Risk Reduction**

- Student pilots have to learn to assess themselves and decide if any of the factors that can cause a loss of situational awareness are present. They must learn to reduce risk by modifying their behavior or plans or by postponing a flight until the factors affecting them are no longer present, or are at least at a manageable level.
- Students must learn to continuously monitor the aircraft. This includes a thorough pre-flight inspection and run-up, and the monitoring of all gauges during flight.
- Students must learn to monitor and assess the environment in which they are operating. This includes weather briefings, continuous weather monitoring during the flight, conscientious flight planning procedures, the study of departure and arrival airport facilities and the surrounding terrain, and the study of the enroute terrain over which the flight will be operating.
- Students must learn to assess the importance of the flight they are about to take. A person may be willing to accept a slightly higher level of risk for

some flights. Students must learn that some risks are never acceptable.

## THE DECISION MAKING PROCESS



1. **Situation** - The sooner a developing situation is recognized, the more options there are to choose from.
2. **Options** - All options must be evaluated quickly, but not impulsively. Delay will quickly reduce the options available.
3. **Chose** - The most viable option must be chosen quickly to allow the maximum time to benefit from it.
4. **Act** - The skills applicable to the option chosen should be employed.
5. **Evaluate** - The results of all actions taken must be evaluated in relation to the changing situation.