

emphasized flying skills, knowledge of the aircraft, and familiarity with regulations. ADM training focuses on the decision-making process and the factors that affect a pilot's ability to make effective choices.

ORIGINS OF ADM TRAINING

The airlines developed some of the first training programs that focused on improving aeronautical decision making. Human factors-related accidents motivated the airline industry to implement crew resource management (CRM) training for flight crews. The focus of CRM programs is the effective use of all available resources; human resources, hardware, and information. Human resources include all groups routinely working with the cockpit crew (or pilot) who are involved in decisions that are required to operate a flight safely. These groups include, but are not limited

to: ground personnel, dispatchers, cabin crewmembers, maintenance personnel, external-load riggers, and air traffic controllers. Although the CRM concept originated as airlines developed ways of facilitating crew cooperation to improve decision making in the cockpit, CRM principles, such as workload management, situational awareness, communication, the leadership role of the captain, and crewmember coordination have direct application to the general aviation cockpit. This also includes single pilot operations since pilots of small aircraft, as well as crews of larger aircraft, must make effective use of all available resources—human resources, hardware, and information. You can also refer to AC 60-22, *Aeronautical Decision Making*, which provides background references, definitions, and other pertinent information about ADM training in the general aviation environment. [Figure 14-1]

DEFINITIONS
<p>ADM is a systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances.</p>
<p>ATTITUDE is a personal motivational predisposition to respond to persons, situations, or events in a given manner that can, nevertheless, be changed or modified through training as sort of a mental shortcut to decision making.</p>
<p>ATTITUDE MANAGEMENT is the ability to recognize hazardous attitudes in oneself and the willingness to modify them as necessary through the application of an appropriate antidote thought.</p>
<p>CREW RESOURCE MANAGEMENT (CRM) is the application of team management concepts in the flight deck environment. It was initially known as cockpit resource management, but as CRM programs evolved to include cabin crews, maintenance personnel, and others, the phrase crew resource management was adopted. This includes single pilots, as in most general aviation aircraft. Pilots of small aircraft, as well as crews of larger aircraft, must make effective use of all available resources; human resources, hardware, and information. A current definition includes all groups routinely working with the cockpit crew who are involved in decisions required to operate a flight safely. These groups include, but are not limited to: pilots, dispatchers, cabin crewmembers, maintenance personnel, and air traffic controllers. CRM is one way of addressing the challenge of optimizing the human/machine interface and accompanying interpersonal activities.</p>
<p>HEADWORK is required to accomplish a conscious, rational thought process when making decisions. Good decision making involves risk identification and assessment, information processing, and problem solving.</p>
<p>JUDGMENT is the mental process of recognizing and analyzing all pertinent information in a particular situation, a rational evaluation of alternative actions in response to it, and a timely decision on which action to take.</p>
<p>PERSONALITY is the embodiment of personal traits and characteristics of an individual that are set at a very early age and extremely resistant to change.</p>
<p>POOR JUDGMENT CHAIN is a series of mistakes that may lead to an accident or incident. Two basic principles generally associated with the creation of a poor judgment chain are: (1) One bad decision often leads to another; and (2) as a string of bad decisions grows, it reduces the number of subsequent alternatives for continued safe flight. ADM is intended to break the poor judgment chain before it can cause an accident or incident.</p>
<p>RISK ELEMENTS IN ADM take into consideration the four fundamental risk elements: the pilot, the aircraft, the environment, and the type of operation that comprise any given aviation situation.</p>
<p>RISK MANAGEMENT is the part of the decision making process which relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.</p>
<p>SITUATIONAL AWARENESS is the accurate perception and understanding of all the factors and conditions within the four fundamental risk elements that affect safety before, during, and after the flight.</p>
<p>SKILLS and PROCEDURES are the procedural, psychomotor, and perceptual skills used to control a specific aircraft or its systems. They are the airmanship abilities that are gained through conventional training, are perfected, and become almost automatic through experience.</p>
<p>STRESS MANAGEMENT is the personal analysis of the kinds of stress experienced while flying, the application of appropriate stress assessment tools, and other coping mechanisms.</p>

Figure 14-1. These terms are used in AC 60-22 to explain concepts used in ADM training.