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# AERONAUTICAL DECISION MAKING FOR INSTRUCTOR PILOTS

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16. Abstract <p>Aviation accident data indicate that the majority of aircraft mishaps are due to judgment error. This training manual is part of a project to develop materials and techniques to help improve pilot decision making. Training programs using prototype versions of these materials have demonstrated substantial reductions in pilot error rates. The results of such tests were statistically significant and ranged from approximately 10% to 50% fewer mistakes.</p> <p>This manual is designed to explain the risks associated with flight instruction activities, the underlying behavioral causes of typical accidents, and the effects of stress on pilot decision making. This instructor manual explains the unique aspects of teaching judgment concepts in contrast with the imparting of knowledge and the development of airmanship skills in conventional flight training. It also provides detailed explanations of pre-flight and in-flight stress management techniques. The assumption is that CFI's receiving this training will develop a positive attitude toward safety and the ability to effectively manage stress while recognizing and avoiding unnecessary risk.</p> <p>This manual is one of a series on Aeronautical Decision Making prepared for the following pilot audiences: (1) Student and Private (2) Commercial (3) Instrument (4) Instructor (5) Helicopter (6) Multi-Crew.</p>					
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## PREFACE

This training manual was prepared by the AOPA Air Safety Foundation under subcontract to Systems Control Technology, Inc. in support of Federal Aviation Administration contract number DTFA01-80-C-10080.

## FOREWORD

This aeronautical decision-making training manual is a result of ten years of research, development, testing and evaluation of the effectiveness of judgment and decision making. This manual is a revision of the prototype publication "Judgment Training Manual for Instructor Pilots," which was developed jointly by the Federal Aviation Administration (FAA), General Aviation Manufacturers Association (GAMA) and Transport Canada, in an effort to improve general aviation safety. Additional support and collaboration in the development of these materials was provided by: the AOPA Air Safety Foundation, Department of Aviation (Australia), Director General of Civil Aviation (France), Flight Safety Foundation and Systems Control Technology, Inc.

This manual contains the necessary background material to help prepare you to effectively teach the subject material contained in the companion publication entitled "Aeronautical Decision Making for Private Pilots." Similar training materials have been developed for commercial and instrument pilots and for those operating multi-crew aircraft.

This training manual is the result of extensive revisions to the FAA report "Pilot Judgment Training and Evaluation, Volumes I-III," (DOT/FAA/CT-82-56), Embry-Riddle Aeronautical University, June 1982.

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AERONAUTICAL DECISION MAKING  
FOR INSTRUCTOR PILOTS

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## 1. INTRODUCTION

This INSTRUCTOR MANUAL contains directions for administering the decision-making training program described in the publication "Aeronautical Decision Making for Student and Private Pilots." This manual supplements the private pilot manual and is not designed to be used on its own.

Learn the private manual! The material contained in the private manual constitutes about 80 percent of this training course. This manual outlines the private manual, explains how to present the material to your students, and provides guidance on how to resolve student difficulties.

This manual will not teach you the material that students must learn from the private manual. You must study and complete all of the lessons contained in the private manual. This material is critical to the success of the training program.

Note that the private manual requires a minimum of study and memorization. By reading the various chapters and completing the exercises, you, as well as your students, will learn most or all of the material.

Use the "situations" to full advantage. The private manual contains numerous examples and "situations" taken from reports of accidents and incidents. Some have been slightly altered to fit the requirements of each section. Use these scenarios in two ways:

First, emphasize to the student the reality of the situations. Stress that these situations continually occur in accidents and incidents. Second, discuss the scenarios and the accompanying exercises with your students. If possible, enrich these discussions with examples from your own experiences. This is encouraged because discussion of actual incidents and personal experiences may improve the student's judgment and decision making.

The flight training is entirely up to you. This instructor manual contains two sets of training activities not in the private manual which should be presented to the student during flight training. Although these lessons require student-instructor interaction, no learning of new material is necessary. This allows the student to apply what has been learned to actual flight situations.

Knowing the principles upon which this training program is founded will help you present the material more positively to your students. Indeed, it is important that your students perceive your attitude toward this training as positive. Although a discussion of each principle listed below is presented within the body of the instructor manual, this summary may help you to understand each segment of the program more clearly.

### Principles of Decision-Making Training

o The private manual is simple and repetitive for two reasons: 1) the simplicity provides frequent positive reinforcement; 2) the repetition builds good judgment habits and refreshes memory so that information can be readily recalled in a variety of circumstances, even when under stress.















































































































































