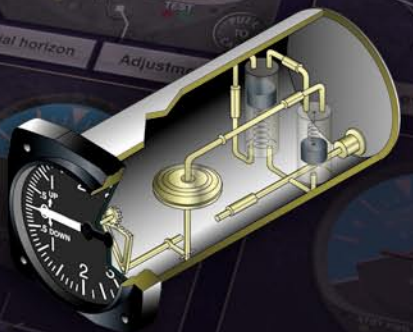
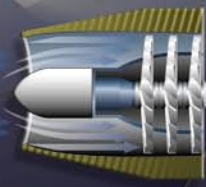
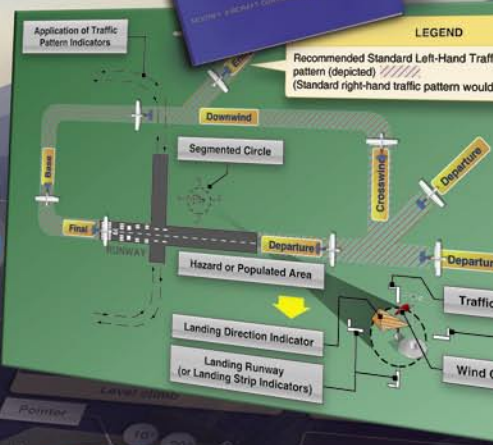
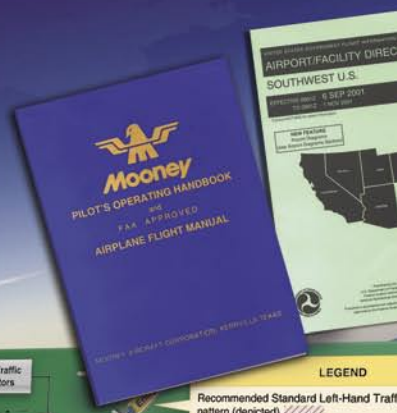
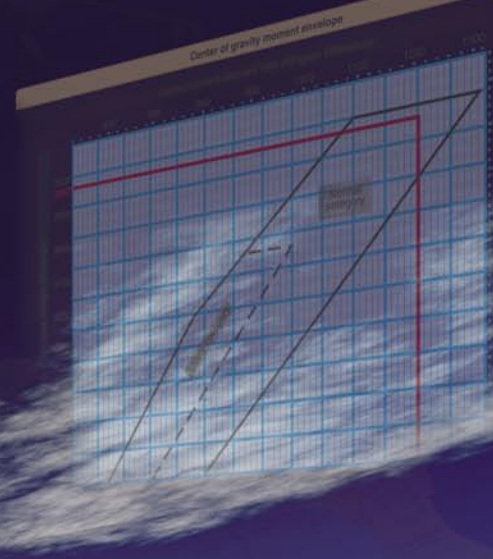


Pilot's Handbook of Aeronautical Knowledge



U.S. Department of Transportation
Federal Aviation Administration



Pilot's Handbook of Aeronautical Knowledge

2008

U.S. Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Flight Standards Service

Preface

The Pilot's Handbook of Aeronautical Knowledge provides basic knowledge that is essential for pilots. This handbook introduces pilots to the broad spectrum of knowledge that will be needed as they progress in their pilot training. Except for the Code of Federal Regulations pertinent to civil aviation, most of the knowledge areas applicable to pilot certification are presented. This handbook is useful to beginning pilots, as well as those pursuing more advanced pilot certificates.

Occasionally the word "must" or similar language is used where the desired action is deemed critical. The use of such language is not intended to add to, interpret, or relieve a duty imposed by Title 14 of the Code of Federal Regulations (14 CFR).

It is essential for persons using this handbook to become familiar with and apply the pertinent parts of 14 CFR and the Aeronautical Information Manual (AIM). The AIM is available online at www.faa.gov. The current Flight Standards Service airman training and testing material and learning statements for all airman certificates and ratings can be obtained from www.faa.gov.

This handbook supersedes FAA-H-8083-25, Pilot's Handbook of Aeronautical Knowledge, dated 2003.

This handbook is available for download, in PDF format, from www.faa.gov.

This handbook is published by the United States Department of Transportation, Federal Aviation Administration, Airman Testing Standards Branch, AFS-630, P.O. Box 25082, Oklahoma City, OK 73125.

Comments regarding this publication should be sent, in email form, to the following address:

AFS630comments@faa.gov

Acknowledgments

The Pilot's Handbook of Aeronautical Knowledge was produced by the Federal Aviation Administration (FAA) with the assistance of Safety Research Corporation of America. The FAA wishes to acknowledge the following contributors:

Mrs. Nancy A. Wright for providing imagery of a de Havilland DH-4 inaugural air mail flight (Chapter 1)

The Raab Collection, Philadelphia, Pennsylvania, for images of the first pilot license (Chapter 1)

Sandy Kenyon and Rod Magner (magicair.com) for photo of 1929 TravelAir 4000 (Chapter 1)

Adventure Seaplanes for photos of a ski and float training plane (Chapter 2)

Jack Davis, Stearman Restorers Association, for photo of a 1941 PT-17 Army Air Corps trainer (Chapter 2)

Michael J. Hoke, Abaris Training Resources, Inc., for images and information about composite aircraft (Chapter 2)

M. van Leeuwen (www.zap16.com) for image of Piaggio P-180 (Chapter 5)

Greg Richter, Blue Mountain Avionics, for autopilot information and imagery (Chapter 5)

Mountain High E&S Company for various images provided regarding oxygen systems (Chapter 6)

Jeff Callahan, Aerox, for image of MSK-AS Silicone Mask without Microphone (Chapter 6)

Nonin Medical, Inc. for image of Onyx pulse oximeter (Chapter 6)

Pilotfriend.com for photo of a TKS Weeping Wing (Chapter 6)

Chelton Flight Systems for image of FlightLogic (Chapter 7)

Avidyne Corporation for image of the Entegra (Chapter 7)

Teledyne Controls for image of an air data computer (Chapter 7)

Watson Industries, Inc. (www.watson-gyro.com) for image of Attitude and Heading Reference system (Chapter 7)

Dr. Pat Veillette for information used on decision-making (Chapter 17)

John Park for image of spinning plates (Chapter 17)

Cessna Aircraft Company, Columbia Aircraft Manufacturing Corporation, Eclipse Aviation Corporation, Garmin Ltd., The Boeing Company for images provided and used throughout the Handbook.

Additional appreciation is extended to the Aircraft Owners and Pilots Association (AOPA), the AOPA Air Safety Foundation, the General Aviation Manufacturers Association (GAMA), and the National Business Aviation Association (NBAA) for their technical support and input.

