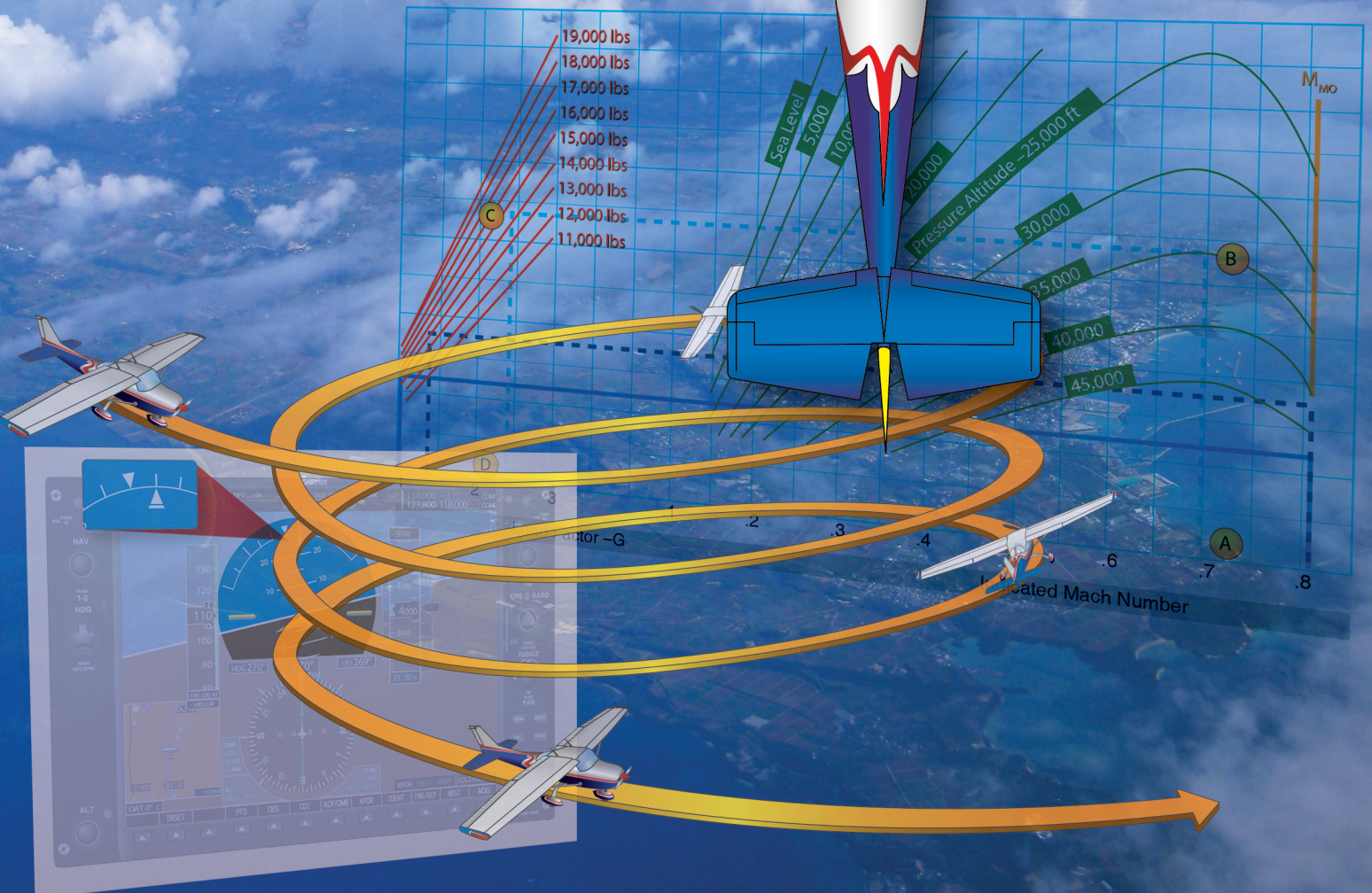
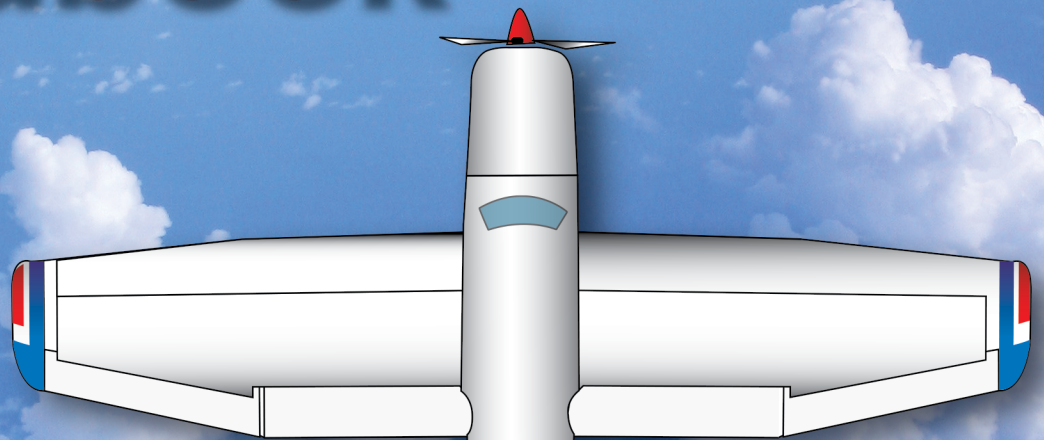


Airplane Flying Handbook



U.S. Department of Transportation
Federal Aviation Administration



Airplane Flying Handbook

2021

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

Airplane Flying Handbook (FAA-H-8083-3C)

Preface

The Airplane Flying Handbook provides basic knowledge that is essential for pilots. This handbook introduces basic pilot skills and knowledge that are essential for piloting airplanes. It provides information on transition to other airplanes and the operation of various airplane systems. It is developed by the Flight Standards Service, Airman Testing Standards Branch, in cooperation with various aviation educators and industry. This handbook is developed to assist student pilots learning to fly airplanes. It is also beneficial to pilots who wish to improve their flying proficiency and aeronautical knowledge, those pilots preparing for additional certificates or ratings, and flight instructors engaged in the instruction of both student and certificated pilots. It introduces the future pilot to the realm of flight and provides information and guidance in the performance of procedures and maneuvers required for pilot certification.

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 can be obtained from www.faa.gov.

This handbook supersedes FAA-H-8083-3B, Airplane Flying Handbook, dated 2016.

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

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Comments regarding this publication should be emailed to AFS630comments@faa.gov.

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Mr. Shane Torgerson for imagery of the Sedona Airport (Chapter 1)

Mr. Robert Frola for imagery of an Evektor-Aerotechnik EV-97 SportStar Max (Chapter 16)

Additional appreciation is extended to the General Aviation Joint Steering Committee (GA JSC) and the Aviation Rulemaking Advisory Committee's (ARAC) Airman Certification Standards (ACS) Working Group for their technical support and input.

Airplane Flying Handbook (FAA-H-8083-3C)

Major Revisions

- Removed mandatory language or cited applicable regulations throughout handbook.
- Chapter 1 (Introduction to Flight Training) – Added information on the FAA Wings Program.
- Chapter 2 (Ground Operations) – Added a new graphic and information regarding detonation. Now uses the same marshalling graphic as the AMT General Handbook. Updated material on hand propping to match the material in the AMT General Handbook (it doesn't matter whether a pilot or mechanic is hand propping).
- Chapter 3 (Basic Flight Maneuvers) – Corrected G1000 and indications of slip and skid graphics.
- Chapter 4 (Energy Management) – All new chapter/material. Incremented the existing chapters 4-17 by 1 (now there are 18 chapters in total).
- Chapter 5 (Maintaining Aircraft Control) – Revised the order in which the material was presented.
- Chapter 7 (Ground Reference Maneuvers) – Corrected errors in text and graphics for eights on pylons.
- Chapter 9 (Approaches and Landings) – Added information concerning a forward slip to a landing and corrected Figure 9-6. Changed description associated with Crosswind Final Approach. Removed material on 360 degree power-off landing as this maneuver is not part of testing standard.
- Chapter 10 (Performance Maneuvers) – Added information on lazy eights.
- Chapter 11 (Night Operations) – Revised to align with material from CAMI.
- Chapter 13 (Transition to Multiengine Airplanes) – Incorporated the addendum. Corrected G1000 displays and force vectors on figures. Accelerated approach to stall minimum altitude revised to match the ACS. The 14 CFR part 23 certification standard used for many multiengine airplanes is now referred to a historical standard, since many of the previous requirements will not apply to newly certificated aircraft.
- Chapter 14 (Transition to Tailwheel Airplanes) – Made minor revision regarding handling characteristics.
- Chapter 15 (Transition to Turbopropeller-Powered Airplanes) – Addressed an NTSB recommendation regarding slow spool up time of split-shaft engines and corrected figure of fixed-shaft engine gauges.
- Chapter 16 (Transition to Jet-Powered Airplanes) – Removed extra information that appears unrelated to flying a turbojet and added information regarding energy management and distance versus altitude in a descent.
- Chapter 18 (Emergency Procedures) – Revised information regarding the safety of turning back after an engine failure after takeoff. Added a section on emergency response systems to include ballistic parachutes and autoland systems. Corrected figures of G1000 displays.

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