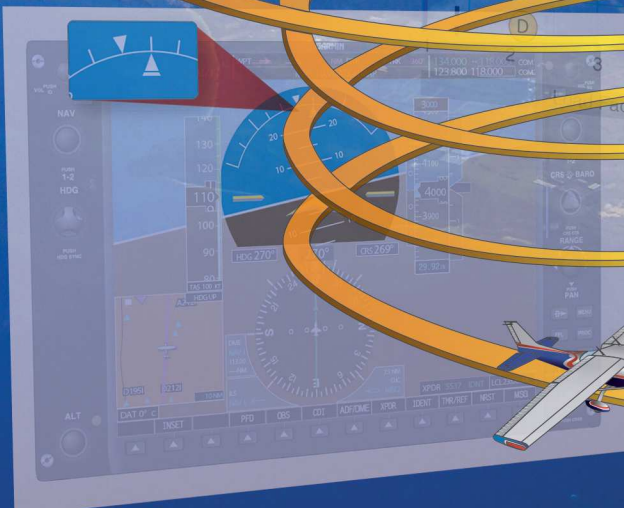
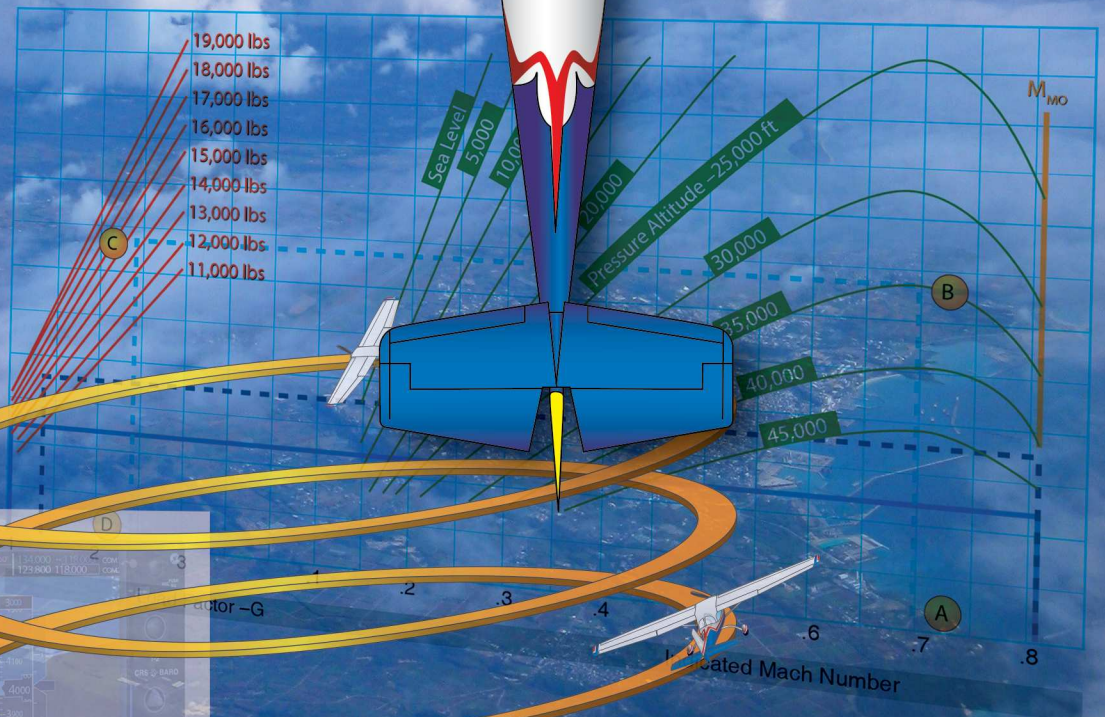




Airplane Flying Handbook

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.

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

Table of Contents

Chapter 1: Introduction to Flight Training

Introduction	1-1
Role of the FAA	1-2
Flight Standards Service	1-5
Role of the Pilot Examiner	1-6
Role of the Flight Instructor	1-6
Sources of Flight Training	1-8
Airman Certification Standards (ACS) and Practical Test Standards (PTS)	1-9
Safety Considerations	1-10
Collision Avoidance	1-10
Runway Incursion Avoidance	1-12
Stall Awareness	1-13
Use of Checklists	1-15
Continuing Education	1-16
FAA Wings Program	1-16
Chapter Summary	1-16

Chapter 2: Ground Operations

Introduction	2-1
Preflight Assessment of the Aircraft	2-1
Visual Preflight Assessment	2-4
Outer Wing Surfaces and Tail Section	2-6
Fuel and Oil	2-7
Landing Gear, Tires, and Brakes	2-10
Engine and Propeller	2-11
Risk and Resource Management	2-12
Risk Management	2-12
Identifying the Hazard	2-12
Risk	2-13
Risk Assessment	2-13
Risk Identification	2-13
Risk Mitigation	2-13
Resource Management	2-13
Situational Awareness	2-13
Human Resource Management	2-13
Task Management	2-14
Aeronautical Decision-Making (ADM)	2-14
Ground Operations	2-14
Engine Starting	2-16
Hand Propping	2-16
Taxiing	2-18
Before Takeoff Check	2-21
Takeoff Checks	2-22
After Landing	2-22

Clear of Runway and Stopped	2-22
Parking	2-23
Engine Shutdown	2-23
Post-Flight	2-23
Securing and Servicing	2-23
Chapter Summary	2-24
Chapter 3: Basic Flight Maneuvers	
Introduction	3-1
The Four Fundamentals	3-1
Effect and Use of Flight Controls	3-1
Feel of the Airplane	3-3
Attitude Flying	3-4
Integrated Flight Instruction	3-5
Straight-and-Level Flight	3-6
Straight Flight	3-6
Level Flight	3-8
Common Errors	3-8
Trim Control	3-10
Level Turns	3-11
Turn Radius	3-14
Establishing a Turn	3-15
Common Errors	3-17
Climbs and Climbing Turns	3-17
Establishing a Climb	3-19
Climbing Turns	3-20
Common Errors	3-20
Descents and Descending Turns	3-20
Glides	3-21
Gliding Turns	3-23
Common Errors	3-24
Chapter Summary	3-25
Chapter 4: Energy Management: Mastering Altitude and Airspeed Control	
Introduction	4-1
Importance of Energy Management	4-1
Viewing the Airplane as an Energy System	4-1
A Frame of Reference for Managing Energy State	4-1
Managing Energy is a Balancing Act	4-3
Role of the Controls to Manage Energy State	4-3
Primary Energy Role of the Throttle and Elevator	4-4
Additional Role for the Elevator	4-5
Rules of Energy Control	4-6
Visualizing the Airplane’s Ability to “Move” Between Energy States	4-7
Three Basic Rules of Energy Control	4-9
Mitigating Risks from Mismanagement of Energy	4-11
Two Energy Management Scenarios	4-11
Scenario 1	4-11

Scenario 2	4-11
Managing Energy Errors	4-12
Preventing Irreversible Deceleration and/or Sink Rate	4-14
Review of Definitions and Terms	4-18
Chapter Summary	4-19
Chapter 5: Maintaining Aircraft Control: Upset Prevention and Recovery Training	
Introduction	5-1
Defining an Airplane Upset	5-1
Upset Prevention and Recovery	5-1
Unusual Attitudes Versus Upsets	5-1
Environmental Factors	5-2
Mechanical Factors	5-2
Human Factors	5-2
IMC	5-2
Diversion of Attention	5-2
Task Saturation	5-3
Sensory Overload/Deprivation	5-3
Spatial Disorientation	5-3
Surprise and Startle Response	5-3
Upset Prevention and Recovery Training (UPRT)	5-4
UPRT Core Concepts	5-5
Academic Material (Knowledge and Risk Management	5-5
Prevention Through ADM and Risk Management	5-6
Prevention Through Proportional Counter-Response	5-6
Recovery	5-6
Common Errors	5-7
Roles of FSTDs and Airplanes in UPRT	5-7
Airplane-Based UPRT	5-7
All-Altitude/All Envelope Flight Training Methods	5-8
FSTD-Based UPRT	5-8
Coordinated Flight	5-8
Angle of Attack	5-8
Slow Flight	5-9
Performing the Slow Flight Maneuver	5-10
Maneuvering in Slow Flight	5-11
Common Errors	5-12
Stalls	5-12
Stall Recognition	5-13
Angle of Attack Indicators	5-13
Stall Characteristics	5-15
Fundamentals of Stall Recovery	5-15
Stall Training	5-16
Approaches to Stalls (Impending Stalls), Power-On or Power-Off	5-17
Full Stalls, Power-Off	5-17
Full Stalls, Power-On	5-18
Secondary Stall	5-18

Accelerated Stalls	5-19
Cross-Control Stall	5-20
Elevator Trim Stall	5-20
Common Errors	5-21
Spin Awareness	5-22
Spin Procedures	5-23
Entry Phase	5-24
Incipient Phase	5-24
Developed Phase	5-24
Recovery Phase	5-24
Intentional Spins	5-25
Weight and Balance Requirements Related to Spins	5-26
Common Errors	5-26
Spiral Dive	5-26
Common Errors	5-27
UPRT Summary	5-27
Chapter Summary	5-27
Chapter 6: Takeoffs and Departure Climbs	
Introduction	6-1
Terms and Definitions	6-1
Prior to Takeoff	6-1
Normal Takeoff	6-3
Takeoff Roll	6-3
Lift-Off	6-4
Initial Climb	6-5
Common Errors	6-6
Crosswind Takeoff	6-6
Takeoff Roll	6-6
Lift-Off	6-7
Initial Climb	6-8
Common Errors	6-10
Ground Effect on Takeoff	6-10
Short-Field Takeoff and Maximum Performance Climb	6-11
Takeoff Roll	6-11
Lift-Off	6-12
Initial Climb	6-12
Common Errors	6-12
Soft/Rough-Field Takeoff and Climb	6-13
Takeoff Roll	6-13
Lift-Off	6-13
Initial Climb	6-13
Common Errors	6-14
Rejected Takeoff/Engine Failure	6-14
Noise Abatement	6-14
Chapter Summary	6-14

Chapter 7: Ground Reference Maneuvers

Introduction	7-1
Maneuvering by Reference to Ground Objects	7-1
Drift and Ground Track Control	7-2
Correcting Drift During Straight and Level Flight	7-2
Constant Radius During Turning Flight	7-3
Tracking Over and Parallel to a Straight Line	7-5
Rectangular Course	7-5
Common Errors	7-7
Turns Around a Point	7-7
S-Turns	7-8
Common Errors	7-10
Elementary Eights	7-10
Eights along a Road	7-11
Eights across a Road	7-12
Eights around Pylons	7-13
Common Errors	7-13
Eights-on-Pylons	7-14
Common Errors	7-18
Chapter Summary	7-18

Chapter 8: Airport Traffic Patterns

Introduction	8-1
Airport Traffic Patterns and Operations	8-1
Standard Airport Traffic Patterns	8-1
Non-Towered Airports	8-4
Safety Considerations	8-5
Chapter Summary	8-7

Chapter 9: Approaches and Landings

Introduction	9-1
Use of Flaps	9-1
Normal Approach and Landing	9-2
Base Leg	9-2
Final Approach	9-3
Wrong Surface Landing Avoidance	9-4
Stabilized Approach Concept	9-4
Estimating Airplane Movement and Height	9-7
Round Out (Flare)	9-8
Touchdown	9-9
After-Landing Roll	9-9
Common Errors	9-10
Go-Arounds (Rejected Landings)	9-10
Power	9-11
Attitude	9-11
Configuration	9-11
Ground Effect	9-12

Common Errors	9-12
Intentional Slips	9-12
Forward Slip to a Landing	9-15
Common Errors	9-15
Crosswind Approach and Landing	9-15
Crosswind Final Approach	9-15
Crosswind Round Out (Flare)	9-17
Crosswind Touchdown	9-17
Crosswind After-Landing Roll	9-18
Maximum Safe Crosswind Velocities	9-18
Common Errors	9-20
Turbulent Air Approach and Landing	9-20
Short-Field Approach and Landing	9-20
Common Errors	9-23
Soft-Field Approach and Landing	9-23
Common Errors	9-24
Power-Off Accuracy Approaches	9-24
90° Power-Off Approach	9-25
180° Power-Off Approach	9-26
Common Errors	9-27
Emergency Approaches and Landings (Simulated)	9-28
Faulty Approaches and Landings	9-30
Low Final Approach	9-30
High Final Approach	9-30
Slow Final Approach	9-31
Use of Power	9-31
High Round Out	9-31
Late or Rapid Round Out	9-31
Floating During Round Out	9-32
Ballooning During Round Out	9-32
Bouncing During Touchdown	9-33
Porpoising	9-34
Wheelbarrowing	9-35
Hard Landing	9-35
Touchdown in a Drift or Crab	9-35
Ground Loop	9-36
Wing Rising After Touchdown	9-37
Hydroplaning	9-37
Dynamic Hydroplaning	9-37
Reverted Rubber Hydroplaning	9-37
Viscous Hydroplaning	9-37
Chapter Summary	9-38
Chapter 10: Performance Maneuvers	
Introduction	10-1
Steep Turns	10-1
Common Errors	10-3

Steep Spiral	10-3
Common Errors	10-4
Chandelle	10-4
Common Errors	10-6
Lazy Eight	10-6
Common Errors	10-7
Chapter Summary	10-8
Chapter 11: Night Operations	
Introduction	11-1
Night Vision	11-1
Anatomy of the Eye	11-1
Types of Vision	11-2
The Night Blind Spot	11-3
Vision Under Dim and Bright Illumination	11-3
Factors Affecting Vision	11-3
Night Illusions	11-4
False Horizon	11-4
Autokinesis	11-4
Featureless Terrain Illusion	11-5
Ground Lighting Illusions	11-5
Pilot Equipment	11-5
Airplane Equipment and Lighting	11-5
Airport and Navigation Lighting Aids	11-6
Training for Night Flight	11-7
Preparation and Preflight	11-7
Starting, Taxiing, and Run-up	11-8
Takeoff and Climb	11-8
Orientation and Navigation	11-9
Approaches and Landings	11-10
How to Prevent Landing Errors Due to Optical Illusions	11-13
Night Emergencies	11-13
Chapter Summary	11-14
Chapter 12: Transition to Complex Airplanes	
Introduction	12-1
Function of Flaps	12-1
Flap Effectiveness	12-3
Operational Procedures	12-4
Controllable-Pitch Propeller	12-5
Constant-Speed Propeller	12-5
Takeoff, Climb, and Cruise	12-6
Blade Angle Control	12-7
Governing Range	12-8
Constant-Speed Propeller Operation	12-8
Turbocharging	12-9
Ground Boosting Versus Altitude Turbocharging	12-10
Operating Characteristics	12-10

Heat Management	12-10
Turbocharger Failure	12-11
Over-Boost Condition	12-11
Low Manifold Pressure	12-11
Retractable Landing Gear	12-12
Landing Gear Systems	12-12
Controls and Position Indicators	12-12
Landing Gear Safety Devices	12-12
Emergency Gear Extension Systems	12-14
Operational Procedures	12-14
Takeoff and Climb	12-16
Approach and Landing	12-16
Transition Training	12-17
Chapter Summary	12-18
Chapter 13: Transition to Multiengine Airplanes	
Introduction	13-1
General	13-1
Terms and Definitions	13-1
Operation of Systems	13-3
Feathering Propellers	13-3
Propeller Synchronization	13-7
Fuel Crossfeed	13-7
Combustion Heater	13-8
Flight Director/Autopilot	13-8
Yaw Damper	13-8
Alternator/Generator	13-9
Nose Baggage Compartment	13-9
Anti-Icing/Deicing Equipment	13-9
Performance and Limitations	13-10
Weight and Balance	13-12
Ground Operation	13-14
Normal and Crosswind Takeoff and Climb	13-15
Short-Field Takeoff and Climb	13-17
Rejected Takeoff	13-17
Level Off and Cruise	13-17
Slow Flight	13-18
Spin Awareness and Stalls	13-18
Spin Awareness	13-18
Stall Training	13-18
Power-Off Approach to Stall (Approach and Landing)	13-19
Power-On Approach to Stall (Takeoff and Departure)	13-19
Full Stall	13-20
Accelerated Approach to Stall	13-20
Normal Approach and Landing	13-20
Crosswind Approach and Landing	13-21
Short-Field Approach and Landing	13-22

Go-Around	13-22
Engine Inoperative Flight Principles	13-23
Derivation of V_{MC}	13-23
V_{MC} Demo	13-26
V_{MC} Demo Stall Avoidance	13-26
OEI Climb Performance	13-27
Low Altitude Engine Failure Scenarios	13-29
Landing Gear Down	13-30
Landing Gear Control Selected Up, Single-Engine Climb Performance Inadequate	13-30
Landing Gear Control Selected Up, Single-Engine Climb Performance Adequate	13-31
Control	13-31
Configuration	13-31
Climb	13-32
Checklist	13-32
Engine Failure During Flight	13-34
Engine Inoperative Approach and Landing	13-34
Multiengine Training Considerations	13-35
Chapter Summary	13-37

Chapter 14: Transition to Tailwheel Airplanes

Introduction	14-1
Landing Gear	14-1
Instability	14-1
Angle of Attack	14-2
Taxiing	14-2
Weathervaning	14-2
Visibility	14-3
Directional Control	14-3
Normal Takeoff Roll	14-3
Liftoff	14-3
Crosswind Takeoff	14-3
Short-Field Takeoff	14-4
Soft-Field Takeoff	14-4
Landing	14-4
Touchdown	14-4
Three-Point Landing	14-5
Wheel Landing	14-5
Crosswinds	14-6
After-Landing Roll	14-6
Crosswind After-Landing Roll	14-7
Short-Field Landing	14-8
Soft-Field Landing	14-8
Ground Loop	14-8
Chapter Summary	14-8

Chapter 15: Transition to Turbopropeller-Powered Airplanes

Introduction	15-1
Gas Turbine Engine	15-1

Turboprop Engines	15-2
Fixed-Shaft	15-2
Split-Shaft/Free Turbine Engine	15-5
Reverse Thrust and Beta Range Operations	15-8
Turboprop Airplane Electrical Systems	15-10
Operational Considerations	15-11
Training Considerations	15-13
Ground Training	15-14
Flight Training	15-15
Chapter Summary	15-15
Chapter 16: Transition to Jet-Powered Airplanes	
Introduction	16-1
Ground Safety	16-1
Jet Engine Basics	16-1
Operating the Jet Engine	16-2
Setting Power	16-2
Thrust to Thrust Lever Relationship	16-2
Variation of Thrust with RPM	16-3
Slow Acceleration of the Jet Engine	16-3
Jet Engine Efficiency	16-4
Absence of Propeller Effects	16-4
Absence of Propeller Slipstream	16-4
Absence of Propeller Drag	16-4
Speed Margins	16-4
Mach Buffet	16-6
Low-Speed Flight	16-6
Stalls	16-7
Drag Devices	16-9
Thrust Reversers	16-10
Pilot Sensations in Jet Flying	16-11
Jet Airplane Takeoff and Climb	16-12
V-Speeds	16-12
Takeoff Roll	16-12
Rejected Takeoff	16-15
Rotation and Lift-Off	16-16
Initial Climb	16-16
Jet Airplane Descent and Approach	16-17
Descent Planning	16-17
Descent Energy Management	16-18
Jet Airplane Landing	16-19
Landing Speeds	16-20
Significant Differences	16-21
Stabilized Approach	16-21
Approach Speed	16-22
Glidepath Control	16-22
The Flare	16-23

Touchdown and Rollout	16-24
Jet Airplane Systems and Maintenance	16-24
Minimum Equipment List	16-25
Configuration Deviation List	16-25
Chapter Summary	16-25
Chapter 17: Transition to Light Sport Airplanes (LSA)	
Introduction	17-1
Light Sport Airplane (LSA) Background	17-1
LSA Synopsis	17-3
Sport Pilot Certificate	17-3
Transition Training Considerations	17-4
Flight School	17-4
Flight Instructors	17-4
LSA Maintenance	17-5
Airframe and Systems	17-5
Construction	17-5
Engines	17-6
Instrumentation	17-7
Weather Considerations	17-7
Flight Environment	17-8
Preflight	17-9
Inside the Airplane	17-9
Outside the Airplane	17-11
Before Start and Starting Engine	17-12
Taxi	17-12
Takeoff and Climb	17-12
Cruise	17-13
Approach and Landing	17-14
Emergencies	17-14
Post-Flight	17-15
Key Points	17-15
Chapter Summary	17-15
Chapter 18: Emergency Procedures	
Emergency Situations	18-1
Emergency Landings	18-1
Types of Emergency Landings	18-1
Psychological Hazards	18-1
Basic Safety Concepts	18-2
General	18-2
Attitude and Sink Rate Control	18-4
Terrain Selection	18-4
Airplane Configuration	18-4
Approach	18-4
Terrain Types	18-5
Confined Areas	18-5
Trees (Forest)	18-5

Water (Ditching) and Snow	18-7
Engine Failure After Takeoff (Single-Engine)	18-7
Emergency Descents	18-8
In-Flight Fire	18-9
Engine Fire	18-9
Electrical Fires	18-10
Cabin Fire	18-10
Flight Control Malfunction/Failure	18-10
Total Flap Failure	18-10
Asymmetric (Split) Flap	18-11
Loss of Elevator Control	18-11
Landing Gear Malfunction	18-12
System Malfunctions	18-13
Electrical System	18-13
Pitot-Static System	18-14
Abnormal Engine Instrument Indication	18-16
Door Opening In-Flight	18-17
Inadvertent VFR Flight Into IMC	18-17
Recognition	18-17
Maintaining Airplane Control	18-18
Attitude Control	18-18
Turns	18-19
Climbs	18-20
Descents	18-20
Combined Maneuvers	18-21
Transition to Visual Flight	18-22
Emergency Response Systems	18-22
Ballistic Parachute	18-22
Autoland	18-22
Chapter Summary	18-23

Glossary

G-1

Index

I-1