Contents

List of Figures, xiii Preface, xv About the Authors, xvi

Chapter I → The Role of the General Aviation Service Center or "Fixed-Base Operator" in the National Aviation System, I

Objectives, 1 Introduction, 1

> Terminology, 1 Scope of Book, 2

Aviation's Early Economic History, 2

Aviation Pioneers and Economic Milestones, 2

The Jet Engine: New Horizons, 3 Rotorcraft: New Functions, 4

Tiltrotor, 4

The Full Circle: Ultralights and Homebuilts, 4

Market Changes of Recent Decades and Their Implications for Aviation, 5

1990s Onward-New Wealth, 5 Security and Terrorism, 5 The World Wide Web, 5

Globalization of the Market, 5

Airline Deregulation, 6

General Aviation Revitalization Act of 1994 (GARA), 6

The "Revenue Diversion" Issue, 7
Threat of Airport Closures, 8
Airport Improvement Funding, 8
Fractional Aircraft Ownership, 8
NASA's Involvement in General Aviation, 8
Transportation Security Administration, 9
Revolution in Avionics Technology, 9

Components of the Modern Aviation Industry, 9

Summary, 9

Pilots, 9

Other Aviation Support Personnel, 9

The Airport System, 10

The Air Navigation System, 11

Aviation Manufacturers, 11

Scheduled Air Carriers, 12

General Aviation, 12

Aviation Industry Groups, 13

Aviation Regulation, 16

Introduction, 16

Federal Aviation Administration (FAA), 17 National Transport Safety Board (NTSB), 17 Transportation Security Administration (TSA), 17

Fixed-Base Operators, 18

Fixed-Base Operators: Their Role, 18 Scale and Prospects of the Industry, 19 Airport Management, 19

FBO Industry Trends and Issues, 19

Maturity and Professionalism, 19 Public Awareness, 20 Technical Issues, 22

Conclusion, 22 Summary, 22 Discussion Topics, 23 Endnotes, 23

Chapter 2 → **Management Functions, 25**

Objectives, 25 Introduction, 25

The Four Traditional Functions of Management, 25

Common Managerial Errors and How to Address Them, 27

- 1. Failure to Anticipate Industry Trends, 27
- 2. Lack of Priorities, 27
- 3. Indecisiveness and Lack of Systems, 27
- 4. Poor Time Management, 27
- 5. Poor Communication Skills, 28
- 6. Lack of Personal Accountability and Ethics, 28
- 7. Failure to Develop, Train, and Acknowledge People, 28
- 8. Failure to Support Company Policy in Public, 28
- 9. Failure to Acknowledge and Accommodate People's Workstyles, 28
- 10. Failure to Focus on Profit, 28
- 11. Failure to Recognize the Needs People Fulfill by Working, 29
- 12. Failure to Establish and Adhere to Standards, 29

Planning and Organizing, 29

The Need for a Business Plan, 29 Business Plan Outline, 30

Directing, Coordinating, and Controlling, 34

Managing, Versus Doing, 34

Style of Problem-Solving and Delegation, 35

Leadership Styles, 36

Objectives of Delegation, 37

Managerial Control, 37

Choosing the Areas to Delegate, 38

Dos and Don'ts of Delegation, 38

The Decision-Making Process, 38

Decision-Making Tools, 40

Decide Something!, 40

Time Management, 42

Sources of Time-Management Problems, 42 Time Management Strategies, 42

Business Ethics, 44

Summary, 45

Discussion Topics, 46

Endnotes, 46

Chapter 3 > Marketing, 49

Objectives, 49

Introduction, 49

The Need for Marketing in Aviation, 49

Marketing Orientation, 50

Definition of Marketing, 50

Natural Segmentation of Aviation Markets, 51

Market Research, 52

The Nature of Aviation Market Research, 52

National Trends That May Affect General Aviation, 52

Introduction, 52

Terrorism and Its Aftermath, 52

Fractional Aircraft Ownership, 53

Encouraging New Pilots, 55

Sport Pilot Certificate, 55

Airport Closures, 55

Technology, 55

Tort Reform, 55

Sources of Aviation Forecasts and Market Projections, 56

Understanding the Local Aviation Market, 62

Forecasting Techniques and the Individual General Aviation Business, 62

Customer Needs and Identification of New Prospects, 65

Product and Service Definition, 66

Total Product, 66

Product Classification, 66

The Competition, 67

Market Niche, 67

Price, 67

Elasticity, 69

Pricing Policy, 71

Place, 72

Distribution Systems, 72

Promotion, 72

Sales, 76

Collecting, 77

Marketing Controls, 77

Marketing Plan, 77

Contribution Analysis, 77

Performance Evaluation, 78

Quality Control, 78

Budgeting, 78

Information Systems, 78

Integrated Marketing, 78

Marketing the Airport, 78

Job Descriptions and Specifications, 122

Special Activities, 124

Profit Objectives, 89

Break-Even Analysis, 89

Laws and Regulations, 124	Administering Discipline, 158		
Introduction, 124	The "Red-Hot Stove" Rule, 159		
Employment Discrimination, 126	The Troubled Worker, 160		
Workplace Safety, 127	Separation, 160		
Workers Compensation: An Overview, 128	Personnel Policy Manual, 162		
Comparable Worth, 129	Manual Style, 162		
Payroll Taxes and Deductions, 129	Personnel Records, 162		
Employee Access to Records and Fair	Employee Organizations, 162		
Information Practices, 129	Impact on Management, 163		
Recruiting Qualified Candidates, 130	Summary, 164		
Industry Contacts, 130	Discussion Topics, 164		
Recruiters, 130	Endnotes, 164		
Employment Agencies, 130			
Colleges and Trade Schools, 131	Chapter 6 → Organization		
Advertising, 131	and Administration, 167		
Selecting Employees, 131			
Preliminary Screening, 132	Objectives, 167		
The Application Form, 132	Introduction, 167		
The Interview, 132	Goals and Objectives, 168		
Testing and Investigation, 139	General, 168		
Background and References, 141	Financial Practices, 168		
The Physical Examination, 143	Personnel, 168		
The Job Offer, 143	Physical Assets, 168		
Orientation and Training, 143	Selecting Information, 169		
New Employees, 143	Routine-ize the Routine, 169		
Training, 144	A World of Change, 169		
Communicating, 146	Legal Structure, 169		
Basic Elements, 146	Sole Proprietorship, 170		
Barriers to Effective Communication, 147	Partnership, 170		
Verbal and Non-Verbal Communications, 147	Corporation, 171		
Improving Communications, 148	Principles of Internal Organization, 172		
Motivating, 149	The Rational Model vs. Some New		
Array of Needs, 149	Approaches, 172		
Needs Satisfied by Working, 150	Explicit Corporate Philosophy, 173		
Creating a Motivating Environment, 151	Organizational Culture, 173		
Leadership, 152	Specialization and Job Rotation, 173		
Evaluating Employees, 152	Decentralization and Decisions by		
Promoting Employees, 153	Consensus, 174		
Compensation Systems, 157	Management by Walking Around, 175		
Job Evaluation, 157	Management by Results, 175		
Fringe Benefits, 157	Span of Control, 175		
Administration of the Total Compensation	Effective Work Groups and Teams, 176		
Plan, 158	Staff Support, 176		
Disciplinary Problems, 158	Human Factors, 177		
Conflict Resolution, 158	New Approaches to Organization, 178		

Communications Technology for Internal	Financial, 196			
Organization, 179	Material, 196			
Internal Structure Design, 179	Aviation Operations, 196			
Formal Internal Structure, 180	Legal and Tax Information, 199			
Functional or Matrix Management, 180	Market Information, 199			
Line Organization, 180	Technological Information, 199			
Line and Staff Organization, 181	Analyzing Business Activity, 200			
Informal Internal Structures, 181	General Procedure, 200			
Quality Circles, 184	Analyzing the Business as a Whole, 200			
Task Forces, 184	Management Audit, 202			
Social Structures, 184	Analyzing Departmental Activity, 202			
Other Networks, 184	Introduction, 202			
External Pressures on Choices of Structure ,	Taking Action, 206			
184	Records and Record-Keeping, 207			
Industry Norms, 184	Records Design, 208			
Government and Regulatory Influences on	Correspondence, 208			
Organizational Structure, 185	Records Management, 209			
Practical Applications Guidelines, 185	Communications, 213			
Problems, 186	Duplicating Information, 214			
The Organization Manual, 186	Aviation Accounting, 214			
Manual Outline, 186	Accounting Flow, 215			
Discussion Topics, 187	Source Documents, 215			
Summary, 187	Journals, 215			
Endnotes, 187	General Ledger, 216			
	Financial Statements, 218			
	Accounting Activity Flow Chart, 218			
Chapter 7 > Management Information	Accounting System, 218			
Systems, 189	Profit Center Accounting, 219			
Objectives, 189	Information System Tools, 222			
Introduction, 189	Introduction, 222			
Industry Changes—Franchises and	Desktop Computers, 222			
Computerization, 189	Selecting the Right Functionality, 223			
System Purposes, 191	Computer Selection			
Financial Survival, 191	Considerations, 223			
Performance Monitoring and Improvement,	FBO Management			
192	Software Choices, 223			
Special Reports, 192	Computer Service Bureaus, 225			
Taxes and Legal Obligations, 193	Other Devices, 226			
Checks on Reality, 193	Business Security, 226			
System Processes, 193	Confidentiality and Control of Information,			
Integrated Flow, 193	226			
Requirements of an Effective System, 193	Types of Losses, 226			
First Steps, 193	Methods of Combating Losses, 227			
Aviation Management Information Systems,	Summary, 227			
195	Discussion Topics, 227			
Human Resources, 195	Endnotes, 228			
Hullian resources, 199	E1101101C5, 440			

Chapter 8 > Operations: Flight Line	Air Cargo, 258		
and Front Desk, 229	Air Ambulance/Medical Evacuation, 259		
Objectives, 229	Other Commercial Flight Operations, 259		
Introduction, 229	Aerial Patrol, 259		
Customer Service, 230	Aerial Application, 260		
Staying Up to Date, 230	Aerial Advertising, 263		
Technological Change, 230	Fish Spotting, 263		
Facility Appearance, 230	Aerial Photography, 263		
Flight Line, 230	Flight Instruction, 263		
Line Layout, 231	The Changing Market, 263		
Line Operations, 232	Training Programs, 263		
Line Administration, 234	Instruction Administration, 265		
Training Line Personnel, 238	Flight Instructors, 266		
	Instructor Training, 268		
Service Array and Profitability, 239	Freelance Instructors, 268		
Fueling, 240	Simulator/FTD Usage, 268		
Trends in Use of Alternative Fuels, 240	Sport and Recreational Flyers, 269		
Self-Fueling, 240	Gliders and Sailplanes, 269		
Front Desk, 241	Parachuting, 269		
Procedures, 241	Ultralights, 269		
Staying Close to the Customer, 242	Experimental and Home-Built Aircraft, 270		
Related Services, 243	Balloons, 270		
Flight Planning and Services, 243	Rotorcraft, 270		
FAA Weather Services, 243	Sight-Seeing, 271		
Weather Information Systems, 244	Aircraft Sales, 271		
Other Pilot and Passenger Services, 244	New Aircraft, 271		
Summary, 244	Used Aircraft, 271		
Discussion Topics, 245	Brokerage, 272		
Endnotes, 245	Demonstration Flights, 272		
	Flight Operations Manual, 272		
	•		
Chapter 9 → Flight Operations, 247	Discussion Topics, 272		
01: 4: 0/=	Summary, 273		
Objectives, 247	Endnotes, 273		
Introduction, 247			
Types of Flights, 247	Chapter 10 → Aviation Maintenance, 275		
Market Trends, 248	•		
System Issues Affecting Flight Operations,	Objectives, 275		
248	Introduction, 275		
Choosing What Services to Offer, 254	Goals of the Maintenance Shop, 275		
Organization, 255	Changing Issues, 276		
Air Transportation, 255	Maintenance Activity, 278		
Benefits, 255	Overview, 278		
Charter and Air Taxi, 256	Organization, 279		
Aircraft Rental, 257	Certification, 280		
Fractional Aircraft, 257	Personnel, 283		
Aircrew and Ferry Services, 258	Qualifications, 283		
• • • • • • • • • • • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·		

Training, 283	Interaction of Safety, Security, and Liability,			
Certification, 285	312			
Capabilities and Limitations, 285	Risk Exposure, 312			
Inspection Authorization, 285	Normal Business Exposure, 312			
Repairmen, 286	Aviation Risk Exposure, 312			
Facilities and Equipment, 286	Risk Reduction, 313			
Overview, 286	Normal Risk Reduction, 313			
Managerial Concerns, 287	Aviation Risk Reduction, 316			
Parts and Supplies, 287	Aviation Safety and Security Regulations and			
Inventory Control, 287	Guidelines, 317			
Quality Control, 290	Airport Risk Audit, 317			
Training, 291	Procedures Manual, 317			
Checklists, 292	Documentation, 317			
Inspection, 292	Inclement Weather, 318			
Recognition, 292	Risk Transfer, 318			
Balance, 292	Principles of Insurance, 318			
Competition, 292	Insurance Regulations, 318			
Nonexclusive Rights, 292	The U.S. Insurance Market, 318			
Referrals, 296	Normal Business Insurance, 319			
Outsourcing, 296	Special Aviation Coverages, 322			
"Through-the-Fence" Operations, 296	Aviation Tenant-Landlord Agreement, 325			
Tailgate, Shade Tree and Gypsy Mechanics,	Selection of Aviation Insurance, 325			
297	Selection of Aviation Insurer, 326			
Corporate and Other Self-Maintenance, 297	Accident Policy and Procedures, 326			
Administration, 297	Federal Reporting Requirements, 326			
Flat-Rate Pricing, 298	State and Local Reporting Requirements, 329			
Computer-Assisted Maintenance, 304	Aircraft Rescue and Firefighting (ARFF)			
Profitability, 304	Procedures, 329			
Information, 304	Search and Rescue, 329			
Analysis, 305	Aviation Security, 330			
Control, 307	Flight Security, 330			
Techniques, 307	Summary, 331			
Professional Maintenance Organizations ,	Discussion Topics, 332			
308	Endnotes, 332			
Avionics Repair Stations, 309				
Summary, 309	Chapter 12 → Physical Facilities, 333			
Discussion Topics, 310	Chapter 12 7 Physical Facilities, 333			
Endnotes, 310	Objectives, 333			
	Introduction, 333			
Chapter II → Safety, Security and Liability,	The Four Levels of Airport Service Business			
311	Involvement in Physical Facilities, 334			
311	The National Airport Hierarchy, 334			
Objectives, 311	The Airport System, 334			
Introduction, 311	The Airspace System, 336			
The Need for Risk Management Procedures,	Public Airport Organizational Structure,			
312	336			

The Airport's Wider Environment, 337

Overview, 337

How FAA Handles Aviation Noise, 337

FAR Parts 150 and 161, 338

Facilities on the Airport, 338

Introduction, 338

The Airport Master Plan and ALP, 339

Participation by Airport Businesses in

Airport Policy and Planning, 340

Private Airports, 340

Airport Revenue Planning, 341

The FBO's Own Facilities, 342

Data Collection, 342

Planning a New Airport, 342

Facility Expansion, 342

Preventive Maintenance, 343

Scheduled Replacement of Plant and

Equipment, 343

Zoning and Other Local Controls, 343

Environmental Compliance, 344

Leases, 344

Competition with Other FBOs, 357

Threats to the General Aviation Physical System, 358

Lack of Appreciation of GA's Role, 358 Airspace Restrictions, 358

Noise and Operating Restrictions, 359

Airport Closures, 359

Disappearance of Private Airports and Back

Country Strips, 359

Siting New and Expanded Facilities, 360

Lack of Suitable Land Use Controls, 361

Bird Strike Threat, 361

Revenue Diversion, 362

Inadequate General Aviation Funding, 362

New Initiatives and Opportunities, 364

Noise Abatement Programs, 364

Continuous Noise Abatement Strategy, 364

Economic Benefits Studies, 365

Airport Privatization Program, 365

NASA Small Aircraft Program, 366

Airport and Aviation System Planning, 366

Discussion Topics, 367

Summary, 367

Endnotes, 367

Index, 369

List of Figures

1.1	General Aviation Aircraft Shipments, 12	3.16	Equilibrium of Supply and Demand for Aviation Fuel, 70
1.2	U.S. Civil Aircraft Fleet, 2000 to 2034, 13	3.17	Four Basic Channels of Distribution, 73
1.3	Thousands of Aviation Hours Flown, FY 2000 to 2034, 14	3.18	Promotion Planning Chart for a General
1.4	A Taxonomy of General Aviation Flying, 15	3.10	Aviation Organization, 74
1.4	Expanded Market for Flying, 20	4.1	Monthly Cash Flow Chart, 88
2.1	Business Plan Outline, 31	4.2	Break-Even Chart, 89
2.1	Managing Versus Doing, 35	4.3	Income Statement, 92
		4.4	Balance Sheet, 93
2.3	Dos and Don'ts of Delegation, 39	4.5	Annual Sales Budget Worksheet, 97
2.4	Practical Decision Tools for the Aviation Manager, 41	4.6	Monthly Budget Report, 98
2.5	Meeting Management, 45	4.7	Combined Annual and Monthly Purchase
3.1	Typical Marketing Department, 51	4./	Budget Worksheet, 100
3.2	Sport Pilot Certificate, 56	4.8	Expense Budget Worksheet, 101
3.3	An Alternative View of GARA, 57	4.9	Budget Worksheet Used to Formulate
	*	1./	Complete Budget, 102
3.4	Active GA Fleet, 2007, 58	4.10	Cash Budget Worksheet, 104
3.5	GA Flight Hours, 2007, 58	4.11	Sample Credit Policy, 107
3.6	FAA's Assessment of General Aviation Trends through 2025, 59	4.12	Credit Application Form Available to
3.7	Aircraft Utilization Assumptions through	1.12	Piper Aircraft Dealers, 109
3.7	2025, 59	4.13	Credit Check Form, 111
3.8	Active Pilots by Type of Certificate, 60	5.1	Human Resource Pipeline, 116
3.9	Factors Affecting Future GA Trends, 60	5.2	Tasks Required in FBO Positions, 123
3.10	Example of Data Provided in FAA	5.3	Skills Required of Various FBO Positions,
	Terminal Area Forecasts, 61		124
3.11	General Aviation Publications, 63	5.4	Training Required for Aviation
3.12	Industry Market Research and Sales		Maintenance Positions, 125
	Planning Process, 63	5.5	Job Description Format, 133
3.13	Shape of Typical Fuel Cost Curves when	5.6	Screening Guide to Assist in Hiring
	Average Variable Cost Is Assumed		Review, 134
	Constant, 68	5.7	Application for Instructor Position, 135
3.14	Demand Curve for Aviation Fuel, 69	5.8	Twelve Steps to Assessing a Job
3.15	Supply Curve for Aviation Fuel, 70		Candidate's Suitability, 141

5.9 Telephone Reference Check Guide, 142 9.2 AOPA Guidelines for Noise Abatement, 253 5.10 Model of the Communication Process, 9.3 Sample "Hobbs Report," 267 146 5.11 Maslow's Hierarchy of Needs: Two Views, 10.1 Typical Organization of a Maintenance Department, 279 5.12 Sample Performance Appraisal, 153 10.2 Federal Aviation Administration Application for Repair Station Certificate, 5.13 21 Steps to Resolving Disputes, 159 281 5.14 Exit Interview Form to Be Used with the 10.3 Parts Sales Summary, 288 Departure of Each Employee, 161 10.4 Piper Aircraft Inventory Card, 289 5.15 Personnel Forms and Records, 163 10.5 Basic EOQ Graph, 291 6.1 Key Characteristics of a Group, 177 10.6 Aircraft Maintenance Inspection 6.2 Functional or Matrix Organization, 180 Checklist, 293 6.3 Line Organization, 181 10.7 Shop Order, 299 6.4 Line-Staff Organization, 182 10.8 Shop Order Screen, 300 7.1 Fuel Sales by Type by Customer, 194 10.9 Internal Shop Order Form, 303 7.2 Human Resource Data Needs, 195 10.10 Sample Page From an Aviation Flat-Rate 7.3 Cash Data Needs of an Organization, 196 Manual, 305 7.4 Summary of Business Assets, 196 10.11 Maintenance Warning Report, 306 7.5 Sample Physical Inventory Worksheet, 10.12 Individual and Shop Productivity, 307 197 10.13 Break-Even Chart Used for Controlling 7.6 Aviation Operations Data, 199 Overall Service Shop Productivity, 308 7.7 General Ledger Standard Income Report, Key Ratios and Normally Accepted 10.14204 Standards for Maintenance Departments, 7.8 Management Analysis and Action, 207 309 7.9 Information Cycle, 207 Fire Inspection Checklist, 314 11.1 7.10 Information System Activity Flow Chart, 11.2 Sample Security Mission Statement, 331 216 12.1 National Hierarchy of NPIAS Airports, 335 7.11 Sample Computerized Invoice, 217 12.2 Distribution of Activity, 336 7.12 Contribution Margin as Graphically 12.3 **Grant Conditions Under Airport** Illustrated in a Break-Even Chart, 221 Improvement Program, 341 8.1 Sample Line Service Request Form, 235 12.4 NPIAS Development Cost Estimates by 8.2 Sample Line Invoice Form, 236 Airport Category, 362 8.3 Sample Line Invoice Form, 237 12.5 Total NPIAS Cost (\$33.5 Billion) 9.1 NBAA Noise Abatement Techniques, 252 Estimates by Type of Development, 363