A
AATDs (advanced aviation training devices), 29–32
Acceleration, FSX, 51
accessories/computer requirements, 6–11
accidents. See also failures CFIT, 104, 385, 564
collision avoidance, 188, 190, 193, 369
continued VFR flight into IMC, 385
Nall Report, 104
add-ons, X-Plane/FSX, 51
ADDS (Aviation Digital Data Service), 207, 214, 234, 240
ADF. See automatic direction finder ADM. See aeronautical decision-making
advanced aviation training devices (AATDs), 29–32
Advanced Avionics Handbook (FAA-H-8083-6), 18, 379
advanced scenarios, 525–560. See also Beechcraft BE58 Baron;
Piper PA-46 Malibu
KBOI to KRDM, 549–552
KCOE to KAWO, 553–556
KEUG to KOLM, 541–544
KMFR to KAST, 557–560
KSFF to KALW, 545–548
aerial applicators, 201
aerobatic aircraft, 174, 214, 215
“Aeromedical Factors,” 190, 231, 237, 313, 327, 333
Aeronautical Chart User’s Guide, 18, 22, 379, 381
aeronautical decision-making (ADM), 204, 210, 372, 522
defined, 561
risk management, 103–105
situational awareness, 89–90
Aeronautical Information Manual (AIM), 18, 176, 379, 561
AeroNav Services, FAA, 21, 22, 380, 381
A/FD. See Airport/Facility Directory
AFM. See Airplane Flight Manual AGGET, 460
AIM. See Aeronautical Information Manual
Air Charity Network, 235
Air Route Traffic Control Center (ARTCC), 561
Air Safety Foundation Flight Planner, 238, 309, 314, 321, 329, 335, 340, 347, 353
Air Safety Institute. See AOPA ASI air traffic control (ATC), 96
Aircraft Deicing and Anti-icing Equipment, 379
Aircraft Icing, 379
aircraft loading, improper, 210
Airplane menu, 61, 76–79
Airnav.com, 23
Airplane Flight Manual (AFM), 140, 529, 561–562
Airplane Flying Handbook (FAA-H-8083-3A), 18, 176, 379
airplane owner/information manual, 562
airplane simulator. See FFS
airplane types, 90–92. See also
Beechcraft BE58 Baron; Cessna 172 Skyhawk; Piper PA-46 Malibu
airport environments, 47–48
airsickness, 192, 193, 276
airspace. See controlled airspace
airspeed defined, 562
en route climb configuration Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
en route descent FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration FSX Cessna, 163
X-Plane Cessna, 154
ILS approach, Beechcraft Baron, 539
ILS approach (flaps 0°) FSX Cessna, 165
X-Plane Cessna, 156
ILS approach (flaps 10°) FSX Cessna, 164
Piper Malibu, 533
X-Plane Cessna, 155
initial approach Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
### Index - A–C

<table>
<thead>
<tr>
<th>Page</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>initial climb after takeoff</td>
<td>X-Plane Cessna, 157</td>
</tr>
<tr>
<td>FSX Cessna, 148</td>
<td>landing configuration Beechcraft Baron, 540 Piper Malibu, 534</td>
</tr>
<tr>
<td>low-speed cruise</td>
<td>FSX Cessna, 160 X-Plane Cessna, 151 normal cruise Beechcraft Baron, 537 FSX Cessna, 159 Piper Malibu, 531 X-Plane Cessna, 150 private pilot benchmark, 189 traffic pattern configuration FSX Cessna, 162 X-Plane Cessna, 153</td>
</tr>
<tr>
<td>airspeed indicator, 57, 72, 143, 145, 147, 566</td>
<td>altimeter, 57, 72, 143, 145, 199, 200, 567</td>
</tr>
<tr>
<td>altimeter setting, 562, 565, 567 altitude defined, 562 private pilot benchmark, 189 ALW VOR basic attitude instrument flying (IFR lesson 1), 388, 391 basic attitude instrument flying (IFR lesson 2), 396, 397, 398, 399</td>
<td></td>
</tr>
</tbody>
</table>
capturing screens
FSX, 84–85
X-Plane, 66
Carney (CAN), 448
Cascades flight, 346, 553
CDI (course deviation indicator), 396, 406, 418, 421, 429, 439, 449, 457, 465, 563
center of gravity (CG), 563
ceiling, 563
Cessna 172 Skyhawk, 139–167.
En route climb, 157–165.
initial climb after takeoff
FSX Cessna, 157
X-Plane Cessna, 148
low-speed cruise
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
climbing turns, 133–134
cockpits
Cessna 172, 142–143
FSX, 47, 72–74, 145–146
X-Plane, 46, 57–59, 143–145
controls, 52, 74
conventional, 12, 92–93
glass, 11–12, 37, 92, 93, 142, 401
steam gauges, 12, 37
Transpore Cockpit
(X-Plane), 122–123
Code of Federal Regulations.
See FARs
Coeur d’Alene, ID. See KCOE
COEUR D’ALENE ONE departure, 554, 555
Cold Springs, 207
collision avoidance, 188, 190, 193, 369
Columbia River, 187, 207, 208, 281, 305
commands. See also specific commands
FSX, 75–84
X-Plane, 59–66
collision avoidance, 188, 190, 193, 369
common traffic advisory frequency
(CTAF), 197, 563
communication and navigation
radios, 57, 72, 142, 145, 522
completion standards. See specific entries
composite flight instruction. See integrated flight instruction
classical flight. See Beechcraft Baron (FSX) configurations, 529, 533–540
cruise configuration, 537
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
cockpit, 142–143
airspeeds, 141
GARMIN G1000 system, 12, 92–93
glass, 11–12, 37, 92, 93, 142, 401
steam gauges, 12, 37
Transparent Cockpit
(X-Plane), 122–123
Code of Federal Regulations.
See FARs
Coeur d’Alene, ID. See KCOE
COEUR D’ALENE ONE departure, 554, 555
Cold Springs, 207
collision avoidance, 188, 190, 193, 369
Columbia River, 187, 207, 208, 281, 305
commands. See also specific commands
FSX, 75–84
X-Plane, 59–66
collision avoidance, 188, 190, 193, 369
common traffic advisory frequency
(CTAF), 197, 563
communication and navigation
radios, 57, 72, 142, 145, 522
completion standards. See specific entries
composite flight instruction. See integrated flight instruction
classical flight. See Beechcraft Baron (FSX) configurations, 529, 533–540
cruise configuration, 537
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
X-Plane Cessna, 148
low-speed cruise
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
climbing turns, 133–134
cockpits
Cessna 172, 142–143
FSX, 47, 72–74, 145–146
X-Plane, 46, 57–59, 143–145
controls, 52, 74
conventional, 12, 92–93
glass, 11–12, 37, 92, 93, 142, 401
steam gauges, 12, 37
Transparent Cockpit
(X-Plane), 122–123
Code of Federal Regulations.
See FARs
Coeur d’Alene, ID. See KCOE
COEUR D’ALENE ONE departure, 554, 555
Cold Springs, 207
collision avoidance, 188, 190, 193, 369
Columbia River, 187, 207, 208, 281, 305
commands. See also specific commands
FSX, 75–84
X-Plane, 59–66
collision avoidance, 188, 190, 193, 369
common traffic advisory frequency
(CTAF), 197, 563
communication and navigation
radios, 57, 72, 142, 145, 522
completion standards. See specific entries
composite flight instruction. See integrated flight instruction
classical flight. See Beechcraft Baron (FSX) configurations, 529, 533–540
cruise configuration, 537
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
Cessna Skyhawk, FSX, 157–165
en route climb, 158
en route descent, 161
final approach, 163
ILS approach (flaps 0°), 165
ILS approach (flaps 10°), 164
initial climb after takeoff, 157
low-speed cruise, 160
normal cruise, 159
traffic pattern, 162
Cessna Skyhawk, X-Plane, 147–156
en route climb, 149
en route descent, 152
final approach, 154
ILS approach (flaps 0°), 156
ILS approach (flaps 10°), 155
initial approach speed, 151
initial climb after takeoff, 148
low-speed cruise, 151
normal cruise, 150
traffic pattern, 153
Golden Rule of Flying, 128–130, 146, 281, 290
Piper PA-46 Malibu (X-Plane), 529, 530–534
Cruise configuration, 531
en route climb configuration, 530
ILS approach configuration, 533
initial approach configuration, 532
landing configuration, 534
constant speed propeller, 527, 564
construction, KGEG, 336, 483
continued VFR flight into IMC, 385
“control and performance instrument” concept, 121–122, 387
control console, 33
controlled airspace, 279, 330, 404, 410, 458, 466, 561
Canadian, 352
Class A, 377, 564
Class C, 231, 232, 233, 330, 340, 564
Class D, 211, 213, 215, 261, 263, 301, 303, 564
defined, 564
crashed approach, 242, 243
critical angle of attack, 564, 571
crop dusters, 201
crop insurance, 195
cross-checking, 192, 227, 386, 387, 396, 402, 564, 570.
See also scanning
cross-country flights, IFR lessons
lesson 9, 445–454
lesson 10, 455–461
lesson 11 (equipment malfunctions), 463–470
lesson 12 (off-airway routes), 471–477
lesson 13 (long cross-country flight), 479–485
lesson 14 (night cross-country flight), 487–493
lesson 15 (radar approach), 495–501
cross-country flights, private pilot lessons
lesson 4 (short cross-country flight), 203–208
Martin Field to KHRI, 206–208
weather information sources, 207
lesson 5 (short cross-country flight), 209–215
KPUW to KEPH, 213–215
NOTAMs, 210, 214
towered airports, 211
lesson 15 (short cross-country flight), 271–276
lesson 18 (marginal weather), 293–298
lesson 20 (long cross-country flight), 305–310
lesson 21 (night cross-country flight), 311–316
lesson 22 (flight planning/navigation practice), 317–323
lesson 23 (night cross-country flight), 325–330
lesson 24 (night freight run), 331–336
lesson 25 (marginal VFR), 337–342
lesson 26 (progress check), 343–348
lesson 27 (long solo cross-country flight), 349–354
crossing Cascades, 346, 553
crosswind component, 245, 564
crosswind landings (private pilot lesson 10), 241–245
cruise clearance, 498, 499, 564
cruise configuration
Beechcraft Baron, 537
Cessna Skylhawk
FSX, 159
X-Plane, 150
Piper Malibu, 531
cruise flight, 239
cruise performance table, 167
CTAF (common traffic advisory frequency), 197, 563
cut shirts, 257
DA
DA. See decision altitude
Davenport, WA (68S) to Wilson Creek, WA (5W1), 285–291
dead reckoning, 564
decided altitude (DA), 95, 383, 438, 439, 484, 564
decision height (DH), 564, 565
decision tree, PC-based simulations, 48–49
Deer Park, WA. See KDEW demonstration tool, PC-based simulations, 39
density altitude, 148, 149, 157, 158, 274, 305, 308, 310
departure procedures (DPs), 565
departures and localizer approach, IFR, 427–435
descending turns, 134–135
descent (rate of descent)
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
ILS approach, Beechcraft Baron, 539
ILS approach (flaps 0°)
FSX Cessna, 165
X-Plane Cessna, 156
ILS approach (flaps 10°)
FSX Cessna, 164
Piper Malibu, 533
X-Plane Cessna, 155
landing configuration
Beechcraft Baron, 540
Piper Malibu, 534
traffic pattern configuration
FSX Cessna, 162
X-Plane Cessna, 153
descents, 134–135
desired outcomes, 106. See also specific entries
difficulty
DME (distance-measuring equipment), 382, 425, 434, 442, 446
DME (distance-measuring equipment), 382, 425, 434, 442, 446
DME arcs, 446–447, 464, 480, 559
Do the Right Thing: Decision Making for Pilots, 231, 238, 280, 288, 296, 328, 334, 352, 363, 379
donated liver, 541
DP's. See departure procedures
dual cross-country flights. See also cross-country flights
private pilot lesson 23, 325–330
private pilot lesson 24, 331–336
private pilot lesson 25, 337–342

E
Eclipse yoke, 9
elevator trim control, 8, 57, 58, 72, 74, 75, 128, 135–137, 143, 144, 145, 189, 194
ELN, 344, 346, 482
emergency, KFHR, 330
en route climb configuration
Beechcraft Baron, 356
Cessna 172 Skyhawk
FSX, 158
X-Plane, 149
Piper Malibu, 530
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
en route low-altitude charts, 21–22, 380, 565
equipment controls, Beechcraft Baron, 535
Environment menu, 63
Ephrata, WA. See KEPH
equipment malfunctions (IFR lesson 11), 463–470
Eugene, OR. See KEUG
EUGENE EIGHT departure, 459, 542, 543
evening flight (private pilot lesson 8), 229–234
Class C airspace, 231, 232, 233
KAWO to KFHR, 229–232
Everett, WA. See KPAE
examiner, 367–368. See also practical tests
Experimental Aircraft Association, 173
Explain, desired outcome, 106
external view, Cessna Skyhawk, 67, 85
Extra 300L aerobatic airplane, 174
Extreme 3D Pro Joystick, Logitech, 8

F
FAA AeroNav Services, 21, 22, 380, 381
FAA Practical Test Standards — Instrument Rating Airplane SEL (FAA-S-8081-4E with Changes 1 and 2), 18
FAA Practical Test Standards — Private Pilot SEL (FAA-S-14A with Change 1), 18
FAA regulations. See FARs
FAA Safety Briefing, 18
FAA training handbooks, 18–19, 274, 561
FAA-Industry Training Standards. See FITS
FAF (final approach fix), 439, 565
failures
dice-based failure scheme, 94–95
equipment malfunctions (IFR lesson 11), 463–470
heading indicator, 393, 399, 405, 411
vacuum pump, 94, 401, 402
Failures command, 78, 79
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
FARS (FAA regulations-14 CFR) failures
vacuum pump, 94, 401, 402
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
FARS (FAA regulations-14 CFR) flights
vacuum pump, 94, 401, 402
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
failures
dice-based failure scheme, 94–95
equipment malfunctions (IFR lesson 11), 463–470
heading indicator, 393, 399, 405, 411
vacuum pump, 94, 401, 402
Failures command, 78, 79
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
FARS (FAA regulations-14 CFR)
failures
vacuum pump, 94, 401, 402
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
failures
dice-based failure scheme, 94–95
equipment malfunctions (IFR lesson 11), 463–470
heading indicator, 393, 399, 405, 411
vacuum pump, 94, 401, 402
Failures command, 78, 79
false horizon illusion, 329
false indications, instruments, 402
farm fields survey, 223, 226
FARS (FAA regulations-14 CFR) flight director, 565
first solo flight (private pilot lesson 11), 463–470
File menu, X-Plane, 60, 67
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
final approach fix (FAF), 439, 565
first solo flight (private pilot lesson 12), 253–257
FITS (FAA-Industry Training Standards), 99–107
components, 100
Generic Curriculums and Curriculum Guides section, 171, 375
goals, 99–100
learner-centered grading, 42, 105–107, 180
logo, 99
risk management, 105–107
SBT and, 101–102
FITS Generic Commercial Airplane Multi Engine Land Syllabus, 529
FITS Generic Commercial Airplane Single Engine Land Syllabus, 529
FITS Generic Instrument Airplane Rating Syllabus, 20, 375
FITS Generic Private Airplane Single Engine Land Syllabus, 20, 107
FITS Generic Private Pilot ASEL Syllabus, 171
FITS Generic Transition Syllabus, 529
5P Check, 105
5W1 (Wilson Creek, WA), 68S (Davenport, WA) to, 285–291
fix, 565
flaps
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
ILS approach, Beechcraft Baron, 539
ILS approach (flaps 0 °)
FSX Cessna, 165
X-Plane Cessna, 156
ILS approach (flaps 10 °)
FSX Cessna, 164
Piper Malibu, 533
X-Plane Cessna, 155
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
initial climb after takeoff
FSX Cessna, 157
X-Plane Cessna, 148
landing configuration
Beechcraft Baron, 540
Piper Malibu, 534
low-speed cruise
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
traffic pattern configuration
FSX Cessna, 162
X-Plane Cessna, 153
flap control, 57, 72, 143, 145
flap lever, 59, 74, 144, 146
flare, 534, 540, 569
flexibility, PC-based flight simulations, 90
Flight, Microsoft, 6, 42, 51
Flights (FSX), 6, 17, 109–111, 114
Flight Analysis command, 81
flight data recorder, 60, 67, 85
flight director, 565
flight dynamics (realism), 34–35, 41–42, 52. See also PC-based flight simulations
flight fundamentals, 130–135, 188. See also climbs; descents; straight-and-level flight; turns
flight level, 565
flight maneuvers (private pilot lesson 2), 187–194
collision avoidance, 188, 190, 193
flight maneuver benchmarks, 189–190
four fundamentals of flight, 188
KAST area, 187, 189, 191
flight maneuvers review (private pilot lesson 13), 259–263
flight models. See flight dynamics
flight planning
Air Safety Foundation Flight Planner, 238, 309, 314, 321, 329, 335, 340, 347, 353
flight plan feature, SkyVector, 206
flight planning/navigation practice (private pilot lesson 22), 317–323
flight simulation systems, 26–30. See also FTDs; PC-based flight simulations
AAATDs, 29–32
BATDs, 29–32
FFS, 27–28, 31, 119
supported, 4–5
Flight Simulator X. See FSX
flight training devices. See also FTDs
Flight Training magazine, 21, 102, 226, 403, 409
Flight Training website, AOPA, 43, 172
Flight Video command, 81, 85
Flight Videos, 86
flight visibility, 565
flight yokes, 8–10, 52, 58, 183
Flight1Aviation Technologies, 13, 93
Flights menu, FSX, 75–76
fly-in breakfast (private pilot lesson 6), 217–222
fly-in lunch, 249–252
Flight Vectors, 86
ForeFlight, 381
forward slip, 566
four fundamentals of flight, 130–135, 188. See also climbs; descents; straight-and-level flight; turns
Freight run, night (private pilot flight), 130–135, 188. See also climbs; descents; straight-and-level flight; turns
Free Flight dialog box, 50
Gold Edition, 51
FREE Flight dialog box, FSX, 50
Go To Airport command, 80
Gold Flight, 51
Global Rule of Flying, 128–130, 146, 281, 290, 529. See also configuration tables
Go To Airport command, 80
Gold Edition, FSX, 51
Google Maps, 276
GPS (RNAV) approaches, 11–13, 95–96, 321, 383
GPS for IFR Operations, 380
Grading standards (learner-centered grading), 42, 105–107, 180
Glossary
Pilot/Controller Glossary, 18, 379, 561
terms, 561–573
Go To Airport command, 80
Gold Edition, FSX, 51
Google Maps, 276
GPS (RNAV) approaches, 11–13, 95–96, 321, 383
GPS for IFR Operations, 380
glass cockpits, 11–12, 37, 92, 93, 142, 401
gliders (sailplanes), 36, 173, 174
glides, 134–135
glideslope, 382, 439, 443, 483, 493, 501, 507, 566, 569, 572
glossary
Garmin G1000 system, 12, 92, 93
Garmin GNS500 series navigation system, 13, 382
gaservesamerica.com, 235
General Aviation Manufacturers Association, 90
Generic Curriculums and Curriculum Guides section, 171, 375
Gas Volumes and Navigation Aids section, 43, 172
Garmin G1000 system, 12, 92, 93
Garmin GNS500 series navigation system, 13, 382
gaservesamerica.com, 235
General Aviation Manufacturers Association, 90
Generic Curriculums and Curriculum Guides section, 171, 375
glass cockpits, 11–12, 37, 92, 93, 142, 401
gliders (sailplanes), 36, 173, 174
glides, 134–135
glideslope, 382, 439, 443, 483, 493, 501, 507, 566, 569, 572
glossary
Pilot/Controller Glossary, 18, 379, 561
terms, 561–573
Go To Airport command, 80
Gold Edition, FSX, 51
Golden Rule of Flying, 128–130, 146, 281, 290, 529. See also configuration tables
Google Earth, 276, 303
Go To Airport command, 80
Gold Edition, FSX, 51
Golden Rule of Flying, 128–130, 146, 281, 290, 529. See also configuration tables
ground reference maneuvers
private pilot lesson 3, 195–201
crop insurance/hailstorm, 195
KPUW area, 199–201
rectangular course, 195–196
private pilot lesson 7, 223–228
KMMV area, 223, 226, 227, 228
S-turns, 224, 226, 228
turns around a point, 224, 225, 226, 228
ground visibility, 566
groundspeed, 564, 566
gulfstream simulator, 119
gusty winds, 322

H
hailstorm, 195
heading
defined, 566
private pilot benchmark, 190
heading bug, 185, 189, 191, 566
heading indicator, 57, 72, 143, 145, 184, 185, 197, 201, 448, 566
heading indicator failure, 393, 399, 405, 411
headwind component, 566
help. See also FSX Learning Center
FSX, 53, 70–71
X-Plane, 16, 53, 56–57
HEPPE intersection, 467, 469
hide/shrink instrument panel, 126, 192, 193, 194, 200, 207, 221, 228
high-density altitude, 305, 308, 310
Hoquiam, WA. See KHQM
horizon
attitude and, 562
false horizon illusion, 329
natural, 36, 37, 121, 131, 188, 191, 192, 221, 277
HUD view, X-Plane, 124
HUH (Whatcom VOR), 302, 472

I
IAF. See initial approach fix
IAP. See instrument approach procedures
IAS. See indicated airspeed
ident, 566
IFR (instrument flight rules)
charts, 380–381
defined, 566, 567
practical test, 517–522
syllabus, 383–384
IFR Insights: Charts, 380, 423, 431, 440
IFR Insights: Regulations, 380, 450, 458
IFR instrument panel, FSX, 127–128
IFR lessons (instrument rating lessons)
background information, 375–384
instrument rating basic requirements, 377–378
defined, 377
lesson 1 (basic attitude instrument flying), 385–393
lesson 2 (basic attitude instrument flying), 395–399
lesson 3 (partial-panel flight), 401–406
lesson 4 (partial-panel instrument flight), 407–412
lesson 5 (holding procedures), 413–418
lesson 6 (nonprecision approach), 419–426
lesson 7 (IFR departures and localizer approach), 427–435
lesson 8 (ILS approach), 437–443
lesson 9 (cross-country), 445–454
lesson 10 (cross-country), 455–461
lesson 11 (cross-country/equipment malfunctions), 463–470
lesson 12 (cross-country/off-airway routes), 471–477
lesson 13 (long cross-country flight), 479–485
lesson 14 (night cross-country flight), 487–493
lesson 15 (cross-country/radar approach), 495–501
lesson 16 (practical test preparation), 503–508
lesson 17 (practical test preparation), 509–515
lesson 18 (practical test), 517–522
naming conventions, 114–115
organization, 383–384
preflight checklist, 112
resources/references, 378–380
IFR training panel, FSX, 34, 83–84
ILS (instrument landing system), 567
ILS approach configuration
Beechcraft Baron, 539
Cessna Skyhawk, FSX, 164–165
Cessna Skyhawk, X-Plane, 155–156
Piper Malibu, 533
IFR lesson 8, 437–443
IMC. See instrument meteorological conditions
improper aircraft loading, 210
indicated airspeed (IAS), 147, 150, 151, 153, 159, 160, 162, 529, 532, 538, 563, 566–567
indicated altitude, 567
initial approach configuration
Beechcraft Baron, 538
Cessna Skyhawk, FSX, 160
X-Plane, 151
holding patterns, 417
Piper Malibu, 532
initial approach fix (IAF), 473, 532, 538, 565, 567
initial climb after takeoff
Cessna Skyhawk, FSX, 157
Cessna Skyhawk, X-Plane, 148
installing
Flights, 114
scenarios, 113
Situations, 113
Instant Replay command, 85
Instructor Operating Station (IOS), 34, 68, 95
Instructor’s Guide to the Pre-Solo Written Test, 249, 358
instrument approach procedures (IAP), 35, 377, 383, 420, 421, 422, 430, 440, 446, 567
instrument flight Pattern A, 389
instrument flight Pattern B, 390
instrument flight rules. See IFR
Instructor’s Guide to the Pre-Solo Written Test, 249, 358
Instructor Operating Station (IOS), 34, 68, 95
Instructor’s Guide to the Pre-Solo Written Test, 249, 358
instrument flight Pattern A, 389
instrument flight Pattern B, 390
instrument flight rules. See IFR
Instrument Flight Handbook (FAA-H-8083-1A), 38, 378, 528
instrument landing system. See ILS
instrument meteorological conditions (IMC), 104, 277, 376, 385, 388, 432, 459, 543, 547, 555, 559, 567
instrument panels
Cessna 172 Skyhawk, 12–13, 142
FSX Instrument Panel commands, 82
IFR instrument panel, FSX, 127–128
shrink/hide, 126, 192, 193, 194, 200, 207, 221, 228
transparent, FSX, 126, 127
Instrument Pilot’s Handbook, Rod Machado’s, 97
Instrument Procedures Handbook (FAA-H-8261-1A), 18, 378
Instrument Proficiency Check (IPC) Guidance, 379
instrument rating. See also IFR
lessons
basic requirements, 377–378
defined, 377
Instrument Rating Practical Test Standards for Airplane (FAA-S-8081-E), 379
instrument-panel fixation, 37
integrated flight instruction, 36–37, 120–122
interactive maps, 62, 80–81, 186
introductory flight (private pilot lesson 1), 179–186
autopilot, 183–185
interactive maps, 186
KALW/KPUW area, 182
Let’s Go Flying! website, 179
yoke/joystick controls, 183

J
Jefferson County, WA, 251

K
“K” identifier, 198
KALW (Walla Walla, WA) divert to, 263, 310
gusty winds, 322
ILS approach (IFR lesson 8), 437–443
KALW/KPUW area (private pilot lesson 1), 182
KMAN-KBKE-KALW (private pilot lesson 22), 317–323
KSF to KALW (advanced scenario 2), 545–548
night approaches (IFR lesson 15), 495–501
progress assessment (private pilot lesson 14), 268–269
KAST (Astoria, OR). See also AST VOR
KAST area (private pilot lesson 2), 187, 189, 191
KAST-KHQMS-KOLM-KAST (IFR lesson 18), 517–522
KAST-KHQMS-KOLM-KAST (IFR lesson 9), 445–454
KMFR to KAST (advanced scenario 5), 557–560
KTTD to KAST (private pilot lesson 25), 337–342
KAWO (Arlington, WA) divert to, 304
KAWO to KFHR (private pilot lesson 8), 229–232
KCOE to KAWO (advanced scenario 4), 553–556
KBDN (Bend, OR)
KBDN to KPDT (IFR lesson 11), 463–470
KBDN-KPDT-KRLD-KBDN (private pilot lesson 20), 305–310
KBFI (Boeing Field)
KBFI to KYKM (private pilot lesson 26), 343–348
KEUG to KOLM, 543
KBKE (Baker City, OR), 317–323
KBLI (Bellingham, WA)
KBLI to KORS (private pilot lesson 19), 299–304
KBLI-KHQMS-KBLI (private pilot lesson 27), 349–354
KBOI (Boise, ID) to KRDM, 549–552
KBVS, 304, 330
KCLM (Port Angeles, WA)
KBLI-KHQMS-KBLI (private pilot lesson 27), 349–354
KORS to KCLM (IFR lesson 12), 471–477
KCLS (Chehalis-Centralia, WA), 280–281
KCOE (Coeur d’Alene, ID)
KCOE-KHQM-KOLM (IFR scenario 2), 553–556
KDEW to KCOE (private pilot lesson 6), 219–222
KDEW to KCOE (private pilot lesson 29), 361–366
KCVO (Corvallis, OR)
emergency, 315
KCVO to KUAO (IFR lesson 7), 427–435
KMFR-KRBG-KCVO (private pilot lesson 21), 311–316
practical test preparation (IFR lesson 16), 503–508
KDEW (Deer Park, WA)
KDEW to KCOE (private pilot lesson 6), 219–222
KDEW to KCOE (private pilot lesson 29), 361–366
KELS, 310
KELN, 348
KEPH (Ephrata, WA) divert to, 336, 348
KPUW to KEPH (private pilot lesson 5), 213–215
VOR, 288
KEUG (Eugene, OR) divert to, 315
KEUG to KOLM (advanced scenario 1), 541–544
KEUG to KONP (IFR lesson 10), 455–461
Key Topics page, FSX Learning Center, 71
keyboard, 3, 30, 32, 74. See also mouse
keyboard shortcuts, 59, 75, 131, 133
KFHR (Friday Harbor, WA) divert to, 304
emergency, 330
KAWO to KFHR, 229–232
KPWT to KFHR (private pilot lesson 23), 325–330
KGE (Spokane, WA)
construction, 336, 483
KGE-KPSC-KGE (IFR lesson 13), 479–485
KPSC-KLWS-KGE (private pilot lesson 24), 331–336

KHIO (Hillsboro, OR)
divert to, 342
KHIO area (private pilot lesson 28), 355–360
KHIO-AST-KHQMS (private pilot lesson 18), 293–298
KBG to KHIO (IFR lesson 14), 487–493
VOR navigation (private pilot lesson 16), 280–282
KHQM (Hoquiam, WA)
KAST-KHQMS-KOLM-KAST (IFR lesson 18), 517–522
KAST-KHQMS-KOLM-KAST (IFR lesson 9), 445–454
KBLI-KHQMS-KBLI (private pilot lesson 27), 349–354
KHIO-AST-KHQMS (private pilot lesson 18), 293–298
KHRI (Hermiston, OR)
KHRI to KSFF (private pilot lesson 30), 367–372
Martin Field to KHRI (private pilot lesson 4), 206–208
kinesthesia, 52
kinesthetic cues, 8
King, John, 102
King Schools, 102
KLWS (Lewiston, ID), 331–336
KMAN (Nampa, ID), 317–323
KMFR (Medford, OR)
KMFR to KAST (advanced scenario 5), 557–560
KMFR-KRBG-KCVO (private pilot lesson 21), 311–316
practical test preparation (IFR lesson 17), 509–515
KMMV area (McMinnville, OR), 223, 226, 227, 228
KMWH (Moses Lake airport), 213
Kneeboard, 72, 77
KOLM (Olympia, WA)
divert to, 298, 354
KAST-KHQMS-KOLM-KAST (IFR lesson 18), 517–522
KAST-KHQMS-KOLM-KAST (IFR lesson 9), 445–454
KEUG to KOLM (advanced scenario 1), 541–544
KEUG to KONP (IFR lesson 10), 455–461
KBVS (Vernon, WA)
construction, 336, 483
KGE-KPSC-KGE (IFR lesson 13), 479–485
KPSC-KLWS-KGE (private pilot lesson 24), 331–336
KBG to KFHR, 229–232
KORS to KOLM (advanced scenario 1), 541–544
KMFR to KAST, 559
KONP (Newport, OR). See also ONP
divert to, 315
KEUG to KONP (IFR lesson 10), 455–461
KSHN to KONP (private pilot lesson 9), 235–240
KORS (Orcas Island airport)
KBG to KORS (private pilot lesson 19), 293–298
KORS to KCLM (IFR lesson 12), 471–477
NACO Aeronautical Chart User’s Guide, 18, 22

Nall Report, 104

naming conventions, 114–115. See also IFR lessons; private pilot lessons

Nampa, ID. See KMAN

natural horizon, 36, 37, 121, 131, 188, 191, 192, 221, 227

Naval Air Station Whidbey Island, 232

NAV/COM. See navigation and communication radio

navigation and communication radio (NAV/COM), 57, 72, 142, 145, 522, 568

navigation displays, 4, 57, 72, 142, 143, 145, 415, 422, 430

navigation practice/flight planning (private pilot lesson 22), 317–323

navigational aids (NAVAIDs), 565, 568


NDBs (nondirectional radio beacons), 446, 447, 448, 449, 450, 451, 495, 514, 556, 568

Newburg VOR (UBG), 280

Newman Lake, 217, 219, 220, 221

Newport, OR. See KONP

night cross-country flights. See also cross-country flights

IFR lesson 14, 487–493

night approaches (IFR lesson 15), 495–501

private pilot lesson 21, 311–316

private pilot lesson 23, 325–330

night flight run (private pilot lesson 24), 331–336

nondirectional radio beacons. See NDBs

nonprecision approach (IFR lesson 6), 419–426

nonprecision instrument approach, 153, 162, 419, 423, 427, 431, 449, 456, 568

towered airports, 198, 205, 212, 215, 219, 221, 226, 250, 256, 272, 302

normal cruise configuration Beechcraft Baron, 537

Cessna Skyhawk

FSX, 159

X-Plane, 150

Piper Malibu, 531

Not Observed, 106

NOTAMs (Notices to Airmen), 210, 214, 419, 483, 568

obstacle departure procedures (ODPs), 452, 472, 474, 490, 491, 569

off-airway routes (IFR lesson 12), 471–477

OLM VOR, 297, 404, 451, 543

Olympia, WA. See KOLM

online charts, flight planning and, 23

ONP (Newport), 456, 459, 460, 557, 559. See also KONP

Options menu, FSX, 81

Orcas Island airport. See KORS

OS9 (Jefferson County, WA), 251

outer marker, 569

P

Pacific Northwest, 111

PAE VOR, 423, 425, 555

Paine Field, 419, 423. See also KPSE

panel views

FSX, 125–128

X-Plane, 122–124

partial-panel flight (IFR lesson 3), 401–406

partial-panel instrument flight (IFR lesson 4), 407–412

Pasco, WA. See KPSE; PSC

PC Pilot, 41

PCATD category, 29. See also PC-based flight simulations

PC-based flight simulations, 25–40. See also FSX; X-Plane

ATC, 96

ATDs v., 31–32, 102–103
c

computer/accessories requirements, 6–11

consensus on value, 35–36
decision tree, 48–49
demonstration tool, 39

flexibility, 90

flight dynamics v., 34–35, 41–42, 52

flight simulation systems, 26–30

flying fundamentals, 119–138

GPS approaches, 11–13, 95–96, 321, 383

integrated flight instruction, 36–37, 120–122

logging simulation time, 38–39

portability, 40

randomness, 93–95

requirements, 3–13

SBT and, 102–103

usage advice, 89–97

disagreements on, 26, 36–38

other uses, 39–40, 90–92

P/CG (Pilot/Controller Glossary), 18, 379, 561

Pendleton, OR. See KPDT

Perform, desired outcome, 106

performance tables, Cessna 172 Skyhawk, 166–167

personal minimums, 105

pilot certificate, private, 172–175. See also private pilot lessons

pilot examiner, 367–368. See also practical tests

pilot in command, 31, 102, 378, 569
pilotage, 37, 196, 203, 209, 217, 236, 272, 300, 302, 306, 312, 318, 326, 362, 363, 366, 569
Pilot/Controller Glossary (P/CG), 18, 379, 561
PilotEdge, 13, 96
Pilot’s Handbook of Aeronautical Knowledge (FAA-H-8083-25A), 18, 112, 176, 208, 379
Pilot’s Operating Handbook (POH), 176, 562, 567, 569
Pilot’s Guide to the Flight Review
Pilot/Controller Glossary (P/CG), 18
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
traffic pattern configuration
FSX Cessna, 162
X-Plane Cessna, 153
power
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
Golden Rule of Flying, 128–130, 146, 281, 290, 529
ILS approach configuration, 533
initial approach
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
Golden Rule of Flying, 128–130, 146, 281, 290, 529
ILS approach, Beechcraft Baron, 539
ILS approach (flaps 0°)
FSX Cessna, 165
X-Plane Cessna, 156
ILS approach (flaps 10°)
FSX Cessna, 164
Piper Malibu, 533
X-Plane Cessna, 155
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
initial climb after takeoff
FSX Cessna, 157
X-Plane Cessna, 148
landing configuration
Beechcraft Baron, 540
Piper Malibu, 534
low-speed cruise
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
traffic pattern configuration
FSX Cessna, 162
X-Plane Cessna, 153
pitch
en route climb configuration
Beechcraft Baron, 536
FSX Cessna, 158
Piper Malibu, 530
X-Plane Cessna, 149
en route descent
FSX Cessna, 161
X-Plane Cessna, 152
final approach configuration
FSX Cessna, 163
X-Plane Cessna, 154
Golden Rule of Flying, 128–130, 146, 281, 290, 529
ILS approach, Beechcraft Baron, 539
ILS approach (flaps 0°)
FSX Cessna, 165
X-Plane Cessna, 156
ILS approach (flaps 10°)
FSX Cessna, 164
Piper Malibu, 533
X-Plane Cessna, 155
initial approach
Beechcraft Baron, 538
FSX Cessna, 160
Piper Malibu, 532
X-Plane Cessna, 151
initial climb after takeoff
FSX Cessna, 157
X-Plane Cessna, 148
landing configuration
Beechcraft Baron, 540
Piper Malibu, 534
low-speed cruise
FSX Cessna, 160
X-Plane Cessna, 151
normal cruise
Beechcraft Baron, 537
FSX Cessna, 159
Piper Malibu, 531
X-Plane Cessna, 150
traffic pattern configuration
FSX Cessna, 162
X-Plane Cessna, 153
plane, 380
plug-ins, 57, 382
Plugins menu, 65
Plus and Minus keys, 62
png files, 66, 85
PowerPoint presentations, 39, 66, 85
practical tests
“check ride,” 367, 517
IFR
lesson 16 (instrument rating test preparation), 503–508
lesson 17 (instrument rating test preparation), 509–515
lesson 18 (instrument rating test), 517–522
private pilot
lesson 28 (preparation for practical test), 355–360
lesson 29 (further preparation for practical test), 361–366
lesson 30 (private pilot practical test), 367–372
Practice, desired outcome, 106
Precision Flight Controls, 28, 30, 33, 103
precision instrument approach, 437, 564, 565, 567, 569
See also ILS
preflight checklist, 112
pressure altitude, 565
See also density altitude
prevailing visibility, 569
private pilot certificate, 172–175
private pilot flight maneuver benchmarks, 189–190
Private Pilot Handbook, Rod Machado’s, 97
private pilot lessons, 171–372
lesson 1 (introductory flight), 179–186
lesson 2 (fundamental flight maneuvers), 187–194
lesson 3 (ground reference maneuvers), 195–201
lesson 4 (short cross-country flight), 203–208
lesson 5 (short cross-country flight), 209–215
lesson 6 (fly-in breakfast), 217–222
lesson 7 (ground reference maneuvers), 223–228
lesson 8 (evening flight), 229–234
lesson 9 (charity flight), 235–240
lesson 10 (crosswind landings), 241–245
lesson 11 (solo flight preparation), 247–251
lesson 12 (solo flight), 253–257
lesson 13 (basic flight maneuvers review), 259–263
Index n P–S

Q
quick guide
FSX, 69–86
X-Plane, 55–68
Quick-Flight Setup dialog box, X-Plane, 49, 64
QuickTime recorder, 67

R
racetrack pattern, 389
radar approach (IFR lesson 15), 495–501
radar vectors, 432, 472, 572
radio stacks, 10
randomness, 93–95
rate of climb. See climb
rate of descent. See descent
rate of climb. See climb
rate of descent. See descent
reality. See flight dynamics
Realism Settings command, 49, 78, 138
recording/replaying flights
FSX, 84–86
X-Plane, 66–67
rectangular courses, 195–196, 197, 199, 200, 201, 224, 226, 228, 270
red lights, 208, 572
Redmond, OR. See KRDM
references. See resources/
references
remote use, PC-based
simulations, 40
RENGO intersection, 441
replaying. See recording/replaying
flights
requirements, PC-based
simulations, 3–13
Reset command, 75
resources/references, 15–23. See also specific lessons
Beechcraft BE58 Baron, 527–529
Cessna 172 Skyhawk, 140
carts, 21–23
FSX, 15–17
IFR lessons, 378–380
Piper PA-46 Malibu, 527–529
private pilot lessons, 175–176
SBT, 97
Richland, WA. See KRLD
right-hand traffic pattern, 199, 232
risk management, 103–105. See also aeronautical decision-making
RNAV (GPS) approaches, 11–13, 95–96, 321, 383
Rod Machado’s Instrument Pilot’s Handbook, 97
Rod Machado’s Private Pilot Handbook, 97
“roger,” 569
roll axis, 35, 563
romantic dinner, 325
Roseburg, OR. See KRBG
Rote, learner-centered grading, 105
roundout, 569
round-robin flights
IFR practical test (IFR lesson 18), 517–522
KAST-KOLM-KHQ-MKAST (IFR lesson 9), 445–454
KBDN-KPDT-KRDL-KBDN (private pilot lesson 20), 305–310
KBLI-KHQ-KBLI (private pilot lesson 27), 349–354
KGEG-KPSC-KGEG (IFR lesson 13), 479–485
KPSC-KLWS-KGEG (private pilot lesson 24), 331–336
rudder pedals, 10, 11, 52, 137–138, 243
runway visual range (RVR), 569–570
RunwayFinder.com, 23
RVR. See runway visual range

S
S07. See KBDB
S40 (Prosser, WA), 263
S47. See KTMK
S67. See KMAN
S95 (Martin Field), 206–208
sailplanes (gliders), 36, 173, 174
Saitek, 8
San Juan Islands, 232, 299, 303, 352, 353, 471
Sanderson Field, 235, 238, 255, 256.
See also KSHN
Save Replay command, 67
Say It Right: Mastering Radio Communication, 231, 233, 261
SBT. See scenario-based training
canning, 36, 37, 121, 131, 133, 136, 227, 282, 369, 519, 564, 570. See also cross-checking
Scaposse, OR. See KSPB
scenarios, 109–115. See also Beechcraft BE58 Baron; Piper PA-46 Malibu; specific scenarios
advanced, 525–560
installing, 113
preflight checklist, 112
Scenario Builder, 93
scenario-based training (SBT), 41–44. See also IFR lessons;
private pilot lessons
defined, 101, 570
FITS and, 101–102
King on, 102
learn-to-fly information, 43–44
PC-based simulations
and, 102–103
purpose, 42, 97
resources/references, 97
side benefit, 100
starting over, 42–43
screen captures
FSX, 84–85
X-Plane, 66
scroll wheel. See mouse
Select Aircraft command, 76–77
Select Airport dialog box, 80
Shared Aircraft feature, 34, 86
Shared Cockpit feature, 95
sharing
PC-based simulations, 40
virtual cockpit, 13
Shelton, WA. See KSHN
shirts, cut, 257
short cross-country flights. See also
cross-country flights
private pilot lesson 4, 203–208
Martin Field to KHRI, 206–208
weather information
sources, 207
private pilot lesson 5, 209–215
KPUW to KEPH, 213–215
NOTAMs, 210, 214
towered airports, 211
short-field takeoff/landing
performance table, 166
shrink/hide instrument panel, 126, 192, 193, 194, 200, 207, 221, 228
SID (standard instrument
departure), 427, 449, 456, 482, 571
sidetail, 243, 570
side-stick control, 9
simulations. See PC-based flight
simulations
Single-Pilot IFR, 379, 380, 415, 423, 450, 458, 467, 474
single-pilot resource management
(SRM), 100, 101, 102, 103, 212, 415, 422, 430, 464, 466, 473, 474, 482, 488, 499, 570
situational awareness, 89–90, 100, 190, 278, 564
Situations (X-Plane), 6, 17, 109–111, 113
six-degree-of-freedom model, 35
six-pack, 90, 142
16W (Little Goose Lock and Dam), 271–276
68S (Davenport, WA) to 5W1
(Wilson Creek, WA), 285–291
skyd, 570
Skyhawk. See Cessna 172 Skyhawk
SkyVector
flight plan feature, 206
SkyVector.com, 23
slip, 61, 138, 566, 570, 571
slipping turn, 570
soft-field landings (private pilot
defense), 271–276
solo flights
private pilot lesson 11 (solo flight
preparation), 247–251
private pilot lesson 12 (first solo
flight), 253–257
private pilot lesson 19 (solo
practice flight), 299–304
private pilot lesson 27 (long
solo cross-country
flight), 349–354
spatial disorientation, 120, 201, 386, 488, 496
Spatial Disorientation, 280, 288, 296, 379, 388
Special menu, X-Plane, 65–66
special use airspace (USA), 307, 310, 570, 573
spin, 104, 217, 219, 369, 570
Spokane, WA. See KGEG
sport pilot certificate, 173
sportpilot.org, 173
SRM. See single-pilot resource
management
stabilized approach, 421, 429, 439, 570–571
stage check. See progress
assessment
stall, 571
standard instrument departure
(SID), 427, 449, 456, 482, 571
standard rate turn, 283, 298, 571
standard terminal arrival, 571
standard terminal arrival routes
(STARS), 571
starting over, SBT and, 42–43
steam gauges, 12, 37
steep turns, 106, 217, 218, 219, 220, 221, 222, 250, 259, 263, 266, 270, 370
Stick and Rudder: An Explanation
of the Art of Flying
(Langewiesche), 103
stick-and-rudder skills, 8, 36, 38, 103, 138
straight-and-level flight, 130–132
Strait of Juan de Fuca, 325, 352, 473
Student-Centered Grading
sheet, 112
S-turns, 224, 226, 228
S-turns around a point, 224, 225, 226, 228, 270
S-turns, 224, 226, 228
turns around a point, 224, 225, 226, 228, 270
turn coordinator, 57, 61, 72, 143, 571
turn-and-bank indicator, 572
turn-and-slip indicator, 61, 571–572
U
UBG (Newburg VOR), 280
Understanding, learner-centered
grading, 105
unusual attitudes, 386, 392, 410, 411
UTC (coordinated universal
time), 573
V
vacuum pump failure, 94, 401, 402
VAMPS intersection, 344, 347
VASI (visual approach slope
indicator), 208, 218, 372
VATSIM, 13, 41, 96
VDP (visual descent point), 572
VATSIM, 13, 41, 96
vertical S, 390–391
vertical speed indicator, 57, 72, 143, 145
Very-High Frequency
Omnidirectional Range.
See VOR
VFR (visual flight rules), 22, 572
VFR conditions, 268, 274, 285.
See also weather information sources

cross-country flight in marginal VFR (private pilot lesson 25), 337–342
defined, 572
Victoria Terminal, 472, 475
video card/memory requirements, 7
View menu, X-Plane, 58, 65, 124, 142
View Mode commands, FSX, 82
Views menu, FSX, 82–83, 122, 125, 127
virtual cockpits. See cockpits
visibility defined, 572
flight, 565
ground, 566
prevailing, 569
visual approach, 419, 572
visual approach slope indicator (VASI), 208, 218, 572
visual descent point (VDP), 572
visual flight rules. See VFR
visual meteorological conditions (VMC), 567, 573
VMC. See visual meteorological conditions
VOR (Very-High Frequency Omnidirectional Range), 279, 287, 288, 296, 572, 573. See also specific VOR entries
VOR navigation
private pilot lesson 16, 277–283
private pilot lesson 17 (maximum performance takeoffs and landings), 285–291
VOR RWY 16R approach, 419–426, 442

W
WAC chart, 239, 294, 306, 312, 318, 368
Walla Walla, WA. See KALW waypoints, 382, 425, 434, 442, 446, 469, 476, 514, 566, 571, 573
Weather dialog box, 63, 79
weather information sources. See also VFR conditions
ADDS, 207, 214, 234, 240
AWC, 207, 214
NavMonster, 207, 214, 234, 341, 347, 353, 359, 365, 371
Weather Wise, 379
Weather Wise: Air Masses and Fronts, 380
Weather Wise: Ceiling and Visibility, 380
Weather Wise: Precipitation and Icing, 379
website resources. See resources/references
weight-and-balance calculations, 204, 205, 210, 211, 215, 218, 317, 318, 319, 323
Whatcom VOR (HUH), 302, 472
What-Ifs. See dice-based failure scheme; specific entries
Whidbey Island, 232, 472
William Fairchild International, 349
Wilson Creek (5W1), Davenport (68S) to, 285–291
WingX, 381
World menu, FSX, 79–81
World menu, X-Plane, 55–68. See also Cessna 172 Skyhawk; FSX; PC-based flight simulations
add-on software, 11
Airport menu, FSX, 11
airport environment, 47
ATDs v., 32, 38
autopilot, 57, 143, 184
BATDs v., 32
box art, 55
capturing screens, 66
choosing aircraft, 91
cockpit, Cessna Skyhawk, 46, 57–59, 143–145
commands, 59–66
computer/accessories requirements, 6–11
counter control, 33
details, 50
distance-measuring equipment, 382, 425, 434, 442, 446

Y
Yakima, WA. See KYKM
yaw axis, 35, 563
YKM, 344, 346, 482, 485
yokes, 8–10, 52, 58, 183
YUCSU, 475

Z
Zulu Time, 573