

Index

- Accident reports, 147, 153
 - OSHA accident reporting procedure, 153
- Accidents, 140
 - ladder safety, 143
 - Oil-Dri™, 152
 - prevention, 53, 139, 147, 152, 160, 161
 - reporting, 139
 - reports, 139
 - slip and trip hazards, 140, 148
- ACCU-GAGE™, 69
 - height of cut gauge, 93
- Administrative space, 32, 38
- Air compressor, 25, 33
 - piston-type, 25
 - rotary-type, 25
- Air conditioning cost, 41
- Architect, 16, 24
- Back lapping, 59
 - back lapping compound, 62
 - burrs, 62
 - high pressure water, 62
 - oil-based back lapping compound, 62
 - reclaimed water, 62
- Battery bench, 99. *See also* Battery zone
 - noncorrosive, 99
- Battery zone, 32, 98
 - baking soda, 99
 - battery acid, 98
 - battery bench, 98
 - battery charger, 98
 - battery filler, 98
 - battery Tender®, 98
 - goggles, 98
 - jump box, 98
- Lester Electrical, 99
 - load tester, 98
 - neoprene apron, 98
- Bed knife, 62, 66, 67
 - bed knife angle, 62
 - front face angle, 62
- Bench grinder, 60, 71, 76, 92
- Bigfoot software, 54
- Blow-off box, 96, 97. *See also* Cleaning zone-interior
- Break room, 25, 34, 36, 37, 38, 39
 - dirt barrier, 37
 - first chamber, 37
 - sound barrier, 37
 - thermal barrier, 37
 - two-chambered design, 37
- Budget, 9, 21, 25, 29, 30, 37, 39, 44, 49, 50, 53, 61, 64, 66, 75, 80, 85, 97, 101, 105, 109
 - requesting money, 117
- Building manufacturers, 21
 - Alliance Steel, 21
 - American Steel, 21
 - Butler, 21
 - Gulf states, 21
 - Star Building Systems, 21
- Bulk bins, 40
- Career awareness, 7, 8, 129, 130, 135, 160
 - high school, 130
 - lack of, 129
 - post-secondary programs, 131
- Center aisle, 31, 32, 35
- Chain link enclosure, 19

- Chemicals, 54, 98, 139, 143, 145, 150, 151, 152, 167
 - chemical handling, 139, 150
 - chemical storage, 24
- Cleaning zone-interior, 33, 96
 - apron, 96
 - blow-off box, 96
 - gloves, 96
 - goggles, 96
 - neoprene, 96
 - nitrile, 96
 - small parts cleaning, 96
 - solvent-based system, 96
 - wash tank, 96
 - water-based system, 96
- Clean and organized, 8, 9, 139, 140
- Club Pro, 15
- Communication “noise,” 118
 - body language, 119
 - cultural differences, 119
 - disruptors, 119
 - language barriers, 119
 - listening, 119
- Compaction, 70. *See also* Tire pressure
- Compressed air supply, 96
- Construction, 21, 31, 106
- Construction budget, 21
- Crew morale, 117, 121
- Cut quality, 1, 59, 66, 70, 109, 117. *See also* Reel mower; Rotary mower
- Design, 37, 145, 159
 - administrative space, 30
 - big box design, 19
 - eave heights, 26
 - end panel, 31
 - entrance road, 41
 - heat loads, 16
 - insulated concrete form, 24
 - maintenance facility design, 2, 3
 - selling your design, 21, 24
 - shop design, 6, 7, 19, 21
 - shop space, 30
 - site selection, 45
 - skylights, 19
 - solar tubes, 19
- Detoxification, 139, 151
- Diagnostic technique, 107
 - divide and conqueror, 107
 - electrical system, 109
 - flowchart, 109
 - mechanical system, 109
 - pareto, 109
 - simple, 107
- Director of golf, 15, 51, 53
- Dirt berms, 17
- Drive-through layout, 17
- Effective communication, 118, 119
- Electricity consumption, 27
- Emergency repairs, 46, 51
- Employee of the month, 41
- Environmental permitting, 29
- EPA. *See* U.S.E.P.A.
- EPA regulation, 30
- Equipment. *See* Turf equipment
- Equipment abuser, 53
- Equipment lift, 26, 27, 76, 84, 85, 90, 91. *See also* Lifting zone
 - capacity, 90
 - lift accessories, 85
 - popular brands, 89
- Equipment manager, 27, 30, 31, 32, 33, 37, 50, 53, 54, 57, 61, 75, 93, 103, 104, 114, 116, 120, 129, 130, 131, 133, 134, 135, 136, 159, 160, 161
 - equipment manager’s office, 32
 - future roles, 10, 11, 12
 - role as team psychologist, 9
 - universalistic personality, 159
- Ethics, 107, 116
 - modeling behavior, 116
 - stealing, 116
- Expansion, 15, 21, 30, 31, 40
 - future expansion, 30
- Fabrication zone, 92, 101, 102, 103, 153
 - band saw, 102
 - cold saw, 102
 - drill press, 101

- innovation, 101
- lathe, 102
- layout table, 101
- MIG welder, 101
- mill, 102
- plasma cutter, 102
- shear, 102
- torch kit, 101
- vise, 102
- welder, 101
- Facilities, 1, 3, 5, 6, 10, 13, 16, 17, 21, 24, 25, 26, 30, 31, 33, 34, 36, 39, 41, 42, 50, 57, 61, 76, 93, 110, 113, 134, 135, 145, 154, 157
 - remodeling of, 26
- Fast greens, 60. *See also* Turf
- Fertilizer, 30, 34, 63, 91, 113, 116, 143, 150. *See also* Chemicals
 - handling, 150
 - storage, 150
- Filter crusher, 82
- Fire cabinet, 98
- Fire prevention, 142, 143, 153. *See also*
 - Accidents
 - fire extinguisher, 143, 153
 - local fire department, 143
 - state fire marshall, 143, 153
- First aid, 139, 140, 154, 156, 157
 - courses, 156
 - eyewash station, 157
 - Kit ANSI 308.1-2003, 157
 - program (OSHA), 156
- First impression, 40, 41
 - entrance road, 41
 - paved parking, 41
- First responders, 139, 154
- Flammable storage, 98, 99
 - "Fire cabinet," 98
 - flammable chemicals, 98
 - greases, 98
 - oils, 98
- Flat grind, 62. *See also* Grinding
- Floor striping, 19, 36
- Fluid handling, 82
 - antifreeze, used, 82
 - filter crusher, 82
 - Filter Manufacturing Council, 145
 - oil filter handling, 82, 145
 - spill kits, 82
- Fluid leaks, 28
- Foot traffic, 25, 26
- Front facer, 92, 93
- Fuel, 16, 34, 35, 39, 57, 62, 70, 82, 89, 109, 115, 116, 139, 143. *See also*
 - Fluid handling
- Fuel consumption, 62, 70. *See also* Tire pressure
- Fuel handling, 139, 143
 - diesel, 143
 - gasoline, 143
- Fuel storage, 144
 - above-ground tanks, 144
 - containment walls, 144
 - double-wall tanks, 144
 - leak detection system, 144
 - single-wall tanks, 144
- Fuel usage, 16
- Full-time access, 35
- Gasoline storage, 144. *See also* Fuel storage
- GCS software, 56
- Golf management companies, 10
- Granite surface plate, 67, 76. *See also*
 - Reel mower
- Grease gun, 79, 80, 81, 82, 83, 84, 89
 - battery powered, 83
 - grease seal, 83
 - improper greasing, 83
- Grease seal, 83
- Greenhouse, 34
- Greens Committee, 15, 51
- Grind, 61, 62, 64, 66. *See also*
 - Grinding
- Grinder(s), 60, 61, 62, 63, 64, 65, 66, 71, 76, 92, 93, 141
- Grinding, 5, 32, 61, 62, 63, 64, 66, 92, 152, 153
 - flat, 62
 - influences on methods, 61
 - relief grinding, 61
 - spin, 62

- Grinding equipment, 59, 63, 64, 66
 front facer, 92, 93
 memory chip, 62
 microprocessor, 62
 Grinding zone, 32, 92
- Hazardous materials, 151, 152.
See also Fluid handling; Fuel handling; Used Oil
 Ampho-Mag™, 151
 HAZCOM, 145
 oil handling, 143–145
 record keeping, 152
 spill kits, 152
 spill response, 151
 Spill-X®, 151
 Spill-X-S®, 151
 toxic waste roundup, 151
 HAZCOM, 145
 OSHA right to know, 145
 HAZMAT, 152. *See also* Hazardous materials
- Head equipment technician, 10, 11, 12
 Heat loads, 16
 Height of cut, 59, 66, 68, 69, 92, 93
 ACCU-GAGE™, 69
 actual height of grass, 69
 bench set, 69
 height of cut gauges, 93
 PRISM-GAGE™, 69
- Hiers, Tim, 37
 High-pressure water, 62, 96. *See also* Back lapping
- History of turf equipment management, 5
- Hour meter, 48, 49
 Hydraulics, 1, 6, 7, 103, 104, 130
 Hydraulics zone, 103, 104
 hydraulic hose fabrication kit, 103
 pressure testing equipment, 105
- IGCEMA (International Golf Course Equipment Managers Association), 57, 58
 technician associations, 143
- Improper greasing, 83
- Influences on grinding methods, 61
 budget, 61
 climate, 61
 customer demand, 61
 grass type, 61
 mowing equipment, 61
- Innovation, 101
- Insulated concrete form, 24
 Interior space, 3, 9, 15, 31
 Intern's living quarters, 34
- Inventory, 6, 7, 9, 47, 48, 50, 53, 54, 62, 75, 76, 91, 105, 106, 109, 111, 113, 114, 115, 116
 identification tag, 47
 model plates, 47
 parts kits, 115
 serial numbers, 47
- Inventory control, 9, 107, 109, 111, 113, 116
 identification tag, 47
 model plate, 47
 serial number, 47
 shrinkage, 111
 shrinkage rate, 113
 two levels of security, 113
- IPM (Integrated Pest Management), 150
 IFAS, 150
 licenses, 151
 training, 151
 University of Florida, 150
- Irrigation Technician, 13, 160
- Jib crane, 17, 21
- Lake City Community College, 5, 7, 8, 133, 135, 159
 Turf Equipment Technician Program, 135
- Landscaping, 15, 41, 42
 air conditioning cost, 41
 dirt berms, 42
 entrance road, 41
 temperature moderation, 41
- Lester Electrical, 100
 Lester battery tester, 100

- Lift attachments, 84, 85. *See also*
 - Equipment lift
- Lifting safety, 153. *See also* Accidents,
 - Health and disability insurance claims
 - hand lifting, 153
- Lifting zone, 76, 79, 84
 - bottle jacks, 84, 91
 - floor jack, 85, 91
 - hand truck, 85, 91
 - jack stands, 84
 - lift attachments, 84
 - lift stands, 85, 91
 - mobile lift table, 85, 91
 - pallet jack, 85, 91
- Lighting level, 27, 28
- Lockers, 9, 10, 34
- Logistics, 113, 160
- Lounge. *See* Break Room
- Lubricant handling system, 79
 - extended funnel-equipped catch can, 80
 - handling system, 79
 - hand suction gun, 80
 - oil suction removal, 80
 - portable oil drain can, 80
- Lubrication zone, 79, 80, 82
 - grease gun, 79
 - improper greasing, 83
- Machine hours, 16
- Magnamatic blade balancer, 71, 72, 93. *See also* Mower blade; Rotary blade balancer
- Magnetag, 46
- Maintenance facility, 2, 3, 7, 9, 15, 16, 17, 19, 27, 29, 30, 34, 41, 42, 43, 44, 76, 81, 91, 130, 136, 139, 140, 159
 - “the Barn,” 1, 6
 - design, 2, 3
 - epicenter of activity, 3
 - importance of clean and neat, 9, 152
 - sets the example, 42
 - site selection, 15, 16, 45
- Maintenance records, 117
- ManagerPlus[®], 57
- Man hours, 25, 28
- Metal Building Manufacturers Association, 21
- Mezzanine, 27
- Model plates, 47
- Mower blade, 59, 73
 - bent blade, 71
 - eroded, 70
 - lift action, 70
 - magnamatic blade balancer, 71
 - rotary blade sharpener, 71
 - track, 70
- MSDS (Material Safety Data Sheet), 146–150
- Multi-course facilities, 10, 12
- Must-Have tools, 76–79
 - “Nuts to have,” 76
- Office space, 15, 32, 35
 - equipment manager’s, 32
- Oil, 2, 43, 77, 79, 80, 81, 82, 83, 110, 113, 115, 116, 145, 151, 152. *See also* Fluid handling
 - hydraulic oil, 143
 - lubricating oils, 143
 - oil handling, 139
 - oil storage, 82
- Oil-based back lapping compound, 62
- Oil filter handling, 82
- Older facility, 26, 27
- Open shop layout, 19
- Operator(s), 52, 53, 59, 70, 73, 121, 123, 124, 126, 127, 128
 - benefits of well-trained, 52
 - conscientious, 52
 - early warning of failure, 52
 - equipment abuser, 52
 - finding good operators, 123
 - foreign workers, 125
 - high school students, 130
 - retirees, 124
 - students, 124
 - training, 123
- Operator’s manual, 47. *See also* Preventive maintenance

- OSHA (Occupational Safety and Health Administration), 82, 142, 145, 146, 152–157
 independent inspector, 142
 OSHA accident reporting procedure, 153
 Safety and Health Achievement Recognition Program (SHARP), 154
 Overtime, 46, 50, 51, 120
- Paint zone, 34
- Parking, 9, 27, 28, 31, 35, 39–41
 employee, employee of the month, 41
 “first impression,” 40, 41
 guest, 39
 handicap, 39
 parking patterns, 29
 parking problems, 39
 paved, 41
 no personal vehicles, 116
 semi-trailer, shade, special parking spaces, 39
- Parts cleaners, 96
 aqueous, 96
 graymills, 96
 Hydro-Blast™, 96
 landa, 96
 Safety-Kleen, 96
- Parts inventory management, 7
 inventory control, 107
 logistics, 113
 shrinkage, 111
- Pesticides, 6, 63, 150, 151
 handling, 150
 integrated pest management, 150
 storage, 150
- PM. *See* Preventive Maintenance
- PM scheduling, 46, 49
 calendar method, 48
 computerized, 50
 hour meter method, 48, 49
- Policies and operating procedures, 128
 company rules, 128
 job descriptions, 128
- Post-secondary programs, 131
- Pre-engineered metal building, 17, 21, 31
 big box design, 19
 end panel, 31
 wing panel, 31
- Preventive maintenance, 2, 3, 5, 6–9, 11, 33, 45–51, 54, 56, 57, 107, 115, 120
 accident prevention, 45
 cost savings, 45
 effects of no, 50
 expensive to maintain units, 117
 great pyramids, 46
 hour meter, 48
 log, 48
 operator’s manual, 47
 operators and technicians role, 52–54
 plan design, 46
 predictable work load, 120
 program, 45–49
 quick start, 46
 repair manual, 47
 run until it breaks, 120
 run to failure, 120
 software, 54, 55, 56, 57
 time savings, 45
 too much work, 120
- PRISM-GAGE™, 69
- Quality control, 53
- Reclaimed water, 62
- Record keeping, 82
- Recycling, 139, 151
 Detoxification, 151
 Toxic waste roundup, 151
 Used oil, 82
- Reel mower, 6, 59–61, 66. *See also* Back lapping; Grinding; Grinding equipment; Height of cut bed knife grinder, 62, 92
 frame, 62
 height of cut adjusters, 62
 misalignment, 67

- parallel, 67
- reel cutting units, 60
- reels, 62
- Regulatory assistance (insurance carrier, contractor, agencies), 142
- Remodeling, 17, 26, 27, 30
 - floors, 27
 - older facility, 27
 - walls, 27
- Repair manual, 47. *See also* Preventive maintenance
- Repair zone, 97
 - rolling toolbox, 97
 - hydraulic press, 97
 - hydraulic press plates, 97
 - storage, 97
- Restrooms, 34
- Right to know, 145. *See also* OSHA HAZCOM
- Roll up door, 31
- Rotaries. *See* Rotary mower
- Rotary mower, 59, 60, 71, 76, 92
 - bearing housing, 59
 - blade spindle, 59
 - height of cut, 68
 - mower blade, 59
 - quill assembly, 59
 - sharpening, slip clutch, 60
 - unusual sounds, 69
 - wear, 71
- Roughs, 60, 76
- Run to failure, 120. *See also* Preventive maintenance
- Safety hazard, 25
- Safety and Health Achievement Recognition Program (SHARP), 154
- Safety regulations, 2, 139, 141
- Salaries, 3, 7, 8, 12, 129, 159
- Sample documents, 57
 - work order, 57
- Sample layouts, 17
- Second golf course superintendent, 12
- Security issues, 36, 37, 113, 115, 141
 - insurance carrier, 36
 - magnetically locking door, 36
- Serial numbers, 47
- Service contract, 110
- Shop organization, 6, 7, 34
- Shop space, 24, 27, 29–31, 35
- Showers, 34
- Shrinkage, 111. *See also* Inventory control
- Site selection, 15, 16
- Skylights, 19
- Smartshop®, 56,
- Software, 54, 55, 56, 57. *See also* Preventive Maintenance
 - Bigfoot, 54
 - Fleet Management, 56
 - GCS, 55
 - Manager Plus®, 57
 - Smartshop®, 56
 - Toro® my Turf™, 56
 - TRIMS, 54
 - Turfcentric®, 56
- Soil mix storage zone, 35
- Solar tubes, 19. *See also* Design
- Space, 32
 - office, 34, 35
- Special tools, 74, 104–106
 - air wrenches, 105
 - electrical testing equipment, 105
 - pressure testing equipment, 105
 - tool allowance, 105
- Spill kits, 82, 152
- Spin grinding, 62. *See also* Grinding
- Sports turf facilities, 5, 13, 134
- Sports turf manager, 130
- Spray technician, 24, 118
- Staffing, 46, 50, 51, 53. *See also* Succession planning; Operators
 - community colleges, 132
 - feed the chapter, 135, 137
 - foreign workers, 125
 - high school, 130
 - post-secondary programs, 131–133
 - retirees, 124
 - students, 124
 - vocational-technical centers, 132
 - workforce boards, 125

- Storage, 27, 97–99, 110, 112, 116, 140, 141, 143, 157
 center aisle, 31
 efficiency rule, 35
 equipment, 35
 full-time access, 35
 mezzanine, 28
 parts, 32
- Succession planning, 133
 replacement, 134
 “thinking in advance,” 133
- Suppliers, 103, 113–115
 fill rate, 114
- Technician, 53, 54, 84, 101, 102, 105, 107, 109, 110, 118, 121, 122, 133, 134, 135, 161
 mutual respect, 121
 national shortage, 160
 role in crew morale, 121
 role in PM, 53
- Ticknor, Jason, 67, 103
- Time management, 107, 120, 140
 time management disaster, 120
- Tire cage, 94
- Tire changer, 94
- Tire gauge, 94
 accurate gauge, 94
- Tire pressure, 59, 94
 compaction, 70
 fuel consumption, 70
 tire spinning, 70
 turf damage, 70
- Tire repair zone, 93
 air chuck, 94
 blow gun, 94
 digital tire gauge, 94
 portable air tank, 94
 tire cage, 93
 tire changer, 93
 tire gauges, 94
 tire test tank, 94
 tubeless tire repair kit, 94
 wheel chocks, 94
- Tire spinning, 70. *See also* Tire pressure
- Tool allowance, 105
- Toolbox, 93, 94, 97. *See also* Repair zone
 Knaack, 97
 polyurethane casters, 97
 Strong Hold, 97
- Tool cart, 140
- Tool rack, 106
- Toro® my Turf Fleet Management, 56
- Training, 7, 11, 123, 125–128, 134, 135, 142, 145, 146
 cross training, 128
 manufacturer’s manuals and videos, 127
 media storage, 37
 monitor, 37
 pay and promotion, 128
 selecting a trainer, 126
 training room, 37
 train the trainer, 127
 unconscious performers, 126
 video player, 37
 whiteboard, 37
- Trash collection zone, 35
- TRIMS, 54
- Tucker, Stephen, 17, 18, 104
- Turfcentric®, 56
- Turf damage, 70. *See also* Tire pressure
- Turf equipment, 1, 54
 fairway mower, 37
 unproductive wear, 35
 worn equipment and morale, 117
- Turf equipment manager. *See* Equipment manager
- Turf equipment technician. *See* Technician
- Turf industry, 13, 68, 125, 129, 130–132, 136, 137, 160
- United States Green Section (USGA), 101
- Unit storage, 25
- Unpredictable repair demand, 51. *See also* Emergency repairs

- Unscheduled repairs, 46, 51. *See also*
 - Emergency repairs
- Used antifreeze, 82
- Used equipment, 117
- Used oil, 80, 82, 145, 151
 - generator, 145
 - removal services, 145
 - small generator, 145
- Used oil labeling, 82. *See also* Fluid handling; OSHA
- U.S.E.P.A. (United States Environmental Protection Agency), 143
- Vendor(s) relations, 109, 114, 115, 143
 - problem solving, 114
 - supportive, 115
 - vendors, 143
- Warranty repair, 110
 - service contract, 110
- Washing and degreasing zone, 35
- Wash rack, 40
- Waste container, 29
- Waste material record keeping, 82
- Waste oil, 145. *See also* Used oil
- Water use, 29, 136
- Welding zone, 32
- Whiteboard, 46
- Wind resistance, 24. *See also* Design
- Wing panel, 31
- Wire welder, 102. *See also* Fabrication zone
- Work order, 57, 58
- Wrongful injury lawsuit, 50
- Zonal concept, 33
- Zones, 33, 34, 35
- Zoning, 21, 29, 30
 - local contractor, 29
 - zoning laws, 29
 - zoning problems, 29

