

Contents

| | |
|---|------------|
| Acknowledgments | xi |
| Foreword | xv |
| Preface | xix |
| Part I. Learning from Toyota | 1 |
| 1. Background to the Fieldbook | 3 |
| Why <i>The Toyota Way Fieldbook</i> ? | 3 |
| How the Book Is Organized | 6 |
| Overview of the Toyota Way Principles | 8 |
| How to Use This Book | 14 |
| Part II. Why Does Your Company Exist? | 15 |
| 2. Define Your Corporate Philosophy and Begin to Live It | 17 |
| What Is Your Company's Philosophy? | 17 |
| A Sense of Purpose Inside and Out | 18 |
| Creating Your Philosophy | 23 |
| Living Your Philosophy | 24 |
| Making a Social Pact with Employees and Partners | 25 |
| Maintaining Continuity of Purpose | 27 |
| Part III. Creating Lean Processes Throughout Your Enterprise | 31 |
| 3. Starting the Journey of Waste Reduction | 33 |
| Lean Means Eliminating Waste | 33 |
| Developing a Long-Term Philosophy of Waste Reduction | 37 |
| Value Stream Mapping Approach | 37 |
| Benefits of the Value Stream Mapping Approach | 41 |

| | |
|---|------------|
| Developing a Current State Map | 42 |
| Understand Your Objectives When Mapping the Current State | 43 |
| Limitations of the Value Stream Mapping Approach | 47 |
| Creating Flow Step by Step | 49 |
| Sequential and Concurrent Continuous Improvement | 52 |
| 4. Create Initial Process Stability | 56 |
| First Get to Basic Stability | 56 |
| Indicators of Instability | 57 |
| Clearing the Clouds | 58 |
| Objectives of Stability | 58 |
| Strategies to Create Stability | 59 |
| Identify and Eliminate Large Waste | 60 |
| Standing in the Circle Exercise | 60 |
| Standardized Work as a Tool to Identify and Eliminate Waste | 61 |
| 5S and Workplace Organization | 64 |
| Consolidate Waste Activities to Capture Benefits | 65 |
| Improve Operational Availability | 71 |
| Reduce Variability by Isolating It | 74 |
| Level the Workload to Create a Foundation for Flow and Standardization | 77 |
| 5. Create Connected Process Flow | 80 |
| One-Piece Flow Is the Ideal | 80 |
| Why Flow? | 81 |
| Less Is More: Reduce Waste by Controlling Overproduction | 83 |
| Strategies to Create Connected Process Flow | 89 |
| Single-Piece Flow | 89 |
| Key Criteria for Achieving Flow | 91 |
| Pull | 94 |
| Complex Flow Situations | 98 |
| Pull in a Custom Manufacturing Environment | 100 |
| Creating Pull Between Separate Operations | 102 |
| Flow, Pull, and Eliminate Waste | 108 |
| 6. Establish Standardized Processes and Procedures | 111 |
| Is Standardization Coercive? | 111 |
| Standardized Work or Work Standards? | 113 |
| Objective of Standardization | 114 |
| Strategies to Establish Standardized Processes and Procedures | 117 |

| | |
|--|------------|
| Types of Standardization | 118 |
| Quality, Safety, and Environmental Standards | 119 |
| Standard Specifications | 120 |
| Standard Procedures | 121 |
| Myths of Standardized Work | 122 |
| Standardized Work | 124 |
| Standardized Work Documents | 126 |
| Some Challenges of Developing Standardized Work | 131 |
| Auditing the Standardized Work | 134 |
| Standardized Work as a Baseline for Continuous Improvement | 135 |
| Takt Time as a Design Parameter | 136 |
| Importance of Visual Controls | 139 |
| Standardization Is a Waste Elimination Tool | 141 |
| 7. Leveling: Be More Like the Tortoise Than the Hare | 145 |
| The Leveling Paradox | 145 |
| Heijunka Provides a Standardized Core for Resource Planning | 146 |
| Why Do This to Yourself? | 147 |
| Smoothing Demand for Upstream Processes | 148 |
| How to Establish a Basic Leveled Schedule | 151 |
| Incremental Leveling and Advanced Heijunka | 157 |
| Incremental Leveling | 157 |
| Points of Control | 158 |
| Point of Control for Managing Inventory | 158 |
| A Leveled Schedule Dictates Replenishment | 159 |
| Slice and Dice When Product Variety Is High | 161 |
| Leveling Is an Enterprisewide Process | 166 |
| 8. Build a Culture That Stops to Fix Problems | 171 |
| Developing the Culture | 172 |
| The Role of Jidoka: Self-Monitoring Machines | 177 |
| The Problem-Resolution Cycle | 178 |
| Minimizing Line Stop Time | 182 |
| Build Quality Inspections into Every Job | 184 |
| Poka Yoke | 186 |
| Creating a Support Structure | 195 |
| 9. Make Technology Fit with People and Lean Processes | 198 |
| Back to the Abacus? | 198 |
| What Do You Believe About Technology, People, and Processes? | 200 |

| | |
|---|------------|
| Tailor Technology to Fit Your People and Operating Philosophy | 203 |
| Contrasting Models of Technology Adoption | 205 |
| Keep Technology in Perspective | 213 |
| Part IV. <i>Develop Exceptional People and Partners</i> | 217 |
| 10. Develop Leaders Who Live Your System and Culture from Top to Bottom | 219 |
| Success Starts with Leadership | 219 |
| Importance of Leadership Within Toyota | 220 |
| Toyota Georgetown Production Leadership Structure | 222 |
| Toyota Georgetown Staff Leadership Structure | 224 |
| Requirements for Leaders | 224 |
| Group Leader Responsibilities on a Typical Workday | 226 |
| Creating a Production Leadership Structure | 232 |
| Selecting Leaders | 234 |
| Developing Leaders | 237 |
| Succession Plan for Leaders | 239 |
| 11. Develop Exceptional Team Associates | 242 |
| “We Don’t Just Build Cars, We Build People” | 242 |
| Start by Selecting the Right People | 243 |
| Assimilating Team Associates into Your Culture | 246 |
| Job Instruction Training: The Key to Developing Exceptional Skill Levels | 247 |
| Making a Training Plan and Tracking Performance | 255 |
| Building Team Associates for the Long Term | 258 |
| Quality Circles | 258 |
| Toyota Suggestion Program | 261 |
| Developing Team Associates for Leadership Roles | 263 |
| Personal Touch Creates Stronger Bonds | 265 |
| Invest in Skill in All Areas of the Company | 265 |
| 12. Develop Suppliers and Partners as Extensions of the Enterprise | 270 |
| Supplier Partners in a Globally Competitive World | 270 |
| Short-Term Cost Savings vs. Long-Term Partnerships | 271 |
| Supplier Partnering the Toyota Way | 273 |
| Seven Characteristics of Supplier Partnering | 275 |
| Building a Lean Extended Enterprise | 290 |
| Traditional vs. Lean Models of Supplier Management | 294 |

| | |
|---|------------|
| Part V. Root Cause Problem Solving for Continuous Learning | 305 |
| 13. Problem Solving the Toyota Way | 307 |
| More Than Solving Problems | 307 |
| Every Problem Is an Improvement Opportunity | 309 |
| Telling the Problem-Solving Story | 313 |
| 14. Develop a Thorough Understanding of the Situation and Define the Problem | 323 |
| Carefully Aim Before Firing | 323 |
| Find the True Problem to Get the Most Significant Results | 327 |
| Examining a Problem in Reverse | 333 |
| Defining the Problem | 334 |
| Building a Strong Supporting Argument | 337 |
| 15. Complete a Thorough Root Cause Analysis | 341 |
| Principles of Effective Analysis | 341 |
| Seeking Problem Causes That Are Solvable | 346 |
| Distill Root Cause Analysis to Simplest Terms | 349 |
| A Picture Is Worth a Thousand Words | 349 |
| Putting It All Together: The A3 One-Page Report | 351 |
| Dig Deeply into Possible Causes | 352 |
| 16. Consider Alternative Solutions While Building Consensus | 356 |
| Broadly Consider All Possibilities | 356 |
| Simplicity, Cost, Area of Control, and the Ability to Implement Quickly | 357 |
| Develop Consensus | 359 |
| Test Ideas for Effectiveness | 360 |
| Select the Best Solution | 362 |
| Define the Right Problem and the Solution Will Follow | 362 |
| 17. Plan-Do-Check-Act | 364 |
| Plan: Develop an Action Plan | 364 |
| Do: Implement Solutions | 368 |
| Check: Verify Results | 368 |
| Act: Make Necessary Adjustments to Solutions and to the Action Plans | 371 |
| Act: Identify Future Steps | 371 |
| Finally Some Action | 372 |
| 18. Telling the Story Using an A3 Report | 376 |
| Less Can Be More in Report Writing | 376 |

| | |
|--|------------|
| Determining How to Use an A3 | 377 |
| The A3 Problem-Solving Report Process | 379 |
| Outline for an A3 | 381 |
| Formatting Tips | 382 |
| Final A3 Version of Problem-Solving Story | 383 |
| Final Comments on A3s | 387 |
| Part VI. <i>Managing the Change</i> | 391 |
| 19. Lean Implementation Strategies and Tactics | 393 |
| Where Should You Start? | 393 |
| Lean Implementation Levels, Strategies, and Tools | 394 |
| Having the Patience to Do It Right | 417 |
| 20. Leading the Change | 427 |
| Can We Avoid Politics in Lean Transformation? | 427 |
| Leadership from the Top, Middle, and Bottom | 430 |
| Can You Metric Your Way to Lean? | 449 |
| Changing Behavior to Change Culture | 452 |
| Spreading Your Learning to Partners | 458 |
| Now Please Try . . . and Do Your Best | 461 |
| Index | 467 |