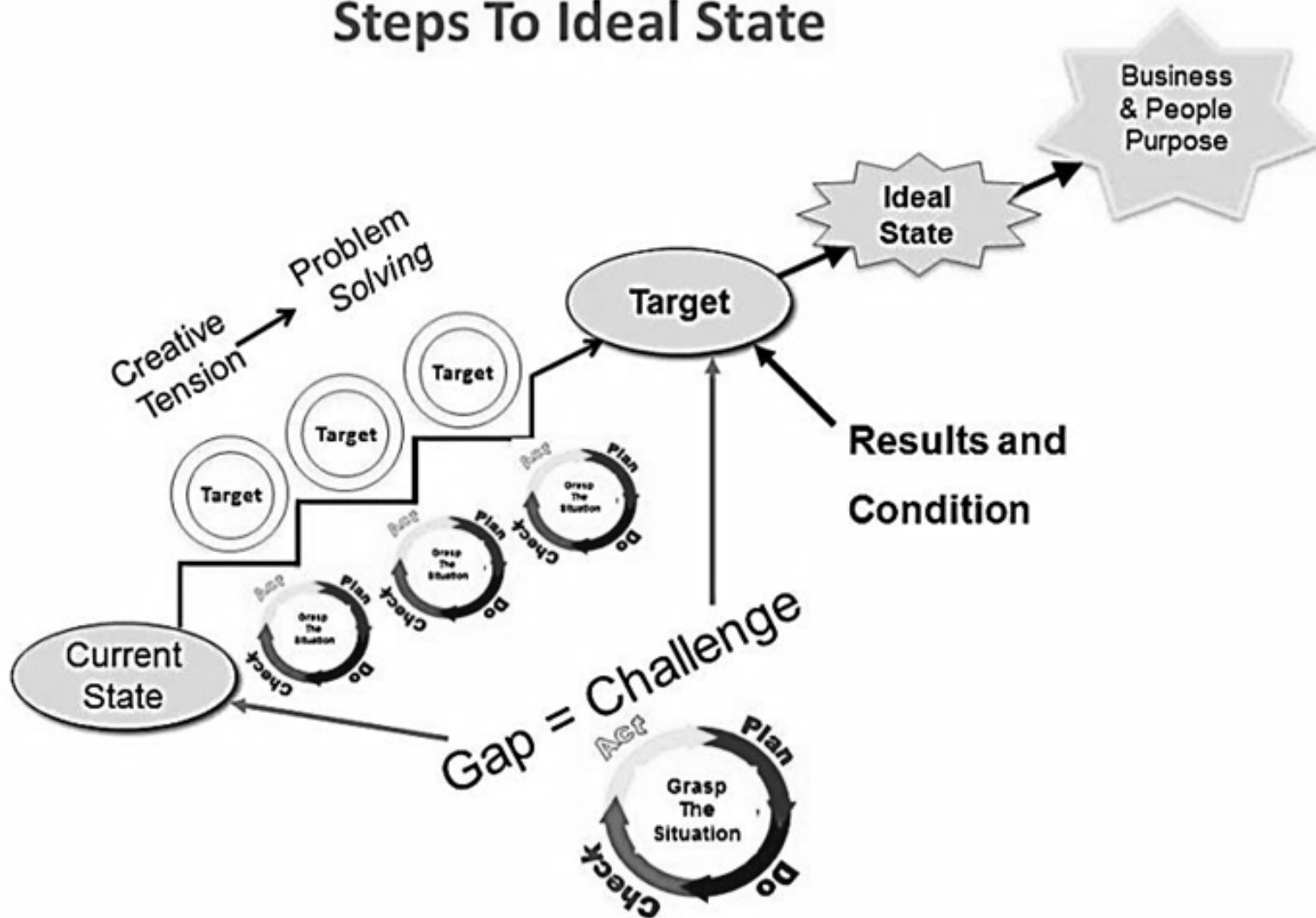


Developing Lean Leaders at all Levels: A Practical Guide

Chapter 2 Figures

Steps To Ideal State



Source: *The Toyota Way to Continuous Improvement*

Figure 2-1. Problem Solving your way toward an Ideal State



Figure 2-2. Plan-Do-Check-Act Cycle

Plan	STEP 1: Clarify the Problem vs Ideal State [Clarify the problem and True North]
Plan	STEP 2: Grasp the Present Situation and See the Gaps [Ground problem in reality to further clarify]
Plan	STEP 3: Breakdown Problem and Set Targets [Breakdown problem to manageable focus and set targets and metrics]
Plan	STEP 4: Analyze Underlying Causes [Ascertain root causes]
Plan	STEP 5: Develop Countermeasures [Identify what, when, and who]
Do	STEP 6: See Countermeasures Through [Follow the plan and note deviations]
Check	STEP 7: Monitor both Results and Processes [Check the results vs targets]
Act	STEP 8: Standardize and Spread [Take actions to sustain effects and yokoten learnings to other areas]

Figure 2-3. The Eight Steps involved in Toyota Business Practices (TBP)

Plan

STEP 1: Clarify the Problem vs Ideal State
[Clarify the problem and True North]

Figure 2-4. Plan Step 1

Plan

STEP 2: Grasp the Present Situation and See the Gaps
[Ground problem in reality to further clarify]

Figure 2-5. Plan Step 2

Plan

STEP 3: Breakdown Problem and Set Targets
[Breakdown problem to manageable focus
and set targets and metrics]

Figure 2-6. Plan Step 3

Plan

STEP 4: Analyze Underlying Causes [Ascertain root causes]

Figure 2-7. Plan Step 4

Plan

STEP 5: Develop Countermeasures [Identify what, when, and who]

Figure 2-8. Plan Step 5



Figure 2-9. Grasp the Situation at the Center of PDCA

Ideal is customers who are completely satisfied. Currently some customers are inconvenienced by automotive problems.

Figure 2-10. Plan Step 1: Clarifying the Problem as compared to the Ideal State

Too many customers are bringing in Toyota vehicles for warranty work which costs them time and satisfaction and costs Toyota money.

Figure 2-11. Plan Step 2: Grasping the Situation and Seeing the Gaps

Warranty problems originate in product development (e.g. poor error proofing), are contributed to in manufacturing (e.g. errors) and discovered in the field. Immediate focus will be on manufacturing through to customer feedback and response. Target=60% reduction.

Figure 2-12. Plan Step 3: Breaking down Problems and Setting Targets

Manufacturing-poor understanding of potential errors throughout manufacturing process and miss defects in inspection.
Feedback and response-Problems in field not well diagnosed and communicated and requests for changes are diffuse and ineffective.

Figure 2-13. Plan Step 4: Analyzing the Underlying Causes

Manufacturing-Built-in Quality with Ownership at every work process + improved inspection process.
Feedback and response-System for finding root causes of warranty returns and streamlining feedback to appropriate engineering design function.

Figure 2-14. Plan Step 5: Developing Countermeasures

Deployed through global network of leaders who take responsibility.

Figure 2-15. Do Step 6: Seeing the Countermeasures Through

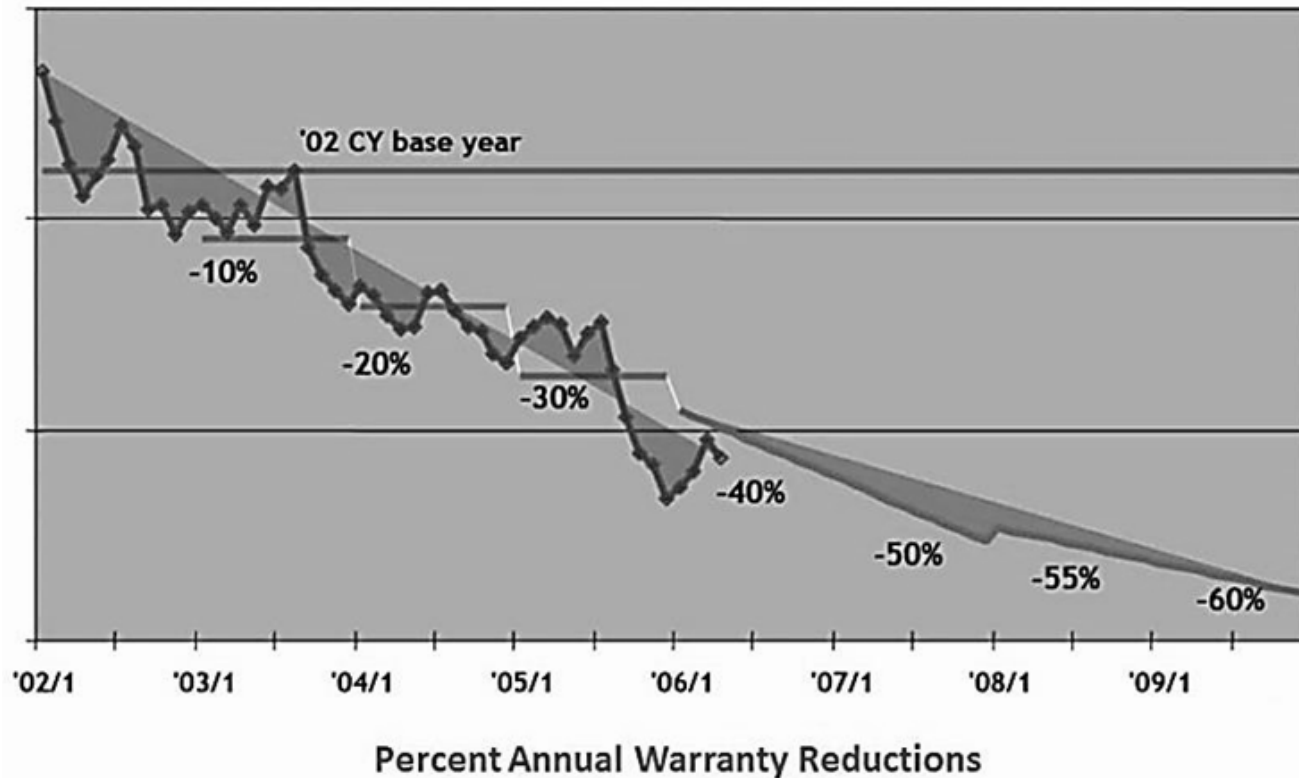
Monitored closely over seven years with continual adjustment.

Figure 2-16. Check Step 7: Monitoring both Results and Processes

Many new processes were standardized in manufacturing, engineering and sales. Work progressed further on root cause: better training and development of engineers and standardization in engineering, built-in quality with ownership in manufacturing, and an improved warranty reporting system in sales.

Figure 2-17. Act Step 8: Standardizing and Spreading the Learnings

North American Plants Overall Warranty at 3 Months in Service



Source: Toyota Engineering and Manufacturing of America, Inc.

Figure 2-18. North American Plants Warranty at 3 Months in Service



Figure 2-19: Man Jumping into a Pool with Water (left) and without Water (right)

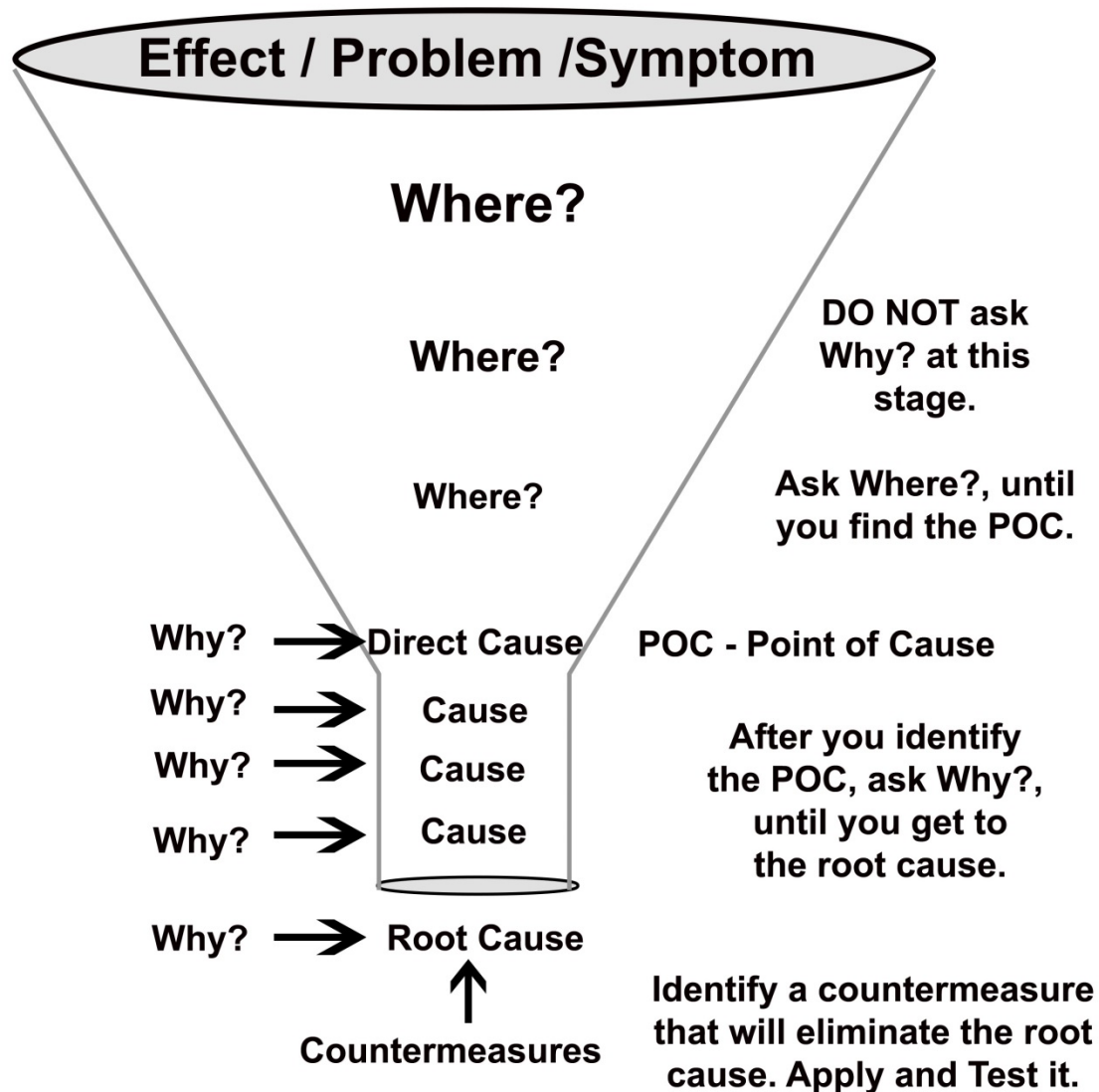
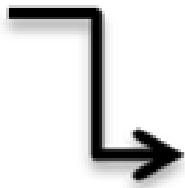


Figure 2-20. Narrowing the Focus

Why?

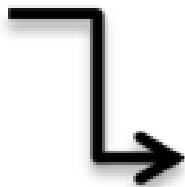


Designer didn't design correctly

Figure 2-21. First Answer to the Question: Why are the parts *not* aligned correctly?

Problem Statement: The defect rate is over goal

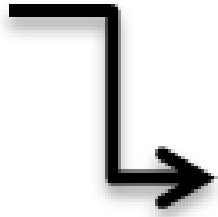
Why?



Too many defective parts

Figure 2-22. Answer to the Question: Why is the defect rate too high?

Why?

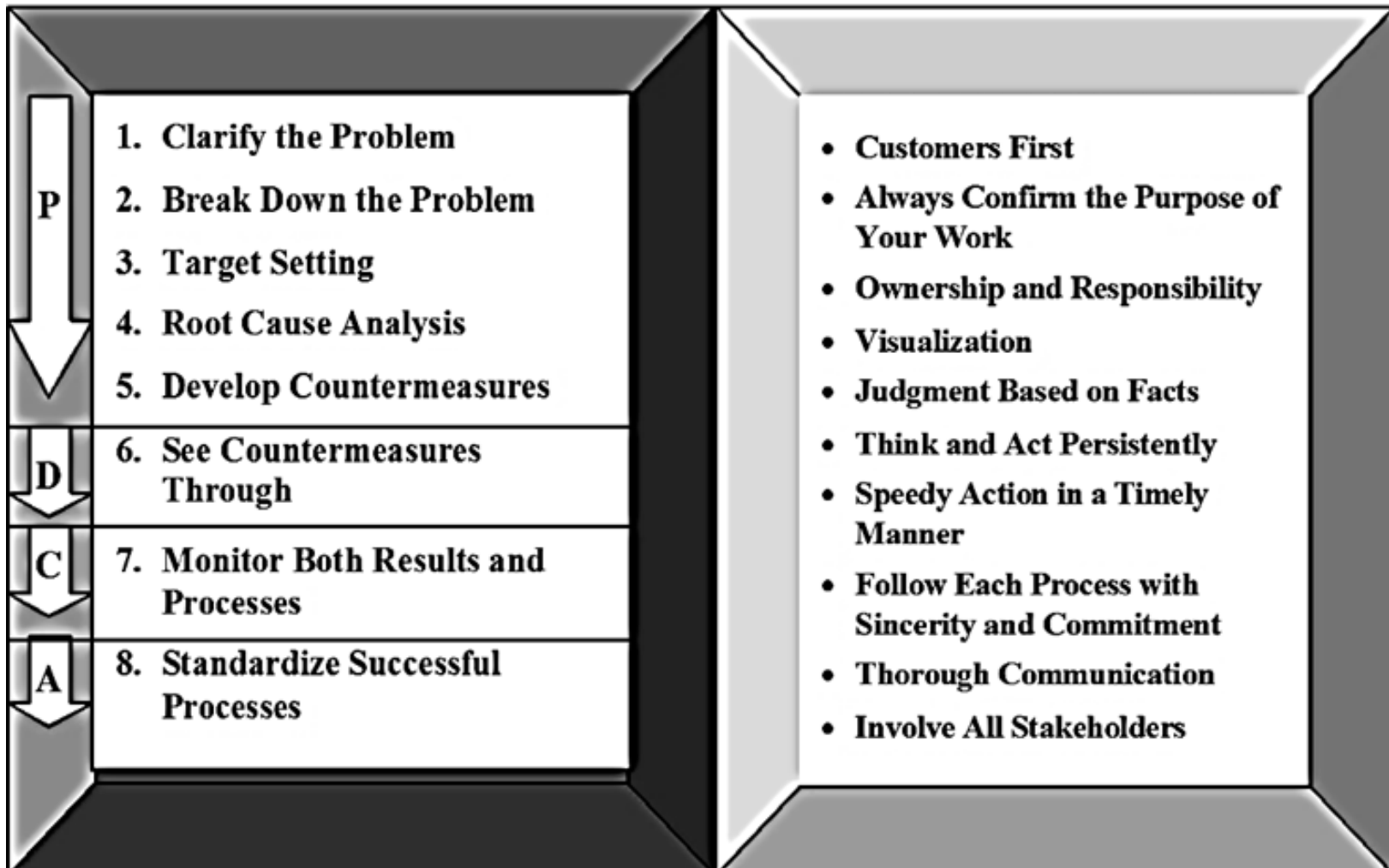


No error proofing device

Figure 2-23. Second Answer to the Question: Why are the parts *not* aligned correctly?

Concrete Actions and Processes

Drive and Dedication



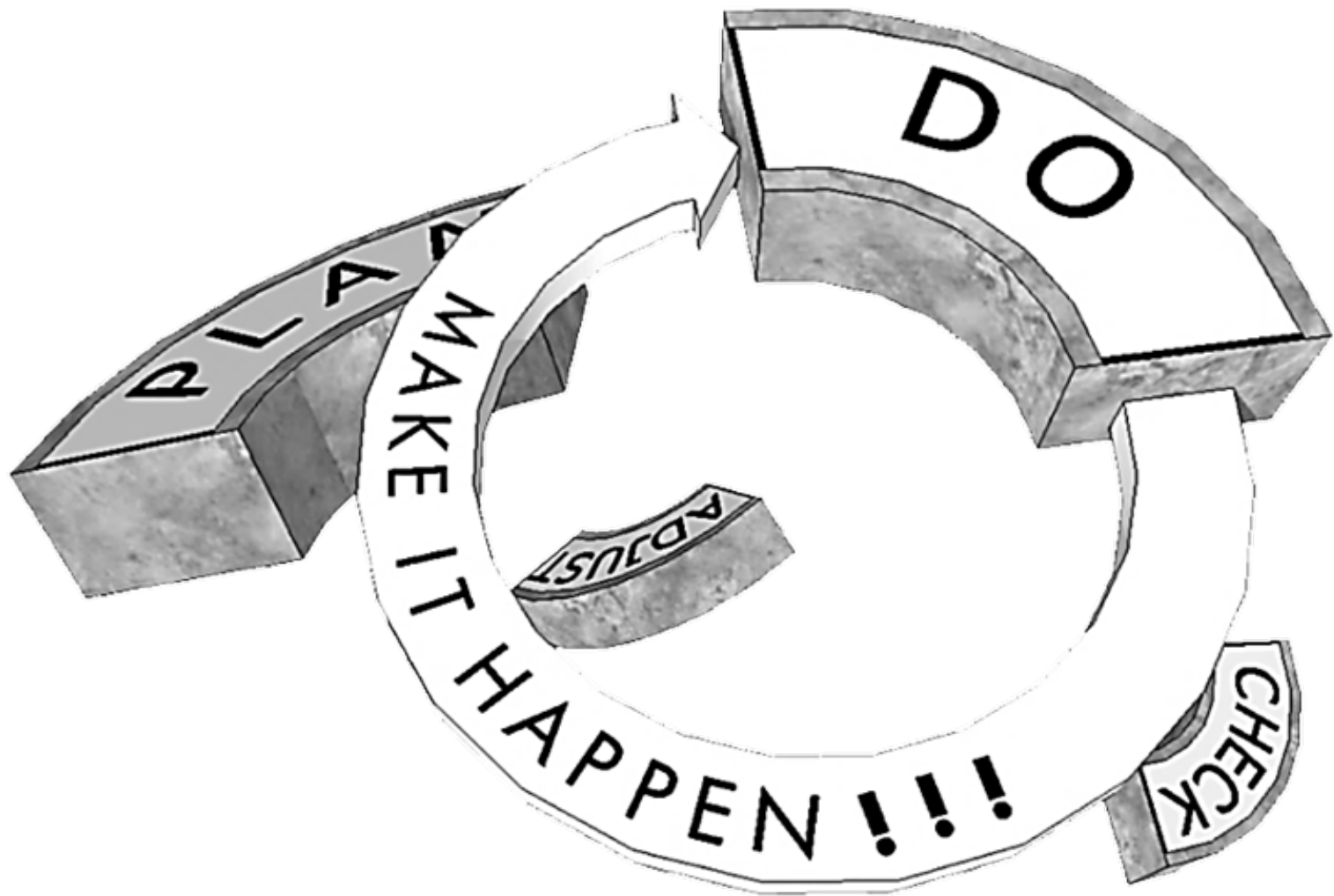
Source: Toyota

Figure 2-24. Toyota Business Practices - centered on a problem solving process.



Source: *Toyota Way to Continuous Improvement*

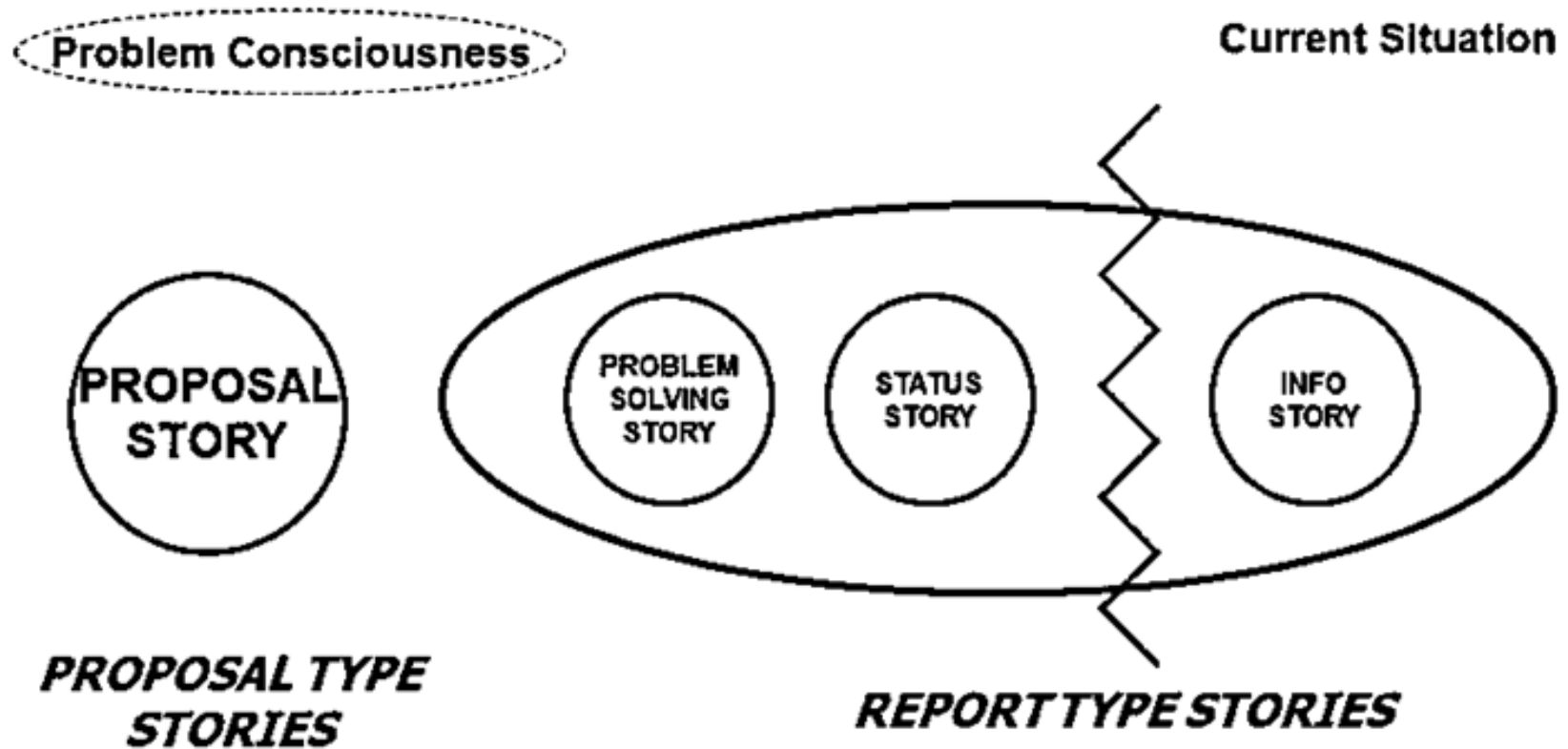
Figure 2-25. PDCA (Plan – Do – Check – Act or Adjust) Wheel or Deming Wheel



Source: *Toyota Way to Continuous Improvement*
Figure 2-26. PDCA Wheel with only Do – Make it Happen!



Source: Toyota Georgetown Plant
Figure 2-27. Visual Management Board



Source: Toyota Technical Center
Figure 2-28. Four types of A3 Stories

PROPOSAL STORY	
THEME	
I - INTRODUCTION <div></div>	III - PLAN <div></div>
II - PROPOSAL <div></div>	IV - UNRESOLVED ISSUES <div></div>
	V - ACTION PLAN (Schedule) <div></div>
AUTHOR _____ DATE _____	

Source: Toyota Technical Center
Figure 2-29. The Proposal Type A3 Story

STATUS REPORT STORY													
THEME													
I. BACKGROUND		IV. TOTAL EFFECT											
II. OBJECTIVES		V. UNRESOLVED PROBLEMS / FUTURE ACTIONS											
III. IMPLEMENTATION													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; height: 40px;"></td> <td style="width: 20%;"></td> <td style="width: 20%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 30%;"></td> </tr> <tr> <td style="height: 150px;"></td> <td colspan="2"></td> <td></td> <td></td> <td></td> </tr> </table>													

AUTHOR: _____ DATE: _____

Source: Toyota Technical Center
Figure 2-30. The Status Type A3 Story

PROBLEM SOLVING REPORT STORY DETAILED

THEME

Answers the question – “What are we trying to do?”

PROBLEM SITUATION

- The standard
- Current situation
- Discrepancy / Extent of the problem

Rationale for picking up the problem (Importance to business activity, goals, or values of the organization)

COUNTERMEASURES

(Resulting from Cause Analysis)

- Temporary Measure
- Long Term Countermeasure

TARGET / GOAL

Measurable description of what you want to change; quantity, time

IMPLEMENTATION

<i>WHAT</i>	<i>WHERE</i>	<i>WHO</i>	<i>WHEN</i>
Actions to be taken		Responsible person	Times, dates

CAUSE ANALYSIS

PROBLEM:

Potential Causes

Most likely direct cause:

Why? → Why? → Why? → Why?

Root Cause:

FOLLOW-UP

- Unresolved issues and actions to address them
- How will you check effects?
- When will you check effects?
- How will you report finding?
- When will you report findings?

AUTHOR _____ DATE _____

Source: Toyota Technical Center

Figure 2-31. The Problem Solving Report Story - Detailed

PROBLEM SOLVING REPORT FORM

Plant: Anoka		Department: Waimount Manual 1 line		Date: 3/2/01		Prepared by: AJ Motl	
1. DEFINE THE PROBLEM SITUATION				4. ROOT CAUSES DETERMINED BY 5 WHY'S			
<p>Manual Line 1 Weekly Production Average Prior to Lean Implementation</p> <p>Goal = 202</p> <p>Average = 157</p>				<ol style="list-style-type: none"> 1. The line is not balanced 2. Process cycle times not based on Takt time 3. There is no standard staffing plan 4. No Standardized method for dividing work 5. There is no method to replace people when they need to leave the line 7. There is no method for handling meetings 8. There is no system to cover absences 9. No standard level of in process stock at the end of the shift 10. There is no set rule on how to balance the schedule 			
<ul style="list-style-type: none"> • The daily output of the line fluctuates greatly • Output is not consistent • The daily productivity goal is not being met • There is no control of the process • The process is not reliable 				5. ACTION PLANS TO CORRECT PROBLEMS			
				ACTIONS		WHO	WHEN
				Balance line according to Takt Time		Dennis/Dave	19-Jul
				Develop staffing plan to address manpower issues		Jim/Margaret	1-Jun
				Establish Standard In Process Stock Levels		Mark/AJ	1-Jun
				Develop Future State Map		Dennis/Dave	1-Jun
				Incorporate Line Support Role		Dennis	1-Jul
				Reduce number of operations by combining		Team	1-Feb
2. ANALYSIS OF LINE CYCLE TIME				6. RESULTS OF ACTIVITIES			
<p>Manual Line 1 Cycle Times Prior to Lean Implementation</p> <p>TAKT TIME = 122"</p> <p>• Welding operation over Takt time • Line is imbalanced • With current balance line should achieve higher output</p>				<p>Manual Line 1 1st Shift Weekly Production 2001</p> <p>Average = 208</p> <p>Improvement = 51 Units Per Shift</p>			
				<ul style="list-style-type: none"> • Floor Space Reduction of 20% • Cycle Time Reduction of 75% • Productivity Improvement 25% 			
3. LIST POSSIBLE CAUSES FOR PRODUCTIVITY FLUCTUATION PROBLEM USING THE 4 M'S				7. FUTURE ACTIVITIES			
Method		Machine		Materials		<ul style="list-style-type: none"> - Implementation of Pull System for Value Stream - Supermarket body blanks and End Blanks - Scheduling via signals from warehouse 	
Poor product mix Not enough people Line imbalance Low first pass yield Can't find material No sense of urgency		Poor scheduling No clear plan Missing Tools Poor Workstation layout Repairing Defects Empty line at shift end		Breakdown Yield Long setups			
Man		Materials					
Bathroom Breaks Line short due to vacation		Attitude Extended breaks		Materials not available Buffering every cover			
				<p>LARGE BOX CYCLE TIMES AFTER BALANCING</p> <p>TAKT TIME = 122"</p>			

Source: David Meier

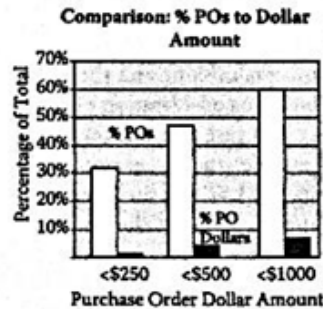
Figure 2-32. A3 Problem Solving Story – A Manufacturing Story

Purchasing Card Implementation

CURRENT SITUATION

Processing costs (labor and material)	PO	Invoice
Purchasing dept.	\$37	---
Finance dept.	\$39	\$27
Technical dept.	\$27	\$27
Total	\$103	\$54

2005 volumes	≤\$250	≤\$500	≤\$1,000
# Purchases	813	1200	1525
# Invoices	2316	2740	3026
Time req'd (hrs.)	5525	7148	8489



- Company anticipates growth through the next 5–10 years; administrative overhead will also increase without efficiency gains.
- Current paper-based system for processing purchase orders (POs) does not take advantage of new financial technologies.
- Emergency and spot transactions are currently burdensome and time consuming.
- All purchases are treated the same, regardless of dollar amount.

PROPOSAL

Implement use of purchasing credit cards for purchases ≤\$500 to incur the following savings, and increases in efficiency:

- Labor hours saved, Tech groups, Purchasing, APD
- Labor and Material Cost savings
- Reduced P.O., RFP, Expense Reports, Invoice paperwork
- Customer Service to T/A's through reduction of time spent on paperwork.
- Ease of performing spot transactions, Test Trips, Emergency transactions, Etc.
- Helps to maintain existing ADM & APD headcount while TTC grows over 5-10 yrs.
- Reallocated time used on higher ticket buys, priority projects, Etc.

LABOR COST & TIME ANALYSIS

	PO	Invoice
Labor and material cost savings		
Current cost per transaction	\$103	\$54
Est. purchasing card costs	\$20	\$20
Savings per transaction	\$83	\$34
Potential annual cost savings	\$99,600	\$93,160
Time savings (hours)		
Current PO system	3,300	3,900
Est. purchasing card	650	1,500
Potential annual time savings*	2,650	2,350

* Approx. 1/3 of time savings is to Tech Groups

PLAN

- Dept. manager determines which associates are issued cards for specific dept. purchases.
- Purchasing is issued cards.
- Acceptable business-related purchases using card:

Small tools	Seminars	Photo processing and film
Auto supplies	Office supplies	Postage
Minor equipment repairs	Printer services	Copy services
Electrical supplies	Safety supplies	Building maint. supplies
Catering	Florists	Coffee services
Hardware	Signage	
- Unacceptable uses of card (blocked):

Personal user	Cash advance	Travel & entertainment
Computer hardware	Capital purchases	Indep. contract services
Jewelry, furs		
- All card users required to sign a purchasing card agreement stating that all use of the card will be for business purposes and within the procedures set forth.

IMPLEMENTATION

1. Card user obtains approval from dept. manager for each purchase.
2. Card user contacts vendor, places orders, and provides vendor with appropriate information.
3. Goods shipped as specified and labeled "Purchasing Card" – cardholder name.
4. Goods received per standard receiving procedure with the following exception: packing list and receipt is forwarded to card user.
5. All packing lists and receipts are retained by requestors and matched against monthly statement.
6. Card user reviews statement, attaches appropriate packing lists and receipts, records JRM #'s, signs and forwards to dept. manager.
7. Dept. manager reviews statement for accuracy and initials and dates statement.
8. Dept. manager forwards to finance dept. Finance audits statement and supporting documents for compliance, sales tax, 1099.
9. Finance dept. pays from master invoice received directly from the purchasing card bank.

CONTROLS

- Monthly dollar limits per card
- \$500 single transaction limit
- Limited number of transactions per card per day
- Merchant category blocking (i.e., cash advances, jewelry stores, appliances, etc.)

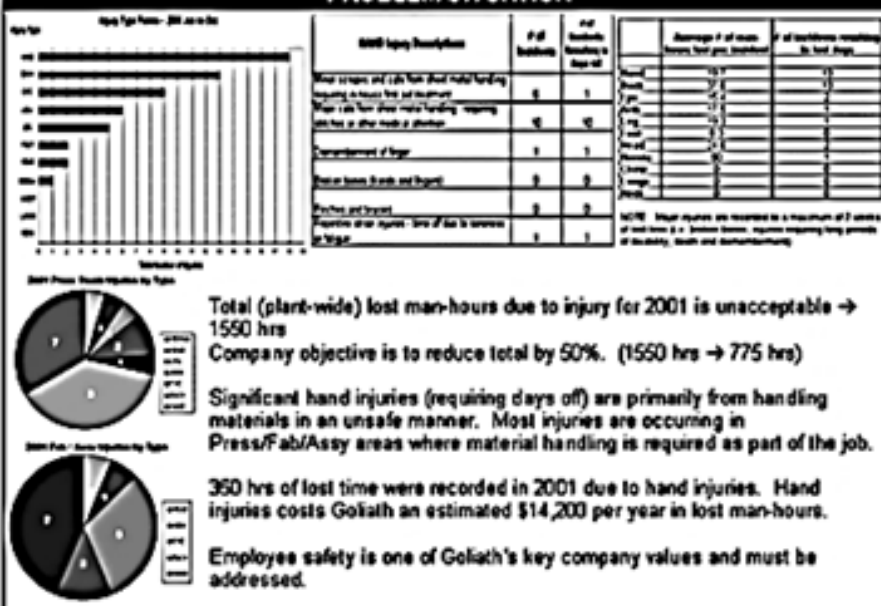
TIMELINE

9/3/2006	9/4-9/20	9/16-11/15	11/18-3/31	11/18-3/31	4/1-4/15	4/16-4/18	4/21-5/30	6/2/2007
Present at cb mtg.	Policy guide- lines, issuer selection, supplier enrollment	Training for Pilot: facilities, purch/fin, management	Pilot Program	Concurrently revise policy and procedures	Audit, analyze 3 mo. Pilot	Report audit results	Training: company-wide	Company-wide implementation

Source: Toyota Technical Center

Figure 2-33. A3 Problem Solving Story – A Purchasing Card Implementation

PROBLEM SITUATION



TARGET/GOAL

Reduce sheet metal handling injury frequency by 50% over the next 12 months.

CAUSE ANALYSIS

PROBLEM: Employees are receiving cuts, scrapes, and abrasions while handling sheet metal.
MOST LIKELY CAUSE: Employees are not following "gloves required" policy when handling sheet metal parts or blanks.

WHY? For small or quick jobs when gloves are not handy, employees would rather risk getting a cut than expending the required effort to find a set of gloves to put on.

WHY? Lack of discipline to company policy

WHY? Human nature to take the easy route – perceived benefits outweighs the risk

WHY? No motivation to follow rules when it is not convenient to do so

WHY? Penalties for breaking rules are not being enforced AND/OR lack of sufficient reward for adherence to policy

ROOT CAUSE: Motivational issue → Employees are not motivated enough to expend the required effort to follow basic shop safety requirements when it is inconvenient to do so.

COUNTERMEASURES

Clarify definitions and conditions for applying shop safety rules with Union representatives and shop supervisors. Rules may need to be reworded and reworked to reflect practical shop floor application.

Reward system will be implemented as a first step in lieu of increasing employee disciplinary action for failing to follow company safety rules.

Raffle consisting of a cash prize (suggested value of at least \$2,000) will be held at the end of the year. To maintain eligibility, shop floor members must:

- Maintain a clean personal injury record
- Not be caught failing to follow shop material handling and eye protection safety requirements

Employees would be encouraged to inform and watch out for each other throughout the workday. Once or twice a week, a randomly selected member of the supervisory staff would perform a 'shop patrol' walk to look for employee non-conformances. Eliminated employees would be given the option to buy back into the raffle by making a minimum cash donation to a charity (to be determined).

Subsequent safety infractions after being removed from raffle eligibility may result in an employee write up.

IMPLEMENTATION

To be implemented as a company safety initiative in conjunction with Union Plant Safety Committee. Tracking is to begin for the abbreviated year, starting in March 2002.

ACTION REQ'D	RESPONSIBILITY	DUE BY
Project approval	President (Lowery)	Feb 8
Communicate A3 plan to Union Safety Committee for review, discussion, and roll out strategy	HR Employee Relations (Elzerman)	Feb 18
Clarify shop safety rules	Goliath-Union Safety Subcommittee	Feb 25
Roll out details to Goliath managers and supervisors + shop employees (through team meetings)	Goliath Safety Representative (Ganci)	Feb 28

VERIFICATION and FOLLOW UP ACTIVITIES

Progress to be tracked monthly during Quality Systems Team meetings measurable tracking (Compare 2002 progress with 99 / 00 / 01 YTD safety data)

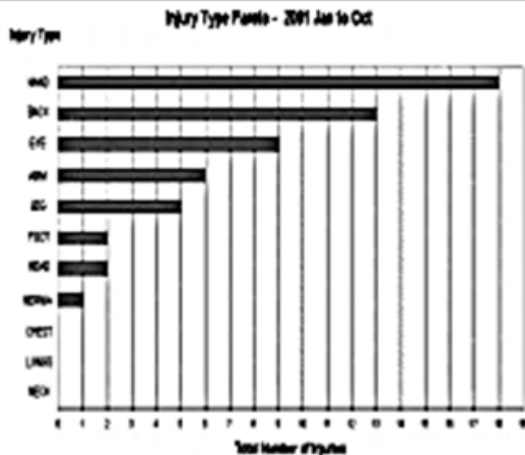
Informal survey of shop supervisory and managerial staff on a quarterly basis regarding shop safety improvement and compliance to shop safety rules.

AUTHOR: _____
DATE: _____

Figure 2-34. A3 Problem Solving Story – Another Manufacturing Story

REDUCE INJURIES DUE TO CUTS DURING THE HANDLING OF SHEET METAL

PROBLEM SITUATION

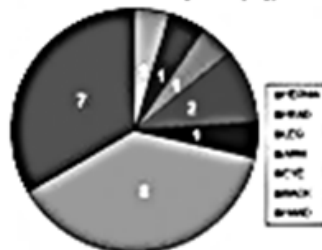


HAND Injury Descriptions	# of Incidents	# of Incidents Resulting in Days Off
Minor scrapes and cuts from sheet metal handling requiring in-house first aid treatment	6	1
Major cuts from sheet metal handling - requiring stitches or other medical attention	10	10
Disembodiment of finger	1	1
Broken bones (hands and fingers)	0	0
Pinches and bruises	0	0
Repetitive strain injuries - time off due to soreness or fatigue	1	1

	Average # of man-hours lost per incident	# of incidents resulting in lost days
Hand	10.7	13
Back	37.6	13
Eye	15.4	2
Arm	17.5	1
Leg	12.3	1
Foot	6.3	0
Head	24.6	2
Chest	0	1
Lungs	0	0
Neck	0	0

NOTE: Major injuries are recorded to a maximum of 2 weeks of lost time (i.e. broken bones, injuries requiring long periods of disability, death and dismemberment)

2001 Press Room Injuries by Type

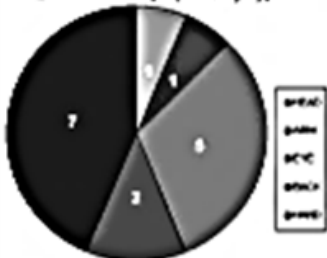


Total (plant-wide) lost man-hours due to injury for 2001 is unacceptable → 1550 hrs

Company objective is to reduce total by 50%. (1550 hrs → 775 hrs)

Significant hand injuries (requiring days off) are primarily from handling materials in an unsafe manner. Most injuries are occurring in Press/Fab/Assy areas where material handling is required as part of the job.

2001 Fab / Assy Injuries by Type



350 hrs of lost time were recorded in 2001 due to hand injuries. Hand injuries costs Goliath an estimated \$14,200 per year in lost man-hours.

Employee safety is one of Goliath's key company values and must be addressed.

Figure 2-35. Reduced Hand Injury Report – Problem Situation

TARGET/GOAL

Reduce sheet metal handling injury frequency by 90% over the next 12 months.

CAUSE ANALYSIS

PROBLEM: Employees are receiving cuts, scrapes, and abrasions while handling sheet metal.

MOST LIKELY CAUSE: Employees are not following "gloves required" policy when handling sheet metal parts or blanks.

WHY? For small or quick jobs when gloves are not handy, employees would rather risk getting a cut then expending the required effort to find a set of gloves to put on.

WHY? Lack of discipline to company policy

WHY? Human nature to take the easy route – perceived benefits outweighs the risk

WHY? No motivation to follow rules when it is not convenient to do so

WHY? Penalties for breaking rules are not being enforced AND/OR lack of sufficient reward for adherence to policy

ROOT CAUSE: Motivational issue → Employees are not motivated enough to expend the required effort to follow basic shop safety requirements when it is inconvenient to do so.

Figure 2-36. Hand Injury Target/Goal and Cause Analysis

COUNTERMEASURES

Clarify definitions and conditions for applying shop safety rules with Union representatives and shop supervisors. Rules may need to be reworded and reworked to reflect practical shop floor application.

Reward system will be implemented as a first step in lieu of increasing employee disciplinary action for failing to follow company safety rules.

Raffle consisting of a cash prize (suggested value of at least \$2,000) will be held at the end of the year. To maintain eligibility, shop floor members must:

- Maintain a clean personal injury record
- Not be caught failing to follow shop material handling and eye protection safety requirements

Employees would be encouraged to inform and watch out for each other throughout the workday. Once or twice a week, a randomly selected member of the supervisory staff would perform a 'shop patrol' walk to look for employee non-conformances.

Eliminated employees would be given the option to buy back into the raffle by making a minimum cash donation to a charity (to be determined).

Subsequent safety infractions after being removed from raffle eligibility may result in an employee write up.

Figure 2-37. Hand Injury Countermeasures

IMPLEMENTATION

To be implemented as a company safety initiative in conjunction with Union Plant Safety Committee Tracking is to begin for the abbreviated year, starting in March 2002.

<i>ACTION REQ'D</i>	<i>RESPONSIBILITY</i>	<i>DUE BY</i>
Project approval	President (Lowery)	Feb 8
Communicate A3 plan to Union Safety Committee for review, discussion, and roll out strategy	HR Employee Relations (Elzerman)	Feb 18
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Roll out details to Goliath managers and supervisors + shop employees (through team meetings)	Goliath Safety Representative (Ganci)	Feb 28

VERIFICATION and FOLLOW UP ACTIVITIES

Progress to be tracked monthly during Quality Systems Team meetings measurables tracking (Compare 2002 progress with 99 / 00 / 01 YTD safety data)

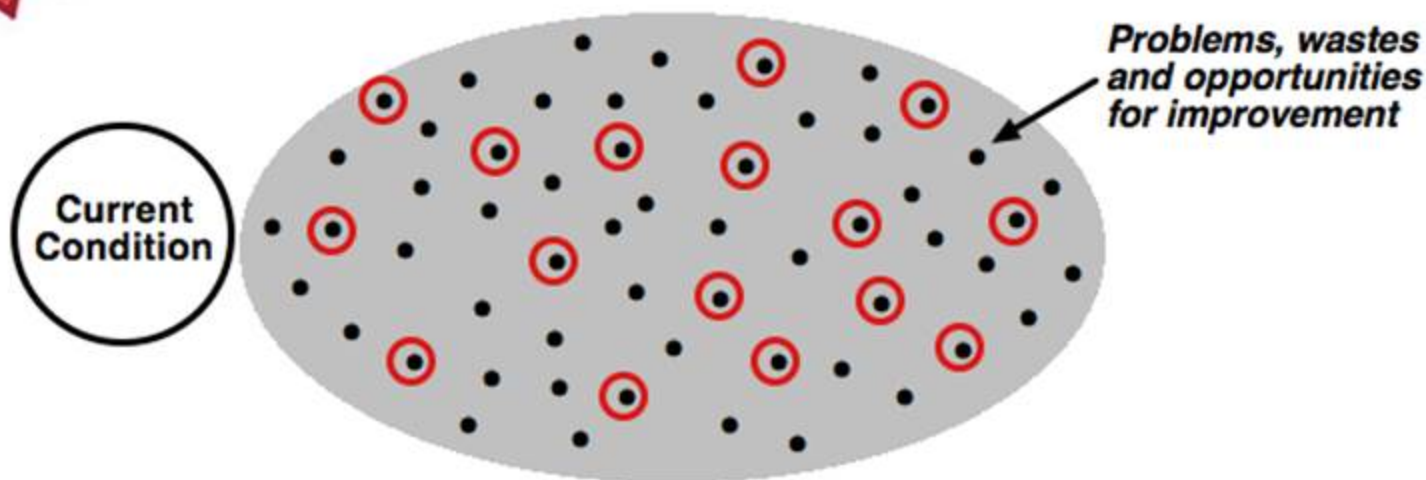
Informal survey of shop supervisory and managerial staff on a quarterly basis regarding shop safety improvement and compliance to shop safety rules.

Figure 2-38. Hand Injury Countermeasure Implementation, Verification and Follow-up



HOW DO WE TEND TO TRY TO IMPROVE?

We hunt for wastes or react to problems, and try to eliminate them



Like Stopping a Leaking Dam
by putting your finger into
one hole at a time



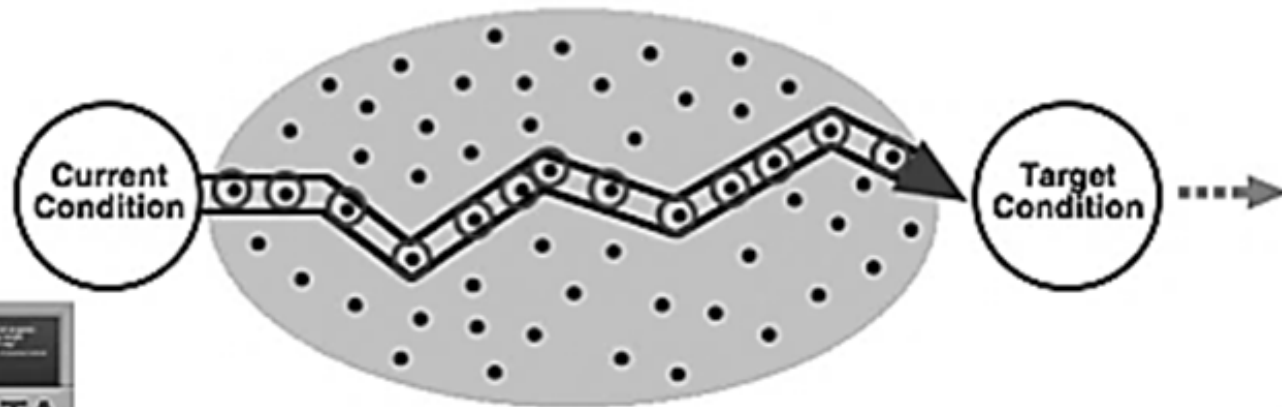
Source: Mike Rother

FIGURE 2-39: Hunting for wastes and reacting to problems is a losing battle



IMPROVEMENT THROUGH PDCA IS HIGHLY FOCUSED

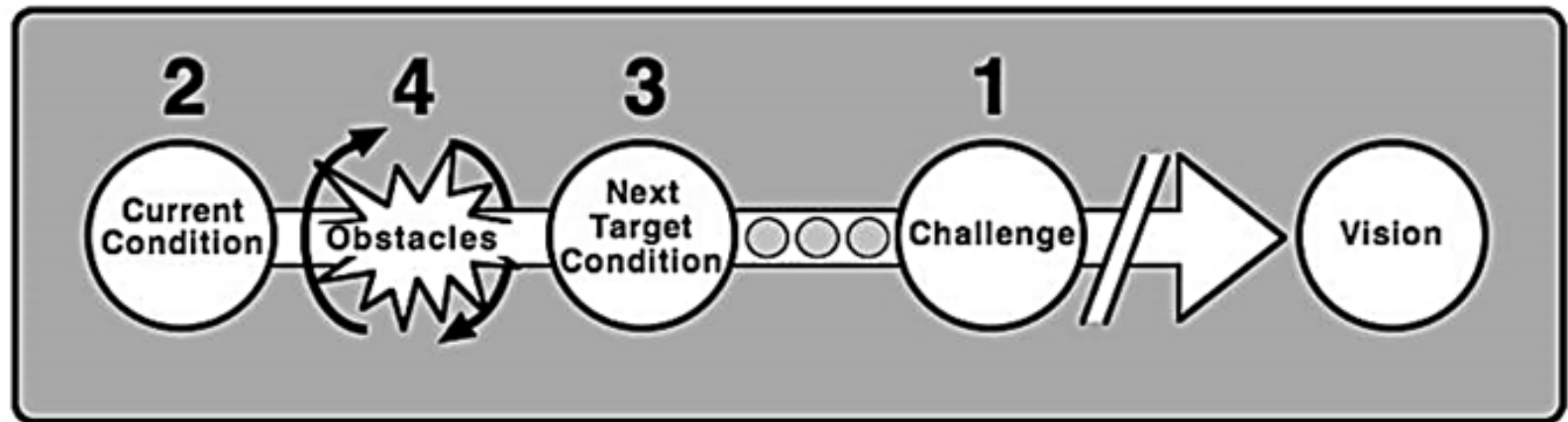
With the Improvement Kata you work iteratively toward a target condition, on the way to a challenge, learning along the way. You work on those things that you discover you *need* to work on to reach the next target condition.



Source: Mike Rother

Figure 2-40: The Improvement Kata is focused Experimentation toward a defined target condition

THE STEPS OF THE IMPROVEMENT KATA



Step 1: In consideration of a direction or challenge...

Step 2: Grasp the current condition.

Step 3: Define the next target condition.

Step 4: Move toward that target condition iteratively, which uncovers obstacles that need to be worked on.

Figure 2-41: The Four Steps of the Improvement Kata

Learner's Storyboard

<i>Focus Process:</i>		<i>Challenge:</i>
<i>Target Condition</i> <i>Achieve by: _____</i>	<i>Current Condition</i>	<i>PDCA Cycles Record</i>
		<i>Obstacles Parking Lot</i>

Forms available on the
Toyota Kata Website

<http://www-personal.umich.edu/~mrother/Homepage.html>

Figure 2-42: The Storyboard for Coaching the Learner of the Improvement Kata

1. Identify the Problem (Include Challenge and Current Condition)

Challenge Statement

Current Condition/Gap:

Learner:	Coach:	Date:
Process Characteristics	Current Condition	
1 Takt time		
Pc/t		
# of Shifts		
2 Process steps, sequence, times		
Batch size, Where WIP,		
# of Operators		
% exit cycle fluctuation		
Other observations about the current pattern		
3 Equipment capacity		
4 # of Operators (calculated)		
5 Actual output / shift		
Overtime?		

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2. Set a Target
(Define next Target Condition)

Process Metric	Outcome Metric
Process:	
Target Condition	Achieve By Date

Appendix: Forms

4. Propose & Test Countermeasures (PDCA Cycles Records)

PDCA CYCLES RECORD (Each row = one experiment)				
Date:		Process Metric		
Process:				
Step	What do you expect?	Result	Observe closely	What We Learned

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Appendix: Forms

COACHING KATA

The Five Questions

1. What is the Target Condition?
2. What is the Current Condition?
3. What Obstacles do you think are preventing you from achieving the target condition? Which "what" are you addressing next?
4. What is your next target? (next PDCA / improvement). When do you expect?
5. What can we go and see that will show we've made progress, that we've?

Think this back in the next session to discuss PDCA cycles.

Reflect on the Last Step Taken
Because you don't actually know what the result of a step will be!

1. What was your Last Step?
2. What did you expect?
3. What actually happened?
4. What did you learn?

Reflect

3. Analyze Causes (Perceived Obstacles Parking Lot)

OBSTACLES PARKING LOT

Use a label to indicate the obstacle currently being addressed

OBSTACLES

-
-
-
-
-
-
-
-
-
-

This is simply a place to record obstacles, which you may or may not address

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Appendix: Forms

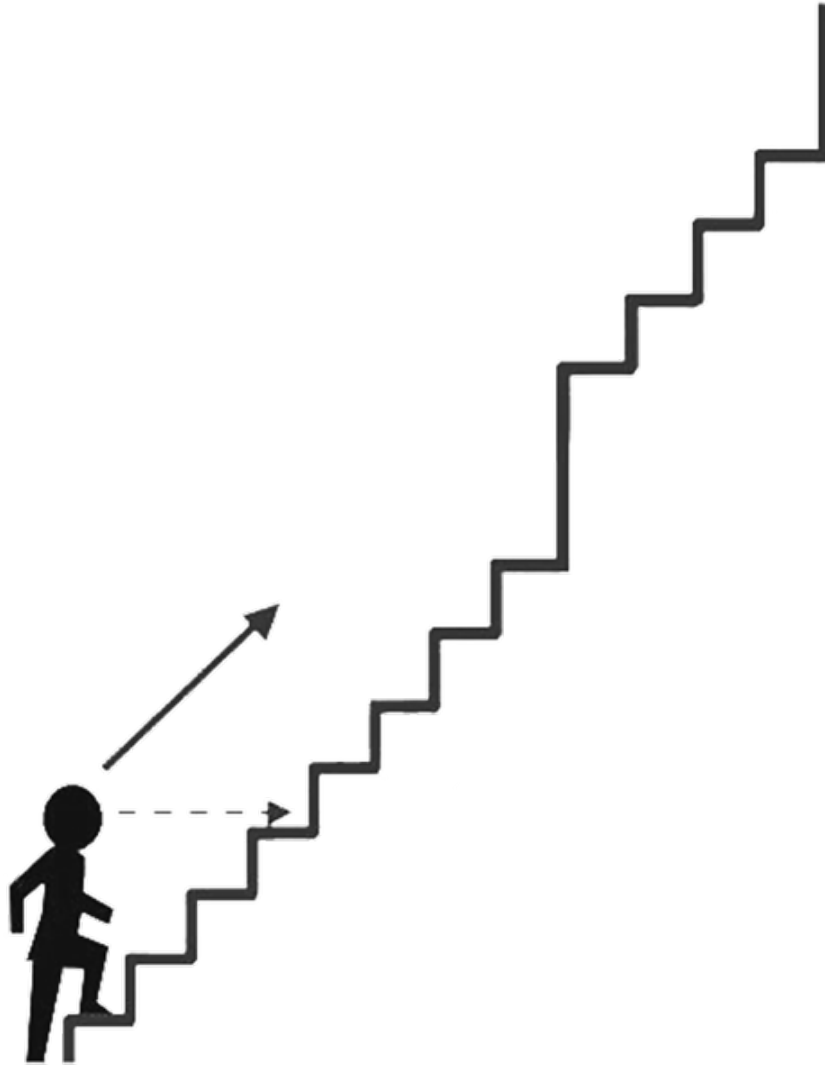
5. Check & Evaluate (Final results to achieve Target Condition)

6. Act/Standardize (Yokoten to share best practice)

The Check and Act Might Reflect on Achieving One Target Condition and Begin Planning for Next Target Condition

Source: Example by Jenny Snow-Boscolo

Figure 2-43: The A3 and the Improvement *Kata* can work together



Source: *The Toyota Way Fieldbook*
Figure 2-44. Climbing the Stairs Daily