

Developing Lean Leaders at all Levels: A Practical Guide

Chapter 6 Figures

Lean Leadership Development Model



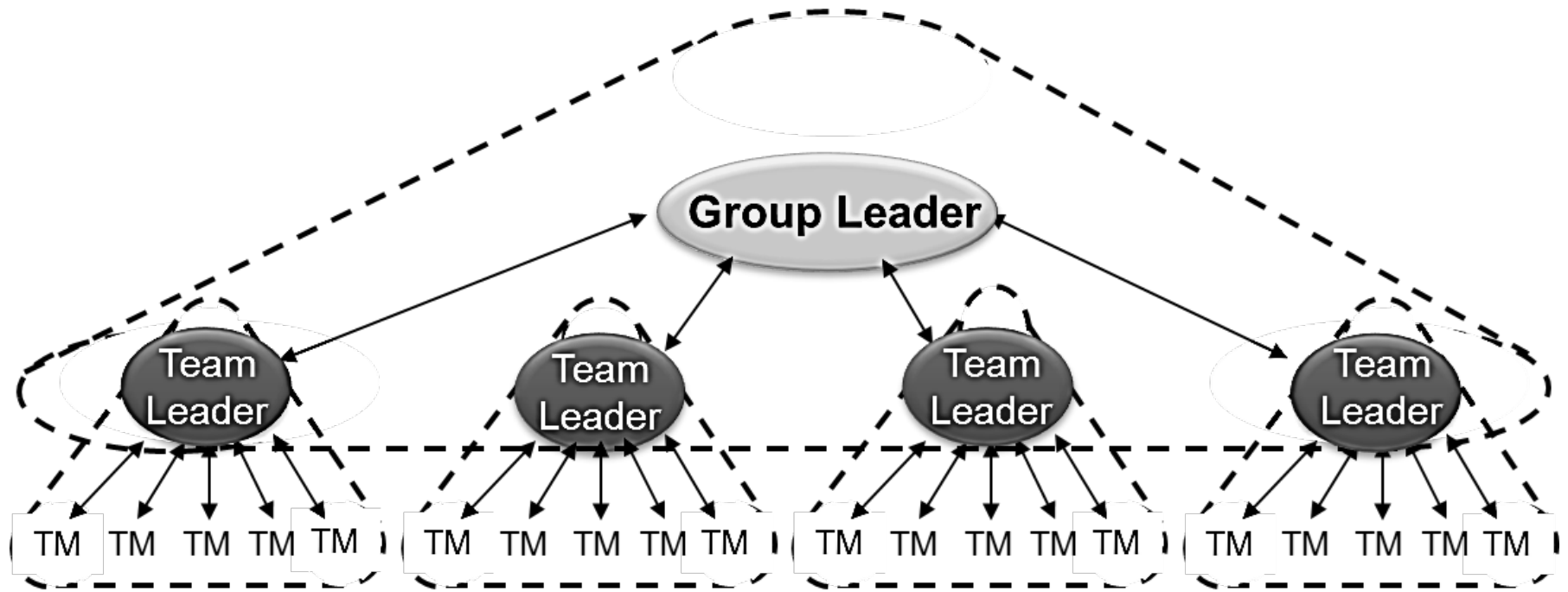
Figure 6-1. The Lean Leadership Development Model (The Diamond Model)

Use visual control so no problems are hidden

Used in the work environment and tells us
how work should be done and if there is a
deviation from the standard.



Figure 6-2. An empty kanban square is a visual signal to authorize production and in this case there is overproduction of one unit



Source: Liker and Hoseus, *Toyota Culture*

Figure 6-3. The Linkage between the Group Leader, Team Leader and Team Members



Source: Toyota plant

Figure 6-4. The Continuous Improvement Board



Figure 6-5. Dana Truck Parts Plant – Axle Subassembly Delivered Without Containers (Minomi)



Figure 6-6. Automated Guided Vehicles bringing Axle Subassemblies with no Containers at Dana

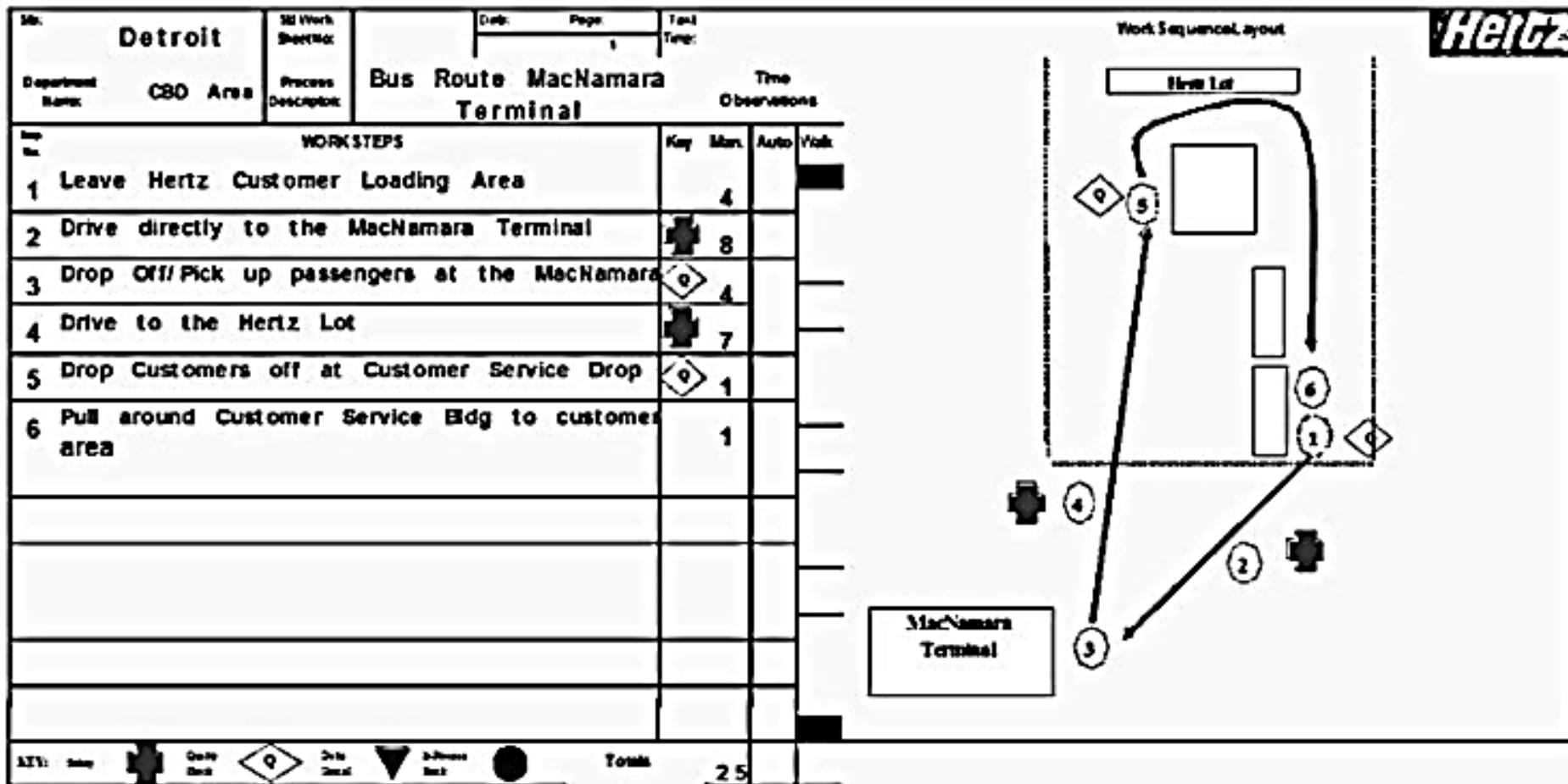


Figure 6-7. Hertz Bus Route Detroit McNamara Airport Terminal



WORK ELEMENT SHEET

Date: _____

Team Leader: _____

Sign of Manager: _____

Written By: _____

IMPORTANT STEPS

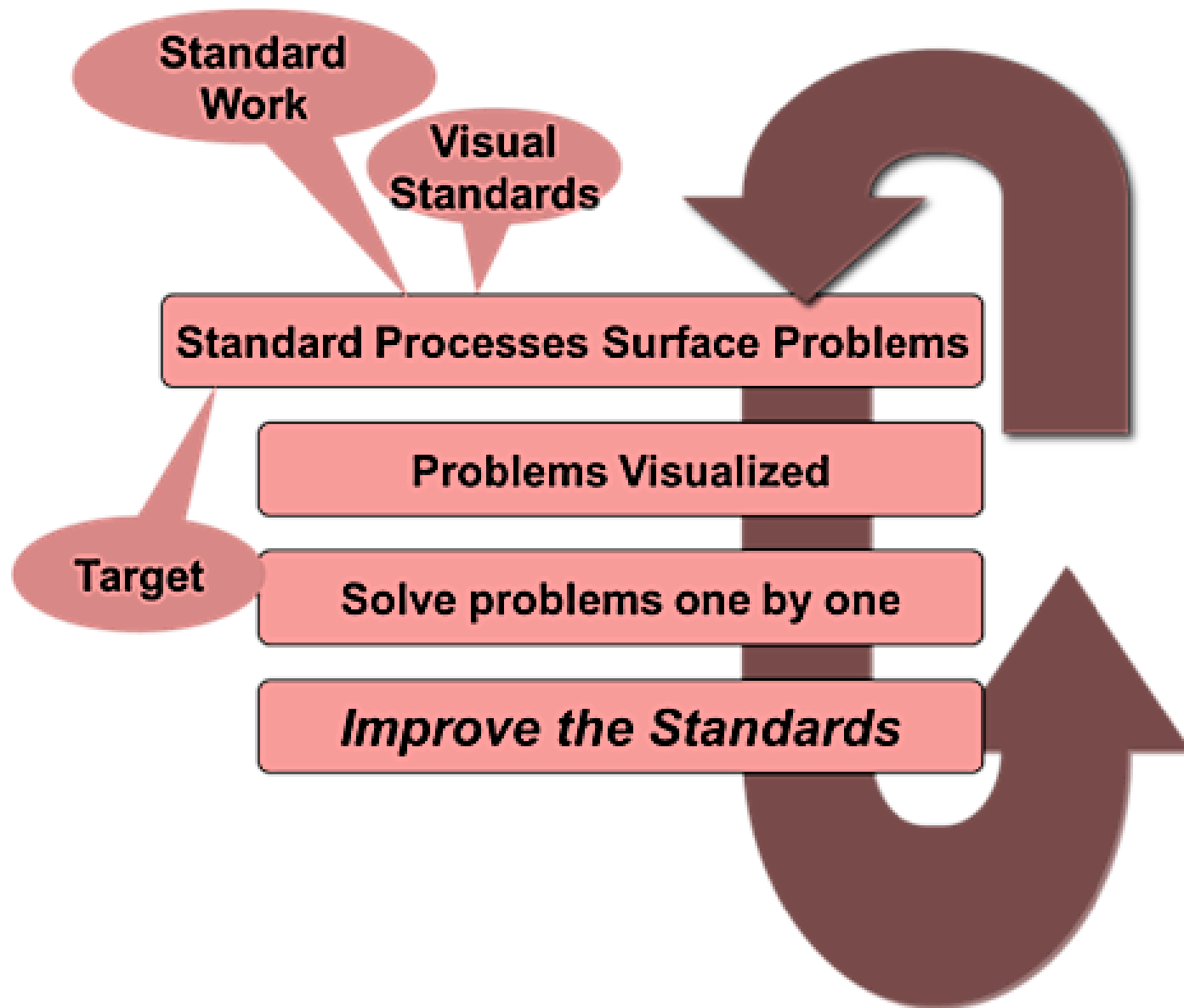
KEY POINTS

Safety: Injury avoidance ergonomics, danger points
Quality: Defect avoidance check points, standards
Technique: Efficient movement special method
Cost: Proper use of materials

REASONS FOR KEY POINTS

Step # 1	Leave Hertz Customer Loading Area	1) Play "talking bus" 2) Check Mirrors 3) Raise bus if lowered 4) Open gate using opener	1) Customer safety, destination, and luggage warning. 2) Watch for customers or traffic. 3) Prevent mechanical problems with bus. 4) Prevent bus delay and damage
Step # 2	Drive directly to the MacNamara Terminal	1) Obey traffic laws 2) Yellow light stop observance. Brake unless unsafe. 3) Watch for merging traffic 4) Obey speed limit 5) Play "talking bus" as entering the terminal.	1) Customer and Driver safety, as well as other traffic. 2) Michigan Traffic Law 3) Customer and Driver Safety. 4) Safety and Michigan Law. 5) Give the customer vital information.
Step # 3	Drop Off/Pick up Passengers at the Macnamara Terminal	1) Aid Passengers needing assistance 2) Watch for proper luggage placement 3) Watch for approaching customers 4) Close door and activate "talking bus"	1) Customer relations 2) Customer safety 3) Customer service 4) Customer information
Step # 4	Drive to Hertz Lot	1) Obey Traffic Laws. 2) Yellow light stop observance. Brake unless unsafe. 3) Watch for merging traffic 4) Obey speed limit 5) Play "talking bus" as reaching Point 5 6) Watch for traffic pulling away	1) Customer and Driver Safety as well as other traffic. 2) Michigan Traffic Law 3) Customer and Driver Safety 4) Safety and Michigan Law. 5) Give the customer vital information. 6) Safety of all concerned
Step # 5	Drop customers off at Customer Service Drop Off Area	1) Visually inspect to ensure all luggage taken off 2) Watch for customer before closing door 3) Watch for pedestrians and vehicles 4) Obey 10 mph Speed Limit	1) Customer does not forget something. 2) Customer safety 3) Safety and Vehicle damage 4) Hertz regulations
Step # 6	Pull around building to Customer Loading Area	1) Park in Designated Area if 2 buses are in loading area 2) Pull up to the Pick-Up Area as soon as it is open. 3) Lower bus (optional) 4) Leave Bus running	1) Customer relations 2) Customer safety 3) Customer service 4) Customer information

Figure 6-8. Hertz Bus Route Work Element Sheet



Source: Michael Balle

Figure 6-9. Lean Systems surface deviations from standard so we can solve problems one by one

MULTI-FUNCTION WORKER TRAINING SHEET





Name: Ron Coleman Section/Group: Frame Department Date: 8/15/2002		Process or Operation Name	Chop Saw (2)	Hpp	Glue and Dowel	Frame Clamp (2)	Prep/Inspect	Special	Busellato	Giben Panel Saw	Edgebander	Parts			REMARKS			
CAPABILITIES															Manpower Needs Performance Needs (Work Manner)			
Jan	Jun															Dec		
NUMBER	NAME	IDEAL NUMBER	4	6	6	6	6	6	6	6	4	4						
1.	Ron Coleman (Supervisor)		●	●	●	●	●	●	●	●	●	●	⊕	⊕		10	10	
2.	Eddie Day (Team Leader)		●	●	●	●	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕		3	4	
3.	Jeffe Goedde (Team Leader)		●	●	●	⊕	⊕	●	⊕	●	⊕	⊕	⊕	⊕		3	5	
4.	Bradley Alvey		⊕	⊕	⊕	⊕	●	●	⊕	●	●	●	⊕	⊕		2	4	
5.	Tina Brooks		●	●	●	⊕	●	●	⊕	●	●	⊕	⊕	⊕		6	7	
6.	Clark Campbell		⊕	⊕	⊕	⊕	●	●	⊕	●	⊕	●	⊕	⊕		3	4	
7.	Willie Coleman		●	⊕	⊕	⊕	⊕	●	⊕	●	●	⊕	⊕	⊕		1	4	
8.	Dennis Daniel		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	●	●	⊕	⊕		1	2	
9.			⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕				
10.			⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕				
RESULT OF TRAINING	Beginning of Year		3	3	3	1	3	3	2	3	5	3			 = 100% Performance  = 75% Performance  = 50% Performance  = In Training			
	Middle of Year		5	4	4	2	4	4	3	4	6	4						
	End of Year																	
Remarks	Job Needs (Production Change)	Increase orders 10% for the year													KEY			

Figure 6-10. Multi-Function Worker Training Sheet



Figure 6-11. Learning at the *Gemba*

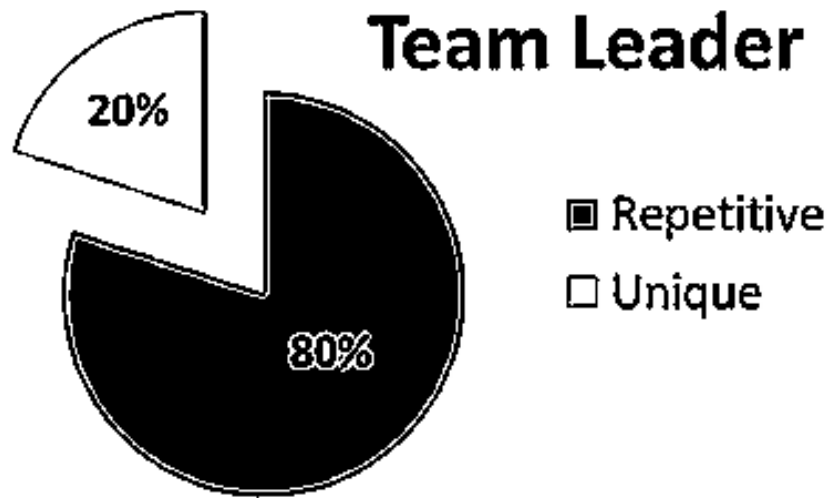


Figure 6-12. Theoretical Portions of Team Leader Work that are Unique and Repetitive

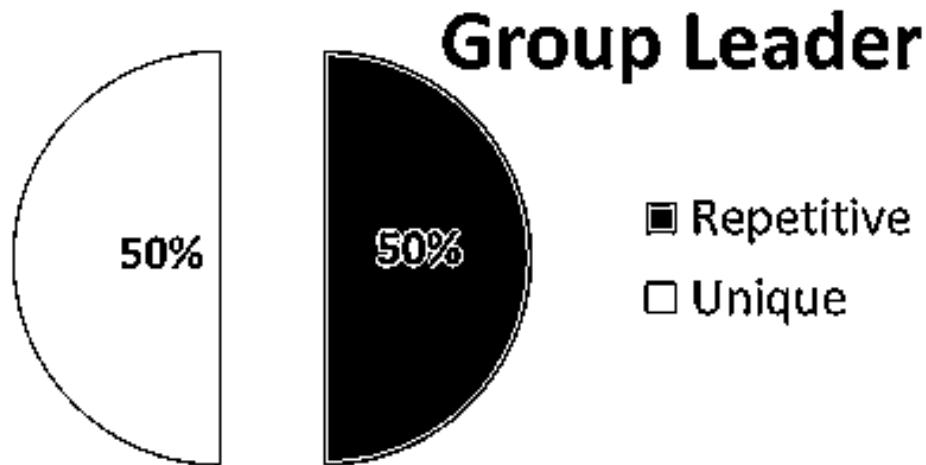


Figure 6-13. Theoretical Portions of Group Leader Work that are Unique and Repetitive

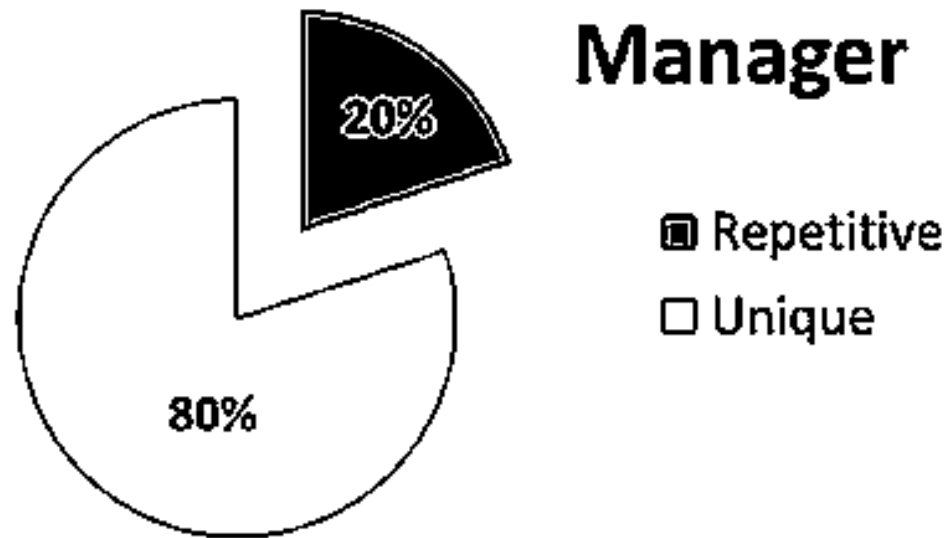
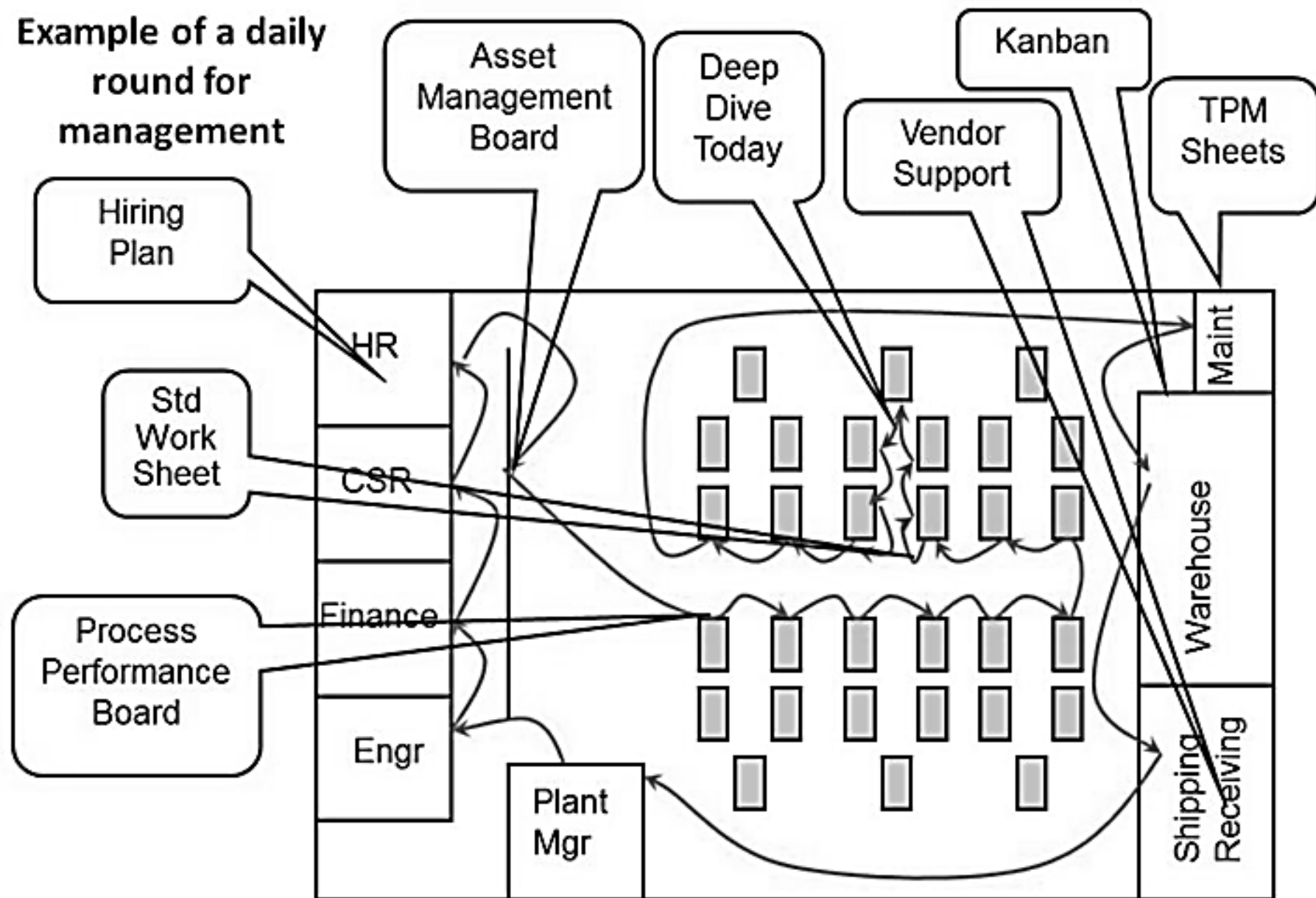


Figure 6-14. Theoretical Portions of Manager Work that are Unique and Repetitive

**Example of a daily
round for
management**



Source: Tony McNaughton, former Toyota Manager

Figure 6-15. An example of a daily *gemba* walk of a plant manager



Figure 6-16. A factory setting where all of the pieces are in place

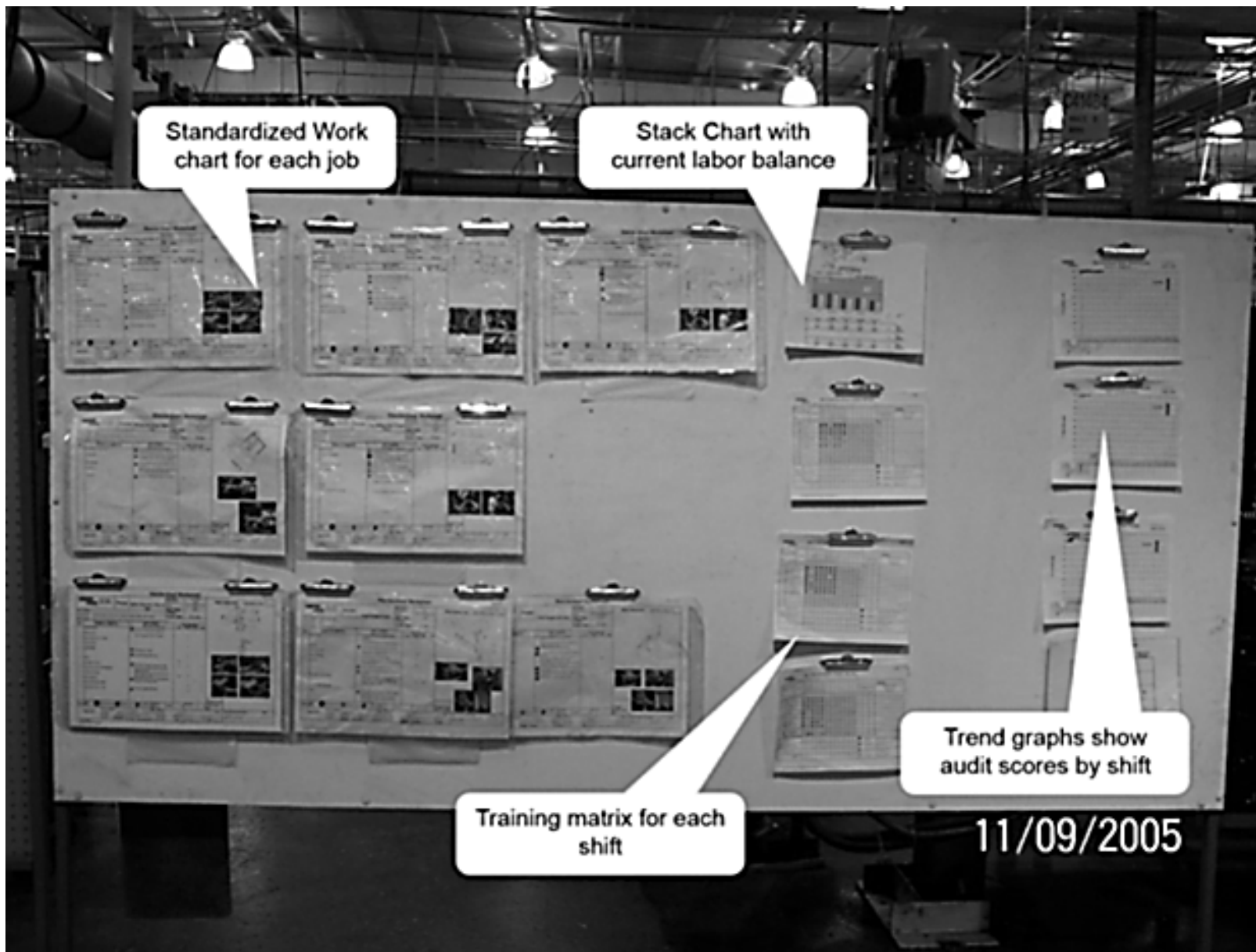


Figure 6-17. A Visual Standard Work Board

Standardized Worksheet

TENNECO
Automotive
for vehicles & SUV


One Team,
One Goal!

Process Final Melton And Thread Check

Part Name: 151-10002
Department: 001
Part #: P001 P001 V001 T001
Takt Time: 49 sec
Target Cycle Time: 49 sec

Tools & Mtrls: Thread checker
Components: short leg, long leg, 8 connector # 251001
Safety Equip.: Standard PPE: Headset including: Safety Glasses, Earplugs, Steel Toed Shoes, Leather Gloves, Stickers w/Logo

Work Sequence Total Working Steps: 35



No.	WORK ELEMENTS	KEY POINTS	Time Elements			
			Auto	Manual	Wait	Work
1	Thread Check	<ul style="list-style-type: none"> ◆ If threads are bad, tap threads then recheck with thread check 		4	4	2
2	Unload Final Melton	<ul style="list-style-type: none"> ◆ Lift part out of machine by the inlet and outlet pipe not by the connector ◆ Look for pinholes, burn through, missing web, rust, rolling scale, etc. 		3		
3	Load into Final Gauge	<ul style="list-style-type: none"> ◆ Just set the g. up in for the next operator 		4		4
4	Load Melton	<ul style="list-style-type: none"> ◆ Rotate connector to make bump pin switch light ◆ Locate outlet flange on pins ◆ Flange on the inlet must be pointed down 		12		4
5	Cycle		15	1		2

Sign-off approval by work leaders & supervisors all 3 shifts... finally VS Manager; i.e. A LIVING DOCUMENT !!

Key: Safety Tag (tag icon), In-Process Mark (circle icon), Quality Check (diamond icon)

Approvals:

Work Leaders: 1st shift (signature), 2nd shift (signature), 3rd shift (signature)

Supervisors: 1st shift (signature), 2nd shift (signature), 3rd shift (signature)

Target Cycle Time 49 sec

Date: 8/1/05
Value Stream Manager: Michael L. Angel
Date: 9/1/05

11/09/2005

Figure 6-18. Standard Work Sheet

Standard Work Audit Card

SWS CHANGE



Date: 12-6-04
 Operator: M. White
 Auditor: C. Burk

Work Station Description: Short Leg ASSY
 Department: 416

Yes No

Comments/Corrective Actions to No's

- 1) SWS is in correct place
- 2) SWS is up to date and approved
- 3) SWS is correct
(Does not need revision)
- 4) Operator is on training matrix
- 5) Work elements and Key points
are performed correctly
- 6) Proper sequence is followed
- 7) Amount of WIP is acceptable
- 8) Poke-Yoke(s) verified
- 9) Current level of 5-S is in practice
- 10) Are safety procedures understood
and being followed on the floor

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needs approval

op. brch parts @ floor

Other Comments

Percentile%

Figure 6-19. A Standard Work Audit Card

Current state of Daily Kaizen in your company?

1=Critical Gap, 2=Major Gap, 3= Some serious Gaps, 4=minor Gaps, 5=We are there

1. First-line Supervisors and Team members are organized into work groups.
2. Standardized work is present and updated regularly.
3. Standardized work is the basis for employee training.
4. Key Performance Indicators are visible to each work group with clear accountability for reaching challenging targets.
5. Engineering projects are viewed as long-term kaizen activities supported by team members.

Figure 6-20. Questions for Assessing Daily Kaizen