



Supervisor Standard Work

Who Uses Standard Work?

- Pit Crews
- Athletic Teams
- Airline Pilots
- Surgeons
- Military
- Hotels
- Telemarketers
- Everyone!

We all develop standard work in our every day life:

As Mark was walking down the dock to his fishing boat, his arm hit his phone, which was attached to his belt; the phone came off, hit the dock and fell into the water.

After that event Mark quickly developed his standard work:
Before entering the gate to the boat docks he removes his phone from his belt and places the phone in his pocket.

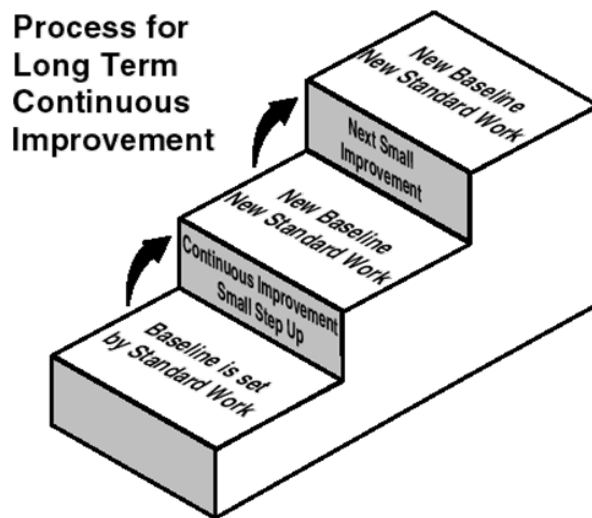
What is Standard Work?

By Standard Work we mean tasks are laid out in such a manner that any assigned supervisor, lead or operator, with a proper workstation and proper tools will complete the work required in the same amount of time, with the same quality, without risk to health or safety.



Why use Standard Work?

Standardized Work is the one **BEST** combination of people and machines needed to complete a task using the **MINIMUM** amount of time, materials, equipment and space while providing consistent performance of quality.



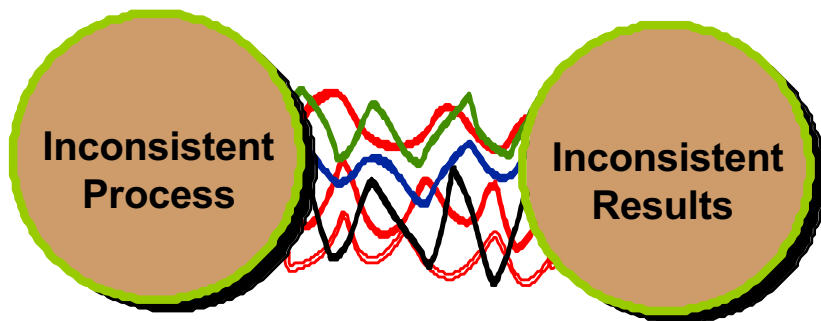
Standard Work:

- Supports the ***Value Stream Flow*** by reducing variation in how work is performed (worker consistency) and variation in ***Value Stream Performance*** (management consistency)
- Eliminates waste while increasing quality and decreasing costs
- Encourages employee involvement increasing safety and is the tool for training!
- Stabilizes working conditions, improving productivity by defining what is normal and provides a foundation for a continuous improvement culture

Standard Work Paradigm

Old Paradigm

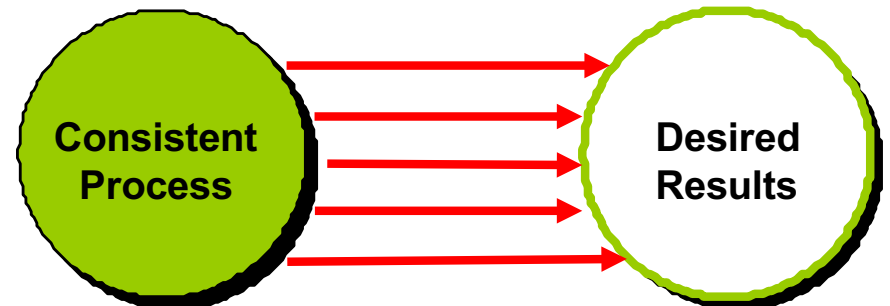
“I don’t care how you get the job done, just do it.”



Traditional Culture = People do whatever they can to get results

New Paradigm

Everyone does the job according to an agreed upon methodology



***CI Culture = People use a consistent process to get results**

*Continuous Improvement

Notes on Standard Work

- Standard Work is necessary for flow and focuses on consistent value to the customer
- Standard Work is not easy to create or sustain - **50% of CI work is creating standard work*
- Standard Work requires a 'Long Term' vision and is developed through leadership and education
- When work is highly defined and standardized, tracking the processes becomes easy.

Standardization of work is clearly mapping procedures

Three Levels of Standard Work

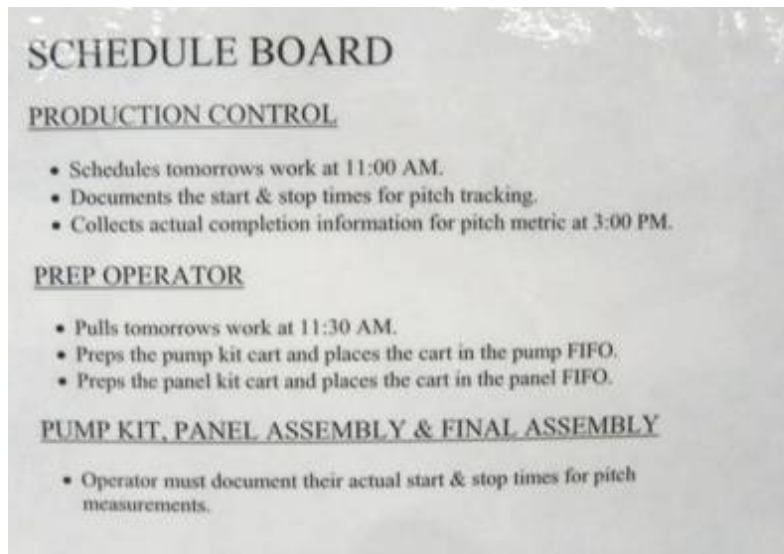
- **Management Level** - Standard work at the management level provides all the information required to *manage* the operation of the value stream at both the individual process level and across the value stream.
- **Process Level** - Standard work at the process level provides all the information required to complete the process.
- **Abnormal Level** - Standard work for the abnormal provides each and every employee the information to fix flow when it breaks down.

Management Level Standard Work

Management Standard Work

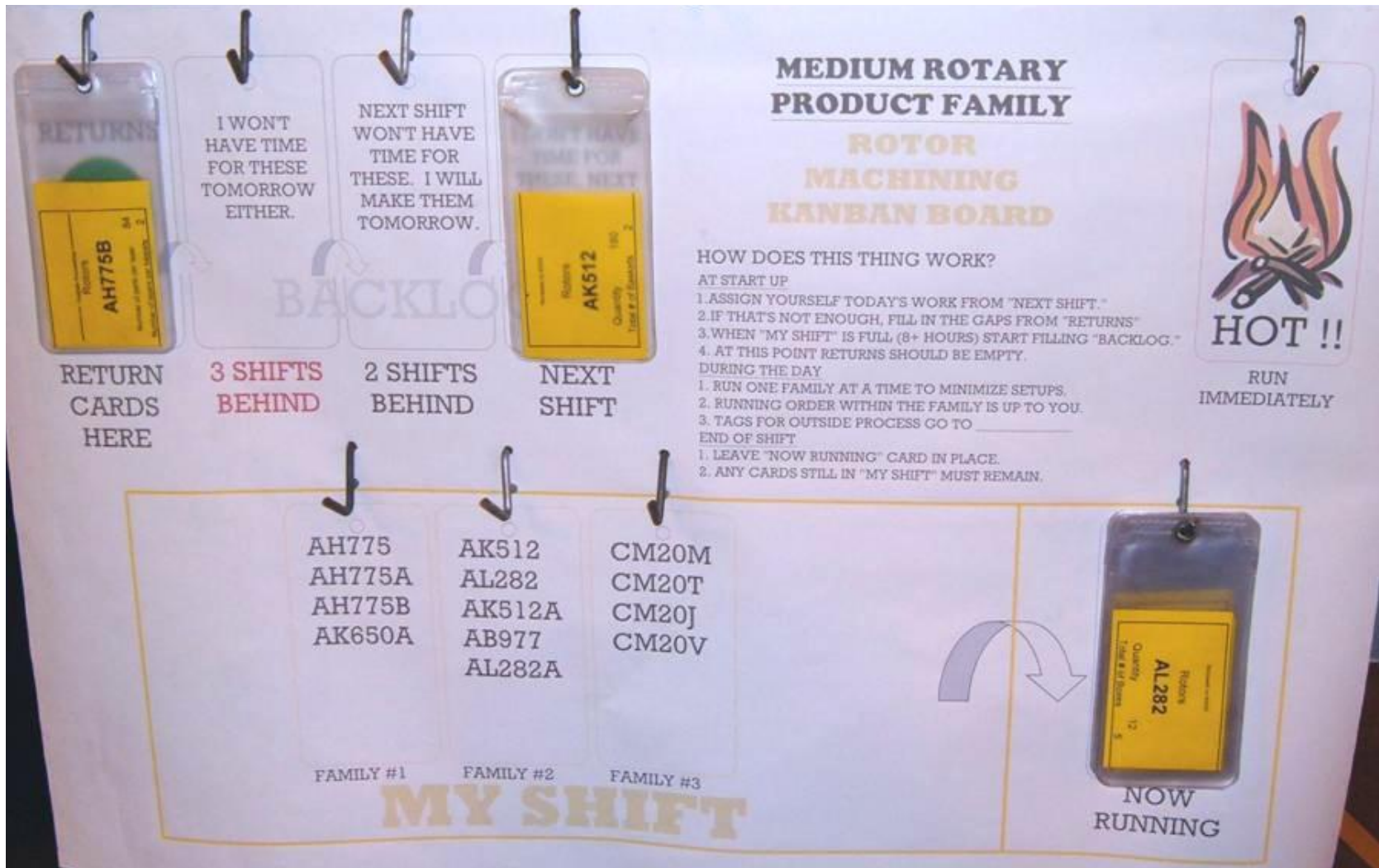
Examples:

- Standard work for how the pacemaker assembly is scheduled.
- Standard work for how kanban signals are scheduled at the fulfillment
- Standard work for how a FIFO operates.
- Standard work for Value Stream Walks.
- Standard work for Continuous Improvement Activities.



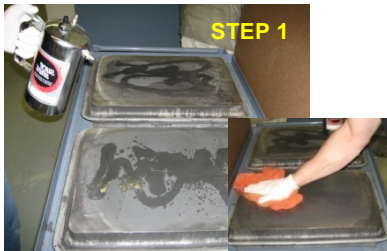
Standard work for the schedule /pitch board.

Management Standard Work



Process Level Standard Work

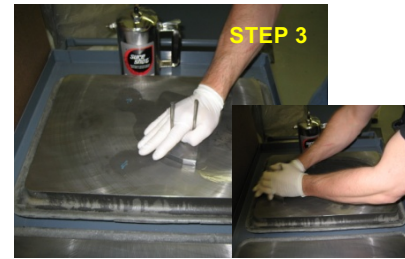
Process Standard Work



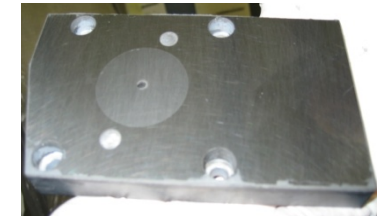
Spray the plate with Naphtha and scrub the Plate with a shop rag (*use separate rags for each plate*).



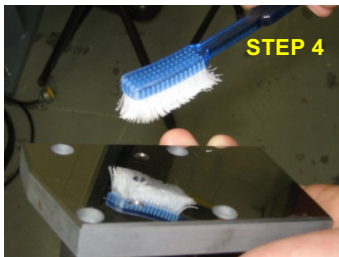
Charge the plate with diamond compound (*blue compound is 15 micron*); wet the plate with Naphtha (*use 15 micron lapping plate only when large scratches are present*).



Spread the paste then lap the tooling in a figure 8 motion (*Do not hold the tooling by the guide rods*).



Desired 15 micron finish.



Clean the tooling with methanol and a toothbrush to remove all debris and compound.



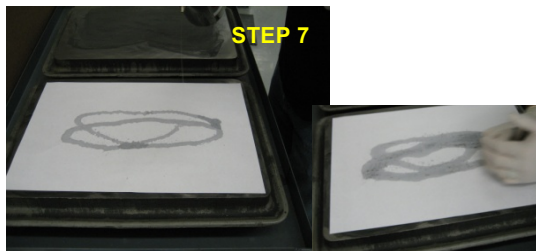
Dry tooling with compressed air



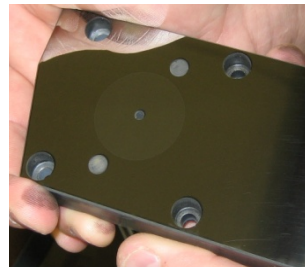
Charge the plate with diamond compound (*orange compound is 6 micron*); wet the plate with Naphtha; Spread the past then lap the tooling in a Figure 8 motion (*Do not hold tooling by the guide rods*).



Desired 6 micron finish.



Place 11x17 paper on 6 micron lapping plate. Wet with Naphtha. Lap the tooling in a figure 8 motion.



Desired final finish.

Major scratches require 15 micron lapping; follow steps 1-7.

Minor scratches do not require 15 micron lapping; follow steps 1 & 6-7.

FRIT VS: LAPPING DATE:

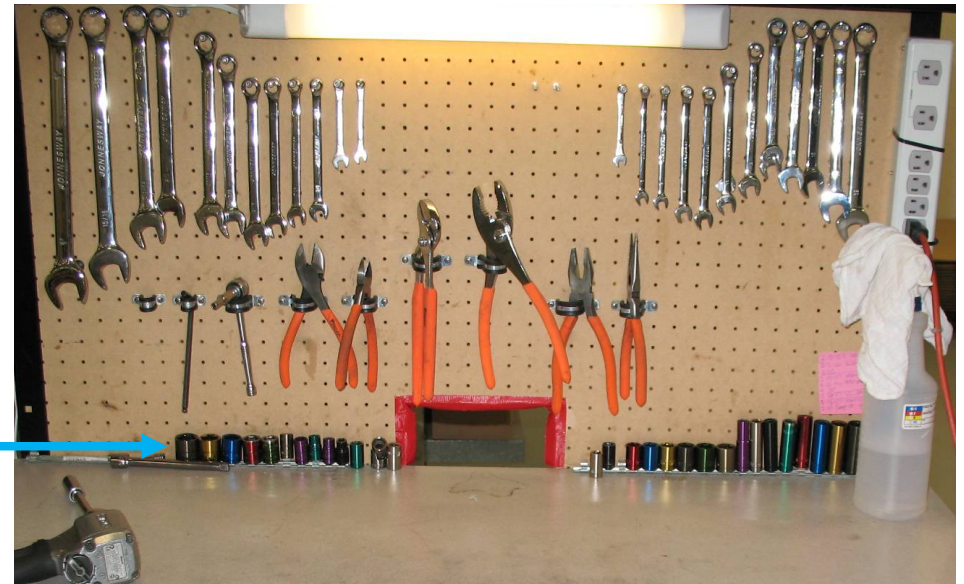
APPROVED:

Process Standard Work



Step by Step visual instructions that define the assembly process and provide the most efficient sequence build.

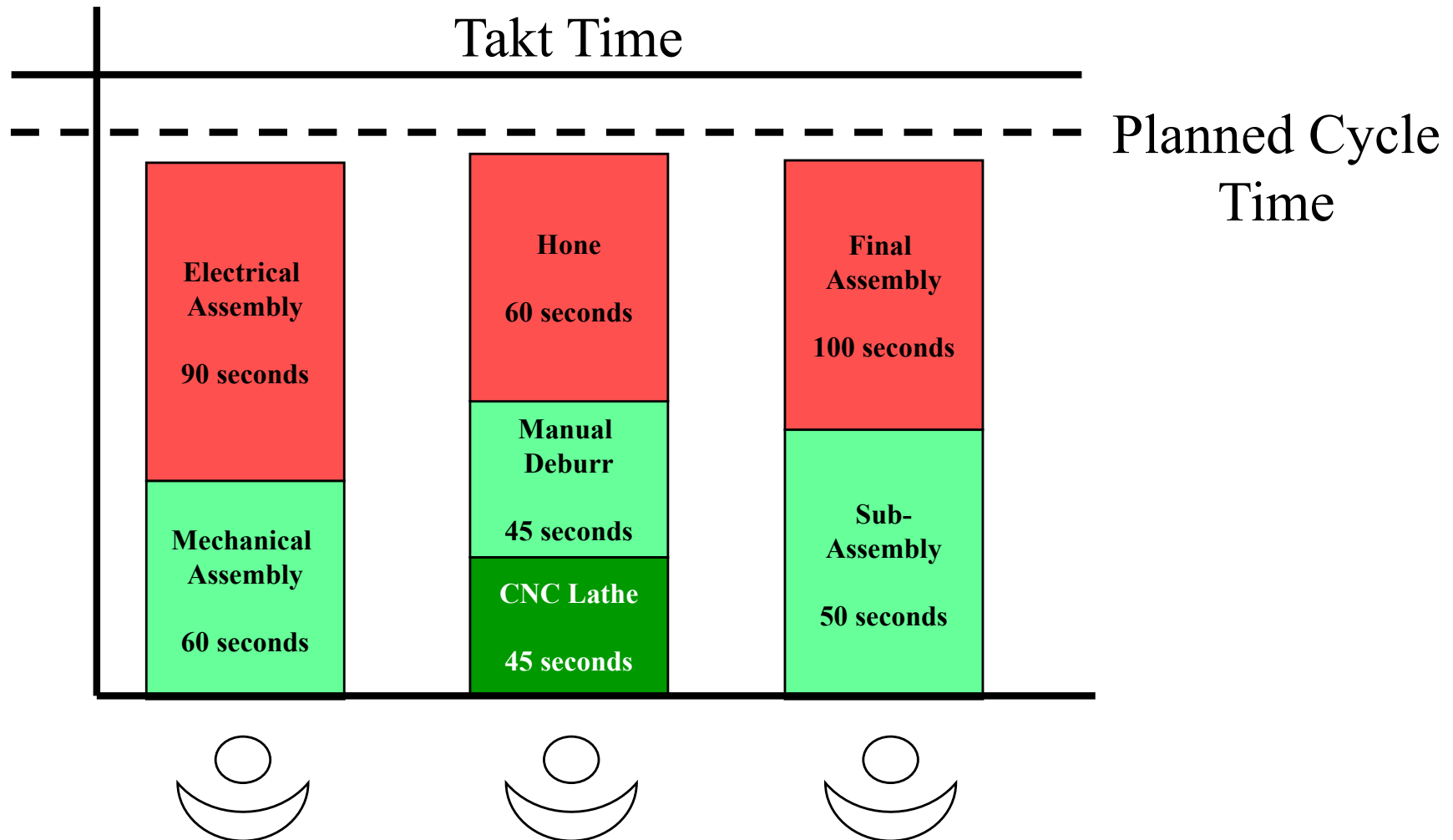
Sockets are color coded to make sure the correct tool is used according to the work instructions.



What are the benefits of visual Method Sheets to communicate standard work?

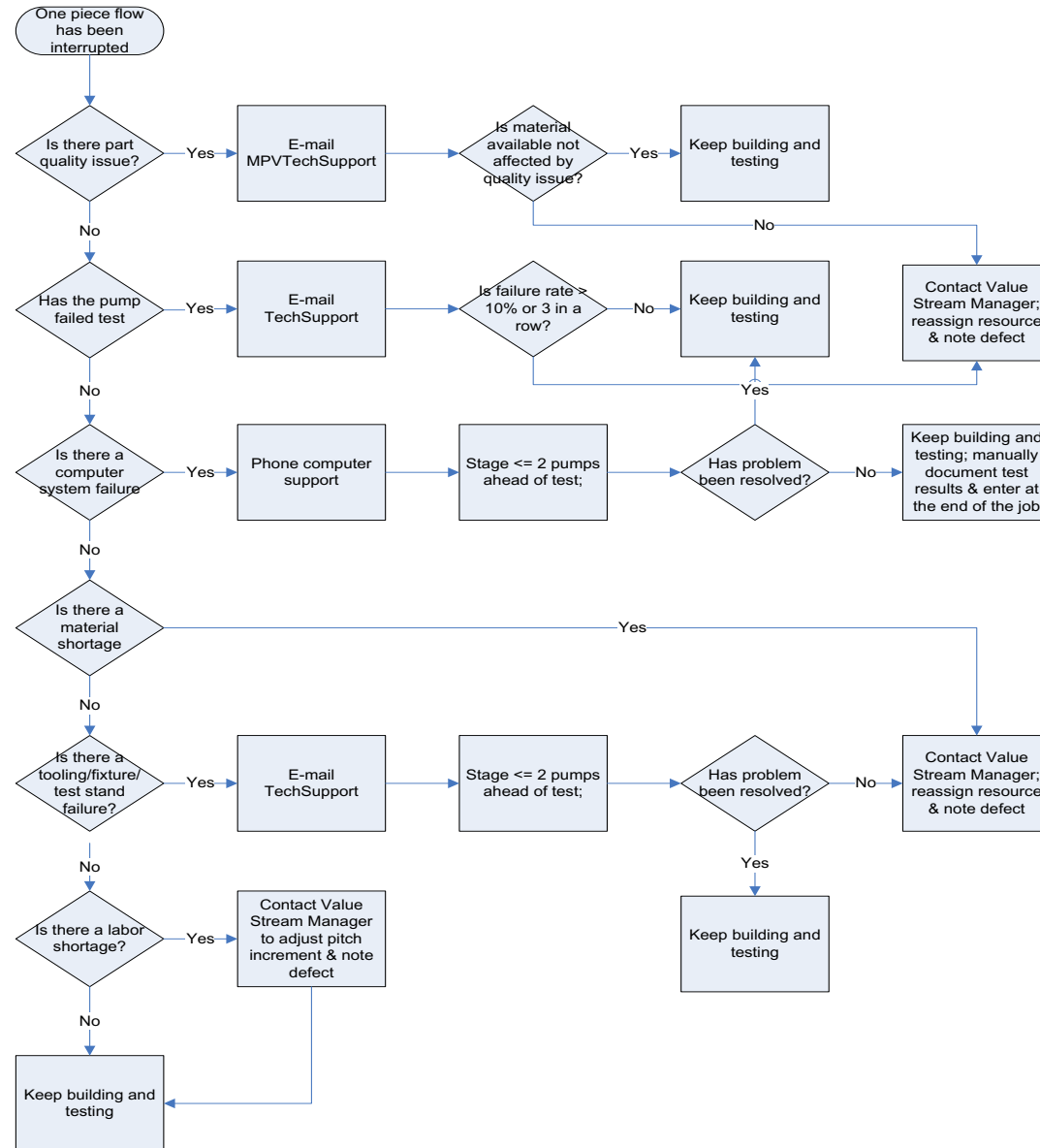
Balanced Standard Work

Process cells balance work between operators to optimize performance and avoid overproduction

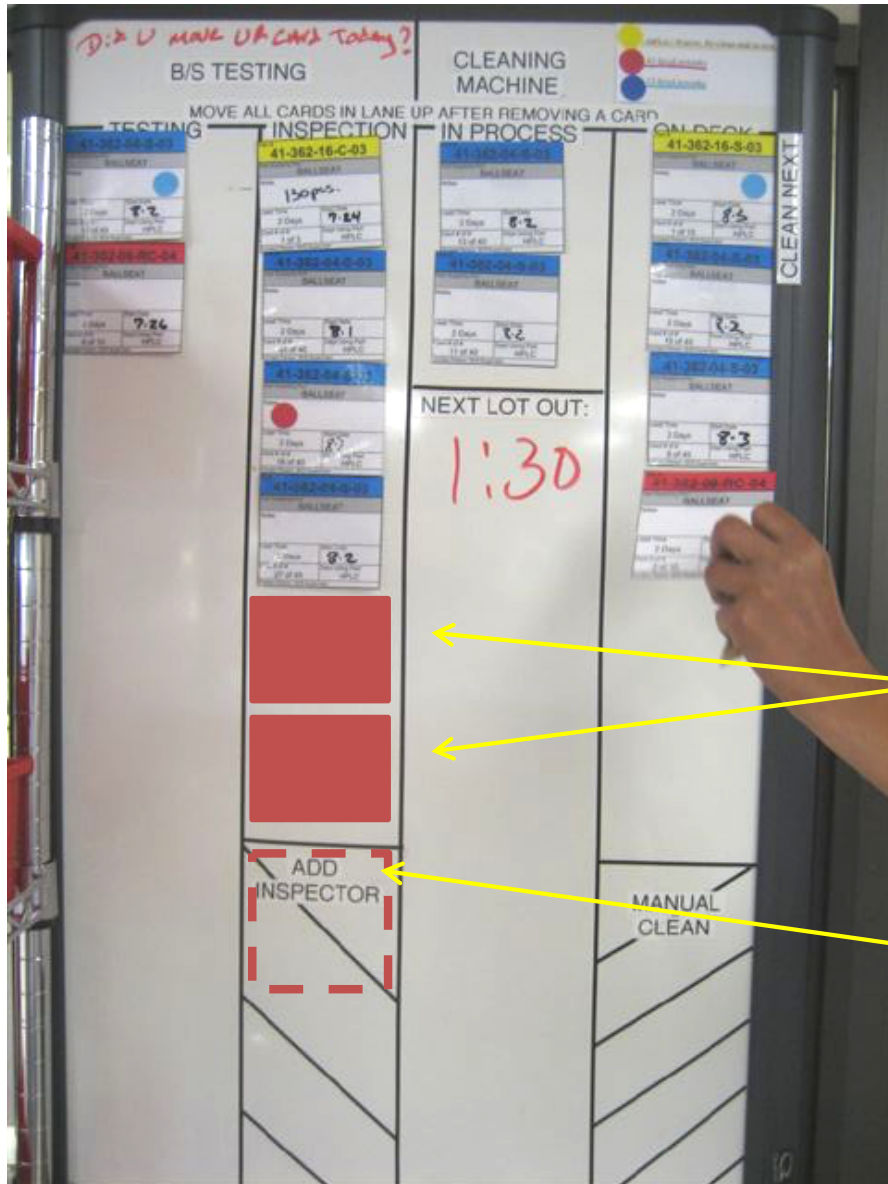


Abnormal Level Standard Work

Abnormal Standard Work



Abnormal Standard Work



Test & Cleaning (Machine) FIFO

As kanban cards arrive they are paced in the appropriate FIFO

When the cards exceed the inspectors threshold everyone can see an additional inspector is required

Abnormal Standard Work

This chart along with the color coded FIFO tells what the standard work should be for this area

Green	<u>Three (3) Wagons or Less</u> <ul style="list-style-type: none">• Run to Support Standard Work• Parts will be completed within 16 hours
Yellow	<u>Four (4) to Five (5) Wagons</u> <ul style="list-style-type: none">• Support will determine best course of action to move back into GREEN• Investigate bottleneck in process• Readjust flow for customer demand and takt time• Extend hours of support not to exceed one hour per day can be worked without management approval• Parts to be completed within 24 hours
Red	<u>Six (6) or more Wagons</u> <ul style="list-style-type: none">• Working leader will determine best course of action to move back into YELLOW• Investigate bottlenecks in process• Readjust flow for customer demand and takt time• Notify management of overload position• Extend hours of support, increase manpower, or source work to other areas

Standard Work Tools

Standard Work Combination Sheet

Used to:

- Visually display the best combination of operator and machine
- Provide adherence to Standardized Work in the cell
- Train operators
- Displays the sequence of steps for an operator

Development of Combination Sheet:

- Critical skill is learning to describe work in terms of both work content and key points (TWI).
- Work content and element descriptions tell how to do the job in simple and easy to understand steps
 - A fixed amount of work, a complete task.
 - It should have a defined start and stop
 - Something you can teach
 - Should always be performed the same way
 - Usually take the form of a Verb / Object
 - Attach 55 Muffler
 - Pack into Size 8 box using inserts
 - Install XY Bracket

[illegible]

Standardized Work Combination Sheet

Part No. and Name				STANDARDIZED WORK COMBINATION				Operator Number 1					
Work Sequence: Two Person Std. Work Station One				Date Prepare	5/1/2006	Quota per Day	55	Waiting	←→				
				Dept.	973	Branch Takt	20 Mins	Manual	---				
				<input type="checkbox"/> Minutes <input type="checkbox"/> Seconds									
Step No.	Operation Name	Man.	Auto.	Walk	OPERATION TIME								
1	Open Door and Blow off Part	7.25		0.00									
2	Check Part in Chuck, Groove Spline Bore, O.D.	10.43		0.00									
3	Part to Table and Blow Part off in Chuck for Loading	13.88		2.00									
4	Load Part into Chuck, Clamp, Tap, and Cycle Machine	22.88	438.00	0.00									
5	Move to Bench, Stamp Part Face, Deburr Face, and Move to 526	19.38		2.00									
6	Blow Part off, Move to Bench, Check ID	20.38		0.00									
7	Blow off Chuck, Load Part, Tap into PLC, Cycle Start	21.00	526.80										
8	Unclamp Collet, Blow Part Off, and Blow Fixture Off	17.63		0.00									
9	Part from Bench to Collet and Load / Cycle Start	8.38	700.00	2.00									
10	Unload part from Lapper	4.00											
11	Unload part from power wash	10.00											
12	Move part from Lapper to power wash and Cycle Start	6.00	480.00	3.00									
13	Spray part off after wash	10.00											
14	Move part from wash to Rust dip and cycle start	51.00											
15	Unload part from rust dip spray off and Load to FG basket	10.00		0.00									
		3.86	35.91	5.00									
		Mins	Mins.	Secs.									

Process description

Manual process time (operator time)

Automatic/machine process time

Walk time

Provides the sequence of operations and the standard time each step should take.

TWI Training Method

- Map the Process describing each unique step of the process
- Transfer the Steps into a method
- Describes how to perform the work by conveying important information on safety, quality, technique, and cost
 - How to use wrench properly for technique and safety
 - How parts fit together (top aligns with blue line on body)
 - How far to hold paint gun from item
 - How to attach labels so they “stick”
- State the Key points for each step which describes items such as special motions, special information, safe technique, etc.

Standard Work Requires Leadership

To be successful you need to:

- be clear in direction
- be focused on the goals and use rationale thinking
- be willing to let people make mistakes
- allow the teams to express their feelings openly
- allow honest mistakes without blame or reprisals
- give credit for their ideas, work and successes
- drive the process and methodology for creating standard work, not the solutions

Next Steps...

- Define the Supervisors standard work (owner – manager)
 - Map the supervisors process
 - Define the inputs and outputs each process step
 - Develop a visual indicator that displays when the step is not working properly
 - Make the process visible to the company
 - Standardized Work needs to be revisited and updated regularly
- Define the Lead Operators standard work (owner – supervisor)
 - Map the lead operators process
 - Define the inputs and outputs each process step
 - Develop a visual indicator that displays when the step is not working properly
 - Make the process visible to the company
 - Standardized Work needs to be revisited and updated regularly
- Define the Operators standard work (owner – supervisor)
 - Map the lead operators process
 - Define the inputs and outputs each process step
 - Develop a visual indicator that displays when the step is not working properly
 - Make the process visible to the company
 - Standardized Work needs to be revisited and updated regularly

Last Point...

If you don't create standard work for your people ...they will, and each will create their own standard work!