



MAGNET
Manufacturing Advocacy & Growth Network

Lean Manufacturing

The Eight Wastes

This course is part of the MAGNET online training series. Each course introduces a basic tool or technique that you can immediately use on the job to make real improvements at your company.

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Learning About “Lean”



This course will teach you some of the basics of what is known as “Lean,” a way to reduce waste in your work area and increase the value that your company provides to its customers

Waste causes many problems:

- o Waste forces you to work harder than necessary
- o It takes longer and costs more to make the products that your customers buy

Eliminating waste will make your job easier and your company more successful



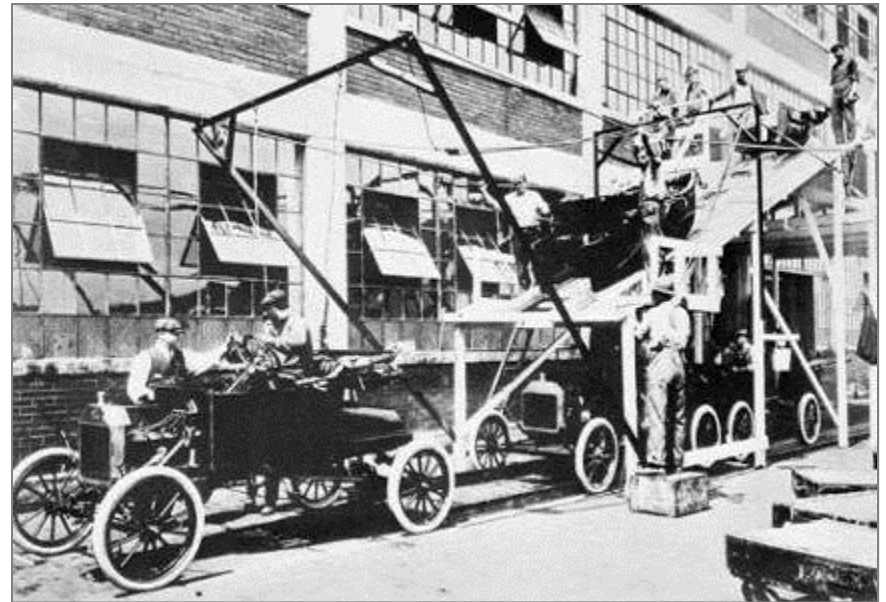
Introduction to Lean Manufacturing



“Lean Manufacturing” is a way to help products flow through a factory more easily.

Lean really started with Henry Ford and his automated assembly line. When products “flow,” they move with fewer interruptions, less delays, less mistakes ... with less waste.

The idea of lean manufacturing was born in the United States, but it was not until Japanese automakers began to successfully use lean practices that the value of Lean became clear.



Introduction to Lean Manufacturing



Today we know a lot more about how to make products flow through a plant than back in Henry Ford's day. You will be surprised at how much waste there is, and how you can help to eliminate it.



Defining Lean



Lean is actually a collection of different techniques and “tools”



Defining Lean



Lean focuses on the customer.

- o In a Lean facility, production schedules are created based on customer orders. You do not make something until the customer orders it.
- o In Lean talk, this is known as a “pull system.” Products get pulled through the plant by customer demand.

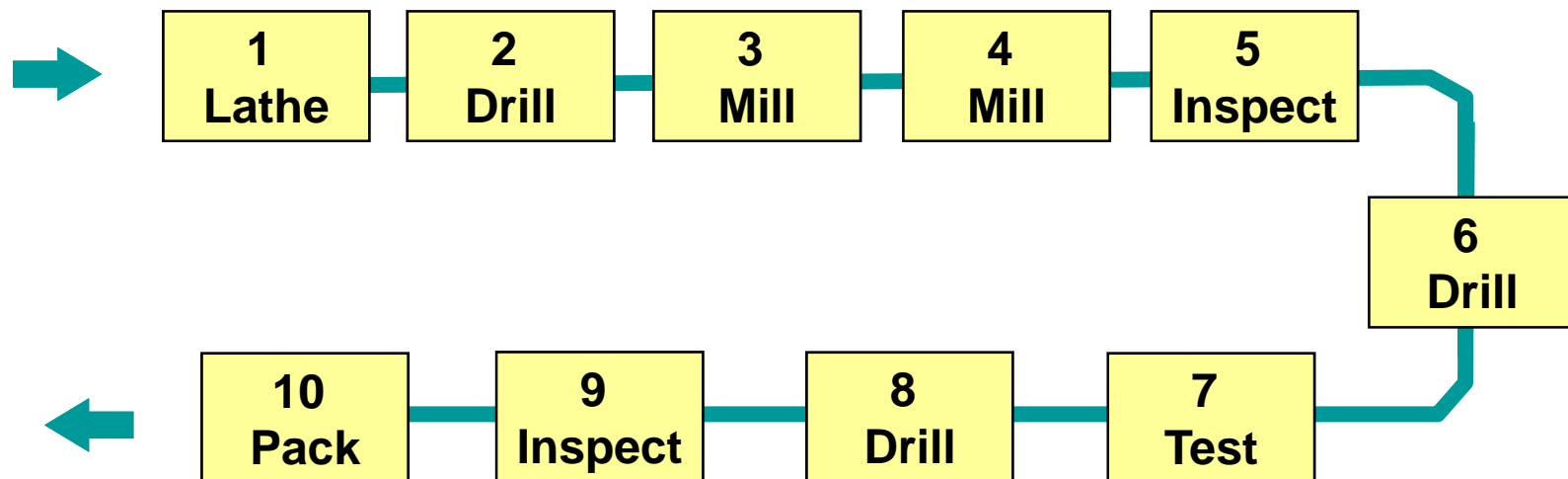


What is "Value-Added"?

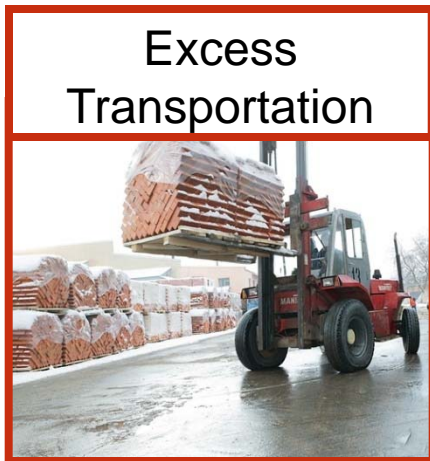
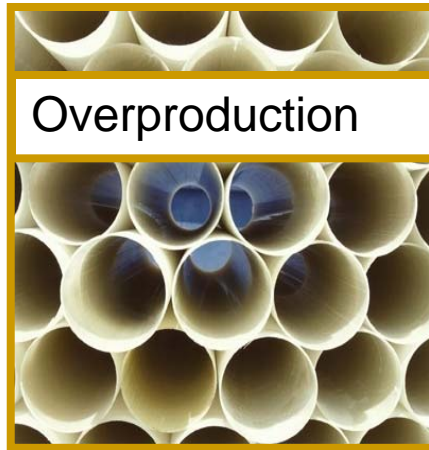


Value Added Activity: Increases the form, fit or function of the product or service. These are activities that the customer is willing to pay for.

Non-Value Added Activity: Waste ... and things that the customer does not want to pay for.



The Eight Wastes



Eliminating Waste Doesn't Mean "Work Harder"



Eliminating waste does not just mean making people work harder

- o Find things that you should not be doing
- o Improve the way your whole plant works so that everything you do adds value to what you make
- o It is not possible to eliminate all the waste

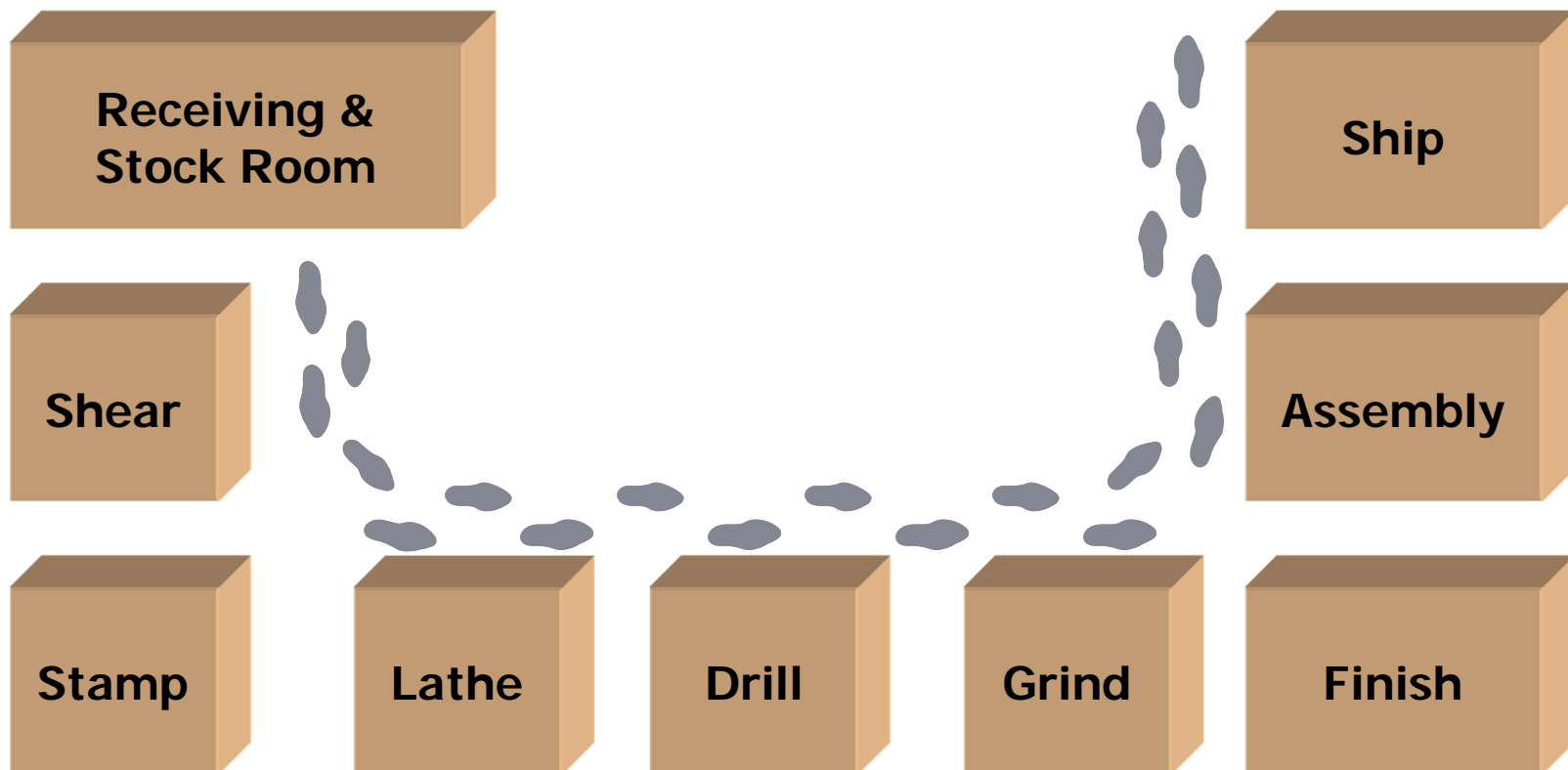
A lot of the waste in your plant can be eliminated ... or at least reduced



Take a "Waste Walk"




o You have learned about the eight wastes ... now it is time to look for them



Take a "Waste Walk"



- o Spend 10 - 15 minutes walking through your department or plant looking for each type of waste

Lean Manufacturing 
Waste Walk Form

Use this form to identify possible waste in your department or plant. Working with two or three other people, spend about 15 minutes walking through your manufacturing area looking for each type of waste. In the Observed column circle "Yes" for each type found. Use the Notes section to write comments about what you saw or improvement ideas. Each person in the group should complete a separate waste walk form, and then the group would spend five minutes comparing notes. After completing the form, review it with your supervisor.

Waste Type	Observed?	What to Look For	Notes
Defects	Yes / No	Inspection and analysis, rework operations, scrap, non-conforming products	<hr/> <hr/> <hr/> <hr/>
Overproduction	Yes / No	Making more, earlier or faster than next process requires, inventory between operations	<hr/> <hr/> <hr/> <hr/>
Waiting	Yes / No	Idle time created by waiting for equipment downtime, material, people, quality problems, information	<hr/> <hr/> <hr/> <hr/>

Click on the picture of the document to open and print a copy.

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Waste Type	Observed?	What to Look For	Notes
Defects	Yes / No	Inspection and analysis, rework operations, scrap, non-conforming products	<p>There's a bin of scrap parts next to the drill</p> <hr/> <p>Maybe we use the bits too long.</p>
Overproduction	Yes / No	Making more, earlier or faster than next process requires, inventory between operations	<hr/> <hr/> <hr/>
Waiting	Yes / No	Idle time created by waiting for equipment downtime, material, people, quality problems, information	<hr/> <hr/> <hr/>

Take a "Waste Walk"



- o Spend 10 - 15 minutes walking through your department or plant looking for each type of waste
- o After you are done with your walk, review your completed form ... and any ideas you have for improvements ... with your supervisor

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o Take your Waste Walk