

# CRAFTSMAN'S CRIBSHEET

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**55**

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## The Eight Wastes Found in Business and Manufacturing Processes

In "The Toyota Way," author Jeffrey Liker lists and discusses the eight non-value-adding wastes that can be found in business and manufacturing processes. These can be applied anywhere, not just on a production line. Here is a look at these wastes through the lens of our precision machining shop processes.

### Overproduction

Overproduction is producing items for which there are no orders. It causes overstaffing, additional storage and transportation costs and excess inventory. It can also produce spoilage of inventory. An example of this could be producing additional product on speculation and then a customer makes a modification to the design making those parts no longer suitable.

### Waiting

Workers idle for any number of reasons including delays, machine downtime, capacity bottlenecks and stockouts. Waiting is unrecoverable in that time lost can never be regained.

### Unnecessary Transport or Conveyance

Moving work in process, materials, parts or finished goods long distances or repeatedly into or out of storage add no value, can contribute to handling damage (dings and scratches on parts) and adds costs to operations.

### Overprocessing or Incorrect Processing

This is defined as unneeded steps to produce, or inefficient processing of parts. Overprocessing or incorrect processing are often the result of poor process design or skimping on tools. This usually creates additional waste in the form of unneeded worker motion. Overprocessing can also be caused by producing higher quality products than ordered, such as a ground surface finish where a standard as machined finish is acceptable.

### Excess Inventory

According to Mr. Liker, excess raw material, work in process, and finished goods can cause longer lead times, obsolescence, damaged goods, additional transportation and storage costs and delays. Experience has shown that excess inventory is typically a crutch used to cope with problems such as unreliable

suppliers, defects, equipment downtime, unbalanced production and long setup times. Excess work in process is a signal to look at adjacent processes for improvement opportunities. Excess raw material is a signal to look at supplier reliability and purchasing process improvements.

### Unnecessary Movement

Unnecessary movement is any wasted motion made by employees during the course of their work by looking for, reaching for, picking up and then putting down the wrong gage, moving material out of the way or walking. 5-S is a powerful means of eliminating unnecessary movement in our experience. (PMPA member Micron Manufacturing Co. determined early on in its lean journey that the largest portion of waste during a machine setup was wasted movement – outside and away from the machine.)

### Defects

Most of us already understood that the production of defective parts or scrap is waste. Mr. Liker reminds us that the costs to repair, rework, replace lost production and inspection are additional waste and costs to our shop as they involve additional handling, time and effort, for which we pay, but are not reimbursed by our customers.

### Unused Employee Creativity

This is perhaps the highest dollar cost to our shops as the penalty for failing to capitalize on the best ideas of our employees can keep us noncompetitive, stuck at an unsustainable level of production expertise and prevent us from taking advantage of opportunities where we could have been successful. Losing time, ideas, skills improvements and learning opportunities are how Mr. Liker defines this eighth waste. A more positive way of looking at this is to assure that all your employees are working at their highest and best use.

If you are in manufacturing, you really should study "The Toyota Way." It is like a Swiss Army knife of quality and improvement tools for your brain.

To purchase the book "The Toyota Way," please visit [short.productionmachining.com/toyotaway](http://short.productionmachining.com/toyotaway).

