The Waste of Motion

Overview of Module

Formally defined, any movement of people that doesn’t add value to the product creates the waste of motion.

There are many examples of motion such as reaching for tools or supplies, or searching for items that aren’t where they’re supposed to be… or perhaps searching for items that have simply never been given a permanent home, or straining to reach or lift items off the ground.

What Causes Motion?

- First and foremost, poorly designed processes often lead to motion as they are not designed with the operator in mind.
- Second, the lack of standard work methods also leads to motion since the work is never done in a consistent way.
- Third, poor work area layout and design is a huge cause for motion. Things as simple as the placement of a community printer can have a huge impact on how much motion, in this case walking, employees are forced to deal with on a day to day basis.
- And last, but certainly not least, disorganization and clutter are strong enablers of all kinds of waste, including motion.

The Costs of Motion

As it turns out, in a disorganized workplace the average person can spend approximately 30 seconds every 5 minutes searching for something. So this is 30 seconds out of a total of 300 seconds, meaning 10% of the total time.

In other words, over a 450 minute shift, this means we can waste as much as 45 minutes searching for things. So, it’s safe to say, the waste of motion is a huge productivity killer.

Other studies have shown that as much as 30 to 80% of all manual work is nothing but motion which is why, when we conduct SMED or set-up reduction kaizen events, attacking motion is a top priority.

And because of all this motion many companies are plagued with long changeovers which means they often produce large batches of inventory once they get a machine set-up.
Tools to Battle Motion

- The first tool we can use, and something we covered in great deal in a previous course, is 5S. Please review the 5S Workplace Productivity Course for more information on 5S.
- Another powerful tool we can use to battle motion is the time observation chart that allows us to document the detailed steps to a particular process. By doing this we’re able to see where we have wasted motion which in turn allows us to eliminate it. We’ll be covering how to use time observation charts like this in a future course… in the meantime if you have any questions or would like some coaching on how to use it please email us or post a question in the forum and we’ll be happy to help you out.
- Another powerful motion fighting tool is a workflow analysis also called a spaghetti diagram. A spaghetti diagram is simply a sketch, often hand drawn, of the walking and motion involved in a particular process. In this example a person was measured to have to walk 229 meters for this particular process.

5 Steps to Reduce Motion

1. The first step to this recipe is to get rid of the things you no longer need
2. Then you should focus on bringing the items – which could be tools or supplies you need on a regular basis – close to you. We call this bringing things to the point of use.
3. The third step is to make sure you use both hands while utilizing fixtures whenever possible.
4. Fourth you should focus on simplifying the way the work is done… in other words work to reduce the number of steps or movements made.
5. And finally, we must pay special notice to safety and ergonomics. So let’s get back to Isaac and see what improvements he and his friends have come up with. As you can now see with a few small changes, namely moving the air gun closer to him and placing the finished parts closer to him a tremendous amount of motion has been removed from the process. I feel very confident in saying, that while this was a simple example, I imagine you will find many areas in your organization that will greatly benefit from simple improvements like this one.