TPM Overview

Total Productive Maintenance, or TPM, is a method to achieve maximum equipment effectiveness through total employee involvement. Done correctly, TPM involves all associates including but not limited to management, operators, engineers and maintenance staff.

With this said, a key principle we want to stress is that TPM is NOT just a maintenance responsibility or a maintenance program. Instead, TPM requires close and deliberate teamwork among all associates.

Now there are many reasons why TPM is so important to any organization serious about authentic continuous improvement.

First, at its core, TPM is all about increasing the efficiency of your operation by ensuring your equipment is safe, available, and working correctly when you need it. As such, lead times are predictable and you’re able to deliver exactly what you promise your customer.

Next, TPM is all about collaboration and teamwork across all levels of the organization... as such, it will strengthen morale and cooperation as associates learn to work in harmony with one another instead of pointing fingers and blaming each other when things go wrong.

Finally, TPM will save your organization a tremendous amount of money as unplanned, reactive maintenance declines and planned, pro-active maintenance increases. Mike will share specific examples later in the course but research shows that the total cost of unplanned breakdowns can be devastatingly high when compared to the short time equipment is taken offline for scheduled maintenance.

OK, the last TPM topic we’d like to introduce in this overview module is what we call the 6 big losses. Mike’s going to introduce a powerful metric called Overall Equipment Effectiveness, or OEE, which allows us to quantify the 6 major types of equipment losses.

The first type of loss is breakdowns. These are times when equipment breaks down and isn’t available when we need it to be.

Second, setup and adjustment losses occur when we’re working to prepare equipment to run a different type of product. As an aside, we cover how to attack this problem in the Gemba Academy Quick Changeover: The SMED System course.

When combined, breakdowns and setup/adjustment losses make up what we call Availability losses.
The next two types of losses are **minor stoppages** and **reduced speed**. These losses occur when our equipment stops from time to time or when we have to slow equipment down in order to produce good parts. Together, these two types of losses make up what we call **Performance losses**.

Finally, the last two types of losses are related to **quality**. First, **rework and defect losses** occur when our machines produce bad parts. These are especially devastating losses since the time the machines spent producing the bad parts is wasted and chances are good that the machine will have to spend additional time reworking the part or producing a new part altogether. And finally, **startup yield losses** occur when parts are being tweaked and perfected as production gets started.

As it turns out, many organizations who think they lack capacity soon discover that they have more capacity than they actually need once they’re able to reduce these 6 big losses. As a result they can win more business at a lower cost.

Now, throughout the rest of this course we’ll discuss how to attack these 6 big losses through the deployment of a focused and disciplined TPM program.