

## Setup Time Reduction

### Auditing the Start Up After Changeover and Overcoming the Resistance

#### Part VIII

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Last month's article examined the fourteenth and fifteenth steps in setup time reduction, (14) Eliminating tape measures and dial indicators and (15) Making the setup one touch. This month's article continues this important series with (16) Auditing the Start Up After Changeover and (17) Overcoming the Resistance.

#### Step 16 - Auditing the Start Up After Setup

Your goal in reducing setup time is to setup more often. Because of this, reliability of the setup is most important. A fast setup and a slow start up is not the result desired. A fast setup and a fast start up is the result desired. An audit of the start up after setup will help ensure you get the benefit expected.

#### Identifying your setup expert

Some companies have designated setup employees who are their setup experts. Others will want to identify their operators who seem to be the best at setting up to help develop their procedures for setup and review improvements to the setup documentation. In some companies, you may have your manufacturing or industrial engineers become your setup experts. It is important that the setup expert be respected by other employees, especially operators. Setup experts are a resource for improvement in setup time.

#### Selecting the auditor

The purpose of the audit is to identify any reason for stoppage after the setup. The auditor should be unbiased and record every occurrence. Typically the auditor is not the setup expert. The auditor could be anyone that is available during start up. As the auditor watches the start up, a record should also be kept of what was done to solve the problem. This record can then be analyzed by your setup experts to determine what should be done differently in the setup to eliminate the cause of stoppage after future setups.

#### Causes for stopping

Any solutions during start up that include changes to items that were changed during setup should be noted and the change documented as completely as possible. For example, if the feed rate was set during setup, and was changed during start up, the audit should identify the feed rate that was finally set and the setup experts should document that feed rate in the changeover documentation and use that feed rate for future setups.

#### Adjustments during startup

In some cases, the machine is not stopped while adjustments are made during start up. These adjustments should be recorded the same as stopping. The final adjustment is the one that should be recorded and become the standard for the next setup. In the real world, there may be disagreements between the operator and the setup expert as to the best settings. Adjustments after setup should never be done based on opinion alone.

Your goal is to start up after a changeover with no stoppage or adjustments. If the operators disagree with the settings, then they should be able to work this out with the setup expert. If they are unable to resolve which setting is best, a trial can be conducted in which both settings are tested. The one with the better results should be the one used during setup and run.

#### Updating the documentation

While the setup documentation should be updated whenever necessary, it should not be updated based on the opinion of one individual when others disagree. Likewise it is unnecessary to have extensive discussions or meetings before your setup documentation can be improved. Keep it simple with agreement before updates and you should find your setup documentation current at all times. Part of your documentation should include baseline settings.

#### Baseline settings

Baseline settings are known locations and reference points that can be used during setup and run. You should maintain a document with these base line settings to be used as reference locations and set points. These baseline settings may not need to be referred to during every setup, but should be used when developing documentation for a setup. Baseline settings should not be changed very often.

#### Step 17 - Overcoming the Resistance

*Beware the naysayers, they may kill your improvement potential!* It seems that every company who embarks on reducing their setup time will meet some resistance from a few of the employees. Fortunately, the resistance comes from 1 or 2% of the employees, but it is surprising how much impact they have. If you are going to achieve world class levels of setup time reduction (95% to 98% reductions), you are going to have to eliminate the resistance. Your best plan is to expect the resistance and overcome it as soon as it appears.

#### Frequently heard responses

So often when I have been making recommendations to companies on how to reduce their setup time, I have heard the same responses over and over. Whatever the purpose in the response, I recommend they not be accepted or ignored. I recommend you set the record straight and gain commitment no matter how trivial or insignificant the negative responses are. By separating themselves from the negative influences, many companies have reduced their setup times to less than 5% of the time they originally took.

Here are some of the more common responses not to ignore:

"It only takes a few seconds to do that part of the setup."

"It doesn't take that long to setup." "I have to wait anyway, so why speed up the setup?"

"That won't work!" "It costs too much." "Management won't support setup time reduction." "We can't recommend that." "We have to wait anyway, why spend the money to reduce this part of the setup?" "You are trying to eliminate jobs."

I recommend you work with the employees to overcome any of these or other misconceptions and develop a true setup time reduction emphasis in your company. If you need outside help, you may find that your employees resistant because they believe they can reduce setup time on their own. Possibly they can, and if so, give them a chance, but don't wait forever. I have seen many cases where employees are capable, but never get the task done.

#### Improvements involving redesign

Some of the improvements to reduce setup time involve redesign of change parts, including fixtures, molds, guard removal, etc. Many times agreement is reached in the brainstorming sessions that later employees say can't be done. Don't give in! If redesign is in order, make it happen without fail. Once it is done, you will have faster setups and that is worth the effort.

#### Setup procedures and baseline documentation

I strongly recommend you have documented setup procedures along with baseline settings documented. I recommend pictures in both of these documents to simplify the explanation. You should also include a check sheet to be used during the setup to ensure that no steps are overlooked or incomplete.

#### Stressing the importance of downtime for setup

By emphasizing the importance of reducing setup time, you will be sending a message to your employees. Many times this emphasis in itself will begin to reduce setup time. You should emphasize the need to make setups as quickly as possible without skipping any steps or generating scrap. Due to the lackadaisical attitude in some companies, I have had to insist that there be no idle conversation or extra breaks during setup. Not having a setup procedure to follow will result in wasted motion, excessive walking around, and unnecessary activity. Your employees need a sense of urgency in getting setups complete, and may need to practice the setup until they get it the best.

I once met a gentleman who made presentations on the topic "ATTITUDE IS EVERYTHING". This certainly applies to your efforts in reducing setup time. The right attitude will get important improvements that result in rapid setups. Auditing the Start Up After Changeover and Overcoming the Resistance will help you achieve this initiative.

The next article will be the last of this series and will deal with the cost justification of the improvements to your setups. You will see a method to conduct return on investment for setup time reduction improvements as well.

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