



Wrench Time Analysis

This month I will talk about “wrench time” and how we can use the concept to improve our maintenance performance. Wrench Time is a double edged sword. On one edge I want everyone to understand the concept of wrench time. But on the other edge, I don’t want anyone to publicly measure wrench time. Sounds a little confusing doesn’t it? I will explain what I am talking about in more detail later on in the tip. Let’s begin by understanding the concept and definition of the wrench time term. Very simply and at a pretty high level wrench time is:

Any action or activity of a maintenance technician which adds value to the process, system, and/or the asset.

In simpler terms wrench time includes the following activities;

- time spent turning wrenches (hence the name)
- hands on time
- trouble shooting
- calculating
- measuring
- job clean-up
- paper work (documenting what has taken place), and
- travel time to and from the job

Now some of my colleagues will disagree with the travel time being part of wrench time, but until “Scotty” (for you out there with no gray hair that was a Star Trek character) begins beaming up Bubba and Skeeter you still have to travel from one place to another.

The items which are not part of wrench time are;

- looking for parts and supplies
- looking for equipment
- waiting for supervision
- waiting for instructions, waiting for approval
- looking for work (yea right!) [excess personnel], and lastly
- travel time doing any of the above

So wrench time is a measurement which determines how efficient your total maintenance process and organization is. Industry averages are in the 25-40% range and world class organizations are in the 40-60% range. Every industry has a different standard with manufacturing capable of the highest wrench times, and facility organizations which deal with the public typically have the lowest wrench times because of having so many bosses and opinions.

So let’s assume that you decide to measure wrench time even against my strong recommendations, how will you do it? There numerous methods but here are three which are fairly common.



1. **Old fashion time study** – someone with a clip board follows your maintenance technicians around and actually documents everything they do during the day (behavior never changes). Do this with a scientific sampling and it will be easy to calculate wrench time percentage.
2. **Each technician wears a beeper** - one which has a random timer that creates a beep from time-to-time. When the beep goes off the technician pulls a card from their pocket and writes down what they are currently doing (the truth will set you free, or unemployed). Again the wrench time percentage can be calculated.
3. **The last method is to do it secretly (this always works well)**. In this method the management team walks around the facility/ plant and every time you see a maintenance employee you document what they are doing and for how long (HR and your union are going to love this one). Again the wrench time percentage can be easily calculated.

So what do you have once you measure your wrench time? I tell you what, a bunch of angry technicians, foreman, supervisors, and managers. All of whom would have told you that the wrench time is low and can always be improved. I have never met anyone who was glad they went through the wrench time exercises. I even know one company where the wrench time percentage was in the single digits! Their solutions analysis was “well the testing must have been flawed” yea right!

My solution to the wrench time conundrum is to not measure it. Assume it is low, in the 25-30% range, and begin a program to improve the maintenance management processes. This will ultimately increase your wrench time, and in the process, you have not upset anyone. The items to add increased effort are as follows:

- Improved planned work
- Improved scheduled work
- Reduce reactive work
- Increase preventive and predictive work
- Analyze one and two person work assignments
- Resolve purchasing and supply roadblocks
- Increase on the floor time for management
- Analyze travel time
- Improve work order management system (provides data to analyze all components of process)

Remember, you wrench time is low and can always be improved. Make changes slowly but consistently and don't let perfection stand in the way of progress.