Facts about Maintenance Wrench-Time

Excerpts from "Rules of Thumb for Maintenance and Reliability Engineers"

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Wrench Time is defined as the actual amount of time a crafts person spends doing value added work. A Wrench Time Study, or Work Sampling Study, is aimed at identifying and then eliminating or mitigating the time spent on nonvalue-added tasks.

Wrench time does not include:

- obtaining parts
- looking for tools or instructions
- travel associated with obtaining parts, tools, etc.
- traveling to or from jobs
- time spent obtaining work assignments.

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"Your system is perfectly designed to deliver precisely the results you're getting"

– W. Edwards Deming, PhD

Here are the facts:

- World Class Wrench Time is 55-65%; most companies' Wrench Time is between 18-30%.
- It is not uncommon for the effectiveness of planned and scheduled jobs to be 25% or more than the same job without P&S. To see just how critical maintenance effectiveness is, consider the following:
  - The term "wrench time" refers to a unit of measure for time maintenance personnel spend doing the actual work for which they are responsible. It does not include time a technician spends:
    1. Looking for Parts
    2. Looking for their Supervisor
    3. Waiting on Production
    4. etc.
  - Wrench time usually is expressed as a percent, and national studies typically put this number between 25 and 50% for North American industries.

- As an example, the time a maintenance mechanic takes to replace a mechanical seal and do a laser alignment on a pump would count as wrench time.
    1. However, the time spent leaving the job to get the seal from the storeroom and the time spent away from the job site to obtain additional shims for aligning the pump would not count as wrench time.
    2. Wrench time (Hands on Tool Time) is a measurement of effective time and excludes wasted or unnecessary time.
    3. The goal is to eliminate all delays and nonproductive work, so that maintenance personnel can work effectively nonstop, never leaving the job once started until it had been completed, except for:
        - breaks, lunch, or the end of the day.
        - in an ideal situation, the only time that would not be counted as wrench time would be things like safety and other meetings, break and lunch times, and travel time to and from the job.
        - While this measure is somewhat idealistic, it does provide a clear way to assess overall effectiveness.
        - P&S is the most effective way to improve an organization's wrench time. The power in improving wrench time is considerable.
        - For example, if you have a crew of 10 people that has a wrench time of 30% and it is improved to 40%, one mechanic effectively will have been added, and this mechanic has a wrench time of 100%

The only way to optimize maintenance wrench-time is to have an effective Maintenance Planning and Scheduling Process with highly trained Maintenance Planners or Planner/Schedulers.