

# **SINGLE POINT LESSON- HOW TO IMPLEMENT MAINTENANCE PLANNING AND SCHEDULING "BEST PRACTICES" IN YOUR ORGANIZATION**

BY: **RICKY SMITH,  
CMRP, CMRT, CRL**



## Single Point Lesson

# How to Implement Maintenance Planning and Scheduling "Best Practices" in your Organization

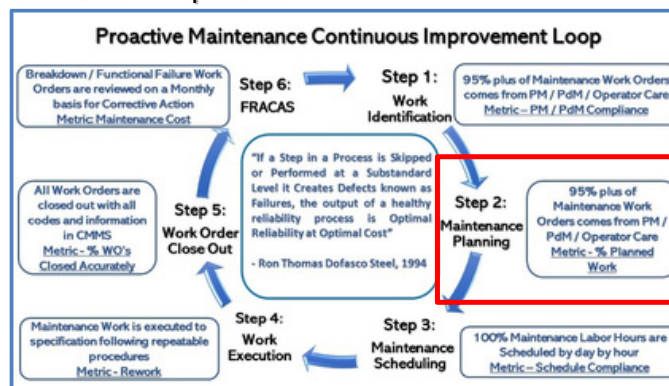
By Ricky Smith CMRP

Maintenance Planning and Scheduling is critical to success of any Maintenance Organization resulting in a significant increase in Wrench time ("Hands On Tool Time"). *Planning and Scheduling are two distinct functions which are dependent on each other.*

**Wrench-time is a measure of maintenance personnel's time accomplishing proactive work on time, on schedule, and on budget.**

**Wrench-time does not include time obtaining parts, tools or instructions, and work associated with those tasks, traveling to or from job sites, or time spent obtaining work assignments. It is about only focused on "hands on tool" time.**

- **Maintenance Planning is a highly skilled function that requires a basic knowledge of the maintenance work processes, operations expectations, project management, computerized maintenance management system (CMMS) and related systems, as well as a practical understanding of the work to be performed. Planning is the "what's required" and "how to" part of any maintenance job.**
- **Planning typically includes the following:**
  - Parts/Materials
  - Specifications
  - Instructions (Repeatable)
  - Coordination requirements
  - Estimated time
  - Repeatable procedure
  - Safety/Environmental Requirements



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- **Maintenance Scheduling is the process by which all proactive maintenance activities are scheduled by day by hour in coordination with Production at least one week in advance.**
- **Maintenance Scheduling requires the following:**
  - Maintenance Scheduling Meeting is managed by the Maintenance Planner/Scheduler
  - Production and Maintenance leadership agreement of schedule by day by hour one week prior to scheduled work execution
  - The Maintenance Schedule is agreed upon by all parties prior to scheduling meeting.
  - A Maintenance Scheduling Meeting, typically held every Thursday for 30 minutes, lead by Maintenance Planner/Scheduler to ensure nothing has changed for next week's schedule.
  - Personnel to attend Scheduling meeting:
    - oMaintenance Planner/Scheduler
    - oMaintenance Supervisor
    - oProduction Supervisor / Manager
    - oPlant/Reliability Engineer (Optional – dependent on potential interference with next week's schedule due to contractor, project interference with schedule)
  - Measurements (prefer a dashboard posted in the plant)
    - o# Breaks to the schedule by type of break, ie. Production could not release equipment on time, No parts, Maintenance Labor not available, etc.
    - oSchedule Compliance
    - oPM Compliance
    - oOEE

## Maintenance Planning and Scheduling Scorecard

**November 2020**



**Planning and Scheduling is an investment, not an Expense**

# Planning and Scheduling Vision, Mission, and Guiding Principles

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## Planning and Scheduling Vision Statement

To plan and schedule maintenance work in order to optimize asset and process reliability at optimal cost.

**“doing the right work at the right time”**

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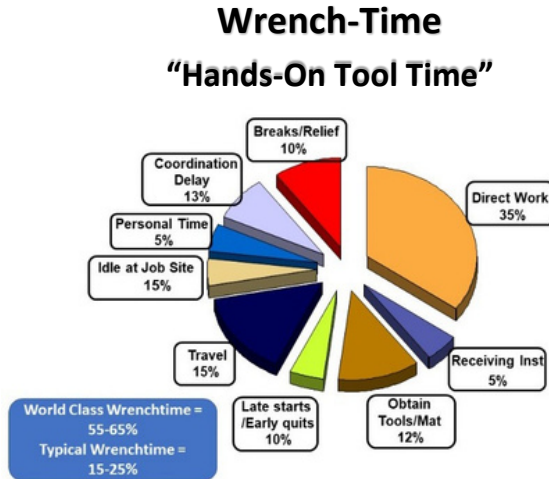
## Planning and Scheduling Mission Statement

Maintenance Planning and Scheduling is to enable proactive maintenance through increased **“wrench-time”** enabling optimal production process reliability at optimal cost.

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## Planning and Scheduling Guiding Principles

1. Scheduling uses a combination of Defect Severity and Asset Criticality to determine scheduling work orders.
2. Maintenance Planners focus on Future Work only, today's issues are handled by Maintenance Supervisor or Lead Person
3. Maintenance Planners plan and schedule **“MAINTENANCE WORK”**
4. All work **“Scheduled”** which require parts / material are kitted in a secure area
5. All Planned and Scheduled work is tracked through status codes, see **“Status Codes”** below:
  - > RTS – Ready to Schedule (parts kitted and staged/secure)
  - > AP – Awaiting Parts
  - > AWP – Awaiting Production
6. All Work Scheduled is scheduled by day and by hour
7. Scheduling meetings are held on Thursday for **FINAL** review of the following week's maintenance schedule with Production, Maintenance, and others as required (ie. Contractors, Safety)
8. Maintenance Planners facilitate the meeting and typically last 30 minutes
  - > Required attendees, Maintenance Planner, Maintenance Supervisor, Production Supervisor, Contractor (optional), Maintenance / Reliability Engineer
9. Leading and Lagging KPIs are used to manage the Planning, Scheduling, and Work Execution Process.



1. Wrench Time is a measure of craft personnel at work, using tools, in front of jobs
2. Wrench Time does not include obtaining parts, tools, instructions, or travel associated with those task
3. It does not include travel to and from jobs
4. It does not include time spent obtaining work assignments



## Steps to Success in Maintenance Planning and Scheduling

Step 1: Identify External Distracters

- Poor spare parts and inventory controls
- Conflicting ideas of what planning *is*
- *No planner*
  - Planners taken off job, put on tools, or involved in daily activities (parts chaser, facilitating daily work)
- Maintenance and Production not acting as a team
  - No planning process, unclear expectations, unclear roles and responsibilities
- Maintenance leadership not following the plan
- Emergency / Urgent Work too High
- Lack of Discipline
- The CULTURE

Step 2: Education of the Team - *"Coaching is not just for Planners Anymore"*

- o Plant / Operations Leadership
- o Frontline Production Leadership
- o Maintenance and Reliability Leadership (all levels)
- o Planners
- o Maintenance Personnel
- o Operators



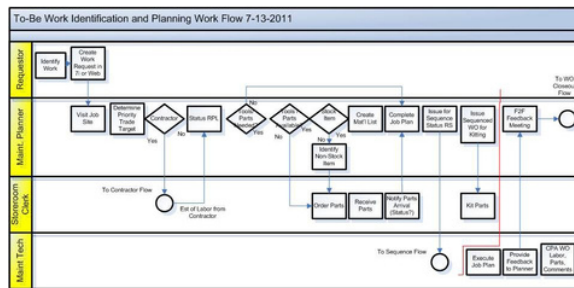
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"If you send a Maintenance Planner to Training be sure you send you best technician or maintenance supervisor as well, change is never easy"

## Step 3: Create Guiding Principles for Planning and Scheduling

- oThe planners focus on future work and maintain at least two weeks of work backlog that is planned, approved, and ready to schedule / execute.
- oPlanners Do Not Chase Parts for Jobs in Progress
- oSupervisors and Crew Leads Handle the Current Day's Work and Problems – Coordination
- oScheduling Does Not Occur Until Parts are Kitted
- oWe will maintain a stable / nonfluid Criticality Index

## Step 4: Define the Planning and Scheduling Processes

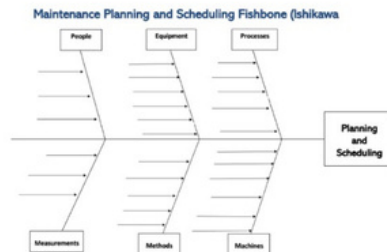


## Step 5: Define Roles and Responsibilities

MAINTENANCE PLANNING AND SCHEDULING							
Tasks Decisions/Functions	Maintenance Supervisor	Maintenance Planner / Scheduler	Maintenance Manager	Production Supervisor	Tradesman	Storeroom	Operator
WorkID	R	I	A	A	R		R
PMPdM/OpCare							
Planning	C	R	A		C	C	
Scheduling	C	R	A	C		C	
Scheduling Meeting	I	R	A	C	I	I	
Work Execution	A		I		R		R
Work Order Close Out	A	R	I		R		R
FRACAS	A	R	R	R	R	R	R

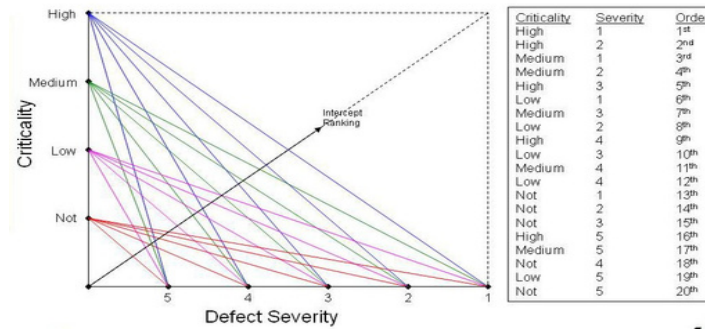
**R**esponsibility "the Doer"  
**A**ccountable "the Buck stops here"  
**C**onsulted "in the Loop"  
**I**nformed "kept in the picture"

## Step 6: Perform RCA when Planning and Scheduling is not meeting expectations



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## Step 7: Prioritize Work to be Planned based on Asset Criticality and Defect Severity



- Step 8: Develop Repeatable Procedures for all Maintenance Work to:
- oEnsure repeatability and reduce variation in execution
  - oCapture Knowledge based on past issue/failures
  - oTrain New Employees with Repeatable Procedures
  - oTo Reduce Human Error

### Human Error Rate

Description	Probability
General rate for errors involving very high stress levels	30%
Complicated non-routine task, with stress	30%
Supervisor does not recognize the operator's error	10%
Non-routine operation, with other duties at the same time	10%
Operator fails to act correctly in the first 30 minutes of stressful emergency situations	10%
Errors in simple arithmetic with self-checking	3%
General error rate for oral communication	3%
Failure to return the manually operated test valve to the correct configuration after maintenance	1%
Operator fails to act correctly after the first few hours in a high stress scenario	1%
General error of omission	1%
General error rate for an act performed incorrectly	0.3%
Error in simple routine operation	0.1%
Selection of the wrong switch (dissimilar in shape)	0.1%
Selection of a key-operated switch rather than a non-key-operated switch (EOC)	0.01%
Human performance limit: single operator	0.01%
Human performance limit: team of operators performing a well-designed task	0.001%

**MAINTENANCE PLANNING AND SCHEDULING**

**5 DAY VIRTUAL WORKSHOP WITH RICKY SMITH, CMRP**

**DATES:** April 17-21, 2023 ----- 5 Hours a Day

12:00noon – 5:00pm ET

**PRICE :** \$ 1595.00 USD/ PERSON

**RSVP OR REQUEST MORE INFO BY EMAILING**  
[RSMITH@WORLDCLASSMAINTENANCE.ORG](mailto:RSMITH@WORLDCLASSMAINTENANCE.ORG)

**Maintenance Planning and Scheduling Best Practices**  
**May 9-11 in "Nashville, TN"**

For information send your request to [rsmith@worldclassmaintenance.org](mailto:rsmith@worldclassmaintenance.org)

Both Workshops are "Hands On" with multiple "Learning Exercises to enhance Learning to include "Planning and Scheduling Assessment", "Maintenance Wrench-Time, Parts Kitting", "Create a Plan to bring back to your Maintenance Department" and so much more ...

Questions or Need a Brochure? Send your request to [rsmith@worldclassmaintenance.org](mailto:rsmith@worldclassmaintenance.org)

# #1 Software for Maintenance & Reliability Teams

UpKeep is a service-first company that builds software designed to make maintenance easier for technicians and managers everywhere. Reduce downtime up to 18% by switching over to a preventative maintenance solution!

[www.upkeep.com](http://www.upkeep.com)

## Our Products



**Mobile-first maintenance management and collaboration across all location, assets, and teams**

With nearly 340 different machines in our work environment, it's an impossible task to manually assign and track PM's. **With UpKeep we can schedule regular maintenance without overlapping tasks with other critical jobs."**

★★★★★ Paul D, Health and Safety Coordinator



**An end-to-end solution for remote condition-based monitoring**

Connected and secure IoT sensors for real-time remote condition asset monitoring



**Integrated & Centralized Data Ecosystem for World Class Asset Operations**

The only purpose built Asset Data Platform. Asset Focused ELT Solution for advanced analytics and integrated, real-time asset data.

**The Maintenance Community Coalition was founded on the belief that working together will benefit everyone within our community**

Committed to helping each other thrive in our individual professional journeys by sharing resources and expertise, granting scholarships, hosting events, and unlocking knowledge – always at no cost.

