

Analytic Trouble Shooting Project Management

Polk Manufacturing Assoc.



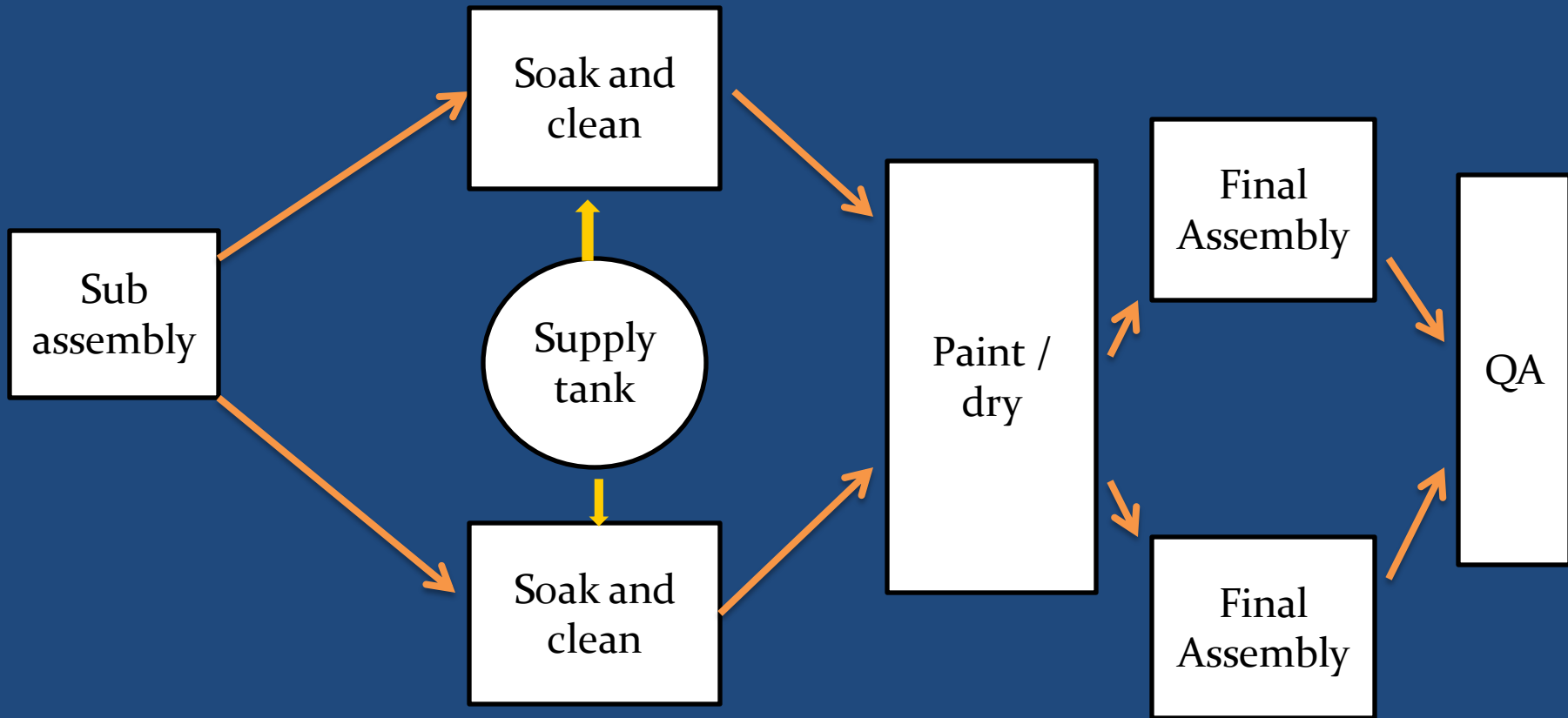
ATS

- Recognize and prioritize problems
- Find true cause of a problem
- Select the best “fix”
- Think beyond the fix
- Avoid future problems

Analytic Trouble Shooting Find True Cause

A rational process for finding the true cause of a deviation

- To avoid jumping to cause
- ❖ Describe Problem
- ❖ Identify Possible Causes
- ❖ Evaluate Possible Causes
- ❖ Confirm True Cause



Describe Problem

Specify the Problem

Describing the deviation factually

- To increase understanding of the deviation

Ask questions in four areas:

WHAT — Identity

WHERE — Location

WHEN — Timing

EXTENT — Size

Problem Statement: 1025 Microcomputer cabinets have paint gaps

	IS	IS NOT
What	1025 cabinets (Object) Paint gaps, lack of coverage (Defect)	1035, 1045 Peeling, discoloring, running
Where	Final inspection (Geographically) Random on surface (On the Object)	Final assembly Specific spots
When	Two weeks ago (When FIRST) Periodically, NMD (When SINCE) During visual inspection (When in LIFECYCLE)	Not before Continuous, sporadic During final assembly
Extent	~5.85% above normal (# of Objects) Need more data (Size of single defect) </= 11 gaps (# of deviations on each object) Increasing number of rejects. NMD in trend of defects (trend – in object and defect)	More or less Need more data >11 gaps Need more data

Evaluate Possible Causes

Test Possible Causes

- To get rid of causes that do not make sense

Ask: “If ___ is the cause of the paint gaps, how would that explain both the is and is not?”

Eliminate any cause that fails

List all assumptions

Evaluate Possible Causes

Determine Most Probable Cause

- To pick the possible cause to verify first

Most probable cause has:

- Fewest assumptions
- Simplest assumptions
- Most reasonable assumptions
- Assumptions that make the most sense

Confirm True Cause

Verify Assumptions, Observe,
Experiment, or Try a Fix and Monitor

- To avoid wasting resources

Use the safest, easiest, quickest, cheapest, surest way



Project Management

- Project management is a rational process to deliver the end result of the project on-time, on-budget, while ensuring that the objectives are met.

Project Management

- **Example:** “We need to take down the line and fix this problem.” That’s a project!
- **Question:** “In your experience, what are some of the tasks to make this project a success?”

Project Management

Project Definition



State the Project



Develop Objectives



Develop Work Breakdown Structure



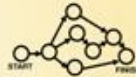
Identify Resource Requirements



Project Planning



Assign Responsibility



Sequence Deliverables



Schedule Deliverables



Schedule Resources



Protect the Plan

Project Implementation



Start to Implement



Monitor Project



Modify Project



Closeout & Evaluate