

SHOPDOCS

PROFESSIO
NAL MANUF
ACTURING
DOCUMENT
ATION
SOFTWARE

Manufacturing Documentation Starter Kit

A practical guide for improving standard work instructions and preventive-maintenance procedures - without giving away the tools that create them.

Inside: SWI checklist · PM checklist · purpose vs. scope · acceptance criteria · warning guidance · readiness scorecard

Use this kit as a review aid. It does not replace applicable laws, standards, OEM manuals, technical specifications, or site procedures.

1. Standard Work Instruction Quality Checklist

A strong SWI removes ambiguity from the work. Review the document from the perspective of a trained person who has not performed the task recently.

- 1. The title names one specific process or task rather than an entire department.
- 2. The purpose explains why the instruction exists and the result it is intended to support.
- 3. The scope identifies who performs the work, what equipment or process is covered, and important exclusions.
- 4. Document number, revision, effective date, owner, approver, and review cycle are defined.
- 5. Required PPE, hazards, prerequisites, and energy-control requirements are stated before the procedure.
- 6. Tools, materials, equipment, settings, and special gauges are identified with enough detail to prepare the job.
- 7. Each step begins with a clear action verb and covers one logical action or decision.
- 8. Steps appear in the same order the work is performed.
- 9. Photos, diagrams, or callouts are used where location, orientation, or visual condition matters.
- 10. Warnings are reserved for specific hazards or critical failure points rather than routine instructions.
- 11. Expected results and acceptance criteria describe what acceptable looks like.
- 12. Numbers, limits, tolerances, quantities, torque values, temperatures, or settings are used where available.
- 13. Out-of-spec or abnormal-condition actions tell the operator when to stop, correct, escalate, or document.
- 14. Quality checks occur at the point in the process where the result can still be corrected.
- 15. Revision history and approval records are complete before release.

Fast test: A reader should be able to answer: What do I need? What do I do? What can hurt me? What does acceptable look like? What do I do if it is not acceptable?

2. Preventive Maintenance Procedure Quality Checklist

A PM procedure should do more than say “inspect,” “clean,” or “lubricate.” It should define the asset, method, interval, condition, response, and closeout expectations.

- 1. Equipment name, asset ID, location, manufacturer, model, and criticality are identified.
- 2. The PM trigger is clear: calendar interval, runtime hours, cycles, condition, or another defined basis.
- 3. Estimated duration and required skill level support planning and scheduling.
- 4. Shutdown, lockout/tagout, stored-energy, access, lifting, electrical, pressure, temperature, and chemical hazards are addressed.
- 5. Tools and test equipment include ranges, calibration, sizes, or special requirements where needed.
- 6. Replacement parts, filters, lubricants, consumables, quantities, and approved specifications are listed.
- 7. Each task identifies the exact component or inspection point.
- 8. The task explains the method - visual inspection, measurement, cleaning method, lubrication amount, torque, adjustment, or functional test.
- 9. The acceptance criterion defines acceptable condition or a numeric limit.
- 10. Numeric readings include units and, where appropriate, minimum, target, and maximum values.
- 11. The technician response is defined: pass/fail, checkbox, reading, initials, or text entry.
- 12. Failed-condition actions explain whether to repair, isolate, restrict operation, create follow-up work, or obtain technical disposition.
- 13. Photos or diagrams identify lubrication points, measurement locations, access panels, orientation, or normal condition.
- 14. Final verification confirms guards, tools, housekeeping, energy restoration, and safe return to service.
- 15. Completion records capture technician, date, meter reading, work order, parts used, findings, and follow-up work.

Fast test: Replace “inspect the machine” with the specific component, inspection method, acceptable condition, required response, and failed-condition action.

3. Purpose vs. Scope

These sections are short, but they serve different jobs.

PURPOSE	SCOPE
Explains why the document exists and the outcome it supports.	Defines who, what, where, and what is excluded .
Useful structure: “To establish a consistent method for [task] in order to [desired outcome].”	Useful structure: “This procedure applies to [people/area/equipment] and covers [activities]. It does not cover [exclusions].”
SWI example: To establish a consistent method for packaging 3D-printed molds and cores to reduce damage and movement during shipment.	SWI example: Applies to personnel completing final inspection, packaging, labeling, and shipment preparation for external-customer orders. Customer-specific requirements take precedence.
PM example: To identify developing mechanical conditions and complete scheduled care before they result in unsafe operation or unplanned downtime.	PM example: Applies to qualified maintenance personnel completing the monthly mechanical PM on the identified asset. Energized electrical troubleshooting is excluded.

Avoid: repeating the same paragraph in both sections, promising compliance that has not been verified, or writing a scope so broad that the procedure becomes unclear.

4. Measurable Acceptance Criteria

Words such as “good,” “proper,” “normal,” and “tight” require interpretation. Replace them with an observable condition, approved reference, or measurable limit.

Weak wording	Better wording
Tighten the bolts.	Torque the four mounting bolts to 35 ± 2 ft-lb using a calibrated torque wrench.
Check the belt.	Belt has no cracks, fraying, glazing, or missing ribs; tension meets the equipment-specific specification.
Temperature is normal.	Bearing housing temperature is ≤ 180 °F at the identified measurement point after 15 minutes of operation.
Package securely.	Part cannot contact the container walls and does not move when the container is manually checked before closure.
Clean the area.	Inspection point is free of loose dust, oil, debris, and residue that would prevent visual assessment.
Machine runs correctly.	Machine completes the controlled startup with no active alarm, visible leak, abnormal noise, excessive vibration, or unusual odor.

When a numeric limit is unavailable, reference a controlled drawing, OEM manual, approved sample, visual standard, or documented normal condition.

5. Warnings, Critical Notes, and Failed-Condition Actions

WARNING / CRITICAL NOTE	Use for a specific safety hazard, product-risk point, or common error that can cause serious failure. Keep the heading separate from the instruction and explain the exact condition.
EXPECTED RESULT / ACCEPTANCE CRITERIA	Defines what correct completion looks like. Use measurable limits, observable conditions, or approved references.
ACTION IF FAILED / OUT OF SPEC	Tells the user whether to stop, isolate, correct, notify, create work, hold product, obtain disposition, or document the abnormal condition.

Example: WARNING - Do not apply lubricant until the lubricant type and fitting identity have been verified. Mixing incompatible products can cause premature component failure.

Example: ACTION IF FAILED - Do not release the equipment. Reapply lockout/tagout, document the abnormal reading, and create a corrective work order.

6. Document Readiness Scorecard

Score each category from 0 to 2. Use the result to decide whether the document is ready for technical review or release.

Category	0 - Missing	1 - Partial	2 - Ready
Document control	No owner, revision, or approval	Some fields present	Complete control and approval information
Task definition	Task is broad or unclear	Main action is present	Specific title, sequence, location, and method
Safety	Hazards not addressed	Generic PPE only	Task-specific hazards, prerequisites, and energy control
Preparation	Tools and materials missing	Partial list	Tools, settings, parts, quantities, and references defined
Acceptance criteria	Uses subjective wording	Some observable conditions	Measurable limits or controlled references
Abnormal response	No failed-condition action	Escalation is vague	Clear stop, correct, hold, isolate, or follow-up action
Visual support	No visuals where needed	Visual exists but is unclear	Relevant, legible, and tied to the correct step
Closeout	No final verification	Some checks present	Housekeeping, safeguards, test, records, and signoff complete

Interpretation: 0-7 = rebuild the basics · 8-12 = technical review needed · 13-16 = strong release candidate after site-specific verification.

Ready to turn the checklist into a finished document?

ShopDocs generators create engineering, operator, technician, Word, and log outputs from guided browser tools.

**SHOPDOCS.
STORE**