

A tool room ready for the next job

CNC tool preparation and return

Mixed toolholders, pooled cutting fluid and loose offcuts make the next-job preparation harder to see and control. Start with one defined tool-preparation zone.



PROPOSED CONCEPT / A-GRADE TARGET, NOT AN ACHIEVED SCORE

SAMPLE START	PROPOSED TARGET	EVIDENCE COVERAGE
30% Grade D	91.3% A-grade target	80% 20 of 25 criteria

Tool preparation, storage and the visible approach to the CNC cells. Machine settings, guarding validation and machining methods remain outside the layout trial.

Sample inspection notes supply the numbers. Generated scenes illustrate the arrangement. A starts at 90% of observed criteria; unknown Sustain evidence stays unscored.

See the change. Keep the same workplace.

The proposed arrangement keeps the machinery and viewpoint. It is a discussion image.

ILLUSTRATIVE STARTING CONDITION



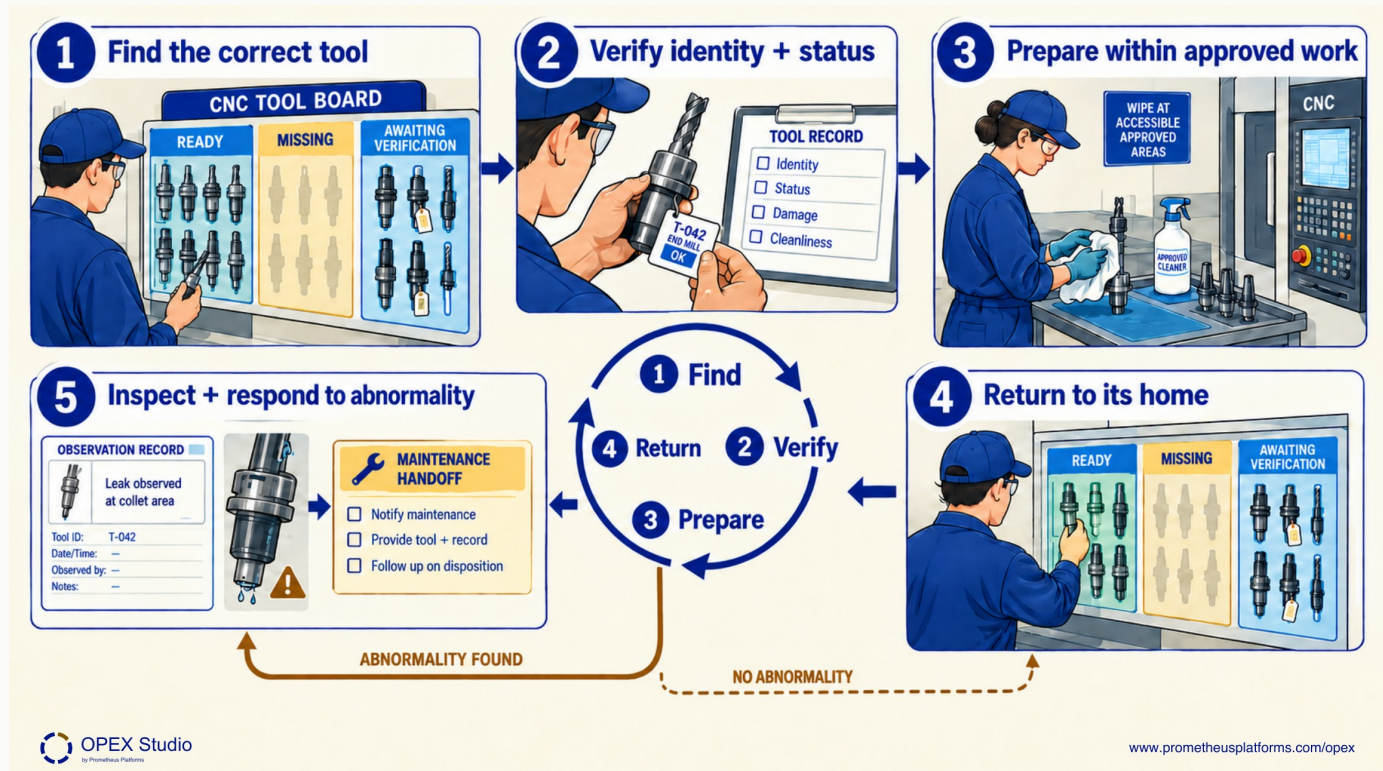
PROPOSED CONCEPT / A-GRADE TARGET



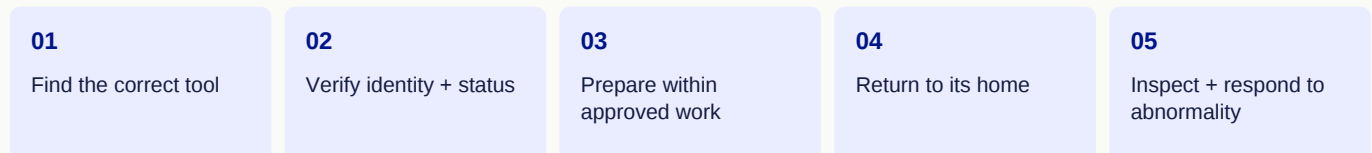
Neither scene verifies guarding, technical suitability, sustained practice or an earned result. Use actual inspection and recheck evidence before accepting any improvement.

Make the next-job tool kit obvious

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GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE



Retained tool-search sample: 12 observations, median 6.5 minutes; proposed goal 2 minutes. Start when the next-job tool list opens and finish when the complete correct set reaches presetting.

Clear homes reduce searching only when the correct tool and its status remain clear. The retained twelve observations have a 6.5-minute median search time and a 2-minute goal. Separate ready tools from those awaiting verification. Cleaning accessible areas can reveal recurring residue; record the condition and route it to the responsible person. Do not return a suspect tool to use merely because its storage position is tidy.

TRY IT / DISCUSS

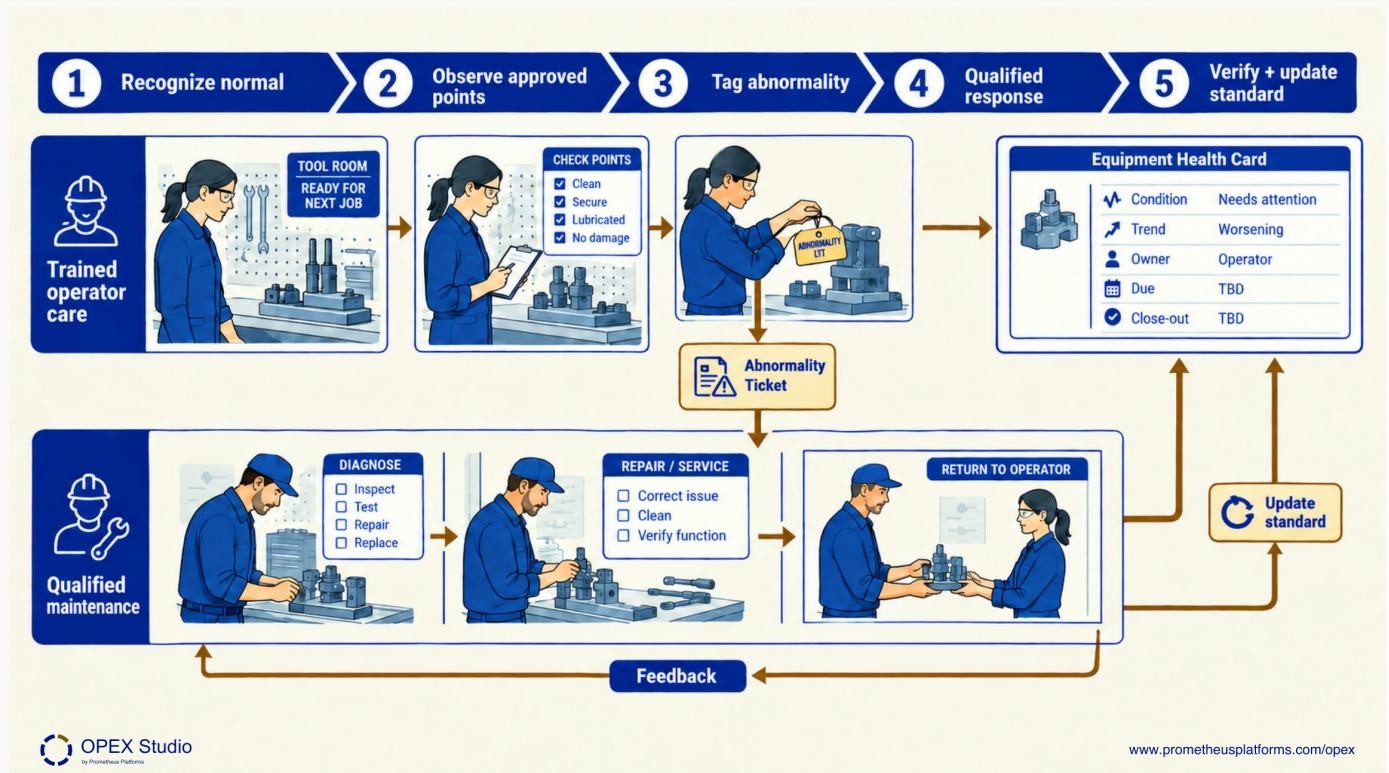
Where should a tool go if its identity is known but its verification status is uncertain?

Check your reasoning: The defined hold or awaiting-verification route, with an owner, rather than the ready-tool home.

METHOD SOURCES / F01: Total Productive Maintenance | F02: 2023 TPM Award Outline, autonomous maintenance example | F03: Asset Condition Management: A Framework for Smart,... | S04: OSHA: Control of Hazardous Energy

Link operator care to maintenance response

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GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE

Point / condition	Trend / abnormality	Owner / due	Verified close-out

A useful condition record includes the asset, observed condition, trend, owner, due date, response and comparable recurrence check. This is not a calculated equipment-health score.

Introduce TPM as coordinated equipment care and loss prevention, not simply a cleaning rota. Operators perform only trained, authorized checks; qualified maintenance owns work outside that boundary. Define what normal looks like, record an abnormal condition and verify the response under the approved procedure. The photo and 6S rubric cannot establish reliability, lubrication adequacy or technical equipment condition. Use the existing search-time data separately from any new equipment-health measures.

TRY IT / DISCUSS

What evidence would show the residue problem was addressed beyond wiping it up?

Check your reasoning: An authorized response to its source and a comparable recurrence check, with conditions and observation window recorded.

METHOD SOURCES / F01: Total Productive Maintenance | F02: 2023 TPM Award Outline, autonomous maintenance example | F03: Asset Condition Management: A Framework for Smart,... | S04: OSHA: Control of Hazardous Energy

Six standards. One clear next step.

The baseline is an authored inspection exercise. Target levels are proposed for the same criteria.

Category	Start	Target	Observed	Coverage
Sort	35%	75%	5/5	100%
Set in order	31.3%	87.5%	4/4	100%
Shine	18.8%	100%	4/4	100%
Standardize	31.3%	100%	4/4	100%
Sustain	Unknown	Unknown	0/3	0%
Safety	33.3%	100%	3/5	60%

Start: $24 / 80 = 30\%$. Target: $73 / 80 = 91.3\%$. Unknown criteria remain outside both scores.

Priority work and accountable owners

Due	Action / sample owner	What must be checked
Day 7	Define the tool zone Isla / Tooling lead	Confirm tool ownership, fluid concerns and a safe trial boundary.
Day 14	Restore and organize Mina / Maintenance lead	Mina records the residue-source investigation, authorized correction and real recurrence check; verify the storage arrangement too.
Day 21	Practice the return Kai / Machining lead	Two shifts find and return the right tool set using the agreed routine.
Day 30	Verify the next jobs Evan / Quality lead	Repeat twelve comparable tool-preparation trials and review every open concern.

Correct the source, then check the condition

Mina / Maintenance lead / day 14: Investigate the cutting-fluid source and record an authorized correction; inspect for fresh residue after a normal authorized operating cycle.

- Resolve the source of cutting-fluid residue through the authorized maintenance process before judging the reset stable.
- Tool condition, cutting suitability and machine guards require competent verification beyond appearance.
- Keep usable tooling traceable; an attractive empty bench is not permission to discard an unreviewed tool.

The physical condition.

Criterion by criterion.

All notes are authored examples. Levels describe the sample starting condition; targets require later verification.

Existing production criterion	Sample inspection note	Start / target
Required materials production-01	Current-job stock and unassigned blanks share the preparation bench.	1/4 3/4
Tool selection production-02	Required cutters are mixed with duplicate and unidentified toolholders.	1/4 3/4
Inactive equipment production-03	A retired vise occupies a marked preparation position.	2/4 3/4
Scrap separation production-04	Metal offcuts lie beside usable stock without a clear container boundary.	1/4 3/4
Working surface production-05	The bench can support preparation, but loose holders reduce available space.	2/4 3/4
Tool locations production-06	Frequently used holders have no consistent return position.	1/4 3/4
Material locations production-07	Drawers mix cutter sizes and job families.	1/4 3/4
Travel paths production-08	A cart and offcuts narrow the visible approach to the machines.	1/4 4/4
Work sequence production-09	A partial receive-preset-return sequence exists but crosses the same bench.	2/4 4/4
Floor condition production-10	The sample walkthrough records cutting-fluid residue in the walking area.	0/4 4/4
Equipment exterior production-11	Oily machine exterior surfaces make fresh leakage hard to distinguish.	1/4 4/4
Waste containers production-12	The swarf container is near capacity and its edge is not clear.	1/4 4/4
Cleaning access production-13	The cleaning station is partly blocked by stored holders.	1/4 4/4

Review state: pending. An unknown is not a zero. Keep the original rubric definition and record what was accepted, changed, rejected or still needs an on-site check.

Standards, routine and safety.

Keep unknowns visible.

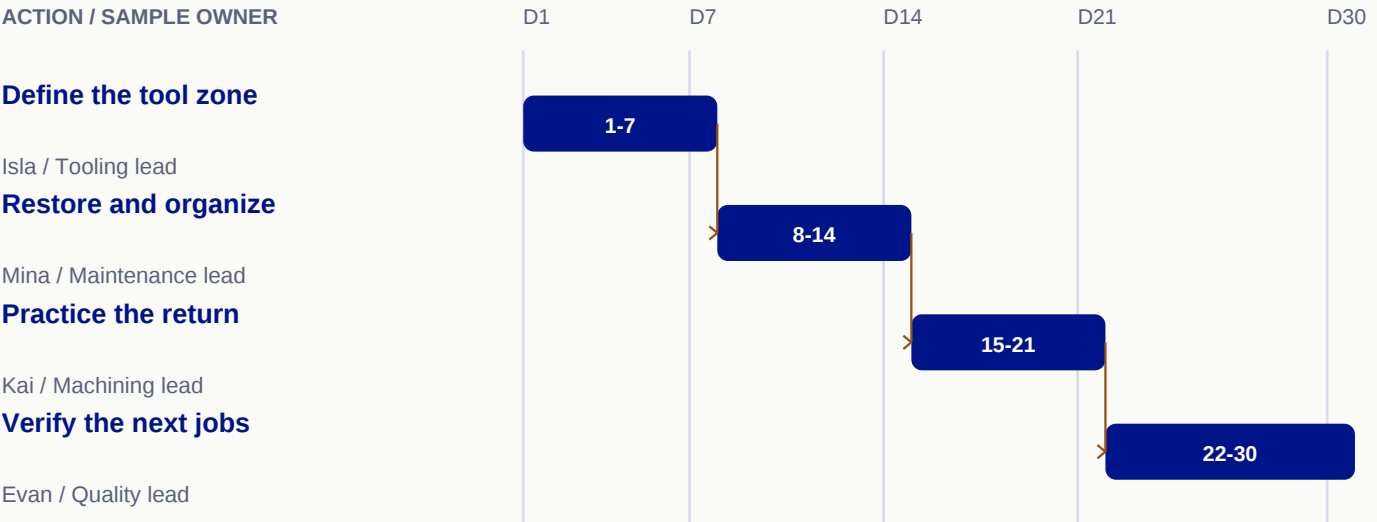
All notes are authored examples. Levels describe the sample starting condition; targets require later verification.

Existing production criterion	Sample inspection note	Start / target
Location labels production-14	Some drawer labels match their contents; several locations still need review.	2/4 4/4
Visual instructions production-15	The sample setup reference is distant from the presetting position.	1/4 4/4
Condition reference production-16	An old arrangement reference omits the current return cart.	1/4 4/4
Inspection prompts production-17	A draft prompt names the area but gives no clear defect response.	1/4 4/4
Recorded checks production-18	No repeated check record has been supplied.	Unknown Unknown
Issue follow-through production-19	No issue-closure history has been supplied.	Unknown Unknown
Ownership cues production-20	No retained ownership record has been supplied.	Unknown Unknown
Emergency route production-21	The sample local walk identifies a cart narrowing the designated exit approach.	1/4 4/4
Guarding visibility production-22	Guard function and expected positions require an authorized machine review.	Unknown Unknown
Trip exposure production-23	A hose loop and loose offcuts cross the preparation route.	1/4 4/4
Emergency equipment access production-24	Emergency-device approach clearance is outside the supplied inspection notes.	Unknown Unknown
Hazardous material containment production-25	Most fluid containers are closed; one decanting position needs identification.	2/4 4/4

Review state: pending. An unknown is not a zero. Keep the original rubric definition and record what was accepted, changed, rejected or still needs an on-site check.

Thirty days. Owners, checks and follow-through.

A fictional sample team and proposed operating-day sequence. Each phase depends on the previous check.

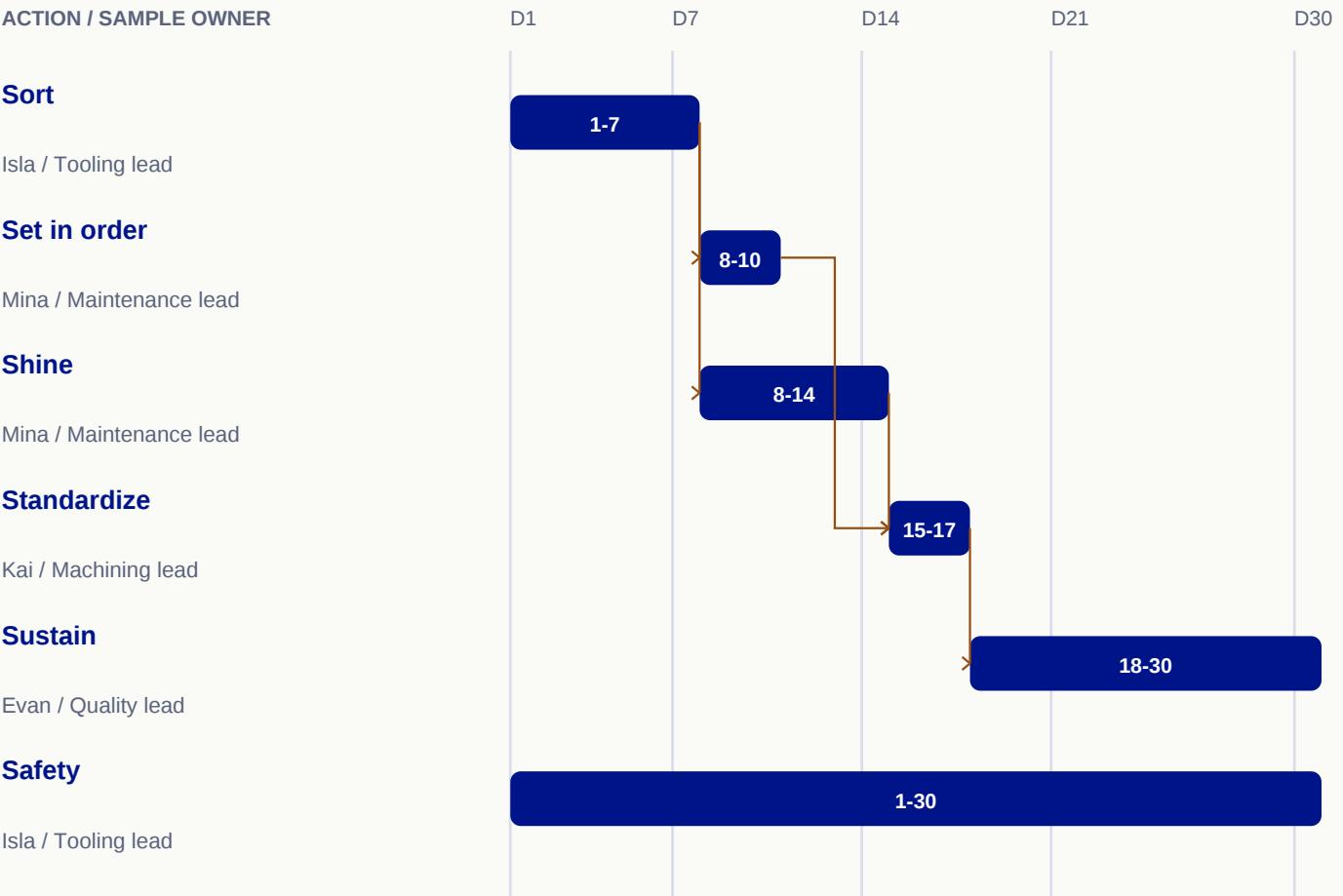


Day	Decision / owner	Evidence to bring
1	Agree scope and local controls Isla / Tooling lead	Resolve the source of cutting-fluid residue through the authorized maintenance process before judging the reset stable.
3	Record the starting condition Isla / Tooling lead	Retain the item register, sample observations and full timing definition.
7	Accept one bounded trial Isla / Tooling lead	Confirm tool ownership, fluid concerns and a safe trial boundary.
10	Check the proposed arrangement Mina / Maintenance lead	Ask a second practitioner to demonstrate the correct selection and return route.
14	Keep, adapt or reverse the trial Mina / Maintenance lead	Mina records the residue-source investigation, authorized correction and real recurrence check; verify the storage arrangement too.
21	Review both shifts and exceptions Kai / Machining lead	Two shifts find and return the right tool set using the agreed routine.
25	Collect the complete recheck Evan / Quality lead	Repeat twelve comparable tool-preparation trials and review every open concern.
30	Decide and assign the next review Evan / Quality lead	Compare actual results with the target; retain unresolved work and set a day-60 review.

Choose actual dates around approved access, operating shifts and required technical checks. A failed trial can return to an earlier phase.

Six S. One shared timeline.

Proposed project completion: operating day 30. Each workstream has a named owner; Safety remains active throughout.



Arrows show the checks that must finish before the next dependent action starts. Sort is followed by arrangement and correction of recurring problems; both feed the agreed standard.

Day 30: review, decide and assign the next step

Review the measured project result, all six workstreams and unresolved actions before deciding to retain, revise or extend the trial.

Required local controls are checked before the trial and remain active throughout.

Repeated checks provide evidence for review; the schedule does not establish a Sustain score.

Fictional sample team. Relative operating days; set real dates with the responsible team. A due date is a planned check, not evidence of completion.

What each S will deliver.

Proposed actions and acceptance evidence. All results remain unmeasured until the team completes its checks.

S / owner / timing	Action to complete	Evidence for acceptance
Sort Isla / Tooling lead Days 1-7	Separate tools by status Quarantine damaged, duplicate and unassigned tools through the tooling lead; retain the agreed tools for the next jobs.	Every retained tool has an identity and status; damaged items have an authorized disposition.
Set in order Mina / Maintenance lead Days 8-10	Give each tool a home Trial supported locations for toolholders, gauges and setup items while keeping the original machine and control access.	The next setup retrieves the correct tool set without extra searching or obstructing the machine.
Shine Mina / Maintenance lead Days 8-14	Correct the oily source Maintenance investigates oil and coolant residue, carries out approved correction and checks the following operating cycles.	The source, approved correction and recurrence check are recorded; wiping the floor alone does not close it.
Standardize Kai / Machining lead Days 15-17	Make the return standard clear Create an accepted photo/location reference and tool-return check for the selected station.	Two shifts return tools consistently and know who handles a missing or damaged tool.
Sustain Evan / Quality lead Days 18-30	Check the next jobs Review tool-ready times, missed returns and recurring residue through day 30 before accepting the changed arrangement.	Comparable observations and repeated checks support the decision; the A-grade target is not an earned result.
Safety Isla / Tooling lead Days 1-30	Keep machine controls intact The competent machining lead reviews access, guarding, handling and required isolation before any physical rearrangement.	The approved machine configuration and safe work controls remain effective; unresolved concerns are escalated.

The receiving owner checks the evidence before closing an action. Record a failed check, the next response and a revised review date; do not mark the whole project complete because the area looks better.

Check the real change. Keep what works.

The concept starts the conversation. The recheck decides whether the work improved.

Process measure	Sample start	Proposed goal	Actual recheck
Tool search time	6.5 minutes	2 minutes	Not measured

Median of 12 authored sample observations. Start when the next-job tool list is opened; finish when the complete correct tool set is at presetting.

Also protect: No wrong or unverified tool is released for the job.

Bring evidence to the day-30 decision

1. Retain an actual later source image from the same area and a comparable viewpoint.
2. Review every criterion against its original definition; record what is still unknown.
3. Repeat the full 12-observation timing sample using the same start/end rules.
4. No wrong or unverified tool is released for the job.
5. Review repeated checks, misses and issue response separately from the visible-condition score.
6. Adopt, adapt or stop based on actual evidence; retain the first report and create a new revision.

Keep the improvement working

Routine	Sample owner	Response
Each-shift reset	Kai / Machining lead	Record a missed check or recurring concern and assign the next action.
Comparable process sample	Evan / Quality lead	Review the complete sample and any quality or workload tradeoff.
Day-60 review	Isla / Tooling lead	Confirm continued use, unresolved work and the next improvement cycle.

Original OPEX production rubric opex-6s-2026-09-v1. The A threshold is 90%; this is a conditional visible-condition target, not an organization rating or safety certificate. Fictional people, authored sample notes and generated scenes; no achieved result is claimed.