

Keep the assembly line ready for the next frame

Window-frame assembly and point-of-use supply

Greasy bench edges, mixed components and unclear return positions make the next frame harder to prepare. Start with one station and protect component identification throughout the trial.



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

SAMPLE START	PROPOSED TARGET	EVIDENCE COVERAGE
43.8%	91.3%	80%
Grade D	A-grade target	20 of 25 criteria

Frame assembly preparation, visible component storage and the local walking route. Product tolerances, glazing methods, clamping and pneumatic controls remain outside this organization 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



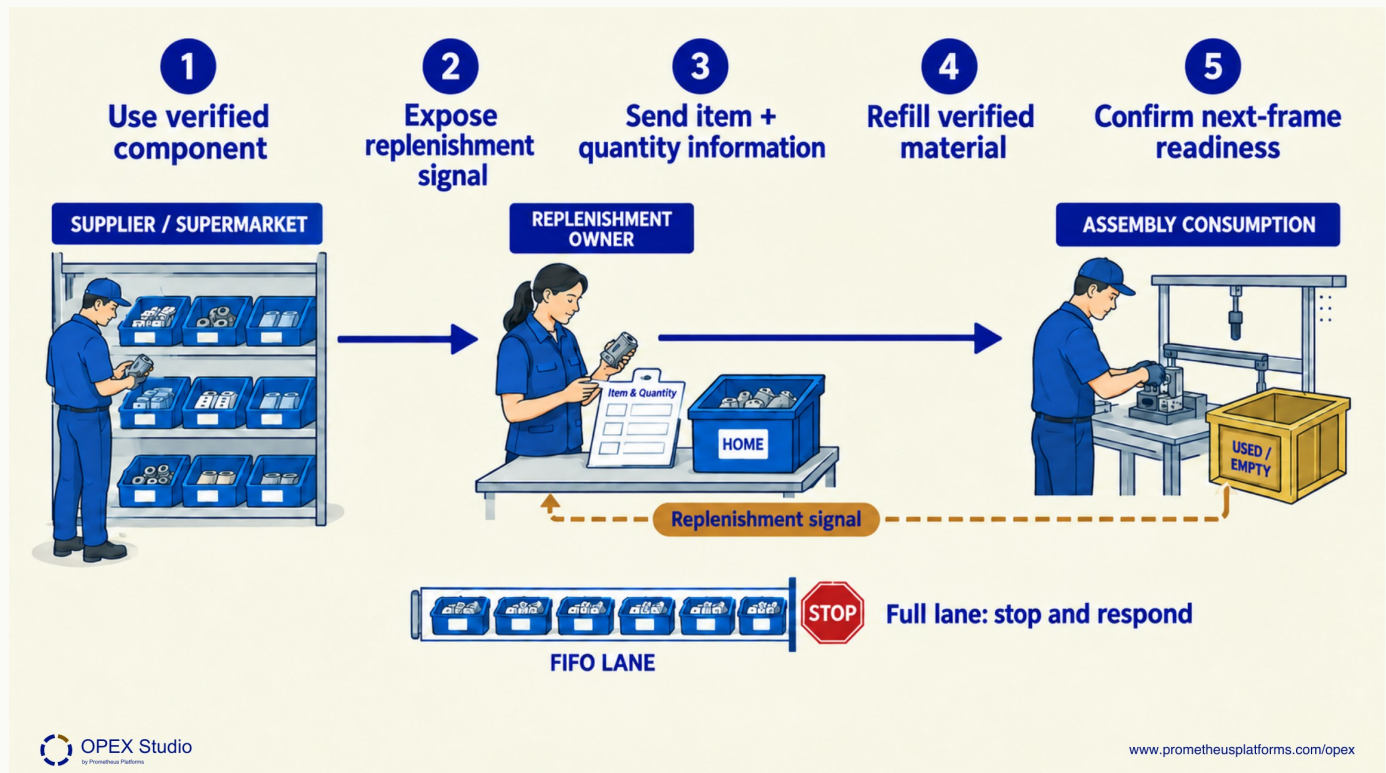
PROPOSED CONCEPT / A-GRADE TARGET



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

Refill the right component for the next frame

Keep the assembly line ready for the next frame



GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE

01

Use verified component

02

Expose replenishment signal

03

Send item + quantity information

04

Refill verified material

05

Confirm next-frame readiness

Material travels toward the using process; replenishment information returns upstream. Preserve part and lot identity and define the finite-lane response. A refill signal specifies item, quantity and responsible role. Synchronized flow requires an agreed demand and release rule, not independent pushing at every step.

The current case measures component search: twenty observations, 3.4-minute median, 1.5-minute goal. A replenishment loop connects consumption to the right refill and preserves identity. Make the signal, pack quantity, responsible person and full-lane response explicit. Level release to agreed customer demand and mix; do not schedule every upstream point independently. Search-time improvement alone cannot establish synchronized flow or line balance.

TRY IT / DISCUSS

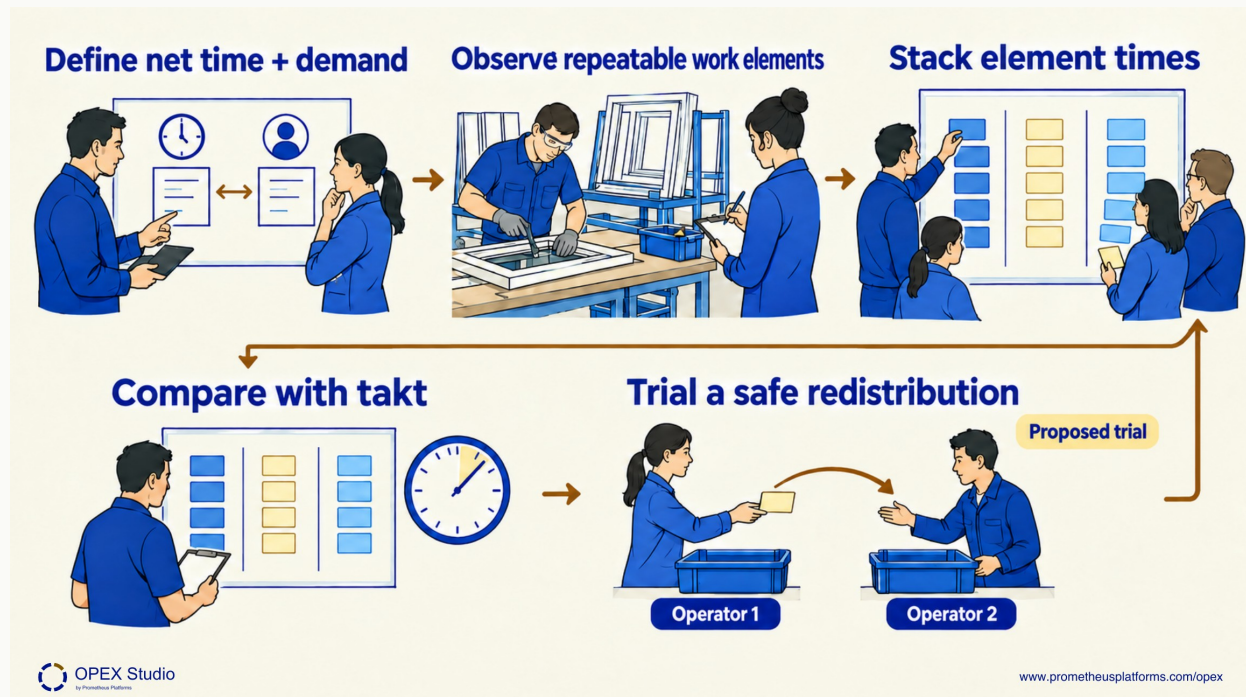
Which arrow carries the request to replenish, and which carries the parts?

Check your reasoning: Information travels back from consumption; replenished material travels toward the using process.

METHOD SOURCES / F05: Toyota Production System | F06: First In, First Out (FIFO) | F09: Lean Manufacturing: Don't Leave Home Without It! | F11: Operator Balance Chart | F13: Takt Time | F14: Heijunka | F17: Pull Production | F19: Heijunka Box

Balance work to demand using a yamazumi

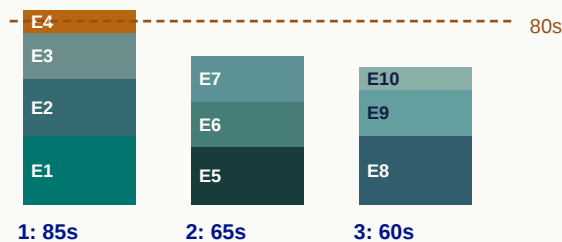
Keep the assembly line ready for the next frame



GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE

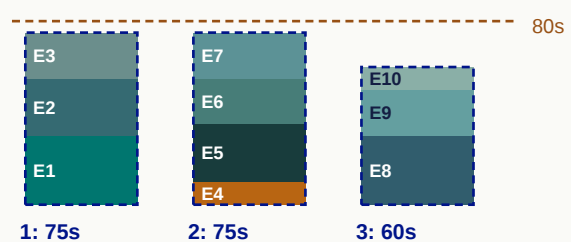
NEW FICTIONAL EXERCISE / 400 min / 300 units = 80 s takt

Before



E1 Position frame (30s)
E2 Prepare corner kit (25s)
E3 Confirm fixings (20s)
E4 Return empty tote (10s)
E5 Prepare seal kit (25s)

Proposed / unverified



E6 Check component identity (20s)
E7 Record job reference (20s)
E8 Check frame readiness (30s)
E9 Confirm kit identity (20s)
E10 Acknowledge handoff (10s)

Yamazumi makes work elements and uneven loading visible. This new exercise is separate from the photo case. An 85-second station exceeds the 80-second demand rhythm; equal averages would hide it. Moving one transferable 10-second element gives a theoretical 75/75/60 balance, but precedence, skill, walking, ergonomics, variability and machine time must be checked. A theoretical balance does not demonstrate a stable method. Test the method with the team; do not turn the chart into a headcount target.

TRY IT / DISCUSS

What remains to be checked after the bars fit below the takt line?

Check your reasoning: Safe feasible sequence, task transfer, variability, machine overlap, quality and actual end-to-end performance.

METHOD SOURCES / F05: Toyota Production System | F06: First In, First Out (FIFO) | F09: Lean Manufacturing: Don't Leave Home Without It! | F11: Operator Balance Chart | F13: Takt Time | F14: Heijunka | F17: Pull Production | F19: Heijunka Box

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	45%	75%	5/5	100%
Set in order	43.8%	87.5%	4/4	100%
Shine	43.8%	100%	4/4	100%
Standardize	37.5%	100%	4/4	100%
Sustain	Unknown	Unknown	0/3	0%
Safety	50%	100%	3/5	60%

Start: $35 / 80 = 43.8\%$. 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	Agree the station reset Ava / Assembly lead	Confirm component identity, reject decisions and the trial boundary.
Day 14	Test clearer supplies Omar / Process lead	Tessa records the residue-source investigation, authorized correction and real recurrence check; verify the storage arrangement too.
Day 21	Practice every shift Maya / Shift trainer	Both shifts demonstrate the reset and escalation for look-alike components.
Day 30	Check the next frames Finn / Quality lead	Repeat twenty comparable preparations without worsening component selection.

Correct the source, then check the condition

Tessa / Maintenance lead / day 14: Trace the source of grease at the assembly station, record the authorized correction and inspect the same area after a normal shift.

- A layout change must retain component, material and product traceability.
- Guarding, clamping, compressed-air controls and handling arrangements need the authorized local review.
- A cleaner frame or bench does not establish product quality, seal performance or completed inspection.

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 frame components are present, with some unassigned pieces mixed in.	2/4 3/4
Tool selection production-02	Most required hand tools are available; duplicates occupy working space.	2/4 3/4
Inactive equipment production-03	An unused jig occupies a position intended for the next frame.	1/4 3/4
Scrap separation production-04	Rejected pieces are separated, but the holding boundary is incomplete.	2/4 3/4
Working surface production-05	The assembly surface is usable, with several misplaced supply items.	2/4 3/4
Tool locations production-06	Most tools have home positions, but return is not consistent.	2/4 3/4
Material locations production-07	Similar components share loosely identified supply positions.	1/4 3/4
Travel paths production-08	The walking route is marked but partly narrowed by a mobile rack.	2/4 4/4
Work sequence production-09	The assembly sequence is recognizable, with a small return-flow conflict.	2/4 4/4
Floor condition production-10	The sample notes record grease marks and loose packaging near the station.	1/4 4/4
Equipment exterior production-11	Equipment exteriors are mostly inspectable but need a consistent reset.	2/4 4/4
Waste containers production-12	Waste is contained, though the collection position needs clearer ownership.	2/4 4/4
Cleaning access production-13	Cleaning tools are nearby but their storage position can improve.	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.

Standards, routine and safety.

Keep unknowns visible.

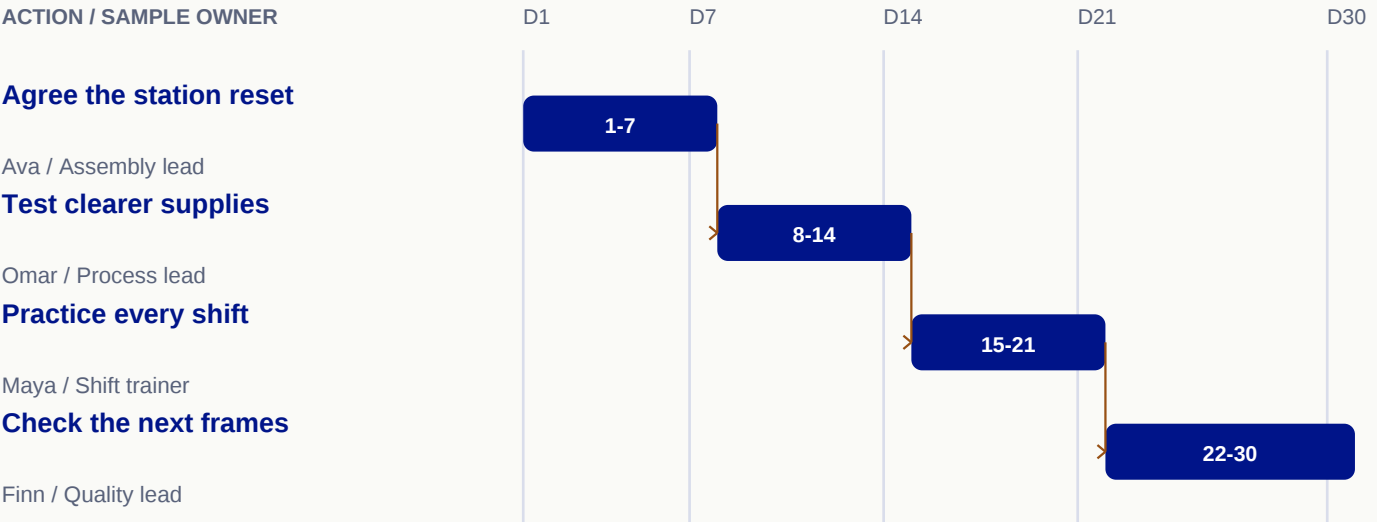
All notes are authored examples. Levels describe the sample starting condition; targets require later verification.

Existing production criterion	Sample inspection note	Start / target
Location labels production-14	Several supply labels match contents; some look-alike parts need clearer cues.	2/4 4/4
Visual instructions production-15	The sample point-of-use instruction is difficult to read at the station.	1/4 4/4
Condition reference production-16	The arrangement reference is incomplete for the return rack.	1/4 4/4
Inspection prompts production-17	A visual check prompt exists but its exception response needs clarification.	2/4 4/4
Recorded checks production-18	No repeated checks are supplied.	Unknown Unknown
Issue follow-through production-19	No issue-closure history is supplied.	Unknown Unknown
Ownership cues production-20	No retained standard-owner record is supplied.	Unknown Unknown
Emergency route production-21	The sample local walk records an emergency approach with a minor storage encroachment.	2/4 4/4
Guarding visibility production-22	Clamping, guarding and pneumatic control effectiveness require local verification.	Unknown Unknown
Trip exposure production-23	A packaging item and a lead interrupt otherwise clear walking space.	2/4 4/4
Emergency equipment access production-24	Emergency-device approach evidence is not supplied.	Unknown Unknown
Hazardous material containment production-25	Closed containers are identified; the holding arrangement needs a small improvement.	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.

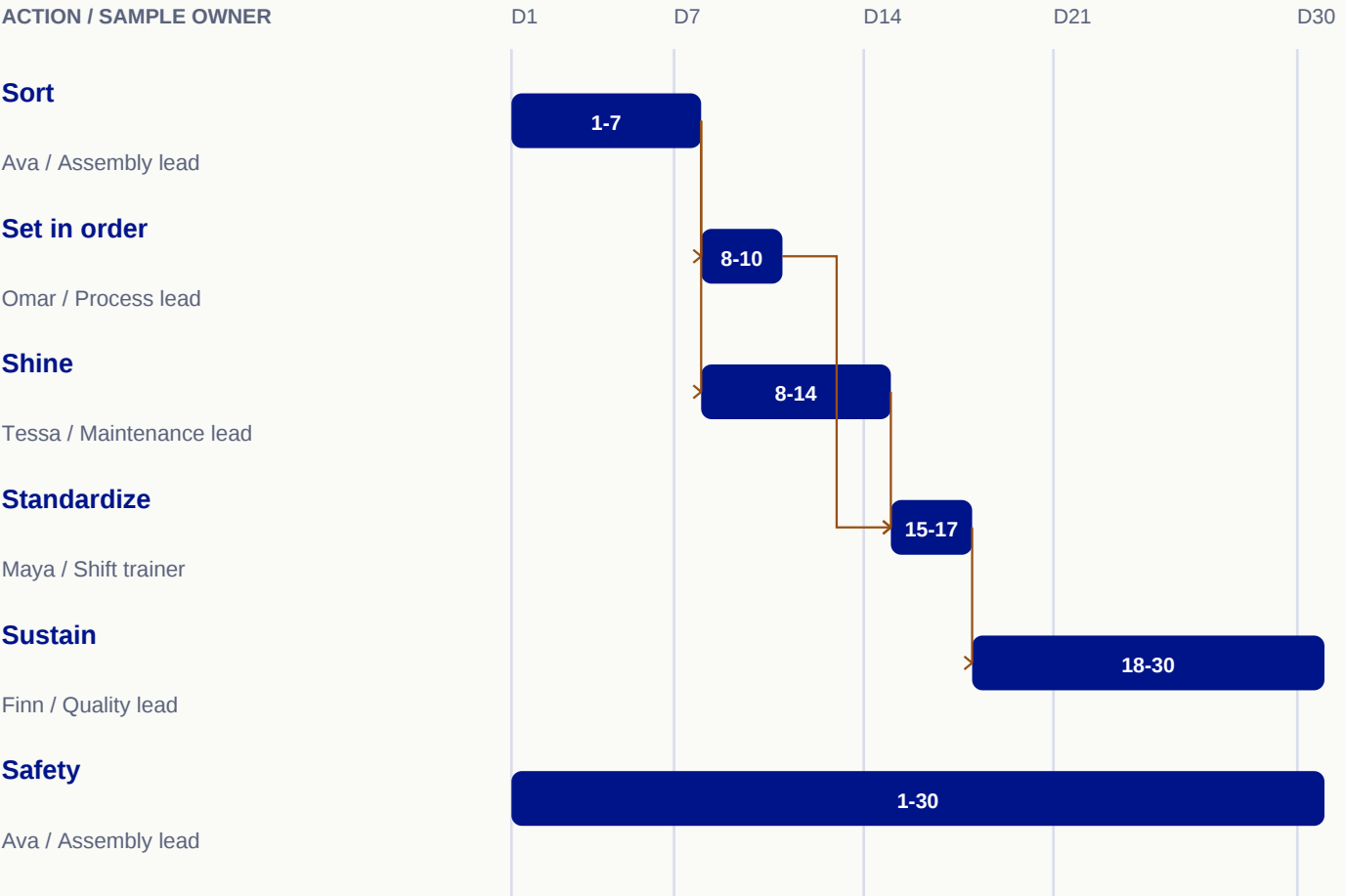


Day	Decision / owner	Evidence to bring
1	Agree scope and local controls Ava / Assembly lead	A layout change must retain component, material and product traceability.
3	Record the starting condition Ava / Assembly lead	Retain the item register, sample observations and full timing definition.
7	Accept one bounded trial Ava / Assembly lead	Confirm component identity, reject decisions and the trial boundary.
10	Check the proposed arrangement Omar / Process lead	Ask a second practitioner to demonstrate the correct selection and return route.
14	Keep, adapt or reverse the trial Omar / Process lead	Tessa records the residue-source investigation, authorized correction and real recurrence check; verify the storage arrangement too.
21	Review both shifts and exceptions Maya / Shift trainer	Both shifts demonstrate the reset and escalation for look-alike components.
25	Collect the complete recheck Finn / Quality lead	Repeat twenty comparable preparations without worsening component selection.
30	Decide and assign the next review Finn / 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 Ava / Assembly lead Days 1-7	Separate frame-kit contents Identify needed hardware, seals, offcuts and damaged components with the assembly lead before clearing the station.	Every retained kit has the correct identity and quantity; uncertain components have a disposition owner.
Set in order Omar / Process lead Days 8-10	Set up a clear frame kit Trial dedicated hardware bins and supported component positions around the same padded assembly tables.	The next frame kit is ready without searching or moving unsupported glazing or frames.
Shine Tessa / Maintenance lead Days 8-14	Protect clean assembly surfaces Maintenance investigates recurring contamination; the assembly team restores approved pads and surfaces and checks subsequent frames.	The source and response are recorded; clean pads do not conceal a continuing contamination problem.
Standardize Maya / Shift trainer Days 15-17	Agree the frame-ready check Write the accepted kit, pad-condition and station-reset checks with the assembly and quality leads.	Two shifts identify the same ready condition and response for a damaged pad or missing component.
Sustain Finn / Quality lead Days 18-30	Review the next frame runs Track kit-ready time, missed resets and quality observations across comparable frame work through day 30.	Faster preparation is accepted only with the agreed quality and workload checks.
Safety Ava / Assembly lead Days 1-30	Check handling and restraints The competent assembly lead reviews frame/glazing handling, support, restraints and equipment access before changed positions are used.	Approved handling and support controls remain in place; unresolved concerns retain an owner.

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
Component search time	3.4 minutes	1.5 minutes	Not measured

Median of 20 authored sample observations. Start when the frame bill of materials is opened; finish when the correct components are confirmed at the station.

Also protect: Component selection and traceability stay correct for every sampled frame.

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 20-observation timing sample using the same start/end rules.
4. Component selection and traceability stay correct for every sampled frame.
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	Maya / Shift trainer	Record a missed check or recurring concern and assign the next action.
Comparable process sample	Finn / Quality lead	Review the complete sample and any quality or workload tradeoff.
Day-60 review	Ava / Assembly 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.