

Stop the recurring leak

Bring your defect counts and build the next cause test.



PROPOSED ARRANGEMENT / GENERATED ILLUSTRATION

SAMPLE START

6%

fail final test

PROPOSED GOAL

1.5%

failure goal

In the illustrative ten-day baseline, 144 of 2,400 assembled valves fail the approved final leak test. Rework disrupts flow; the cause has not been confirmed.

Scope: One valve family, two assembly fixtures and final leak test. Product design and approved test criteria are unchanged.

Proposed completion: day 30. The following pages show the project phases, six-S workstreams, named owners and evidence for the closing review.

Fictional project and team. Starting figures are authored samples. Goals and future arrangements are proposed, not achieved results. Photographs do not supply the measurements.

See the change. Make a practical plan.

Two illustrative views of the same workspace. The report belongs to this example.

ILLUSTRATIVE STARTING CONDITION



PROPOSED ARRANGEMENT



Discuss the arrangement with the people doing the work. Confirm local operating requirements, technical suitability and the actual result before accepting a change. This is not a completed project photograph.

Contain the leak; verify the cause

Stop the recurring leak



GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE

01

D0-2: prepare, team, define

02

D3: contain exposure

03

D4: occurrence + escape

04

D5-6: choose, test, validate

05

D7-8: prevent recurrence, recognize

D0 prepares the work where used. D1 forms the team; D2 defines the problem; D3 contains exposure; D4 verifies occurrence and escape causes; D5 selects and tests permanent action; D6 implements and validates; D7 prevents recurrence; D8 recognizes the team.

The existing sample has 144 first-test failures in 2400 valves. Begin by defining the affected product, defect and observation period. Temporary containment limits exposure while the team investigates both why the leak occurred and why the process failed to prevent or detect it earlier. Keep possible causes separate from confirmed causes. The proposed 1.5% goal is not a result. Carry a verified corrective action into normal work and review recurrence before retiring containment.

TRY IT / DISCUSS

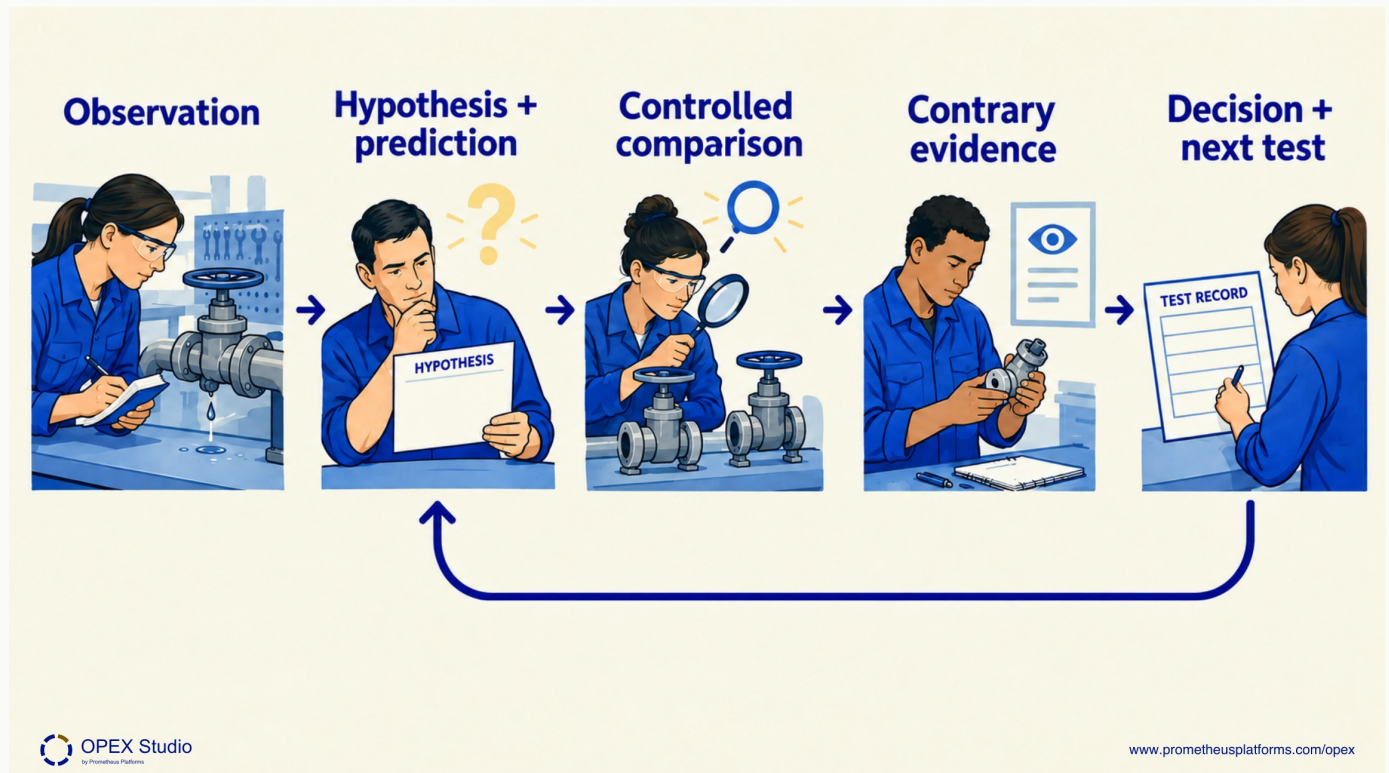
A fixture association is visible. Is that enough to select permanent corrective action?

Check your reasoning: No. Use it to select a discriminating test; preserve containment while checking the cause and the detection gap.

METHOD SOURCES / Q05: Eight Disciplines 8D | Q10: Fishbone Diagram | Q11: Handbook of Corrective and Preventive Action, Sample

Turn a plausible explanation into a cause test

Stop the recurring leak



GENERATED TEACHING ILLUSTRATION / FICTIONAL WORKPLACE

Failure mode at teardown / authored sample

FIXTURE ASSOCIATION ONLY

Rolled seal		82	A: 110/1200 = 9.17%
Low torque indication		34	B: 34/1200 = 2.83%
Other / undetermined		28	Cause-test result: not collected

Write the predicted result before running a controlled comparison. Specify what stays comparable, how failures will be measured, and what result would challenge the explanation. The retained pilot gate of no more than 4 first-test failures in 300 and later validation gate of no more than 36 in 2400 are separate planned checks, not proof already obtained. A small pass alone does not establish long-term performance.

TRY IT / DISCUSS

What is the difference between relabelling or repairing affected units and changing the cause?

Check your reasoning: The first corrects those units; corrective action changes a verified cause and requires an effectiveness check.

METHOD SOURCES / Q05: Eight Disciplines 8D | Q10: Fishbone Diagram | Q11: Handbook of Corrective and Preventive Action, Sample

8D: the worked example.

Keep the original method visible. Six-S work supports the project; it does not replace its analysis or verification.

Step	Worked example	Evidence state
Plan	Bound the affected family, required expertise and release authority.	Proposed / awaiting evidence
Team	Quality lead owns the 8D; manufacturing, test, supply and cell practitioners own their investigations.	Proposed / awaiting evidence
Problem	144/2400 failures over ten days; one family, two fixtures; cause unverified.	Synthetic baseline
Contain	Use approved holding/retest/release decisions while the cause study proceeds.	Proposed / awaiting evidence
Verify causes	Test seal-presentation and detection hypotheses; retain alternatives and confounders.	Proposed / awaiting evidence
Select correction	Choose a change only after the cause evidence and a controlled pilot support it.	Proposed / awaiting evidence
Validate	Apply the correction and compare a full, equivalent validation window with baseline.	Proposed / awaiting evidence
Prevent recurrence	Update setup/reaction controls and review similar products only where relevant.	Proposed / awaiting evidence
Recognize and close	Recognize contributors and close only after the authorized owner accepts evidence; currently pending.	Proposed / awaiting evidence

Method reference: [Eight Disciplines 8D](#)

Read the sample. Agree what to measure.

These values describe an authored starting exercise. A new comparable sample is needed to verify a result.

Ten-day final-test baseline

Day	Tested	Failed
1	240	10
2	240	12
3	240	15
4	240	16
5	240	14
6	240	17
7	240	15
8	240	18
9	240	13
10	240	14

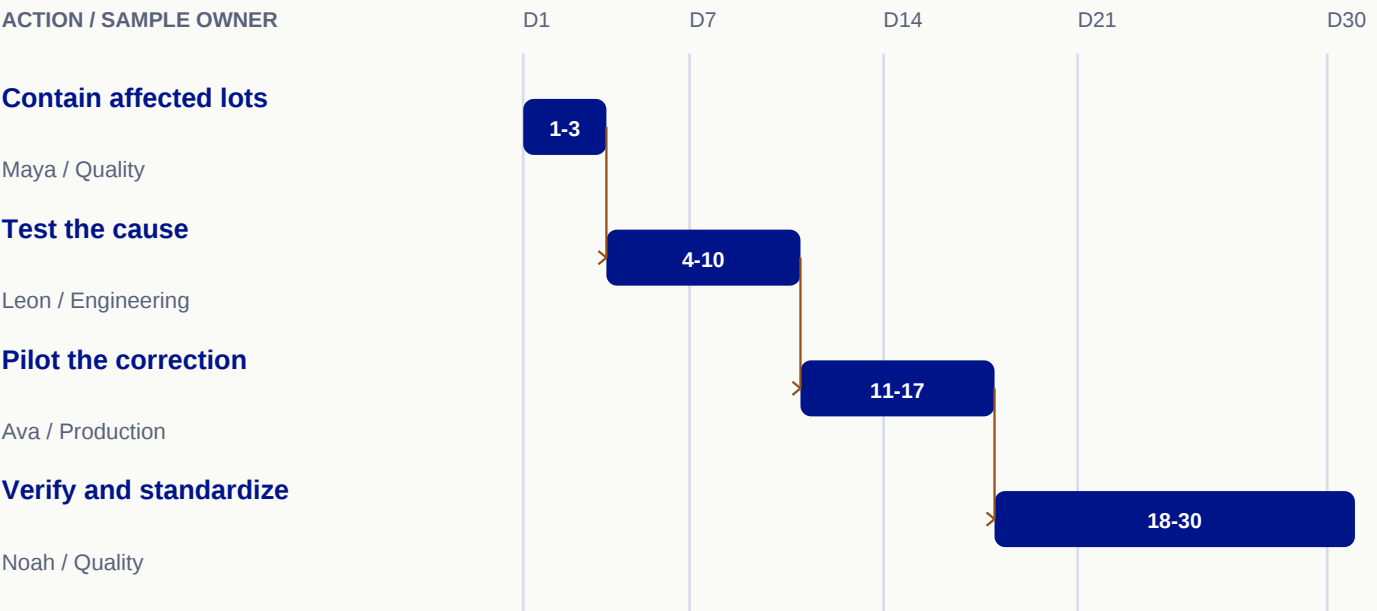
Final-test failure rate: start 6 %; proposed goal 1.5 %. Failed units / tested units x 100; baseline 144/2400, target no more than 36/2400 in the next comparable validation window.

First-pass yield: start 94 %; proposed goal 98.5 %. Units passing the first final test / all first tests; excludes retest passes.

A 30-day project.

A clear finish to work toward.

Four project phases with named owners. Dependencies show the sequence; the final review decides what to retain or revise.

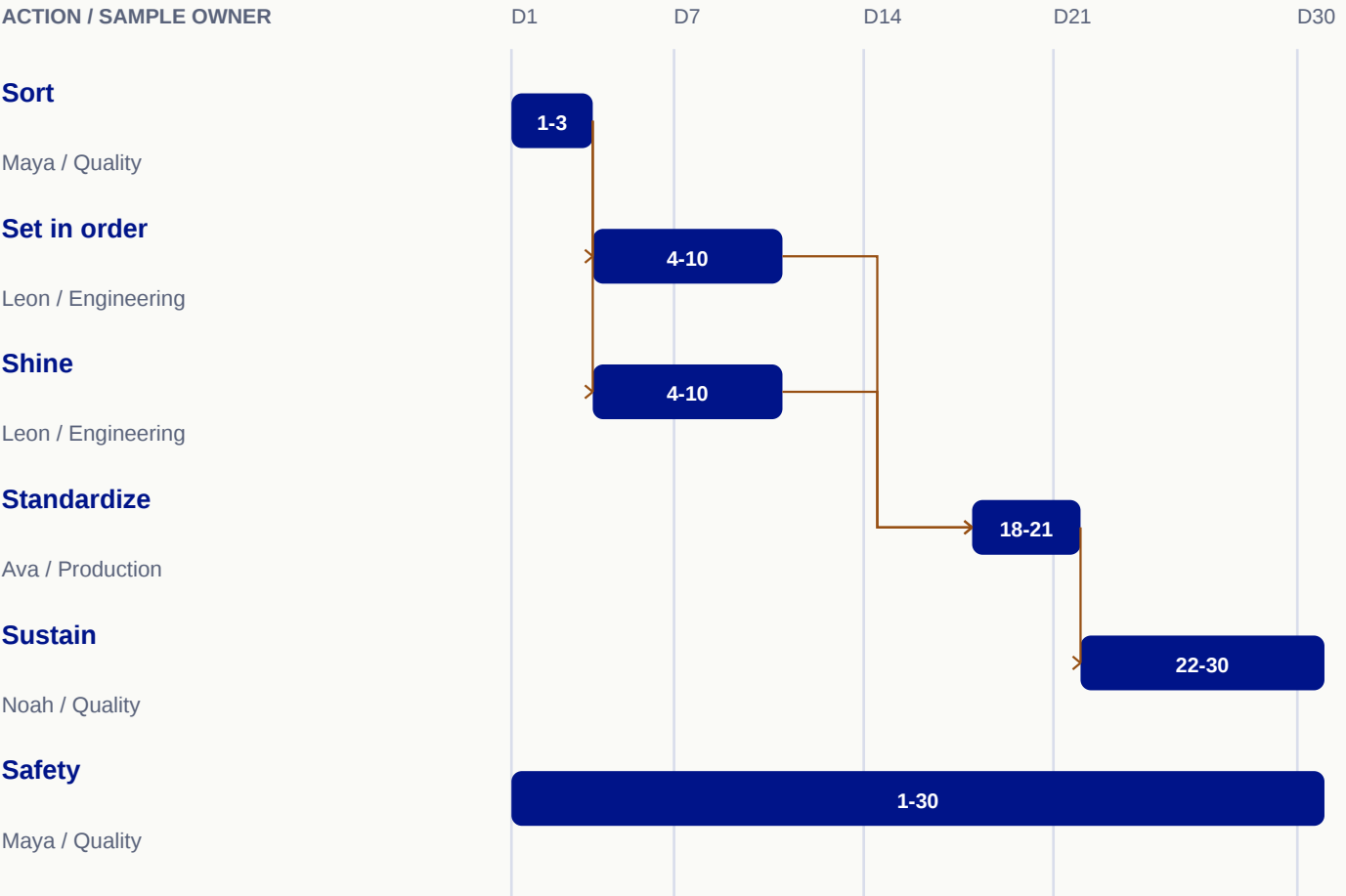


Days / owner	Project phase	Check before moving on
1-3 Maya / Quality	Contain affected lots	Every held lot has a traceable release decision.
4-10 Leon / Engineering	Test the cause	Show why the leak happens and why checks missed it, using repeatable tests.
11-17 Ava / Production	Pilot the correction	No more than four first-test failures in 300 pilot units, no new failure mode.
18-30 Noah / Quality	Verify and standardize	Comparable validation meets the 1.5% goal; recurrence response has an owner.

Planned completion decision: day 30. Unfinished work, failed checks or missing evidence may extend the trial. Dates and owner names are illustrative and must be agreed locally.

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.

Standardize also waits for the project phase: Pilot the correction (through day 17).

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 Maya / Quality Days 1-3	Separate suspect assemblies Identify the affected lot boundary and quarantine suspect seals, fixtures and assemblies through the existing containment owner.	Every suspect lot has a traceable disposition; conforming and suspect parts cannot mix.
Set in order Leon / Engineering Days 4-10	Give fixtures a clear home Separate approved fixtures from trial fixtures and arrange the validated setup tools at the test station.	Two operators retrieve the correct fixture without relying on memory; trial items remain segregated.
Shine Leon / Engineering Days 4-10	Expose recurring residue Clean accessible approved surfaces and record where residue returns; engineering investigates the source before closure.	The residue source is investigated and the approved response is checked on the next comparable run.
Standardize Ava / Production Days 18-21	Keep one approved setup Issue the accepted fixture/setup check only after the 8D correction passes its trial; remove obsolete copies.	The released revision matches the trial evidence and operators demonstrate the check.
Sustain Noah / Quality Days 22-30	Check the next lots Review comparable final-test results and setup records through day 30, recording every failed check and response.	The failure denominator, setup record and unresolved actions are visible; the goal is not reported as achieved without results.
Safety Maya / Quality Days 1-30	Review the work controls The competent area lead reviews handling, isolation and test-station access before any fixture change and after the pilot.	Required work approvals and unresolved concerns are recorded; the project board does not authorize machine changes.

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.

Finish with evidence. Choose the next improvement.

A polished workspace and a completed schedule start the discussion. Actual checks decide whether the change worked.

At the completion review

1. Use occurrence and escape-cause evidence separately.
2. Containment remains until the authorized quality owner approves exit criteria.
3. Pilot and validation numbers are planned acceptance rules, not results.

Keep the result visible

Routine	Accountable sample owner	Response
Final-test failure rate by day and fixture Each shift; daily review	Maya / Quality lead	Contain affected units under approved procedure; investigate the signal; do not present 1.5% as a statistical control limit.
Correction adherence First-off plus weekly layered confirmation	Ava / Cell supervisor	Stop the affected setup, restore the approved condition and verify before release.

Closing decision: retain, revise or extend.

Record measured results, open actions, the receiving owner and the next review date. A goal remains a goal until the evidence supports the claimed result.

Authored example, fictional people and generated imagery. This report is public teaching material; it does not certify a workplace, establish safe operation or record a customer outcome.