



FREE QUALITY TOOLKIT · KIT 09

Foundations Kit

The backbone methods every other kit hangs off: **DMAIC** to run the project, **Kaizen** to move in a week, and **PDCA** to keep the loop turning. Includes the one-page map of which tool belongs to which phase — an index to the whole library.

DMAIC charter · tollgate checklist · phase→tool map · Kaizen planner · PDCA cheat sheet

Free — start here, then follow the map. getfloorsignal.com

WHAT'S IN THIS KIT

Every tool in this library lives inside one bigger loop: define the problem, measure it, find the cause, fix it, and hold the gain. This kit is that loop. **DMAIC** is the long-form project frame; **Kaizen** is the same idea compressed into a focused week; **PDCA** is the engine underneath both. Start here, then use the phase-to-tool map to jump to whichever kit you need next.

	TOOL	WHAT YOU GET	PAGE
DMAIC	DMAIC	Plain-terms guide · phase→tool map (the library index) · fillable project-charter template · phase-by-phase tollgate checklist	3–6
Kaizen	Kaizen event	Plain-terms guide · fillable 5-day event-planner template	7–8
PDCA	PDCA	One-page cheat sheet (Plan-Do-Check-Act / PDSA)	9
→	See your own floor	The 30-minute offer	10

How to use them.

Type into the grey fields of the charter and planner in any PDF reader, or print the lot. Every name and number in the examples is invented — a synthetic shop floor, not anyone's real project.

WHERE THESE METHODS COME FROM · VERIFIED JULY 2026

DMAIC and PDCA are documented by ASQ. PDCA descends from **Walter Shewhart's** 1939 cycle and **W. Edwards Deming**, who preferred “PDSA” (Plan-Do-Study-Act); Japanese industry coined the term “PDCA.” **Kaizen** was brought west by **Masaaki Imai** (1986) from the Toyota Production System. These are stable methodologies with no governing standard edition; framing verified against ASQ and the Lean Enterprise Institute.

DMAIC, IN PLAIN TERMS

Five letters, five phases, and a **tollgate** at the end of each — a short review where the sponsor asks one question: did we actually finish this phase before we start spending on the next? Skip the gates and you build solutions on guesses. The framework doesn't fix anything; the gate that stops you moving on too early is what does.

	PHASE	THE QUESTION IT ANSWERS	TOLLGATE DELIVERABLE
D	Define	What problem, for whom, worth how much?	Charter, scope, and team signed off.
M	Measure	How big is it, really?	A baseline you can trust — the measurement checked.
A	Analyze	What's actually causing it?	Root cause proven with evidence, not opinion.
I	Improve	What fix removes the cause?	A piloted solution that works before full rollout.
C	Control	How do we keep the gain?	Control plan, SPC, standard work — handed to an owner.

The honest version: DMAIC's whole discipline is the tollgate. Teams love to jump from a fuzzy Define straight to a favourite Improve. The gate is what makes them measure and analyse first — which is the only reason the fix ends up aimed at the real cause.

Sources: ASQ, "DMAIC" and "The Define Measure Analyze Improve Control (DMAIC) Process." iSixSigma, "Tollgate Reviews." Verified July 2026.

WHICH TOOL LIVES IN WHICH PHASE

The map. Every kit in this library plugs into a DMAIC phase. Lost on a problem? Find the phase you're in, grab the tool, open the kit. This one page is the index to the other eight.

REACH FOR		IN THE FLOORSIGNAL LIBRARY
D	Project charter · SIPOC · voice of the customer	Foundations Kit — this one
M	Check sheets · Pareto analysis	Data & Prioritization — Kit 6
M	Gage R&R / MSA · Cp / Cpk capability	Measurement-Trust — Kit 4
A	5 Whys · Fishbone (Ishikawa)	Root-Cause — Kit 2
A	PFMEA (Action Priority)	Prevention & Design — Kit 3
I	Poka-Yoke (mistake-proofing)	Prevention & Design — Kit 3
I	8D · CAPA	Containment & Problem-Solving — Kit 1
I	Kaizen event	Foundations Kit — this one
C	SPC / control charts · Control Plan	Control & Sustain — Kit 5
C	Standard Work / SOP · Layered Process Audit	Standardization & Audit — Kit 7

Also spanning every phase: the framework kits — APQP + PPAP and the IATF 16949 / ISO 9001 clause map (Quality Frameworks, Kit 8) — sit around the whole DMAIC loop rather than inside one phase.

DMAIC PROJECT CHARTER — FILLABLE

Type into any grey field, or print and write.

PROJECT TITLE

SPONSOR

PROJECT LEAD

PROBLEM STATEMENT *what, where, when, how big — quantified*

BUSINESS CASE *what the problem costs you today*

GOAL STATEMENT *SMART: specific, measurable, time-bound*

IN SCOPE

OUT OF SCOPE

TEAM MEMBERS

BASELINE → TARGET METRIC

TOLLGATE TARGET DATES

D **M** **A** **I** **C**

SPONSOR APPROVAL

PROJECT LEAD

DATE APPROVED

Charter structure per ASQ DMAIC Define-phase deliverables. Synthetic template. Verified July 2026.

DMAIC TOLLGATE CHECKLIST

At each phase gate, don't wave the team through on a nice slide. These are the boxes that should be true before the next phase gets any budget. Tick on screen or on paper.

D

DEFINE GATE

Charter approved, scope bounded (in / out), and the problem quantified with a baseline number.

Sponsor and team signed on — with real time committed, not names on a list.

M

MEASURE GATE

Data-collection plan followed and the numbers are trusted (measurement system checked — Gage R&R).

Baseline performance / capability established before any change.

A

ANALYZE GATE

Root cause(s) proven with data and verified — not the team's first guess.

I

IMPROVE GATE

Solution piloted and shown to remove the cause before full rollout.

Risk on the new process checked (FMEA); implementation plan has an owner.

C

CONTROL GATE

Control plan + SPC / monitoring live and standard work updated.

Owner has accepted the handoff and the savings are documented.

THE KAIZEN EVENT, IN PLAIN TERMS

Kaizen means “**change for the better.**” A Kaizen event — or blitz — compresses improvement into a focused week: pull a cross-functional team off their day jobs, point them at one process, and don't leave until it's measurably better. Masaaki Imai brought the word west in 1986, straight out of the Toyota Production System. It runs in three phases — prepare, event, follow-up — usually on a five-day floor.

WHEN	FOCUS	WHAT HAPPENS
Prep	Before	Pick the process, set a target number, book the team, gather current data.
Day 1	Current state	Go to the floor. Map how the work really flows today — not the SOP version.
Day 2	Find the waste	Spot the waste and dig to root causes with the team who live it.
Day 3	Try it	Design improvements and test them on the floor, that day.
Day 4	Lock it in	Implement, standardize the new way, and write the standard work.
Day 5	Report out	Show leadership the before/after and set the 30-day follow-up list.
Follow-up	After	Confirm the gains held. Close the open actions. This is where Kaizens die.

The honest version: the event is the easy part. The follow-up is where the gains leak away. Book the 30-day check — with an owner and a date — before anyone leaves the room on Day 5.

Sources: Lean Enterprise Institute, “Kaizen.” M. Imai, Kaizen (1986). ASQ, “What is Kaizen?” Verified July 2026.

KAIZEN EVENT PLANNER — FILLABLE

Type into any grey field, or print and write.

EVENT TITLE

SPONSOR

FACILITATOR

TARGET PROCESS / AREA

DATES

BASELINE → TARGET METRIC

OBJECTIVE & SCOPE *the one process, and what's in / out*

TEAM & ROLES *cross-functional — include an operator who runs it*

FIVE-DAY AGENDA

Day 1 — map current state

Day 2 — find waste & root cause

Day 3 — design & test

Day 4 — implement & standardize

Day 5 — report out

30-DAY FOLLOW-UP ACTIONS *owner · due date — book these before Day 5 ends*

PDCA — THE ENGINE UNDER EVERYTHING

The loop inside every method in this library. Walter Shewhart drew it as a cycle in 1939; Deming carried it into industry and preferred “**Study**” over “Check” (PDSA) — because the point is to learn from the result, not just inspect it.

P

Plan

State the change AND the result you expect. No prediction means nothing to check against.

D

Do

Run it small and controlled. A full rollout isn't a “Do” — it's a gamble.

C

Check / Study

Compare what happened to what you predicted. The surprises are the whole point.

A

Act

Worked? Standardize it into the SOP. Didn't? Adjust and turn the loop again.

PDCA is a spiral, not a circle. Each turn should land higher than the last. You'll also see it called the Deming cycle, the Deming wheel, or the Shewhart cycle — same loop, and the reason DMAIC's Control phase and every Kaizen follow-up exist at all: to make the gain stick.

Every tool in this library maps to a DMAIC phase — and **FloorSignal** is the Control-phase dashboard that keeps the gains from sliding back.

Sources: ASQ, “PDCA Cycle (Plan-Do-Check-Act).” Shewhart (1939); Deming (PDSA). Verified July 2026.



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