

— TEMPLATE

Preventive maintenance plan template

Tasks by asset family, criticality, capacity, calendar and compliance



TEMPLATE

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Who it is for

- Maintenance managers building a plan for the first time, or rebuilding one that is not being met.
- Service companies that maintain their customers' equipment and need a plan per contract.
- Teams that run preventive maintenance on paper or in a spreadsheet today.

How to use this template

The order of work

- ## How to read the tables

Box to tick when it is done.

You can fill it in by hand or copy the tables into a spreadsheet. The tool does not matter: what matters is that the plan fits your team's hours and is measured every month.

02

Step 1. Sort your inventory into families

A family is a group of equipment that shares the same tasks: all the chillers, all the electrical subpanels, all the forklifts. The plan is written per family and applied to each unit.

Before you fill it in

- **One code per unit** that does not change when the unit moves. The location goes in a separate field.
- **One record per unit**, with make, model, serial number, location and, if you service third parties, the customer who owns it.
- **Retired units out.** A unit that is gone but still in the inventory creates work orders nobody can complete.
- **If you are torn between two families**, ask whether they share the same tasks. If not, they are two families.

■ Asset families

Family	Units	Locations	Where the intervals come from	Owner
HVAC	14	Main office and warehouse	Manual and regulations	

Where the intervals come from. First, the regulations that apply; then, the manufacturer's manual; and last, your own history. If a unit fails more often than the manual expects, shorten its interval: your history outweighs the manual.

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Step 2. Rank each unit by criticality

Not every unit deserves the same effort. Score each one with three questions and multiply. The math does not have to be exact: it has to rank.

■ How to score

Criterion	1	2	3
Impact of failure	A nuisance, no downtime	Affects part of the service or production	Stops the service or production, or affects safety
Failure frequency	Rarely fails	Fails now and then during the year	Fails often
Detection	Gives warning and shows up on a walk-through	Gives warning, but only if measured	Fails without warning

Score = impact × frequency × detection (1 to 27)

■ Groups and strategy

Group	Score	Strategy
A · Critical	12 or more	Full preventive maintenance, with readings and reference values. Never postponed without the manager's decision.
B · Important	6 to 11	Basic preventive maintenance: inspection plus the manufacturer tasks that prevent the most expensive failures.
C · Everything else	5 or less	Run to failure, or one yearly check if it is cheap.

Exception. If a failure affects people's safety or a legal obligation, the unit goes into group A, whatever its score.

■ Scoring sheet

Unit (code and name)	Impact	Frequency	Detection	Score	Group
CLI-003 · Rooftop chiller	3	2	2	12	A

■ Scoring sheet (continued)

Unit (code and name)	Impact	Frequency	Detection	Score	Group

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Step 3. Work out the hours you really have

The root mistake behind most plans is planning what should be done instead of what can be done. Before you write a single task, work out your hour budget.

Hours per year = technicians × productive hours per day × working days
 Hours for preventive = hours per year × (1 - reactive share) × (1 - buffer)

- **Productive hours:** hands-on work, without travel, waiting or admin. Measure them from your work orders; if you cannot, be conservative.
- **Reactive share:** the share of hours that goes into breakdowns today. Take it from the last few months of work orders.
- **Buffer:** a reserve for sick leave, vacations and big breakdowns. A plan at 100% of capacity cannot absorb anything unexpected.

EXAMPLE

6 technicians × 5.5 productive hours × 250 days = 8,250 hours a year. If reactive work takes 60%, 3,300 hours are left. With a 20% buffer, the plan has to fit in about 2,640 hours.

■ Your numbers

Technicians who do preventive work	
Productive hours per technician per day	
Working days per year	
Hours per year	
Share of hours spent on reactive work (%)	
Buffer you keep (%)	
Hours available for preventive work	
Plan workload: sum of (duration × times per year)	

If the workload does not fit

1. Move what is left in group C to run-to-failure.
2. Stretch group B intervals, starting with the units that fail least.
3. Do not cut group A or anything mandatory without a written decision from the manager.
4. If it still does not fit, that is the conversation you need to have with management: with the current team, not everything can be maintained.

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Step 4. Tasks by asset family

These tables list common tasks for six asset families and are meant as a starting point. Delete what does not apply, add what is missing and replace each interval with your own.

Every interval is an example (in purple, with a dashed border), not a recommendation for your equipment. What counts is the manufacturer's, the regulations' and your own history. Write each task so it can be checked: "thermal scan of terminals, alert if above the reference value", not "check the panel".

HVAC and ventilation

Task	Type	Interval	Reference or alert if...	Min.
Clean or replace air filters	Cleaning	Monthly	Pressure drop set by the manufacturer	
Clean coils and condensate pan; check the drain	Cleaning	Quarterly	No standing water or visible dirt	
Fan belts, pulleys and bearings	Inspection	Quarterly	Tension and wear per manufacturer	
Refrigerant circuit pressures and temperatures	Reading	Twice a year	Commissioning values	
Refrigerant leak check	Test	Per regulations	As set by the regulations for the unit	
Sensors and controls	Calibration	Yearly	Maximum deviation allowed by the manufacturer	

Electrical installation and panels

Task	Type	Interval	Reference or alert if...	Min.
Visual check of panels: overheating, smells, labels	Inspection	Monthly	No signs of overheating	
Trip test of residual-current and GFCI devices with the test button	Test	Quarterly	They trip when the button is pressed	
Thermal scan of power terminals and connections	Reading	Yearly	Record the peak temperature; alert if above the reference	
Re-torque power connections	Adjustment	Yearly	Manufacturer torque	
Emergency lighting: operation and battery duration	Test	Per regulations	As set by the regulations	
Mandatory periodic inspections of the installation	Inspection	Per regulations	By a licensed inspector or contractor	

■ Booster sets and pumps

Task	Type	Interval	Reference or alert if...	Min.
Cut-in and cut-out pressure	Reading	Monthly	Set points of the booster set	
Leaks at seals, valves and mechanical seals	Inspection	Monthly	No dripping	
Pump rotation and standby pump start	Test	Monthly	All pumps start	
Pressure tank or expansion tank pre-charge	Reading	Twice a year	Manufacturer pre-charge	
Current draw of each motor	Reading	Twice a year	Rated current on the nameplate	
Operate isolation and check valves	Test	Yearly	They move and close	

■ Fire protection

Task	Type	Interval	Reference or alert if...	Min.
Fire extinguishers	Inspection	Per regulations	Copy the interval from the regulations	
Hose stations and hydrants	Test	Per regulations	Copy the interval from the regulations	
Detection and alarm	Test	Per regulations	Copy the interval from the regulations	
Sprinklers and water supply	Test	Per regulations	Copy the interval from the regulations	
Fire doors and signage	Inspection	Per regulations	Copy the interval from the regulations	

No examples here. Fire protection intervals and who may perform them are set by the regulations. Copy the ones that apply to you and the ones in your contract with your licensed fire protection contractor.

■ Machinery and production equipment

Task	Type	Interval	Reference or alert if...	Min.
Grease and lubricate the points listed by the manufacturer	Lubrication	Per manufacturer	Lubricant type and amount from the manual	
Emergency stops and guards	Test	Weekly	They stop the machine when triggered	
Bearing vibration and temperature	Reading	Monthly	Trend against the previous reading	
Belt and drive tension and alignment	Adjustment	Quarterly	Per manufacturer	
Leaks in hydraulic and pneumatic circuits	Inspection	Monthly	No leaks	
Wear parts: filters, seals, brushes	Replacement	By operating hours	Hours set by the manufacturer	

■ Vehicles and mobile equipment

Task	Type	Interval	Reference or alert if...	Min.
Operator pre-use check of forklifts and aerial lifts	Inspection	Daily	Brakes, horn, lights and leaks	
Fluids, tires and lights on technicians' vehicles	Inspection	Weekly	Per the vehicle manual	
Manufacturer service	Replacement	By miles or hours	Manufacturer schedule	
Lifting equipment and accessories	Inspection	Per regulations	As set by the regulations	
Van cargo and tie-downs	Inspection	Monthly	Nothing loose in the cargo area	
Mandatory vehicle inspection	Inspection	Per regulations	Date of the next inspection	

■ Family: _____

Task	Type	Interval	Reference or alert if...	Min.

Three ways to set an interval

- **By calendar:** every month, every quarter. The easiest to plan.
- **By usage:** every so many operating hours or miles. It tracks wear better, but someone has to log the hours.
- **By condition:** when a measured value crosses a limit. The most precise, and the one that needs the most measuring discipline.

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Step 6. Decide what happens when you fall behind

Some months you will fall behind. The difference between a plan that survives and one that gets abandoned is that postponing is a decision with a trail, not a habit.

Priority order

1. Anything required by regulations or that affects safety.
2. Group A.
3. Inspections that were already postponed once.
4. Group B.
5. Group C.

Three rules

- Every postponement is logged with its reason and its new date.
- The second postponement of the same inspection is decided by the manager, not the technician.
- Every issue an inspection finds becomes a corrective work order with a date. If it stays as a note on the work order, it gets lost.

■ Postponement log

Date	Unit or work order	Reason	New date	Times	Decided by
03/14	PMP-01 · Six-month check	Urgent breakdown at another customer	03/21	1	Technician

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Step 7. Measure compliance

A small plan that gets done beats a complete one that does not. Measure every month and decide with data, not with gut feeling.

KPIs

KPI	How to calculate it	What it tells you
PM compliance	Preventive work orders done on time ÷ work orders scheduled in the month × 100	If it stays low month after month, the plan is oversized, not badly executed.
Postponed more than once	Inspections with two or more postponements	If it grows, the plan is slipping even if compliance does not show it yet.
Reactive vs. preventive	Reactive hours ÷ preventive hours	Look at the trend over several months, not a single month.
Issues resolved	Planned corrective orders closed ÷ issues found × 100	If it drops, inspections find problems nobody fixes.

Define “on time” before you measure. For example, a tolerance window based on the interval: a few days for a monthly task and a few weeks for a yearly one. Write it down and do not change it mid-year.

Monthly tracking

Month	Scheduled	Done on time	Compliance (%)	Postponed 2+ times	Reactive hours	Preventive hours
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

NOTES

	Check	Notes
☐	Compliance over the last three months is at the level you set.	
☐	No group A unit has an inspection postponed more than once.	
☐	Every assigned plan creates its work orders on their dates. A plan that creates no work orders only exists on paper.	
☐	Every issue found has its corrective work order with a date.	
☐	Actual task hours are close to the planned ones. If not, fix the durations.	
☐	The units that fail most have had their interval reviewed.	
☐	New units are in the inventory and have a plan; retired ones have been removed.	
☐	Tasks that always come back “no issues” have been reviewed: maybe they can be spaced out.	
☐	Next quarter’s calendar fits in the available hours.	
☐	The team knows about the changes to the plan.	