Master Production Schedule

How-to guide: what the workbook does, how to use it and what every number means. mfgcalcs.com

Master Production Schedule

Plan each finished item week by week from forecast and customer orders, and see MPS receipts, projected available balance and how many units are still free to promise.

For: Master schedulers, production planners, customer service and sales teams quoting delivery dates, and plant managers running S&OP.

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Quick start

1. On Setup, type the plan start (a Monday) and the demand time fence, then replace the example items with your own on-hand stock, safety stock, lot size and stock on hold.
2. On MPS Plan, give each item one row per week with its forecast, the customer orders booked and any MPS quantity already firmed.
3. Read the Check column, then the Fence column: Check means a new lot falls inside the demand time fence and needs approval.
4. On the Dashboard, pick an item, a week and a quantity to see whether it can be promised.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	The plan start, the demand time fence and the items you schedule.
MPS Plan	One row per item per week: forecast, customer orders and firmed MPS in; planned MPS, projected available and ATP out.
Dashboard	Can we promise it? The item's MPS week by week, and available to promise for every item.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.
About MFG Calcs	Everything MFG Calcs offers, free: calculators, templates, tariff tools, data and the Calkee AI helper.

What each number means

Quantity	How it is calculated	Units
Demand	Customer orders when the week is inside the demand time fence (week number <= fence); otherwise MAX(forecast, customer orders).	units

Quantity	How it is calculated	Units
Uncovered	Safety stock + demand to date - (on hand - on hold) - firm MPS to date, by SUMIFS over the item's weeks so far.	units
Planned MPS	Cumulative planned = lot size x CEILING(largest uncovered quantity up to this week / lot size); planned MPS = this week's cumulative - last week's. Equals planning a whole lot whenever the balance would drop below safety stock.	units
Projected available	(On hand - on hold) + firm and planned MPS to date - demand to date.	units
Uncommitted balance	On hand + MPS to date - customer orders to date - safety stock - on hold: the Available to Promise calculator's signed balance at this week.	units
Available to promise	MAX(0, the lowest uncommitted balance from this week to the end of the plan). Worked out as 1E+12 - SUMPRODUCT(MAX(same item x later weeks x (1E+12 - uncommitted))), which works in Excel 2016.	units
Fence check	Check when planned MPS falls in a week inside the demand time fence; OK otherwise.	-
Promise check	Yes when the quantity asked for is no more than ATP in that week (read at the week's Monday); short by = MAX(0, quantity - ATP).	units

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Ellerby Pumps, a fictional business.

Free from MFG Calcs - keep this credit when you share it.

Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.

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Can we promise it? The item's MPS week by week, and available to promise for every item.

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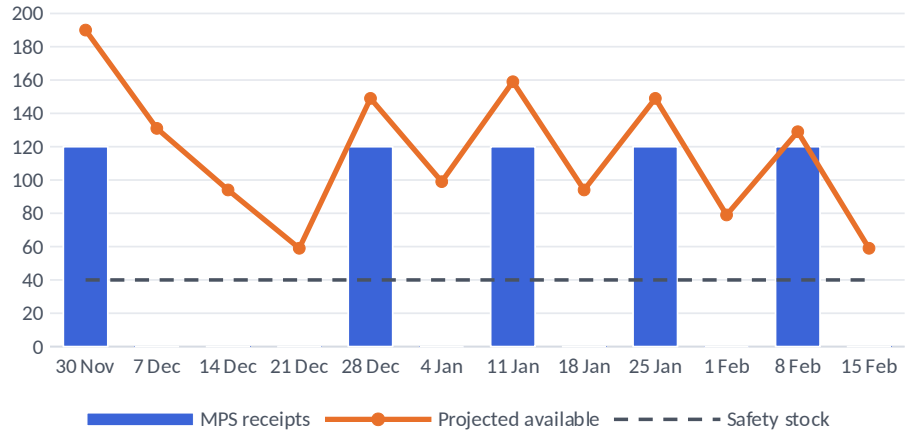
Item	CP-50	Deliver in the week of	7 Dec 2026	Quantity	50

50 mm centrifugal pump: 3-week demand time fence; available to promise counts customer orders, safety stock and stock on hold.

AVAILABLE TO PROMISE NOW	AVAILABLE THAT WEEK	CAN WE PROMISE IT?	SHORT BY
34	**34**	**No**	**16**
Week 1, for the item above	ATP in the week asked for	Quantity against that week's ATP	Units more than ATP that week

Projected available vs safety stock (units)



Available to promise and customer orders (units)

