PRINTABLE REFERENCE CHART

BOM compare: method, statuses and Excel formulas

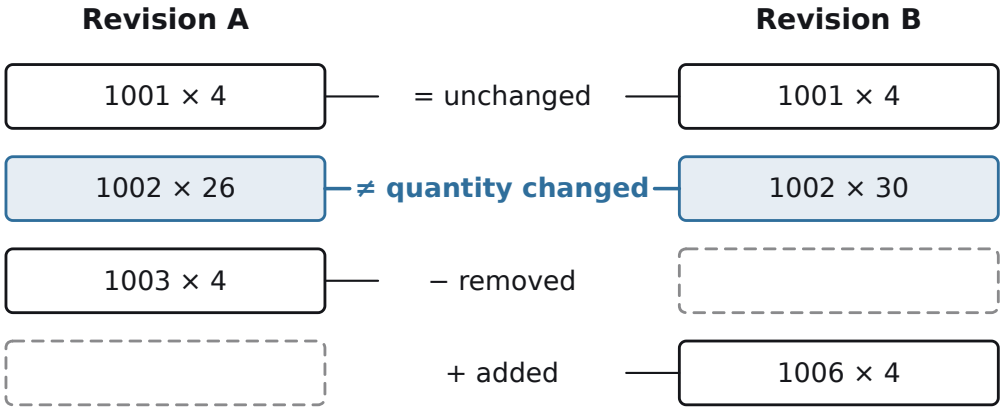
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1. The comparison key and the four statuses

Comparing two BOMs answers one simple question: what changed between the old and the new revision? Purchasing wants to know what to order more or less of, the warehouse what to set aside, production what to change at the workstation. The answer is a list of items, each with a status.

Status	Rule	What it triggers
Added	Absent from the old revision, present in the new one	Item creation if needed, procurement
Removed	Present in the old revision, absent from the new one	What to do with stock and open orders?
Quantity changed	Present on both sides, different quantities	Adjusting requirements, kits and picking
Unchanged	Same item, same quantity	Nothing

Everything rests on the **key** used to match lines. It must be the **item number** (part number), never the line number or the find number: inserting a line shifts everything below, and a line-by-line comparison then reports dozens of differences that are not real. An item whose revision changes without a new number keeps the same key: add a "revision" column if you want to see those changes too. One more reason to look after part numbering.



Comparison key: the item number

2. Example: two revisions of a cart

Take the cart from the article on the multi-level BOM, in total quantities (summarized BOM). In revision B, the Ø 100 wheels are replaced with Ø 125 wheels fastened with 5 screws instead of 4, and the handle gets two end caps. Result of the flat comparison:

Item no.	Description	Qty A	Qty B	Difference	Status
1001	Tube 40 × 40	4	4	0	unchanged
1002	M8 screw	26	30	+4	**quantity changed**
1003	Ø 100 wheel	4	0	−4	**removed**
1004	Wheel plate	4	4	0	unchanged
1005	Tube Ø 25	1	1	0	unchanged
1006	Ø 125 wheel	0	4	+4	**added**

Item no.	Description	Qty A	Qty B	Difference	Status
1007	Handle end cap	0	2	+2	**added**

The 4 extra screws come from the wheel assemblies: 4 assemblies × 1 extra screw (8 under the frame + 4 × 5 under the wheels + 2 under the handle = 30). Out of seven items, four call for action. Replacing one wheel with another is not a "change" to line 1003: it is a removal and an addition, because they are two different items with different stock and suppliers. The move from A to B is decided and traced in an engineering change order (ECO), and the where-used of the Ø 100 wheel tells you which other products still use it before you clear its stock.

5. Comparing two BOMs in Excel

Put revision A in a sheet named RevA and revision B in a sheet named RevB (item number in column A, quantity in column B, headers in row 1). In a third sheet, list the unique item numbers of both revisions in column A: copy both columns one under the other, then Data > Remove Duplicates (in Excel 365, `=UNIQUE(VSTACK(RevA!A2:A6,RevB!A2:A7))` does it in one go). Then, in row 2, copied down:

Column	Excel or LibreOffice	French-language Excel
B: quantity A	`=SUMIF(RevA!A:A,A2,RevA!B:B)`	`=SOMME.SI(RevA!A:A;A2;RevA!B:B)`
C: quantity B	`=SUMIF(RevB!A:A,A2,RevB!B:B)`	`=SOMME.SI(RevB!A:A;A2;RevB!B:B)`
D: difference	`=C2-B2`	`=C2-B2`
E: status	`=IF(COUNTIF(RevA!A:A,A2)=0,"added",IF(COUNTIF(RevB!A:A,A2)=0,"removed",IF(D2<>0,"qty changed","unchanged")))`	`=SI(NB.SI(RevA!A:A;A2)=0;"ajoutée";SI(NB.SI(RevB!A:A;A2)=0;"supprimée";SI(D2<>0;"quantité modifiée";"inchangée")))`

SUMIF adds up duplicate item numbers automatically. The status tests whether the item is present (COUNTIF) rather than a zero quantity, so that a line present with quantity 0 is not taken as removed. A filter on column E then isolates what changed. These formulas were checked in LibreOffice Calc on the example from section 2 (statuses and differences identical to the table). For a structured comparison, add a key column `=parent&"/"&item` in each sheet and compare on that column. The free BOM Excel template gives the total quantities to compare.

7. False differences, and how to avoid them

Cause	Symptom	Fix
Comparing by line number	Everything shifts after an insertion	Compare by item number
Item numbers written differently	"1002" removed and "1002␣" added	TRIM and UPPER before comparing
Leading zeros lost	"00123" turned into 123 in one file, not the other	Import the column as text
Duplicates not added up	Quantity differences that don't exist	Add up per item (SUMIF)
Different units	2 (m) vs 2,000 (mm)	Compare the unit too, or convert
Phantom exploded on one side only	Components added and sub-assembly removed	Same explosion rule on both sides

Reference values taken from the article https://www.baouch.fr/en/blog/comparer-deux-nomenclatures-bom-compare/, which explains the assumptions, formulas and edge cases. For critical use, check the current standard or the manufacturer's documentation. Free to print and share with credit to the source.