

# An Alternate Belt Position Sign for a Drillpress or Mill/Drill, Version 1.1

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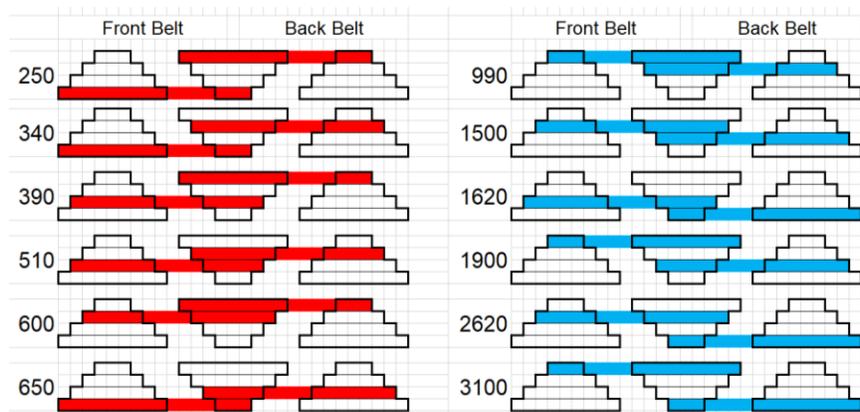
By Dave Kellogg as told to R. G. Sparber

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It is not that I'm stupid when it comes to shifting belts, but rather that I'm focused on the task at hand. I need to change the spindle's RPM and want to minimize the distraction.

After deciding on the RPMs, I must decide if the front belt is above or below the back belt. Then I have to place each belt into the proper groove.

These problems are addressed in this sign. I select the desired RPM and then read across. Red means the front belt is below the back belt. Blue represents the opposite. This is a screenshot.



To gain access to the artwork so you can change the RPMs to match your machine, download this Excel file and save it locally. If you get a warning that the file cannot be opened, right-click on the file name and select Properties. At the bottom of the window is a box for "Unblock." Click on it, then click on Apply. You should then be able to open the spreadsheet.

<https://rick.sparber.org/DrillPressBeltChart.xlsx>

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Craig Marshall offered these insights and suggestions:

Both my drill press and mill have belt-driven heads and have different arrangements. The mill has a jack-shaft (or idler shaft) at the rear, and the drill having it in the centre. Both have a wide range of speeds.

The mill has been modified with a non-standard motor pulley and is driven by a VFD powered motor. The original speed chart is therefore useless. I wrote over it in Sharpie to show the new speeds for the “main” speed. They are set by the VFD. The other speeds have the percentage factor as they relate to that main speed. This means mental arithmetic and juggling. Not optimal.

The drill press is fairly standard and has a chart inside the lid, but it’s illogical. Dave’s coloured belt diagram, which denotes stack orientation is fantastic. I am often not shooting for a *specific* speed, but just going by feel. I can tell I need to double or halve the current speed. Using your chart as an example, if I were to use either 650 or 990 for a particular job, often it would not matter. This info is hard to get at on the current black and white muddled chart.

I cannot remember in what order the images are drawn on my drill press chart - but it makes no sense to me. Perhaps belt position? Either way, they are drawn in a grid fashion 3 wide and 4 tall. It is confusing. Drawing them in order of RPM, colourising the belt stack orientation, and putting the chart somewhere easier to read would be a big upgrade.

For the mill with the VFD, I will print the available speed *range*: minimum, standard, maximum.

Here are some possibly good ideas generated by this tip:

- 1) Laminate the chart (I do this with all my homemade charts: speeds+feeds, known-good weld settings, etc.).
- 2) Stick the thing to the closest filing cabinet with a strong magnet - eye level, if possible.
- 3) Use a weaker magnet to denote the belt position. This only works if the operator is in the habit of moving the magnet when the belt position changes.

If you are like me and only use a handful of speeds, there’s a reasonable chance that you’ll already be on the right speed. A glance at the status magnet, and you won’t even need to open the cover to find out :-)

I welcome your comments and questions.

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