

# The centernot package

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2010/03/29 v1.2

## Abstract

This package provides `\centernot` that prints the symbol `\not` on the following argument. Unlike `\not` the symbol is horizontally centered.

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## 1 User interface

If a negated relational symbol is not available, `\not` can be used to create the negated variant of the relational symbol. The disadvantage of `\not` is that it is put at a fixed location regardless of the width of the relational symbol. Therefore `\centernot` takes an argument and measures its width to achieve a better placement of the symbol `\not`. Examples:

symbol	<code>\not</code>	<code>\centernot</code>	
<code>=</code>	$\neq$	$\neq$	<i>(definition)</i>
<code>\parallel</code>	$\nparallel$	$\nparallel$	
<code>\longrightarrow</code>	$\nrightarrow$	$\nrightarrow$	

But do not forget that most negated symbols are already available, e.g.:

case	package	code	result
$\backslash\parallel$ :	centernot	$\$A \backslash\centernot\parallel B\$$	$A \nparallel B$
	amssymb	$\$A \backslashnparallel B\$$	$A \nparallel B$
$\backslash\mid$ :	centernot	$\$A \backslash\centernot\mid B\$$	$A \nmid B$
	amssymb	$\$A \backslashnmid B\$$	$A \nmid B$
	mathabx	$\$A \backslashnotdivides B\$$	$A \nmid B$
$\backslash\rightarrow$ :	centernot	$\$A \backslash\centernot\rightarrow B\$$	$A \nrightarrow B$
	amssymb	$\$A \backslashnrightarrow B\$$	$A \nrightarrow B$
	mathabx	$\$A \backslashnrightarrow B\$$	$A \nrightarrow B$

## 2 Implementation

```

1 <*package>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{centernot}
4 [2010/03/29 v1.2 Centers the not symbol horizontally (H0)]%

```

$\backslash\text{not}$  is a  $\backslash\text{mathrel}$  atom with zero width. It prints itself outside its character box, similar to  $\backslash\text{rlap}$ . The next  $\backslash\text{mathrel}$  symbol is then print on top of it.  $\text{\TeX}$  does not add space between two  $\backslash\text{mathrel}$  atoms. The following implementation assumes that the math font is designed in such a way that the position of  $\backslash\text{not}$  fits well on the equal symbol.

The blue boxes marks the character bounding boxes seen by  $\text{\TeX}$ :

$\backslash\text{not}$      =      $\backslash\text{not=}$

$\backslash\text{centernot}$   $\backslash\text{centernot}$  is not a symbol but a macro that takes one argument. It measures the width of the argument and places  $\backslash\text{not}$  horizontally centered on that argument. The result is a  $\backslash\text{mathrel}$  atom.

```

5 \newcommand*{\centernot}{%
6   \mathpalette{@centernot
7 }
8 \def{@centernot#1#2{%
9   \mathrel{%
10    \rlap{%
11      \settowidth\dimen@{\$m@th#1{#2}$}%
12      \kern.5\dimen@
13      \settowidth\dimen@{\$m@th#1=$}%
14      \kern-.5\dimen@
15      \$m@th#1\not$%
16    }%
17    {#2}%
18  }%
19 }
20 \makeatother
21 </package>

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/centernot.dtx](http://ctan.org/macros/latex/contrib/oberdiek/centernot.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/centernot.pdf](http://ctan.org/macros/latex/contrib/oberdiek/centernot.pdf) Documentation.

<sup>1</sup>[ftp://ftp.ctan.org/tex-archive/](http://ftp://ftp.ctan.org/tex-archive/)

**Bundle.** All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

## 3.2 Bundle installation

**Unpacking.** Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

**Script installation.** Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

## 3.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain T<sub>E</sub>X:

```
tex centernot.dtx
```

**TDS.** Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
centernot.sty → tex/latex/oberdiek/centernot.sty
centernot.pdf → doc/latex/oberdiek/centernot.pdf
centernot.dtx → source/latex/oberdiek/centernot.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`’s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

## 3.4 Refresh file name databases

If your T<sub>E</sub>X distribution (teT<sub>E</sub>X, miK<sub>T</sub><sub>E</sub>X, ...) relies on file name databases, you must refresh these. For example, teT<sub>E</sub>X users run `texhash` or `mktextlsr`.

## 3.5 Some details for the interested

**Attached source.** The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk centernot.pdf unpack_files output .
```

**Unpacking with  $\LaTeX$ .** The `.dtx` chooses its action depending on the format:

**plain  $\TeX$ :** Run `docstrip` and extract the files.

**$\LaTeX$ :** Generate the documentation.

If you insist on using  $\LaTeX$  for `docstrip` (really, `docstrip` does not need  $\LaTeX$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{centernot.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

**Generating the documentation.** You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdf $\LaTeX$ :

```
pdflatex centernot.dtx
makeindex -s gind.ist centernot.idx
pdflatex centernot.dtx
makeindex -s gind.ist centernot.idx
pdflatex centernot.dtx
```

## 4 History

[2006/12/02 v1.0]

- First version.

[2007/05/31 v1.1]

- Real symbols added in documentation part.

[2010/03/29 v1.2]

- Documentation fix: ‘negotiated’ to ‘negated’ (Hartmut Henkel).

## 5 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

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