

# The centernot package

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## 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>	<i>(definition)</i>
<code>=</code>	$\neq$	$\neq$	
<code>\parallel</code>	$\nparallel$	$\nparallel$	
<code>\longrightarrow</code>	$\nrightarrow$	$\nrightarrow$	

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

---

\*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

case	package	code	result
<code>\parallel:</code>	centernot	<code>\$A \centernot\parallel B\$</code>	$A \nparallel B$
	amssymb	<code>\$A \nparallel B\$</code>	$A \nparallel B$
<code>\mid:</code>	centernot	<code>\$A \centernot\mid B\$</code>	$A \nmid B$
	amssymb	<code>\$A \nmid B\$</code>	$A \nmid B$
	mathabx	<code>\$A \notdivides B\$</code>	$A \nmid B$
<code>\rightarrow:</code>	centernot	<code>\$A \centernot\rightarrow B\$</code>	$A \nrightarrow B$
	amssymb	<code>\$A \nrightarrow B\$</code>	$A \nrightarrow B$
	mathabx	<code>\$A \nrightarrow B\$</code>	$A \nrightarrow B$

## 2 Implementation

```

1 \*package\
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{centernot}
4 [2016/05/16 v1.4 Centers the not symbol horizontally (HO)]%
```

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

The blue boxes marks the character bounding boxes seen by `TeX`:

`\not`      =      `\not=`



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

```

5 \newcommand*{\centernot}{%
6   \mathpalette@centernot
7 }
8 \def\@centernot#1#2{%
9   \mathrel{%
10    \rlap{%
11      \settowidth\dimen@{${\mathrel{#1}}{#2}}$}%
12      \kern.5\dimen@
13      \settowidth\dimen@{${\mathrel{#1}}{=}}$}%
14      \kern-.5\dimen@
15      ${\mathrel{#1}}\not$%
16    }%
17    {#2}%
18  }%
19 }
20 \end{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><http://ctan.org/pkg/centernot>

**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  $\text{\TeX}$  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  $\text{\TeX}$ :

```
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  $\text{\TeX}$  distribution (`te $\text{\TeX}$` , `mik $\text{\TeX}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{\TeX}$`  users run `texhash` or `mktextlsr`.

## 3.5 Some details for the interested

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

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

**$\text{\LaTeX}$ :** Generate the documentation.

If you insist on using  $\text{\LaTeX}$  for `docstrip` (really, `docstrip` does not need  $\text{\LaTeX}$ ), 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 pdfL<sup>A</sup>T<sub>E</sub>X:

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

## 4 Catalogue

The following XML file can be used as source for the [T<sub>E</sub>X Catalogue](#). The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `centernot.xml`.

```
21 (*catalogue)
22 <?xml version='1.0' encoding='us-ascii'?>
23 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
24 <entry datestamp='$Date$' modifier='$Author$' id='centernot'>
25   <name>centernot</name>
26   <caption>Centred \not command.</caption>
27   <authorref id='auth:oberdiek'>
28     <copyright owner='Heiko Oberdiek' year='2006,2007,2010,2011'>
29       <license type='lppl1.3'>
30         <version number='1.4'>
31           <description>
32             The package provides <tt>\centernot</tt> that prints the symbol
33             <tt>\not</tt> on the following argument. Unlike the default
34             <tt>\not</tt> command, the symbol is horizontally centered.
35           <p/>
36           The package is part of the <xref refid='oberdiek'>oberdiek</xref>
37           bundle.
38         </description>
39         <documentation details='Package documentation'
40           href='ctan:/macros/latex/contrib/oberdiek/centernot.pdf'>
41           <ctan file='true' path='/macros/latex/contrib/oberdiek/centernot.dtx'>
42           <miktex location='oberdiek'>
43           <texlive location='oberdiek'>
44           <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'>
45         </entry>
46 </catalogue>
```

## 5 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).

[2011/07/11 v1.3]

- Superfluous `\makeatother` removed (Martin Münch).

[2016/05/16 v1.4]

- Documentation updates.

## 6 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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