## Package listparskip v. 1.0 User Guide Conrad Kosowsky December 2024 kosowsky.latex@gmail.com

## Overview

The listparskip package modifies list environments such that they add \parskip and \partopsep before or after a list if and only if the environment follows or precedes, respectively, a blank line (i.e. a \par).

Most  $\square T_EX$  users are familiar with the enumerate and itemize environments, and a number of other environments share the same underlying macros and structure. These list environments are useful and versatile, and they come up in many different situations where fine control over vertical spacing is important.<sup>1</sup> The dimensions \topsep, \parsep, \partopsep, and \itemsep control vertical spacing for list environments, and by default,  $\square T_EX$  determines the space immediately outside a list as follows:

- Always add \topsep before and after a list
- Add \parskip (not \parsep) always before a list and usually after it<sup>2</sup>
- If a list begins outside of a paragraph, add \partopsep before and after the list

If  $\parskip$  is nonzero, for example in a formal letter, it is impossible to include a list inside a paragraph without the inter-paragraph space suggesting that the list forms its own paragraph. (Unless the user manually changes  $\parskip$  or adds negative vertical glue.) Similarly,  $\parskip$  chooses whether to add  $\partopsep$  after a list independently of what happens at that point in the source code.

The listparskip package modifies this behavior by making the \parskip and \partopsep spacing depend more closely on paragraph structure from the source code. Under listparskip rules, the space around lists happens as follows:

- Always add \topsep before and after a list
- If a list begins outside of a paragraph, add \parskip and \partopsep before the list
- If a blank line comes immediately after the list in the source code, always add \partopsep and usually add \parskip

These changes happen automatically after loading the package, and they allow the user to control whether TEX positions a list environment as its own paragraph or as part of the surrounding paragraph. When \parskip and \partopsep are both Opt, this package does nothing, but for an example of what can happen when either dimension is positive, see listparskip\_example.pdf, which is included with the listparskip installation and is available on CTAN. Users can load listparskip with the standard \usepackage{listparskip} syntax, and the package has no options.

<sup>&</sup>lt;sup>1</sup>There is an overlap in terminology. The list environments described in this document are very different from horizontal and vertical lists in the  $T_{EX}$  language.

 $<sup>^{2}</sup>T_{E}X$  treats any text after a list as the start of a new paragraph, so if the next material to be typeset is text,  $T_{E}X$  adds **\parskip** after the list. If the user includes a box or rule instead of text, it does not trigger the start of a paragraph, and  $T_{E}X$  does not add **\parskip**.

Next Material to Typeset	No New Paragraph Desired	New Paragraph Desired
Text	Nothing	Blank line
\item	Nothing	Nothing or blank line
Box or Rule	\nullline	Blank line, then $\nulline$

Table 1: Recommended Source Code to Insert after a List

Immediately after the end of a list environment, listparskip expects to see a some text, a blank line followed by text, or an \item. As a general rule, text means an extra \topsep, and a blank line followed by text leads to an extra \topsep + \partopsep + \parskip. If you want to put something else, such as a box or rule, after the end of a list environment, you should type \nullline before the other material to prevent any spacing mishaps. This macro instructs T<sub>E</sub>X to behave like it just encountered a line of text except without adding any vertical space. Table 1 shows my recommendations for code to include after a list in various cases depending on the desired result, and Table 2 shows the full rules for what happens after a list with listparskip in various situations. For more information, see listparskip\_code.pdf, which is included with the listparskip installation and is available on CTAN.

Material after a List	Vertical Space Used in Addition to $\topsep$
Text* Box	None Don't do this <sup>‡</sup>
\item <sup>*†</sup>	parsep + itemsep
Blank line, then text* Blank line, then box Blank line, then <b>\item</b> * <sup>†</sup>	\partopsep + \parskip Don't do this <sup>‡</sup> \partopsep + \parsep + \itemsep
<pre>\nullline, then text \nullline, then box* \nullline, then \item<sup>†</sup></pre>	\parskip None \parsep+\itemsep
Blank line, then <b>\nullline</b> , then text Blank line, then <b>\nullline</b> , then box* Blank line, then <b>\nullline</b> , then <b>\item</b> <sup>†</sup>	<pre>\partopsep + 2\parskip \partopsep + \parskip \partopsep + 2\parsep + \itemsep</pre>

Table 2: Space after a List When Using listparskip

\*Recommended use.

<sup>†</sup>For \item in a nested list, the \parsep and \itemsep refer to the dimensions in the outer list, not the list that just ended.

<sup>‡</sup>With listparskip, putting a box after the end of a list environment without text or **\nulline** previously may mess up vertical spacing or paragraph indentation after the box depending on what comes next.