

The `ltabptch` package*

patch for `Longtable`

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For David Carlisle's `Longtable.sty`, version 4.11

Fixes `tools/3180` (Sebastian Rahtz) and `tools/3485`: missing/wrong interline glues above/below table.

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Usage, no warranty, distribution as in `lppl.txt` on CTAN (`macros/latex/base/lppl.txt`).

The problem(s):

Sebastian Rahtz (`tools/3180`) observed 2000/03/05 that there be a “spurious blank line” below the `longtable`. This impression may have been due to two spacing problems:

- (1) There is `\parskip` and some interline glue below `longtable`, while there is no `\parskip` and no interline glue above (without head as specified by `\endhead` or `\firstendhead`) or just `\lineskip 0.0pt` (with head—`\endhead`, `\endfirsthead`).
- (2) After `longtable`, `\prevdepth` is the depth of the last line before the `longtable` (if there is no head) or the depth of the head (otherwise). So `\prevdepth` may be 0pt. By contrast, the last table row has depth of at least `\dp\@arstrutbox`—which should rather matter, and this is 3.6pt or more.

—I have reported something like this as `tools/3485`, not entirely correctly. Details are presented below.

*This manual corresponds to `ltabptch v1.74d`, dated 2005/01/10.

Solution presented:

- (1) I think there should be `\parskip` and usual interline glue above, since the same would happen with a table in a center environment (e.g.). `\noindent` seems to work fatally; moreover, `\LT@start`'s decision whether to enter a new page would ignore `\parskip` and interline glue still needed. So emulate interline glue calculation according to *T_EXbook* p. 80 and add it by `\vskip`, along with `\parskip`. (This is rather a hack—a proper correction should perhaps not “emulate” but place the interlineglue changes of `\LT@array` inside the `\vbox` `\LT@bchunk` starts and treat glue between chunks in a new way.)
- (2) Set `\prevdepth` to depth of box 0 before the latter is `\unvbox`'ed (which leaves `\prevdepth` untouched, *T_EXbook* p. 282) in `\endlongtable`.

I thought David Carlisle would change `Longtable` according to my suggestions. By e-mail from 2003/04/07 however, he finds it better not to change `Longtable`, in order not to change layouts of works that have been made using `Longtable` so far (e-Mail 2003/04/08).

By the way:

- 1.) There are two successive lines in the `Longtable` code (v4.11) together saying:


```
\prevdepth\z@\global
\global\let\LT@setprevdepth\relax
```

 Isn't the first `\global` just a typo? –Yes—this is David Carlisle's answer in his e-mail dating from 2004/05/14.
- 2.) Couldn't the one-column restriction easily be removed by using `\columnwidth` instead of `\hsize`?

Detailed diagnosis:

Concerning the question of “bugs” vs. “features”, you might reason what features should be aimed at.

- (A) If there is `\parskip` below a `longtable`, there should be `\parskip` above as well—shouldn't it?
- (B) Interline glue above should (in general) depend on the same values of `\baselineskip` and `\lineskip` as below—OK?
- (C) Interline glue below a `longtable` should depend on the depth of the last row, not on the depth of the head or of the last line above the `longtable`—OK?

The recent versions of `longtable.sty` have not satisfied any of these three demands. Concerning (A), `\parskip` appears below the `longtable`, but not above. Concerning (B), (i) no interline glue appears above if there is no head, (ii) otherwise, only zero interline glue appears. Concerning (C), the interline glue below the `longtable` is calculated using the depth of (i) the last line above the `longtable` as `\prevdepth` when there is no head or of (ii) the head otherwise. (Thus I was wrong earlier when I claimed that `\prevdepth` were 0pt after `longtable`. This only holds in the previous case (i) when the last line above the `longtable` has zero depth.)

You can observe this by playing with the demonstration file `ltabptch.tex` in CTAN folder `macros/latex/contrib/ltabptch`.

Reasons: For contributing a head to the main vertical list, `longtable` uses `\copy` or `\box`, which yields a $\langle box \rangle$ according to T_EXbook p. 278. Rows are contributed by `\unvbox`. Now, violation of (A) is due to the fact that neither `\copy` or `\box` of the head nor the `\unvbox` for table rows leads to execution of an `\indent` or `\noindent` (T_EXbook pp. 282 f., see also $\langle horizontal\ command \rangle$). Violation of (B) is due either to (i) the fact that `\unvbox` is no $\langle box \rangle$ (T_EXbook p. 282/278) or to (ii) the fact that at `\copy` or `\box` `\baselineskip` and `\lineskip` are 0pt. Violation of (C) is due to the fact that `\unvbox` does not change `\prevdepth` (T_EXbook p. 282).

As to recognizable effects:

- Violation of (A), of course, has very little effect in general since `\parskip` is 0pt plus 1pt usually. This is hardly recognizable in the presence of the `\bigskipamount` above and below a `longtable`.
- Violation of (B) results in missing appropriate interline glue above, which often should be 3.6pt or more. This may rather be recognizable and may contribute to the impression that there even is a spurious blank line below the `longtable` (this is what Sebastion Rahtz reported in `tools/3180`).
- For the previous as well as for the details and the effects of violation of (C), consider the algorithm for calculating interline glue on p. 80 of the T_EXbook. If there is no head, and the depth of the last line before the `longtable` is 0pt, the interline glue below the `longtable` is `\baselineskip` minus the height of the first line after the `longtable`. The interline glue *should be* `\baselineskip` minus height of following line *minus* depth of last table row—if this depth is not too large (depending on `\lineskiplimit`). This depth is at least 3.6pt. So the interline glue is often by 3.6pt or more greater than is appropriate. Considering the missing interline glue above the `longtable` and the `\parskip` below, the glue after the `longtable` is by 6.2pt (or more) plus 1pt larger than the glue before. Due to the shrink component of the surrounding `\bigskipamount`, the glue following the `longtable` may be nearly twice as large as the glue before. — Usually, violation of (C) has no effect at all. Namely, there is a head

usually, and its depth is usually the same as the depth of the last row, namely `\dp\@arstrutbox`.

Version history:

| | | |
|--------|------------|--|
| v1.7 | 2003/01/07 | Sent around 2003/01/13 with first release of <code>ednotes.sty</code> . Sent to David Carlisle. Earlier versions were sent to Frank Mittelbach and the team. |
| v1.71 | 2003/01/22 | Added version history. |
| v1.72 | 2003/01/27 | Changed copyright notice. |
| v1.73 | 2004/05/13 | Adapted to <code>Longtable</code> v4.11; new copyright; <code>longtable</code> → <code>Longtable</code> (selectively). Added ‘I have ... 3485’. |
| v1.74 | 2004/08/05 | Added ‘—Yes—...’. |
| | 2004/08/21 | Typo fix for ‘problem’; added report on 2003/04/08. |
| | 2004/08/23 | Corrected and extended diagnosis, sent to CTAN. |
| v1.74b | .../08/23 | ‘—’ → ‘-’; added that (C) usually doesn’t matter. |
| v1.74c | .../08/31 | ‘author-maintained’. |
| v1.74d | 2005/01/10 | Contact via HTTP. |