

line break

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line break. A *line break* is a place in your document where T_EX ends a line as it typesets a paragraph. When T_EX processes your document, it collects the contents of each paragraph in a horizontal list. When it has collected an entire paragraph, it analyzes the list to find what it considers to be the best possible line breaks. T_EX associates “demerits” with various symptoms of unattractive line breaks—lines that have too much or too little space between words, consecutive lines that end in hyphens, and so forth. It then chooses the line breaks so as to minimize the total number of demerits. See pages 96–101 of *The T_EXbook* for a full description of T_EX’s line-breaking rules.

You can control T_EX’s choice of line breaks in several ways:

- You can insert a penalty (p. ‘`hpenalty`’) somewhere in the horizontal list that T_EX builds as it forms a paragraph. A positive penalty discourages T_EX from breaking the line there, while a negative penalty—a bonus, in other words—encourages T_EX to break the line there. A penalty of 10000 or more prevents a line break, while a penalty of −10000 or less forces a line break. You can get the same effects with the `\break` and `\nobreak` commands (pp. ‘`hbreak`’, ‘`hnobreak`’).
- You can tell T_EX to allow a hyphen in a particular place by inserting a discretionary hyphen with the `\-` command (p. ‘`@minus`’), or otherwise control how T_EX hyphenates your document (see “hyphenation”, p. ‘`hyphenation`’).
- You can tell T_EX to allow a line break after a solidus (/) between two words by inserting `\slash` (p. ‘`slash`’) between them, e.g., ‘`furlongs\slash fortnight`’.
- You can tell T_EX not to break a line between two particular words by inserting a tie (~) between those words.
- You can adjust the penalties associated with line breaking by assigning different values to T_EX’s line-breaking parameters.
- You can enclose a word or sequence of words in an `hbox`, thus preventing T_EX from breaking the line anywhere within the `hbox`.

It’s useful to know the places where T_EX can break a line:

- at glue, provided that:
 - 1) the item preceding the glue is one of the following: a box, a discretionary item (e.g., a discretionary hyphen), the end of a math formula, a whatsit, or vertical material produced by `\mark` or `\vadjust` or `\insert`
 - 2) the glue is not part of a math formula

When T_EX breaks a line at glue, it makes the break at the left edge of the glue space and forgets about the rest of the glue.

- at a kern that’s immediately followed by glue, provided that this kern isn’t within a math formula

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- at the end of a math formula that's immediately followed by glue
- at a penalty, even one within a math formula
- at a discretionary break

When T_EX breaks a line, it discards any sequence of glue, kerns, and penalty items that follows the break point. If such a sequence is followed by the beginning of a math formula, it also discards any kern produced by the beginning of the formula.