Fit In / Fit Out a Selected Paragraph

Typefitting of a paragraph is one of the many painstaking tasks solved in the process of layout. The InDesign has a set of hotkeys for changing paragraph parameters that affect length of line. But these combinations act first one thing, then another, it is impossible to perform at least two operations together. And there is no way to know how the width of the spaces changes during fit in/fit out. But putting the text in order can be done faster with the help of a script. This work even begins to be interesting due to the fact that all important parameters are collected in one window, they can be changed both one by one and together. And the change tool is not only the input of numbers, but also the slider.

Changing the layout of a paragraph becomes like a game.

During the layout process, it is often necessary to increase or decrease the number of lines in a paragraph, usually by one line. The most common case is getting rid of hanging strings. When the InDesign makes the layout very dense, or vice versa, loose, then you also have to vary the parameters to get rid of it.

All procedures for changing a number of paragraph settings, as a result of which the number of paragraph lines changes, let's call it Fit In/Fit Out.

Here are the parameters used in these operations: word and letter spacing, glyph scale, the variant of the composer used, and tracking.

But before discussing how to change the number of lines in a typeset paragraph, let's figure out what the layout is, and what parameters the program is guided by when placing text on the page.

Layout parameters

In the first approximation, layout is the placement of text on a page so that hyphenation is performed according to the rules of the text language. The placement itself is controlled by the justification settings, which are defined in the paragraph style settings. By default, there are the following settings:

	Minimum	Desired	Maximum
Word Spacing:	80%	100%	133%
Letter Spacing:	0%	0%	0%
Glyph Scaling:	100%	100%	100%
Auto Leading:	120%		
Single Word Justification:	Full Justify		
Composer:	Adobe Paragraph Composer		
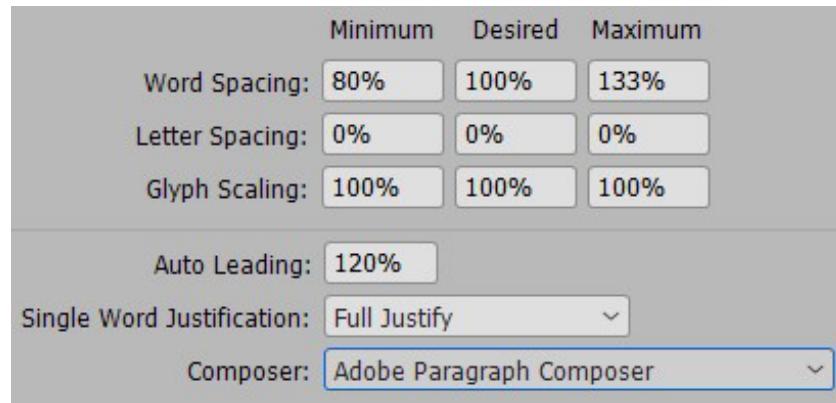
Let's understand what these parameters are and in what range they change.

Here's how they are explained in the help file https://helpx.adobe.com/en/indesign/using/text-composition.html

Word spacing

The space between words that results from pressing the spacebar. Word Spacing values can range from 0% to 1000%; at 100%, no additional space is added between words.

In InDesign, the width of the space depends on the font. For Minion Pro, the ratio of the width of the space to the point size of the pin is 22.7%, and for the Baskerville font, this ratio is 33.8%. That is, for each case, these different sizes will be their desired 100%.

And the values in the **Minimum**, **Desired**, **Maximum** fields are percentages of the default space width of this font. Sometimes there is in the field **Desired** a number greater than 100% is specified, so in QuarkXPress 3.30, the number 110 was standard in a similar field.

Letter spacing

The distance between letters, including kerning or tracking values. Letter Spacing values can range from -100% to 500%: at 0%, no space is added between letters; at 100%, an entire space width is added between letters.

It turns out that when working with letter spacing, the default width of the space is based on, if *at 100% an interval equal to the width of an ordinary space is added.*

Glyph scaling

Character width (a glyph is any character in a font). The scale of glyphs can vary from 50% to 200%. In the context of layout, a glyph is a drawing of a letter. N. French writes in his famous book (InDesign Type, 2010, pp. 115-116) *Keep your Glyph Scaling settings to 97%, 100%, and 103% for Minimum, Desired, and Maximum, respectively.* The range of 99-101% is enough for me.

Paragraphs are composed. What's next

You can find out how much the InDesign had enough capabilities of the settings used for layout.

In the **Preferences** panel, there is a **Composition** tab, and there is a **H&J Violations** checkbox. If you set it, the lines in which the design deviates from the proposed settings will be colored yellow. And the stronger the violation, the brighter this color. This yellowness is not so much a confirmation that the composer is not working well, but a reproach to the designer who installed ill-conceived, sometimes just clumsy settings.

QuarkXPress in version 3.30 had the following settings: the word spacing is 85/110/250, the letter spacing is 0/0/4. Even if you do this instead of what is shown on page 2, there will be noticeably less yellowness. Switching from QuarkXPress to InDesign, I immediately used these settings, I liked 110% for the desired size. But now I offer the following settings as a starting point for Russian texts: Word spacing 95 / 100 / 125   Letter spacing -5 / 0 / 5 Glyphs 99 / 100 /101.

Then there will be little yellowness, and there will definitely be no sticky words. There will be paragraphs in which you need to fit in or fit out a line. Now let's talk about the solution of this problem in detail.

What InDesign offers

In the list of hotkeys (**Edit** > **Keyboard Shortcuts...**) there are combinations to quickly change these parameters:

Increase word spacing   Ctrl+Alt+\

Increase Word Spacing x 5   Shift+Ctrl+Alt+\

Reduce word spacing   Ctrl+Alt+Backspace

Reduce word spacing x 5   Shift+Ctrl+Alt+Backspace
**Increase Kerning/Tracking**   Alt+Right Arrow
Increase kerning/tracking x 5   Ctrl+Alt+Right Arrow
Reduce kerning/tracking   Alt+Left arrow
Reduce kerning/tracking x 5   Ctrl+Alt+Left arrow

Increase / decrease word spacing — the default value of this step is 20 units. This unit is a thousandth of a point size. And 20 units, of course, is a very big value, I like to work with this step equal to 3.

It is defined here: the **Preferences** panel, the **Units & Increments** tab, the **Keyboard Increments** setup area, the **Kerning/Tracking** field.
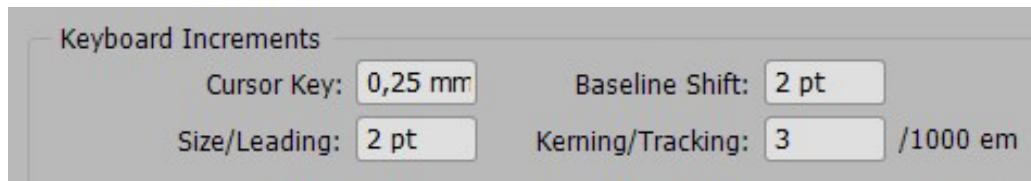
So, we have determined the step, but how will the command **Increase word spacing** be processed?

Select a paragraph, press **Ctrl+Alt+**. It is possible that nothing will change on the screen, but you can see that the spaces in the selected area have become larger by the amount of step (in our case, it is 3) if you place the cursor on the right side of the space bar or by selecting it: this value will appear in the kerning field.
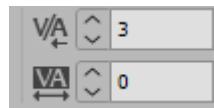
In the list of hotkeys, the first four commands are to change the width of the spaces by kerning. The last four are to change the tracking of the selected text with the same step as in the **Kerning/tracking** field.

Of course, these are useful hotkeys. But for fast fit in / fit out of individual paragraphs, you want to have a tool with more options.

In particular, it would be good to have:

a) tthe ability to change several parameters at the same time, for example, word/letter spacing and tracking

b) it would be useful to have the option to dynamically change the value of parameters with information about the width of spaces and tracking. Of course, you can enter values in the **Justification** window and watch the result, but this is not a fast process. It's a boring activity.

c) evaluate the layout results not by yellow color, but by the values of min./max. width of spaces.

And now this all is possible.

All parameters together

The script **FitText.jsx** has collected in one window all the parameters that are important for fit in/fit out. After the cursor is placed in the text and the checkbox **The paragraph is selected** activated, the window displays the current settings of that paragraph.

Choosing the settings option

In the upper part of the window there are two radio buttons for specifying the source of parameters for the selected paragraph. When **The paragraph is selected** checkbox is selected, the radio button **settings at the time of selection** will always be active, and when this checkbox is on, these fields will contain the current values of selected paragraph.

Because we go through the text from paragraph to paragraph, each somehow making out, then it is important to be able to remember the field settings. And this is done when **The paragraph is selected** checkbox is cleared. It works so: *if at least one of the parameter selection checkboxes (w/l spacing, glyphs, tracking) is selected, then the values of all fields are remembered*. The variant of the used composer is saved too.

Selected paragraph typefitting

Formatting options for the selected paragraph:

◉ settings at the time of selection ○ previous settings

☑ The paragraph is selected

	Min.	Desired	Max.
☑ Word Spacing:	95	100	125
☐ Letter Spacing:	-3	0	3
☐ Glyph Scaling:	99	100	101
☐ Tracking:	-20	0	20

Space width, pt / %:   3.25 / 19%   4.98 / 29%

Composer:

○ 1 ○ 2 ◉ 3 ○ 4

☐ Kerning of spaces

☐ Tracking of words

(?) (...) | Change paragraph style settings

It also remembers which checkboxes were active at the time the checkbox **The paragraph was selected** was cleared.

Changing the data in the input fields does not mean that these parameters will be automatically applied to the paragraph. **The field data of each of the four lines is transferred to the current paragraph parameters when the checkbox with the parameter name is selected**.

When checkbox **The paragraph is selected** activated again, all the check boxes for setting parameters are reset. This is normal for the radiobutton **settings at the time of selection**, but for another case, a solution has been devised: when the radiobutton **previous settings** selected,

the stored values will also appear in the fields of the working window. And besides, there will be a dot before the name of the checkbox if this checkbox was active at the time of saving the field values.

When the checkbox will be selected, this dot disappears. The previous state will not be lost, if you select **settings at the time of selection** again, the contents of the fields will change.

After completing the paragraph design, you can remember the values of the fields. It is enough to have at least one checkbox checked. But if they all are reset, then the previously stored information will not changed.

Space width

The width of the spaces in the points and the percentage ratio of this width to the pointsize are calculated for each action on the paragraph. This is the width of spaces. Common spaces only are not taken into account, otherwise a thin space next to the dash will distort the information about the minimum size of the space between words.

	Min.	Desired	Max
settings at the time of selection ○ / ● previous settings			
☑ The paragraph is selected			
☐ • Word Spacing:	95	100	125
☐ • Letter Spacing:	-3	0	3
☐ • Glyph Scaling:	99	100	101

Entering Values

When you enter the necessary numbers in these fields, the integer part is separated from the fractional part by a dot. What is entered immediately checked for correctness. It must be a number, it may not always be negative or positive, there are requirements for the ratio of values. And if the program detects an error, access to the checkbox to the left of the field block is disabled, checkbox unchecked and a red question mark appears on the right.


In the first line, the desired value is greater than the maximum. In the second line, the minimum letter spacing is greater than desired. In the fourth line, the current tracking value is greater than the limit value.

As soon as the data is corrected, the question mark disappears and the checkboxes become available.

Changing parameters in paragraph style

A specific work may show that here it would be necessary to change in the paragraph style one of the parameters presented in the working window. The standard **Redefine Style** option in the style panel is redundant for this task, here you need to be able to correct only one setting very specifically, without touching the rest.

To do this, there is a button **Change paragraph style settings** at the bottom of the window.
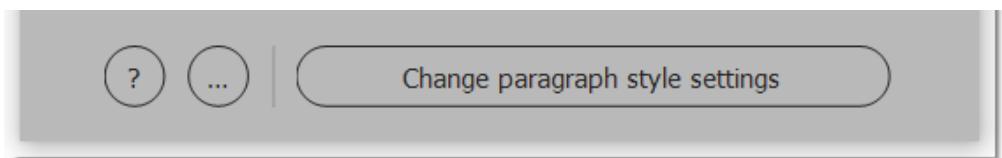
Now all the field settings next to which the checkbox is selected, when this button is clicked, will replace the same settings in the paragraph style settings.

If you change the paragraph style settings in this way, the used composer will also be saved.

Tracking limits

These values are defined in the program text, lower -20, upper 20, **minTracking** and **maxTracking** variables in the file **FitTextValues.jsxinc**. The values -20 and 20 correspond

to the standard limit settings of the InDesign for kerning/tracking.

Choosing a work option
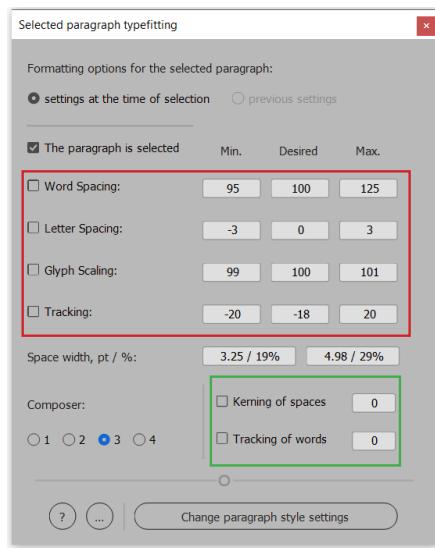
There are two modes of operation with interval control flags: 1) changing the letter and/or word spacing in increments based on one thousandth of a Em, and 2) changing the value of the desired value. Each option has its own set of checkboxes. Selecting any checkbox in one group makes the checkboxes of the other group unavailable. The green border circles the flags of the first work option, the red border marks the flags and fields of the second option.

☐ Changing the desired value and tracking

If only one checkbox is active, as shown on the fifth page, then the position of the slider on the scale corresponds to the value in the middle field for the range de-fined by the extreme values. But if two or three checkboxes are set, then you need to have some common point for all values. And this point is the middle of the scale. The program calculates the step of its change for each of the processed parameters separately for the case when the slider is on the left and when it is to the right of the center point.

Obviously, due to the fact that the initial values in most cases do not coincide with the midpoint, the values of the steps when moving left and right for different parameters will not be the same. But this is just a mathematical problem of proportion, and here it is solved.

☐ Word-to-word and letter-to-letter intervals

The slider is in the middle of the scale. For spaces, the kerning will change in the range from -100 to 500 units, these are the **minKern** and **maxKern** variables in the file **FitTextValues.jsxinc**. For letter-to-letter tracking intervals in the range from -20 to 20, the variables **minTracking** and **maxTracking**.

In the settings of **Kerning of spaces** and **Tracking of words**, changing the tracking does not affect the width of

> It is not necessary to move the slider along the scale, you can click on it and it will move to the desired point.

the spaces, tracking of spaces is always zero. If you plan to change their tracking at the same time, then you need to use the **Tracking:** checkbox.

When changing the interword and inter-letter intervals, a lot of calculations are performed. At the time of calculations, there will be a dash in the value field, which will be replaced by a number after the paragraph is recomposed. The large amount of calculations on each movement of the slider was the reason why the option of simultaneous changes in kerning and tracking was excluded, the selected checkbox determines what will be processed now. *And it is better not to move the slider, but to click on the scale to determine the point where it should come. This way the work goes faster.*

☐ Setting kerning and tracking values

You can enter the required parameter values in the fields for displaying information about the current kerning

and tracking values — to do this, put an asterisk after the number. First, there will be a dash in the field while the paragraph is being processed, and the number will appear after the recomposition is completed.

Composers

The variant of the composer is defined in paragraph style settings, and switching it sometimes noticeably affects the design of the paragraph. It is assumed that one of the four composer options will be used. In the work window, these are radio buttons with numbers from 1 to 4. A tooltip to the radio buttons explain which composer it is.

When changing the composer, the values of the spaces are also recalculated. The variant of the composer used is always remembered along with the spaces and tracking values.

Button [...]

You don't have to close the program if you don't need it now, but you will definitely need it soon. This button minimizes the window into a close-to-square icon with a side size of about 60 pixels. It can be moved to a free corner to open the window when it is needed again.
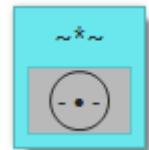
Keep location of the window on the screen

Information about the position of the window on the screen and the position of the minimized window button is stored in the folder **sets**, check that it is in the script folder. If you delete these files, then the next time you start the working window and the button will be in the center of the screen.

* * *

About ratio number of letters and lines

A rule of thumb, sometimes mentioned in specialized forums, says: *It is possible to fit in a paragraph line with number of letters equal to the number of lines in the paragraph plus one.*

That is, in a two line paragraph, the second line has three characters only — it's possible to fit the text of the paragraph in one line.

If in three line paragraph in last line four symbols — it's possible to fit the text in two lines.

You have four line paragraph, there are five characters in last line — it's possible to fit the text in three lines.

And so on.

This is correct, of course, not strict, but rather speculative.

Mikhail Ivanyushin

https://shop.dotextok.ru/en/ | dotextok@gmail.com

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Saving the selected checkboxes

Which paragraph settings will change is determined by the user by checking the appropriate boxes. In the previous version, these checkboxes had to be set again for the next paragraph. However, if you are working with paragraphs of the same style, it is advisable to keep the settings you have just selected. It's just for the sake of saving time and getting rid of unnecessary repetitive actions.

Changing the slider operation

The slider scale range is from 0 to 100. One hundred and one divisions. Now, in addition to the ability to move the slider, the slider division number is displayed. You can
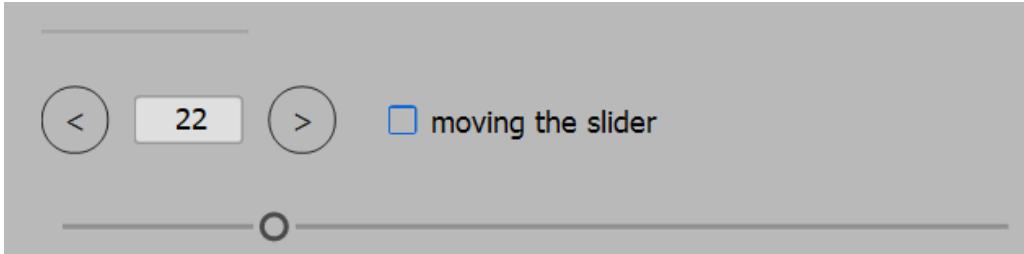
use the **<** and **>** arrows to move from division to division, or you can enter the division number in the field between these arrows. This is all done when the checkbox to the right of the arrows is cleared, and it is called **moving the slider**.

Checking the correctness of data entry. Integers must be entered in the field between the arrows. Page 7 shows the appearance of a question mark if incorrect data is entered. Starting with the InDesign 2024 version, Adobe has removed color management from the design options of the script window. So now everything is in shades of black.

And as for that field between the arrows, there was no room for a hidden question mark. Therefore, if an error is detected, a question mark will appear in the right movement button. When this sign appears, the slider scale becomes unavailable. After correcting the error, the slider can be moved again, and the name of the button on the right will be restored.
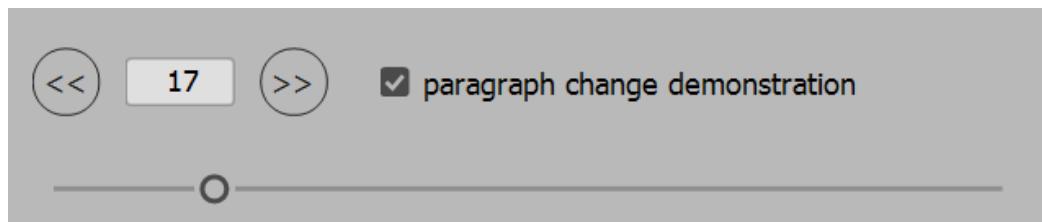
If you select the mentioned checkbox, it will be called **paragraph change demonstration**.

Paragraph change demonstration

Changing the type of paragraph when changing the selected parameters within the set limits is not always obvious and predictable. And the variant of composer also affects the design of the text.

But time is always short, and attempts to move the slider left and right get boring very quickly in order to understand how the designer puts together paragraphs. There are especially a lot of oddities when looking for options for a narrow column.

Therefore, the option was not to move the slider yourself, but to enable a mode in which the script will show how the design of the selected paragraph changes. The slider moves from its current position to the edge of the scale, to the right or to the left, depending on the selected

button. The movement begins and ends with the selection of the processed paragraph and the removal of the selection after a quarter of a second.

Now you can not assume how the paragraph's appearance changes when settings change, but see it in motion.

The position of the window on the screen

The script remembers the position of the window on the screen so that the next time it starts, it opens in the same place. But if the interface scaling is enabled in the redesign, it may happen that the script window will not be on the screen. Therefore, you can prohibit the selection of the remembered position and always open the window in the center of the screen. To do this, set the **keepPosition** variable to **false**, by default it is set to **true**. This is in the ninth line of the service text file **FitTextValues.jsxinc**.

Update 19 Feb. 2025

Fit in/Fit out of one line

Option **paragraph change demonstration** gave the idea, that it would be more useful *to stop the slider movement* when the number of lines in a paragraph decreased or increased. Actually, such a change in the number of lines is the task of fit-in / fit-out action, and it can be performed automatically, the user only determines which settings need to be changed to achieve the desired result. This is how this processing is running:
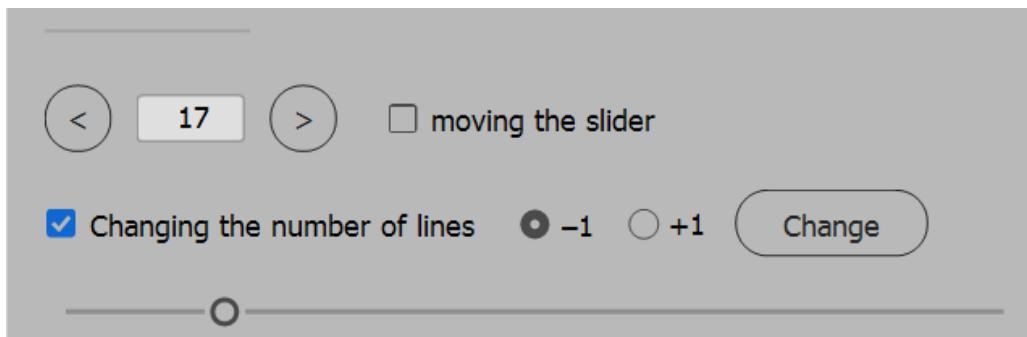
Selecting the **Change the number of lines** checkbox makes the **–1** and **+1** radio buttons and the **Change** button available.

After clicking the **Change** button the parameters are changed with the slider step, and slider is moving by program not by user. And as soon as the number of paragraph lines changes by one, the change will stop, and the program will inform about it.

The text looks noticeably better when the lines are fitted by small changes in word spacing and tracking, rather than tracking to the maximum alone.

If the user-defined range of parameter changes is not enough to change the number of lines, a message will be shown that the number of lines could not be changed, and after that the paragraph settings will return to the values they were before clicking the **Change** button.

Specifying the paragraph to process

In previous versions, there was only one option for specifying the paragraph being processed — to put the cursor in it. This is not always convenient, so now a paragraph is taken up and when something is highlighted in it. The script highlights the insertion point before the first character of the selected text, and then everything is the same as it was done before.