

► Utilization of map pack and changes of tables:

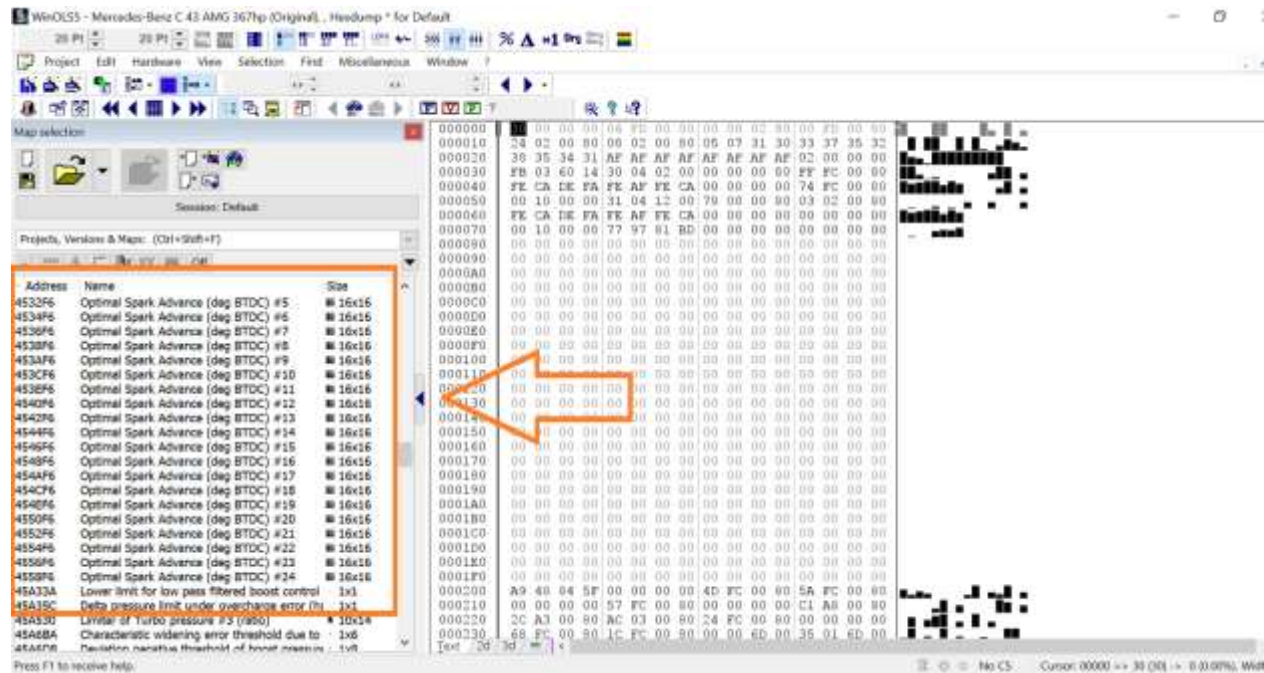
When we open an ECU file in the software, we see that after opening the file in WinOLS, a set of potential map tables is automatically chosen. To remap a file, you should have technical information on tables.

We teach you how to find tables in WinOLS and how to modify them for performance, torque and even fuel consumption.

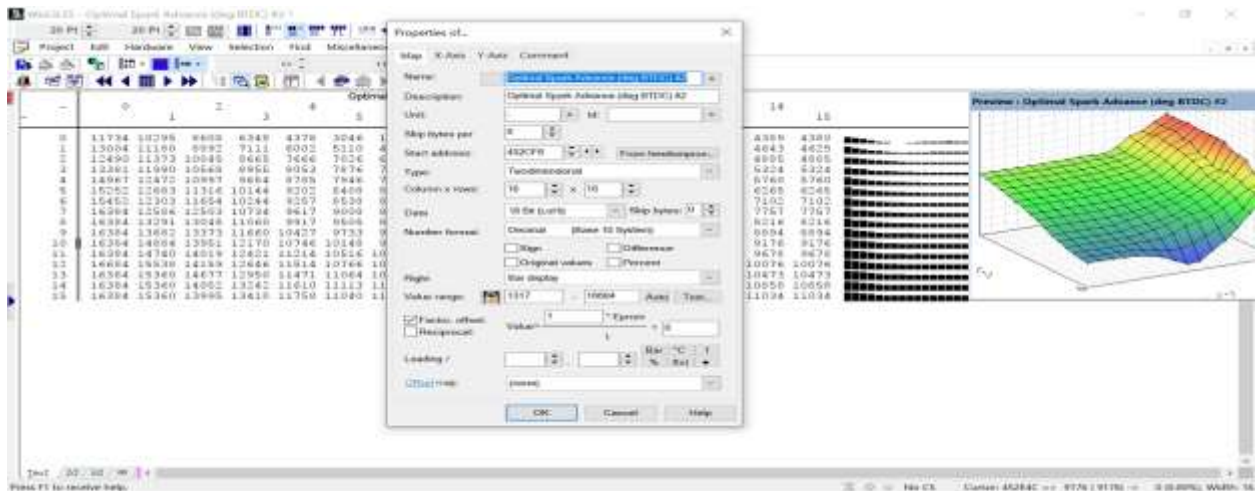
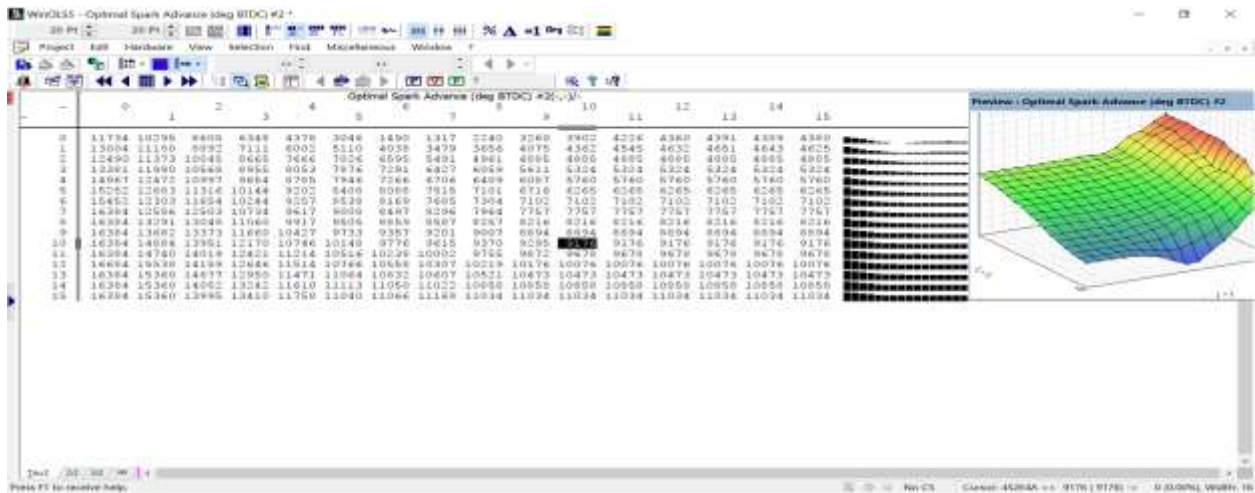
If you do not have sufficient technical and scientific knowledge to acknowledge and find the tables in the WinOLS software, you can use Map Pack.

❓ What is the WinOLS Map Pack?

In fact, Map Pack is a file with a KP suffix that is considered a kind of format in WinOLS. This file can directly be import or export to the software. This file determines the factor and axis, dimensions, name, and map location. For instance, there is nothing except the potential map when we open the **Bosch MED17.7.3** ECU file here. Here, we have prepared a Map Pack for this ECU, and you can provide different types of ECU from our website. To open a Map Pack, from the project option, then import/ export, and then with the import map pack option, we open the file. Also, you can do the Map Pack directly with drag & drop.



After opening the Map Pack in software, you can see that the necessary tables based on address, name, and table dimensions have been selected in my map section. To utilize it like ECM Titanium, you must use the Map Pack. For example, this table is [Spark Advance](#) and address and dimension has been selected. When you click on this table, you can see that the table name and description at the top have been written in this section. In the parentheses, first, the name of the x-axis and then the name of the y-axis has come.



The unit of numbers in the table is after the slash. Also, the unit of numbers in this row and the column has been written in front of the “x and y” axis, respectively. Well, suppose we want to investigate this table based on this data.

In that case, this table is from the series of spark advance tables. The description section introduces it as a base spark map type, whose x-axis is cylinder air filling with a percentage of air units, and its y-axis is engine revolution with RPM units. The numbers in the table represent spark advance degrees before top dead center. If we click on other spark advance tables, we will see that these details are valid.

Therefore, for individuals who are not too experienced or do not have a strong grasp, we recommend using the reliable CaracalTech map packs. These packs not only simplify things and provide more accurate results but also eliminate the chances of making a mistake.

Also, one of the other applications of WinOLS is making a map pack. It means that if you open a file in WinOLS and select their tables, you can export it in the case of a map pack, and when you have a similar file for remapping, you can open a map pack that you saved previously and use it.

Note: There is no possibility of making a map pack in the demo version, and you should have the original version.

Now, if you open a map pack on this ECU file and the remap tables listed on the left side, you can change these.

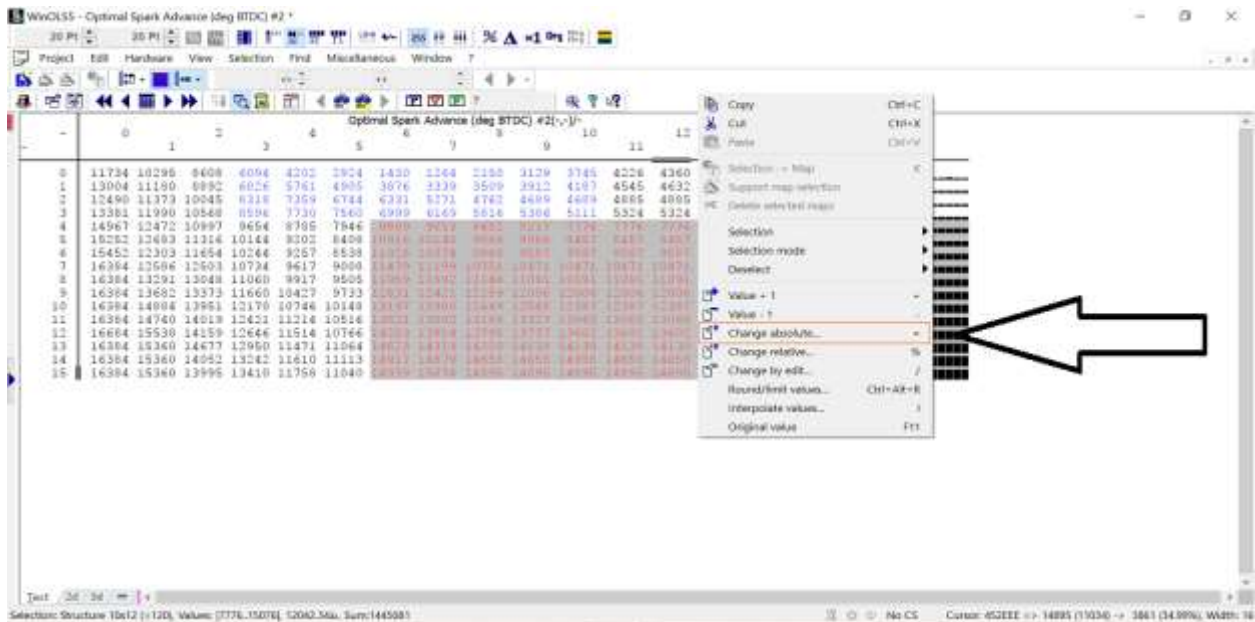
Important note: To change remap tables, you should have complete knowledge of the tables, their function, and the correct number of changes.

In order to continue, we follow with the spark advance table. To change any map area, highlight that area and then “right click” on it. If you want to increase or decrease the selected area as a unit, you can use the option values +1 and -1.

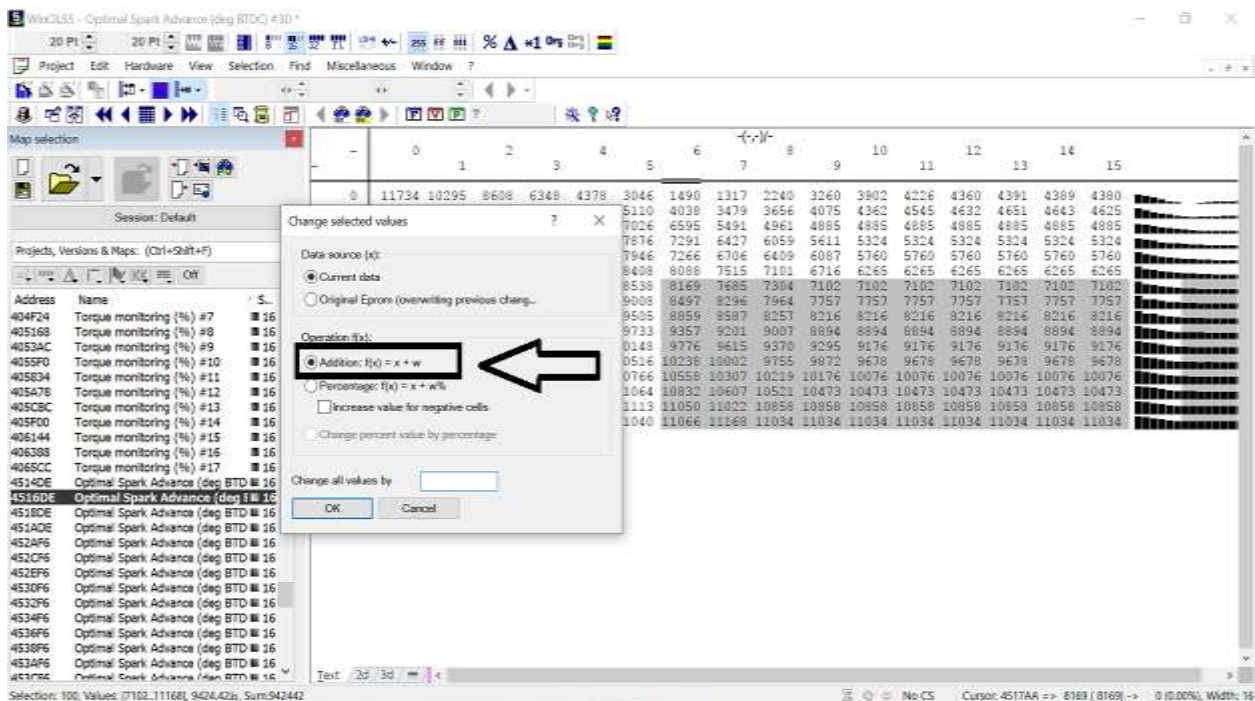
You can increase or decrease the numbers by pressing the “shift +” or “shift - key”. If you notice when you increase the numbers, the color of the numbers turns Red, and if you hold the mouse over the numbers, the amount of increase is shown. And if you decrease the numbers, they turn Blue. In order to see how much the numbers on the table have increased or decreased, click the “Different” options from the above toolbar. You can see that the increase or decrease of the numbers compared to the original dump numbers is shown.

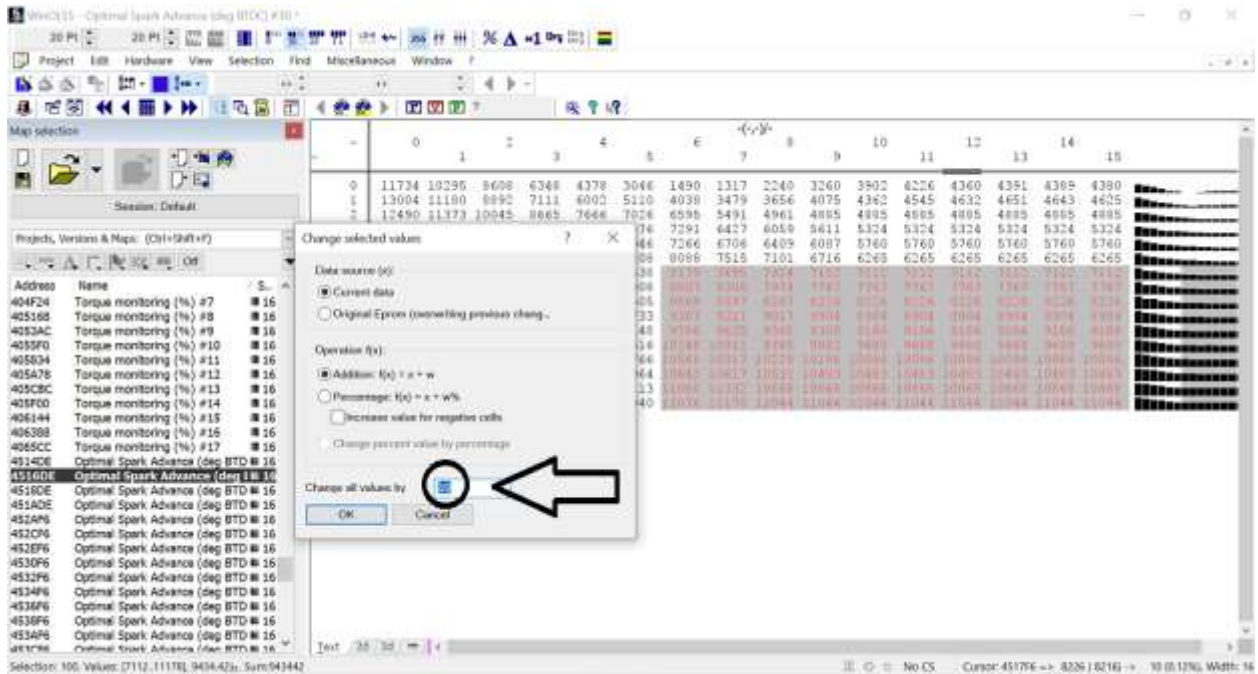


But, if you want to convert all the numbers in the selected area to one number, right-click on the table and press the “Change Absolute” option. Then, we insert the correct number and click OK. You will see that all the numbers in that area became one.

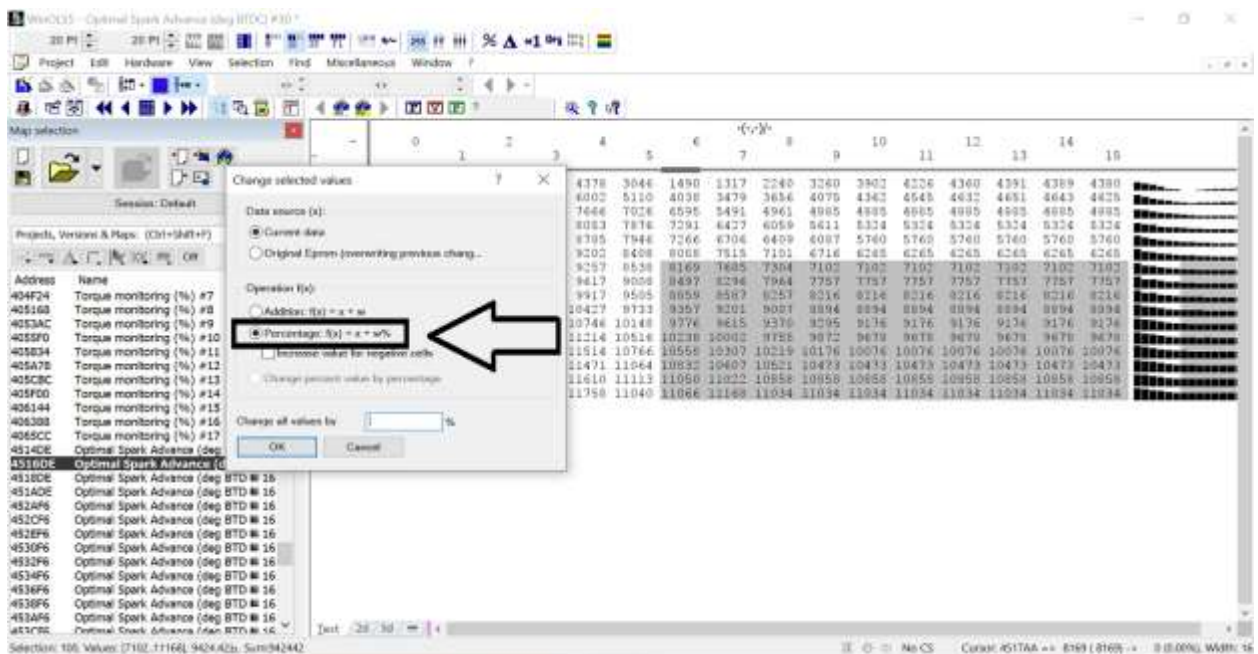


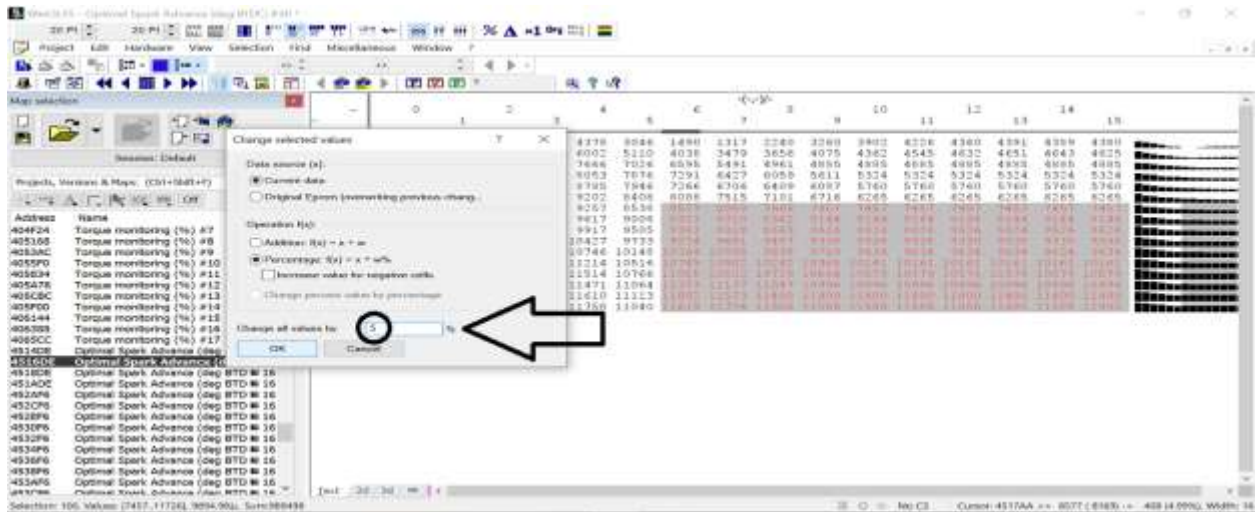
If you need to change the whole area to the same size, click on the **“Change relative”** option. When the new window opens in the operation section, you are faced with two options. If you want to increase or decrease the number of tables in a certain number, you should use the **“Addition”** option. For example, we decided to increase the selected area by 10 units. We write “10” and click OK. You can see that ten units have been added to the whole table.



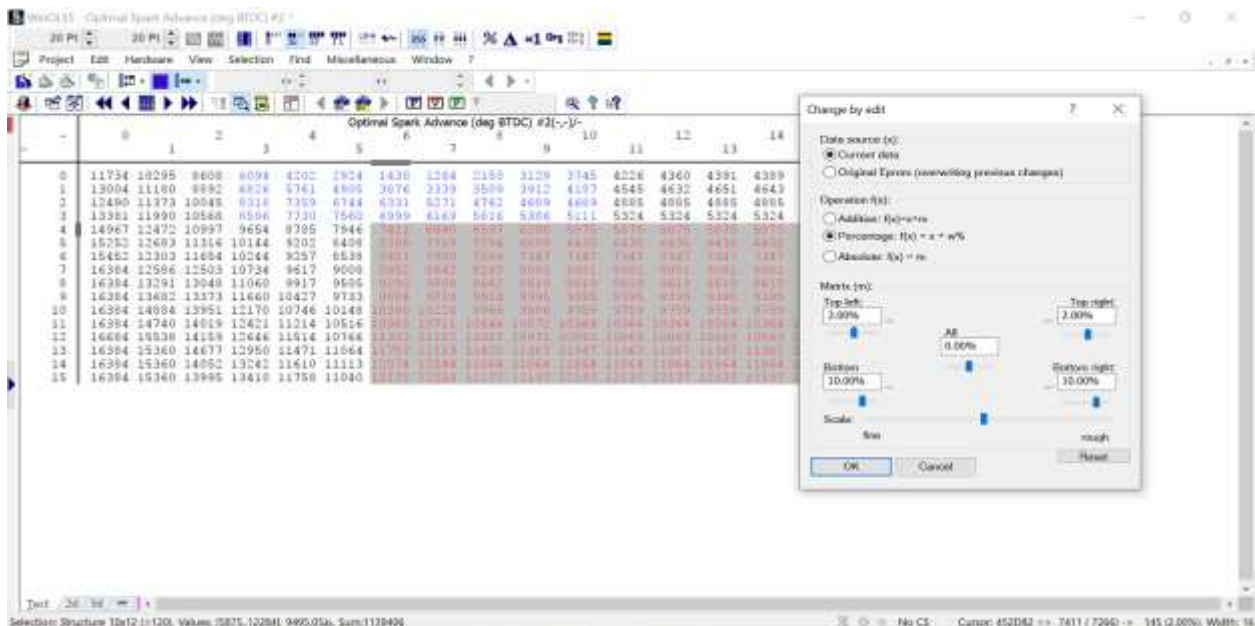


With the “percentage” option, you can increase or decrease the desired area by the desired percentage. For instance, select this area and increase it by 5%. When we click on the “percentage” option from the above toolbar, we see that the whole place has risen by 5%.





Sometimes it is necessary to change the tables step by step, which is also possible. Right-click on the desired area and select **“Change by edit”**. And in the previous menu, you can increase or decrease the number and percentage. But in the matrix section, you can specify the number of changes in the desired area from top to bottom. For example, we put 1 at the top left, 2 at the top right, 4 at the bottom left, and 10 at the bottom right.



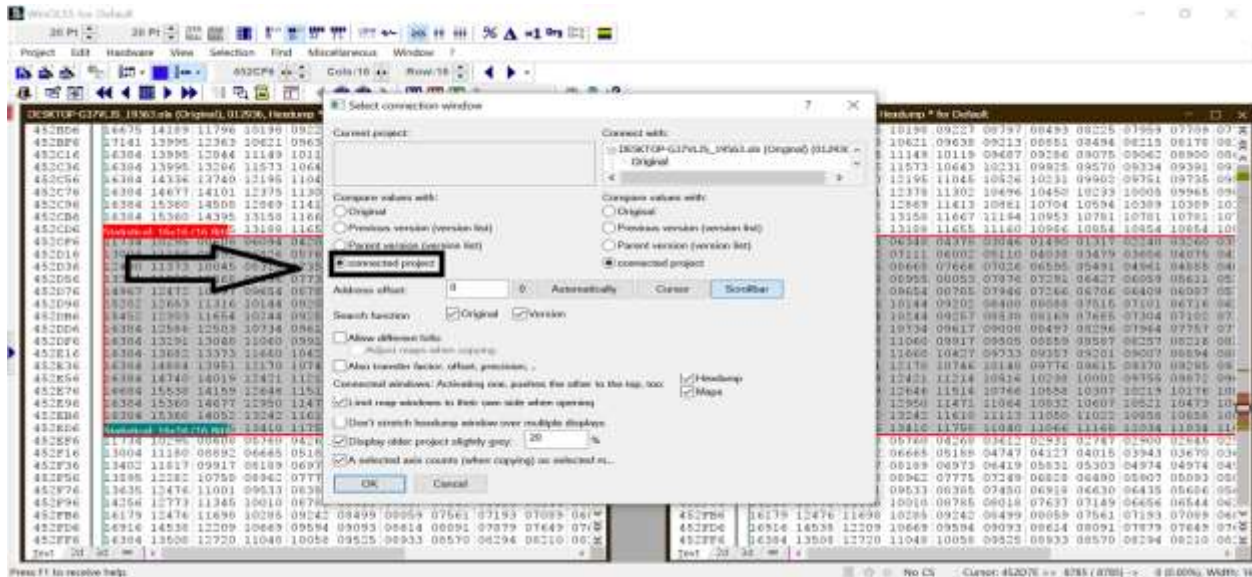
Now, if you press the difference option, you can see that the numbers are arranged like a staircase. This procedure can be done as a percentage.

Note: If you want to return the table to its original state after a change, highlight that part and press the **“F11”** key. You can also do this by right-clicking and selecting the last option, i.e., the original value.

Comparing two files:

One of the good options of the WinOLS software is comparing two files. For this work, we have two original and remapped files. First, to compare the two files, we open them in the software in the form of drag & drop or from the top toolbar.

Then, we click on the “connect window” option, press the “connected project” option for the proper files, and press OK. You can see that the two original and remapped files are located together.



To see which tables and areas are different, you can press the "N" key to view the original dump and remap regions that are different. You'll notice that the colored areas indicate varying values. For instance, to determine the difference between this table and the tuned file, click on the "Difference" or “percentage” option to view the number of changes.

If you're using the original version of the software, you can save the tuned file by clicking "Save" on the toolbar and following the steps to save the file. Alternatively, you can press "Ctrl + E" on the keyboard to save the file.

What has been said far about the settings and how WinOLS work is enough for people who are new to the job, and for professional work, it is necessary to use other software options mentioned in the [advanced course](#).

You've already learned basic information of electronic fuel injection system, different types of programmers & ECU Tuning software & Programming so far. From now on we will teach you several types of tables which are needed for remapping in [ECM Titanium & WinOLS](#).

We will also explain the way you can change & tune these tables.