

SPACE AND DEPTH ADJUSTMENTS

How to adjust cutting and tracing on 3D Pro Key Machines. The following will show you how to check and set your machine to cut and trace perfectly.

Explaining the X, Y, Z Axis for Jaw 1 and Jaw 3

1. Jaw 1 uses three axes which are X, Y, and Z
2. The X axis is the movement from left and right and controls the depth.
3. The Y axis is the movement from front to back and controls the spacing.
4. The Z axis is the movement up and down and controls the height at which the cutter is lowered.

Explaining the X, Y, Z Axis for Jaw 2

1. Jaw 2 uses two axes which are X and Y.
2. The X axis is the movement from left and right and controls the spacing.
3. The Y axis is the movement from front to back and controls the depth.

All adjustments are in .001" (one thousandths of an inch)

The "Space" or "Depth" on either the "Tracer" or the "Cutter" can be adjusted by a maximum of ".020" (20 thousands) either way (+ or -) plus or minus. **You will need to know how to measure keys with calipers.**

Adjustments are made by going to "Operations > Space and Depth Adjustment" and the typing 1, 2 or 3 for Jaws 1, 2 and 3 and clicking OK.



Digital Caliper



Dial Caliper

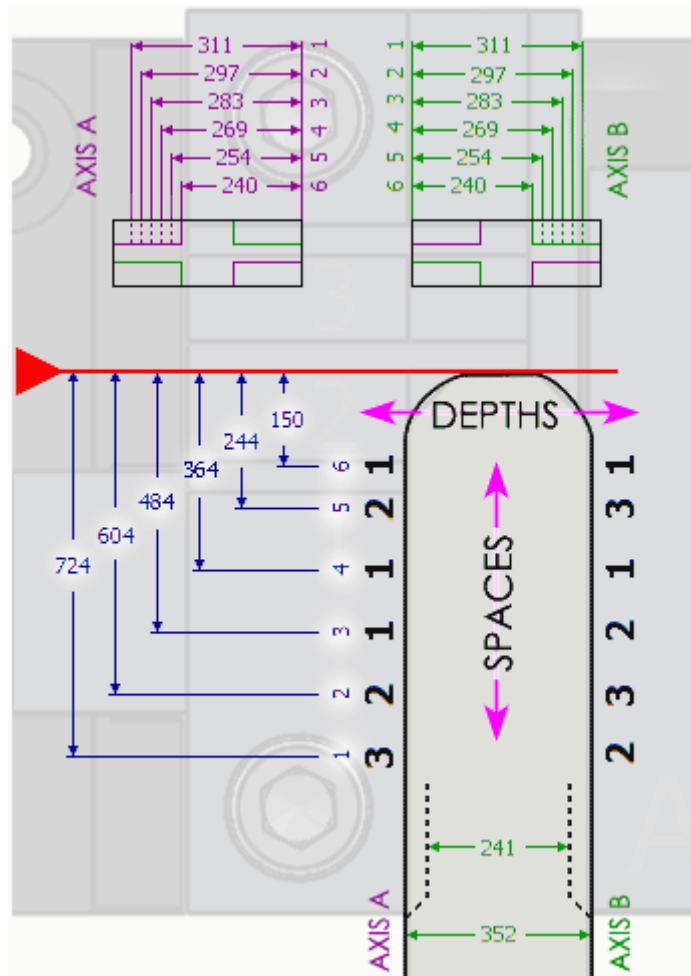
Adjusting Space and Depth on Jaw 1 and Jaw 3

High security keys that are cut and traced on Jaws 1 and 3 uses a profile that can be shifted along the space and depth. We will use a High Security Honda key as an example of how to adjust Jaw 1.

In the 3D Pro software with this Honda key selected go to: 'File > Edit' and at the bottom is the Depth and Space Data (DSD)

Below is a visual representation of the DSD.

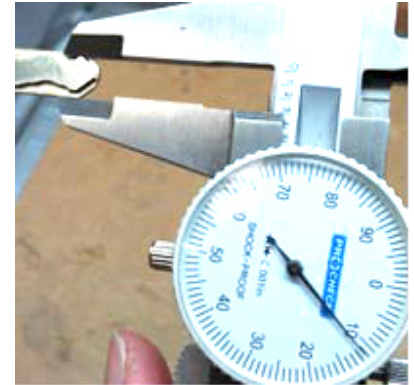
	0	1	2	3	4	5	6
Side A Spaces		724	604	484	364	244	150
Side B Spaces	0	724	604	484	364	244	150
Cut Depth	311	311	297	283	269	254	240



To measure the spacing on a tip stop key like the high security Honda key set a caliper to the space that you want to measure using the space data on the edit page and the measure from the tip toward the bow. For a shoulder stop key, measure from shoulder to tip.



To measure a depth on a high security Honda key, find the space for the depth you want to measure and measure from the edge of the key to the edge of the cut. Compare the reading against the Cut Depth info on the edit page.



Now trace either a blank or OEM cut high security Honda key. It's best not to use an aftermarket key because it may not be cut to spec. In this example we are tracing an OEM cut key.

[Trace Reading Example]

At the bottom right hand corner of your 3D Pro software is a text box, and at the bottom of this box are the readings for the trace, one line per cut. The readings show the space, cut and tracer measurement. The readings are shown in the order in which they have been traced.

(1,3);283
(2,5);253
(3,5);253
(4,4);268
(5,5);253
(6,1);308

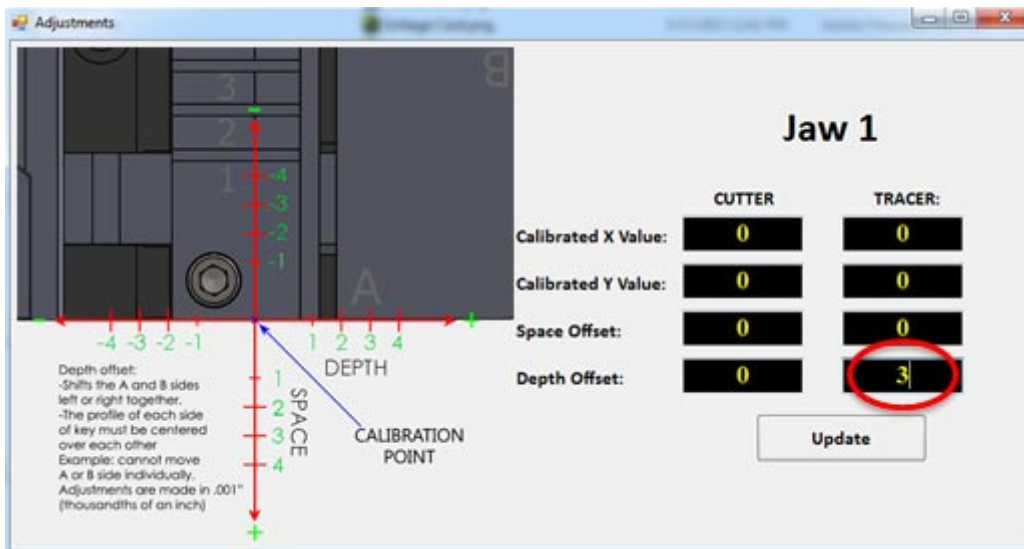
A blank will read all zeros measuring 352 all the way down the key.

An OEM key should always read ones in both 6th spaces measuring 311.

The 6th spaces will show in the middle of the readings list and we see in the example that the key profile is off to the left by 3 thousandths of an inch. The trace reading shows that the 6th space on side A measured to 308 thousandths of an inch when it is supposed to be 311 thousandths of an inch. This in turn causes the 6th space on side B to be off as well. To correct this we will make a space and depth adjustment to move the cut profile to the right by 3 thousandths of an inch. This will make the 6th space on side A measure 311 and the 6th space on side B measure 310.

(6,1);313
(5,5);256
(4,1);312
(3,5);256
(2,6);242
(1,4);269

To make this adjustment go to "Operations > Space and Depth Adjustment" type "1" and press "OK"



You will see the window shown above. Type "3" under "Tracer" next to "Depth Offset:" and then press "Update"

Adjusting space and depth for the Jaw 1 cutting is the same as adjusting Jaw 1 Tracer except that you will have to cut a key, measure it, and make the adjustment. Cut a high security to a random code or all ones and measure as shown below. The tip of this high security Honda key will have ones on both 6 space cuts (or along the whole key if you cut to all ones) and should measure to 311.

Shown to the right is an example of how to measure a cut high security Honda key at the 6th space on side A.

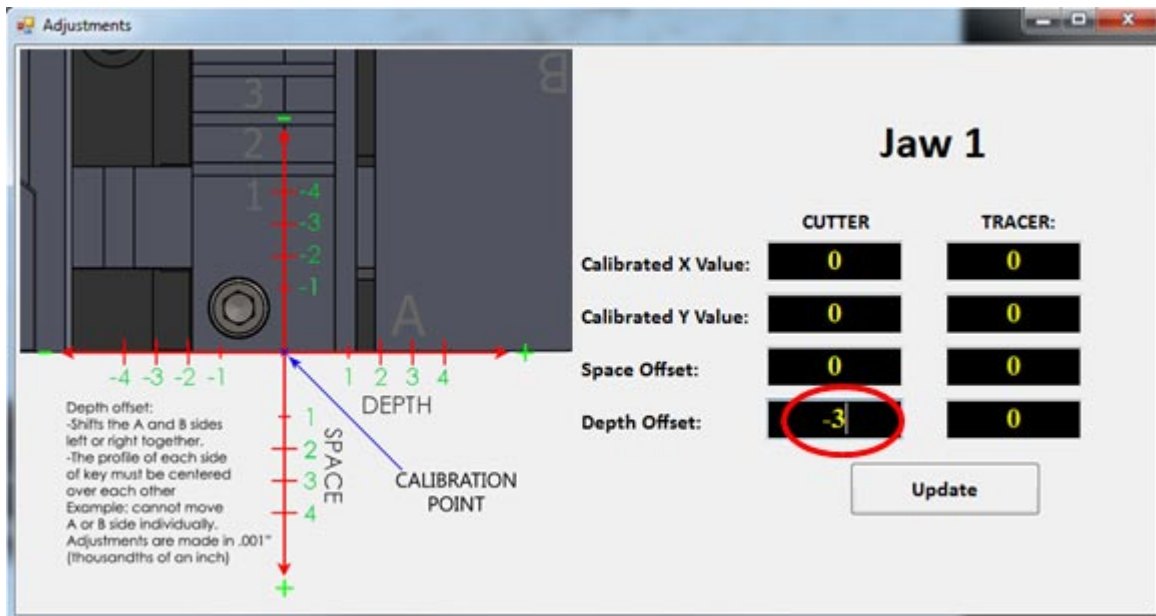
If the 6th space on side A measures less than 311 then make a positive adjustment to move the key's profile to the right if the measurement is more than 311 then make a negative adjustment to move the key's profile to the left.

Making adjustments affects all cuts.

Let us say that 6th space on side A is measuring to 314 then the adjustment will be made as shown below.



To make this adjustment go to "Operations > Space and Depth Adjustment" type "1" and press "OK"



You will see the window shown above. Type "-3" under "Cutter" next to "Depth Offset:" and then press "Update"

Repeat the same process for spacing.

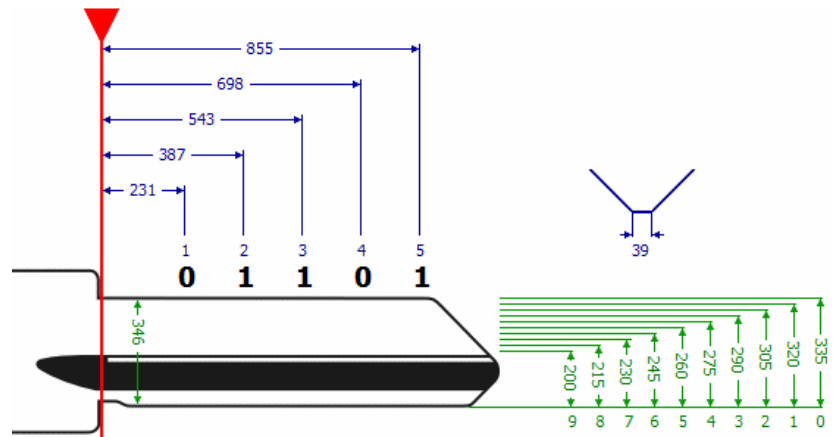
Adjusting Space and Depth on Jaw 2

We will use a Schlage key as an example of how to adjust Jaw 2.

In the 3D Pro software with this Schlage key selected go to: 'File > Edit' and at the bottom is the Depth and Space Data (DSD)

Below is a visual representation of the DSD.

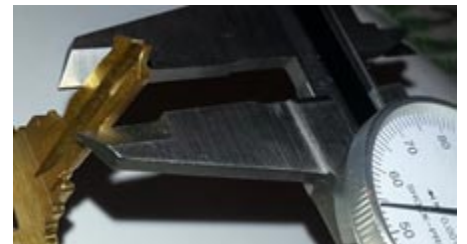
	0	1	2	3	4	5	6	7	8	9
Side A Spaces		231	387	543	699	855	0	0	0	0
Side B Spaces	0	0	0	0	0	0	0	0	0	0
Cut Depth	335	320	305	290	275	260	245	230	215	200
Half Cut Depth	335	320	305	290	275	260	245	230	215	200



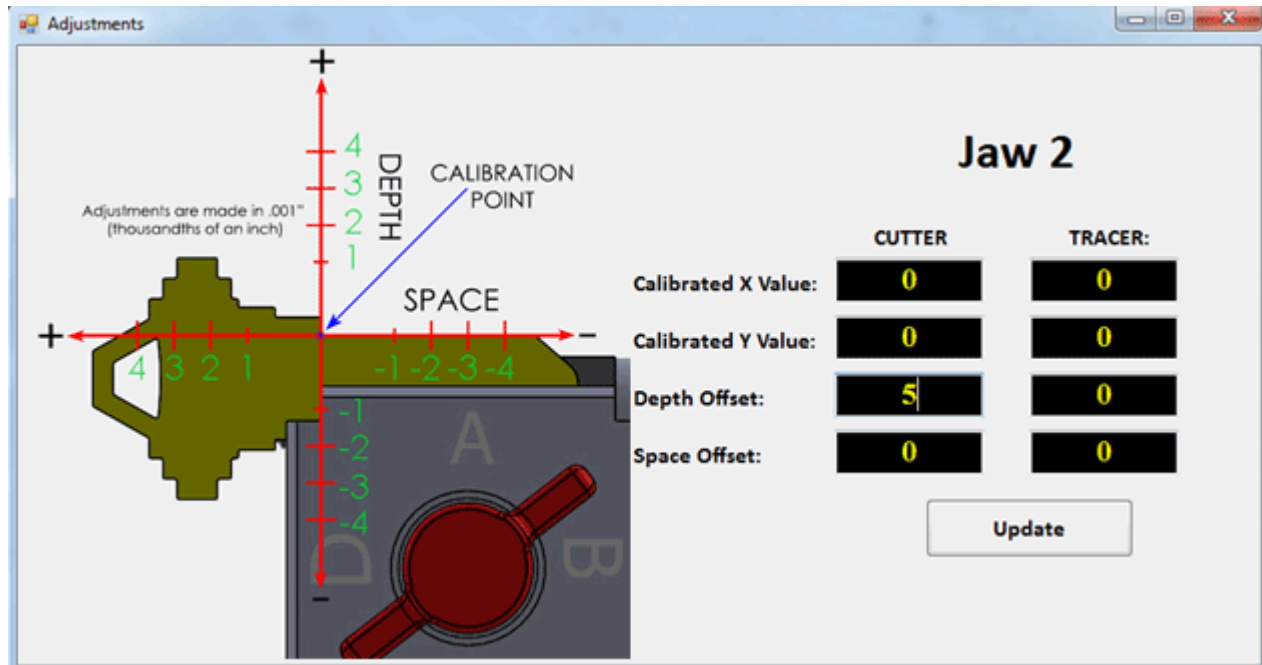
To measure the spacing on a shoulder stop key like the Schlage key, set a caliper to the space that you want to measure using the space info on the edit page and the measure from the shoulder toward the tip. For a tip stop key, measure from tip to bow.



To measure a depth on a Schlage key, find the space for the depth you want to measure and measure from the edge of the key to the edge of the cut. Compare the reading against the Cut Depth info on the edit page.



Cut a Schlage key to all ones and measure the depth with calipers. According the edit page for the Schlage key, one depths should measure to 320 thousandths of an inch. If your key measures too shallow, say 325 then make a negative adjustment to the cutter depth offset. If your key measures too deep, say 315 then make a plus adjustment to the cutter depth offset. Negative adjustments are made by putting a minus sign in front of the number used in the adjustment box.



To adjust the spacing, cut a Schlage key to all ones with a 3 in the third space set your calipers to .543 inches and measure from the shoulder to the tip and see if the 3 cut meets the measurement. If the 3 cut is too far toward the shoulder of the key then enter a negative number in the Depth Offset under CUTTER. If the 3 cut is too far toward the tip of the key then enter a positive number in the Depth

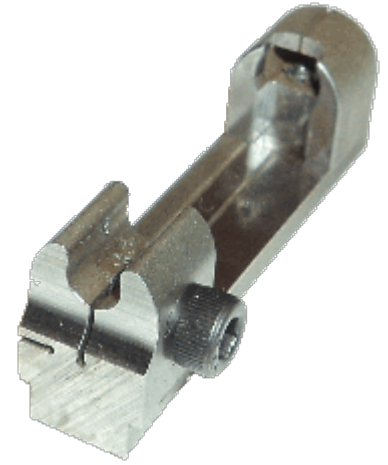
Optional Accessories



Bolt Down Kit



Lexus 80000 Code Series Cutter



Tibbe Adapter



Preloaded Laptop



Genericode for 3D Pro

Laptop Mount