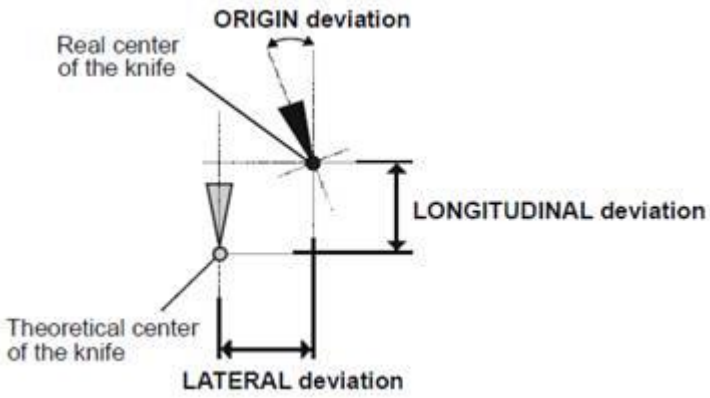
Tangential Knife Calibration.Docx

The parameters influencing the cutting quality of a Summa tangential cutter head are, among others, defined by the knife parameters:

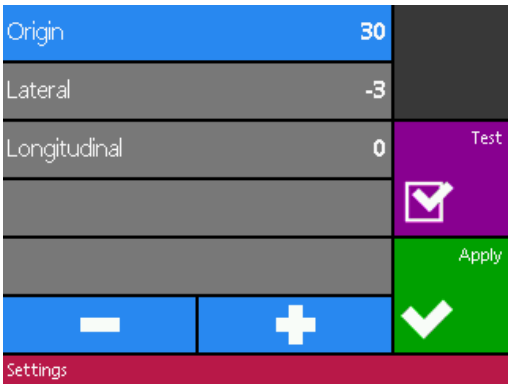
- Origin: default 0
- Lateral Offset: default 0
- Longitudinal Offset: default 0



The main goal is to calibrate the knife for compensating manufacturing tolerances.

Start the machine.
Load media with a good contrast between film and backing.
Verify the knife depth and pressure is set correctly to cut the loaded media.

It is now possible to define the knife parameters (Origin, Lateral Offset and Longitudinal Offset) by executing a test.

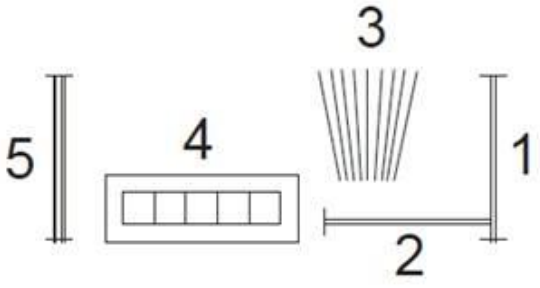


1. Click 

.
2. Click 

.
3. Click 

.
   A test pattern will appear, as illustrated in the picture:
4. Evaluate the test and adjust the parameters to get a good result. Most likely, you can use *Test 1* and *Test 4* for evaluation.
5. Select the parameter to change.

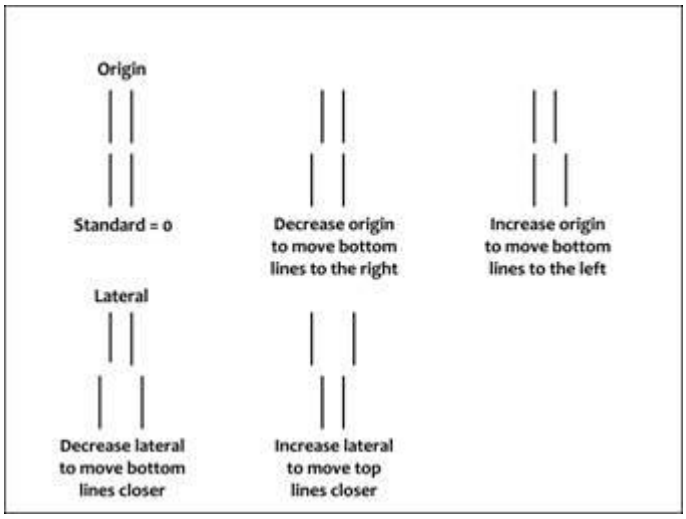


6. Click on  or  to change the value of the parameter.

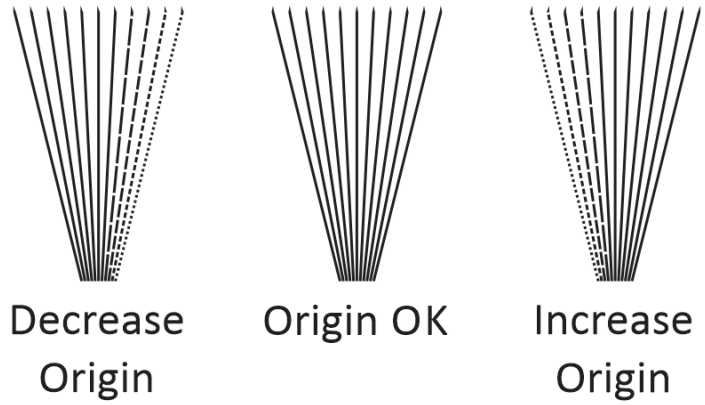
7. On every value change of a parameter, click 

to evaluate the difference.

You can use *Test 1* to adjust *Origin* and *Lateral Offset*.
Usually, change *Origin* in steps of 10, and *Lateral Offset* in steps of 1.

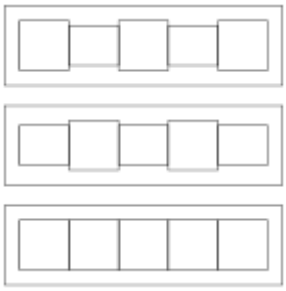


Test 3 can also be used to check the *Origin*. This test is cut with the knife set in the same direction for all lines. Increasing the *Origin* will rotate the knife in a counter clock wise direction resulting in the lines being inclined to the left being better cut.



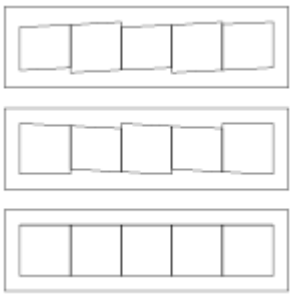
In case a deformation is seen on the right side of the test, then decrease the origin to rotate the knife in clock wise direction.

Test 4 can be used to check if *Lateral Offset* calibration was done correctly:



In top image, *Lateral Offset* is set too high.
In middle image, *Lateral Offset* is set too low.
In bottom image, *Lateral Offset* is set correct.

Test 4 can also be used to check if the *Origin* calibration was done correctly:



In top image, *Origin* is set too high.
In middle image, *Origin* is set too low.
In bottom image, *Origin* is set correct.

It is normally not necessary to adjust the *Longitudinal Offset*, as this is compensated by the *OverCut* parameter. It is advised to set the *Longitudinal Offset* to 0.

Of course, most likely, both *Origin* and *Lateral Offset* needs to be adjusted.
This then results in mixed test patterns.