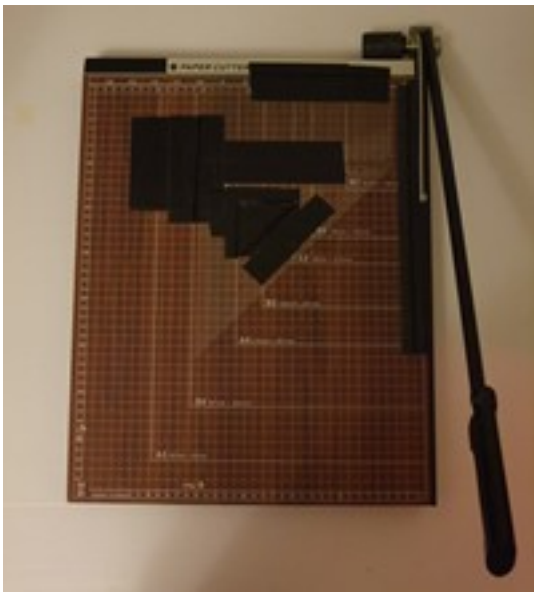


How to modify a paper cutter into a device by which a regular square can be cut out in 15 seconds.

The method of cutting regular squares described before is only suitable for personal use or small group. Besides, it requires certain practices to attain the desirable accuracy and efficiency. In cases where large squares are needed in large quantity within a short period of time, for example in giving origami lessons to a large number of students, we probably need a special device to help. This can be done by modifying a paper cutter to cope with this problem. The most suitable size of the paper cutter is the one which is used to cut A3 size paper. The paper cutter must be equipped with a stabilizer arm. This not only serves to stabilize the paper being cut, but also acts as a safety device.



A) Tools needed to modify the cutter

1/ 45° set square

Same as the type used in cutting regular squares. A larger one would also be preferred.

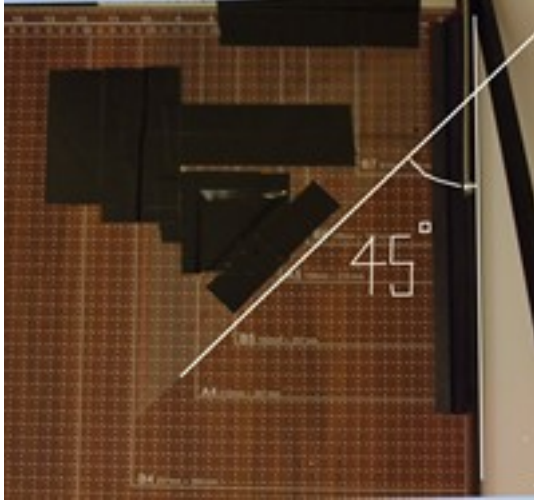
2/ a straight ruler

The width of the ruler should be large or you can combine two as one. It should also possess the features as the set square's, ie minimum thickness 2mm, and with straight edge.

The underlying principle of this modified device is actually the same as the manual method described before. We fix the 45° set square into the board so that its slanted side is in an angle of 45° to the cutting edge of the cutter. The straight ruler is used to assist in getting the best position of the set square on the board.

B) Procedures for the modification

Once the 45° relationship between the slanted edge of the set square and the cutting edge is established, fasten the ruler and set square in place with strong adhesive tape as shown in the photo.

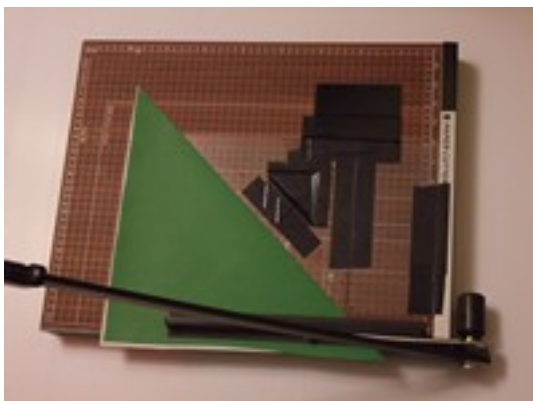


Note : If the cutter is of good quality, the top edge bar should be at true right angle to the cutting edge. In this case, the 45° relationship would be instantly obtained once the ruler and set square are positioned as shown in the photo. However, this may not be the case for a poorer quality one. In this case, we need another 45° set square to do the calibration before applying the adhesive tape.

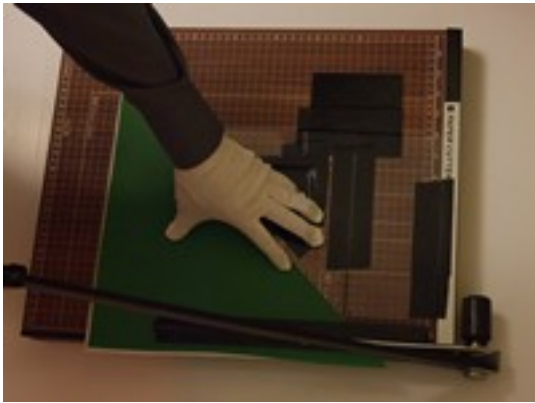
Also, once the cutter is modified, it can only perform the new function, unless the set square and ruler are dismantled.

C) Procedures of the operation

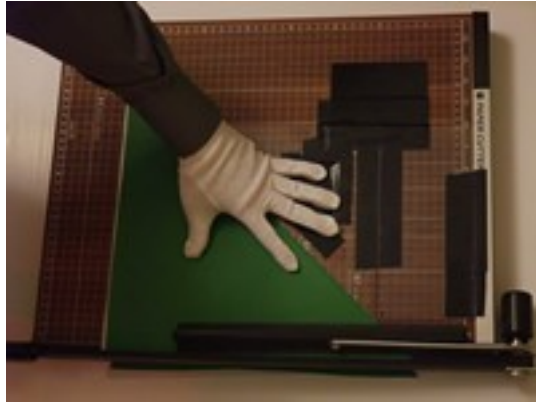
- 1/ First cut out a rough square from a large sheet. Fold along the diagonal and then crease firmly. Put the slanted edge of the paper against the set square's with its right edge protruding from the cutting edge by about 1cm. This is to ensure the layers of paper within the cutting edge are in complete overlap with each other.



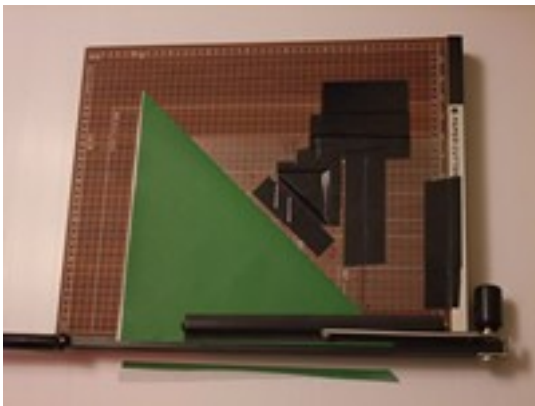
2/ Fix the paper in place with your left hand , pull down the cutting knife and a 45° corner is obtained.



a)

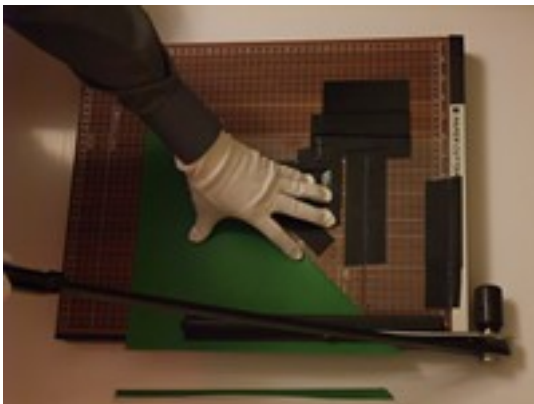


b)

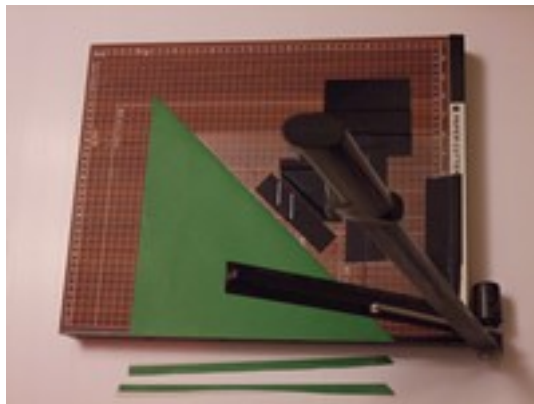


c)

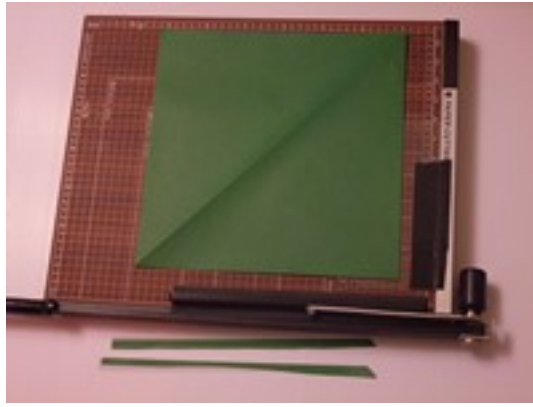
3/ Turn the uncut portion of the paper over into the starting position and repeat the cutting procedures. In the end , a regular square is obtained.



a)



b)



c)

Note : As a whole this method is less accurate than the manual method by several factors, first , the intrinsic factors of the cutter , second , the accuracy of the modification and finally the handling procedures. However its convenience in handling and incomparable speed would prove itself a helpful device. In addition , no prior practice is needed to operate this device and even children can handle it after being instructed.

[END]

Gabriel Vong' s Ori-Scope

By Gabriel Vong 2009