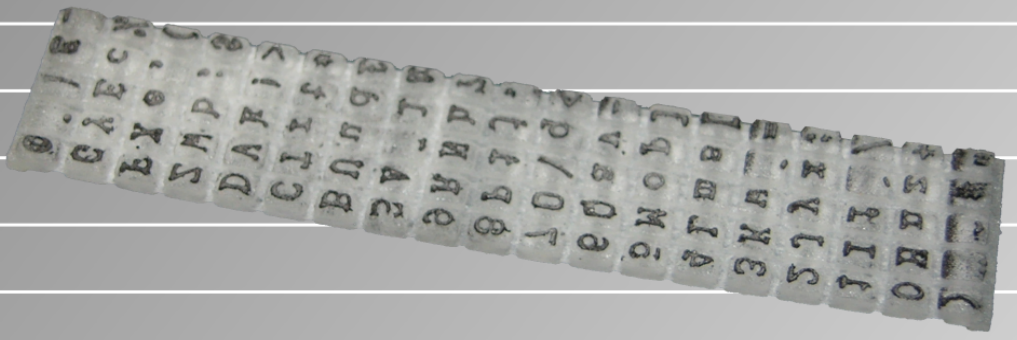
Roller Rubber Replacement for ATARI®1027 Printers



Manual

REVIVE1027

Finally!

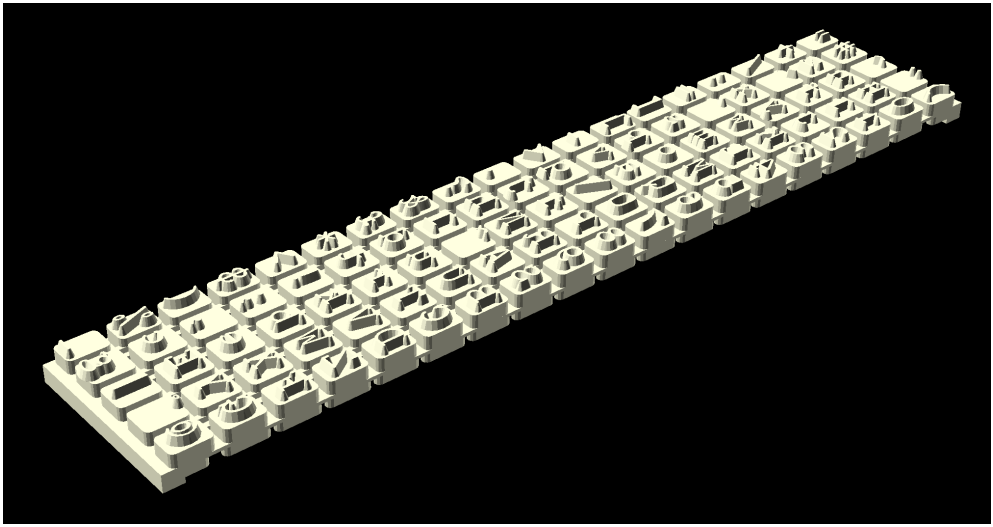
After many years it is possible to make good use of the Atari 1027 printer again.

Already around the year 2000, owners of a 1027 printer were able to find out that the rubber stamp on the type roller is decomposing.
Courageous users who liked to proof the functionality of their device and took the printer in operation after rest, were surprised by letters spreading everywhere in the printer because of the „self-destructing“ rubber.
Even those who said they were using original spare parts to maintain the operation (never encountered one in reality) were bitterly disappointed, since these spare parts crumbled as well. Very rarely single individual users report printers that are still operational, but it seems only a matter of time before the problem arises for them as well.

Typical 1027 rubber debris

You can find many discussions about the phenomenon in various languages on the Internet: Sad reports of useless 1027, analysis of the cause, Ideas for revival, but no solution to the problem - until now.

Thanks to the evolving 3D printing technology and some efforts to create a true to the original reproduction of the rubber stamp, I can now offer »Revive1027« - an affordable spare part for this historically interesting printer.



3D-model of the rubber stamp

The developer wishes you much fun with the awakening from hibernation of your 1027 printer

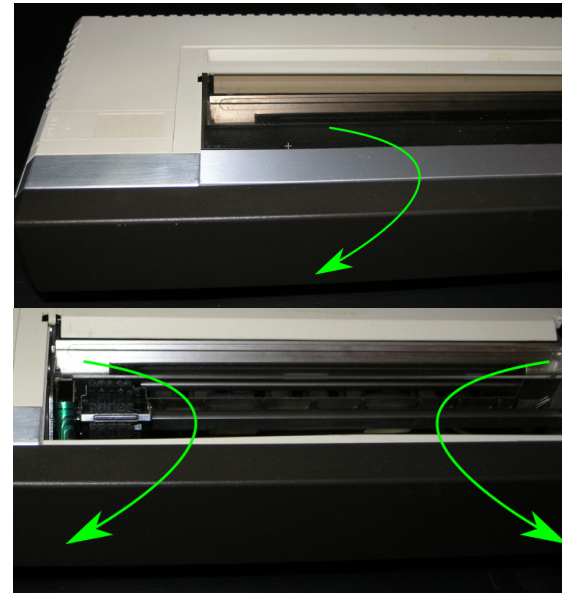
Christian Krüger
Berlin, July 2017

Swapping

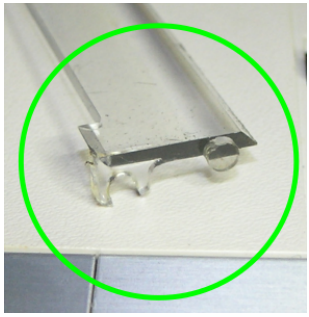
Since the geometry of the Revive1027 is based on the original part and has the necessary structures for attachment on both sides, the installation is relatively simple and requires no other means such as adhesives.
Only a miniature crosshead screwdriver is needed for (dis-) assembly.
Please read this manual completely before doing the following steps.
No liability is assumed for defects of any kind caused by the installation or operation of a printer with „Revive1027"! There is also no warrant that your printer operates satisfactory after the exchange!

Removal of the rotted rubber stamp

- remove the printhead cover of the printer (this should be de-energized and disconnected for safety)

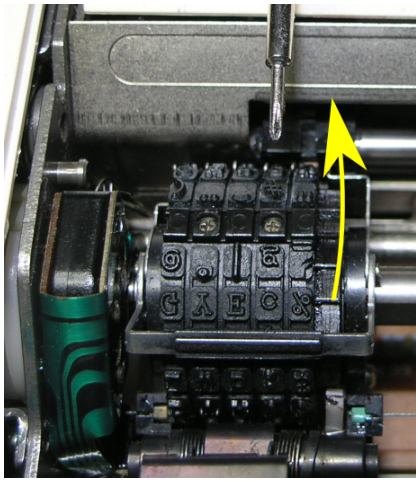


- optionally remove now the front paper guide made of acrylic glass: It sits a little bit more firmly and nevertheless has to be carefully dismantled into two phases due to the risk of breakage. The next photo shows the attachment in detail: a tilting motion from front to back (the „rear" bracket makes it a slight turning motion) should lead to success. The best way is to remove the guide on the right side (there is more space), lift it slightly over the edge of the case and, to the right, pry off the guide left out of the mount.

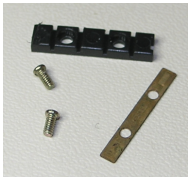


This step is optional because you actually have enough space for the exchange in front of the cover. However, in printers where the letters have been separated during operation, rubber fragments are often in the comb-like spacer in front and below the barrel. These must necessarily be removed/cleaned, which is only reasonably to manage without the paper guide in place!

- now the ink roller is removed, so that the printing barrel is exposed. The roller should now turn forward (yellow arrow) by hooking with the fingernail slightly behind the steps on the right side. If the roller rubber is already defective and still partially hangs on the drum, it is better to remove the fragments beforehand instead of immediately turning the roller so far forward that the fastening screws take the position on the photo. Please also check beforehand whether there is rubber roller debris at the front and bottom of the distance comb and remove if necessary! Otherwise, turning of the barrel can be very stiff and even bend the comb, which even later can destroy the replacement rubber stamp sustainable!

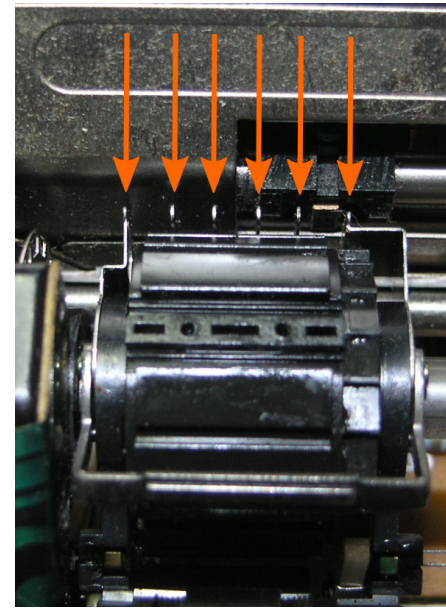


- once the screws are in the correct position, they are carefully removed with the plastic bar and metal sheet protection strip and set aside. They will be needed later for installation again.



- the roller is now cleaned: All rubber parts are carefully but thoroughly removed. The distance comb must be free of resi-

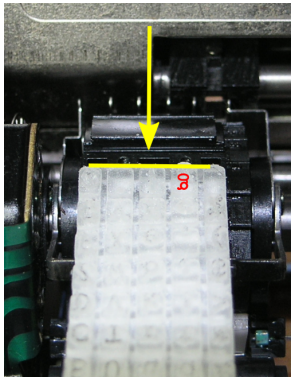
dues, other rubber crumbs should be recovered from the printer (turning around upside down and shaking can be useful, the environment is to protect against pollution: the fragments are often greasy and discolour!).

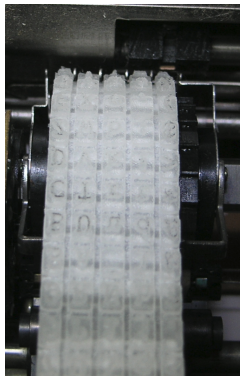


- check again the freewheel of the roller. Does it turn easily forward? Do you have all the fragments together? Is the distance comb free and not bent? You can cut a strip of paper in the width of the roll and round it over a table edge. Then check whether this strip can be threaded over the roller without resistance.
  This point is so important because when mounting the „Revive1027“ stamp rubber, there is hardly any way to correct it. If this gets jammed when reeled in, it is most likely to ruin the part - after all, the drum can only rotate in one direction[1]...
  (That's how I lost a prototype!)

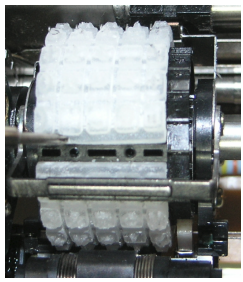
[1] How to turn the drum in the opposite direction is described in the section at the end of this manual.

Installation „Revive1027“

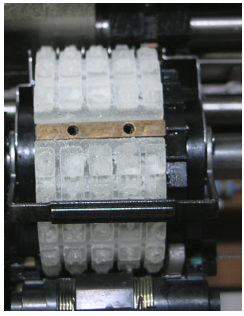




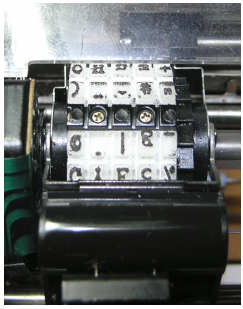
- insert now in the cleaned drum the replacement rubber as shown in the picture. The letters stand upside-down (*see position of the red marked „g“*) and the edge of the strip is clamped in the forward facing groove of the mounting area so that it no longer protrudes compared to the screw area (you may like to use the edge of a credit card to pinch the rubber into the groove). Please also pay attention to the right and left edge of the rubber, these must lie cleanly on the roll edge.



- the roller is now carefully turned to the front (on the stepwise right edge) while <u>pressing the rubber in the transverse guides</u>. Stretch the rubber slightly, so that it attaches the barrel tight and the bottom stabilizers reach from one groove to the next one! Please also pay attention to the side and comb guides.

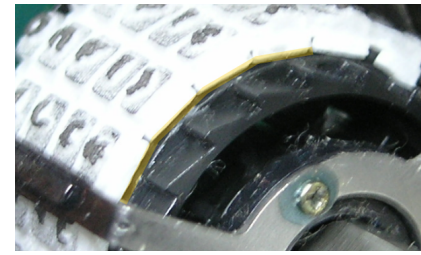


- after the appearance of the beginning on the other side, the end is pressed into the recessed guide here as well (credit card…)
- the sheet metal strip is placed and the retaining bolt screwed.
- final test: Does the barrel turn easily?
- if the front paper guide has been removed, reinstall it
- the ink roller gets back in place, also the cover



Nothing holds you back from starting a printing test now. Good luck and have fun with your new old 1027!

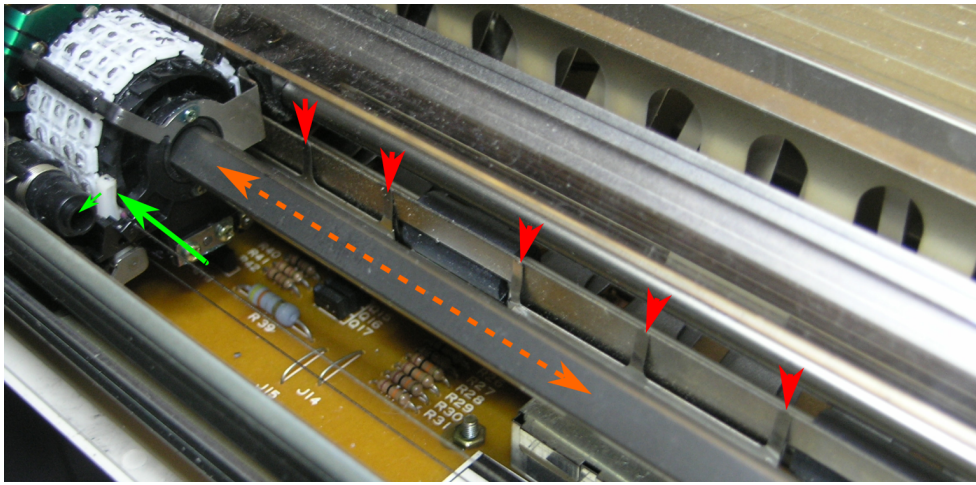
If the print shows many streaks and shadows, please press the rubber everywhere around firmly to the drum so that the part fits into the longitudinal ribs!



Tips and Tricks

Long downtime of the 1027 or the operation with dissolving rubber roller is often the cause of trouble or damage to the printer.
If e.g. wrong letters are printed, this may be because the horizontal head positioning is out of step.

I was able to find out the following issues:
1. the head axle has too much friction (orange in the photo below) and should be lightly lubricated (a tiny drop of oil at the head on all four sides of the axle)



2. the paper guide tongues (red arrows) are e.g. bent by rubber debris and delay or block the free movement of the print head: The tongues must be carefully bent straight.

If you want to turn the print head in the opposite direction (because, for example, fragments has settled), you can press the blockage (long green arrow in the picture) with a small screwdriver to the side (short green arrow) and turn the roller backwards.

One last hint:

Normal copy paper (80g/m^2) is not suitable for the printer: it is too thick and coarse-pored. Streaks and bad stamps are the result.
I have made good experiences with thin typewriter paper or copy paper 60 g/m^2.