

We do not have a calibration Kit for adjusting the RY100 Key Machine.

Calibration is as follows:

- 1) Take two fresh keys blanks (Schlage for example) and measure the blade height (optional) to verify that both are the same size. Use your Caliper or Micrometer. My blank measures .345 for example.
  - 2) Place one blank in each key vise. Please be sure to leave a small gap between the bottom shoulder of the key blank and the left edge of the key vises.
  - 3) Do not turn on the machine. Release the carriage and position the carriage so that the stylus and cutter are about in the middle of the key blanks.
  - 4) Do not turn on the machine. Turn the cutter backwards by hand - grab the cutter nut or wire brush if one is installed. As you turn the cutter backwards by hand the cutter teeth should barely "tick" the key blank. If the cutter hits the blank with a significant "tick" then your depth of cut is set too deep. If the cutter teeth miss the key blank all together then your depth of cut is probably set to shallow.
  - 5) Ideal depth of cut is when the cutter just barely "ticks" the key blank.
  - 6) You may now turn on the machine and move the carriage left or right just a little bit. The cutter should be just "ticking" the blank.
  - 7) Turn off the machine, retract the carriage and look at the key on the right to verify that the cutter did not cut the key but just grazed it. If these are your results then the depth of cut is correct for your key machine.
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- 1) If your machine did not give you the results outlined in 7) above then you must Calibrate depth of cut on your machine.
  - 2) Use a 5/32" Allen wrench to loosen the two cap screws located on the top of the stylus holder. Loosen and then snug-up the two screws. You should now be able to move the stylus forward by turning the knurled Stylus Adjustment Knob located at the back stylus holder. Facing the machine you will turn the Stylus Adjustment Knob to your LEFT to move the stylus toward you.
  - 3) Release the carriage and position the middle of the key blank at the tip of the stylus.
  - 4) Now turn the cutter wheel backwards - the cutter should miss the key blank all together.
  - 5) While continuing to turn the cutter backwards start turning the Stylus Adjusting Knob to back off the stylus until you hear the cutter teeth just beginning to "tick" the key blank.
  - 6) Now you can tighten up the two screws (moderate tightness should be enough) on the stylus holder.
  - 7) You may now turn on the machine and move the carriage left or right just a little bit. The cutter should be just "ticking" the blank.
  - 8) Turn off the machine, retract the carriage and look at the key on the right to verify that the cutter did not cut the key but just grazed it. If these are your results then the depth of cut is correct for your key machine.

Once depth is properly adjusted you can now turn your attention to Spacing.

- 1) Take your two key blanks and stack them one on top of the other and clamp them both in the RIGHT vise jaw. Be sure to align them both together using your top Flip-up key gauge. And be sure to leave a small gap between the bottom shoulders of the keys and the left side of the vise jaws.
- 2) Turn on your machine and position the keys so the cutter is about in the middle of the two key blank stack.
- 3) Carefully plunge a straight cut deep into both key blanks and then pull the carriage back and locked. **DO NOT MOVE THE CARRIAGE LEFT OR RIGHT WHILE MAKING THIS CUT.** Turn off the machine.
- 4) With the machine turned off remove both keys together from the vise.
- 5) Take the top key that you cut and clamp it back in the Right vise jaw.
- 6) Take the bottom key that you cut and clamp in the Left vise jaw.
- 7) Use your Flip-up key gauges to properly position both keys in their vise jaws being sure to keep the bottom shoulders slightly away from the left edges of both vise jaws.

- 8) With the machine TURNED OFF release the carriage and position the keys directly in line with the stylus and cutter. Both keys should drop in to their respective stylus and cutter.
- 9) The stylus should be seated all the way into the cut in the left key. Now turn the cutter backwards by hand and if the cutter spins freely in the cut made in the right key the spacing is correct.
- 10) If the cutter "ticks" anywhere in cut as you turn the cutter backwards by hand the spacing will require adjusting.
- 11) Use the 5/32" Allen wrench to loosen the two cap screws on top of cutter head.
- 12) With the MACHINE TURNED OFF and the carriage released and the stylus and cutter are both deep into the two cuts you made in the key blanks:
  - a) Use a small plastic mallet to gently tap the entire cutter shaft with cutter and wire brush attachment (optional accessory) either left or right just a little bit at a time until you can turn the cutter by hand freely in the cut groove without the cutter "ticking" the key blank anywhere in the cut.
  - b) Continue turning the cutter and taping the cutter shaft assembly left or right until you are satisfied that the cutter does not touch the key blank.
- 13) You can now tighten (moderately) the two cap screws on top of the cutter head with the 5/32" Allen wrench. DO NOT OVERTIGHTEN THESE SCREWS; MODERATE TIGHTNESS SHOULD BE ALL THAT'S REQUIRED.
- 14) Turn on the key machine and verify that the cutter spins freely in the cut made in the key while the stylus is seated all the way into the cut in the key in the left vies.

DEPTH AND SPACE ADJUSTMENST ARE NOW COMPLETE. FYI this is the same procedure that we use in the factory to calibrate every Rytan Brand key machine.

If you need assistance please call us at (800) 447-9826 between 9:00AM and 4:00 PM, M-F, ask for customer service.