

MICRO MATIC Guide to Circlip Removal and Installation

Note: the #100-623 Double Circlip is intended as a single-use item; never reuse these!

- Place valve compression tool around the neck of the keg so that the base plate engages the lip at the top of the neck, tighten gently to compress the valve and vent any remaining pressure from the keg.
 - Note that the end of the double circlip should be positioned towards the clockwise edge of the open side of the base plate to allow easy access with the circlip removal knife. (see figure. 1)

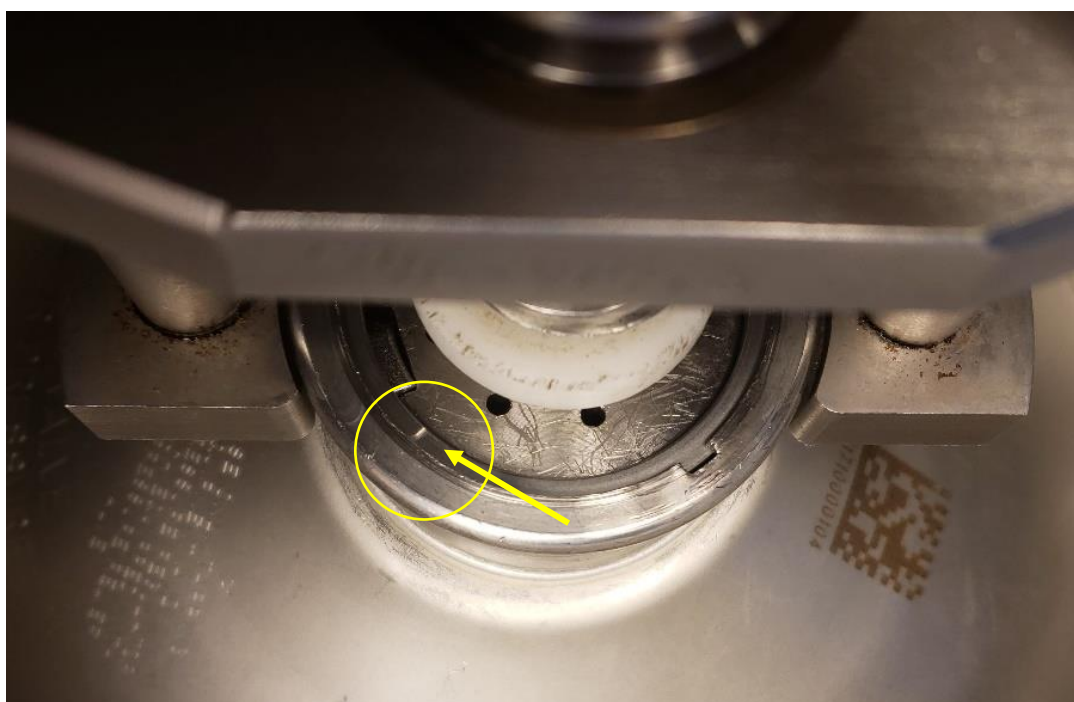


Figure 1

- The clamping force should be snug, but over tightening can damage the o-ring which seals the spear into the keg, or even deform the keg neck.
- The purpose of the #740-053 Double Circlip Removal Knife is to engage the notch in the tip of the circlip and push it away from the groove. This is accomplished by pushing forward against the point at which the notch meets the groove in the keg neck (see figure 2).
 - The tip of the Double Circlip Removal Knife will require occasional maintenance itself; the tip may need to be sharpened occasionally to a point thickness of ~.75mm (reduced from 1.0 mm thickness of base material), and frequent deburring with sandpaper is recommended for smooth insertion.



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- As the knife is pushed forward, you will feel a click as it engages the notch and pushes the circlip slightly away from the groove. (see figure 2)



Figure 2



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- Continue pushing forward, rolling the knife over almost 90° counterclockwise so that it continues to push the circlip out of the groove and slides underneath it slightly (see figure 3). Do not pry with the knife as this may damage the tool. This should release the end of the circlip and lift it out of the groove so that it can be easily removed.



Figure 3

- Note that it takes a bit of practice to gain real proficiency. A smooth, continuous, forward motion yields the best results.
- If it seems impossible to push the tip of the knife into the notch, the knife may need to be sharpened or deburred, or the circlip may need to be loosened by soaking with hot water.
- If the end of the circlip has been positioned incorrectly so that it is in, or very close to one of the notches in the keg neck, this may make the job much more difficult.
- Take care not to pry sideways with the knife as it will become bent quickly. It is designed to push forward (in the direction of the point) not to pry sideways. Always try to straighten out any significant bends that may occur in the course of use before removing another circlip.
- When re-installing keg valves, **ALWAYS** install a new double circlip! Double circlips are intended as single use items only!



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- To install a new circlip, wet the O-ring with clean water, insert spear into keg neck, rotate the spear clockwise to engage the “ears” in the safety groove, and set new circlip in place on top of the neck before attaching the Valve Compression Safety tool with the posts aligned with the notches in the keg neck as shown below (figure 4). Take care not to back the ears out of the fully engaged position in the safety groove.

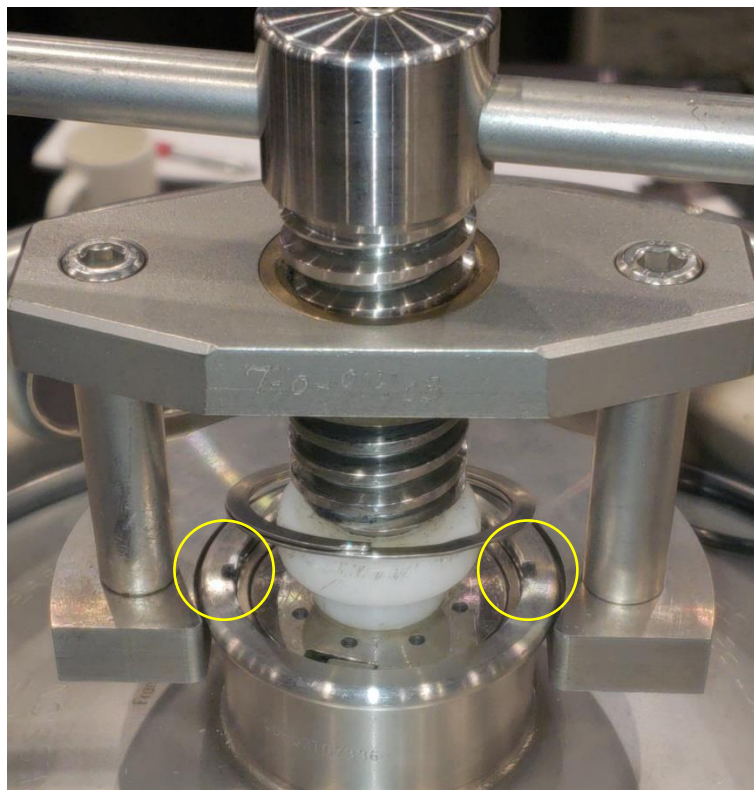


Figure 4

- When installing the new circlip, take care that the top end of the circlip lands about halfway in between the notches in the keg neck (see figure 6). This supplies the best protection against accidental removal and it makes subsequent removals easier as well.
- Rather than attempting to start the circlip in just the right place for it to finish out in the desired position, it is easier to insert the circlip to the halfway point (see figure 5) and adjust the position by rotating it counter-clockwise until the top end of the circlip is aligned correctly (see figure 6).



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Figure 5

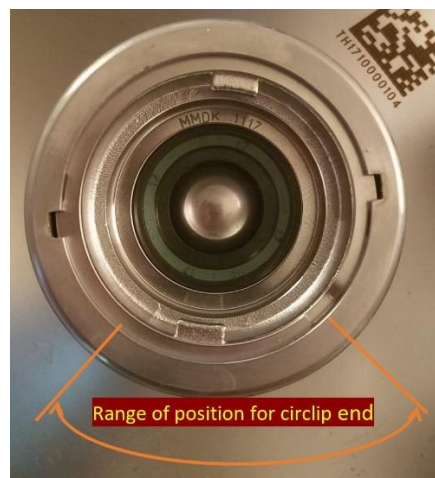


Figure 6

- Sometimes, after installing the new circlip, it may not be fully engaged in the groove. This will prevent removal of the Valve Compression Safety Tool (that is one of its “safety” features of the tool). Loosen the tool, rotate about $\frac{1}{4}$ turn and retighten; this may allow the circlip to seat the rest of the way. You may need to help push it into place with your fingers.
 - Sometimes this loosen/rotate/retighten process may need to be repeated a 4-5 times to fully seat the circlip.
 - If that is not successful, DO NOT use tools (pliers, screwdrivers, etc.) to attempt to force the circlip into the groove.
 - Remove the circlip and examine the groove for foreign objects, beer residue or points where the neck may have been damaged and the groove compressed (see figure 7). Foreign objects or beer residue can be removed. Compressed grooves may render the keg unusable.
 - Check the condition of the ears on the spear (see figure 8), if they are bent or otherwise damaged, they can block the circlip from seating in the groove. This damage may necessitate spear replacement.



Figure 7



Figure 8

For further information, please contact your Micro Matic representative.



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