

ACCIDENTAL VALVE EJECTION KEG AND VALVE ANALYSIS

January 07, 2015



OVERVIEW

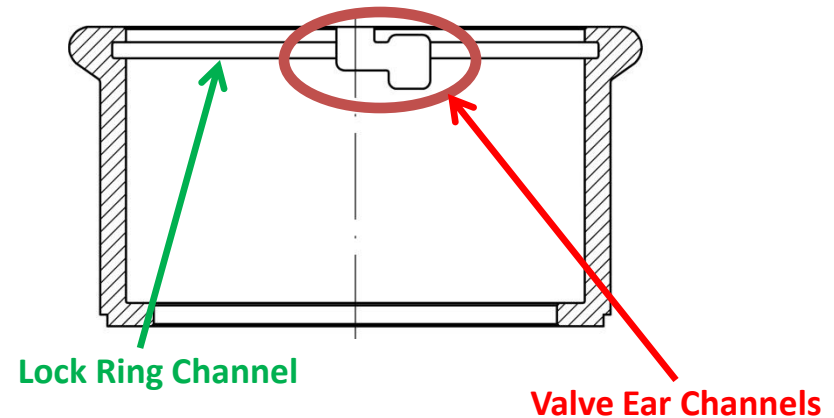
- The purpose of this document is to help field personnel who handle kegs to identify kegs that may present a safety hazard to brewery employees or consumers.
- Kegs that show evidence of tampering or are potentially hazardous should be set aside and quarantined until the keg can be inspected by a qualified technician.
- If a keg is identified in which tampering is suspected, please contact Franke Beverage Systems at (615) 462-4335.

VALVES AND VALVE SAFETY

Kegs in North America have a specifically designed 304 stainless steel neck that aligns with a specially designed valve.

The valve and neck have two safety features:

- A 304 stainless steel lock ring that fits into a channel of the neck and prevents the valve from ejecting under pressure.
- Valves have 2 lugs, or “ears”, on the top that fit into two channels and prevent the valve from ejecting



VALVE EJECTION

In order for the valve to be ejected from the keg, three things need to occur at the same time:

- Lock ring compromised or no longer in place
- Keg still under pressure with O-ring and CO2 valve maintaining their seal
- The 2-ear valve body aligns with the ear channels in the neck

The valve will only eject if all three circumstances occur simultaneously.

LOCK RING REMOVAL AND INSTALLATION

- **Proper Lock Ring Installation**

The end of the lock ring should always be located approximately 45 degrees from the ear channels. This prevents the lock ring from becoming accidentally dislodged when the coupler is being installed or removed



- **Lock Ring Damage**

When removed from the neck, the lock ring becomes damaged and unsafe for future use. The end of the lock ring will usually bend up, which makes the lock ring more likely to come out of its channel with frequent use.



LOCK RING DAMAGE

- New lock ring
- Lock ring with evidence of tampering. Note the multiple impact points similar to those made by a flathead screwdriver. In addition, the overlapping sections of the lock ring are no longer flush



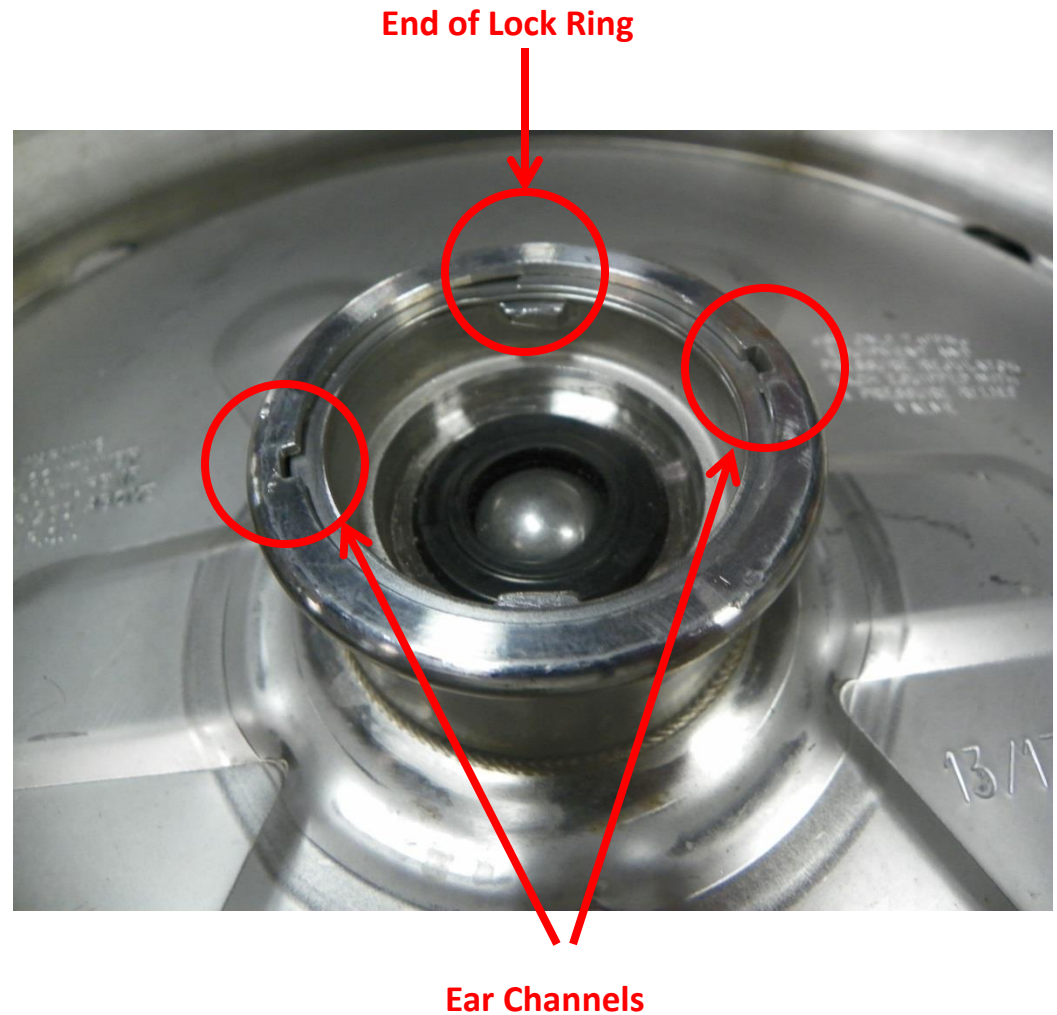
DAMAGED NECK

- Normal Neck
- Neck with signs of tampering. Note the multiple impact points similar to those made by a flathead screwdriver



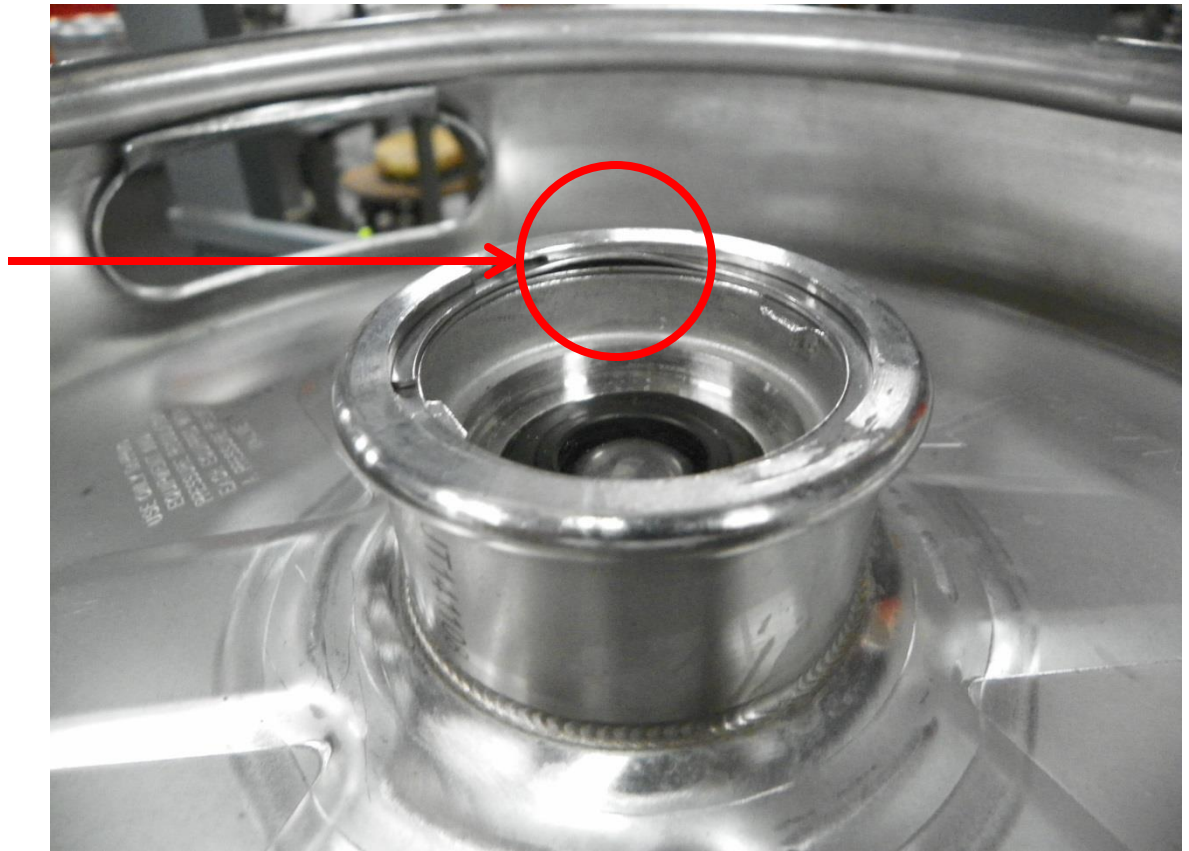
PROPERLY INSTALLED LOCK RING

- No noticeable deformation on the lock ring
- End of lock ring 45 degrees from the ear channels



PREVIOUSLY USED LOCK RING

- Deformation to the lock ring caused during the removal process prevents the lock ring from seating properly in the lock ring channel
- **Note the gap in the lock ring resulting from deformation caused during the lock ring removal process**



LOCK RING FROM INCIDENT

- The inside of the lock ring shows multiple impact points
- In addition to the impact marks, the bent ear prevents the lock ring from fitting all of the way into the lock ring channel

Multiple impact marks around the inner edge of the lock ring



Bent ear prevents the lock ring from fitting into lock ring channel

LOCK RING FROM INCIDENT

- In addition to the impact marks on the lock ring, the end of the lock ring is now protruding out of the ear channel
- With the lock ring protruding out of the ear channel, the lock ring can easily come out when installing or removing a coupler



THANK YOU
FOR YOUR ATTENTION.

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