

# **LOCKMASTERS<sup>®</sup>**

I N C O R P O R A T E D

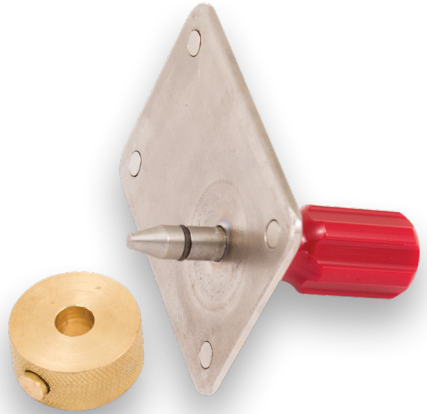
## **X0 Lock Series Tube Measurement Tool**

### **LKMX0TMT** Instructions

This tool is designed to properly measure and mark the ribbon cable protection tubes for the Kaba Mas X0 Lock Series (X07, X08, X09 & X10) without running the risk of damaging the cables. When following the instructions from the factory, you are required to use the actual lock body and cables to pre-measure the inner and outer tubes to the proper door thickness. If you are not careful, it is very easy to crimp, pinch or cut the fragile ribbon cables during this process.

When the Tube Measurement Tool is used, the risk of damaging these cables is zero, saving the installer the time and money. The tool has the same dimensions as the X0 Series lock case and has 4 powerful magnets located in each corner where the lock attaching screws are typically located. The magnets will hold the Measurement Tool in position if the lock attaching plate is made of a non ferrous material such as aluminum. The tool's mounting plate also features a tapered post so the tube can be passed through the outside of the spindle hole of the container and the tube is guided down onto the post. The post has an O-ring fixed in place in the center to hold the tube securely once it's in place.

There is a brass spacer which slides over the tube once it's in position. The spacer insures the factory recommended 5/16" space from the face of the



### **Tools Needed**

Lockmasters' Mini Chop Saw  
PN - LKM1223



Lockmasters' X0 Debur Tool  
PN - LKMX0D

container and the end of the tube. The spacer also has a built-in scribe to mark the tube once everything is in position.



PN - MAS104017

Before getting started, locate and remove the inner and outer tubes from the locks accessory pack. Take note that the inner tube is slightly longer than the outer tube. The inner tube has a notch at one end and the outer tube is flared at one end. Do not discard the unused portion of either tube until the installation is complete!



**Step 1** - Guide the flared end of the outer tube over the tapered post until it contacts the tool's mounting plate. You will feel a little resistance as the tube passes over the O-ring located on the tapered post.



**Step 2** - Position the Tube Measurement Tool onto the container's lock mounting plate, making sure the outer tube is protruding into the container's spindle hole. The magnets will hold the tool in place. If you are installing the lock inside an LKM7000 series lock, you will need to hold the tool in place, using the handle since the LKM7000 uses an aluminum mounting plate.

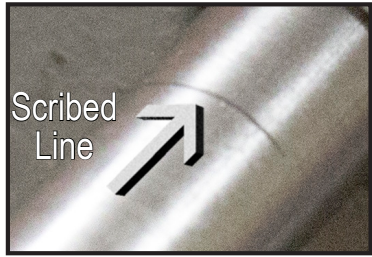


Outer Tube through spindle hole

**Step 3** - Once the outer tube is in position, slide the brass spacer ring over the outer tube until it is flush with the front side of the container.



**Step 4** - Once everything is in position, depress the built-in scribe to scribe a mark on the outer tube. When the space is removed, the scribed line will be located 5/16" from the front of the container. Remove the tube and the tool from the container.



**Step 5** - Use the rubber vice and spindle saw provided with the lock to cut the tube at the scribed mark made by the spacer ring. For more precise, straight cuts, use one of Lockmasters' Mini Chop Saws as pictured in the photo.



Cutting Tube using Mini Chop Saw



**Step 6** - Use the discarded end of the outer tube to mark the inner tube to the correct length. Be sure to line up the discarded outer tube with the end of the inner tube which will be discarded. (The end of the tube without the notch). Mark the inner tube to the same length as the discarded outer tube.



**Step 7** - Use the rubber vice and spindle saw provided with the lock or one of the Mini Chop Saws to cut the inner tube on the mark. Compare both tubes. The inner tube should still be longer than the outer tube by approximately 1/8".

Inner Tube



Compare size of inner and outer tubes.

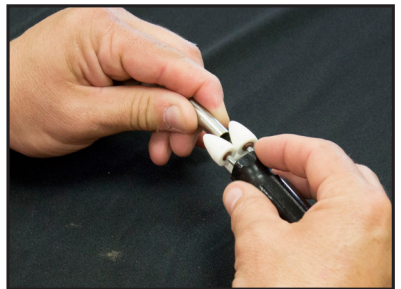
Outer Tube



Cutting Tube with Mini Chop Saw

**Step 8** - Use the debur stone or Lockmasters' Debur tool (as pictured) to clean up the rough edges of both the inner and outer tubes. This is a critical step. If the edges of the tube are left sharp, over time this can fray the cables and cause a potential lockout.

**Step 9** - Install the lock per the manufactures instructions. Keep in mind, both have been pre-cut before the installation began.



**Tip:** *Once you have arrived at this step during the lock installation process, use the discarded end of the outer tube to seat the retaining ring Lock on Back Cover (LOBC) Pin.*

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