

## INSTALLATION & REMOVAL INSTRUCTIONS FOR CLIMAX SERIES C405

### \*\*IMPORTANT NOTICE\*\*

When installing or removing any CLIMAX Keyless Locking Device (KLD), please follow these important safety standards:

1. Check to ensure that power switches are off & locked out.
2. Always wear safety glasses & appropriate protective clothing.

### INSTALLATION

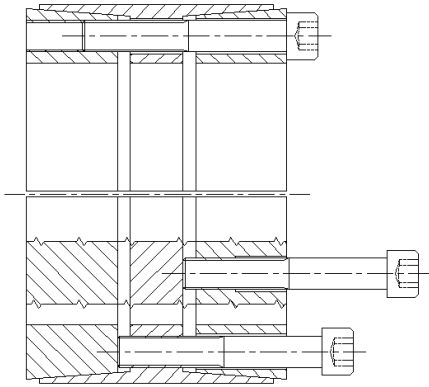


Figure 1

CLIMAX Series C405 Keyless Locking Devices are supplied with a thin coating of machine oil to achieve a coefficient of friction of 0.12 and are shipped ready for installation. As published contact pressures and torque capacities are based on this coefficient, DO NOT use Molybdenum Disulfide (e.g., Molykote, Never-Seez or similar lubricants), or synthetic lubricants with this CLIMAX KLD.

1. Check to ensure that locking screw, taper, shaft and bore contact areas are clean and thoroughly lubricated with a coating of light machine oil and that radial slits are aligned.
2. To lock out mating tapers and prevent engagement during assembly, transfer at least two locking screws into integrated jacking holes in front collar, and at least two locking screws into integrated jacking holes in center (see bottom of Figure 1).
3. Insert CLIMAX Series C405 into component bore, then transfer screws used to separate collars back to their original position.
4. Tighten all locking screws by hand until screw heads are in contact with face of front flange.
5. Use a properly calibrated torque wrench (we recommend the CCM Series from Sturtevant Richmond) and set it approximately 5% higher than our specified tightening torque  $M_a$ . Starting with a locking screw adjacent to the slit and, moving in the direction away from the slit, tighten the screws in a circular pattern, using quarter turns for each screw, several times around until quarter turns can no longer be achieved. At this point, apply the 5% overtorque for two more complete times around.
6. Reset the torque wrench to our specified tightening torque  $M_a$ . Check to ensure that none of the locking screws turn at this torque value, otherwise reset the wrench to the 5% higher value and repeat Step 5 for one or two more complete passes.

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### REMOVAL

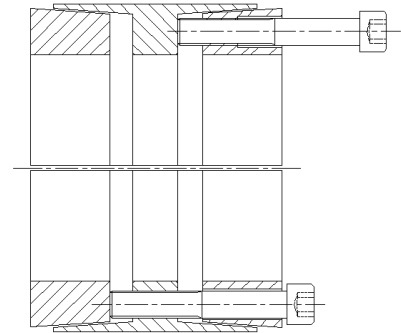


Figure 2

1. Remove all locking screws. Count the number removal threads in the front collar and select the same number of locking screws. The ends of these screws are to be ground flat and slightly chamfered to ease removal and prevent damage to the KLD push-off surface and/or the screw threads.
2. Ensure that axial movement of both front and back KLD collars are not restricted, as this is necessary for proper removal.
3. Using the modified screws from Step 1, insert into all jacking holes located in front collar (see top of Figure 2).
4. The front collar is released by evenly and gradually tightening these screws, using quarter turns for each screw, in a diametrically opposed pattern. While the screws may stop turning, continue to apply torque in this manner. This procedure gradually adds jacking force sufficient to release the front collar. In the rare instance where this procedure is unsuccessful, the application of a light coating of low-coefficient grease to the locking screw threads and tips before Step 3 is recommended (note, however, that such grease must be removed completely from screws and threads and all components re-lubricated with machine oil prior to re-use).
5. Once the front collar is removed, insert the same screws into the integrated jacking holes in the center shoulder and repeat Step 4 to release the back collar (see bottom of Figure 2).

### Locking Screw Tightening Torque $M_a$

Screw Size	M6	M8	M10	M12	M14	M16	M20	M22
Tightening Torque $M_a$ (ft-lbs)	13	30	61	107	170	262	509	686



Scan this QR Code to watch a short installation video for this Keyless Locking Device.

**CLIMAX**  
METAL PRODUCTS COMPANY