

# Rotarybolt™ Z<sup>03</sup> Electronic Safe Lock

## Installation Instructions



### Mounting Considerations:

- Sargent & Greenleaf Rotarybolt Z<sup>03</sup> electronic safe locks are designed to use the same mounting screw locations as common S&G mechanical and electronic safe locks. In many instances it can easily be mounted in place of these locks.
- The Rotarybolt Z<sup>03</sup> lock is available in left-hand and right-hand models. The illustrations on page 2 will help you determine which one you need for your particular application.



- The keypad diameter is approximately 3 ¾ inches (95.2 mm), which allows mounting in applications where limited space is a consideration.
  - The lock can be used with either a one-battery or two-battery style keypad. To meet VdS requirements, the one-battery keypad must be installed using the included one-way security screw. If the two-battery style of keypad is used, it must be the tamper resistant model (61KP-201) to meet VdS requirements. Standard installations do not require the security screw for one-battery keypads, or they can be accomplished using the non-tamper two-battery keypad (61KP-101 or 61KP-105).
  - A fresh Duracell® alkaline battery should be installed in the keypad, and the keypad should be connected to the lock to check for proper operation prior to installation. Follow the procedures outlined in the operating instruction booklet.
- Modifications to the lock are not recommended and will void the manufacturer's warranty.
  - A minimum distance of .150 inch (3,8 mm) is recommended between the end of the lock case containing the bolt and the safe's blocking bar or cam plate (which is normally blocked by the extended lock bolt). Maintaining this clearance will allow the lock to achieve optimum performance.
  - Personal data that can be directly related to a code holder, such as a birth date, street number, or phone number, should not be used in creating a lock code. Avoid codes that can be easily guessed.

Note: This lock has been Listed by Underwriters Laboratories for use with the following S&G keypad(s):

6120-0XX, 6120-2XX, 6160-2XX (IP Series), 61KP-1XX, 61KP-2XX, 6130-4XX, 6130-5XX

### Sargent & Greenleaf, Inc.

A Wholly Owned Subsidiary of Stanley Security Solutions, Inc.  
PO Box 930, Nicholasville, Kentucky 40340-0930 USA  
Phone (859) 885-9411  
Phone (800) 826-7652  
FAX (859) 887-2057  
FAX (800) 634-4843

### Sargent & Greenleaf S.A.

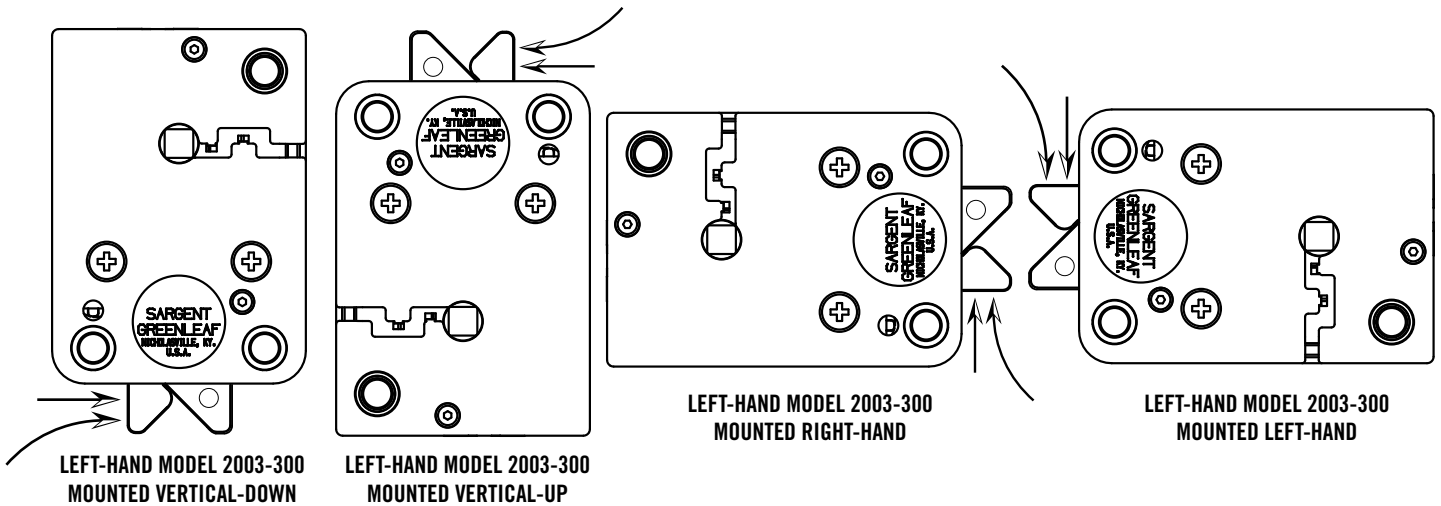
9, chemin du Croset  
1024 Ecublens, Switzerland  
Phone +41-21 694 34 00  
FAX +41-21 694 34 09

## Left-hand or Right-hand?

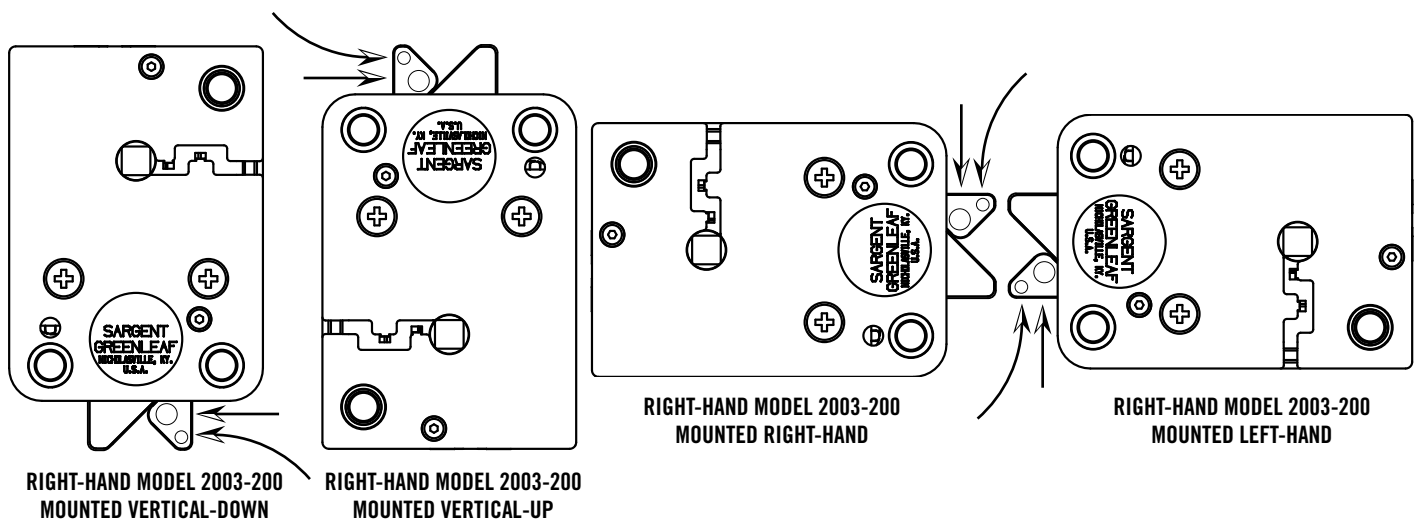
The Rotarybolt Z<sup>03</sup> lock uses a very efficient bolt design that allows it to “fold” into the lock case when the correct code is entered and the safe’s boltwork presses against the side of the lock bolt. This provides for smooth operation and long life. It also requires the lock to be *handed*, which means the direction from which the safe’s boltwork presses against the Rotarybolt bolt determines which model must be used.

The illustrations below should make it easy for you to select the correct model for your safe. The arrows represent the direction in which the safe’s blocking bar (straight arrow) or cam plate (curved arrow) moves when the door’s handle is being turned to unlock the safe.

*The four locks immediately below are all the same left-hand model (Model 2003-300 Rotarybolt Z<sup>03</sup>). Each is shown in one of the four standard mounting positions. Each is depicted as it would be seen by looking at the back (inside) of the safe door.*



*The four locks immediately below are all the same right-hand model (Model 2003-200 Rotarybolt Z<sup>03</sup>). Each is shown in one of the four standard mounting positions. Each is depicted as it would be seen by looking at the back (inside) of the safe door.*



## Installation Notes

Although the Rotarybolt Z<sup>03</sup> lock is easy to install, we recommend the following procedures be performed only by an experienced locksmith or safe technician. Your safe may incorporate relocking devices that are attached to the lock body. Misalignment or detachment of these devices can result in a lockout; a condition where the safe probably cannot be opened without damage.

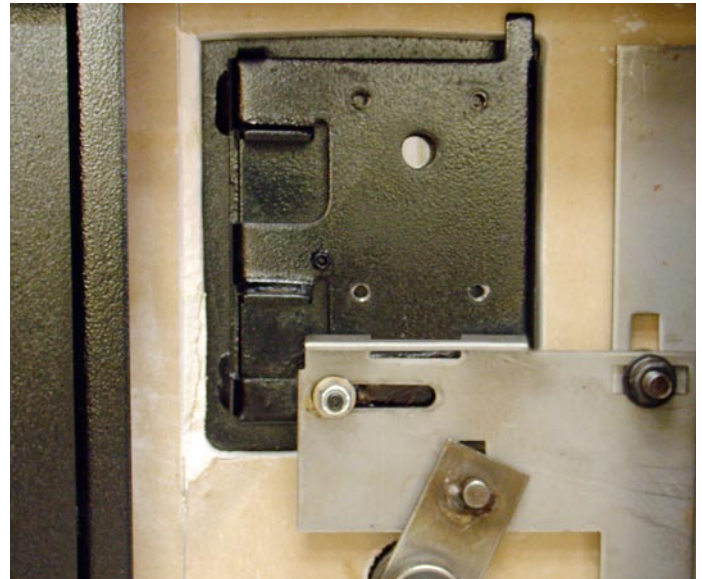
The Rotarybolt Z<sup>03</sup> lock requires a 9-volt alkaline battery. We recommend fresh Duracell® batteries. Do not use an old or partially drained battery in your lock. A new battery will power your lock for approximately 8,000 openings when used without the time delay feature.

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## Installation . . .

### Step 1

Remove the existing lock (if one is present). The mounting plate should be smooth and flat, with either  $\frac{1}{4}$ -20 or M6 mounting screw holes. The wire channel (spindle hole) must have a minimum diameter of  $\frac{5}{16}$  inch.



### Step 2

Use a reamer or file to remove any sharp edges from the wire channel (spindle hole) that could damage the wire cable.

Run the connector through the wire channel. Gently pull the connector and all excess cable to the outside of the safe. Make sure the cable is not crimped or stressed at any point. It is also very important make sure the cable is not crimped or folded against itself under the lock body as you prepare to fasten the lock to the mounting plate.



### Step 3

Once you've double-checked to make sure the wire cable is not crimped or in contact with any sharp surface, attach the lock to the safe's mounting plate. Use the three 1/4"-20 or M6 (metric) mounting screws provided. They should be tightened to 30 - 40 inch-pounds (33.9 - 45.2. dNm)

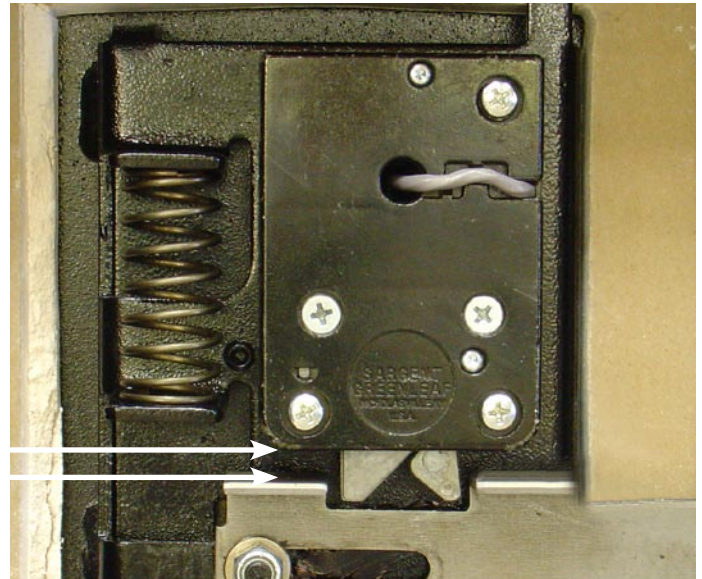
The lock incorporates a bolt-though cover that allows the mounting with the cover in place. Removing the cover voids the product warranty.



### Step 4

Once the lock is fastened into place, check to make sure all three mounting screws are tight. Avoid bottoming a screw in a mounting plate hole. Although the screw will feel tight, it will not be holding the lock firmly against the plate.

Ensure a gap of at least .150 inch (3.8 mm) between the end of the lock case and the blocking bar of the safe's boltwork. The gap to be measured is indicated by the space between the arrows.



### Step 5

Pictured is an installation that requires attachment of the safe manufacturer's relock device plate to the lock cover using the cover screws or a suitable substitute. If your situation is similar, be sure the thickness of the relock device plate is not great enough to prevent the screws from engaging the lock case by at least four threads. If necessary, use longer 8-32 machine screws to insure proper fit. The cover screw holes are only tapped as deep as the original screws, so using other screws may require tapping the screw holes slightly deeper into the lock case. Cover screws must engage the lock case by at least four threads.

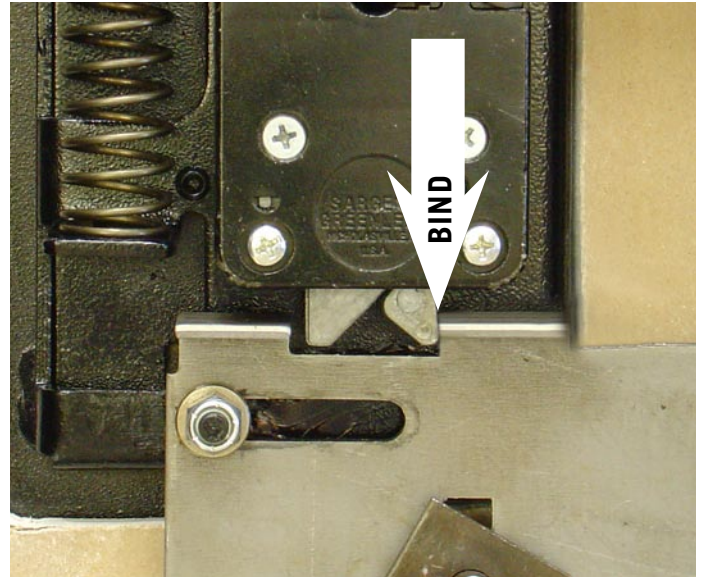
If the relock device plate is not properly attached, it may come loose. The safe will then have to be forcibly opened.



### Step 6

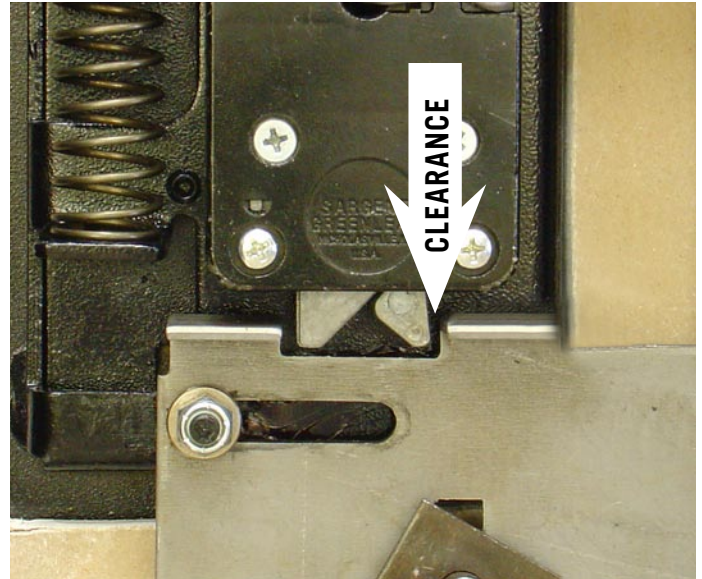
The lock cannot function properly if it binds against the safe's boltwork. It is sensitive to bolt side pressure.

This photo shows boltwork in the fully locked position which places pressure on the side of the lock bolt. It could prevent the lock from opening.



### Step 7

The boltwork bind has been relieved by removing a small amount of material from the right side of the blocking bar's bolt opening. When the safe's boltwork is fully thrown to the locked position, there is air space on all sides of the lock's bolt.



*Note: The following instructions are for a one-battery, low profile keypad. The lock can also use a standard size one-battery keypad, or a two-battery keypad in either the standard or tamper-resistant style.*

### **Step 8**

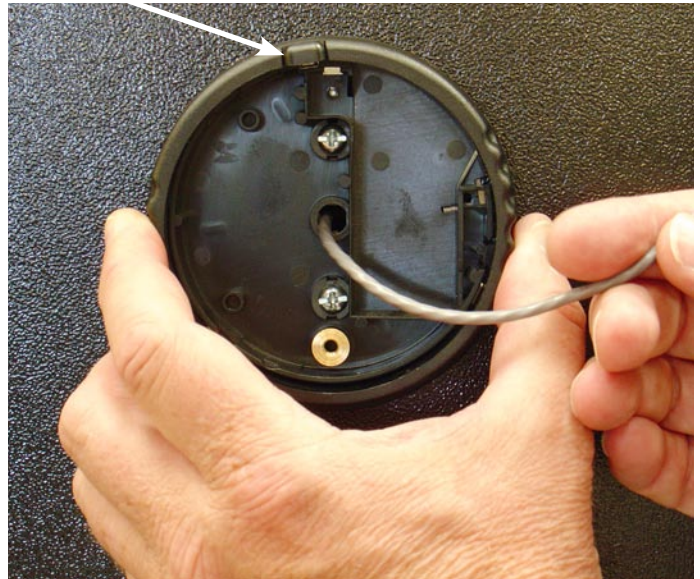
The keypad comes with two pairs of mounting screws. The silver colored pair is 8-32, and the reddish pair is M4 (metric). Determine which pair fits the keypad mounting screw holes in your safe's door, then discard the other pair.

Bring the lock cable through the center hole in the mounting base, then securely fasten the keypad base to the safe door, as shown.



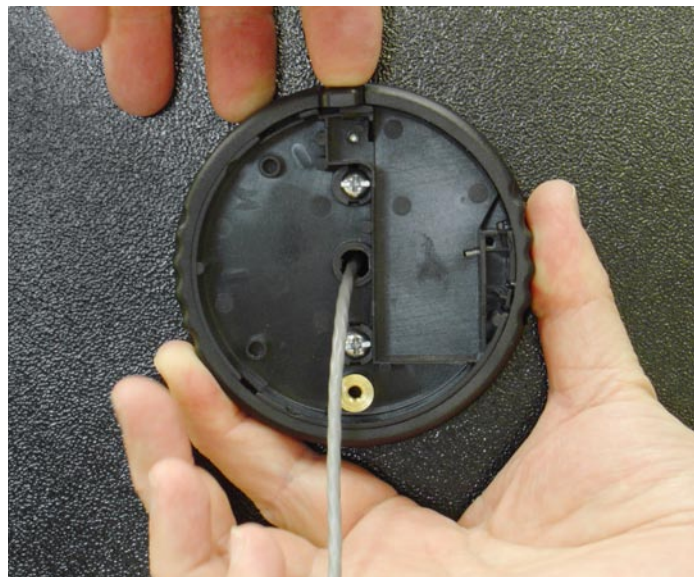
### **Step 9**

Place the keypad ring onto the base. Note that there is a spring-loaded tab at the top of the ring (see white arrow). Orient it as shown when placing the ring on the base.



### **Step 10**

Once the ring is against the base, rotate it clockwise until the tab is straight up. You may have to pull the spring-loaded tab forward before you can rotate the ring into position. When the tab is straight up, it will snap into position.

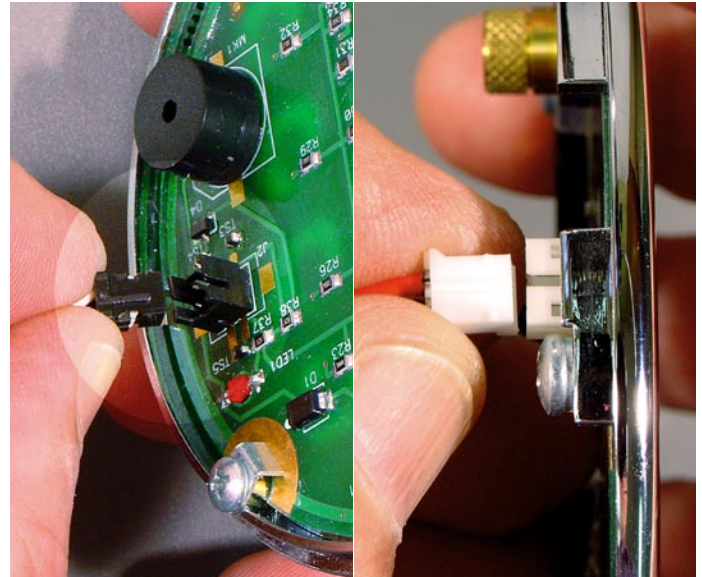


### Step 11

Plug the end of the lock cable into the receptacle on the underside of the keypad. Note that there are offset raised ridges on two sides of the cable plug and matching slots in the keypad receptacle. Make sure the ridges are correctly oriented to the receptacle slots before inserting the plug.



If the power leads (red and black wires with a white connector) are not already connected to the keypad, plug the white connector into the white receptacle on the back of the keypad. Align the connector's single ridge with the slot in the receptacle.



### Step 12

The lock cable should be routed inside the keypad assembly as shown in the left-hand photo. The battery wires should be routed as shown in the right-hand photo. Proper cable placement keeps wires from being crushed or pinched when the keypad is installed.



### Step 13

Once the lock cable and battery wires are in place, install the keypad. There is a raised ridge at the top of the keypad that seats into a recess in the top of the ring you previously installed. This makes it necessary to insert the top of the keypad first, then secure the assembly by installing an 8-32 machine screw at the bottom, as shown.

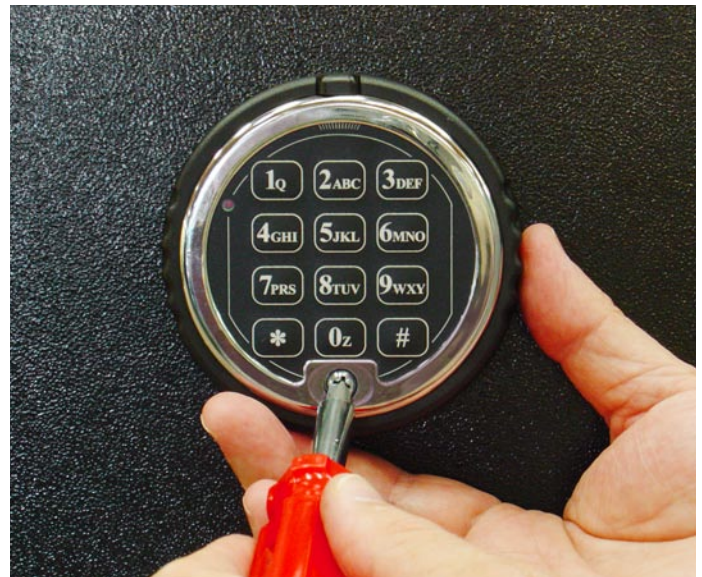
Two 8-32 screws are provided. One is a standard phillips-style screw. The other is a tamper-resistant screw. The tamper screw should be used for VdS compliant installations or when a slightly higher level of security is desired.



TAMPER SCREW



PHILLIPS SCREW



### Step 14

Peel the protective backing off of the self-stick logo, and place it in the recess surrounding the keypad screw.



### Step 15

To access the battery compartment, pull the spring-loaded black plastic tab forward. While holding it forward, rotate the ring counterclockwise slightly. It will then pull forward, revealing the battery compartment. The ring does not separate from the base.

You can now gently pull the battery connector out of its compartment.



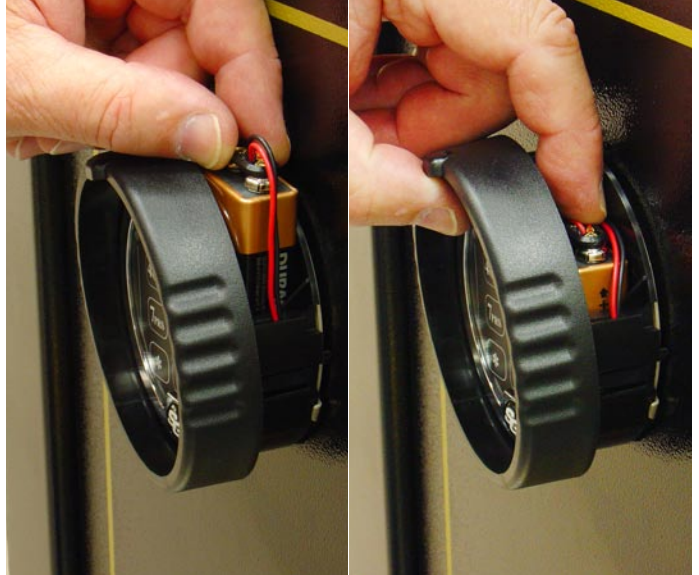
### Step 16

Snap a 9-volt alkaline battery onto the connector. S&G strongly recommends Duracell® brand alkaline batteries, as they deliver the best performance in Sargent & Greenleaf electronic locks.



### Step 17

Slide the battery into the battery compartment, then position the wires so they will not be pinched or damaged as the keypad ring is placed back against the base.



### Step 18

Once the ring is against the base, rotate it clockwise slightly, until the spring-loaded tab clicks back into place. The ring should now be locked into place.

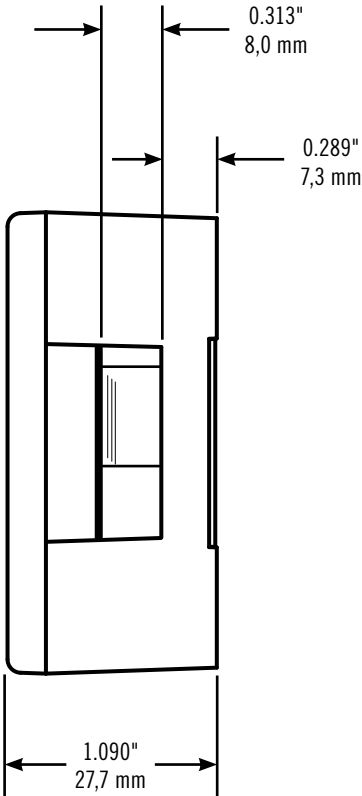
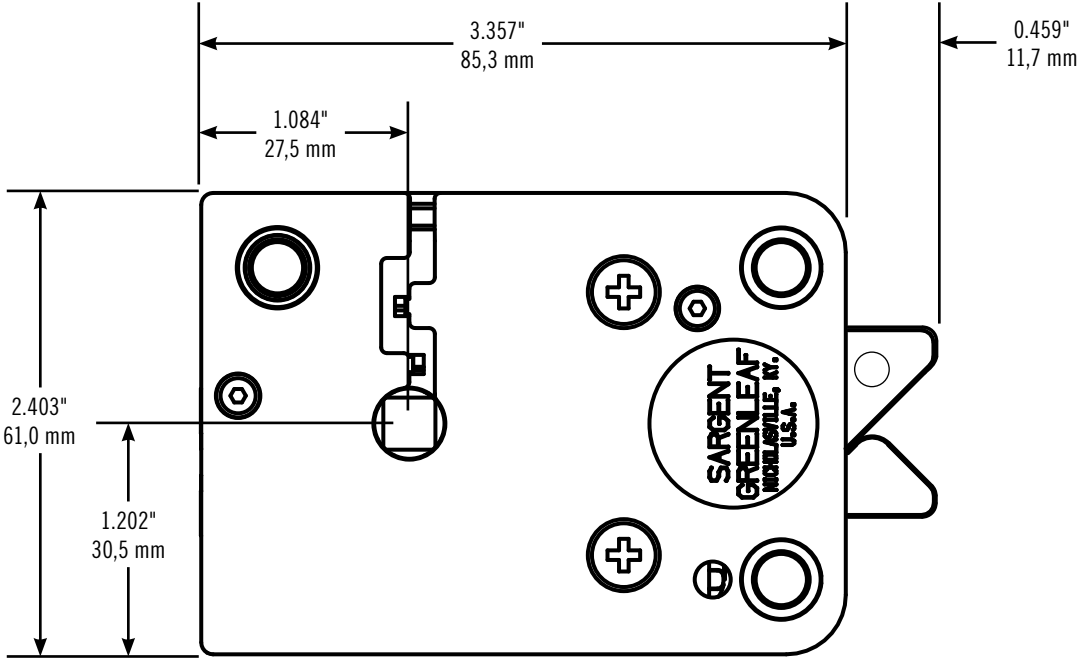


### Step 19

The installation is complete. Do not close the safe door until the lock has been successfully operated at least three times in a row. Refer to the operating instructions that were packaged with your lock.



# Model Z<sup>03</sup> Dimensions



### **Z<sup>03</sup> Specifications**

**Attaching Screws:** Use only the screws provided with the lock. They must engage the mounting plate by at least four full threads. Do not use lock washers or thread sealing compounds.

**Recommended Attaching Screw Torque:** 30 to 40 inch-pounds (33.9 to 45.2 dNm)

**Minimum Lock Cable (Spindle) Hole Diameter:** 0.312 inch (7.9 mm) — reference “Mounting Environment”

**Maximum Lock Cable (Spindle) Hole Diameter:** 0.5 inch (12.7 mm)

**Lock is Designed to Move:** 0.0 lbs. (0 Newtons)

**Lock Bolt Maximum Free Movement:** 0.352 inch (8.95 mm) 0.109 inch outside the edge of the lock case

**Maximum Bolt End Pressure:** lock is designed to withstand at least 225 lbs. (1000 Newtons)

**Maximum Bolt Side Pressure:** safe and container boltwork or locking cam designs must never apply more than 225 lbs. (1000 Newtons) of side pressure on the lock bolt

**Mounting Environment:** The lock body is designed to be mounted inside a secure container. The container must be constructed to offer protection against physical attack directed at the lock. The amount of protection is dependent on the desired level of security for the system as a whole. Lock protection may include barrier materials, relock devices, thermal barriers, thermal relock components, or any combination of these.

**Note:** Every installation of this product must comply with these requirements and those in the product installation instructions to qualify for the manufacturer’s warranty and to comply with VdS requirements.



**Sargent & Greenleaf, Inc.**

A Wholly Owned Subsidiary of Stanley Security Solutions, Inc.  
PO Box 930, Nicholasville, Kentucky 40340-0930 USA  
Phone (859) 885-9411  
Phone (800) 826-7652  
FAX (859) 887-2057  
FAX (800) 634-4843

**Sargent & Greenleaf S.A.**

9, chemin du Croset  
1024 Ecublens, Switzerland  
Phone +41-21 694 34 00  
FAX +41-21 694 34 09