

# 6124 Motorized Electronic Combination Lock

# Installation Instructions

*This Sargent & Greenleaf 6100 series electronic lock combines ease of operation with security. Advanced electronic circuit design makes it easy to install, easy to open, and easy to change codes. Follow these instructions carefully to get the best possible performance from your lock.*

## MOUNTING CONSIDERATIONS

- *Sargent & Greenleaf 6100 series Motorized Electronic Combination Locks have been designed to use the same mounting screw locations and occupy the same space as a standard S&G 6730 mechanical lock. The 6100 series uses standard mounting dimensions to simplify retrofit in existing safes.*
- *The keypad diameter is 4 inches (101.6mm). This is slightly greater than the diameter of standard S&G dial rings for mechanical locks. The 61KP series keypad will cover any scratches or paint blemishes left by the old lock.*
- **Modifications to the lock (including lock bolt attachments) are not recommended, and will void the manufacturer's warranty.**
- *A minimum distance of .150" (3.8mm) is required 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. This is because the lock bolt may not be retracted quite as far by older batteries as by fresh ones.*
- *You should install fresh alkaline batteries in the keypad and connect the lock wiring cable to check the functions of the lock prior to installation. Follow the procedures given in the Operating Instructions. **Avoid pressure to the end of the lock bolt during these checks.***
- **Do not allow the safe's blocking bar or cam plate to depress the electronic lock's bolt farther than it retracts during normal motor operation. This can lead to inconsistent lock operation.**
- *If you are installing a 6126 and will be adding the audit trail/alarm interface, you should also read those instructions (document 630-523) before beginning the lock and keypad installation.*



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## INSTALLATION NOTES . . .

Although the model 6100 series 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 combination lock. Misalignment or detachment of these devices can result in a lockout—a condition where the safe cannot be opened without damage.

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## ADDITIONAL ITEMS YOU WILL NEED . . .

The 6100 series requires two 9-volt alkaline batteries (not included). We recommend fresh Duracell® batteries. Do not use old or partially drained batteries in your lock. New batteries will power your lock for approximately 5,000 openings when used without the time delay feature.

Many installations can be performed with nothing more than a medium phillips screwdriver. If the manufacturer of your safe has made external relock device attachments to the lock, specialized tools and knowledge may be required.

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## INSTALLATION . . .

### Step 1

Remove the existing lock (if present). The mounting plate should be smooth and flat, with  $\frac{1}{4}$ -20 (M6) mounting screw holes. The wire channel (spindle hole) must have a diameter of at least  $\frac{5}{16}$  inch (8mm).

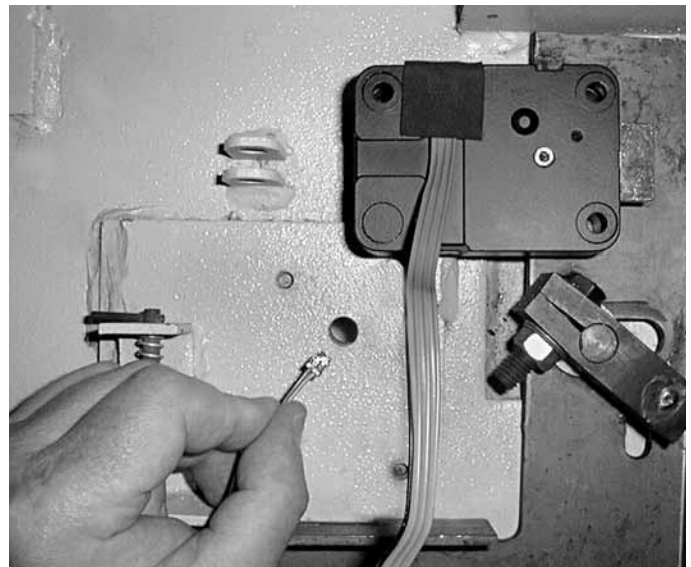
The 6100 series can be mounted right-hand, left-hand, vertical-up, or vertical-down without any modifications or adjustments.



### Step 2

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



### Step 3

Once you've made 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 metric M6) screws provided. Tighten securely so the lock is attached firmly to the plate.

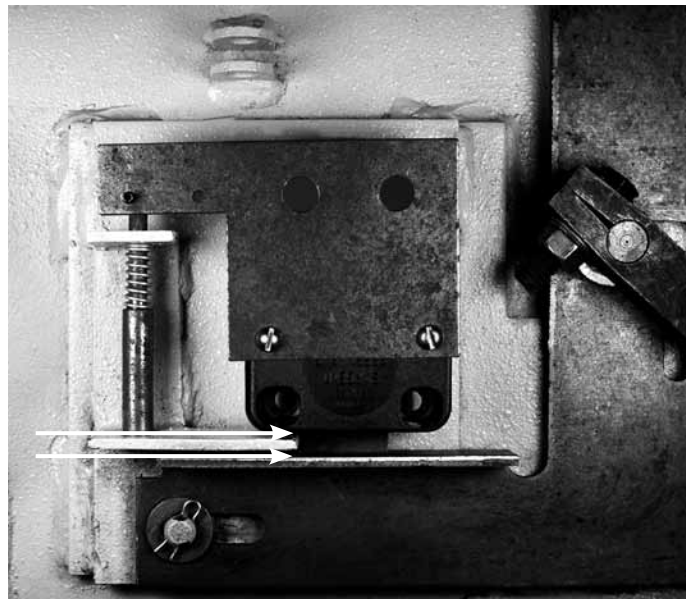
The lock incorporates a bolt-through cover that allows mounting with the cover in place. Removing the cover voids the product warranty.



### Step 4 (FOR SAFES WITH RELOCK DEVICES)

This installation requires attachment of the safe manufacturer's relock device plate to the lock cover using the cover screws. If your situation is similar, be sure the thickness of the relock device plate(s) is not great enough to prevent the screws from engaging the lock case by at least four threads. If necessary, use longer 8-32 (M4) machine screws to insure proper fit.

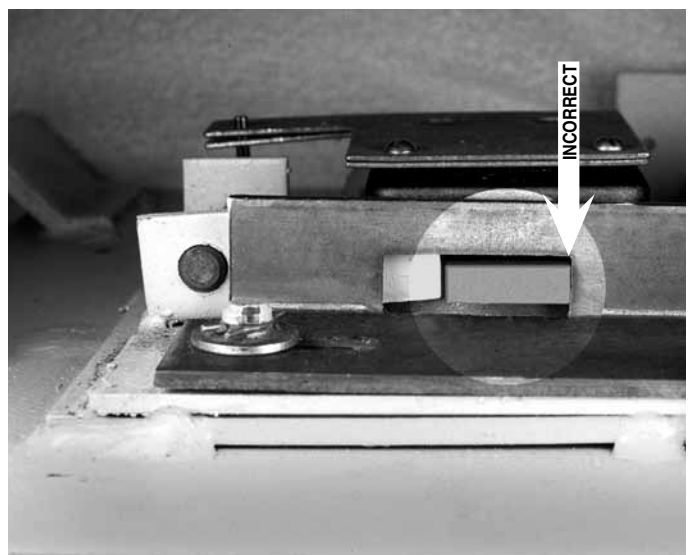
The photo also illustrates a required space of at least .150" (3.8mm) between the end of the lock body and the blocking bar of the safe's boltwork.



### Step 5

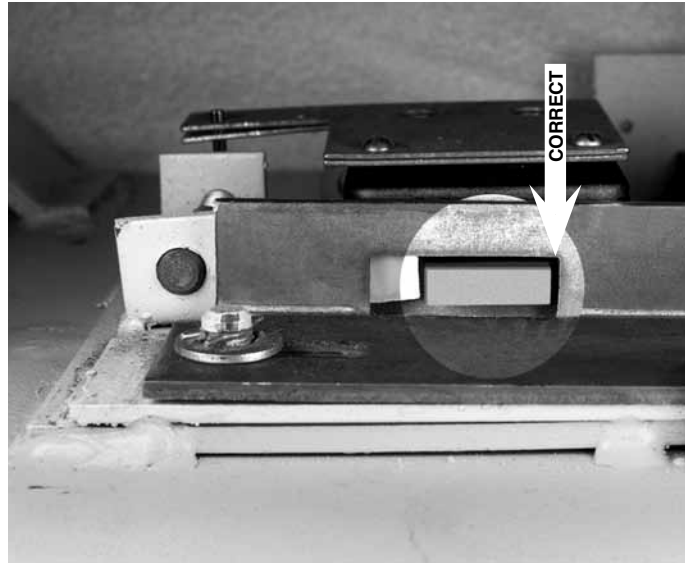
Make sure that the lock bolt does not bind against the safe's boltwork. 6100 series locks are sensitive to bolt end and side pressure. The safe's blocking bar or cam must not depress the lock's bolt farther than it retracts under normal motor operation. Check to make sure this doesn't happen when the safe handle is moved to retract the door bolts (unlock the safe).

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



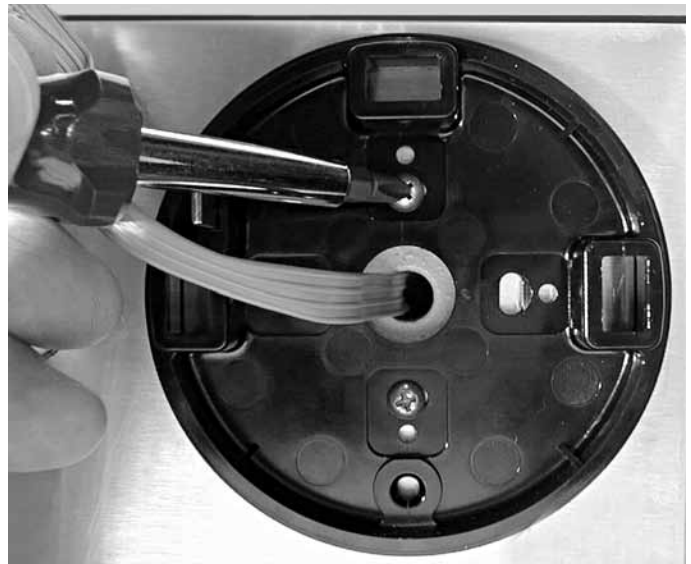
### Step 6

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



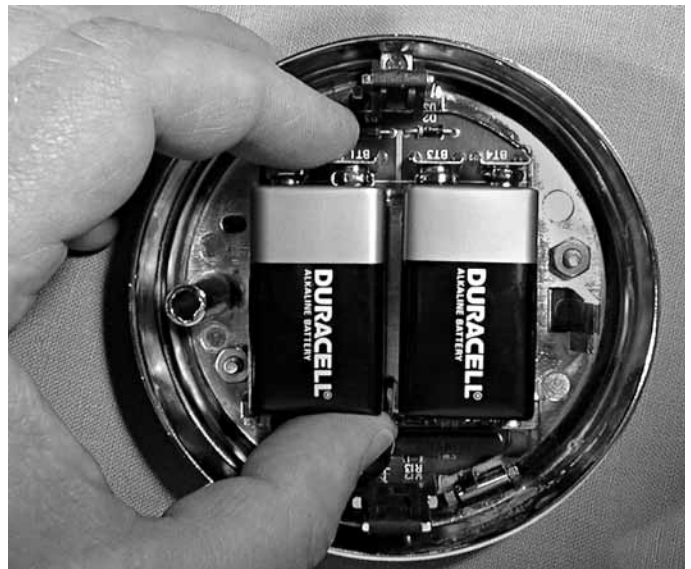
### Step 7

Run the connector and wire cable through the center hole of the mounting base. Then use the included 8-32 (M4) machine screws to attach the base to the safe door. The attaching screw holes will line up with those used for any standard S&G dial ring (excluding R132 key locking dial rings).



### Step 8

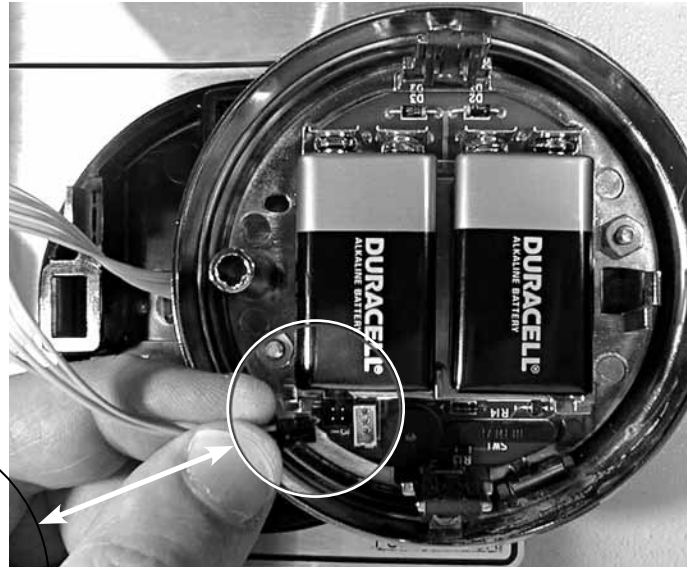
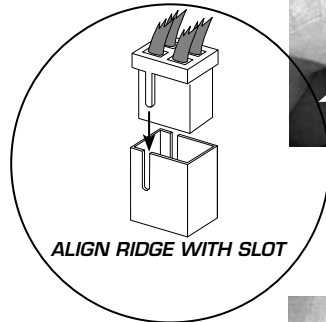
Install a new 9-volt alkaline battery in each of the keypad's battery holders (Duracell® is recommended). Support the top of each holder as the battery is inserted. This will prevent bending or breaking the holder.



## Step 9

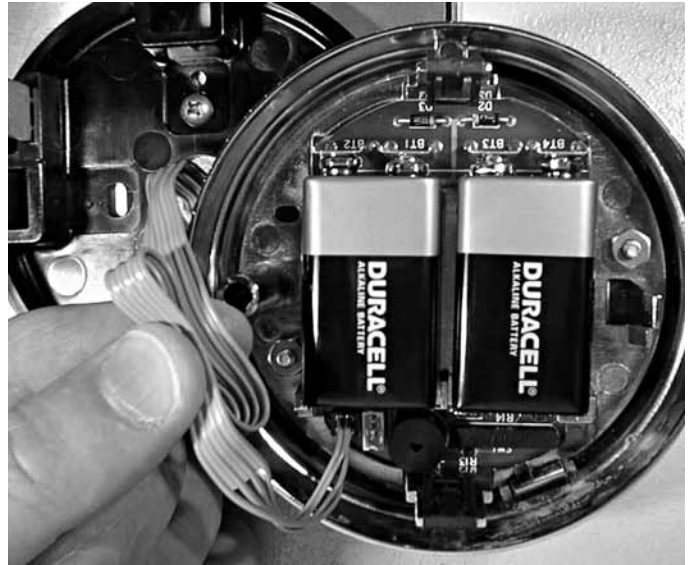
The wire cable connector is shaped so that it will fit into the circuit board receptacle only when aligned correctly. Insert the connector into its receptacle in the keypad housing. If it does not slide easily into place, **do not force it**. This means you need to turn it 180° before attempting to insert it again. If the batteries are installed in the keypad, you will see the red LED light momentarily when the connector is first plugged in.

*Tamper Indicator Keypad Note:*  
The keypad will not work (no sound or LED flash when keys are pressed) until the keypad is installed into the base following steps 10 and 11.



## Step 10

Make a loose coil of the excess wire cable. Hold the coil away from the three spring clips that will secure the keypad to the mounting base.



## Step 11

Place the keypad over the base. Make sure the wire cable is still clear of the three spring clips, then push the keypad firmly onto the base. It should snap into place.

*Note:* To remove the keypad, pull the bottom (area nearest the S&G logo) away from the mounting base first.



## Step 12

The installation is complete. Refer to your lock's Operating Instructions for opening, code changing, time delay, and battery changing instructions.

**MAKE SURE YOUR LOCK IS FULLY OPERATIONAL BEFORE CLOSING THE SAFE DOOR FOR THE FIRST TIME.**



**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)

**Maximum Lock Cable (Spindle) Hole Diameter:** 0.406 inch (10.3 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. A minimum distance of .150 inch (3,8 mm) is recommended between the end of the lock case and the closest approach of 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 deliver optimum performance.

**Code Restrictions:** Personal data that can be 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:** 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 EN1300 requirements.

## IMPORTANT DIMENSIONS . . .

