

LOCKMASTERS® JUMPBOX



S&G 6120/6123 Notice - When servicing a Sargent & Greenleaf 6120 or 6123, refer to the S&G 6120 section **BEFORE** attaching the JumpBox. Improper use can potentially worsen a cross-thread condition.

LOCKMASTERS®
I N C O R P O R A T E D

About The JumpBox

Lockmaster's JumpBox is the ultimate tool for troubleshooting, servicing and opening modern electronic safe locks. This tool is specifically designed to open electronic locks when the operating code is known but fails to successfully open the lock.

The JumpBox houses a high power lithium based cell which gets boosted by an internal high current voltage regulator circuit to provide an instantaneous surge of power and a sustained output of over three amps. Testing has shown this powerful e-lock "jump start" eliminates the need to drill nearly 70% of malfunctioning electronic safe locks. The JumpBox is also carefully engineered to boost power in a way that is 100% safe and causes no damage to the lock itself. The JumpBox works on nearly all electronic safe locks and quickly attaches to the existing battery terminals in the keypad in place of a normal 9-volt battery.

Use the JumpBox to overcome cross-threaded drive nuts, stalled motors, bolt side pressure, stalled solenoids, binding slides, defective keypads and damaged keypad cables.

Complete instructions with images are included for proper use in each instance. Use is typically as simple as attaching the JumpBox to the battery terminals, flicking the switch to enable the regulator circuit then entering your code.

Under normal usage the JumpBox should last 10 to 15 years before the power is depleted and due to it's unique regulator circuitry the performance remains constant of the life of the tool. The lithium battery chemistry and regulator circuitry also ensure proper performance in hot or freezing temperatures where normal batteries fail so the JumpBox can be safely stored in your van or shop and still remain ready for use any time.

Components

Front

- a. Power Switch
- b. Jumper Cable
- c. Diode Bypass Alligator Clip



Back

- a. Cable Compartment Cover (slide)
- b. Magnetic Backing



Back without Cable Compartment Cover

- a. Cable Storage Compartment
- b. Jumper Cable
- c. Keypad Diode Bypass Alligator Clip
- d. Cable Slot



Compatibility Chart:

Sargent & Greenleaf (S&G)

ALL except Pulsetronic (Includes 6120, 6121, 6123, 6124, 6125, 6126, 6127, 6128, 6129, 6150, 6300, Z02 Rotarybolt, Z03 Rotarybolt, Z03 D-Drive, Titan Pivotbolt, Titan D-Drive, Two Battery keypads, Single Battery keypads, EZ-View keypads, Low Profile keypads, Biometric keypads, Time Delay Display keypads, etc.)

La Gard

ALL (includes 3100, 4100, 4300, 4200, 4200M, 3765-2, 3715, 3710, 3035, 3125, 3750, 3750K, 3650, 3260, 6260, 6040, 6040M, 6040U, 6034, 3040, 3034, 6040P, 3000, 5010, 5015, SmartLinc, SmartLinc II, SmartPoint, 2788 battery box, 4001 battery box, 2789 alarm box, 4002 alarm box, LG Basic, LG Basic II, LG Combo, Combogard, Combogard Pro, Auditgard, 33E, 39E, 66E, LGA, SER44, TL11, Navigator, SafeGard, 3740, 3734, 9030, 9130, 2441, 6441, 3090, 3190, Privat, Privat II, LG Audit, LP Audit, eDelay, 9900, LG Access, 3900, 3950, Commander, 3200, 3450, 3460, 2870, 2888, 3045, 2500-D, 3075, 3500, 3600, 3550, DigiGard, 4000, 4005, 4030, 9050, 9060)

Kaba-Mas

ALL 9V operated locks (includes LC, LCMX, B52)

AMSEC

ESL Series (ESL10, ESL-20, ESLXL-10, ESLXL-20, ESL-5, etc.)

SecuRam

ALL (Includes EC-601 series and Biometric keypads)

LP Locks

ALL (Includes EL-20/25/30 Rotobolts and DB-20/25/30 Straightbolts)

General Usage



Locate and remove any batteries from the existing keypad. Remove the sliding cover located on the back of the JumpBox to access the storage compartment and extend the jumper cable. Route the jumper cable through the slot in the upper left corner of the storage area then replace the compartment cover. Attach the jumper cable to the keypad battery terminals just as you would a normal 9-volt battery. The magnetic backing on the JumpBox allows it to be placed against the container door for hands-free operation. When connecting to rotating keypads, make sure to position the JumpBox so the jumper cable has enough slack to move with the keypad.

Once the JumpBox is connected, use the power switch to activate. **BEFORE TRYING A CODE** on an S&G 6120 or 6123, refer to the S&G 6120 Section! Failure to do so can worsen cross-thread problems. On all other locks, the JumpBox can now be used safely at any time.

How The JumpBox Works - The Basics



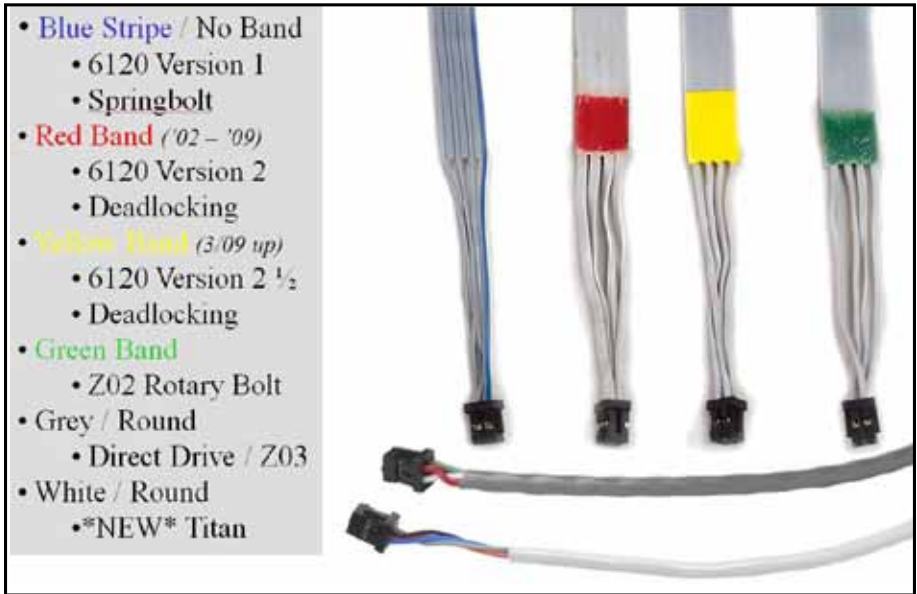
Figure 3 D

The JumpBox uses a high performance regulator circuit to continuously adjust power output depending upon the load requirements of the lock. Traditional batteries and A/C power supplies will experience a drop in voltage as the load on them increases. To use a plumbing analogy, voltage is comparable to the pressure of water circulating in a system of pipes. Any time you tap into the system and pull water out, you'll experience some drop in overall pressure. This effect is the same when a load is introduced to an electrical circuit - the supply voltage decrease can be substantial (sometimes as much as 4.5 volt drop on a 9-volt battery). The JumpBox regulator circuit senses the increase in load and increases the flow of electrical current to maintain constant voltage output.

The JumpBox also monitors the condition of its internal lithium battery pack and compensates for any change to maintain consistent performance.

Sargent & Greenleaf Locks - Identification

S&G locks can be identified by the keypad cable. Remove the keypad to inspect the keypad cable. Refer to the image for identification purposes.



S&G 6120/6123 - Diagnostics

Perform the following steps with a normal battery (NOT WITH JUMPBOX) to determine the reason for a lock out and how to respond.

Step 1 - Press * 8

If lock “braps” or gives error tone, then it’s in penalty mode. Wait 5 minutes without pressing keypad and retry. (15 minute wait on older locks).

Step 2 - Press and hold * until several beeps emitted. Enter code and #.

If no response, then code is being accepted. If not open, then continue to step 3. If “brap” or error tone then code is not being accepted. Verify code then retry. If unsuccessful try JumpBox, inspect keypad cable for damage and/or try replacement keypad.

Step 3 - Enter code and # and listen to the lock through the spindle hole.

You should first hear the bolt attempting to retract followed by another sound several seconds later as the bolt tries to extend.

Possible Sounds:

Click/Click - Cross-thread condition (refer to S&G cross-thread section)

Spin/Spin - Apply heavy pressure on safe handle to bind lock bolt and retry.

If spin spin remains while binding:

- Stripped Drive Nut (use alternate method in S&G cross thread section)
- Stop pin dislodged (not found on vertical up lock mounting)

If sound changes while binding:

- Lock Bolt not fully retracting (power ON JumpBox and retry)
- External relocker

Click/Spin - Stalled bolt (power ON JumpBox and retry code to open)

S&G 6120/6123 Cross-Threaded Drive Nut

Locate colored band on keypad cable to determine proper procedure.

Yellow Band

1. Attach JumpBox to keypad.
2. Bypass keypad diode (See S&G Keypad Diode Bypass section)
3. With JumpBox OFF, hold 0 on keypad for 10 seconds.
4. Release 0 and turn ON JumpBox.

If no spin is heard, repeat at step 3. If unsuccessful after multiple attempts, try alternate method below.

Red Band / No Band - Requires two battery keypad

1. Place one low-quality "heavy duty" or used alkaline battery into keypad
2. Attach JumpBox to other set of battery terminals in keypad.
3. Bypass keypad diode on JumpBox side only (see S&G Keypad Diode Bypass section)
4. With JumpBox OFF, enter code and #.
5. Wait 3 seconds then turn ON JumpBox.
6. Wait 5 seconds and listen to lock through spindle hole.

If spin is heard, then cross-thread is fixed. Enter code and # to open. (recommend lock replacement) If no spin is heard, repeat at step 4. If unsuccessful after multiple attempts, try alternate method below.

Alternate Method

1. Attach JumpBox to keypad and power ON.
2. Bypass keypad diode (see S&G Keypad Diode Bypass section)
3. Place dowel or Phillips screw driver through spindle hole and directly against lock case (avoid pinching the cable)
4. Enter code and #.
5. Immediately begin tapping screw driver with hammer just hard enough to dimple lock case.
6. Check for opening. If unsuccessful, repeat at step 4.



S&G Keypad Diode Bypass

These keypads require no “disassembly” to access the diodes. Simply pull the keypad off the keypad base just as you would when replacing the batteries.



Once removed, locate the two diodes located directly above the battery terminals.

Carefully place the alligator clip across the diode behind the battery terminals to be used by the JumpBox.



Take care to avoid contacting the sides of the keypad or any other components with the alligator clip during installation or use. Once installed, the alligator clip is connected directly to the positive side of the JumpBox while the metal of the keypad body is grounded to the negative side of the JumpBox. Contacting the two will result in a short and should be avoided. A business card placed between the alligator clip and side of the keypad will help to avoid this potential issue.

Remember, with the keypad diode bypassed, the lock is no longer protected against reverse polarity. Use caution when connecting the JumpBox, batteries or any other power source.



One Battery Keypads

These keypads feature a single diode which is accessible by removing the screw located beneath the S&G sticker then removing the face of the keypad.



Simply place a single alligator clip across the square black diode on the back of the keypad. The diode may be covered with a thin, clear conformal coating that prevents the clip from making contact with the diodes terminals. In these cases simply squeeze the alligator clip and rock it slowly side to side until the teeth work through the coating. Remember, with the keypad diode bypassed, the lock is no longer protected against reverse polarity. Use caution when connecting the JumpBox, batteries or any other power source.



Low Profile Keypads

These keypads feature a single Schottky diode which is accessible by removing the screw located beneath the S&G sticker then prying off the face of the keypad. Simply place a single alligator clip across the square black diode on the back of the keypad. The diode may be covered with a thin, clear conformal coating that prevents the clip from making contact with the diodes terminals. In these cases simply squeeze the alligator clip and rock it slowly side to side until the teeth work through the coating.

Remember, with the keypad diode bypassed the lock is no longer protected against reverse polarity. Use caution when connecting the JumpBox, batteries or any other power source.

Servicing

Battery Replacement

The lithium battery pack used by the JumpBox should give several years of quality service by will eventually be depleted. Replacement battery packs are available under the part number LKMJUMPBOXBAT which includes complete instructions on field replacement.

Jumper Cable Replacement

The jumper cable is designed to be rugged and withstand multiple connections and disconnections. If cable becomes damaged, it must be sent back to Lockmasters for factory replacement.

FAQ

How do I know when the battery pack needs replacement?

Due to the nature of lithium batteries and the JumpBox's regulator circuit, it is difficult to determine the condition of the battery pack without sophisticated load testing equipment. If you begin to notice any drop off in performance then battery replacement is suggested. This drop off may be sudden and dramatic.

Can two JumpBoxes be used at the same time? Any benefits?

Yes. You may notice a benefit on two battery keypads since more power can flow thru two sets of keypad battery terminals then a single set.

After sustained heavy use the JumpBox is no longer providing power. Why?

The internal safety mechanisms in the battery pack or regulator circuit have temporarily stopped due to overheating (this is extremely rare). Wait ten minutes and continue.

When I measure the current output from the JumpBox with a multimeter it doesn't deliver the advertised amperage. Why is this?

The regulator circuit is registering the multimeter as an electrical short and throttling back current output. This is a safety mechanism. Once the JumpBox senses an actual load attached, it will adjust the current output upward as needed to maintain system voltage.

WARNINGS

Always turn OFF the JumpBox when not in use and store the JumpBox so the switch cannot be mistakenly placed into the ON position. This will help avoid battery depletion.

Avoid shorting out the jumper cable terminals. (Example: Let the jumper cable contact a metal surface like a safe door)

DO NOT pull jumper cable with excessive force or allow JumpBox to hang by cable.

DO NOT attempt to recharge. Could cause injury.

DO NOT connect a battery or other power source to the jumper cable.

DO NOT open the JumpBox case or disassemble without instructions or authorization from Lockmasters. Doing so will void the warranty.

NOTES

The color coding used on the jumper cables is reversed.

BLACK is positive.

RED is negative.

Specifications

Output Voltage: 10.0 VDC

Maximum Pulse Current: 3 A (3000 ma)

Maximum Continuous Current: 2 A (2000 ma)

Standby Current (OFF): 0 ma

Standby Current (ON): 20 ma

Operating Temp: -40° F to 140° F (-40° C to 60° C)

Storage Temp: -40° F to 140° F (-40° C to 60° C)

Battery Pack:

Nominal Voltage: 18.8 VDC

Type: 6 Cell, Lithium-Manganese Dioxide (Li/MnO₂)

Non-Rechargeable

Storage Life: 10 years (85% of original capacity)

Safety Features:

Positive Temperature Coefficient Switch (PTC)

Burst Proof Venting Holes

Thermal Overload Protection

Short Circuit Protection

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