

# Helix Revolver Drill Template

LKMHELIX

## Instruction Guide

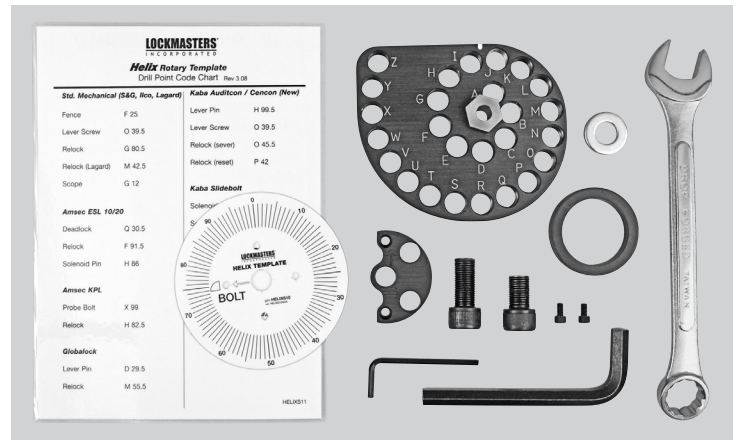
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### 1. Helix Revolver Basics

Lockmasters' *Helix Revolver* is a revolutionary safe drilling template that attaches to the existing dial ring mounting screw holes on a container and rotates a full 360° to provide an infinite number of precision drill points. The *Helix Revolver* takes the common practice of "code cutting" and applies it to safe drilling. The included code chart provides an extensive list of drill point codes covering most modern mechanical and electronic safe locks. In addition to coded drill points the *Helix Revolver* can be used to drill any and all positions within a lock case and has the range to extend beyond the case to neutralize a large number of external relock devices. The *Helix Revolver* is primarily intended for use with template drilling rigs such as Lockmasters' Bullet rig and the Strongarm Mini-Rig but can also function as a highly accurate drill point locator for use with lever rigs, magnetic rigs and free hand drilling.



The basic process is simple: attach the *Helix Revolver* to the dial ring screw holes, rotate the template to the number shown on the code chart and drill. (See diagram above)

#### 1.1 Kit Components

- (a) *Helix Revolver* rotary template (part # HELIXS01)
- (b) Base Plate (part # HELIXS02)
- (c) Plastic drill point indexes (6 pcs) (part # HELIXS10)
- (d) Rig attachment bolts
  - 1/2" x 20 x 3/4" socket head bolt with 11/32" center bore (part # HELIXS05)
  - 1/2" x 20 x 1-1/8" socket head bolt with 11/32" center bore (part # HELIXS06)
- (e) Spindle bolt (part # HELIXS04)  
1/2" x 20 x 1/2" hex bolt with 11/32" center bore
- (f) Dial Ring / Base Plate screws  
8-32 x 5/16" (x 2)  
M4 x 8 (x 2)
- (g) Rig Attachment Spacer (part # HELIXS07)  
1/2" I.D x 1" O.D. x 1/8" spacer
- (h) "ABCD" Spacer Ring (part # HELIXS03)  
1-1/2" I.D x 2" O.D. x 3/8" ring

*Helix Revolver* drill point Code Chart (part # HELIXS11)

Allen Wrenches - 4mm, 8-32 and 1/2"

3/4" Open End Wrench (part # HELIXS09)

#### 1.3 Quick Start Guide

Remove the dial or keypad from the safe. Position a drill point index over the spindle hole and rotate so that the "BOLT" label is pointed in the direction of the lock bolt. Place the base plate over the index and secure it to the safe door with the supplied 8-32 screws, sandwiching the index between the base plate and door.

Place the *Helix Revolver* rotary template over the base plate and lightly thread the supplied 1/2" x 20 x 1/2"

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spindle bolt through the center hole to attach the *Helix Revolver* to the base plate (do not tighten). Refer to the included *Helix Revolver* Chart for drill point code information on the installed lock.

Rotate the *Helix Revolver* template until the alignment mark located between the “I” and “J” holes lines up with the number on the drill point index matching the number shown on the code chart (for example, if the code given is G 32 you would rotate the alignment mark to 32 on the index). With the template properly aligned, tighten down the center spindle bolt to lock the *Helix Revolver* in position.

Using the bolts provided, attach the base of your template drilling rig to the *Helix Revolver* template hole indicated on the code chart (Hole G for G 32, for example). With the template rotated to the correct position on the drill index and the drill rig secured to the proper hole, you are ready to begin drilling.

## 2. Usage and Operation

### 2.1 Drill Point Index

The included plastic drill index discs provide the ability to properly align the *Helix Revolver* template and compensate for different lock mountings (left hand, right hand, vertical up and vertical down). Pay particular attention the “BOLT” direction markings on each index. These markings indicate the direction of the lock bolt. The index should be rotated before installing the base plate so that the “BOLT” arrow points in the same direction as the lock bolt. This ensures that all drill points from the *Helix Revolver* Code Chart are correct regardless of the handing of the lock.

*Note: Drill point indexes are disposable items that are intended to be drilled through as needed. Replacement discs are available from Lockmasters.*

### 2.2 Base Plate

The *Helix Revolver* base plate is placed over the drill point index and secured to the safe using the dial ring screw mounting holes. The base plate serves as a center hub for the *Helix Revolver* rotary template allowing it to be secured to the safe door and rotated a full 360°. The base plate’s “half circle” design allows it to be positioned on either side of the dial ring screw holes as needed to avoid damage when drilling in the area between the dial ring screws and around the spindle hole. A good rule of thumb is to mount the base plate on the opposite side of the spindle hole as your intended drill point to avoid accidentally damaging the plate as you drill. If your drill point is on the right side of the spindle hole then move the base plate to the left side and vice versa. Simply put - if the base plate is going to be positioned over the drill point then move the plate to the other side of the spindle hole to avoid drilling through it.

## 2.3 Helix Revolver Code Chart

The included code chart is your guide to using the *Helix Revolver* to effectively neutralize most modern safe locks. The chart is broken down alphabetically by lock for ease of use. Under each lock several possible drill points are listed based upon the specific malfunction and/or attack (scope hole, lever screw, motor gear, relocker, etc). Each drill point is represented by a code consisting of a letter (A thru Z) and a number (0 thru 99). The number indicates the position on the drill index the *Helix Revolver* alignment mark should be facing for proper alignment and the letter indicates the template hole your drill rig needs to be attached to.

### 2.3.1 Swingbolts / Slidebolts / Rotobolts

Lagard Swingbolts, Kaba-Mas Slidebolts and LPLock Rotobolts are “handed” locks that have different drill positions depending on what direction the “flat” of the lock bolt is facing. The *Helix Revolver* drill index should be installed in the same fashion as usual on these locks with the “BOLT” marking oriented in the direction of the lock bolt but specially attention must be paid to the orientation of the swingbolt marking on the index in relation to the orientation on the actual lock bolt. If the flat of the swingbolt shown on the index faces the same direction as the flat of the bolt inside the safe then the standard drill point alignment code is used. If the flats are facing opposite directions then you’ll need to use the alternate drill point alignment code shown on the code chart.

The drill point shown for these locks on the code chart includes an alternate alignment number in parenthesis. This number represents the drill point index alignment position that should be used when the flat of the bolt image on the index does not match the bolt of the lock inside the container (flat on opposite side). Example: with the drill point code “B 43 (32)”, B 43 is the standard alignment and B 32 is the alternate alignment.

### 2.4 Attaching / Aligning the Helix Revolver

With the base plate secured and drill point index correctly oriented the *Helix Revolver* rotary template is ready to be attached. Begin by placing the *Helix Revolver* over the base plate as indicated in the assembly diagram (section 1.2). Attach the *Helix Revolver* to the base plate using the supplied spindle bolt. (Note: In the case of some electronic locks it may be necessary to either cut the keypad cable or tuck it back into the spindle hole). Leave the spindle bolt loose enough to allow the *Helix Revolver* template to rotate freely around the base plate. Refer to the code chart to establish the correct position of the *Helix Revolver* based on the specific lock being drilled and rotate the template to bring the alignment mark (located between holes “I” and “J”) into line with the appropriate number on the drill point index. Once the template is correctly aligned tighten the center spindle bolt to lock it into position.

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## 2.5 Drill Rig Attachment

Use the supplied drill rig attachment bolts to secure the base of your Bullet or Mini-Rig to the correct drill position on the *Helix Revolver* template. The template can also be used with other rigs as a reference for locating drill points.

It is very important to use the supplied bolts to attach your template drilling rig to the *Helix Revolver* as it uses fine threading and is designed from soft material that will not damage the threads on the template. In the case of the Bullet rig the drill bushing must be removed from the base before inserting the attaching bolt.

Two different length rig attachment bolts are provided. The length of bolt will vary depending on the drill point and the type of rig used. Choose the bolt length that yields the maximum number of threads. Certain drill rigs may require using the supplied 1/8" thick spacer washer.

### 2.5.1 "ABCD" Spacer Ring

A 2" diameter spacer ring is included to provide clearance between the base of the drill rig and the center spindle bolt when the rig is attached to positions A, B, C or D. Place the spacer ring around the spindle bolt and drill position before attaching the drill rig base. Allow the rig attachment bolt to pass through the center of the spacer ring.

## 3. Base Plate Drill Points

The *Helix Revolver* base plate can be used by itself in some instances without the need for a drill index or the *Helix Revolver* rotary template component.

### 3.1 Spindle Hole Drilling

When using a spindle hole entry method such as rotating the motor armature on an S&G 6120 series lock or spiking an electronic lock with tools such as Lockmasters' Spikemaster II kit, the drill rig can simply be attached to center hole on the base plate without the need for installing a drill index or the rotary template. The supplied center bore bolts will permit use of drill bits and hole saws up to 5/16" in diameter.

### 3.2 Advanced Drill Points

Note: This section deals with advanced usage outside the usual operation of the *Helix Revolver* template and addresses features of the *Helix Revolver* not officially supported by Lockmasters. These entry methods require previous expertise and should be avoided by safe technicians unfamiliar with these opening techniques.

The two drill points located on the base plate allow the base plate to be used alone to accomplish a variety of common tasks on conventional mechanical safe locks (S&G 6700/8400/8500, Ilco 673, Lagard 3330, etc). Use of these two drill points assumes some prior experience with advanced opening techniques such as transferring and instructions in this section are supplied with minimal detail.

Install the base plate so that one of the two arrows is pointed in the direction of the lock bolt.

### 3.2.1 Lost Combo

Attach your drill rig to the base plate hole next to the arrow pointed in the direction on the lock bolt. This drill position is located at 62.5 on a right hand mounted lock. Drill into the lock case and align the gates of all three wheels through the hole using an emergency dial and dialing Left-Right-Left. Record the numbers for each wheel. The lock can then be dialed open by adding 35 to the first and third number and subtracting 35 from the second number.

*Note: On Mosler 302/402 locks add/subtract 32 instead of 35.*

### 3.2.2 Reset Internal Relocker

This drill point allows the internal relocker to be overcome on S&G 6600/6700/8400/8500, Ilco 673/683, PPI 673, etc. (does not apply to Lagard or LPLOCK mechanicals).

Attach your drill rig to the base plate hole next to the arrow pointed in the direction of the lock bolt. Simply drill into the lock case and use an "L" shaped probe to hook the relocker lever, pulling it towards you while retracting the bolt.

### 3.2.3 Unknown Lock Mounting

Opening a lock with unknown mounting is a simple task through the *Helix Revolver* base plate drill points. Simply refer to the directions indicated in section 3.2.1 Lost Combo. If the numbers used do not open the lock then try adding/subtracting 10 instead of 35. If still unsuccessful, add/subtract 60. If the lock has not yet opened then add/subtract 85 and the lever should drop.

### 3.2.4 Make Your Own Gates

*Notice: Lockmasters strongly recommends against this procedure and WILL NOT provide additional technical support if used in the field.*

Locate the left and right contact points on the lock. Take the midpoint of these two contact points and add 31.5. Rotate the dial right four times to the resulting number and, while holding the dial in this position, drill through the entire wheel pack at the drill point next to the arrow pointing in the direction of the lock bolt. Once you have drilled through all three (or four) wheels, continue rotating the dial clockwise and the lever should drop allowing the lock to be opened.

**WARNING!** Use this entry method at your own risk.