Instructional Leaflet **IL2C13761**

Effective February 2022
Supersedes March 2020

Installation instructions for Kirk Key Interlock Kit in Magnum low-voltage circuit breakers

⚠ WARNING

(1) ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD BE PERMITTED TO WORK ON THE EQUIPMENT

(2) ALWAYS DE-ENERGIZE PRIMARY AND SECONDARY CIRCUITS IF A CIRCUIT BREAKER CANNOT BE REMOVED TO A SAFE WORK LOCATION

(3) DRAWOUT CIRCUIT BREAKERS SHOULD BE LEVERED (RACKED) OUT TO THE DISCONNECT POSITION.

(4) ALL CIRCUIT BREAKERS SHOULD BE SWITCHED TO THE OFF POSITION AND MECHANISM SPRINGS DISCHARGED.

FAILURE TO FOLLOW THESE STEPS FOR ALL PROCEDURES DESCRIBED IN THIS INSTRUCTION LEAFLET COULD RESULT IN DEATH, BODILY INJURY, OR PROPERTY DAMAGE.

⚠ WARNING

THE INSTRUCTIONS CONTAINED IN THIS IL AND ON PRODUCT LABELS MUST BE FOLLOWED. OBSERVE THE FIVE SAFETY RULES.

- **DISCONNECTING;**
- **ENSURE THAT DEVICES CANNOT BE ACCIDENTALLY RESTARTED;**
- **VERIFY ISOLATION FROM THE SUPPLY;**
- **EARTHING AND SHORT-CIRCUITING; AND;**
- **COVERING OR PROVIDING BARRIERS TO ADJACENT LIVE PARTS.**

DISCONNECT THE EQUIPMENT FROM THE SUPPLY. USE ONLY AUTHORIZED SPARE PARTS IN THE REPAIR OF THE EQUIPMENT. THE SPECIFIED MAINTENANCE INTERVALS AS WELL AS THE INSTRUCTIONS FOR REPAIR AND EXCHANGE MUST BE STRICTLY ADHERED TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO THE SWITCHBOARD.

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Installation instructions for Kirk Key Interlock Kit in Magnum low-voltage circuit breakers

Section 1: General information

This key interlock provides the following safety features:

1. With no key, the breaker is "OPEN" and cannot close.
2. With the key "ON" (key in the cylinder and rotated), the breaker is fully functional.
3. The key cannot be removed when the breaker is "ON" (closed).

Note: To remove the key, press the breaker "OFF/OPEN" button, and rotate the key 90 degrees counterclockwise.

This product is intended for use in Magnum circuit breakers with PXR or Digitrip trip units.

Note: All images show a Magnum circuit breaker with a PXR trip unit unless stated otherwise. Some components, such as the trip unit, not shown for clarity.

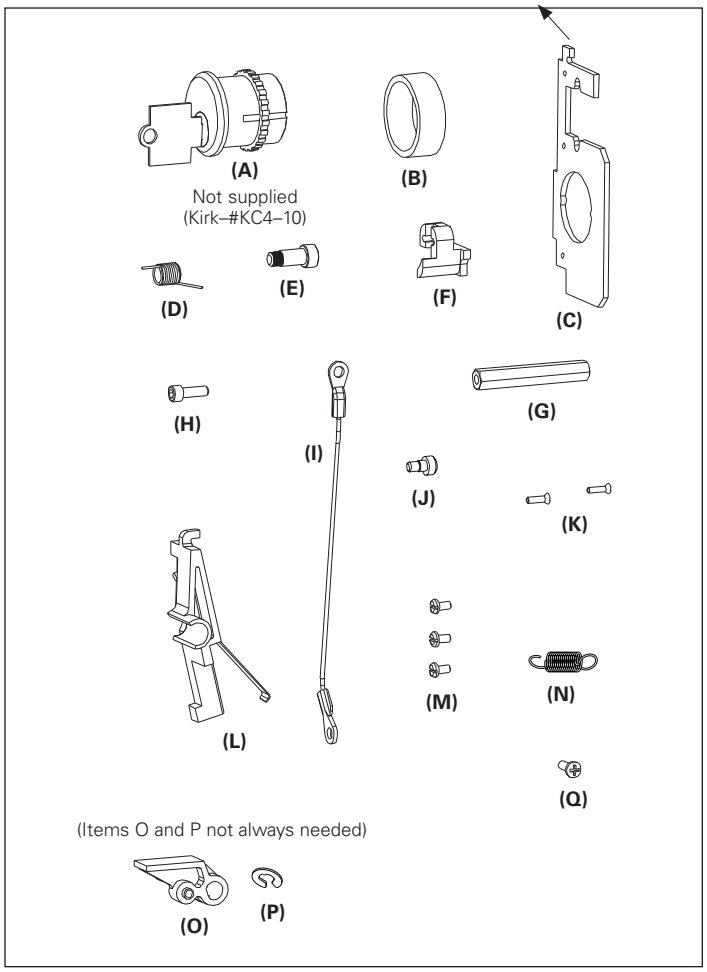

Figure 1. Contents of kit

Required tools

- 1/4 inch socket drive
- 10 mm socket
- #2 Phillips head screwdriver
- 1 7/16 inch (36 mm) hole saw
- 3/32 hex key
- 9/64 hex key
- Needle nose pliers
- Arbor press, bench vise, or equivalent ①
- Spring puller (such as Moody Tool item #6HAR6)

① (**Steps 1–5**) can be pre-assembled if no portable Arbor press, bench vise, or equivalent is available on job site.

Kit parts identification

Refer to **Figure 1** for visual identification of the parts listed below:

(A) Kirk® Key Lock #KC40.10 **(Kirk key lock not supplied)**.
(See your local Kirk Key Interlock company for distribution.)
(B) Bushing
(C) Kirk lock mounting plate
(D) Torsion spring
(E) Guide pin
(F) Cylinder interlock adapter
(G) Hex standoff
(H) 1/2 inch cap screw
(I) Interlock cable
(J) Shoulder screw 1/8 inch
(K) #3–48 x 3/8 flathead screw (2)
(L) Interlock arm assembly
(M) #5–40 x 0.25 inch machine screw (3)
(N) Extension spring (2, 1 spare)
(O) D-latch trip lever (NOT ALWAYS NEEDED)
(P) E-clip (NOT ALWAYS NEEDED)
(Q) M3.5 x 10 tapping screw

Section 2: Installation of key locks

Proceed with the following steps:

⚠ IMPORTANT

DO NOT REINSERT KEY UNTIL STEP 6.

Step 1: First remove key from key lock **(A)**. Then remove two screws from back of key lock and discard the cam arm and screws. Remove one knurled nut from barrel of lock.

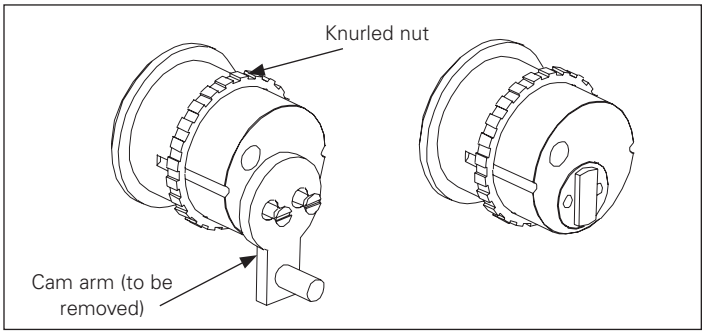

Figure 2. Step 1

Step 2: Remove second knurled nut from key lock body and place bushing **(B)** on cylinder body. Note orientation of key lock, and then mount to lock mounting plate **(C)** with the knurled nut.

⚠ IMPORTANT

DO NOT INSERT KEY.

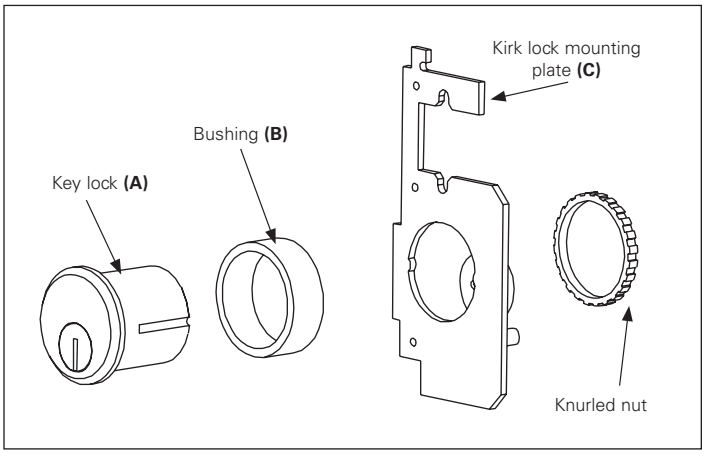

Figure 3. Step 2

Step 3: Put torsion spring **(D)** on guide pin **(E)**. Note the orientation of spring legs, and carefully press the knurled end of guide pin into hole in key lock body to the depth of the knurl. This step requires an Arbor press, vise, or equivalent.

⚠ IMPORTANT

DO NOT INSERT KEY.

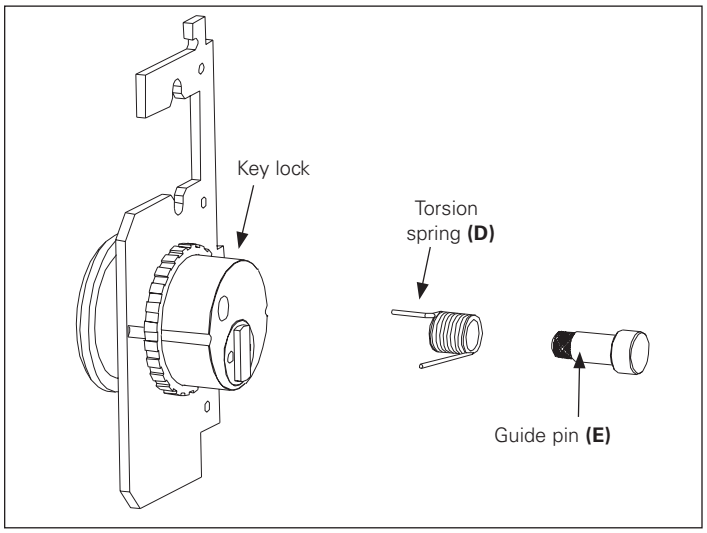

Figure 4. Step 3

Step 4. Mount cylinder interlock adapter **(F)** to hexagonal standoff **(G)** with 1/2 inch long cap head screw **(H)** and tighten securely. Attach cable assembly **(I)** to other end of hexagonal standoff with shoulder screw **(J)**.

⚠ IMPORTANT

DO NOT INSERT KEY.

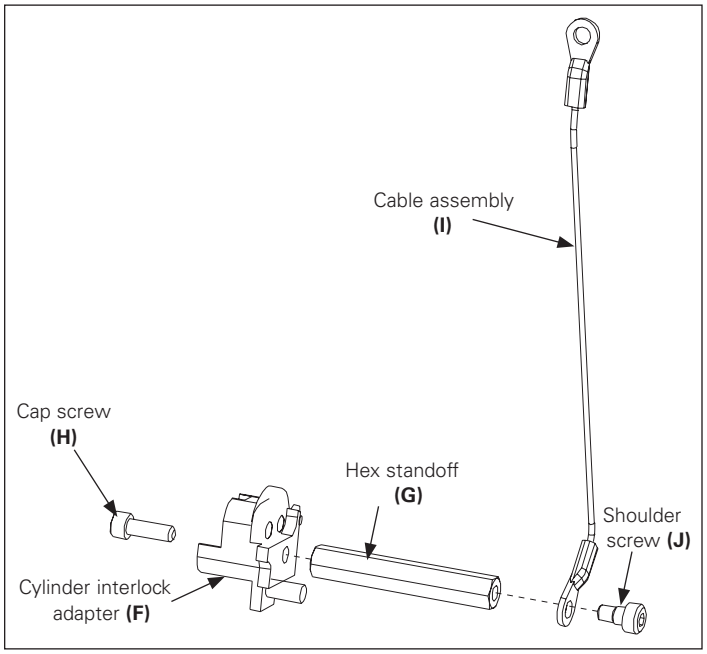

Figure 5. Step 4

Step 5: Mount interlock assembly to rear of key lock with two #3-48 x 3/8 inch long flathead screws **(K)**.

⚠ IMPORTANT

DO NOT INSERT KEY.

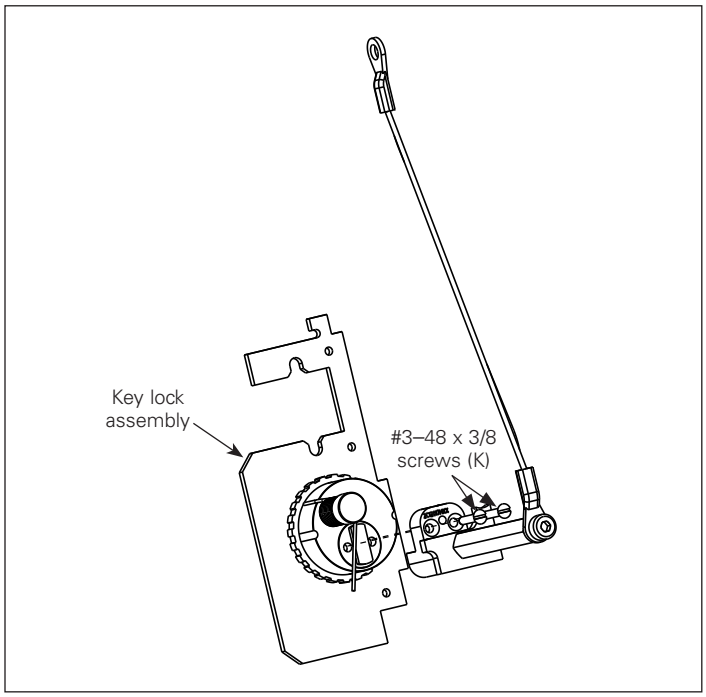

Figure 6. Step 5

Step 6: Using pliers, wind free leg of torsion spring **(D)** clockwise approximately 360 degrees, and hook under lip of interlock adapter as shown.

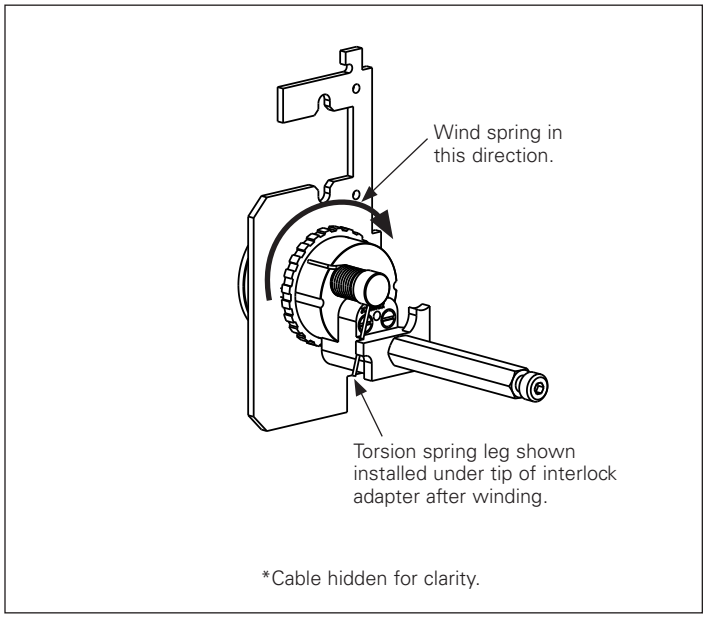

Figure 7. Step 6

Step 7: Check that the breaker is "OPEN" and discharged. Using the 10 mm socket and 1/4 inch driver, remove the front cover of the breaker by loosening four mounting bolts (six bolts if four-pole breaker), and holding the charging handle down approximately 45 degrees to simplify removal.

Step 8: Remove plug from key lock hole. If hole does not exist, use a 1-7/16 inch (36 mm) hole saw to drill a hole using existing drill point countersink on inside of cover as a pilot guide.

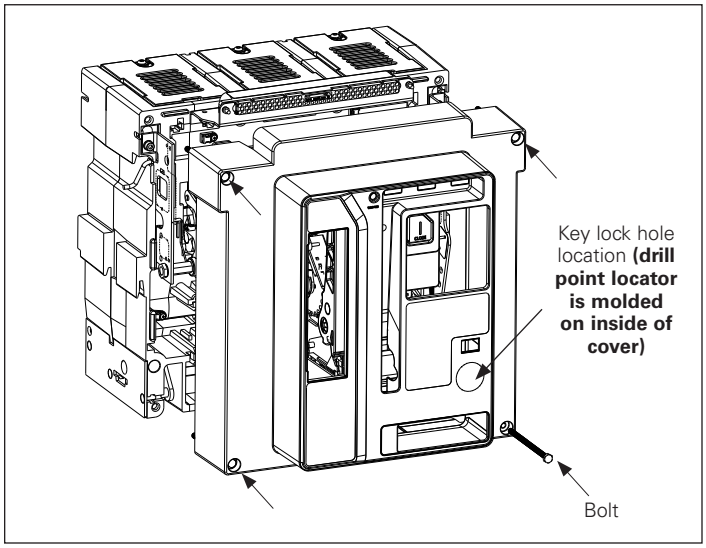

Figure 8. Steps 7 and 8

Step 9: Remove existing key lock mounting plate (if installed) from the universal mounting bracket and discard it. If there is an operations counter mounted to it, remove it before discarding and save for **Step 13.**

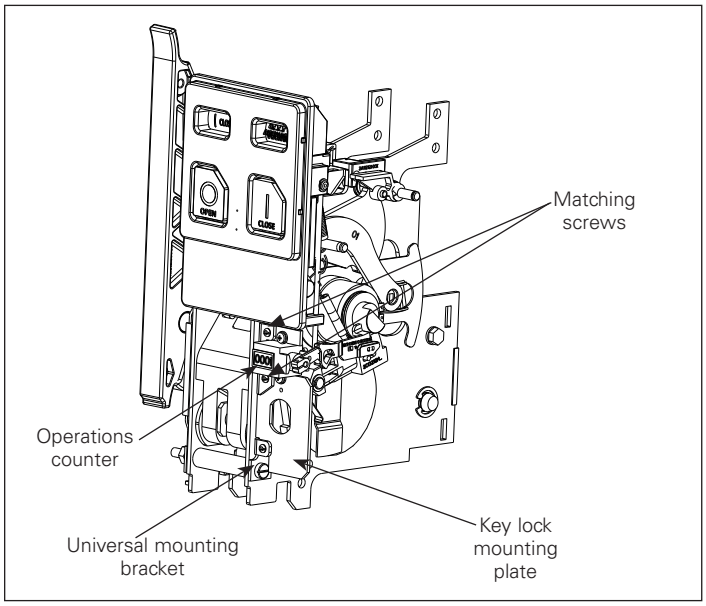

Figure 9. Step 9

Step 10: Snap interlock arm assembly **(L)** into place on shaft, with steel spring flush against mechanism side plate.

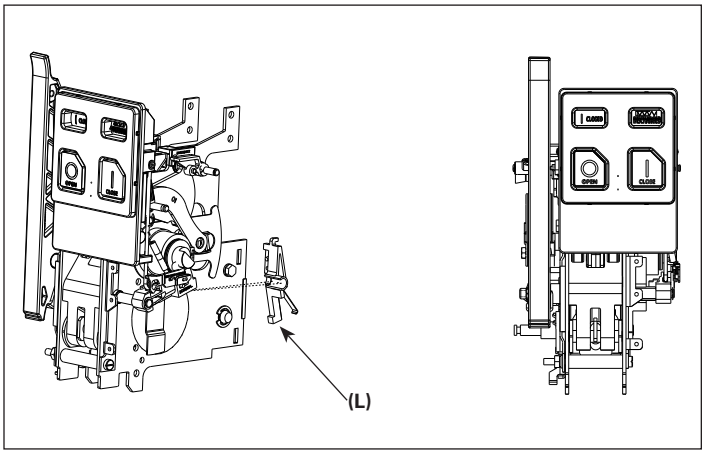

Figure 10. Step 10

Step 11: Mount lock/interlock assembly to plate mounting bracket with three machine screws **(M)** supplied.

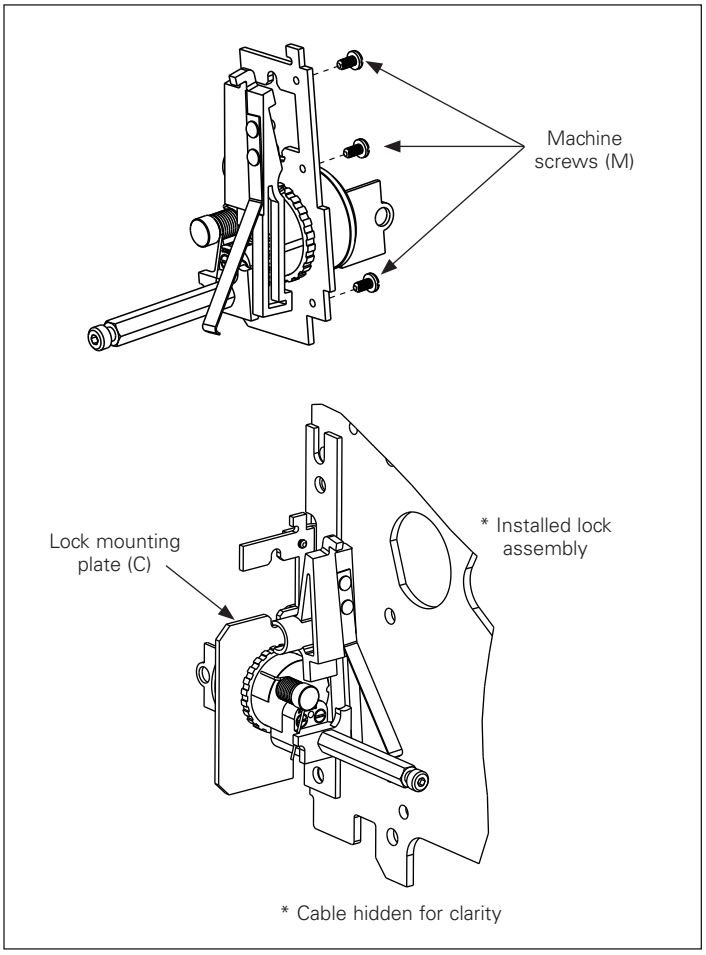

Figure 11. Step 11

⚠ IMPORTANT

FAILURE TO INSTALL EXTENSION SPRING AS SHOWN WILL CAUSE MALFUNCTION OF THIS KIT.

Step 12: Connect extension spring **(N)** between the interlock arm assembly **(L)** and lock mounting plate **(C)**. Attach one end of the spring to the interlock arm assembly such that the free end of the spring is facing downward, as shown.

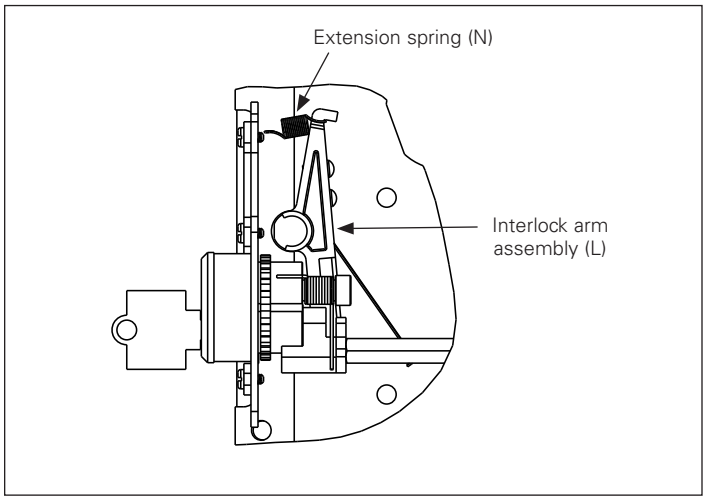

Figure 12. Step 12

Step 12a: Using a spring hook or similar tool, hook the free end of the spring and rotate it 90 degrees clockwise. The open end of the spring hook should be facing inwards towards the mechanism.

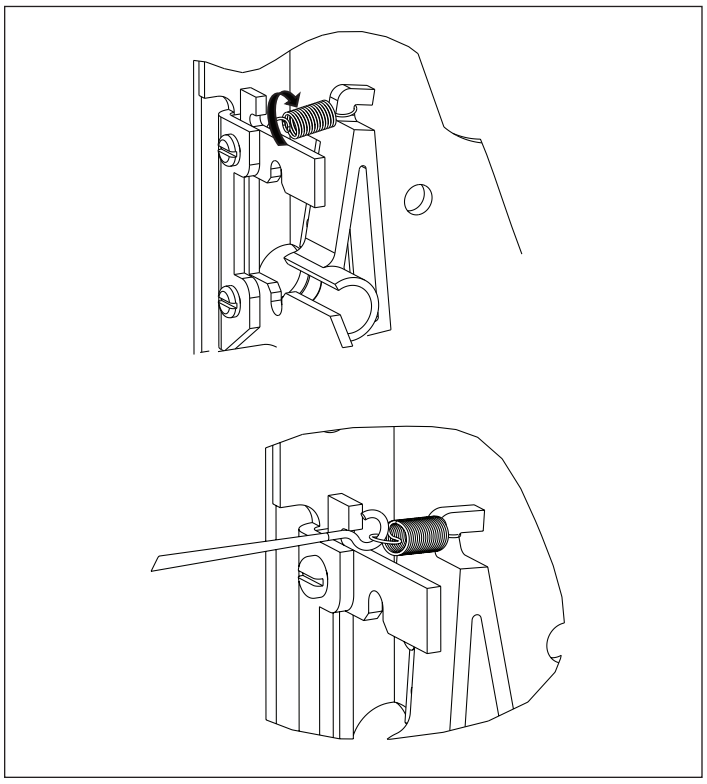

Figure 13. Step 12a

Step 12b: Pull the spring through and attach to the mounting plate, as shown.

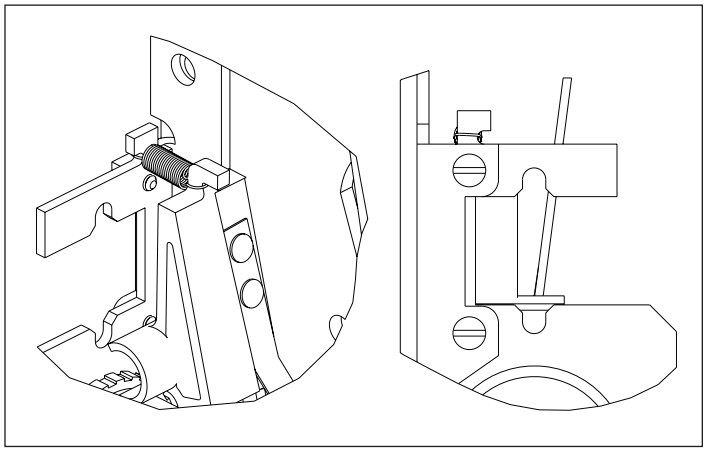

Figure 14. Step 12b

⚠ IMPORTANT

ATTACHING THE SPRING IN THIS MANNER WILL CAUSE MALFUNCTION OF THIS KIT..

The spring SHALL NOT be mounted in this orientation.

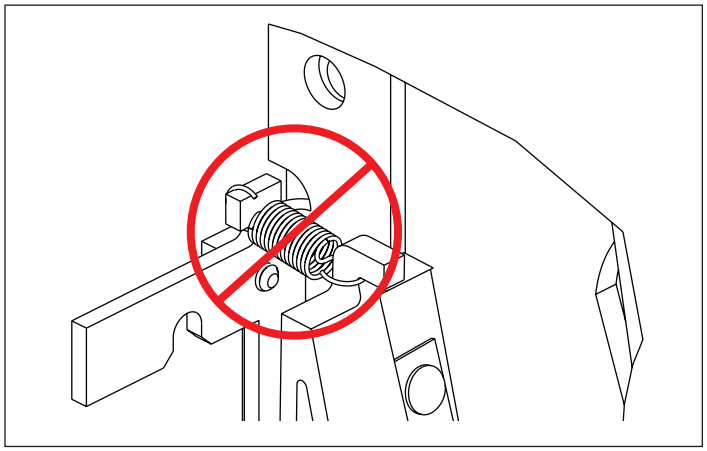

Figure 15. Incorrect spring mounting

Step 13: Insert key and rotate lock and standoff assembly. Connect cable assembly to new trip lever with tapping screw **(Q)**. (DO NOT OVERTIGHTEN.) See **Step 13a** for old lever replacement.

Step 13a: If installed trip lever **(O)** is not provisioned to accept tapping screw **(Q)**, replace it by prying off existing e-clip and sliding off the trip lever. Install new trip lever **(O)** and install e-clip **(P)**.

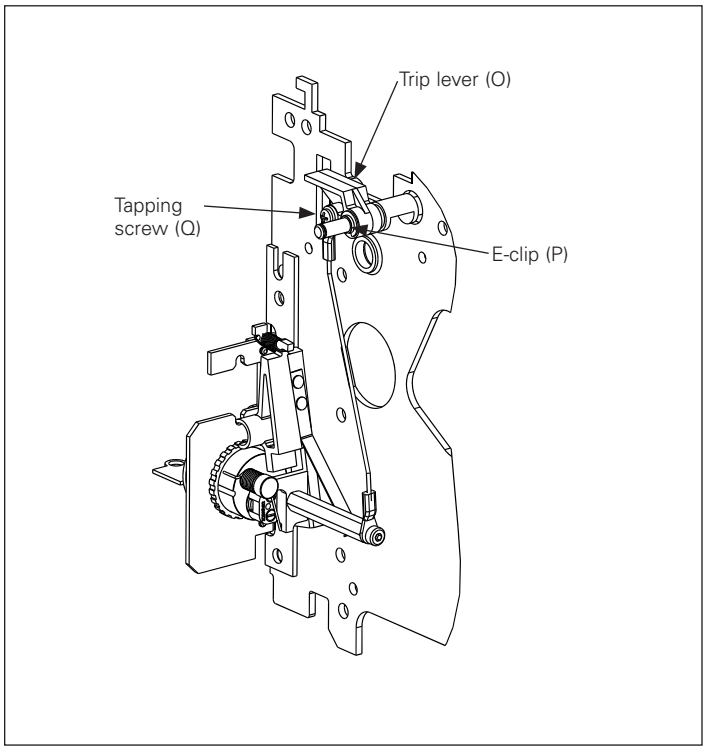

Figure 16. Steps 13 and 13a

Step 14: If the breaker includes an operations counter, mount it to the back of the lock mounting plate with two M3.5 x 8 mm self tapping screws. Refer to IL2C14767H01 for complete operations counter installation instructions.

Step 15: Before reinstalling front cover, perform the following functional checks:

Note: Verify if a UVR is installed. It may have to be temporarily removed to perform checks.

1. With no key, the breaker is "OPEN" and cannot "CLOSE".
2. With the key installed and rotated 90 degrees clockwise, the breaker is fully functional.
3. The key cannot be removed when the breaker is "CLOSED".
4. Key removal only occurs when breaker is "OFF".

Notes:

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