

BEYOND SECURITY

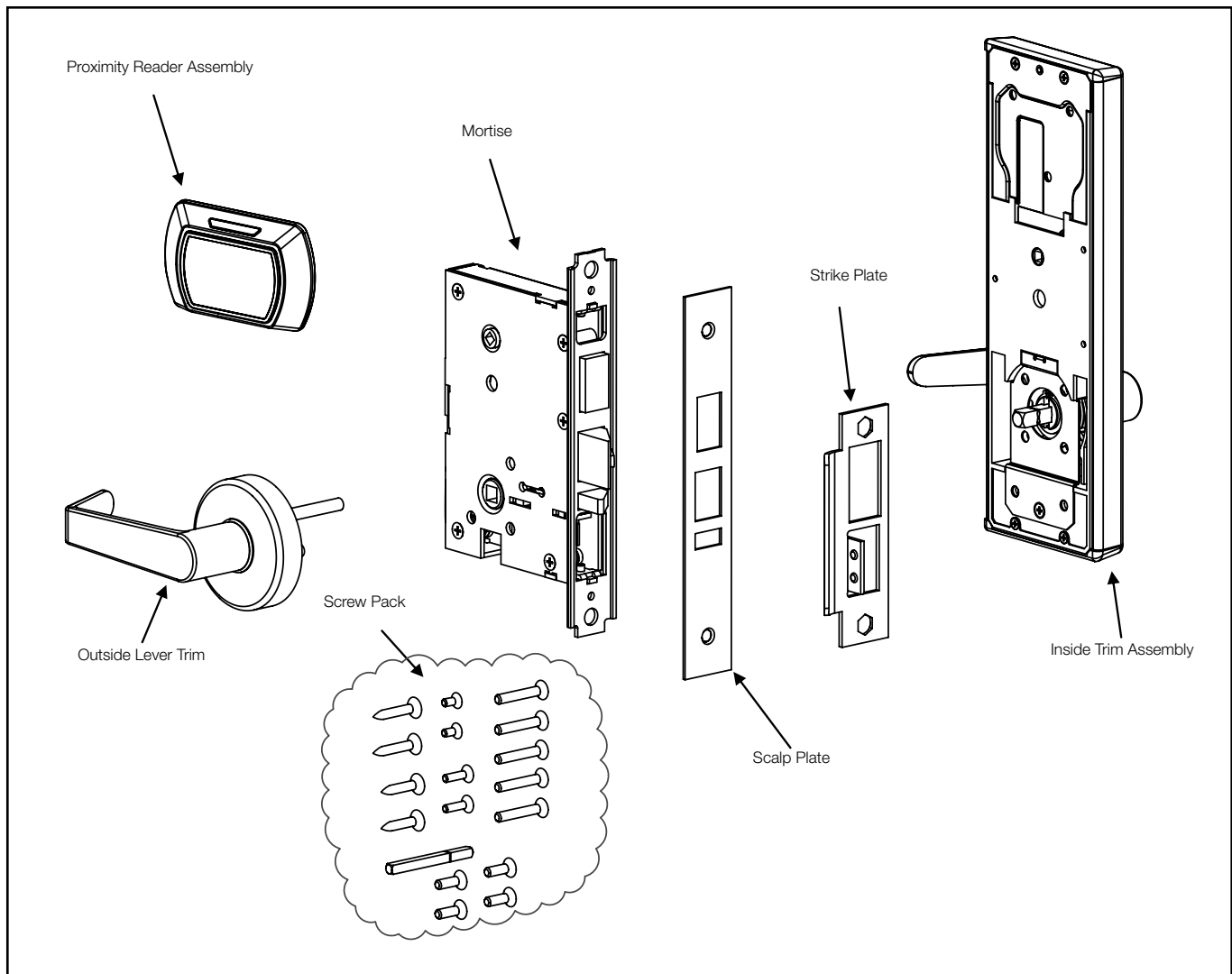


INSTALLATION GUIDE

ILCO Q90 RFID
(Quantum Series)

ILCO Q90 Installation Instructions

All parts needed to install the Q90 lock are included with each unit. Please check to make sure all parts are accounted for before beginning installation. Do not substitute any of the parts. The use of substitute parts will result in poor performance of the lock.



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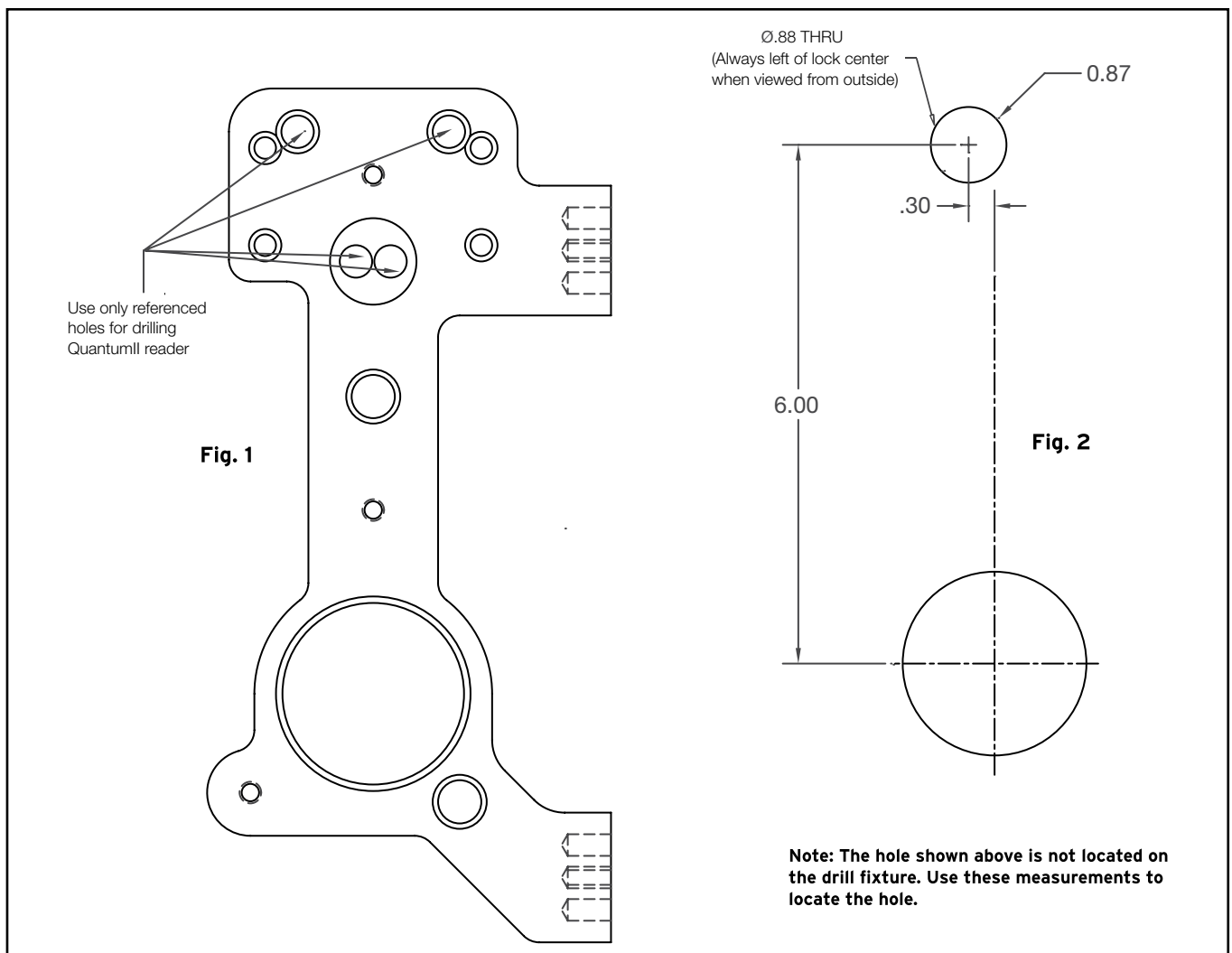
1. Prepare the door using the Q90 reader installation template or drill fixture. The door edge prep is a standard, full-mortise prep for a 1-1/4" x 8" front plate (1" x 8" and 1" x 7-3/4" custom front plates are optional). The door surface holes and mortise are customized for the Q90 trim.

Important: Some holes are only on the inside surface of the door. See the door prep template.

- For new construction installations, the door manufacturer may prepare the door using the installation template.
- For retrofit installations, remove the existing hardware and confirm that the existing door edge prep is appropriate for the Q90 mortise lock.

Drill fixture: If you are using a Q90 drill fixture, position and clamp the fixture on the door. The fixture has two positioning posts that rest inside the mortise, establishing the proper backset for the trim. When the fixture is clamped, its surfaces should be parallel with the door surfaces and door edges. Not all holes go through the door (refer to the template). Notch the material on the inside surface for easier routing of the motor wire. After machining, remove any debris from the mortise and cutouts.

2. Prepare the door frame using the template and install the strike plate using the screws provided (12 x 1-1/2 screws for wood frames, 12-24 x 3/8 screws for metal frames).



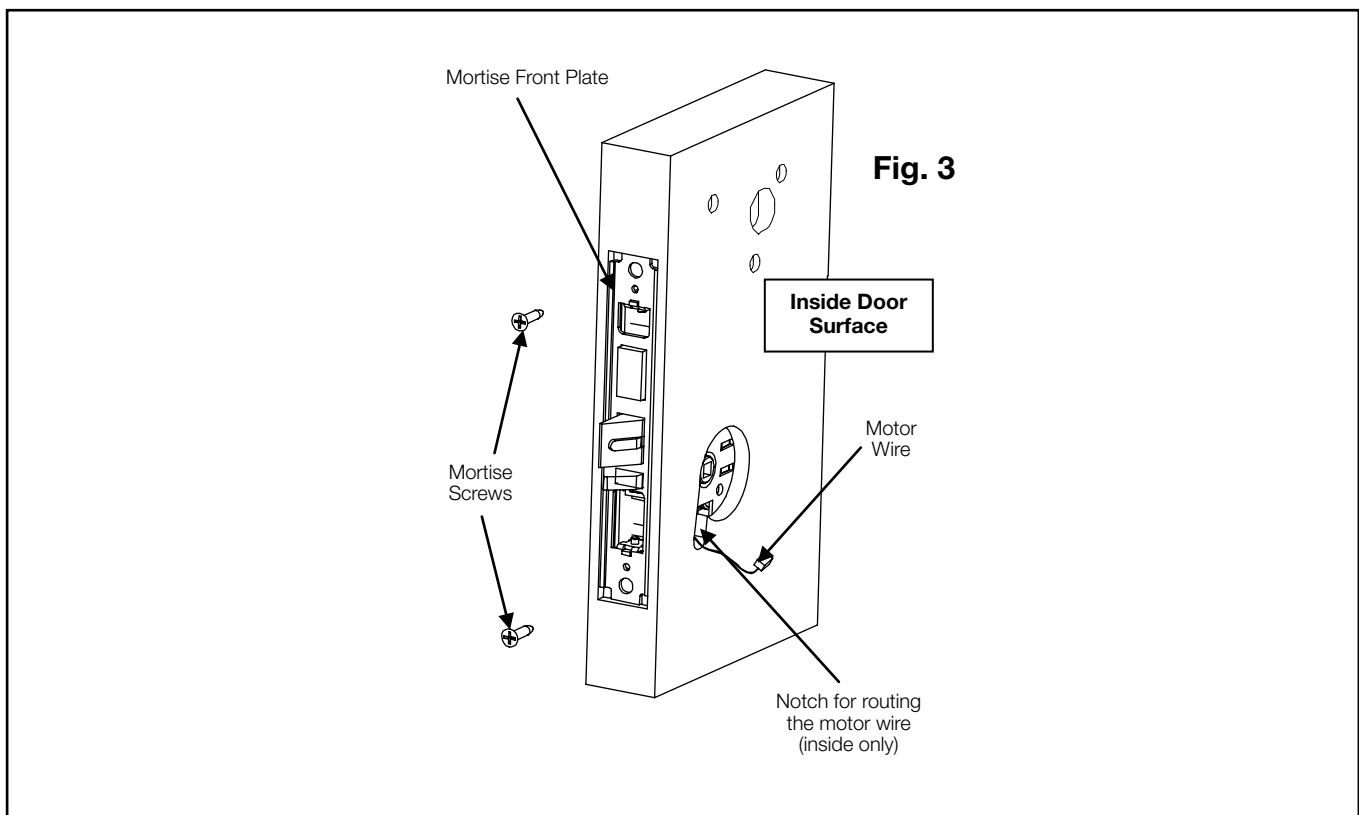
3. The mortise plate has an adjustable bevel. Align the mortise front plate with the bevel of the door edge and tighten the two bevel adjustment screws at the top and bottom of the mortise case. Position the mortise case in the door edge with the motor wire routed through the notch (see Fig. 3).

Note: Use care to ensure that the wires do not get pinched or pulled as the mortise is inserted into the pocket.

4. Attach the mortise front plate to the door using the two mortise screws (12 x 1-1/4 screws for wood doors, 12-24 x 3/8 screws for metal doors). Be sure that the screws are fully tightened.

Important: DO NOT leave the screws loose. The screws must be fully tightened before the trim is installed. If you must leave the mortise loose to install the trim, the door preparation is incorrect.

5. Install the scalp plates with the 8-32 x 1/4 screws provided and test for proper mechanical latch engagement into the strike plate.



Installing the lock trim

The outside lever trim has two carriage bolts that fit into the diagonal holes in the mortise case. These carriage bolts establish an accurate trim position with respect to the mortise case assembly, allowing the levers and bolt mechanism to operate without binding. The holes machined in the door surfaces should not influence the position of the trim or the card reader assembly.

Do not tap or bend the carriage bolts to manipulate the fit of either trim piece during installation. The door prep holes should accommodate the outside lever trim and the card reader assembly. If the carriage bolts or card reader enclosure fit too tightly in the door prep holes, remove the mortise and enlarge the holes to achieve a free fit.

1. Remove the battery pack from the inside trim.
2. Position the outside proximity card reader assembly on the outside of the door (see Fig. 4). Route the ribbon cable and power cable through the 13/16" hole in the door. **Do not pull on the ribbon cable. DO NOT CREASE THE RIBBON CONNECTOR**
3. Position the inside trim on the inside of the door.
4. Secure inside trim to the proximity card reader assembly to the inside trim using three 8-32 x 1-1/4" screws.

Important: Do not fully tighten the screws at this point.

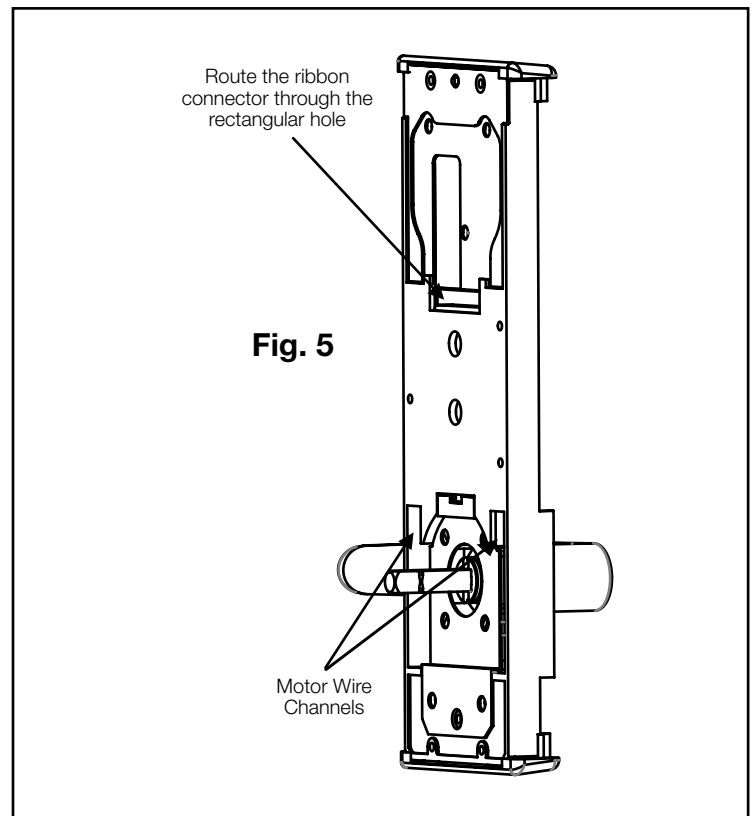
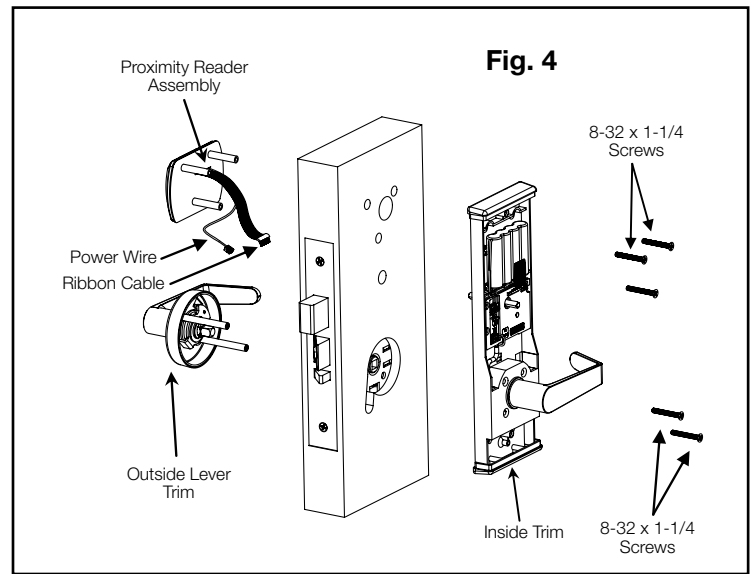
5. Align the outside lever trim with the diagonal holes located on either side of the mortise hub and secure it using the remaining two 8-32 x 1-1/4 screws (see Fig. 4).

Important: Do not over tighten screws. If using a screw gun, use a low torque setting.

6. Once the outside lever trim is fully secured, check the alignment of the inside trim and be sure that the both levers rotate without binding. Once the trim is properly aligned, fully tighten the screws that secure the proximity reader assembly to the door and check for proper rotation.

7. Place the battery pack in position above the PCB. Be sure that the battery wire is routed through the lower left corner of the battery compartment.

Note: Do not plug in the battery until the other connections have been made at the circuit board.



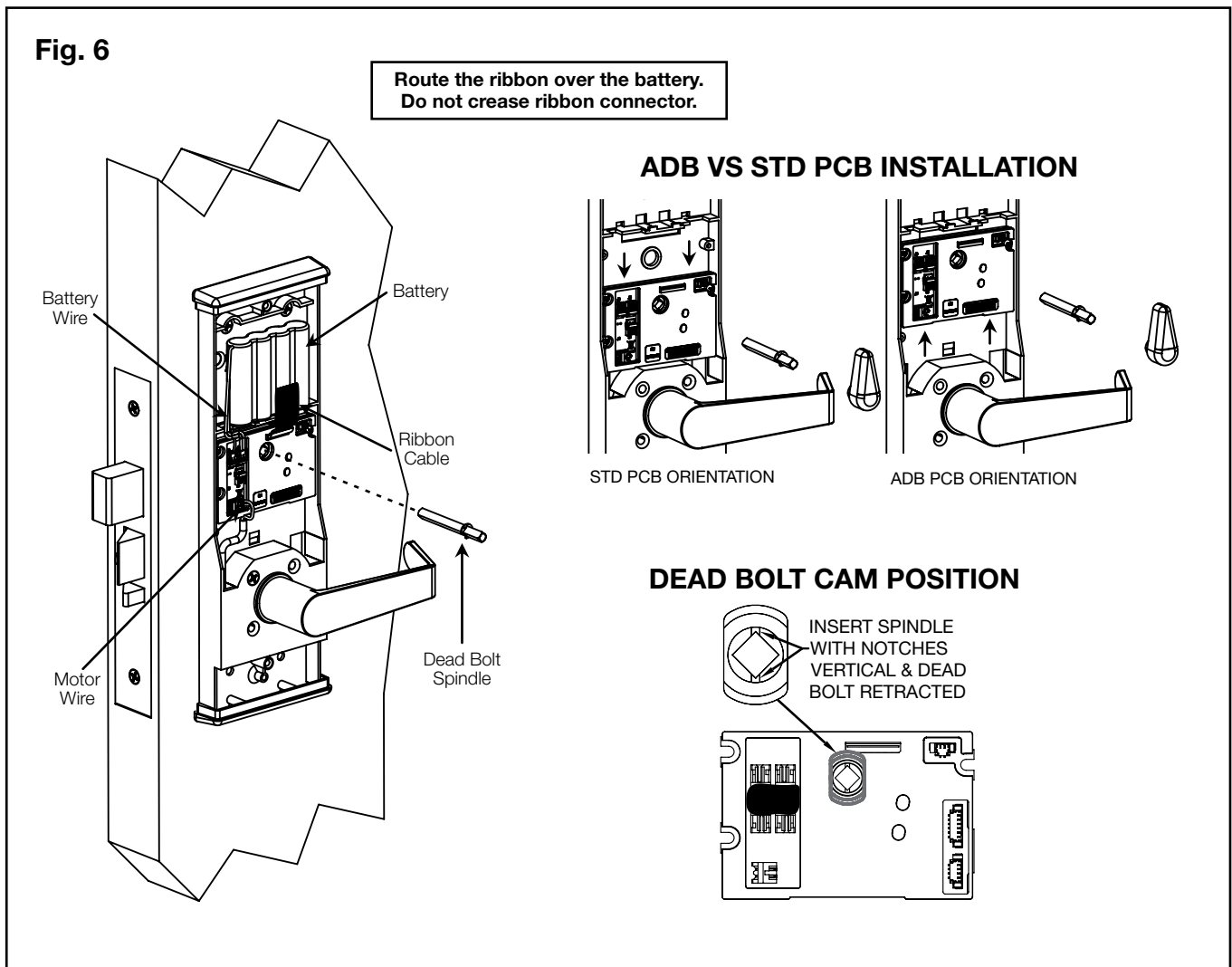
8. Connect reader ribbon cable, reader power cable, motor cable, and power wire to the PCB. See Fig. 6. Be sure not to crease the ribbon.
9. Watch for the green LED on the card reader to flash once, and for the clutch motor to reset when you connect the battery wire to the PCB. This is an indication that the PCB has reset and the door is locked.

Important: The battery wire should be the last connection made to the PCB.

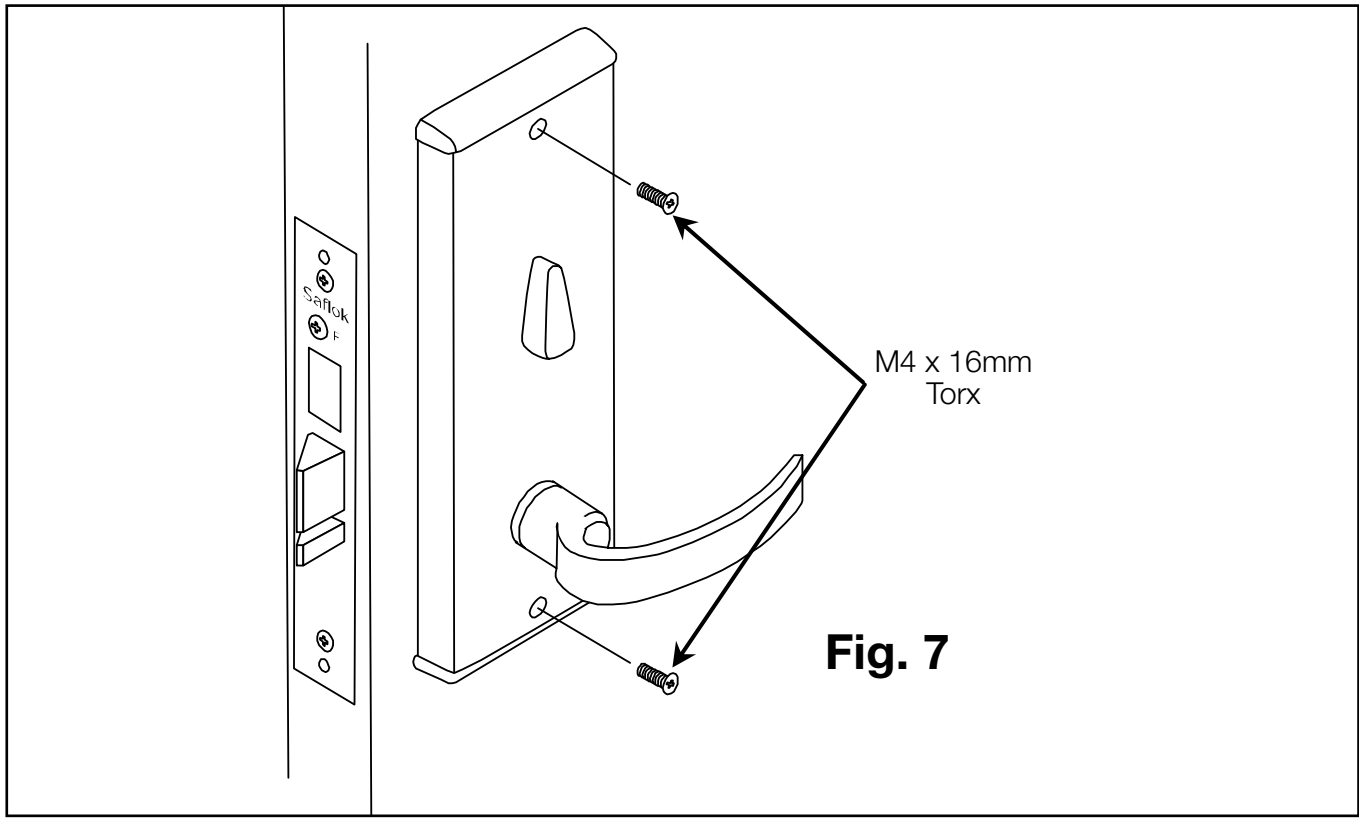
10. With the dead bolt retracted, insert the long end of the dead bolt spindle assembly through the PCB switch cam hole and into the mortise dead bolt hub. The indicator marks on the switch cam should be at the top/bottom (12:00 and 6:00 position) when the mortise dead bolt is retracted (see Fig. 6). The retaining ring should rest on the switch cam when fully inserted (the proper positioning of the cam will allow the door to be opened when the dead bolt is retracted and block entry when the dead bolt is thrown for privacy, except when emergency keycards are used.)

Important: As illustrated in figure 6 ensure the deadbolt cam position is orientated correctly.

11. Install the inside escutcheon with the thumb turn pointed upward.



13. Secure the inside trim cover to the inside trim using two M4 x 16mm Torx screws (see Fig. 7).



14. Program the lock using the FDU and Q90 programming module. Test the functioning of the lock as indicated in the following section and in the programming manual before closing the door. When the installation keycard is used, the green and red LEDs will blink together, then the green LED will blink once indicating that the lock's time and date are not set.
15. For humid outdoor environments, apply dielectric grease inside the USB connector after programming to guard against corrosion from persistent moisture.

Pass a programming key card over the Q90 RFID reader. The green light will stay illuminated for 30 seconds. This will indicate the lock is ready to be programmed. After programming, present the emergency keycard. The mechanism will unlock.

Lock Communication

Electronic Function Description

Green LED illuminates for 30 seconds

Time and date not set, use the Q90 RFID LPI probe to reset. This will be done during programming or using the FDU to reset the time

Red LED flashes 12 times

Dead bolt is thrown or switch cam is not properly aligned

No light

Keycard not allowed OR keycard cancelled by new keycard

Red and green LEDs flash 8 times use staff

Low battery (contact the ILCO service department).
Must alternately or emergency keycard to see this feedback

**Yellow and red LEDs flash 2 times simultaneously
No visual feedback**

Bad keycard read or corrupted data (may require new keycard)

Appearance

- Finish is free of blemishes or scratches that would distract from lock appearance
- Lock body and under plate (if used) are mounted straight on the door
- Door scalp is mounted straight and flush with the door edge
- Jamb strike is mounted straight and is flush with the jamb face
- Correction of minor blemishes on the door jamb are the responsibility of the property's maintenance department

Lock Function

- Knob or lever rotates and moves freely
- Lever is horizontal to floor when at rest position
- Dead bolt extends fully and retracts without binding (door open)
- Lock latch and dead bolt engage jamb strike plate freely
- Anti-pick latch when depressed (door open)
- Anti-pick latch is depressed when contact is made with the strike plate (door closed)

Electronics/Keycards

- An invalid keycard will be ignored by the lock. No LED feedback.
- The green LED flashes 8 times or for 4 seconds when a valid keycard is presented
- The LED continues to flash green when the lever is operated
- The LED flashes green 8 times when a guest card is presented while the deadbolt is projected
- The LED flashes green 8 times when a staff card is presented while the deadbolt is projected
- The red LED flashes once when a valid guest card is presented while privacy is enabled. Access is denied
- The red LED flashes 8 times when a staff card is presented while privacy is enabled. Access is granted.

Door function

- Door closes and latches with little or no interference
- Dead bolt extends fully through the strike plate without interference (door closed)
- Spacing between door edge and inside door jamb does not exceed 3/16" (door closed)

Note: If bumpers or other seals are added after strike plate installation and causes alignment and latch problems, it is the property's responsibility to correct this condition. This note generally applies to new construction or new door installation.

FCC and IC Warnings: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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