INSTALLATION GUIDE

ILCO Generation E-760/770/790 Series - Oracode 660/660i

ASM, ESM, ASM Auto Deadbolt Mortises &
Cylindrical Models 2½" and 2¾" Backset
1. Introduction and Disclaimers ............................................................. 3

2. Checklist and Exploded Views
   2.1. Parts and Tools List ............................................................ 4
   2.2. ASM/ESM ........................................................................... 5
   2.3. Autodeadbolt ASM Inside Trim Assembly ..................................... 6

3. Installation of Standard ASM or ESM Models
   3.1. Check the Mortise Handing ..................................................... 7
   3.2. Install the Strike ................................................................. 8
   3.3. Install the Mortise ............................................................... 9
   3.4. Install the Outside Housing & Inside Trim Assembly E-760/770/790 without key override .. 10
   3.5. Reversing the Outside Lever ................................................ 11

4. Testing E-760 / 770 / 790 only .................................................... 12

5. Programming (E-760 / 770 / 790) ................................................ 13

6. Operating the Electronic Override (E-760 / 770 / 790) ................. 14

7. Testing 660 Series only .............................................................. 15

8. Operating the Override 660 Series only ....................................... 16
   8A. Operating the Electronic Override 660/660F .................................. 16
   8B. Operating the Mechanical Override 660 Series ............................. 16

9. Installing the Mechanical Override Model ................................... 17

Appendices

A. Mortise Models
   A.1. Reversing the Mortise Handing ............................................. 25
       A.1.1. Reversible ASM ......................................................... 26
       A.1.2. Reversible ESM ......................................................... 28
   A.2. Additional Steps for Autodeadbolt ASM ................................. 30
   A.3. Additional Steps for ASM Office ......................................... 31
   A.4. Additional Steps for ASM/ESM Storeroom ............................... 32

B. Cylindrical Models
   B.1. Installing Cylindrical Models .............................................. 32
       B.1.1. Install the Strike ....................................................... 32
       B.2. Install the Latch ......................................................... 32
       B.3. Install the Cylindrical Unit ............................................ 33
       B.4. Inside Trim Assembly ................................................... 34
       B.5. Install Outside Housing & Trim Assembly ............................ 35

Note: This installation Guide is for Generation E-760, 770, 790 and 660/660i series locks. Images of the lock may be different than your model. See photo on front cover.
1 • Introduction and Disclaimers

Please read and follow all directions carefully.

Target Audience
These instructions are designed for use by maintenance professionals or lock installers who are familiar with common safety practices and competent to perform the steps described. Kaba Lodging Systems is not responsible for damage or malfunction due to incorrect installation however arising.

Definition of Terms
In these instructions, the term ASM refers to American Standard Mortise, and ESM refers to European Slim Mortise.

Technical Assistance
For technical assistance, call: 1 800 906-4526 / +1 514 340 9025

Warnings and Cautions

Important: Carefully inspect windows, doorframe, door, etc. to ensure that the recommended procedures will not cause damage. Kaba Lodging Systems standard warranty does not cover damages caused by installation.

Important: For Auto Deadbolt models the gap between the mortise front plate and the strike must not exceed 1/4 “

Caution: Wear safety glasses when making the holes.
2 • Checklist and Exploded Views

2.1 Parts and Tools List

Each Generation E-760/770/790/660/660i lockset includes:

(A) Outside lever handle

(or)

Parts for Mechanical override model only:

(A1) Outside lever handle

(B1) Outside housing

(C1) Cylinder plug

(D1) Cylinder (for 660/660i series locks with cylinders keyed different only)

(E1) Cylinder cap

(E2) Instruction sheet “How to attach lever on lock”

(B) Outside housing

(C) Battery holder with 3 AA batteries

(D) Mortise (ASM only shipped assembled with faceplate and 2 x 8-32 x 1/4” screws)

(or)

Parts for cylindrical models (see illustrations in appendix B):

- cylindrical latch (see B2 page 31)
- cylindrical unit assembled with one pair of screws & 3 spacers
- four (4) other pairs of screws & 3 spacers in hardware bag
- additional extension spring
- storeroom function locking screw and nut

(E) Inside trim assembly, details depend on lock model (see 2.2, 2.3, 2.4)

(E1) Inside trim assembly for 660i

(E3) Drilling template (for 660/660i Series only)

(N) Outdoor gasket included in all 660 series and 760/770 series with cylindrical latch only.

Order separately for 760/770/790 with mortise. ESSENTIAL FOR OUTDOOR INSTALLATIONS

Parts inside hardware bag:

(F) Thumbturn (hex) spindle

(G) Square spindle

(H) Torx-head screw (E-760/770/790)

(I) 3 x mounting screws (10-24, 1/8 Hex Head) or (12-24, 1/8” Hex Head for recent models only)

(J) 2 Machined screws (12-24X 1/2" Philips) & 2 wood screws (#12 X 1” Philips)

(K) Strike kit (screws, strike and ASM or Cylindrical dustbox)

(L) 1 extension spring

(M) Parts required to control thumbturn motion (ASM and ESM Storeroom, ASM Office) See appendix A3 & A4

(Q1) 4 pairs of Flat Head Screws 10-24 (for cylindrical only)

(R1) 3 Spacers (for cylindrical only)

(R2) 1 Cylinder with 2 keys for 660/660i Series with override and cylinders keyed different only

(S) 3 spacers (see page 29) for recent Models only

Tools Required:

<table>
<thead>
<tr>
<th>Safety glasses</th>
<th>2 1/8” (54mm) hole saw</th>
<th>Mortise faceplate router template</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2” (13mm) chisel</td>
<td>(Cylindrical Only)</td>
<td>Adjustable square</td>
</tr>
<tr>
<td>1/8” (3mm) drill bit</td>
<td>Hammer Rubber mallet</td>
<td>Tape measure</td>
</tr>
<tr>
<td>1/4” (6.5mm) drill bit (ESM only)</td>
<td>Small flat screwdriver</td>
<td>Pencil</td>
</tr>
<tr>
<td>1/2” (13mm) drill bit</td>
<td>Torx screwdriver (T-15) (760 Series)</td>
<td>Tape</td>
</tr>
<tr>
<td>7/8” (22mm) drill bit or hole saw</td>
<td>Phillips screwdriver (#2)</td>
<td>Cleaning supplies (drop cloth, vacuum)</td>
</tr>
<tr>
<td>Drill</td>
<td>Fine steel file</td>
<td>Spanner screwdriver #6 (660/660i Series)</td>
</tr>
<tr>
<td>Awl or center punch</td>
<td>Mortising machine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router</td>
<td></td>
</tr>
</tbody>
</table>

For doors more than 2 1/2” thick upto 3 3/4”, order the appropriate hardware bag to receive the correct length of spindles and mounting screws. Part# 062-510189-XXX; (XXX = choice of finish).

2.2 ASM, ESM, (For Cylindrical, see Appendix B)

Notes: D: American Standard Mortise illustrated.
2.3 Autodeadbolt ASM Inside Trim Assembly

NOTE:
The inside trim assembly (E) and (E1) for 660i for autodeadbolt models includes the parts (M1 TO M4) shown, assembled at the factory.

For ASM Office and ASM/ESM Store-room models, only some of the parts (M) are used. See instructions in Appendix A.

Parts (M) also available separately (kit #062-510484) to convert the standard lock to Autodeadbolt ASM, ASM Office or ASM/ESM Storeroom functions.

2.4 Cylindrical Unit and Inside Trim Assembly
See Appendix B
3 • Installation of Standard ASM OR ESM Models

3.1 Check the Mortise Handing

Compare the mortise with the diagram below. If the mortise is the correct handing for the door, continue with step 3.2.

Refer to Appendix A.1 to change the handing of a field-reversible mortise.

**ASM**

For LH (left hand) and RHR (right hand reverse)

For RH (right hand) and LHR (left hand reverse)

**ESM**

For LH (left hand) and RHR (right hand reverse)

For RH (right hand) and LHR (left hand reverse)
3.2 Install the Strike

1. Align the paper template on the door frame at the desired handle height (\( h_0 \)), and along the vertical center line of the mortise (CL), which is also the center line of the door edge, allowing for any bumpers on the door frame.

2. Mark the locations of the dust box cutout and mounting screws for the strike.

3. Mortise the door frame to receive the dust box, and drill the pilot holes for the mounting screws (dimensions and depths marked on template).

4. Position the strike against the doorframe and align it with the mounting screw holes. Trace the outline of the strike.

5. Remove material from within the strike outline so that the strike will be flush with the doorframe.

6. For ASM, install the dust box (optional for wood door frames, required for metal door frames), and check the strike handing on the template. Install the strike using the screws provided. Use wood screws for wood frame and mechined screws for steel frames.

\[ \text{When strike is installed on wood frames under one inch thick, wood screws supplied are not adequate. use screws of efficient lenght to engage the structural stud behind the frame. Use only the strike and dust box supplied. Use of non-approved parts may void the warranty.} \]
3.3 Install the Mortise

1. Mark the handle height on the edge of the door, as determined directly from the strike.

For ASM, the axis of rotation of the handle is level with the bottom lip of the strike.

For ESM, the axis of rotation of the handle is 11/4" above the bottom lip of the strike.

For cylindrical models, see B2 in Appendix B

2. Align the template along the vertical center line of the mortise (CL) at the desired handle height, and tape it to the door. Mark all holes and cutouts for the mortise in the edge of the door and remove the template.

3. Locate the two sets of vertical fold lines on the template allowing you to adjust the positioning of the template depending on the bevel of the door.

If the door has no bevel, fold the template along the solid lines. Align the fold with the edge of the door and mark the holes for the lock. Repeat on the other side of the door.

If the door has a 3° bevel, fold and align the dashed line marked "H" on the template with the higher-beveled edge of the door and mark the lock holes on that side of the door. Repeat on the side with the lower-beveled edge using the dashed line marked "L". Remove the template.

4. Prepare the cut-outs for the mortise in the edge of the door using a mortising machine, router and chisel (for dimensions, refer to template).

Ensure clearance is provided for moving latch parts as indicated on the template.

5. Drill the holes in the sides of the door (for dimensions, refer to template).

6. For ASM only, check the bevel of the mortise. If adjustment is required, loosen bevel screws (R) and adjust mortise front plate angle to match the bevel of the door. Re-tighten screws.

Install the mortise with 2 screws (Q). Use wood screws for wood doors and machined screws for steel doors.

Install mortise faceplate (P) with the two 8-32 x 1/4" screws provided.

If the door has a 3° bevel, fold and align the dashed line marked "H" on the template with the higher-beveled edge of the door and mark the lock holes on that side of the door. Repeat on the side with the lower-beveled edge using the dashed line marked "L". Remove the template.

The ESM faceplate must be installed so you can read the logo (see arrow in figure above right-side-up for proper operation.)
3.4 Install the Outside Housing and Inside Trim Assembly for E-760/770/790 and 660/660i Without Key Override
(for E-760/660/660i/770/790 with Mechanical Override, see page 16)

A- For Mortise
1. Insert the slotted end of the square spindle (G) into the outside lever hub at an angle of 45 degrees, until it locks. Then insert the thumbturn spindle (F) in the upper hub of the outside housing and align the marks as shown in the diagram. (The spindle G can be removed by pulling on it if orientated incorrectly).

For Autodeadbolt ASM, ASM Office and ASM/ESM Storeroom models, refer to Appendix A.2, A.3, A.4 at this point.

2. Install the gasket (N) (if required) on the outside housing prior to assembly, aligning the notch in the gasket with the battery compartment. See page 3 for gasket information.

If installing the lock with mortise outdoors, order the proper Gasket (See page 3). For doors more than 2 1/2" thick, order the appropriate hardware bag to receive the correct length of spindles and mounting screws. (See page 3)

3. Place the outside housing on the door so that the spindles engage the hubs on the mortise. For 660i insert cable W1 in hole H1 on the door.

4. On the inside trim assembly turn the lever to the correct horizontal rest position for the handing of the door. Install the tension spring (L) between the handle (H) and the post (P).

5. Put the thumbturn (T) in a vertical position. Place 3 spacers (S) on the door (for recent models only) and place the inside trim assembly on the door so that the upper and lower spindles (F) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8" hex drive mounting screws (I). Install the screws without tightening. Verify the inside lever and thumbturn operates smoothly. If not move the inside and outside housings slightly. Then tighten the screws. For 660i, connect W1 with W2 and put the excess cable in hole H1 when installing the inside trim assembly E1.

6. Assemble the lever on the outside housing, in the horizontal rest position appropriate to the handing of the door. Simply push the lever onto the tube until it clicks in place. If more force is required, use a rubber mallet. Test the attachment of the handle by pulling smartly on it. (For locks with mechanical override, see p.16)
7. Three AA batteries should already be installed in the battery holder (C). Insert the battery holder into the outside housing and secure it using the 6-32 x 5/16" (7.9mm) Torx drive screw (H).

3.5 Reversing the Outside Lever
(for Series without Mechanical Override)

The lever is field reversible. If the handing is incorrect, insert a small pick or flat screwdriver in the hole in the hub as shown. Gently pry back the spring clip inside the hub, and remove the handle.

3.6 For Cylindrical, see p.31

If the lock makes a continuous buzzing noise or the red LED lights continuously, reset the electronics by removing the battery holder for ten seconds then reinsert it.
4 • Testing (E-760/770/790 only) for mechanical override, see Step 8 Page 19

Caution! Perform the following procedures in order, with the door OPEN unless otherwise indicated.

Inside Lever:

Turn the inside lever downward. The latch bolt retracts fully.

If the lever or the thumbturn feels tight (hard to turn or does not return easily to its horizontal position), check the alignment of the lock assemblies. Loosen the mounting screws and shift the inside trim assembly slightly until the friction is eliminated. If the problem persists check the position of the holes on the door (compared to the mortise).

Standard Deadbolt:

Turn the thumbturn back and forth. The deadbolt extends and retracts fully and without undue friction.

Turn the thumbturn to extend the deadbolt again then turn the inside lever. The deadbolt and the latch bolt retract simultaneously and fully without undue friction.

Optional Autodeadbolt:

Press and hold the auxiliary bolt (X). The deadbolt (D) will extend. Keep the auxiliary bolt depressed, and turn the inside lever all the way down and hold it there. The latch (L) and deadbolt retract together.

Release the auxiliary bolt (X), then let the inside lever return to a horizontal position. The deadbolt will remain retracted while the latch will extend.

Outside Lever:

Turn the outside lever downward. The latch bolt does not retract.

If the latch bolt retracts, verify that the batteries are properly installed.

If the lever feels tight (hard to turn, or does not return easily to its horizontal position), ensure the square spindle is not too long.

Electronics and Card Reader: E-760/770/790 Series Only (for 660 Series, see Step 7 Page 14)

Test the lock’s response to keycards: a Test keycard, a Grand Master keycard, and an Emergency keycard. For 760 and 770 insert keycards as shown, with the magnetic stripe facing toward the door and to the left. For 790, present card to reader.

A. Test the Lock Before Programming (E-760/770/790 Series)

Normal Entry: Verify that the deadbolt is retracted. Use the Test keycard in the reader. The red and green LEDs each flash once and then the green LED flashes for four seconds. For 790, present card to reader.

Turn the outside lever downward while the green LED is flashing. The latch retracts fully. Release the lever then turn it again after the LED stops flashing. The latch must not retract after the LED stops flashing without first inserting the keycard.

Privacy Switch: Turn the thumbturn to the horizontal position. (On autodeadbolt models, first extend the deadbolt by pressing the auxiliary latch (X). On storeroom locks, skip this test.) Use the Test keycard in the reader but do not turn the lever. Instead of the normal sequence of indicator lights you should see the following: the red and green LEDs each flash once and then the green LED flashes once, followed by the red LED flashing continuously for four seconds. If you see the flashing green LED there is a problem with the privacy switch.

B. Lock Programming (E-760/770/790 Series)

Program the lock with its room number (FDU User Guide).

(For ALTLAS, see ATLAS User Guide)

Verify that the deadbolt is retracted, and use the Grand Master keycard with the reader. The green LED flashes for 4 seconds. Turn the outside lever downward while the green LED is flashing. The latch retracts fully. Release the lever then turn it again after the LED stops flashing. The latch must not retract after the LED stops flashing without first inserting the keycard.
C. Privacy Function: Lockout of Keycards  
(E-760/770/790 Series)  

Turn the thumbturn to the horizontal position for privacy. (On autodeadbolt models press and hold the auxiliary latch (X) to extend the deadbolt, then turn the thumbturn for privacy. On storeroom locks, skip this test.)  

Use the Grand Master Keycard with the reader. The red LED flashes once. Then turn the outside lever downward. The latch does not retract.  

D. Emergency Keycard Access:  
Deadbolt Override (E-760/770/790 Series)  

Use the Emergency keycard with the reader. The red LED flashes for 4 seconds. Turn the outside lever downward while the red LED is flashing. The deadbolt and latch bolt retract simultaneously and fully.  

While standing outside the room close the door and ensure that it is properly latched. Open the door using the Grand Master keycard using the same procedure.  

5 • Programming (E-760/770/790 Series)  

FDU  

Program the lock using the FDU and the E-760/770/790 communication cable (see Reference Manual). If this is not a new installation but a replacement of a single lock or a group of locks in a property already equipped with the Solitaire system, transfer the security information from a neighbouring lock to the new lock by using the Reset Addresses function (see Reference Manual resetting lock addresses).  

ATLAS  

Program the lock using the M-Unit (Maintenance Unit). Refer to ATLAS User Guide.  

Deadbolt Deactivation:  

A. Deadbolt Deactivation by Thumbturn  

While standing inside the room, close the door, and then turn the thumbturn to extend the deadbolt. (If the lock has an autodeadbolt mortise go to step B below.)  

Turn the thumbturn to retract the deadbolt. Repeat.  

B. Deadbolt Deactivation by Lever  

While standing inside the room, close the door and turn the thumbturn to the horizontal position to extend the deadbolt (or to select privacy on autodeadbolt models). Open the door by turning the lever. The deadbolt and the latch bolt retract simultaneously and fully. Take note of any excess friction which might necessitate filing the strike (deadbolt area only). Repeat.  

In the case of a replacement lock resetting the addresses will ensure that all past lost and stolen keycards remain cancelled in the new lock and will set the addresses for the Section, Floor, Group, Zone and Area sub-master level so that staff keycards in use at the property will have the same pattern of access to the door as before. This step makes the lock replacement transparent so that the new lock accepts and rejects the same keycards as the old lock.
If the lock will not respond to any keycard (including the Emergency keycard), there are three options that should be attempted to open the door. In order, they are:

1. Verify the batteries, and replace them if they are providing less than 4 Volts total.
   Use the Initialization keycard with the lock, then use the Emergency keycard.
2. Use the electronic override feature (requires FDU and communication cable or ATLAS M-Unit and IPM).
3. Contact Technical Support for instructions on using the drill point.

Electronic Override Using the FDU:
If the reader fails, the E-760/770/790 lock can be opened using the FDU (Front Desk Unit). The lock must have been initialized by a valid FDU from the hotel where it is installed (i.e. with the correct internal and external hotel codes), before the electronic override can be used.

Electronic Override Using ATLAS:
Refer to ATLAS User Guide.

There are two possible security levels:

Low security: IF an FDU with a software version lower than 6.5 overrides the lock, the lock audit records only the date and time.

High security: IF an FDU with version 6.5 or higher software overrides the lock, the lock audit records the FDU number, the Authorization keycard number, the date and the time.

Hardware Required:
Front Desk Unit (FDU), FDU to lock communication cable

Minimum Authorization Keycard Required:
Programming Authorization (PA)

Steps to activate the E-760/770/790 electronic override:

1. Insert the communication cable into the lock. Wait 2 seconds then connect the cable to serial port A of the FDU.

2. Press any key to activate the FDU, then swipe a PA or higher keycard through the FDU. If the green LED on the lock flashes once disconnect the cable from Serial Port A, wait 2 seconds and reconnect the cable.

Main Menu:
1 = Keycard
2 = Reset
?

3. Enter 4 to select the Programming Menu, then press \(\leftarrow\).

Program
1 = A lock
2 = Another FDU
?

4. Wait 2 seconds. Enter 1 to select the Lock option, and press \(\leftarrow\).

Enter Function
1 = Program Addresses
2 = Reset Addresses
?

5. Enter 6 to select the Override/Reset Time option, then press \(\leftarrow\).

Ready to Override
or Reset Time
Strike a key,
or C to quit.

6. Wait 2 seconds, then press any key on the FDU to activate the electronic override. The green LED on the lock should light. The following message should appear on the FDU screen immediately or within 2 seconds.

Communication Successful
Press any key to continue.

7. Open the door. You have only 4 seconds after this message appears to open the door.

8. Remove the communication cable from the lock.

Some messages on the screen may differ depending on the FDU version, but the menu choices are the same.
7 • Testing (660 Series only)

Caution! Perform the following procedures in order, with the door OPEN unless otherwise indicated.

**Inside Lever:**

Turn the inside lever downward. The latch bolt retracts fully. If the lever or the thumbturn feels tight (hard to turn or does not return easily to its horizontal position), check the alignment of the lock assemblies. Loosen the mounting screws and shift the inside trim assembly slightly until the friction is eliminated. If the problem persists check the position of the holes on the door (compared to the mortise).

**Standard Deadbolt:**

Turn the thumbturn back and forth. The deadbolt extends and retracts fully and without undue friction.

Turn the thumbturn to extend the deadbolt again then turn the inside lever. The deadbolt and the latch bolt retract simultaneously and fully without undue friction.

**Optional Autodeadbolt:**

Press and hold the auxiliary bolt (X). The deadbolt (D) will extend. Keep the auxiliary bolt depressed, and turn the inside lever all the way down and hold it there. The latch (L) and deadbolt retract together.

Release the auxiliary bolt (X), then let the inside lever return to a horizontal position. The deadbolt will remain retracted while the latch will extend.

**Outside Lever:**

Turn the outside lever downward. The latch bolt does not retract. If the latch bolt retracts verify that the batteries are properly installed.

If the lever feels tight (hard to turn or does not return easily to its horizontal position), ensure the square spindle is not too long or in proper orientation.

For 660i Gateway installation, wireless activation, diagnostics, see document PK3646.

**Lock Activation (660i Only)**

Perform the lock activation using the procedure described in document PK3646. The 660i lock is programmed automatically when the activation process is completed successfully.

If a 660i lock has not been activated it can be programmed manually with the Oracode Maintenance Unit. See Programming section below.

**Programming**

Program the lock with at least one user with the Privacy/Deadbolt Override privilege, and one user without this privilege, using the Oracode Maintenance Unit. (This step may be omitted for a 660i lock that has been activated)

Generate valid codes for these 2 users. (Recommendation: generate codes that start a day before today and finish at least one day after current date, in order to avoid check-in/check-out time periods)

**Code entry and access**

With the Deadbolt/Privacy deactivated, enter the first code to validate complete lock operation. Verify that the green LED flashes at each key pressed and a longer green LED flash at the end of the code entry. Turn the outside lever. Make sure the latch bolt retracts fully. Release the lever, wait for the lock to return to the locked mode (default settings is 5 seconds after unlocking), and then turn the lever again.

The latch bolt must not retract after the lock has returned to locked mode, which is typically 5 seconds (max 15 sec) after unlocking, without first entering a valid user code.

Repeat with the second code.
7 • Testing (660 Series only) Continued

Emergency Access (Deadbolt Override)

After programming turn the thumb turn to the horizontal position to engage the Deadbolt/Privacy feature.

Deadbolt/Privacy engaged, access denied:

Enter the user code that does not have the Deadbolt/Privacy Override privilege. Instead of the normal sequence of indicator LED with the green LED flashing once indicating a valid code, this will be followed by a single red LED flash, indicating access denied. Turn the outside lever, latch should not retract. Access denied. If you see only the green LED flash once and/or the latch retracting there might be a problem with the deadbolt/Privacy switch, or you may have used a code with a Deadbolt/Privacy override privilege. Verify thumbturn position. It should be vertical.

Emergency access: Deadbolt/Privacy engaged, user code with override privilege, access granted: Enter the user code that has the Deadbolt/Privacy Override privilege. You should see the normal sequence of indicator LED: green LED flashes once. Turn the outside lever, the latch and deadbolt retract simultaneously and fully: Access granted. If you see the red LED and no Latch bolt retraction, verify that the code used has the deadbolt/privacy override privilege enabled. Turn the thumb turn back to the vertical position if not already so.

Deadbolt Deactivation:

A. Deadbolt Deactivation by Thumbturn

While standing inside the room, close the door and then turn the thumbturn to extend the deadbolt. (If the lock has an autodeadbolt mortise, go to step B below).

Turn the thumbturn to retract the deadbolt. Repeat.

B. Deadbolt Deactivation by Lever

While standing inside the room, close the door and turn the thumbturn to the horizontal position to extend the deadbolt (or to select privacy on autodeadbolt models). Open the door by turning the lever. The deadbolt and the latch bolt retract simultaneously and fully. Take note of any excess friction, which might necessitate filing the strike (deadbolt area only). Repeat.

8 • Operating the Override

8A. Operating the Mechanical Override 660 Series, See Step 8 Page 20.

If the lock will not respond to any code, there are three options that should be attempted to open the door. In order, they are:

1. Verify the batteries, and replace them if they are providing less than 4 Volts total.
2. Use the electronic override feature (requires maintenance unit and communication cable). Refer to maintenance unit user guide.
3. Contact Technical Support for instructions on using the drill point.
9 • Installation of Mechanical Override Model on E-760/660/660i/770/790 Series

Parts and Tools List

Tools Required:

- Cylinder (J, provided with lock) or equivalent
- Small flat screwdriver (less than 1/8”)

Diagram of lock:

- (A) Lock housing
- (B) Inside drive hub
- (C) Nylon washer
- (D) Spring washer (not for lever feel)
- (E) Drive tube
- (F) Lever catch
- (G) Countersink
- (H) Lever handle
- (I) Cap
- (J) Cylinder
- (K) Cylinder plug
- (M) Allen Key
- (L) Override shaft
- (K1) Set Screw

Facing view of drive tube: (E)
1. **Upon unpacking**, the E-760/660/660i/770/790 lock housing with mechanical override should look like the diagram below with:

- (M) The small indents on the cross of the override shaft in line Horizontally
- (C) The nylon washer and the spring washer (not for lever feel) on the drive tube
- (F) The lever catch in the out position
- (J) Cylinder and 2 keys for 660 K/C included in the hardware bag

![Diagram](image)

**Important:** Assemble the lever, cylinder and lock components before affixing the entire unit to the door.

2. **Preparing the outside housing for the installation of the lever handle**

1. Insert the cylinder (J) to be used as a tool or equivalent tool to rotate the override shaft (L) and turn it clockwise until it stops so that the two small indents (M) on the cross are now vertically in line. (Fig.1)

![Diagram](image)

2. Push in the lever catch (F) firmly. (see Fig. 2) to be flush with drive tube diameter

![Diagram](image)
3. Preparing the lever handle and cylinder for installation

3. Insert the cylinder (J) without key (N) into the lever handle (H) (see Fig. 3)

4. Insert plug (A) including Set Screw (K) into lever handle (H) (See fig. 4)

5. Insert key (N) into cylinder (J). Hold plug (K) in position. (See Fig. 5).

6. Right-handed Lever handle: Turn the key (N) approximately to 100º clockwise so that it is in the vertical position and the recess entry for key is in the top position. (See Fig. 6)

Left-handed lever handle: Turn the key (N) approximately to 100º clockwise so that it is in the vertical position and the recess entry for key is in the bottom position. (See Fig. 7)

Troubleshooting:

If you have assembled the lever and housing with the key (N) in the wrong position, the key (N) will get stuck. To remove the key (N), turn it so that it is in the vertical position and insert a small flat screwdriver (T) (see page 16) into the hole under the lever handle to push Lever Catch (F) in (see page 17 Fig. 2). Remove lever, remove key. If it is still stuck, turn the key 90º clockwise to the horizontal position and push the Lever Catch (F) in again with the small screwdriver (T). Remove key (N).
5. Attaching the Lever Handle to the Lock (with the key as shown in Fig. 6 & Fig. 7)

7. Fit the lever handle (H) onto the drive tube (E) see page 16. It should rest approximately 1/16” from the body of the housing. If not, wiggle and jiggle key (N) to align cylinder (J) with override shaft (L) (See Fig. 8)

If it cannot be pushed that close to the housing, the lever catch (F) is probably not pushed in. Push it in. (see fig 2 page 17)

If the lever catch (F) is stuck, the override shaft (L) is in the wrong position. (see fig 2 page 17) The two small indents (M) on the cross of the override shaft (L) must be vertically aligned as in fig 2 page 17

8. Press the lever (H) firmly against the housing while turning the key (N) counterclockwise (this applies to both right-handed and left-handed locks) until it is in the horizontal position. (Fig. 9)

If it is not possible to turn the key (N) counter-clockwise to complete this step, the spring washer (D, see page 16) may be too tense: (Not for lever feel).

Hit the lever carefully with a rubber mallet to loosen the spring washer (D). (you may want to cover the lever handle (H) with a cloth or other material to protect the finish of the metal).

9. Remove the key (N). The lock will look as shown in Fig.10.

Gently check the rotation of the lever handle (H). It should easily rotate approximately 45º.

Troubleshooting:

Right-handed Lock: Turn the lever handle (H) clockwise without forcing it. If it stops at approximately 15º, it was not assembled correctly as shown in step 4 (Fig. 6 & 7). Do not try to force it to turn. Release the lever handle (H). Insert the small screwdriver (T, page 16) into the small hole on the underside of the lever handle (H) and push in the lever catch (F) see page 17. Re-do steps 2, 3, 4 & 5.

Left-handed Lock: Turn the lever handle (H) counter-clockwise without forcing. The drive hub (B) (Fig.12 page 20) should not rotate when the lever handle (H) is turned. If it does, it was not assembled correctly as shown in step 4 (Fig. 6 & 7). Release the lever handle (H). Insert the small screwdriver (T, page 16) into the small hole on the underside of the lever handle (H) and push in the lever catch (F). Re-do steps 2, 3, 4 & 5.
6. Verify the attachment of the lever handle

**Very Important:** To verify that the lever handle has been correctly attached to the housing:

10. Remove key (N)

12. Insert a small flat screwdriver (tool T, page 14) into the hole on the underside of the lever handle (H) and push in the lever catch (F) see fig 10A.

13. Pull on the lever handle (H).

You should not be able to remove the lever handle (H). If it comes off of the housing, you did not assemble the lock correctly. Return to steps 2, 3, 4 & 5 and make sure that the lever (H) looks like Fig. 10 and repeat this verification process. (Step 6)

![Fig. 10A](image)

(T) Small screwdriver or equivalent tool

6a. Adjust the lever feel

If applicable, to reduce the lever play, using the 5/64 allen key (P1), tighten the set screw (O1) while pushing the lever against the front housing. Make sure the lever rotates properly after tightening the set screw (O1) See fig 10B.

![Fig. 10B](image)

(P1)  (O1)

7. Test the movement of the lever handle (remove the key (N) in cylinder (J))

13. Turn the handle (H) clockwise (for a right-handed lock) or counter-clockwise (for a left-handed lock)

14. Release the handle (H) slowly. It should return freely to its horizontal position. (Fig.11)

![Fig. 11](image)

8. Test the mechanical override function (Complete all tests in Section 4, pages 11 & 12 after lock is assembled on the door)

* This test can only be performed when the lock is not affixed to the door.

16. Without using the key (N), turn the lever handle (H) clockwise (for Right-handed locks) or counter-clockwise (for Left-handed locks). The inside drive hub (B) should not rotate when the handle (H) turns. (Fig. 12)

![Fig. 12](image)

(B) inside drive hub does not move

17. With the lever handle (H) in the horizontal position, insert the key (N) into the cylinder (J) and turn it clockwise **until it stops**. (This applies to both Right and Left-handed locks, see Fig.13)

![Fig. 13](image)

18. Let go of the key (N), and again turn the lever handle (H) clockwise (for Right-handed locks) or counter-clockwise (for Left-handed locks). Now the inside drive hub (B) should rotate in the same direction as the lever handle (H) when it is turned. (Fig. 14)

![Fig. 14](image)

(B) inside drive hub rotates
Test the Mechanical Override Function (continued)

Verify the functionality of the override after the lock is installed on the door: (Door must be opened)

19. With the door open, insert key (N) in cylinder (J) and turn it clockwise until it stops.

20. Let go of the key (N) and turn the lever handle (H) (clockwise for right-handed and counter-clockwise for left-handed locks). The latch must retract.

21. Extend deadbolt and repeat the above operation (turn key (N) clockwise until it stops), latch and deadbolt must retract completely.

9. cover the keyhole & cylinder with the cap

22. The cap (I) has a small groove on one edge (to allow ease of removal) this should be facing down. Insert bottom snap of cap (I), (see page 16) in handle hole below the cylinder (J). With a small screwdriver, push top snap of cap down while pushing the cap (I) into place to cover the keyhole (Fig. 15)

23. To remove the cap (I), insert a small flat screwdriver into the groove and gently pry the cap off, being careful not to damage it. (You may want to cover the bottom of the lever to protect the finish from being scratched through the process of removing the cap). (Fig.16)

10. How to change lock cylinders

23a. Loosen the set screw (01) to free the lever using Allen Key (P1) (Approx. 1/4 turn).

24. Remove the cap (I) from the lever handle (H) (see step 20, Fig. 16).

25. Insert key (N).

26. Turn the key (N) clockwise until it stops.

27. Release key (N).

28. Use a small flat screwdriver to push in the lever catch (F) through the small hole underneath the lever handle (H) (Fig. 17).

29. Pull the lever handle (H) off of the lock housing (be careful not to lose the cylinder plug (K) see page 16).

30. Replace the old cylinder with the new one in the lever handle (H). Only same kind of cylinder with 2 grooves in cross, in the end of the cylinder plug could be used on the E-760/660/770/790 Series locks. (Fig. 18)
How to change lock cylinders (continued)

31. Re-insert the cylinder plug (K) (Fig. 19)

32. While holding the cylinder (J) and plug (K) in place, insert the key (M)

33. Turn the key (M) approximately 100° clockwise

34. Repeat the steps 1 to 9 to attach the lever handle (H) to the lock housing. (see Fig. 20)

![Fig. 19](image1)

![Fig. 20](image2)

Important: The Key Override itself does not retract the latch or deadbolt. Do not use too much force when turning the key as this may damage the unit. To retract the latch, turn the key clockwise until it stops, release the key and turn the lever handle (H). See page 19

Note: The lever handle must stay in the horizontal position when turning the key (do not try to turn the key while turning the handle) or the override mechanism will not work.

Important: Always keep the door open while installing and verifying the functionality of the E-760/660/770/790 lock with the keycard or key override. Do not close the door until you are certain that you have installed the unit correctly.

Preparing the lever handle for Best Removable Core

F-5 Insert 6-pin Best adapter (thicker) into 6-pin interchangeable core or insert 7-pin Best adapter (thinner) into 7-pin interchangeable core. Insert the adapter until it makes contact with the removable core.

F-6 Using the control key, assemble the removable core with its adapter into the lever. Remove control key.

F-7 Insert the change key into the removable core.

Follow the rest of instructions from step 3.5 of page 18

![7 Pins Thinner Adapter](image3)

![6 Pins Thicker Adapter](image4)
11. The Recodable Cylinder with 3 different keys (for E-760/770/790 Series with override only)

Important: Read the following instructions before using any of the 3 keys supplied

The E-760/770/790 with a recodable cylinder can be operated with three different keys. The keys are numbered 1, 2 & 3, and each key is labeled and supplied in a separate plastic bag. It is very important to use them in order.

* Always read the label instructions on the label before using a key.

Caution: The use of key #2 automatically cancels the function of key #1, and the use of key #3 automatically cancels both keys #1 and #2.

If key #3 is used first, it will immediately make keys #1 and #2 unusable.

Once a key is cancelled, it can’t be reactivated unless the cylinder itself is re-pinned.

**How to change lock combination from key #1 to key #2:**

35. Insert key #2 into cylinder.
36. Turn the key clockwise until it stops (see Fig. 22) for both left-handed and right-handed locks.
37. Turn the key back counter-clockwise until it is in the horizontal position.
38. Remove the key.

Now the lock should work with key #2, and key #1 has been cancelled.

*Test: Try to use key #1 in the lock. It should no longer work.

**How to change lock combination from key #2 to key #3**

39. Insert key #3 into cylinder.
40. Turn the key clockwise until it stops.
41. Turn the key back counter-clockwise until it is in the horizontal position.
42. Remove the key.

Now the lock should work with key #3, and key #2 has been cancelled.

*Test: Try to use key #2 in the lock. It should no longer work.
APPENDIX A.1 • Reversing the Mortise Handing

A.1.1 Reversible ASM

1. Remove the mortise faceplate. Remove screw (V) and lock washer (W) if applicable and place the mortise on a flat surface for the following steps.

2. Partially extend the deadbolt:

For normal ASM, rotate hub (H) using a screwdriver, until the deadbolt (D) extends approximately 1/4”.

For Autodeadbolt ASM, rotate hub (H) until the deadbolt (D) is fully retracted. The deadbolt will extend approx. 1/16” from the mortise case.

Hold deadbolt (D) gently. Press and release the auxiliary latch (X). You should feel the deadbolt trigger and begin to extend under the force of the spring.

Release the deadbolt (D) gently. It should extend to 5/16” approx. and stop. If the deadbolt extends past this point, gently press it in until it locks at 5/16” throw, or start step 2 again.

Proceed to step 3.
A.1.1 Reversible ASM (continued)

3. Push in the latch bolt (L) to the middle of its stroke, and hold it there. (Continue Step 1 and 2)

4. Pull out the latch bolt (L), until it just clears the front plate. (Note: If you remove the bolt completely, you must turn it 90° to re-insert it.)

4. Rotate the latch bolt (L) 180°. Re-insert it to the end of its stroke.

Hold the latch (L) inside the mortise, and insert the tailpiece retaining tool (S, part #027-510382 available separately) so that the tailpiece (T) will not drop inside the mortise case. Hold the tool and the latch with one hand, and slide up the tailpiece using a small screwdriver.

Continue to hold tool (S). Release the latch bolt (L) and keep the anti-friction latch (F) toward the flat side of the latch bolt so that the bolt extends fully.

Release the latch to the middle of the stroke and hold it there. Use a small screwdriver to push the lock mechanism back on lock position (see step 1 and 2).

Important: The lock mechanism has to be horizontal on lock position.
5. Release the latch bolt (L). Position the latch bolt so that the bottom tooth of the anti-friction latch (F) remains inside the mortise case as shown.

![If the tooth of (F) is outside the mortise, you will not be able to re-assemble the faceplate on the mortise.]

6. **If the auxiliary latch (X) is shaped like a triangle**, there is no need to change its handing.

![X (triangular = OK)]

7. **If the auxiliary latch (X) is a crescent shape**, remove it, turn it 180°, and replace it. The auxiliary latch slides easily in and out of the mortise.

![X (crescent = must be reversed)]

8. The mortise should look like the diagram below. (Check the orientation of the latch bolt and auxiliary latch.) Check the bevel of the mortise and change it if required as described in section 3.3, paragraph 6 page 8.

![For LH (left hand) and RHR (right hand reverse)]

**IMPORTANT**: Screw (V) must not touch the back wall of mortise cut-out on the door.

![For RH (right hand) and LHR (left hand reverse)]

Only apply to mortise no deadbolt, auto-deadbolt and armed automatic deadbolt
A.1.2 Reversible ESM

1. Remove the mortise faceplate, and place the mortise on a flat surface for the following steps.

2. Retract deadbolt (D) as shown by turning the hub (H) with a small screwdriver, then push in the latch bolt (L) to the end of its stroke.

3. Using a small screwdriver, slide up the locking pin (P). Pull out the latch bolt (L) and rotate it 180°.

4. Re-insert the rotated latch bolt (L) until it stops. Push down pin (P) to lock the latch bolt in the mortise.

Release the latch bolt, and guide anti-friction latch (F) against the flat side of the latch bolt so that it will slide out of the mortise beyond its normal throw.
5. Push in the latch bolt (L) to the end of its stroke.

Release the latch bolt (L) while positioning anti-friction latch (F) so that it will remain inside the mortise. Ensure the bottom tooth of the anti-friction latch (F) remains inside the mortise case as shown.

If the bottom tooth of (F) is outside the mortise, you will NOT be able to re-assemble the faceplate on the mortise.
APPENDIX A.2 • Additional steps for Autodeadbolt ASM

Do the following INSTEAD OF page 9, step 5:

5. If not already installed at the factory, **put the thumbturn in the vertical position** and install all four (4) parts (M) as shown, on the inside trim assembly (E) or (E1) for 660i.

![Diagram](image)

Install clip M1 diagonally on hub

Turn the thumbturn all the way to the right for a RH installation (arrow on M2 points UP), or all the way to the left for a LH installation (arrow on M2 points DOWN). The thumbturn should stop in the vertical position, and the stopper cam (M2) will be in the position illustrated below.

![Diagram](image)

Place 3 spacers (S) on the door (for recent models only). For 660i connect cable (W1) to cable (W2) of inside trim assembly (E1). Put excess cable in hole (H1) when installing inside trim (E1). Place the inside trim assembly on the door so that the upper and lower spindles (F) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8” hex head mounting screws (I).

Apply the privacy thumbturn sticker as shown. If in doubt as to the direction of the arrow, press the auxiliary latch (X) to extend the deadbolt, and verify in which direction to rotate the thumbturn to reach the horizontal (privacy) position.
APPENDIX A.3 • Additional steps for ASM Office

Do the following BEFORE placing the inside trim assembly on the door (page 9, step 5):

Install only parts (M3 and M4) as shown, on the inside trim assembly.

APPENDIX A.4 • Additional steps for ASM/ESM STOREROOM

Do the following BEFORE placing the inside trim assembly on the door (page 8, step 5):

Put the thumbturn in the vertical position and install only parts (M2 and M4) as shown, on the inside trim assembly. The notch on the stopper cam (M2) must engage the tab on the plate (M4), so that the thumbturn is locked in the vertical position.
APPENDIX B • Installing Cylindrical Models 2 3/8" & 2 3/4" Backset

B.1 Install the Strike

Follow the same steps as for a mortise model strike (see page 7, all steps in section 3.2). Note that the handle height is aligned with the center of the strike.

For cylindrical latch models, ensure the dead-locking pin will stop against the strike when the door is closed (see figure). An incorrect installation that permits the pin to slip inside the strike may result in a total lockout and will void the warranty of the complete lock mechanism.

B.2 Install the Latch

Follow the instructions on page 8, steps 1 to 3.

Note that for cylindrical models, the axis of rotation of the handle is level with the center of the strike. Mark this height on the edge of the door in step 1 on page 8.

Respect applicable building codes regarding handle height.

4. Drill the holes for the cylindrical unit, thumbturn spindle, and lock mounting screws. Refer to template for dimensions and depths.

Drill from both sides of the door to prevent unsightly damage.

5. Drill the hole for the latch, and chisel out clearance for the latch plate.

6. Install the latch using 1" Phillips mounting screws. Position the deadlocking pin (D) opposite to the closing direction as shown.

7. Install Strike and strike box.

Use only the strike and strike box supplied. The use of non-approved parts will result in a functionality problem and may void the warranty.
B.3 Install the Cylindrical Unit

Depending on the kind of Spacers shipped with the lock assembled in the factory for 1 3/4" door thickness, choose door thickness Table 1 or door thickness Table 2 to prepare the attachement plate and cylindrical drive unit for the door thickness other than 1 3/4"

It is very important to assemble the spacers in position shown.

1. Lock with 3 DIFFERENT SPACERS (see fig.2)
   The cylindrical Unit and Attachement Plate assembly is shipped assembled in the factory for 1 3/4" door thickness (44mm) with 2 spacers "04", 1 spacer "02" and 2 flat head screws "06" 5/8" LG (see fig.4).

<table>
<thead>
<tr>
<th>Door Thickness</th>
<th>Spacer 02</th>
<th>Spacer 04</th>
<th>Spacer 05</th>
<th>Screw 06</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3/8&quot; (35mm) up to 1-9/16&quot; (40mm)</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>3/8 (10mm)</td>
</tr>
<tr>
<td>Over 1-9/16&quot; (40mm) to less than 1-11/16&quot; (43mm)</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1/2 (13mm)</td>
</tr>
<tr>
<td>1-3/4&quot; (44mm)</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>5/8 (16mm)</td>
</tr>
<tr>
<td>1-11/16&quot; (43mm) to less than 1-7/8&quot; (48mm)</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>5/8 (16mm)</td>
</tr>
<tr>
<td>1-7/8&quot; (48mm) to 1-15/16&quot; (49mm)</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>5/8 (16mm)</td>
</tr>
<tr>
<td>Over 1-15/16&quot; (49mm) to less than 2-1/8&quot; (54mm)</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>3/4 (19mm)</td>
</tr>
<tr>
<td>2-1/8&quot; (54mm) to 2-3/16&quot; (56mm)</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>3/4 (19mm)</td>
</tr>
<tr>
<td>Over 2-3/16&quot; (56mm) to 2-3/8&quot; (60mm)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>7/8 (22mm)</td>
</tr>
<tr>
<td>Over 2-3/8&quot; (60mm) to 2-1/2&quot; (64mm)</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>7/8 (22mm)</td>
</tr>
</tbody>
</table>

2. Lock with 2 DIFFERENT SPACERS (see fig.3)
   The cylindrical Unit and Attachement Plate assembly is shipped assembled in the factory for 1 3/4" door thickness (44mm) with 2 spacers "07", 1 spacer "08" and 2 flat head screws "06" 5/8" LG (see fig.4).

<table>
<thead>
<tr>
<th>Door Thickness</th>
<th>Spacer 07</th>
<th>Spacer 08</th>
<th>Screw 06</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3/8&quot; (35mm) to 1-9/16&quot; (40mm)</td>
<td>2</td>
<td>-</td>
<td>3/8 (10mm)</td>
</tr>
<tr>
<td>1-5/8&quot; (41mm) to 1-11/16&quot; (43mm)</td>
<td>1</td>
<td>1</td>
<td>1/2 (13mm)</td>
</tr>
<tr>
<td>1-3/4&quot; (44mm) to 1-13/16&quot; (46mm)</td>
<td>2</td>
<td>1</td>
<td>5/8 (16mm)</td>
</tr>
<tr>
<td>1-7/8&quot; (48mm) to 1-15/16&quot; (49mm)</td>
<td>-</td>
<td>2</td>
<td>5/8 (16mm)</td>
</tr>
<tr>
<td>2&quot; (51mm) to 2-1/16&quot; (52.5mm)</td>
<td>1</td>
<td>2</td>
<td>3/4 (19mm)</td>
</tr>
<tr>
<td>2-1/8&quot; (54mm) to 2-3/16&quot; (56mm)</td>
<td>2</td>
<td>2</td>
<td>3/4 (19mm)</td>
</tr>
<tr>
<td>2-1/4&quot; (57mm) to 2-5/16&quot; (59mm)</td>
<td>-</td>
<td>3</td>
<td>7/8 (22mm)</td>
</tr>
<tr>
<td>2-3/8&quot; (60mm) to 2-1/2&quot; (64mm)</td>
<td>1</td>
<td>3</td>
<td>7/8 (22mm)</td>
</tr>
</tbody>
</table>

Fig. 4

Screw Length (Full Scale)

<table>
<thead>
<tr>
<th>Length 3/8&quot;</th>
<th>Length 1/2&quot;</th>
<th>Length 5/8&quot;</th>
<th>Length 3/4&quot;</th>
<th>Length 7/8&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B.3 Install the Cylindrical Unit (con’t)

2. Insert the cylindrical unit from the outside of the door toward the inside, so that it engages the latch as shown. This operation is to be done at B.5 step 4.

B.4 Inside Trim Assembly for Cylindrical

The inside trim assembly for cylindrical includes parts assembled at the factory to control the motion of the thumbturn, and an additional spring. The locking screw (V) is added for storeroom applications (no privacy)

Do the following BEFORE placing the inside trim assembly on the door (page 35, step 5):

Install the additional tension spring (N) between the plate (P) and the post (Q), on the side opposite the lever handle spring installed in the last step.

Put the thumbturn in the vertical position so that the arrow (A) on the disc points UP.

If installing as a Storeroom function lock, lift the plate (P) until the hole in the plate is aligned with the hole in the disc (D), and fasten the disc and the plate securely together with the screw (V) and lock nut (W) provided. The screw head MUST touch the surface of the disc for correct assembly.
B.5 Install Outside Housing and Trim Assembly for Cylindrical

1. Insert the slotted end of the square spindle (G) into the outside lever hub until it locks, at an angle of 45°. (The spindle can be removed by pulling on it, if oriented incorrectly.)

<table>
<thead>
<tr>
<th>Square Spindle Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>correct</td>
</tr>
<tr>
<td>incorrect</td>
</tr>
</tbody>
</table>

2. Insert the thumbturn spindle (F) in the upper hub of the outside housing. (It will clip in place.)

3. Assemble gasket onto the outside housing. Assemble cylindrical plate assembly onto the outside housing.

4. Place the outside housing on the door so that spindle (F) engages thumbturn hole and spindle(G) engage hub of cylindrical unit. The cylindrical unit will engage the latch as shown in step 2 of B.3 (page 33). For 660i, insert cable (W1) in gasket & cylindrical plate assembly and in hole (H1) on the door.
5. Put the thumbturn (T) in a vertical position. Assemble 3 spacers (S) on the door (for recent models only). Place the inside trim assembly on the door so that the upper and lower spindles (F) and (G) engage the thumbturn and the inside lever. Fasten to the outside housing using the three 1/8" hex drive mounting screws (I). Install the screws without tightening. Verify the inside lever and thumbturn operates smoothly. If not move the inside and outside housings slightly. Then tighten the screws. For 660i, connect cable (W1) to cable (W2) and put excess cable in hole (H1) in the door when installing the inside trim assembly (E1) on the door.

6. Three AA batteries should already be installed in the battery holder (C). Insert the battery holder into the outside housing and secure it using the 6-32 x 5/16" (7.9mm) Torx drive screw (H) for E-760/770/790 Series or 6-32 spanner drive screws for the 660 Series.

7. Testing the cylindrical lock: Follow all steps of page 11 or 14 but extension and retraction will be for latch only.

⚠️ If the lock makes a continuous buzzing noise or the red LED lights continuously, reset the electronics by removing the battery holder for ten seconds, then reinsert it.
Note for Contactless 790 customers:

Statement according to FCC part 15.105

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Consult the dealer or an experienced radio/TV technician for help.

Statement according to FCC part 15.21

Modifications not expressly approved by Kaba Ilco could void the user's authority to operate the equipment.

Statement according to FCC part 15.19

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.