OMNILOCK®

Installation Instructions for Omnilock 45HOM Mortise Locks

Planning the installation

Contents

These installation instructions describe how to install your 45HOM Mortise Lock. Topics covered include:

Site survey

Use the following survey to record information about the installation site. You need this information to determine how to prepare the door for the lock.

Door information

Door handing and bevel:

If a handing change is required, see "Rotate latchbolt (if necessary)" on page 4.

❏ Left hand (LH)
❏ Left hand, reverse bevel (LHRB)
❏ Right hand (RH)
❏ Right hand, reverse bevel (RHRB)

Door thickness: 1-3/4 to 2 inches (44 to 50 mm).

Environment information

Model	Side of door	Temperature Range	Exposure
Standard	*Outside*	*+32°F to +129°F 0°C to +54°C*	*Drip proof. Inadvertent splashing of water spray acceptable.*
Weatherized	*Outside*	*-4°F to +129°F -20°C to +54°C*	*Direct exposure to rain and snow*
Extreme Weatherized [a]	*Outside*	*-40°F to +129°F -40°C to + 54°C*	*Direct exposure to rain and snow*
	Inside	*+32°F to +129°F 0°C to +54°C*	*N/A*

a. See installation instruction *Addendum (T83317) Extreme Weatherized Installation* for the extreme weatherized model installation.

Components checklist

Use the following checklist to make sure that you have the items necessary to install your Omnilock Mortise Lock.

Components provided in the box:

❏ Inside and outside trim cassettes
❏ Inside and outside rose and rose ring
❏ Outside escutcheon assembly
❏ Mortise case assembly
❏ Mortise cylinder and collar
❏ Outside lever and spindle assembly
❏ Inside lever
❏ Strike package
❏ Installation template and instructions
❏ Screw package
❏ Mortise case faceplate
❏ Batteries
❏ Torx T15 driver
❏ 1/8" hex wrench

Other components:

❏ Programming Default ID Card (provided with software)
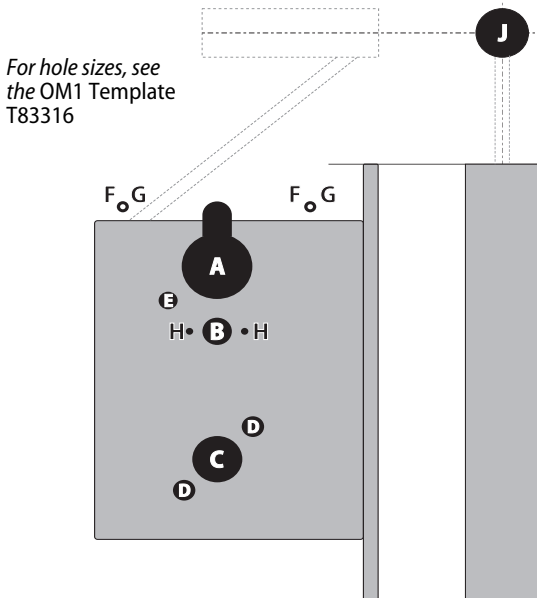
Planning the installation

For hole sizes, see the OM1 Template T83316

Figure 1   Identifying holes to drill

Door edge template

Installation template

Centerline

Centerline

Figure 2   Aligning the templates

1 | Identify holes to drill

1. Determine the lock function to be installed.
2. Determine the inside and outside, hand, and bevel of the door.
3. See the *Holes by Function* table and Figure 3 to determine the holes to be drilled for the lock function.

	Functions			
Holes by Function	**DV**		**TV**	
Door side	**In**	**Out**	**In**	**Out**
A *Cylinder*		■		■
B *Thumb turn*			■	
C *Lever* [a]	Through door		Through door	
D *Trim mounting (2 holes)* [a]	Through door		Through door	
E *Grounding hole*		■		■
F *Through bolt hole*	Through door		Through door	
G *Standoff hole*		■		■
H *Thumb turn mounting screw (2 holes)*			■	
J *Door Status Switch (Optional)*				Door Edge

a. Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

2 | Position template and mark drill points

Note: *If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the* OM2 Template — Installation Specifications for 45HOM Mortise Locks *(T83318).*
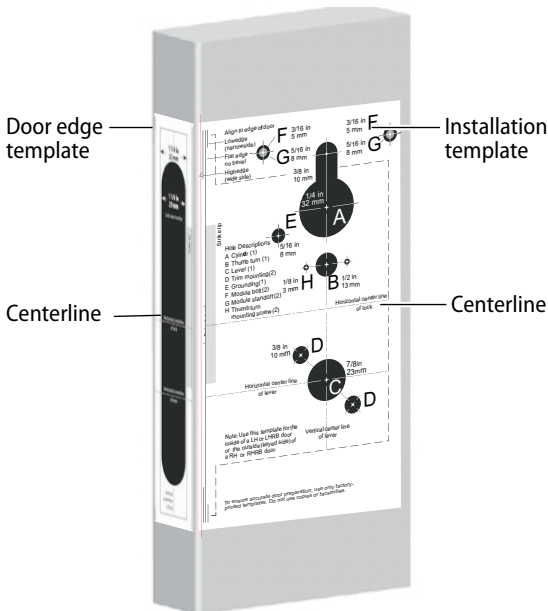
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Planning the installation

1   Separate the templates provided on the *OM1 Template — Installation Template for 45H Mortise Locks (T83316)*.

    Note: *If installing an Extreme Weatherized model, see Installation Addendum for Omnilock 45HOM Extreme Weatherized Locks (T83317). This includes the template for locating the extreme weatherized module mounting holes.*

2   Position one of the door edge templates on the door, making sure that the lock case mortise shown on the template aligns with the mortise pocket prepared in the door.

3   Using the centerlines on the door edge templates as guides, position the appropriate door template on each side of the door. You need to take the bevel into account. Tape the templates to the door.
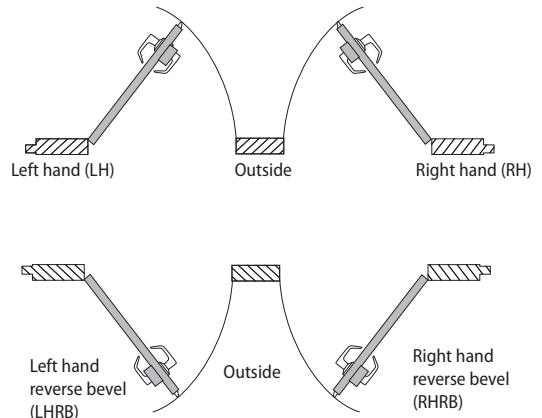
3 Center punch and drill holes

1   Center punch the necessary drill points. See the instructions on the template.

2   Drill the holes.

    Note 1: *To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.*

    Note 2: *For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.*

4 Optional: Install door status switch (Optional for TV function wireless locks only)

1   Locate the centerpoint for the door status switch 2 1/2" (64mm) above the top of the faceplate mortise on the edge of the door as shown in Figure 4.

2   Drill a 1" (25 mm) diameter hole 1 3/4" (44 mm) deep for the door status switch.

3   Position the drill so the tip of the bit is approximately 1"(25 mm) into the hole and the

Left hand (LH)   Outside   Right hand (RH)

Left hand reverse bevel (LHRB)   Outside   Right hand reverse bevel (RHRB)

Figure 3   Door Handing Chart

Optional for Wireless TV Models

Door status switch sensor

Door status switch

Shield

Centerline

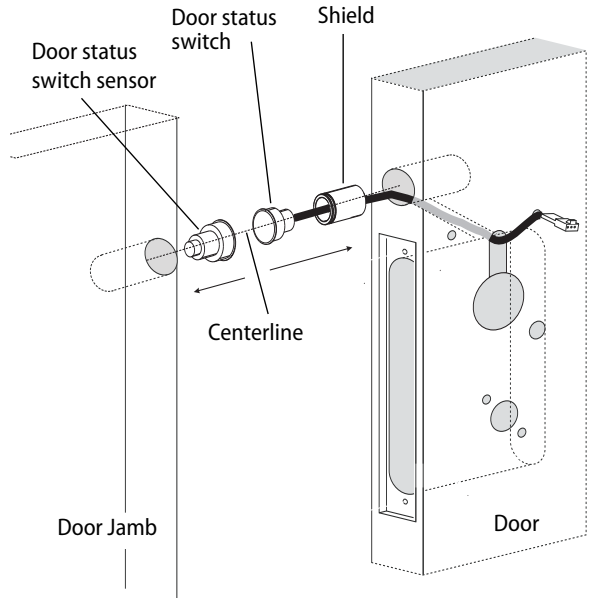Door Jamb

Door

Figure 4   Installing the door status switch

Configuring & installing the mortise
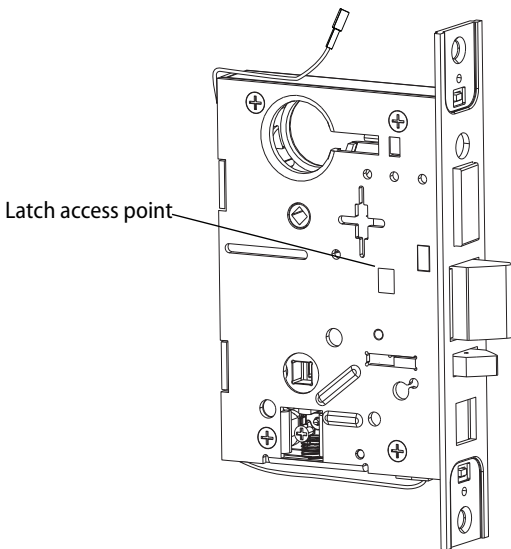

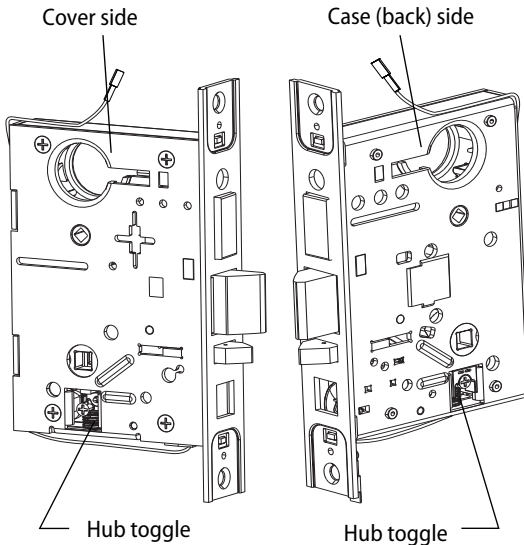*Figure 5   Rotating the latchbolt*

Figure 6   Positioning hub toggles

bit is close to the top edge of the hole. Then drill a 3/8" (10mm) channel at approximately a 35° angle from the door status switch hole into the mortise cavity as shown in Figure 4.

***Caution:* Make sure the wires are not routed across any sharp edges or over any surface that could damage the sleeving.**

4   Press fit the door status switch assembly into the door status switch hole.

5   On the door jamb, drill a corresponding hole for the door status switch sensor. Use the door switch centerline as a guide. Press fit the sensor into the jamb.

5   Rotate latchbolt *(if necessary)*

Note: *If a function specific mortise case was ordered, some steps for configuring the case have already been performed at the factory.*

1   Determine whether you need to rotate the latchbolt to match the handing of the door.

Note: *The angled surface of the latchbolt must contact the strike when the door closes.*

2   If you need to rotate the latchbolt, insert a flat blade screwdriver into the latch access point approximately 1/2" (13 mm) into the case and press to extend the latch out of the case. See Figure 5.

3   Rotate the latchbolt past 180 degrees, keeping constant pressure on the latch access point. Then allow the latch to rotate back slightly and retract into the case.

6   Position hub toggles *(if necessary)*

1   Check whether the hub toggles are in the proper position for the lock. See the table below.

Hub toggle positions
Inside **down** *(always unlocked)*
Outside **up** *(lockable)*

Installing the trim

2 For LH & LHRB doors, the inside is the case (back) side of the case and the outside is the cover side of the case. For RH and RHRB doors, the inside is the cover side of the case and the outside is the case (back) side of the case. The cover is mounted to the case with four screws.

3 To change the position of a hub toggle, loosen the toggle screw, move the toggle into the desired position, and re-tighten the screw.

7 Install mortise case

1 Drill the holes for the case mounting screws.

2 Insert the mortise case into the mortise cavity, while feeding the motor wires and any optional sensor wires into the mortise cavity and keyhole to the inside of the door as shown in Figure 7.

   Note: *The armored front of the mortise case self-adjusts to the door bevel.*

Option	DV	TV	Stand Alone	Wireless
Key Overide Sensor (KOS)	■	■	■⊠	■
Request-to-Exit (RQE)	■	■⊠		■
Door Status Switch (DS) [a]	■	■⊠		■
Latch Status Switch (LS)	■			■

a. Door status switch is located differently for DV and TV functions.

3 Secure the mortise case with the case mounting screws.

8 Install trim mounting plates

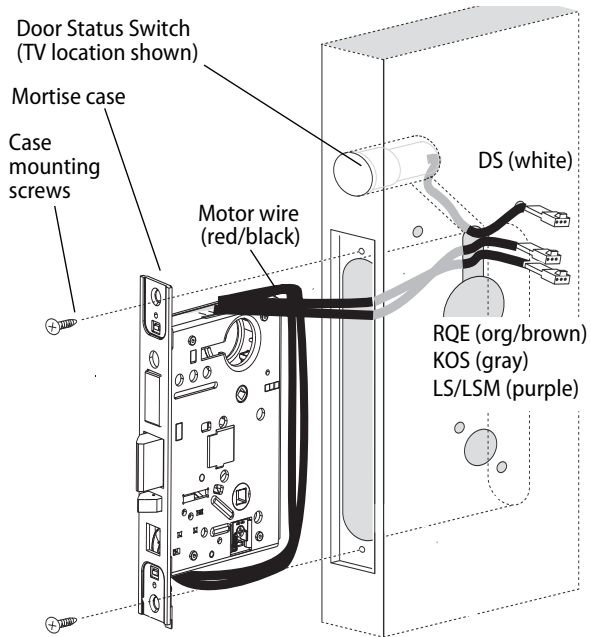1 Insert the outside trim mounting plate through the door and mortise case.

Door Status Switch (TV location shown)
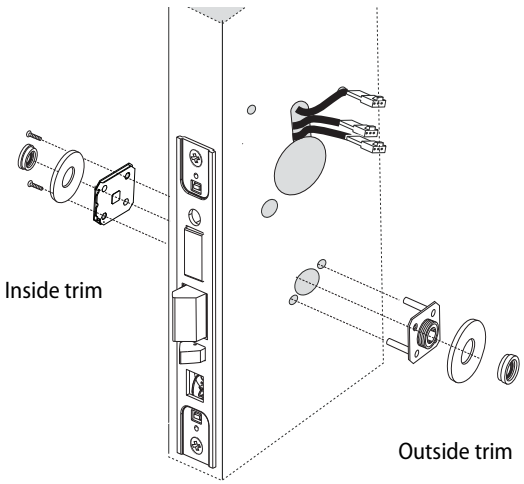Mortise case
Case mounting screws
DS (white)
Motor wire (red/black)
RQE (org/brown)
KOS (gray)
LS/LSM (purple)

Figure 7   Installing the mortise case

Inside trim

Outside trim

Figure 8   Installing the trim mounting plates

Installing the lock
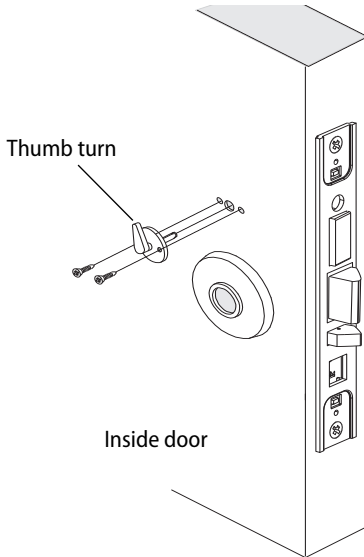

Figure 9   Installing the thumb turn

Figure 10   Installing the levers

2   Position the inside trim mounting plate opposite the outside trim mounting plate and screw them securely in place.

Caution: Do not overtighten the trim mounting plate screws. Overtightening may damage the locking mechanism.

3   Temporarily install a lever and test the lock to make sure that it doesn't bind.

9   Install thumb turn *(TV function only)*

1   Orient the thumb turn so it points up when the deadbolt is retracted, and toward the hinge edge of the door when the deadbolt is extended.

2   Install the thumb turn using the two screws provided. See Figure 9.

10   Install inside and outside levers

1   Unscrew the inside spindle one full turn to allow the spindles to turn freely. See Figure 10.

2   Remove the label from the inside spindle.

3   With the handle pointing toward the door hinges, insert the outside lever and spindle assembly into the lock from the outside of the door.

4   Slide the inside lever onto the inside spindle and secure it with the set screw.
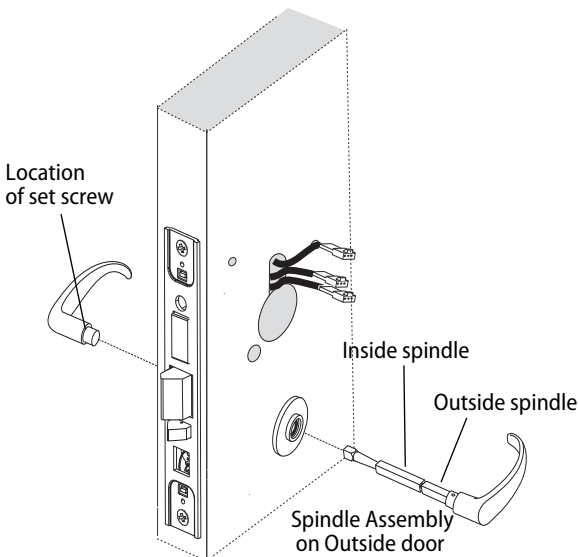
5   Turn the levers to check that they operate smoothly.

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Installing the lock

11 Install batteries

Four alkaline AA batteries (or two weatherized packs if installing a weatherized unit) are furnished with your Omnilock system and must be installed before proceeding with operation verification and system installation.

Note: *For the Extreme Weatherized model, see* Addendum (T83317) Extreme Weatherized Installation *for battery and escrutcheon installation.*

1 Remove the gasket from the rear of the housing assembly as shown in Figure 11.
2 Remove the screw from the battery cover and remove the cover.
3 Install batteries with proper polarity as shown in Figure 12. (For weatherized battery packs, simply connect the wires from the battery pack to the circuit board as shown in Figure 13.)

Note: *Be sure red and black motor wires are connected before attempting step 4. Align the wires together so that the wire colors match.*

4 Press and hold the reset button on the PC board (as shown in Figure 12) until the green light on the keypad flashes (about three seconds) then release the button. If green light does not flash, see "Troubleshooting" on page 12.
5 Replace the battery cover. See Figure 11. Make sure that the tabs on the lower edge of the battery cover are hooked over the edge of the back plate and secure the cover with the screw.
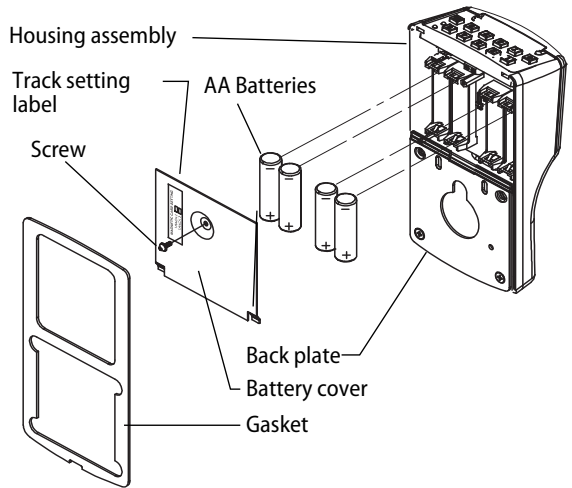6 Replace the gasket. See Figure 11. Make sure that it is inside the edge of the housing.
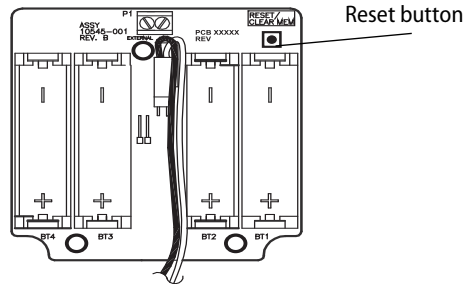

Figure 11   Installing batteries
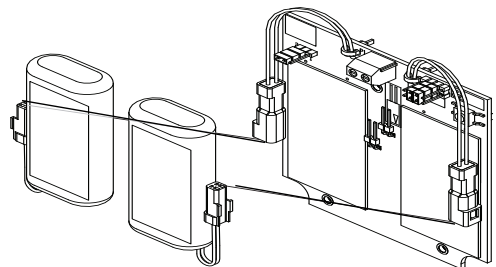

Figure 12   Using the reset button

Figure 13   Installing weatherized batteries

Installing the lock
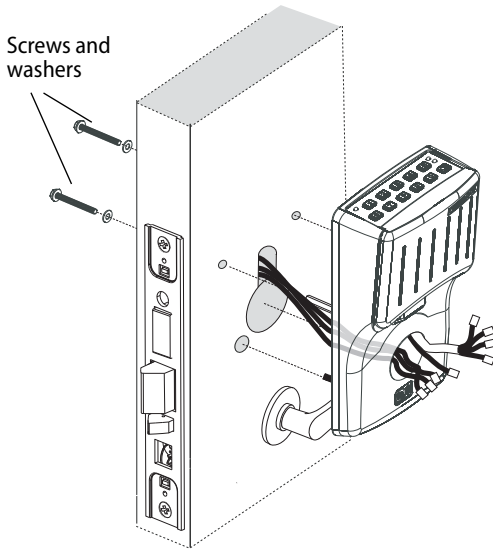

Figure 14   Installing the outside escutcheon

Figure 15   Simplified wiring diagram

12 Install outside escutcheon

1 Ensure that no wires are pinched when attaching the escutcheon to the door.

2 Insert the standoffs and grounding spring into the predrilled holes. Use screws and washers to attach the escutcheon from the inside of the door.

13 Connecting escutcheon wires

1 Connect the red and black motor wire from the mortise case to the red and black escutcheon motor wire. Align the wires together so that the wire colors match.

2 Connect the color-coded wires of the escutcheon wiring harness to the corresponding wire options on your mortise case. **Some wires may not be used.**

   Note: *Two RQE status switches are installed in the mortise case. However, only the switch for the inside of the lock needs to be connected. You will need to connect the 'Case Side' pair of RQE wires for LH and LHRB doors or the 'Cover Side' pair of RQE wires for RH and RHRB doors. See Figure 16. Wires are labeled.*
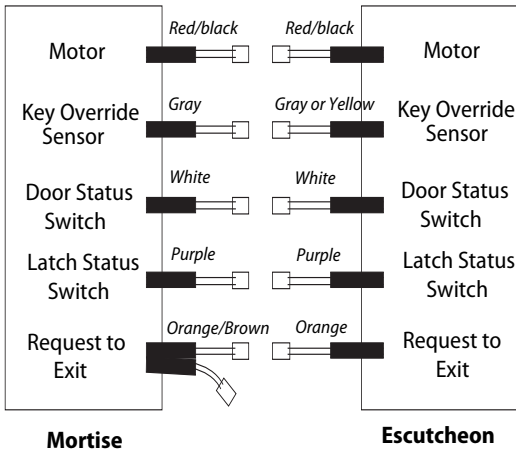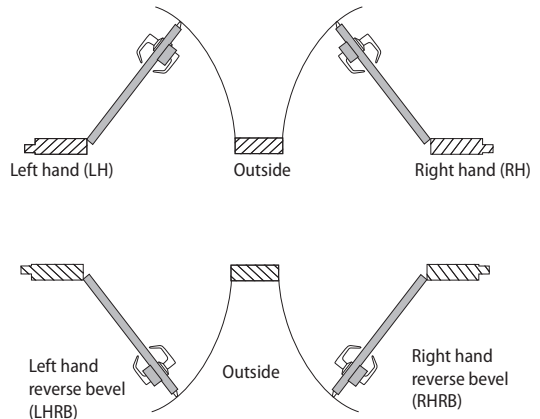

Figure 16   Door Handing Chart

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Finishing the installation

14 Install cylinder

1 Push any excess wires into the escutcheon housing. Make sure no wires are pinched.

1 Make sure cylinder collar is positioned on the cylinder.

2 Thread the cylinder into the mortise case. Rotate the cylinder until the cylinder is flush against the collar and the cylinder cam is in the 12 o'clock position. See Figure 17.

   Caution: **A malfunction can occur if the cylinder is threaded in too far.**

3 Secure the cylinder in the mortise case with the cylinder retainer screw.

15 Install mortise case faceplate

1 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws. See Figure 18.
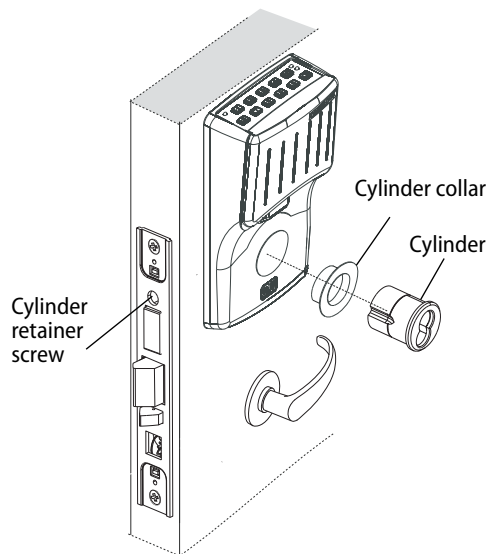
2 Check the lock for proper operation.
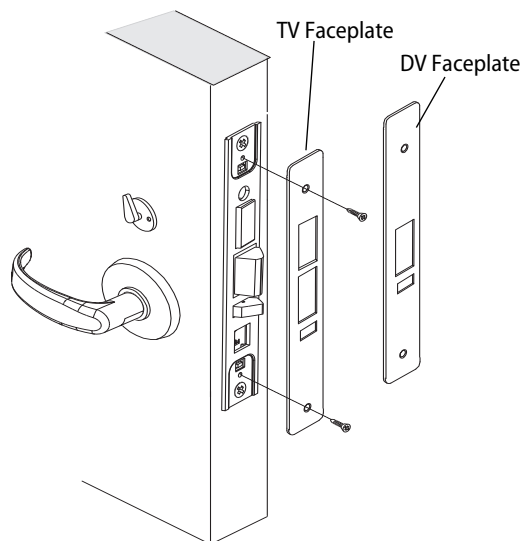

Figure 17   Installing the standard cylinder

Figure 18   Installing the mortise case faceplate
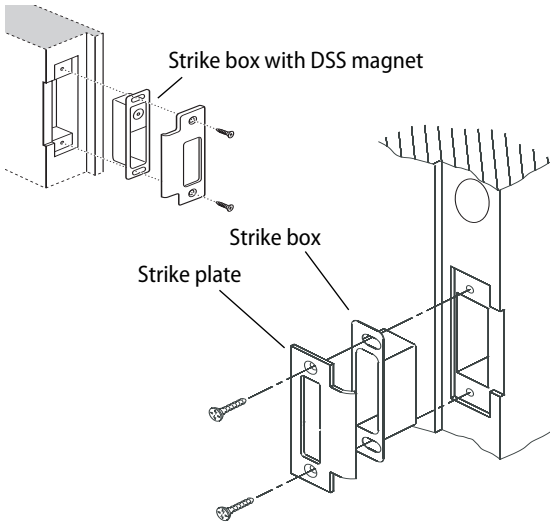
Finishing the installation

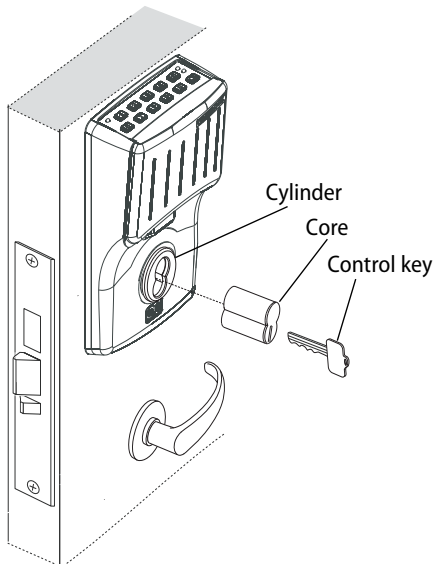*Figure 19   Installing the strike box and strike plate*

Figure 20   Installing the core

16 Install strike box and strike plate

1 *If the door jamb has not been mortised for the strike box and strike plate*, perform these steps:

   a On the door jamb, locate the horizontal centerline of the strike (3/8" (10mm) above the centerline of the lock), as well as the vertical centerline of the strike.

   b Mortise the door jamb to fit the strike box and strike plate.

   c Drill the holes for the screws used to install the strike box and strike plate.

2 Insert the strike box into the mortise in the door jamb. Place the strike plate over the strike box and secure the strike with the screws provided.

   Note: *If installing a DV wireless model with a Door Status Switch, ensure that the magnet is located at thetop of the strike box. See Figure 19.*

3 Check the position of the auxiliary bolt against the strike plate (or the filled area of the strike box).

   Note: *The recommended gap between the door and jamb is 1/8" (3 mm).*

17 Install core

1 Insert the control key into the core and rotate the key 15 degrees (midway between the 12 o'clock and 1 o'clock positions) to the right.

2 With the control key in the core, insert the core into the cylinder.

3 Return the control key to the 12 o'clock position and withdraw the key.

   Caution: **The control key can be used to remove cores and to access doors. Provide adequate security for the control key.**

Finishing the installation

18 Check operation

Check the operation of the lock. For example, check that:
☐ door latches and opens properly
☐ deadbolt operates properly
☐ key access works
☐ door gap is 1/8" (3 mm)
☐ auxiliary bolt is held inside the case when the door is closed.
For assistance, contact your local Omnilock dealer.

19 Test lock

To test the lock for proper operation before the lock is programmed, follow these instructions:

For keypad locks

1 Press **1234 for the 2000 series, or 5011234 for the 500 series.**

   The green light flashes and the latch unlock.

2 Turn the lever and open the door.

   During the unlock time, the green light flashes. Then the red light flashes and the latch relocks.

For magnetic stripe or proximity card locks only

   Note: *If the lock has a proximity card reader, it may have already been activated by the presence of an object near the card reader.*

1 Align the magnetic stripe card with the V mark by the card slot.

2 Insert and then remove the card.

   The green light flashes and the latch unlocks.

3 Turn the lever and open the door.

   During the unlock time, if using the Programming Default ID Card, the green light flashes. Then the red light flashes and the latch relocks.
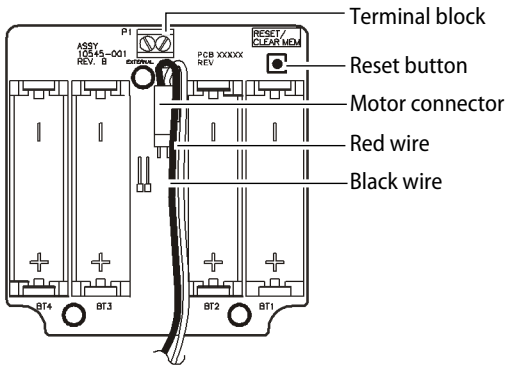
Finishing the installation

20 Troubleshooting

If the mechanism doesn't unlock, remove the battery cover and check for proper orientation and seating of the batteries and motor connector. Ensure that wires are not pinched. Reset the electronics by pressing and holding the reset button on the circuit board until the light flashes green (approximately three seconds), then releasing the botton. See Figure 21.

> **Note:** *The system will go through a self-test and the green light will flash five times. You will hear the lock unlock, then relock three times. A red flash indicates a PC board or drive system problem. If a red flash or no flash is observed, check for proper orientation and seating of the batteries and motor connector, ensure that wires are not pinched, then repeat the reset process.*

Check operation

1   Press **1234 for the 2000 series, or 5011234 for the 500 series.**

    During the unlock time, the green light flashes; then the red light flashes and the latch relocks.

2   Turn the lever and open the door.

3   If your system has a magnetic card reader, verify proper operation of the system using the magnetic card reader; otherwise, see "Test lock" on page 11.

A label on the housing assembly battery cover indicates the magnetic card track (track 2 or track 3) that the system is set to read. See Figure 11.

Terminal block
Reset button
Motor connector
Red wire
Black wire

Figure 21   Using the reset button