BEFORE YOU START YOUR INSTALLATION
1. Review elements in box versus the packing slip. Nobody’s perfect… make sure you have everything you need before you start drilling!
2. Determine if your door is inswing or outswing (parts provided for both)
3. Make sure the door swings freely, hinges are tight and it does not rub. Check the primary lock operation and make sure it engages the strike properly.
4. Check if there are alarm contacts. If so, you might need to move them slightly if they interfere with the channels or brackets.
5. Note if you will be using thru-bolt plates prior to marking and especially before drilling.

STEEL MARKING TEMPLATE
Designed to speed-up your installation.
Use to mark lock mounting location, guard plate holes and optional thru-bolt locations for horizontal, top & bottom bolts.
Shown in position for LH or LHR door.
Flip over for RH or RHR.

NOTE -
1) Special bracket holes for in-swing and out-swing.
2) Thru-bolt instructions for 4851 model (Hole “E”).

PARTS REVIEW

A-M
Interior cover & lock mechanism on mounting plate

Guard Plate with Removable Core Cylinder Installed

Optional thru-bolt plates and fasteners (4851 lock model) Part # MPK-TB3

Additional thin shims for use as needed

A Hardware bag for lock & guard plate mounting

B Floor sleeve (In and Outswing); Horizontal and top bolt strike Brackets (Inswing)

C Mounting brackets, shims and fasteners

D-I Square bolt (Inswing) Assemblies

D-O Round bolt (Outswing) Assemblies

E Guard Plate with Removable Core Cylinder Installed

F Combo Threaded Cap Screws (x4)

G Upper & Lower Channel & Bolt Assemblies

H Square bolt (Inswing) Assemblies

I Round bolts for vertical locking (both applications)

2 Bullet-type stationary bolts provided for hinge-side locking
NOTE: A STANDARD RIM CYLINDER IS PROVIDED FOR TESTING PURPOSES. WE RECOMMENDED A HIGH SECURITY RIM CYLINDER.

A  REMOVE STANDARD RIM CYLINDER
1. Remove the flat washer and nut from the threaded post.
2. Remove the Spacers as shown.
3. Pull the Laminated guard plate (BG or HG) away from the exterior guard plate and remove it as shown.
4. Grab the standard rim cylinder with bushing and pull out to remove it as shown.

B  INSTALL RIM CYLINDER
1. Hold Rim cylinder with bushing and insert it on the Laminated guard plate (BG or HG) as shown.
2. Line up the 4 posts with holes A & B and press the Laminated guard plate (BG or HG) towards the exterior guard plate.
3. Insert the spacers on the Laminated guard plate (BG or HG) posts as shown.
4. Make sure the cylinder tail piece is straight (horizontal or vertical) and then fasten the washer and nuts. Do not over tighten the nuts, adjust until the rim cylinder is properly seated.
1) MARKING & DRILLING

A) HORIZONTAL REFERENCE LINE
Draw a horizontal line at 51" up from the bottom edge of the door (not the floor), and extend approx. 18" from the lock edge of the door. Line up the horizontal line on the template with the horizontal line drawn on the door.

B) STEEL MARKING TEMPLATE PLACEMENT
All marking is done from the INSIDE with the door CLOSED.
Flip the template for use on RH and RHR doors (See notes on steel marking template).

OUTSWING DOORS
1) Line-up the edge of the template (bent part) with the frame stop which overlaps onto the door.

INSWING DOORS
Line-up the edge of the template (bent part) with the edge of the door.

THRU-BOLT MODELS (4851)
1) Slide the template up for top, down for bottom.
2) Top Bolt: Out swing: Line-up with frame top and header.
   In swing: Line-up with door edge.
3) Bottom Bolt: Always measure off the bottom edge of the door.

C) MARKING: CENTER PUNCH
Mark the holes, according to the template. Center punch all the holes before drilling.

D) DRILL HOLES
Make sure drill is level at all times. Use the function chart according to the model.

FUNCTION CHART

<table>
<thead>
<tr>
<th>Hole</th>
<th>Function</th>
<th>4850</th>
<th></th>
<th>4851</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Cylinder</td>
<td>Ø 2-1/8&quot;</td>
<td>Ø 2-1/8&quot;</td>
<td>Ø 2-1/8&quot;</td>
<td>Ø 2-1/8&quot;</td>
</tr>
<tr>
<td>B</td>
<td>Alignment</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
</tr>
<tr>
<td>C</td>
<td>Mounting Plate</td>
<td>Ø 1/8&quot;</td>
<td>-</td>
<td>Ø 1/8&quot;</td>
<td>-</td>
</tr>
<tr>
<td>D</td>
<td>Guard Plate</td>
<td>Ø 5/16&quot;</td>
<td>Ø 5/16&quot;</td>
<td>Ø 5/16&quot;</td>
<td>Ø 5/16&quot;</td>
</tr>
<tr>
<td>E</td>
<td>Bracket</td>
<td>Ø 1/8&quot;</td>
<td>-</td>
<td>Ø 5/16&quot;</td>
<td>Ø 5/16&quot;</td>
</tr>
</tbody>
</table>
2) INSTALL EXTERIOR GUARD PLATE & MECHANISM

**EXTERIOR GUARD PLATE INSTALLATION**

1) The cylinder must be installed within the guard plate before mounting. Make sure the cylinder tailpiece is straight (horizontal).

2) Line up the 6 post holes & and press the plate against the door. Fasten posts loosely with 4 threaded caps. Do not over tighten the threaded caps. You want a little play, if needed, when aligning the tailpiece into the mechanism in the next step.

3) Looking from the inside of the door, ensure that the cross hair of the mechanism is positioned flat (horizontal) before moving to the next step. It should appear as shown.

**NOTE:** On RH/RHR doors the teeth of the key will be pointing down when inserted into the cylinder.

---

**INTERIOR LOCK BODY INSTALLATION**

The rod holders should be retracted prior to placing the mechanism on the door (unlocked position).

1) Take the interior mechanism mounting plate and place it on the door so that the tailpiece enters the cross hair. One post will enter into a tube and the other will need to be fastened with a threaded cap.

2) Fasten the barrel nut to the guard plate through the interior mechanism back plate as shown by below. As you tighten this, make sure the lock operates smoothly by using the thumb turn to operate the lock as shown by below. Once this is smooth, move on to the next steps.

3) Fasten the mechanism mounting plate using the four self drilling hex screws into the holes. Test again.

4) Complete the guard plate installation by tightening the four threaded caps to mounting posts A.

**NOTE:** On RH/RHR doors the teeth of the key will be pointing down when inserted into the cylinder.

---

**INS 4850/4851-TTBG-37 Installation Instructions**
3A) INSTALL HORIZONTAL DEADBOLT

OUTSWING Round Bolt

INSWING Square Bolt

Make sure the mechanism is in the locked position (top and bottom rod holders are extended). Use the thumbturn temporarily.

**Outswing Doors:** Use Round deadbolt and connector (one piece)

**Inswing Doors:** Use Connector with nut attached and separate square deadbolt

1) Hook the connector onto the locking pin (under the mechanism) as pictured above.

Test by rotating thumbturn and making sure bolt moves freely.

Note: **Inswing Only:** Insert the fixed nut on the rod into the rectangular deadbolt.

3) Slide the channel over the bolt. Place the shim under the channel and the bracket around the channel. Extra shims are provided if needed to make sure the bolt projects into the frame (away from the stop edge on Outswing) or above the frame (Inswing).

- **Non-Thru-bolt models:** Lightly fasten with 2 black #14 hex-head self-drilling screws.
- **Thru-bolt models:** Place the thru-bolt plate and 2 (2-¾”) carriage bolts thru the door and make sure the heads of the carriage bolts are flush with the thru-bolt plate. Secure the bracket with the nuts.

4) Secure the bracket with the other 2 black #14 hex-head self-drilling screws. Install acorn nuts to finish.
3B) INSTALL VERTICAL DEADBOLTS

Make sure the rod holders are in the retracted (shorter) position.

Install the bottom rod first! The longest in the box.

1) Remove the tape from the rod and channel. Do not remove the rod from the channel. Use tape to hold the channel on the door as you will need both hands to connect the rod to the rod holder.

2) Remove the nuts from the rod and use them to fasten to the rod holder.

3) If needed, adjust the height of the rod by lowering the bottom nut and sandwiching the rod holder between the top and bottom nuts. Adjust until the bolt is approximately 1/8" from the bottom edge of door.

MAKE SURE THE NUTS ARE TIGHT!!!

Bring the bottom of the channel as close as you can to the bottom of the door, while making sure the top still overlaps the mechanism plate.

4) Repeat the bracket fastening instructions from above for Inswing & Outswing doors.

5) Make sure the bolt travels through the guides in the bottom and top of the channel.

6) Repeat all steps for the top bolt. Note: For doors under 7’, measure the height and subtract the difference from 84”. Cut that amount off the channel and threaded rod. These bolts will be round and project into the frame. Remove all burrs and smoothen after cutting.

THRU-BOLT PLATE VIEW (4851 Models)
4) INSTALL FLOOR SLEEVE & STRIKE BRACKETS (FRAME)

OUTSWING MODELS
Drill holes for round bolts: Into Floor/Saddle & Frame

1) Close the door (If free swinging, place some paper under to hold closed). Place a little putty on the tip of the bolts. Turn the turnpiece until the bolts hit the saddle (or floor) and frame then retract.

2) Open the door.

3) Using the center of the marks, drill 1/8" pilot holes up to a 7/8" dia. holes.

4) For the bottom bolt, drill up to an 1" dia. & 3" depth hole and insert the floor sleeve using a drop of epoxy to keep in place.

INSWING MODELS
Drill hole into Floor/Saddle
Mount brackets on frame as strikes on top & horizontal bolt

Strike brackets for square bolts: Onto Frame

1) Close the door. Turn the turnpiece so that the bolts project fully over the frame.

2) Place a bracket over the upper bolt and rest on the frame. Recess about ¼" from the edge and mark the 4 hole locations. Center punch the marks and drill an 1/8" pilot hole to ensure that the bracket is aligned correctly. Install with four (4) #14 hex head self drilling screws.

3) Follow step 2 for the horizontal bolt.

4) For the bottom bolt, drill up to an 1" dia. & 3" depth hole and insert the floor sleeve using a drop of epoxy to keep in place.

5) INSTALL MECHANISM COVER

1) Place the cover over the mounting plate and channels.

2) Check for smooth operation by using the turnpiece.

3) Fasten the cover with four phillips screws.

4) Fasten the turnpiece with an allen wrench.
6) INSTALL STATIONARY BOLTS

1) Open the door and locate the hinge edge of the door from the other side. With the door open measure approximately 2'(ft) up from the bottom of the door and make a mark at the center of the edge (adjust up or down for hinges if needed). Measure up 5' and make a mark at the center of the edge (adjust up or down for hinges if needed).

2) Drill 1/2" holes. Insert the flag of the bolt assembly into the hole. Tighten the screw to lock in place. Repeat for 2"d stationary bolt.

3) FRAME: Place a little putty on the tip of the bolts and gently close the door to mark the location where they hit. Drill up to a 3/4" hole into the frame to accept the bolt. You may have to make the hole egg shaped to receive the bolt without rubbing. This is normal. Be sure to smooth all holes and remove any burrs.
Inswing or Outswing Doors

1. Is the bottom bolt centered over the floor sleeve?
2. Does the top round bolt align with the hole drilled (Outswing door) or frame strike bracket (Inswing door)?
3. Is the horizontal bolt aligned with the hole drilled (Outswing door) or frame strike bracket (Inswing door)?
4. Does the thumb turn appear as pictured for Right hand swing doors (RH / RHR)? Do the teeth of the key point down when inserting into the cylinder?
5. Does the thumb turn appear as pictured for Left hand swing doors (LH / LHR)? Do the teeth of the key point up when inserting into the cylinder?
6. If installing on an inswing door, did you install the short horizontal channel with square bolt provided is used as shown? If installing on an outswing door did you install the short horizontal channel with round bolt provided is used as shown?
7. Did you install the bullet type bolts properly? Is the hole drilled in the frame egg-shaped?

Does the lock operate smoothly using the thumb turn? Does the lock operate smoothly using the key?