**KAWNEER 1686 EL CONCEALED EXIT DEVICE**

**INSTALLATION INSTRUCTIONS (PART NUMBER 038-312)**

**ROD AND CENTER CASE ASSEMBLY:**
1. For inactive doors or doors without exterior cylinder, or doors without the need for exterior cylinder dogging, the removal of the cylinder dogging pawl is required. (See removal of Dogging Pawl below)

All active doors with cylinder locking will require the cylinder dogging mechanism to be activated before rod and center case assembly is inserted into the active door stile.

Slide rod and center case assembly into active door stile.

The 190 active pair door will require the weld nut plate fasteners to be cut flush with nut plate to allow center case assembly to insert into a 190 door stile extrusion.

**REMOVAL OF CYLINDER DOGGING PAWL:**
1. Loosen two bracket retaining fasteners.
2. Discard dogging pawl.
3. Reinstall the bracket and retaining fasteners within the exit device housing.

**CENTER CASE INSTALLATION:**
1. Using a hook tool, align center case with holes provided.
2. Attach center case with (2) #8 x 1/4" cap screws (don’t over tighten).
3. Adjust top and bottom bolts with wrench provided allowing bolt to extend beyond stile. Turn top and bottom bolts counterclockwise to lengthen and clockwise to shorten.

**TOP GUIDE INSTALLATION:**
1. Install top guide over top bolt and slide into door stile.
2. Attach guide with (2) #10 x 1/2" FH undercut fasteners.

**BOTTOM GUIDE INSTALLATION:**
1. Install bottom guide over bottom bolt and slide into door stile.
2. Attach guide with (2) #10 x 1/2" FH undercut fasteners.
**CYLINDER PAD ASSEMBLY:**

1) Insert a 15/16" cylinder into the mounting pad and secure with the retaining ring.

**Note:** If using a cylinder longer than 15/16", cylinder rings will be required to maintain the 3/8" projection.

**CYLINDER INSTALLATION:**

1) On exterior side of door, install the cylinder assembly into cutout on the door stile.
2) On interior side of door, install (2) #8-32 x 1-15/16" FHMS through door stile to secure cylinder assembly in position.
3) Cylinder assembly should be tightly secured to ensure that mounting pad is placed square upon door stile and cannot be moved.
4) Once the center case assembly and mounting pad is secured on the active door stile, insert cylinder key and turn counterclockwise to deactivated exterior cylinder dogging mechanism.

**ELECTRICAL WIRE ACCESS**

1) After completion of adjustments and installation of center case and guides.
2) To prep for quick connect wire access hole, flip exit device over exposing the back side upon a protective surface to prevent damaging finish.
3) Locate the 1/4"-20 slotted attachment hole, positioned on the pivot stile of exit device. As a reference point, the wire access hole position is located at corner of exit device housing toward the top of door.
4) Mark and prep a 1/8" pilot hole 7/16" from top of exit device directly above the 1/4"-20 slotted attachment hole. The 1/8" pilot hole will be centered approximately 1/2" from edge of exit device housing.
5) Attach exit device onto pivot and lock stile of door with fasteners and end cap bracket provided, as indicated below.
6) Using the 1/8" pilot hole as a guide to complete the wire access prep, (at a slight angle) drill a 5/16" hole directly thru the exit device housing and door stile for wire access.
7) Remove all burrs inside and outside to prevent wire from being damaged.
8) Attach the quick connect from the PWM200 power booster to the female 48" quick connect cable. (shipped loose)

9) Transfer the wiring from the door to frame using an approved power transfer device.

10) Complete the connections from the quick connect cable to power transfer.

11) Connect the power transfer to approved power supply.

12) Test unit for proper electrical activation.

13) Install cover brackets (on top and bottom of device) onto exit device with fasteners provided.

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**Note:**

a. All wiring to be coordinated with a licensed electrical installer.

b. The PS1, PS5-4 or PS5-6 is the approved power supply for this exit device.

c. Allows wire run from power supply to exit device of up to 700' with 18/2 wire.

**ELECTRICAL SPECIFICATION**

Voltage: 24 VDC
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BASIC WIRING DIAGRAM

Power Transfer
(Example: EPT wire transfer)
Kawneer # 050-396

1686 EL

Power Supply

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Kawneer Part Number</th>
<th>Exit Device Application</th>
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</thead>
<tbody>
<tr>
<td>PS1</td>
<td>050409</td>
<td>2</td>
</tr>
<tr>
<td>PS5-4</td>
<td>050410</td>
<td>4</td>
</tr>
<tr>
<td>PS5-6</td>
<td>050411</td>
<td>6</td>
</tr>
</tbody>
</table>

Reference power supply specifications for additional features.

Note:
1. All wiring to be coordinated with a licensed electrical installer.
2. The PS1, PS5-4, and PS5-6 is the approved power supply for this exit device.
3. Allows wire run from power supply to exit device of up to 700’ with 18/2 wire.

POWER TRANSFERS

EPT
KAWNEER #050-396

Von Duprin EPT
KAWNEER #138-637 (2 Wires)

EL BUTT HINGE
KAWNEER #037-238

KAWNEER EL OFFSET PIVOT
KAWNEER #050-392-RH
KAWNEER #050-393-LH

OPTIONAL EL OFFSET PIVOT
KAWNEER #050-397-RH
KAWNEER #050-398-LH

<table>
<thead>
<tr>
<th>AVAILABLE WITH</th>
<th>EPT</th>
<th>KAWNEER EL BUTT HINGES</th>
<th>KAWNEER EL OFFSET PIVOT</th>
<th>OPTIONAL EL OFFSET PIVOT</th>
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</thead>
<tbody>
<tr>
<td>190/350/500 STANDARD</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>HEAVY WALL</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>AA®250/AA®425</td>
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</table>
**FINAL ASSEMBLY:**
1) Slide pivot stile filler into device, attach pivot stile end cap with fasteners provided.
2) Slide lock stile filler into device, install cover over brackets on lock stile and attach with fasteners provided.
3) Stand door in the vertical position and place on blocks to test operation.
4) Factory supplied doors will be adjusted per the following requirements. Top bolt should extend approximately 9/16" beyond door stile when utilizing the header/transom “hump back” strike plate in conjunction with exterior cylinder dogging. Bottom bolt should extend approximately 1/2" beyond door stile. Applying the header/transom “hump back” strike plate will allow the top and bottom bolts to remain retracted within the bolt guide trigger mechanism when push pad is not completely depressed. Doors produced prior to 2012 without the header/transom “hump back” strike plate prep can adjust the top bolt approximately 7/16” to allow the top and bottom bolts to remain retracted within the bolt guide trigger mechanism when push pad is not completely depressed. 
   **Note:** This adjustment may cause the exterior cylinder dogging function to be inoperative. If exterior cylinder dogging is required readjust the rods to extend approximately 1/2" to 9/16" beyond the door stile. Field conditions may cause these dimensions to vary slightly.
5) Depress push bar, the top bolt will lock in the retracted position. If locking does not occur readjust top bolt with half turn increments until locking occurs.
6) Bottom bolt should be flush with end of stile to approximately 1/16" projection beyond the end of door stile in a retracted position.
7) Release the bolts by depressing the trigger at top bolt guide.

**EXTERIOR CYLINDER DOGGING:**
1) Door must be in an open position with top bolt in a retracted position.
2) Insert key, turn counterclockwise until rods are retracted, top bolt should be captured within the trigger mechanism.
3) Return key to vertical position.
4) With rods in the retracted position, turn key clockwise approximately 1/8” of a turn to activate exterior dogging. If exterior dogging does not function, readjust top bolt with half turn increments until locking occurs.
5) Return to vertical position and remove key.
6) Turn key counterclockwise to unlock position to release exterior dogging, remove key.

**TOP BOLT FABRICATION** (for 190, 350, and 500 door only):
1) Fabricate header/transom for top bolt cutout as indicated below, for single or pairs of doors.
2) The “hump back” strike plate will be positioned upon the header/transom with the hump facing toward exterior side of framing system.
3) Insert “hump back” strike plate and attach with fasteners provided.
   **Note:** Once the top bolt passes beneath the “hump back” strike plate, this will force the top bolt to be pushed down an additional 3/32” allowing the top and bottom bolts to remain retracted within the bolt guides when push pad is not completely engaged. This strike plate is designed to accommodate a 1/8” gap between top of door and header/transom.
BOTTOM BOLT FABRICATION
(for 190, 350, and 500 door only):
1) Fabricate threshold for bottom bolt cutout as indicated below, for single or pair of doors.

DOOR STOP INSTALLATION:
Using 033-981 threshold stop package as a template, drill (2) 5/32" (0.156) diameter holes and secure with self threading fasteners.

Approximately

SINGLE DOOR
(R.H. Shown)

PAIR OF DOORS

C/L OF THRESHOLD

2.000

1.156

0.719 0.874

0.281 0.562

0.437

0.874

1.156

0.719

2.000

1/32" Approximately

1/32" Approximately

0.874

0.719

0.437

0.281

0.562

0.437

0.719

0.874

R0.156

R0.156
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EC 97904-39

KAWNEER FINISH
40 BRONZE
17 CLEAR

* INDICATES PART TO BE IN COLOR TO BLEND WITH THE DOOR FINISH

CONCEALED ROD EXIT DEVICE

PARTS BREAKDOWN

NOTE:
FOR 350/500 HEAVY WALL DOORS INSTALLATION, REMOVE ITEMS # 20 AND #21. IN ADDITION, THE EXTENDED TRIGGER TOP BOLT GUIDE PART NUMBER 133-628 MUST BE USED TO ACCOMMODATE 3/16” (0.188”) WALL THICKNESS.

CONCEALED ROD EXIT DEVICE PACKAGE TO INCLUDE:

1 1 EA. EXIT DEVICE BASE ASSEMBLY (SIZED ACCORDING TO PART NUMBER)
2 1 EA. HINGE/PIVOT FILLER PLATE (SIZED ACCORDING TO PART NUMBER)
3 1 EA. LATCH FILLER PLATE
6 1 EA. METAL HOUSING COVER (BLACK MATT FINISH)
10 1 EA. HINGE/PIVOT END CAP (BLACK MATT FINISH)
4 1 EA. # 8-32 PANIC ATTACHMENT FASTENER
5 1 EA. # 12-24 PANIC ATTACHMENT FASTENER
7 4 EA. HOUSING COVER ATTACHMENT FASTENERS (BLACK)
8 1 EA. HINGE/PIVOT STILE ATTACHMENT FASTENER
11 2 EA. END CAP FASTENERS (BLACK)
12 1 EA. TOP ZINC GUIDE BLOCK
13 1 EA. BOTTOM ZINC GUIDE BLOCK
14 1 EA. CENTER ROD ASSEMBLY W/STANDARD TOP BOLT AND FLAT HEX BOTTOM BOLT
15 2 EA. #8-32 HOUSING ASSEMBLY ATTACHMENT FASTENERS
16 4 EA. TOP AND BOTTOM GUIDE ATTACHMENT FASTENERS
18 1 EA. ROD ADJUSTMENT WRENCH
9 1 EA. END CAP MOUNTING BRACKET
19 1 EA. SPACER PLATE -PLATED STEEL
17 1 EA. STANDARD LIFT PIN FOR 1 3/4” AND 2” THICK DOOR
20 2 EA. 1/4”-20 x 1/4”LG. FLAT HEAD SCREW
22 2 EA. HOUSING COVER BRACKET FASTENERS
21 2 EA. HOUSING COVER BRACKET

NOTE:
THE PS1(050-409), PS5-4 (050-410) AND PS5-6 (050-411) POWER SUPPLIES WILL BE USED EXCLUSIVELY WITH THE 1686 EXIT DEVICE ONLY. POWER SUPPLIES BY OTHERS WILL NOT BE PERMITTED AND ARE SUBJECT TO WARRANTY BEING VOID.

FEBRUARY, 2012

KAWNEER 1686 EL CONCEALED EXIT DEVICE INSTALLATION INSTRUCTIONS (PART NUMBER 038-312)
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