DOORSET INSTALLATION

SWITCH

SWITCH is the world's first and only hinge-side anti-barricade door system, designed for fast, controlled, and safe overcoming of barricading incidents while keeping staff in the barricade 'Green Zone'.

Installation with New Frame:

Door Assembly

The SWITCH Anti-Barricade System comes in two Assemblies:

1) HM Welded Frame assembly with the strike installed
2) The door assembly with all hardware including the hinge pre-installed as shown below in Figure 1:

IMPORTANT: Please read before continuing

The SWITCH Door System must be properly supported by a floor or wall mounted door stop at 90° to prevent damage. The door must stop prior to the hinge hitting the frame as shown in Figure 2. This applies to both New & Retrofit Installations.

Fig. 1

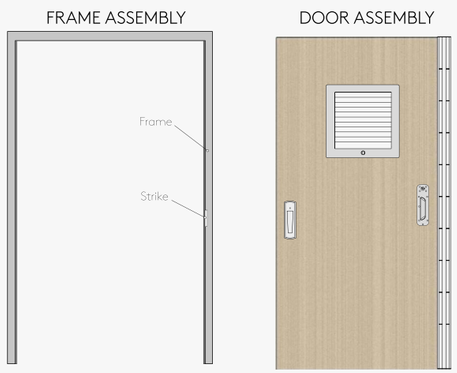
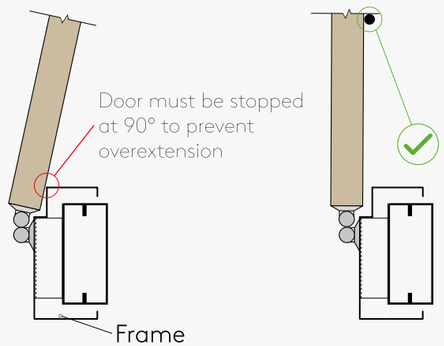


Fig. 2



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or email us at: sales@kingswaygroupusa.com

Installation Instructions

1. Install the Kingsway Welded Frame assembly as per installation instructions on page 11.
2. After the frame is properly installed and checked, you can now paint the frame per architectural spec.
3. Next, install the SWITCH Door assembly. The frame is pre-drilled to match the hole locations on the hinge. For this step a minimum of (2) persons is required. The door assembly should be maneuvered into the opening in the closed position as shown in Figure 3 & 4.
4. Once in place, raise the door assembly using air-shims, wood blocks or other means until the pre-drilled holes in the frame align with the fastener holes in the hinge.

   NOTE: Protect the bottom of the door to avoid damage. NEVER twist or slide the door if directly in contact with the floor - this will cause damage such as veneer splinters.
5. If there is a larger gap, carefully loosen the screws and then, while maintaining constant upward pressure, re-tighten the screws to close the gap.
6. Once the door is installed and all screws securely fastened, ensure the door is adequately stopped by a floor or wall mounted door stop at 90° as shown in Figure 2. The hinge and door must not make contact with the frame.
7. Ensure the door latches correctly in the strike.
8. Test the anti-barricade function as detailed in the SWITCH Operating Instructions on page 5.
9. Test the SWITCH door in both directions to 90°, ensuring the bottom edge does not catch on the floor.

Fig. 3

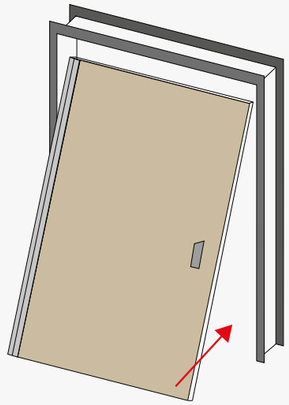


Fig. 4

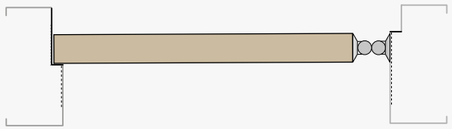
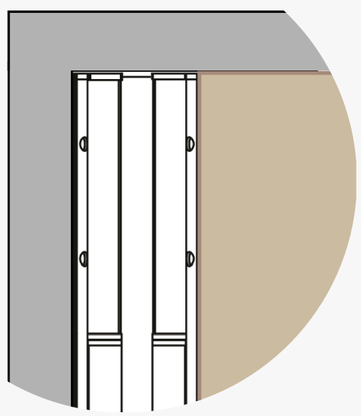


Fig. 5



DOORSET INSTALLATION

SWITCH

SWITCH is the world's first and only hinge-side anti-barricade door system, designed for fast, controlled, and safe overcoming of barricading incidents while keeping staff in the barricade 'Green Zone'.

Installation into an Existing Frame:

Door Assembly

The SWITCH Anti-Barricade System comes in one assembly for retrofit into existing frames:

1) The door assembly with all hardware including the hinge pre-installed as shown below in Figure 1:

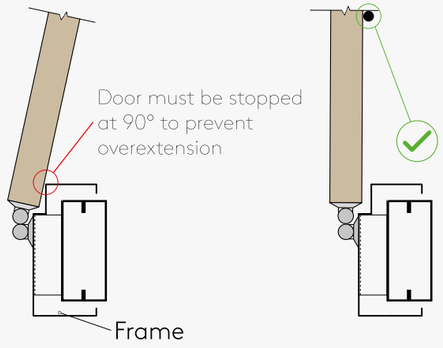
IMPORTANT: Please read before continuing

The SWITCH Door System must be properly supported by a floor or wall mounted door stop at 90° to prevent damage. The door must stop prior to the hinge hitting the frame as shown in Figure 2. This applies to both New & Retrofit Installations.

Fig. 1

DOOR ASSEMBLY

Fig. 2



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Installation Instructions

1. Remove existing door, and any other associated hardware attached to the door and frame.

2. Prepare frame: attach header filler to frame on bedroom side and fill hinge mortises if butt hinges were used on the previous door. Fill seams if desired with Bondo or other filler, then prime and paint as required. See Figure 3 showing the head stop filler.

3. For this step, a minimum of (2) persons is required.

   - The door assembly should be maneuvered into the opening in the closed position as shown in Figure 4 & 5.
   - Raise the door assembly using air-shims, wood blocks or other means until the gap between the head stop filler and top of door is 1/8" or less.
   - Make sure strike and latch bolt will line up before mounting the door.
   - Once in place, drill pilot holes in the frame using a 5/32" drill bit at each screw location.
   - Use the self-tapping or sheet metal screws provided with a security driver to secure door to frame.

   NOTE: Protect the bottom of the door to avoid damage. NEVER twist or slide the door if directly in contact with the floor - this will cause damage such as veneer splinters.

4. Once the door is installed and all screws securely fastened, ensure the door is adequately stopped by a floor or wall mounted door stop at 90° as shown in Figure 2. The hinge and door must not make contact with the frame.

5. Ensure the door latches correctly in the strike.

6. Test the anti-barricade function as detailed in the SWITCH Operating Instructions on page 5.

7. Test the SWITCH door in both directions to 90°, ensuring the bottom edge does not catch on the floor.

Fig. 3

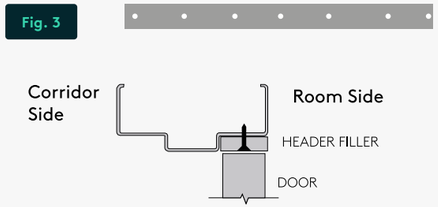


Fig. 4

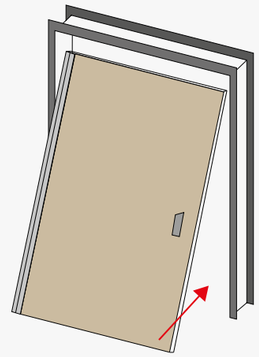


Fig. 5

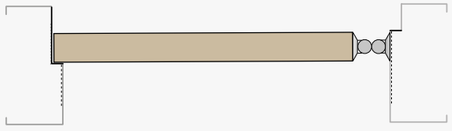
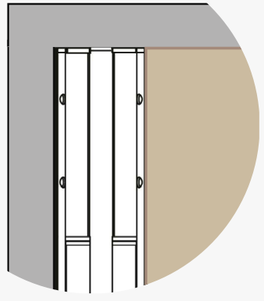


Fig. 6



Operating Instructions

Normal Operation

In normal operation, the door is in-swinging and swings on one hinge barrel. Refer to Figure 1 for names of components. Refer to this when interpreting instructions.

Anti-Barricade Function

In the event of a barricade situation, there are two ways to operate the SWITCH Anti-Barricade System. It is best to first check through the Vision Panel (if equipped) to see where the patient is located and the type of barricade. If items are pushed up against the door or the patient is pushing against the door, the 'Pull Method' is recommended. If this method does not work, use the 'Push Method' as a backup.

Pull Method

1. Approach the door and look through the vision panel (if equipped) to check the patient's location within the room.
2. Stand on the hinge side of the door (the barricade 'Green Zone'). Unlock the hinge mechanism by turning the staff key in the Anti-Barricade Lock toward the middle of the door. Refer to the arrow on the lock for reference.
3. Grasp the Anti-Barricade Pull with 1 or both hands. Step back to where you are slightly past the door hinge, then pull towards yourself. You should be pulling the door a roughly 45 degrees as shown in Figure 4.
4. Open the door into the corridor. Once door has stopped moving, staff can safely access the room and assist the patient.

Fig. 1

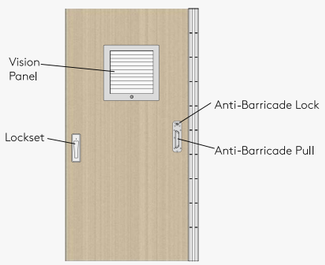
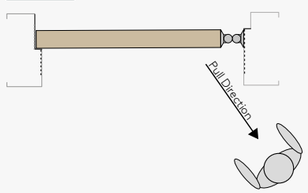


Fig. 4



Push Method

1. Follow steps 1-2 as listed in above section.
2. Grasp the lockset with one hand. Lean into the door with your opposite shoulder to push the door into the room. The function of the hinge will retract the door from the strike.
3. Open the door into the corridor. Once door has stopped moving, staff can safely access the room and assist the patient.

Fig. 2

Fig. 3

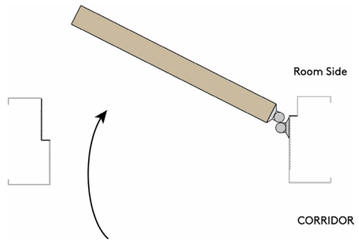
Fig. 5

Reset Procedure

Reset Procedure

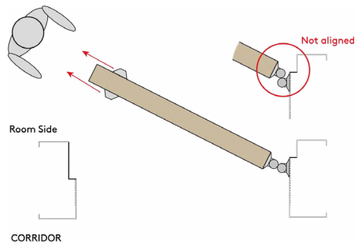
1. Leaving the hinge in a retracted position, swing the door back into the room.

Fig. 6



2. Stand at the strike edge of the door, facing the door edge. Holding both sides of the Lockset, pull both handles towards you. This will straighten the hinge mechanism.

Fig. 7



3. The Anti-Barricade Lock mechanism must now be locked to secure the hinge. On the corridor side of the door, place the Staff Key in the Anti-Barricade Lock and turn it toward the hinge to secure the lock. If necessary, moving the door very slowly with the other hand can help the hinge to align and the lock to slide into position.
4. Confirm the Anti-Barricade function is locked correctly. Once done, the door is now back to its normal usage.

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Maintenance

Components

Maintenance of the SWITCH Anti-Barricade Door System involves attention to three main areas: hinge, the locking mechanism, and hardware to the door. Each require periodic checks and as-needed maintenance as detailed below.

Hinge

The SWITCH system incorporates two hinges. Both are designed to be largely maintenance free, incorporating heavy-duty bushings and one-piece hinge leaves. Settling of the frame and building may sometimes apply pressure to the hinge, making a squeaking noise. If this occurs, apply clear, dry lock lubricant to the hinge bushings to improve friction as needed. See Figure 1 for recommended lubricant.

Locking Mechanism

The anti-barricade locking mechanism (See. Fig. 2) uses a key to operate a lock bolt which engages the second hinge barrel to prevent its rotation during normal operation. Check locking function every 90 days to ensure the anti-barricade functions during emergency situations. Refer to operating instructions to operate and reset the anti-barricade function.

Hardware

In a behavioral health setting, doors and screws are often tampered with. It is important to periodically perform a visual inspection of hardware to ensure screws are tight and to re-tighten as needed. This will prevent patients from working screws loose and using for self-harm. It is recommended to perform this check every 90 days at the same time as checking the anti-barricade function.

Cleaning

Start with a microfiber cloth and simply dampen the cloth in warm water. As you wipe down the surface, try to move with the grain. In most cases, this will be more than enough to remove any dust and dirt. If necessary, follow up with another dry microfiber cloth to soak up any excess moisture.

If you need to do some deeper cleaning, use a mild soap and warm water mixture. Instead of using large swiping motions, really focus on scrubbing small areas. You can even try using a light spray of non-ammonia based glass cleaner to help get things clean. Avoid harsh and abrasive cleaners.

Fig. 1

Fig. 2

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Installation Checklist

Door Leaf	Ensure gaps from leaf to frame are within specified tolerance
	Check the free movement of the door in both directions where applicable to ensure it doesn't catch on the floor
	Free from damage
	Fitting plumb, level and square in the frame
	Consistent gap between the door and frame as specified
Door Frame	Free from damage
	Correct number, type, size and location of wall fixings
	All fixings correctly plugged and finished
	Correct packing materials used between the wall and frame
Fire & Smoke Seals	Compatible with the doorset based on the instructions
	Fitted flush in the grooves and without gaps
	Smoke seals fill the gap between the door and frame on all sides
	Free from damage
Latch or Lock	Engages securely within the keep when closed
	Operates without undue friction
	Free from damage
Hinges	Functioning correctly without undue friction
	Free from damage
	If the hinge has been taken off at some point check that it has been refitted correctly and all fixings are secure
Anti-Barricade items	Swing Stops can open outwards fully without hinderance or friction
	Switch hinges are operating correctly without friction
	Door opens in both directions without binding on the floor
	Free from damage
Vision Panels	Functioning vision panels operate smoothly
	Frames and glass free from damage
Other hardware	Free from damage and correctly functioning
	Door closers functioning correctly and fully closing the door
	Electrical products correctly wired and functioning
Trim	Free from damage
	Fitted correctly without gaps
	All fixings either plugged or finished with wax

INSTALLATION GUIDE

Inspection & Maintenance

All doors should be inspected regularly for damage that prevents the door performing in the event of a fire or an emergency situation, such as a barricade scenario. The following has been drawn up as a guide:

Area	Type of check	Frequency
Door Leaf	Free from damage	1 month
	Consistent gap between the door and frame as specified	6 months
Door Frame	Free from damage	6 months
Fire & Smoke Seals	All present and free from damage	3 months
Latch or Lock	Engages securely within the keep when closed	1 month
	Operates without undue friction	1 month
	Free from damage and all fixings are present and secure	1 month
Hinges	Functioning correctly without undue friction	weekly
	Free from damage and all fixings are present and secure	weekly
Anti-Barricade items	Swing Stops are functioning correctly without friction or damage and all fixings are present and secure	weekly
	Switch hinges are operating correctly without friction or damage and all fixings are present and secure	Weekly
	Door opens in both directions without binding on the floor	Weekly
Vision Panels	Functioning vision panels operate smoothly	Weekly
	Free from damage and all fixings are present and secure	Weekly
Other hardware	Free from damage, functioning correctly and all fixings are present and secure	Weekly
	Door locks and unlocks correctly without hinderance	Weekly
	Door closers are continuing to function correctly and close the door	Weekly
	Electrical products working correctly	Weekly
Trim	Free from damage	6 months
	Fitted correctly without gaps	6 months

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Welded Frames

Kingsway Group

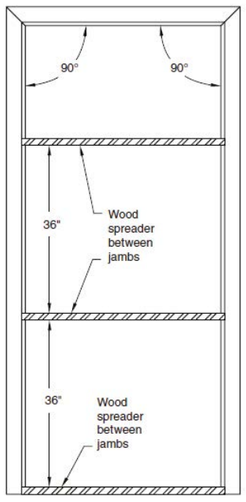
NOTE: PLEASE READ BEFORE INSTALL OF ANY KINGSWAY FRAMES

Due to the environment Kingsway frames are installed in and the potential abuse that can be sustained, we recommend the following:

1) Fully welded frames with Minimum 5 anchors per side

2) The use of wood spreaders at the bottom of frames AND at 36″ intervals between the top and bottom as indicated in Figure 1.

Fig. 1



New Frame Installation Instructions

1) Prior to installation, jobsite personnel shall ensure correct swing, size and labeling.

2) Installation tolerance must be followed as opening will not function properly if the frame is not installed within recognized tolerances.

3) For examples of the accuracy to be maintained while setting frames, see Figure 2-5.

Fig. 2

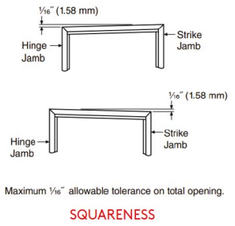


Fig. 3

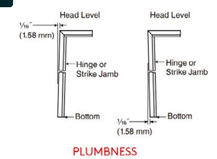


Fig. 4

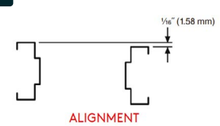
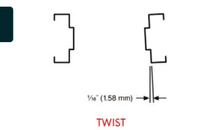


Fig. 5

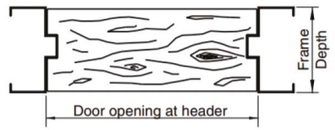


Plumbing & Bracing:

1) Wood Spreaders (see Figure 6)
The Contractor(s) responsible for installation shall have available a sufficient supply of wood spreaders for bracing frames. Spreader bars for shipping purposes shall not be used as installation spreaders.

2) Wood spreaders shall be square and fabricated from lumber no less than 1″ (25.4mm) thick. The correct length is the door opening width between the jambs at the header (i.e., Single Door 3′- 0″ = 36″= 915 mm). Length tolerance is +1/16″, -0″ (+1.6 mm, –0). Cut clearance notches for frame stops. Spreader shall be nearly as wide as frame jamb depth for proper installation.

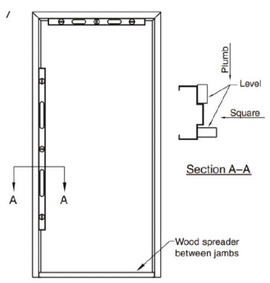
Fig. 6



3) Where welded frames are provided with spreader bars for shipping, they shall be removed with a suitable saw or chisel and filed flush before setting frames.

4) Figure 7 shows an example of proper frame plumbing & equipment used.

Fig. 7



Bracing the Frame:

1) Frame bracing shall be as shown in Figure 8, or shore to a structure above. It should be perpendicular to the intended wall.

Fig. 8

Positioning the Frame:

1) Set the frame in the desired location and level the header. Square jambs to header. Shim under jambs if necessary. With frame properly aligned, insert wood spreaders at bottom and mid-height and fasten jambs to floor through floor anchors.

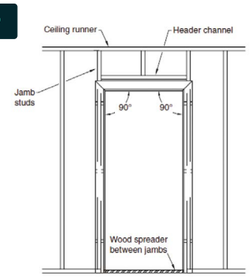
2) Plumb and square jambs.

For Steel Stud wall construction - studs erected with frame:

1) Attach jambs to floor through floor anchors.

2) Install jamb studs to floor, header channels, and ceiling runners butted tightly against frame anchors and properly positioned in frame throat for wallboard. See Figure 9.

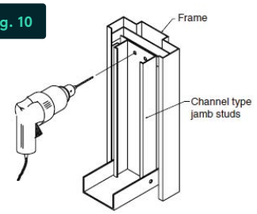
Fig. 9



3) Nesting or overlapping stud joints or other wall construction practices that will increase the overall wall thickness beyond the intended finished thickness are to be avoided.

4) Attach jamb studs to anchors with screws or weld. If using screws, drill from the back side of the stud, through both the stud and anchor, then attach with (2) screws per anchor location (see Figure 10). Screws shall be #6 x 3/8″ minimum steel sheet metal or self tapping type.

Fig. 10



5) When attaching header stud to jamb studs, be sure the stud is above frame header. This will assure ample room for attaching plaster lath or drywall and will not interfere with installation of hardware attached to frame header.

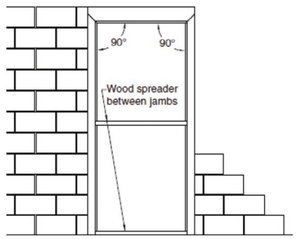
For New Masonry Construction:

1) Erect, brace, square and plumb frame.

2) Fasten frame to floor through base anchors.

3) Set second spreader at the mid-height of the door opening to maintain the door opening size. See Figure 11:

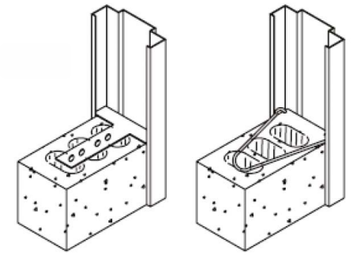
Fig. 11



4) Install anchors (see Figure 12). Grout frame in the area of the anchors as block courses are laid up.

5) Continually check plumb and square as wall progresses.

Fig. 12



Welded Frames

For Existing Masonry Construction

1. Rough openings for existing wall, structural steel framing, or retrofit installations utilizing a butted to wall application shall be no less than 3/16″ (4.8 mm) larger the frame on all three sides.
2. The installer is responsible for any shimming or aligning required. Gaps are normally sealed as part of the installation or caulking/painting process.
3. Refer to Architectural specifications for the appropriate sealant material to be used at fire or smoke control doors.
4. Slide frame into wall opening; install wood spreaders. Where possible, one jamb should be butted tightly to the wall.
5. Use tapered shims between anchors and wall and spreaders to maintain squareness and alignment of frame, and to maintain door opening sizes.
6. Drill appropriate size hole (per fastener manufacturer's instructions) for one-piece anchor bolts. Leave holes "rough" for added grip.
7. Backer rod or caulking shall be used where gaps occur between frame and wall.
8. Insert anchor bolts and tighten securely, checking for frame alignment periodically.
9. Install plugs to cover bolt heads (if so equipped). See Figures 13-15

Fig. 13

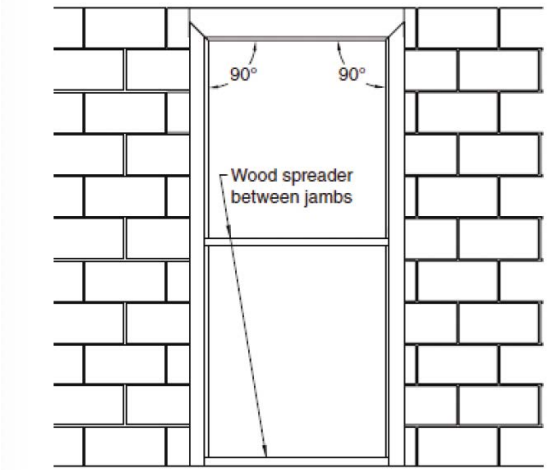


Fig. 14

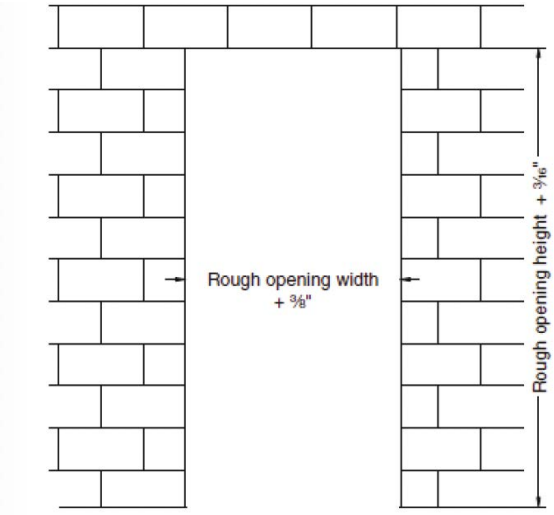


Fig. 15