

Classic Series Bilco Basement Door Installation Instructions



Imagine...

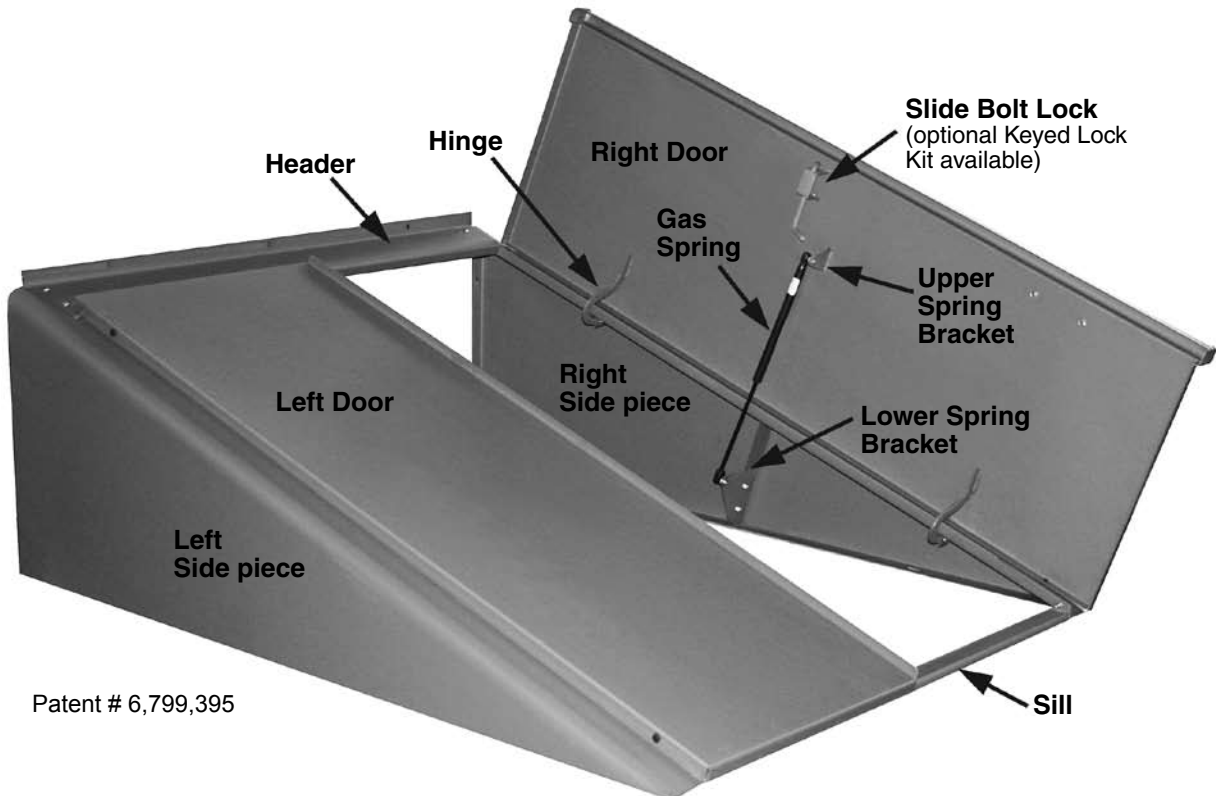
What Bilco can do for your basement

Bilco Customer Service (800) 854-9724
www.bilco.com

About These Instructions

It may be helpful to you to look through this entire folder before proceeding with the detailed assembly and installation instructions. The names of the various parts referred to in the instructions are indicated below.

IMPORTANT: Door must be painted within forty-five (45) days of installation. See paint label on interior of door leaf or go to www.bilco.com for complete painting instructions.



Patent # 6,799,395

Depending upon the type of installation, some or all of the following will be required:

- | | |
|--------------------------|--|
| • Hammer and Nails | • Wrenches or sockets:
5/16", 7/16", 1/2" |
| • Circular Saw | • 5/16" Carbide Masonry Drill Bit |
| • Masonry Chisel | • Exterior grade polyurethane caulk (opaque) |
| • Shovel and Trowel | • Work Gloves |
| • Level | • Safety Goggles |
| • Tape Measure | |
| • Electric Drill | |
| • Flat blade Screwdriver | |

CAUTION

When the doors are open for access, the area should be personally guarded to prevent anyone from falling down the stairs. Doors should be closed and locked when not in use.

KEEP OFF DOORS TO AVOID INJURY

Surface may be slippery. In extreme conditions steel in the summer sun can become hot and cause injury. White enamel or light color oil based alkyd enamel will reflect sunlight and reduce the temperature of the metal. **KEEP OFF DOORS**

Installing the door on an areaway that is smooth and level and properly sized to fit the door

The Bilco basement door will shed water in all normal conditions only when installed and caulked in accordance with these instructions. If there are no rain gutters above, a diverter must be installed to prevent roof water from flowing directly onto the door. If the foundation areaway that you are installing the door on is not smooth and level, or does not fit the door properly, see the bottom of page 3 of these instructions.

Before installing the door, verify that you have all the parts shown above and that you have the tools required for installation that are listed on page 1 of these instructions. If you are replacing an existing door, mix a small batch of concrete and patch any holes in the present concrete caused by the anchors that held the old door in place.

STEP 1: Frame Assembly: The Bilco basement door consists of six parts (the names of the parts are on page 1) plus a set of gas spring operators, and the hardware* packed with this instruction sheet. Start frame assembly by attaching header to side pieces with four round head bolts as shown in Figure #1A. The header must rest on top of the side pieces, with heads of bolts outside and nuts below. Tighten bolts with wrench to complete header installation.

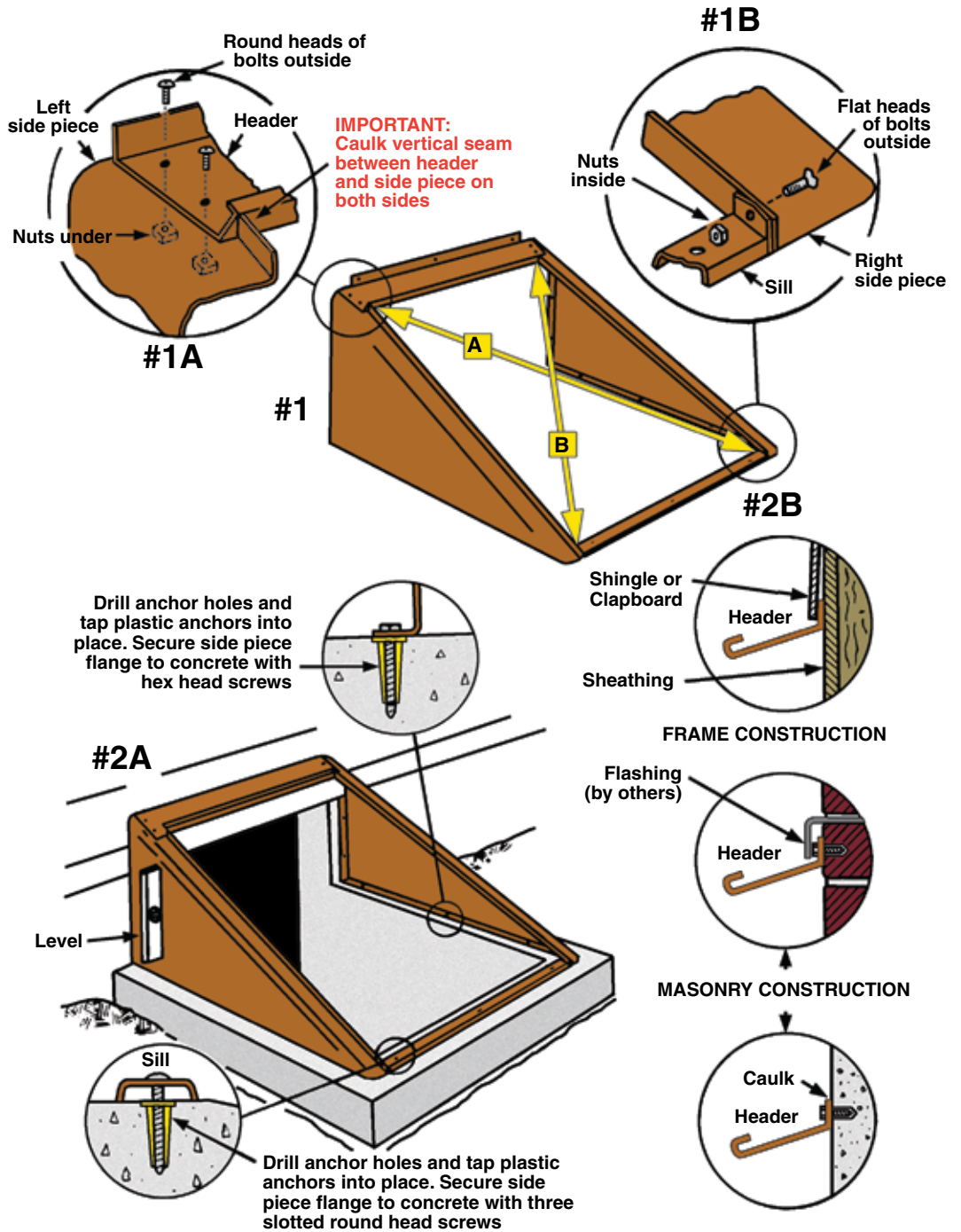
Next, attach sill to side pieces using two flat head bolts as shown in Figure #1B. It is essential that the heads of bolts are on the outside and the nuts are inside as shown.

STEP 2: Anchoring the Door Frame to the house and areaway Foundation: Move assembled door frame into place on foundation areaway. Make sure that vertical edge of side pieces are flush against the house. For replacement applications, siding may need to be removed and replaced to position door frame properly. Place a level against each side piece and check plumb as shown in Figure 2A. Square door by measuring diagonal dimensions as shown in Figure 1. Shift frame as required until measurements A and B are equal.

With the door plumb and square, mark all anchor hole locations on foundation areaway and wall with pencil or marker. Remove frame from areaway and drill all masonry anchor holes using 5/16" carbide tip masonry bit. Once all anchor holes are drilled, insert plastic anchors into all holes flush with concrete as shown in Figure 2A. Reposition frame on areaway and anchor side pieces to areaway foundation using #12 x 1-1/2" slotted hex head screws. Anchor Sill to areaway foundation using (3) #12 x 2" pan head screws.

Finish anchoring vertical flange and header to wall using the appropriate fasteners for the wall construction as shown in Figure 2B. (**Note: these fasteners are not included in the hardware package.**)

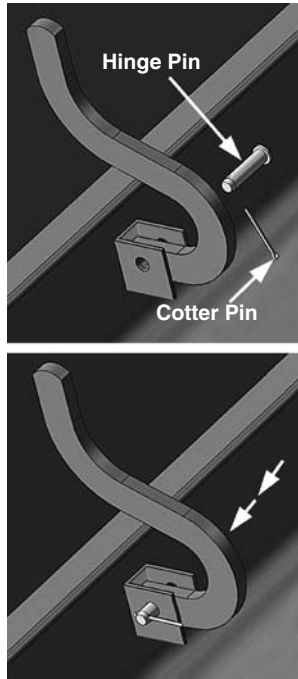
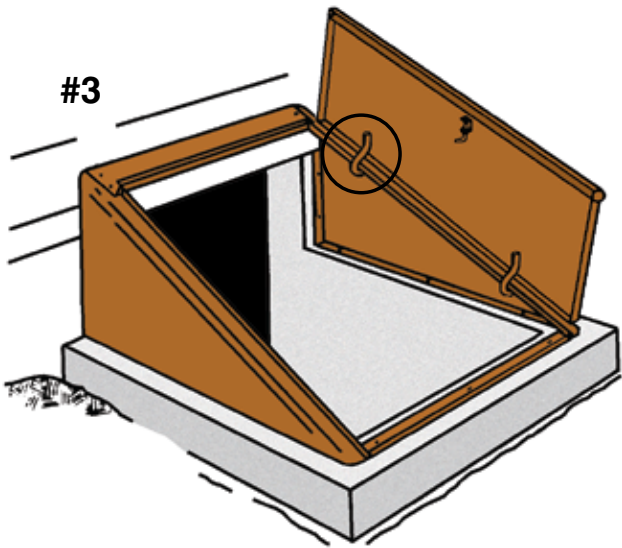
When anchoring is complete, replace shingles as required and caulk all around the exterior of the frame where it meets the masonry with polyurethane caulk (opaque) (Do not caulk using mortar).



*Hardware

- | | |
|--|-------------------------------------|
| (4) 1/4" x 1/2" round head bolts & nuts | (9) Plastic shields |
| (2) 1/4" x 1/2" flat head bolts & nuts | (2) Lower Spring Brackets |
| (4) 5/16" x 1-1/4" hinge & cotter pins | (1) Pair of Gas Springs & fasteners |
| (6) #12 x 1-1/2" slotted hex head screws | (4) Rubber bumpers |
| (4) 5/16" x 3/4" bolts & nuts | |
| (3) #12 x 2" slotted pan head screws | |

IMPORTANT: Caulk vertical seams between header and side pieces as shown in Figure #1A.



STEP 3: Door Installation: **CAUTION: Doors are heavy until gas spring operators are installed. Two people may be required for door assembly.** Install right door by holding it vertically over the right side piece as shown in Figure #3. Position the door so that the door hinges fit into the hinge brackets that are welded onto the side piece as shown. Line up the holes in the hinges with the hinge pivot holes in the brackets and insert the 5/16" x 1-1/4" hinge pins and cotter pins as shown. Install the left door in the same manner.

Install hinge pin so that head of pin is facing towards the house as shown (Left door and side piece shown)

IMPORTANT! An interior door at the bottom of the steps is required to prevent heat loss and reduce condensation.

STEP 4: Gas Spring Installation: With the Bilco basement door frame solidly anchored, the gas spring operators can now be installed. Attach lower spring bracket to side piece stiffener (on side of stiffener facing top step) using (2) 5/16" x 1/2" bolts and lock nuts as shown in Figure 4B. Attach ball fasteners supplied in bag with gas springs to lower spring bracket and upper spring bracket as shown in Figure #4A & B. **Note: Make sure the that ball portion of the fastener is facing towards the house on both brackets.** With fasteners securely tightened and door in the open position, push gas spring onto lower ball fastener as shown in Figure 4B until you hear it snap into place. Position and snap other end of gas spring onto upper spring bracket shown in Figure 4A to complete spring installation. Repeat process on other door leaf.

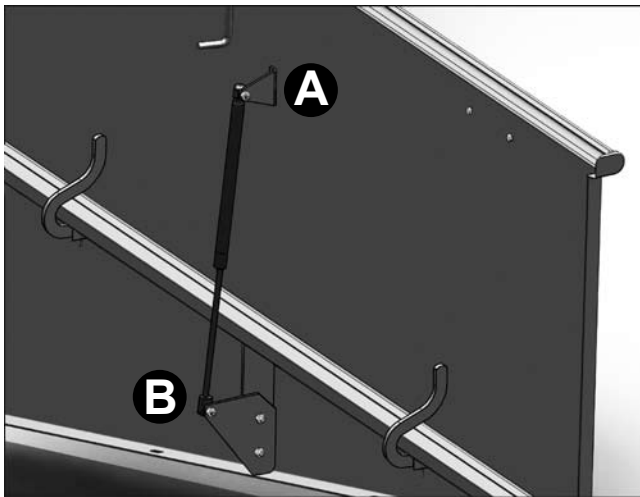
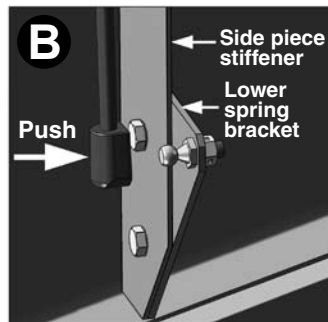
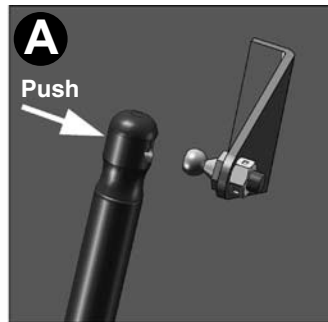


Figure #4

A: Upper Spring Bracket B: Lower Spring Bracket

IMPORTANT: Install Gas Springs as shown with larger diameter portion of spring on top.



STEP 5: Painting the Bilco basement door:

IMPORTANT: Door must be painted within forty-five (45) days of installation.

The Bilco Basement Door and optional extension panels are supplied with a uniform baked-on Sherwin-Williams primer finish. See paint label on the interior of the door leaf or go to www.bilco.com for complete painting instructions.

Optional stair stringers and foundation plates are galvanized steel but can be painted for aesthetic purposes. If painted, a metal primer must be used prior to applying the finish coat of paint.

STEP 6: Rubber Bumper Installation: After the finish paint has dried, install two rubber bumpers in the holes on the outside edge of each door. Bumpers are installed by twisting the small end into the hole until it is fully seated. Bumpers cushion the doors in the open position and protect the finish paint.

Replacing a door where concrete areaway is in need of major repair

If the surface of your concrete areaway is in need of major repair, you will need to recap it or install Bilco foundation plates before installing your basement door.



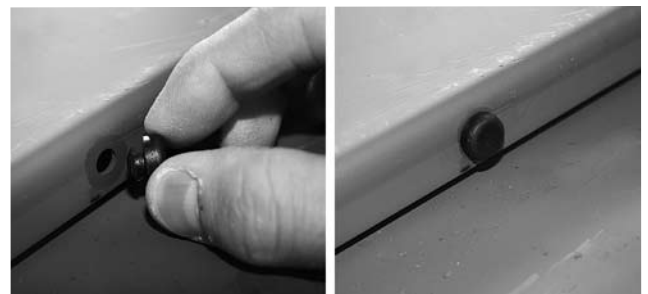
Bilco Foundation Plates

Foundation Plates

Optional Foundation plates are the fastest and easiest way to improve the surface of an areaway with minor damage. They easily cover rough masonry to improve the areaway's appearance and can be used to reduce the width of an odd size areaway to allow installation of a standard size door. Foundation plates are constructed of galvanized steel for long-life and durability. Contact Bilco or your local dealer for more information.

Capping your Concrete Areaway

If the surface of your foundation areaway is in need of major repair, the top of the areaway should be recapped with concrete before installing a Bilco basement door. Contact Bilco for guidelines on recapping your areaway or log-on to www.bilco.com to find a certified Bilco basement door installer in your area.



Installation on sloped masonry side walls

Side walls in poor condition

If the sloped masonry side walls of your areaway have loose or crumbling masonry and are not structurally sound, they can be removed and a door can be installed on the new flat areaway after a concrete cap is poured. Contact Bilco for guidelines on recapping your areaway or log-on to www.bilco.com to find a certified Bilco basement door installer in your area.

Side walls in good condition

Doors can be installed on side walls if they are structurally solid, have no loose or crumbling masonry, and have a uniformly flat and level surface on which to anchor a door. If your side walls meet these conditions, it is best to return your door and use a Bilco Sloped Wall Basement Door (see photo on far right).



How to correct installation errors or repair minor damage*

Door not shedding water. If your Bilco basement door does not shed water, look for and correct these installation errors.

1. **Header not properly caulked at side pieces.** Run a bead of silicone caulk along the small vertical seams between the header and side pieces (see instruction 2 on page 2).
2. **Doors do not fully close.** Stand on steps and slowly close each door to see if the bottom flange of one or both is binding on the concrete. Chip away or rub down excess concrete with mason's stone so flange is not obstructed. Refer to instructions at right for adjustments if required.
3. **Masonry not high enough.** The masonry under the Bilco basement door should be 4" higher than the surrounding grade and concrete should be level so water cannot accumulate in front of the sill.
4. **Water seeping between steel and masonry.** Door should be caulked all around the exterior where the steel and masonry meet, as well as where the unit joins the building wall. If side pieces have been buried in concrete, the unit should be removed and stairwell recapped so that the assembly rests on top of the areaway.

5. **Blocked header channel.** Make certain channel is clear. Any blockage in this channel will cause water to overflow the header.

Doors Out of Alignment. This is caused by failure to align the doors and square the frame as instructed. With doors closed, sight across bottom. Remove door that is higher than the other. Hold vertically with top edge on the ground as shown in Figure 1 below. Strike each hinge three or four solid blows with a hammer. This bends hinges in the direction of top of door, thus lowering it to line up with other door. If additional adjustment is necessary, remove lower door, place lower end on ground and strike each hinge with a hammer. This bends the hinges in the direction of the bottom of the door, thus raising it to line up with other door.

Doors Not Seated Properly. If doors do not seat themselves properly or bounce slightly when in closed position, and bottom flanges of doors are not obstructed by concrete in front of sill, apply lubricant such as WD-40 to hinges, then refer to STEP 2 on page 2 and check frame for plum and square. Hinge can also be adjusted to get the door to seat properly. From below with door open three-quarters of the way, insert a screwdriver along side of hinge as shown in Figure 2

below. Pull door down on it to a point where you feel pressure of the screw driver relieving binding condition.

Hinge Damaged. A hinge can be bent downward by mishandling during shipment or by someone trying to force the door closed without releasing the hold-open safety latch, and as a result the door does not fit properly on the frame. Such damage to a hinge can be identified by a bump on the top of the door. To correct, remove the door from the frame, place it on the ground with the hinge side up and step downward on the hinge to bend the pivot point back to its correct location (see Figure 3 below). The other hinge on that door, which has not been damaged, can be used as a guide in bending the hinge back to the proper place.

Door Warped or Bent. Place the end of door on a block or bottom step of a nearby stairway, and step down on it with your foot. Door can be bent back to the original shape very easily, but when it's installed on the frame and supported all around it's extremely strong and will not bend during everyday use (see Figure 4 below).



Figure 1



Figure 2



Figure 3



Figure 4

*The Bilco basement door is carefully and adequately packed to withstand all normal shipping abuse. This information is provided to show how easily minor repairs can be made, thus saving the builder or homeowner much unnecessary inconvenience. For additional information or assistance, please contact our customer service department.

Bilco Basement Door Warranty

Bilco Basement Doors are designed to operate to the customer's satisfaction and to provide years of trouble-free service. Should a part fail to function in normal use within a period of five (5) years from the date of purchase, a new part will be furnished at no charge. Finish warranty voided if doors are not painted inside and out per instructions in STEP 5 on page 3 within (45) days of installation.



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