



Secure Door® Rollup Door Brace Installation Instructions

SAFETY INSTRUCTIONS. Thoroughly review these instructions before starting the installation. To minimize the risk of eye injury, always wear eye protection when using an electric drill.

Inventory the parts to ensure everything needed for the installation is present in your kit. In the event any of the parts listed above are missing from your vertical bracing system, please call us at 800-483-3341 and leave a message with your name, address and description of the missing part and we will promptly ship it to you. Alternatively, you may email this information to us at info@securedoor.com.

Parts List (see photograph of each part on the following page to identify each)

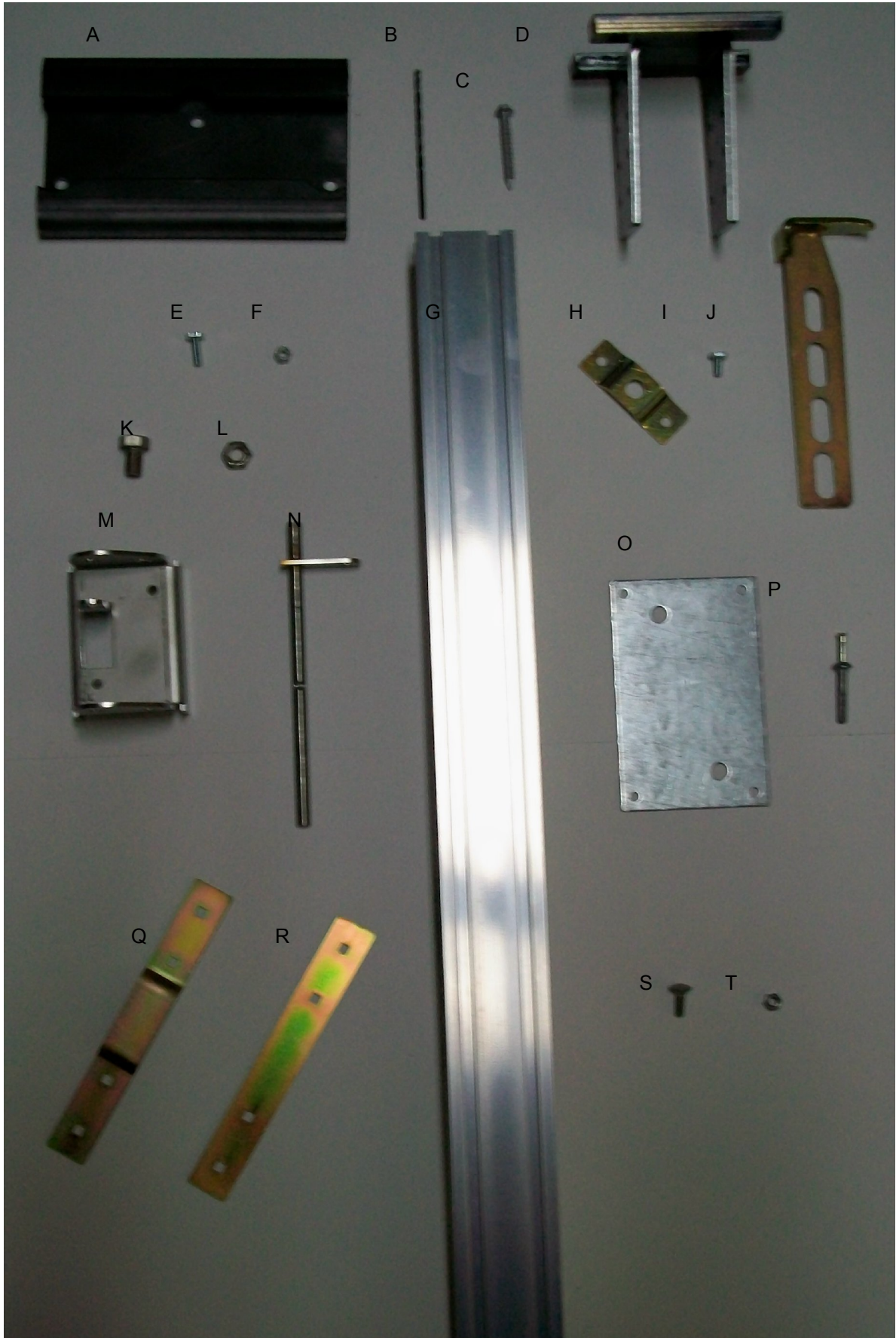
Description	Qty	Part	Used in this step
top slide assembly receiver	1	A	step 1
¼ x 4 ½" masonry bit	1	B	step 1
5/16" x 2 ¼" hex head Elco UltraCon masonry & wood fastener	3	C	step 1
top slide assembly	1	D	step 2
¼-20 x ¾" hex head bolt (grade 5)	8	E	step 2
¼- 20 ny-loc nuts	42 for 10' brace 48 for 12' brace 54 for 14' brace	F	steps 2, 3 and 4
extruded aluminum profile .250" wall thickness	1	G	step 2 & all later steps
Deflection bracket brace attachment	5 for 10' brace 6 for 12' brace 7 for 14' brace	H	step 5
¼-20 x ½" hex head bolt (grade 5)	14 for 10' brace 16 for 12' brace	I	step 5
deflection hooks	5 for 10' brace 6 for 12' brace 7 for 14' brace	J	step 5
½-13 x ¾" hex head bolts	5 for 10' brace 6 for 12' brace 7 for 14' brace	K	step 5
½-13 thin ny-loc nuts	5 for 10' brace 6 for 12' brace 7 for 14' brace	L	step 5
floor slide bolt receiver assembly	2	M	step 6
Slide bolts	2	N	step 7
floor plate	1	O	step 7
¼ x 1 ½" hammer drive fasteners	4	P	step 7
Front receiver plate	5 for 10' brace 6 for 12' brace 7 for 14' brace	Q	step 8
Backing plate	5 for 10' brace 6 for 12' brace 7 for 14' brace	R	step 8
¼-20 x 5/8" Carriage bolt	20 for 10' brace 24 for 12' brace 28 for 14' brace	S	step 8

Next, assemble the following tools that are needed to install your Secure Door® rollup brace:

Electric drill & extension cord
½" masonry drill bit
Level
Hammer
Felt tip marker pen

5/16" and ___ socket drivers
5/16" metal drill bit
Ratchet wrench set
Vacuum cleaner, turkey baster or ear syringe
Hacksaw, chop saw or Sawz-all

NOTE: The drill is used to drill pilot holes, with the 1/4" masonry bit we have provided, into the door header for the Top Bracket and for drilling three holes with the 1/2" masonry bit into the warehouse floor to receive the bolts from the floor slide bolt assembly . **AT NO TIME SHOULD ANY HOLES BE DRILLED INTO THE ALUMINUM PROFILE SINCE IT WOULD SEVERELY WEAKEN THE ENTIRE BRACING SYSTEM.**

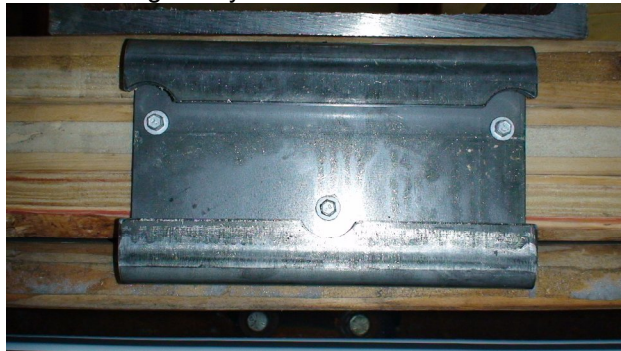


Step 1. The center of the Top Slide Assembly Receiver (part A) will mount on the bottom of the head in a location that is determined by the number of braces to be attached to the door and in accordance with the following table:

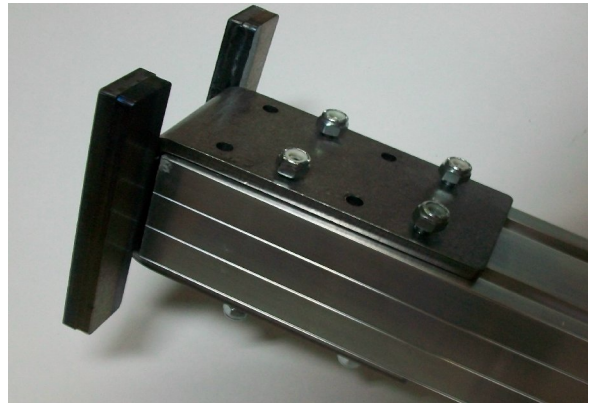
Width of door	# of braces	Location of the center of the Top Slide Assembly Receiver
10' or 12 or 14'	1	Centered width-wise in the opening
10' wide	2	One receiver 3' from both ends with 4' between the two receivers
12' wide	2	One receiver 3.5' from both ends with 5' between the two receivers
14' wide	2	One receiver 3.5' from both ends with 7' between the two receivers

Measure the opening height from the floor to the bottom of the header in each location where there will be a brace and record the measurements for use later in step 4 for determining the length to cut the aluminum profile.

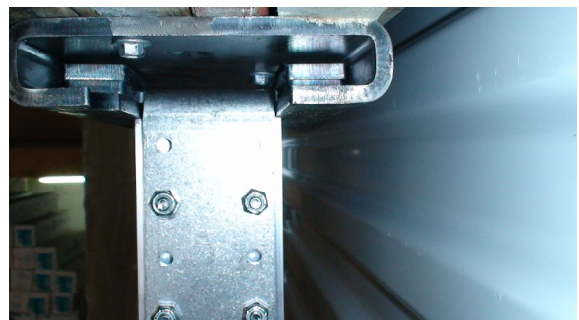
Holding the receiver in place and using it as a template, mark through the three holes with a marker pen. Using the $\frac{1}{4}$ x $4\frac{1}{2}$ " drill bit in the kit (part B), drill pilot holes at the three marks then install the three $\frac{5}{16}$ " x $2\frac{1}{4}$ " Elcon UltraCon masonry and wood fasteners in the kit (part C) if the header is made of wood or masonry. Substitute three $\frac{5}{16}$ " diameter bolts and nuts if installing into a steel header. The result should appear like the picture below where a receiver is screwed into a wood header – the weakest condition and the one used for testing the systems effectiveness.



Step 2. Locate the Top Slide Assembly (part D) and the eight $\frac{1}{4}$ -20 x $\frac{3}{4}$ " hex head bolts (part E) and eight of the $\frac{1}{4}$ -20 ny-loc nuts (part F). Insert four of the bolts into holes on each side of the Top Slide Assembly with the bolt heads inside the assembly as shown in the picture below on the left and hand tighten the ny-loc nuts on each bolt. Next slide the Top Slide Assembly (part D) onto the extruded aluminum profile (part G) by guiding the bolt heads into the tracks on the side of the profile (see the picture below on the right).



Step 3. Push the Top Slide Assembly down onto the brace leaving $\frac{1}{4}$ " gap as shown in the picture below, then tighten the nuts completely. The gap is necessary to permit the slide assembly to slide into the receiver without being obstructed by the aluminum profile as shown in the photo on the right.



Step 4. Cut the aluminum profile to a length equal to the opening size determined in step 1 less 1 ½". This provides sufficient allowance for the Top Slide assembly and the Floor Slide Bolt Assembly. For example, if the opening is exactly 10 feet or 120 inches, cut the profile to a length of 118 ½" (120" less the 1 ½" allowance).

Step 5. Next is the installation of the hooks onto the side of the brace. The hooks will alternate sides of the brace. For a 10' high door, five hooks will be used and for a 12' high door, it is normally five hooks.



The hooks will slip into the receiver plates on the door as shown at left and the receiver plates will attach to door as described later at the horizontal seams of the panels on the door. Normally, a rollup door has a series of panels that are about 25" high (+/- 2 inches). Normally, a 10' high door will have five panels and four seams connecting the panels while a 12' high door will have six panels and five seams. The number of seams determines the number of hook mechanisms to be used, except one additional is placed at the bottom of the door.

Hook mechanisms will be placed on the brace in an alternating pattern (right side, left side, etc.).

To start the assembly of the hook mechanisms, locate five (six on a 12' brace) Deflection Bracket Brace Attachments (part H), five or six ¼-20 x ½" hex head bolts (part I), five or six Deflection Hooks (part J), five or six ½-13 hex head bolts (part K) and five or six ½-13 thin ny-loc nuts (part L). Insert a ½-13 hex head bolt through the hole in the center of the Deflection Bracket Brace Attachment as pictured below on the left, then place a Deflection Hook over the bolt and hand tighten the ½-13 thin ny-loc nut. Then take two ¼-20 x ½" hex head bolts and insert them into the holes on the ends of the Deflection Bracket Brace Attachments, followed by hand-tightening the ¼-20 ny-loc nuts over the threaded end of the bolts as shown in the photo below on the right:



Repeat the procedure above until all five of the hook assemblies (six on a 12' brace) are complete and installed on alternate sides of the brace (see the picture of a completely assembled brace at the end of these instructions).

Step 6. The next task is to attach two Floor Slide Bolt Receiver Assemblies (part M) to the bottom of the brace by inserting two ¼-20 x ½" hex head bolts on the inside of both of the Floor Slide Bolt Assemblies and hand-tightening the ¼-20 ny-loc nuts on the outside as shown below on the left. Then slide each mechanism onto a side of the brace by inserting the bolt heads into the tracks on the profile.



Step 7. In order to install the Floor Plate (part O), take the brace as it is currently assembled and slide the Top Slide Assembly and the brace and insert it into the Top Slide Assembly Receiver that is mounted underneath the header. The bottom of the brace should be within a $\frac{1}{4}$ to a $\frac{1}{2}$ " of the floor, hanging vertically. Use a level to determine if the brace is plumb or vertical, then place the Floor Plate (part O) under the brace so the two Slides are aligned with the two larger holes in the Floor Plate. Insert the slides into the Floor Slide Bolt Receiver Assemblies, turning them a $\frac{1}{4}$ turn as necessary to permit them to seat completely. Then using a marker pen, mark through all the holes in the Floor Plate onto the floor at the four corners of the Floor Plate as well as the two larger holes that will receive the Slide Bolts.

Remove the brace so the area is clear to drill then drill the four corner holes with a $\frac{1}{4}$ " masonry bit (part B) to a depth of $1\frac{3}{4}$ " and the two larger holes for the Slide bolts with a $\frac{1}{2}$ " masonry bit to a depth of $3\frac{1}{4}$ ". Clean the holes with a vacuum cleaner or by forcing air into the hole with a turkey baster or ear syringe until the drill dust is removed from the holes. Then put the Floor Plate over the holes so the holes in the plate align with the holes in the floor. Insert the four $\frac{1}{4} \times 1\frac{1}{2}$ " hammer drive fasteners (part P) and hammer the pins that protrude until they are set and the Floor Plate is securely fastened to the floor of the building. Re-install the brace into the slide at the top and insert the pins into the Floor Plate. Lower the floor plate to $\frac{1}{4}$ " higher than the Floor Plate if there is a gap between the bottom of the brace and the floor plate of greater than $\frac{1}{4}$ ". Then slide the deflection hook assemblies so that one hook is located at each seam in the door and they alternate on the sides of the brace.

Step 8. The next step is to mount the Backing Plates on the door. For doors with a two foot panels of corrugated metal, place a Front Receiver Plate (part Q) over the seam in line with a hook mechanism where the hook aligns with the receiver portion. With the felt tip marker, mark through the four holes in the Front Receiver Plate onto the seam of the door as shown on the left below. Repeat this step for all four or five hook locations / seams. Then drill through the marks with the $\frac{5}{16}$ " metal drill bit. With the aid of a second person, place the Backing Plate (part R) on the side of the door opposite the brace and place the $\frac{1}{4}$ -20 x $\frac{5}{8}$ " carriage bolt (part S) through the packing plate while the second person on the other side of the door places the Front Receiver Plate in line and secures the carriage bolt with the $\frac{1}{2}$ -20 hex nut (part T). The results should like the picture on the right.



When staggered as indicated above (where there are two columns of Receiver Plates for a two brace installation), the backing plates will not interfere with the proper rolling and unrolling of the door when it is closed and opened in everyday operation. For doors with individual slats that are seamed together, place these brackets should be about ever 2' over the height of the doo, plus one more about six inches above the bottom of the door.

Step 9. The final step is to adjust the Deflection Hooks to their proper position. Since all doors tend to lift when experiencing the pressure of high winds, it is important that the hooks are mounted slightly higher on the brace than the receiver location so that as the door lifts, the hook becomes parallel to the ground and perpendicular to the brace. The proper location is achieved by making the lower end of the Deflection Bracket Brace Attachment (part H from step 5) at the same height as the top of the Front Receiver Plate. This will result in the hook actually being slightly higher than the receiving bracket as shown below:



If installing multiple braces, mark each brace with a permanent marker to indicate "L" for left, and "R" for right. Although each brace could be adjusted to fit another location, keeping the braces pre-adjusted facilitates quick installation when a storm approaches.

Installation of your Secure Door® rollup door brace is now complete. Please note the brace Floor Slide Assemble and Slide can be aligned and locked in place to keep it from being removed or stolen.

Your brace can be removed for storage by detaching the deflection hooks from the receiving mounts, lifting the slide pins from the floor plate and removing the top from the slide. Store the brace by lying it flat on the floor, up against the corner of the building or by fabricating a hanger or strap to hold it safely out of the traffic area and to prevent it from falling.

THE BRACING SYSTEM WORKS IN CONJUNCTION WITH YOUR EXISTING. DOOR LOCKS ON BOTH SIDES OF THE DOOR ARE HIGHLY DESIREABLE. IF YOU DO NOT HAVE DOOR LOCKS, PURCHASE THEM FROM YOUR DOOR SERVICING COMPANY AND INSTALL THEM OR HAVE THEM INSTALLED.

Picture of Installed brace on a door



Use the ASCE 7 table with entries for building height, width, length, roof angle, desired wind speed protection and distance from the corner of the building to determine the appropriate psf protection needed.

Disclaimer

Secure Door® assumes no liability arising from the use or misuse of its product. Secure Door® is a retrofit product and therefore its effectiveness is dependent on the type, quality, condition, and strength of the door to which it is attached. If your door is made of weak or corroded materials, has suffered prior damage, is poorly maintained, improperly installed, or is otherwise of poor or substandard quality, Secure Door® alone may not provide the level of hurricane protection you need. Since we cannot verify the nature and condition of each customer's garage door on which Secure Door® is installed, we cannot provide assurance to any customer that Secure Door® will enable their garage door to match the performance achieved in our independent testing on a new door of known quality and materials. The effectiveness of Secure Door® increases with each brace installed and we strongly recommend you purchase the number of Secure Door® braces for your door to achieve the level of protection required by ASCE7 table. From our testing of this product on a non-wind load rollup door with 26 gauge steel curtain (that failed in testing at pressures equivalent to design loads between 70 and 80 mph without braces), our recommendations for protection levels, expressed in pounds per square foot (psf), are:

Door size	# of braces	Design Pressure	# of braces	Design Pressure
10' wide x 10' high	1	50.2 psf	2	55.3 psf
10' wide x 12' high	1	34.8 psf	2	46.1 psf
10' wide x 14' high	1	25.6 psf	2	33.9 psf
12' wide x 10' high	1	41.8 psf	2	46.1 psf
12' wide x 12' high	1	28.5 psf	2	38.4 psf
12' wide x 14' high	1	20.9 psf	2	39.5 psf
14' wide x 10' high	1	35.8 psf	2	39.5 psf
14' wide x 12' high	1	24.4 psf	2	32.9 psf
14' wide x 14' high			2	24.2 psf