HARDWARE & HINGES
BY PENROD

Single Action Spring Hinge Installation

LISTED GRADE 1 UNITED STATES AND CANADA

Penrod's entire product family of Single Acting Spring Hinges are Listed by Underwriters Laboratories to meet ANSI A156.17 Grade 1 for self-closing hinges (approved for fire doors).

USES FOR SINGLE ACTING SPRING HINGE

Reduces the cost of installing a door closing device on residential and commercial applications. Can be used to upgrade existing buildings with self-closing doors. Excellent option for residential and commercial buildings where doors are required to be self-closing, based upon local fire code requirements.

Penrod's UL Listed spring hinges are not available with reverse springs.

Maximum door sizes and number of spring hinges required is based upon limits set forth in NFPA #80. NFPA #80 requires a minimum of two (2) spring hinges on labeled fire door applications. Penrod's spring hinges are Listed by UL and approved for fire rated openings.

RECOMMENDED MAXIMUM DOOR SIZE: 3' wide X 7' high

RECOMMENDED MAXIMUM DOOR WEIGHT (LBS)			HINGE SELECTION	
3.5" X 3.5"	**4" X 4"**	**4.5" X 4.5"**	**SPRING HINGES**	**BUTT HINGES**
50	60	70	1 Each	2 Each
70	85	115	2 Each	1 Each
90	110	150	3 Each	None

Notes:

1 Wind conditions, excessive air pressure, weather stripping, or other adverse job conditions may require the use of all spring hinges

2 For maximum versatility, use all spring hinges

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Penrod Spring Hinge Specifications -
Consult Penrod Catalog for part numbers and available finishes

Hinge Size	Corners	Gauge	Hole Pattern	# of Holes	Screw Size		Quantities		Estimated case weight (lbs)
					Wood	Machine	Box	Case	
4" x 4"	5/8" radius	.098"	Taylor Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	5/8" radius	.098"	Masonite Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	1/4" radius	.098"	Taylor Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	1/4" radius	.098"	Masonite Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	5/8" radius/ square corner	.098"	Taylor Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	5/8"" radius/ square corner	.098"	Masonite Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	Square	.098"	Masonite Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4 1/4"	5/8"" radius/ square corner	.098"	Masonite Prep	8	#10 x 3/4"	#10 x 1/2"	2	40	33
4" x 4"	5/8" radius	.098"	Timely Prep	8	#10 x 1 1/4"	#10 x 1/2"	2	40	33
4" x 4"	1/4" radius	.098"	Timely Prep	8	#10 x 1 1/4"	#10 x 1/2"	2	40	33
3.5" x 3.5"	5/8" radius	.098"	Universal	6	#10 x 3/4"	#10 x 1/2"	2	40	18

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PROPER HANDLING & CARE

Single Action Spring Hinge Installation

How do I adjust the tension on my self-closing door hinges to make my door close slower or faster?

FOR INSTALLATION:

Remove the spring tension from each barrel on the hinge by inserting a tension rod into the tension adjustment hole, and then rotating it in the direction of the arrow, as shown in Figure 2 or Figure 3. Remove the tension pin.

Align the centerline of the door with the centerline of the frame and secure the frame leaf.

For best alignment of self-closing double doors, mount your hinges on one door with the tension adjustment up, and then adjust the tension down on the opposite door as shown in Figure 1. Shims may be necessary under the edges of the frame flanges for door alignment.

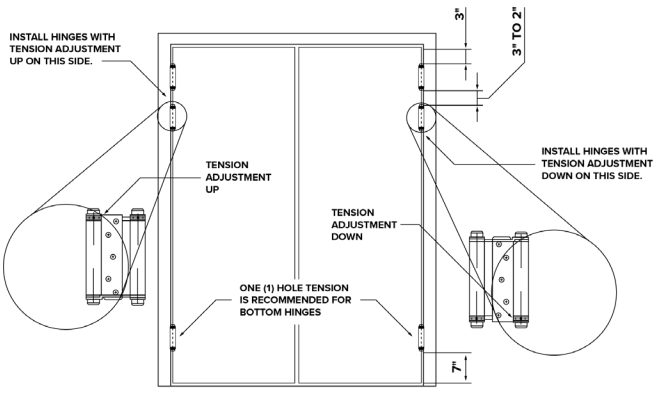


FIGURE (1)

FOR SPRING TENSION ADJUSTMENT:

1 1 Place the door in a closed position, then wedge the door up from the floor until it is plumb.

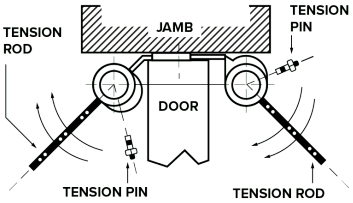
2 2 Insert a tension rod into the tension adjustment hole, rotate the rod in the direction of the arrow, as shown in Figure 2 or Figure 3. (Only one hole of tension is recommended for bottom hinges.)

3 3 Insert a tension pin, and remove the tension rod.

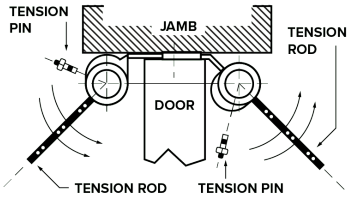
4 4 Increase tension on the top hinges if the door sags or the return action is too slow.

CAUTION: Do not exceed five (5) holes of tension.

TOP VIEW
TENSION HOLES ON TOP
INSERT TENSION ROD AND ROTATE CLOCKWISE AS SHOWN



TOP VIEW
TENSION HOLES ON TOP
INSERT TENSION ROD AND ROTATE COUNTER CLOCKWISE AS SHOWN



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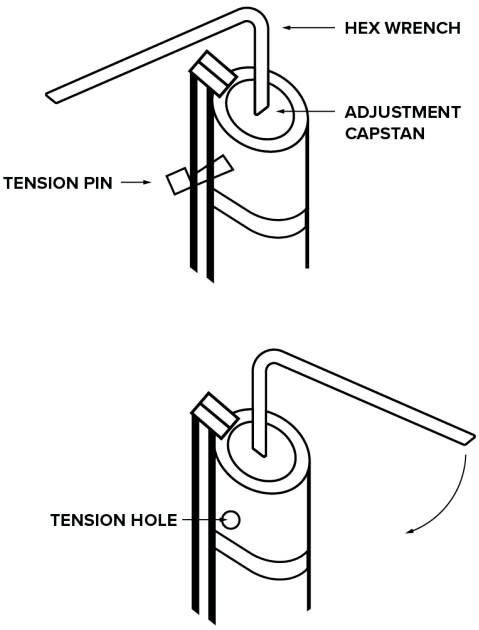
I have a two-way swinging door with double-barreled hinges. How do I adjust these hinges?

FOR INSTALLATION & ADJUSTMENT:

1. Attach the spring hinge to both doors and jambs so the hinge leaf with the UL logo is attached to the jamb. (The hex adjustment may have to face down.)
2. Place the door in a closed position.
3. If the hex adjustment cylinder is facing up, turn the hex wrench clockwise to the desired tension. If the hex adjustment cylinder is facing down, turn the hex wrench counterclockwise to the desired tension.
4. Insert the tension pin into the tension hole when the holes in the center stud and the hinge knuckle line up. Slowly release the tension on the hex wrench.
5. Remove the hex wrench and test the closing action of the door.
6. Repeat Steps 1 through 5, if necessary, to increase or decrease the tension of the spring hinge.



CAUTION:

1. Do not exceed three (3) holes of tension for doors opening 180 degrees, and do not exceed four (4) holes of tension for doors opening 90 degrees.
2. Adjust the spring hinge to the minimum tension required to close the door. Over-tensioning will reduce the spring life.

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Oxidation (RUST) & FINISHING

Why is addressing oxidation & finishing so important?

Standard steel-based finished, plated hinges and hardware products meet or exceed the industry minimum standard; Penrod produces to a much higher-than-minimum standard to provide the highest quality finished product.

Oxidation (rust) is eventually going to occur over time on all steel-based plated products. This process will be accelerated, if not begin to immediately occur, from

- Excessively humid or wet environments
- Building designs that do not wick and/or capture moisture
- Foreign cleaning agents applied directly to, wiped on, or sprayed on that delaminate the finish
- Paint drippings, splatter, or overspray
- General misuse

We recommend using a stainless steel or stainless steel-based product if you will be in excessively wet or humid environments, or if the design or building application limits drying out from weathering. It is important to keep foreign agents away from these products, and if cleaning them, to do so only using a warm-water and mild-soap solution. Please refer to our limited warranty for more details.I want to paint the door hinges onsite. Is that possible?

What is the stainless steel grading on Penrod products?

All our stainless steel products are a 304 grade. This is to provide the highest quality and most resistance to oxidation (rust). 304 grade hinges are not recommended in marine environments, which is direct physical contact with salt water. We recommend a 316 grade hinge, which can be reviewed for special lead time production.

ANSI/BHMA/NFPA 80/FIRE RATING /SPRING GRADING

What grade are spring hinges and are they UL rated?

Each of our residential and standard grade 1 commercial spring hinges are certified and stamped on the hinge with the grade rating and UL registration number.

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