STEP 1: Know Your Measurements

Before choosing hardware, you must have your **Shutter Thickness**, **Trim Width** & **Reveal Depth**. Use the diagrams below to find these values:

Field	Description	Your Measurement
Shutter Thickness (*T*) Figure 1.0	How thick is your Shutter? (Standard is usually 1" to 1.5").	_____ inches
Trim Width Figure 1.1	What is the Window Casing/Trim Width? (Mounting point for Pintel).	_____ inches
Reveal Depth (*R*) Figure 1.2	What is your Window Reveal Depth? (Determine if this is + or –)	_____ inches

Figure 1.0 Shutter Thickness (*T*)

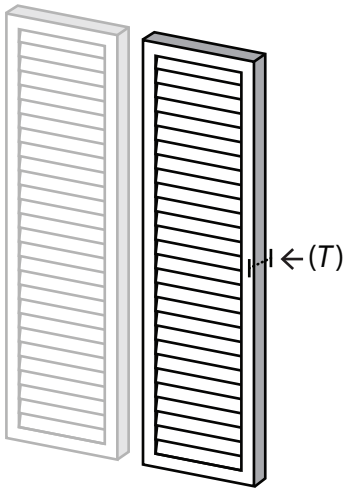
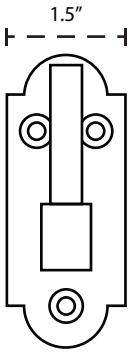


Figure 1.1 Trim Width

(Top View of Window)



Note

SteelTek Pintels are 1.5" Wide

In most cases, Window Trim Widths **exceed 1.5"**, however, it's best practice to ensure fitment prior to ordering.

Figure 1.2 How to Measure for Reveal Depth (*R*)

Recessed Window (–)

Your window is inset into the wall

(Top View of Window)

Measure from the Trim out to the Face of the Structure Exterior to find Reveal Depth (*R*).

Record as a negative number (e.g., -2").

Proud Window (+)

Your window trim protrudes beyond the wall

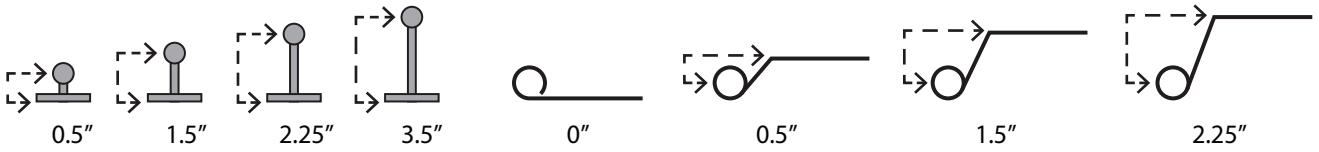
(Top View of Window)

Measure how far the Trim extends past the Structure Exterior to find the Reveal Depth (*R*).

Record as a positive number (e.g., +0.5").

Note There are <u>two "States"</u> to SteelTek Shutter Hardware; **Open & Closed.** This guide separates both states to provide a better understanding in how to choose the proper hardware.

Pintel & Hinge Offset Options



ⓘ Sizes are representative and not to scale.

STEP 2: The OPEN State (Configuring SWING CLEARANCE)

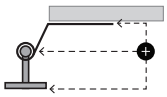
Goal: Ensure the shutters clear the corner of the house and lay flat.

Pro Tip: Start with a .5″ Offset Pintel and .5″ Offset Hinge (Increase size of Pintel until clearance is achieved)

Start Here

↓

_____ Pintel Offset ***(P)*** + _____ Hinge Offset ***(H)*** = _____ in. **TOTAL REACH**



↓

_____ **(TOTAL REACH Sum)** + _____ Reveal Depth ***(R)*** = _____ in. **SWING CLEARANCE**

ⓘ **Target:** +0.5″ or greater

Figure 2.0 Open State (Recessed)

Aim for a result of +0.5″ or greater Swing Clearance to ensure shutter doesn't contact exterior.

(Top View of Window)

Figure 2.1 Open State (Proud)

Aim for a result of +0.5″ to +1.5″ Swing Clearance to ensure shutter sits parellel to the exterior.

(Top View of Window)

Success vs Failure Examples

Below are two examples to help you envision a successful installation:

<u>SUCCESS (Recessed Brick House)</u>

Hardware: 1.5″(***P***) + 1.5″ (***H***) = 3.0″ reach.

House: -2.0″(***R***) (Brick sticks out 2″)

Formula: 1.5″(***P***) + 1.5″(***H***) + [-2.0″(***R***)] = +1.0″

Result: The shutter clears the brick by 1.0″

<u>FAILURE (Deep Stone House)</u>

Hardware: 1.5″(***P***) + 1.5″ (***H***) = 3.0″ reach.

House: -3.5″(***R***) (Stone sticks out 3.5″)

Formula: 1.5″(***P***) + 1.5″(***H***) + [-3.5″(***R***)] = -0.5″

Result: The shutter will hit the stone and cannot open all the way. This customer needs to increase offset.

STEP 3: The CLOSED State (Configuring CLOSURE CLEARANCE)

Goal: Ensure the shutters don't come in contact with the glass and sit at desired depth.

Pro Tip: Start with the Hinge and Pintel you used to find the Swing Clearance. If your Closure Clearance is negative try a smaller Hinge or larger Pintel.

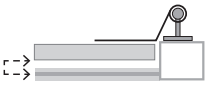
Start Here

↓

___ Pintel Offset *(P)* – ___ Hinge Offset *(H)* = ___in. **CLOSED HARDWARE OFFSET**

↓

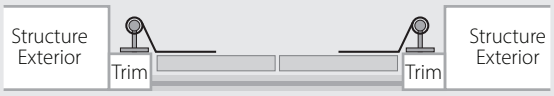
___ **(CLOSED HARDWARE OFFSET)** – ___ Shutter Thickness *(T)* + ___ Trim Depth = ___ in. **CLOSURE CLEARANCE**



ⓘ **Minimum:** + 0.50" (See "Closure Clearance" Diagram Figure 3.2)

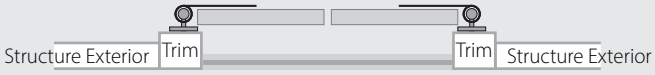
Common Window Types & Applications

Figure 3.0 **Closed State (Recessed)**



(Top View of Window)

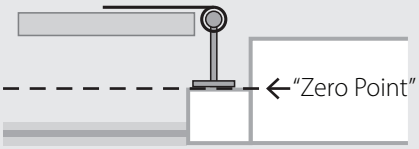
Figure 3.1 **Closed State (Proud)**



(Top View of Window)

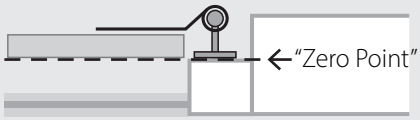
Note The **Pintel Base** is your "Zero Point". A **Recessed** shutter sits behind this base (closer to the window glass), while a **Proud** shutter sits in front of it (closer to the street).

Proud (+)



The shutter face sits in front of the Pintel Base (closer to the street)

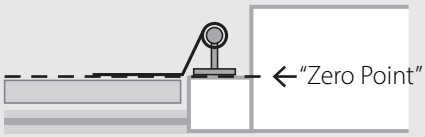
Flush (0)



The shutter face sits level with the Pintel Base

Recessed (–)

**Recommended*

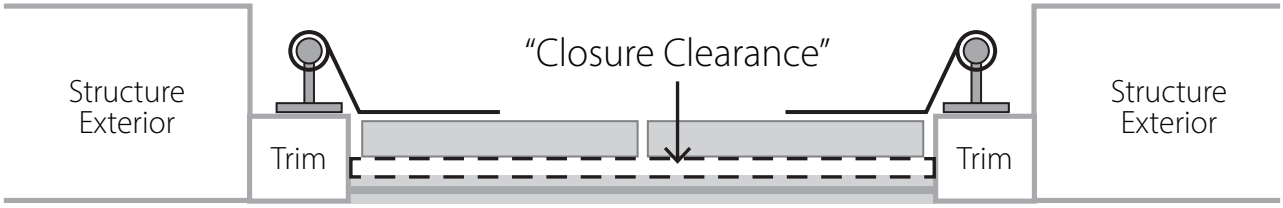


The shutter face sits behind the Pintel Base (closer to glass)

ⓘ You can have a **Recessed Window** but choose to have a **Proud Shutter**. They are independent of each other.

Figure 3.2 **Understanding the "Closure Clearance"**

Regardless of the look, the face of the shutter must have a minimum 0.5" of space from the glass, in the closed position.



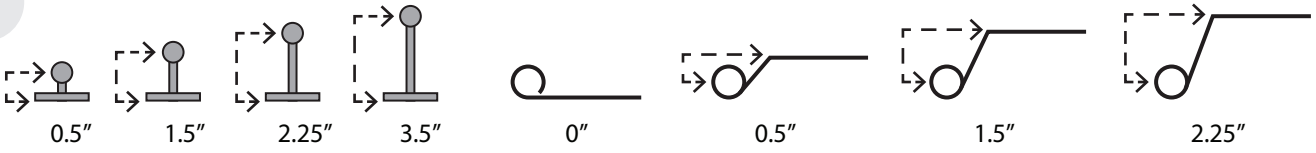
(Top View of Window)

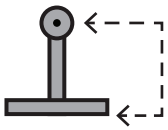
STEP 4: Choose Your Hardware

Mix and match any Pintel and Hinge to satisfy the formulas in Steps 2 & 3.

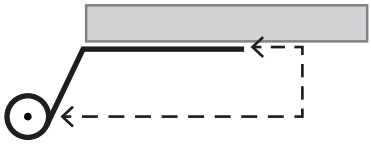
Pintel & Hinge Offset Options and Information

4.1



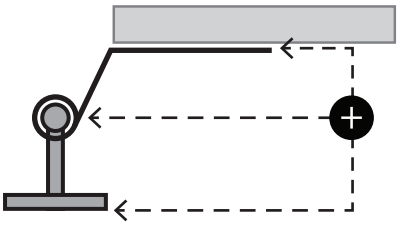


Pintel Offset is measured from the center of the Pin to the Mounting Base.



Hinge Offset is measured from the center of the Hinge Sleeve to the Mounting Base.

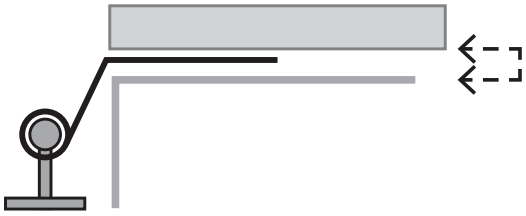
4.2



In the OPEN STATE, the Hinge Offset + the Pintel Offset = "Total Reach"

In the CLOSED STATE, the Pintel Offset – the Hinge Offset = the Closed Hardware Offset

4.3



The Total Reach + Reveal Depth = Swing Clearance. We recommend 0.5" clearance or more.

The Closed Hardware Offset – Shutter Thickness + Depth of Trim (from Window) = Closure Clearance. We recommend 0.5" clearance or more.

ⓘ Sizes are representative and not to scale.

Note

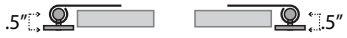
Since shutters remain in the **OPEN STATE** 99% of the time, prioritize that calculation first. Aim for a result (**+0.5" Swing Clearance)** to ensure a clean, "parallel" look against the house. If this causes the shutter to be slightly **Proud** when closed, it is a standard trade-off for a better-looking (and safer) open-state profile.

SteelTek Pintel & Hinge Combinations

0″ Offset Flat Hinge

1/2″ Offset Pintel

Total Reach (*P+H*)



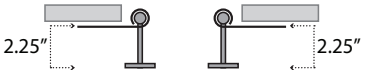
Closed Hardware Offset (*P–H*)

1 1/2″ Offset Pintel

Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

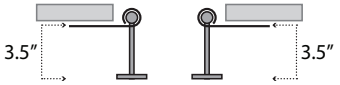
2 1/4″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

3 1/2″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

1/2″ Offset Flat Hinge

1/2″ Offset Pintel

Total Reach (*P+H*)

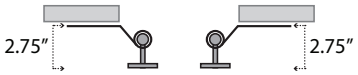
Closed Hardware Offset (*P–H*)

1 1/2″ Offset Pintel

Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

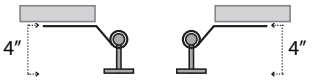
2 1/4″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

3 1/2″ Offset Pintel



Total Reach (*P+H*)

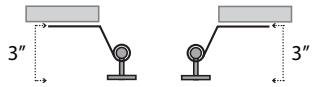
Closed Hardware Offset (*P–H*)

1 1/2″ Offset Flat Hinge

1/2″ Offset Pintel

Not Compatible

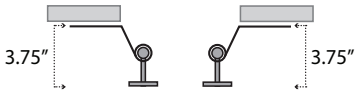
1 1/2″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

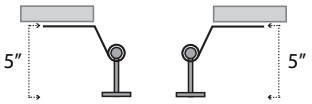
2 1/4″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

3 1/2″ Offset Pintel

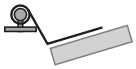


Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

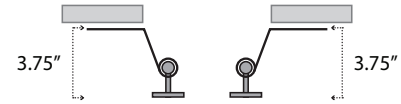
2 1/4″ Offset Flat Hinge

1/2″ Offset Pintel

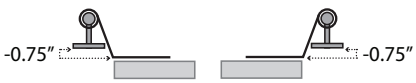


Not Compatible

1 1/2″ Offset Pintel

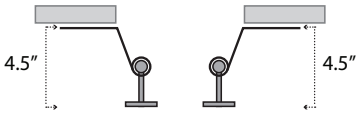


Total Reach (*P+H*)



Closed Hardware Offset (*P–H*)

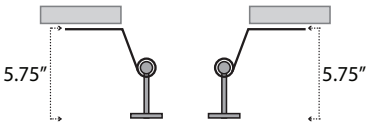
2 1/4″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

3 1/2″ Offset Pintel



Total Reach (*P+H*)

Closed Hardware Offset (*P–H*)

Note Closed Hardware Offset – Shutter Thickness + Trim Depth = Closure Clearance

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