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INSTALLATION GUIDE FOR PROWELL DRIVEWAY GATES

Drive gates of 12' overall width or less are 2-1/4" thickness and require no steel frame. For overall widths beyond 12', all gates require either embedded or exposed steel frames.

Five Applications

- 1) 12-ft or less overall width. All Wood. 2-1/4" thickness
- 2) 12-16-ft overall width. Surface mounts to exposed steel frame. Gate thickness: 2-1/4"
- 3) 12-16-ft overall width. Embedded steel frame. Gate thickness: 3"
- 4) Single-span Sliding Gates.
- 5) All of the above mounting to our Gate Columns.

#1) ---12-ft OR LESS. ALL WOOD

a) Mounting to Wood Posts.

The all-wood drive gates can mount to wood 6x6 posts in the same manner as the double pedestrian gates. Posts should be set at least 42" in grade and set on a 3" bed of drainage gravel to insure the moisture drains away from the end-grain. Concrete fill.

Jambs: For masonry columns, jambs are required. At 1-1/2" thickness x 4" width, these most often surface-mount to the smooth masonry column face with masonry spread bolts. We do not provide mounting bores, as it is best to leave this determination to the site. Bolts are recessed to accept the depth and diameter of the washer and bolt head. The bolt schedule is two bolts along one edge of the jamb that will be concealed by the Prowell gate stops, and one, centered, which is concealed by the closed gate.

For columns with irregular stone, it is best to mount the jambs directly to the block core



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and set the stone to the jambs on either side. This is accomplished by using a temporary mock jamb, replaced with the Prowell jamb that arrives with the gate. A few dimensions are required from the site for Prowell to spec the jamb depth: The distance from the block core to the outer-most point of the stone. This would be the stone thickness, essentially. Prowell will then provide jambs that are this thickness, plus ½", to insure the gate swings without binding against the stone.

For all jambs mounting to non-breathing masonry surfaces, it is advisable to use a weatherproofing tape such as Vitchithane. This protects the cavity between the back of the wood jamb and the masonry from bacteria which breeds in cavities without light or air flow. This should be applied only after the boring holes are drilled. Otherwise, the chip-out from the drill creates a bump in the tape that prevents the jambs from seating itself evenly against the masonry.

In-swinging gates are set to the far edge of the post or jambs. Out-swinging gates to the near edge. All hinges are surface-mounted. Do NOT mortise in the hinges. The vast majority of Prowell gates are hung with 4" ball-bearing butt hinges.

Install the provided hinges to your gate by aligning them with the pre-set hinge holes in the edge of the gate. Because the ball-bearing hinges do not have removable pins, you must set the gate on blocks that will bring it to the desired height-- normally 2" off the grade. On the post, scribe a pencil-line along the top of the upper hinge, and another scribe in from the edge of the post or jamb that is equal to the depth of the hinge setting on the gate. Re-position the gate at 90-degrees in the open position—supporting the gate with blocks and shims-- providing access to mark, pre-drill, and set only the top hinge screw of the top hinge in place. The top hinge, with only one screw, has been allowed to pivot its alignment to the bottom screw and prevent binding. Mark the same depth in on the post for the bottom hinge. Mark and pre-bore the top screw hole of this bottom hinge



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and set this hinge screw in place. The gate is now self-supporting, and evenly hung without binding or misaligned hinge settings. Go ahead and set all the hinge screws for all the hinges.

The net gate width is 1-1/4" less than the rough opening between posts. This allows 1/4" for the surface-mounted hinges on either gate, and 3/4" for center clearance. It is important for non-automated gates to **recess or mortise the latch strike plates flush to their post** or jamb, otherwise you lose a portion of the swing clearance. Often, the gates will arrive slightly wide, requiring a little planing along this latch edge (*This occurs when your post or column is not plumb and we must build to the wider dimension*). The gates are often pre-bored for their latches upon arrival, depending on whether the latch was ordered through Prowell. Shipped gates will not arrive with the latches in place.

#2) ---12-16-ft. SURFACE MOUNTS TO EXPOSED STEEL FRAME.

Although this allows for either a double or single swing gate, we will always default to a *pair* of wood gates that are mounted to the steel frames, whether it is a single-span steel frame or a double-swing steel frame.

At 2-1/4" thickness, the pair of gates surface mount onto a 2" x 2" steel frame that is provided and installed by the automation contractor. The shop drawings will call out the dimensions of the steel frame to correspond to the stiles and rails of the gate and in accordance with the site contractor's specifications for hinge clearance. Because these are almost always automated, the steel frame and motors and access controls will be in place and operating when the gates arrive.

The gates are set on blocks to the bottom clearance called out on the drawings. They are held to the steel frame lightly with padded clamps. Mark and drill two countersunk holes along each top rail approximately 6" in from the vertical stiles. The same along the



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bottom rail. Using a gold drill bit, drill in through the pre-bored holes in the wood and through the steel frame. Set this first mounting bolt to insure the gate does not slip and lose its alignment with subsequent holes. The mounting bolts will be 1/4" stainless threaded bolts with a flat countersunk head. Washers and lock-nuts are set on the other side. Continue until all bolts are installed on both gates.

Check the center clearance to insure it is an even spacing. **It should be 3/4"-1"**. If not, you must plane it with either a block plane or power hand plane.

Application #2 can be supported by steel posts or masonry columns. Columns must be constructed with steel post cores. Hinge systems should be welded to the steel core.

#3---12-16-ft. EMBEDDED STEEL FRAME. GATE THICKNESS 3"

Double swing gates with each gate embedded with a steel frame within the wood stiles and rails. This is essentially four gates. Two faces, fully joined, are laminated together to accommodate the pocketed steel frame. Because the weight is of some significance, it is useful to have either a hand hoist or cherry picker to maneuver the gates during installation.

The embedded gates require 6x6 steel mounting posts. Do not support these with masonry columns that are constructed with only a concrete footing and re-bar. Masonry or stone columns must be constructed with steel post cores. The preferred method for the wider gates is to construct a gray-beam from one column to another. Hinge systems should be welded to the steel post cores. The hinge preference is that of the installer. Prowell will accommodate the hinge edges of the gates with any assortment of steel plates



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either mortised flush or proud. These exposed plates are welded to the embedded steel for maximum strength. This allows the installer to weld his hinge system to the gates.

This clearance between the gates and the supports is determined by the installer and relayed to us and called out on the drawings. Prowell will also create an additional vertical embedded steel stile positioned to accept any motor arm mounting plates. An exposed plate is positioned at the specs called out by the installer and shown on the drawings.

#4---SINGLE-SPAN SLIDING GATES

At 2-1/4" thickness, two gate leaves are surface-mounted to a single-span steel frame constructed and installed by the site contractor. Upon approach it appears to be a double-swing gate. The procedure for mounting to the steel frame is the same as described with application #2 above.

The gate runs along a V-track embedded into the drive surface by means of roller wheels mounted to the steel frame. There must be sufficient clearance in the direction of slide to accommodate the entire width span of the gate opening. When the grade slopes away, the V-Groove track is supported at a level height throughout.

The gates are often constructed with wider stiles on the far left and far right to allow the gate to extend beyond the columns or posts approximately 3". When closed, the width of the stiles is consistent with the center stiles of 5-1/4".

Prowell provides drawings of the steel frame dimensions to align to the gate frame. Clearance dimensions provided by the contractor are typically the bottom clearance off the grade required for the roller-wheels, and the distance the gates extend behind the columns or posts.



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Vertical alignment is best secured with a secondary track running parallel to the gate movement. The arm of a double roller is welded to the exposed steel gate frame and extends to ride along this secondary track at approximately 24" off grade, insuring vertical alignment. Another, less effective method is to mount double-rollers to the back face of the column or post and sandwich the gate itself. The rollers ride on either face if the gates. This method tends to mark or blemish the finish of the gates over time.

#5 MOUNTING TO PROWELL'S GATE COLUMNS

The gate columns are designed to compliment the aesthetic of the gate design, and as a visual improvement to exposing plain steel or wood posts. The columns are lighting optional.

With either wood or steel posts (depending on your span), the columns arrive as 4-sided assemblies with one removable side set temporarily with recessed screws. This side is removed and the 3-sided assembly slips around the posts. The dimension of the post is accommodated by furring blocks within the columns that allows for a snug fit.

The fixture arrives in place and the wiring is stubbed out the bottom of the column to be junctioned to the source near the base of the column. Low-voltage, with a transformer pre-installed. The cap is removable and allows access to the fixture.

Because the lighted grid is often backed with Plexiglas, this must be slipped out if the columns are going to be finished on site.

Hinging systems for the columns are determined by the contractor and all clearance dimensions are subsequently called out in the drawings.

For spans of 12-ft or less, 4" ball-bearing butt hinges are suggested, mounted to the far corner of the column in the same fashion as described above for wood posts.



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For longer spans, the hinge system should be welded off a steel posts inside of the columns. Prowell will mortise the column for any steel arm or hinge extending from the steel post. This will be the face of the column that is removable and will slip over or around the hinge arm and then secured to the other column faces. The exact positioning height of the hinge support arms must be known. The shop drawings will call out these dimensions, to be corroborated by the site installer.

Further discussion, with images, is available under Product Specifications, found under the Site Map.