Installing Gates and Posts
Tips and Pointers

When one installs a gate we hope that the gate will not sag and that the gate post will not move so that our work will not only look great but function properly. However, this can be diff cult to achieve as the wood that the gate and post is made of is a dynamic medium that is expanding and contracting as well as twisting and warping with changes in temperature and humidity. Furthermore, in northern areas there is frost heavy which tends to move posts in the ground. While we cannot eliminate these problems we can do certain things to prevent gates sagging and posts moving. Therefore, we suggest f rst of all to use hardware that is adjustable so that small adjustments can be made to correct movement of the posts and gates construction techniques that will prevent the gate from sagging.

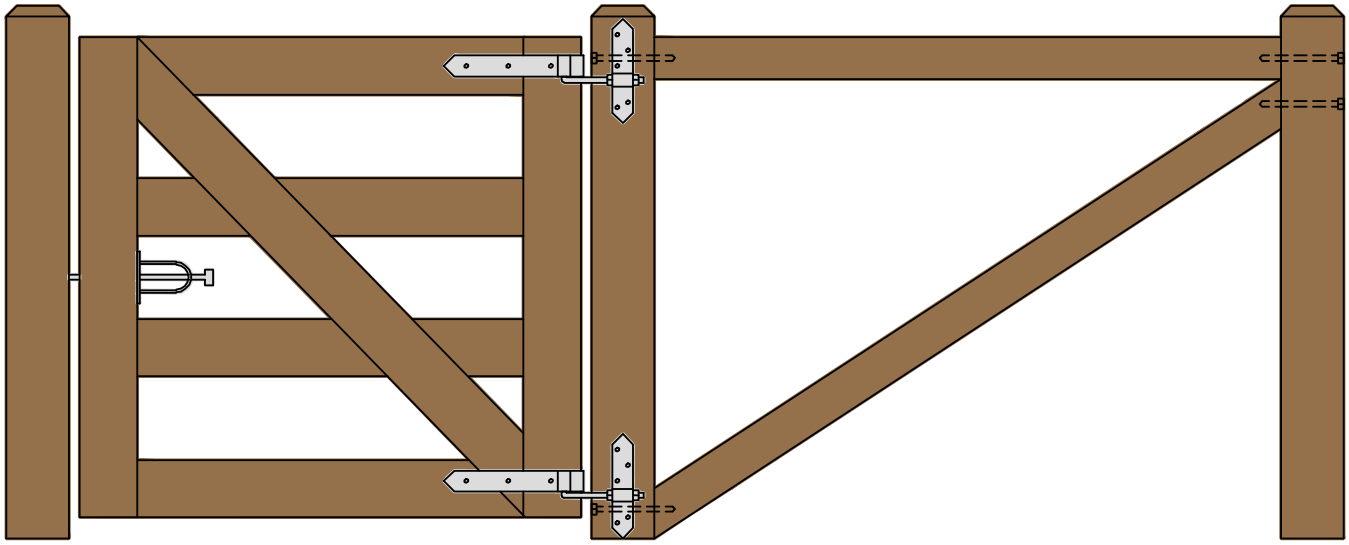
In addition, below are some recommendations that will reduce the chance of posts moving.

The Post Hole

1. Ensure that the depth of the hole extends well below the frost line.
2. The diameter of the hole permits 2” of clearance between the post and the edge of the hole.
3. Ensure that tree roots are not close to the post as when the root grows in diameter it will move the post.
4. Remove all stones and boulders that may push against the post.

The Hinge Post

1. The hinge post must be of suff cient size to support the weight of the gate. A 4 x 4 is not suff cient for a drive gate for example.
2. Brace the gate hinge post to the f rst line post.



We strongly suggest that the bracing between the hinge post and f rst line post for larger and heavier rail or driveway gates should be done as shown above. The top horizontal brace (4 x 4) f t tightly between the two posts and that lag screws are placed through the post and extend at least 3” into the horizontal brace (if the horizontal brace is not f xed securely to the posts then it is totally ineffective). The diagonal brace (4 x 4) should f t snuggly under the horizontal brace at the line post end and slope downwards to f t snuggly against the gate post just above ground level. Lag screws are placed through the post and extend at least 3” into the diagonal brace.

If a wire brace is used it should extend from the high side of the hinge post to around the line post at just above ground level.

Should Hinge Posts be Cemented?

While it is common practice to pour cement around hinge posts it may not be the best practice. If the hole is irregular in shape (which most are) the cement will assume the shape of the hole. The irregular surface of the cement will in fact increase potential for frost heave because the cement and post will now have no choice but to move with the ground when it heaves. Water is trapped between the post and cement and the post will never dry out, therefore dramatically increasing wood rot.

While it is more work if done properly we suggest that once the post is set in the hole that it be back f lled with gravel that is tamped f rmly as the hole is f lled. This will allow for better water drainage with less wood rot and the post will not be united with upper soil levels as they heave in winter.

Our Compreshensive Plans Are Only a Starting Point.

We have found that four rail 46" high gates are very common and functional. You are free to construct a gate using our plans as a startingpoint.
If you require a three rail gate just remove a board from our plan and adjust the space between the boards accordingly.
If you need a higher gate or a narrower gate to f t an existing opening make the changes to the horizontal boards and stiles (uprights). Remember however, that this will change the length of the diagonals and the angle at the end of the diagonals. Determining the angles and length of the diagonals is explained in the ñBuild A Better Gate" brochure .

Need to Keep Small Animals In or Out?

If you need to keep your small dog or chickens in or keep pesty rabbits out then install a galvanized wire mesh between the f rst layer of boards and the middle layer of boards.
The mest can be cut so that it comes to within approximately 2 inches of the edge of the gate. This will mean that there aren't any sharp wire ends exposed when the gate is completed.

The Central Hinges (8312) require about 4.5 to 5.0 inches between the gate and the post. If this is a problem then we suggest a few f ller blocks lag screwed to the fence post (see pictu

How to Latch the Gates

Hoover Fence Company offers a varity of heavy duty latches for heavy rail, farm, drive or dumpster gates. Please see our website or catalog for a complete listing. Below are a few suggestions.

SLIDING GATE LATCH

Combine our one piece cane bolt with the optional keep for an excellent heavy duty gate latch. In the picture to the left is a 12" (5000-122) cane bolt with a single keep (5000-002). Many of our customers use the 15" cane bolt also for this purpose. Ideal for double gates, single gates, and dumpster enclosures.

IRISH RAIL GATE LATCH

On a recent trip to Ireland we found this style of latch in common use throughout the countryside. We have made some modif cations so that it will work with European style f ve bar gates and with our Maine Board Gate, Cape Cod gate or any other style of wood rail gate. Simply drill hole or route slot to receive the bar in to the gate post. Cotter pin pushes through hole in bar to ensure it remains closed or you can put a padlock (not included) through the hole.
16" long overall, 5/8" rod, 4" of draw - with a 5.5" wide style latch will accomodate a space of up to 2" between the gate and the post. Bar can be cut shorter if necessary. Ideal for livestock.

CANE BOLTS

THROW OVER GATE LOOP

Our 12", 15" and 24" cane bolts can be locked with a padlock (not included) when in the fully extended position. The 36" cane bolt comes with a separate keeper that can be mounted at any position on the drop so that it can be locked with a padlock (not included).

- AVAILABLE IN 12" (4" DROP), 15" (6" DROP), AND 24" (10" DROP)
- LOCKABLE (PADLOCK NOT INCLUDED)
- HOT DIPPED GALVANIZED OR BLACK POWDER COAT OVER HDG
- HEAVY 5/8" ROD

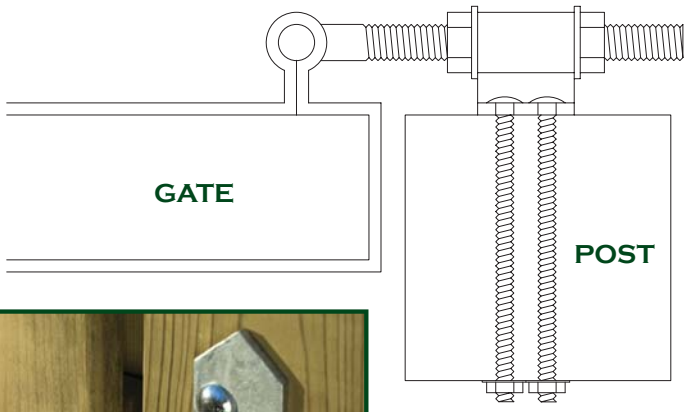
Latch two gates together. Heavy duty construction. Hot dipped galvanized f nish or black powder coat over galvanized. Fits gates 2 3/4" to 3 1/8" thick. Notch in throw over gate loop closes over staple on plate. Can be locked with a padlock or snap fastener (essential when used with livestock). Includes fasteners and staple on plate. Padlock and clip not included.

Hoover Fence Company
www.hooverfence.com

Rear Eye Double Strap Bands with Adjustable Mounting Plates and Pins(Sku# 8324/8325-Sets) Installation Instructions

1. Place the rear eye double strap hinge bands (12/18/24") on the gate in the vertical center of the top and bottom rails. Pay attention to the relationship this placement will create with the mounting plate on the post and adjust the spacing if it is necessary. Remember if this gate is intended to hold animals you will want to mount the bottom pin upside down to keep it from being accidentally lifted off its hinges (see photo A). If the position works with your posts than place the bands square on the gate and install by drilling a 3/8" hole through the gate at each square hole location on the bands. Generally drilling half way through from both sides makes this easier.
2. Install the supplied carriage bolts, washers, and nuts through the holes. Tighten them down which will sandwich the gate with the double strap bands. If these gates are for use with animals install the nuts and washers on the outside of the gate as this will give them less to catch themselves on.
3. Once the hinge bands are installed, place the gate in the opening and shim it to its desired location. An extra pair of hands comes in handy with this step. Generally we recommend a space of 2" between the gate bottom and the ground. Pay special attention to which direction the gate will swing, if it is swinging into an incline you may need to raise it up to compensate for this. If installing double gates ensure that the level is equal on both sides to ensure a good fit in the middle.
4. Once you are satisfied with the gates spacing and location, put the threaded pin through the mounting plate and turn the nuts until the mounting plate is close to the desired horizontal location on the post. We recommend that the distance between the edge of the mounting plate and the inside edge of the hinge post be no less than ½". Either mark the post with a pencil or make a spacer to keep this aligned while you fasten the mounting plate to the post.
5. Install the mounting plates by drilling through the posts if you are using carriage bolts(preferred method) or by drilling pilot holes if you are using lags. At first drill and install only two (the top and bottom) of the bolts on each one of the mounting plates. This will allow you move the location later if necessary. If you are using carriage bolts they will need to be 1" longer than the thickness of the posts(a 5.5" post requires a 6.5" carriage bolt).
6. After the mounting plates are installed using 2 bolts in each, remove your blocking and shims and test the operation of the gate. If it swings as you would like it to continue installing the rest of the bolts by pre-drilling and installing as you did before.
7. Congratulations! You have installed your gate.

Photo A



Hoover Fence Company
www.hooverfence.com

Build a Better Rail Gate

Easy to follow instructions
Easy to build
Uses standard 5/4 decking or rough cut 1 inch Lumber

Heavy Duty Hardware not only hangs the gate, it gives it much more strength to prevent sagging

Simply follow the enclosed instructions to easily make a strong 3 or 4 rail gate that will last for years and years.
Hardware is extremely heavy duty, made from 1/4 thick steel which is hot dipped galvanized. Just calculate the width and height (standard height is 46 inches but this can be changed to meet your requirements) and follow the enclosed instructions. Allow 4.5 to 5 inches between the post and gate for hinges and pins. Optional f ller blocks can be installed with lag bolts to reduce this opening (see photograph on left). Double gates will require a throw over gate loop and or drop rods. Allow 1/2 to one inch between double gates . Heavy lockable drop rods can also be used horizontally with a keep to latch gate. Where livestock is involved the bottom hanging pin should face up and the top pin should face down.

FOR MORE HARDWARE INFORMATION AND INSTRUCTIONS VISIT OUR WEBSITE AND CLICK ON THE PICTURE OF THIS BROCHURE. www.hooverfence.com

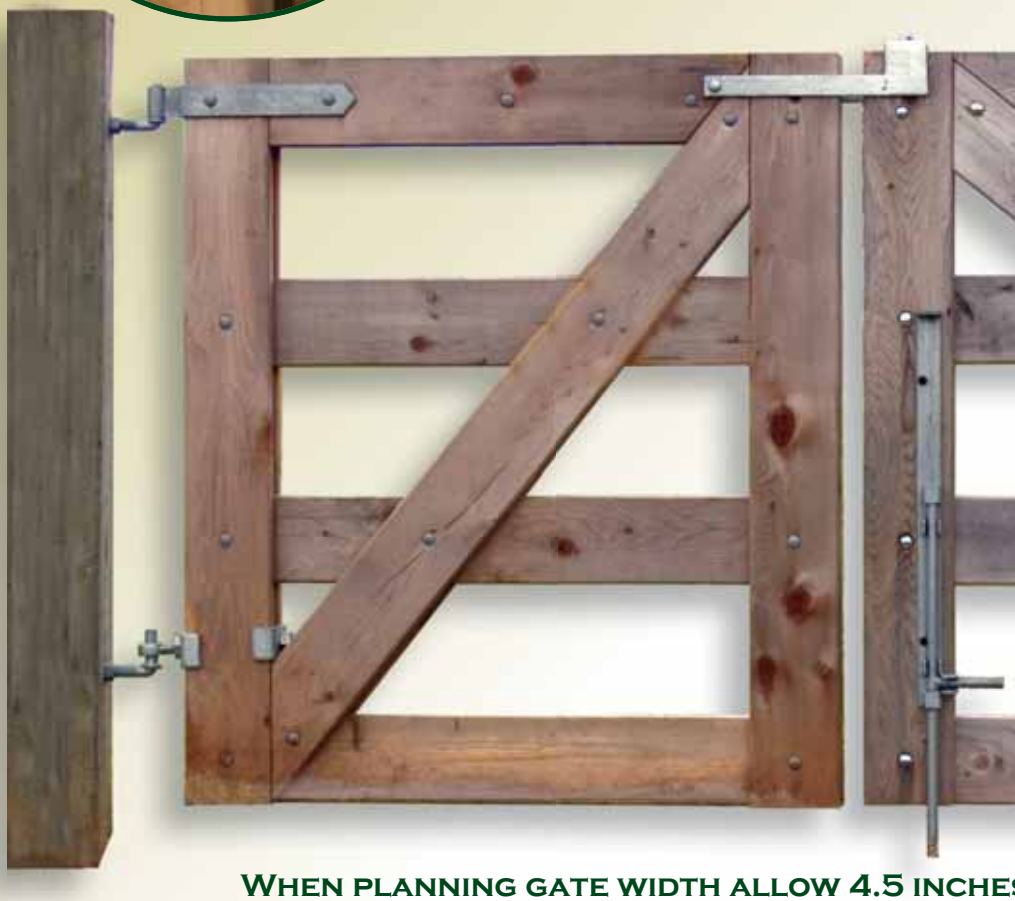
Build A Better Gate With

3 Rail or 4
That Will

Easy to
Use 5/4" x 6" D
or 1" Rough

1 Lay out two vertical risers (stiles), to rail and bottom rail in rectangular shape. Fasten each of the outside corners with a single 1.5" wood screw.

2 Measure the two diagonals and adjust gate so that they are equal (this will ensure the gate is square). Install another 1.5" fastener at each inside corner.



When planning gate width allow 4.5 inches

3 Measure distance between top and bottom board. Place two other rails and space equally. Cut two scraps to ensure the accurate placement of the horizontal rails.

4 Turn the gate over. Attach second stile at each end. Use 3.5" x 3/8" galvanized carriage bolts. Tip: use quick clamps to hold stiles in place while drilling.

5 Measure distance between stiles and cut upper rail to f t. Place in position but do not fasten at this stage.

Rail Gates
l Not Sag

o Build
ecking Lumber,
Cut Lumber

s between gate and post at each hinge end.

10 When installing bolts do not install bolts at top corner where hardware will attach. Center hardware on rails, drill holes and attach with fasteners provided.

9 Turn the gate over and repeat steps 5 thru 8 on the other side. Drill a hole at each intersection point and install 3.5” x 3/8” galvanized carriage bolt at each location.

6 Lay diagonal braces on surface (allow 1/2” from top of top rail) Mark top rail with pencil line.

7 Using a straight edge mark pencil line on diagonals even with inside edge of stiles. Mark top and bottom. Remove top rail and diagonal. Cut along pencil marks.

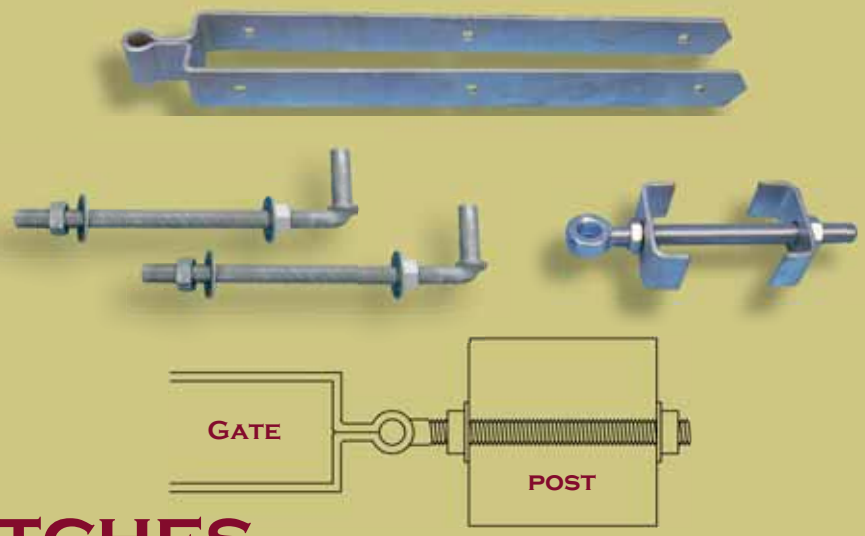
8 Lay top rail and diagonal in place ensuring a good f t. Install a 1.5” wood screw into each (screwing up from the bottom) to hold top rail and diagonal in place.

Double Strap Hinge Sets

Available in Hot Dipped Galvanized or Black Powder Coat over Hot Dipped Galvanized

Double Strap Hinge sets include everything you need to hang a robust rail gate that will not sag. The double strap sandwiches the wood and holds the corner square. Combines heavy duty construction and strength with easy adjustment. Set includes 12", 18", or 24" 8312 top strap, adjustable bottom gate f tting and two #8800 full thread pins.

Length	For Gates Up To	Product Code	
Inches		BPPCG*	Galvanized
12	4 feet wide	8332-12SP	8332-122
18	7 feet wide	8332-18SP	8332-182
24	12 feet wide	8332-24SP	8332-242
* BPPCG = Black Powder Coated Over Galvanized			



Latches

Available in Hot Dipped Galvanized or Black Powder Coat over Hot Dipped Galvanized

Latching gates where livestock is fenced in can always be a problem. We suggest that the use of our throw over gate loop and snap (for double gates) or a wrap around length of chain and snap. Gate latches should be checked periodically to ensure livestock cannot escape.

Throw Over Gate Loop

Latch two gates together. Heavy duty construction. Hot dipped galvanized f nish or black powder coat over galvanized. Fits gates 2 3/4" to 3 1/8" thick. Notch in throw over gate loop closes over staple on plate. Can be locked with a padlock or snap fastener (essential when used with livestock). Includes fasteners and staple on plate. Padlock and clip not included.

Product Code	Description
4200-032	Hot Dipped Galvanized
4200-03SP	Black Powder Coat over HDG

Spring Latch

Fabricated from heavy duty spring steel our rubust 24" high latch can be operated from horse back. Requires square gate post at least 6" x 6". Fits gates 3 inches thick. Requires 4 inches between the gate and the post.

Product Code	Description
8327-002	Hot Dipped Galvanized
8327-00P	Black Powder Coat over HDG

Heavy Duty Lockable Drop Rod

- AVAILABLE IN 12" (4" DROP), 15" (6" DROP), AND 24" (10" DROP)
- LOCKABLE (PADLOCK NOT INCLUDED)
- HOT DIPPED GALVANIZED OR BLACK POWDER COAT OVER HDG
- HEAVY 5/8" ROD

Length	Product Code	
Inches	BPPCG*	Galvanized
12	5000-12SP	5000-122
15	5000-15SP	5000-152
24	5000-24SP	5000-242
* BPPCG = Black Powder Coated Over Galvanized		
Black Cane Bolts packaged with 2" x 5/16" lag bolts		

Keep for Lockable one piece cane bolt

Use keep for mounting cane bolt in horizontal position as gate or door latch. Also ideal for latching two gates together.

Product Code	Description
5000-002	Hot Dipped Galvanized
5000-00SP	BPPCG with Black Lags

FOR MORE HARDWARE INFORMATION AND INSTRUCTIONS VISIT OUR WEBSITE AND CLICK ON THE PICTURE OF THIS BROCHURE. www.hooverfence.com

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