

## #5 ANCHOR-LOCK FORMING SYSTEM

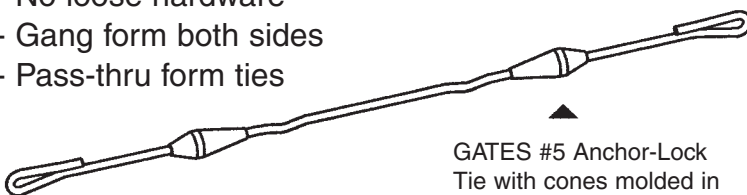
The GATES #5 Anchor-Lock System uses 3/4" plywood with the 2x6 flat walers on 12" centers, crossed by 4 x 4's on 24" centers to minimize the unsupported plywood span.

GATES Anchor-Locks are spaced 24" x 24" (or 4 sq. ft. per tie).



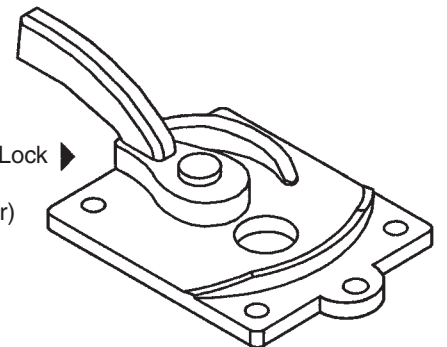
### Advantages of Gang Forming:

- Lower construction costs
- No loose hardware
- Gang form both sides
- Pass-thru form ties



GATES #5 Anchor-Lock Tie with cones molded in place. (1-1/2" breakback)

GATES #5 Anchor-Lock (Open & close with carpenter's hammer)



# STRAIGHT GANG FORMING

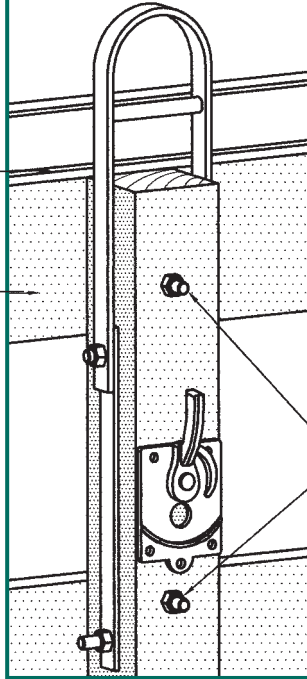


## GATES PICK-UP LOOP

3/4" Plywood form

2x6 Waler on flat

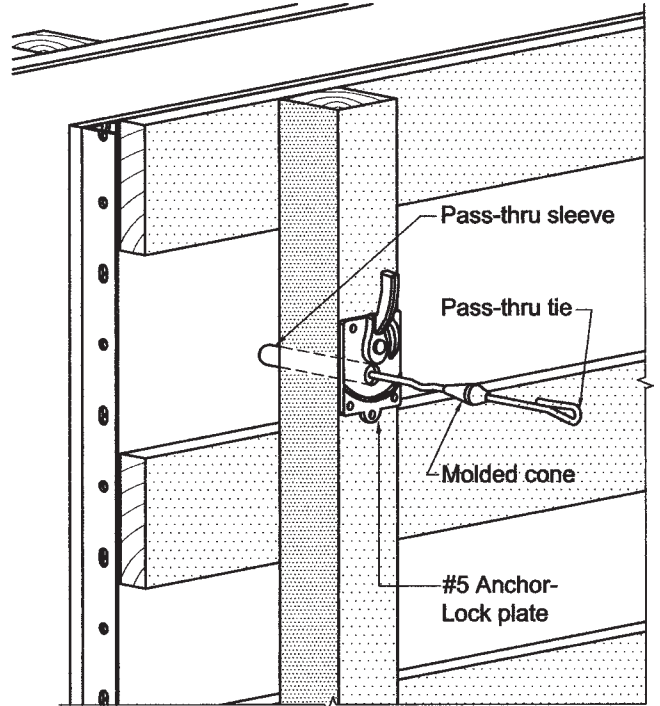
A secondary strap from the bottom of the Pick-Up Loop down with one additional bottom bolt must be used.



## GATES Anchor-Lock Gang Form Pass-Thru Tie

As the tie is inserted into the form, the plastic cone on the form tie sweeps out any foreign material that may be inside the plastic sleeve.

You must add cross bolts above the Pick-Up Loop bolt as a safety precaution.



### A Safety Requirement:

Four (4) bolts must always be used when attaching Pick-Up Loop, as shown.

Gang forming is becoming increasingly more popular and practical on many types of concrete work where repeated use of the forms can be made. Because the Anchor-Locks are attached to the form, moving and resetting of the form can be quickly accomplished.

**NO LOOSE HARDWARE!**

**Design service available from GATES**

#5 Anchor-Lock

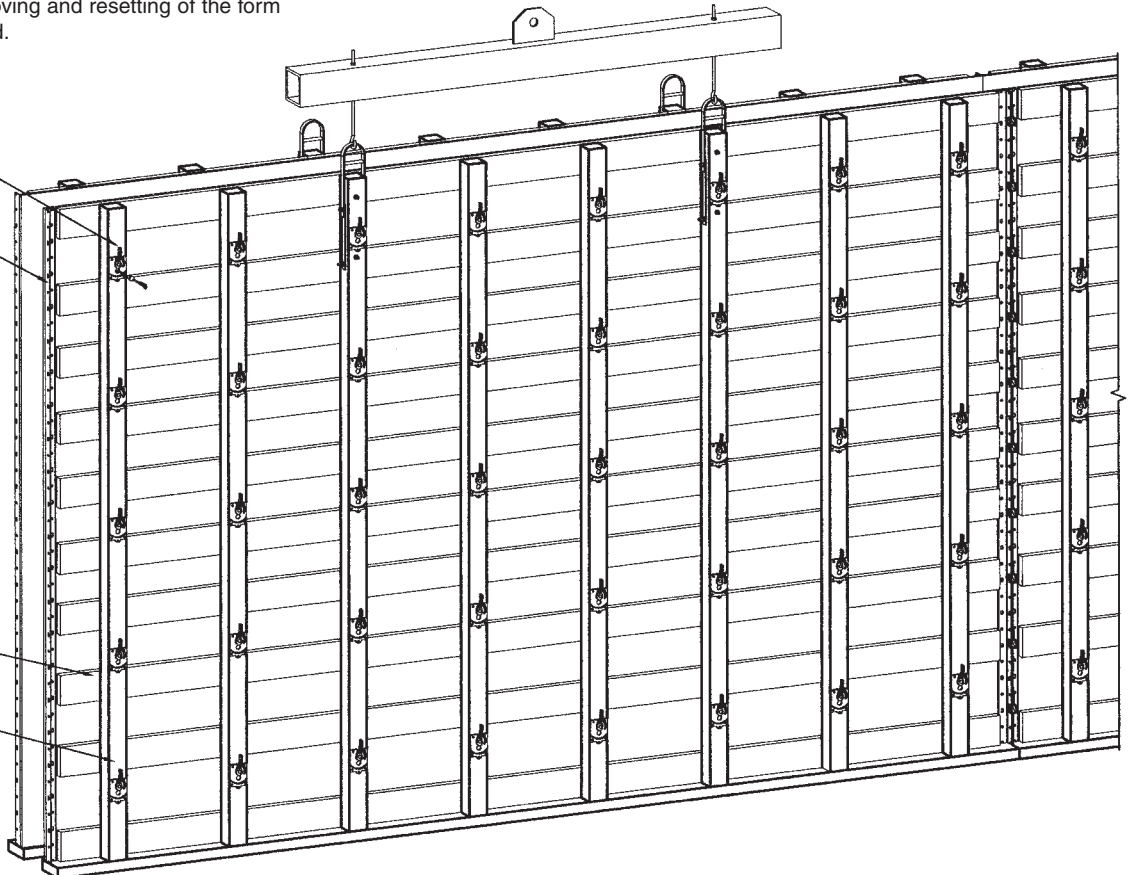
2x2 Angle each end to attach gangs together

The GATES Form System uses 3/4" plywood with flat 2x6's on 12" centers and vertical 4x4 strongbacks spaced on 24" centers. The GATES #5 Anchor-Lock is spaced 24"x24". Tie spacing must never exceed 4 square feet per tie.

2x6 Flat walers

Vertical 4x4's on 16" centers

The GATES #5 Anchor-Lock plates may be attached as the gang forms are set in place for the first time.





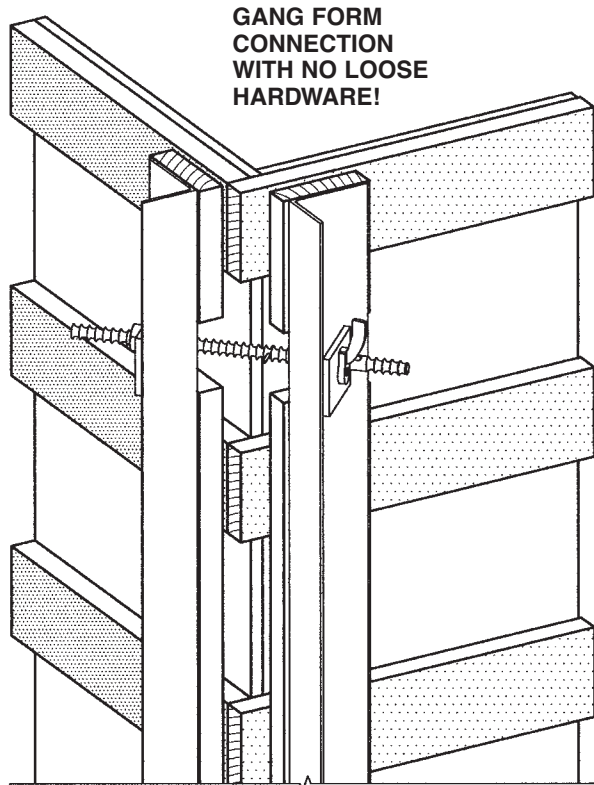


CONCRETE FORMING SYSTEMS

# GANG FORM CONNECTIONS

## GATES PIN'N LOCK OUTSIDE CORNER

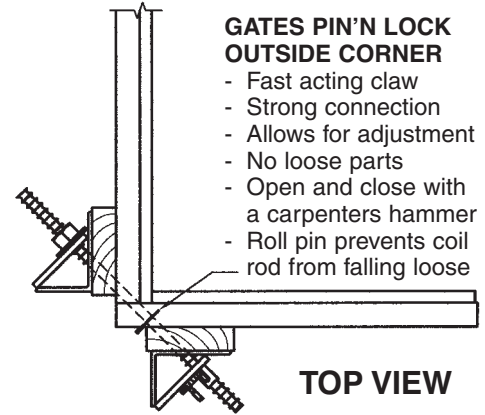
You can have LEAK-PROOF corners using GATES adjustable Pin'N Lock heavy duty outside steel corners, with no loose parts.



**GANG FORM CONNECTION WITH NO LOOSE HARDWARE!**

Bolt outside corner units to corner of gangs. Position as shown in top view (at right).

**OUTSIDE CORNER**

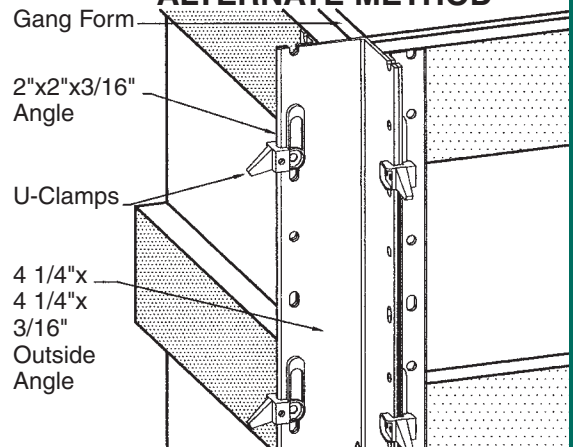


### GATES PIN'N LOCK OUTSIDE CORNER

- Fast acting claw
- Strong connection
- Allows for adjustment
- No loose parts
- Open and close with a carpenters hammer
- Roll pin prevents coil rod from falling loose

**TOP VIEW**

## ALTERNATE METHOD



Gang Form

2"x2"x3/16" Angle

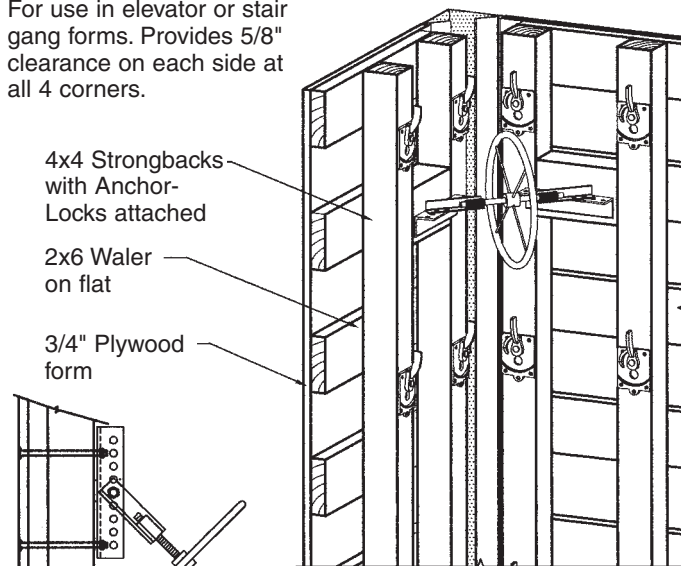
U-Clamps

4 1/4"x 4 1/4"x 3/16" Outside Angle

**OUTSIDE CORNER**

## GATES RETRACTABLE INSIDE CORNER

For use in elevator or stair gang forms. Provides 5/8" clearance on each side at all 4 corners.

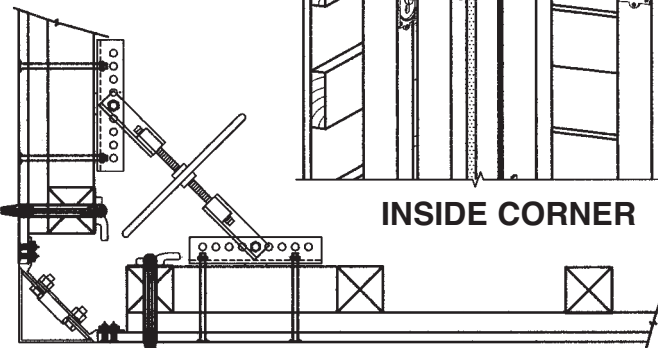


4x4 Strongbacks with Anchor-Locks attached

2x6 Waler on flat

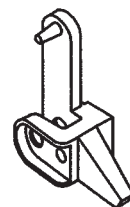
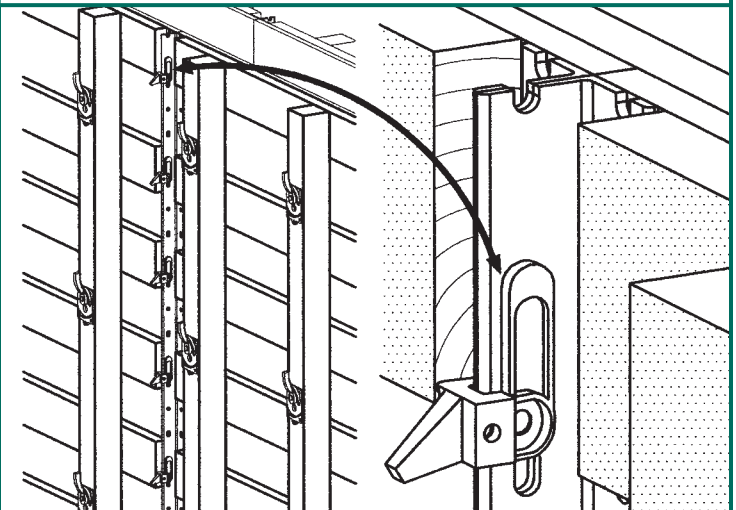
3/4" Plywood form

**INSIDE CORNER**



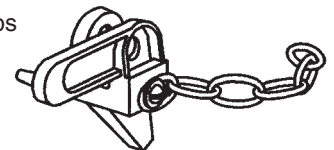
**TOP VIEW**

## USE OF GATES 'U' CLAMPS TO ATTACH FORMS



**'U' CLAMP**

Attach GATES connecting 'U' Clamps with chain to end of one gang form with large staple or 5/16"x2" lag screw every 2x6 flat waler.

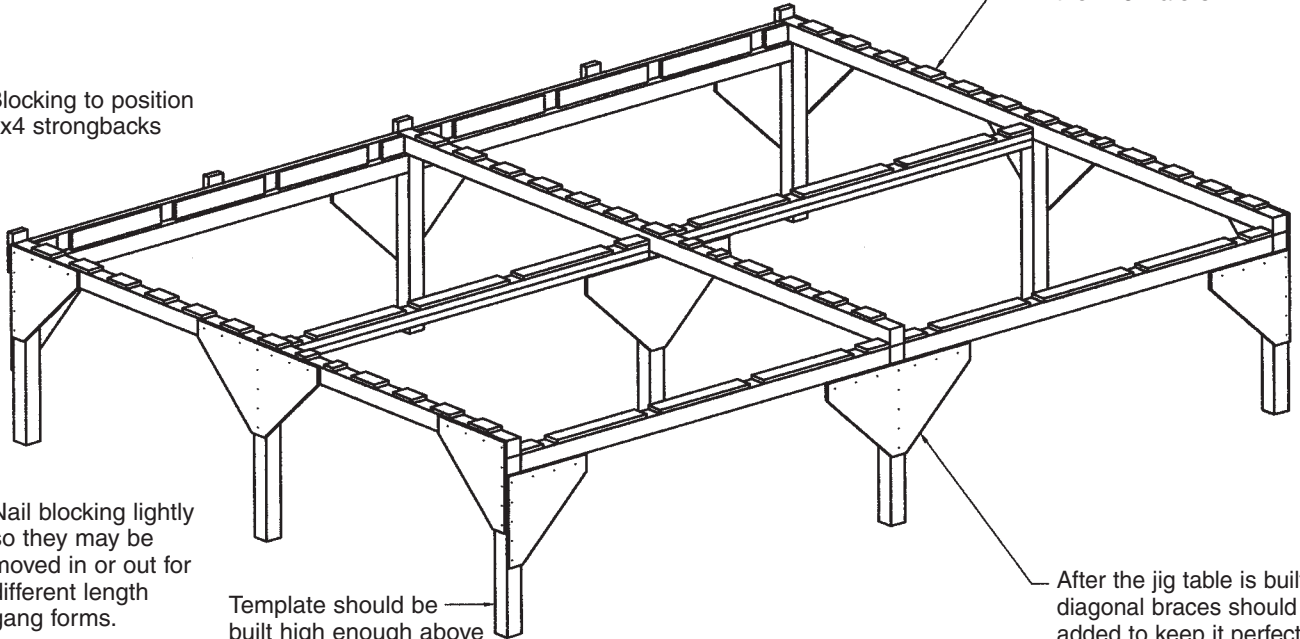


**WITH CHAIN**

# FOUR STEPS TO KEEP YOUR FABRICATION COSTS LOW...

## STEP #1: BUILD TEMPLATE (JIG TABLE)

Blocking to position  
4x4 strongbacks



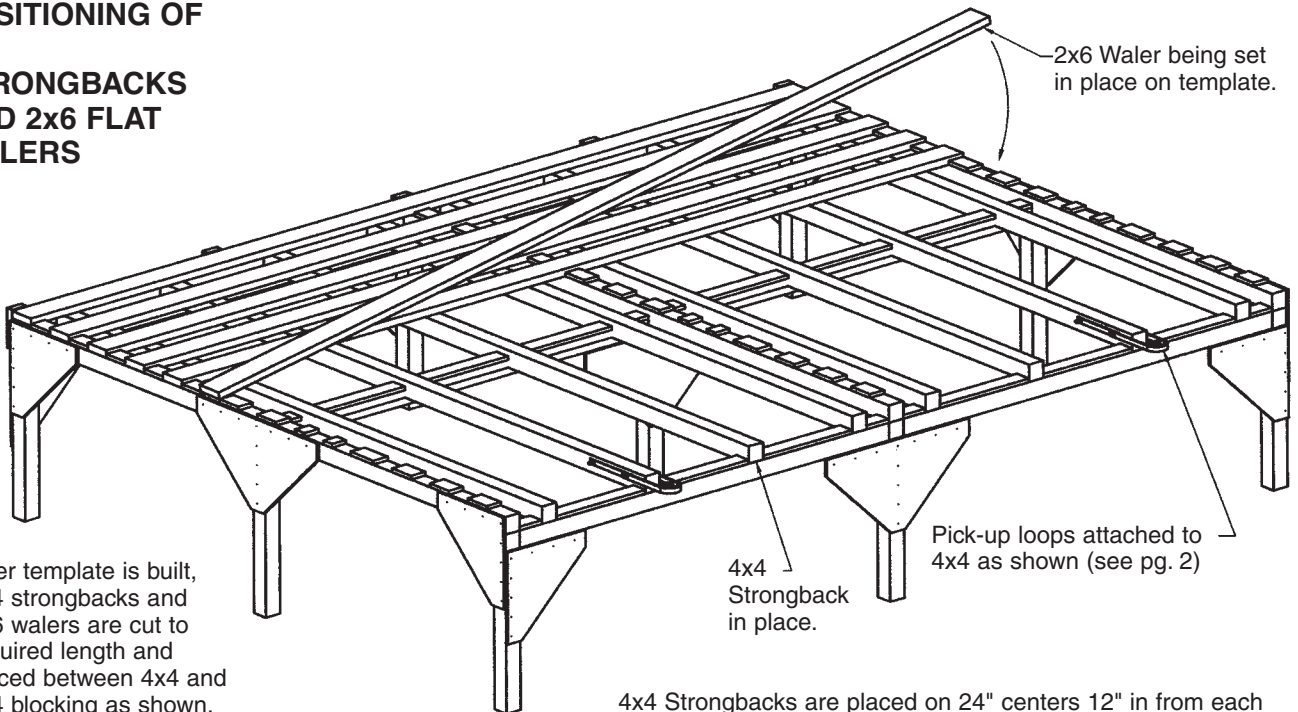
Nail blocking lightly  
so they may be  
moved in or out for  
different length  
gang forms.

Template should be  
built high enough above  
the ground so that the  
carpenters may work  
under the gang to  
tighten bolts.

**Template (Jig Table) must be  
built square, level & sturdy  
to support gang form.**

After the jig table is built,  
diagonal braces should be  
added to keep it perfectly  
square throughout the  
building of all gang forms.

## STEP #2: POSITIONING OF 4x4 STRONGBACKS AND 2x6 FLAT WALERS



After template is built,  
4x4 strongbacks and  
2x6 walers are cut to  
required length and  
placed between 4x4 and  
2x4 blocking as shown.

4x4 Strongbacks are placed on 24" centers 12" in from each edge. They are then crossed by 2x6's on the flat on 12" centers from top to bottom of the gang form. Tie spacing must never exceed 4 square feet per tie.

# USING A GANG FORM BUILDING TEMPLATE



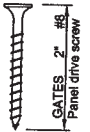
CONCRETE FORMING SYSTEMS

## STEP #3: BUILDING GANGS

3/4" Plywood panels attached with drywall screws to 2x6 walers

Typical 16'-0" wide by 12'-0" GATES Anchor-Lock gang form

3/4" Plywood panel being set in place

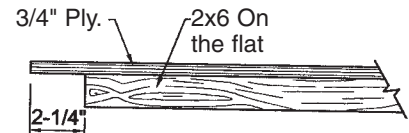


When all 2x6 walers are set in place on template, set 3/4" plywood panels over 2x6 walers and nail to walers preferably with cement coated or ring-shank nails, or drywall screws.

Template should be built high enough above the ground so that the carpenters may work under the gang to tighten bolts.

After the jig table is built, diagonal braces should be added to keep it perfectly square throughout the building of all gang forms.

**Be certain form is square before fastening plywood.**



## STEP #4: DRILLING OF FORMS

3/4" Plywood panels attached with drywall screws to 2x6 walers.

### 2'-0" x 2'-0" Tie spacing

Bolt 4x4 strongbacks to gang with 3/8" dia. bolt. Bolt through panels, walers and strongbacks.

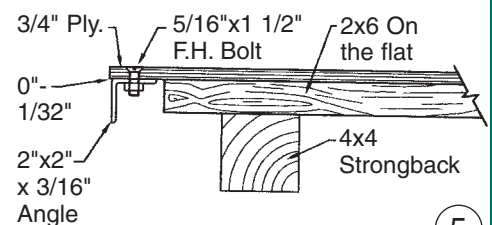
Drill 1" hole through panel and walers for GATES plastic tie hole sleeve. If sleeve is not used drill 7/8" hole (See pg. 8)



After plywood is attached use GATES Drill Stand to drill vertical tie holes.

2"x2"x3/16" Angle may be attached to form while still on template for gang connections. Hold angles in place w/C Clamp while bolting.

On each side of the gang form, hold 2x2 angles back 0"-1/32" from edge of plywood.

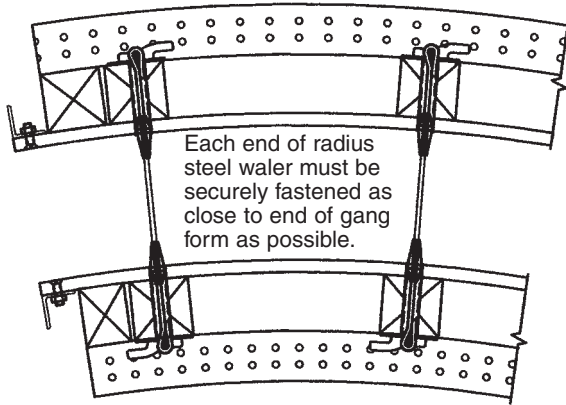


# RADIUS WALL GANG FORMING

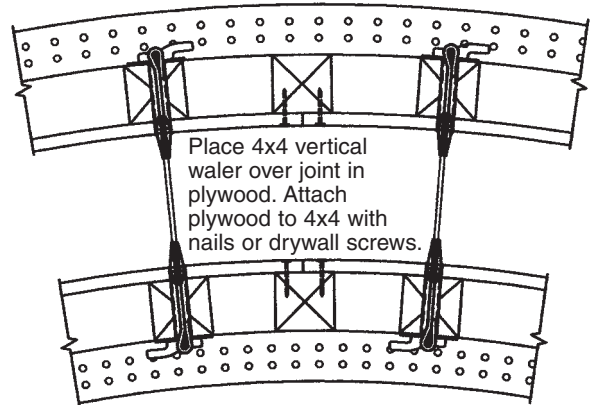


CONCRETE FORMING SYSTEMS

## PLAN VIEW - TYPICAL RADIUS GANG END

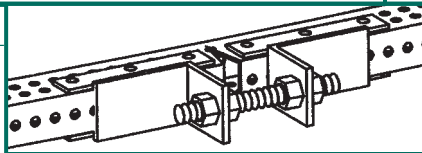


## PLAN VIEW - TYPICAL RADIUS CENTER PLYWOOD CONNECTION



### Plywood Bending Table

20'-0" Dia.	3 pcs.	1/4"
30'-0" Dia.	2 pcs.	3/8"
40'-0" Dia.	2 pcs.	3/8"
50'-0" Dia.	1 pc.	5/8"
60'-0" Dia.	1 pc.	3/4"
And Larger		



GATES Adjuster

### GATES ADJUSTABLE RADIUS WALL GANG FORMS

Use vertical 4x4s with 2"x3" rolled radius walers from GATES.

GATES radius #5 Anchor-Lock forms produce a smooth curved surface.

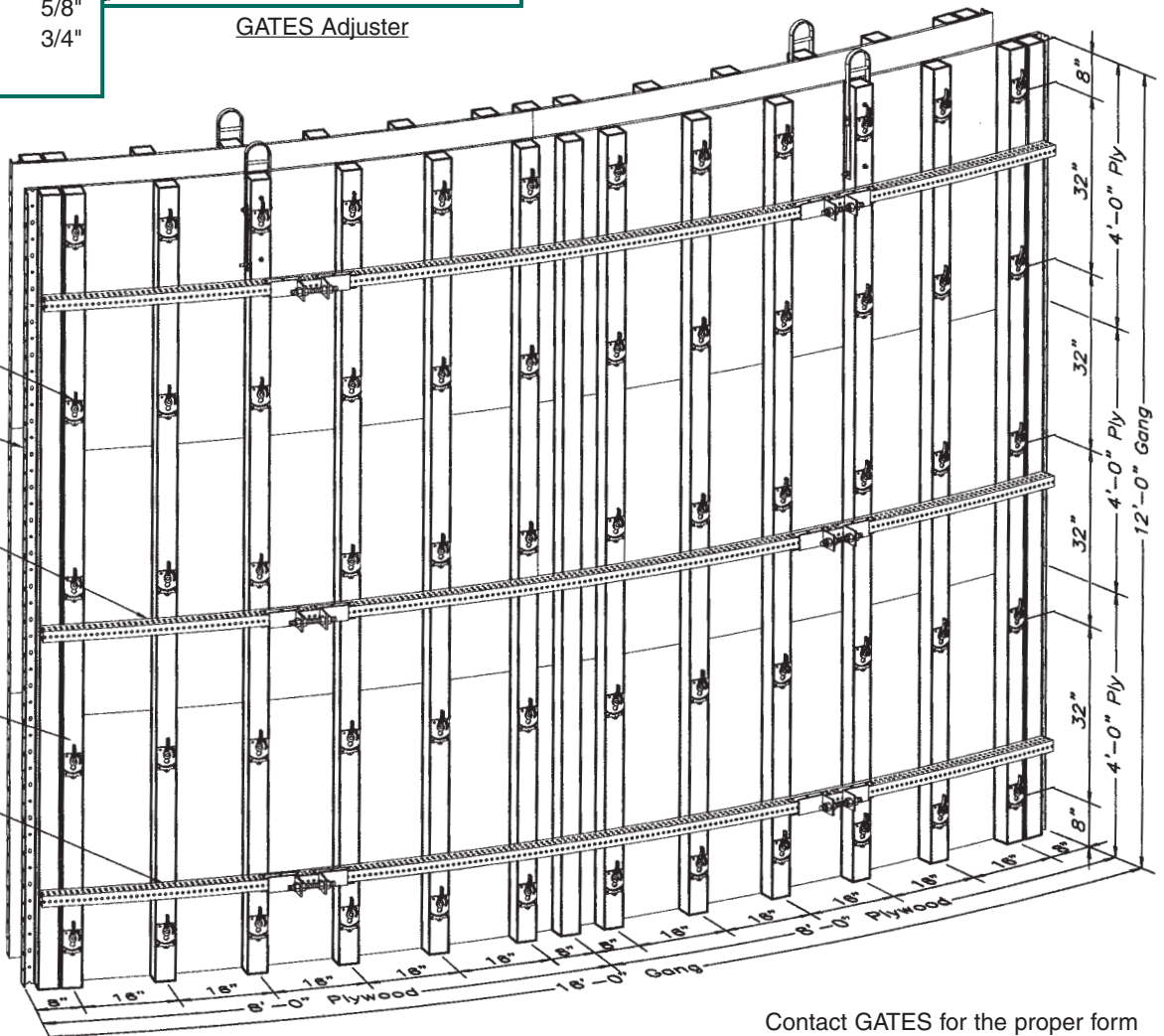
#5 Anchor-Lock

2x2 Angle each end to attach gangs together

GATES adjustable 2"x3" rolled radius steel waler spaced 6'-0" - 8'-0" apart

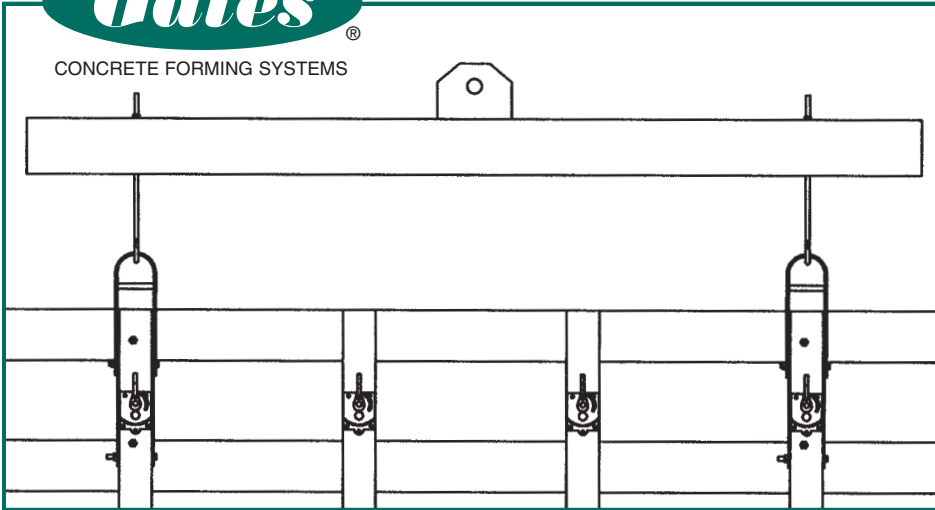
Vertical 4x4's on 16" centers

Additional GATES rolled 2"x3" walers should be added when radius is less than 30'-0"



Contact GATES for the proper form design on your next radius wall project.

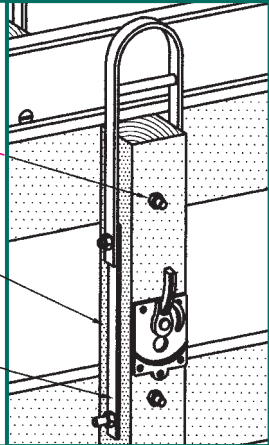




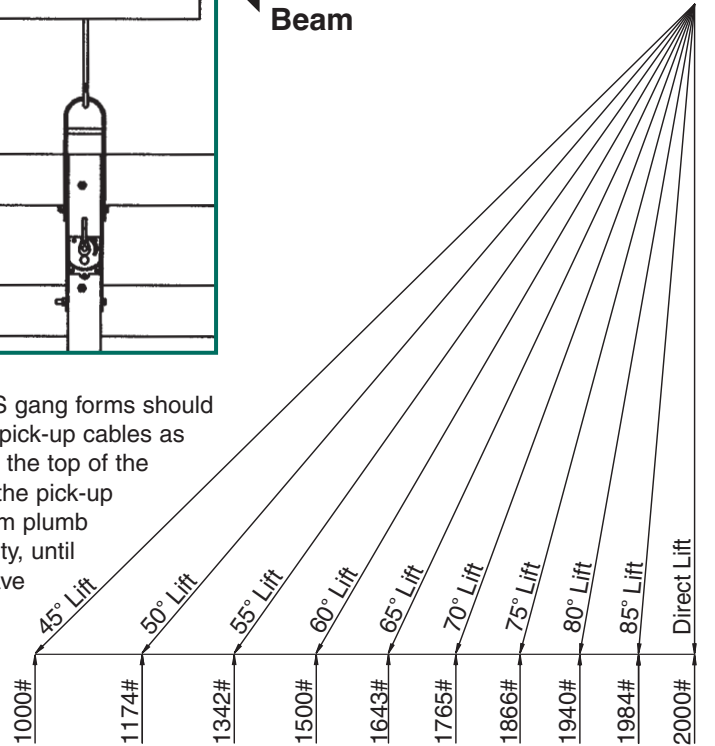
◀ **Pick-Up Beam**

**GATES Pick-up Loop**

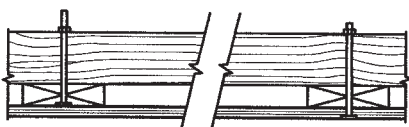
- Four (4) safety bolt connections
- Vertical 4x4 strongback
- Safety strap



For safe lifting, GATES gang forms should be picked up with the pick-up cables as close to plumb (90° to the top of the form) as possible. As the pick-up cables move away from plumb they lose lifting capacity, until at a 45° angle they have lost 1/2 (See Chart).

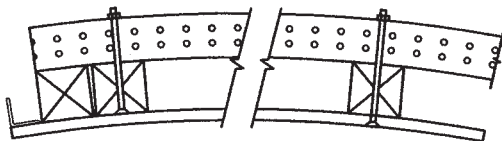


5/16"x1 3/4"  
F.H. Bolts



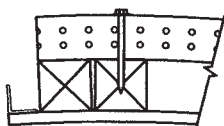
3/8"x6 1/2"  
F.H. Bolts

5/16"x3"  
F.H. Bolts



3/8"x7 1/2"  
F.H. Bolts

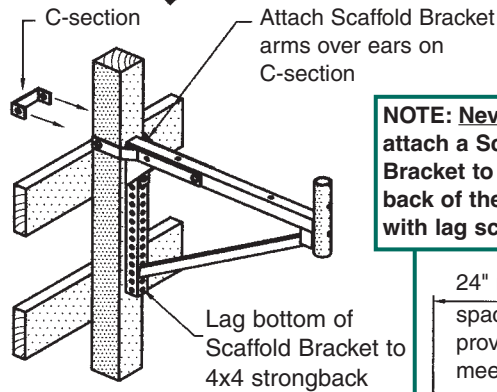
3/8"x8 1/2"  
F.H. Bolts



3/8"x6"  
Lag Bolts

**PROPER FLAT HEAD BOLT SIZES**

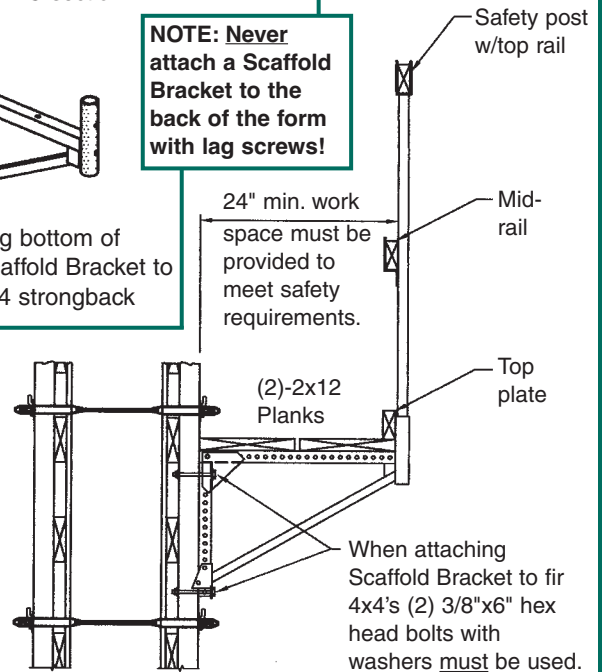
**Alternate Attachment**



**NOTE: Never attach a Scaffold Bracket to the back of the form with lag screws!**

Attach GATES Scaffold Bracket as shown with (2) 3/8"x6" hex bolts.

Space GATES Scaffold Brackets at 6'-0" O.C.



**Standard Attachment  
GATES HEAVY DUTY SCAFFOLD BRACKET**

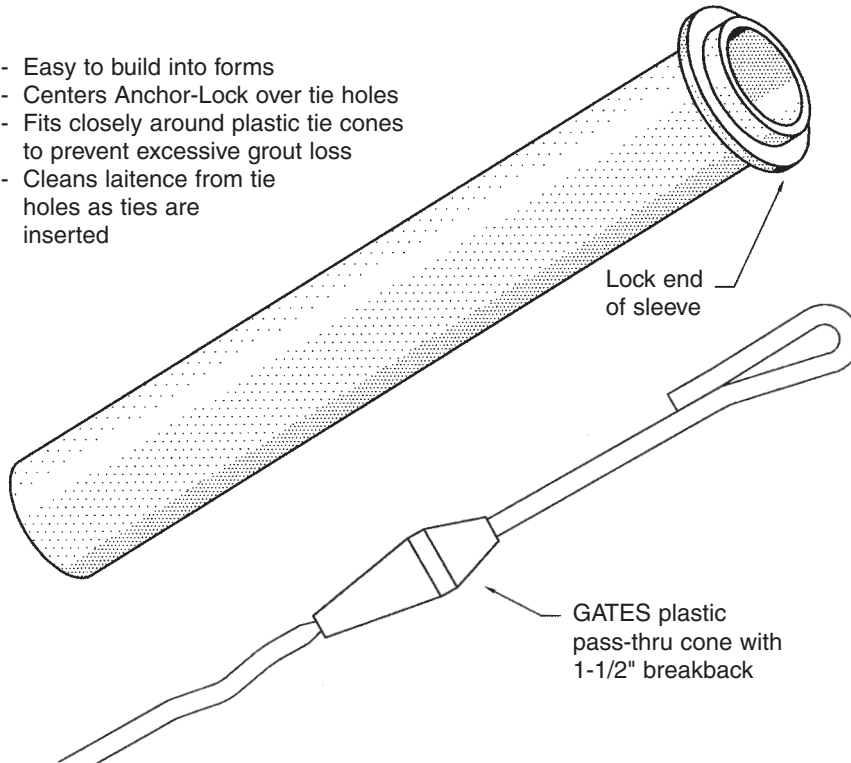
# GATES PLASTIC SLEEVE



CONCRETE FORMING SYSTEMS

## GATES #5 ANCHOR-LOCK PLASTIC SLEEVE

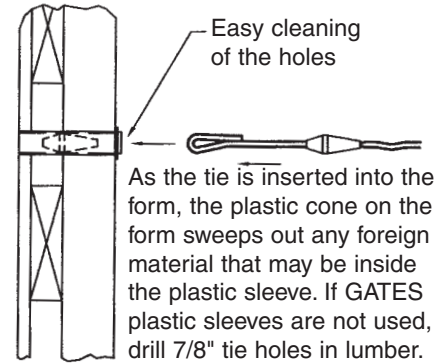
- Easy to build into forms
- Centers Anchor-Lock over tie holes
- Fits closely around plastic tie cones to prevent excessive grout loss
- Cleans laitance from tie holes as ties are inserted



Always space your GATES form ties so that the working load NEVER EXCEEDS the safe load rating based on temperature, wall height, and speed of placement.

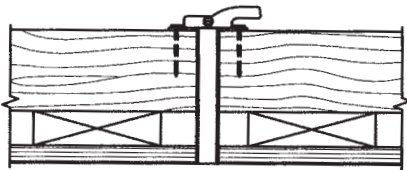
GATES #5 Anchor-Lock Tie:

- Ultimate Strength 6,500#
- 1.5 Safety rating 4,332#
- 2.0 Safety rating 3,250#
- Refer to formulas derived by ACI Committee 622



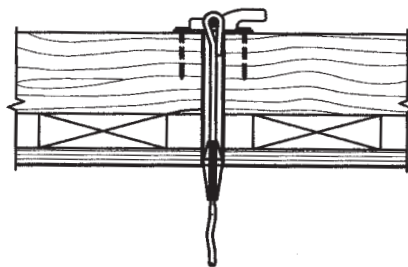
### Step #1

Drill 1" hole thru 4x4 and 3/4" plywood from face side of form.



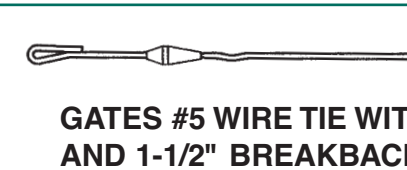
### Step #2

Insert plastic sleeve from 4x4 side of form.



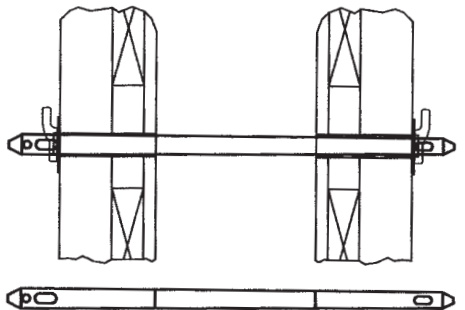
### Step #3

Center and place Anchor-Lock over lip of plastic sleeve and nail in place.

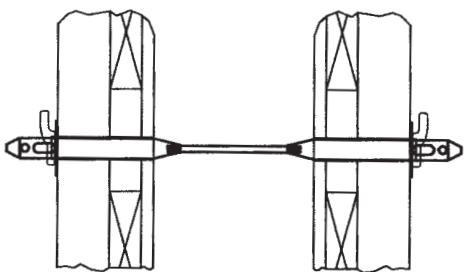


### Step #4

Tie with GATES molded cone locked in place.



GATES #5 TAPER TIE



GATES #5 TYPE 'A' TIE END WITH 3/8" INNER TIE



GATES #5 WIRE TIE WITH PLASTIC PASS-THRU CONE AND 1-1/2" BREAKBACK

# Gates & Sons, Inc.

90 SOUTH FOX STREET, DENVER, COLORADO (303) 744-6185 1(800) 333-8382  
E-MAIL: info@gatesconcreteforms.com www.gatesconcreteforms.com