

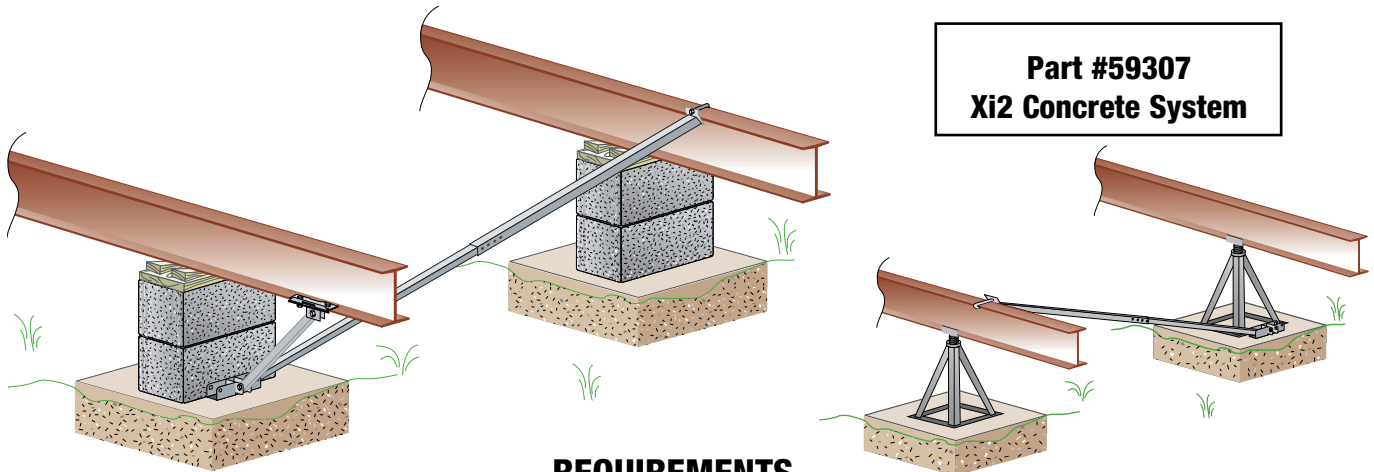


# Concrete Foundation System

## Installation Instructions for Wind Zone I

By Tie Down Engineering  
Updated: 12/1/2010

- Easy installation
- Stabilizer plates and diagonal frame ties are not required in most set-ups
- Longitudinal stabilization is easily added with Tie Down's LSD strut kit.



### REQUIREMENTS

- Install in any type soil, 4B (175-275 lbs.) or better.
- Main rail spacing must be 75.5" – 99.5", 112" exception with proper strut.
- Maximum pier height 48".
- In areas with frost heave, use Xi2 for poured concrete to comply with local requirements for footer depth. Poured concrete must be 2,500 PSI minimum at 28 days. Bottom of footers must be below the frost line or a minimum 4" below finished grade, whichever is greater.
- Square concrete pads minimum of 18" wide by 12" deep. Round concrete pads minimum of 18" wide by 14" deep. Strip footings minimum of 18" wide by 14' long by 6" deep or 27" wide by 14' long by 4" deep.
- Maximum vertical projection at sidewall is 9' (wall and eave). Higher walls may be used when design loads are adjusted accordingly.
- Longitudinal strut angles need to be no more than 50 degrees and no less than 25 degrees. See page 4.
- The Longitudinal component of the Xi2 System replaces end frame ties. Check manufacturers set-up requirements.
- The Xi2 System is installed on one of the pier footers required by the home manufacturers set up instructions.
- Two systems designed to work in conjunction with each other must be placed as evenly as possible, not less than 2' and no more than 10' from each end of home. Additional systems per instructions. See page 3.
- For roof slopes greater than 20 degrees, (4.37" in 12" Pitch) see page 3.
- Additional vertical anchor ties that are unique to a home's design may be required by the home manufacturer. These locations may include shear walls, marriage line ridge beam support posts, and rim plates.

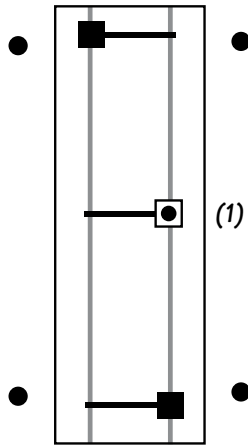
\* Xi2 components exceed Hud code 3280.306g "Anchoring equipment exposed to weathering shall have a resistance to weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 ounces per square foot of surface coated."

# Xi2 Lateral Stabilization with Concrete Footers

- Approved anchor w/strap on single sections within 10' of end of home

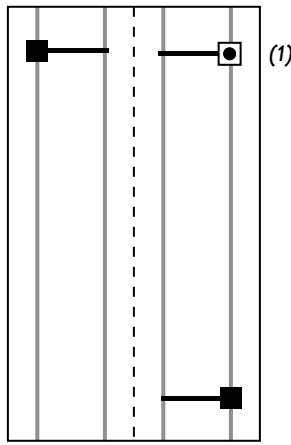
■ Xi2 Pier Placement

◻ 3rd System for homes over 80'



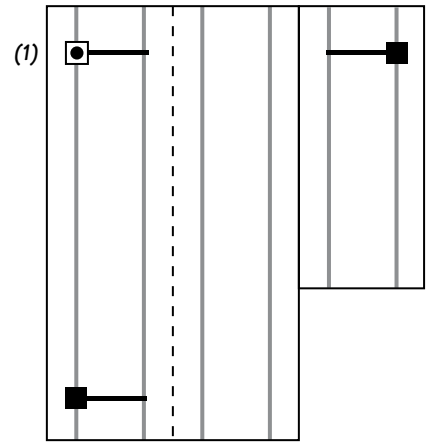
## Single Section Home

0 - 80' (76' Box) 2 Xi2 Systems  
(1) Over 80' (76' Box) 3 Xi2 Systems



## Double Section Home

0 - 80' (76' Box) 2 Xi2 Systems  
(1) Over 80' (76' Box) 3 Xi2 Systems



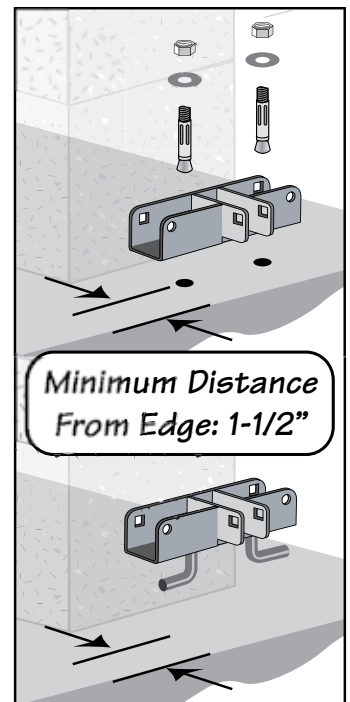
## Triple Section Home

0 - 80' (76' Box) 2 Xi2 Systems  
(1) Over 80' (76' Box) 3 Xi2 Systems

**NOTE:** Diagram represents single section up to 16' width, double section up to 32' width, and triple section homes up to 48' width. Single section homes have an "overturning moment" in high winds, requiring two anchors per side.

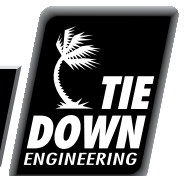
## Installation of Concrete Bracket: Dry Set/Wet Set

1. Identify the number of systems to be used on the home using the chart provided.
2. Identify the location where the lateral systems will be installed.
3. Build pier according to State, Local or Home Manufacturers guidelines.
- 4a. For dry set: drill two 3/8"x 3" deep holes in the concrete using holes in galvanized bracket as a guide. Attach bracket to concrete pad using 3/8"x3-1/2" wedge anchors provided. Place nut & washer on anchor, leave enough room for 1 to 2 threads showing on top of bolt. Using a hammer, tap the wedge bolts into hole through bracket, leaving nut & washer flush with bracket. Using a 9/16" socket wrench, tighten wedge/anchor bolt, securing bracket to the concrete.
- 4b. For wet set: align bracket and submerge legs completely in concrete. Bottom of bracket should rest on surface.
5. Attach the end of the smaller tube to the bracket mounted on the pad, using the grade 5, 1/2" x 2-1/2" bolt/nut provided.
6. Attach the flag end of the larger tube to the opposite I-beam using the "J" bolt over the top of the I-beam with the nut & washer provided.  
(Figure 1 on last page)
7. Install a minimum of four (#14 x 1" Tek screws) self-tapping screws into the holes provided in the lateral strut so that the two tubes are connected together with a minimum over lap of 4" to 6" (Figure 2 on last page).



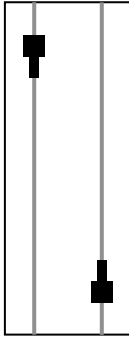
Concrete Bracket  
Stamped Part #59264

**TIE DOWN ENGINEERING • 255 Villanova Drive SW • Atlanta, GA 30336**  
**www.tiedown.com (404) 344-0000 Fax (404) 349-0401**

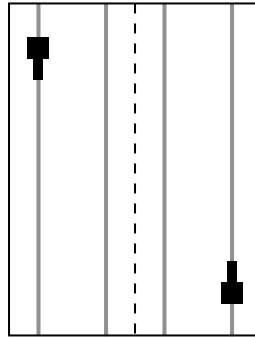


# Longitudinal Stabilization for Xi2 Wind Zone 1

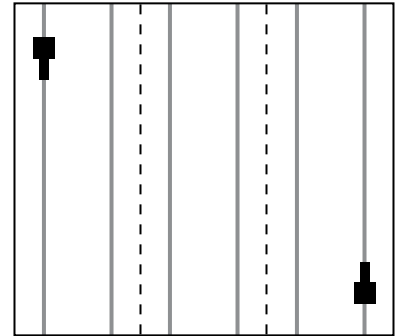
When the home manufacturer and/or local requirements include longitudinal stabilization, the installer can use the LSD system alone, or combine the LSD strut system with the Tie Down's Xi2 lateral system.



**Single Section**  
Up to 16' Nominal



**Double Section**  
Up to 32' Nominal



**Triple Section**  
up to 48' Nominal

When LSD struts are used only as longitudinal stabilization, systems must be as evenly spaced as possible, no more than 10' from the end of the home.

**Note:** Longitudinal stabilization can be combined economically with the Xi2 Lateral System. Combining LSD struts with the lateral system saves time and material costs. When combining the lateral and longitudinal systems, use the placement directions for the lateral system. This would not replace anchors on single section homes

## Xi2 System Requirements for Roof Pitches Higher than 20 degrees

Length of Building	Roof Pitch/Degree of Slope			
	5:12 23.6°	6:12 26.6°	7:12 30.3°	9:12 36.9°
34'	2	2	2	2
36'	2	2	2	2
38'	2	2	2	3
40'	2	2	2	3
42'	2	2	3	3
44'	2	2	3	3
46'	2	3	3	3
48'	2	3	3	3
50'	3	3	3	3
52'	3	3	3	3
54'	3	3	3	3
56'	3	3	3	3

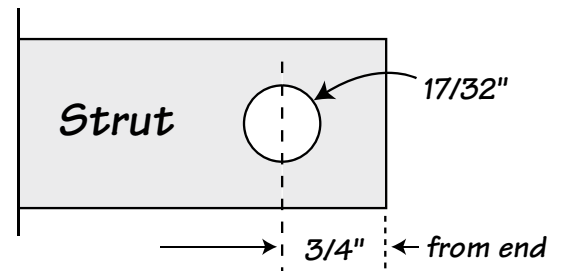
Length of Building	Roof Pitch/Degree of Slope			
	5:12 23.6°	6:12 26.6°	7:12 30.3°	9:12 36.9°
58'	3	3	3	3
60'	3	3	3	3
62'	3	3	3	3
64'	3	3	4	4
66'	3	3	4	4
68'	3	4	4	4
70'	3	4	4	4
72'	3	4	4	4
74'	4	4	4	5
76'	4	4	4	5
78'	4	4	4	5
80'	4	4	4	5

### Additional Systems:

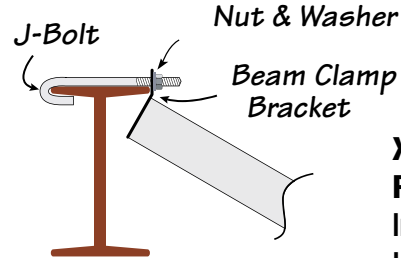
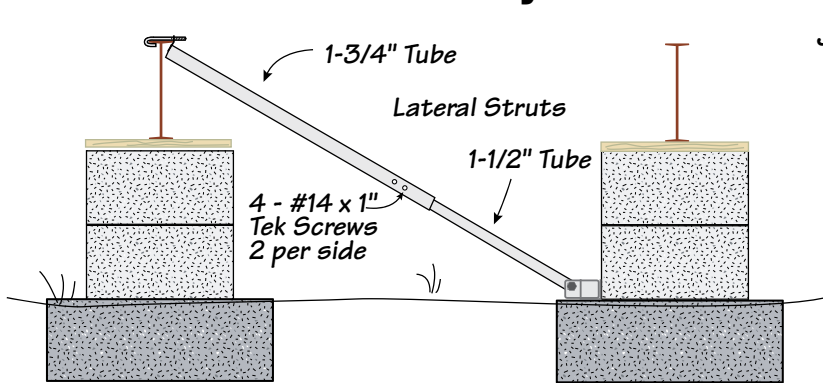
On a single section home the 3rd system is placed in the middle of the home. When using 3 or 4 systems (double and triple sections) install on opposite corners, if needed, a 5th system would be in the center of the unit on either side.

## Strut Angles:

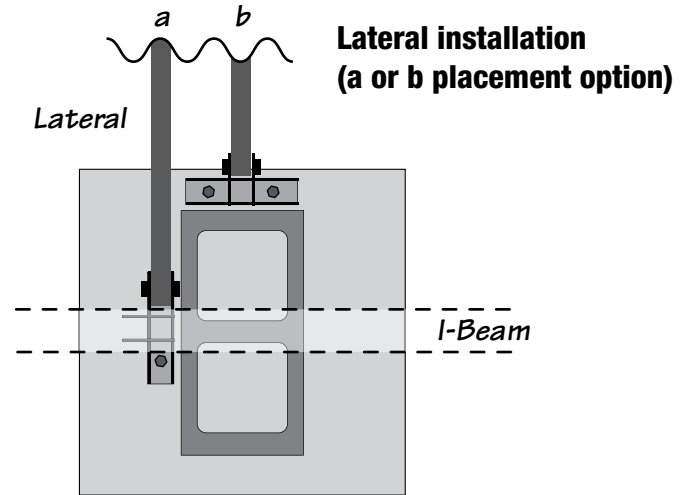
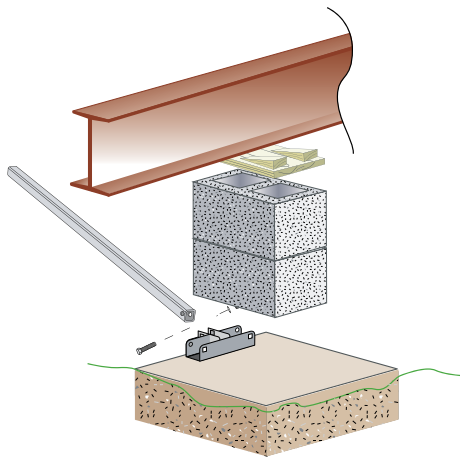
Need to be no more than 50 degrees and not less than 25 degrees. If needed, tube can be cut to proper length and a new hole drilled according to chart on right



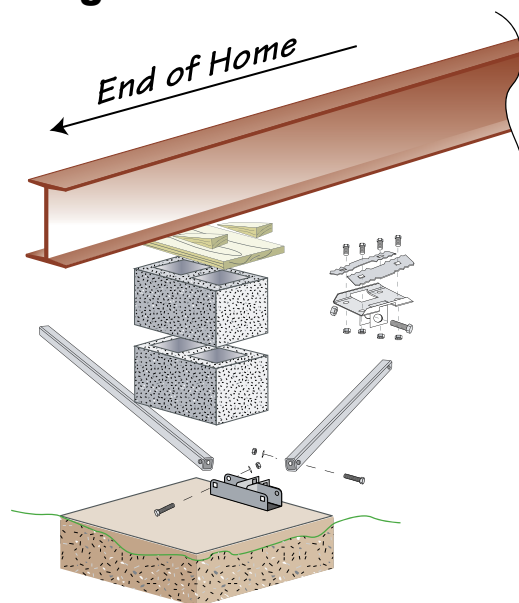
## Xi2 Lateral Foundation System



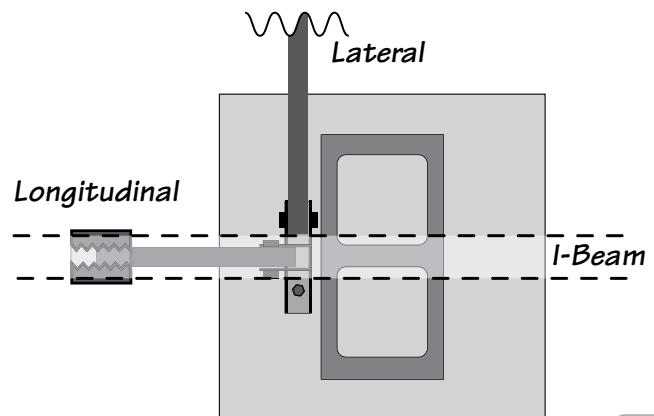
**Xi2 Concrete System  
Part #59307**  
Includes: Strut #48609  
Hardware Kit #59327  
Longer struts available.



## Xi2 Longitudinal Installation



## Lateral/longitudinal Installation combined placement



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