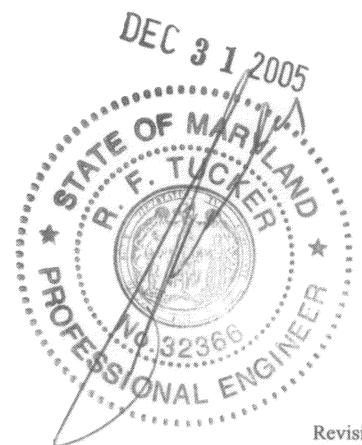
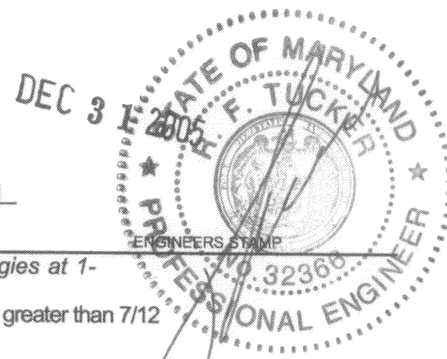


**OLIVER TECHNOLOGIES, INC.**  
**INSTALLATION INSTRUCTIONS FOR WIND ZONE 1 & 2**  
**MODEL 1100 "V" SERIES ALL STEEL FOUNDATION SYSTEM**  
PATENT PENDING



Revision 12/04

**OLIVER TECHNOLOGIES, INC.**  
**INSTALLATION INSTRUCTIONS FOR THE**  
**1100 "V" SERIES ALL STEEL FOUNDATION SYSTEM**  
 PATENT PENDING



ENGINEERS STAMP

1. **SPECIAL CIRCUMSTANCES:** If the following conditions occur - **STOP!** Contact Oliver Technologies at 1-800-284-7437 :

- a) Pier (system) height exceeds 48"
- b) Roof eaves exceed 16"
- c) Sidewall height exceed 96"
- d) Roof Pitch greater than 7/12
- e) Location is within 1500 feet of coast line
- f) Soil conditions less than 4B

**INSTALLATION OF GROUND PAN**

2. Remove weeds and debris in an approximate three foot square to expose firm, level undisturbed soil or controlled fill for each ground pan. The 1100 IV Pan is equivalent to a 21X21 footing.(C). Top of ground pan must be installed at ground level or per local jurisdiction.

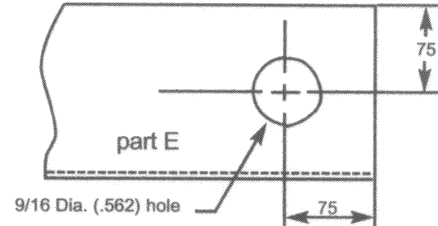
3. Place center ground pan (C) directly below chassis I-beam . Press or drive pan completely into soil until flush with or below soil.

**SPECIAL NOTE:** The longitudinal "V" brace system serves as a pier under the home and should be loaded as any other pier. It is recommended that after leveling piers, and one-half inch (1/2") before home is lowered completely on to piers, complete items 4 through 8 below.

**INSTALLATION OF LONGITUDINAL "V" BRACE SYSTEM**

4. Select the correct square tube brace (E) length for set - up (pier) height at support location.

	PIER HEIGHT	1.50"
	(Min. 40 degrees / 60 degrees Max.)	Tube Length
Pier Height =	14" to 19"	20"
the dimension from	18" to 25"	28"
the top of pan to the	24" to 35"	39"
bottom of I-beam	30" to 40"	44"
	36" to 48"	54"



- 5. Install both of the 1.5 " square tubes ( E) into the "U" bracket (J), insert carriage bolt and leave nut loose for final adjustment.
- 6. Place I-beam connector (F) loosely on the bottom flange of the I-beam.
- 7. Attach the selected 1.5" tubes (E) to the I-beam connectors (F) and fasten loosely with bolts and nuts. Note: The ground pan must be level in both directions to ensure the angle markings on the centerpoint connector are correct from the horizontal plane of the pan. The angle is not to exceed 60 degrees and not less than 40 degrees. The "U" bracket (J) is stamped with the angles to verify correct degree. Use proper length tube or cut and drill tube to achieve proper length. (The tube may be cut using any appropriate steel cutting method such as steel saw, cutting torch, etc. New holes must be drilled to the dimension, and at the location as shown for part E.)
- 8. Using standard hand tools, tighten all nuts and bolts. When connecting the brace tube to the model 1100-10-P I-beam connector bracket tighten at least one and a half to two full turns past hand tight.

**INSTALLATION OF LATERAL TELESCOPING TRANSVERSE ARM SYSTEM**

- 9. Select the correct square tube brace (H) length for set-up lateral transverse at support location. The lengths come in either 60" or 72" lengths. (With the 1.5" tube as the bottom tube, and the 1.25" tube as the inserted tube.)
- 10. Install the 1.5 transverse brace (H) to the ground pan connector (D) with bolt and nut.
- 11. Slide 1.25" transverse brace into the 1.5" brace and attach to adjacent I-beam connector ( I ) with bolt and nut.
- 12. Secure 1.5" transverse arm to 1.25" transverse arm using four (4) 1/4" - 14 x 3/4" self-tapping screws in pre-drilled holes.

**INSTALLATION USING CONCRETE RUNNER / FOOTER**

- 13. A concrete runner, footer or slab may be used in place of the steel ground pan.
  - a) A concrete runner may be either longitudinal or transverse, and must be a minimum of 6" deep with a minimum width to allow proper distance between the concrete bolt and the edge of the concrete (see below).
  - b) Rectangular footers must have minimum area of 441 sq. in. (i.e. 21" square), and must be a minimum of 6" deep.
  - c) Round footers must be a minimum 16" in diameter and 24" deep (or 24" in diameter and 6" deep).
  - d) If a full slab is used, the depth may be 3 1/2" minimum.

The concrete shall be minimum 2500 psi mix (pre-blended sacked concrete mix is acceptable) . Special inspection of the anchor installations is not required. If the 1100 ITC(V)transverse system is to be installed without using the 1100 ILC(V) longitudinal system, it shall be installed a maximum of 18" from a pier. Footers must allow for at least 4" from the concrete bolt to the edge of the concrete.

**NOTE: The bottom of all footings, pads, slabs and runners must be per local jurisdiction.**

**LONGITUDINAL:**

14. When using the wetset(pt.# 1100-W-CPCA, item J) bracket, simply install the bracket in runner/footer OR When installing in cured concrete use the dryset(pt.#1100-D-CPCA,itemJ) bracket. The dryset(pt.#1100-D-CPCA) bracket is attached to the concrete using (2) 1/2" x 3" concrete wedge bolts. Place the 1100-D-CPCA bracket in desired location. Mark bolt hole locations, then using a 1/2" diam. masonry bit, drill a hole to a minimum depth of 3". Make sure all dust and concrete is blown out of the holes. Place wedge bolts into drilled holes, then place 1100-D-CPCA bracket onto wedge bolts and start wedge bolt nuts. Take a hammer and lightly drive the wedge bolts down by hitting the nut (making sure not to hit the top of threads on bolt). The sleeve of concrete wedge bolt needs to be at or below the top of concrete. Complete by tightening nuts.

**LATERAL:**

15. When using the wet set (part # 1100-W-TACA, itemD) bracket simply install the anchor bolt into runner/footer. For dry set installation (part # 1100-D-TACA,item D) mark bolt hole locations, then using a 1/2" diam. masonry bit, drill a hole to a minimum depth of 3". Make sure all dust and concrete is blown out of the hole. Place wedge bolts (Powers part# 5034 1/2" X 3" or equivalent) into (D) concrete dry transverse connector and into drilled hole. If needed, take a hammer and lightly drive the wedge bolts down by hitting the nut (making sure not to hit the top of threads on bolt). The sleeve of concrete wedge bolt needs to be at or below the top of concrete. Complete by tightening nuts.



MANUFACTURED HOUSING FOUNDATION SYSTEMS  
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**NOTE:**

- a) Installation of the longitudinal system eliminates the need for longitudinal anchors (Wind Zones I & II only).
- b) Installation of the transverse system eliminates the need for all anchors, diagonal frame ties and stabilizer plates except when noted. (Legend # 5 & note C).
- c) All other home manufacturer's instructions for installation of stabilizing devices must be followed, including installation of sidewall vertical tie-down anchors, and mating line column, shear wall or center-line tie-down anchors (Wind Zones I & II). **NOTE WIND ZONE II: ALL VERTICAL ANCHORS (NOT TO EXCEED 8' SPACING) MUST BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS!**
- d) If the home manufacturer's installation instructions are not available, the home must be installed in accordance with any state promulgated rules, or as required by the authority having jurisdiction.
- e) If bolts, nuts, or tech screws are lost, they may be replaced as long as they meet or exceed the specs shown on page 3 of these instructions.
- f) When the length of home exceeds 76', or the roof pitch is between 4.37/12 (20 degrees) and 5/12 add 1 transverse system (see location diagrams below.) {6/12: a total of 4 Transverse & 3 Longitudinal systems are needed & 7/12: a total of 5 Transverse & 3 Longitudinal systems are needed. (Longitudinal portion only required when longitudinal bracing is required by home manufacturer.)}
- g) An alternative method using the 1100 CVD anchors (dry set) or 1100 CVW (wet set) may be used on a footing size of 16" diameter X 24" depth. These brackets are designed for lateral and longitudinal protection.
- h) It is recommended that the systems be installed at the 2nd pier in from each end of the house. However, they may be installed at any location at least 2 feet, but not more than 1/4 the house length, in from the ends of the house.

**FOR STATE OF MICHIGAN ONLY:** As required by Section 1805.2 of the 2000 Michigan Building Code, the depth of the footer shall be a minimum depth of 42 inches below grade, except that the authority having jurisdiction may approve a lesser depth based on known prevailing soil and weather conditions, or as provided by the exception under Section 1805.2.1 of the Code.




**FOR STATE OF ALABAMA ONLY:** 1. Maximum pier height is limited to 32" with pier defined in the Alabama Regulation as "that portion of the support system between the top of the footing and the bottom of the pier cap." 2. The State of Alabama limits the use of this system to H.U.D labeled homes.

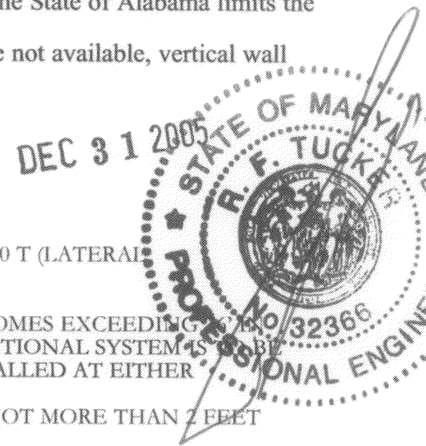
**FOR STATE OF NORTH CAROLINA ONLY:** When the manufacturer's installation instructions are not available, vertical wall tie-downs must be installed not to exceed 8-feet on center. (Wind Zone II)

**FOR STATE OF IDAHO ONLY:** Concrete must be a minimum of 8" in depth.

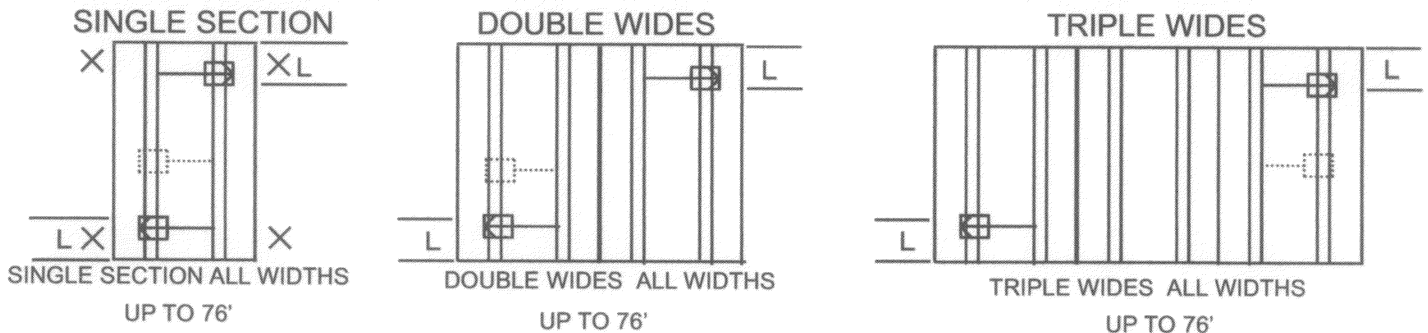
**LEGEND:**

- 1. LENGTH OF HOUSE IS THE ACTUAL BOX SIZE
- 2. L = APPROXIMATE LOCATION OF THE SYSTEM ( See note H)

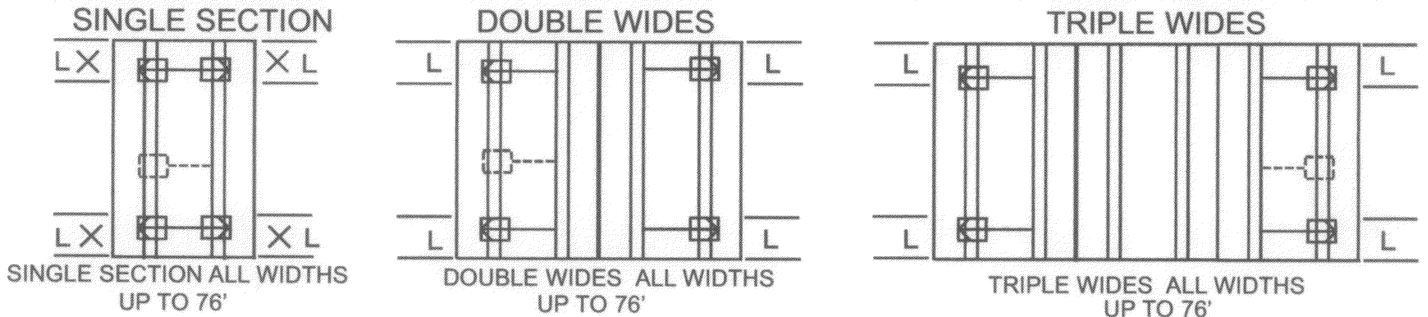
- 3.  = LOCATION OF ASF MODEL 1100 "V" (LATERAL AND LONGITUDINAL BRACING), OR 1100 T (LATERAL ONLY)
- 4.  = LOCATION OF ADDITIONAL ASF MODEL 1100 T "V" SYSTEM (LATERAL ONLY) FOR HOMES EXCEEDING 76' IN LENGTH OR WITH ROOF PITCH BETWEEN 4.37/12 (20 DEGREES) AND 5/12. THE ADDITIONAL SYSTEM IS TO BE INSTALLED AT APPROXIMATELY THE MIDPOINT OF THE HOUSE, AND MAY BE INSTALLED AT EITHER EXTERIOR BEAM.
- 5. X = INSTALLATION OF SINGLE WIDE HOMES REQUIRE 2 ANCHORS PER SIDE LOCATED NOT MORE THAN 2 FEET FROM EACH END. (WITH A MINIMUM OF 3150 LOAD RATING)
- 6.  = LOCATION OF ADDITIONAL ASF MODEL 1100 T "V" SYSTEM (LATERAL ONLY) FOR HOMES EXCEEDING 76' IN LENGTH OR WITH ROOF PITCH BETWEEN 6/12 & 7/12. THE ADDITIONAL SYSTEM IS TO BE INSTALLED AT APPROXIMATELY THE MIDPOINT OF THE HOUSE, AND MAY BE INSTALLED AT EITHER EXTERIOR BEAM.

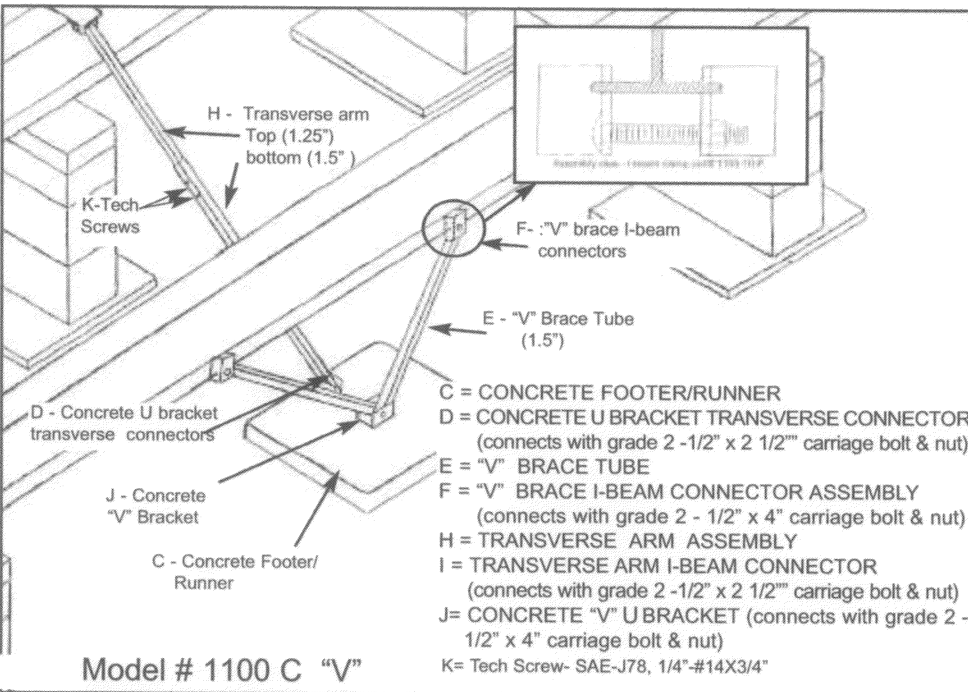
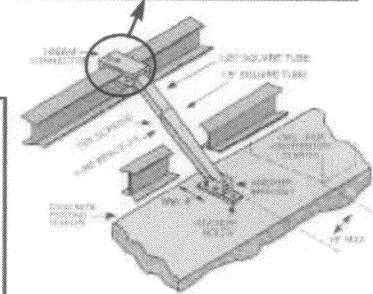
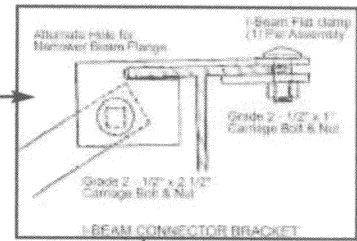
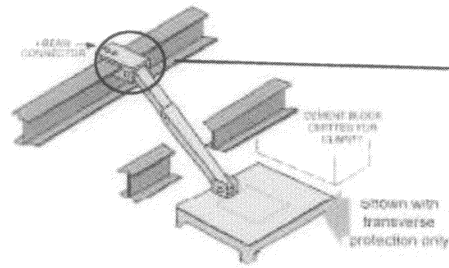
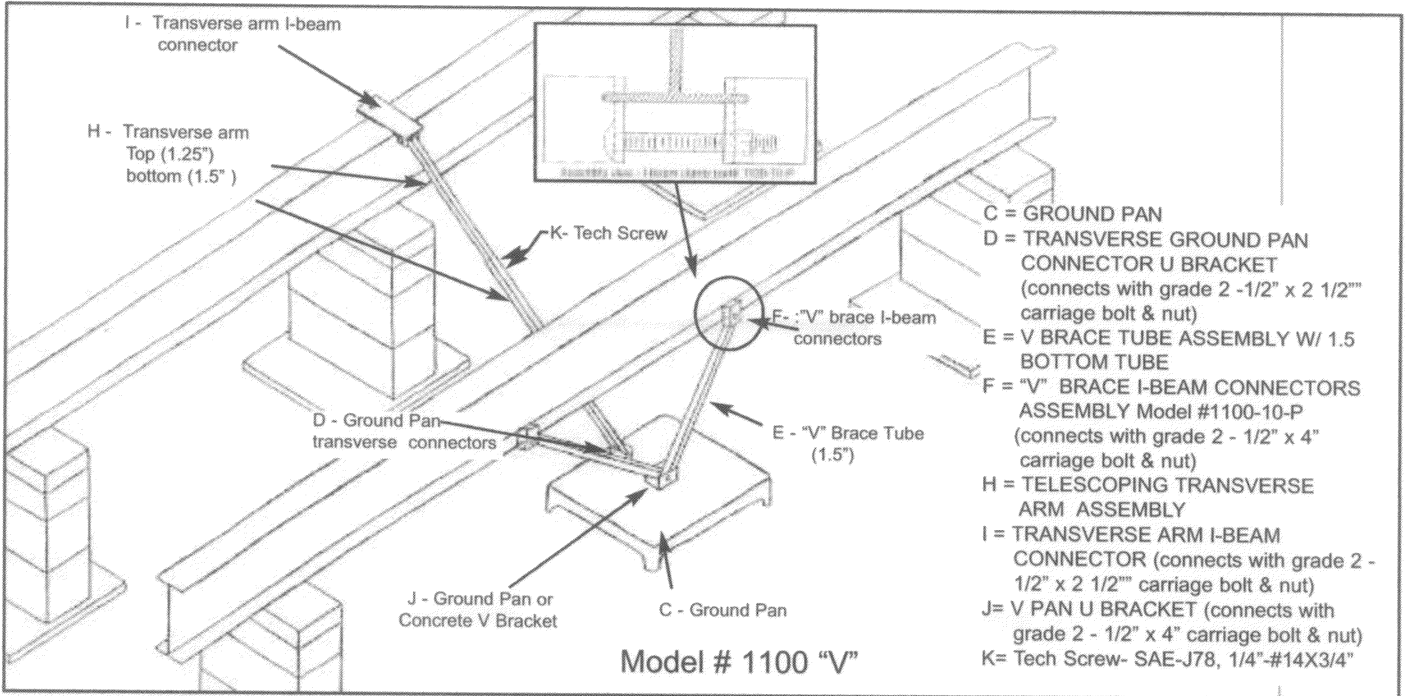


**REQUIRED NUMBER AND LOCATION OF MODEL 1100 "V" SERIES BRACES FOR 4/12 & 5/12**

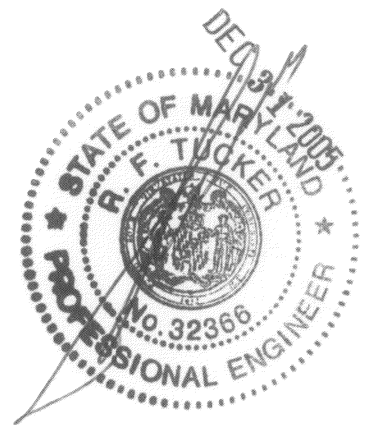


**REQUIRED NUMBER AND LOCATION OF MODEL 1100 "V" SERIES BRACES FOR 6/12 & 7/12**





**Model # 1100 TC "V"**



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