



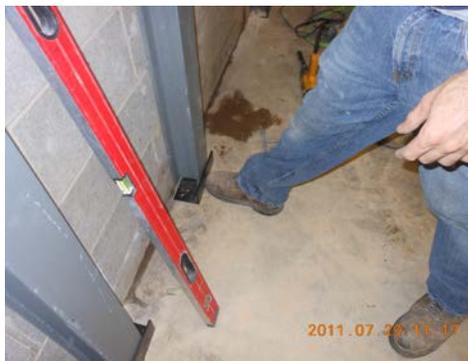
Installation Procedures

Overview

The Force tension loaded I-Beam system should be used on block or concrete walls that have bowed in excess of 2 inches or have severe shifting and shear cracking. The Force is designed to keep a constant pressure on the wall even during dry weather conditions when the soil shrinks away from the wall. Although the walls will be pushed back towards their original position, we do not guarantee that they will be straightened completely. The seating bolt should be tightened whenever inspected. This should be performed as a maintenance inspection within the during a dry summer month.

NOTE: Site conditions will vary on each job. These instructions are meant to serve as a general guideline. They may not account for differences that you will encounter from one job to another.

- 1) Determine the wall type, inside height and fill height. Use the spacing chart to determine the spacing between the **W 4x13** I-beams.
- 2) Measure the length of each beam (distance from the floor slab to the bottom of the first level sub-floor minus 2-1/2" inches).
- 3) Place the I-Beam against the bottom of the wall and slide the bottom angle bracket under the beam. The locations of the beams need to be directly below the edge of the floor joist when the joists are perpendicular to the wall. Kick the beam and bottom bracket in tight to the bottom of the wall.



- 4) Drill holes using a 7/16" diameter drill bit (keeping the angle and beam in place to guide your locations). Drill both holes deep enough to accept the anchors. Next, use a 3/4" socket to secure the 1/2" x 5" anchors into the holes.



5) Compress the spring using the all-thread and nut. A deep socket can be used with a drill to quickly compress the spring.



6) If the floor joists are perpendicular to the wall, secure the top of the beam using the stabilizer strap. Place the top bracket (spring Side) against the face of the beam and mark the two holes in the bracket. Remove the bracket and drill out the holes through the floor joists. Try to keep the holes near the center of the joists. Bolt the top bracket in place. **Repeat these steps for all locations before releasing the spring pressure.**



7) Carefully remove the compression bolt by holding the all-thread with a pair of vise grips and turning the nut. This will prevent the all-thread from backing out of the assembly nut. The tension can be slowly applied to the beam by loosening the nut. Start in the middle of the wall and work to the ends rotating back and forth from one beam to the other. Once the nut has been completely loosened, remove the all-thread from the bracket.



8) Install the 3/4" seating bolt and tighten it using a torque wrench set at 40 pounds. Again start at the middle and work to the ends. **If the spring does not align directly with the bolt**, use a small punch or screw driver and hammer to re-position the bearing plate to allow the seating bolt to cleanly pass through the spring.



9) **Floor joist running parallel to the wall:** Completing steps 1 through 5. Solid blocking is required. The blocking should consist of the same dimension lumber that the floor joists are made of and should extend back a minimum of three joists from the wall. Use nails and screws to secure the wood in place.



10) Once the solid blocking is in place, attach a 2"x 8"x 8' long board to the bottom of the floor joists. Bolt the 2' x 8' to the bottom of the floor joist using two 3" long by 3/8" diameter zinc-coated lag screws with washers in each floor joist. You should first tack the 2x8 to the floor joist using nails so you can drill pilot holes in the joists to prevent splitting.



11) Place the top bracket with compressed spring against the face of the beam and mark the two holes in the bracket. Remove the bracket and drill out the holes through the 2" x 8". Try to keep the holes near the center of the 2" x 8". Bolt the top bracket in place. Now follow steps 7 and 8.

