I-Beam Joist Brackets

Impact Adjustable Joist Brackets for I-Beam Installation

Impact Manufacturing manufactures several high quality, engineered joist brackets for the purpose of installing I-beams on foundation walls. Our unique *Slip Bushing System* allows for an advanced load transfer to the floor joists that is superior to similar brackets on the market. This unique load transfer keeps the forces being applied to the brackets directed to the base of the fasteners and redirects lateral forces back towards the joists. This process will help keep the brackets from rolling and pulling the fasteners out of the joists, which is the number one reason for I-beam repair failures

The adjustable *Torque Stud* is larger and stronger than any other bracket on the market. The slip bushing system allows for better torquing and easier adjusting during the installation and annual maintenance processes.

The *Channel Bracket* comes in two sizes for W4 I-beams and S4 I-Beams. The *Channel Bracket* comes in centered (double joist) and offset (single joist) versions depending on the bracket being used. Over time our adjustable joist bracket creates the possibility of moving a wall closer to plumb. Not all walls will become closer to plumb without additional steps being taken.

Perpendicular Joist Brackets

Use Perpendicular *Impact Joist Brackets* when the joist runs in the opposite direction of the wall being repaired. We create two brackets for perpendicular installation, a single joist bracket and a double joist bracket. Always consult a Certified Structural Engineer for proper spacing and before choosing which bracket is right for your project.

- **Double Joist, Perpendicular Joist Bracket** is attached to two floor joists and held in place with six ⅜” x 3-½” lag screws. The *Joist Plate* is punched with six slotted holes that allow for joist spacing between 14-⅞”- 17-⅛” on center. Impact Manufacturing recommends not to have more than four joists between the brackets.
    1. When installing the bracket, the *Torque Nut* should be as close to the *Channel Bracket* as possible unless obstructions create the need to extend the *Torque Stud*.
    2. Install the *Joist Plate* as close to the I beam as possible to allow for maximum extension of the *Torque Stud.*
    3. Place the *Joist Plate* against the bottom of the joists and tight against the installed I beam.
    4. Pre drill through two center holes on each joist using a 5/16” drill bit, drill deep enough to allow for the 3-½” long lag screws.
    5. Install the lag screws using an impact wrench, do not over tighten the lag screws.
    6. Pre drill the remaining four holes and install the four remaining lag screws.
    7. Turning the *Torque Nut* by hand, tighten the *Channel Bracket* against the I-beam
    8. Using the *Impact Torque Wrench Adapter* torque the nut to the specifications in the table below.

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- **Single Joist, Perpendicular Joist Bracket** is attached to one floor joist and held in place using four ⅜” x 2-¼” grade 8 bolts and washers. Impact Manufacturing recommends not to have more than two joists between the brackets.
    1. When installing the bracket, the *Torque Nut* should be as close to the *Channel Bracket* as possible unless obstructions create the need to extend the *Torque Stud*.
    2. Install the *Joist Plate* as close to the I beam as possible to allow for maximum extension of the *Torque Stud.*
    3. Place the *Joist Plate* against the side of the joist and tight against the installed I beam.
    4. Pre drill through the two top holes into the joist using a 5/16” drill bit, drill all the way through the joist.
    5. Install two ⅜” grade 8 hex bolts, install one ⅜” washer and install one ⅜” lock nut on the back side of each bolt .
    6. Pre drill the remaining two holes and install the two remaining bolts.
    7. Turning the *Torque Nut* by hand, tighten the *Channel Bracket* against the I-beam
    8. Using the *Impact Torque Wrench Adapter* torque the nut to the specifications in the table below.

Parallel Joist Brackets

Use Parallel *Impact Joist Brackets* when the joist runs parallel with the wall being repaired. The bracket is designed to be installed to a joist strut that is made of either 2”x 8” lumber or 8” steel flat plate. Always consult a Certified Structural Engineer for proper spacing, before choosing which joist strut to use, and which bracket is right for your project.

- **Parallel Joist Bracket** is attached to the joist strut using four ⅜” x 2-¼” grade 8 bolts and washers for a wooden strut or four ⅜” x 1” grade 8 bolts for a steel strut.
    1. When installing the bracket, the *Torque Nut* should be as close to the *Channel Bracket* as possible unless obstructions create the need to extend the *Torque Stud*.
    2. Install the *Joist Plate* as close to the I beam as possible to allow for maximum extension of the *Torque Stud.*
    3. Place the *Joist Plate* against the bottom of the joist strut and tight against the installed I beam.
    4. Pre drill through two holes into the joist strut using a 5/16” drill bit, drill all the way through the joist strut.
    5. Install two ⅜” grade 8 hex bolts, install one ⅜” washer and install one ⅜” lock nut on the back side of each bolt .
    6. Pre drill the remaining two holes and install the two remaining bolts.
    7. Turning the *Torque Nut* by hand, tighten the *Channel Bracket* against the I-beam
    8. Using the *Impact Torque Wrench Adapter* torque the nut to the specifications in the table below.

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Torquing The Bracket

- Over torquing the bracket will lead to a failure of the joist or the fasteners.
- Over torquing the bracket to try and straighten a wall will lead to a failure of the joists or the fasteners.
- Torquing the bracket more than two times per year can lead to a failure of the joists or the fasteners

It is best to do only one or two maintenance torques per year on the brackets. The best time to torque the bracket is during the driest part of the year. Often during the dry season a foundation wall will move laterally towards the exterior side. The outward movement will often leave a small gap between the I-beam brace and the foundation wall. By tightening the torque nut to the specified torque amount the beam will move against the wall and restrain the wall in its current position. Using this method it may be possible to move a wall closer to plumb over time.

Torque Specifications

Cinder Block / CMU Wall	40 ft. lbs
Concrete Monolithic Wall	60 ft. lbs