

# WALL BRACKET JIB CRANES

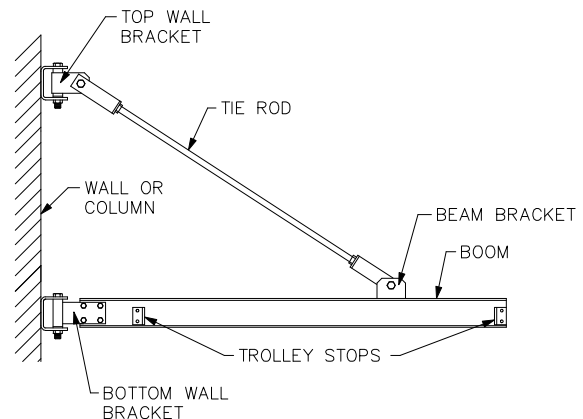
WB100

## Description:

- Combines simplicity of design, heavy duty construction, ease of installation, and low cost
- Places emphasis on ease of rotation and quality
- Consists of a standard I-Beam for the boom, a tie rod (right-hand-threaded at each end), a top and a bottom bracket, a beam bracket, and trolley stops
- Offers a wide variety of practical uses within its approximate 200° rotational area

## Application:

- Especially desirable for individual use in bays, along walls of shops, and as a supplement to an overhead traveling crane or monorail
- Provides a versatile and cost-effective solution to crane needs where adequate headroom and structural support exist
- Covers approximately 200° of rotation
- Is the most economical solution as compared to other jib cranes because the tie rod suspension eliminates the need for a mast member, and permits the use of a smaller section boom than the cantilever-style suspensions of other jib cranes (less steel = less cost)



**Two key requirements** must be met before selecting the Wall Bracket series jib crane:

1. There must be a structurally adequate wall, column, or truss to support the crane.

**Note:** Responsibility for determining if the support is adequate rests entirely on the customer. Information on the loading of the support by the crane can be found in the WB100 pricing section under the column labeled "Thrust & Pull."

2. There must be sufficient clearance (nominally 3") above the tie rod throughout its arc.

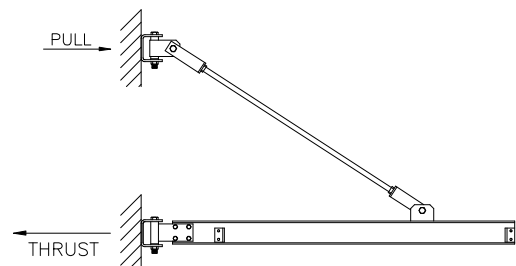
## Spans & Capacities:

Standard (pre-engineered) Wall Bracket jib cranes are available in 1/2-, 1-, 2-, 3-, and 5-ton capacities, with standard boom spans ranging from 8 to 30 feet. Please contact the Gorbel® Customer Service department at (800) 821-0086 or (585) 924-6262 for information regarding larger spans and capacities, or for special requirements not found in the product binder.

## Applied Forces to the Supporting Structure:

The applied forces diagram details the relative position and direction of the forces that a Wall Bracket jib crane applies to the structure that supports it when a load is picked up.

When a load is applied, the top wall bracket applies an overall downward and outward force (pull) on its support. The tie rod is in tension. The bottom wall bracket applies a downward and inward force (thrust) on its support. These Thrust & Pull forces are significantly higher than the capacity of the crane! Be sure to have a qualified structural engineer verify the adequacy of the supporting structure.



## **Design Advantages:**

The key to Gorbels' superior Wall Bracket jib crane lies in the design and manufacture of the bracket system, and in the fact that cap channels are added to longer spans for lateral stability.

### **Top Bracket Construction:**

- Absorbs the pull of the tie rod while still maintaining great ease of rotation
- All bolted connections are in double shear
- The bracket does not rely on any tension welds
- The bronze bushing/thrust washer combination provides ease of rotation, long life, and low maintenance requirements
- Resists drift once rotation has been stopped
- The top bracket consists of three parts:
  1. A formed steel channel which is bolted to the supporting structure (mounting bolts not provided).
  2. A clevis bracket, consisting of a steel tube with two bronze bushings pressed into it, and a wrap-around channel. A grease fitting is provided for field lubrication. This clevis bracket rests on a bronze, oil-impregnated thrust washer, and is retained in the formed wall channel by means of a pivot bolt assembly in double shear. The thrust washer prevents a steel-on-steel situation, and eases rotation.
  3. A formed rod clevis, attached to the top end of the tie rod with an adjusting nut and lock washer; and retained in the clevis bracket by means of a bolt or pin in double shear.

### **Beam Bracket Construction:**

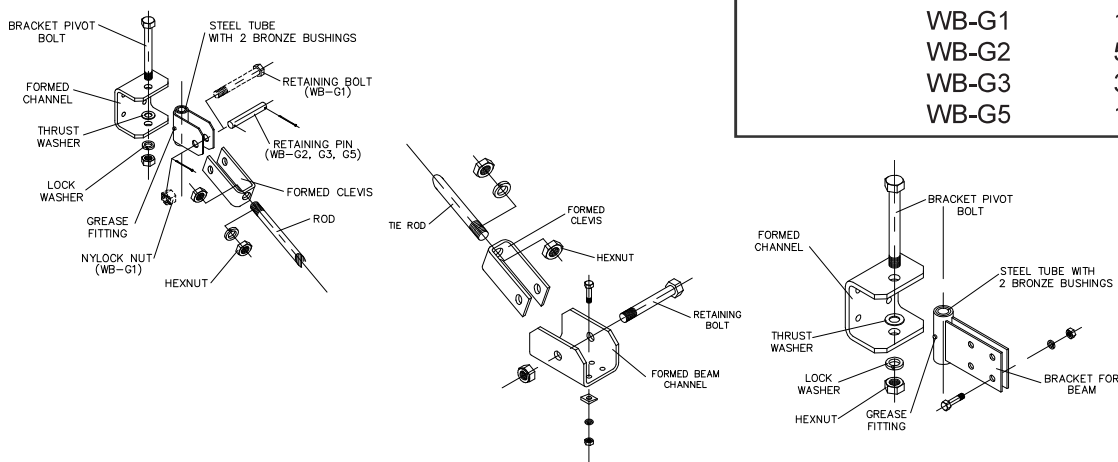
- Connects tie rod to beam near end of span
- Consists of a formed clevis fastened to the tie rod, and bolted to the formed beam channel
- Design does not rely on any tension welds
- Pivot bolt is in double shear

### **Bottom Bracket Construction:**

- Accepts the downward and compressive forces which the crane applies, yet provides optional ease of rotation and resistance to drift for the boom
- Has a formed channel which bolts to the supporting structure
- Has two beam-connecting plates welded to a steel tube, which contains two bronze bushings
- The bolts connecting the plates to the beam are in double shear, with a minimum dependency on a weld to carry the load
- The beam bracket assembly rests on an oil-impregnated bronze thrust washer and is held in the formed wall channel by means of a pivot bolt assembly in double shear
- A grease fitting is provided for field lubrication

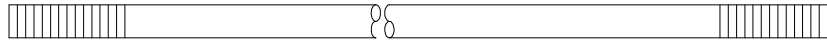
#### **Wall Channel (Formed Channel) Thickness:**

WB-G1	1/2"
WB-G2	5/8"
WB-G3	3/4"
WB-G5	1.0"



### **Tie Rod:**

- A *single* tie rod (ASTM A36), right-hand threaded at each end, is utilized
- Offers ease of leveling
- Assures that the bottom bracket and I-beam will be loaded evenly
- Design is superior to a double tie rod arrangement that depends on even adjustment of the two rods, which can increase installation time and costs



### **How to Order:**

If a Wall Bracket series jib crane is the right crane for your specific application, determine the model number required and the list price by turning to the Wall Bracket Jib Pricing section in the product binder, and locating the correct row and column. These charts also provide information regarding the bracket center dimensions, thrust and pull exerted, and shipping weights for each standard crane model. The model number is used to designate the bracket fitting size, the span, and the depth of the boom. An example is given below:

**Example:                      WB100 - G2 - 16 - 10**

In this example, the wall bracket jib crane has a “G2” size fitting, the span is 16 feet, and the depth of boom is 10 inches.

Please fax your order to Gorbel's Customer Service department at **(800) 828-1808** (US and Canada) or **(585) 924-6273** (outside US) or order online using CraneBrain® at <http://www.gorbel.com/authorizedusers.asp>. Be sure to include the following information:

- Capacity
- Model number
- Span
- Bracket center distance
- Bracket fitting size
- Desired accessories
- Any additional critical information

### **Wall Bracket Fittings Kit:**

Customers can make their own WB100 series jib crane by using Gorbel's high-quality components. The customer buys an I-beam locally, and is responsible for assembly.

- Kits are available for capacities up to 5 tons, for spans ranging from 8 to 30 feet
- Kit consists of a top wall bracket, a bottom wall bracket, and a beam bracket (these parts are the same as those used for Gorbel's standard WB100 jib cranes)
- A tie rod is used with the kit, and can be purchased either locally or from Gorbel (tie rod is not included in the standard kit price)

An additional hardware kit is also available, and consists of the hardware required to connect the lower bracket and the beam bracket to the I-beam, and the hex nuts and washers needed to attach the tie rod to the clevis assemblies.

Bracket center dimensions must be held to those given in the WB100 series chart. Gorbel is not responsible for deviation from above capacity and span recommendation, variance from the recommended limitations between brackets, overloading, or incorrect installation of crane.