



Installation and Maintenance Manual for SPANCO® (WC) Wall Cantilever Jib Cranes

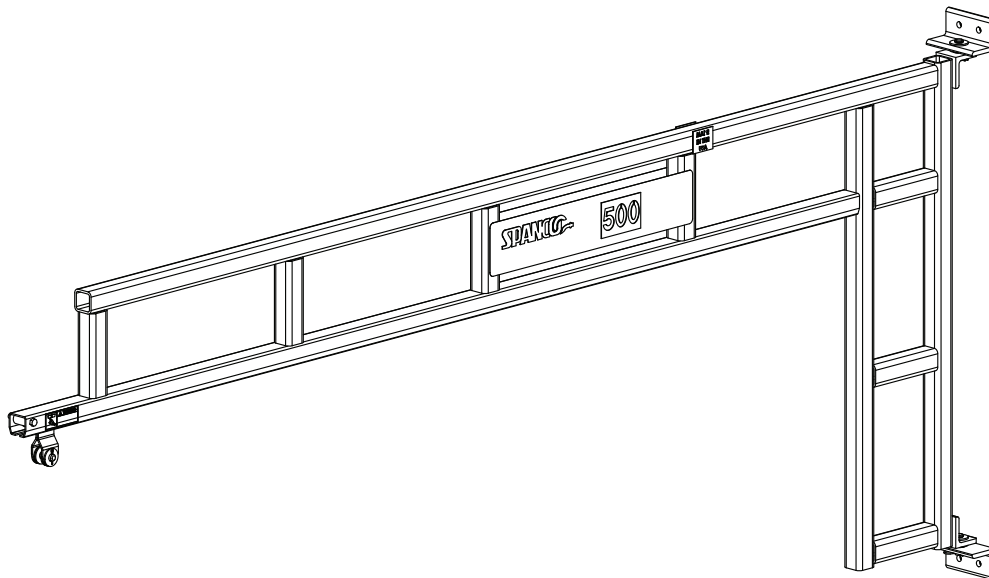


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FORWARD

This manual contains important information to help you install, operate, maintain, and service your new jib crane. Please be sure to read this entire manual before installing or operating your crane. We also recommend that you obtain the latest issue of *ANSI B30.11 Safety Standard for Monorails and Underhung Cranes* and study its contents thoroughly. By practicing the recommended maintenance suggestions, with proper installation, inspections, and application of correct operating procedures you will be assured maximum service from your jib crane and maximum safety for everyone. We also recommend obtaining a copy of the 'CMAA Crane Operator's Manual' and studying its contents thoroughly.

The jibs described in this manual are intended for indoor service. Jib cranes used for outdoor service require special consideration.

Information contained in this manual is subject to change without notice.

Before attempting to install your new jib crane, the following items must be understood:

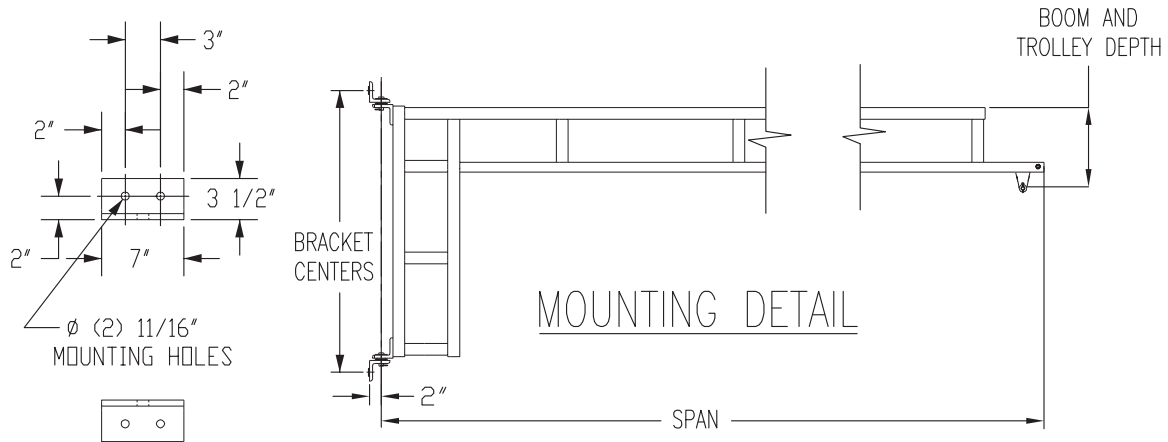
1. It is the customer's responsibility to ensure that building columns or walls are adequate to support the crane and its rated load.
2. Jib cranes should not be hung from any existing building structure without first consulting a qualified architect or engineer for the purpose of determining the structure's adequacy.



Do not mount the jib crane to any structure unless you are sure the structure can safely support the loads imposed upon the structure. Failure to check this item can result in severe bodily injury or death.

3. The installer is responsible for supplying the correct size, length, number, and type of bolts required to attach the jib crane brackets to the structure. SPANCO recommends that the bolts be ASTM A325 grade.
4. Plan the installation such that the proper clearance as outlined in ANSI B30.11 will be adhered to. In the design of jib crane systems, all factors that influence clearances, such as wheel float and roof truss sag should be considered. WC jib cranes are designed for boom deflection at the tip of the boom to not exceed 1/225 of the span.

INSTALLATION



1. Refer to **Tables (1) and (2)** and locate the dimensions of the specific Model WC jib crane to be installed.

TABLE (1)	BOOM AND TROLLEY DEPTH						
	SPAN						
CAPACITY	4'	6'	8'	10'	12'	14'	16'
100	6 - 1/2"	6 - 1/2"	11 - 1/4"	11 - 1/4"	13 - 1/4"	13 - 1/4"	13 - 1/4"
150	6 - 1/2"	6 - 1/2"	11 - 1/4"	11 - 1/4"	13 - 1/4"	17"	17"
250	6 - 1/2"	11 - 1/4"	11 - 1/4"	13 - 1/4"	17"	17"	17"
500	12 - 5/8"	12 - 5/8"	15"	15"	17"	20 - 3/16"	20 - 3/16"
1000	14 - 3/16"	14 - 3/16"	14 - 3/16"	17 - 1/16"	20 - 3/16"	24 - 1/8"	24 - 1/8"

TABLE (2)	BRACKET CENTERS						
	SPAN						
CAPACITY	4'	6'	8'	10'	12'	14'	16'
100	36"	36"	36"	36"	48"	48"	48"
150	36"	36"	36"	36"	48"	60"	60"
250	36"	36"	36"	48"	60"	60"	60"
500	36"	36"	48"	48"	60"	72"	84"
1000	36"	36"	48"	48"	60"	72"	84"

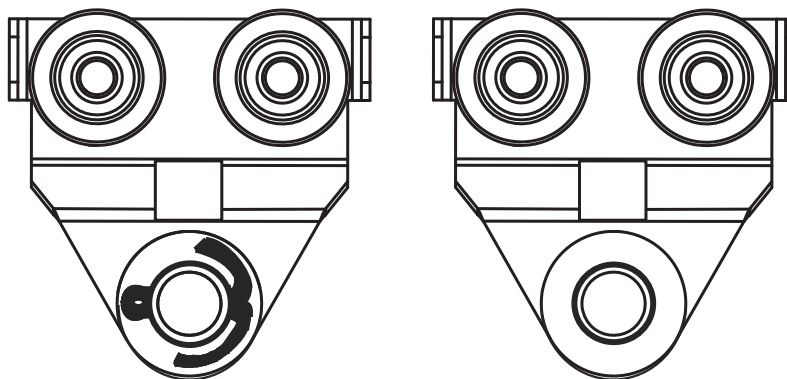
INSTALLATION (Continued)

1. Refer to Tables (1) and (2) and locate the dimensions of the specific Model WC Jib crane to be installed.
2. Please note that the bracket centers in the charts are nominal dimensions only. Do not drill holes according to these dimensions! The crane bushings and washers need a more precise fit, so be sure to follow the remaining steps!
3. Note that the upper angles are slotted for adjustment and the lower angles only have holes. The bottom and top bearing assembly's do not come pre-assembled with the attached angles. Verify that the top and bottom bearing assembly is assembled correct (see figures in this manual). Lift the crane into position using an overhead crane or other means. Place the bottom wall bracket against the supporting column in its proper location with a C-clamp or other supporting method. Drill the first lower hole and put the first bolt through. Level the lower bracket with a level and then drill the second lower hole. Put the second bolt through and then partially tighten the bolts. Do not fully tighten the bolts in case shims are needed (later).
4. Allow crane to rest on lower bracket while still supporting the rest of the crane.
5. Use a 3' or 4' level to level the crane vertically (to within 1/16" if using a plumb bob). Press downward on top of upper pin to ensure the upper bearing assembly is down as far as it goes. Level the upper bracket with a level and drill the two bracket holes into the support structure. Install and tighten the two upper bolts. Do not fully tighten the bolts in case shims are needed (later).
6. Attach the hoist, supplied by others, to the hoist trolley. Use washers on hoist mounting pin to center hoist inside hoist trolley. Replace cotter pin(s) if worn or broken.

WARNING

Do not operate hoist or crane if cotter pins are not in place and properly bent over on both sides of hoist trolley. Check regularly that the cotter pins are in place and securing the hoist on the hoist trolley.

NOTE: Some trolley load pins only have one cotter pin.



SAFETY INSTRUCTIONS



BEND COTTER PIN
OVER BEFORE USE.
HOOK MUST BE
CENTERED ON
TROLLEY PIN.
P/N 53-0059

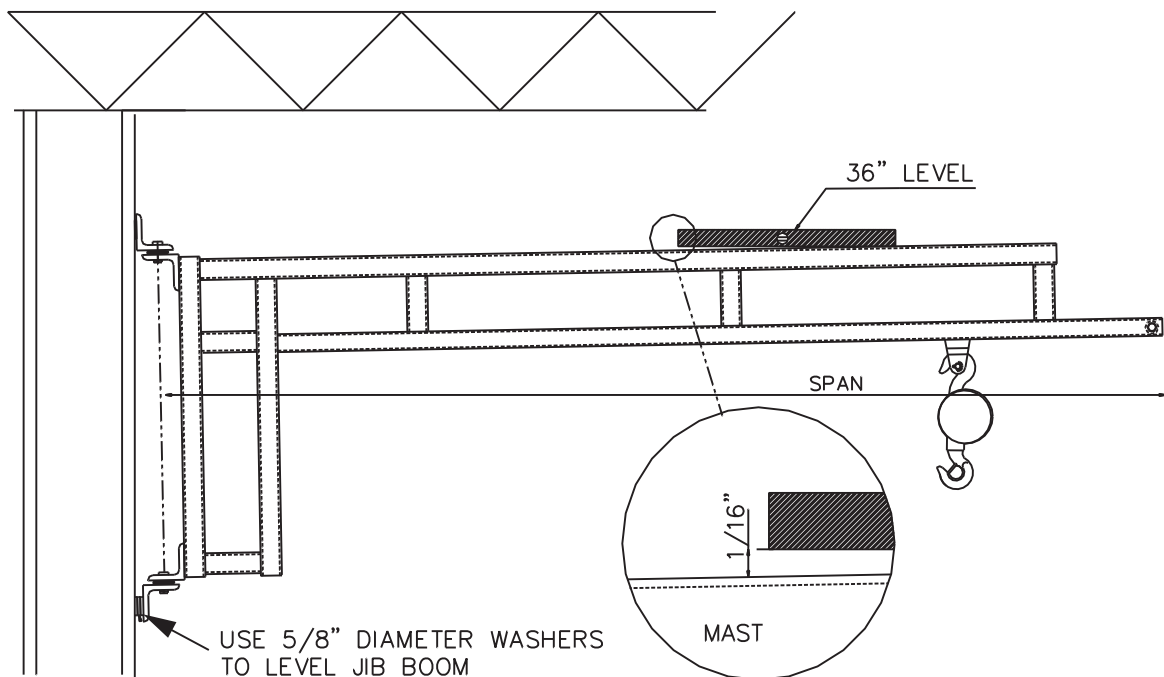
WARNING

DO NOT OPERATE
HOIST/Crane IF
SPLIT/COTTER PINS
ARE NOT IN PLACE
AND PROPERLY BENT
OVER ON BOTH SIDES
OF HOIST TROLLEY.

P/N 53-0058

INSTALLATION (Continued)

- Position the unloaded hoist and trolley at the extreme tip of the boom. If desired you may install the boom on a slight incline to compensate for anticipated deflection. If a slight incline is used it should be approximately $1/16"$ using a 36" level (see figure). This will keep the incline from exceeding $\frac{1}{2}$ of the expected total boom tip deflection ($1/2 \times \text{SPAN} \div 225$). If lower washers (shims) are required to level the boom, leave the upper bolts tightened, support crane as needed, and install bottom washers (shims) as needed, then retighten bottom bolts. If upper washers (shims) are required to level the boom, leave the lower bolts tightened, support crane as needed, and install upper washers (shims) as needed, then retighten upper bolts. In the end be sure all 4 bolts are properly tightened (approximately 154 FT•LBS). For a $5/8"$ $\varnothing$ structural bolt.



- Recheck to make sure both upper and lower bearing assemblies will pass the first inspection (see correct figures in this manual). Test jib by rotating back and forth to ensure there is no unusual rubbing or binding or anything else unusual that could compromise the crane, bushings, or pin life. Be sure the crane rotates freely and unimpeded.
- Connect the hoist to its source of power (either air or electric) if required, as per the hoist manufacturer's manual.
- Now that the jib crane installation is complete, but before the unit is placed into service, it is important to review and follow the procedures outlined in Chapter 11-2 of ANSI B30.11 regarding inspection, testing, and maintenance.
- Perform a first inspection (see the following pages titled (Maintenance and Inspections)).

MAINTENANCE AND INSPECTION

1. In order to minimize a potential injury or fatality, be sure every user performs his or her own inspection at the start of each shift, or at the time the crane is first used during each shift, unless the employer or supervisor has assigned this responsibility to another designated person to perform daily (see pages 19 and 20 of the CMAA Crane Operator's Manual). This daily inspection is a visual inspection of the entire system before using it and note is taken of any unusual or abnormal operation of the system while using it. Meticulous, careful operation of the system will help minimize system repair and maintenance.
2. Daily inspection items, according to the CMAA Crane Operator's Manual, include a tagged out crane or hoist. Other daily items to check include control devices, hooks, hook latches, wire rope, oil leakage, unusual sounds, warning and safety labels. SPANCO recommends additional items to add to this daily list. Those items include bearings (bushings), pins, cotter pins, end stops and all nuts and bolts to be checked for tightness. Hoist trolleys should be checked for abnormal wear or breakage. Check that festoon trolleys travel smoothly through the track. Also check that all festoon cables and/or hoses are securely clamped to the festoon trolleys and end clamps. Check daily for anything unusual.
3. The supplied bearings (bushings) are not designed to be lubricated. They are a wear item that will need to be inspected and eventually need to be replaced depending on usage.
3. Refer to the figures in this manual showing correct and incorrect configurations of bearing assemblies. If there is a question concerning bearing assembly or any other item during the inspection, the crane must be tagged out of service immediately until all items are resolved.
4. It is important to note that every system application and use will be different, therefore some conditions of use should require more frequent inspection. Examples of such conditions might be two or three shift operations, high, repetitive or fast movement of the crane, unusual working conditions, corrosive environments, or intended or unintended abuse.
5. Remember end stops are emergency devices only. They are not to be used as an operational means to stop travel of the hoist (page 18 CMAA Crane Operator's Manual).
6. The hoist is not provided by SPANCO. The user should refer to the manual supplied for the hoist for a listing of maintenance points and their suggested frequency.
7. Operating any crane has its potential dangers. To minimize injuries all users of this crane must be properly trained on its use and all users must be able to identify and monitor any potential hazards that may be present in the work environment.
8. Weekly or monthly inspections would be more detailed inspections than what is described above.

MAINTENANCE AND INSPECTION (Continued)

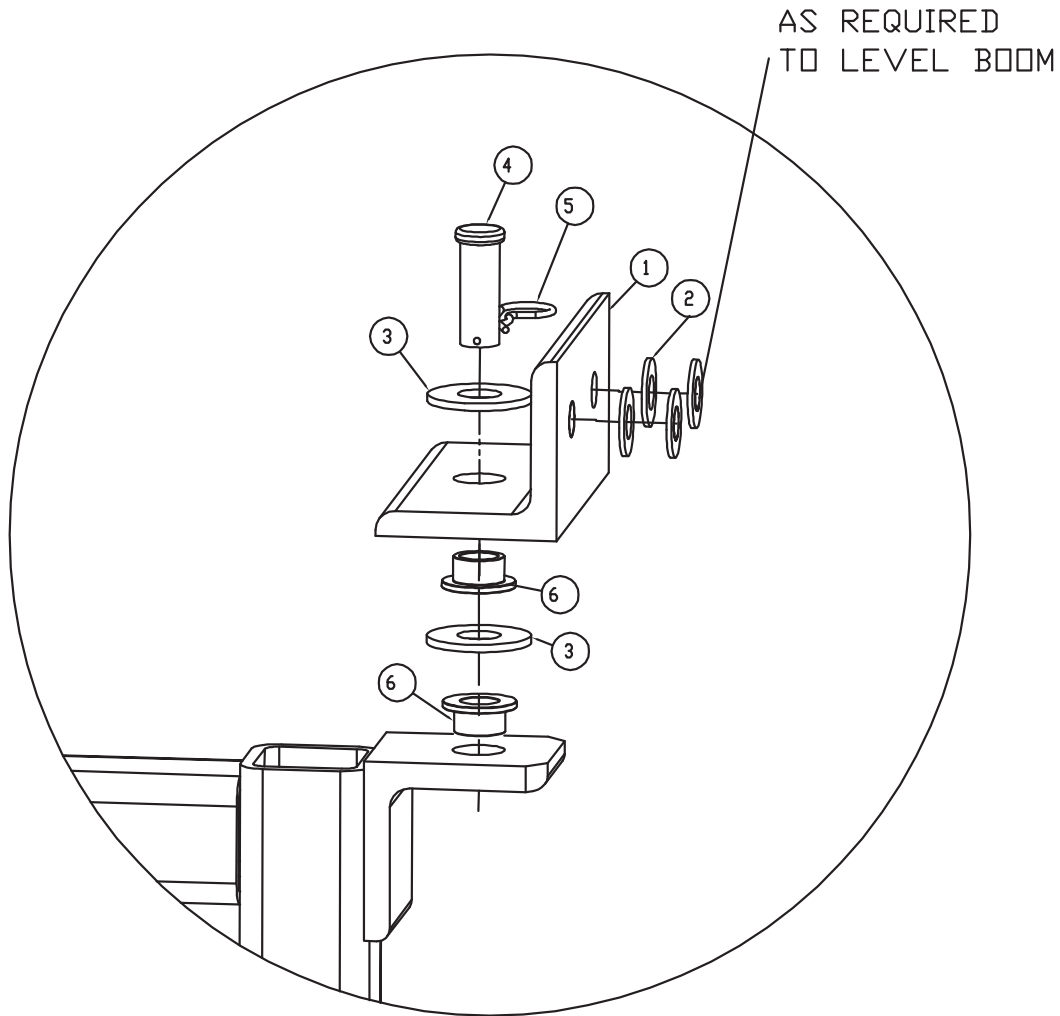
9. **June 2013 & Earlier:** A yearly inspection includes all of the above inspection items plus a partial tear down of the upper and lower bearing assemblies. Properly support the crane by an overhead crane or other means and remove the upper cotter pin and then remove the main pin (refer to the proper figures in this manual). The bearing will need to be removed and checked. It will either be a flanged or non-flanged sleeve bearing (bushing). If flanged, check the flange for any cracks or for any unusual or excessive wear. For any non-flanged bearing, remove and check for any wear. Also visually inspect the pin and cotter pin for any signs of unusual wear. Refer to the proper figures in this manual to be sure that the bearing assemblies go back together properly. After putting the top assembly back together, repeat the same process for the lower bearing assembly, making sure the crane is properly supported at all times. Contact SPANCO immediately concerning any possible replacement parts in question.

OR

9. **June 2013 & Later:** A yearly inspection includes all of the above inspection items plus a partial tear down of the upper and lower bearing assemblies. Properly support the crane by an overhead crane or other means and remove the shoulder bolt and lock nut (refer to the proper figures in this manual). The bronze bushing will need to be removed and checked. Check the flange of the bearing for any cracks or for any unusual or excessive wear. Also visually inspect the shoulder bolt for any signs of excessive wear. Refer to the proper figures in this manual to be sure that the assemblies go back together properly. After putting the top assembly back together, repeat the same process for the lower bearing assembly, making sure the crane is properly supported at all times. Contact SPANCO immediately concerning any possible replacement parts in question.

**TOP BRACKET ASSEMBLY:
JANUARY 2011 AND EARLIER ONLY
WC 100, 150, 250, 500 & 1000 LBS**

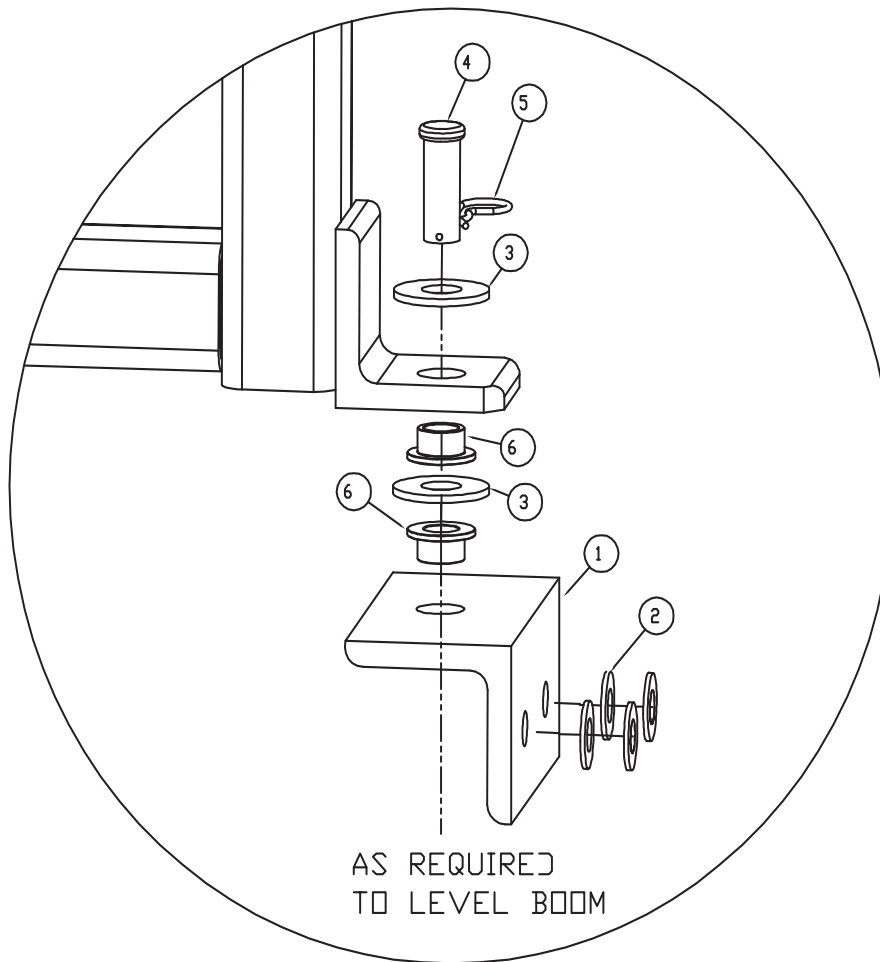
NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.



K-WC-01			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB1	BRACKET, ANGLE WALL CANTILEVER JIB
2	4	15-0004	5/8" FLAT WASHER
3	2	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0009	BEARING, FLANGE 3/4"ID 841 BRNZ OILITE

**BOTTOM BRACKET ASSEMBLY:
JANUARY 2011 AND EARLIER ONLY
WC 100, 150, 250, 500 & 1000 LBS**

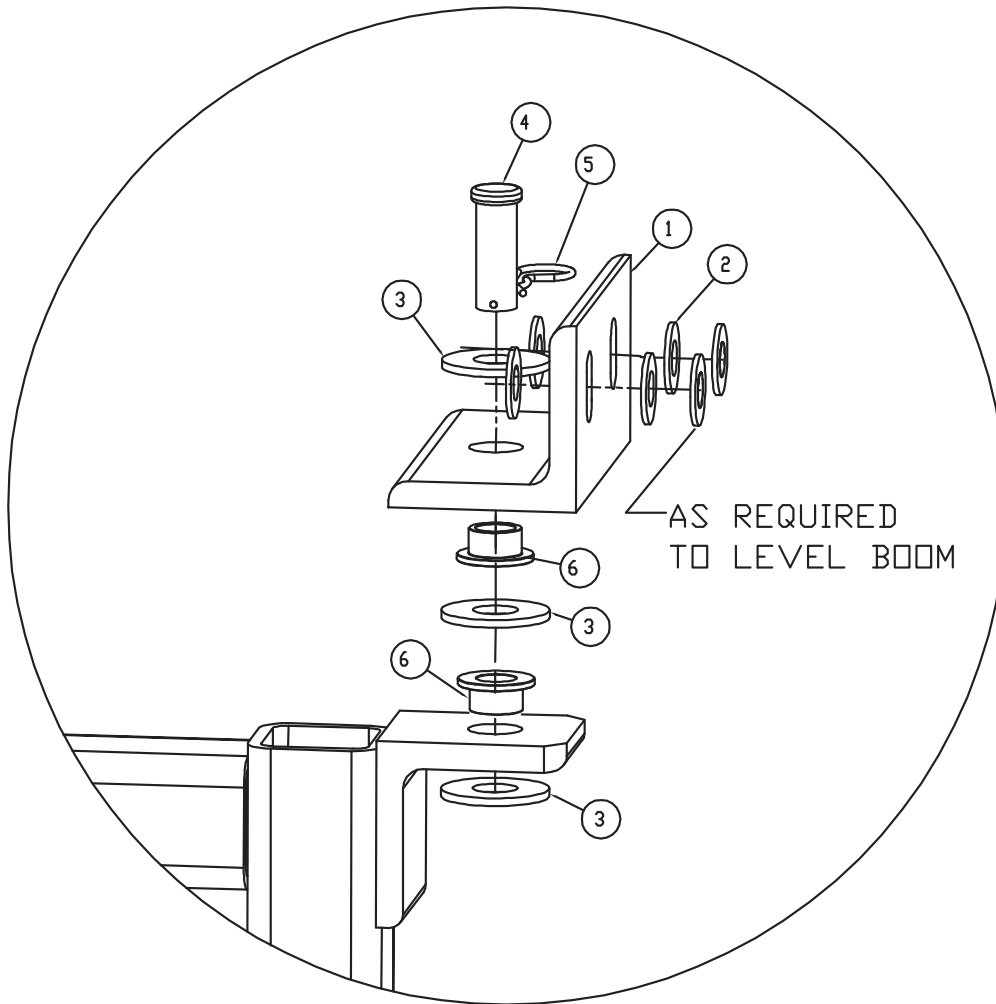
NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.



K-WC-01			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB1	BRACKET, ANGLE WALL CANTILEVER JIB
2	4	15-0004	5/8" FLAT WASHER
3	2	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0009	BEARING, FLANGE 3/4"ID 841 BRNZ OILITE

**TOP BRACKET ASSEMBLY:
JANUARY 2011 TO JUNE 2013
WC 100, 150, 250 & 500 LBS**

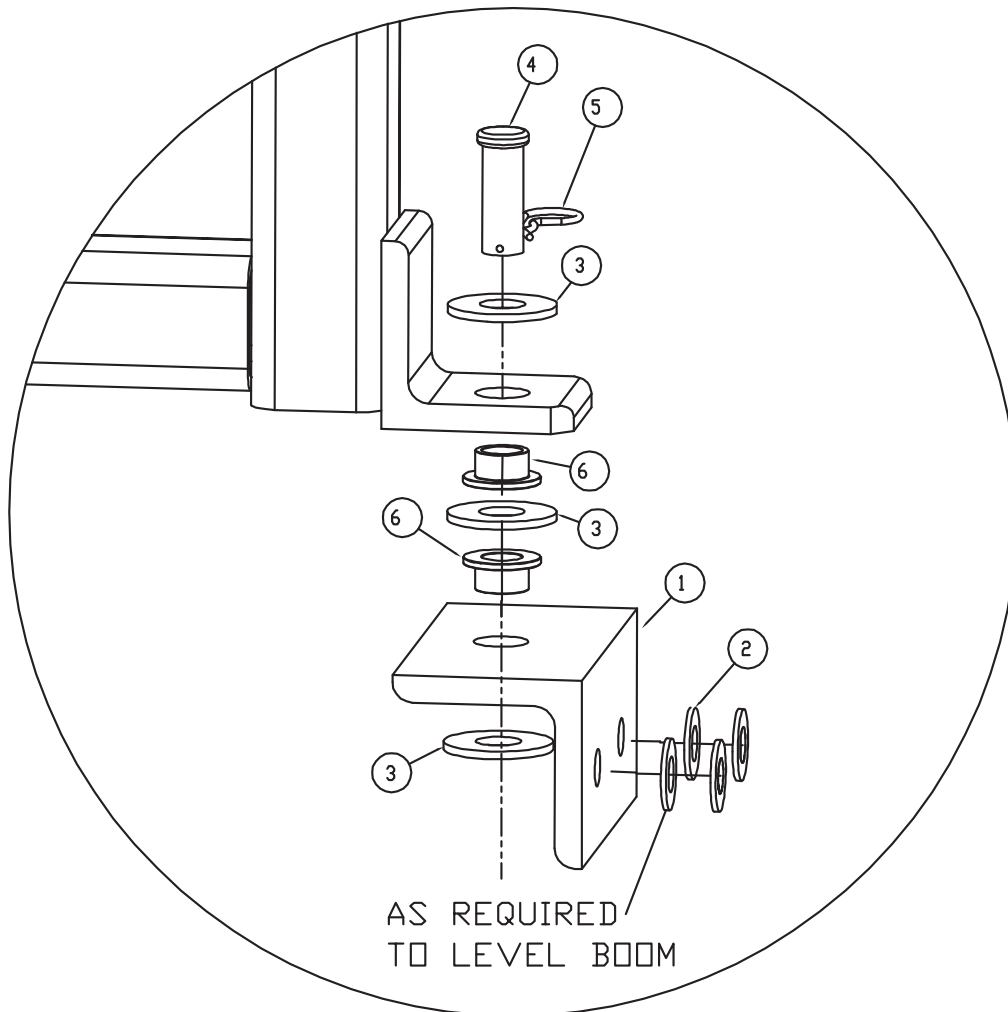
NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.



K-WC-02			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB2	BRACKET,SLOTTED ANGLE WALL CANT JIB
2	6	15-0004	5/8" FLAT WASHER
3	3	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0023	BEARING, FLANGE 3/4ID,1"OD,954 BRNZ

BOTTOM BRACKET ASSEMBLY:
JANUARY 2011 TO JUNE 2013
WC 100, 150, 250 & 500 LBS

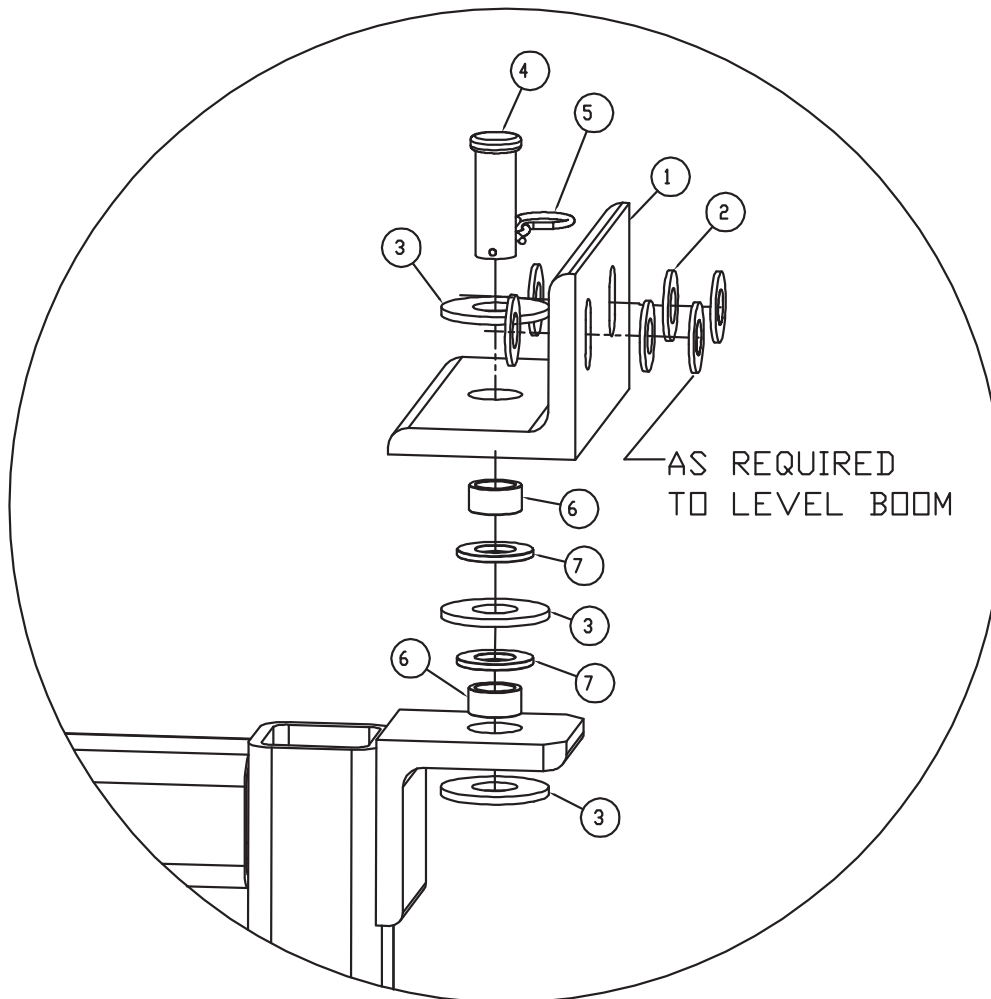
NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.



K-WC-02			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB1	BRACKET, ANGLE WALL CANTILEVER JIB
2	4	15-0004	5/8" FLAT WASHER
3	3	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0023	BEARING, FLANGE 3/4ID,1"OD,954 BRNZ

**TOP BRACKET ASSEMBLY:
JANUARY 2011 TO JUNE 2013
WC 1000 LBS**

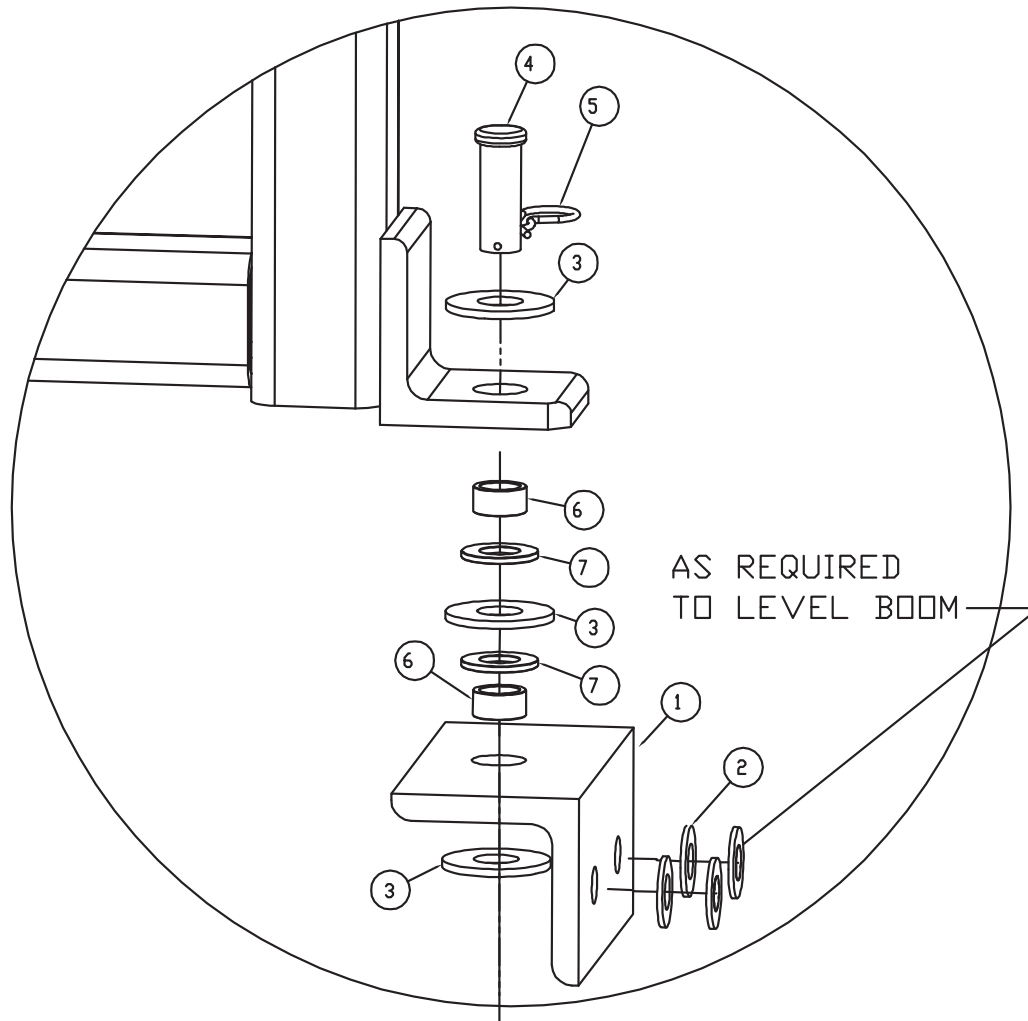
**NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.**



K-WC-03			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB2	BRACKET,SLOTTED ANGLE WALL CANT JIB
2	6	15-0004	5/8" FLAT WASHER
3	3	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0025	BEARING, SLEEVE 3/4" ID,1"OD,1/2" LNTH
7	2	26-0024	THRUST WASHER, 3/4" BRONZE SAE 841

BOTTOM BRACKET ASSEMBLY:
JANUARY 2011 TO JUNE 2013
WC 1000 LBS

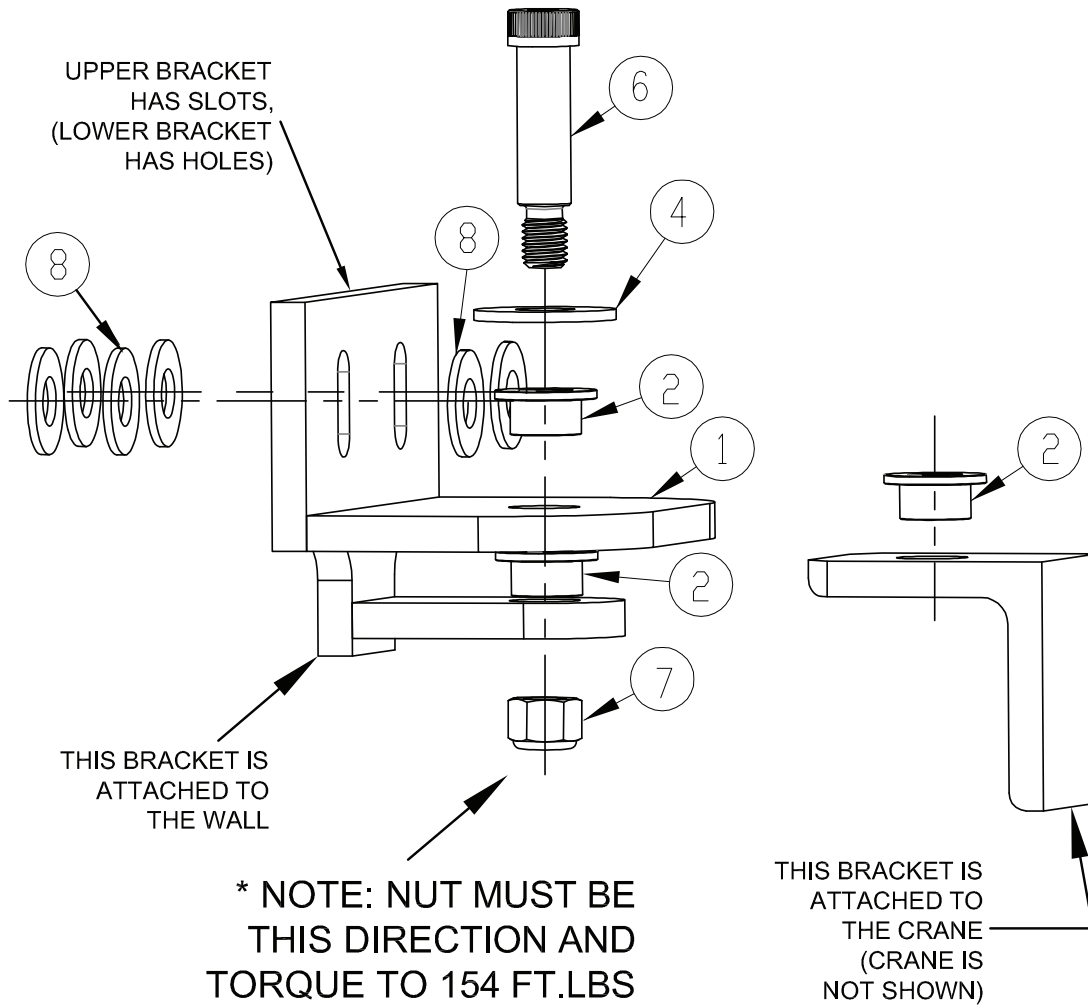
NOTE: As of June 2013, we are no longer using this assembly.
The replacement assembly is K-WC-1000-R.



K-WC-03			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	WCB1	BRACKET, ANGLE WALL CANTILEVER JIB
2	4	15-0004	5/8" FLAT WASHER
3	3	15-0005	FLAT WASHER, 3/4"
4	1	29-0003	PIN, CLEVIS 3/4" X 2 ZINC PLATED
5	1	29-0006	HAIRPIN COTTERS 5/8" - 3/4"
6	2	26-0025	BEARING, SLEEVE 3/4" ID, 1" OD, 1/2" LGTH
7	2	26-0024	THRUST WASHER, 3/4" BRONZE SAE 841

TOP BRACKET ASSEMBLY:
JUNE 2013 AND LATER ONLY (ALL WC'S)
WC 100, 150, 250, 500, AND 1000 LBS

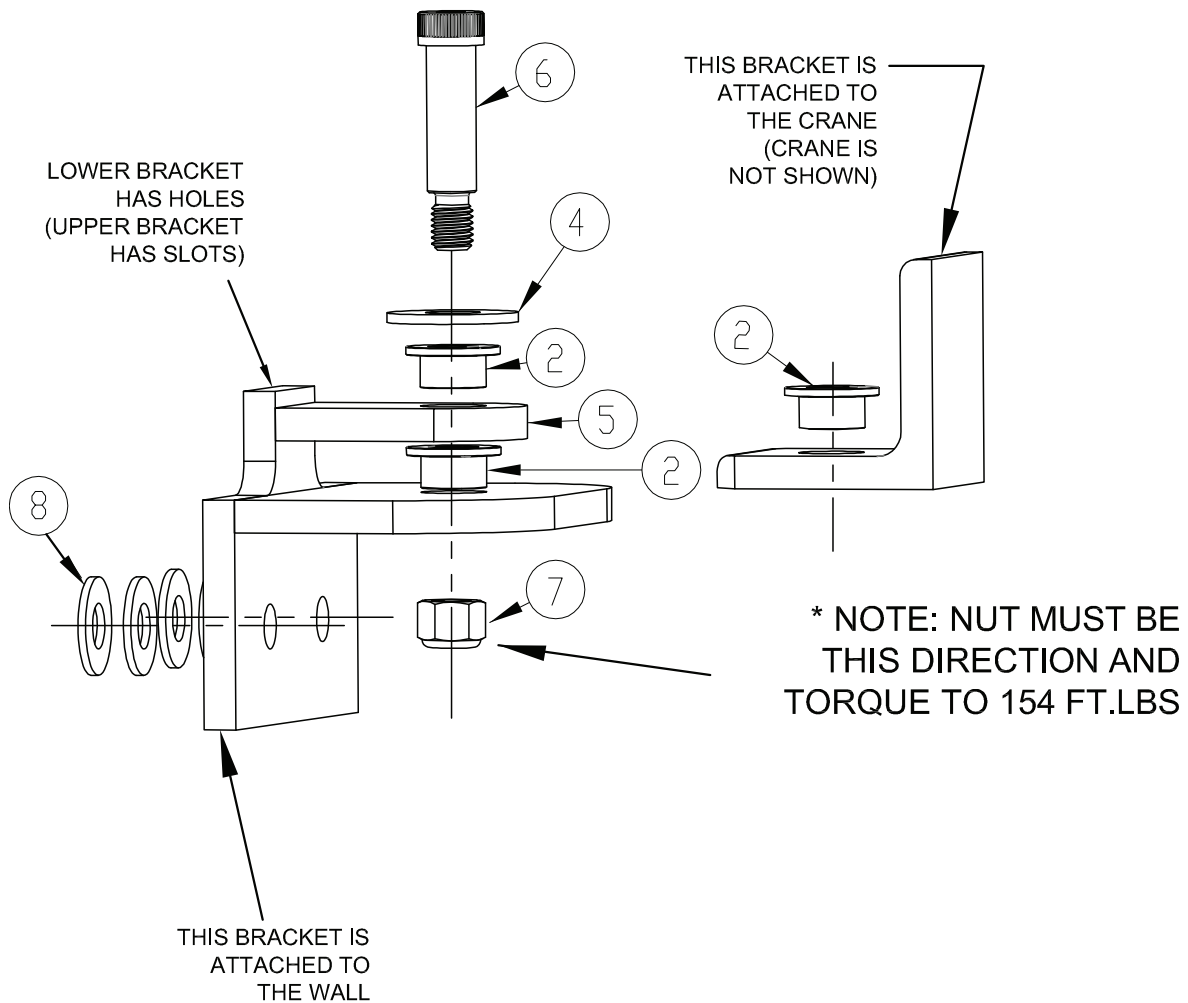
NOTE: This bracket assembly applies to all WC Jibs and replacement brackets June 2013 and later.



K-WC-1000-R			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	9-5117	WC, UPPER BRACKET WELD
2	6	26-0023	BRONZE BUSHING
3	N/A	N/A	N/A
4	2	15-0005	FLAT WASHER, 3/4"
6	2	101-0221	SHOULDER BOLT, 3/4", 5/8"-11 NC, 2 1/4" LNG
7	2	13-0001	HEX LOCK NUT, 5/8"-11 NC
8	10	15-0004	5/8" FLAT WASHER

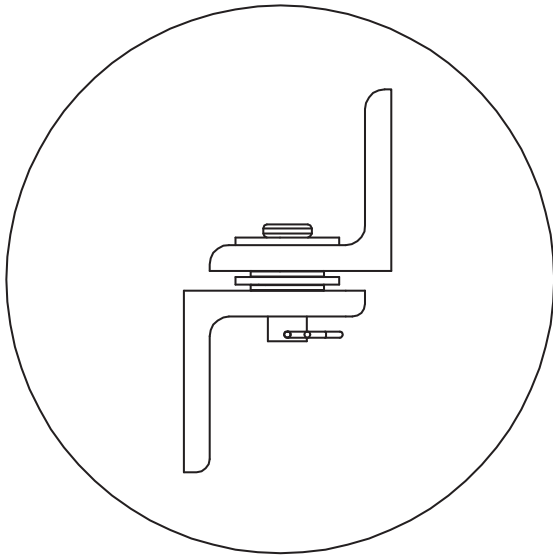
BOTTOM BRACKET ASSEMBLY:
JUNE 2013 AND LATER ONLY (ALL WC'S)
WC 100, 150, 250, 500, AND 1000 LBS

NOTE: This bracket assembly applies to all WC Jibs and replacement brackets June 2013 and later.



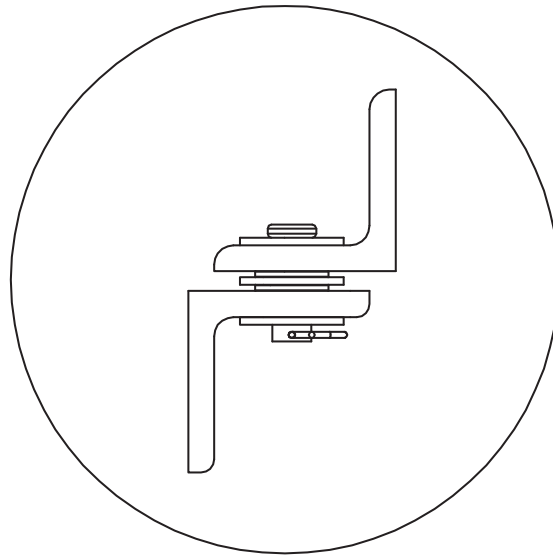
K-WC-1000-R			
ITEM	QTY.	PART NO.	DESCRIPTION
2	6	26-0023	BRONZE BUSHING
3	N/A	N/A	N/A
4	2	15-0005	FLAT WASHER, 3/4"
5	1	9-5116	WELD, WC, BRACK, LOWER ANGLE
6	2	101-0221	SHOULDER BOLT, 3/4", 5/8"-11 NC, 2 1/4" LNG
7	2	13-0001	HEX LOCK NUT, 5/8"-11 NC
8	10	15-0004	5/8" FLAT WASHER

BEARING ASSEMBLY: CORRECT



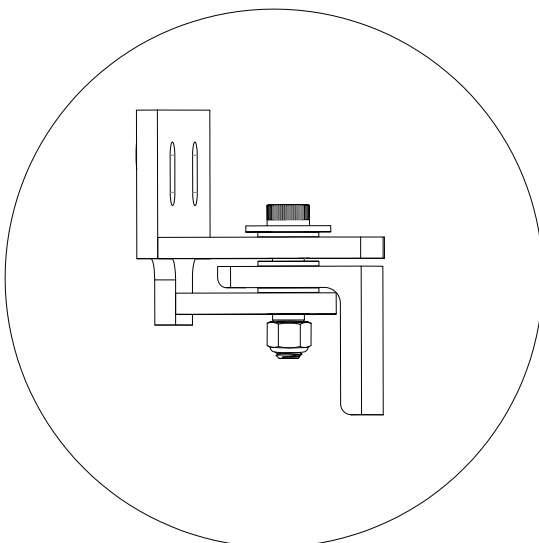
CORRECT

- Configuration for January 2011 and earlier
- All washers are installed and in the correct locations
- Flange bearings are not beginning to pull out and are installed in the correct locations
- Pin is down the whole way
- Cotter pin is present
- Angles and crane are aligned horizontally



CORRECT

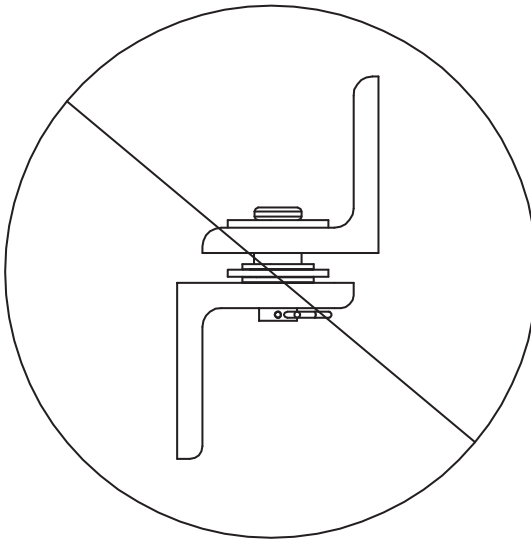
- Configuration for January 2011 to June 2013
- All washers are installed and in the correct locations
- Flange bearings are not beginning to pull out and are installed in the correct locations
- Pin is down the whole way
- Cotter pin is present
- Angles and crane are aligned horizontally



CORRECT

- Configuration for June 2013 and later
- All washers and flange bearings are present
- Angles and crane are aligned horizontally
- Lock nut is tightened to 10 ft/lbs
- Bearings are being loaded correctly and shoulder bolt is being stressed correctly

BEARING ASSEMBLY: INCORRECT



INCORRECT

Inspection Procedure:

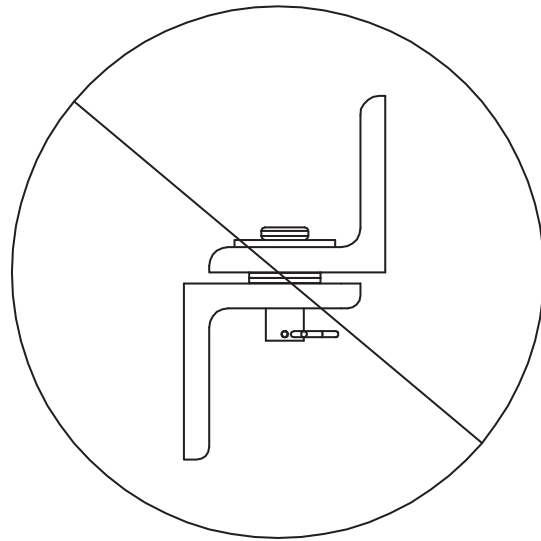
- Crane must be taken out of service immediately
- Could result in serious injury or death

Problem:

- The upper flange bearing is beginning to pull out
- Flange bearing may be wearing incorrectly
- Pin may be exposed to wear or failure if flange bearing pulls the entire way out

Possible Cause:

- Bracket centers are too large



INCORRECT

Inspection Procedure:

- Crane must be taken out of service immediately
- Could result in serious injury or death

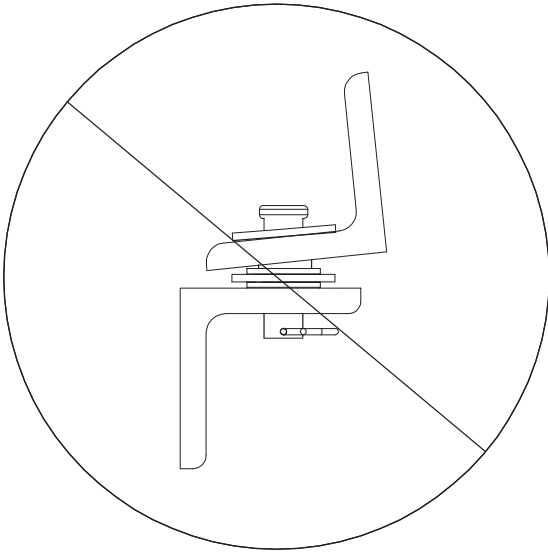
Problem:

- Center washer is missing

Possible Cause:

- Incorrect installation

BEARING ASSEMBLY: INCORRECT



INCORRECT

Inspection Procedure:

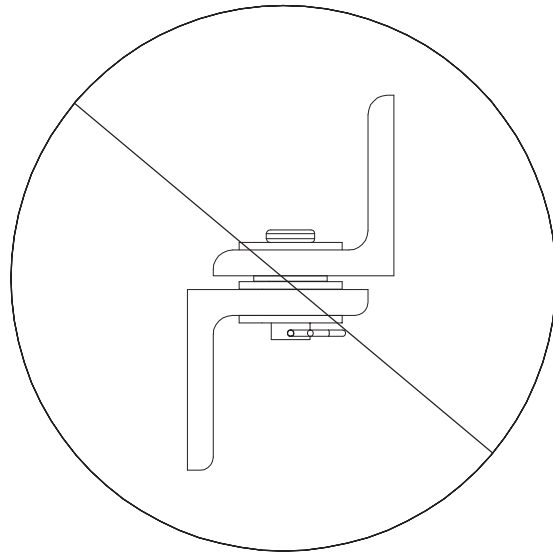
- Crane must be taken out of service immediately
- Could result in serious injury or death

Problem:

- Angles or crane are misaligned
- Pin is beginning to pull out
- Upper flange bearing may be beginning to pull out
- Flange bearing may be wearing incorrectly
- Upper portion of pin may be exposed to wear or failure due to misalignment

Possible Cause:

- Bracket not mounted correctly



INCORRECT

Inspection Procedure:

- Crane must be taken out of service immediately
- Could result in serious injury or death

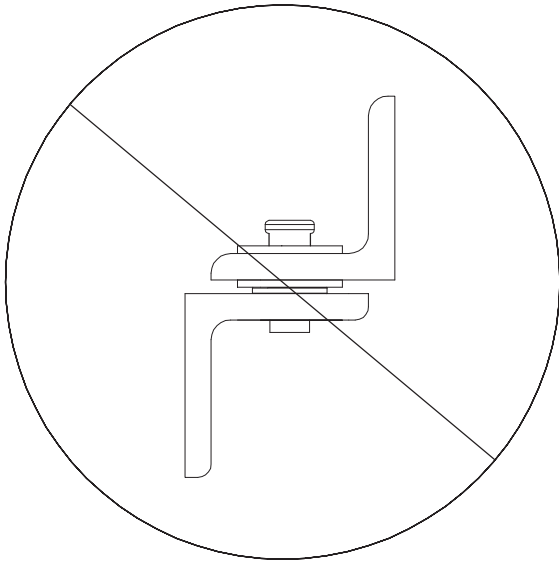
Problem:

- Lower flange bearing is missing entirely
- Angle will be wearing directly on pin without the protection of the bearing
- Pin will prematurely fail

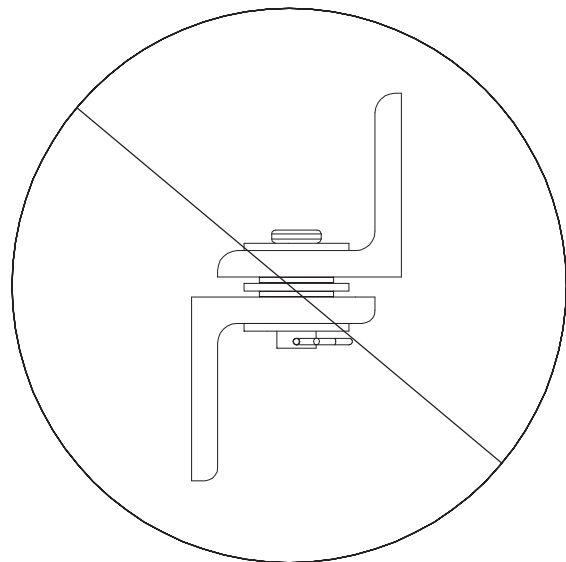
Possible Cause:

- Lower flange bearing is missing entirely (incorrect installation)
- Bracket centers are less than required

BEARING ASSEMBLY: INCORRECT



INCORRECT



INCORRECT

Inspection Procedure:

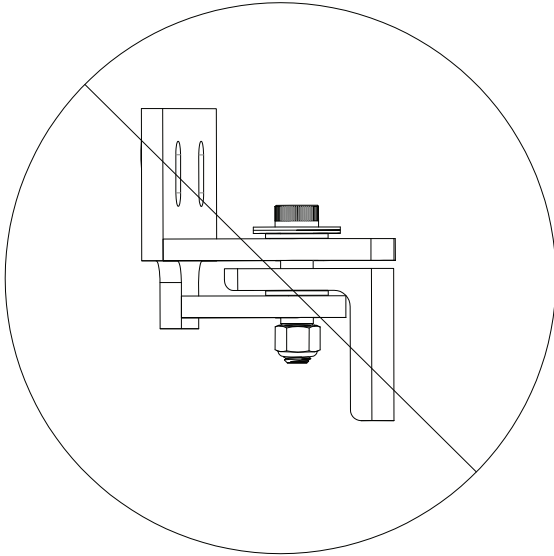
- Crane must be taken out of service immediately
- Could result in serious injury or death

Problem:

- Upper flange bearing is missing entirely
- Angle will be wearing directly on pin without the protection of the bearing
- Pin will prematurely fail
- The cotter pin is missing entirely
- The pin is beginning to work its way out of its proper location

- Configuration for January 2011 to June 2013
- Although this figure looks identical to the correct configuration, there may be sleeve bearings that are missing for the 1,000 LB crane
- The thrust bearings are obviously here, but the sleeve bearings may or may not be present. A closer inspection would be necessary to determine if the sleeve bearings are present or not

BEARING ASSEMBLY: INCORRECT



INCORRECT

Inspection Procedure:

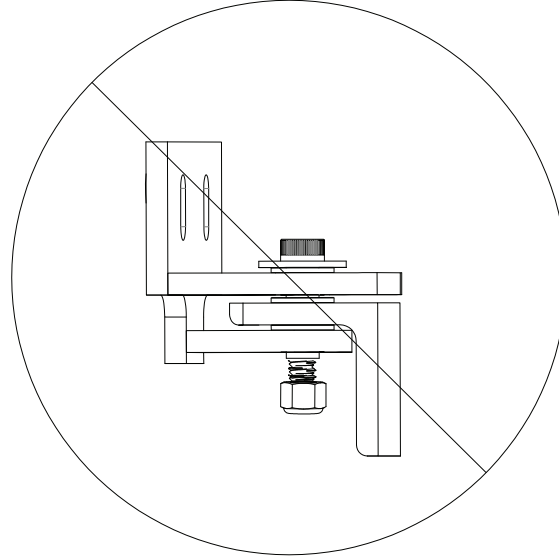
- Crane must be taken out of service
- Could result in serious injury or death

Problem:

- Center bronze bushing is missing

Possible Cause:

- Incorrect installation



INCORRECT

Inspection Procedure:

- Crane must be taken out of service
- Could result in serious injury or death

Problem:

- Shoulder bolt nut is not tightened

Possible Cause:

- Incorrect installation

TEN-YEAR SPANCO WARRANTY

Products covered under the Ten-Year Warranty:

- Manual Steel Freestanding, Ceiling Mounted Workstation Bridge Cranes, and Monorails
- Manual Aluminum (Alu-Track®) Workstation Bridge Cranes and Monorails
- Manual Jib Cranes (I-Beam, Articulating, and Workstation Jib Cranes)
- Manual Gantry Cranes and Tripods

What the Ten-Year Warranty covers:

- Defects in Equipment material and workmanship
- Wearable parts (end truck and hoist trolley wheels only)

Spanco, Inc. warrants its manual workstation bridge crane products, jib crane products, and gantry crane products to be free from defects in material and workmanship for a period of ten (10) years or 20,000 hours, commencing on the date of shipment to the first retail purchaser. This warranty extends to non-wearable parts only, with the exception of the wheels supplied on manually operated workstation end trucks and hoist trolleys. This warranty does not cover defective equipment or system failure caused by misuse, negligence, improper installation or maintenance, or equipment that has been used in excess of its rated capacity or beyond its service factors. It does not apply to equipment that has been altered without Spanco's written authorization.

Written notice of any claimed system defect must be given to Spanco within thirty days of discovery. Spanco's obligation under this warranty is limited to the replacement or repair of Spanco's products at the factory or separate location approved by Spanco. The purchaser is responsible for all freight and transportation costs relating to equipment repair or replacement. **Other than the abovementioned warranty, Spanco will not honor any other warranties—whether express, implied, or statutory—and disclaims any warranties of merchantability or fitness for a particular purpose. Spanco is not liable—under any circumstances—for any indirect, incidental, or consequential damages including but not limited to lost profits, increased operating costs, or loss of production.**

This warranty does not extend to components or accessories not manufactured by Spanco. The purchaser's remedy for such components and accessories will be determined by the terms and conditions of any the warranty provided by the manufacturer of such components and accessories.

NOTE: *All motorized Spanco products come with a One-Year Warranty on drive components.*