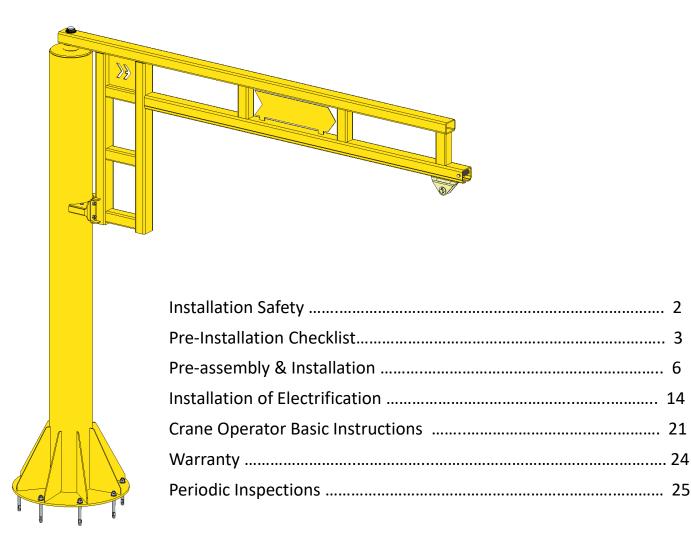


Installation, Operation, & Maintenance Manual



Date purchased	\ L
SN	X
Order Number	Owner's Manual



Before you begin. Read the instructions carefully, from beginning to end, and follow the proper sequence.

Thank you for purchasing a PWI crane! We have been building overhead cranes for years and our experience and knowledge should give you peace of mind. We too use overhead cranes in our manufacturing processes. From design & engineering, all the way to installation of our crane systems, our experience and passion for quality crane systems is shown in our products. We hope you find the installation ease and use of our PWI products to be among the best items you have purchased.

Thank you from the entire staff at PWI.

General Safety:

- □ Safety comes first when unloading and assembling your jib crane system. Many of the components are heavy and require lifting equipment to move and set them in place. Make sure the equipment you choose to support and lift each piece is capable of the task with extra capacity to do the job. Do not end up in a dangerous situation.
- □ Start with checking any lifting fixtures/tools for damage or wear that could lead to severe injury or death.
- □ This manual assumes that you have performed any foundation analysis ahead of placing your crane system in the proper location. Failure to provide the proper footing depth and width based on your column loads can result in failure of the floor structure supporting your crane.
- □ Please call PWI if you are unsure of the slab/foundation requirements for your jib crane.







Owner's Manual



Pre-Installation Checklist:

- □ Check your shipment for the correct components and hardware. Your shipment should include shipping sheets that were checked off by our team
- □ Check your shipment for drawings for layout and installation of components
- Clear the area as much as possible of items that could be damaged or create hazards during the installation. When assembling near electrical panels be aware of any regulations regarding perimeters required around those objects
- □ Forklift or suitable lifting equipment
- □ Should you have any technical questions, or feel you have defective components or missing items, call us immediately. We will be glad to assist you.

Tools Needed:

- □ Proper PPE: □ Hammer
- □ Forklift □ 3/4" Wrench
- □ Ladder/Man Lift □ 1-1/8" Wrench
- □ Nylon Lifting Sling □ Torque Wrench
- □ Marker □ Laser Level
- □ Tape Measure □ 3/16" Hex L-Key
- □ Chalk Line □ Grease Gun
- □ Hammer Drill
- Paint Brush
- □ 3/4" Hammer Drill Bit





System Capacity Information:

The PWI Jib Crane will provide a superior quality product that will offer years of long-term value.

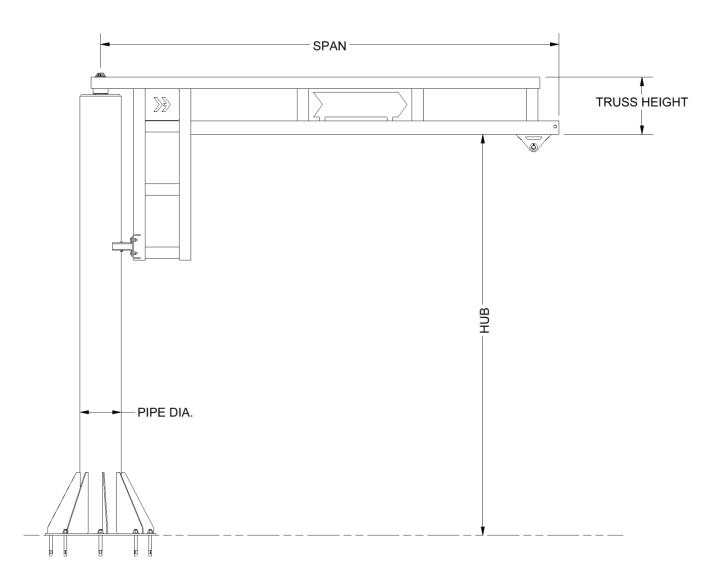
The hoist and trolley weight allowance is shown in the chart below.

Capacity	Span
250#	8' - 16'
500#	8'-14'
1,000#	8'-12'

Weights (Ib)				
Capacity (lbs.)	Hoist	Trolley		
250	70	7		
500	70	7		
1,000	110	10		











- 1. Confirm concrete slab is free from cracks or joints within the specs of chart below.
- 2. Soil Pressure assumed at 2,500psf.
- 3. Confirm continuous concrete slab is reinforced and is 6" thick, 3,000 psi.

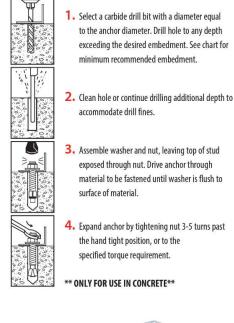
Capacity	Span	Continuous Slab	
250#	8' - 9'	6' x 6'	
250#	9' - 16'	8' x 8'	
	8' - 9'	7' x 7'	
500#	9' - 14'	8' x 8'	
	14' - 16'	10' x 10'	
1 000#	8' - 9'	9' x 9'	
1,000#	9' - 14'	10' x 10'	
		Owner's Manual	



4. Install expansion anchors per spec.

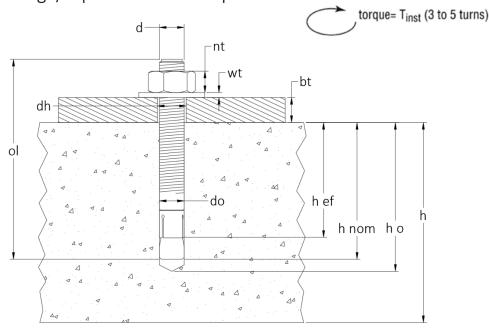
d	Anchor Diameter		3/4''
do	Drill Bit Diamter		3/4''
dh	Base Plate Hole Diameter		7/8"
h	Concrete Thickness		6
h ef	Effective Embedment	in.	4
h nom	Nominal Embedment		4.625
ho	Drill Depth		4.875
bt	Base Plate Thickness		1/2''
wt	Washer Type	Height	0.177
nt	Nut Type	Height	0.75
ol	Total Anchor Length		7
	Torque	ft. lbs.	110





Form ID: WE1

Wedge/Expansion Anchor Specs



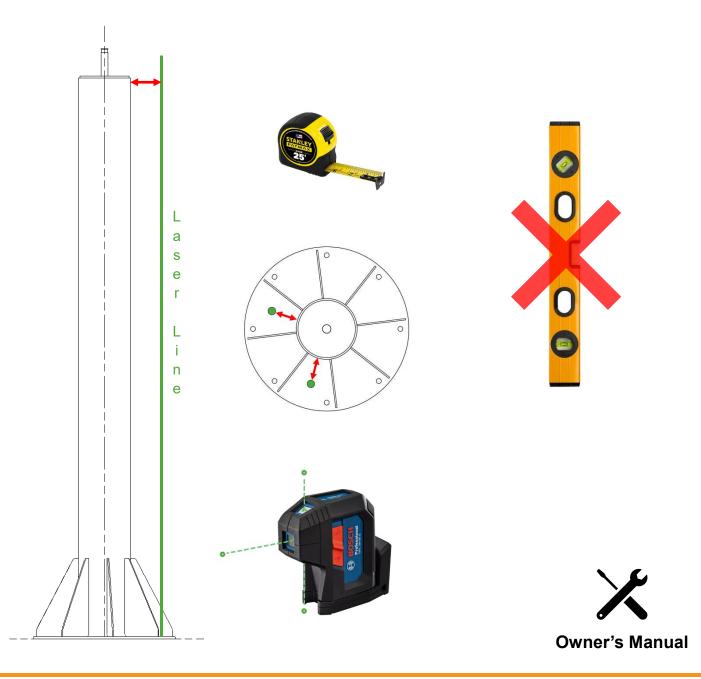




Owner's Manual

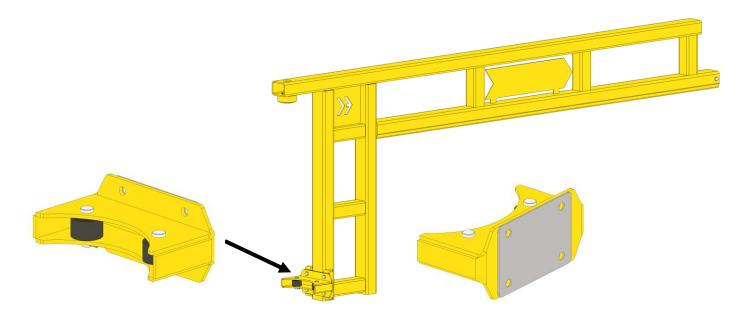


- 5. DO NOT use a level on the pipe column to ensure pipe column is plumb.
- 6. Set vertical laser parallel to jib pipe column.
- 7. Measure at the base of the jib pipe column to the laser line.
- 8. Measure the distance from plum laser line to top of jib pipe column.
- 9. Measure the distance 90 degrees from step 8.
- 10. Add shims under base plate as necessary to ensure pipe column is plumb.
- 11. Torque anchors to 110 ft. lbs.

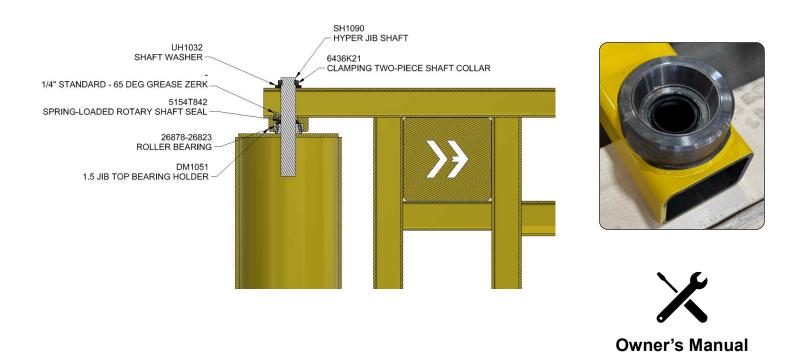




12. Install bottom roller assembly with shims as needed (4) $\frac{1}{2}$ diameter bolts.

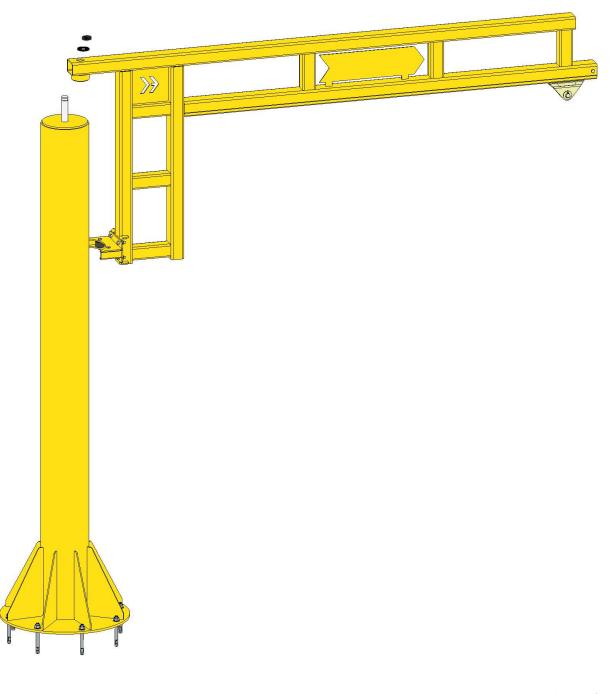


- 13. Set bearing cone onto jib shaft per below diagram.
- 14. Bearing cup and shaft seal come preinstalled



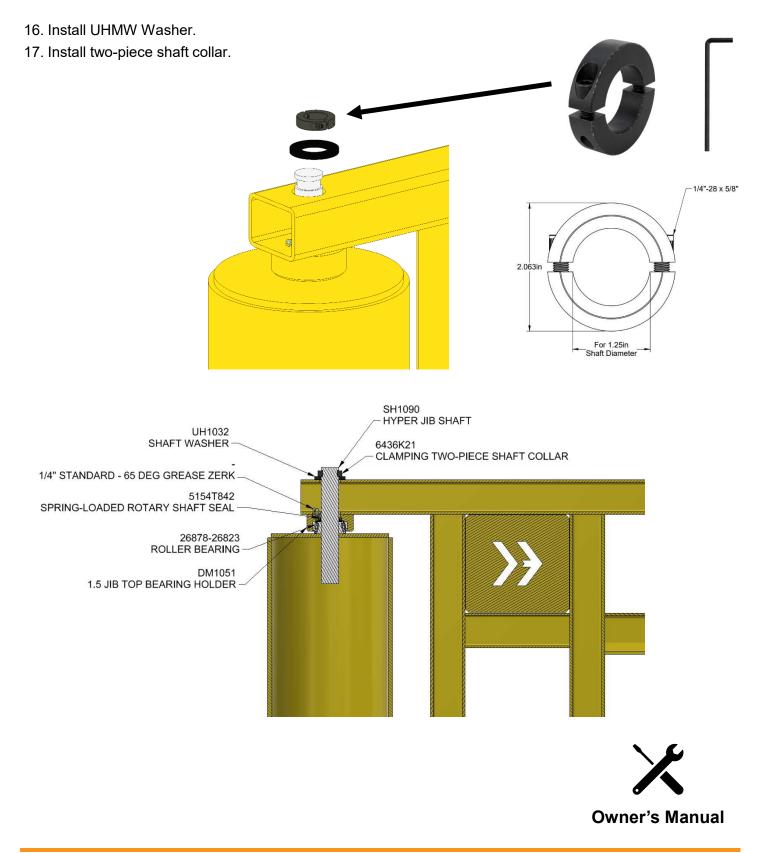


15. Using proper rigging lift and set Hyperlite jib crane boom and lower onto jib shaft.



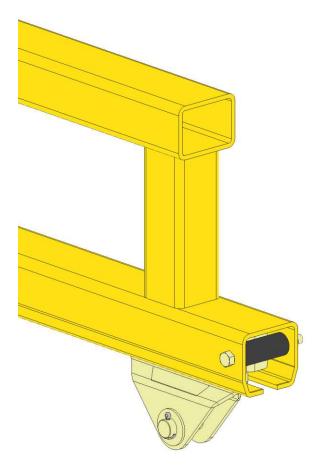








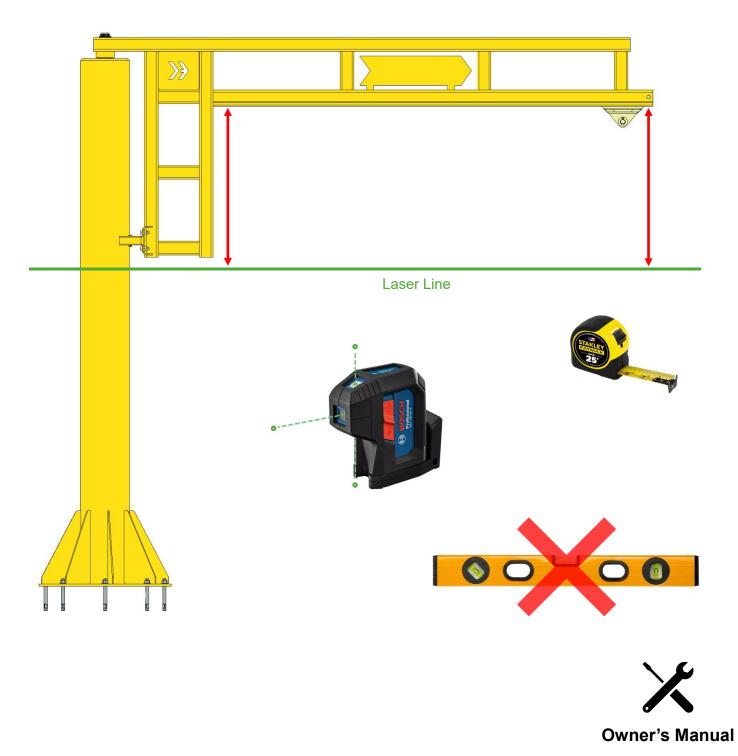
- 18. Insert hoist trolley.
- 19. Install end stop with rubber insert and lock nut.





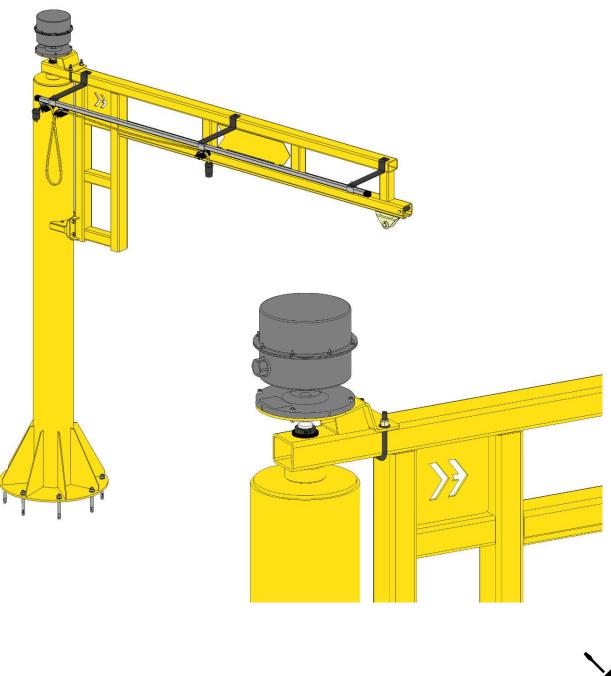


- 20. DO NOT use a level.
- 21. Set up horizontal laser to ensure jib boom is level.
- 22. Install shims at lower roller to adjust jib boom to level.





23. (If Included) install 360 collector with U-bolt and bracket.







24. Installing Your Starke Festoon Kit

- **25. Read these instructions first** and then unpackage all the parts of your festoon kit. Get familiar with the different parts and be looking for the festoon brackets and bolt-on festoon track hangers. Optional customer supplied festoon brackets can be bolted or welded onto your beam. (see picture below)
- 26. Installing things in the order listed will result in the fastest and easiest assembly.



Festoon System Trolley, Bracket, and Hanger





- 27. If the festoon brackets and festoon track are not pre-assembled use the track couplers (shown below) with hardware provided to assemble the track. Then bolt the festoon bracket through the hole on the top flange of the beam with C channel legs pointing up as shown in picture on previous page.
- 28. A **IMPORTANT NOTE**: If there is no hole on your beam or tube, you must drill holes as necessary.
- 29. Spacing: If no holes exist on your beam or tube, (optionally) space the festoon brackets (maximum spacing 79") evenly along the beam, leaving 10" overhang of festoon track at each end of the bridge beam. Measure in 10" from the end of your bridge and drill a hole 1-1/2" from the edge of the beam.
- 30. Now attach your festoon track to the festoon standard hangers first. Then bolt the festoon track and attached standard hangers through the hole in the festoon bracket. Make sure to slide your track coupler on before tightening your track in place.
- 31. ▲ IMPORTANT NOTE: There should be one track hanger with a bolt on the side of it. This hanger holds the track from sliding. Do not overtighten this side bolt. Tighten bolt enough that the track will not slide easily and then tighten the jam nut to hold in place.





32. Hold each festoon trolley and loosen the 2 bolts that hold the plastic clamp plate on the festoon trolley. Then roll the festoon trolleys into the festoon track without the festoon wire installed.



1.3.1 Festoon Trolley with Clamp

33. On the end of the beam nearest where your power supply for this festoon will be, install the single bolt anchor hanger S100-AH with the anchor bolt on the side of it. Then install the festoon trolley clamp style S100-CET with bolts to the track as shown below.



Anchor Bolt (S100-AH), Festoon Wire End Clamp (S100-CET), Track End Cap (S100-EC)





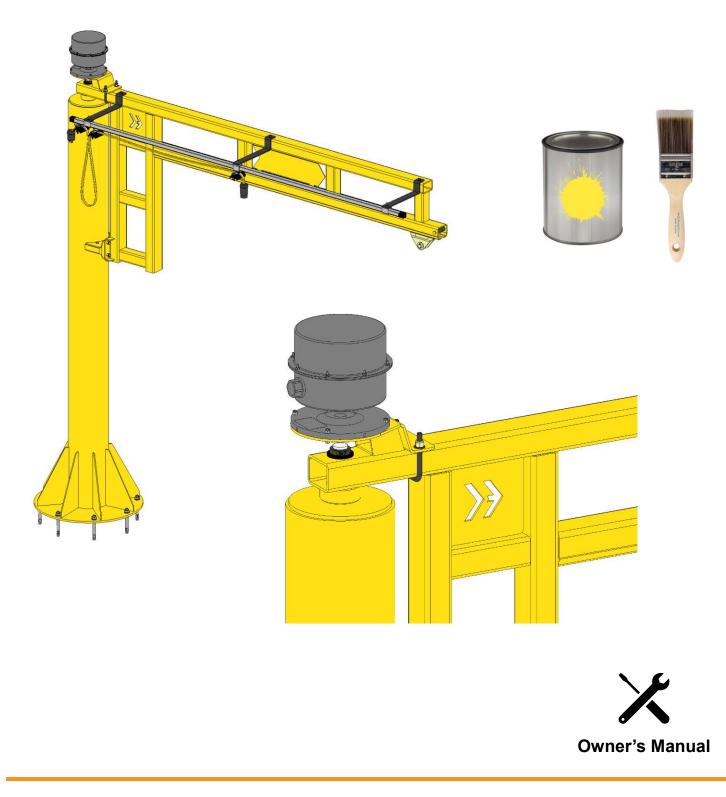
- 34. Install the festoon wire through festoon trolley plastic clamps (fig 1.3.1) leaving the plastic clamps loose at this time. Make sure to have enough festoon wire at the ends to make connections to your components. Tighten the festoon clamp style trolley mount bolts. Position the festoon trolleys every 60" along the festoon wire and tighten the plastic clamp plate nuts on each trolley. Be sure not to over tighten as this could damage the festoon wire.
- 35. A IMPORTANT NOTE: For ease in measuring, festoon wire typically has 1 ft measurements printed on it.







36. Use touch up paint (provided) as needed.





SAE Grade 5				
		Tightening Torque Range (ft-lbs)		
Bolt Diameter	TPI	Min	Mid	Max
		Lubricated	Zinc Dry	Plain Dry
1/4	20	6	7	8
5/16	18	13	14	17
3/8	16	23	26	31
7/16	14	37	42	49
1/2	13	57	64	75
5/8	11	82	92	109
3/4	10	113	128	150
7/8	9	200	227	267
1	8	322	365	429

SAE Grade 8				
		Tightening Torque Range (ft-lbs)		
Bolt Diameter	TPI	Min	Mid	Max
		Lubricated	Yellow Zinc Dry	Plain Dry
1/4	20	9	10	12
5/16	18	18	21	24
3/8	16	33	37	44
7/16	14	52	59	70
1/2	13	80	90	106
5/8	11	159	180	212
3/4	10	282	320	376
7/8	9	455	515	606
1	8	681	772	909





CRANE OPERATOR INSTRUCTIONS

- 1. General: At PWI, safety is our top priority, especially when operating overhead cranes and jib cranes in work areas where personnel are present. Proper training and attention to detail are essential to prevent accidents and ensure safe operation. These guidelines are designed to supplement your existing safety protocols and OSHA regulations, not replace them. Reviewing this information will help operators better understand safe practices, protecting both employees and equipment on the job site. It is important to note that these guidelines serve as recommendations for crane operators. Employers are responsible for ensuring their teams are aware of and comply with all relevant federal, state, and local regulations and that operators are adequately trained.
- **2. Operator Qualifications:** Safe crane operation demands skill, attentiveness, and a strong commitment to safety. All crane operators should meet the following criteria:
 - a. Language Proficiency: The operator must understand the appropriate language and be able to read safety and instruction materials.
 - b. Legal Age: Operators must meet the minimum legal age requirement for operating such equipment.
 - c. Health and Fitness: Operators must have sufficient vision and hearing (corrected if necessary) and must not suffer from health conditions, such as heart issues, that could impair performance.
 - d. Training and Knowledge: Operators must have read and understood all operating instructions, completed proper training, and demonstrated their knowledge through practical application.

3. Operating the Jib Crane Boom:

- a. Before using the boom, ensure the hook is positioned high enough to avoid obstructions.
- b. Align the jib boom directly over the load before attempting to lift.
- c. Operate the boom gradually, starting slowly and increasing speed smoothly. As the boom approaches the stopping point, reduce speed to ensure a controlled stop.

4. Operating the Trolley:

- a. Position the hoist directly over the load before lifting. Ensure all slack in the slings is taken up.
- b. Avoid starting to lift until the hoist is properly centered to prevent the load from swinging.
- c. Start trolley motion at a slow speed and decelerate gradually when nearing the destination.

5. Hoist Operation:

a. Refer to the operating manual specific to your lifting equipment for detailed instructions. Always follow the manufacturer's recommendations and guidelines for safe operation.





- 6. Know Your Crane: Crane operators must be familiar with the key components of a crane and possess a thorough understanding of crane control functions and movements. Operators must know the location and correct operation of the main disconnecting means for all power to crane attachments.
- **7. Responsibility:** Crane operators bear direct responsibility for the safe operation of the crane. If there is any doubt regarding **safety**, the operator must stop the crane and refuse to handle loads until either:
 - a. Safety is ensured, or
 - b. The operator is directed to proceed by a supervisor, who then assumes full responsibility for the safety of the lift.
- 8. Riding Policy: Never allow anyone to ride on the hook or a load.
- **9. Inspection:** At the start of each shift, test crane movements and all attachments. If an issue is identified, report it immediately to a supervisor, and ensure corrective action is taken before operating.
- **10. Operating:** A skilled crane operator ensures smooth and controlled crane operation. Adhere to the following guidelines for safe and efficient crane handling:
 - a. Move the crane smoothly to avoid abrupt or jerky load movements. Remove slack from slings and hoisting ropes before lifting.
 - b. Position the crane directly over the load before lifting to minimize swinging. Avoid swinging loads to reach areas not directly beneath the crane.
 - c. Keep crane-hoisting ropes vertical. Cranes must not be used for side pulls.
 - d. Ensure the area around the load is clear, and everyone is aware of the movement.
 - e. Never exceed the rated load capacity of the crane, slings, or lifting devices.
 - f. Confirm slings, chains, or lifting devices are fully seated in the hook saddle with the latch closed (if equipped).
 - g. Verify the load and/or block is high enough to clear obstructions when moving the boom or trolley.
 - h. Do not leave a suspended load unattended. When holding a load, keep the power on and stay at the controls with the load positioned as low as possible.
 - i. Do not lift with loose sling hooks. Store unused hooks securely or switch to an appropriate sling.
 - j. Remove all slings or cables from crane hooks when not in use to prevent snagging.
 - k. Avoid carrying loads or blocks over personnel. Exercise additional caution with magnets or vacuum devices, as load failure can occur.
 - I. Operator Procedure when they leave the crane:
 - a. Raise hooks to an intermediate position.
 - b. Park the crane at a designated location.
 - c. Turn all controls off.
 - d. Shut off the main switch.
 - e. Visually inspect the area before leaving.





- **11. Emergency Procedures:** In emergencies or during maintenance, display warning signs and lock the main switch in the "off" position. This applies regardless of who is performing the task.
- **12. End Stops**: Contact end stops cautiously. Ensure the safety of people below and communicate clearly with other crane operators in the area.
- **13. Safety Features:** All safety mechanisms and features provided by PWI are essential for crane operation. Do not disable or remove any safety features. Any such actions void all warranties.





GENERAL WARRANTY

This warranty will not apply to any product that has been repaired or altered outside of PWI manufacturing plant, or without specific instructions from PWI to make alterations. PWI will in no case, allow or offer reimbursement for outside sources to perform repairs or make alterations to product in reference. If the product has (in PWI's judgment), had alterations made which adversely affect its serviceability or was subject to misuse, negligence, accident, or operated contrary to instructions or common practice, warranty shall be considered void.

Defective items will be repaired or replaced and returned to PWI at the cost of the owner. If PWI, at its discretion, finds the warranty claims to be justifiable, PWI will compensate by means of replacing or repairing faulty products or components free of charge. The sole liability of PWI for warranty claims is limited to those here. In no event will PWI be liable for damages in excess of the original sale price of the defective product, or for any consequential damages, nor will PWI be liable for any special or other work done unless specifically agreed to in writing. This warranty does not include or apply to fire, natural disasters, or other Acts of God.

Should the warrantee destroy, intentionally or not, any part of the warrantied product, or any evidence concerning the origin of an alleged defect, or try to conceal evidence of causation, this warranty is cancelled, and warrantee will have no claim against PWI whatsoever.

This warranty does not cover coatings on any PWI products including paint, powder-coat, zinc, or galvanized coatings. Coating life can vary greatly based on the ambient environment your PWI product is installed in, which is simply out of the manufacturer's control. Touch-up painting or coating repair (after initial installation by PWI or customer) shall be the responsibility of the owner, unless specifically guaranteed in writing on project quotation.

Any interpretation of this warranty shall be done in common pleas court in Indianapolis under Indiana law.

ALL OTHER REPRESENTATIONS, EXPRESS OR IMPLIED, WARRANTY, OR LIABILITY RELATING TO THE CONDITION OR USE OF THE PRODUCT ARE SPECIFICALLY, DISAVOWED, AND IN NO EVENT SHALL PWI BE LIABLE TO BUYER, OR ANY THIRD PARTY, FOR ANY DIRECT OR INDIRECT CONSEQUENTIAL OR INCIDENTAL DAMAGES





LIMITED WARRANTY

STRUCTURAL: 3-Year (36 Month) Parts & Workmanship Warranty

Structural items include but are not limited to columns, headers, runways, and other stationary components of this PWI jib crane.

Unless otherwise specified, PWI guarantees that the structure or this product is free from material defects in design, materials, and workmanship under normal use, proper maintenance, and service. A corrosive or abrasive atmosphere is not to be considered a normal atmosphere.

This warranty is strictly limited to 36 months for single shift operation or 6,000 hours after installation, or 38 months after shipment, whichever is shorter. Within ten days after defect is found, warrantee must deliver a written notice to PWI. All requested warranty information must be received promptly by PWI in no more than 5 business days.

MECHANICAL: 1 Year (12 Month) Parts & Workmanship Warranty

Mechanical items include but are not limited to all types of Overhead Cranes, and other non-stationary PWI products that are designed for specific functional operation.

Unless otherwise specified, PWI guarantees that this mechanical product is free from material defects in design and workmanship under normal use, proper maintenance, and service.

This warranty is strictly limited to 12 months for single shift operation or 2,000 hours after installation, or 14 months after shipment, whichever is shorter. Within ten days after defect is found, warrantee must deliver a written notice to PWI. All requested warranty information must be received promptly by PWI in no more than 5 business days.

All standard non-engineered products including but not limited to hoists, trolleys, wheels, gearmotors, controls, and safety products, will fall under the default warranty of that specific manufacturer.





PERIODIC INSPECTION AND LUBRICATION RECOMMENDATIONS

The following is a checklist to be followed in performing periodic inspections and preventative maintenance on PWI Crane Systems. It is intended that this checklist be supplemented with any additional instruction sheets and maintenance manuals sent with each job.

The frequency of inspection and lubrication recommendations presented herein is based upon normal operating conditions of one complete handling cycle every 10 minutes throughout a 40-hour week. If the actual duty cycle of a particular unit is greater or less than this, the inspections and lubrications should be performed more frequently or less frequently in proportion.

Each industry has conditions peculiar to it, which may cause wear of certain parts. The tabulation given is only general and may be supplemented by an individual maintenance department program to meet its own particular requirements. Particular attention should be given to corrosive conditions, excessive vibrations, extreme ambient temperature variations, and rough handling conditions.

Questions regarding damaged, worn or cracked equipment components should be directed to the PWI Inside Sales Department at 574-646-2015.

The recommendations contained herein are to be supplemented by any vendor instructions, which are included in this manual.

Power should be off and locked when performing maintenance.

Please check the state and local code manuals in your area to ensure compliance

Parts: Your system is custom designed for your space. The drawings that you received are specific to your system. PWI has copies of your drawings in a file under the company name or the name of the purchaser. If you require replacement parts, please call or email PWI and we will be glad to assist you in getting what you need. <u>parts@pwiworks.com</u>





INSPECTION & MAINTENANCE CHECK LIST			
ltem	To Do	Frequency	
Foundation	Check for cracks in concrete	Every 6 months	
Column Anchor	Check for loose hardware.	Every 3 months	
Column	Check base plate welds and hardware.	Every 6 months	
Top Bearing	Confirm bearing is lubricated and in place.	Every 3 months	
Lower Roller Bearing	Confirm lower bearing	Every 3 months	
Hoist	Check electrical wiring and chain wear.	Every Week	
Trolley	Check wheels and pin.	Every Week	
End Stop	Check to make sure bolt and rubber bumber are in place.	Every 3 months	
360 deg Top Collector	Check mounting bolts and electrical connections.	Every 3 months	
Festoon	Check for exposed or frayed wires.	Every 3 months	
Decal/Warning Label	Check to make sure labels are in place and visible.	Every 3 months	
* Check federal, state and local codes to ensure compliance.			





Notes		

