

V8120 PIVOT MAINTENANCE



DISCLAIMER:

Unless otherwise noted, the maintenance specifications herein apply to all RAINTEK V8120 model pivot & linear irrigation systems. These specifications are subject to change without notice. For the most recent version refer to the RainTek website www.raintekglobal.com, under the Service and Download tab.



WARNING



To reduce the potential of a severe electrical shock and to prevent bodily injury from sudden startup of the motor, always disconnect all electrical power sources before initiating any maintenance or repairs.



MAINTENANCE CHECK LIST

- PIVOT:** At start of irrigation season, grease pivot bearings. Repeat every 400 hours of operation.
- CENTER DRIVES:** At start of irrigation season, drain any water that may have accumulated during the irrigation season and fill to the proper level with the proper lubricant.
- GEARBOXES:** At start of irrigation season, drain all gearboxes and refill with recommended oil.
- WHEEL BOLTS:** Check to ensure they are tight.
- Note:** *Wheel bolts can loosen after initial installation. They should be checked after 100 hours of operation.*



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- STRUCTURE:** Routinely check pivot point, span, and tower structures for loosen or missing bolts and nuts.
- CONNECTORS:** Check for leaking gaskets, boot hoses, drains, and malfunctioning sprinkler or pressure regulators.
- CONTROLS:** Check tower box cam and bushings. Turn cam back and forth several times to ensure there is no binding.
- ELECTRICALS:** Check control panel and tower boxes starters for burned or pitted contacts. Check all wire connections, particularly on starters, to ensure they are tight. Check the safety limit switches in the tower boxes. Check function of automatic switching devices such as auto reverse and auto stop, lube as required.
- TIRES:** Check tire inflation (use low pressure tire gauge). New tires have been factory-inflated to a higher pressure for truck loading requirements. Set tire pressure so side wall has a slighter flex. If tire creases, increase pressure. If the pressure is too low, the tires will lose the bead and damage the tube.

Tire Size	Recommended Pressure	Max Span Length / WT
11.2×24	20-24 PSI (138-165 kpa)	49.1m×6-5/8" Max
11.2×38	20-24 PSI (138-165 kpa)	54.9m×6-5/8" Max
14.9×24	20-24 PSI (138-165 kpa)	All Spans
16.9×24	18-22 PSI (124-152 kpa)	All Spans



CAUTION:

Operating tires below the recommended pressure can result in damage to the tire sidewall in addition to voiding warranty.



WARNING:

Always maintain the correct tire pressure. Don't above the recommended pressure. Explosive separation of a tire and rim parts can cause serious injury or death.

Carefully inspect any tire and rim assembly that has been run flat or severely under inflated before reinflating the tire. Damage to the rim and tire may have developed. Call your authorized dealer or a qualified repair service to inspect the rim and tire assembly and make necessary repairs. When inflating tires, use a safety cage if possible. NEVER cut or weld on an inflated tire or rim assembly.



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LOCKOUT / TAGOUT PROCEDURES

This standard covers the lockout / tagout procedures you must use when servicing your pivot. The intent of the pivot lockout / tagout standard is to protect you or your workers anytime the pivot requires servicing. Before any worker performs maintenance on the pivot where unexpected energizing, start up release stored energy could occur and cause injury, the pivot must be isolated and rendered inoperative. This standard establishes minimum performance requirements for the control of such hazardous energy.

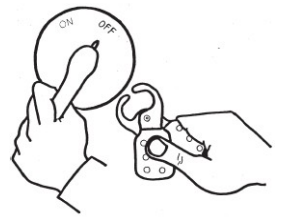


You must lock out the pivot if you are going to:

1. Remove or bypass a guard or other safety device.
2. Place any part of your body into an area on the pivot where there is a pinch point.
3. Work on the electrical circuitry.
4. Obstruct the pivot path (wheel track) with vehicles, equipment, or other obstacles while performing work on the field itself.
5. Perform structural service which requires equipment to lift spans.

SEQUENCE OF LOCKOUT / TAGOUT PROCEDURES

1. Notify all affected persons that you are about to lockout the pivot, and tell them why the pivot is being placed “out of service”. Before locking out the pivot, you must familiarize yourself with the type and magnitude of the pivot’s energy source and determine any related hazards.
2. If the machine or system is operating, shut it down by rotating the forward / reverse selector switch to the off position.
3. On the main control panel, turn the main disconnect lever to the off position so the pivot cannot be energized while it is being serviced.
4. Drain all water from the system and disengage any automatic valves.
5. Lockout the main disconnect (energy-isolating device) on the main control panel. If working down line on the pivot, the tower disconnect switches on the individual tower boxes must also be shut off.
6. After ensuring that no personnel are exposed, verify the lockout by operating the start button. The pivot should not operate.





LOCKS AND TAGS

When you purchase lockout / tagout devices, keep the following points in mind:

1. Lockout devices and tagout devices shall be singularly identified as belonging to only one worker; shall be the only device(s) used for controlling energy; shall not be used for other purposes.
2. Tagout devices shall warn against hazardous conditions if the pivot is energized and shall include a legend such as the following: DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, and DO NOT OPERATE.
3. Attachment devices for tags shall be non reusable and have a minimum of 50 lb.(222 N) breaking strength.
4. Locks used to lockout machines or equipment shall have a key unique to that lock.

Your pivot machine requires 380 volts 50 hz or 480 volts 60 hz, 3-phase electric power to operate sufficient charge. There is also 110-volt control power throughout the system. Other potential hazards include any injected fertilizers and pesticides, and water under pressure.

Note: Voltage is dependent upon location.

Voltage should not be more than +/- 5% of the recommended voltage in your area.

Even though you have locked out the pivot control panel disconnect switch, there is still 380 / 480 volts present going into the panel box.

RESTORING THE PIVOT TO NORMAL OPERATIONS

After maintenance is complete and the pivot is ready for normal operations:

1. Check around the area of the pivot to ensure that the field is not obstructed by vehicles and that everyone is clear of the pathways of all pivot towers. It is especially important to check the entire length of the pivot if it is set up on hilly terrain. It is easy to lose sight of someone working on the opposite side of the hill.
2. After all the tools have been removed from the pivot and all workers are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the pivot.
3. When possible, test run the machine to ensure proper operation.
4. If additional maintenance or service is required, shut down all systems and follow the lock out / tagout procedure again.





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WINTERIZING

1. Lock the power disconnect switch in the “OFF” position. Be sure all electrical panels are closed and securely latched.
2. Drain the center pivot supply line to a level below the frost line.
3. Remove the flush cap and Flex-Span supply hose. Make sure the low pressure drain valves are working and that the center pivot is completely drained.
4. Disconnect poly line tubes from solenoid valves and end gun components to drain water from lines.
5. All sprinkler control valves should be in the “open” position and drained. Valve control hoses should be drained. Solenoid manifold assembly filters should be cleaned.
6. Protect moving parts and bearing surfaces against rust and corrosion by greasing all fittings.
7. Sufficient oil should be drained from the center and wheel gearboxes to remove water and contaminants. Refill with the specified lubricant.

LUBE AND OIL CHARTS

Component	Operation	Start of Season	Before Operation	100 hrs	400hrs	End of Season	Lube / Oil
Pivot Elbow Fittings	Grease	●	●			●	
Pivot Bearings	Grease	●			●	●	
Gearboxes	Drain Oil / Water and Refill	●				●	85W-140
Gearbox Shaft Seals	Inspect Leakage	●	●			●	#2 Barium / Lithium based grease
Center Drives	Lubricants Drain Water and Refill	●	●			●	85W-140
Tires	Pressure Check	●	●			●	
Wheel Bolts	Tighten to 115-120 ft lbs	●	●	●		●	
Structure	Inspect for Loose or Missing Bolts	●		●		●	
Tower Boxes	Check for Binding	●		●		●	
Auto Stop & Reverse	Lubricate	●		●		●	#2 Barium / Lithium based grease
End Gun	Lubricate	●		●		●	



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Innovative * Sustainable



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