RMS Brewing Solutions -- RMS Roller Grinder

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Model:	MicroMill
Cracking Capacity:	500# per hour (Approximate)
Motor:	1/3 HP (.33) 110/230v Single Phase XP

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Lubrication:

Bearings

The MicroMill features greaseless bearings. These are sealed bearings and do not require regular greasing.

Tips for longevity of these bearings.

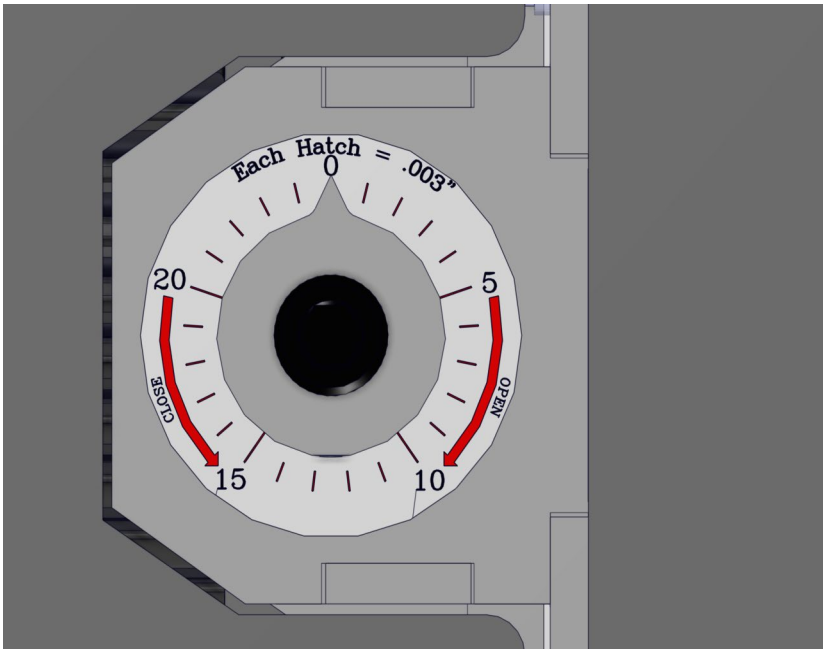
1. A visual inspection to ensure bearings are functioning as they should.
2. Monitor temperature of the bearings during operation. If a bearing is noticed to be overheating or carrying an excessive amount of heat during operation, please contact the RMS Service team.

Chain and Gears

The drive system of the MicroMill uses a chain and sprocket configuration. This should be a low-wear area; however, if the chain or gear drive system begins to make noise or becomes a concern, a high-quality chain lube can be applied to the chain and sprockets.

Gap Settings at Startup & Roll Re-Alignment:

This mill is equipped with two roll adjustment points. These are located on the front of the machine - see image below. Setting and keeping the roll gaps aligned and in proper position is essential to achieve your target desired crack. Keeping rolls in parallel is essential for proper wear on the rolls and consistent output.



Starting up the mill for desired crack:

Your feed gate should be completely closed with no grain entering the rolls.
RMS suggests beginning with a roll gap of 1/8", or approximately 2 revolutions of the adjustment bolt.

You can now start up the mill. Once started, slowly open the feed gate until the max amps or the desired capacity is reached.

Note: DO NOT over amp your motors or motor failure will occur. If over amp occurs, close the gate down until you are back under the max amperage.

To compensate for normal roll wear:

Re-align rolls approximately every week, or whenever the desired micron size cannot be obtained, or full motor amperage cannot be maintained.

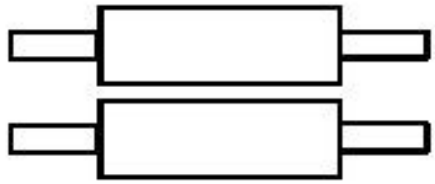
With the machine running, stop the flow of grain going into the machine.

1) Locate the adjustment pointers.
2) Loosen the set screw on both the right and the left adjustment pointers.
3) Use the provided Allen Wrench to turn the right adjustment bolt (Socket Head Cap Screw) counter clockwise until you hear a deep rumble. This is the sound of the front roll touching the rear roll.
   Note: if you hear a high pitch sound continue to turn the screw counter clockwise until a deep rumble is heard. The high pitch sound is likely the front roll touching a v-block.
4) While hearing the deep rumble, move the loosened pointer to 0.
5) Once the pointer is at the zero value, use the provided Allen Wrench to turn the right adjustment bolt clockwise to 24 than counter clockwise to the 17.
6) Use the provided Allen Wrench to turn the left adjustment bolt counter clockwise until you hear a deep rumble.
7) While hearing the deep rumble, move the loosened pointer to 0.
8) Once the pointer is at the zero value, use the provided Allen Wrench to turn the left adjustment bolt clockwise to 24 than counter clockwise to the 17.
9) Repeat this process on both the right and left adjustment bolts until the deep rumble is heard when the pointer is at zero without the need of hand turning the pointer. This may take multiple times depending on how out of parallel the movable roll is.
10) The movable (front) roll is now parallel to the stationary (rear) roll. Tighten the set screws on the adjustment pointers.

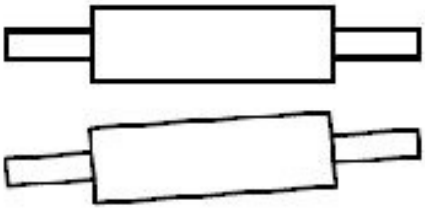
The machine is now parallel. If knowing the true zero point of the machine is required move to zeroing the roller mill.

To view this process in video form, visit the RMS Brewing Solutions YouTube page.

https://www.youtube.com/channel/UCq6cphcAH0fsIKS_Hkr-fTQ



Rolls in Parallel



Rolls out of Parallel

Rolls have been knocked out of alignment (out of parallel).

Follow the same procedures listed in Section II if the following events are observed:

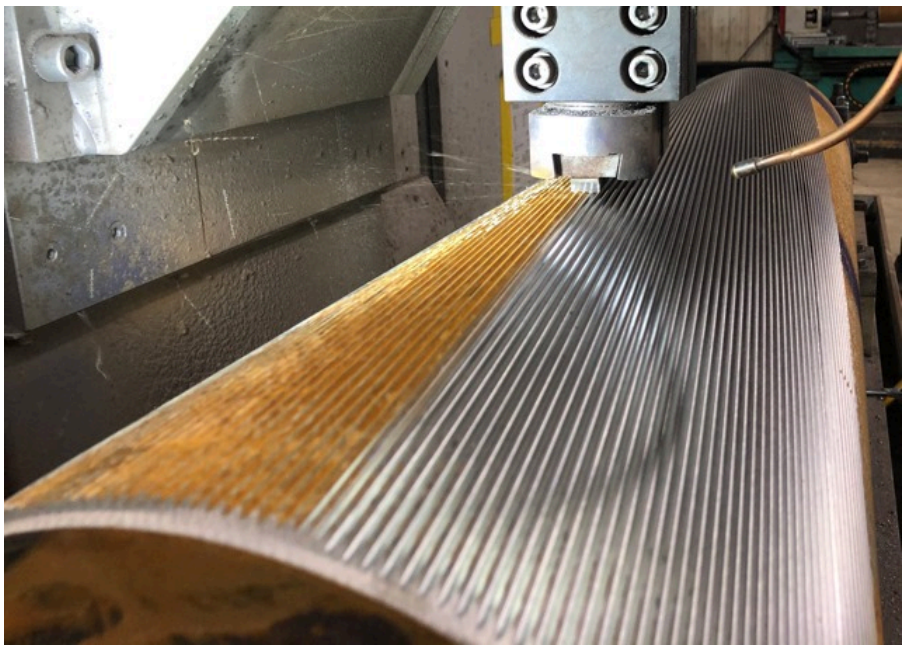
- A foreign object is known to have been run through the mill.
- During normal re-alignment, you find that you must turn one hex nut further than the other in order to nick the rolls, indicating that the rolls are out of parallel.

Roll Maintenance:

Factors to consider which affect roll sharpness:

- Rolls must be fed uniformly.
- Rolls being out of parallel with increase roll wear. Your facility should have a program in place to regularly adjust your rolls, to ensure they are in parallel.

You may eventually need to get your rolls re-sharpened or replaced. Indications that you may need to have your rolls sharpened are loss of capacity and the inability to consistently achieve the desired particle size. RMS will be able to assist you with getting your mill serviced.

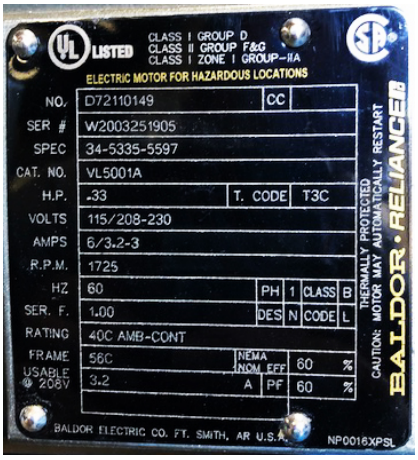


Electrical Instructions:

If you're permanently installing your MicroMill, RMS strongly suggests you hire a licensed electrician for the initial installation of the electrical components.

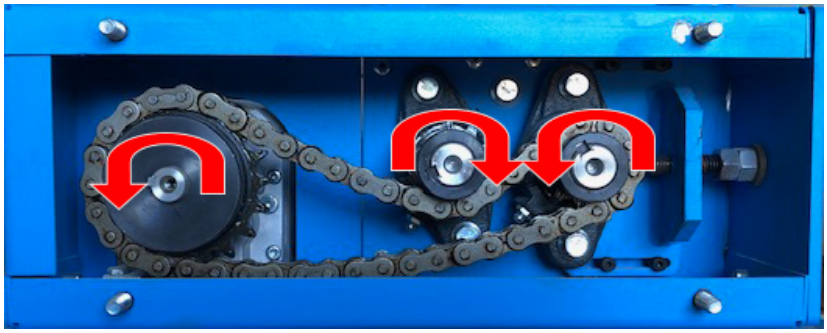
Main motor start-up sequence:
When wiring the starters to the motor, it is best to have the downstream conveyance to start before the mill.

For additional wiring information, consult the wiring legend on the motor as in the photo to the right.



Motor Rotation

When looking at the left side of the machine, the motor should be spinning in a counter-clockwise manner. This should ensure the rolls are spinning inwards towards each other. See photo below for reference.



Important:
Check and clean motors at least monthly to ensure they are free from contaminates. This ensures the motors are able to adequately cool themselves and avoid overheating.

RMS uses Baldor motors and can help to determine if there is a warranty issue if the motor should fail.

To avoid serious injury, always complete these tasks when all power sources to the motor have been disabled and the motor has cooled down.

Interlocking:

Interlocking the electrical components on a roller grinder is one of the most important steps when installing a machine into a grain handling system. You must interlock the main grinding motors to the downstream take away equipment, an auger or chain disk conveyance system for example, to prevent them from starting if those downstream components are not energized. This is critical to ensure that the roller grinder shuts off if one of the components downstream stops running for any reason. RMS will not be responsible for warranty claims should you fail to interlock your mill with upstream or downstream equipment and failure takes place.

If you're using the mill as a standalone machine, not tied into a grain handling system, interlocking is not necessary.

Installation:

Installing a machine on a stand:
The MicroMill comes with a mill stand as a standard feature. If the machine is installed on a stand not supplied by RMS, it is critical that this stand is built to handle the overall weight of the machine and product that will be in the machine. As a general rule of thumb, the stand should be built with a 1.5 to 1 safety factor. The estimated weight of a MicroMill is 200 pounds.

Bolting machine to the ground:
Concrete anchor bolts must be used when the machine is being installed on concrete. If the machine is being installed on a steel platform, grade 5 bolts or better should be used. **Machines should be checked for level, no matter where they are installed, before being secured**.

To prevent dust leaks:
If used in conjunction with a grain handling system, any connections to and from the mill should be sealed with silicone calk to keep dust build up as minimal as possible.

Parts and Service:

RMS carries all replacement parts and can ship to you directly.
Call our service department at 605-368-9007 to order parts or inquire on warranties.

Additional Services:

Roll Exchange Program:

- We can provide appropriately sized rolls for you as long as you own your mill.
- We can provide roll sharpening or replacement when needed.
- We can come to your facility and change out the rolls if needed, or if you prefer to change out your own rolls, we also have the ability to deliver sharp rolls to your facility.
- Our service technicians will work around your production schedule.
- We can group you in with other customers in the area, to help reduce your costs.

Machining Services:

- We can supply Replacement rolls that are ISO 9007:2000 certified and dynamically balanced.
- RMS can recommend roll corrugation or knurling to meet the needs of your operation.
- We also offer a fully equipped test lab, with the ability to test your product to ensure you are maintaining your target particle size.
- We can provide roll balancing.
- RMS can assist with shaft repair and replacement.

RMS Also Offers On-Site Training and Consulting on the Following:

- Safety
- How to operate your machine at maximum efficiency
- Machine maintenance
- Custom training also offered. Let us know what you need to learn and we will be more than happy to assist you with your operational needs.