

Introduction-Updated 5/20/24

The Thor Bagger is designed to quickly dispense mushroom substrate and water into a bag so you can spend less time fussing with making fruiting blocks and more time living life. It is designed to be a flexible base with potential for future expansions.

The unit ships collapsed with four leg extensions bundled with it. These are attached using the included 1 1/8 inch bolts. To assemble for production, you'll need a 1 1/8 in socket and socket wrench, or an adjustable wrench that can open that wide. The water tank on the front right leg should be set down on the lower leg extension to place the brass valve below the main dispensing cone to avoid having the water dribble as much at the end of each bag that's made. The casters also ship disconnected, and they can be attached to the corners of the lower frame. Each corner has 3 holes, so one corner of each caster will be unattached. Make sure to place the bolts so the heads are facing down so that the bolts don't interfere with the motion of the wheels.

The base unit uses a time based dispenser. You'll find it attached to the bottom of the fiberglass hopper, the thick aluminum plate. The controller at the top right uses compressed air to open and close sliding gates on the dispenser to allow material to flow for a set amount of time, and uses the same timing technique to control the water valve to dispense water at the same time. You'll see that the water line attaches to the back of the dispenser cone and remains isolated from the solids all the way to the end of the cone.

The hopper is divided into two sections, with enough volume to hold a little over two full 40lb bags of sawdust and soy hull pellets or other pelletized or granular substrates.

The water system is attached to the front right leg, below the control box. It has an inlet for a standard water hose, which feeds into a pressure regulator, which is the brass fixture with the gauge on it. Standard water pressure is about 70psi in most areas, so the regulator is pre-set at 50-55psi to avoid fluctuation in the water amount that's dispensed due to pressure drop from other sources drawing on the water supply. It is not recommended to reduce the pressure further unless you have low pressure, because a large difference between the water pressure on the line and the pressure set at the regulator can result in "creep," where the water pressure slowly raises after the water is dispensed. This will cause the



amount of water to be heavy if the bagger rests for a while between bags.

The control box is located at the top right on the front of the bagger. It has three timer interfaces that are discussed in greater detail in the calibration section below. The top two timers correspond with the left and right hoppers, and the lower controls the water. The included air line plugs into the blue end of the air line splitter on the lower right. The foot pedal plugs into the matching plug at the bottom, as does the power supply.

Most people find it helpful to place a tote or bucket with a grate or wire shelf over top to catch drippings and to allow the bottom of the bags to rest on the grate during production. The water comes out with a good bit of force by design, to mix up the pellets and speed the dosing process, so having a base to rest the bags on helps.



Calibration

Needed - Scale and a bucket or two. Notepad and pen.

Bagger should be plugged in and have air supplied at 50PSI or so. The pressure regulator on the water inlet is set about 50-55psi. This should not be adjusted unless the local pressure is low and you're seeing fluctuations on water weight.

The Control Panel has three displays arranged upper left, top right, and one below. In the same order, they control the left hopper, right hopper, and water dispensing.

Each display looks like the one depicted at the right. The top numbers are the time that material will be dispensed, and this is the only setting that should be changed.

Naturally, the higher the number, the more material will be dispensed, but you're setting the length of time that material will be dispensed, not the target weight.

To change the time, hold the "Set" button until the "P0" starts flashing. Press "Set" again so that the numbers at the top are flashing. Now press the up and down arrows until you reach the desired time. Now hold "Set" again until the display stops flashing. **Note that the decimal should be in the middle position. If a material is dispensing in an unexpected way, check the decimal. Its position is changed the same as the time, but press the lower right button instead of the arrows and it will cycle through positions.**

To test the weight, hold a bucket under the cone and press the Trigger button on the timer you are calibrating (rather than pressing the foot switch). Only that material will dispense into the bucket and you'll need to weigh it and repeat a few times to get an average. (If the pellets have been sitting for a while, then ignore the first reading) Adjust the time up or down until the average weight is correct.

Follow this for all three timers. It is helpful to tare a bag with the bucket on your scale when you're setting the water, so that you can use it to keep the water from splashing out of the bucket.

Production

The foot switch triggers all three controllers simultaneously. If the pellets have been idle for a while, first dispense them one at a time by pressing the Trigger button on the timer, and recycle the material. We do this because the flow will be lower when the pellets have been sitting for a while. After that, just put a bag under the cone and press the foot switch and all three materials will dispense at the same time. Once the material has dispensed, remove the bag and get another one and so forth.



It can be useful to keep a notebook or whiteboard with times that have been calibrated for different material or different sizes of bags so that you can switch between sizes without having to recalibrate each time.

Maintenance

Like any piece of equipment, Thor needs some TLC from time to time.

Each time you run it:

- Add a drop of pneumatic tool oil to the end of the air line. Don't overdo it, one drop will be fine. This lubricates the air cylinders that run the solids. A drop in the air fitting where you plug it into the compressor will lubricate the air and keep things running smoothly.
- Clean the inside of the cone out at the end of the run. Crud can build up inside there and plug it up over time if you don't wipe it out regularly.

Every other month, or if you are having irregular weights:

- Remove the main dispenser plate from the machine and clean it out well. You will need to remove the air lines from the air cylinders. Then, remove the dispenser from the bottom of the hopper with 5 bolts, and the cone with two additional bolts. Wash it out well, paying special attention to the tracks where the shutters slide. It may be helpful to remove the shutters.
- Once everything is cleaned up, let it dry out well, then reassemble and reattach to the bottom of the hopper.

FAQ

My bag weight falls when the sprinkler/toilet/sink etc. is being used. What's up with that?

-Thor Comes with a pressure regulator to keep fluctuating pressure from affecting bag weight, but it does need to be set up correctly. When the pressure is low (when the sprinkler etc. is running) run the water system and see what the top pressure is on the pressure regulator. Now adjust the regulator to keep the pressure 5psi or so below that by adjusting the screw on the cap of the regulator.

One hopper, or the water, just keeps dumping when I hit the foot switch. What gives?

-Usually it's a setting on the timer that got messed up. The most common issue is the decimal on the top number. While adjusting the time, if the Pause/Trigger button is pressed, then the decimal shifts. Go back into the settings by holding the Set button for 3 seconds, then once the P0 starts to blink, tap the Set button again to make the top numbers blink. Now press the Pause/Trigger button until the decimal is in the middle again, and nowhere else. Then hold the Set again to exit.



More will be added to manowarinnovations.com as questions are asked. If you run into issues, please go to the Find Out More section at the bottom of the home page to ask any questions or provide any feedback.