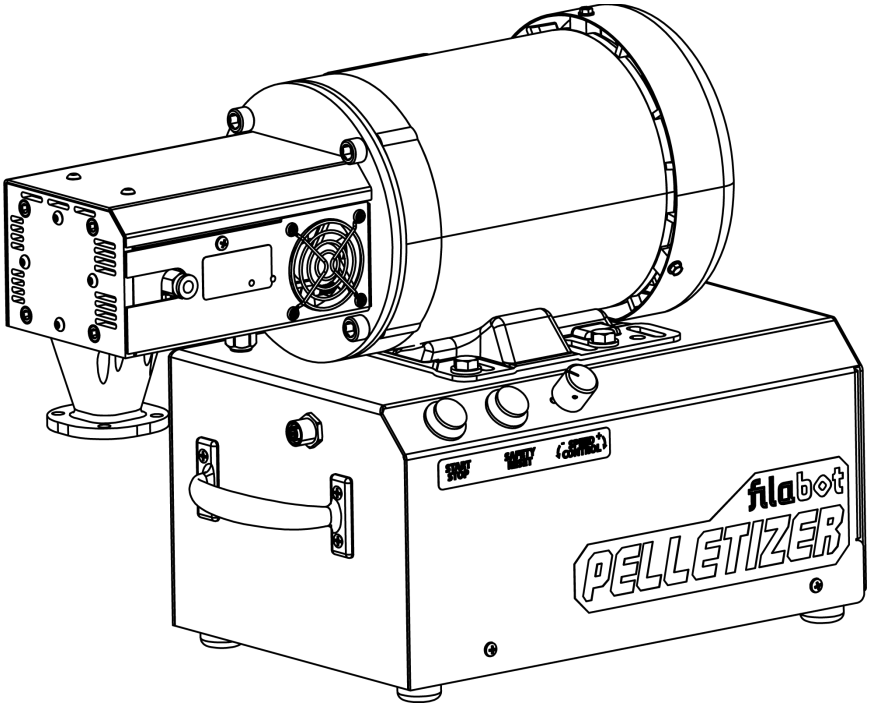
Filabot
Vermont, USA, Earth
1-802-505-6772

Filabot Pelletizer

Operation Manual



This manual applies to the Filabot Pelletizer.

Triex LLC, Barre, VT 05641, USA

REV. 1 12-8-2020

CAUTION! Read Carefully

- **HEAVY** Always use the handles to lift the Pelletizer. Check that the power cord is disconnected before moving the unit.
- **HIGH SPEED SHARP ROTATING BLADES** Never operate the Pelletizer without all of the components assembled closed and secured. Never operate the Pelletizer if any parts appear missing or damaged. NEVER ATTEMPT TO MODIFY OR BYPASS SAFETY SWITCHES OR CIRCUITRY.
- **BOLT TENSIONED BEARING ASSEMBLY** Make sure the long Allen head through-bolts securing the head are hand tight before operation. Failure to do so can lead to improper operation or damage. Tighten the bolts in an X pattern. Do not overtighten, this could prevent the motor and cutter from turning.
- **In Case of Emergency** pull the power cord out of the machine.
- Only use the Pelletizer to process thermoplastic polymer filaments. No other use has been tested or approved by Filabot.
- The Pelletizer is designed to process filament between 1mm to 3mm in diameter. Inserting filament outside of these dimensions can cause clogs or performance issues.
- Always STOP the Pelletizer and unplug the power cord before opening or removing any components.
- The Pelletizer is designed for indoor use only. Operate in a clean, dry area.
- Check the AC input voltage specified on the S/N Label near the power inlet. Only use the specified input voltage to operate the Pelletizer or damage to the components will occur.
- Do not use this device if any parts appear missing or damaged.
- Do not modify this device without authorization from Filabot.

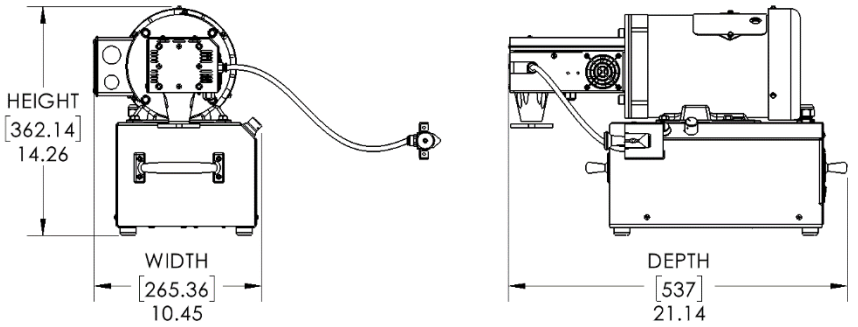
Contact Filabot with any questions
1-802-505-6772
contact@filabot.com

General Specifications

Power Input: 115VAC-10A or 230VAC-65A 50/60Hz 1-phase
350W NOMINAL
Input Power Connector Type: IEC 320-C14

Weight: 20kg (45 lbs)

Overall Dimensions:



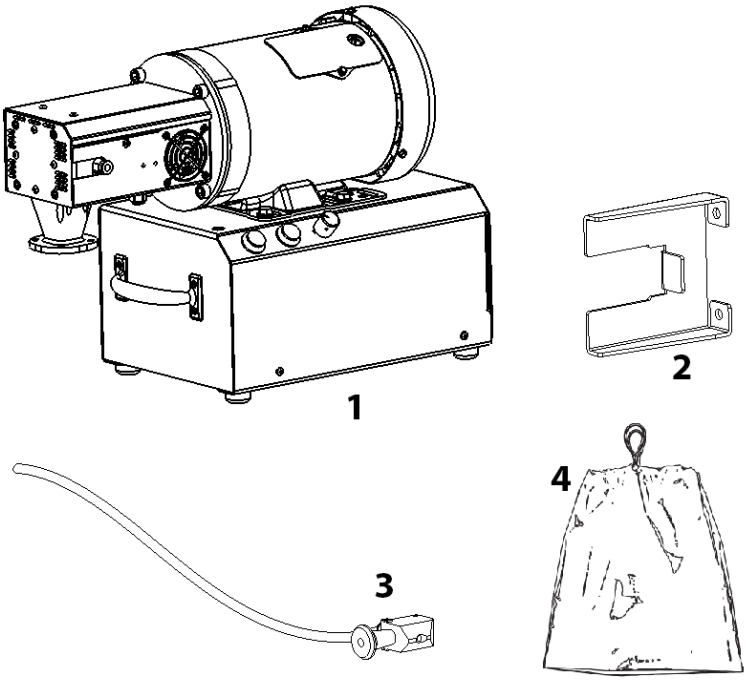
Drive Control: 230V 3-phase Variable Frequency Drive

Drive Motor: 1/2HP 230V 1.36A 3-phase
60Hz 1725 RPM
Inverter duty

Rotating Cutter: Standard 5/8” Shank 6 flute HSS Endmill 1” OD

Stationary Blade: 1” wide 0.25” thick 0.65” long High Speed M2 Hardened steel

Parts Included



1. Pelletizer
2. Spooler mounting bracket
3. Bowden tube block
4. (20) Plastic Drawstring Bags 10" Wide, 14" High

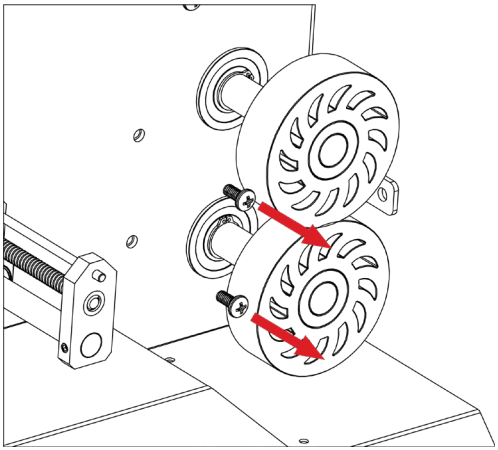
Tools Required:
#2 Phillips Screw Driver
5/32” Allen wrench
3/16” Allen wrench

Call 1-802-505-6772 or visit Filabot.com for additional or replacement parts

Spooler Mounting Bracket Assembly

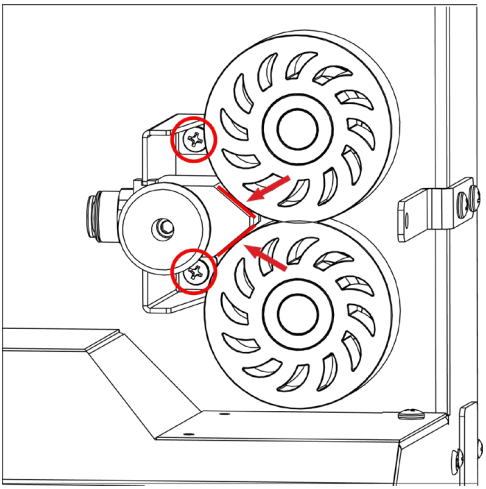
The Spooler mounting bracket and Bowden tube block allow quick switching between feeding filament into the Pelletizer and winding filament onto a spool. If manually feeding filament into the Pelletizer by hand, these instructions can be skipped.

1. Remove the (2) Philips screws beside the rollers on the Spooler.



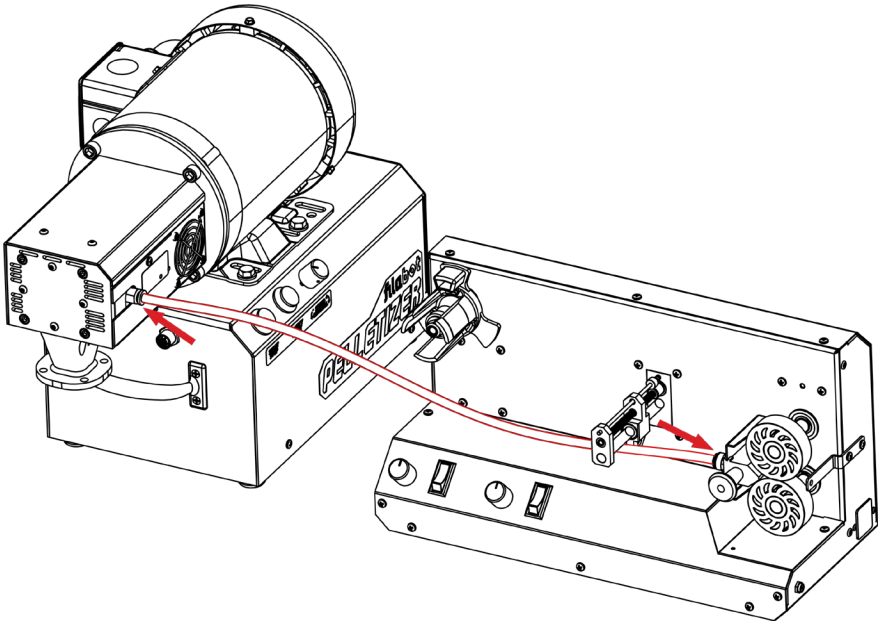
2. Install the Spooler mounting bracket so the flanges are pointed toward the rollers. Align the holes with the ones on the Spooler the Philips screws were removed from, then re-install the Philips screws.

3. Insert the Bowden tube block into the mounting bracket so the pointed end is between the rollers. Adjust the mounting bracket so the angled faces of the block do not touch the rollers, then tighten the Philips screws.



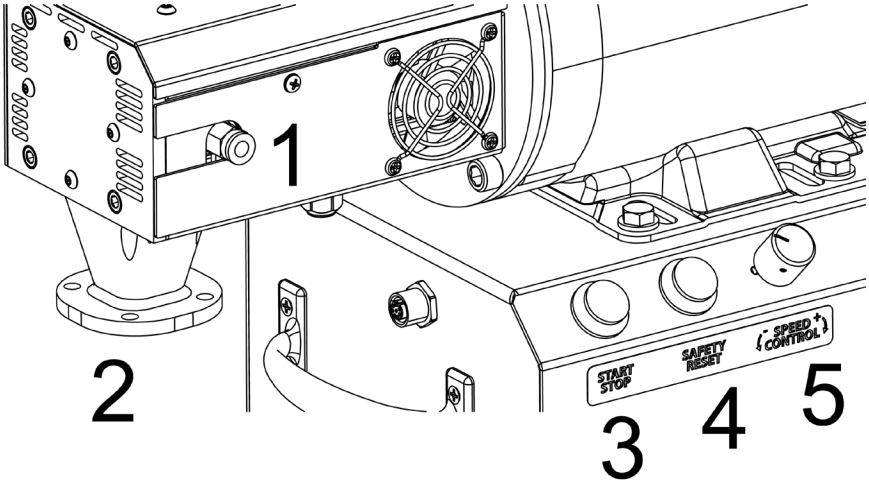
Spooler Mounting Bracket Assembly cont.

4. Insert the Bowden tube into the push-to-connect fitting on the Pelletizer.



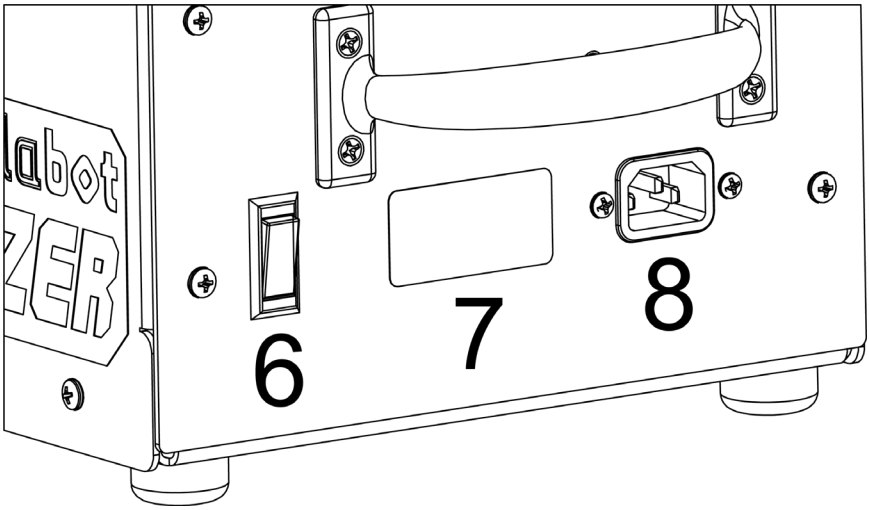
5. The Spooler will push filament into the Pelletizer through the Bowden tube. Adjust the speed of the Pelletizer or Spooler to precisely change the length of the pellets.

Controls & Inputs



1. Filament Input (1mm to 3mm diameter)
2. Pellet Output hopper
3. Start and Stop button – Press to start the machine, press while running to stop the machine.
4. Safety Reset button – Press at initial power on or after the safety switches are tripped to reset the safety circuit.
5. Motor Speed Control – Adjust to contol the filament cutting speed which determines the length of the pellets.

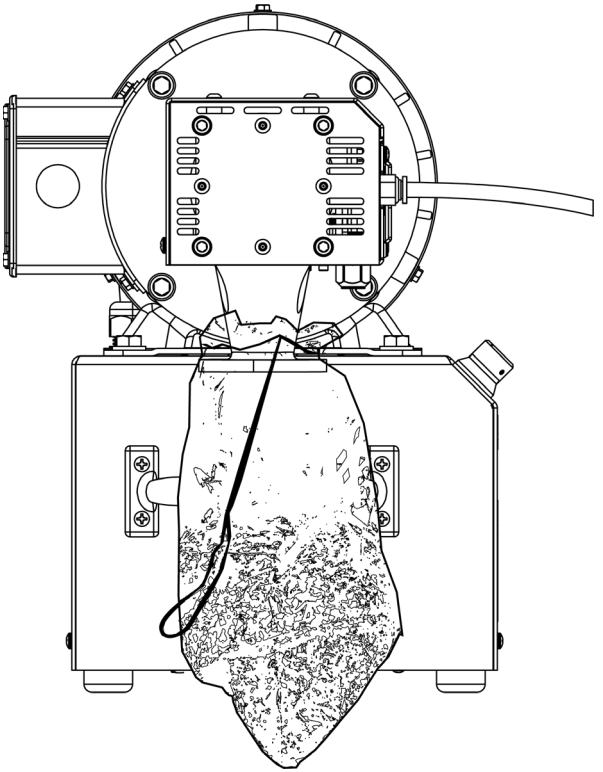
Controls & Inputs cont.



6. Main power switch and main power indicator.
7. Serial Number & Voltage Input Label
8. Power inlet – IEC C14

Operation

1. Secure the drawstring collection bag to the flange on the bottom of the output hopper as shown:

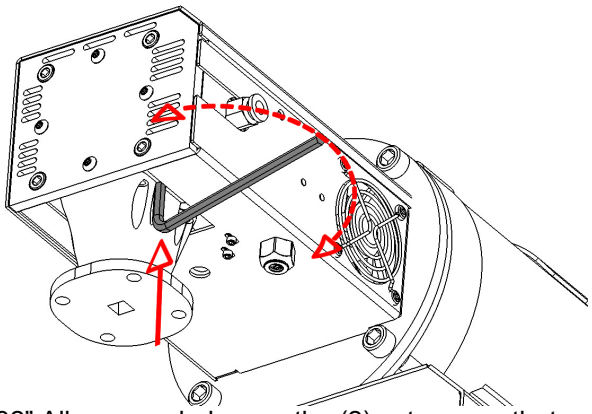


2. Plug the power cable into the power inlet on the machine and into an outlet.
3. Turn on the main power switch. It should illuminate if the machine has power.
4. Push the Safety Reset button to power up the drive. You should hear the contactor relay click if the drive has powered on.
5. Press the Start/Stop button to start the machine. If the cutter does not begin to spin, turn up the speed control knob, or check the head assembly bolt tightness (refer to Removing the Head Assembly section).
6. To begin pelletizing, feed filament into the filament input on the Pelletizer either manually by hand or through the Bowden tube using the Spooler. Adjust the motor speed to control the size of the pellets.

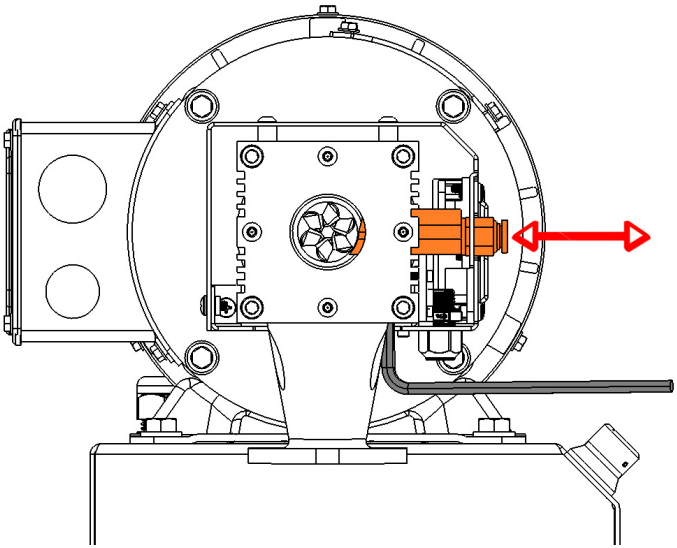
Blade Adjustment

The distance between the stationary blade and the rotating cutter must be as small as possible for filament to be pelletized efficiently. If pellets do not appear to be cleanly cut or strands of filament appear in the output the blade may need adjustment.

Stop and disconnect the power cord from the Pelletizer first.

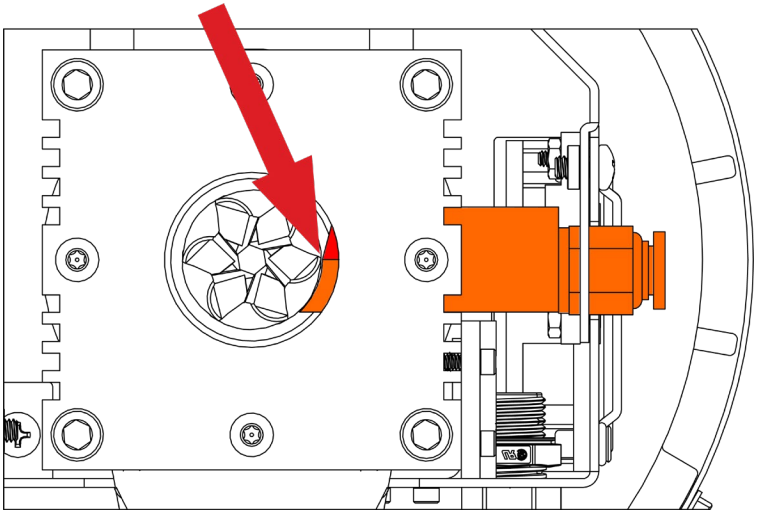


1. Using a 5/32” Allen wrench, loosen the (2) set screws that secure the blade holder in the head assembly just enough that the tool holder can be slid in and out by holding the Bowden tube push-to-connect fitting.

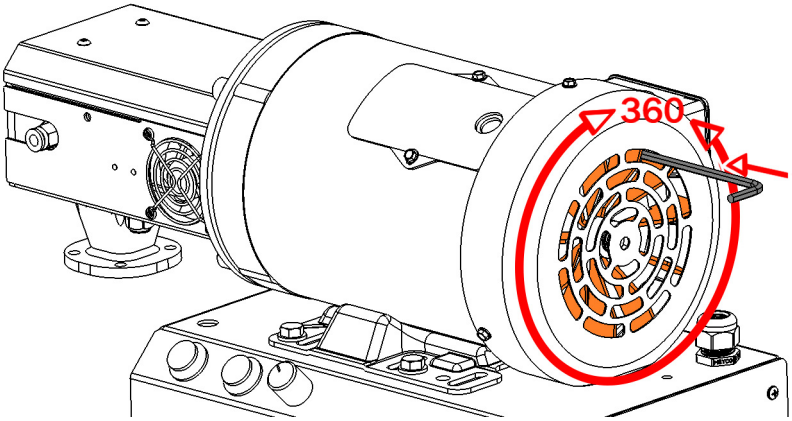


Blade Adjustment cont.

2. Press the stationary cutting blade tool inwards until it touches against the rotating cutter.



3. Using a 3/16” Allen wrench, manually rotate the cooling fans of the motor to spin the rotating cutter clockwise. Complete a full 360-degree rotation of the cutting tool. *The back edge of the rotating cutter blades will push the stationary blade tool holder in so it will be as close as possible without touching.*

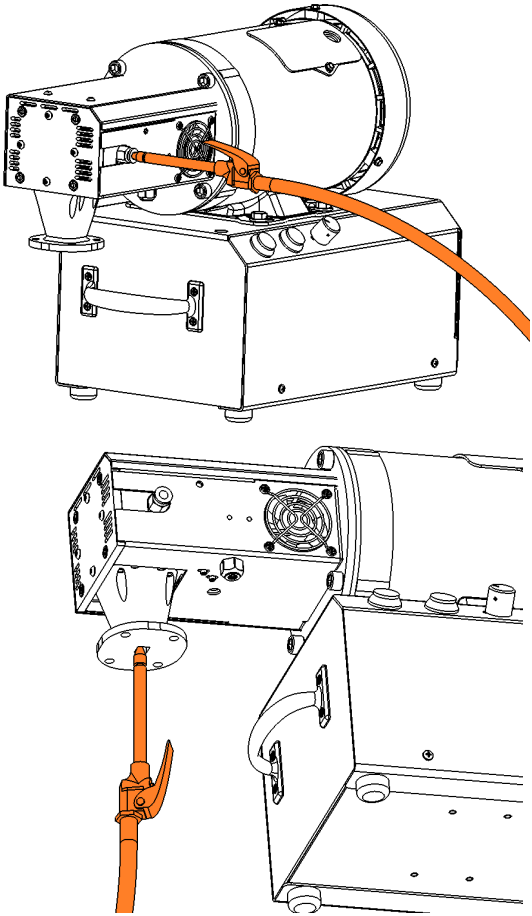


Blade Adjustment cont.

4. Tighten the (2) set screws that secure the blade holder in the head assembly which were loosened in Step 1.
5. Before turning the Pelletizer on, manually rotate the cooling fans of the motor to spin the rotating cutter counter-clockwise (opposite direction as done in Step 3). Complete a full 360-degree rotation of the cutting tool. Check for any change in resistance or hang-ups while rotating which indicate the stationary blade is catching on the rotating cutter because it has been moved too close. Begin again from Step 1 until the rotating cutter can complete a full turn freely. If upon starting the machine the sound of the blade scraping can be heard, repeat steps 1-4 and back the blade off slightly. As long as consistent pellets are being cut you have a tight enough blade gap.

Cleaning

Under typical operating conditions the Pelletizer can be cleaned using compressed air. With the Pelletizer running, blow compressed air into the push-to-connect fitting and into the output hopper, alternating between the two, to remove trapped pellets and debris from inside the head assembly.

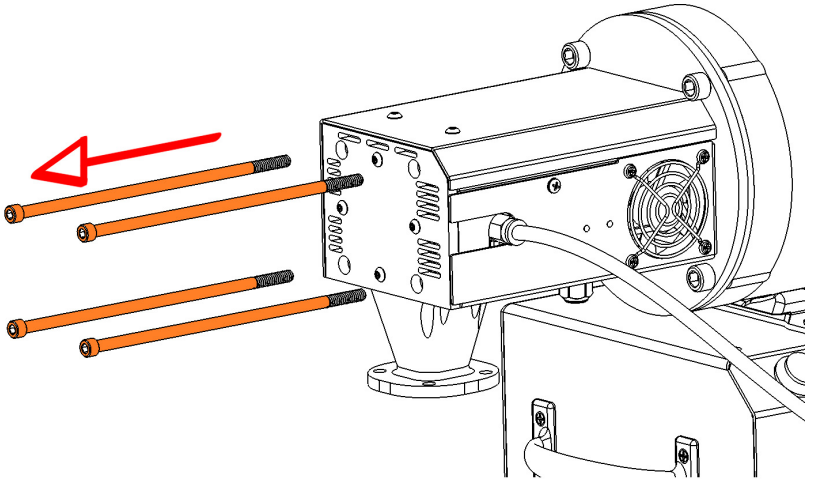


For removal of melted plastic or packed/tangled filament refer to the next section for removing the head assembly.

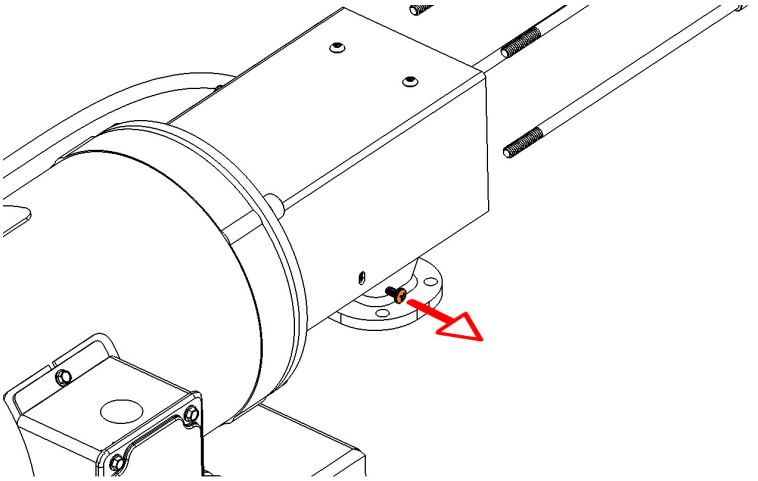
Removing the Head Assembly

Disconnect the power cord from the Pelletizer before continuing.

1. Using a 3/16 Allen wrench, remove the (4) long Allen head assembly bolts from the front of the head assembly.

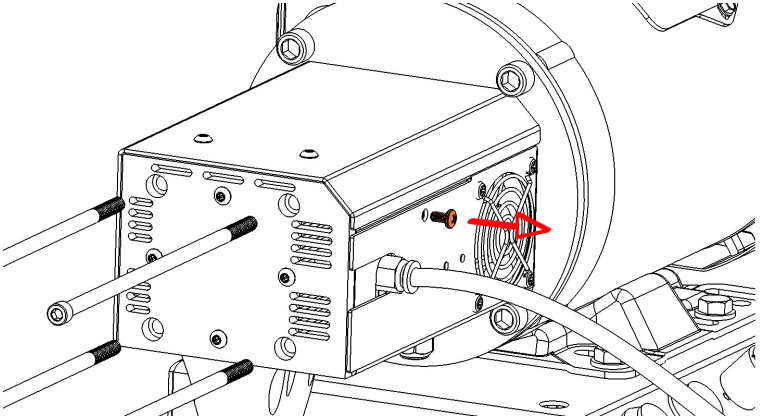


2. Remove the single Philips head machine screw from both sides of the sheet metal enclosure.



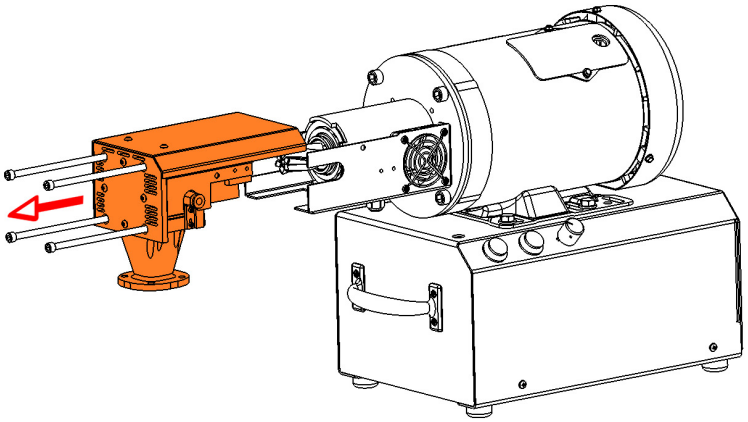
Removing the Head Assembly cont.

2. cont.



3. Pull the head assembly away from the motor and bearing tube.

Caution: Sharp blades! Wear gloves and be safe when working around the exposed rotating cutter.

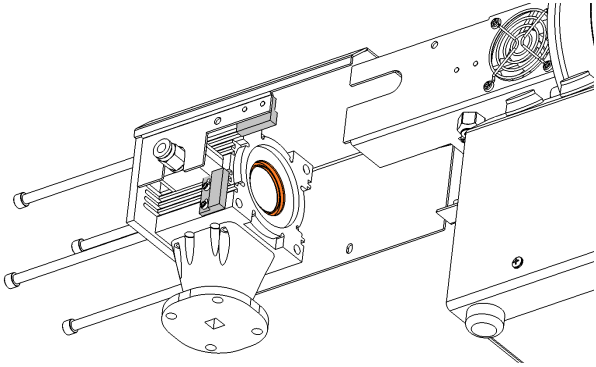


Be careful not to pull the bearing tube, rotating cutter, and bearings away from the motor face with the head assembly. If this happens, the wedges of the flex coupler will have to be aligned so the assembly can be pushed back flush against the motor face.

Remove any stuck debris or tangled filament from the head assembly.

Removing the Head Assembly cont.

4. Before reassembling, check the seal for damage and remove any debris.



5. Reinstall the head assembly (reverse Step 3).

6. Reinstall the Phillips head machine screws (reverse Step 2).

7. Reinstall the (4) long Allen head assembly bolts. *These need very little torque to secure the head to the motor base. Excessive torque will put too much pressure on the bearings and can stop the motor from turning or strip the threads. The leverage afforded by the short end of the hex tool is plenty for this task. Tighten the bolts in an X pattern until they are finger tight.*

8. Refer to the Blade Adjustment section to ensure proper blade adjustment before operating.

REV. 1 12-8-2020