

# **MUNCH MACHINE**

Cluster Bucker  
Model: CB1

## **Operator's Manual**

Please read the operator's manual and all included warnings carefully and make sure you fully understand the instructions before using the machine

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## **WARNING**

**The operation, servicing and cleaning of the Cluster Bucker by MUNCH Machine is hazardous and could cause severe injuries or worse.** These machines are solely intended to be used for the harvesting and processing of cannabis, hemp and hops. Do not operate, service or clean these machines without proper training, reading the instructions and fully understanding all aspects of the activities on these machines and fully knowing the risks involved. Your failure to abide these warnings is negligence on your part. As warned, you **assume all risks** associated with the lack of proper use, in any manner, of the Cluster Bucker by Munch Machine.

- **WARNING** – This product is a piece of power equipment that if used in ways other than described by this instruction manual can result in operator injury or even death
- **WARNING** – All users need to fully read this instruction manual and familiarize themselves with the machine before operation
- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times
- **WARNING** – Keep all hands, feet and clothing away from power driven parts.
- **WARNING** – This machine is capable of pulling body parts, hair, clothing, gloves, etc. into the feed holes of the installed Die Plate. Use extreme caution to prevent unintended items from entering the feed holes of installed Die Plates.
- **WARNING** – Unexpected energization or startup of the equipment is controlled by unplugging the equipment from the energy source; The plug is under the exclusive control of the employee performing the servicing or maintenance.

## **Introduction**

Thank you for your purchase of the Cluster Bucker built by MUNCH Machine. Welcome to the best bucking team around! Our products are designed around years of real-world use for maximum reliability and durability. Every product we bring to market is designed, tested and manufactured 100% in the USA.

The Mother Bucker introduced mechanized bucking to the cannabis industry and now the Cluster Bucker has claimed the title of most powerful, both being the most reliable harvesters on the market. We strive to take a different approach when building equipment for the cannabis industry. Our goals are to put the customer first when it comes to both sales and service. We maintain a close relationship with farmers to be sure we are offering the best products to improve efficiency and lower production costs.

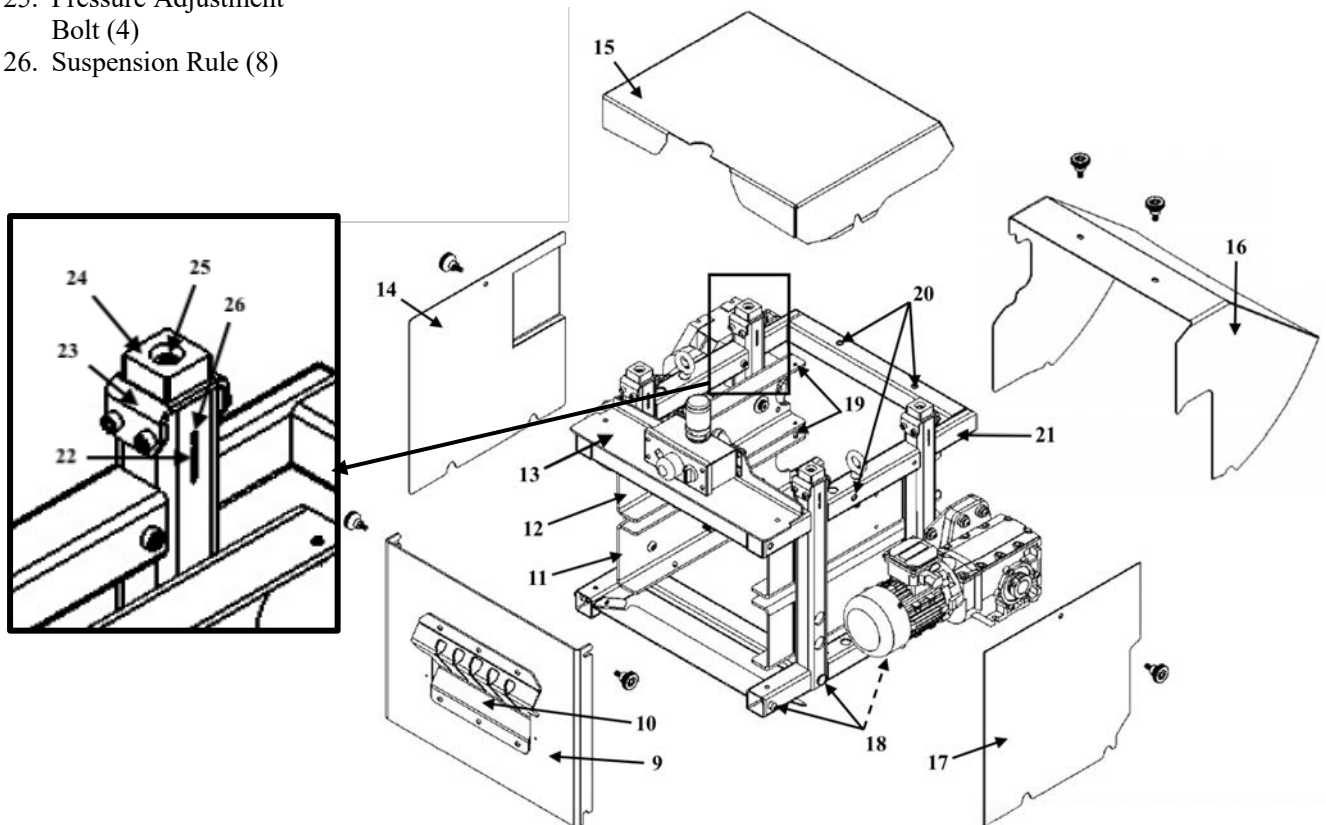
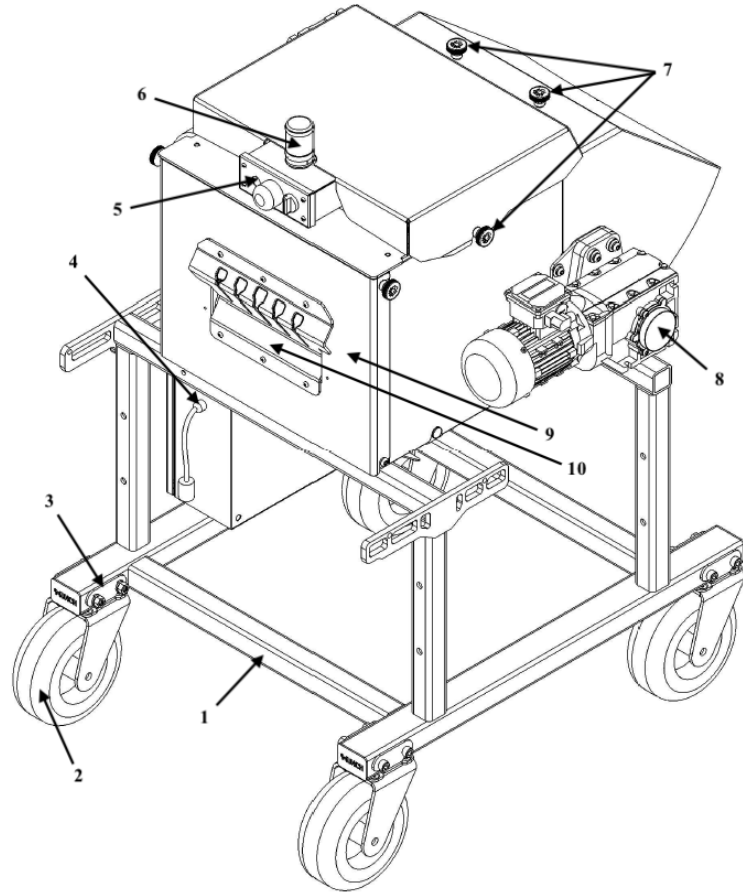
Our parent company Dauenhauer Manufacturing has roots that go back 75+ years as pioneers of the first mechanical hops harvesting equipment. Dauenhauer continues to sell to and service some of the top producers in the hops industry. We are proud of this heritage and committed to carrying this tradition forward with MUNCH Machine.

All persons operating this machine need to fully read this instruction manual and familiarize themselves with the machine before operation.

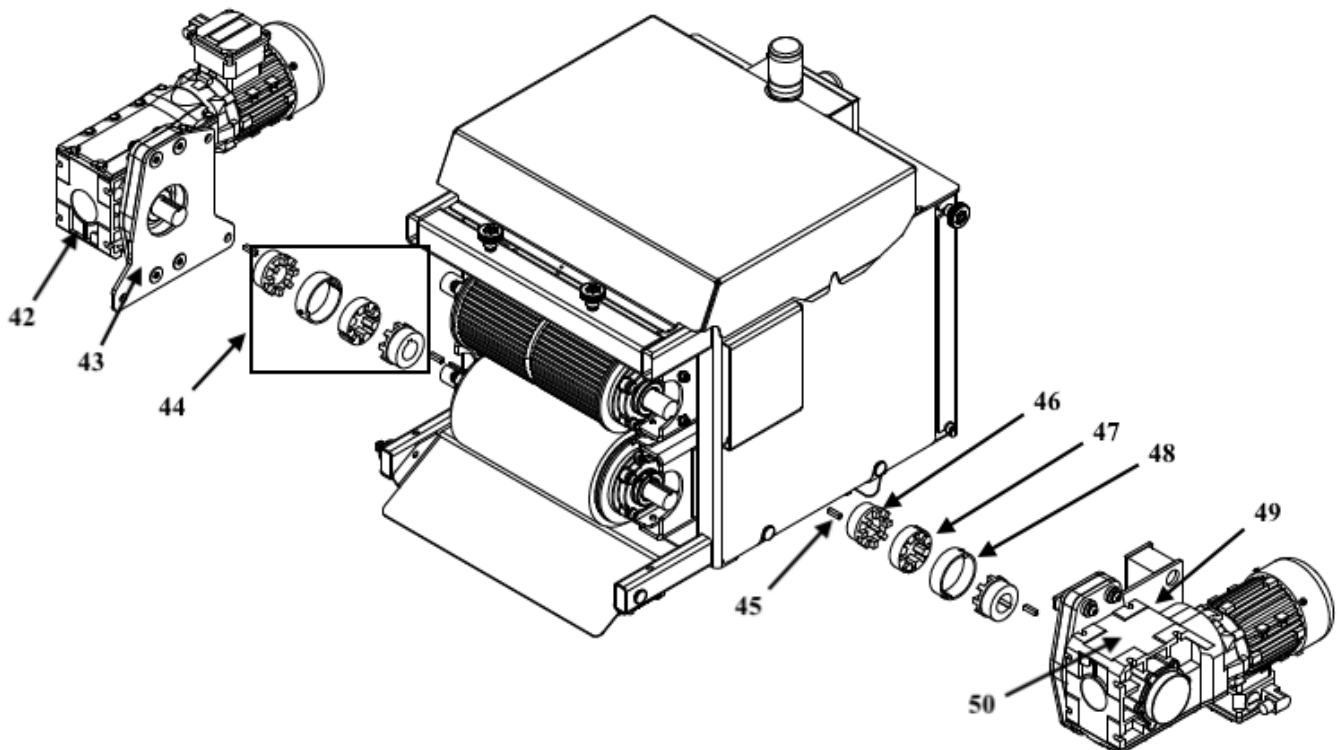
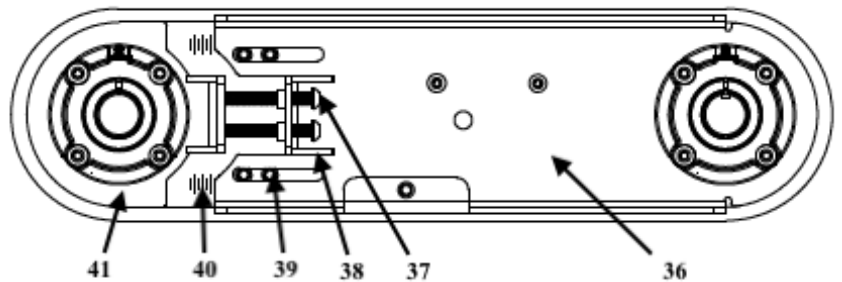
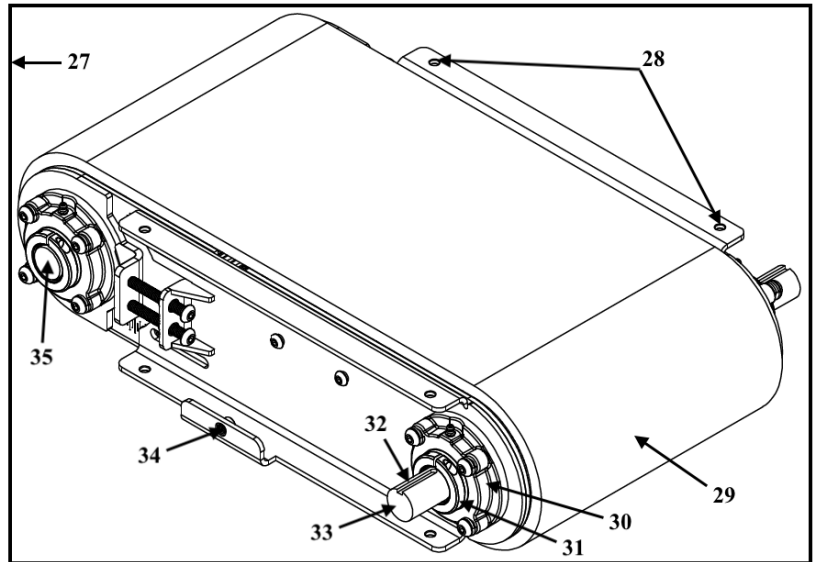
# Machine Overview

## Part Name (Qty Per Machine)

1. Frame Base
2. Casters (4)
3. Caster Bracket (4)
4. Electrical Panel /Accessory Outlet
5. Button Array
6. Indicator Light
7. Thumb Screws (6)
8. Motor Cover
9. Face plate
10. Die Plate
11. Lower Cassette Track (2)
12. Upper Cassette Track (2)
13. Button Mount Bracket
14. Left Side Shield
15. Top Shield
16. Rear Shield
17. Right Side Shield
18. Mount Peg (8)
19. Cassette Pins (16)
20. Threaded Inserts (6)
21. Upper Frame
22. Force Plate (4)
23. Force Cap (4)
24. Force Cap Bumper (4)
25. Pressure Adjustment Bolt (4)
26. Suspension Rule (8)



- 27. Cassette (2)
- 28. Cassette Pin Holes (16)
- 29. Belt (2)
- 30. Bearing (8)
- 31. Bearing Collar (8)
- 32. Keyway (4)
- 33. Drive Pulley (2)
- 34. Cassette Locking Tabs (4)
- 35. Follow Pulley (2)
- 36. Cassette Fixed End (4)
- 37. Tensioning Bolts (8)
- 38. Tension Brackets (4)
- 39. Tension Lock Bolts (16)
- 40. Belt Tension Rule (8)
- 41. Cassette Sliding End (4)
- 42. Lower Motor
- 43. Lower Motor Mount
- 44. Coupler Assembly (2)
- 45. Drive Key (4)
- 46. Coupler Cog (4)
- 47. Coupler Flex Element (2)
- 48. Coupler Nylon Cover (2)
- 49. Upper Motor Mount
- 50. Upper Motor



# Operator Safety

## Training

Operators must be properly trained in the correct use of this machine before taking part in any operation. It is up to the facility to determine guidelines based on these instructions for use. It is up to the organization's management structure to implement training programs, written procedures, and supervision that are compliant with local regulations.

## Operation

All persons operating this machine need to fully read this instruction manual and familiarize themselves with the machine before operation. The machine is built to have 1-2 operators standing at the front of the machine feeding material through the die plate.

- **WARNING** – This product is a piece of power equipment that if used in ways other than described by this instruction manual can result in operator injury or even death.
- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times.
- **WARNING** – Keep all hands, feet and clothing away from power driven parts.
- **WARNING** – This machine is capable of pulling body parts, hair, clothing, gloves, etc. into the feed holes of the installed Die Plate. Use extreme caution to prevent unintended items from entering the feed holes of installed Die Plates.

## Uncrating

Upon receipt of the Cluster Bucker, freight must be inspected upon arrival. If you suspect damage, it is essential to document by taking photos of the packaging issues/damage and notating DAMAGE on the proof of delivery (POD) prior to signing. Do not sign for the shipment until you have thoroughly inspected the packaging and contents.

The Cluster Bucker crate will have one side panel that is held closed with wood screws. While supporting the panel, remove all screws from the outer perimeter of the crate. Once screws are removed, set the panel aside.

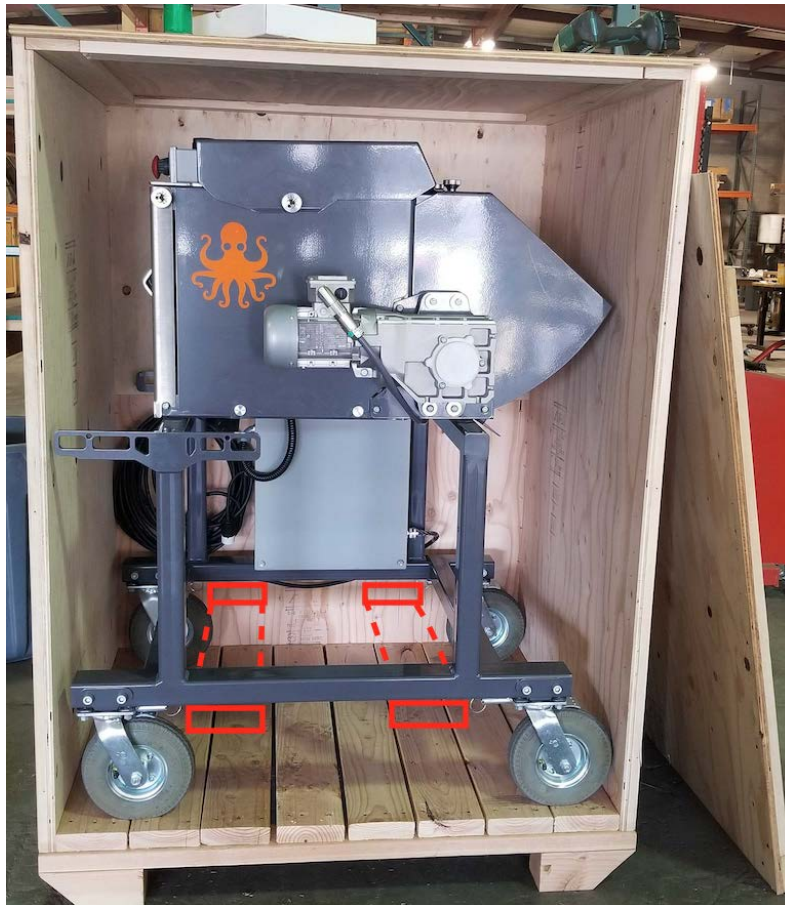
The Cluster Bucker will be held in place with nylon strapping. Prior to strap cutting, ensure all individuals nearby are wearing the proper personal protective equipment to guard against possible flying debris. Also, check that the machine is stable and supported prior to cutting to prevent injury. Cut the strapping with a sharp knife or scissors in a way that prevents damage to the machine finish.

- **WARNING** – Proper personal protective equipment is essential for all persons working around the uncrating and setup of the machine.
- **CAUTION** – Injury could result if proper precautions are not taken to ensure the equipment is stable during the uncrating process.

- **ATTENTION** – It is possible that the machine has shifted during shipment, ensure the equipment is supported when strapping is removed, continue to do so until the machine is out of the crate on a flat level surface with the casters locked.

Using a forklift insert the forks under the lower frame with the forks as wide as they can be set while still passing between all four casters. The forks must pass beyond the far side of the lower frame to ensure the machine is completely supported (see image below). Ensure no equipment will be damaged when lifted. Slightly lift the cluster bucket watching the top hood to prevent damage to the top of the machine. Back the equipment out of the crate and lower onto a flat level surface.

- **CAUTION** – Injury could result if proper precautions are not taken to ensure the equipment is stable during the uncrating process.
- **CAUTION** – Attempting to roll the machine out of the crate could cause the machine to tip, possibly causing injury.



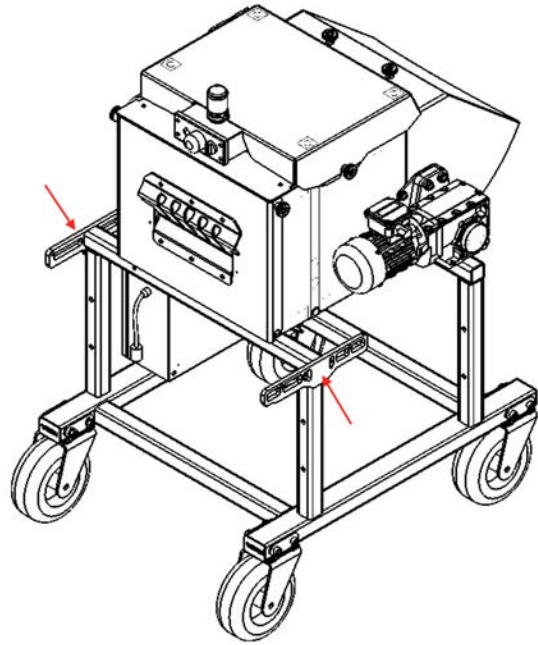


# Machine Transport

## Handles

The Cluster Bucker has Handles built into the Frame located on both the right and left sides of the machine. Only these two Handles and the lower frame are to be used for moving the machine.

- **WARNING** – When moving equipment on an inclined surface it is strongly recommended to use multiple people to prevent loss of control leading to injury or death.
- **ATTENTION** - Do not move the machine by pulling on the Motor or Bucker Head



## Casters

The Cluster Bucker has Casters installed that work for both Indoor and Outdoor use. These tires allow for 360° rotation and have both a rotational lock and rolling lock.

To activate the rolling lock press down the “ON” lever arm with your foot until it clicks. The brake should be clamped firmly on the wheel. To disengage the brake, press “OFF” with your foot until the brake is free of the wheel

To activate the swivel lock, locate the four notches on the swivel bearing directly above the wheel. Line up one of the four notches with the lock pin by swiveling the wheel. Grab the key ring attached to the lock pin, pull it away from the caster and turn it 90°. Release the key ring and lock pin. The lock pin should now be engaged firmly in the notch. The wheel should not be able to swivel. To disengage repeat the above procedure. The lock pin should not be contacting the swivel bearing and the wheel should swivel freely.

# Machine Setup

The Cluster Bucker requires very little setup; the Indicator Light is the only item that comes uninstalled for protection during shipment.

## Indicator Light Installation

Holding the Upper Indicator Light Assembly locate the green arrow located at the base of the lens. Align the arrow point with the black line on the Indicator Light Mount. Press down lightly to engage the light into the base, then rotate the upper light assembly 1/8 turn clockwise.

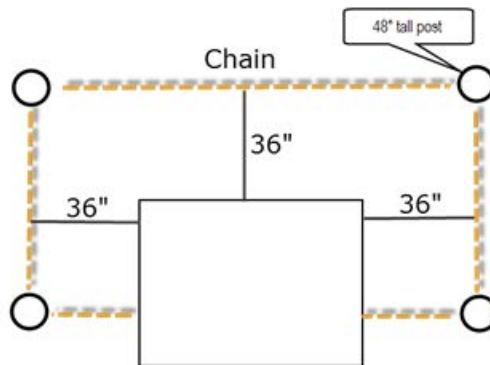
When the machine is energized ensure the indicator light is functioning properly, lit when the machine is powered “ON”, and off when the machine is powered “OFF”.

- **CAUTION** – the Indicator Light is a safety device that needs to be installed and properly working on the machine, failure to do so could result in injury or death.

## Machine Guarding

All Shields must be in place before any operation of the machine. The Face Plate and Die Plate must be installed properly, the Control Panel must be closed and locked.

To prevent processed stalk material from jamming in the outfeed side of the machine it is not possible to closely guard the outfeed area. To ensure personnel cannot reach into the rollers during operation, a barrier guard on the sides and back of the machine must be in place. Four posts (48" tall) and a metal or plastic chain set 36" away from the machine and connected to the sides of the machine must be in place during operation. Signs advising personnel to stay out when the machine is running must be on the chain or posts.



Solid panels or rigid mesh panels may also be used and can be placed closer to the machine depending on the mesh opening size (US companies should refer to OSHA regulations). Consult with your local workplace safety officials to ensure you meet your relevant regulation

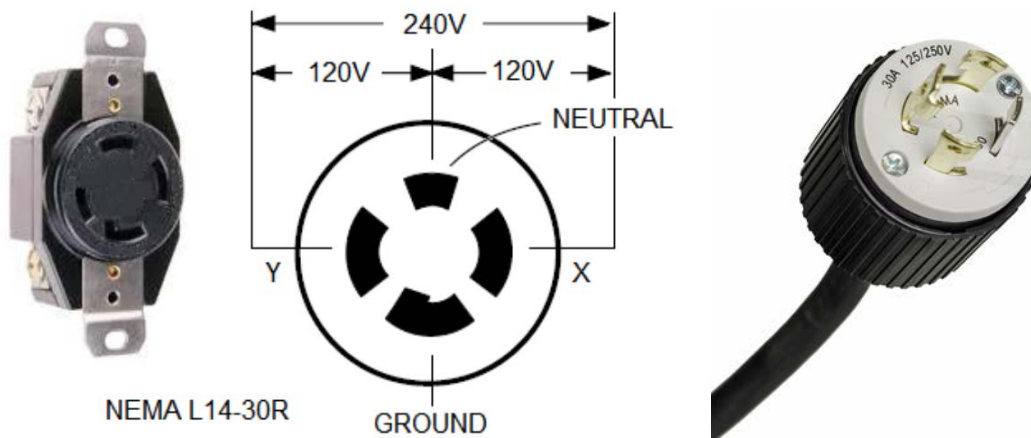
- **WARNING** – Operation of equipment without the proper guarding installed could result in serious injury and possibly death

Contact MUNCH Machine Customer Service if you need further assistance.

## Machine Power

The Cluster Bucker requires a 240V Circuit with a 20-amp breaker (30 amp maximum breaker size) to operate. The machine comes with a NEMA L14-30P Plug installed. Your facility will need to have a L14-30R Female receptacle installed.

- **ATTENTION** – The NEMA L14-30P and NEMA L14-30R are locking power adapters and must be rotated after installation and prior to removal, Not doing so will damage the plug and/or receptacle.
  - Plug Type – NEMA L14-30P
  - Receptacle Type – NEMA L14-30R



## Accessory Outlet

The Cluster Bucker comes equipped with an Accessory Outlet that is protected by its own circuit breaker; this plug is located on the front side panel. This can be used to power any 120V accessory or our MUNCH Machine Conveyor products.

- 120V - 10amp breaker
- Plug Type – NEMA 5-15R

# Machine Controls

## Electrical Panel

The Electrical Panel is designed to remain closed and locked at all times while the machine is running or connected to power. In the case that you need to open the Electrical Panel, please ensure that you take the utmost care to prevent dust or debris from entering.

- **WARNING** – High voltage – disconnect power before opening the Electrical Panel. Failure to do so can result in operator injury or even death. Troubleshooting may require the panel to be open while connected to power. This process should only be performed by qualified personnel.
- **WARNING** – Unexpected energization or startup of the equipment is controlled by unplugging the equipment from the energy source; The plug is under the exclusive control of the employee performing the servicing or maintenance.
- **WARNING** – Capacitors hold energy even after the machine is unplugged. Allow unit to sit for a minimum of 30 seconds prior to servicing or maintenance.



## VFD

The VFD contained within the Electrical Panel comes updated with the latest software settings for the machine.

## Circuit Breaker

A Circuit Breaker is contained within the Electrical Panel, if for any reason your machine becomes unresponsive, open up the panel and check to be sure your Circuit Breaker has not been tripped. If this breaker continues to trip please contact Munch Machine Customer Service immediately as it may indicate a larger problem.

- 240V Models – 20amp breaker

## Button Enclosure



### **Power Selector Switch OFF / FWD / REV**

Mode selection switch allows the user to turn the machine on (FWD), turn the machine off (OFF) and also to reverse (REV) the machine to clear any blockage.

### **Variable Speed Control**

Adjusts the Belt revolutions per minute to allow the user to balance throughput and quality. Select faster belt speed to process flower more quickly, particularly when processing “wet” flower straight from the plant. Select a slower roller speed for a higher quality result, particularly when processing previously dried flower.

### **Emergency Stop Button**

Emergency shut off of the motor in the case of any incident or emergency.

### **Indicator Light**

Indicates if the machine is powered ON. In high noise environments, it can be difficult to determine if the machine is in operation without the indicator light. The Indicator Light on the cluster bucket is located above the button enclosure to ensure visibility from all sides when approaching the machine.

# Machine Operation

## Daily Inspection

- Check that the Left and Right Side, Rear and Top Shields are installed properly, and the thumbscrews are hand tight
- Faceplate is installed and secure
- Die plate is installed, clean and free of debris.
- Belts are clean and free of debris.
- Drive System and Couplers are in good condition and installed properly.
- Ensure all electrical components are in good working order
- Ensure all machine components are secure and in good working order.

## Start Up

- Ensure the Power Selector Switch is in the “OFF” position
- Ensure the Emergency Stop button is in the “UP / OUT” position.
- Plug the machine into a circuit having sufficient current capacity and correct voltage.
- Adjust Variable Speed Control to desired speed - if unknown then start slow and work your way up in speed paying close attention to the quality of the bucked material.
- Place Catchment System (bin, bucket, bag, conveyor, etc.) in position to receive bucked material.
- Turn on the machine by rotating Power Selector Switch clockwise to the “FWD” position.

## Operation

- Feed material into the Die Plate holes, attempting to select a Die Plate hole that best matches the stem size.
- In the case of a product jam, rotate Power Selector Switch counterclockwise to “REV” to reverse the belts until the jam is cleared, then release and rotate Power Selector Switch back to “FWD” and continue feeding material.
- Continuously monitor the outfeed of the machine to prevent the stem pile from reaching the height of the upper frame tube. At this point the machine needs to be unplugged and the stem pile needs to be removed from behind the machine.
- **WARNING** – Machine must be unplugged before entering the guarded area behind the machine.
- **ATTENTION** – Failure to remove the stem pile once it has reached the height of the upper frame tube can result in machine damage or malfunction.

## Daily Shut Down

- Turn Machine to the “OFF” position.
- Unplug the machine.
- Clean the machine using the method defined below.
- Store the machine in a clean, dry, sheltered location.

# Direct Contact Surfaces

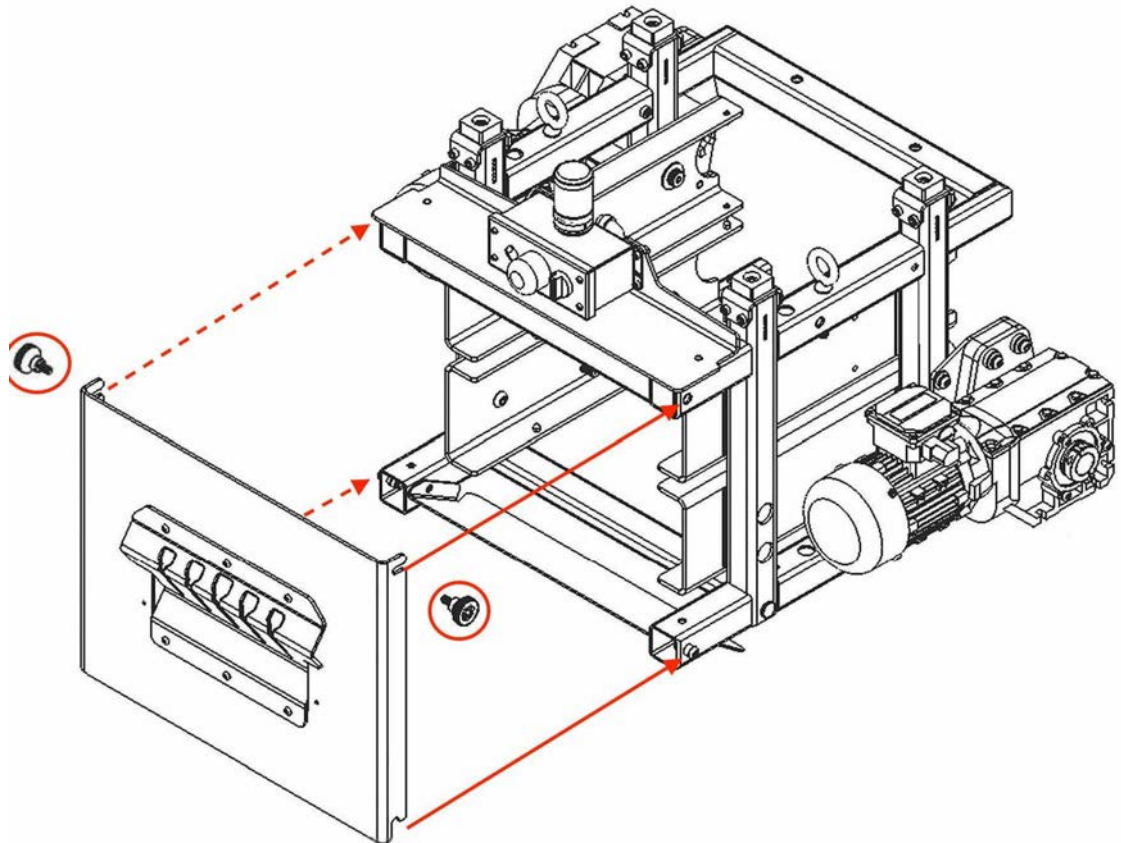
The food-grade stainless steel Face Plate and Die Plate are designed to be the only machine surfaces in contact with the product and are compatible with a cGMP compliant workflow. Daily cleaning of these plates with the proper cleaning products (See: Cleaning the Cluster Bucker) will reduce the potential for contamination of your product

## Faceplate

The Faceplate of the Cluster Bucker is designed to protect the user from moving internal parts of the machine while allowing access for cleaning and maintenance.

The Faceplate has been designed for tool-less removal and installation. The Faceplate uses a combination of Lower Mounting Pegs and upper easy-access Thumb Screws for removal and installation. The Faceplate must be installed and secured properly before any operation.

- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times
- **WARNING** – Operation of the machine without the Faceplate or without the Faceplate being properly secured will result in serious injury and possibly death



## Faceplate Removal

The Faceplate has two Thumb Screws at the top corners left and right side of the machine. While supporting the front of the Faceplate against the machine, unthread the two Thumb Screws until the Faceplate is loose. Allow the top of the Faceplate to pivot away from the machine and lift the bottom of the Faceplate off the Lower Mount Pegs.

- **WARNING** – Operation of the machine without the Faceplate or without the Faceplate being properly secured will result in serious injury and possibly death
- **CAUTION** – Supporting the Faceplate with one hand while removing is critical to prevent dropping the plate and possibly causing injury.

## Faceplate Installation

Locate the Lower Mounting Hooks cut into the left and right sides of the Faceplate. Tilt the Faceplate to have the base closer to the machine and align hooks with the two Lower Mounting Pegs located at the bottom front sides of the Upper Frame. Rest the mounting hooks over the mount pegs, ensuring both sides are supported, then rotate the top of the Faceplate up towards the machine so the hole aligns with the threaded insert, ensure Faceplate is tight against the upper frame. Install and hand tighten Thumb Screws to secure Faceplate in place.

- **CAUTION** – Supporting the Faceplate with one hand while installing is critical to prevent dropping the plate and possibly causing injury.

## Faceplate Accessories

The Faceplate have 10 1/4 - 20 holes threaded into it. Two of these (Left, and right of Die plate cutout) have a button head bolt installed and serve as a placeholder for accessory options. The other six holes, three on top and three below the center cutout are for Die Plate installation.

## Die Plates

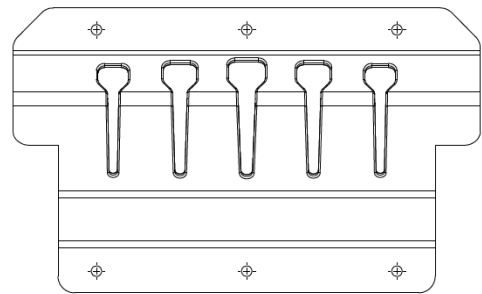
To accommodate various uses of the machine, the machine has been designed to have interchangeable die plates that are attached to the faceplate of the machine via six 1/4 - 20 X 7/16” stainless steel button head bolts.

- **WARNING** – Operation of the machine without the die plate or without the die plate being properly secured will result in serious injury and possibly death
- **WARNING** – This machine is capable of pulling body parts, hair, clothing, gloves, etc. into the feed holes of the installed Die Plate. Use extreme caution to prevent unintended items from entering the feed holes of installed Die Plates.



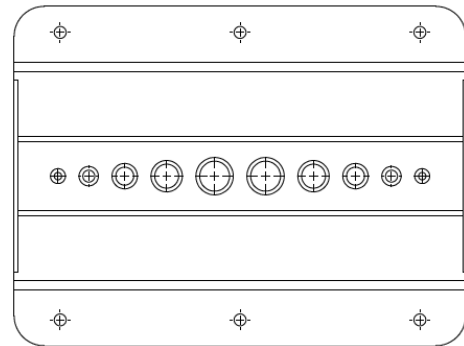
### Keyhole Die Plate (Included)

Developed to process larger branches and clusters of branches, the Keyhole Die Plate uses 5 strategically placed holes that let gravity assist in pulling the branch cluster down and through the tapered slot. This design allows for torn or uneven ends to pass through a larger slot, then as the machine bucks the material the branches are forced down into the slots. Keyhole slot sizing .34" to .25" (8.6mm to 6.4mm), .44" to .30" (11.2mm to 7.6mm), .53" to .35" (13.5mm to 8.9mm)



### Round Hole Die Plate (Included)

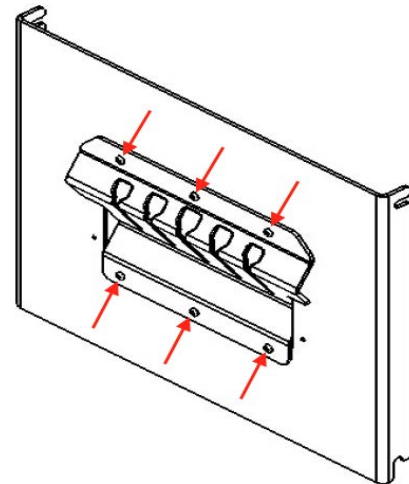
Developed for use with all plants, this configuration has 10 holes, 2 of each size with diameters of .188" (4.7mm), 0.3" (7.7mm), 0.45" (11.5mm), 0.6" (15.2mm), and 0.75" (19mm)



### Die Plate Removal

Unplug the machine. Stand in front of the machine and locate the six 1/4 - 20 button head bolts that hold the die plate in place. Use a 5/32 hex wrench to loosen and remove the lower three bolts, then loosen and remove two of the upper three bolts, then support the plate with your free hand while you remove the last upper bolt. The die plate will lift out of the center cutout for cleaning or changing.

- **CAUTION** – Supporting the Die plate with one hand while removing the bolts is critical to prevent dropping the plate and possibly causing injury.



### Die Plate Installation

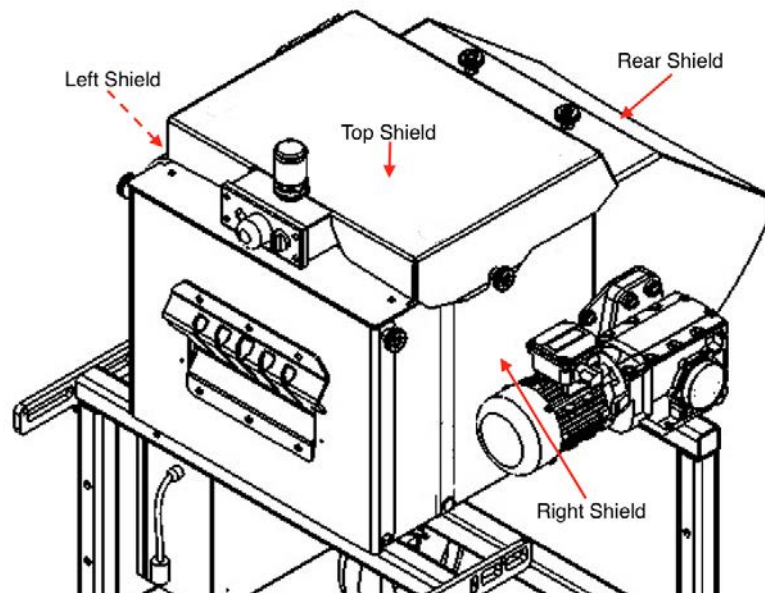
Unplug the machine. Stand in front of the machine and locate the six 1/4 - 20 threaded holes three on top and three below the center cutout. Place the Die Plate into the center cutout allowing the upper and lower wings to sit on the Faceplate. The Die Plate should be installed with the concave side facing the user. While holding the Die Plate in position, align the bolt holes on the Die Plate with the threaded holes on the Faceplate. Use a 5/32" hex wrench to loosely install the top three bolts, then loosely install the bottom three bolts. Finish tightening all six bolts to 6Nm. Do not over-tighten. Occasional use of anti-seize is recommended on stainless steel bolts.

- **CAUTION** – Supporting the Die Plate with one hand while installing the bolts is critical to prevent dropping the plate and possibly causing injury.

## Shielding

The Shields of this machine are designed to protect the user from moving internal parts of the machine while allowing access for cleaning and maintenance. Each Shield has been designed for tool-less removal for cleaning and maintenance. All Shields use a combination of Lower Mounting Pegs and upper easy access Thumb Screws for removal and installation. The Shields must be installed and secured properly before any operation.

- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times



### Removal of Shields

#### Removal order of operations

1. Rear Shield
2. Top Shield
3. Left or Right-Side Shields

### Rear Shield Removal

Unplug the machine. Approach from the back side and locate the two Thumb Screws on the top of the Rear Shield. Also locate and note the position of the two rear shield mount locations, located on the lower left and lower right sides of the frame. Loosen and fully remove the two Thumb Screws one at a time while supporting the Rear Shield with the opposite hand.

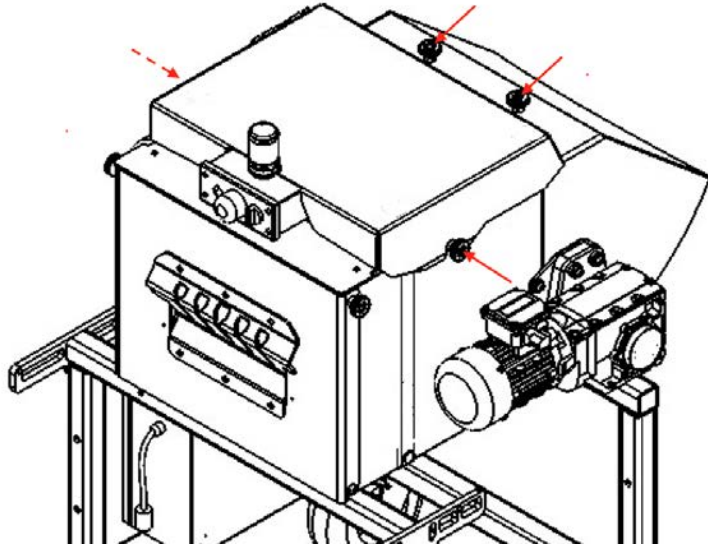
- **CAUTION** – Supporting the Rear Shield with one hand while removing the Thumb Screws is crucial to prevent dropping the shield and possibly causing injury.

While still supporting the Rear Shield, place one hand on each left and right side of the Rear Shield using the lower edge for additional support, lift upwards on the rear shield while shifting it towards your body (away from the machine) to allow the Rear Shield to clear the two lower mount locations.

- **WARNING** – Keep all Shields, guards and safety devices installed and in proper working order at all times

### Top Shield Removal

Unplug the machine. Ensure that the Rear Shield has been removed. Locate the two Thumb Screws, top center, left and right side of the machine securing the overlap between the Top Shield and the Side Shields. Loosen halfway but do not remove both Thumb Screws. Carefully lift the Top Shield off the machine, clearing the Suspension Towers. The Shield may need to be removed by two people due to location and weight. Note how the Top Shield notches align with the Thumb Screws for reference on reinstallation



- **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.
- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times

### Side Shield Removal

The Side Shields are two individual parts, one left and one right, these will only fit when installed on the correct side and orientation. See diagram at the start of the Shielding section for reference.

Unplug the machine. Ensure that the Rear Shield and Top Shield have been removed. Locate the two Thumb Screws, top center, left and right side of the machine securing the overlap between the Top Shield and the Side Shields. These Thumb Screws should be halfway unthreaded from the removal of the Top Shield.

By grabbing the front and rear edges of either Side Shield, the Shield can be lifted off of the Mount Pegs at the base of the Upper Frame and removed upwards via the gap between the Motor and Upper Frame. Both Shields will remove with the same process.

- **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.
- **WARNING** – Keep all Shields, guards and safety devices installed and in proper working order at all times

## Installation of Shields

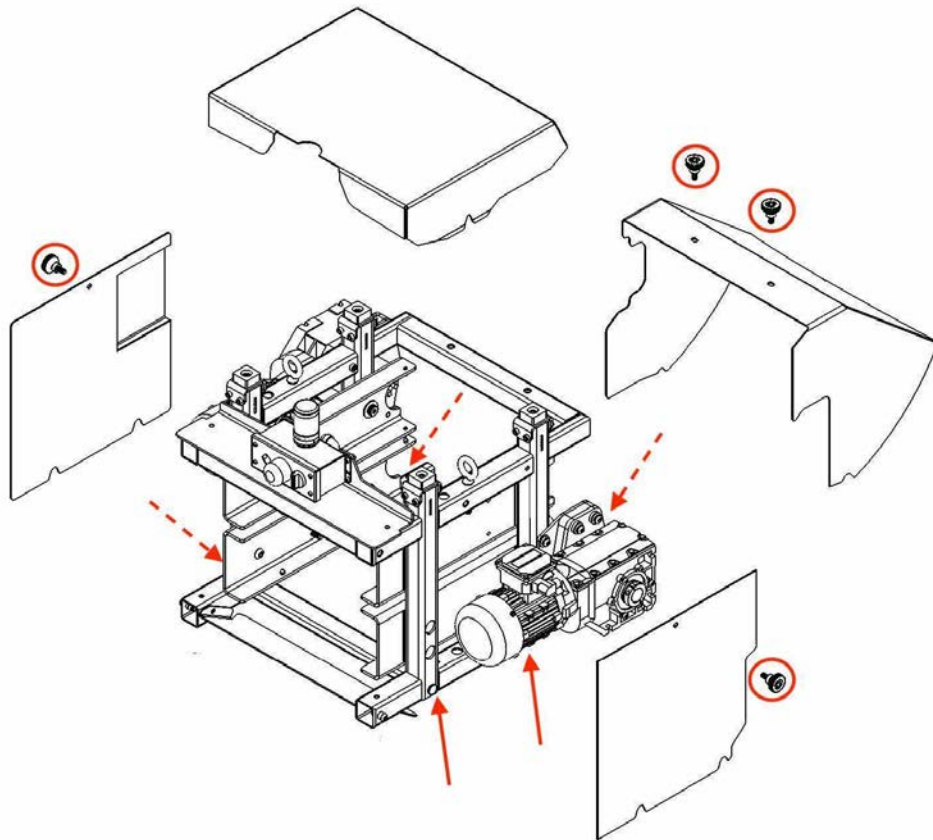
### Installation order of operations

1. Left or Right-Side Shields
2. Top Shield
3. Rear Shield

## Side Shield Installation

Unplug the machine. The Side Shields need to be installed prior to installation of the Rear Shield, or Top Shield. Prior to lifting, determine left and right parts, and the proper orientation for each. See diagram at the start of the Shielding section for reference. Locate the Lower Mount Pegs – (2 central pegs on each side of the Upper Frame). Holding the parts by the front and back edges, slide the Side Shield from the top of the Upper Frame down between the Motor and Upper Frame until the lower notches rest on the Mount Pegs. If the Shield does not sit flush and align with the Mount Pegs, upper Thumb Screw Hole, or the Motor Mount Brackets adjust until all of these points align. Thread the thumb screw halfway into the upper center hole on the side shield. Both shields will install with the same process.

- **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.
- **WARNING** – Keep all shields, guards and safety devices installed and in proper working order at all times



## Top Shield Installation

Unplug the machine. Ensure Side Shields are installed with the Thumb Screws halfway threaded, not tight. Note the front of the Top Shield, and where the Button Enclosure and Indicator Light align with this Shield prior to lifting. The Shield may need to be installed by two people due to location and weight.

- **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.

Lift the Top Shield above the height of the Suspension Towers, oriented in the correct direction. Carefully lower the Top Shield, so that the front aligns correctly with the button enclosure, being careful not to hit and or damage the Indicator Light. The Top Shield should install to the outside of all four Suspension Towers and in front of the vertical members of the Button Mount Bracket. The two notches on the left and right sides of the Top Shield will align with the halfway threaded Thumb Screws passing over the top and outside of the Side Plates. Ensure proper reveal and installation, then tighten the two Thumb Screws, on the left and right side of the machine. These Thumb Screws will secure the Side Shields and the Top Shield to the Upper Frame.

## Rear Shield Installation

Unplug the machine. Ensure Side Shields, and Top Shield are installed and secured. Approach the machine from the back side and locate the two Rear Shield Mount locations on the lower left and lower right sides of the Upper Frame. Also locate the threaded inserts on top of the Upper Frame and rear top crossbar.

Lift the Rear Shield keeping the 2 holes upwards and away from your body, the curvature on the back of the hood should be the closest point to your body. Tilting the top edge of the Rear Shield slightly forward, leave about 1 inch of gap between the Rear Shield and Upper Frame rear crossbar as you slowly pivot the bottom of the Rear Shield downwards to the point where the notches on the Rear Shield and the Rear Shield Mount Locations are centered on each other. Lower the Rear Shield so that it makes contact with the top of the Upper Frame rear top crossbar. Align the holes with the threaded inserts on top of the Upper Frame and rear top crossbar.

- **CAUTION** – Supporting the Rear Shield with one hand while installing the Thumb Screws is critical to prevent dropping the Rear Shield and possibly causing injury.

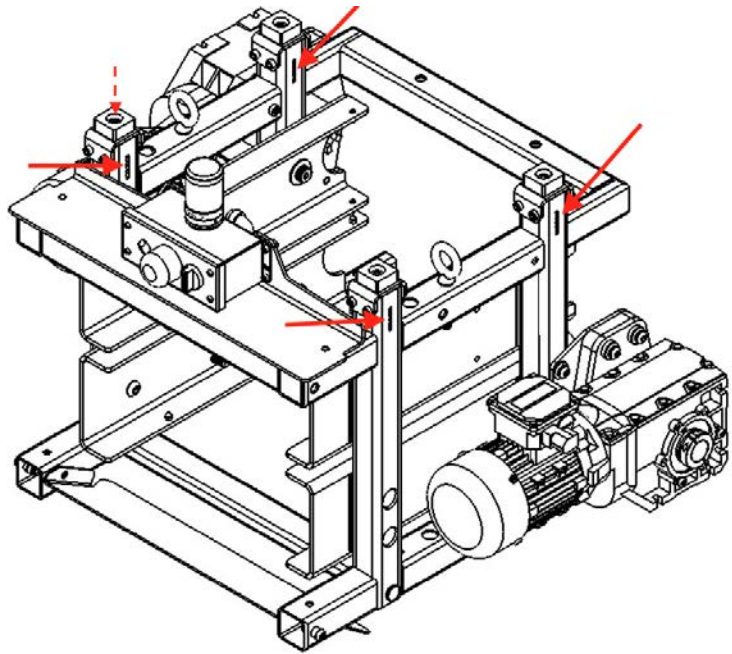
Install the two Thumb Screws, and firmly tighten. Do not force the Thumb Screws - ensure that threads are aligned properly before tightening. If you feel any resistance, unscrew and restart. The Thumb Screws come pre-treated with food-grade anti-seize, which may need to be reapplied over time.

## Suspension System

The Cluster Bucker has a user adjustable independent suspension system to provide adaptability for the machine to fit all harvest situations. The suspension applies preload and pressure to keep traction on the bucked material.

## Adjusting Suspension Pressure

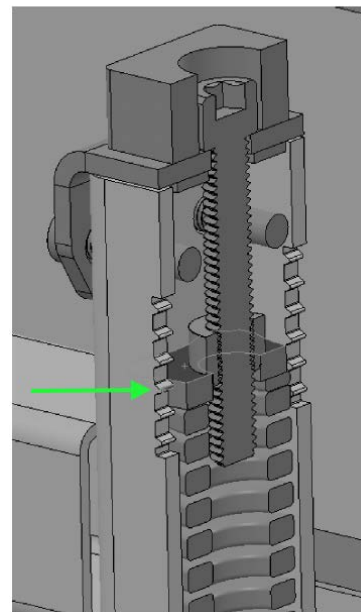
Depending on the use case, plant type, and weather conditions the user may want to adjust belt pressure. The four Suspension Towers have a built-in Rule with a visible Force Plate to determine adjustment level. At the top of each Suspension Tower will be a Pressure Adjustment Bolt. The Pressure Adjustment Bolt can be turned clockwise to reduce pressure on the system, or counterclockwise to increase pressure on the system. The Force Plate will be visible within the Rule and will move up when the Pressure Bolt is rotated clockwise and will move down when the Pressure Bolt is rotated counterclockwise. With any adjustment to the suspension pressure ensure that all four towers are set equally with the Force Plate relative to the rule.



The preset pressure level is a good starting point for most situations. Additional pressure can be applied to increase traction, but keep in mind when adjusting Belt pressure, that running the equipment at higher Belt pressure will reduce Belt life. Find the balance of just enough traction for the use case, without adding more pressure than is needed to do the job.

- **ATTENTION** – If adjustments are made to the suspension system of the machine, the user must ensure that all Force Plates are set equally by checking the built-in Rule on each Suspension Tower.
- **ATTENTION** – Higher Belt pressure will equal shorter Belt life. The longer a machine is run at higher Belt pressure the shorter the life expectancy of the Belts will be.
- **ATTENTION** – Never increase belt pressure so much that the Pressure Plate disappears below the bottom of the Rule.

Recommended Pressure



## Coupling System

The green Flex Elements within the coupler assemblies are wear components that reduce wear on the drive train components. Both Nylon Covers and the Flex Elements should be removed and

inspected prior to high-use scenarios or inspected monthly in the event of perpetual harvest scenarios. The green Flex Element should be replaced if noticeably worn. Two additional Flex Elements are included with each machine, and additional Flex Elements can be purchased from MUNCH Machine Customer Service. **It is recommended to keep a spare Flex Element on hand at all times.**

- **CAUTION** – Do not run the machine without a complete Coupler assembly.

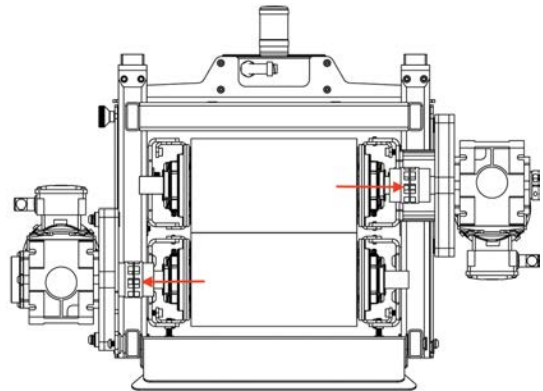
We have found that grease applied to the Green Flex Element prior to installation lengthens the life of this wear part.

Recommended Food Safe Lubricant:

- Lubriplate FGL-2 - product number L0232

## Coupler Removal and Installation

1. At the back of the machine, Locate the two Couplers (1 per Cassette) using a 2.5mm hex key loosen but do not remove the two locking bolts on each black Nylon Coupler Cover ring. The Cassettes may need to be manually rotated to access both fasteners.
2. Once loose, slide both black Nylon Coupler Cover Rings towards each Motor leaving them resting on the outside Coupler Cog out of the way for Cassette removal.
3. The green Flex Element can then be removed by finding the split and then peeling the teeth out of the Coupler Cogs.
4. Coupler Installation – work through coupler removal steps backwards



## Cassettes

The Cassettes are two of the most essential elements of the entire Cluster Bucker system. Proper maintenance and care are needed to keep them in optimal condition. At times the cassettes will need to be removed for a full cleaning or service of the machine.

### Cassette Removal

#### Tool List:

- 2.5mm Hex key
- 7/32" Hex key
- 3/8" Hex key (Depending on model –3/4" wrench or socket may be needed instead of a hex key)
- Variable height worktable makes removal of Cassettes and cleaning easier. (see below)

- Simple Green Crystal, or a citrus based cleaner in a spray bottle
- 70% Isopropyl alcohol in a spray bottle - **Do not use on Belts**
- Stiff Plastic Bristle Brush
- Lint Free Towels or Shop Towel
- Rubber Gloves

Optional Tools: (The process can also be completed without the Optional tools)

Adjustable Height Work Table -

<https://www.homedepot.com/p/Husky-46-in-Adjustable-Height-Work-Table-HOLT46XDB12/301809931>

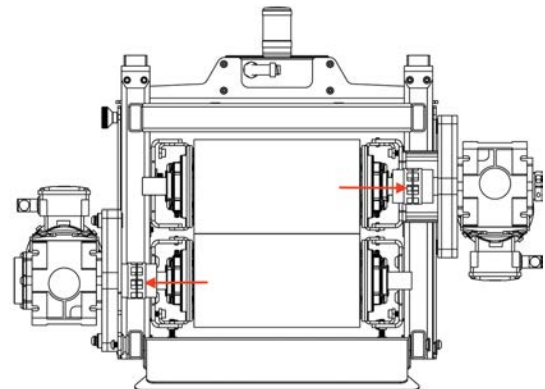
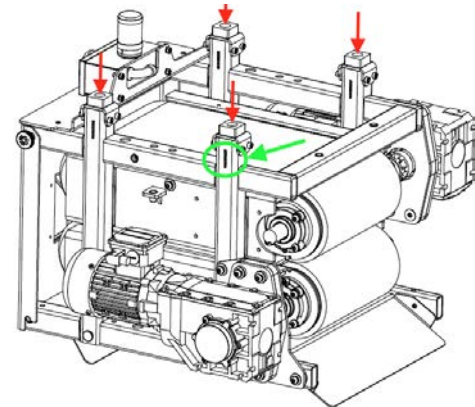


1. Make sure that the machine is turned off and unplugged.
2. Remove all Shielding and Faceplate (see section “Shielding” & “Faceplate” for instructions on removal)
  - **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.

Shield Removal order of operations

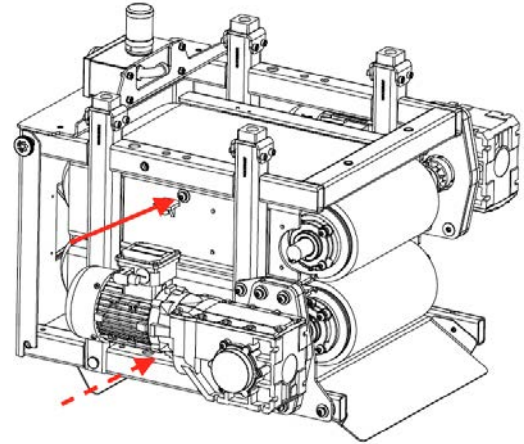
- 1) Rear Shield
- 2) Top Shield
- 3) Left or Right-Side Shields
- 4) Faceplate

3. Locate the four Suspension Pressure Adjustment Bolts at the top of each Suspension Tower. The position of the Force Plate will be used when Re-applying pressure at the end of the cleaning process. Back the suspension pressure off the Upper Cassette by rotating the Suspension Pressure Adjustment Bolt clockwise using and 3/8” hex key or a 3/4” box wrench or adjustable wrench until the Force Plate is at the top of the rule but still visible. Repeat this process on all four Suspension Towers.
4. At the back of the machine, Locate the two Couplers (1 per Cassette) using a 2.5mm hex key loosen but do not remove the two locking bolts on each black Nylon Coupler Cover ring. The Cassettes may need to be manually rotated to access both fasteners.



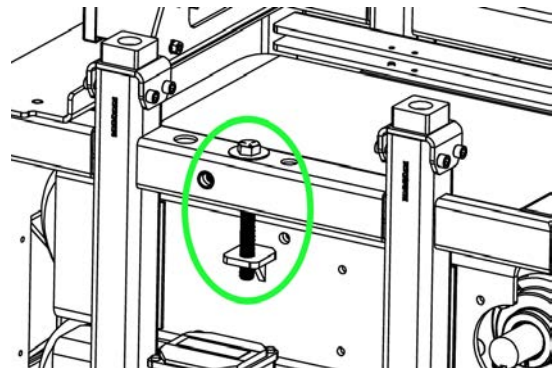
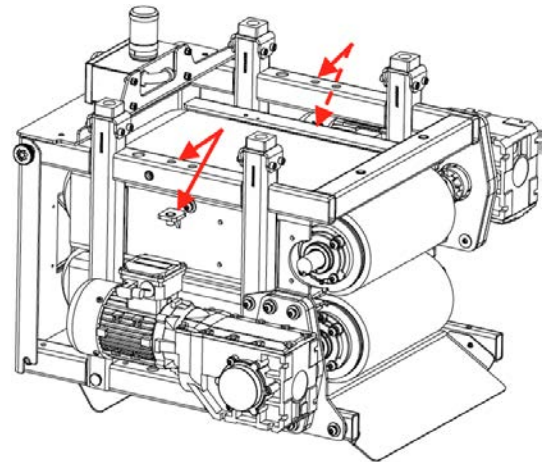


5. Once loose, slide both black Nylon Coupler Cover Rings towards each Motor leaving them resting on the outside Coupler Cog out of the way for Cassette removal.
6. The green Flex Element can then be removed by finding the split and then peeling the teeth out of the Coupler Cogs.
7. Remove all 4 Cassette Locking Bolts – 2 per side with a 7/32” hex key and set aside



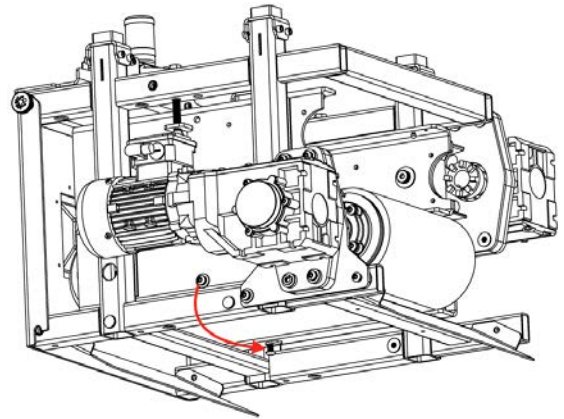
### Upper Cassette Removal

1. Double check that suspension pressure has already been backed off, and that the Coupler Elements and Cassette Locking Bolts have been removed.
2. Included with the machine are two separate 5” hex bolts and fender washers. On the machine locate the Track Lifting Brackets on the side of each Upper Track, and an accompanying hole in the Upper Frame that aligns with this bracket.
3. Hand thread one hex bolt with washer installed through the Upper Frame down to the Track Lifting Bracket; one will be installed on the left side of the machine, and the second will be installed on the right side of the machine.
4. Once the 5” hex bolts have been started by hand, ensure the fender washer is installed between the hex head and the Upper Frame. Begin tightening the hex bolts with a 3/4” wrench, socket, or driver to lift the Cassette Tracks.
5. Lift the Cassette Track until the 4 Locating Pins have lifted out of the Cassette, but not so high that the Track hits the Cassette Bearings. Track will lift about 0.42”
6. The Upper Cassette should now be free and can roll out the back of the machine.
  - **CAUTION** – Cassettes are heavy (80 lbs.) we recommend an adjustable height table that you can roll the Cassette directly onto.



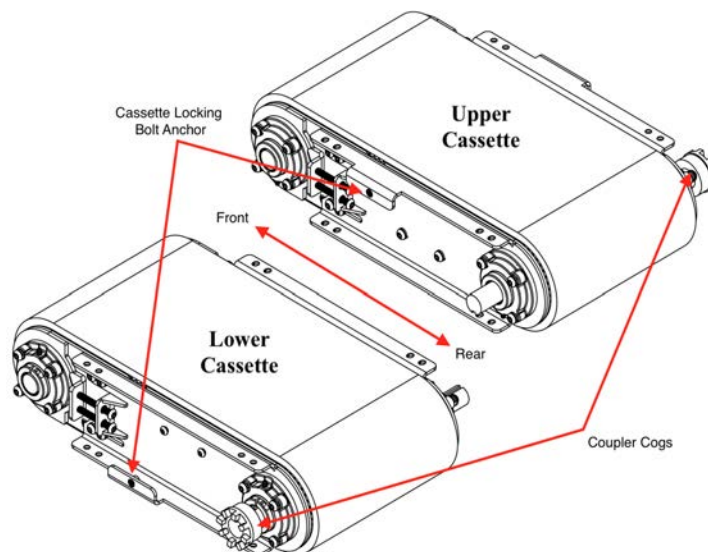
## Lower Cassette Removal

1. Ensure the Cassette Locking Bolts have been removed. Insert two of the four Locking Cassette Bolts into the Lower Cassette Lifting Inserts located on the bottom of the Lower Cassette Tracks towards the front of the machine. Using a 7/32" hex key, drive the Cassette Locking Bolt to lift the front end of the Cassette off the Cassette Locking Pins, but not so high that the Cassette Bearing contacts the top edge of the Lower Cassette Tracks.
2. Move to the back of the machine and lift the Cassette upwards at the Bearings off the Rear Locating Pins and shift the Cassette backwards slightly.
3. Slide the Cassette out the back of the machine.
  - **CAUTION** – Cassettes are heavy (80 lbs.) we recommend an adjustable height table that you can roll the Cassette directly onto.



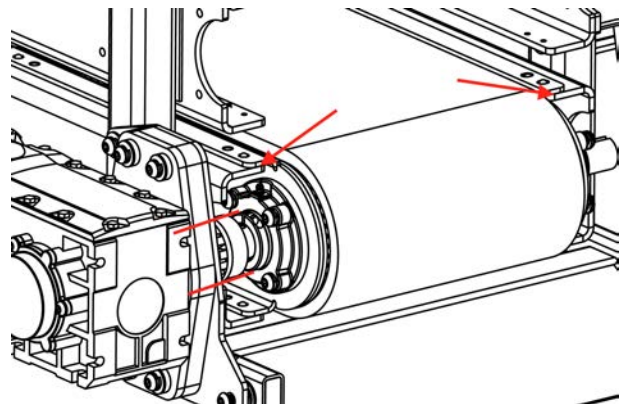
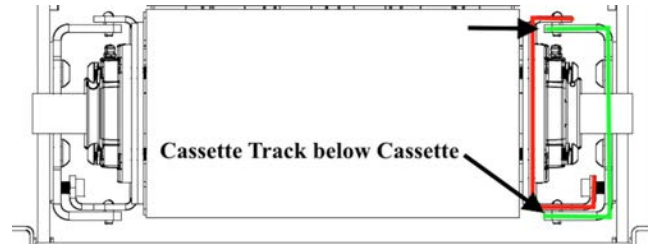
## Layout of Cassettes for Re Installation

1. Cassettes are universal and work in both the Upper and Lower position. Cassettes will need to be installed opposite one another.
2. The Coupler Cog is the most obvious way to properly orient the Cassettes. Rotate both Cassettes so the Drive Pulley End (end with Coupling Cog installed) are both away from the Cluster Bucker. Then also flip one of the cassettes to have one Coupler Cog facing left and the other Coupler Cog facing right, opposite one another. The top and bottom Cassette Cogs have different shaft positions to work in their respective position, if you are going to swap the top and bottom cassette you will need to adjust the Cog placement on the Drive Shaft. The Cassette Locking Bolt Anchors are the second indicator of Cassette orientation in case the Coupler Cogs have been removed.



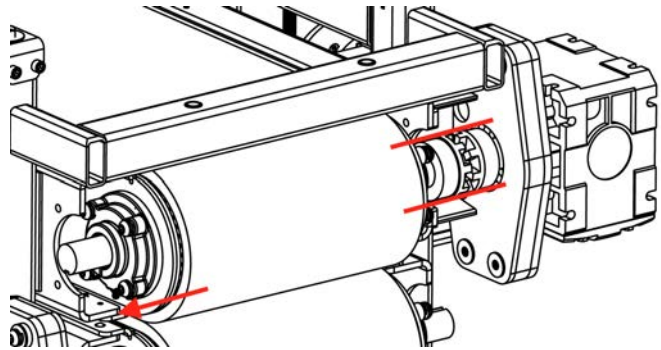
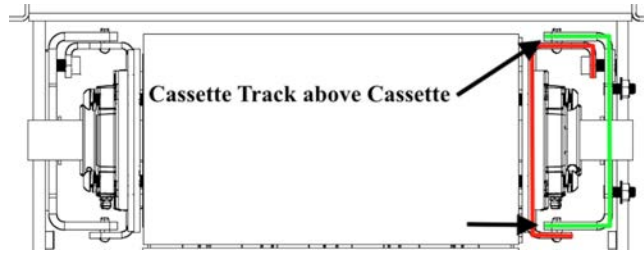
## Lower Cassette Installation

1. Ensure the black Nylon Coupler Cover ring is positioned out of the way, but on the motor side Coupler Cog.
2. Establish which Cassette will be the Lower Cassette - Coupler Cog oriented to the Left and away from the Cluster Bucker
3. Adjust the height of your adjustable workbench to match the height of the Lower Track bottom edge.
4. Ensure your Upper Track is still lifted and ensure the Lower Track Lifting Bolts have been lowered to allow the cassette to slide past the bolt.
5. When inserting the Lower Cassette, the Lower Cassette Flanges will sit on top of both lower Track Flanges (See Illustration)
6. Slide the Lower Cassette into the Lower Track, Lifting the cassette over the Rear Locating Pins and sliding it forward in the machine not allowing the rear Locating Pins to Engage with the front locating pin holes.
7. Slide until the Cassette is touching the Front Locating Pins, the installer should re-tighten the Lower Cassette Lifting Bolts to raise the Cassette above the Locating Pins.
8. Continue to slide the Cassette into the machine until the rear edge of the Cassette Flange aligns with the rear edge of the Cassette Track Flange. When aligned the rear Locating Pins should be aligned with the correct Locating Pin Holes on the Cassette. When aligned properly the Coupler Cogs will also be in alignment.
9. Starting with the motor side, back out the Lower Cassette Lifting Bolts. Fully remove the bolts and set aside.
10. All four Locating Pins on the Track should align with Locating Pin Holes on the Cassettes, if these have not fully engaged, the Cassette may need to be manually shifted to get all four pins to engage. The Lower Cassette must be fully seated flat on the Cassette Tracks prior to installing the Upper Cassette.
11. Install Cassette Locking bolts, one on each side of the machine into the Lower Cassette and tighten until lock washer is flat.



## Upper Cassette Installation

1. Ensure black Nylon Coupler Cover ring is positioned out of the way, but on the motor side Coupler Cog.
2. Ensure your Upper Track is still lifted and ensure the Lower Track is seated properly.
3. Ensure your Cassette is oriented properly with the Coupler Cog on the right and away from the machine
4. Adjust the height of your adjustable workbench to allow for the Upper Cassette to roll onto the Lower Cassette.
5. Roll the Upper Cassette into the machine with the Upper Belt rolling on the Lower Belt, keep the Upper Cassette aligned and parallel with the Lower Cassette. The Cassette Flanges should be below the Track Flanges on both sides of the machine.
6. Roll the Cassette into the machine until the rear edge of the Cassette Flange is aligned with the rear edge of the Upper Track. When aligned properly the Coupler Cogs will also be in alignment.
7. Using the Upper Track Lifting mechanism back off the lifting pressure and begin to lower the motor side Track first. You may need to adjust the Cassette so the Locating Pins engage as the Track comes down, lower the motor side fully and remove the fastener and washer from the system.
8. Lower the opposite side Upper Track and remove the fastener and washer the same way.
9. Check that all locating pins have fully engaged with the cassette and that the cassette and track are fully seated with one another.
10. Install Cassette Locking bolts, one on each side of the machine into the Upper Cassette and tighten until lock washer is flat.



## Belts

Belts are wear components and will need to be replaced over time. Proper maintenance and care are needed to keep them in optimal condition. Cleaning the Belts after each use is the best way to ensure longevity. The Belts will eventually have grooves worn into the surface caused by plant material being bucked. If you find you are losing traction and unable to adjust the suspension to regain traction it is time to replace the belts. MUNCH machine keeps Belts in stock, to purchase please contact MUNCH Machine Customer Service.

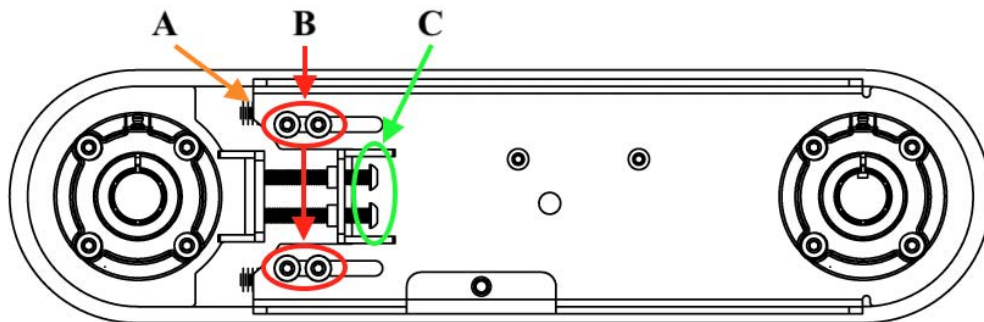
## Cleaning Cluster Bucker Belts

It is essential to never use alcohol or alcohol-based cleaners to clean Belts, this will void the warranty. Citrus-based cleaners or products such as Simple Green Crystal will clean the Belts properly without causing additional damage.

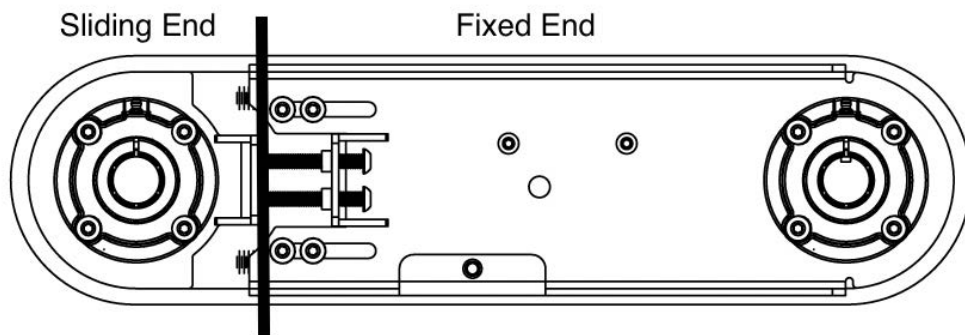
- **ATTENTION** – Cleaning the Cluster Bucker Belts with chemicals that are too harsh will void the manufacturer warranty.

## Removing Belts from Cassettes

1. With the Cassette on a flat work surface, make note of the Belt Tension Ruler setting on each side of the cassette (A). This setting will be used to reset the tension on the Cassette in the reassembly process. When noting this measurement, it needs to be exact (i.e. The back edge of the 3<sup>rd</sup> small hash mark).
2. Loosen but do not remove the 8 Tension Locking Bolts with a 7/32” hex key. Four per Cassette side. (B)
3. Loosen fully the 4 Tensioning Bolts, but do not remove, two per cassette side. (C) It is normal for the Tension bolts to loosen. As long as the Tension Locking Bolts are tight, and tension is set correctly this is not a problem.



4. The Cassette Sliding End can now compress into the Cassette Fixed End, shortening the distance between the two Cassette Pulleys. Ensure that the Tensioning Bolts are not preventing the Cassettes from collapsing completely.

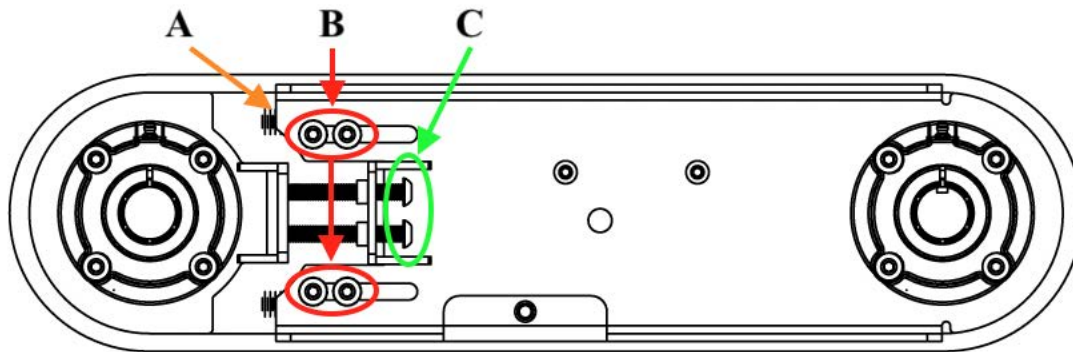


5. Re-tighten the at minimum 2 Tension Locking Bolts on each side of the Cassette with the Cassette collapsed. (B)
6. Tilt the Cassette up onto its side, be cautious as some parts will be able to move. Pull the belt up off the cassette while simultaneously squeezing the center of the belt. The belt has a

center rib that will cause resistance, sometimes rolling the belt back and forth will help it clear the edges of the cassette.

### Reinstalling Belts on Cassettes

1. Tilt the Cassette up onto its side, be cautious as some parts will be able to move. Pull the belt down over the top edge of the cassette while simultaneously squeezing the center of the belt. The belt has a center rib that will cause resistance, sometimes rolling the belt back and forth will help it clear the edges of the cassette. Ensure the V Guide is aligned with the center groove on both Cassette Pulleys
2. Lay the cassette back down on its belted side taking care not to allow it to roll.
3. Loosen the 8 Tension Locking Bolts (B).
4. Begin Applying pressure via the Cassette Tensioning Bolts (C), tension of the tensioning bolts needs to happen in small increments working one bolt at a time adding a little pressure with each until the leading edge of the Fixed end of the Cassette aligns with the noted Tension Ruler measurement from disassembly (A). This tension adjustment needs to be as close to exact as possible. **If the tension was on the front edge of one line on the ruler you need to set all four points to the front edge of the same line.** If your tension is not set equally the belt will not be able to track properly and cause uneven belt wear.
5. Once tension is set, and all four Tension rules on each Cassette match, tighten down all 8 Tension Locking Bolts (B) with a 7/32" hex key until the split washer is fully compressed.
6. Repeat the process for the second Cassette.



# Cleaning the Cluster Bucker



This machine will perform at its best when cleaned after each use. The machine is built to wash-down rated specifications, but some precautions need to be adhered to.

This guide is broken out into two main sections, Daily Clean and Deep Clean.

- **Daily Clean** is directing the user to keep the belts and visible components clean and free of debris, but it is not a process that will meet most facility compliance standards.
- **Deep Clean** will direct the user to fully clean and visibly inspect all components of the machine. It is focused on meeting compliance throughout all facilities. A deep clean is required when material is building up within the cassette and pulleys.

It is up to the user and management team to determine what cleaning processes work within each facility to meet compliance standards.

## Daily Clean

This cleaning process will provide clean surfaces, belts and internals. This process will not meet GMP compliance for some facilities. The Cluster Bucker will also require a Deep Clean on a regular basis. It is up to the user and management team to determine a cleaning procedure that meets regulations pertinent to each facility.

### Tool List:

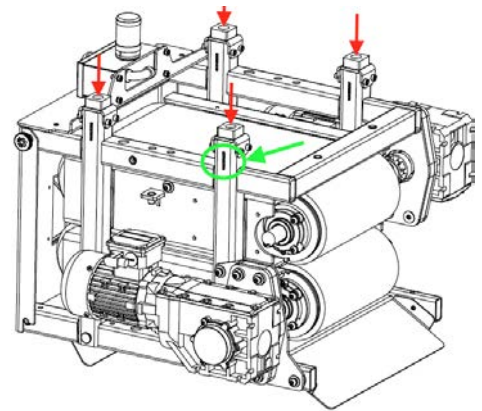
- 2.5mm Hex key
- 3/8" Hex key (Depending on model –3/4" wrench or socket may be needed instead of a hex key)
- Simple Green Crystal, or a citrus based cleaner in a spray bottle
- 70% Isopropyl alcohol in a spray bottle - **Do not use on Belts**
- Stiff Plastic Bristle Brush
- Lint Free Towels or Shop Towel
- Rubber Gloves

1. Make sure that the machine is turned off and unplugged.
2. Remove all shielding and faceplate (see section “Shielding” & “Faceplate” for instructions on removal)
  - **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.

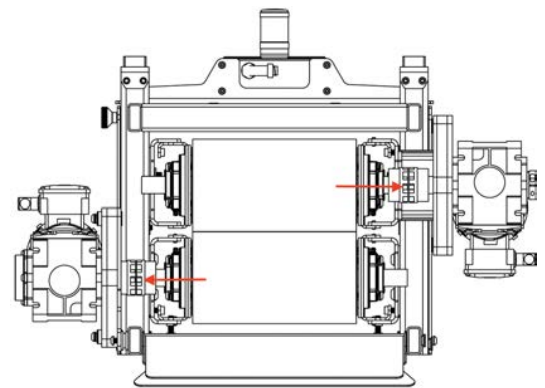
Shield Removal order of operations

- 5) Rear Shield
- 6) Top Shield
- 7) Left or Right-Side Shields
- 8) Faceplate

3. Locate the Suspension Rule located on each Suspension Tower and note the position of the suspension Force Plate. The position of the Force Plate will be used when Re-applying pressure at the end of the cleaning process. Also, locate the four suspension adjustment bolts at the top of each Suspension Tower. Back the suspension pressure off the Upper Cassette by rotating the Pressure Bolt clockwise using and 3/8” hex key or a 3/4” hex wrench until the force plate is at the top of the rule but still visible. Repeat this process on all four suspension towers.



4. At the back of the machine, Locate the two couplers (1 per cassette). Using a 2.5mm hex key loosen but do not remove the two locking bolts on each black Nylon Coupler Cover ring. The cassettes may need to be manually rotated to access both fasteners.
5. Once loose, slide both black Nylon Coupler Cover rings towards each motor leaving them resting on the outermost coupler cog out of the way.
6. The green Flex Element can then be removed by finding the split and then peeling the teeth out of the Coupler Cogs.



7. The Belts should now roll easily by hand.
8. Spray Simple Green Crystal or a citrus based cleaner on all belt surfaces, rolling the belts by hand to ensure full coverage. Allow the belt to sit with cleaner while you wipe down other parts of the machine.

**Blower or Compressed Air**

A blower or compressed air is a good solution to remove the majority of materials from the internals of the machine prior to wiping down all components.



9. Use 70% alcohol in a spray bottle, Simple Green Crystal, or a citrus based cleaner, to spray and wipe off all dirty metal components: **(Do not spray the Belt with the 70% alcohol)**
  - a. Upper Frame
  - b. Motor and Coupler components
  - c. Cassettes side plates and Bearings
  - d. Lower Frame
  - e. Shield Panels and Faceplate & Die Plate
10. Use a stiff bristle brush to scrub, then rotate belts on the cassettes by hand and repeat with additional Simple Green Crystal or a citrus based cleaner. It is best to clean Cassettes at either end, not spraying and scrubbing the top of the Cassette due to cleaning solution pooling internally in the Cassette.
11. Do the same for any debris that is left on the metal components listed above.
12. Once everything has been scrubbed down, apply 70% alcohol to a clean rag and make a final wipe down of all metal components. Also, wipe any remaining cleaning residue from Belts with a water-soaked lint-free towel or shop towel.
13. Properly dry the machine and apply a thin coat of Food Grade Grease to the exposed Drive Shafts to prevent corrosion.
14. After cleaning, reinstall the Green Elements on each of the two couplers, and apply food grade grease to these to extend life. Slide the black nylon Coupler Cover Ring back over the green elements aligning the notches and centering to ensure easy fastener placement. Then tighten and lightly torque the two fasteners on each Coupler Cover.
15. Re-apply pressure to the cassettes by rotating the four Suspension Adjustment Bolts counterclockwise to the previously noted position.
16. Re-install all Shielding ensuring that Thumb Screws are hand tight. (see section “Shielding” & “Faceplate” for instructions on removal)

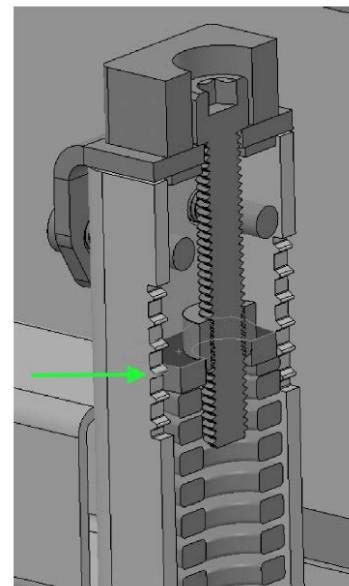
Shield Installation order of operations

- 1) Faceplate
- 2) Left or Right-Side Shields
- 3) Top Shield
- 4) Rear Shield

**Pressure Washers**

Use of a pressure washer is not recommended for daily cleaning of the machine. A periodic deep clean with a pressure washer will keep the machine running properly, while not creating additional wear on the components.

Recommended Pressure



# Deep Clean

This cleaning process will provide a full breakdown of Cassettes and access to all interior components for thorough cleaning and inspection. This process is intended to meet GMP compliance for most facilities. It is up to the user and management team to determine a cleaning procedure that meets regulations pertinent to each facility.

- **WARNING** – Unexpected energization or startup of the equipment is controlled by unplugging the equipment from the energy source; The plug is under the exclusive control of the employee performing the servicing or maintenance.

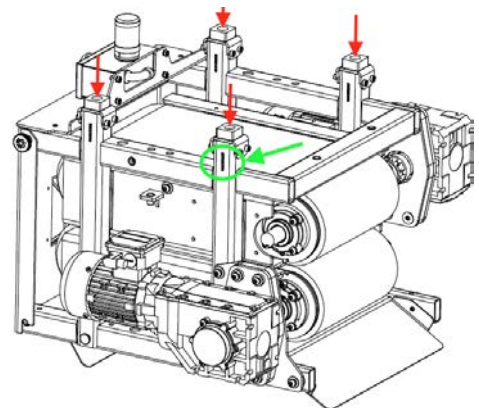
## Tool List:

- 2.5mm Hex key
- 7/32” Hex key
- 3/8” Hex key (Depending on model –3/4” wrench or socket may be needed instead of a hex key)
- Variable height workbench makes removal of Cassettes and cleaning easier.
- Simple Green Crystal, or a citrus based cleaner in a spray bottle
- 70% Isopropyl alcohol in a spray bottle - **Do not use on Belts**
- Stiff Plastic Bristle Brush
- Lint Free Towels or Shop Towel
- Rubber Gloves

1. Make sure that the machine is turned off and unplugged.
2. Remove all Shielding and Faceplate (see section “Shielding” & “Faceplate” for instructions on removal)
  - **CAUTION** – Shields are made of steel and need to be handled carefully due to their weight. Additional persons may be needed to handle these parts to prevent dropping the shield and possibly causing injury.

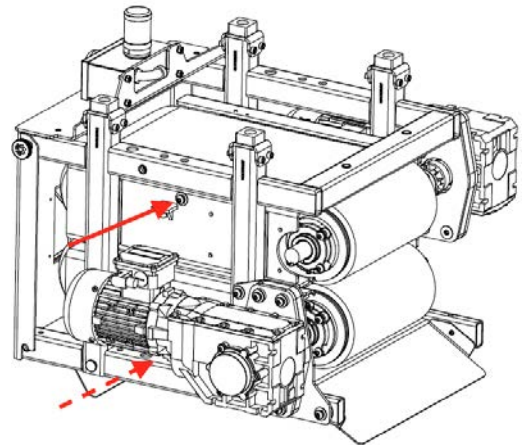
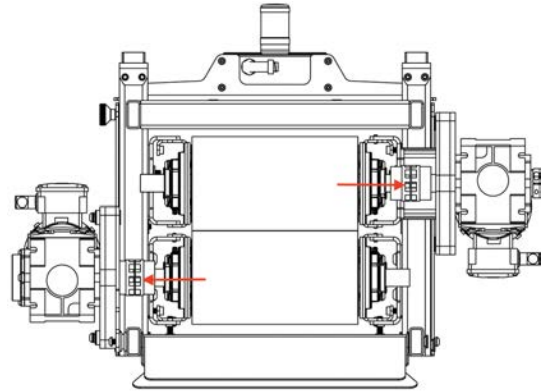
### Shield Removal order of operations

- 1) Rear Shield
  - 2) Top Shield
  - 3) Left or Right-Side Shields
  - 4) Faceplate
3. Locate the four Suspension Pressure Adjustment Bolts at the top of each Suspension Tower. The position of the Force Plate will be used when Re-applying pressure at the end of the cleaning process. Back the suspension pressure off the Upper Cassette by rotating the Suspension Pressure Adjustment Bolt clockwise using and 3/8” hex key or a 3/4”



box wrench or adjustable wrench until the Force Plate is at the top of the rule but still visible. Repeat this process on all four Suspension Towers.

4. At the back of the machine, Locate the two Couplers (1 per Cassette) using a 2.5mm hex key loosen but do not remove the two locking bolts on each black Nylon Coupler Cover ring. The Cassettes may need to be manually rotated to access both fasteners.
5. Once loose, slide both black Nylon Coupler Cover Rings towards each Motor leaving them resting on the outside Coupler Cog out of the way for Cassette removal.
6. The green Flex Element can then be removed by finding the split and then peeling the teeth out of the Coupler Cogs.
7. Remove all 4 Cassette Locking Bolts – 2 per side with a 7/32” hex key and set aside
8. Remove Upper and Lower Cassettes (See Cassettes – Cassette Removal)
9. Remove Belts from the Cassettes (See Removing belts from Cassettes)



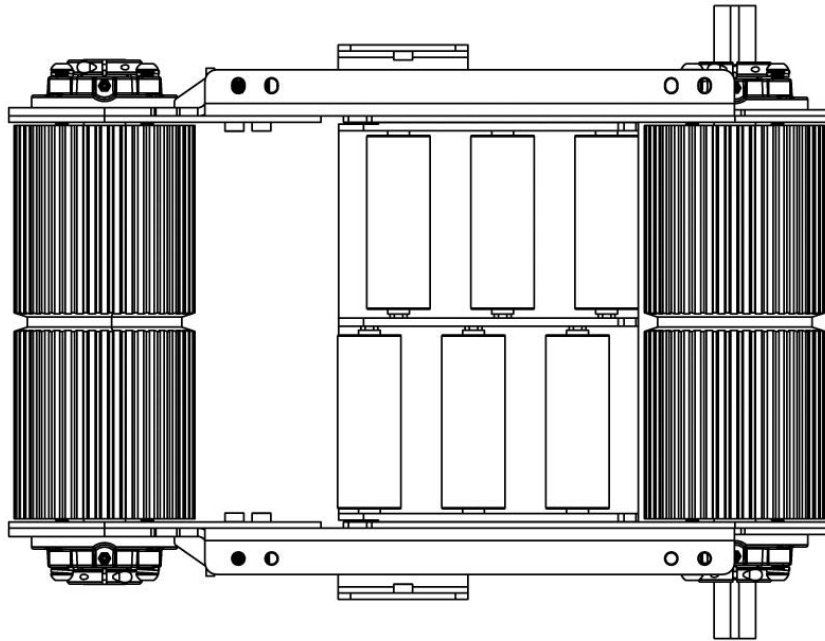
## Blower or Compressed Air

A blower or compressed air is a good solution to remove the majority of materials from the internals of the machine prior to wiping down all components.

## Deep Cleaning

After removing Cassettes from the machine and removing Belts from the Cassettes you can now access everything necessary for a deep clean.

All metal parts and the Cassette Pulleys can be cleaned with up to 70% Isopropyl Alcohol. **The Belt material must not be cleaned with alcohol. If Isopropyl Alcohol is used on your Belts the Warranty will be voided.**



1. Spray Simple Green Crystal or a citrus based cleaner on all Belt surfaces. Allow the belt to sit with cleaner while you wipe down other parts of the machine. Re-apply as product dries to let the citrus cleaner continue to break down material build-up.
2. Use 70% alcohol in a spray bottle, Simple Green Crystal, or a citrus based cleaner to spray and wipe off all dirty metal components: **(Do not spray the Belt with the 70% alcohol)**
  - a. Upper Frame
  - b. Motor and Coupler components
  - c. Cassettes side plates and Bearings
  - d. Lower Frame
  - e. Shield Panels and Faceplate & Die Plate
  - f. All Cassette parts including Bearings, Shafts, and Pulleys
3. Use a stiff bristle non-metal brush to scrub Belts and repeat coatings with additional Simple Green Crystal or a citrus based cleaner until clean. Make sure all material buildup between the teeth on the inside of the Belt has been removed and the teeth are free and clear of any debris.
4. Additionally, scrub off any debris left on the metal components listed above. Take additional time to clean and remove any material within the teeth of the pulleys.
5. Once everything has been scrubbed down, apply 70% Isopropyl alcohol to a clean rag and make a final wipe down of all metal components.
6. A final rinse with clean water of the Belt will remove any remaining residue
7. Properly dry the machine and apply a thin coat of Food Grade Grease to the exposed Drive Shafts to prevent corrosion.

## Pressure Washers

The entire machine may be washed using water from a hose. The Cassettes, Faceplate, Shielding, Die Plate, and Frame may be cleaned using a high-pressure washer. Do not direct a high-pressure stream at any electrical components, Control Buttons, Control Panel, Motors, Cables, Belts, or Bearings.

- **ATTENTION** – Improper use of a pressure washer may cause damage to your machine. Avoid spraying directly into any electrical components, Control Buttons, Motors, Cables or Bearings.

Use of a pressure washer is not recommended for daily cleaning of the machine. A periodic deep clean with a pressure washer will keep the machine running properly, while not creating additional wear on the components.

- **ATTENTION** - Properly dry and protect and lubricate all components of the machine after using a pressure washer for cleaning.

## Maintenance

General maintenance on the machine is minimal. The machine does have a few wear parts that the user needs to be aware of and maintain to keep the machine in good working order. When the Cluster Bucker is disassembled it is the best time to access the items that possibly need maintenance.

### Lubrication

The Flange Bearings on the Cassettes will occasionally require greasing. Grease zerks are installed on each bearing for use with a grease gun. Due to the machine running at low speeds and low temperatures the machine does not use grease as quickly as other equipment.

Bearing Lubrication Intervals

- High use situations (daily use, year-round) require the application of one grease pump per bearing every 3-4 months.
- Low to Moderate use situations (Seasonal use) requires the application of one grease pump per bearing 1 time per year.

Pump slowly; one grease pump will add enough grease for this application. One of the primary causes of bearing damage is over greasing.

- **ATTENTION** – Damage can occur to the bearing seals if they are over-greased.

**Recommended Food Safe Lubricant:**      Lubriplate FGL-2 - product number L0232

## Reinstallation of Components

1. Reinstall Belts on Cassettes (See Reinstalling Belts on Cassettes)
2. Layout of Cassettes for Re-Installation (See Layout of Cassettes for Re-installation)

## Cassette Pre-Installation Checklist

The following checklist is to help the installer ensure all parts of the Cassettes have been reassembled correctly. Please go through this checklist on each Cassette individually.

- Belt is centered in the Cassette and sitting in the Pulley Groove
  - All 4 Tension Rules are set up equally and the setting is exactly the same as was noted at disassembly
  - All 8 tension locking bolts are tight, and the lock washers are flat
  - Coupler Cog remained installed
3. Reinstall Lower Cassette (See Lower Cassette Installation)
  4. Reinstall Upper Cassette (See Upper Cassette Installation)
  5. Reinstall Couplers (See Coupler Removal and Installation)
  6. Re-apply Suspension Pressure (See Re-applying Suspension Pressure)
  7. Re-install Faceplate (See Faceplate Installation)
  8. Re-install all Shielding ensuring that Thumb Screws are hand tight.
    - Shield Installation order of operations
    - a. Left or Right-Side Shields
    - b. Top Shield
    - c. Rear Shield

## Cluster Reassembly Checklist

The following checklist is to help the installer ensure all parts of the Cluster have been reassembled correctly. Please go through this checklist only after the Faceplate and Shielding has been reinstalled.

- Upper Cassette Track Lifting Fastener and Washer have been removed fully and placed in the storage position on the Frame.
- The Lower Cassette is positioned above the Lower Cassette Track Flanges
- The Upper Cassette is positioned Below the Upper Cassette Track Flanges
- Each Cassette is inserted so the rear Cassette Flange is aligned with the rear Cassette track Flange
- Each Cassette is seated and flush against the Cassette Track on all 8 Locating Pins (16 total Locating Pins on 2 Cassettes)
- Cassette Locking Bolts have been re-installed and tightened to flatten the lock washer
- Coupler elements have both been re-installed
- Coupler Element Nylon Covers have both been reinstalled and the two fasteners on each are hand tight
- Suspension pressure has been re-applied to the desired setting

## Test the Machine

With the Faceplate installed and all checklists having been completed, a test run of the machine will ensure that everything is functioning properly. Be absolutely sure that all tools and persons are clear of the equipment.

- **WARNING** – Unexpected energization or startup of the equipment is controlled by unplugging the equipment from the energy source; The plug is under the exclusive control of the employee performing the servicing or maintenance.
1. Ensure Faceplate and Die Plate are installed
  2. Ensure all Previous Checklists have been completed
  3. Ensure all persons and tools & Equipment are away from the machine
  4. Turn on the machine
  5. Check both Couplers to be sure they are operating correctly
  6. Check Each belt to ensure it is tracking straight within each Cassette
  7. Test the Speed adjustment knob by rotating it while the machine is running from 0-10.
  8. Test Emergency Stop Button while machine is running. Then disengage the engaged Emergency Stop Button
  9. Turn off Machine

## Storage

This machine must be cleaned before storage and stored in a clean and dry environment. Issues arising from improper storage are not covered under warranty.

## Compliance

### Current Good Manufacturing Practices (cGMP) Compliance

MUNCH MACHINE Bucking equipment supports compliance to cGMP requirements through the use of food-grade materials for the portion of the machine that contacts the usable plant material. Detailed use and cleaning instructions are provided with the equipment to assist plant growers and harvesters in developing their internal cGMP procedures.

## Limited Warranty

We warrant for 5 years from purchase date and only to the original buyer (Buyer) that our products (Products) are free from defects in material and workmanship. If Buyer discovers a defect, the Product will be repaired or replaced at our discretion. That is the extent of our liability and obligations under this Warranty and, upon expiration of the applicable warranty period, all such liability and obligations shall terminate. We reserve the right to require proof of purchase for all warranty claims.

### WARRANTY EXCLUSIONS:

We do not warranty Products against normal wear and tear (such as rubber rollers, belts bearings, or tire wear, etc.), unauthorized modifications or alterations, improper use, improper maintenance, accident, misuse, negligence, damage, or if the Product is used for a purpose for which it was not designed. This Warranty gives you specific rights, and you may also have other rights which vary from state to state. Except for expressly stated in this Warranty, we shall not be liable for direct, indirect, consequential, incidental, lost profits, lost revenue or failure to realize expected savings, as well other damages arising out of, or resulting from the/your choice to use and the use of the Product. This Warranty is in lieu of all other warranties, express or implied, including, but not limited to, implied warranties of fitness for a particular purpose (some states do not allow the exclusion or limitation of incidental or consequential damages or allow limitations on the duration of an implied warranty, so the above exclusions may not apply to you).

## Customer Service

Phone:

541-371-2825

Email:

[Info@MunchMachine.com](mailto:Info@MunchMachine.com)

Mailing Address:

Frazer Industries, LLC  
DBA: MUNCH Machine  
PO Box 6764  
Ketchum, ID 83340



# Technical Specifications

## Machine Dimensions

Height	57.6"	146.3cm
Width	37"	94cm
Depth	45"	114.3cm
Weight	650 lbs	295kg

## Power Requirements

240V Model	Volts / Hz / Circuit / Amp Draw	240V / 60Hz / 30A / < 20Amps
Circuit Compatibility	Requires Dedicated 30Amp Circuit Incompatible with GFCI Circuit	
Max Breaker Size	30 Amp	
GFCI Compatible	No	
Generator Compatible	Yes (30 Amp, NEMA L14-30 R - required)	
Connector Plug	NEMA L14-30P	
Accessory Power	120V 10 Amp	
Accessory Plug	NEMA 5-15R	
Duty Cycle	Continuous	
UL Certified	Yes	
CSA Certified	Yes	

## Components

Motor	Dual 1HP Lenze	Dual 745.7 Watt Lenze
Control Box	NEMA 4/12 Dust and Water Resistant	
Power Cord and Plug	50'	15.24m
Hood	Food Grade Powder Coated Steel	
Frame	Food Grade Powder Coated Steel	
Face Plate	304 Stainless Steel, GMP Compliant	
Die Plate	304 Stainless Steel, GMP Compliant	
Belt	Food Grade Rubber	
Shaft	1.25" Steel	3.2mm Steel
Coupler	Rexnord Wrap Flex 5R	
Bearings	Seal Master FDA Grease	

## Casters:

Indoor / Outdoor	8" Swivel lock	20 cm Swivel Lock
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## Shipping Crate Dimensions

Height	65"	165cm
Width	40"	102cm
Depth	48"	122cm
Weight / Shipped Weight	350lbs / 1000lbs	159kg / 454kg
Construction	Made of Reinforced 3/8" Plywood	Made of Reinforced 9.5mm Plywood
Construction Type	Reusable	