

Model 350E Insulation Blowing Machine Owner's Manual



350E BM Owner's manual:

Thank you for your purchase decision and trust in our products and services.

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Safety/Caution

- Be Safe- Keep away from moving parts.
- Be Safe- Make sure all guards, and hopper extensions are in proper location before operating machine. Hands should never pass below top of main hopper.
- Be Safe- Do not move machine, remove motors, or other electrical components when unit is connected to power supply.
- Be Safe- Be sure auger motor, blower motor, and remote control hand pendant are in **off** position **before** connecting power supply to the machine.
- Be Safe- Be sure machine is properly grounded. Protect all electrical supply cords from sharp objects, moisture, and potentially hazardous materials. Keep power cords in good repair. Electrical service must be performed by qualified electrician.
- Be Safe- Disconnect power supply **before** inspecting or adjusting unit.
- Be Safe- Consult qualified technician to answer questions **before** attempting to operate, or injury may result.
- Be Safe- Wear an approved dust mask or respirator for operator safety, comfort and protection.
- Be Safe- Emergency Kill Switch- In case of emergencies, always use 'red' stop button located in center of main panel box. It will stop all feeding and agitation. Note: This action will **not interrupt power** to the panel box.

Make Sure!!!

- Hopper is empty of foreign objects before starting.
- Proper electrical power is supplied or damage to unit will result.
- Blower filter is kept clean and in place when blower is running.
- Blower is turned off immediately if hose is plugged, or blower will overheat.
- Blowers must be on when auger/airlock is running, or machine will bind.
- Auger/airlock motor is not running with hopper empty for more than a few minutes, or damage to seals will result.
- Sprockets, chains, are correctly **aligned** and **tensioned**.
- Pieces of bags are not left in machine as this can bind and stall machine.

Limited Warranty

Products and components are warranted to the original purchaser to be free of defects in material and workmanship and will operate as intended for a period of two (2) years from the date of purchase.

Important: All items must have a **Return Authorization Number** attached to item for in-house tracking purposes.

Buyer is responsible for all costs incurred in removal and reinstallation of the product and must **pre-pay** shipment to the factory. Returned item will be evaluated for warranty. If warranty is approved, the product will be replaced at no charge and returned standard ground shipping fees pre-paid. (Next day delivery and special expediting fees is responsibility of buyer.) **Note:** If **buyer** needs **immediate** replacement, **buyer** must purchase component and refund will be determined upon evaluation of returned part.

This limited warranty does **not** cover replacement of components or parts manufactured by others and become inoperative due to wear & usage and needs to be replaced on a regular basis. Including but not limited to: airlock seals, belts, chains, auger wipers, switches, fuses, fan blades, clutches, hoses, and filters.

Warranty is limited to repairing or replacing any part that is determined by the company to be a manufacturing defect.

No warranty is made with respect to:

1. Components or accessories manufactured and warranted by others. Warranties for purchased components supplied by vendors such as: gas engines, electric motors, blowers, gearboxes, etc., are on file and provided upon request.
2. Defects caused by repair, alteration and/or adjustment performed by others.
3. Labor costs of repairing or replacing parts.
4. Any products not operated and/or maintained in accordance with normal industry practice and/or written recommendations of the company.
5. Products subjected to misuse, negligence, or results of applications not in accordance with company recommendations.

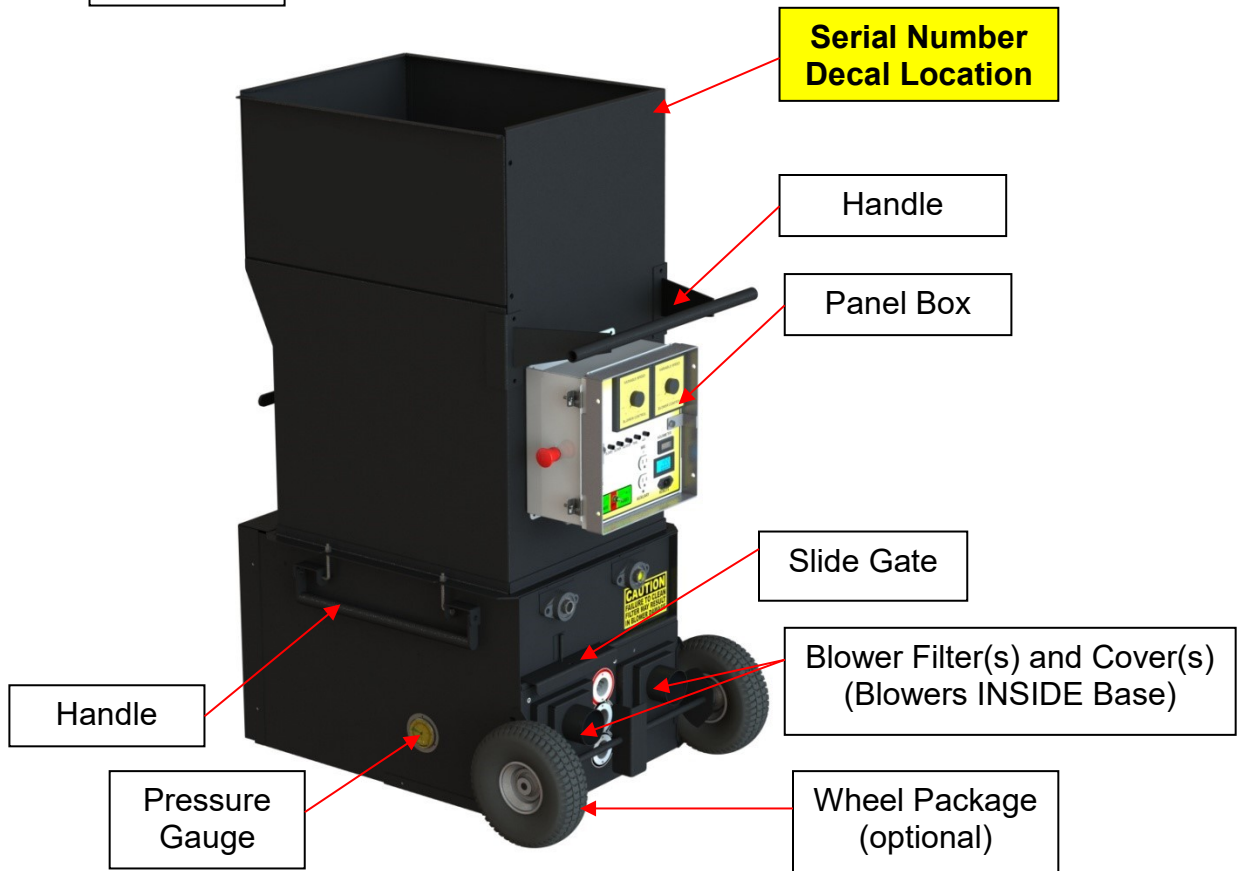
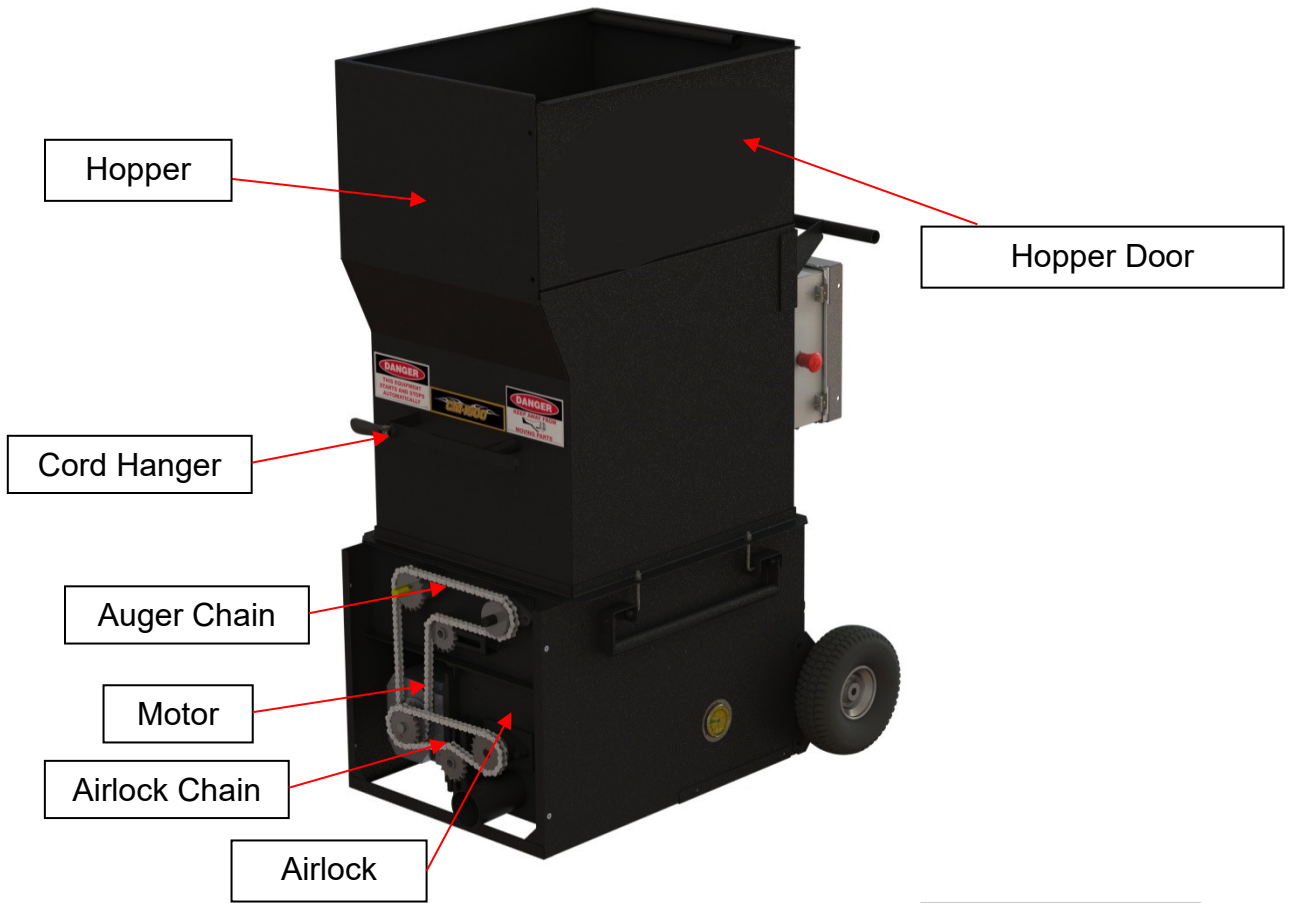
This warranty set forth above is exclusive and makes no other warranties with respect to description or quality of the product including, but without limitation, no warranties of merchantability or fitness for a particular purpose. This warranty set forth above does not extend to, nor shall be be responsible for: incidental, consequential, special or indirect damages. Manufacturer shall not be liable for penalties or any liquidated damages.

Manufacturer shall not be liable for any injury or damage resulting from failure to follow and comply with the instructions that accompany the product.

This warranty is expressly in lieu of all other written or oral warranties.

Note: warranty statement replaces previous one (1) year warranty, effective rev. 03-09-15.

Quick Component Reference



Philosophy:

Never build, sell, or provide a service that is not good for our customer. Placing every customer first by exceeding expectations with high performance machines, will assure an atmosphere for achieving our highest potential.

This manual represents information regarding the latest and greatest machine technology used in **all-fiber, all-application** machine technology. (Any duplication or use of this technology may be in violation.)

Manufacturer provides a solution offering the highest production and lowest power requirements. We provide compact designs with the highest quality materials; offering the highest durability, highest corrosion resistance, easiest maintenance, and simplest troubleshooting of any machine in its class.

Theory of Operation:

The Model 350E machine provides a proprietary 'scalping auger' technology, with extreme portability and low power requirements. As different fibers are loaded into the hopper, the proprietary 'scalping/shredder' augers located at bottom of hopper provide a live platform for breaking and conditioning fibers. This feature provides a positive feeding, non-bridging method of metering fibers; offering important advantages.

First: the 'scalping' action of augers provides a positive feed of fibers to shredder area while the helix configuration of the 4-blade shredder provides highly conditioned fibers for application. (A positive feeding system will meter the fiber accurately to airlock, no-matter what angle machine is positioned on the job site.)

Second: the low profile position of augers in relation to higher hopper sides, and moderate speed of auger assembly reduces possibility of operator injury, while greatly extending bearing and chain life.

Easily accessed slide-gate (located adjacent to blower filter), has an 'adjustment pin' for controlling & locking-in fiber feed rate. This feature allows for quick adjustment to desired settings. As fiber is metered thru slide-gate area, the 4-blade scalping shredder provides aggressive break-up and blending of fibers.

Fully expanded and conditioned fiber blend enters the high production airlock (10" dia. x 14" long airlock [25.4cm dia. x 35.56cm long airlock]) and is discharged into the high pressure air stream & hose provided by a single or optional double blower system.

Economical single blower (optional double blower), system with **variable** rpm blowers, provides adequate air for most applications up to 150ft (45.72m). A 5 kw generator (7.5kw, 2-blower model), or larger can provide adequate power for both the machine.

Efficient modular component design of maintenance access areas, drive system, blower module and control panel; offer a simple, fast method to repair your machine. Job-site down-time is minimized.

Electrical control panel is designed with simple, easy to access & by-pass components, which provide the operator with an instant method to troubleshoot machine's electrical system. Control functions are simple and easy to understand. Manual thermal overloads provide a component that is easily re-set, reliable, and most importantly - safe.

Inherent versatility of this machine's design provides the core element for your future upgrade to retro-sidewall and dense packing applications. This machine is one of the basic building blocks that allow you to transition your business without costly equipment decisions.

Un-Packing and set-up of machine:

Machine Specifications:

Weight:

Series 350E (Single Blower)

385lbs. (174.6kg) ^(N/A for CE)

Series 350E (Large&Small)

395lbs. (179.2kg) ^(N/A for CE)

Series 350 (Double Blower)

hose 395lbs. (179.2kg)

Dimensions (LxWxH):

38" x 24" x 57"

(97cm x 61cm x 145cm)

Hopper Capacity:

13.5 ft³ (0.38 m³)

Airlock:

10" x 10" diameter

(25.4cm x 25.4cm diameter)

10" x 14" diameter

(25.4cm x 35.56cm diameter)

3" (7.62cm) output for

Power Requirements:

Single Blower ^(N/A for CE): Double input, 15 amp 120 volt

(Export, Non-CE – Single input, 10 amp 230 volt)

Large & Small Blowers ^(N/A for CE): Double input, 15 amp 120 volt

Double Large Blowers : 15 amp and 20 amp 120 volt inputs

(CE – Double input, 10 amp 230 volt)

Blower Options/ Sizes:

Single 13amp blower ^(N/A for CE)

Large & Small - 13amp & 8amp ^(N/A for CE)

Double 13amp blowers (CE - 7amp)

Generator:

1-blower/ 5,000 watt

2-blower/ 7,500 watt

What should be enclosed with your standard machine?

Machine should have a 150 ft. (45.72m) remote cord included inside hopper that needs to be removed and placed on handle/cord hanger, located on control panel end of machine. All other parts and accessories will be packaged separately and placed inside hopper for shipping.

Available Options: Wheel Assemblies, Wireless remote, Blowers (1 or 2), Internal Wetting System, along with a complete line of hoses, fittings, couplers, hose reels, and accessories. See accessory literature for additional offerings.

Moving and lifting machine:

(Note: hopper/control panel assembly must be detached before attempting to manually lift), otherwise an auxiliary lifting device is needed to move this machine. The machine is designed with large flip-up handles for convenient lifting by two people after hopper has been removed. (one on each side of base unit). Caution: personnel with lifting restrictions should use mechanical lifting devices. The **wheel assembly** is recommended for frequent moving of machine without mechanical assistance.

Locating machine in vehicle:

Machine is designed to be located on the driver's side, rear of the vehicle. Hook-up of blowing hose and controls are easily reached from rear of vehicle while allowing for easy adjustment and control of machine. This provides quick access to machine service points.

Power Supply:

Depending on quantity and size of blowers, the machine will require two (2) inputs. 15 amp. and 15/20 amp.120 volt or (2 -10 amp. inputs, 240 volt, overseas) single phase power supply. If generator is used, a 5kw (or larger depending on quantity and size of blowers), is recommended for ample power supply. Note: providing good source of power with oversize generators & extension cords, (not exceeding 100 ft./35 meters), will assure longevity of motors and electrical components.

Machine is shipped with short input cord(s), and connected to a male input plug(s). (except overseas units). Consult a qualified electrician for proper recommendations on power cable size.

Machine Set-up:

After securing the machine in vehicle and hook-up of power supply has been completed, the machine is ready for hook-up to blowing hose and remote control cord. Make sure all hose connections are securely fastened. (Consult factory for alternative floor plan layouts of machine and equipment in vehicle).

Operation and Controls:

Control panel:

Control panel enclosure contains the electrical components to select (on/off) operation of motors, control speed variations of blower(s), and protect the circuitry of main drive motor, blowers and auxiliary devices. (If machine does not function properly, disconnect power and check manual thermal overload breakers on front of the main panel box.)

To start machine, make sure power supply (grid/shore power or generator) is appropriate (120 or 230/240 volts overseas), and power is turned 'on'. Check for correct voltage on panel meter (selected models), and all switches 'off' position.

Note: Removable L.E.D. signal plug-ins connect power to motors located in base unit. Visually inspect the L.E.D. lights for troubleshooting panel. If control panel fails, operator can plug power cords directly to the motor plug-ins to by-pass control panel. For convenient factory service, the control panel (mounted to hopper with 4 bolt fasteners), can be easily removed and returned to factory.

Domestic Control Panel:

'3-position' Toggle Selector Switch.

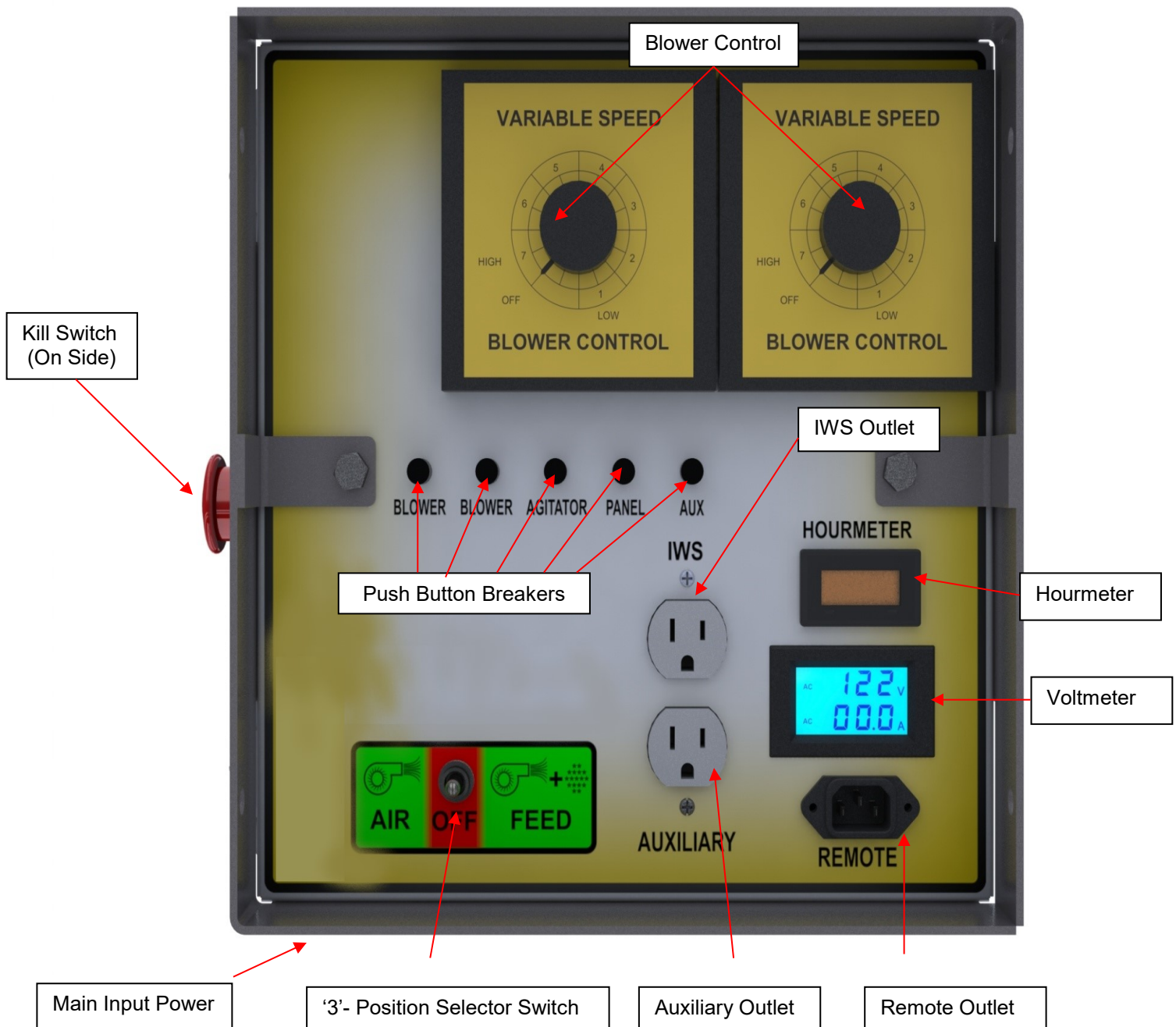
The 'toggle' selector switch allows operator to control machine from the remote cord, (wireless remote), or manually at the machine.

- **Remote Control:** Turn switch to center 'OFF' position for remote cord control. Insert plug end of remote cord into the remote receptacle located to the right of toggle switch.
- **Manual Control at Machine:** Turn switch left to 'air' if operator selects blower only. (Used to un-plug clogged fiber hose or check airlock pressure). Turn switch to 'Feed', if operator selects **both** blower and fiber feeding mode. (Use this mode if operator has problem with remote device and desires on/off control at the machine.)

Kill Switch E-Stop Button: Located on the left side of main panel box. Safety feature; allows for quick shut-off of machine in case of emergency.

Auxiliary Outlets: Located on lower right side of main panel box. The 120 (230 /240 volt overseas) 'auxiliary' outlet (lower receptacle) has a capacity of 10 /5 amps. The upper outlet labeled 'IWS' provides 120 (230/240 volt overseas), 2 amp. power to turn the internal wetting system on/off with airlock fiber feeding of machine. (Note: if amperage load in excess of two amps is used on 'IWS' outlet, the "panel" thermal breaker will trip on front of the panel box.)

Domestic (Export Non-CE) Control Panel

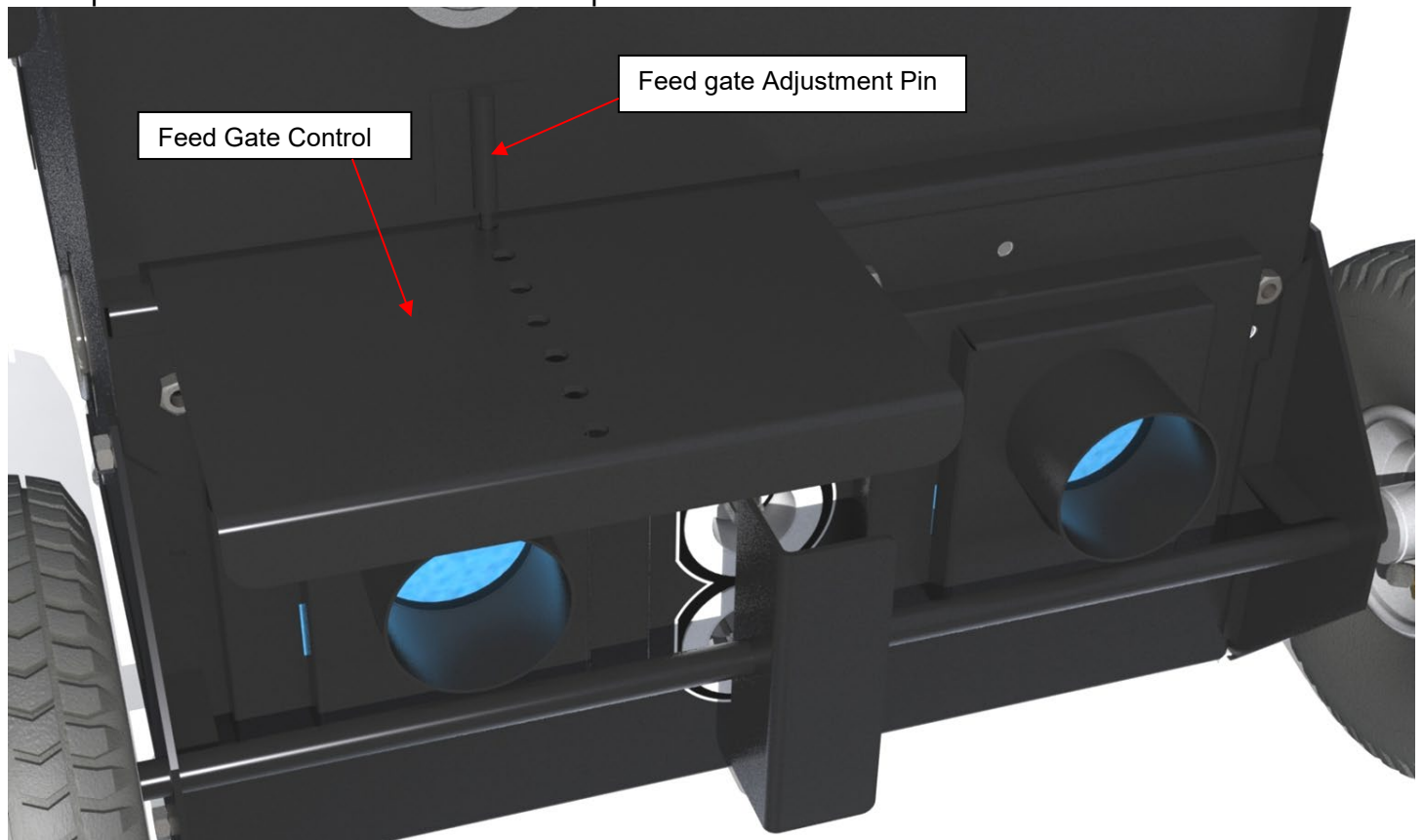


Functions of the various switches and outlets are indicated below.

- **Blower Control:** Increase or decrease air supply to the blowing hose.
- **Kill Switch:** Emergency stopping of the Auger and Blower motors.
- **Voltmeter:** Visual inspection of the proper voltage.
- **3-Position Selector 'Toggle' Switch:** select manual mode (air only, off/remote, air & material feed).
- **Remote Outlet:** Location to plug in remote cord or wireless receiver plug.
- **Auxiliary Outlet:** Location to plug in 110 volt accessories (10 amp. max.).
- **IWS outlet:** Location to plug in the internal wetting system. On/Off with feed. (2 amp. max.).
- **Main Input:** main power feed from separate power sources. (Single, double inputs available).

Feed Gate control:

The control of fiber feed rate is adjusted with the slide gate located (under main control panel), below the hopper area. The slide gate controls the opening to the airlock and can be adjusted with reference to the 'pin' and 'hole' locations on the slide plate. See illustration below:



Feed Gate Settings (Approx.)

Open Blowing: high production = gate full open. (Note: if you have air setting on 'high' and the velocity of fiber begins to slow at the end of the hose, 'stop' immediately before hose clogs and close the gate until the correct rate of fiber feed is matched to the available air volume.)

Retrofit / drill and fill: (depending on size of hose) = 1" to 4" open. (2.54cm to 10.16cm)

Blower/air control:

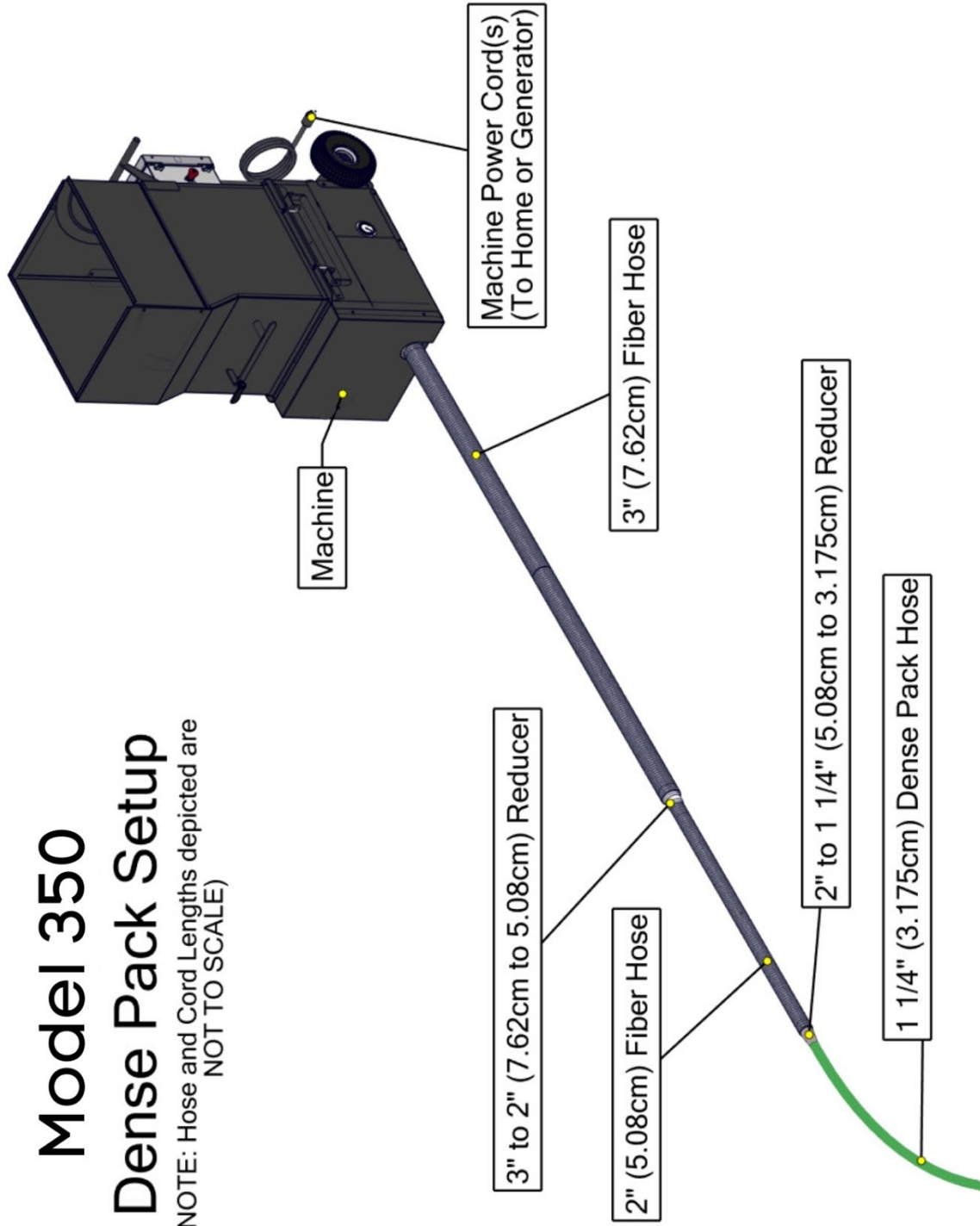
The variable speed blower / air controls are located on the front of the main panel box. **One and two blower models:** have rheostat controls that regulate the volume of air for two blowers in the blowing hose. When turning the knobs to the left (counterclockwise), the air increases. Note: if knob is turned past the 'high' setting, the blower will click to the 'off' mode.

Blower Adjustment with feed gate control:

Adjustment of the blower air is proportional to the feed gate setting. The higher the desired feed rate, the higher the blower air setting. Insufficient air will result in hose plugging. As a general rule; 50% feed gate setting will result in a 50% blower setting. However; different fibers, with moisture and humidity conditions, may require more or less air. Once the desired feed gate setting is established, the operator should adjust the air slightly more than desired to prevent hose plugging. Increased blower air will increase blowing distance from the end of hose, dust, and coverage.

Model 350 Dense Pack Setup

(NOTE: Hose and Cord Lengths depicted are
NOT TO SCALE)



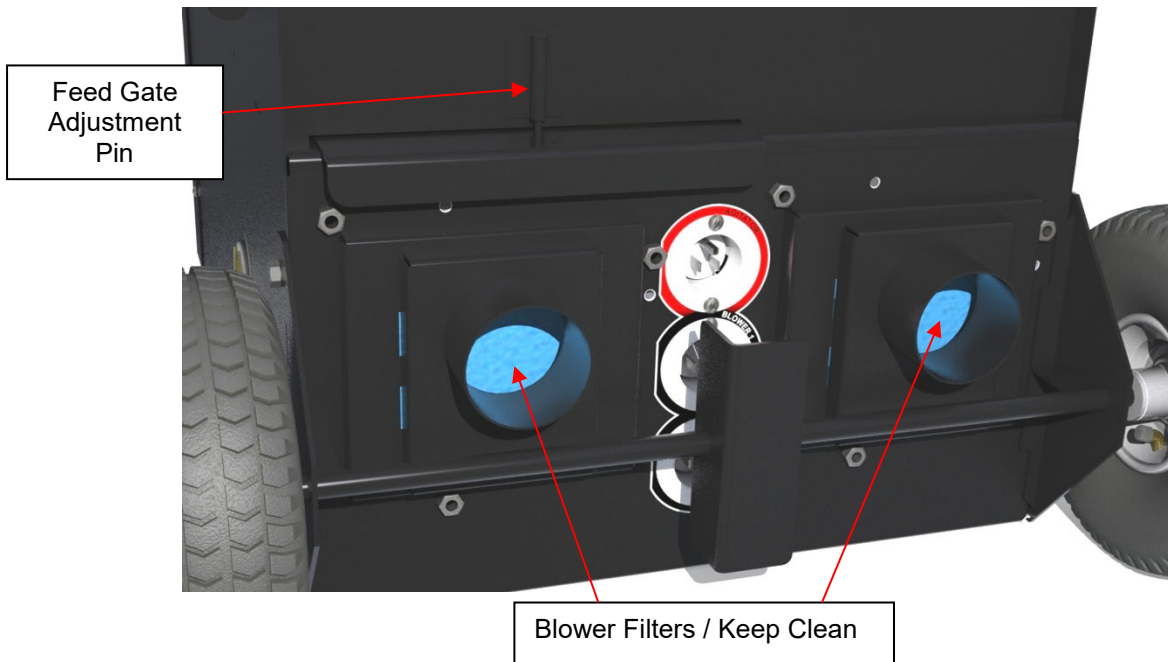
Maintenance:

Daily:

Empty fiber from machine daily.

Clean blower filter(s). Brush off exterior when not running.

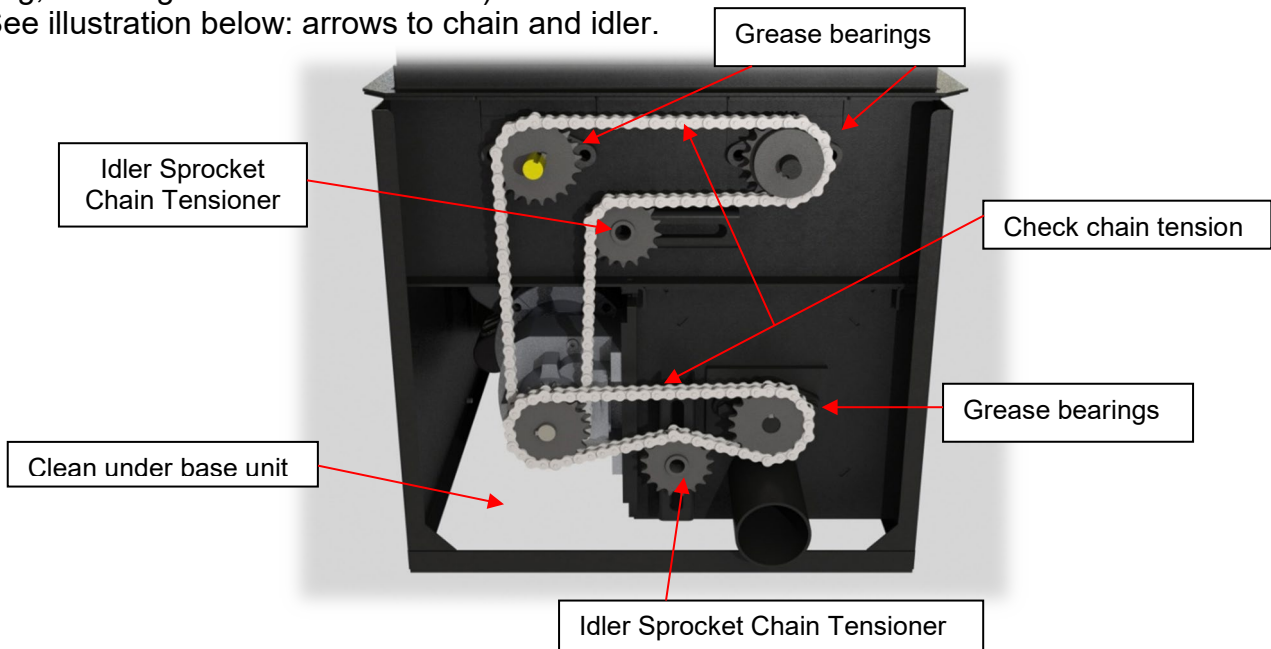
(NOTE: Blower filter covers w/3" (7.62cm) output tubes are available from factory)



Weekly:

Clean blower filter (remove and blow out with compressed air) and vacuum fiber and debris from under machine area. (Excessive fiber build-up around motors will cause heat and prevent normal cooling, resulting in reduced motor life.)

See illustration below: arrows to chain and idler.



Monthly:

Check airlock seals and plates for damage. (See troubleshooting: checking airlock seals)

Visually inspect and/or re-tighten all chains and sprockets.

Quarterly: (3 months)

Grease all bearings (6 total) with NLGI #2 Grease. (do not overfill, or grease seals will leak).

Pressure Gauge: How to Use it

This machine includes a recessed pressure gauge located in the lower base unit directly below the fold-out loading door.

The pressure gauge has two functions:

1. Calibrate air pressure for effective dense packing (cellulose) and reducing the chance of pushing drywall from the studs.
2. Troubleshooting machine production & coverage problems and assessing wear of airlock seals for replacement.

The performance of your machine is related to the quality of airlock seals and its ability to achieve higher pressures. The airlock seals trap compressed air inside airlock chamber (from blowers), and provide required air pressure & volume for optimizing you're machines performance. When the **back-pressure** drops below 3.2 p.s.i. (0.22 bar) problems will occur.

When air is leaking past the seals, this 'blow-back' into the hopper will cause the following problems:

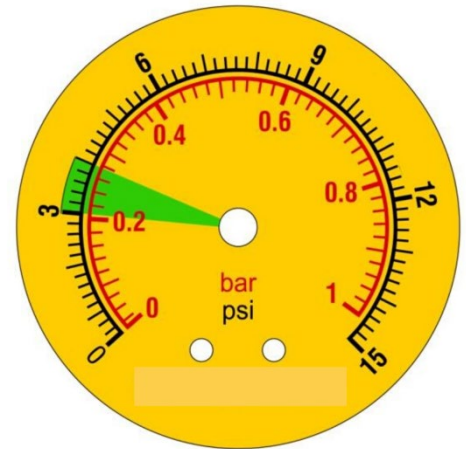
- **Poor quality dense packed walls** allowing settling in wall cavities over a prolonged period.
- **Low production rates** for open blow, caused by 'blow-back' bridging effect inside hopper.
- **Poor material coverage** (yield) due to loss of conditioning from low air volume & pressure.
- **Hose plugging** due to lower pushing effect of low pressure.

How to use:

Pressure gauge has a graduated scale (0-15 p.s.i. [0-1.03 bar]) with a 'green' colored section (3.2 p.s.i. [0.22 bar]) recommended as minimum requirement for optimal performance.

This is the pressure recommended for effective dense packing and acceptable machine performance for open blowing distances over 150 ft.

- **Dense pack adjustment:**
 1. Turn blower on (**no** feed).
 2. Back pressure system by blocking end of hose with hand and read pressure gauge.
 3. Have assistant turn blower speed up/down until the gauge registers in green' section of gauge (3.2 p.s.i. [0.22 bar]). (Note: the blower control will need to be adjusted higher as airlock seals wear and lose efficiency).
- **Checking airlock seals:**
 1. Turn blower on (**no** feed).
 2. Back pressure system by blocking end of hose with hand and read pressure gauge.
 3. Turn blower speed on high. If minimum of (3.2 p.s.i. [0.22 bar]) cannot be achieved when blowers are adjusted on high, the airlock seals may be damaged or worn and will need to be replaced. See page 14 of owner's manual. (Note: longer blowing distances and higher elevations will require higher pressure when evaluating airlock seal quality. Properly installed 'new' seals, after short wear-in period, should achieve pressures over 3.5 p.s.i. (0.24 bar))



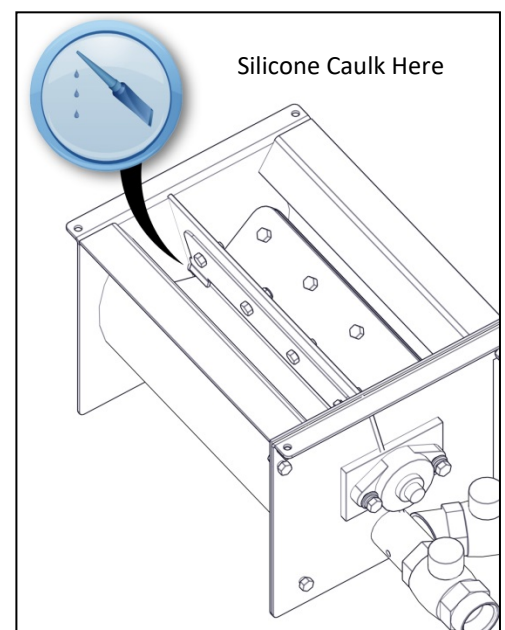
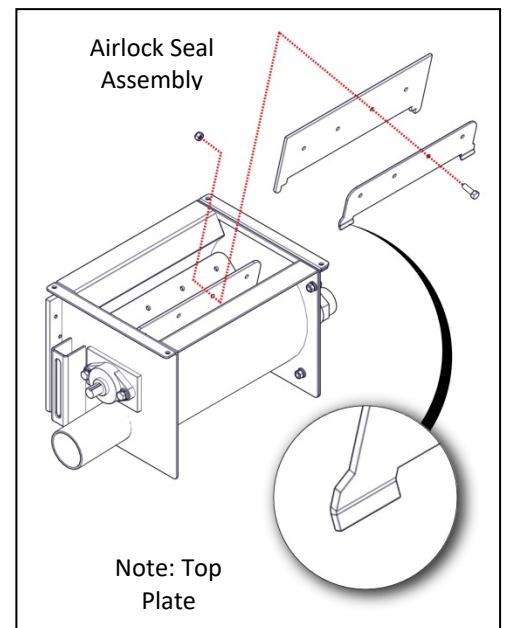
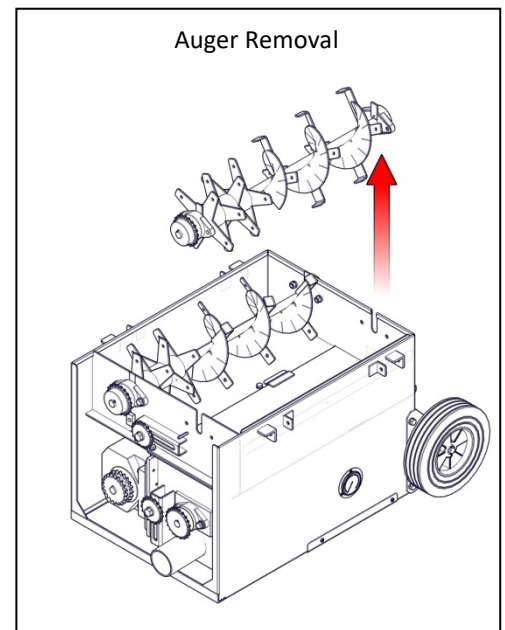
Airlock Seal Replacement

Instructions

IMPORTANT: Disconnect power and follow proper lock out/tag out procedures before proceeding.

1. Remove front chain guard access panel.
2. Removed hopper from base unit.
3. Loosen chain idler sprocket located on airlock end-plate, and remove chain. (If chain does not slip off, locate and remove chain connector link.)
4. Un-bolt the bearings for the auger located directly above the airlock.
5. Remove the auger by lifting straight up from the base. The bearings, bearing plates, and sprocket will lift out with the auger. See top illustration. (This will give you access to the airlock opening so the seals can be replaced without removing the airlock from the base.)
6. Reaching down into the airlock opening, un-bolt the upper plate from the base plate and remove the old seal. Remove 'old' silicone caulk with putty knife or flat head screwdriver. Rotate the shaft and repeat this step for the remaining 5 old seals. (Best Practice: Leave last remaining seal inside chamber as example of correct seal placement for new seals)
7. Replace with the new seals, and re-attach the upper plates and fasteners. (Apply silicone caulk into the shaft/endplate corner of each seal as the seals are installed. See bottom illustration.) See middle illustration for reassembly.
8. Tighten the bolts and lock nuts until the rubber seal begins to distort/deform slightly. Do NOT over tighten fasteners.
9. When installing the last paddle assembly, push the rubber seal 'tabs' behind the adjacent seal with a long flat head screwdriver.

NOTE: After all seals are installed, turn the rotor and check each seal to be sure rubber is flat against all surfaces of the chamber, to ensure no gaps (or puckers) are present for pressurized air to leak into hopper (as shown below).



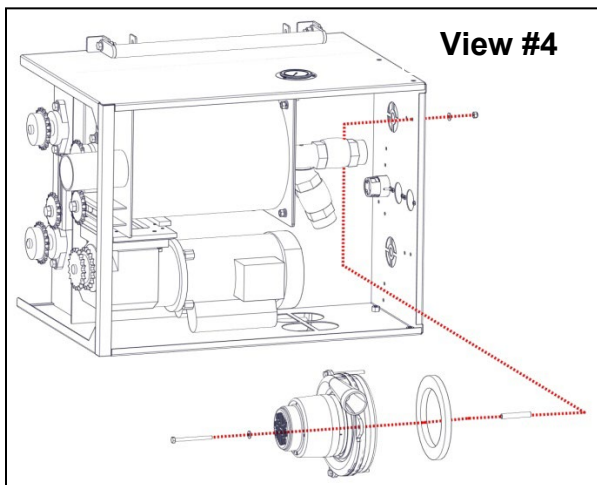
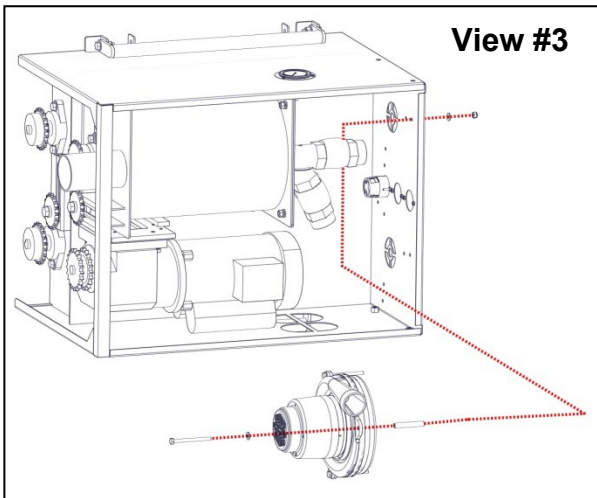
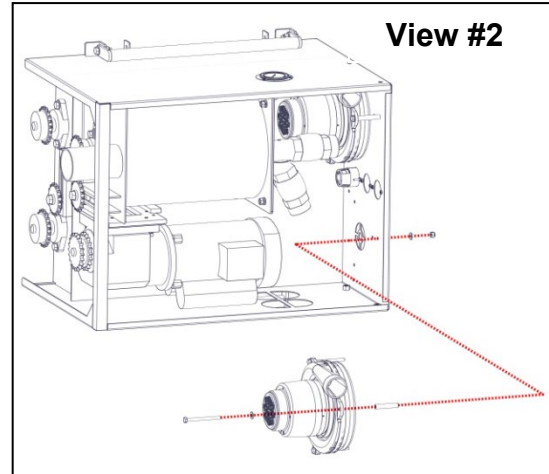
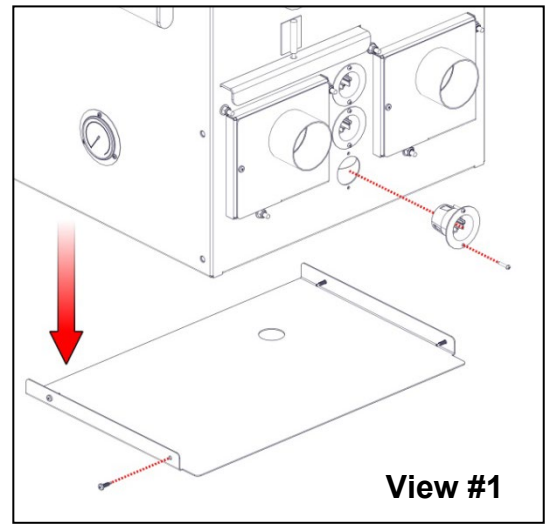
Blower Replacement Instructions

IMPORTANT:

Disconnect power and follow proper lock out/tag out procedures before proceeding.

Removing old blower:

1. Remove four (4) screws from cover plate under base of machine. (Note: Position base unit on side with airlock output tube to the left for the following steps)
2. Remove corresponding recessed electrical receptacle attached to blowers. (Remove two (2) #6 screws from the plastic flange of the electrical receptacle and pull forward. Loosen screw terminals and remove blower wires from receptacle.) See View 1 for Steps 1 and 2.
3. Remove hose clamp and hose from blower discharge tube of chamber.
(Note: If Blower #1 needs replaced, Blower #2 must be removed first.)
4. Remove Blower #2 (see View 2) first by removing three (3) lock-nuts and bolts with socket and box-end wrench. (Note: be careful to catch the spacer bushings as bolts are removed).
5. Follow Step 4 for removing Blower #1 (see View 3). After bolts are removed, slide blower behind the back of Airlock valves and remove from opening from which Blower #2 was removed.



Installing new blower:

1. Glue rubber gasket ring on blower chamber and place in proper location inside base unit. (Important: be sure the rubber gasket ring is 'centered' equally from edge of blower chamber.) See View 4.
2. Insert the bolts with spacer bushings placed between the blower mounting bracket and the interior base side of machine.
3. Tension the lock-nuts on bolts so the blower compresses against the rubber gasket and stops against the spacer bushings. (Important: be sure the rubber gasket ring remains centered on blower chamber. If this rubber washer is compressed off-center, the blower chamber will press against the moving fan blades and cause damage to blower.)
4. Re-attach the blower hose with hose clamp.
5. Pull wires thru the opening hole in base unit and re-attach the blower wires to the proper terminals on the electrical receptacle.
6. Insert two (2) #6 screws to fasten the plastic flange of the recessed receptacle to base unit.

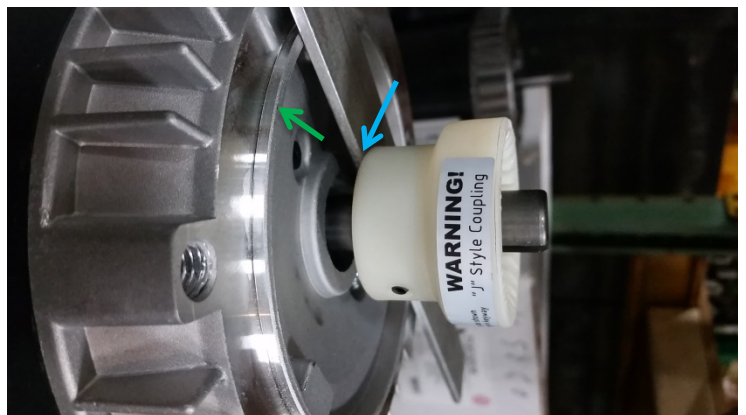
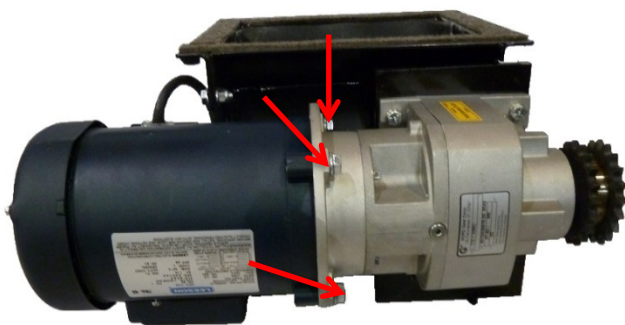
(Note: Some cases will not allow for wires to be pulled through. This requires installing the recessed receptacle, attaching the wires inside the base unit, and re-attaching the hardware in the plastic flange.)

Model 350E Motor Replacement Instructions

IMPORTANT:

Disconnect power and follow proper lock out/tag out procedures before proceeding.

1. Unplug Agitator Motor Cord. (See Top-Right Picture)
2. Remove front chain guard.
3. Loosen 2 chain idler sprockets and remove chains.
4. Remove 4 bolts holding motor/reducer assembly on to airlock.
5. Slide the motor/reducer assembly out to gain access to the motor hardware.
6. Using 9/16" socket and universal joint with ratchet remove 4 bolts holding motor onto gearbox. (See Bottom-Left Picture)
7. After removing motor from gearbox, note the distance the collar is spaced from end of motor shaft. Place 1/8" piece of material over motor face (See Green Arrow in Bottom-Right Picture) and install coupler so coupler rests on said material. (See Blue Arrow in Bottom-Right Picture)
8. Loosen 2 set screws with 3/32" allen wrench and remove collar from bad motor. Install onto new motor with same space on shaft.
9. Slide motor into gearbox rotating a little to align collar with gearbox.
10. Reattach 4 bolts to hold motor onto gearbox.
11. Plug Agitator Motor Cord into panel box cord and test machine.
12. Check motor rotation. Chains should be turning Counter Clockwise. If not, reverse Black and Red wires on motor.
13. After the correct motor rotation is achieved, replace removed parts in reverse order of removal.
14. Test machine again to ensure correct reassembly.



Mechanical Troubleshooting

Problem

Corrective Action

- 1) Loud knocking sound
 - A. Check scalping augers or airlock for objects and remove.
 - B. Check chains for proper alignment and tension.
 - C. Check for bent or misaligned auger/shredder fingers.
- 2) Poor output or uneven flow
 - A. Gradually increase blower air and/or reduce fiber feed until condition improves.
 - B. Check hose for blockage. Clean out by turning blowers on high with feed turned off (air only). Hold hand over output of hose, forcing pressure to increase and expand hose. Repeat this procedure several times until blockage is removed.
 - C. Check all hose connections. Tighten hose clamps to eliminate air leakage.
 - D. Check for damaged airlock seals or bent plates inside the airlock. Remove hopper and inspect airlock. (See previous section for replacement of airlock seals.)
- 3) Excessive dust /open blow
 - A. Reduce air into system by decreasing blower control setting and / or opening slide-gate.
 - B. Increase hose dia. at end of blowing hose.
 - C. Use an internal wetting system (IWS).
- 4) Cold temperature start-up
 - A. Turn blowers on high, while holding hand over output hose for several minutes. This will allow the airlock chamber and seals to heat up, reducing the possibility of tripping the motor overload.

Electrical Troubleshooting

Important!! Use proper 'lock-out tag-out' procedures at the main power supply before inspecting or adjusting unit. Consult qualified electrician to answer questions before attempting to inspect, repair, and operating; or injury may result.

Before operating machine check 'voltmeter' for proper voltage and pull 'red' kill switch button out.

Cold temperature operation. Turn blowers on high, hold hand over output to partially block output and create heat. After 5 minutes, airlock seals should be softening to allow start-up w/o tripping reset.

- 1) Voltmeter indicating no or low voltage
 - A. Check power source for proper voltage.
 - B. Check input cord(s) for proper connection to power source.
 - C. Open Main Control Panel and check voltage with multi-tester at the voltmeter terminals. Replace if necessary.
- 2) Machine does not function with Remote Hand Pendant.
 - A. Turn machine on manually at machine with 'toggle switch' selector. If machine does not run, the remote cord may be OK. Check power source.
 - B. Remote control cord is properly plugged in.
 - C. Check remote cord plug and hand pendant for damage or loose connections.
 - D. Check transformer breaker with continuity tester.
- 3) Blower motor **not** running, but auger motor is running.
 - A. Check operation with both the remote cord and manually with 'toggle' switch on the main Panel Box.
 - B. Check blower speed control for 'ON' position.
 - C. Check blower breakers inside panel box.
 - D. Check for defective, broken, or loose wiring connections inside panel box, blower box, and at the external plug connection.
 - E. Unplug external plugs centered on lower base of machine below the panel box and slide gate. Plug directly into extension cord with 120 volt power. This will verify the blowers are OK.
 - F. If blower control(s) are faulty, by-pass the blower control by removing the wires at connection on back of panel box and joining the two wires. This will offer on/off control of the blower; but blower will run full speed only.
 - G. Visually inspect and/or replace blower relay inside Main Control Panel.

- 4) Blower motor running hot.
- A. Clean or replace filter(s) located on lower base unit, below slide gate. Check intake of blowers for debris/insulation. Blow out blower motor and surrounding area with compressed air.
 - B. Check blowing hose for blockage. A restriction in the output hose will cause the blowers to run hotter than normal.
 - C. Check blower(s) for proper operation. (i.e. bearings, armature, excessive arcing by worn brushes.
 - D. Blowers have a limited life due to brush commutator wear. Blower may need replaced.
- 5) Excessive arcing of brushes on blower motor. ('hissing' or 'scratchy' noise)
- A. Blow out brush assembly area with compressed air to remove accumulation of dirt and debris.
 - B. Re-seat brushes (motor repair shop). If damage to commutator is severe, replace blower.
- 6) Auger/Airlock motor does not run; **but** Blower is running.
- A. Check reset breaker inside main panel box. Manual Reset on auger/airlock motor is tripped. Disconnect power to machine. Wait until motor cools (approx. 15 minutes), Turn base unit on side and access from under machine and press reset button on motor.
 - B. Check procedure for cold temperature starting above.
 - C. Check for defective, broken, or loose wiring connections inside main control panel.
 - D. Visually inspect and replace motor relay/starter inside main panel box if needed.
- 7) Auger/Airlock motor running improperly or hot.
- A. Disconnect power. Check augers/shredders, and airlock for debris.
 - B. Low voltage. Check voltmeter on main panel box when machine is running. Try another electrical source. Use proper size input cords.
 - C. Check bearings, chain and sprockets for problems or drive system misalignment.
 - D. Remove chains from motor reducer assembly. Run motor/reducer under power and check Amperage.
 - E. Check voltage, hertz, phase (1 phase), and direction of rotation.
 - F. Replace auger/airlock motor or gear motor...
- 8) Airlock Feeder not turning.
- A. Check sprockets for missing key. Replace with 3/16" (0.47625cm) key.
 - B. Chain broken or slipped off sprocket. Repair or replace.

Recommended Spare Parts to Stock

- Airlock seals: set of 6
- Blower filter
- Blower motor
- Relay (24 VAC)
- #40 chain 'master' link

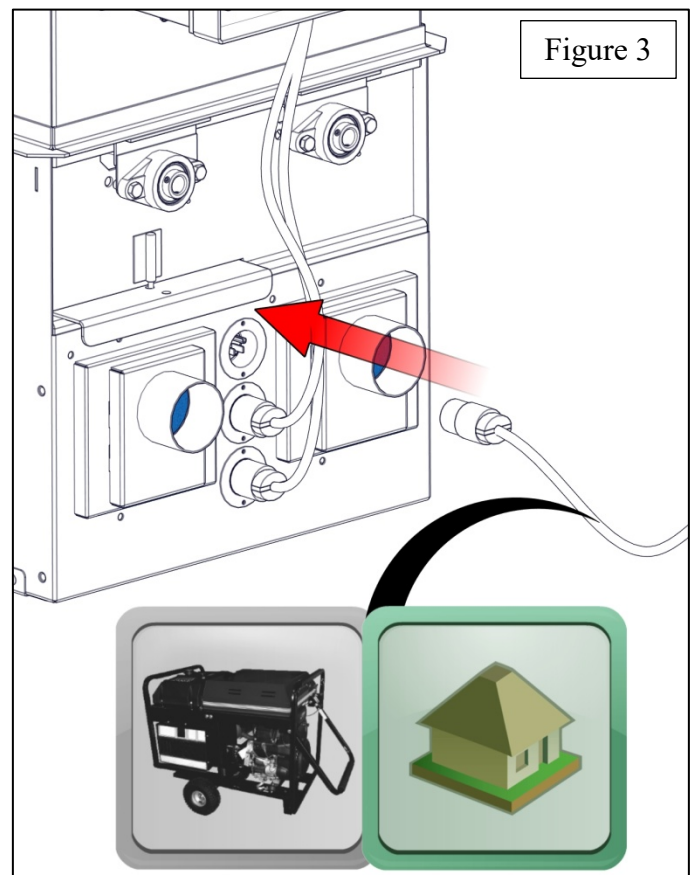
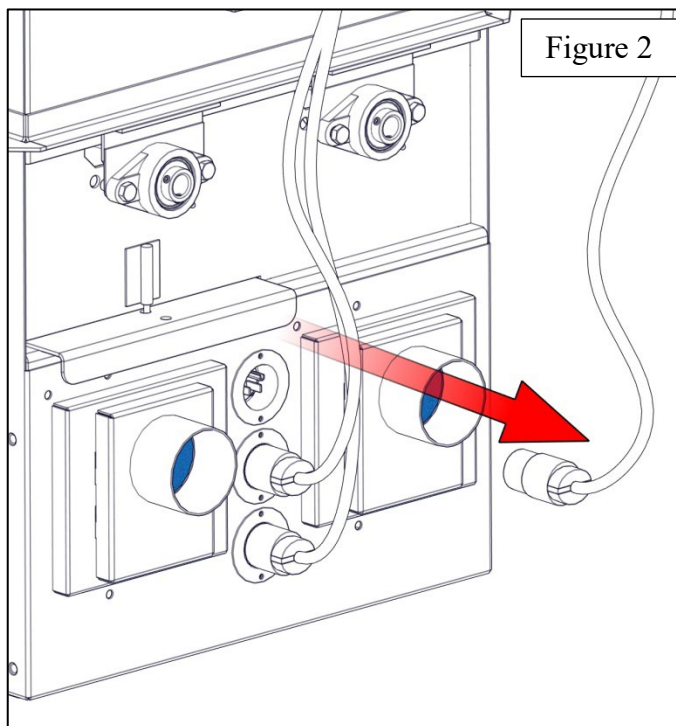
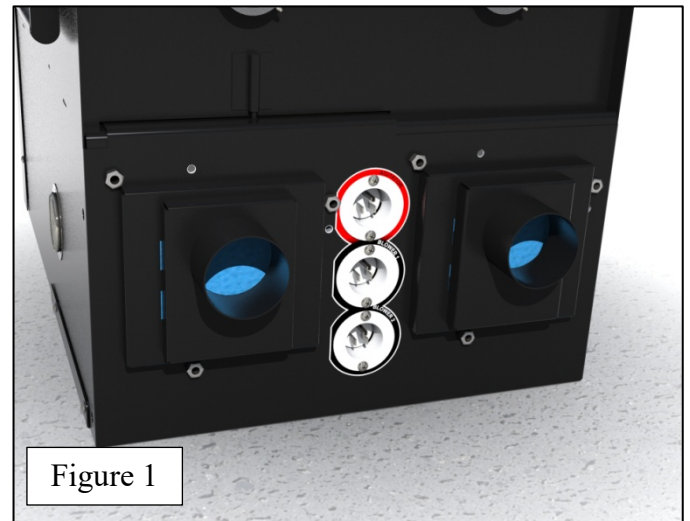
Notes:

Initial Blower/Agitator Troubleshooting Procedure

WARNING – ELECTRICAL HAZARD:

The power MUST remain ON to the Machine Panel Box during the following steps.

1. Ensure the Power is ON at the Machine Panel Box.
2. Below the Panel Box, follow the Power Cords connecting the Panel Box to the Machine Base Unit.
3. Determine which Outlet on the Machine Base coordinates with the suspected Blower/Agitator you are attempting to Run. (See Figure 1)
 - a. Top-Down: Agitator-Blower 1-Blower 2
4. Once located, Unplug the Power Cord from the Machine Base Unit. (See Figure 2)
5. Next, use a 120V Power Supply from either a Generator or Job Site and plug into the Outlet for the suspected Blower/Agitator. (See Figure 3)
 - a. If the Blower/Agitator immediately starts: That Blower/Agitator is fine. And the Issue is most likely present in the Panel Box.
 - b. If the Blower/Agitator does not start: The Panel Box is fine, and a replacement Blower/Agitator is most likely needed.

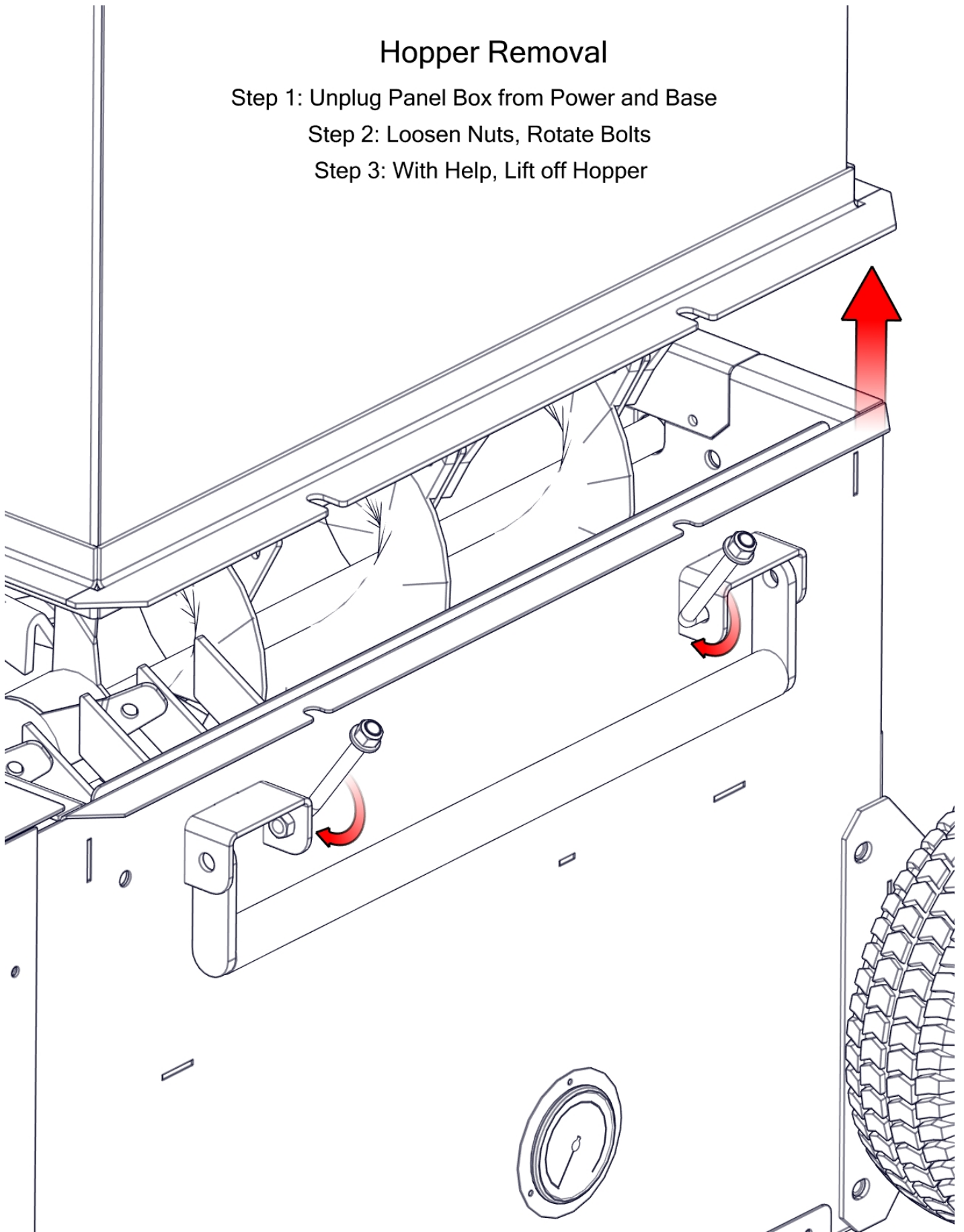


Hopper Removal

Step 1: Unplug Panel Box from Power and Base

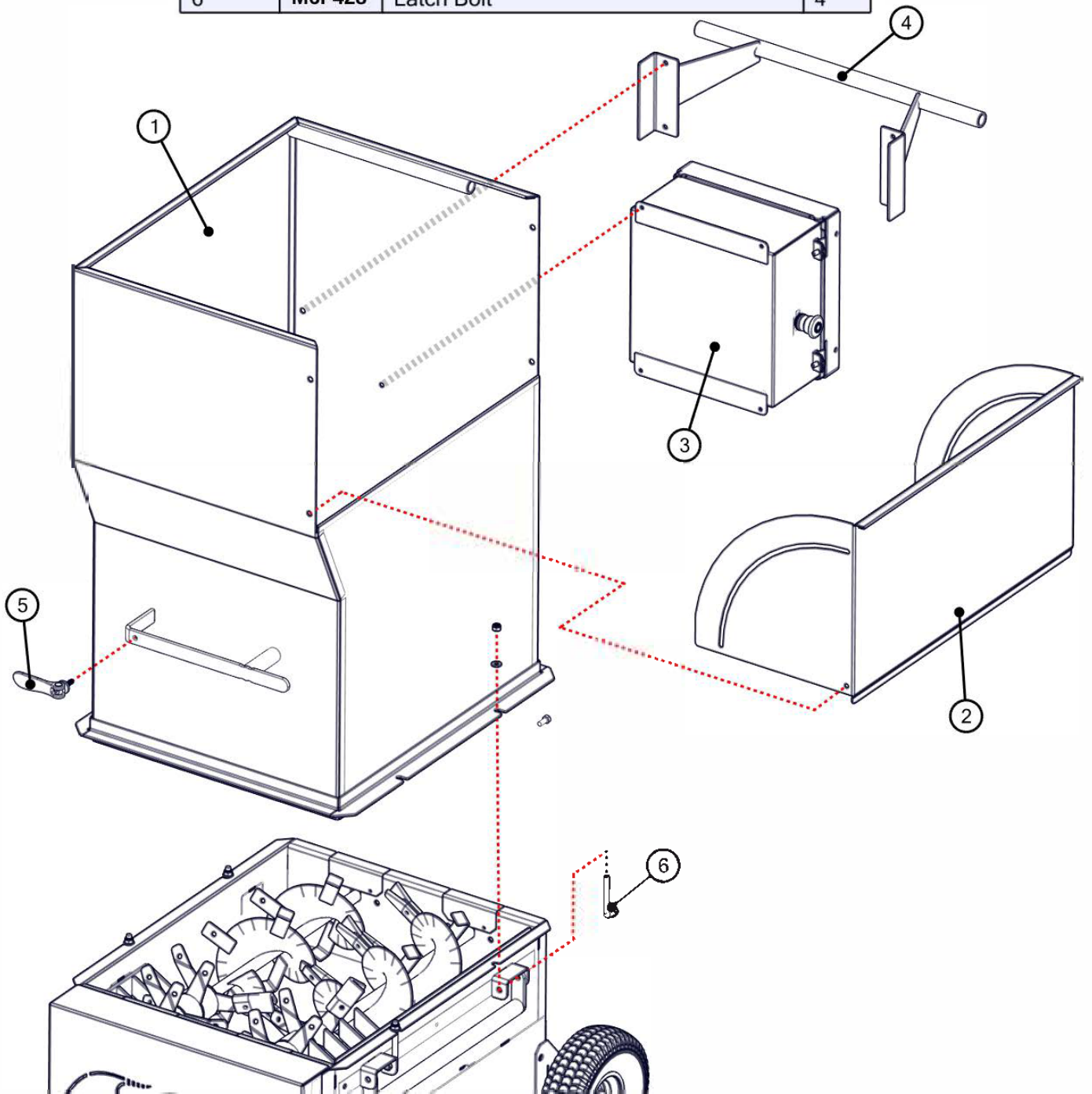
Step 2: Loosen Nuts, Rotate Bolts

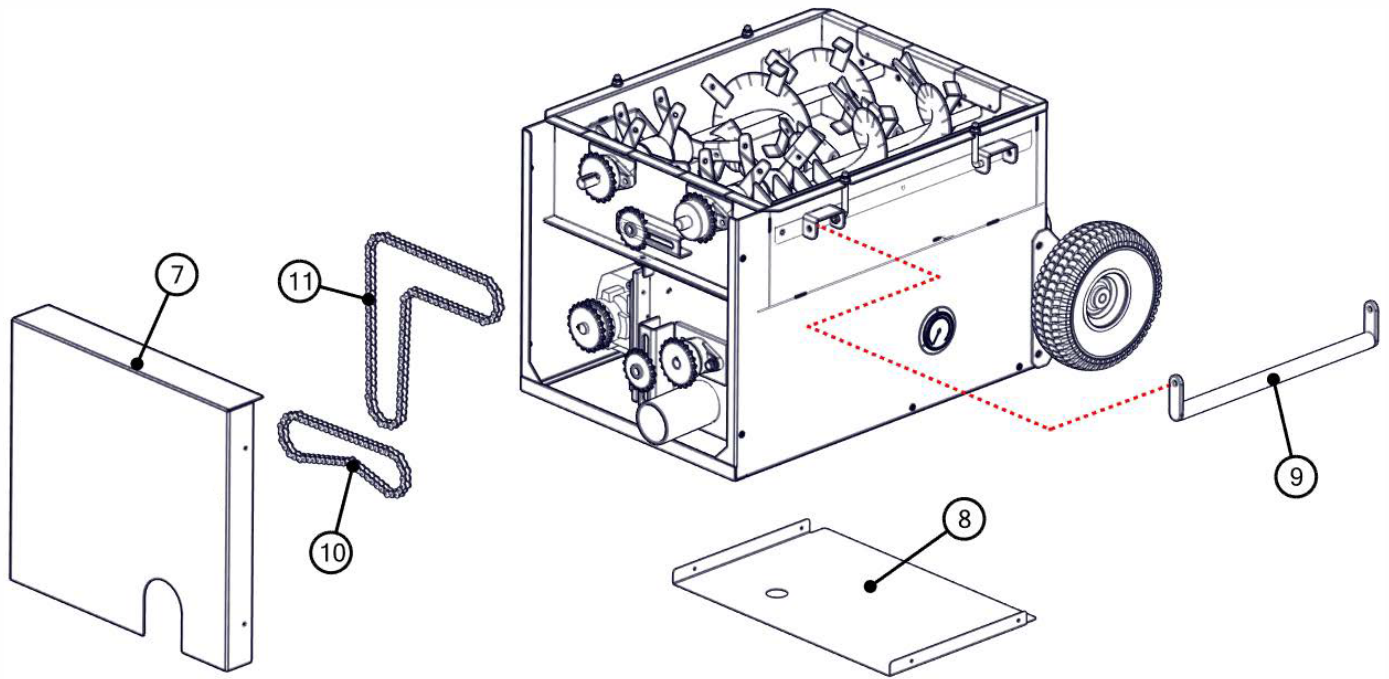
Step 3: With Help, Lift off Hopper



Hopper Components

BOM ID	COOL #	DESCRIPTION	QTY
1	M9H619	Hopper	1
2	M9H603	Loading Door Sheet	1
3	Call-In	Panel Box	1
4	M9H607	Hopper Handle	1
5		Handle, CamLock (McMaster# 5720K15)	1
6	M6F428	Latch Bolt	4



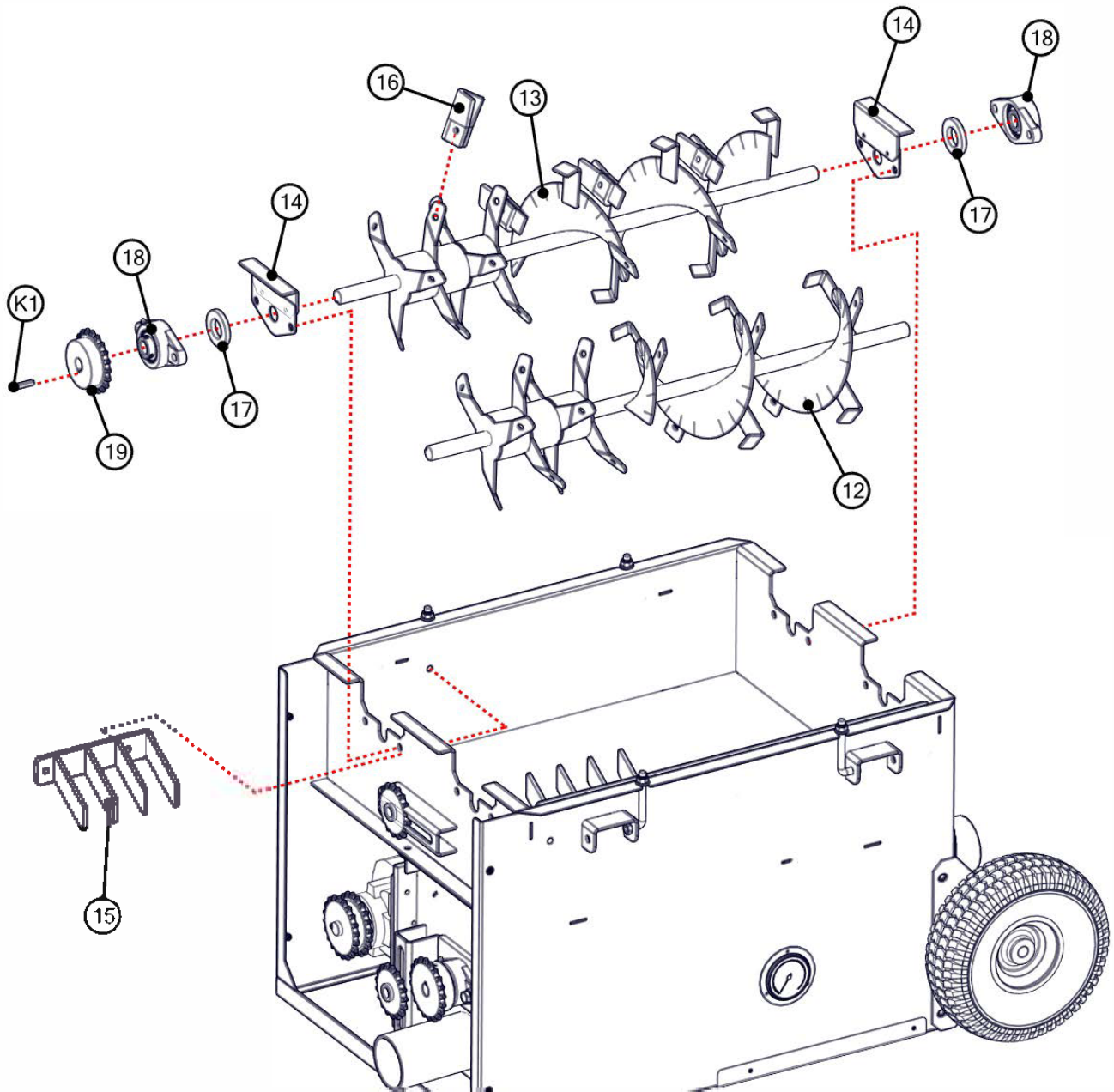


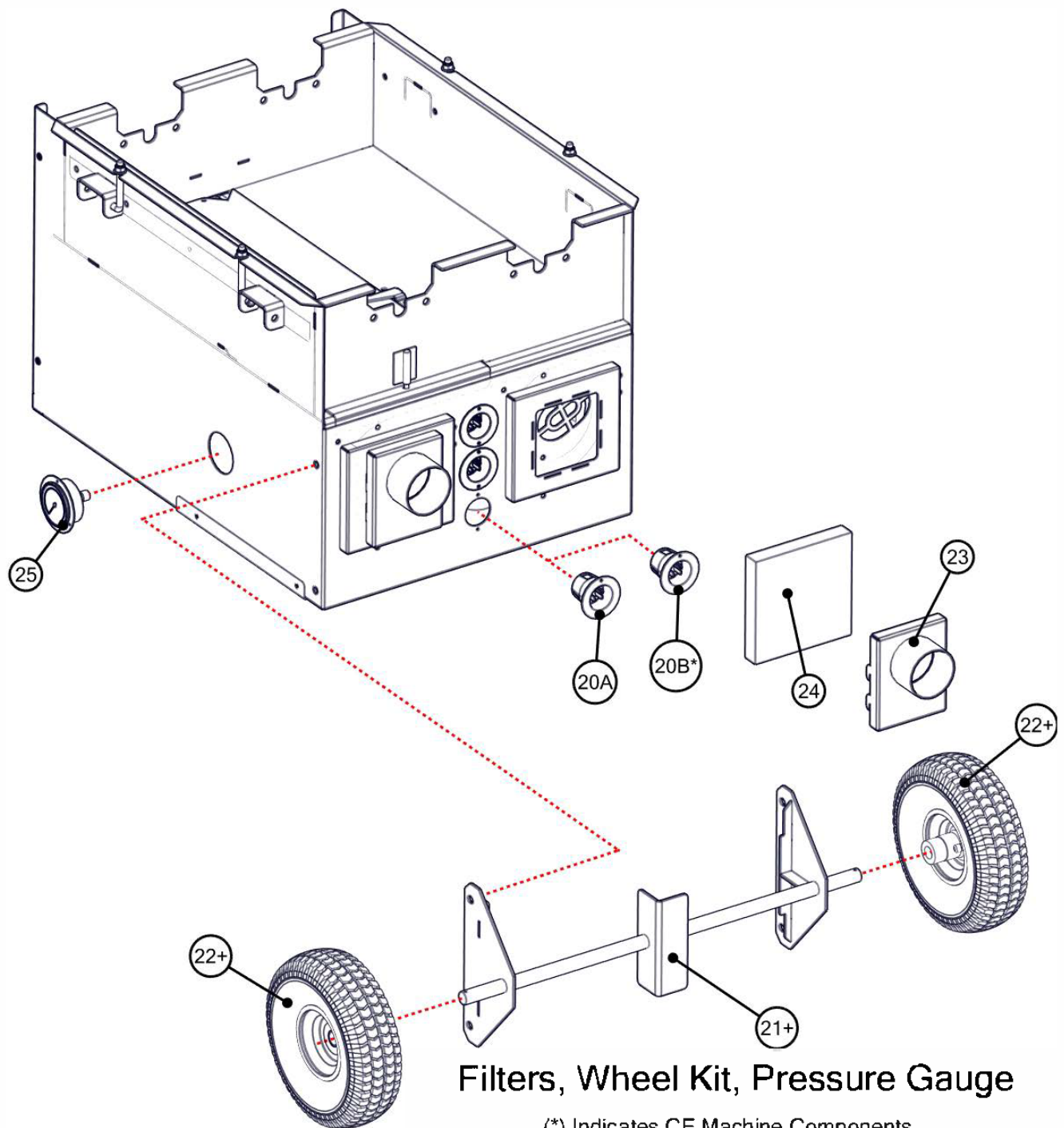
Chains, Guards, and Base Handles

BOM ID	PART #	DESCRIPTION	QTY
7	M6A602	Chain Guard	1
8	M9W305	Guard, Skid Plate	1
9	M9H608	Base Handle	2
10	M6A400	Chain #40 - 24" Long	1
11	M6A400	Chain #40 - 48" Long	1

Auger Components

BOM ID	PART #	DESCRIPTION	QTY
12	M1A518	3-Blade Auger	1
13	M1A518R	3-Blade Reverse Auger	1
14	M5X573	3/4" Bearing Plate	4
15	M1A519	Auger Rake	2
16	M5M600	Auger Wiper	10
17	M5Q357	Felt Seal, for 3/4" Bearing	6
18	M5X265	3/4" Bearing 2-Bolt with set screw collar	4
19	M8J416	Sprocket #40, 20 Tooth, 3/4" Bore	3
K1	M6J249	Key Stock, 3/16" x 3/16" (1 1/4" Long)	4



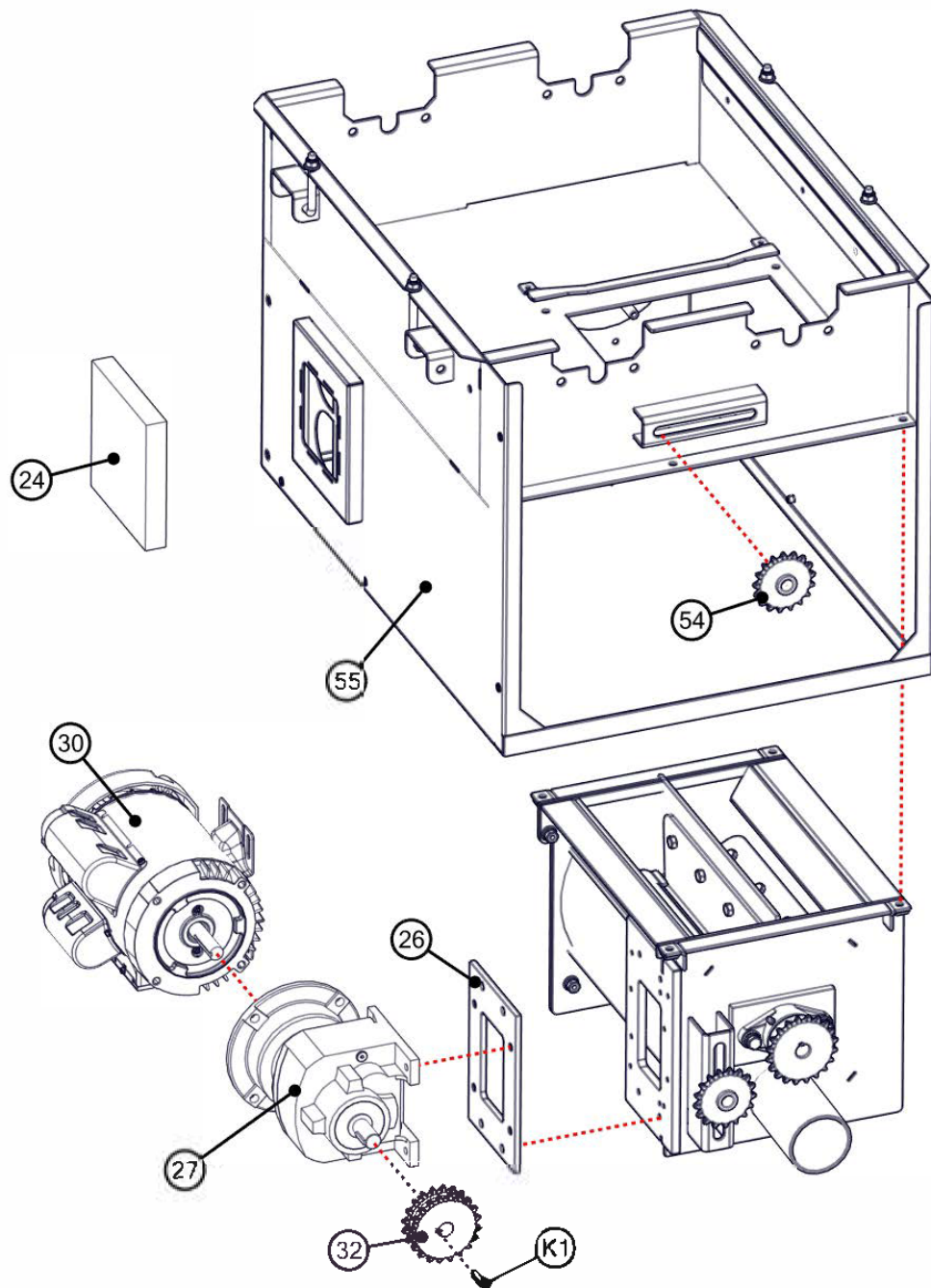


Filters, Wheel Kit, Pressure Gauge

(*) Indicates CE Machine Components

(+) Indicates Optional Accessories

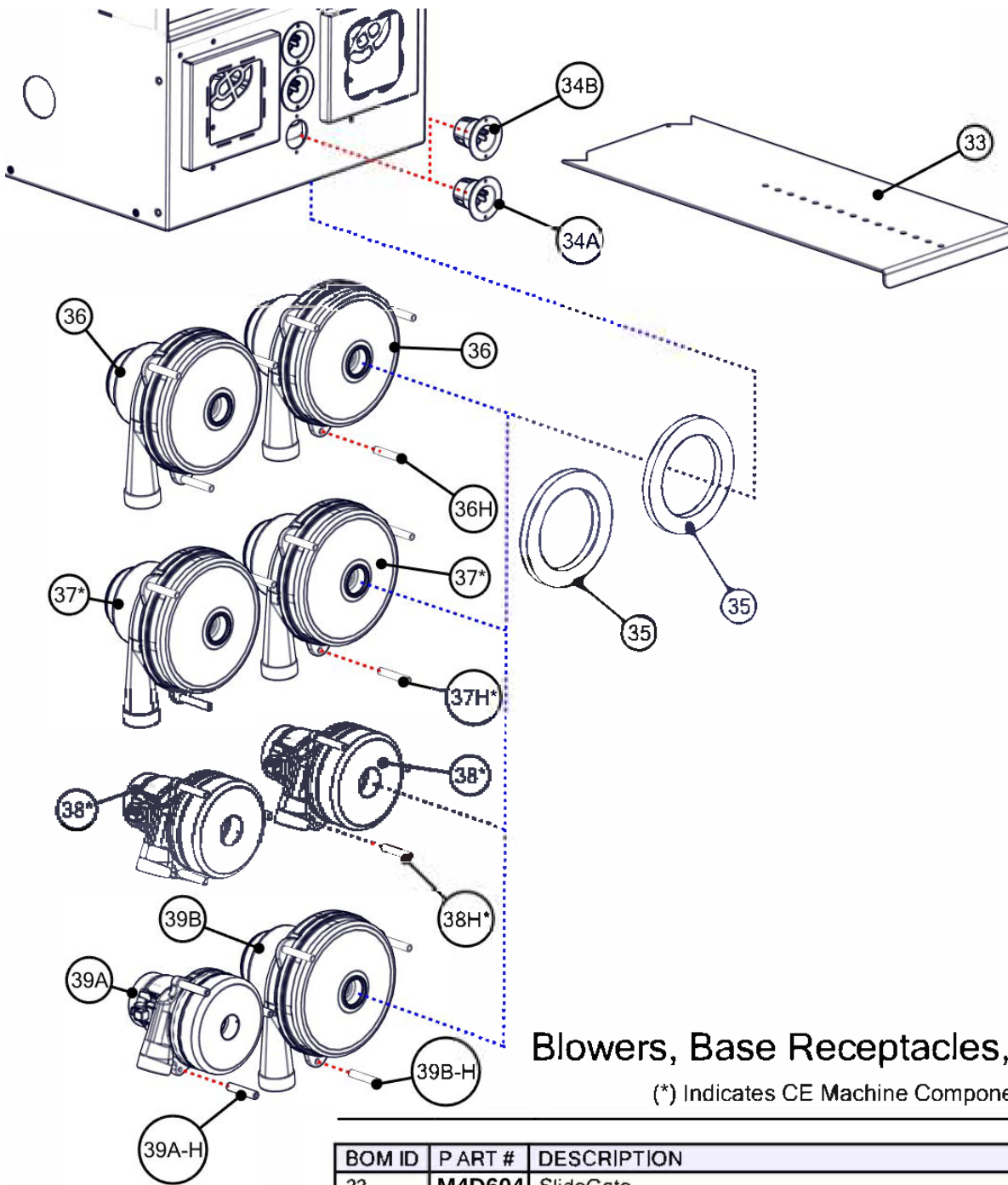
BOM ID	PART #	DESCRIPTION	QTY
20A	M1U083	Receptacle, Mini-Flange, NEMA 5-15P, 125 VOLT, 15 AMP	3
20B*	M1U084	Receptacle, Mini-Flange, NEMA 6-15P, 250 VOLT	3
21+	M6J515	Wheel Bracket	1
22+	M6J421	10" Wheel, Flat Free	2
23	M5G730	Filter Cover	2
24	M6C286	Filter 6 1/2" x 6 1/2"	2
25	M4C042	Pressure Gauge	1



Drive Components

BOM ID	PART #	DESCRIPTION	QTY
24	M6C286	Filter 6 1/2" x 6 1/2"	3
26	M2B249	Motor Mount Plate	1
27	M8B500	Reducer, In-Line, 1/2 HP	1
30	M2B020	Motor, 3/4 HP	1
32	M8J419	Welded Sprocket #40-20 Tooth x 20 Tooth, 3/4" Bore	1
54	M8J594	#40 Sprocket, 17 Teeth	2
55	M8C352	Base	1
K1	M6J249	Key Stock, 3/16" x 3/16" (1 1/4" Long)	4

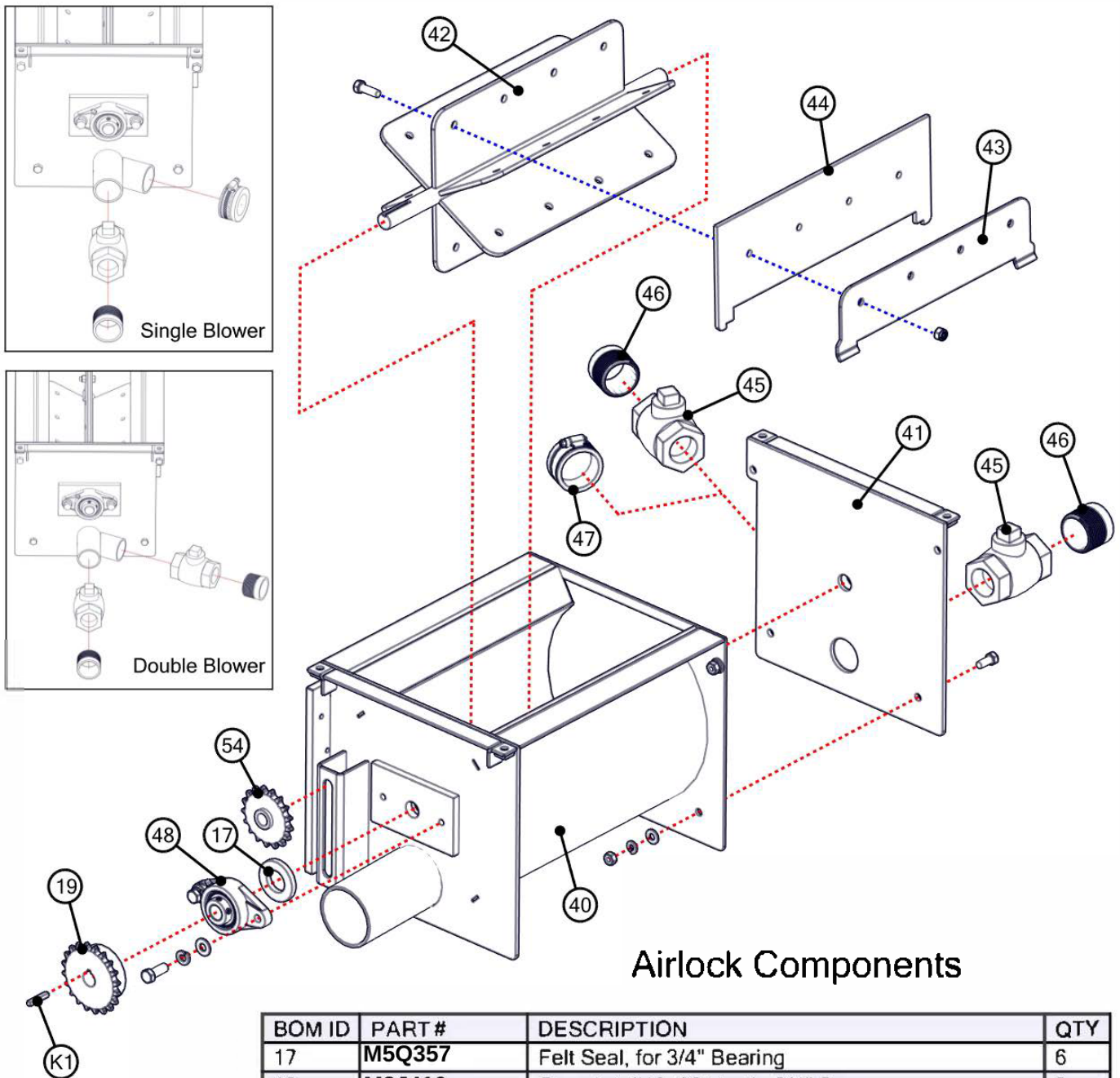
(Note: Machines Serial# CM-0540 and prior may have different motors. Please Call for Replacement Part)



Blowers, Base Receptacles, SlideGate

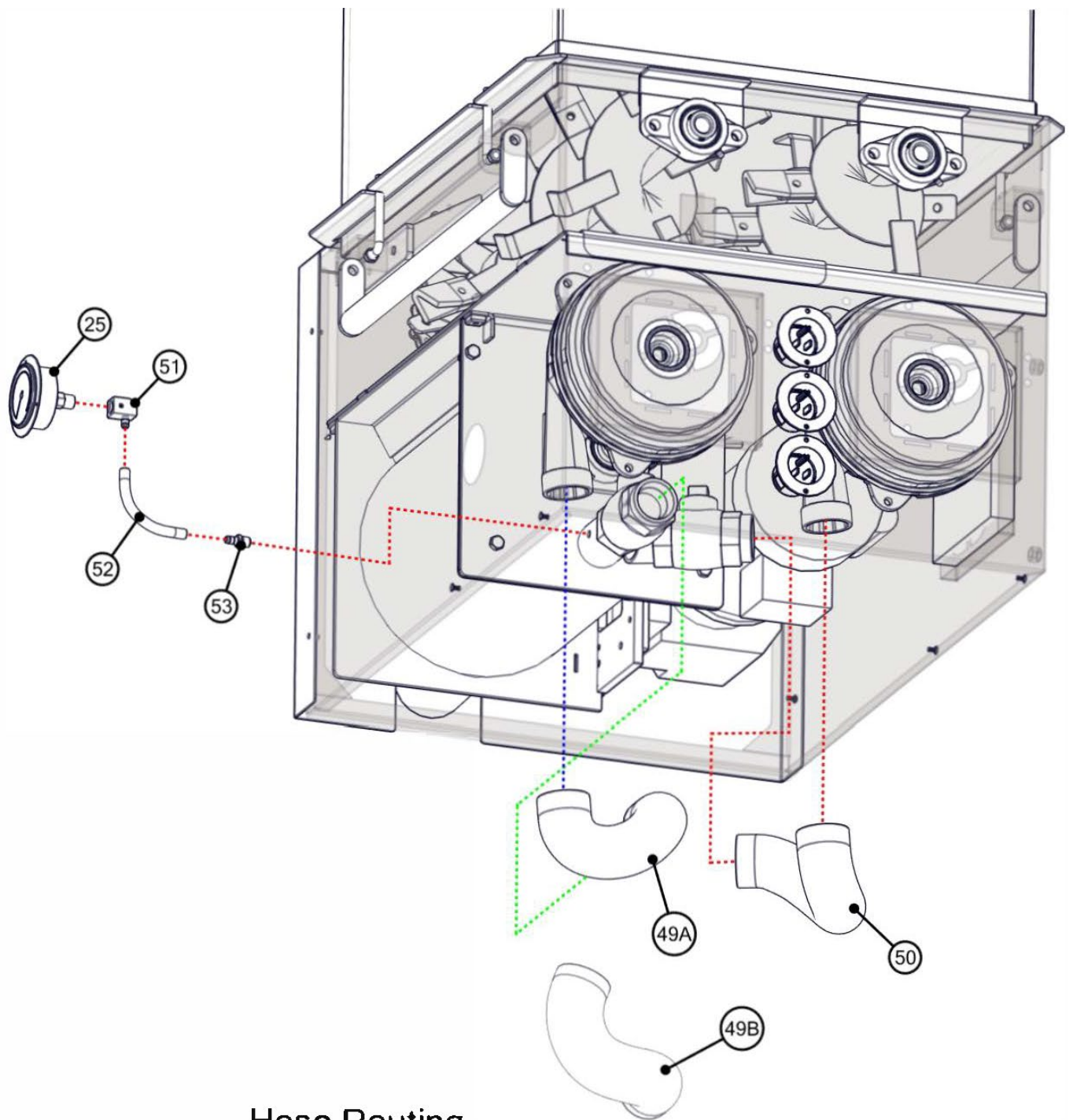
(*) Indicates CE Machine Components

BOM ID	PART #	DESCRIPTION	QTY
33	M4D604	SlideGate	1
34A	M1U083	Receptacle, Mini-Flange, NEMA 5-15P, 125 VOLT, 15 AMP	3
34B	M1U084	Receptacle, Mini-Flange, NEMA 6-15P, 250 VOLT	3
35	M5M300	Rubber Gasket	2
36	M5G035	Blower, 13.7 Amp	1
36H	M5G705	Blower Bolt Spacer, 2 1/4"	6
37*	M5G070	Blower, 7.1 Amp	2
37H*	M5G705	Blower Bolt Spacer, 2 1/4"	6
38*	M5G253	Blower, 4.7 Amp	2
38H*	M5G710	Blower Bolt Spacer, 2 1/8"	6
39A	M5G060	Blower, 9.0 Amp	1
39A-H	M5G710	Blower Bolt Spacer, 2 1/8"	3
39B	M5G035	Blower, 13.7 Amp	1
39B-H	M5G705	Blower Bolt Spacer, 2 1/4"	3



Airlock Components

BOM ID	PART #	DESCRIPTION	QTY
17	M5Q357	Felt Seal, for 3/4" Bearing	6
19	M8J416	Sprocket #40, 20 Tooth, 3/4" Bore	3
40	M5R614-1.5KH	HD 10" Airlock	1
41	M5R611H	HD 10" Airlock Removable End	1
42	M5R514-1.5K	14" Long x 10" Dia. Airlock Rotor	1
43	M5R314-1.5K	14" Long x 10" Dia. Airlock Top Plate	6
44	M5R714-1.5K	14" Airlock Seal for 10" Diameter	6
45	M7V510	1 1/2" Swing Check Valve	2
46	M7A608	Adapter, Hose Barb, 2" x 1 1/2" NPT	2
47	M7X540	Pipe Cap, Rubber, 1 1/2"	1
48	M5X266	3/4" Bearing 2-Bolt with set screw collar, Triple Seal	2
54	M8J594	#40 Sprocket, 17 Teeth	2
K1	M6J249	Key Stock, 3/16" x 3/16" (1 1/4" Long)	4

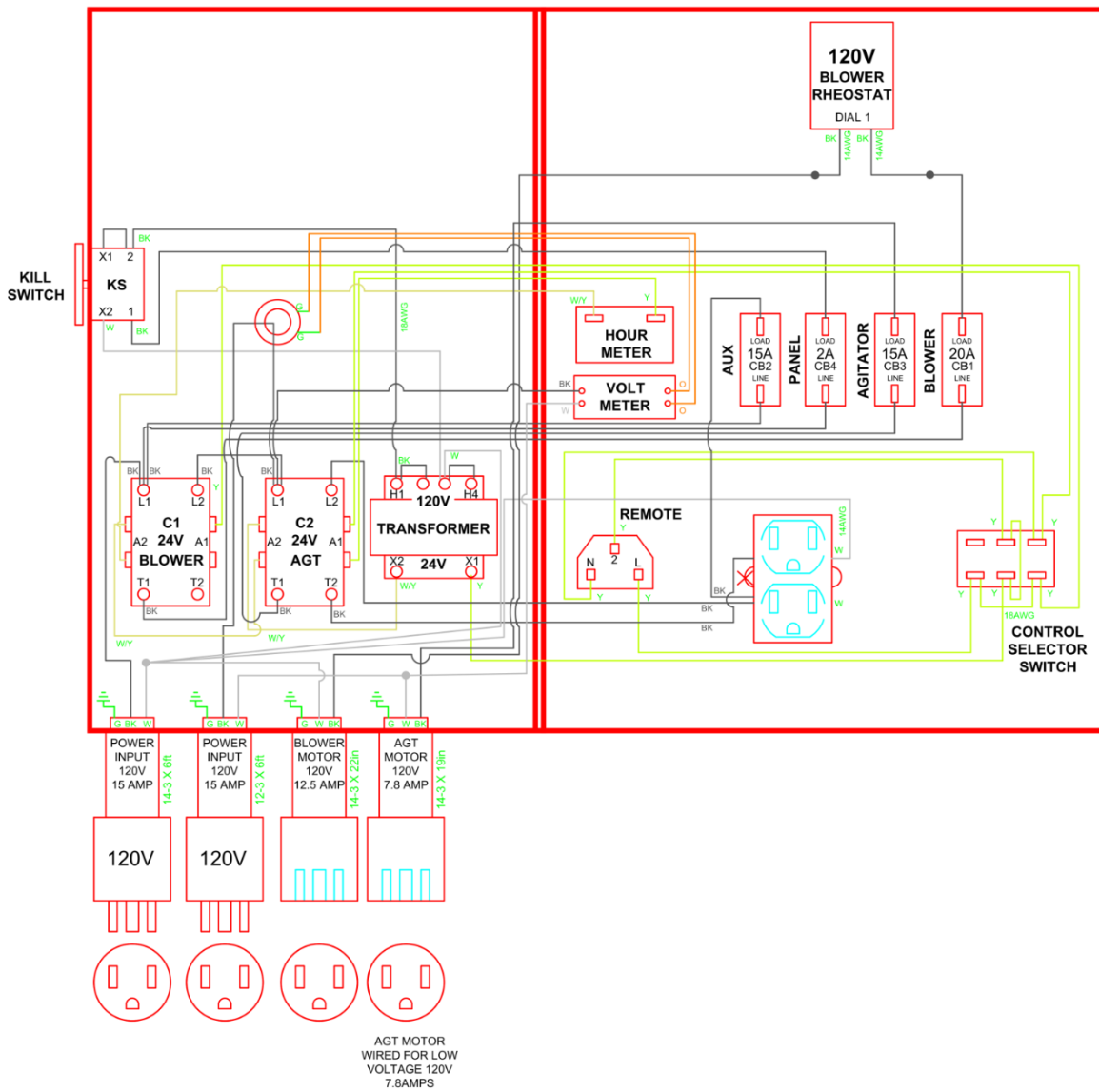


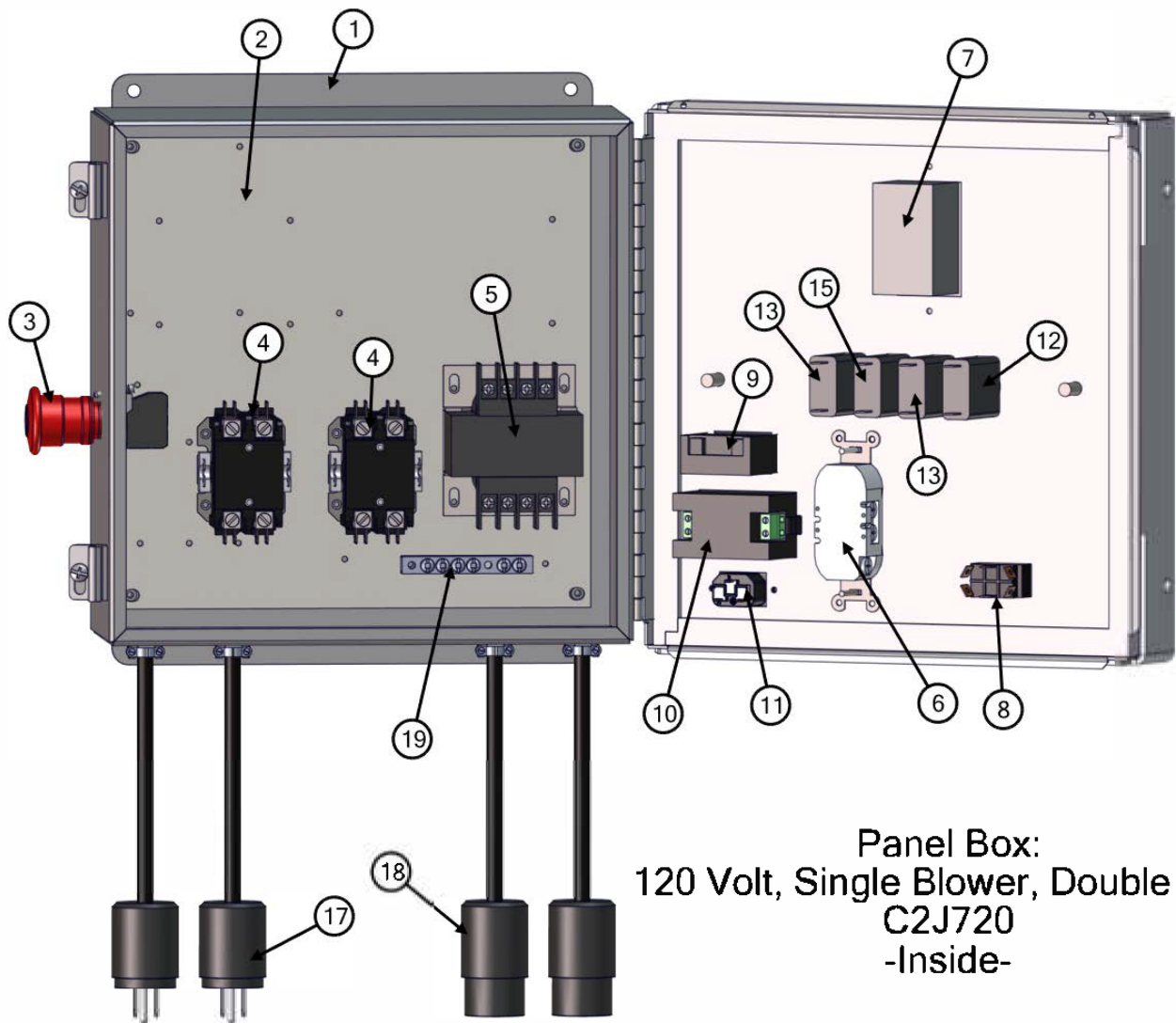
Hose Routing

BOM ID	PART #	DESCRIPTION	QTY
25	M4C042	Pressure Gauge	1
49A	M6Q206	2" Hose, Black - 13" Long for Large Blower	1
49B	M6Q206	2" Hose, Black - 8 1/2" Long for 2nd Small Blower	1
50	M6Q206	2" Hose, Black - 16 1/2" Long for 2nd Large Blower	1
51	M7E137	1/4" FNPT Brass Elbow, 1/4" Hose Barb	1
52	M6Q220	3/8" Hose, 5" Long	1
53	M7A001	Adapter, Reducer, 1/8 x 27 MPT x 1/4" Hose Barb	1

350 PANEL BOX WIRING 120 VAC 15 Amp Double Input

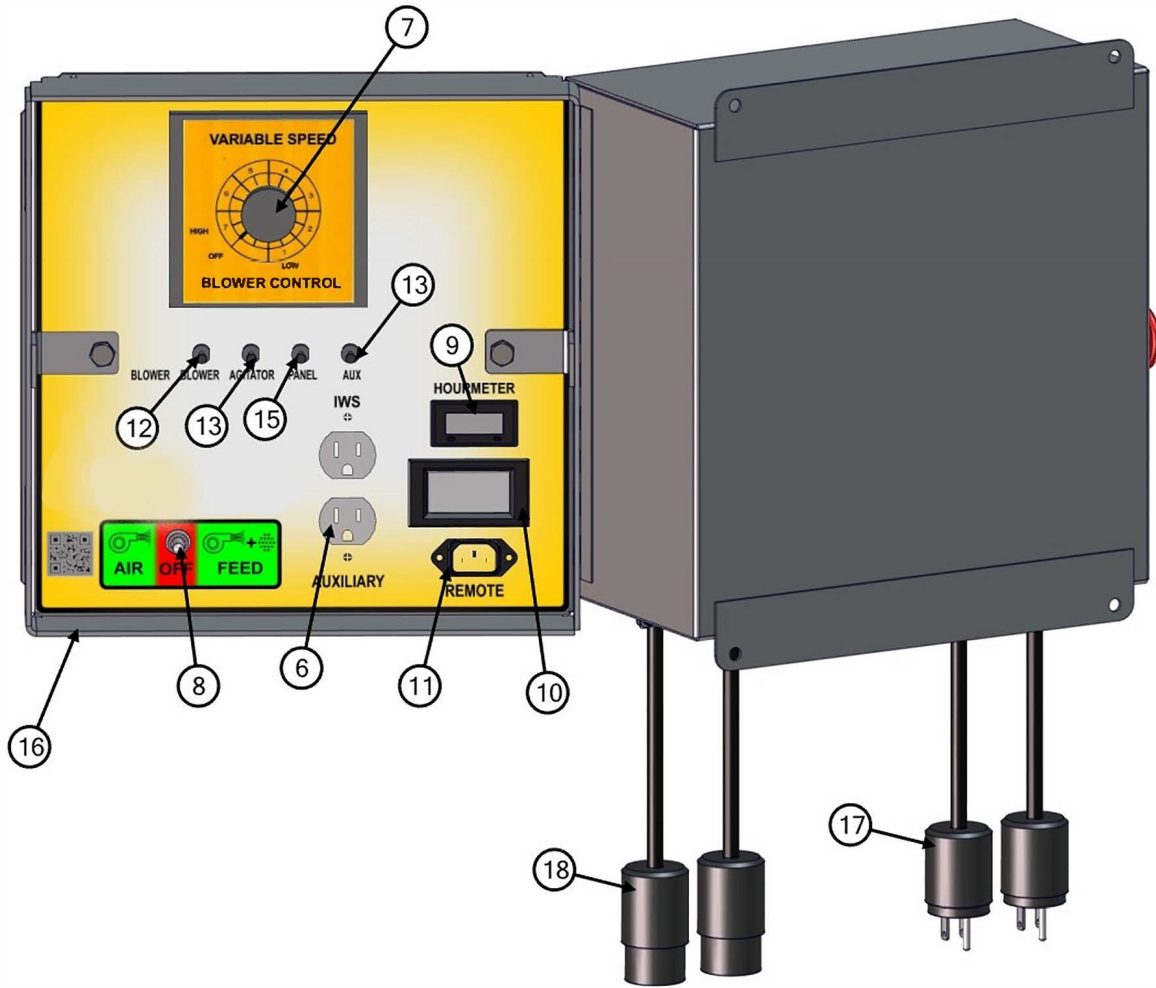
C2J720





Panel Box:
120 Volt, Single Blower, Double Input
C2J720
-Inside-

BOM ID	PART #	DESCRIPTION	QTY
1	M2X733	Enclosure, 12" x 12" x 6"	1
2	M2X833	12" x 12" Panel	1
3	M1X220	Kill Switch, 22mm	1
4	M2E056	Relay/Contactor, 24VAC Coil Voltage, 2-Pole	2
5	M4B015	Transformer 100VA, 230 or 120V-24V, 50/60 Hz.	1
6	M1U005	Duplex Receptacle, 125 Volt, 15 amp, Gray, 5-15R	1
7	M2R100	Blower Control, 120v	1
8	M1X034	Toggle Switch	1
9	M4C014	Hourmeter	1
10	M4C027	Volt/Amp Meter	1
11	M1U020	IEC Receptacle (Remote)	1
12	M3W073	20 amp Breaker, Push Button, Magnetic-Hydraulic	1
13	M3W056	15 amp Breaker, Push Button, Magnetic-Hydraulic	2
15	M3W026	2 amp Breaker, Push Button, Magnetic-Hydraulic	1
17	M1W110	Plug, Straight Blade, 15 Amp, 125 Volt, 3-Wire	2
18	M1W020	Cord Connector, 15 amp, 120 volt, 3-wire, 5-15C NEMA Lighted	2
19	M3C055	Ground Bar	1



Panel Box: 120 Volt, Single Blower, Double Input
 C2J720
 -Outside-

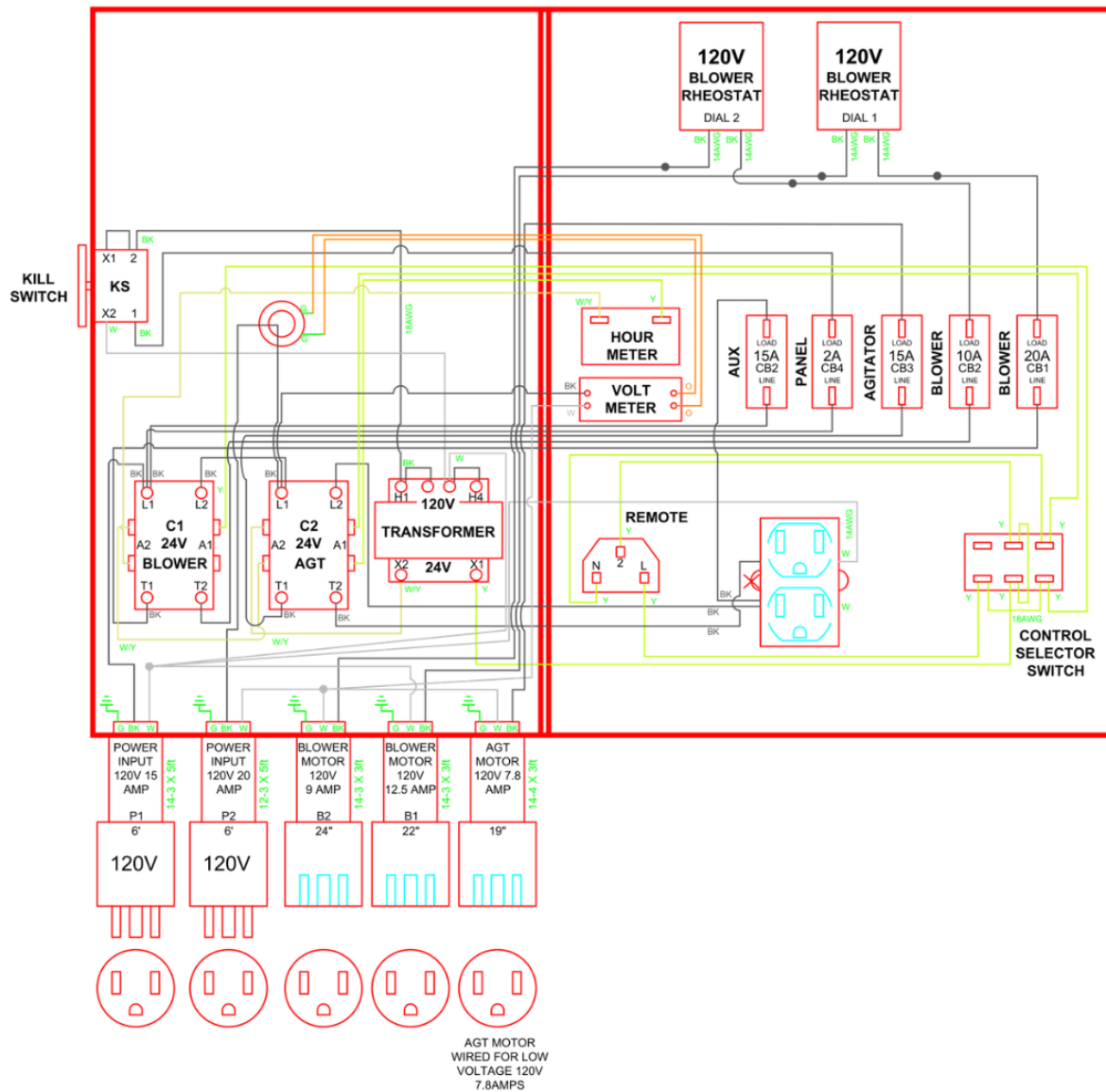
BOM ID	PART #	DESCRIPTION	QTY
6	M1U005	Duplex Receptacle, 125 Volt, 15 amp, Gray, 5-15R	1
7	M2R100	Blower Control, 120v	1
8	M1X034	Toggle Switch	1
9	M4C014	Hourmeter	1
10	M4C027	Volt/Amp Meter	1
11	M1U020	IEC Receptacle (Remote)	1
12	M3W073	20 amp Breaker, Push Button, Magnetic-Hydraulic	1
13	M3W056	15 amp Breaker, Push Button, Magnetic-Hydraulic	2
15	M3W026	2 amp Breaker, Push Button, Magnetic-Hydraulic	1
16	M9W303	12" Panel Box Guard	1
17	M1W110	Plug, Straight Blade, 15 Amp, 125 Volt, 3-Wire	2
18	M1W020	Cord Connector, 15 amp, 120 volt, 3-wire, 5-15C NEMA Lighted	2

350E PANEL BOX WIRING

120 VAC 15 Amp Double Input

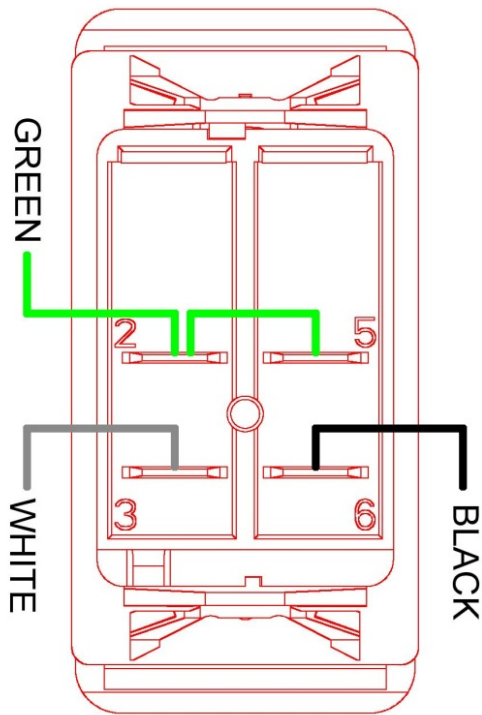
13.7 and 9 Amp Blower

C2J735

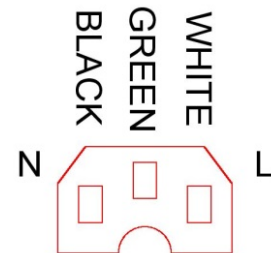
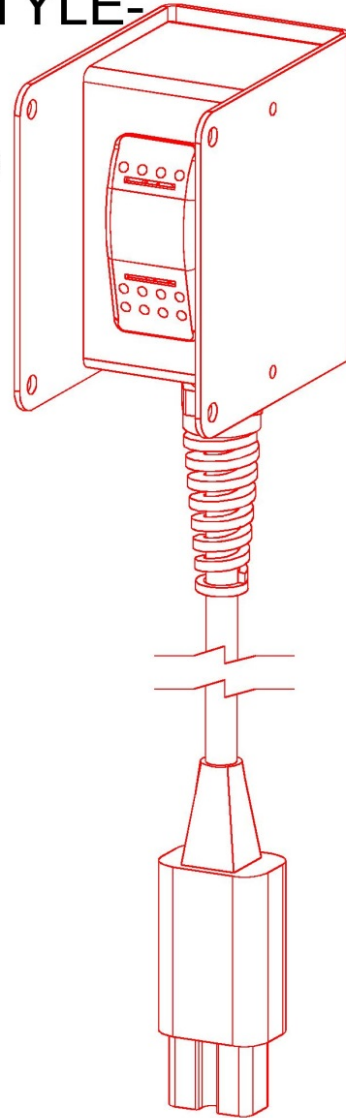


HAND PENDANT ROCKER REMOTE WIRING -REMOTE CORD STYLE-

BACK VIEW OF SWITCH



FEED
AIR
OFF



**REMOTE
CORD**

11.16.2015