# SF-6

## Owner's Manual




THE SAN FRANCISCAN ROASTER CO.

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## *Table of Contents*

## *Directory*

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## *SFR Warranty*

The San Franciscan Roaster Co. offers a 12-month limited warranty from the time of delivery on all electrical and mechanical parts. Defects in workmanship and fabrication are covered for the life of the roaster. Labor and shipping charges are not covered under the warranty.

The San Franciscan Roaster Company is not liable for any damage to roasting equipment caused by improper installment, usage, or manipulation to the product. Please read and follow all Receiving, Installation, Operation, and Maintenance Instructions properly to avoid issues related to user performance. Additionally, failure to adhere to municipal codes and permitting is not covered under this warranty. Please ensure you are following all local laws and regulations prior to roaster installation.

Due to the innate characteristics of wood, The San Franciscan Roaster Co. does not cover any warping, cracking, or other damages to wooden features used on roasting machines.

Under this warranty, customers must contact The San Franciscan Roaster Company via email or phone about any defects prior to the warranty expiration date. A support technician will assist you and decide under his/her sole discretion if the product contains a defect. The San Franciscan Roaster Company will pay for replacement parts and shipping of any product under warranty. Customers are responsible for repairs and installation.

For additional questions related to The San Franciscan Roaster Company's warranty, please contact your equipment representative.

## *Suggested Cleaning Supplies*

- Coffee/espresso machine cleaner
- Hand held scraper
- Flat razor
- Mobil FM222 food grade grease for front and rear bearings
- Loctite RTV 598 black hi-performance silicone for high-temperature seals
- Elsco International Super Blast Off for coffee oils and residue

## *Recommended Tools*

- Pallet jack (for Receiving & Installation)
- Hand wrenches and sockets, Allen wrenches, screwdrivers
- Grease gun
- Hand-held brass wire brushes/scrub brush/toothbrush
- Powered brass wire brush set and extension(s)
- Soft cloths
- Compressed air source
- Vacuum cleaner
- Soft brush
- Gloves, safety goggles, dust mask

# Section 1: *General Warnings & Disclaimer*

The San Franciscan Model SF-6 is an industrial machine of considerable complexity. The energy levels involved in its operation are high and must be treated with due respect. Additionally, the machine incorporates a number of safety interlocks, lockouts, and process recovery capabilities. The Operator must understand the roaster and its systems for safe operation.

**CAUTIONS:** Post in a prominent location the instructions to be followed if user smells gas. Obtain information from local gas supplier.

**—FOR YOUR SAFETY—**
DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

"Intended for other than household use."
«Non destiné à l'usage domestique.»

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

***AVERTISSEMENT:** L'installation, le réglage, la modification, la réparation ou l'entretien incorrect de cet appareil peut causer des dommages matériels, des blessures ou la mort. Lire attentivement les instructions d'installation, de fonctionnement et d'entretien avant de procéder à son installation ou entretien.

**WARNING:** Electrical Grounding Instructions - This appliance is equipped with a three prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

***AVERTISSEMENT:** Instructions de mise à la terre électrique - Cet appareil est équipé d'une fiche à trois broches (mise à la terre) pour vous protéger des risques d'électrocution et doit être branché directement dans une prise à trois broches correctement mise à la terre. Ne pas couper ou retirer la broche de mise à la terre de cette fiche.

FOR 120/220 Volt Single Phase 50/60 HZ

**Notez s'il vous plaît: La traduction a été effectuée via Google Translate.*

## *Safety & Warnings*

Only individuals trained on this equipment or licensed contractors should service or operate this equipment. Before servicing, be sure your roaster is cool, the main gas control valve is in the "OFF" position. Turn "OFF" the Natural Gas or Propane Gas supply at the source. Unplug or disconnect your equipment from the electrical source. Follow proper lockout/tagout practices and procedures set forth by OSHA. Failure to follow these simple steps can result in property damage, personal injury, and even death.

The San Franciscan Roaster was designed to allow precise control of temperature and air-flow. These controls provide craftsmen the ability to develop their own style and approach to roasting. Anomalies related to roaster performance can usually be traced back to cleaning issues. At start-up the roaster goes through an automatic system test for "proof of air" and "proof of flame", so a dirty roaster may not even ignite. Ultimately, consistency in your cleaning schedule will translate to consistency in the cup.

# Section 2: *Receiving Instructions*

## *Receiving the Shipment*

In most circumstances, roasters will arrive on a freight delivery truck. Usually the truck will have a lift gate that will allow the crated roasters to me moved with a pallet jack. The dimensions of the crate will not exceed 36" x 60" x 84" / 91.5 cm x 152.5 cm x 213.5 cm (LxWxH) and will not weigh more than 550 lbs (250 kg).

Move the pallet into uncrating location. Ensure that there is adequate space on all side of the roaster so that the sides of the crate can be accessed easily.

*Note: The roaster is top heavy; keep pallet on level ground at all times.*

## *Bill of Lading & Crate Inspection*

*Before signing the Bill of Lading please follow the instructions; do not sign the Bill of Lading until you have fully inspected the crates for any visible loss or damage.*

**1.** Do not refuse shipment.
**2.** Inspect the crate for damage and make notation on delivery receipt of any Visible Loss or Damage.
**3.** If crate damage is discovered, leave the item in original container and packaging, and request immediate inspection from carrier.
**4.** If the tilt or shock indicators have been tripped, leave the item in original container and packaging, note damage on the Bill of Lading (take photos).
**5.** Contact The San Franciscan Roaster Co. if damage has occurred.

AT THE TIME OF DELIVERY, PLEASE MAKE NOTATIONS OF ANY DAMAGE ON THE BILL OF LADING AS FOLLOWS:

· Observable damage to the crate,
· If the tilt indicator was tripped, or
· If the shock indicator was tripped.

## *Uncrating Instructions*

1. Remove screws from the top of the crate first. This will require a ladder.
2. Next, remove the screws on the long side of the roaster.
3. Proceed by removing the remaining three walls on the front and sides of the roaster.
4. Unbolt the roaster feet from the pallet using a wrench.
5. Carefully remove the plastic shrink wrap from the roaster.
6. Remove the cooling tray and its contents to make it easier to remove the roaster from the pallet.

## *Transferring Roaster from Pallet*

**Please note: This process will require four to five people who are capable of lifting 100 lbs each. The roaster may be moved from the base (stand) and the frame of the roaster. (Do not apply pressure to the drum cover, motors, control panel, wiring components, gas lines or other fragile components.)*

1. Slide the roaster to the side of the pallet so that the side legs are on the floor.
2. Lift the roaster so that the pallet can be slid out from underneath the roaster.
3. Set the roaster on the floor gently and slide it into place.

Once the roaster is in place, call your local HVAC and boiler technician. All installation must be completed by a certified professional.

*Image 2.1*

# Section 3: *Installation Instructions*

Please Note: Installation should only be performed by qualified service personnel and must comply with all local regulations and requirements. All federal, state, and local codes take precedence over any suggested installation requirements. Incorrect installation may result in injury and/or damage to the roaster. The San Franciscan Roaster Company is not responsible for any liabilities as a result of improper installation.

## *Installation Area*

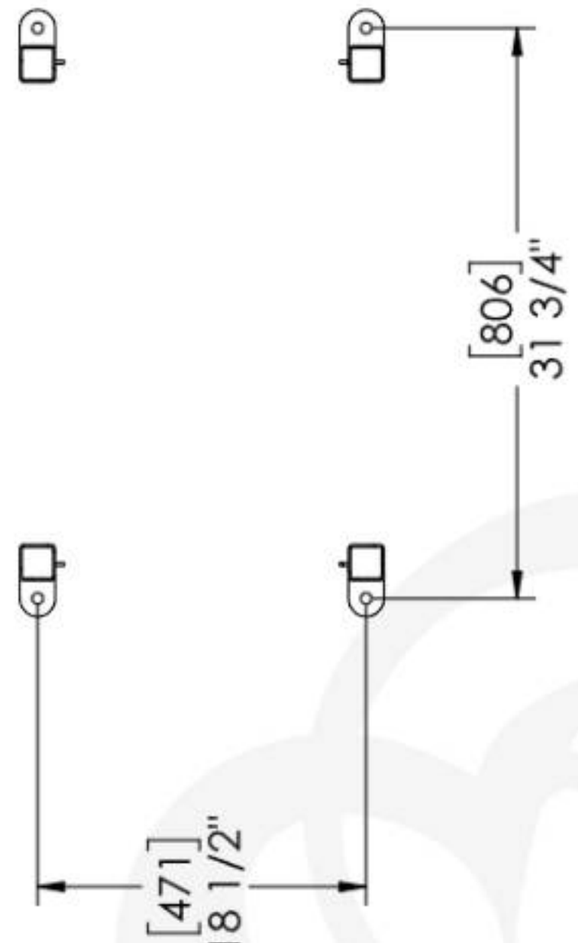
• If the roasting area will be part of a retail establishment, a barrier between the roasting area and retail traffic is recommended.
• The area must be clear of flammable materials such as gasoline, paper, empty coffee sacks, paint, etc.
• Refer to the specifications (pg. 10-11) to ensure that there is adequate clearance around the roaster.

## *Foundation*

• Structure should be able to support the roaster. Refer to spec sheet for roaster weight.
• The roaster may be bolted to the floor with anchor bolts.

## *Specifications*

| | DATA SHEET |
|---|---|
| WEIGHT | 430 LBS / 195 KG |
| DIMENSIONS W/O STAND (L X W X H) | 56 5/8" X 29 1/2" X 41 3/4" / 144 cm X 75 cm X 106 cm |
| DIMENSION W/ STAND (L X W X H) | 56 5/8"X 29 1/2" X 70 3/4" / 144 cm X 75 cm X 180 cm |
| HOT AIR EXHAUST | 6" / 150 mm UL103 HT POSITIVE PRESSURE VENT PIPE (225 CFM) |
| VOLTAGE - OPTIONS | 110V, 60HZ OR 220 V, 60 HZ |
| AMPERAGE | 9 A |
| GAS LINE REQ. | 1/2" NPT |
| BTU | 30,000 (7" WC NATURAL GAS / 11" WC PROPANE) |
| APPROX. HOURLY CAPACITY | 18 LBS / 8.2 KG GREEN, 15 LBS / 6.8 KG ROASTED |
| CERTIFICATION | ETL LISTED USA AND CANADA |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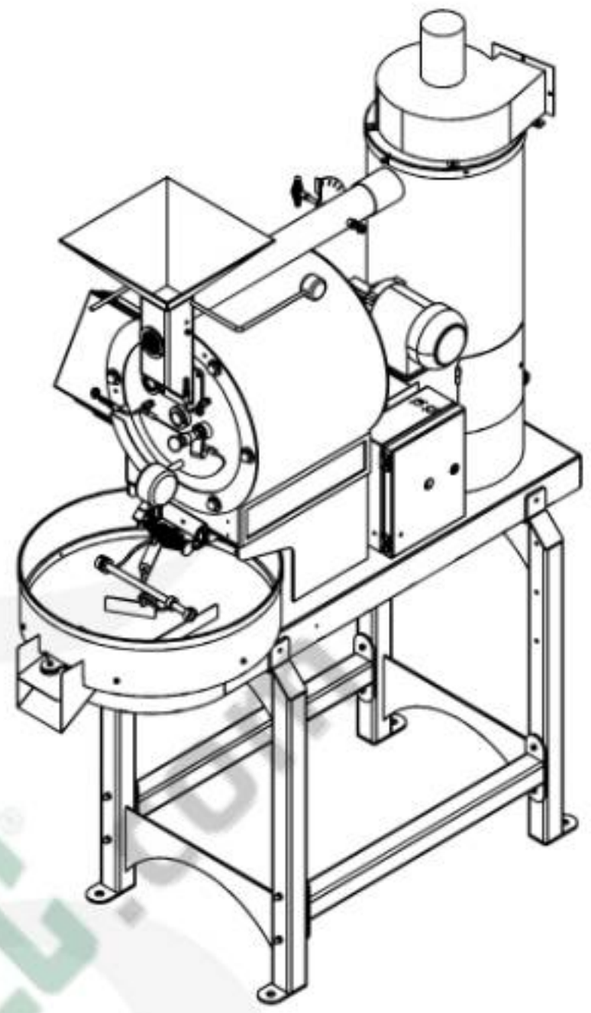

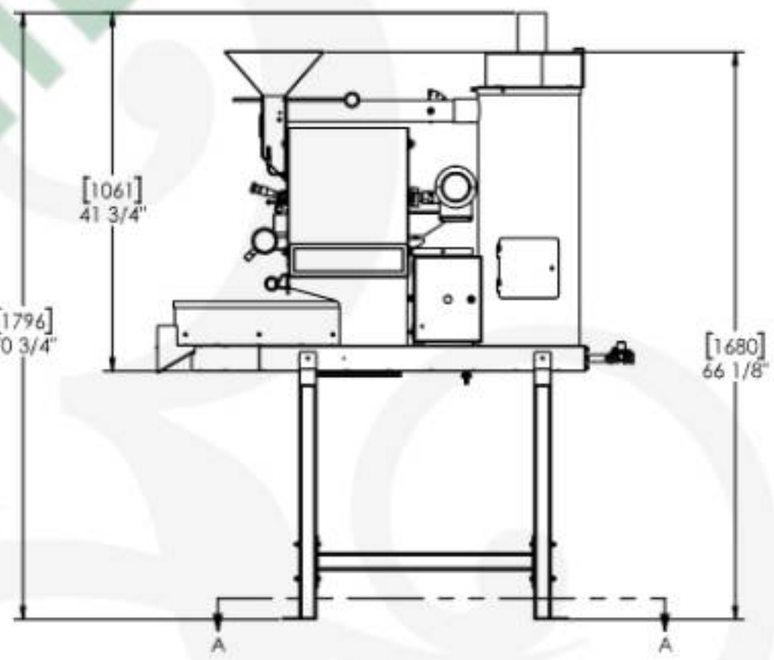
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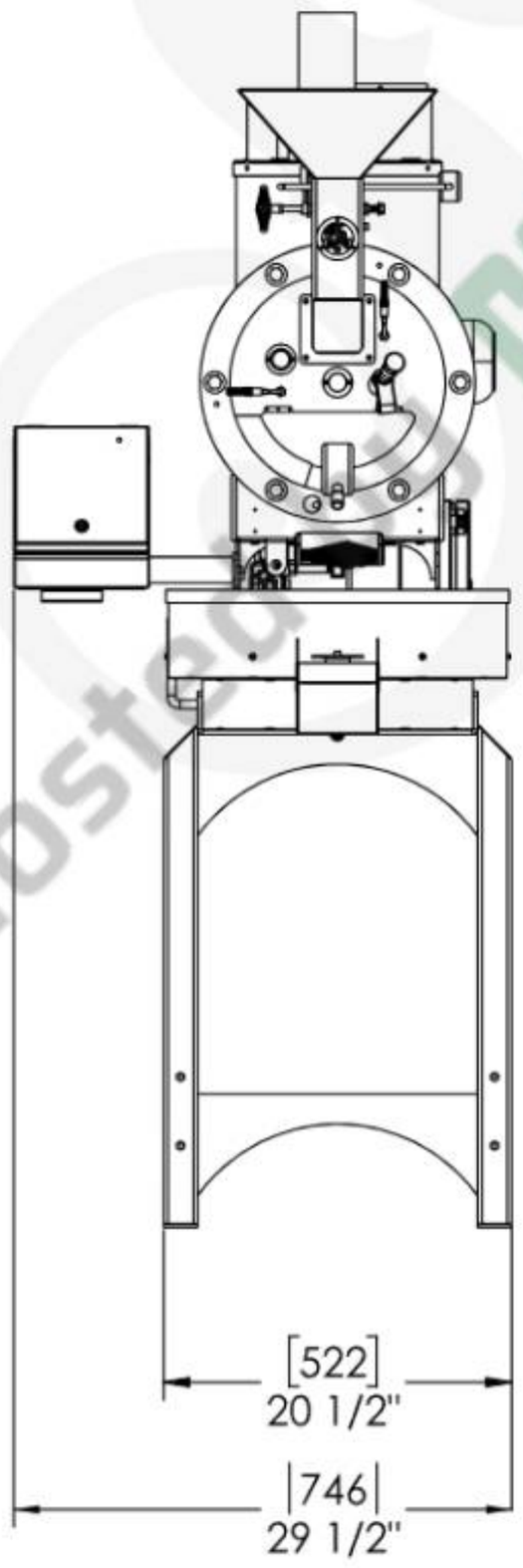
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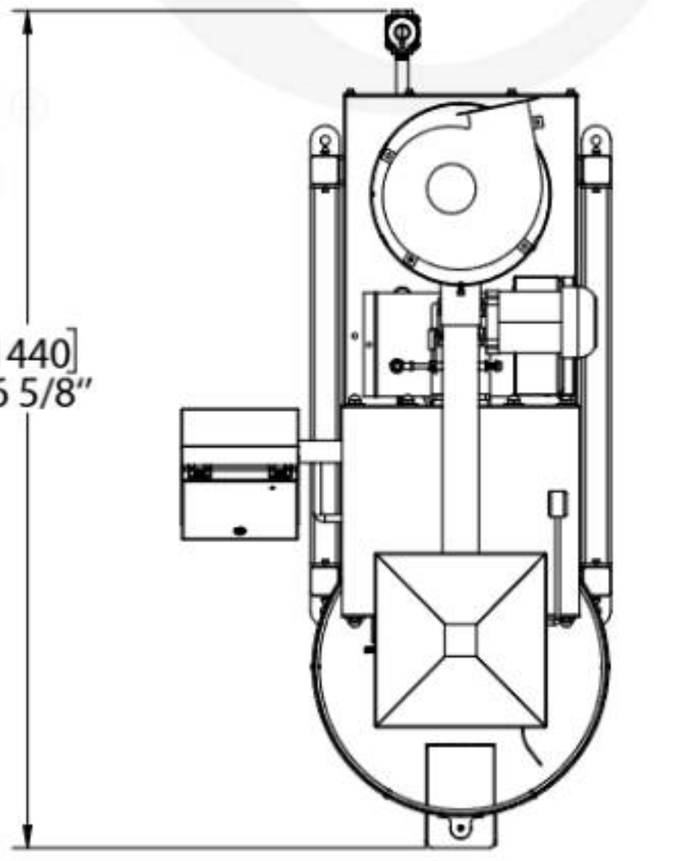
29 1/2"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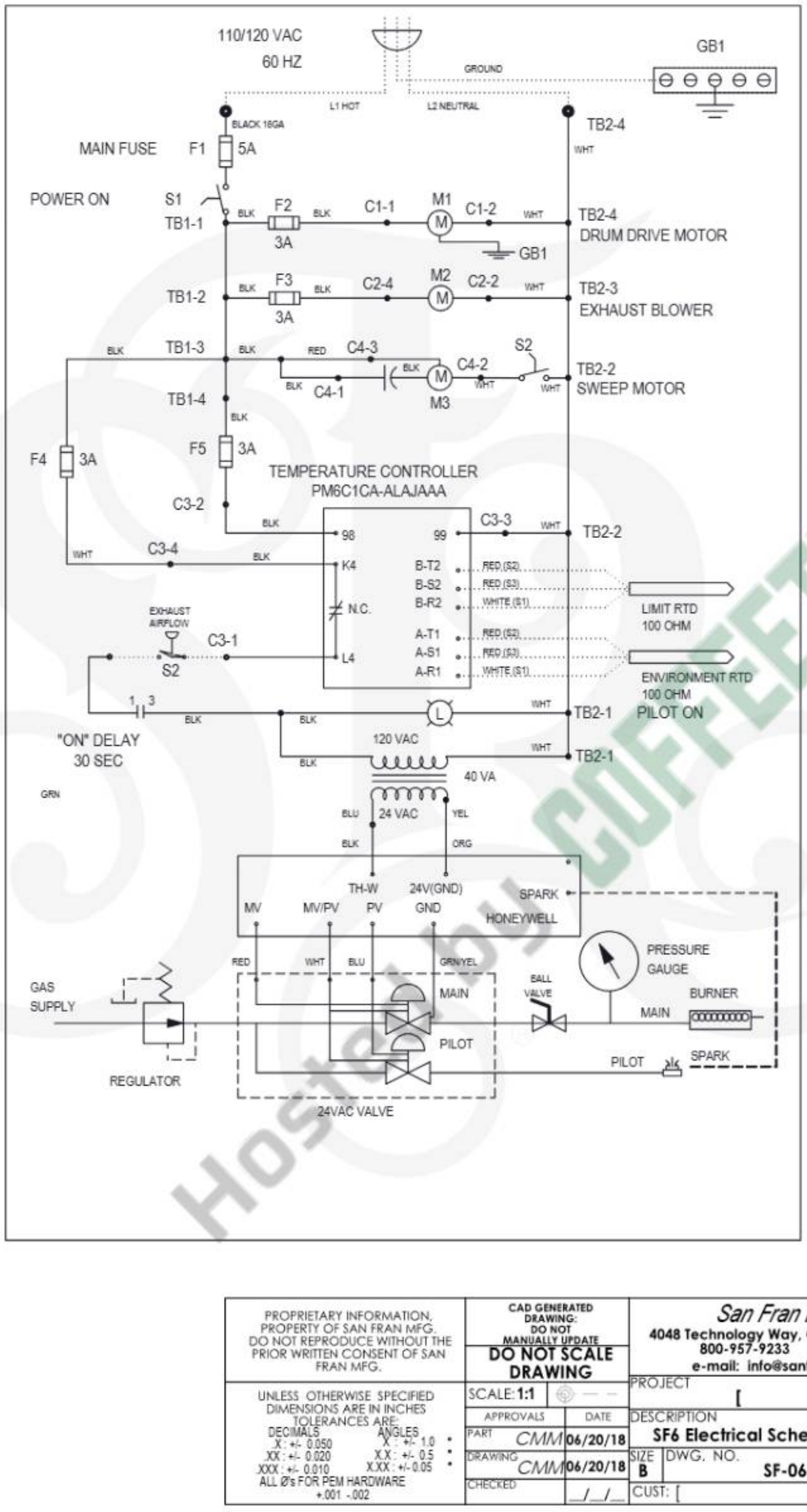
## *Fuse Box Diagram*


**1. Main Fuse**
**2. Drum Drive Motor Fuse**
**3. Blower Motor Fuse**
**4. Cooling Sweep Motor Fuse**
**5. Digital Temperature Readout Motor Fuse**

## *Schematics*




| | | |
|---|---|---|
| PROPRIETARY INFORMATION. PROPERTY OF SAN FRAN MFG. DO NOT REPRODUCE WITHOUT THE PRIOR WRITTEN CONSENT OF SAN FRAN MFG. | CAD GENERATED DRAWING: DO NOT MANUALLY UPDATE<br>**DO NOT SCALE DRAWING** | *San Fran Mfg.*<br>4048 Technology Way, Carson City, NV 89706<br>800-957-9233 intl: 775-996-2280<br>e-mail: info@sanfranroaster.com |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>DECIMALS: .X: +/- 0.050, .XX: +/- 0.020, .XXX: +/- 0.010<br>ANGLES: X: +/- 1.0 °, X.X: +/- 0.5 °, X.XX: +/- 0.05 °<br>ALL Ø's FOR PEM HARDWARE +.001 -.002 | SCALE: **1:1**<br>APPROVALS / DATE<br>PART CMM **06/20/18**<br>DRAWING CMM **06/20/18**<br>CHECKED __/__/__ | PROJECT [ ]<br>DESCRIPTION **SF6 Electrical Schematic - Honeywell**<br>SIZE **B** DWG. NO. **SF-06-001E** REV. **E1**<br>CUST: [ ] **SHEET 1 OF 1** |

# Section 4: *Roaster Operations*

While roasting coffee, avoid wearing loose clothing or jewelry, and keep hair away from machinery. Always ensure the Pre-Operations Checklist (below) is completed prior to roasting. **Most inconsistencies related to roaster performance are due to improper cleaning and maintenance.**

## *Pre-Operations Checklist*

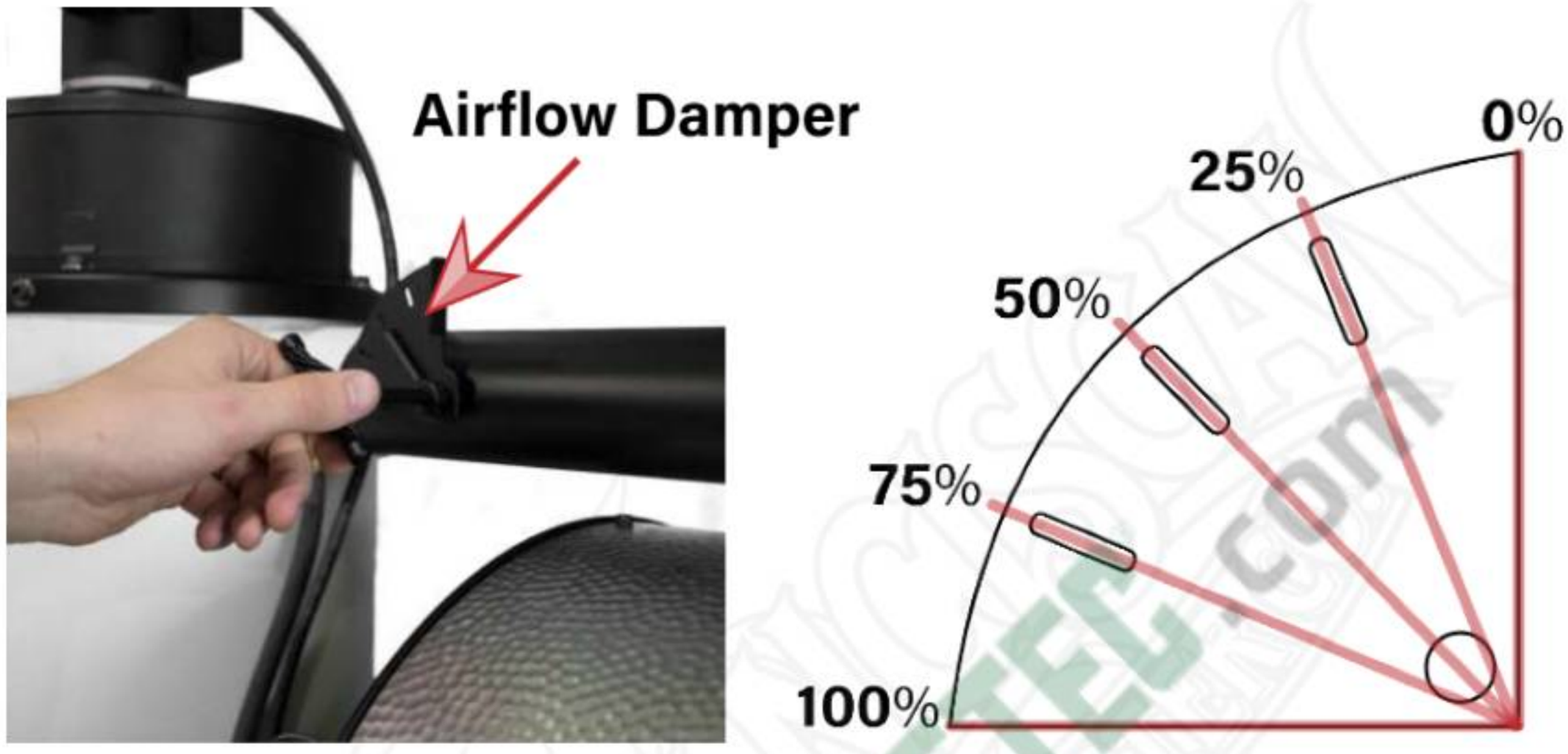
*Before starting your roaster, ensure the following cleaning tasks are completed on a daily basis. Failure to do so may result in fire, injury, and/or death. The execution of these tasks are detailed in the maintenance section of the manual.*

**Before each roast:**
- Clean the chip tray.
- Clean the cyclone.

**Additional Notes:**
- Ensure that gas and electricity are provided to the roaster.
- Ensure that all maintenance is up to date according to the schedule.

## *Warming Up the Roaster*

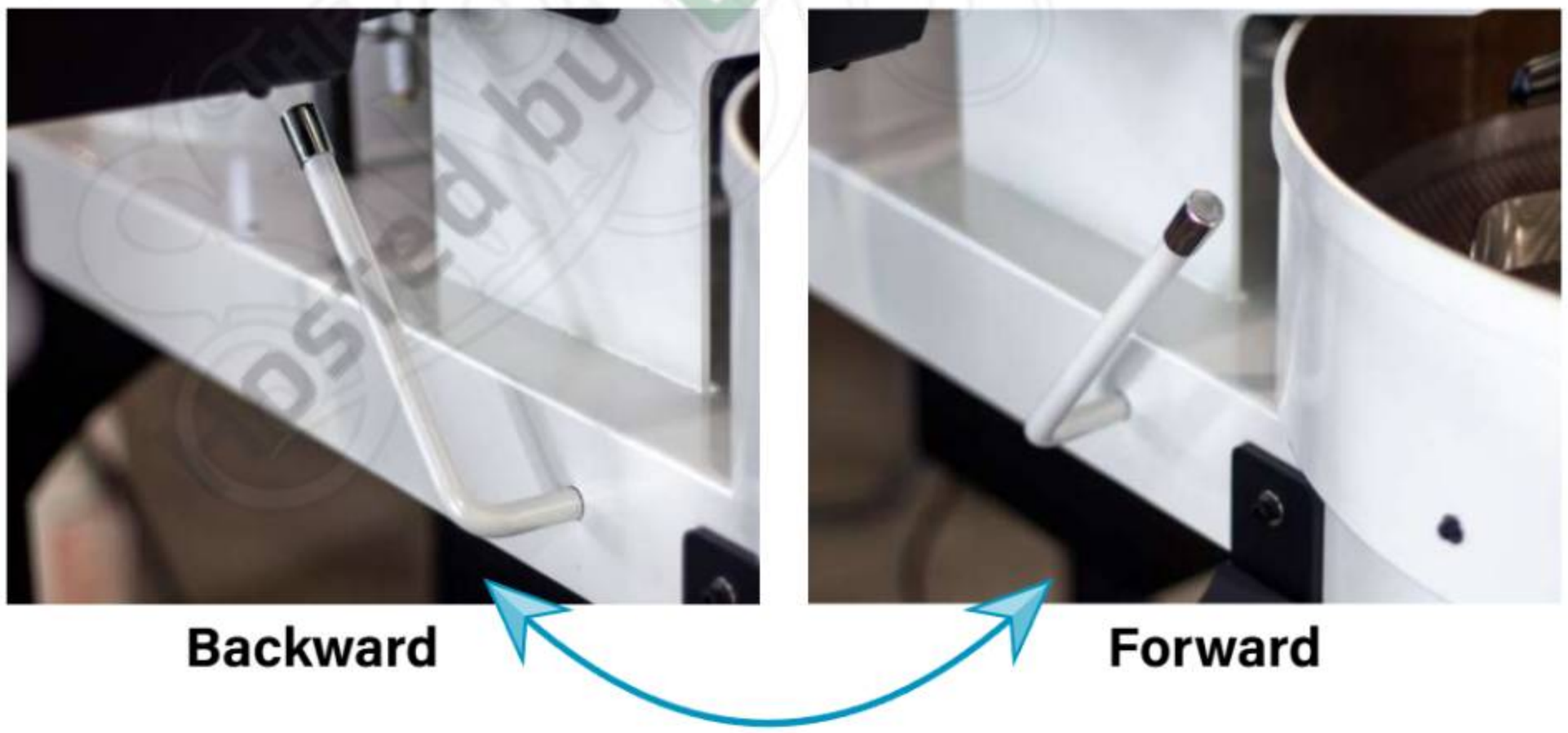
*Image 3.1*




**Step 1:** Switch roaster on. Drum and exhaust fan will begin rotating.

**Step 2:** Adjust airflow damper to 50%.

*Image 3.2*

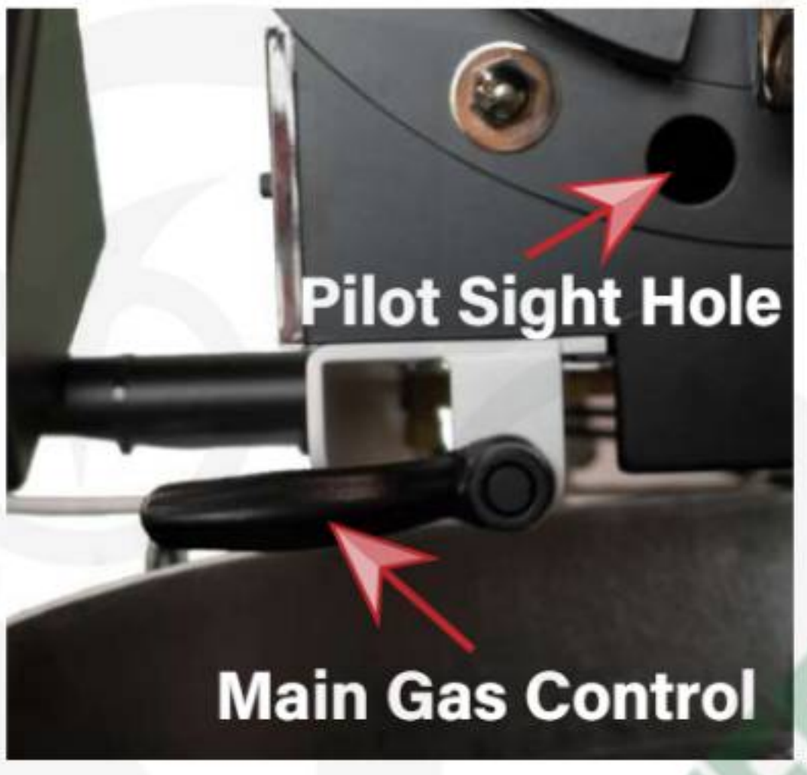



**Step 3:** Ensure the cooling tray air control lever is pushed back. This will direct air through the drum.

**Step 4:** The pilot will wait 30 seconds to purge the system. After 30 seconds the pilot igniter will fire intermittently until the pilot ignites*. Look through the sight hole below drum to make sure the pilot is lit. After the pilot ignites, you will hear the main gas valve open. The gas will now flow to the main gas control.

**Note: This may take up to five minutes if the line has been properly purged by a gas technician. It may take longer if the raw gas line has not been purged.*

*Image 3.3*

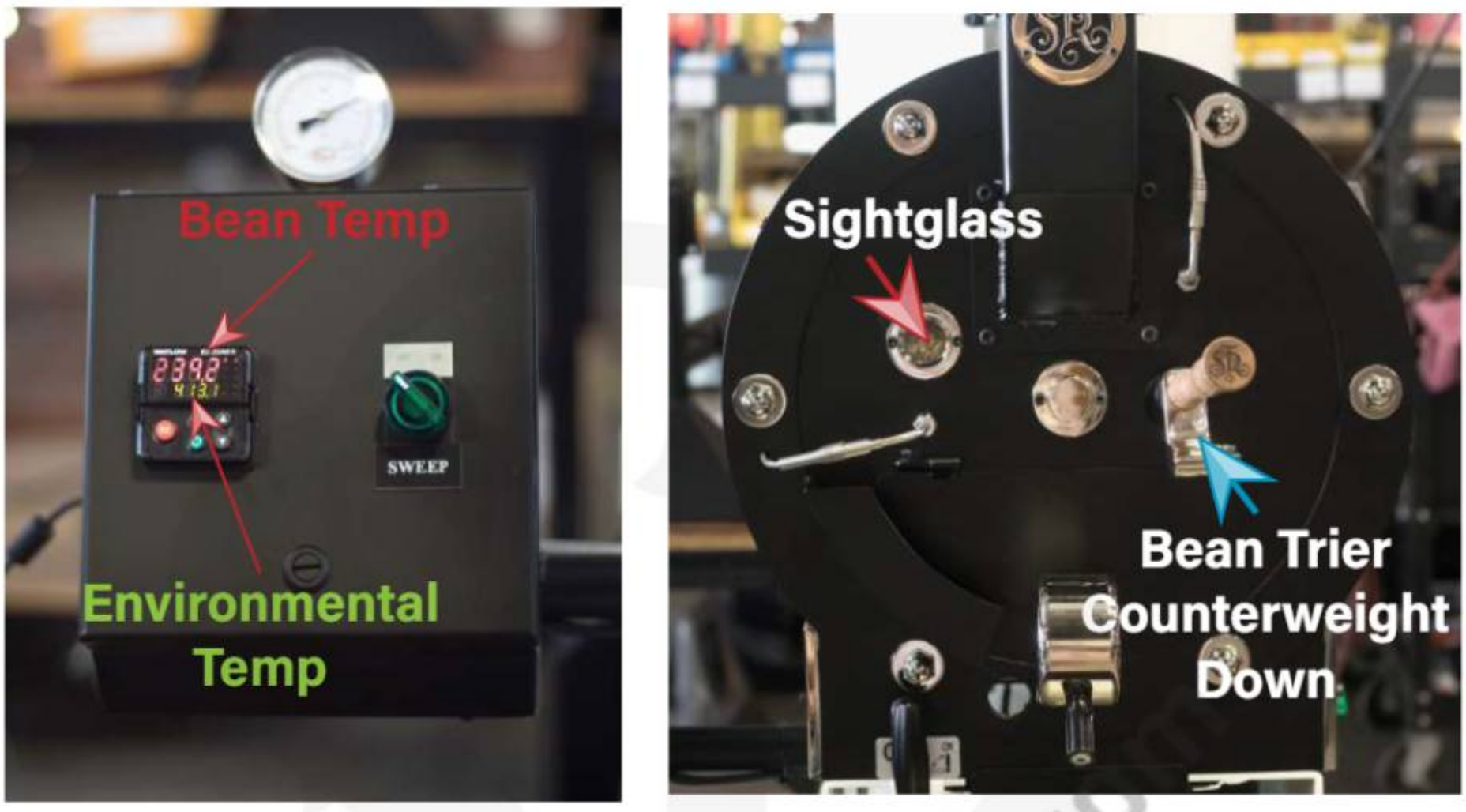



**Step 5:** Turn main gas control up to approximately 20-30% of maximum (approximately 2" water column (WC) for Natural Gas (NG) or 3" WC for Liquid Propane (LP)). NG models are regulated at 7" WC and LP models will are regulated at 11" WC. Warm up machine for a minimum of 20 minutes, or until your desired charge temperature is reached*. Do not leave roaster unattended while it is turned on.

**Note: Heating the roaster too quickly will cause the drum to expand faster than the roasting drum outer skin. This can cause rubbing and may cause the drum to cease in extreme cases.*

## *Roasting*

*Image 3.4*




**Step 6:** Do not allow the bean temperature to exceed 465°. Environmental temperature may be manipulated by adjusting the airflow.

**Step 7:** Monitor roast aromatics with the trier and observe color changes visually through the sightglass. The trier has a counter weight on the handle that shows the orientation of the trier. Always direct trier counter weight down to prevent beans from getting caught in the trier scoop.

## *Post Roast*

**Step 8:** Turn the main gas control to 0%. Direct air through the cooling tray by pushing the cooling tray air control lever forward. Activate the cooling sweep with the sweep switch located on the control panel. Do not place hands in the cooling tray while the sweep is on.

**Note: When air is directed through the cooling tray, air movement in the drum is reduced.*

*Image 3.5*


**Step 9:** Open discharge door. Coffee will drop into cooling tray. Close door as soon as drum is empty.

**Step 10:** After the beans have cooled, open the drop chute of the cooling tray and the cooling sweep will move the beans to the cooling tray drop chute.

**Step 11:** When the cooling tray is completely empty of roasted coffee, turn off the sweep and return the cooling tray air control lever to the backward position.

**Note: Operator may roast and cool coffee at the same time. This may have an impact on air flow in the drum.*

## *Shut Down*

*Image 3.6*


**Step 12:** When finished roasting, allow the roaster to cool *while drum and exhaust fan are turning*. When bean probe temperature reads less than 150°F/65°C, turn off main power switch.

**Note: Do not open discharge door to cool as this will result in a false temperature reading.*

# Section 5: *Maintenance*

*Image 4.1*


1. Roaster
2. Cooling Tray
3. Chaff Cyclone
4. Roaster Stand

# *Roaster*

# *Roaster Diagrams*

*Image 4.2*

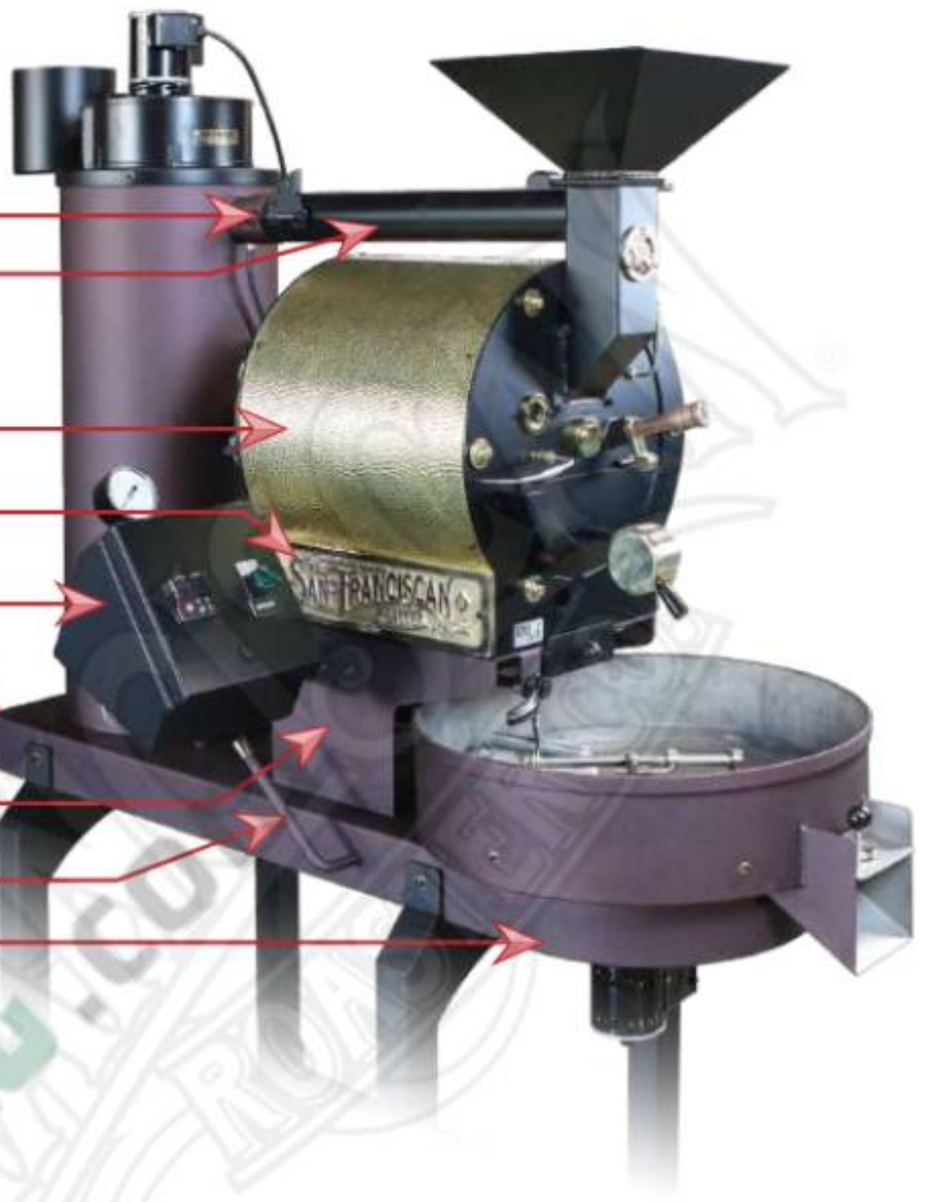
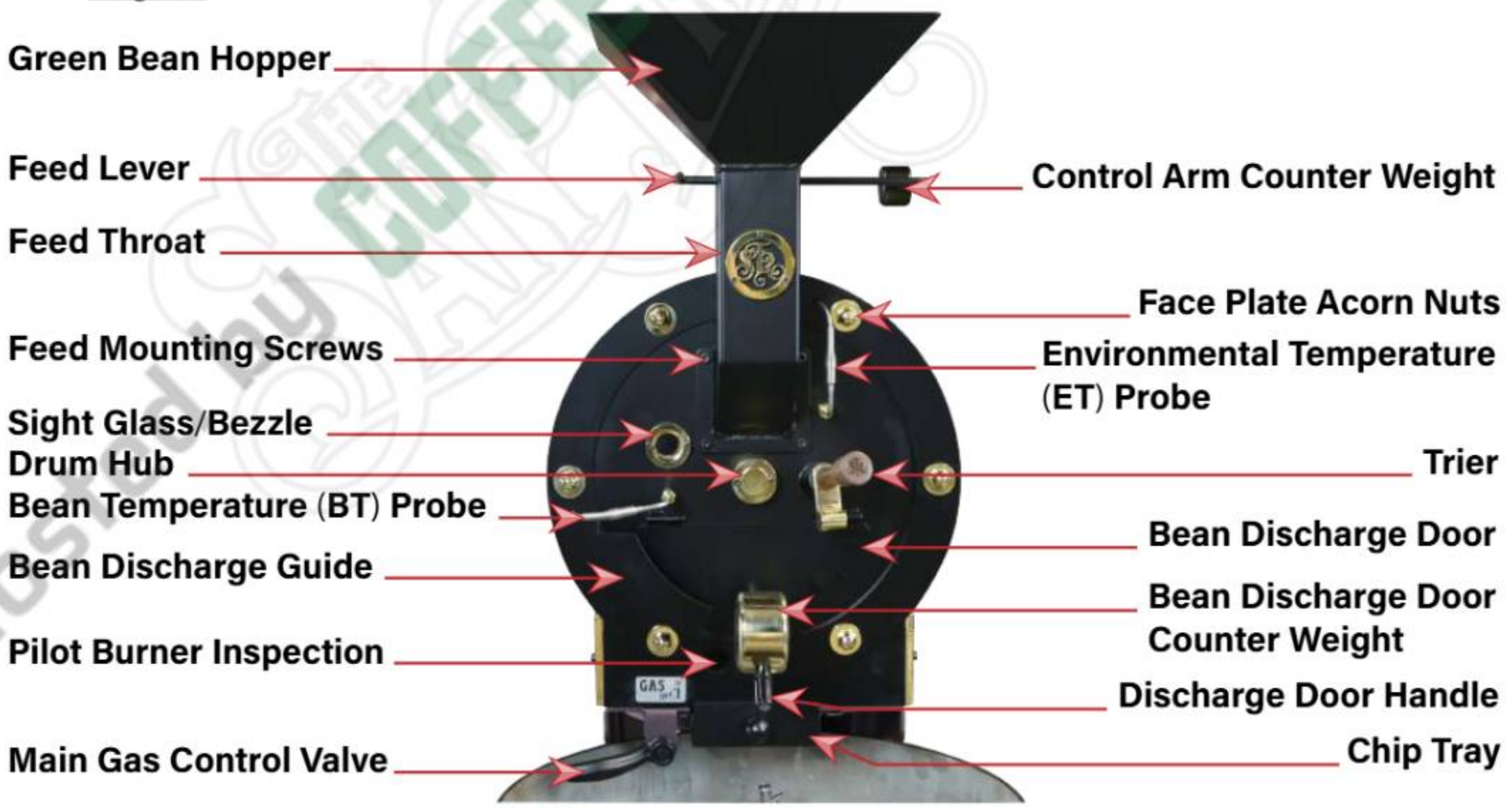
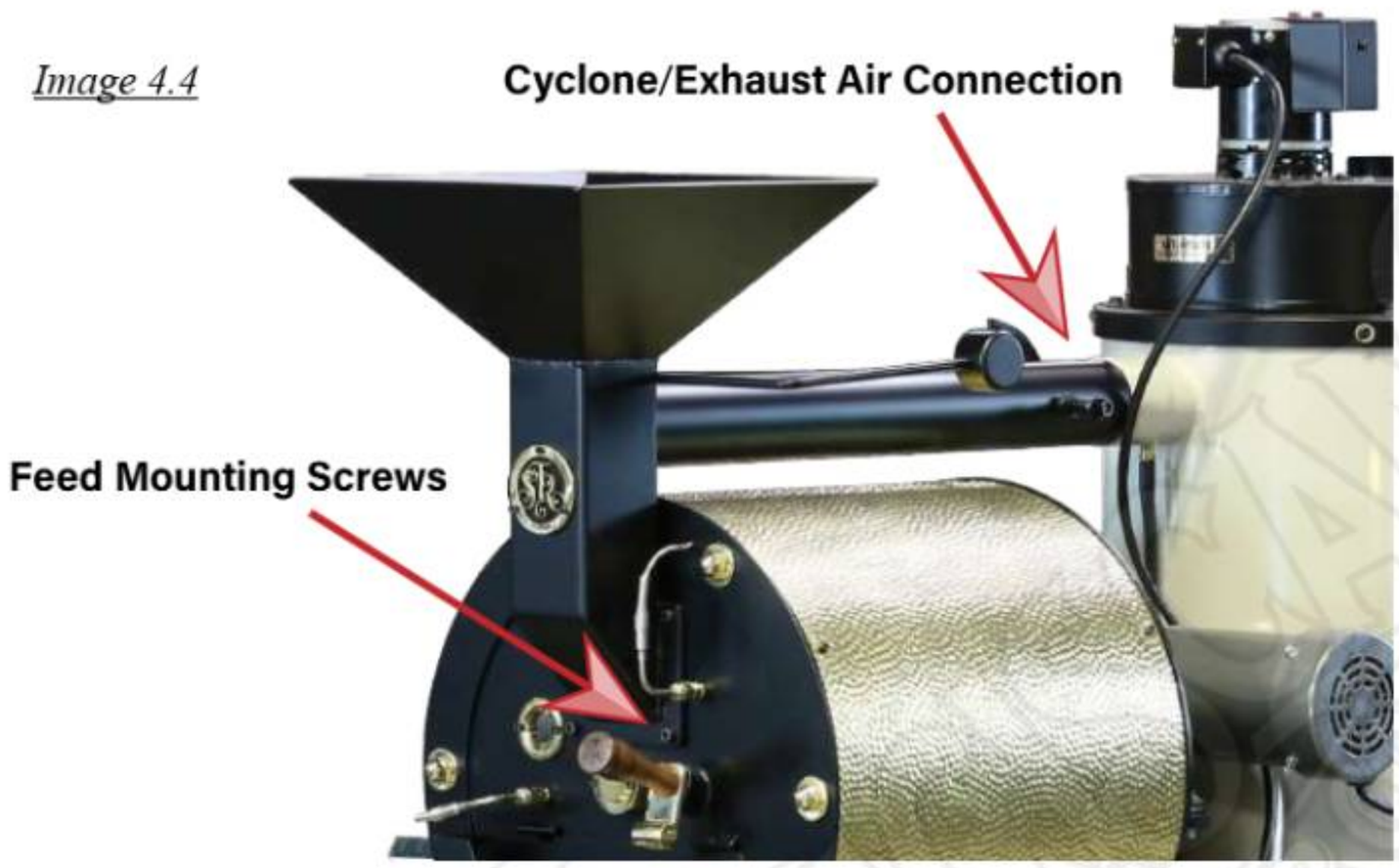



*Image 4.3*



## *Roaster Disassembly*

*Image 4.4*




Remove the four feed mounting screws, and lift the feed throat towards the front of the roaster. The feed throat, hopper, and crossover pipe are all one piece. The end of the crossover pipe should come out of the cyclone connection as straight as possible.

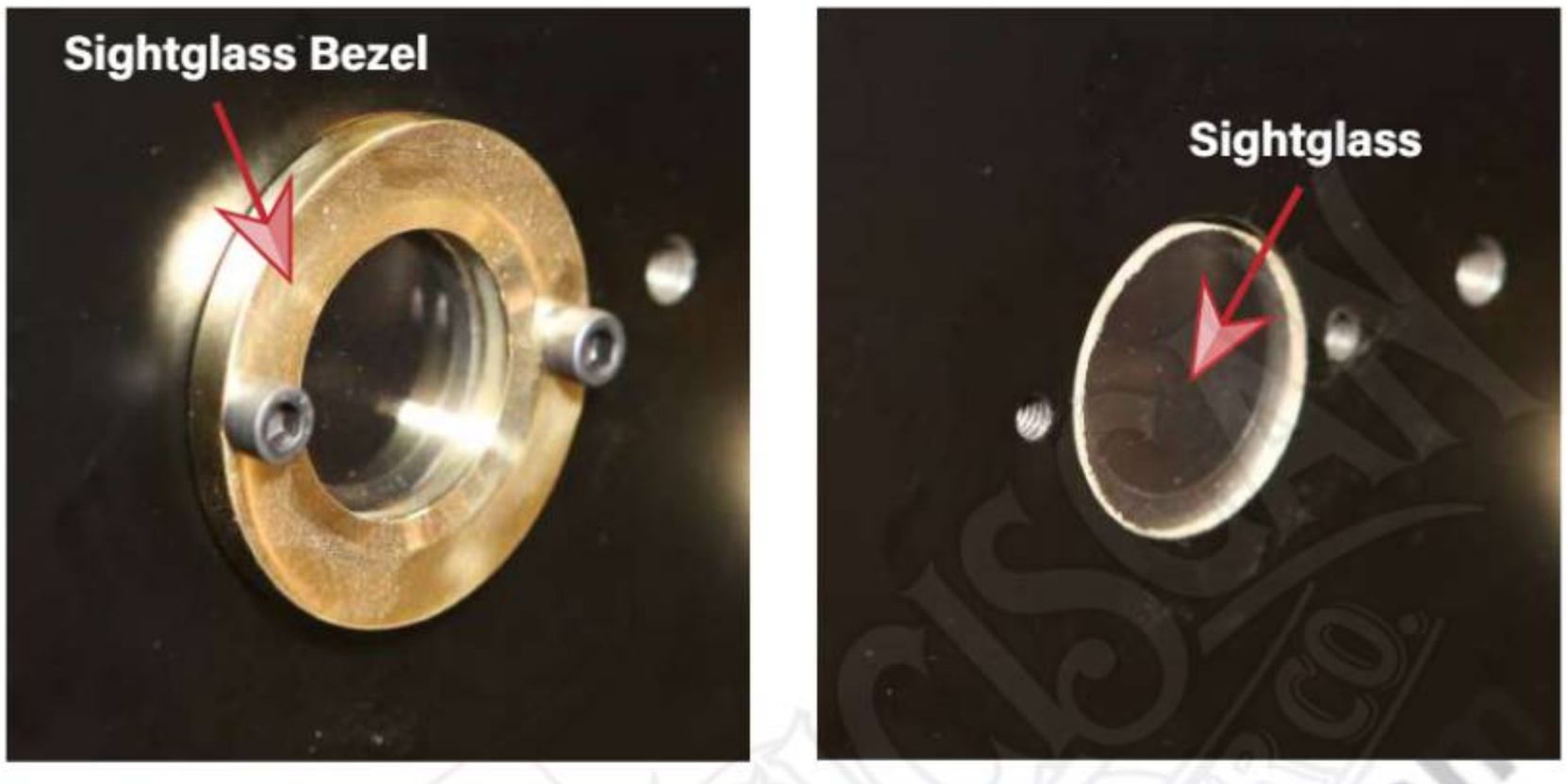
## *Cleaning the Green Bean Hopper*

*Image 4.5*

Begin cleaning the inside of the green bean hopper, and work your way down into the feed throat. Flip the assembly over and clean through the square and round pipe. Use brass wire brushes, brush extensions, and compressed air to remove build-up from the inside surfaces. Use a food safe cleaning solution to loosen debris. Operate airflow and hopper controls to gain better access as needed. Rinse and blow dry with compressed air.

## *Cleaning the Sightglass*

*Image 4.6*




To clean your sightglass, remove the brass sightglass bezel. The glass is free to fall out at this point, but you may need to gently tap the glass from the back side if residue is holding it in the seat. Soak the glass in cleaning solution and then use a flat razor to scrape the glass clean. Clean the sightglass seat, re-seat the glass, and reinstall the sightglass bezel.

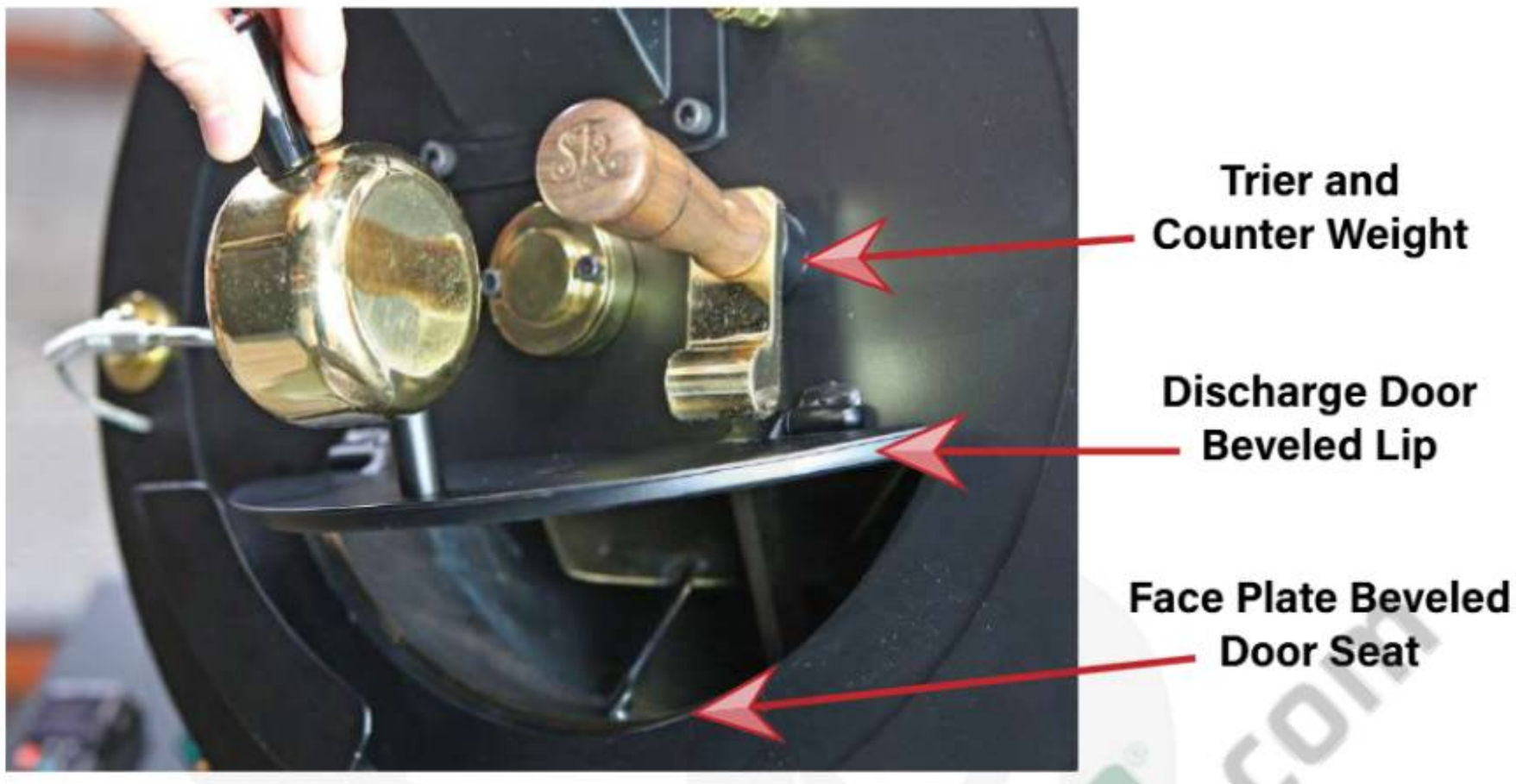
## *Cleaning the Drum Hub*

*Image 4.7*


Access the front drum bearing by removing the two cap screws securing the bearing cap. ***Do not remove the bearing retainer which supports the roasting drum shaft.*** Visually inspect the condition of the bearing and wipe out any debris or old grease. Repack the bearing using a high-temperature food grade grease. Refit the cap with the screws previously removed . The bearing needs to turn freely. If it appears rigid, hard-packed with residue, or makes noise during operation, it may need to be serviced or replaced.

## *Cleaning the Discharge Door*

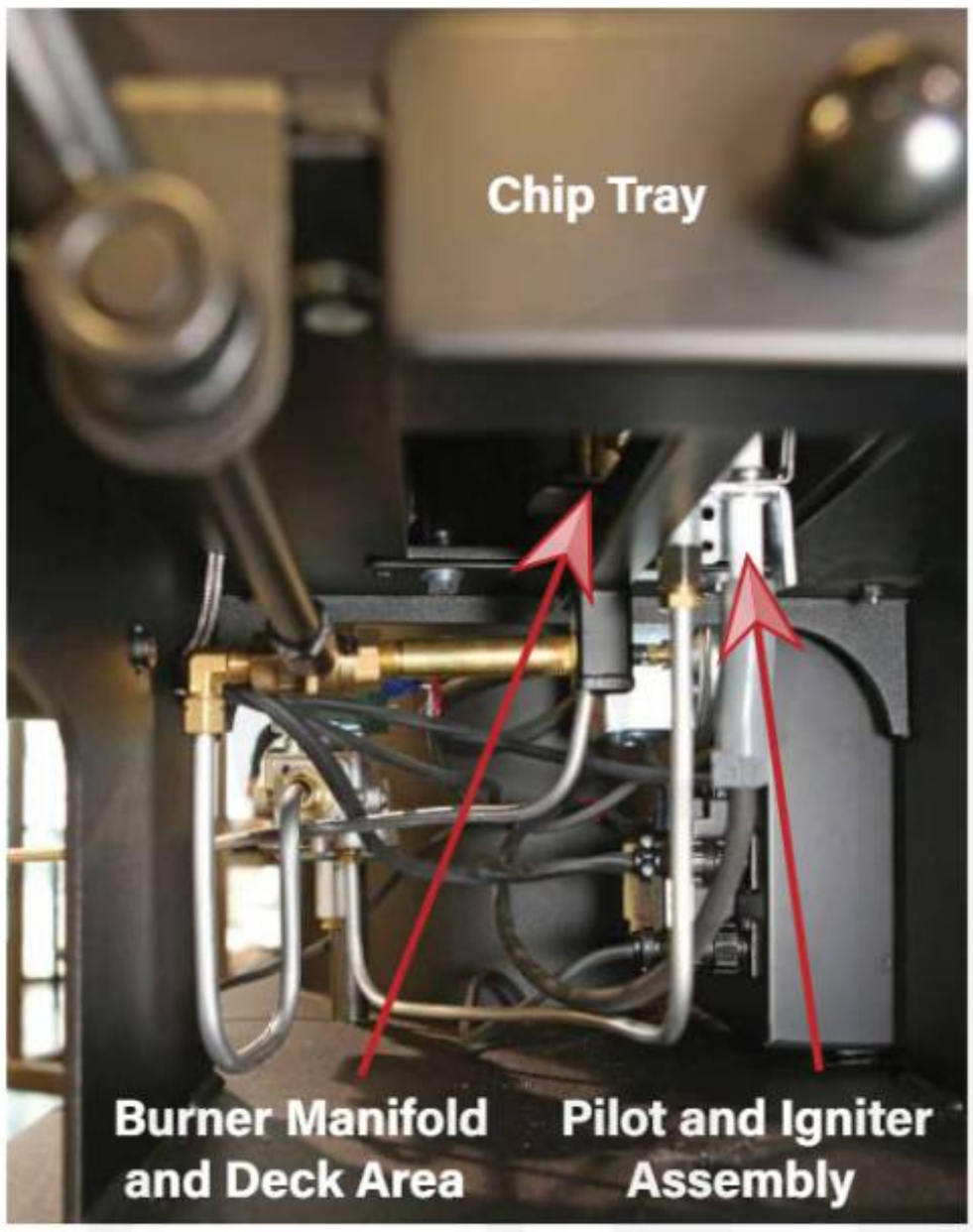
*Image 4.8*

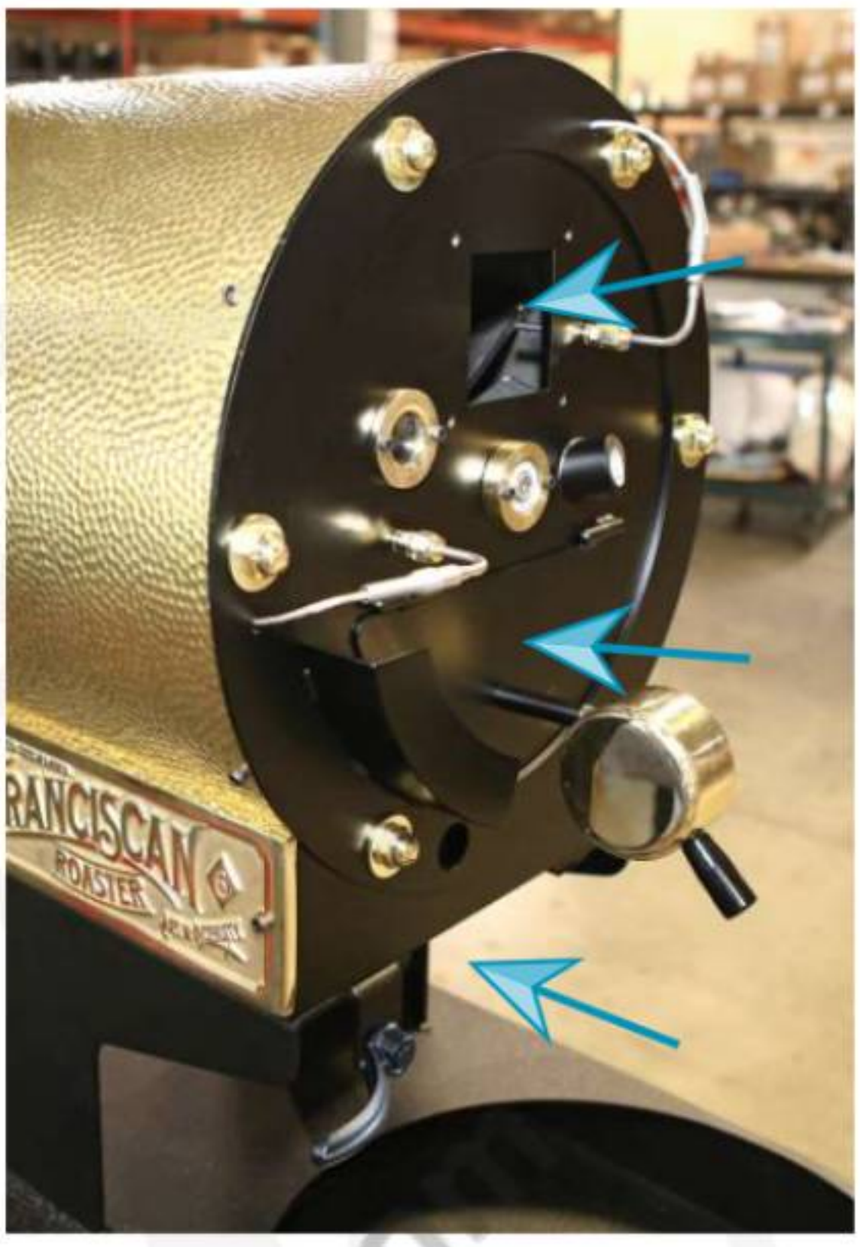



Lift the bean discharge door and wipe around the discharge door beveled lip and face plate beveled door seat. Remove any debris or build-up that may prevent the door from fully closing. Ensure that the weighted door handle is secure. Remove the trier and clean off any debris that may keep it from moving freely.

## *Cleaning the Chip Tray and Burners*

*Image 4.9*

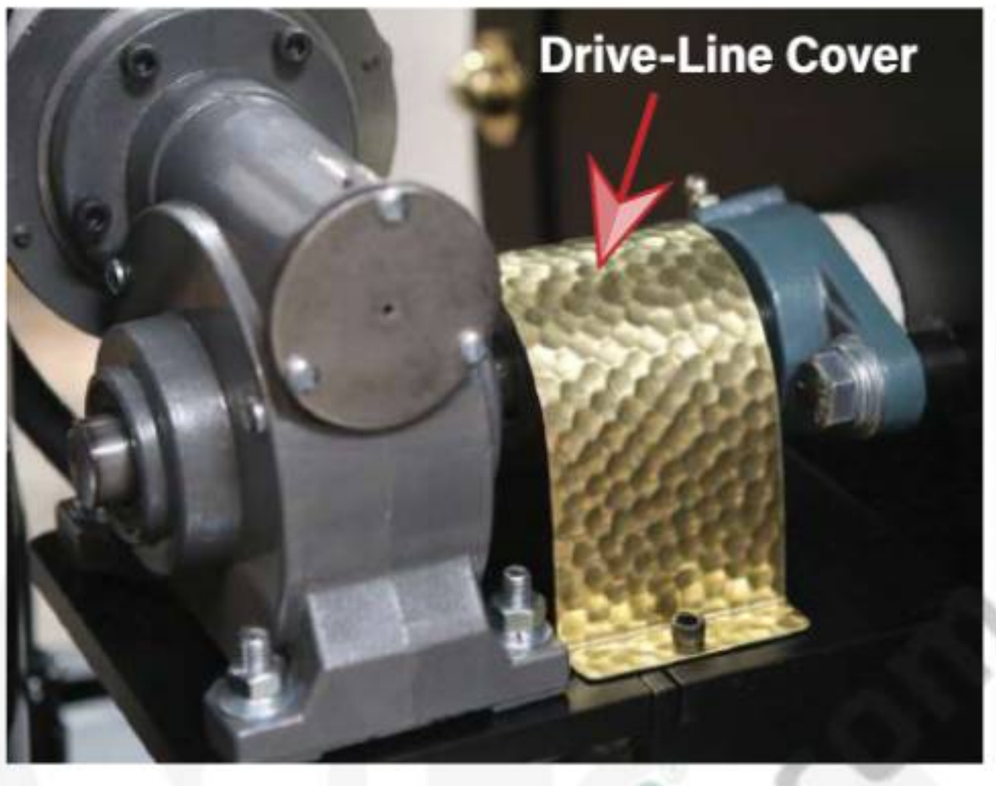



Remove and clean the chip tray. With the tray removed, clean the underside of the roaster around the burners. This can be achieved using compressed air, a soft brush, and vacuum. Do not strike the burners, electrical line, or gas line. Blow compressed air through the face plate opening and bean discharge door towards the rear drum screen to dislodge any build-up of chaff or debris in the rear of the roaster.

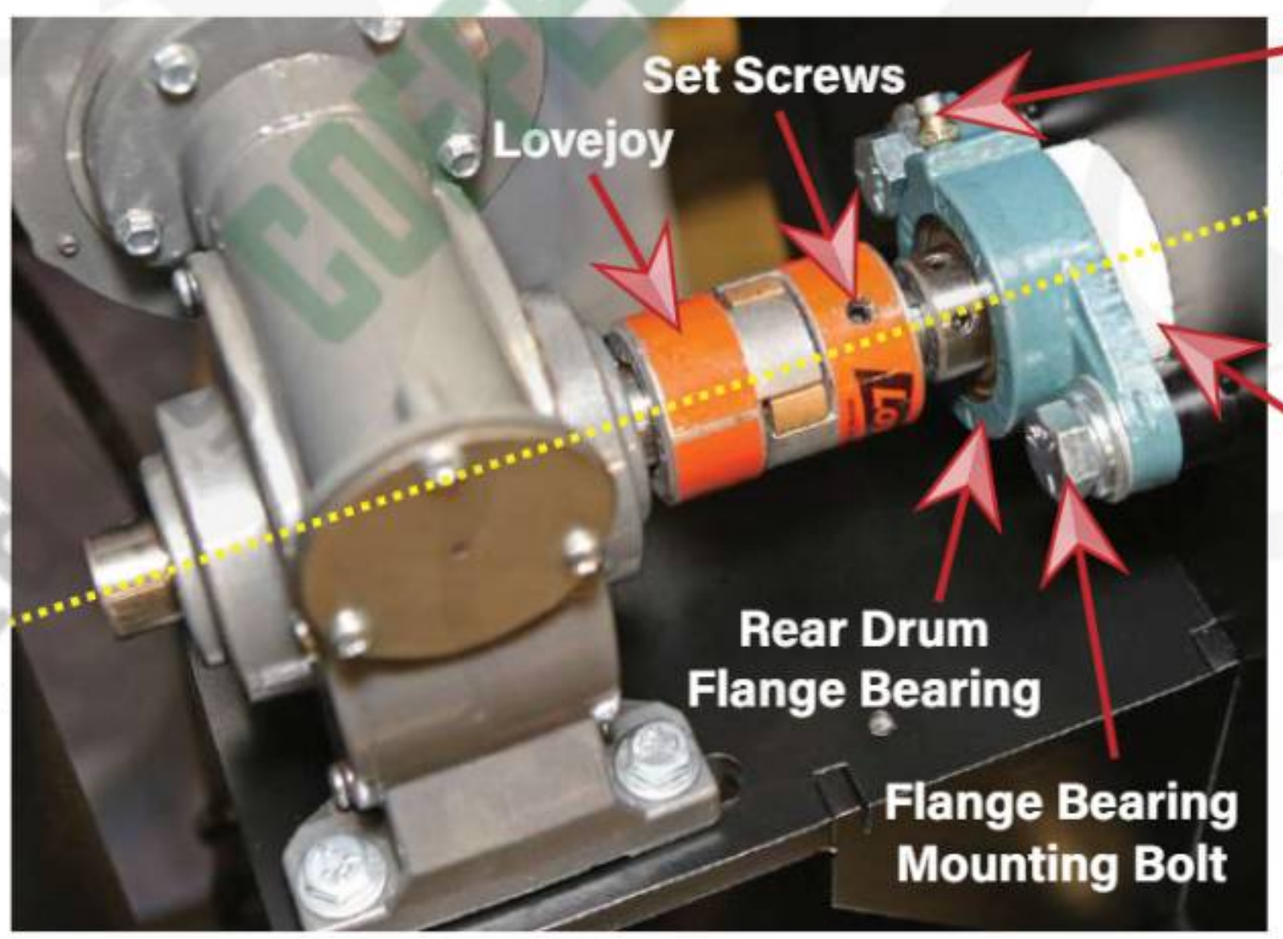
## *Cleaning the Drive-Line*

*Image 4.10*




Inspect the drive components at the rear of the roaster by removing the two cap screws securing the drive-line cover. This is where your gearmotor and drum shaft are connected by the Lovejoy coupling. Visually inspect the parts for unusual wear and take note of any noise during regular operation.

*Image 4.11*

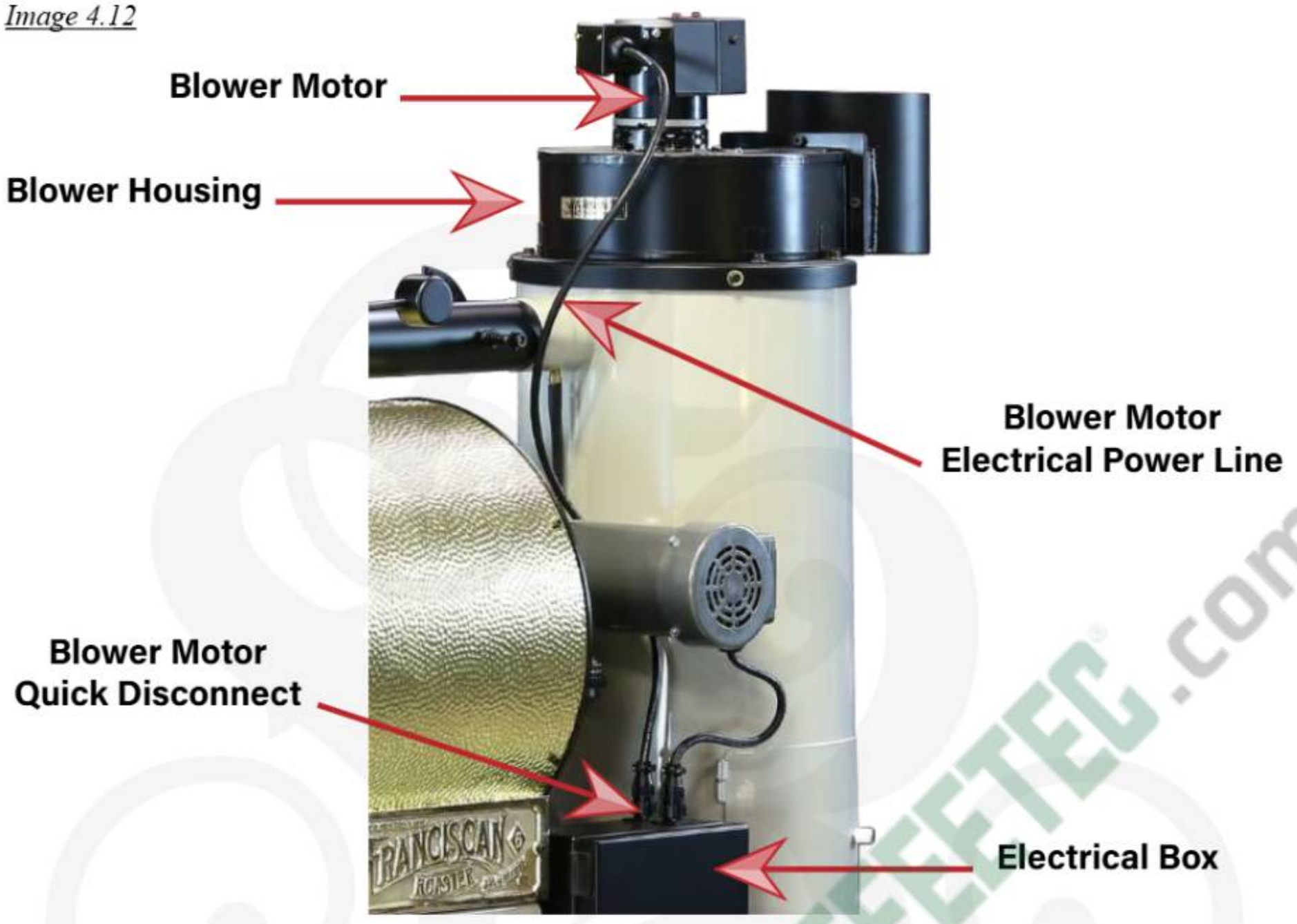



Ensure that the two rear drum flange bearing mounting bolts are evenly snug. Inject a high-temperature food safe bearing grease through the Zerk grease fitting. If the high-temperature thermal gasket is missing or does not appear whole, it should be replaced. If the bearing appears hard-packed with residue, damaged, or is making noise during regular operation it may need to be serviced or replaced. Reinstall the drive-line cover. The guard should be in place when the roaster is turned on.

# *Cyclone*

## *Cleaning the Cyclone*

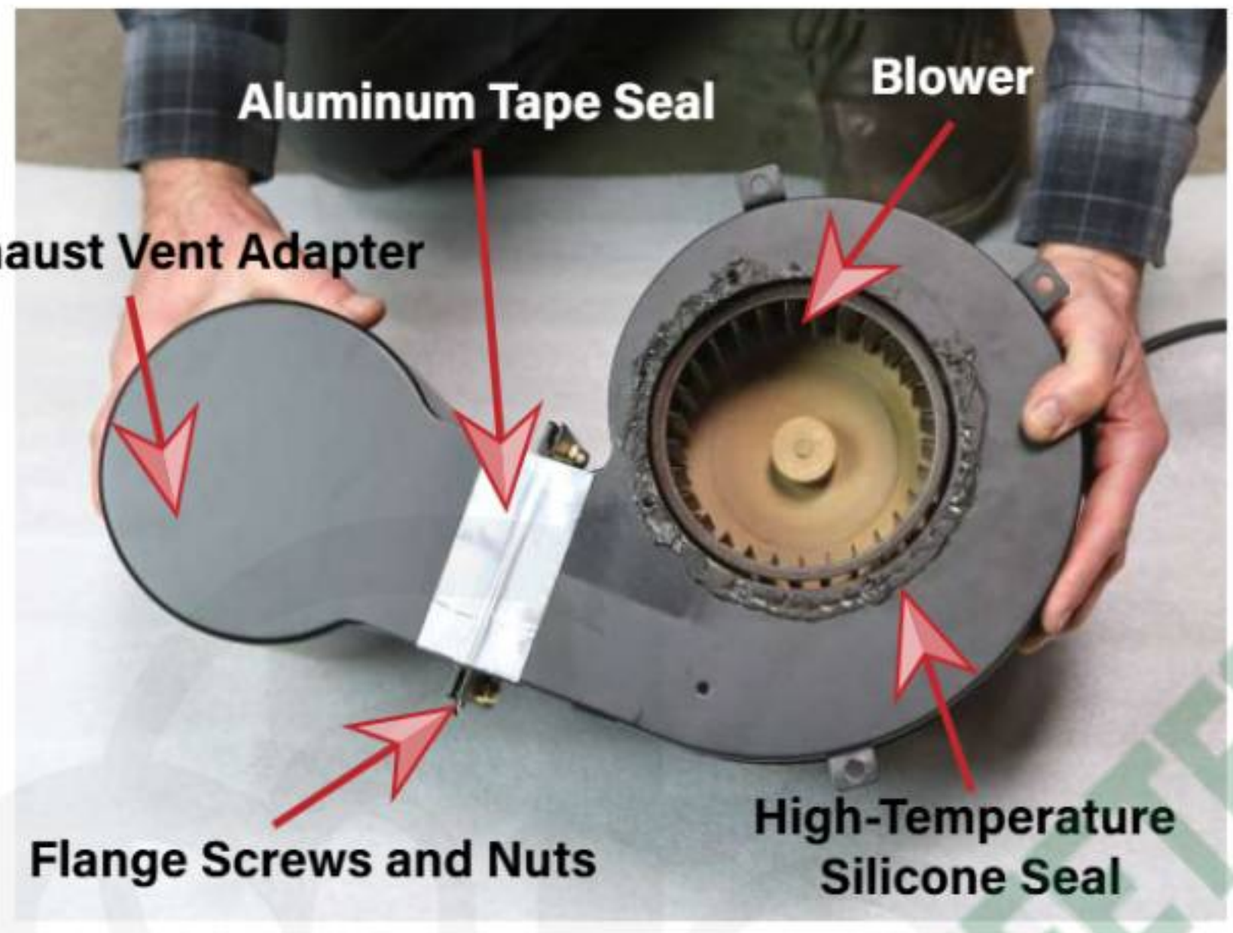
*Image 4.12*




Trace the blower motor electrical power line to the electrical box and disconnect it by turning the quick connector. The electrical line is hard-wired at the motor and is never disconnected.

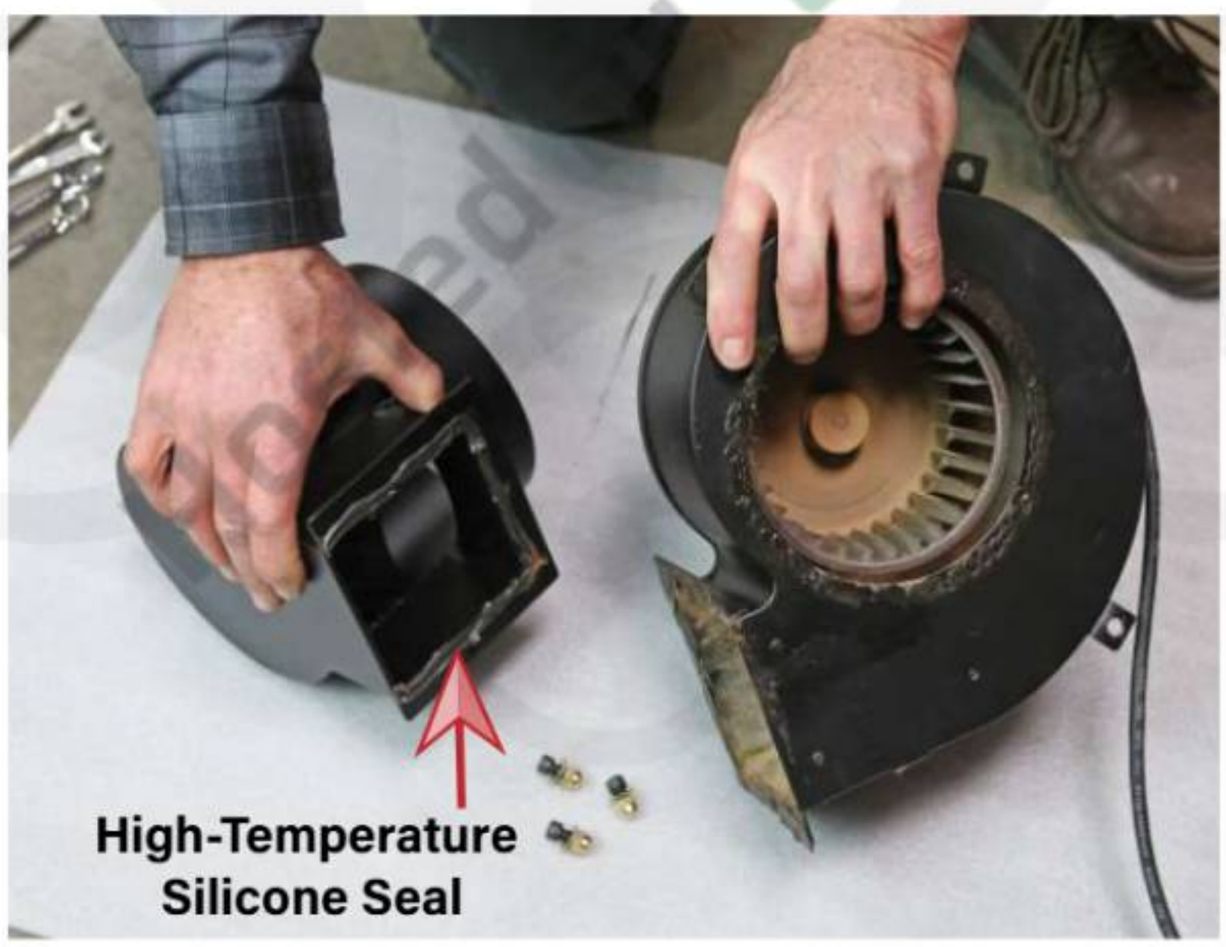
With the blower motor electrical line disconnected, separate the blower assembly from the top of the cyclone by removing the four mounting screws and washers.

*Image 4.13*



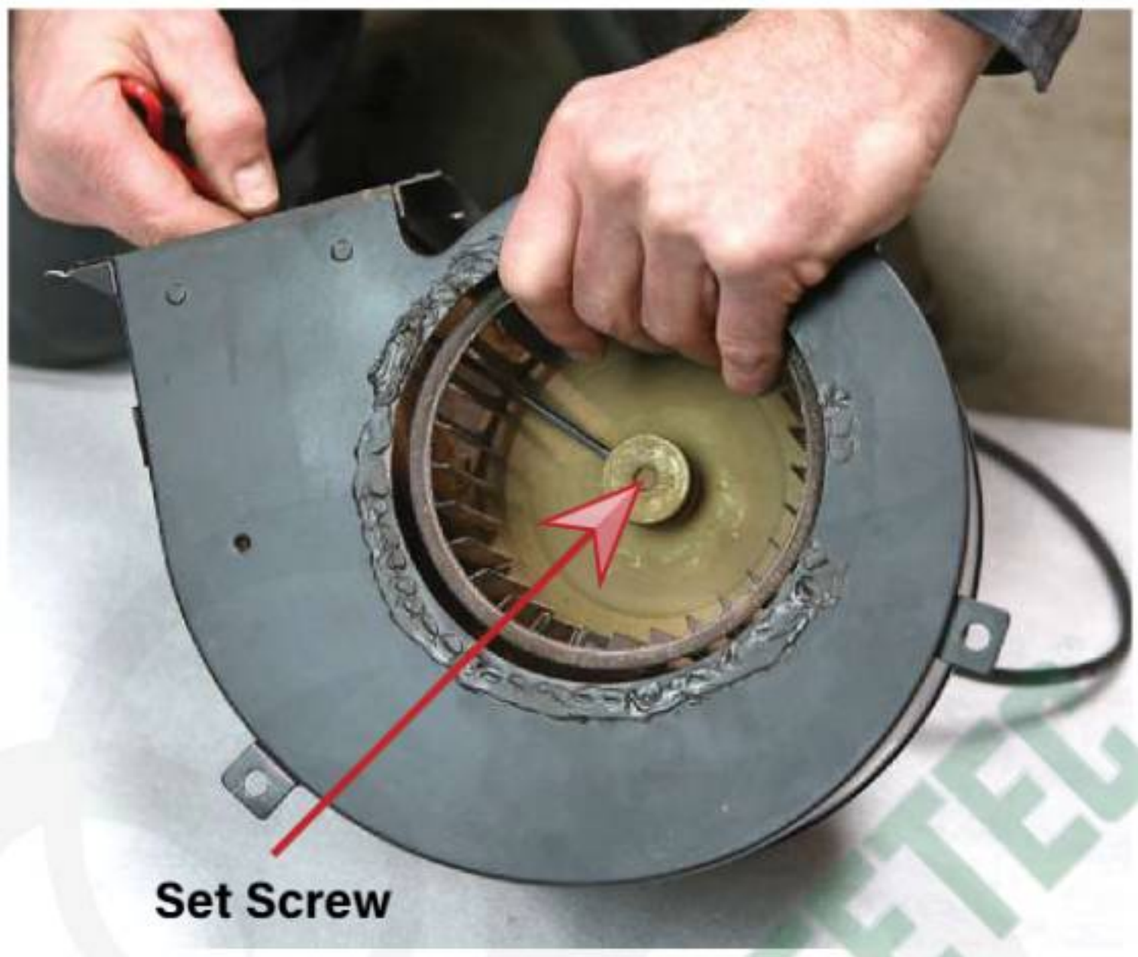

Clean the fan blades from the intake side of the blower. Use compressed air to blow out debris. Take note of the aluminum tape seal covering the joint between the blower and the exhaust vent adapter. If the tape is damaged it should be replaced before reassembly. Turn blower over.

*Image 4.14*




If there is an obvious build-up of residue at the exhaust vent adapter, take the blower assembly apart for better cleaning access by removing the three flange screws and nuts. You will need to cut the aluminum tape seal for disassembly. Also note the condition of the high-temperature silicone seal around the square flange of the vent adapter.

*Image 4.15*




Remove the fan from the motor shaft by loosening the set screw on the set collar. Access the set screw through the blower opening and in-between the fan blades.

*Image 4.16*


Remove the fan motor by removing the mounting screws.

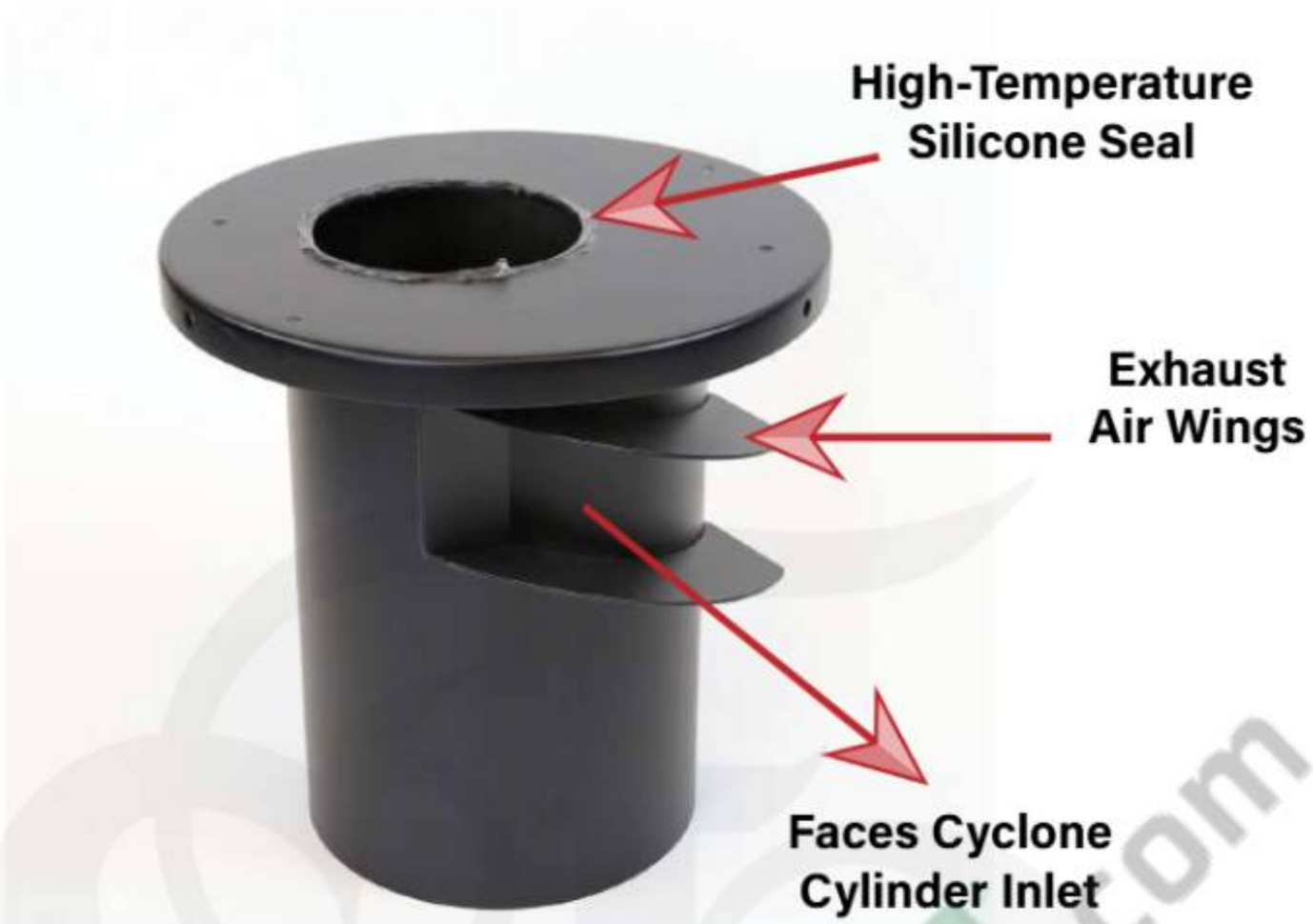
*Image 4.17*


With the blower fan and housing now free of any electrical components, a wet cleaning solution can be applied. Allow the parts to soak. Use small scrub brushes to help loosen residue and debris. Rinse and dry when finished cleaning. Re-apply a bead of high-temperature silicone to the blower housing around the fan intake opening if necessary.

*Image 4.18*

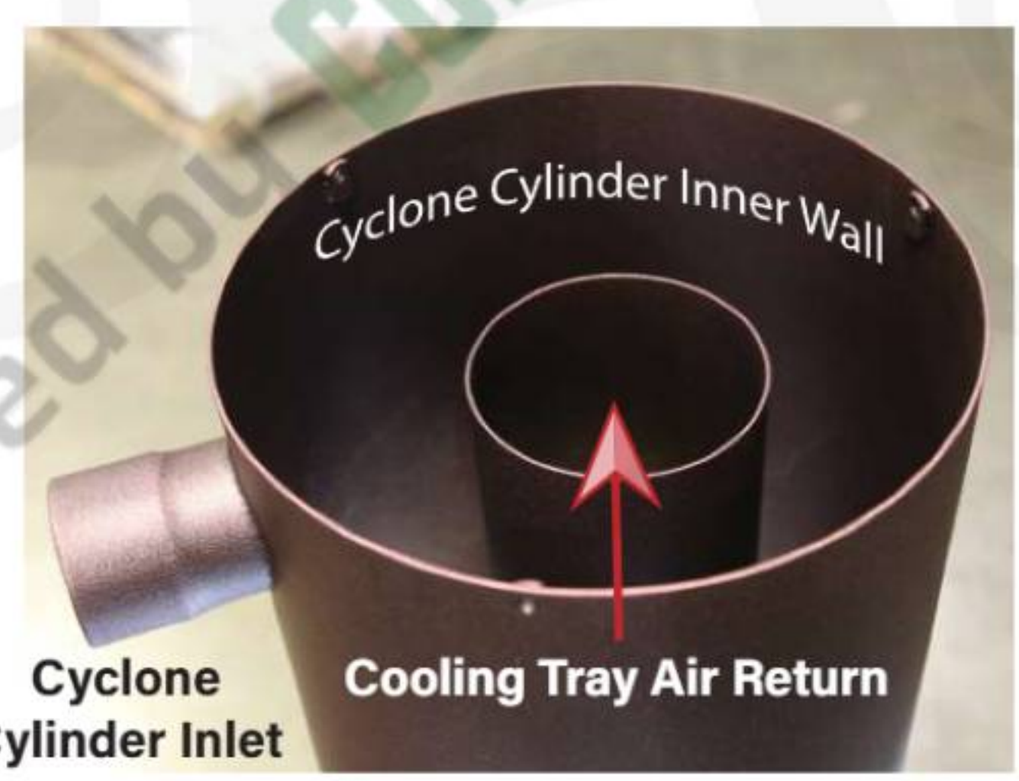

Remove the three cap screws and washers securing the cyclone cap. Lift the cap straight up and out of the cylinder, marking the orientation between the cap and the cyclone cylinder inlet with painter's tape or something similar.

*Image 4.19*



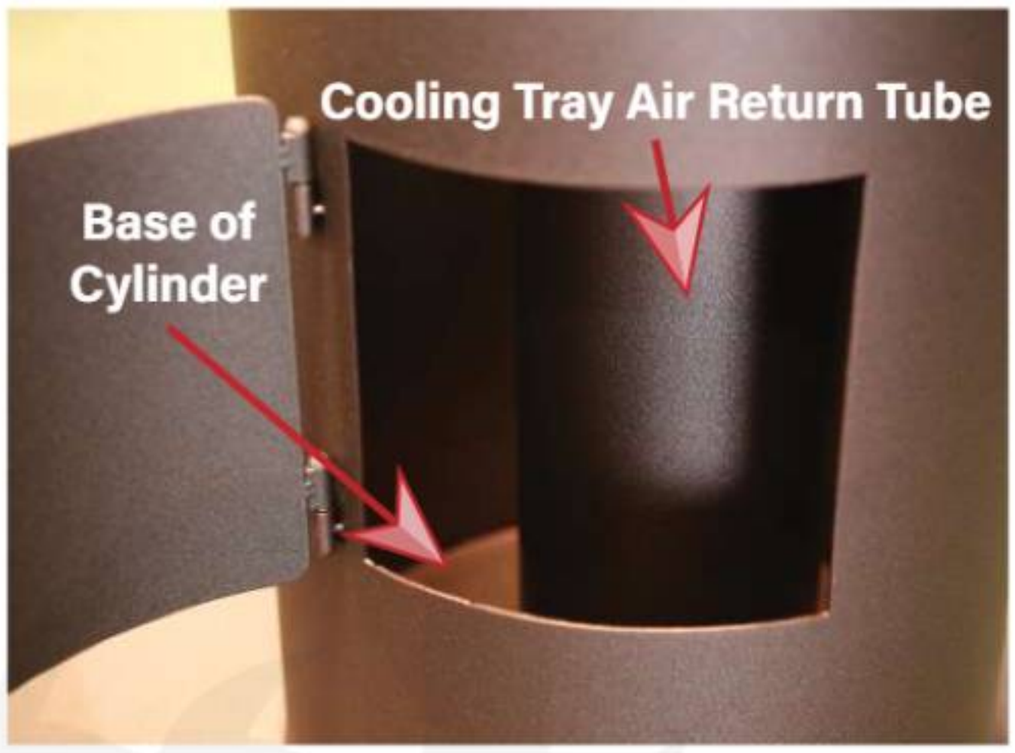

Notice the position of the internal exhaust air wings. Upon re-installation these must face forward in line with the cyclone inlet. Your cyclone cap screw holes will also be in alignment when installed properly. Clean the cap inside and out of any residue or debris. Inspect the high-temperature silicone seal around the cap opening (top). If it is worn or missing, apply a new bead around the opening. Let the silicone dry before remounting the blower.

*Image 4.20*



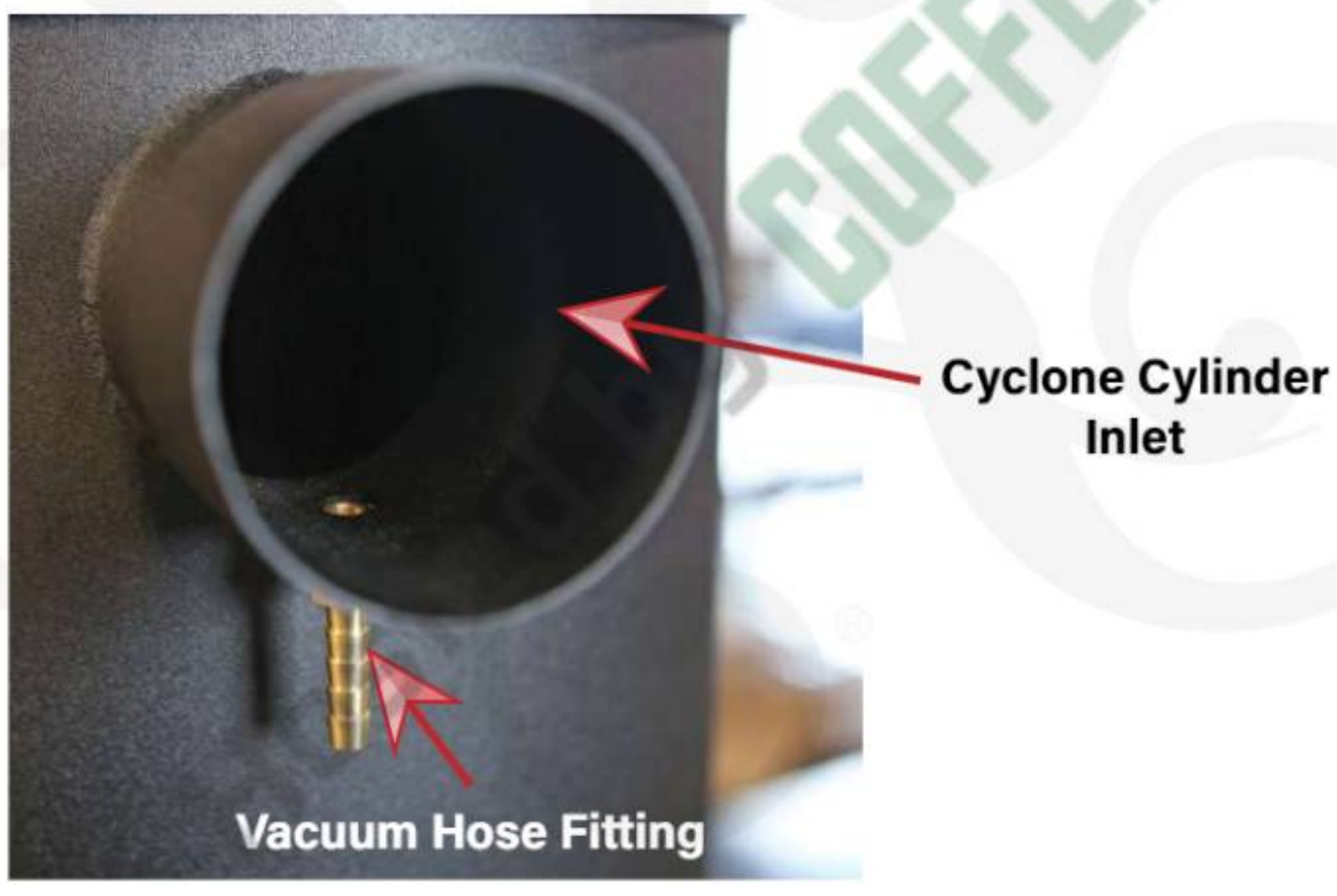

Starting at the top of the cyclone cylinder opening, work your way down and brush and wipe clean any residue from the inner walls and cooling tray air return (center). Allow loosened debris to fall to the bottom of the cyclone. Vacuum and wipe out center of cooling tray air return tube.

*Image 4.21*




Open the chaff/clean out door to access the inside of the cyclone cylinder. Vacuum out all of the loose chaff and debris within. Wipe the inner cylinder walls and cooling tray air return tube with a damp cloth. When finished, make sure the door is closed securely to ensure good vacuum upon restarting the roaster.

*Image 4.22*




Remove the vacuum hose and barbed fitting located on the bottom side of the cyclone inlet. Clean the inlet tube of the cyclone while the fitting is removed. Ensure that the fitting is clear and free of any debris. Replace the fitting and hose.

## *Cooling Tray*

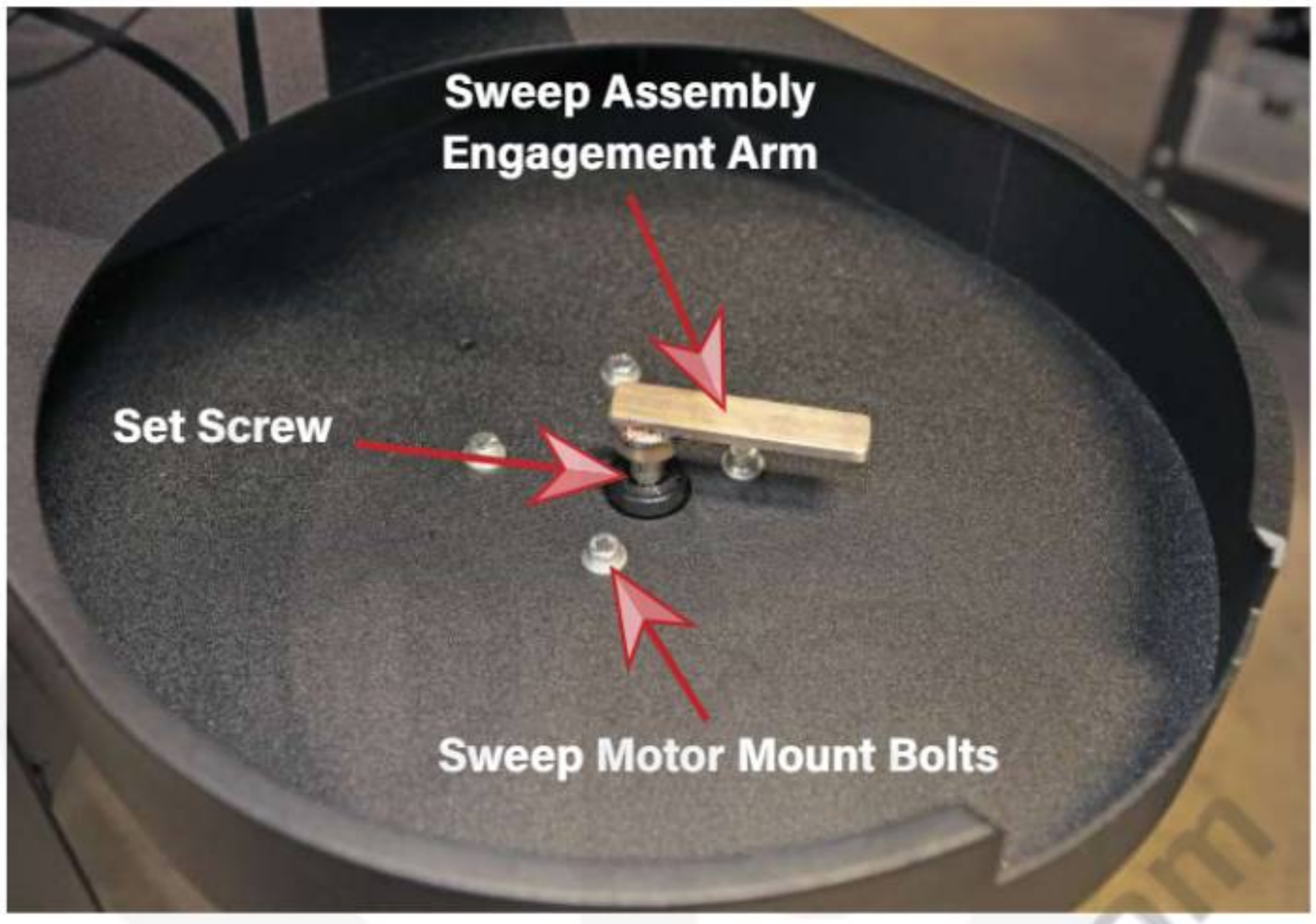
# *Cooling Tray Diagram*

*Image 4.23*


1. Cooling Tray
2. Cooling Screen Retainer
3. Primary Sweep Arm
4. Center Sweep
5. Center Sweep Adjustment Screw
6. Center Sweep Adjustment Arm
7. Curved Sweep Blade
8. Bean Discharge Door
9. Discharge Door Knob
10. Cooling Tray Discharge
11. Outer Sweep Spring
12. Outer Sweep Adjustment Screw
13. Outer Sweep Paddle Holder
14. Outer Sweep Teflon Paddle
15. Cooling Tray Screen
16. Cooling Tray Drive Hub
17. Screen Retainer Screw
18. Discharge Door Magnet

## *Cleaning the Cooling Tray*

*Image 4.24*




Lift your cooling tray out of the lower deck and blow off any debris (top and bottom sides) with compressed air. You may need to loosen two screws located below the tray (bottom left/right) first. Set it in a place where you can wash and scrub it clean.

Clean the deck pan where the cooling tray assembly sits. Vacuum and wipe the surfaces with a damp cloth. Check that the four sweep motor mount bolts are equally tightened. Ensure that the set screw is securely tightened on the sweep assembly engagement arm collar.

Apply a generous amount of cleaning solution to the tray, cooling screen, and sweep components. Let it soak. When you sense that the bean oils are starting to dissolve and loosen, apply more cleaning solution in smaller areas and work the surfaces with a scrub brush until clean. A toothbrush works great for the details. Rinse the entire assembly with clean water and dry. Compressed air will expedite the drying.

Reinsert the cooling tray and inspect the overall condition of the sweep components for wear and proper adjustment. Ensure the rotating sweep components operate parallel to the cooling screen and the sweep mechanism discharges all of the beans during operation.

**Note: Do not let water sit in the tray for long periods of time.*

*Image 4.25*

Check the Teflon paddle for wear and alignment. If the Teflon paddle is worn down or catching the tray as it rotates, it should be replaced.

## *Reassembly*

### Reassemble the rest of your roaster in reverse order of cleaning...

1. Install cyclone cap.
2. Mount and secure blower assembly.
3. Reconnect blower electrical line to the electrical enclosure.
4. Install crossover pipe/hopper assembly.
5. Thanks for loving your San Franciscan Roaster!

### Recommended cleaning intervals...

- Empty chip tray after every roast and safely discard contents.
- Clean out cyclone after each day of roasting, but NEVER vacuum until contents are cool.
- Each month: Grease front and rear drum bearings.
- Each month: Remove cooling tray, and blow out chaff build-up.
- Each month: Blow off area around burners and up around the rear of the drum.
- Every quarter: Remove fan assembly and clean fan. Disassemble if needed.
- Six months: Remove and clean crossover pipe/hopper assembly.
- Six months: Remove cyclone cap and clean cap and inner cyclone chambers.

Cleaning intervals will depend on how often, and how dark you roast, as well as the cleanliness of the green coffee. Keep in mind that any restrictions in the roasting system can prevent your roaster from igniting, can increase roasting times, diminish performance, and negatively impact flavor in the cup.

If you have any questions about maintaining your San Franciscan Roaster or replacement parts, please contact our Support team.

THE SAN FRANCISCAN ROASTER CO.®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