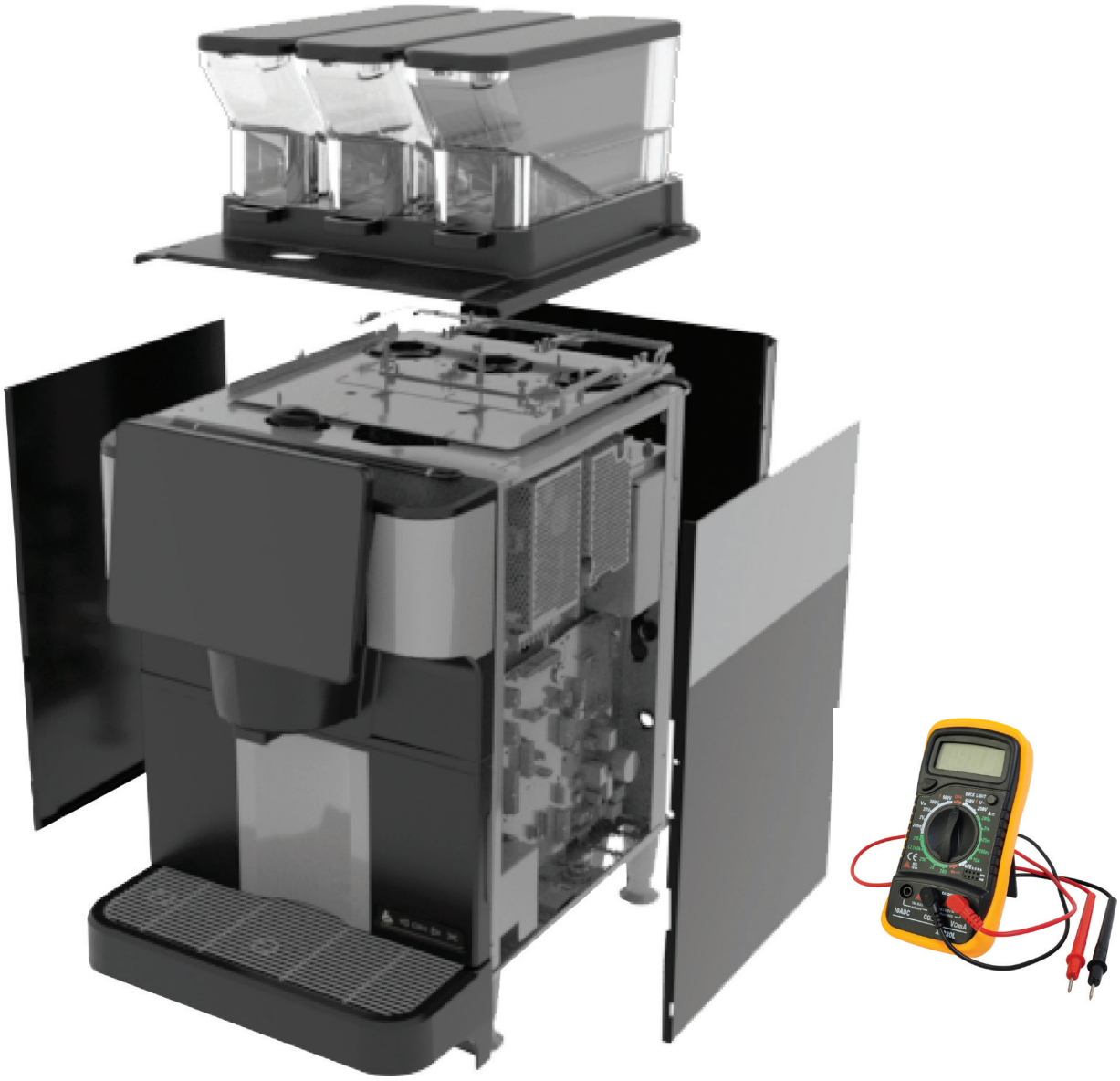
Fast Cup®

Bean-to-Cup Single Serve Brewer



SERVICE & REPAIR MANUAL

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57471.0000 D 05/17/24 **www.bunn.com**

BUNN-O-MATIC COMMERCIAL PRODUCT WARRANTY

Warranty statements and information can be found on our website. Please visit https://commercial.bunn.com/support/warranty-lookup for further details.

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TROUBLESHOOTING

A Problem Reference Guide that includes Machine Messages, Symptoms and Active Notice Events is provided to suggest Probable Causes and Tests/Remedies for problems encountered. In the event of a machine problem, power cycle the machine and see if the machine resets back into operation. If a problem persists and after exhausting the probable causes and remedies, contact the Bunn-O-Matic Technical Support Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- All electronic components have high voltage ac and low voltage dc potential on their terminals. Shorting of terminals or the application of external voltages may result in board failure.
- Intermittent operation of electronic circuit boards is unlikely. Board failure will normally be permanent. If an intermittent condition is encountered, the cause will likely be a switch contact or a loose connection at a terminal or crimp.
- Solenoid removal requires interrupting the water supply to the valve. Damage may result if solenoids are energized for more than ten minutes without a supply of water.
- The use of two wrenches is recommended whenever plumbing fittings are tightened or loosened. This will help to avoid twists and kinks in the tubing.
- Make certain that all plumbing connections are sealed and electrical connections tight and isolated.
- Ensure drain line is routed properly through counter with the use of a 90° elbow to help prevent tubing from kinks or bending upwards.
- This unit is heated at all times. Keep away from combustibles.

WARNING –
- Exercise extreme caution when servicing electrical equipment.
- Unplug the machine when servicing, except when electrical tests are specified.
- Exercise extreme caution, machine contains moving parts.
- Damaged protective shields and/or safety notices should be replaced.

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Messages		
1. Check Left, Center or Right Hopper - Out of Beans	a. Hopper truly empty	a. Refill hopper
	b. Beans bridging in hopper	b. Remove and empty hopper, clean, dry and refill hopper
	c. Sensor (Transmitter/Receiver)	c. Technician to test sensors by following the test instruction outlined in the Service Manual
2. Check Left, Center or Right Hopper - Not Detected, Brewing Disabled	a. Hopper not in position	a. Install hopper & detected/not detected operation can be viewed under the Service icon/Sensor tab
	b. Magnet strength could be weak	b. Try another hopper will determine if hopper will need to be replaced or machine has a potentially failed hopper detect switch
	c. Failed hopper detect switch	c. Technician to test hopper detect switch by following the test instruction outlined in the Service Manual

continued >

TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Messages		
3. Drip Tray Removed - Please Replace the Drip Tray	a. Drip tray is removed	a. Install drip tray & install/removed operation can be viewed under the Service icon/Sensor tab
	b. Residue build-up over magnet blocking the magnetic field	b. Clean drip tray and area around the installed magnet
	c. Magnet strength is weak	c. Replace drip tray
	d. Failed drip tray switch	d. Technician to test drip tray switch by following the test instruction outlined in Service Manual
4. Finish Tank, Preheat Tank, Inlet Tank Heater Control OFF	a. Drip tray circuit not satisfied or a Active Notice related to temperature	a. Ensure drip tray is installed & install/removed operation can be viewed under the Service icon/Sensor tab b. Clean drip tray and area around the installed magnet c. Technician to test drip tray switch by following the test instruction outlined in Service Manual d. Go to Active Notices icon in machine and review Notice Events for information that could lead to Probable Cause
5. Grounds Bin Full, Please Empty Bin	a. Grounds bin is full	a. Empty grounds bin. A minimum removal time of 4 seconds is required to clear message
	b. Grounds bin monitoring feature may need to be adjusted	b. Use the slider bar to increase or decrease the amount of spent grounds allowed in bin under the Machine Settings icon
6. Grounds Bin Has Been Removed	a. Grounds bin not installed	a. Install grounds bin & install/removed operation can be viewed under the Service icon/Sensor tab
	b. Residue build-up over magnet blocking the magnetic field	b. Clean grounds bin and magnet
	c. Magnet strength is weak or missing in grounds bin housing	c. Ensure magnet is clean and present within the grounds bin socket and secured with a screw
	d. Failed grounds bin switch	d. Technician to test grounds bin switch by following the test instruction outlined in Service Manual

TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Messages		
7. Door Open - Please Close to Continue Operation	a. Machine lower or upper door is open b. One or both door interrupt switch has failed	a. Close the open door. The switch operation "closed/open" can be viewed under the Service icon/Sensor tab b. Technician to test lower and upper door interrupt switch by following the test instruction outlined in Service Manual
8. Beverage Interrupted Sorry for the Inconvenience a. An Issue Has Been Detected with the Left Grinder NOTE: Can indicate Center or Right Grinder too	a. Foreign material in corresponding grind chamber	a. Unplug machine and remove foreign material from grind chamber Power cycle the machine May or may not need to reset grinder circuit breaker located behind Brew Module
b. Machine Stopped Due to Drip Tray Removal, Machine Will Reset When Drip Tray is Installed, Beverage Canceled Machine Resetting	1b. Tray position marginal during install 2b. Cracked drip tray	1b. Remove and re-install drip tray into position 2b. Replace drip tray
c. Machine Stopped Due to Door Open, Machine Will Reset When Door is Closed, Beverage Canceled Machine Resetting	1c. Marginal door closure 2c. Intermittent door switch	1c. Open lower and upper door, power cycle the machine and fully close both doors 2c. Close and open both doors while watching the closed/open confirmation reading under the Service icon/Sensor tab to help assist diagnosis. 2c. Technician to test lower and upper door interrupt switch by following the test instruction outlined in Service Manual
9. Cleaning Required - Machine Locked Out	a. Daily Requirement not Performed or Did Not Complete Satisfactory b. Weekly Requirement not Performed or Did Not Complete Satisfactory	a. Cannot bypass. Must perform and complete cleaning procedure without any interruption to continue operation. Time of day is adjustable under the REMINDERS icon. b. Same as Daily requirement but with additional cleaning steps. Day of week is adjustable under the REMINDERS icon

continued >

TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Symptoms		
10. Coffee Profile is Weak	a. Coffee beans low or bridging in hopper	a. Refill hopper or remove and empty hopper, clean, dry and refill hopper
	b. Coffee particle size may need to be adjusted	b. Compare dispensed coffee grounds to desired recipe sample. Adjust grinder to achieve desired coffee particle size
	c. Grinders may need to be calibrated to the product	c. Perform grinder calibration upon initial setup Good idea to check performance of grinder over time by performing the grinder calibration procedure
	d. Product recipe altered	d. Go into the Product Recipe profile and verify values, adjust as necessary
	e. Temperature	e. Go to Service icon, select Heaters tab and view real time temperature of each tank Each tank circuit can be tested for operation by turning on the Solid State Relay. Heater current will be displayed at the bottom of the display.
11. Single Recipe "Grayed Out" on Home Screen	a. Hopper Out of Beans	a. Refill or remove and empty hopper, clean, dry and refill hopper
12. Entire Home Screen "Grayed Out"	a. Cleaning Required	a. Cannot bypass. Must perform and complete cleaning procedure without any interruption to continue operation. Time of day is adjustable under the REMINDERS icon.
	b. Hopper Not Detected	b. Install hopper and the detected/not detected operation can be viewed under the Service icon/Sensor tab

continued >

TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Symptoms		
Entire Home Screen "Grayed Out"	c. Tank Temperature Too Low	c. Brew Lockout feature enabled. Found under Machine Settings icon/Temperature tab
	d. Open or Failed Door Interrupt Switch	d. Close the open door. The switch operation "closed/open" can be viewed under the Service icon/Sensor tab
	e. See Information Bar and/or Active Notice icon for additional causes	e. Troubleshoot and/or test components relating to the additional cause
13. Touch Screen Not Illuminated or ON	a. Main power supply	a. Check outlet for power
	b. Machine On/Off Switch	b. Turn ON main power switch
		c. Test machine On/Off switch
	c. Universal Power Supply 24.0VDC	c. 24.0VDC must be present on the output side of the power supply.
	d. Input/Output Board	d. 24.0VDC must be present across the Input/Output control board connector terminals J11-1 (+) and J11-7 (-)
	e. Circuit Breaker	e. I f Input/Output & High Voltage circuit boards are powered (LED's On), but display is not powered, reset and/or test circuit breaker.
14. Irregular or Low Flow Out of Dispense Nozzle and/or Brew Pump Operating Unusually Louder During Brew Dispense	a. Upper piston filter screen compromised, coffee grounds escaping chamber	a. Replace upper piston screen
NOTE: Pump motor decreases or increases RPM to maintain flow rate	b. An obstruction in the coffee dispense path.	b. Clean or replace upper piston screen, dispense solenoid valve. Unscrew dispense nozzle, remove and clean internal parts.

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TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Symptoms		
15. Water Dripping On Counter	a. Hydraulic Module: Improper tube installation, length or cutting of tube	a. Locate leak, release tube from push-in fitting and inspect tube length and end for straight cut. Re-insert tube into push-in fitting until it stops. If necessary, replace tube
	b. Drip tray connection to drain fitting	b. Clean or replace drip tray o-rings.
	c. Drain tube connection to drain fitting	Ensure drain tube and clamp is properly positioned onto drain fitting stem and secured firmly with clamp
16. Unusual Machine Noise	a. Latch disengagement & lower brew piston returning to bottom/start position (Thump Sound)	a. Normal
	b. Heightened latch disengagement noise	b. Confirm all machine legs are flat on the counter surface
	c. Brew pump motor RPM increasing (Higher Pitch Sound)	c. Perform cleaning procedure. Locate obstruction that is causing brew pump to increase motor rpm to maintain dispense flow rate
	d. Internal water pressure regulator, out of adjustment, worn or failure (Obnoxious Vibration Sound)	d. Try adjusting regulator before replacing regulator. Factory setting is 20psig. NOTE: Regulator Specification is 1 - 25psig. Approximate 20psig setting without use of pressure gauge: Rotate handle clockwise until it stops, rotate handle counter clockwise 7 1/2 full turns and tighten lock nut.

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MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Hydraulic Module Active Notices		
17. Fill Time Too Long or Low Water Supply	a. Main water supply	a. Ensure main water supply is turned On
	b. Restricted Water Filtration System - Filter Cartridge Replacement Overdue	b. Replace water filter cartridge
	c. Internal water pressure regulator, out of adjustment, worn or failure	c. Try adjusting regulator before replacing regulator. Factory setting is 20psig. NOTE: Regulator Specification is 1 - 25psig. Approximate 20psig setting without use of pressure gauge: Rotate handle clockwise until it stops, rotate handle counter clockwise 7 1/2 full turns and tighten lock nut.
18. Water Pump Blockage, Stalled, Low Flow Supply or Flow Limit	a. Extremely restricted brew chamber filter screens	a. Perform cleaning procedure or replace brew chamber filter screens
	b. Restricted Coffee Solenoid Valves (Chiller coffee valves too)	b. Replace or clean and rebuild solenoid valves and check brew chamber filter screens
	c. Restricted Dispense Nozzle	c. Unscrew dispense nozzle, remove and clean internal parts and brew chamber filter screens
	d. Flow Meter	d. Enter Water System tab under Service icon. Test flow meter operation by activating Hot Water valve
	e. Water pump	e. Enter Water System tab under Service icon. Test water pump by adjusting Water Pump Rate to see increase in water pressure psig
	f. 48.0VDC Supply	f. Ensure 48 V Led is illuminated on the power Board

continued >

TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Hydraulic Module Active Notices		
19. Brew Error Pump Timeout, Push-out Timeout or Flow Limit	a. Main water supply or water filtration system	a. Ensure adequate incoming water pressure
	b. Restricted brew chamber filter screens	b. Perform cleaning procedure or replace brew chamber filter screens.
	c. Water pump	c. Enter Water System tab under Service icon. Test water pump by adjusting Water Pump Rate to see increase in water pressure psig
Grinder Module Active Notices		
Left, Center and Right		
20. Over Current	a. Foreign object in grind chamber	a. Remove and clean grind chamber and verify grinder circuit breaker is not tripped
	b. Grinder motor (shorted)	b. Enter Grinders tab under Service icon. Without a load on the coffee burrs, turn on grinder motor and monitor current on the display. Motor current should not exceed the 3 Amp breaker rating
21. No Current	a. Tripped grinder circuit breaker	a. Check for obstruction in the grinder chamber causing breaker to trip
	b. Grinder motor failure	b. From the motor red wires, place meter leads across the two red wires to check motor TCO for continuity. Place meter across Black and White grinder motor wires, the resistance reading should be around 40.5 Ohms

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TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Brew Module Active Notices		
22. No Latch - the recipe does not allow the entry of more than 45 grams	a. Grinder adjustment change and/or calibration is not correct	a. Verify the grind coarseness and re-calibrate grinder
23. Swiper Not Found, Extend or Return	a. Check condition and cleanliness of swiper	a. Clean or replace swiper assembly
	b. Swiper magnet missing or residue blocking magnetic field	b. Clean swiper assembly
	c. Swiper Switch	c. Enter Sensors tab under Service icon. Check swiper status by viewing position of swiper. Not Home - Swiper should be in extended forward position over brew chamber At home - Swiper is retracted away from the brew chamber
24. Piston Not Home,Timeout, Stall , No Latch or Communication Error	a. Check Piston Stop Points (*) >Brew Piston Home - Status: *Home >Brew Piston Top - Status:*Out of Chamber >Brew Piston Closed - Status:*In Chamber >Brew Piston Latch - Status:*Latched > Brew Piston Bottom - Status -*Swiper Remove	a. Enter Brew Module tab under Service icon. Test piston operation & stop points by touching each button to move piston to each stop point. Ensure Piston Status is correlated to the Piston Location mm number. Piston Location Brew Piston Home - 0 mm Brew Piston Top - 25 mm Brew Piston Closed - 71 mm Brew Piston Latch - 109 mm Swiper Removal - 8 mm Piston Not Home -If the piston is less than or equal to 1mm and the home sensor reads not home, go to Proximity Sensor.
	b. Proximity Sensor	Test the sensor with a metal to ensure it can activate and be sensed to the CBA. If needed, then adjust the actuator post of the proximity sensor to activate the home position at about 3-4mm or specification height of 1.0 inch from top of locator post to the top of the sensor plate. Go to Proximity Sensor section for visual. Sensor cannot see Home position, replace proximity sensor.

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TROUBLESHOOTING

MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Brew Module Active Notices		
Piston Not Home,Timeout, Stall, No Latch or Communication Error	c. Piston Motor	c. Ensure both door switches are in service mode. Test piston motor for 48.0 VDC
	d. Wiring Harness	d. Check wiring between piston motor and input/Output circuit board J16 connector for continuity
Tank Module Active Notices		
25. Inlet, Preheat and Finish Tank Heat Too Long	a. Limit thermostat	a. Reset limit thermostat and investigate why it tripped. Over temperature or current
	b. Tank element	b. Check element for proper resistance. Open - replace tank with element
	c. Solid state relay or wiring connection issue	c. Enter Heaters tab under Service icon. Test SSR operation by touching test button to active the SSR. The SSR Green LED will illuminate when operated and extinguish when not activated. Current can be monitored as well during test
	d. Temperature sensor	d. Check temperature sensor for proper temperature/resistance range
26. Inlet, Preheat and FinishTank Sensor Open or Short	a. Temperature sensor	a. Check wiring harness connection points before temperature sensor replacement
27. Inlet, Preheat and Finish Tank Over Temperature	a. Solid state relay	a. Solid state relay could e shorted tank element is drawing current when it supposed to be off

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MACHINE MESSAGES, SYMPTOMS and/or ACTIVE NOTICES	PROBABLE CAUSE	REMEDY
Miscellaneous Active Notices		
28. No or Loss of Communication	a. Wiring harness	a. Check wiring harness for loose connection between Touchscreen and Input/ Output circuit board J15 connector
29. Loss of BUNNLink Error	a. Wiring harness	a. Check wiring harness for loose connection between Touchscreen and BUNNLink circuit board
30. Core Temperature Alert	a. Machine placement/environment	a. Ensure proper ventilation around machine
	b. Machine internal rear fan	b. Check internal rear fan for operation.

USER ICONS & TECHNICIAN ICON OVERVIEW

User icons

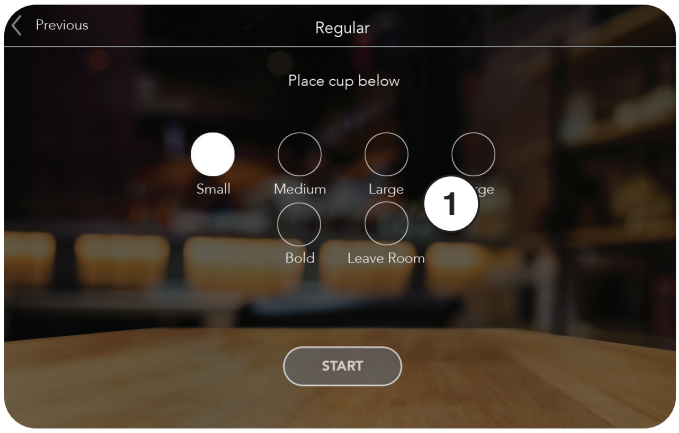
a) Recipes icon
b) Product Setup icon
c) Machine Settings icon
d) Statistics icon
e) Regional Setting icon
f) Reminders icon
g) Your Brand icon

Service Technician icon

h) All User icons plus Service icon

Icon General Information

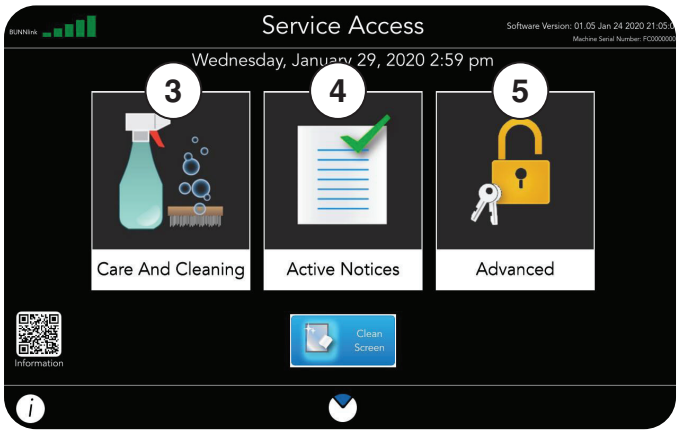
1. **Beverage icons & Portion Buttons**; The Home operating button screen is used to select a coffee or hot water beverage and changes screen to Portion Size selection and Start button.



2. **BUNN Logo icon**; Button used to enter Service Access Level by touching the logo button for 5 seconds. Service Access Level icons; Care and Cleaning, Active Notice and Advanced Icons.

3. **Care and Cleaning icon**; An instruction tutorial guiding the user through a Clean or Rinse procedure.

   - **Clean**: Combination of washing, brushing machine components and adding sanitize tablet to the semi-automatic clean cycle. Clean Time: 10:00 minutes.
   - **Rinse**: A semi-automatic rinse cycle of the brew chamber and dispense nozzle with hot water. Rinse Time: 1:30 minutes.



4. **Active Notices icon**; A location where User or Technician can view stored Alert messages/ events and Suggestive Action information. Also, can view an Event Log.

   Service Contact Name and Phone Number will be displayed under the Active Notices icon if contact name and phone number was entered under a brewer set-up icon [Machine Settings].

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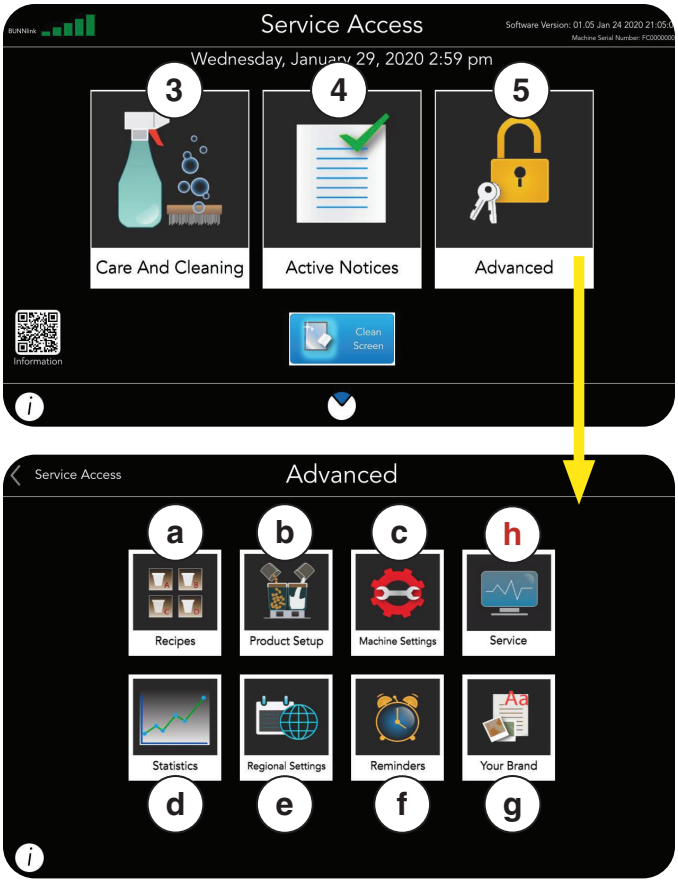
5. **Advanced icon**; Used to access Advanced Level icons. A User or Technician password is required to enter icons.



a) **Recipes icon**; How the beverage is made.
- Adjustment settings for volume
- Pre-infusion
- By-pass
- Grind weight for each portion size
- Immersion time
- Brew rate/seconds

NOTE: The Test Recipe function is available before saving. This test charts brewing pressure throughout the brew cycle test.

b) **Product Setup icon**; Used to access the enable or disable your product labels on Home screen. Also, where you assign your product label to a bean hopper and enable or disable portion sizes per product label.

c) **Machine Settings icon**; Used to access and make adjustments or enable/disable machine features including:
1. Temperature
2. Bean level monitoring
3. Grounds Bin monitoring
4. P/H Hot Water or Ambient Water
5. BUNNlink
5. Energy Saver mode - 2 to 4 hour inactivity goes to 140° F.
6. Scheduler - On Time and Off Time for Energy Saver
7. Service Information - Contact name and number
8. Factory Reset - remove custom settings and images

d) **Statistics icon**; Used to view cup counts, product label estimated pounds used and capability export daily total or hourly beverage reports to a USB stick.

e) **Regional Settings icon**; Used to access and adjust:
1. Language
2. Units
3. Date & Time

f) **Reminders icon**; Used to access and set the Weekly Cleaning day of the week, Weekly/Daily Cleaning Hour of the Day, Preventive Maintenance Cycles & Days and Water Filter Cups & Days Alerts.

g) **Your Brand icon**; Used to access Display Screen adjustment for:
1. Background Image
2. Theme Color
3. Product Label layout
4. Videos
5. Product Label Size Selection
6. Screen Saver
7. Add, Import, Export & Reset buttons.

h) **Service icon**; Service technician password required to access and use all additional testing and troubleshooting screens.

TECHNICIAN SERVICE ACCESS

Instruction

1. Touch and hold the BUNN logo for a few seconds until SERVICE ACCESS appears on the display.

2. Select the ADVANCED icon.

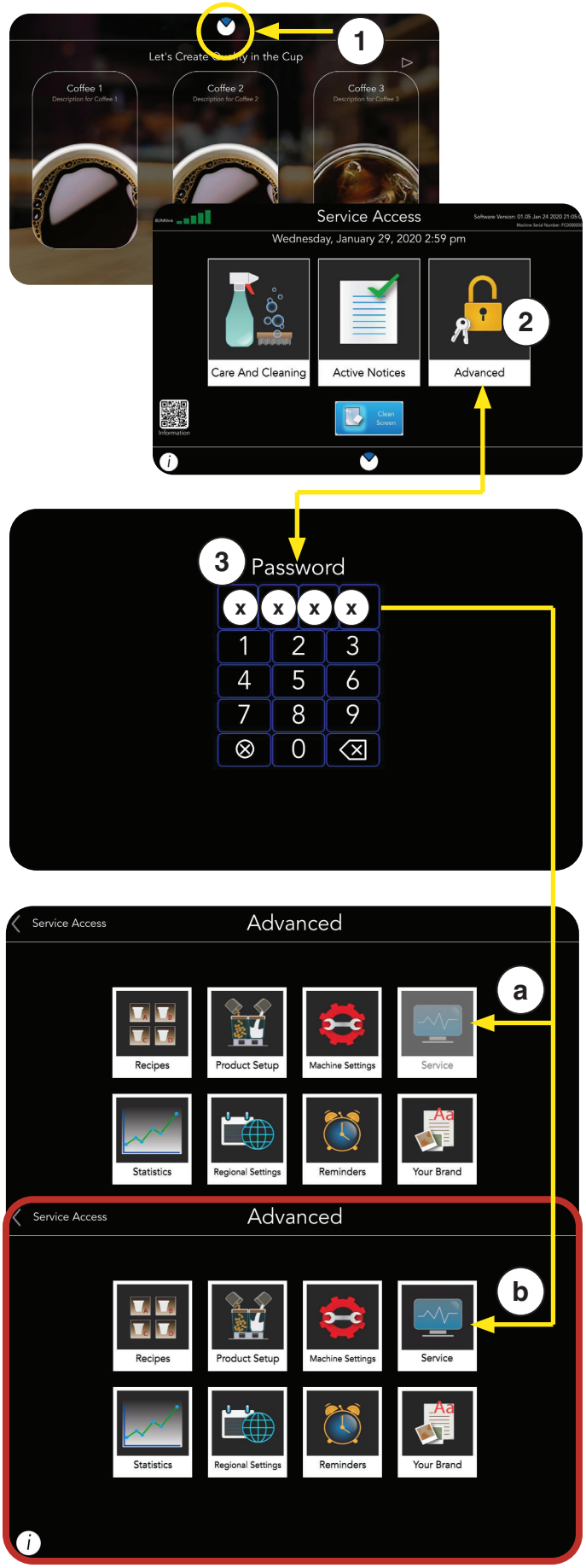
3. Two Advanced icon screens available.

a) USER passcode 6601.

b) Technician passcode xxxx. Contact the Bunn-O-Matic Customer Service Department.

4. User passcode provides the USER access to icons needed for Machine and Product Setup.

5. Technician passcode provides the TECHNICIAN access to all icons including Service icon used for entry into machine troubleshooting and testing screens.

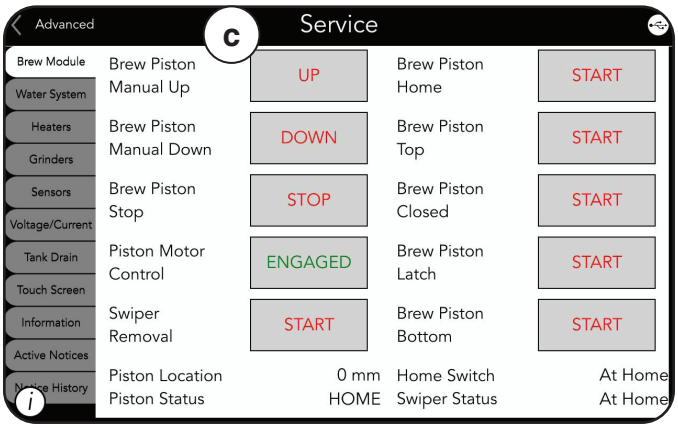


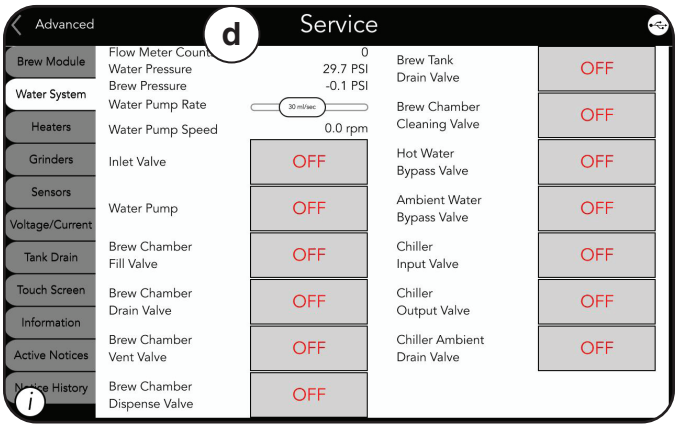
TECHNICIAN SERVICE TABS/FOLDERS OVERVIEW

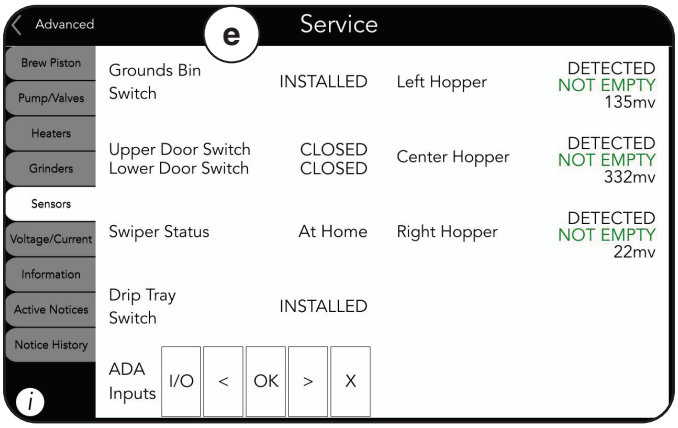
Tabs/Folders

Service Tab/Folder	Purpose
c Brew Module	Test piston motor, swiper removal and piston home status and location stopping points
d Water System	Test all water valves, water pump, flow meter counts. Also, monitor water and brew pressure
Heaters	Monitor all 3 tank temperatures, test solid state relay controls and enable/disable heater control
Grinders	Test each grinder and monitor grinder current
e Sensors	Check the status and/or operation of reed switches, on/off switches, ADA membrane switch and coffee bean empty & not empty status
Voltage/Current	Monitor machine a/c current, grinder current, check I/O & HV board various internal and protected voltages
Tank Drain	A screen used to drain the tank module of water
Touch Screen	A screen used to verify the operation of the touchscreen
Information	Where you can find the Input/Output & High Voltage board software version,Machine Serial Number
Active Notices	A Cause Alert log of events
Notice History	Service events logged and recorded by Time and Date

Example



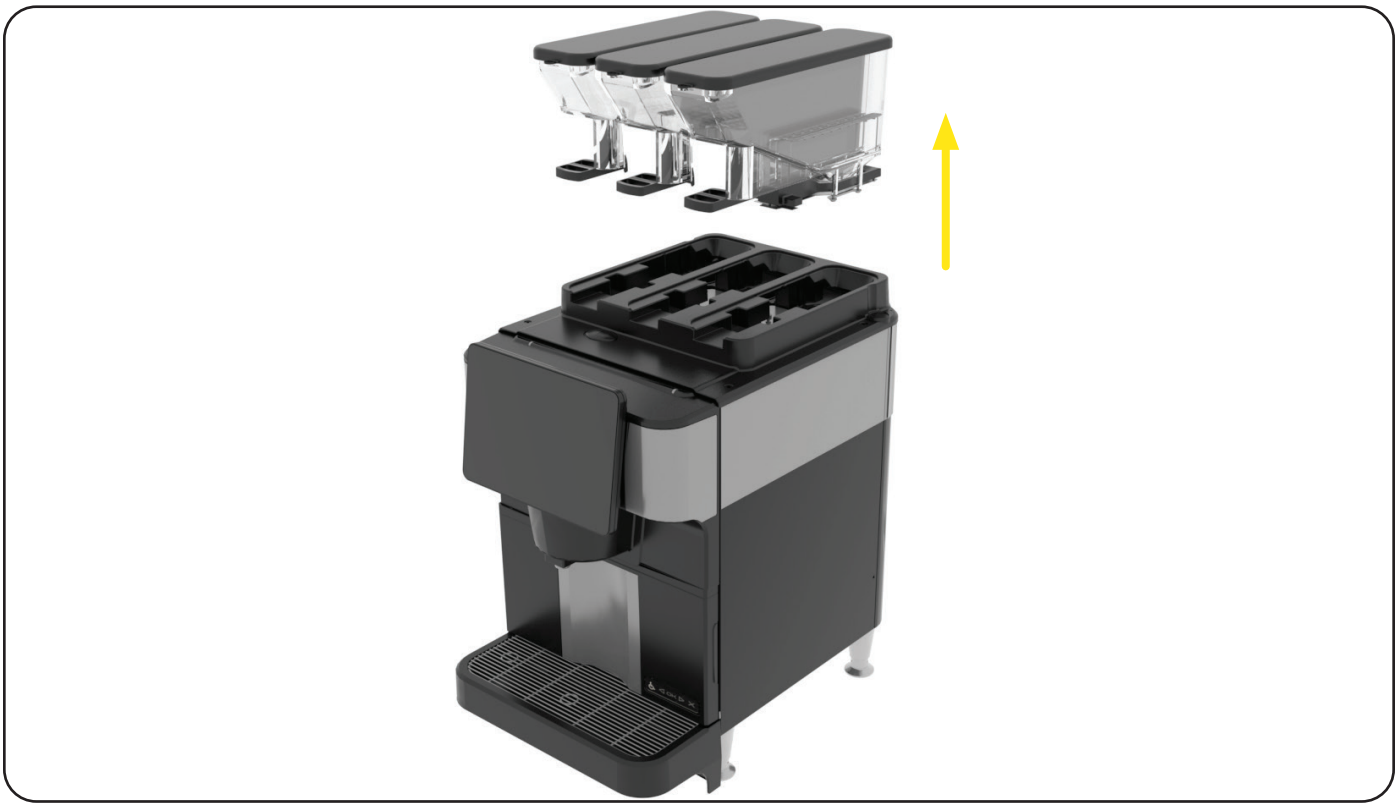


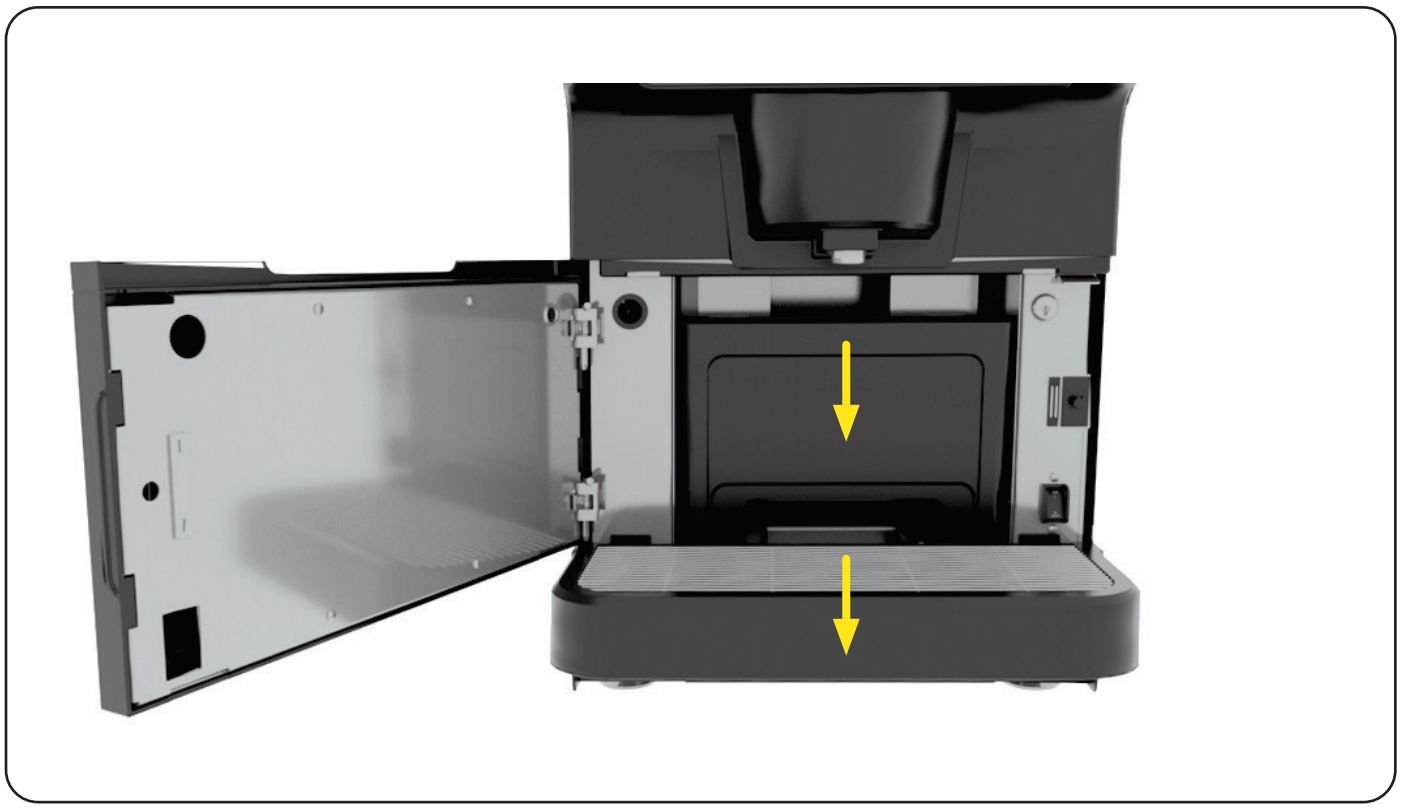


EXTERIOR REMOVABLE ATTACHMENT ASSEMBLIES

Location:

The brewer has removable attachment assemblies. Once you have removed a coffee bean hopper, grounds bin or drip tray, the machine will not be able to be operate. The machine can remain connected to the power supply in order to troubleshoot the removable attachment and sensors by entering Service Technician mode.

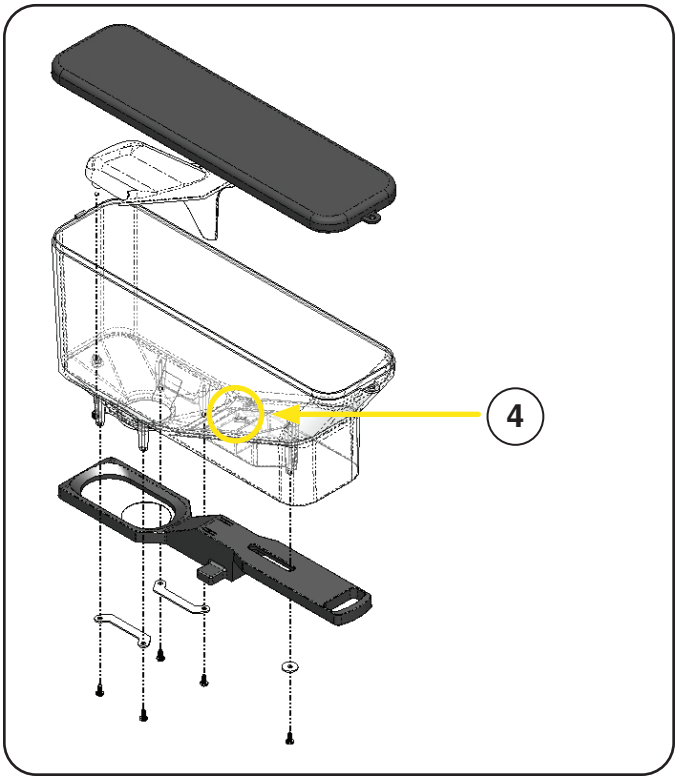




EXTERIOR

Coffee Bean Hopper Assembly

Purpose: Holds approximately 3.5lbs coffee beans. The hopper retains a magnet for hopper detection circuit. The slide gate is used to shut off coffee beans for hopper removal and used as a hopper lock when in position. It only takes 1 hopper to be removed or not detected out of the three which will result in the brewer being disabled or cannot brew.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab. The Left, Center and Right Hopper can be individually tested for hopper detection.

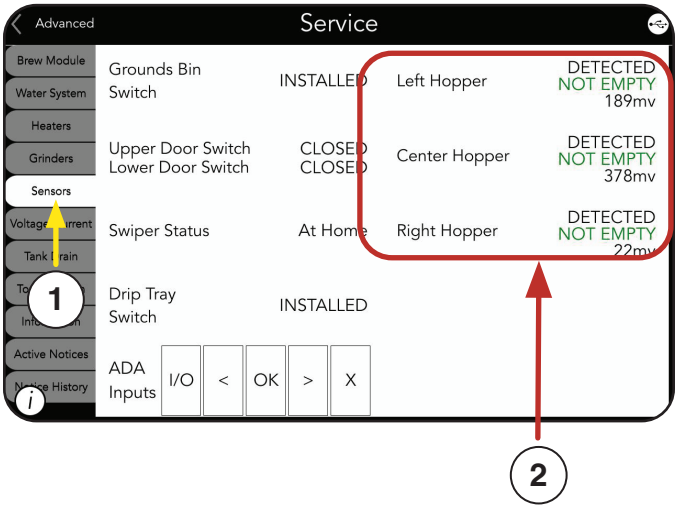
Step 2: Located right side, the following Left, Center and Right hopper can be individually tested for hopper detection.

Step 3: Hopper in position reads: Detected
Hopper out of position reads: Not Detected

NOTE: If a particular hopper position constantly reads Not Detected, try another hopper in that position.

Step 4: The hopper giving the trouble, look for the magnet on the underside of the hopper, must be present and be clean for the magnetism to operate a switch that is mounted in the top cover directly under the hopper magnet.

Step 5: Hopper did not solve problem - Go to Hopper Detect Switch for testing.



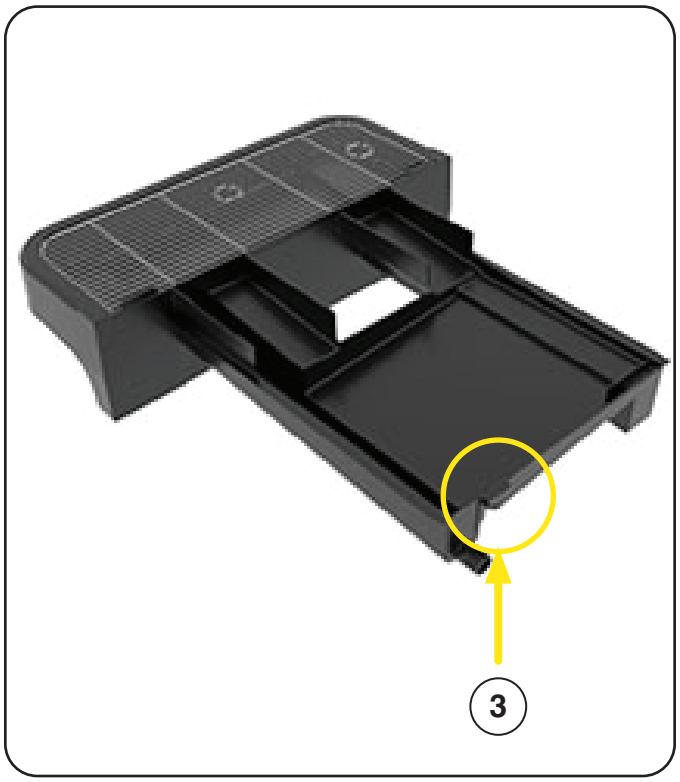
PART RELATES TO THE FOLLOWING SYMPTOM

- Message - Left, Center or Right Hopper Not Detected - Brewing Disabled
- Message - Check Left or Center or Right Hopper - Out of Beans
- Coffee profile is weak. Check for beans bridging in hopper

EXTERIOR

DRIP TRAY ASSEMBLY

Purpose: The drip tray is the collection area for sanitize, rinse and expansion water. The water is directed out a drain fitting, through a drain tube and exits into the site drain. A drip tray detection circuit is incorporated within the brewer to ensure drip tray is in position for brewer operation. If the drip tray is not present, brewer will not heat and user will not be able to operate the brewer.



TEST INSTRUCTION

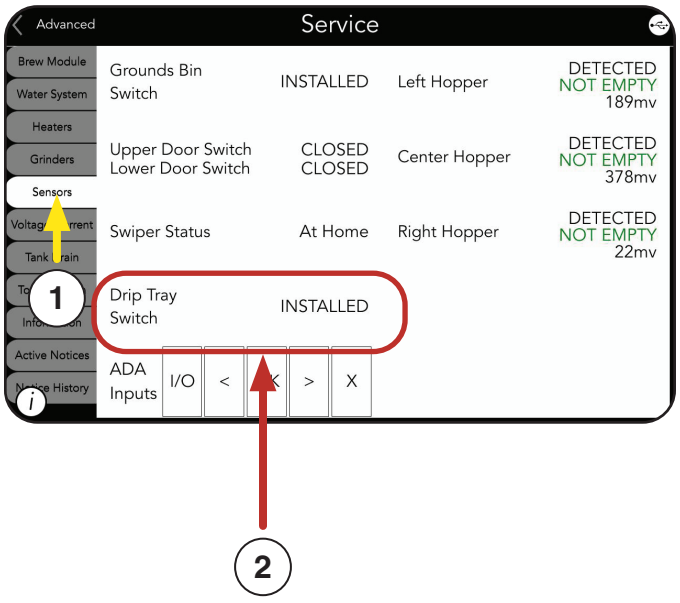
Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Located left side, The Drip Tray can be tested for Installed and Removed position.

Step 3: If the brewer does not see the drip tray in position, look for the magnet on the end of the drip tray, must be present and be clean for the magnetism to operate a switch that is mounted in the brewer base.

Step 4: Magnet present and clean - Go to Rear Panel section, perform Drip Tray Switch testing procedure.



PART RELATES TO THE FOLLOWING SYMPTOM

- Message - Drip Tray Removed - Please Replace the Drip tray
- Message - Finish Tank, Pre-Heat Tank, Inlet Tank Heater Control OFF

EXTERIOR

GROUNDS BIN ASSEMBLY

Purpose: The grounds bin is the storage area for semi wet coffee grinds after brewing. The brewer does have a grounds bin detection circuit and a Full and Almost Full Warning message based off the amount of spent grounds from each beverage selection.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Located left side, The Grounds Bin can be tested for Installed and Removed position.

Step 3: If the brewer does not see the grounds bin in position, look for the magnet on the upper rear of the grounds bin, must be present and be clean for the magnetism to operate a switch that is mounted in the brewer trunk.

Step 4: Magnet present and clean - Go to Front Inner Panel section, perform Grounds Bin Switch testing procedure.

Enter Service Technician Mode and Select Machine Settings icon

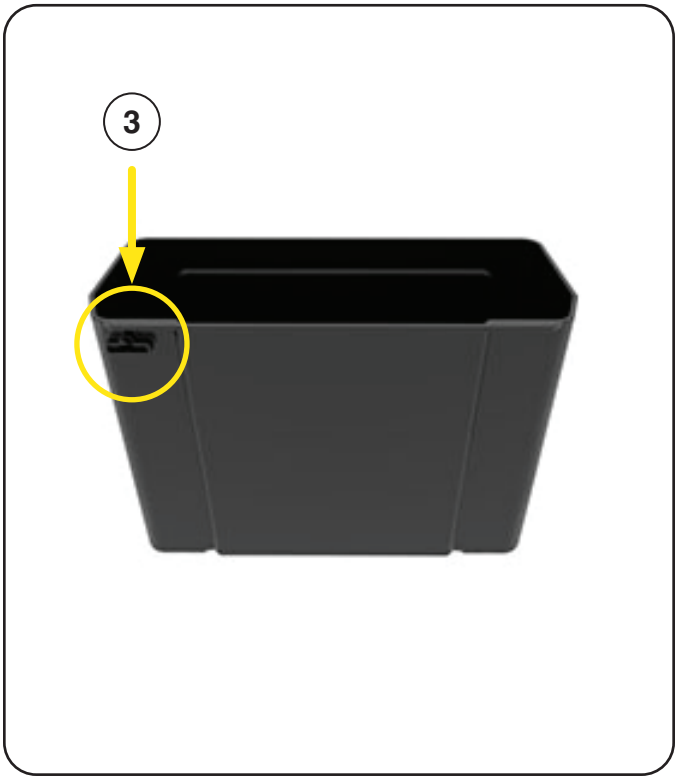
Step 5: Precautionary Warning Full message trips too soon or late. The Full and Almost Full Warning calculation is adjustable.

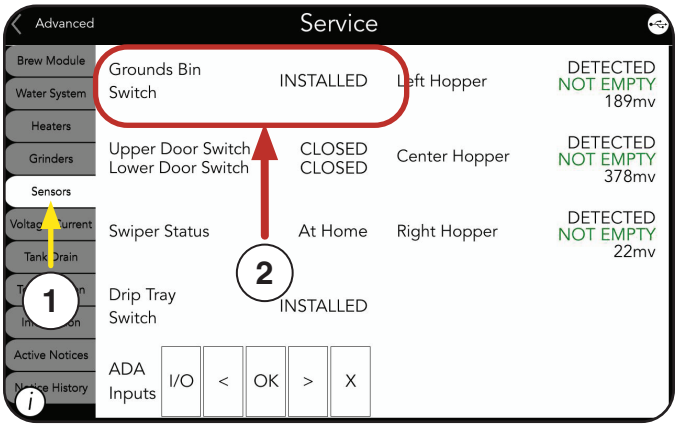
Step 6: Select Grounds Bin tab.

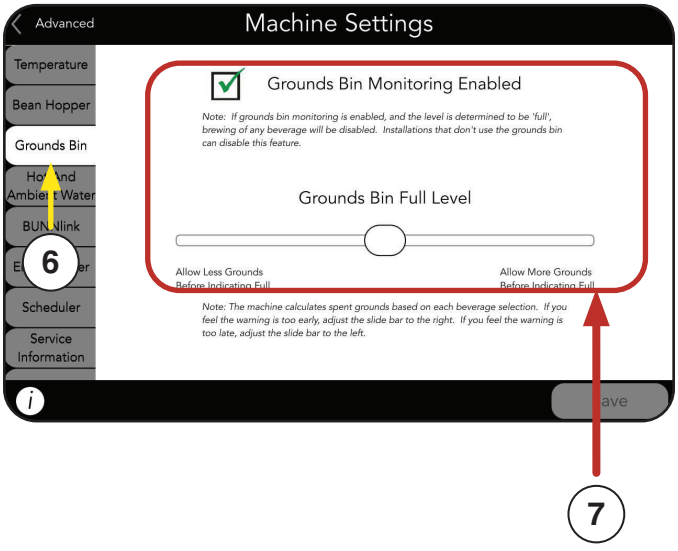
Step 7: If the Grounds Bin Monitoring Feature is enabled, use the slider bar to increase or decrease the amount of spent grounds allowed in bin before indicating Full and Almost Full message on display.

PART RELATES TO THE FOLLOWING SYMPTOM

- Precautionary Warning Full message trips too soon or late
- Message - Grounds Bin Full, Please Empty Bin
- Message - Grounds Bin Has Been Removed
- Active Notice - E-131: Grounds Bin Sensor Error



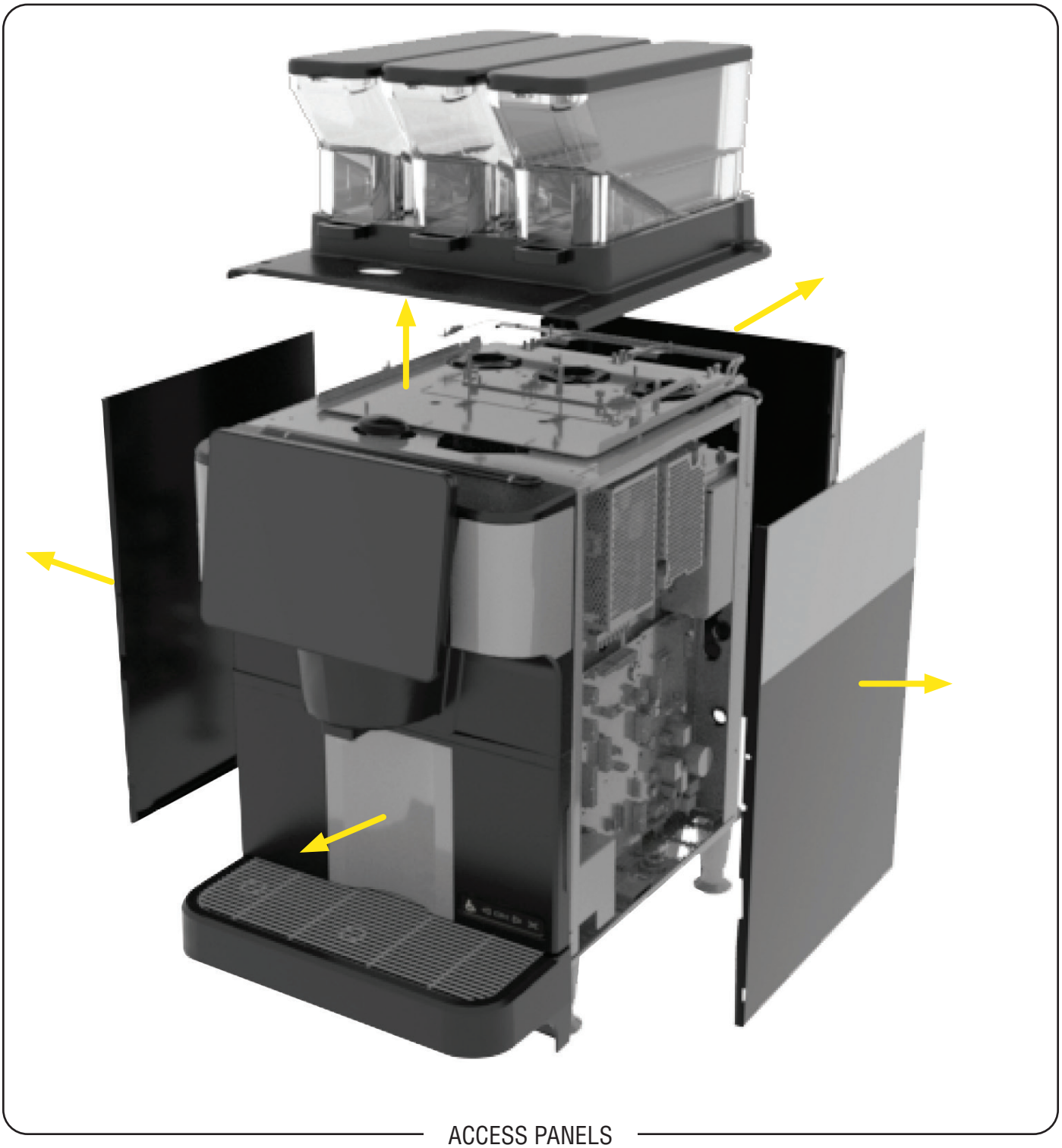




ACCESSING INSIDE OF THE BREWER

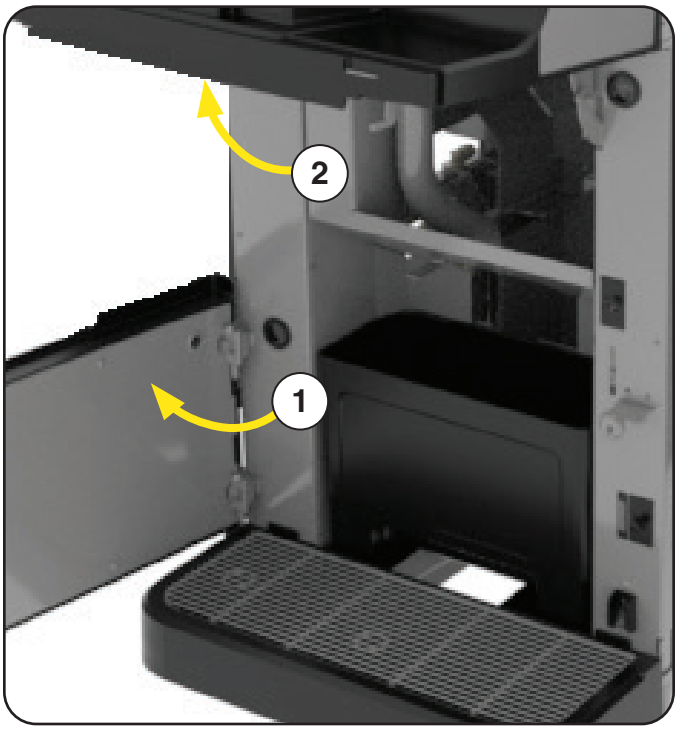
Location:

The brewer has removable panels to access inside the brewer to perform any necessary repair. In order to work safely, the power should be disconnected prior to removal of any body panel. Once you have access to the internal components, the power may be reconnected in order to troubleshoot the brewer.



ACCESS PANELS

LOWER & UPPER DOOR OVERVIEW



Front Lower & Upper Door Open Position

Step 1: Open lower door.

Step 2: Lift upper door assembly until upper assembly locks in position.

NOTE: Key may be needed to unlock upper door assembly.

Accesses

Coffee waste bin, drip tray or chute, main on/off switch, door interrupt switches.

LOWER DOOR COVER & DOOR REMOVAL INSTRUCTIONS

Lower Door Parts

A. Door Cover
B. Door Back Plate
C. Door Hinges
D. ADA Switch membrane

Door Cover Removal Steps

Step 1: Open lower door.

Step 2: Remove Qty-4 philip head style screws from the center of the door rear panel.

Step 3: Start on the end of the Door Cover where the cover goes around the door hinges. Flex the center door cover flange with the two black tabs to release the door cover from metal back plate.

Step 4: Opposite end, gently release the door cover tabs from the metal back plate. Set door cover aside.

Door Removal Steps

Step 5: Go to and follow left side panel removal instructions. NOTE**:** This will access the slotted screws securing the lower door hinges and lower door cable 8 pin connector.

Step 6: Disconnect door cable 8 pin connector/harness.

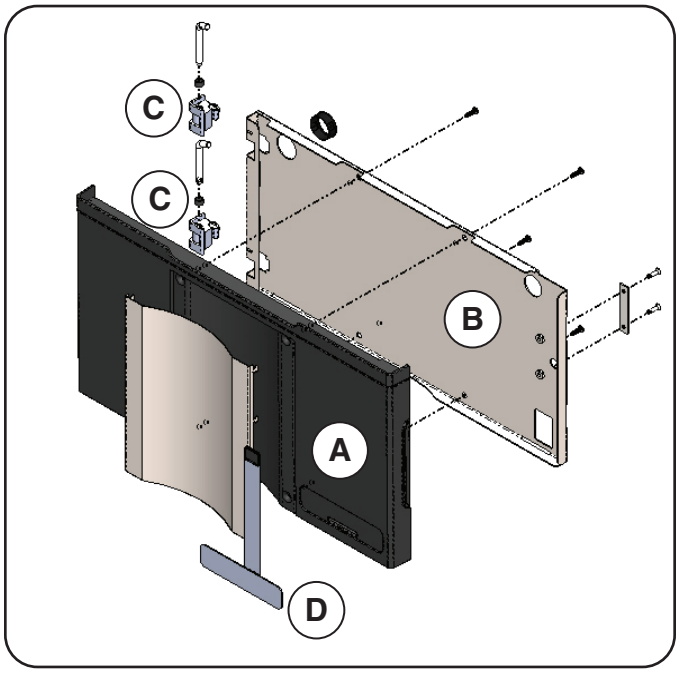
Step 7: Locate the split in the black snap bushing, apply needle nose pliers near the split and gently rotate inwards to shrink down, releasing bushing and door cable/harness from the brewer frame.

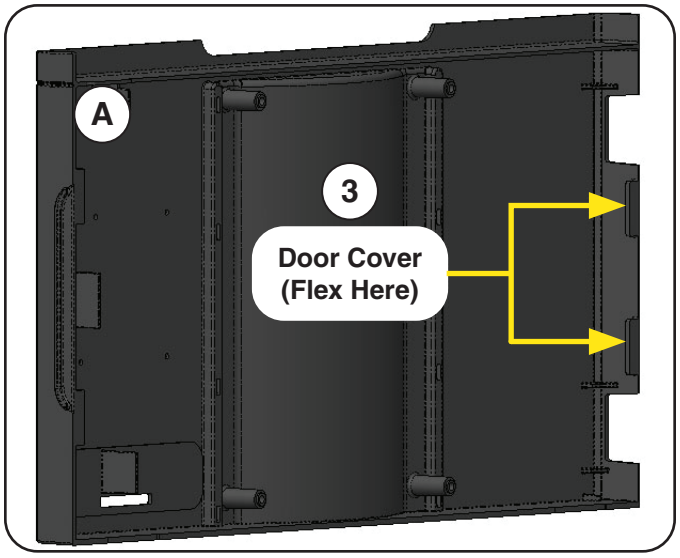
Step 8: Remove Qty-1, hex head screw (10mm socket) from each lower door hinge. NOTE**:** Machines with optional Chiller Assembly, the bracket will block access to the top lower door hinge hex head screw.

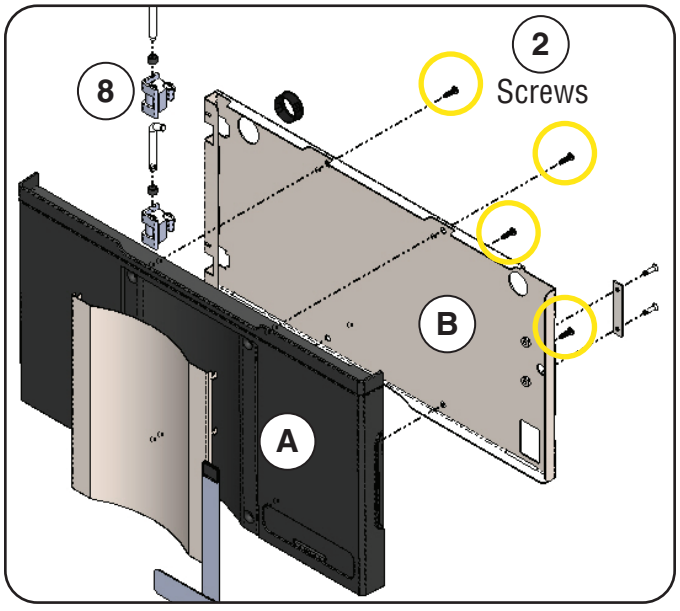
Step 9: Carefully remove lower door and set aside.

Accesses

ADA switch membrane and door hinges.







LOWER DOOR COVER

ADA Membrane Switch

Purpose: People with disabilities may use the membrane switch to operate the brewer touchscreen to select, start and/or stop the brew dispense process.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: When you depress an ADA button (a thru e), the ADA Input will be highlighted with a black box to indicate good/working button.

No highlighted black box - Failed button, check wiring harness for continuity before replacing ADA membrane switch.

Volt/Ohm Meter - Continuity Check

Step 3: Disconnect or unplug machine from power.

Step 4: Remove left panel to access cable connector.

Step 5: Disconnect the connector union and keep female molex connector in position for continuity test.

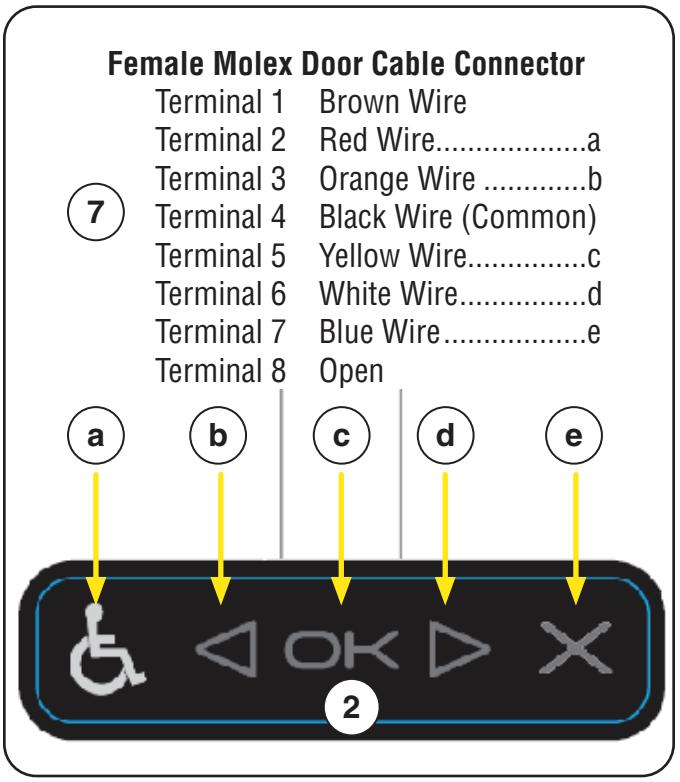
Step 6: Set meter to read continuity/tone.

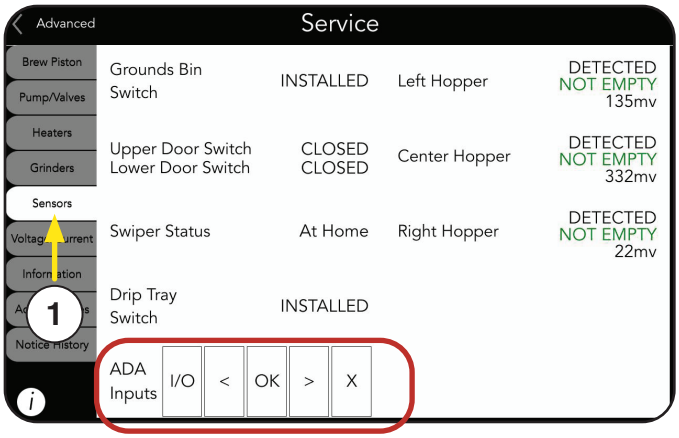
Step 7: Place black meter lead on common terminal #4 and red meter lead on terminal 2,3,5,6, or 7.

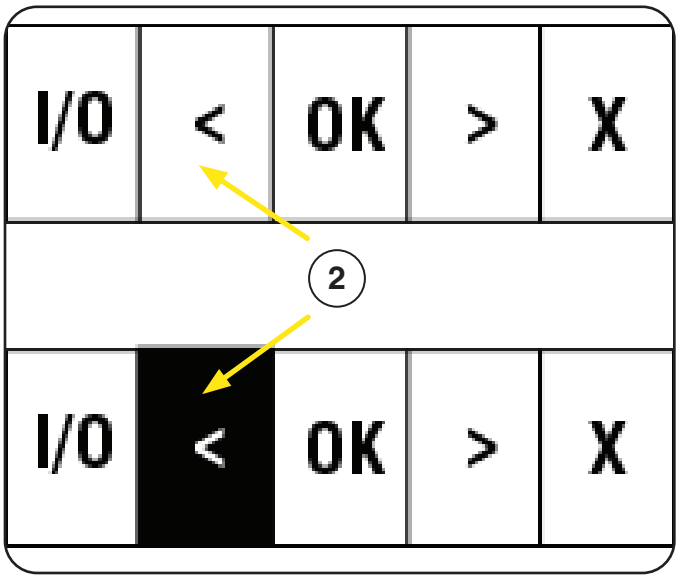
Step 8: Depress the corresponding button being checked, meter should show continuity 0.00 on display or here audible tone and return back to an open connection when depression is released from membrane button.
No continuity -replace membrane switch.

PART RELATES TO THE FOLLOWING SYMPTOM

- No response or cursor movement on User Touchscreen







UPPER DOOR COVER WITH TOUCHSCREEN REMOVAL INSTRUCTION

Upper Door Cover Removal Instructions

Step 1: Open lower door.

Step 2: Open upper door until right hinge locks upper door in upward position.

Step 3: Remove left side panel.

Step 4: a) Access dispense nozzle tube under upper door.

b) Disconnect dispense tube from the 90° push-in elbow fitting

Step 5: a) Access door cable 8 pin connector/harness.

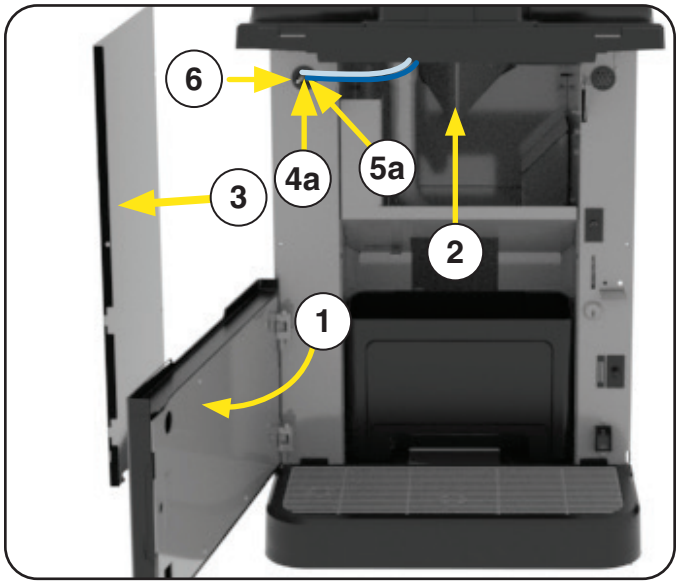
b) Disconnect door cable 8 pin connector/harness.

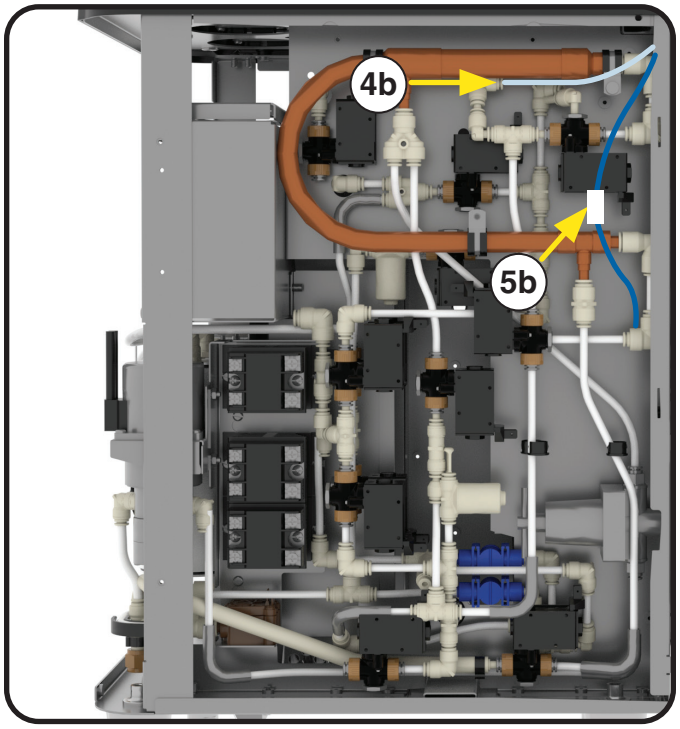
Step 6: Remove bushing from frame to ease removal of the door cable with 8 pin connector and dispense tube.

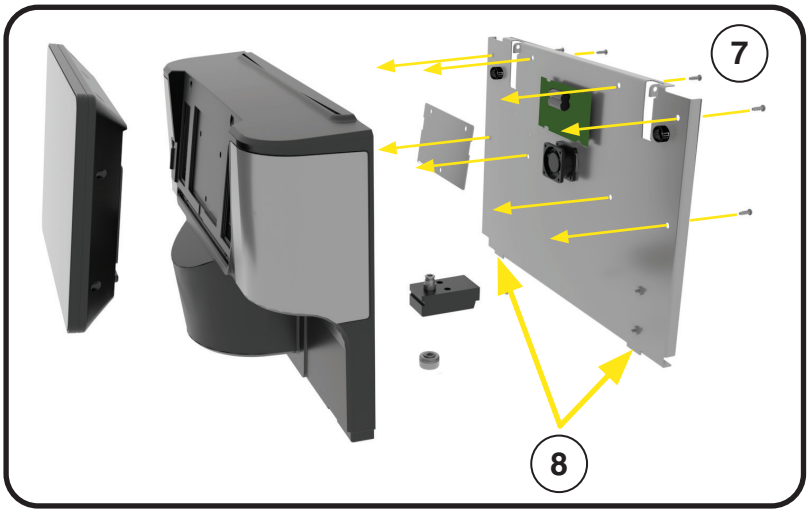
Step 7: Upper door in upward position, remove 8 philip head screws securing door cover to the metal back plate.

Step 8: Locate 2 metal tabs on the back plate going into the slots on the door cover.

Gently flex the door cover by the metal tabs to release door cover from the metal back plate.







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UPPER DOOR COVER WITH TOUCHSCREEN OVERVIEW (continued)

Upper Door Cover Removal Instructions

Step 9: Raise door cover from metal back plate and disconnect the following harness connectors.

a) Qty-2, LED 2 pin connectors.

b) Touchscreen cable 12 pin connector.

NOTE: Goes through door and back plate where shown.

c) Single slotted screw securing a ground wire to the metal back plate.

Step 10: Remove bushing from metal back plate to ease removal of upper door cover with touchscreen so dispense tube and door cable with 8 pin connector can pass through opening.

Step 11: Gently remove upper door cover and set aside.

Upper Door Cover Disassemble Instructions

Step 1: Remove 1 slotted screw from dispense block.

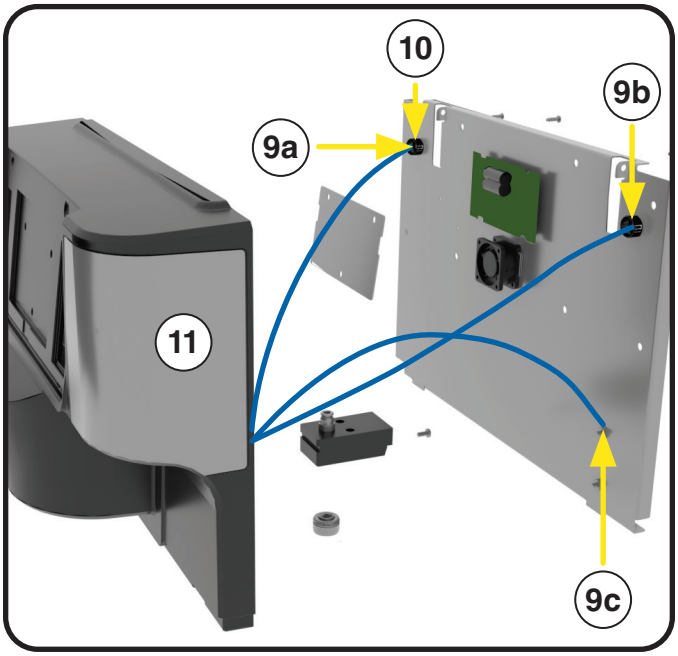
Step 2: Remove dispense block.

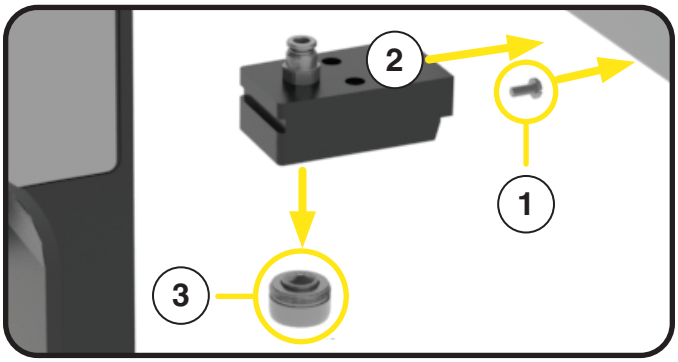
Step 3: Unscrew laminator flow nozzle with gasket and set aside.

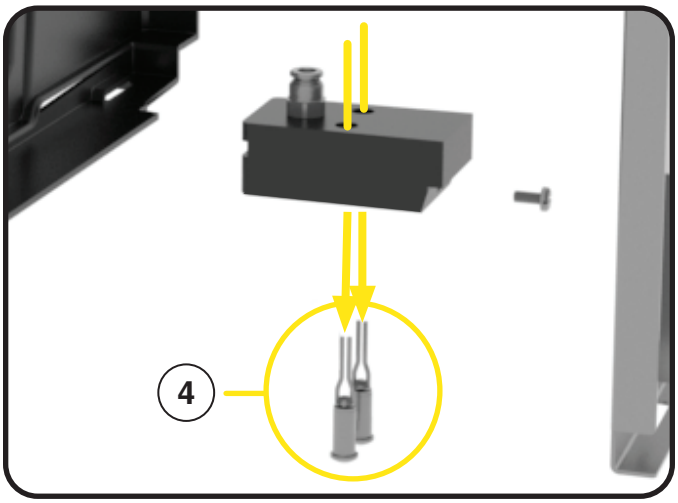
Step 4: LED's pushed in the dispense block can be replaced. Use blunt object and place at the LED rear (wires) and push to remove LED from the dispense block slot.

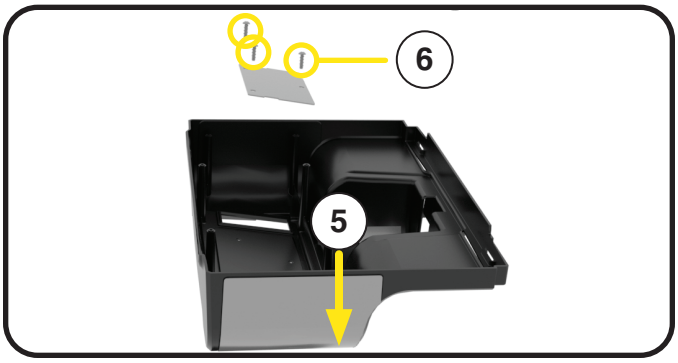
Step 5: Place door cover with touchscreen facing down on a soft towel.

Step 6: Remove Qty-3, slotted screws from the metal plate. Lift door cover from the touchscreen assembly.









UPPER DOOR COVER

Touch Screen Assembly

Purpose: The Touch Screen assembly is comprised of a user interface touch screen display and circuit board. The user interface touch screen continuously monitors the events of inputs from devices which results in operation of the I/O board and/or Power board to activate the load components.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Touch Screen tab.

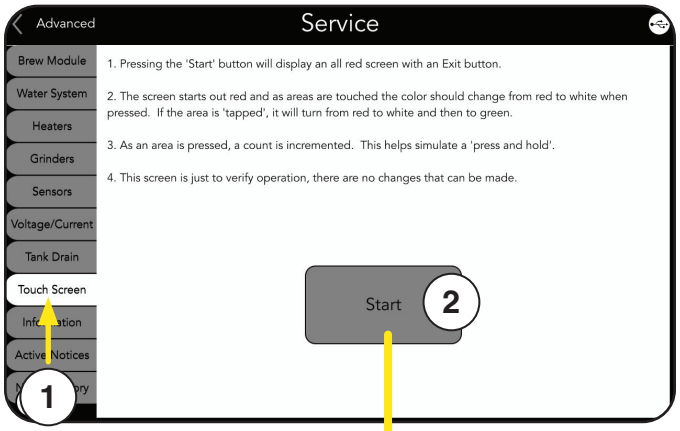
Step 2: Pressing the "Start" button will display an all red screen with an Exit button.

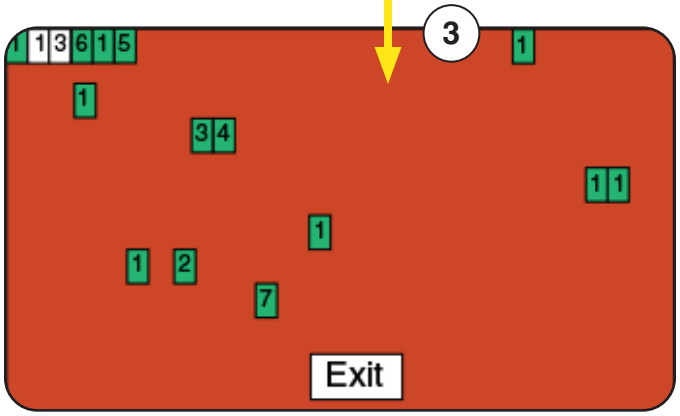
Step 3: The screen starts out red and as areas are touched, the color should change from red to white when pressed. If the area is tapped, it will turn from red to white and then to green.

NOTE: The hopper giving the trouble, look for the magnet on the underside of the hopper, must be present and be clean for the magnetism to operate a switch that is mounted in the top cover directly under the hopper magnet when the hopper is in position.

Step 4: As an area is pressed, a count is incremented. This helps simulate a "press and hold".

Step 5: This screen is just to verify operation, no changes that can be made.





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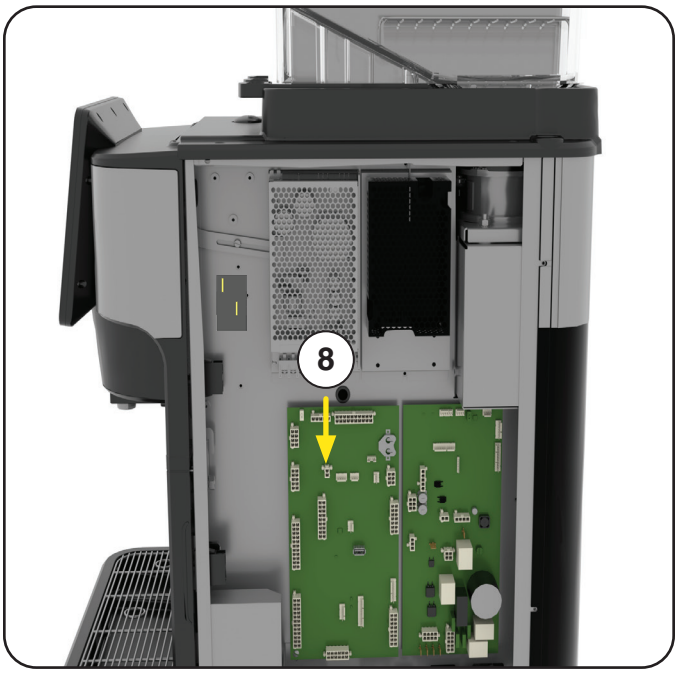
UPPER DOOR COVER



Volt/Ohm Meter - Voltage Check

Step 6: Disconnect or unplug machine from power.

Step 7: Remove right panel to access circuit boards.

Step 8: Locate J17 connector on the Input/Output board.

NOTE: Touch Screen receives power from J17 connector.

Step 9: Connect power to machine.

Step 10: Install red meter lead on terminal J17-1 (positive) and the black meter lead on J17-2 (negative) terminal when connected onto the I/O board. The reading must be 24.0VDC.

Step 11: Voltage Output is Correct: Screen not illuminated - Replace Touch Screen Assembly.
Voltage Output Not Present: Go to Universal Power Supply and I/O board and troubleshoot.

Loss or No Communication with I/O Board

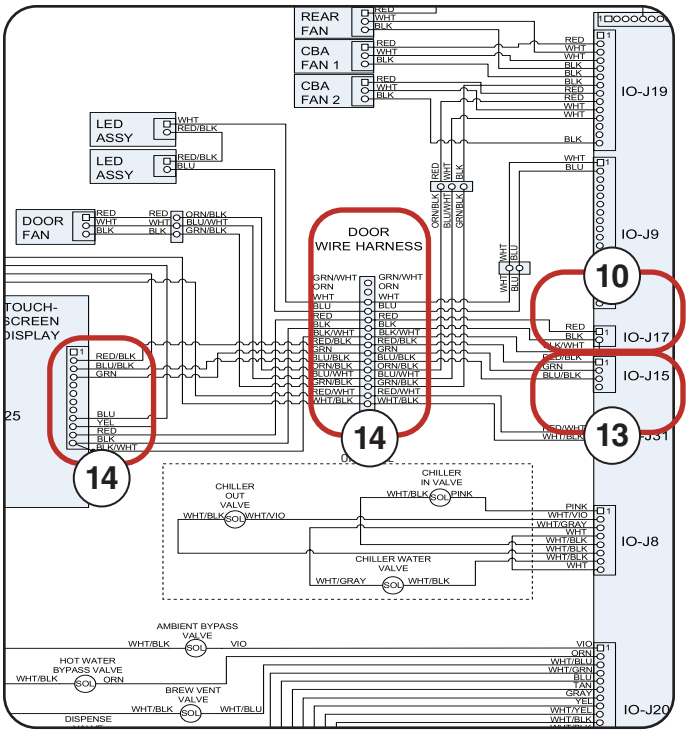
Step 12: Disconnect or unplug machine from power.

Step 13: Communication wires start at J15 connector on the I/O board, go to a union connector behind the upper door cover and onto the Touch Screen board.

Step 14: Check each communication wire for a loose connection at each connection point.

Step 15: Set volt/ohm meter for continuity and test each wire for continuity at each connection point.

Step 16: Repair loose connection or replace the corresponding wiring harness.



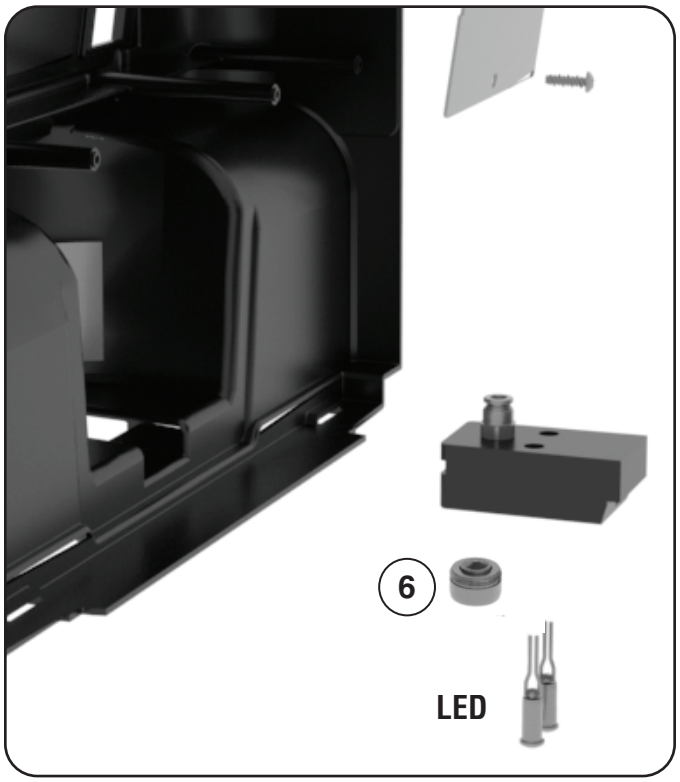
PART RELATES TO THE FOLLOWING SYMPTOM

- Touch Screen is not illuminated
- Rapid LED blinking on I/O board labeled "DISP"
- Active Notice - E-009: Loss of Communication, E-008: No Communication with I/O board

UPPER DOOR COVER

Dispense Block Assembly

Purpose: The dispense block has two recessed blue LED's within the block. A laminar nozzle aerates the product flow thus creating a non-splashing stream entering the coffee cup.



TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

LED

Ensure brewer is powered and upper and lower door are closed. The blue LED's must be illuminated. If one door switch is open or defective, the blue LED will not be illuminated.

NOTE**:** The best place to check for power is at J9 connector on the Input/Output board.

A total of 3 connectors exists after the I/O board to power the LED's that are located in the dispense block that is mounted in the upper door.

Be aware of the number of connectors as a loose connection could exist other than LED or Power Output failure. The LED's are in series, If one LED goes out they both will be out.

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access circuit boards.

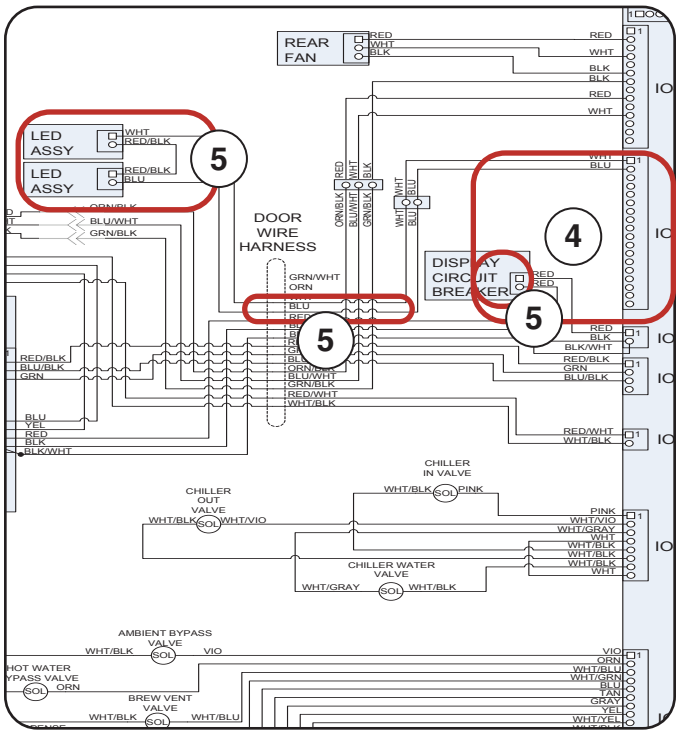
Step 3: Locate J9 connector on the Input/Output board. Connect machine to power.

Step 4: Set voltmeter on D/C voltage. Install red meter lead on terminal J9-1 White wire (positive) and the black meter lead on J9-2 Blue wire (negative) terminal.

Step 5: If the reading is 24.0VDC, check for loose connection before replacing a failed LED. Voltage Output Not Present: Replace I/O board.

Nozzle

Step 6: Irregular dispense, unscrew nozzle and clean internal parts before reassembly.



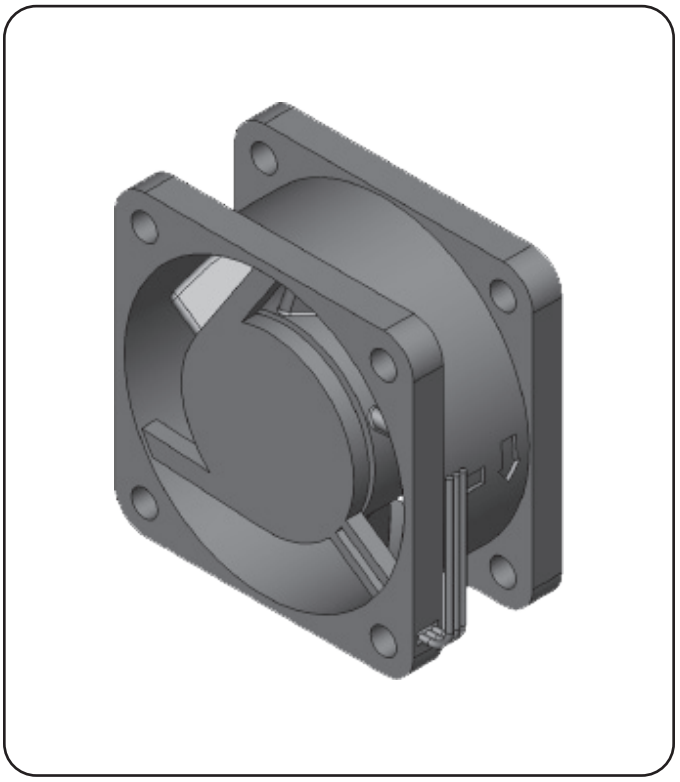
PART RELATES TO THE FOLLOWING SYMPTOM

- Irregular or erratic spray during dispense
- No LED illumination over coffee cup

UPPER DOOR COVER

Upper Door Fan

Purpose: Fan is rated 24VDC and operates 24/7. The fan circulates air inside the upper door and exits out the door back plate.



TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Door Fan

When the brewer is powered up, the fan should be operating regardless if either door interrupt switch is open. Raise upper door and visually look for fan blade movement or feel for air flow outward or being exhausted.

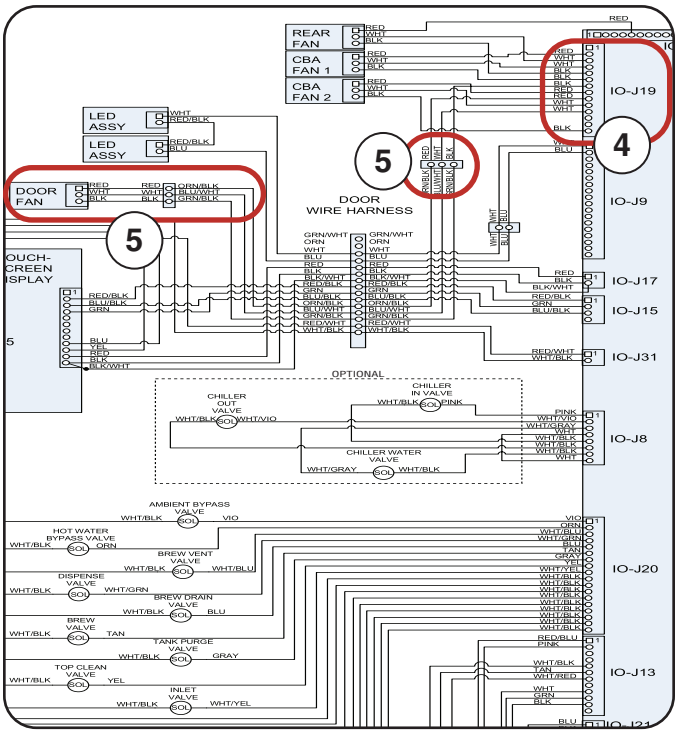
Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access circuit boards.

Step 3: Locate J19 connector on the Input/Output board. Connect machine to power.

Step 4: Set voltmeter on D/C voltage. Install red meter lead on terminal J19-9 Red wire (positive) and the black meter lead on J19-7 Black wire (negative) terminal.

Step 5: If the reading is 24.0VDC, check for loose connection before replacing the door fan. Voltage Output Not Present: Replace I/O board.



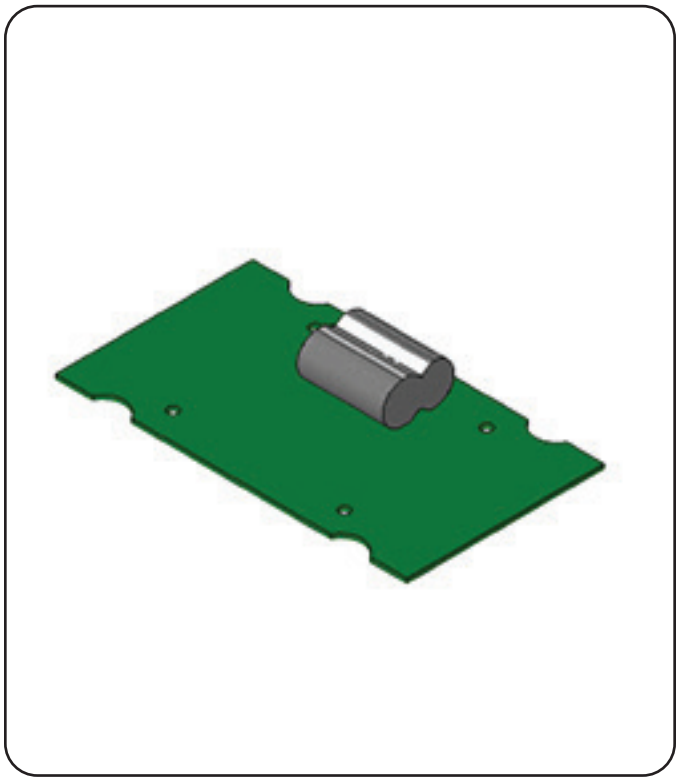
PART RELATES TO THE FOLLOWING SYMPTOM

- Irregular or higher internal cabinet temperature

UPPER DOOR COVER

Wifi Board

Purpose: Used for BUNNlink. A monitoring system that collects, analyzes and communicates data from critical electronic components.



TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

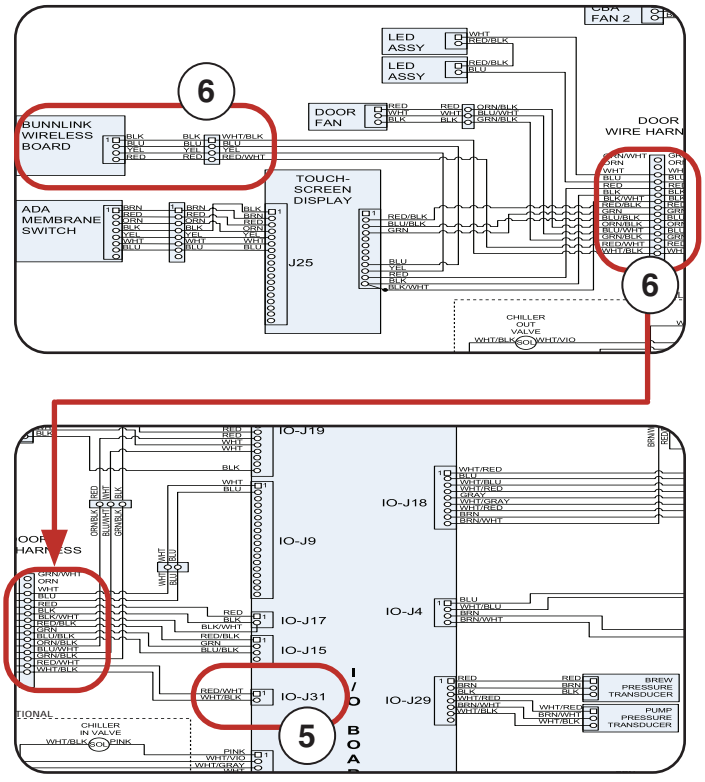
Step 2: Remove right panel to access circuit boards.

Step 3: Locate J31 connector on the Input/Output board. **Note:** J31 supplies the 5VDC power to the BUNNlink board terminals 1 & 4.

Step 4: Connect power to machine.

Step 5: Set voltmeter on D/C voltage. Install red meter lead on terminal J-31-1 Red/WHT wire (positive) and the black meter lead on J31-2 WHT/BLK wire (negative) terminal.

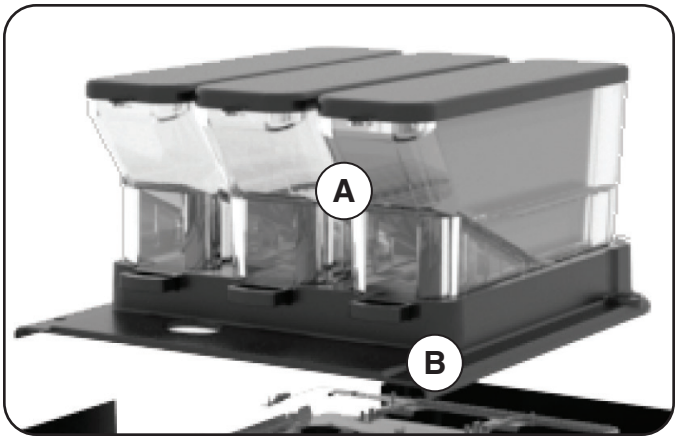
Step 6: If the reading is 5.0VDC at the I/O board, check for loose connection in the wiring harness connections between I/O board and Wifi board.
Voltage Output Not Present at I/O board: Replace I/O board.



PART RELATES TO THE FOLLOWING SYMPTOM

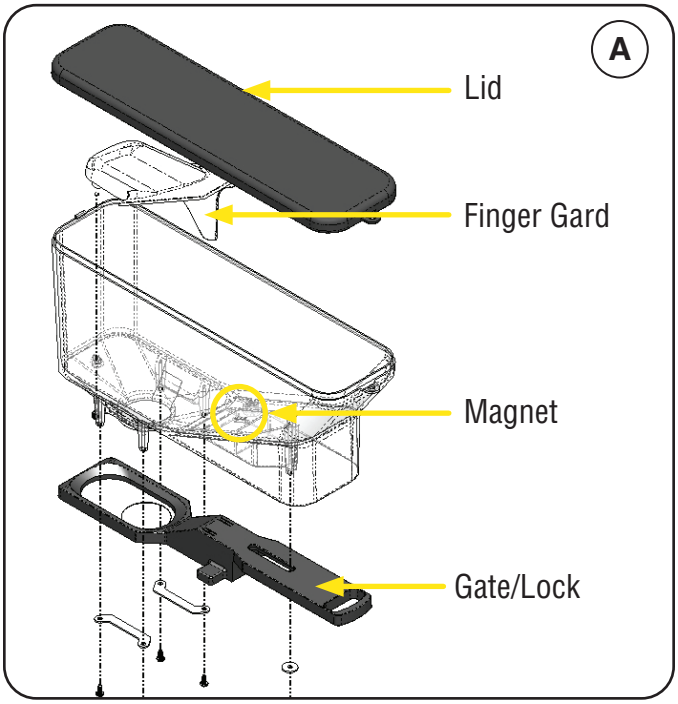
- Active Notice - E-019: Loss of BUNN Link Error

TOP PANEL REMOVAL INSTRUCTIONS



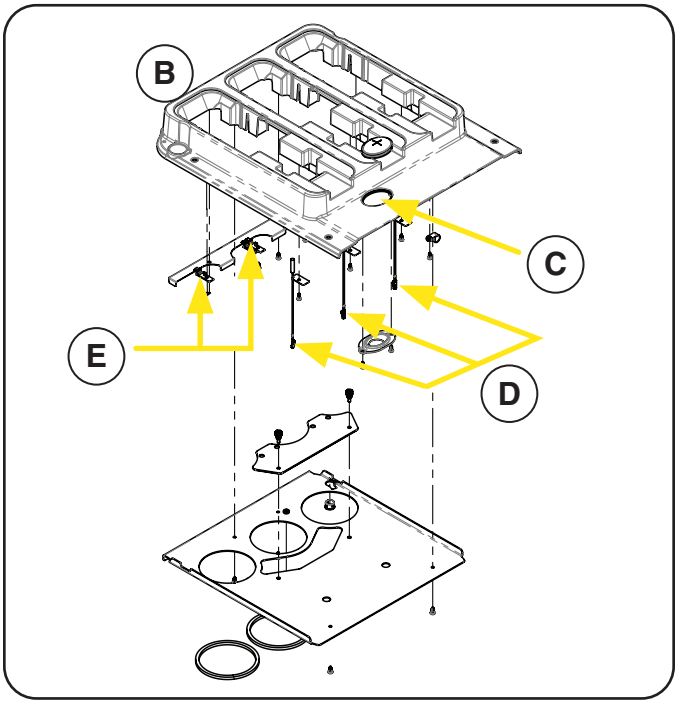
Top Panel Parts

A. Qty-3 Coffee Bean Hopper Assembly.
   - *Lid
   - *Finger Guard
   - *Magnet
   - *Hopper Gate/Lock
B. Top Panel.
C. Grommet - Tablet Inlet.
D. Qty-3 Hopper Detect Reed Switch.
E. Qty-3 Coffee Bean Detect Full/Empty Sensor.



Steps

1. Remove all bean hoppers.
2. Remove 4 slotted screws from top panel.
3 Lift top panel from right rear corner, disconnect the wiring harness at the 4 pin connector.
4. Remove top panel.



Accesses

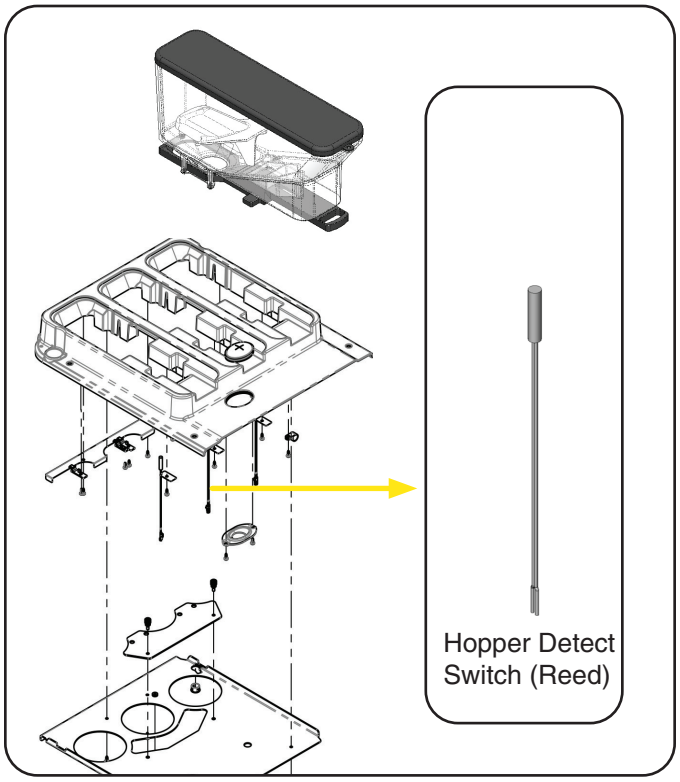
Hopper detect reed switch, coffee bean detect.

TOP PANEL

Coffee Bean Hopper Detect Switch

Purpose: A normally open switch that will close when a magnetic field is applied. The magnet located in the bottom of each hopper will close the switch when the hopper is in position directly over the reed switch.

NOTE: It only takes 1 hopper to be removed or not detected out of the three hoppers which will result in the brewer being disabled.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

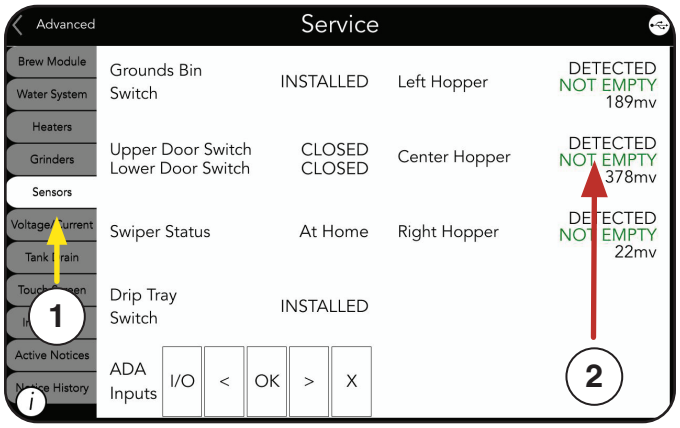
Step 1: Select and enter the Sensors tab. The Left, Center and Right Hopper can be individually tested for hopper detection.

Step 2: Hopper in position will display Detected and Hopper out of position will display Not Detected.

Step 3: If a particular hopper position constantly reads Not Detected, try another hopper in that position.

NOTE: The hopper giving the trouble, look for the magnet on the underside of the hopper, must be present and be clean for the magnetism to operate a switch that is mounted in the top cover directly under the hopper magnet when the hopper is in position.

Step 4: Not solved problem - Replace Hopper Detect Switch



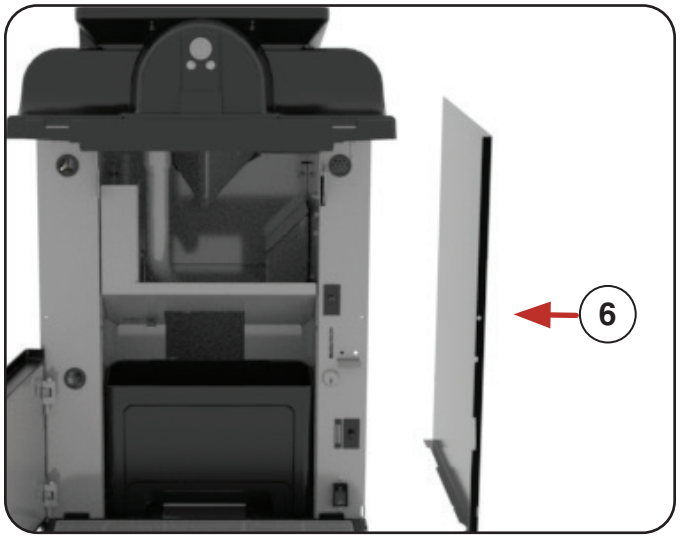
Volt/Ohm Meter - Continuity Check

Step 5: Disconnect or unplug machine from power.

Step 6: Remove right panel to access circuit boards.

Step 7: Locate High Voltage board and disconnect J6 connector from the board.

Note: See wiring schematic for hopper position being tested.



continued >

TOP PANEL

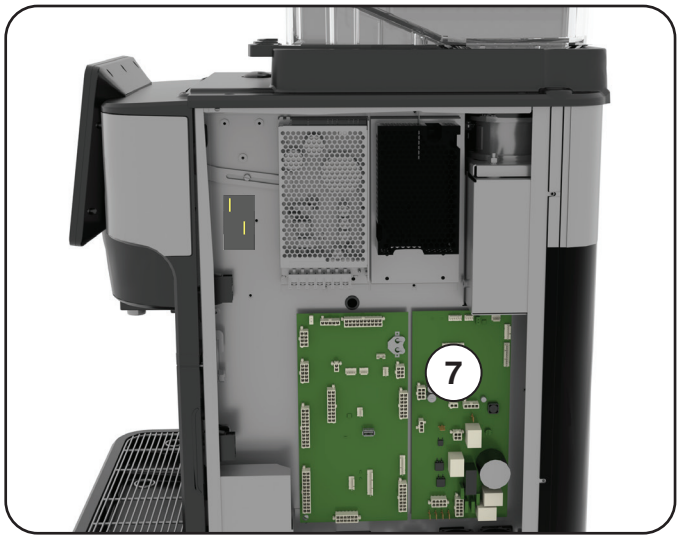
Step 8: Set meter to read continuity/tone.

Step 9: Place black meter lead on terminal with a stripe color wire and red meter lead on the terminal with solid color wire.

Step 10: Place hopper in corresponding position. Meter should show continuity 0.00 on display or here audible tone.

Hopper Removed - Meter should show infinite or open circuit.

Step 11: If hopper detect shows infinite all the time regardless positioning of magnet over switch - Replace the hopper detect switch.



<u>High Voltage Board J6-6 Pin Connector</u>

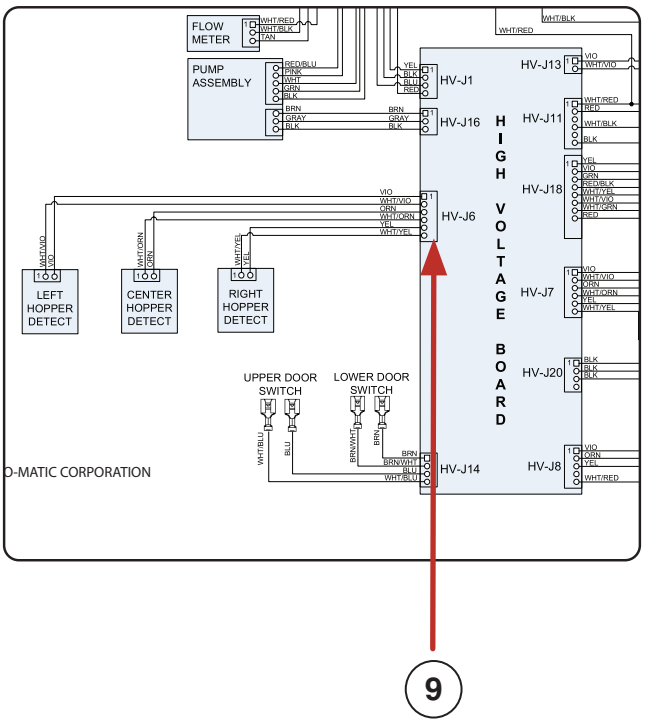
Left Hopper - J6-1 VIO & J6-3 WHT/VIO

Center Hopper - J6-3 ORN & J6-4 WHT/ORN

Right Hopper - J6-5 YEL & J6-6 WHT/YEL

PART RELATES TO THE FOLLOWING SYMPTOM

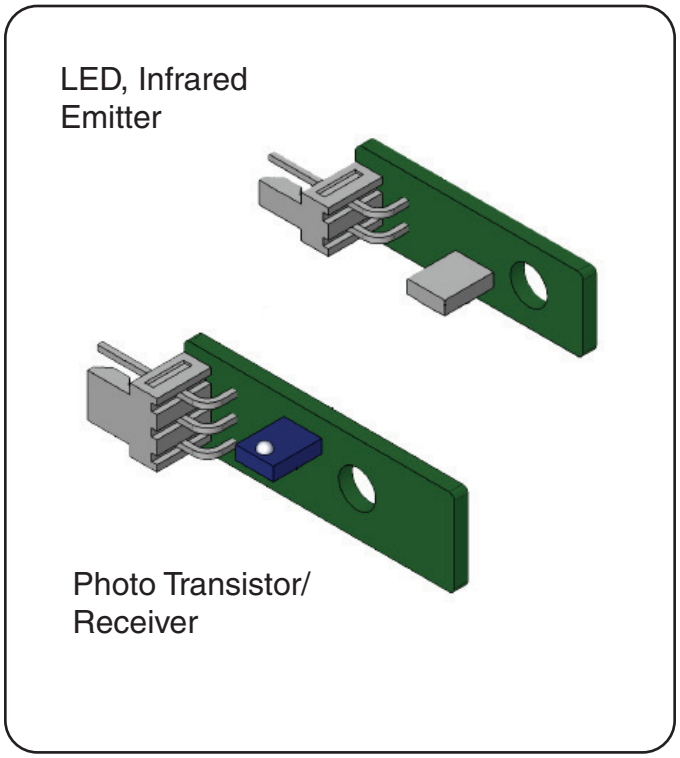
- Message - Left, Center or Right Hopper Not Detected - Brewing Disabled



TOP PANEL

Bean Detect Sensor (Full/Empty)

Purpose: Solid state device that consists of an LED (emitter) & photo transistor (receiver). The solid state device is used to monitor hopper Full/Empty status. If the brewer reads a bean hopper as being empty, it will lock out the user from being able to select and start a brew from that hopper/product selection.



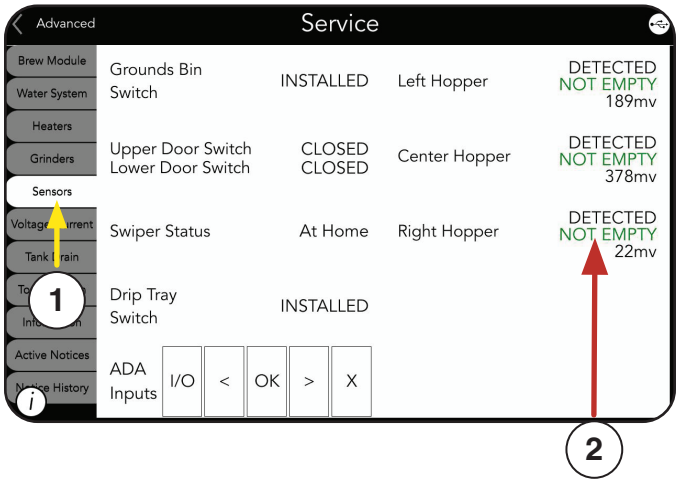
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Remove the corresponding coffee bean hopper being tested from the placement station.
NOTE**:** Located right side, the following Left, Center and Right hopper bean detection circuit can be individually tested for operation by manually blocking and un-blocking the infrared light.

Step 3: Locate the slotted area in the top panel base where the hopper was positioned. Use and object to block and unblock the infra red light. Observe the corresponding hop per MV number. The MV number should go High and Low when you block and unblock the infrared light.



Menu Information

3864MV means - Empty
1500MV or Lower means - Not Empty
Typical reading with coffee beans - 250 - 350MV

NOTE**:** If you have a problem with the coffee bean detection in one circuit or all three circuits, the coffee bean detection feature can be disabled in Programming under Machine Setting icon.

Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

continued >

TOP PANEL

Step 5: Remove right panel to access circuit boards.

Step 6: The best place to check for voltage is at J18-9 Pin Connector on the Input/Output board.

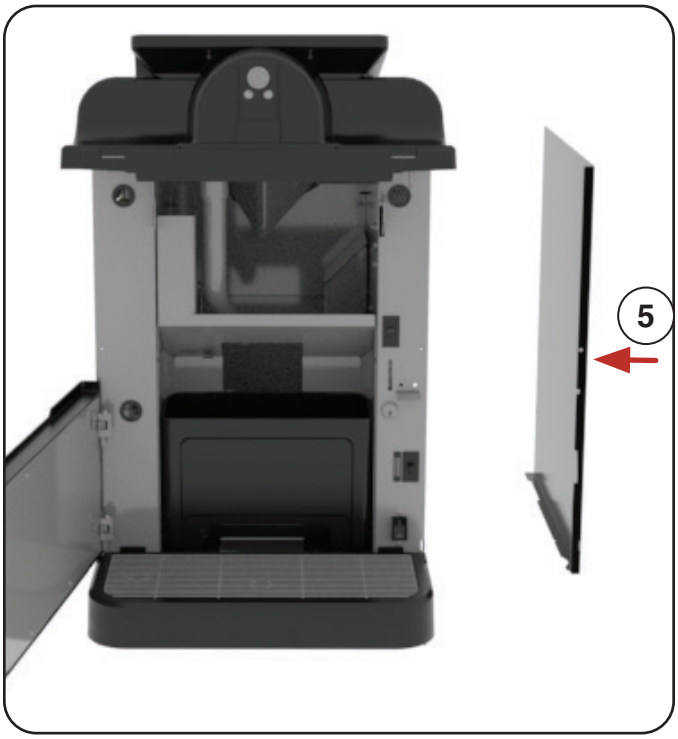
Step 7: **LED - Emitter Information**

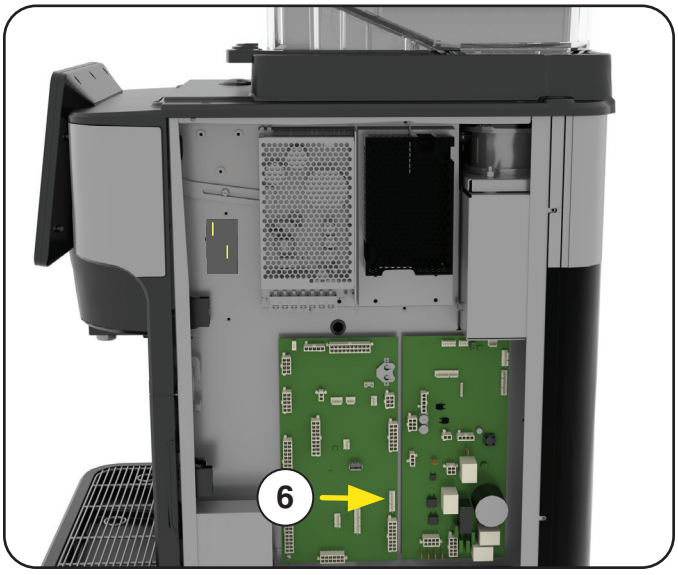
Input/Output Board J18 Connector
Left Hopper - J18-1 (+) and J18-3 (-) is 1.20VDC
Center Hopper - J18-4 (+) and J18-6 (-) is 1.20 VDC
Right Hopper - J18-7 (+) and J18-9 (-) is 1.20VDC

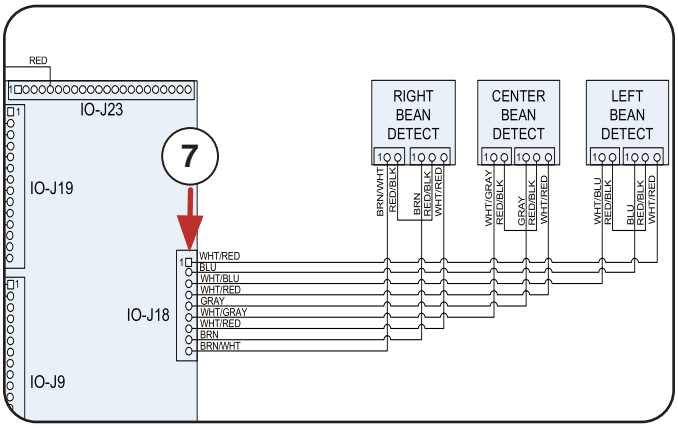
Photo Transistor/Receiver Information Signal
Empty Hopper - 0.73VDC
Not Empty Hopper - 4.69VDC
Left Hopper - J18-1 (+) and J18-2 (-)
Range: 0.73 to 4.69VDC
Center Hopper -J18-1(+) and J18-2(-)
Range: 0.73 to 4.69VDC
Right Hopper -J18-1 (+) and J18-2 (-)
Range: 0.73 to 4.69VDC

PART RELATES TO THE FOLLOWING SYMPTOMS

- Coffee profile is weak
- Message - Check Left, Center, or right Hopper - Out of beans







LOWER FRONT PANEL

Brew Module Removal Instruction

Step 1: Open upper front door.

Step 2: Open lower front door.

Step 3: Remove Waste Bin.

Step 4: Remove drip tray.

Step 5: Remove Qty-4, thumb screws securing the inner panel. Remove panel.

Step 6: Disconnect upper and lower brew tubes going to the push-in fittings.

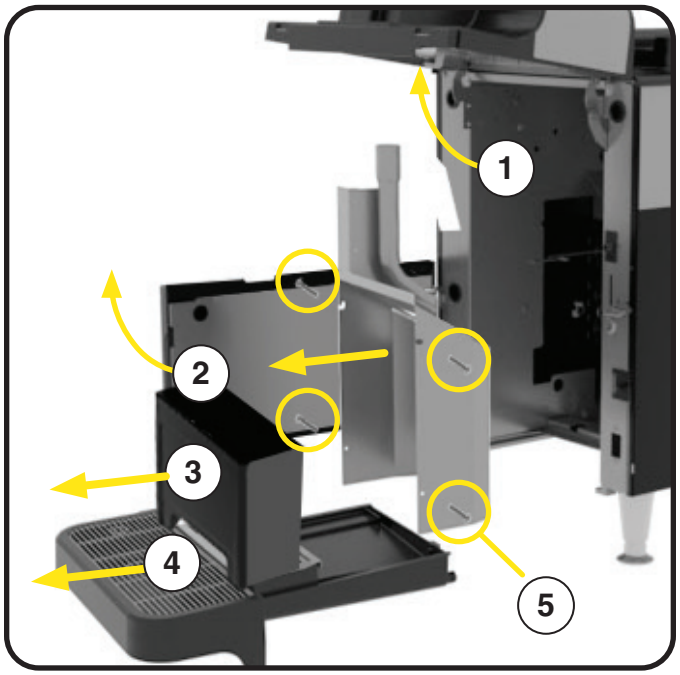
Step 7: Disconnect the wiring harness at the 12 pin connector junction located on the right inner wall (located by upper door hinge).

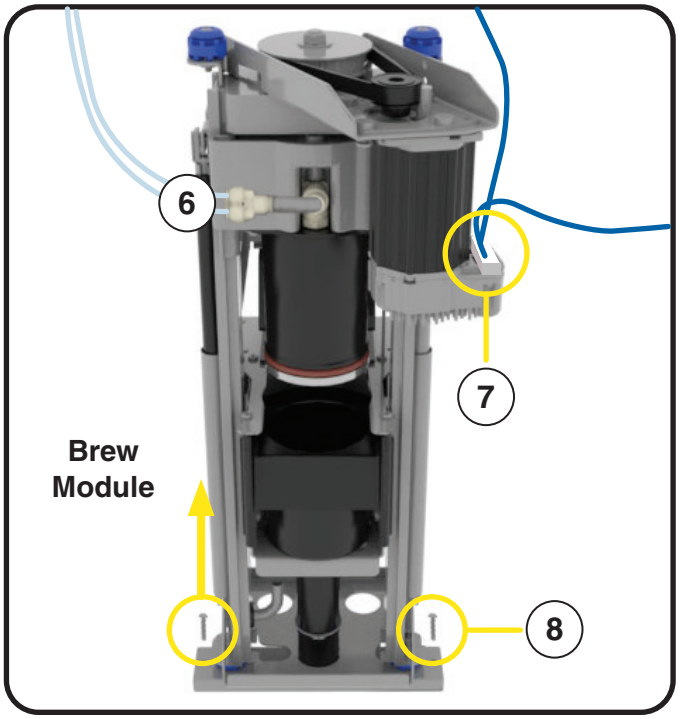
Step 8: Remove Qty-2, thumb screws at the bottom of the Brew Module.

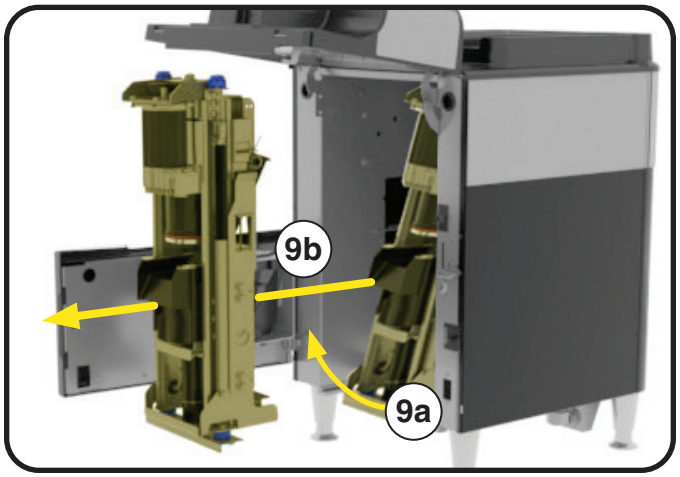
Step 9: Remove Brew Module

a) Grab the bottom of the brew module.

b) Gently pull outward to remove brew module from the brewer.







LOWER FRONT PANEL

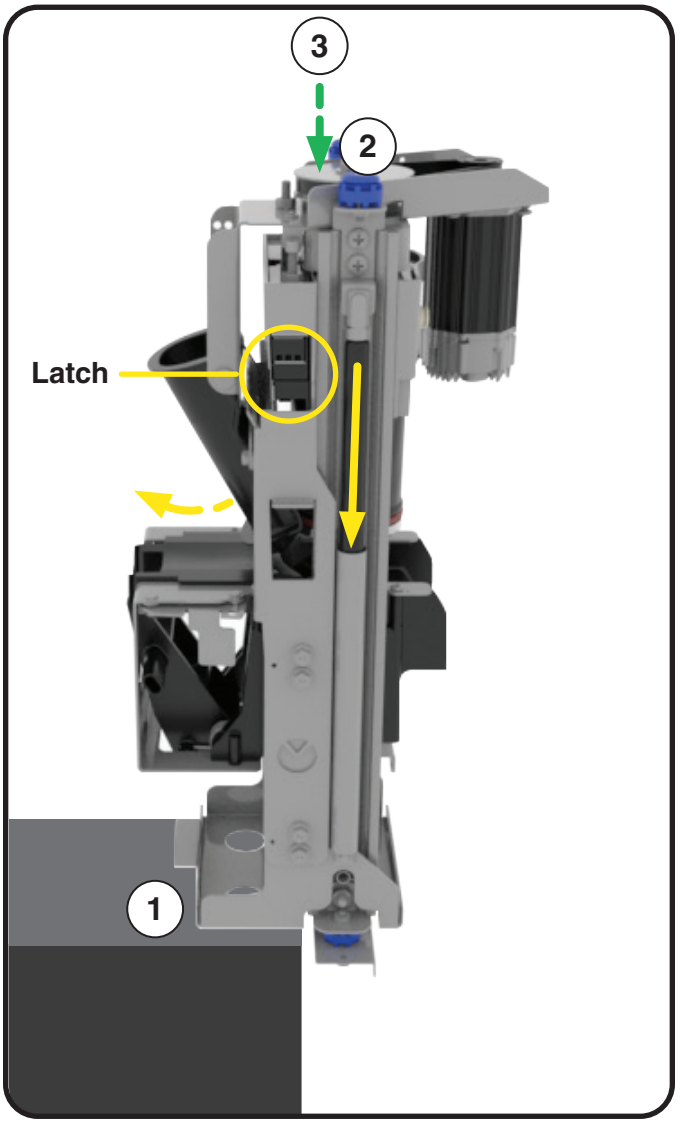
Brew Module Re-Installation

HINT: Easier to install module back into the brewer frame when the brew module latch system is engaged.

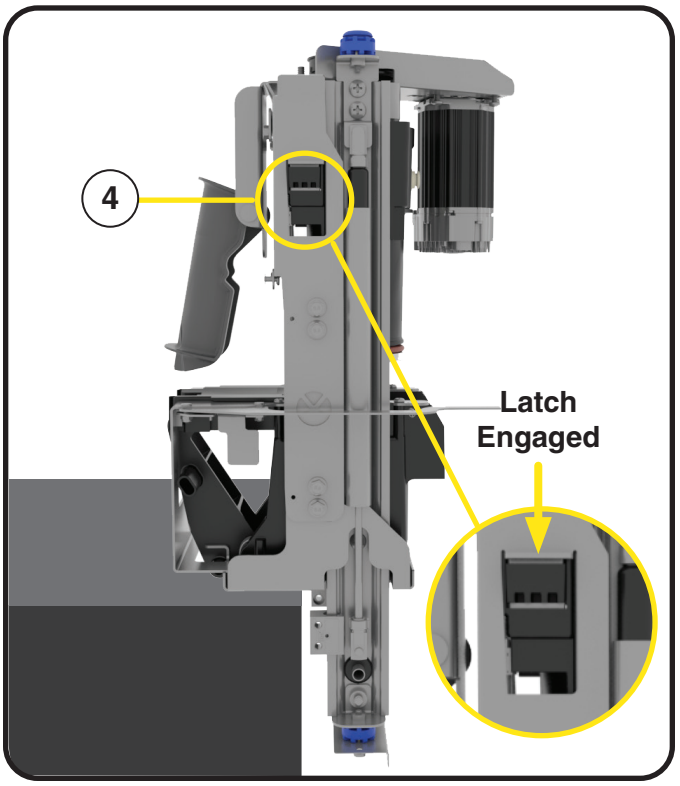
Step 1: Position Brew Module upright with flat bottom on edge of table and module mounting bracket away from table.

Step 2: Place hand on top of brew module.

Step 3: Push downward to compress the lower piston with brew screen further into the brew chamber.



Step 4: Compress until the upper latch system fully engages in the slots (locked position).

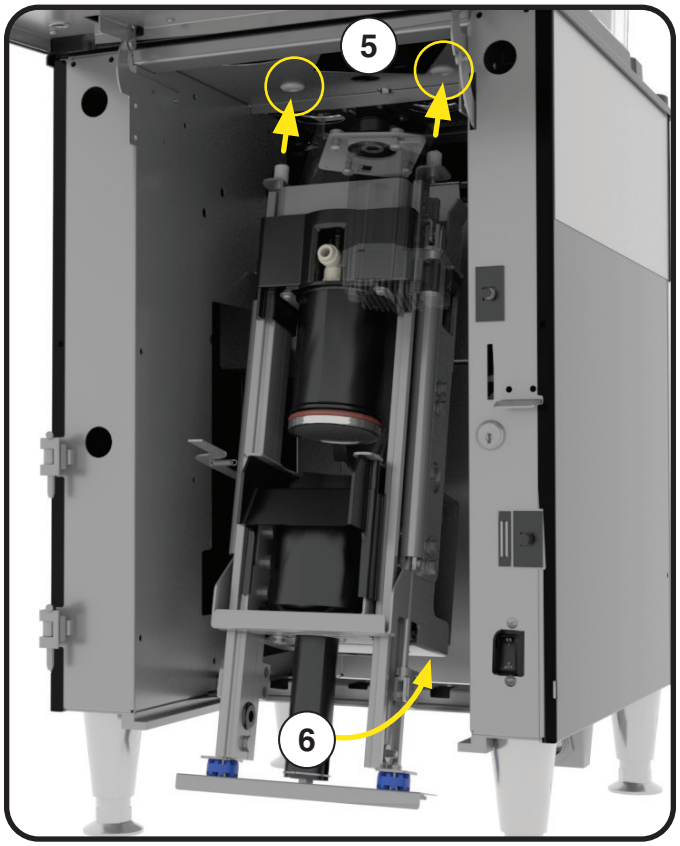


continued >

LOWER FRONT PANEL

Step 5: Align studs on top of Brew Module with holes in top of machine interior.

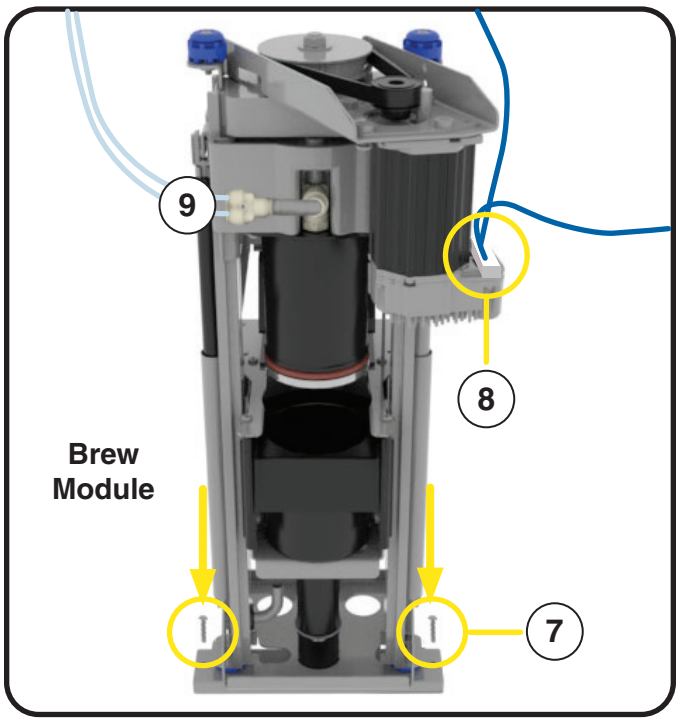
Step 6: Swing bottom of Brew Module to align metal plate with thumb screw holes.



Step 7: Replace Qty-2 thumb screws.

Step 8: Connect the wiring harness at the 12 pin connector junction located on the right inner wall (located by upper door hinge).

Step 9: Connect upper and lower brew tubes going to the push-in fittings.

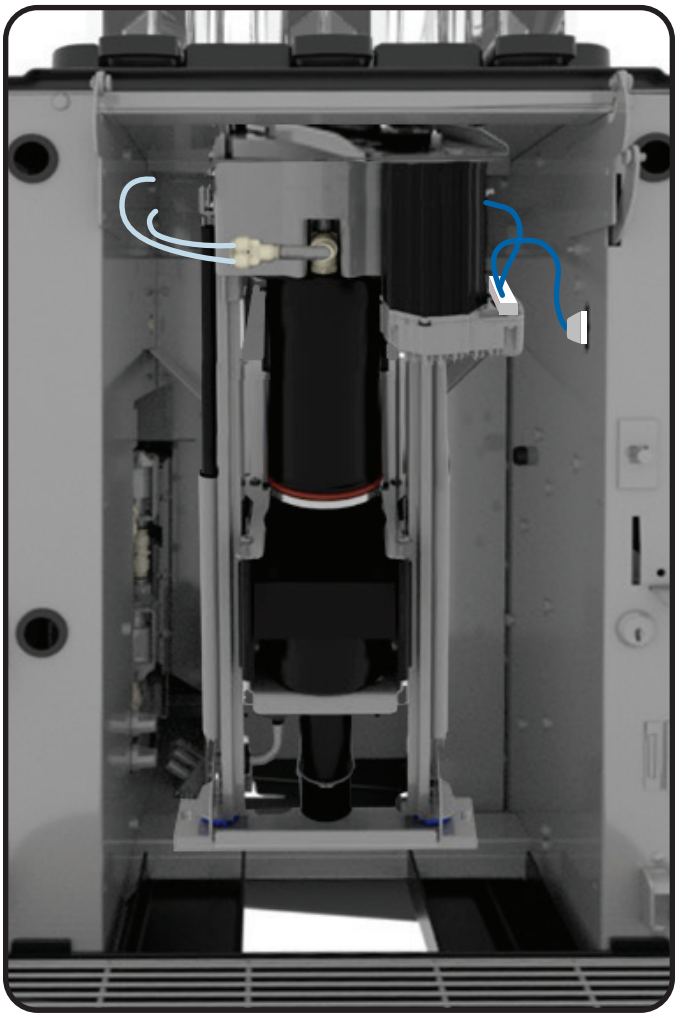


continued >

LOWER FRONT PANEL (continued)

Brew Module Re-Installation

Step 10: With Brew Module secured, return.

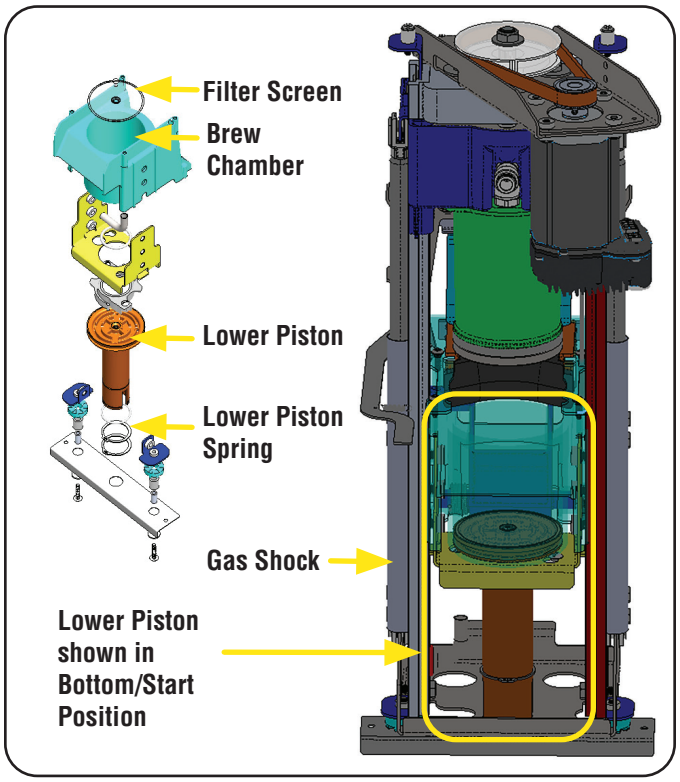


LOWER FRONT PANEL

Brew Chamber with Lower Piston/Screen

Purpose: The brew chamber is the area where it receives and holds coffee grounds in preparation of a pressurized brew process. The maximum limit of coffee grounds that the brew chamber can accept is 45 grams.

Hot brew water enters the bottom of the brew chamber, underside of the filter screen. After the brew has been dispensed into the coffee cup, the lower piston will move upward within the brew chamber to ready the semi-wet coffee grounds to be swiped into the grounds bin and will finish by resetting the lower piston back to bottom position.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

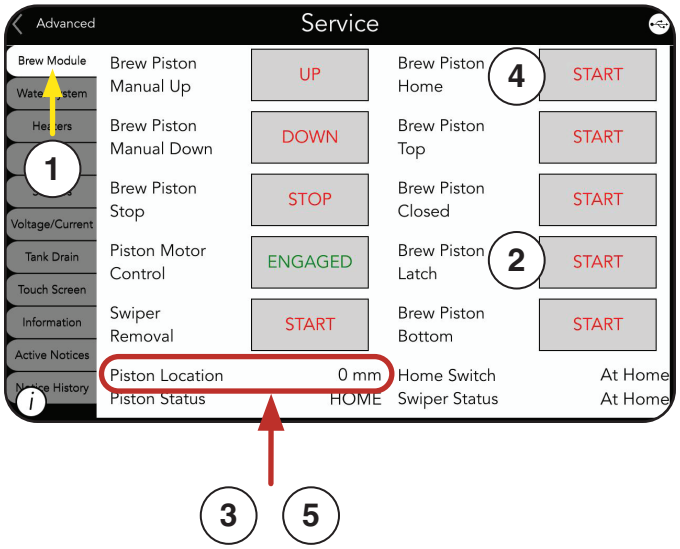
Step 1: Select and enter the Brew Module tab.

Step 2: Select and touch the Brew Piston Latch button. **Note:** Upper piston moves downward to engage the latch assembly.

Step 3: View the Piston Location number, it must be 109mm to represent piston latch.

Step 4: Select and touch the Brew Piston Home button. **Note:** Upper piston moves upward to disengage the latch assembly which will result in releasing the lower piston. The lower piston will return back down to bottom position with the help from the lower compressed piston spring and gas shocks during latch disengagement.

Step 5: View the Piston Location number, it must be 0mm to represent Home position.



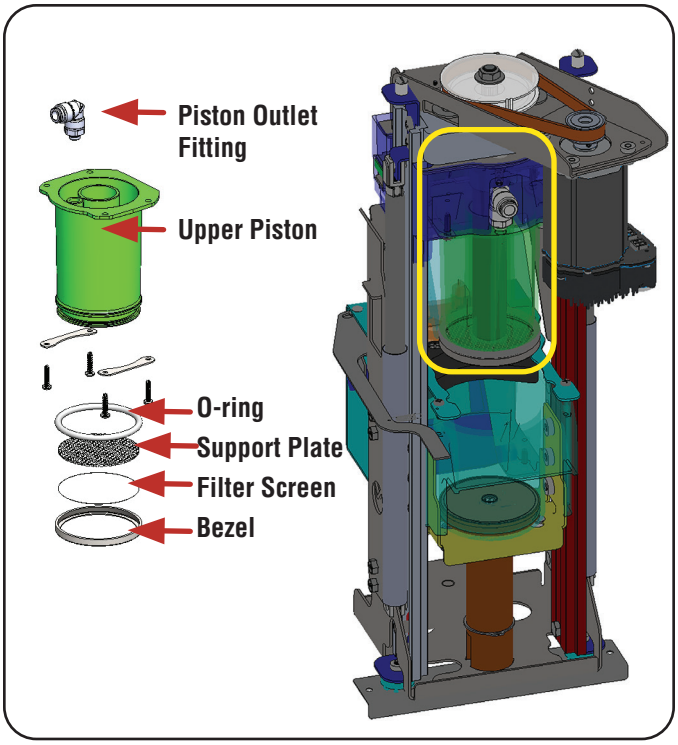
PART RELATES TO THE FOLLOWING SYMPTOMS

- Unusual Machine Noise - Normal thump sound when lower piston returning back to bottom position

LOWER FRONT PANEL

Upper Piston & Filter Screen

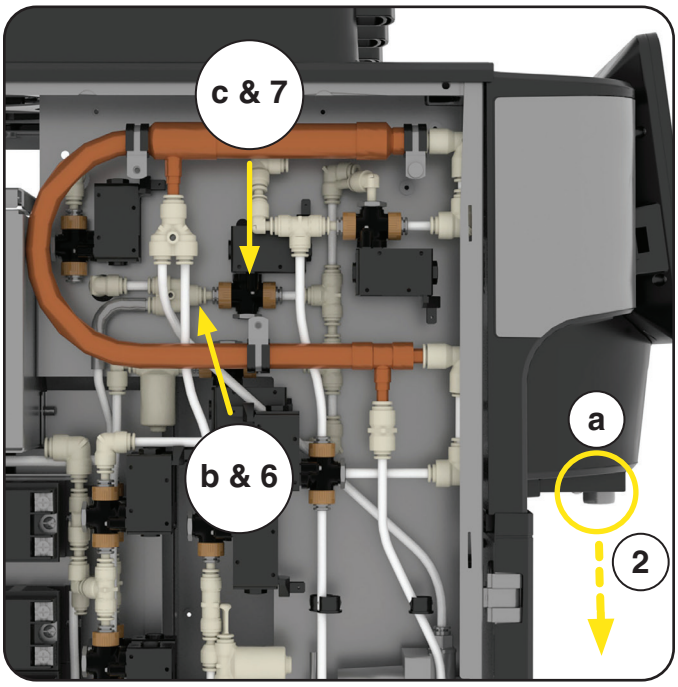
Purpose: The upper piston travels downward from Home position, enters and seals brew chamber to ready the chamber for pressurized brewing. Brew water enters the bottom of the brew chamber, the extracted coffee will flow through the upper filter screen which will exit out the upper piston fitting, through a dispense valve and exit out the dispense nozzle.



TEST INSTRUCTION

NOTE: A compromised upper filter screen can allow coffee grounds to get into the dispense system and cause flow restriction.

Areas of Concern:
a) Dispense Nozzle
b) "Y' Fitting/Tube at Dispense Valve inlet
c) Brew Chamber Dispense Solenoid Valve



Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Unscrew dispense nozzle and set aside.

Step 3: Touch the Hot Water Bypass Valve button. Water Flows Out of Outlet - Take apart and thoroughly clean nozzle and re-install. No Water Flow Out of Outlet - Continue with step 4.

Step 4: Obstruction within the water dispense system. Disconnect or unplug machine from power and water.

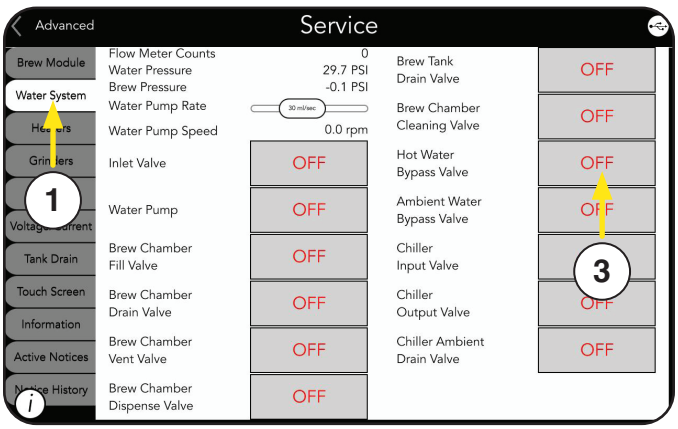
Step 5: Remove left panel to access water system.

Step 6: Disconnect "Y" fitting from Brew Chamber Dispense Valve (c) and clean obstruction from fitting and tubes.

Step 7: Remove Brew Chamber Dispense Valve, take apart and clean. Re-install "Y" fitting, tube and brew chamber dispense valve.

Step 8: Re-connect machine to power and water.

Step 9: Enter Service Technician mode and select Service icon.



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LOWER FRONT PANEL

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 10: Select and enter Brew Module tab.

Step 11: Touch Brew Piston Latch button. The upper piston will move to 109mm - Latched position.

Step 12: Select and enter Water System tab.

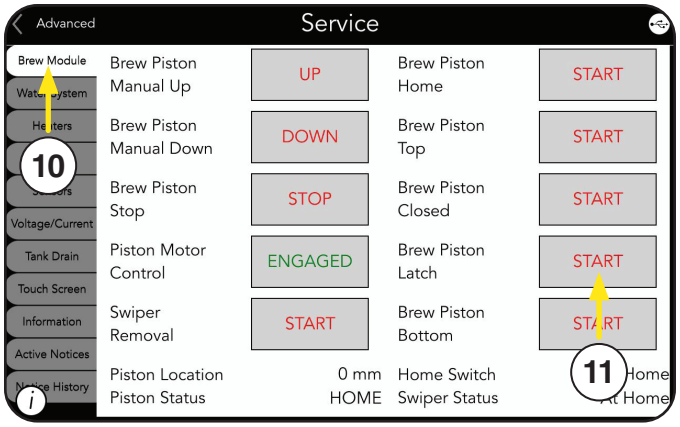
Step 13: Place a clean and empty container under the dispense outlet.

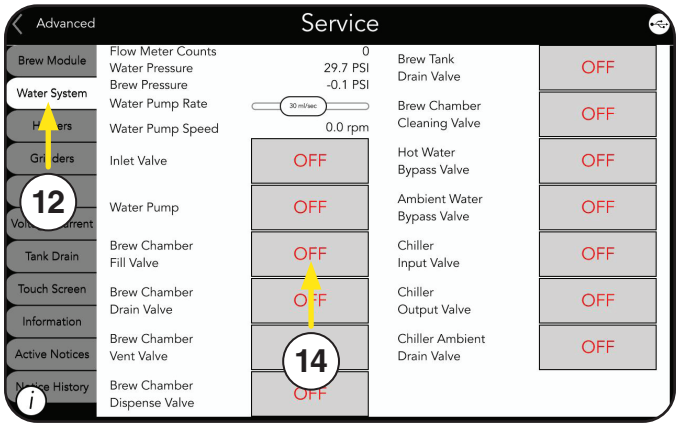
Step 14: Touch and hold the Brew Chamber Fill Valve button (10 Sec. Time Out).
Note: This will energize the Brew Chamber Dispense valve too.

Step 15: The brew chamber will fill with water before water starts flowing out the dispense outlet.
Note: The Water & Brew Pressure can be monitored during this flow test.
Typical Brew Pressure reading is around 15.0 - 20.0psig.

Step 16: If coffee grounds are present in receiving container, keep repeating step 13 until all loose coffee grounds are flushed out of the system.

Step 17: Re-install nozzle.





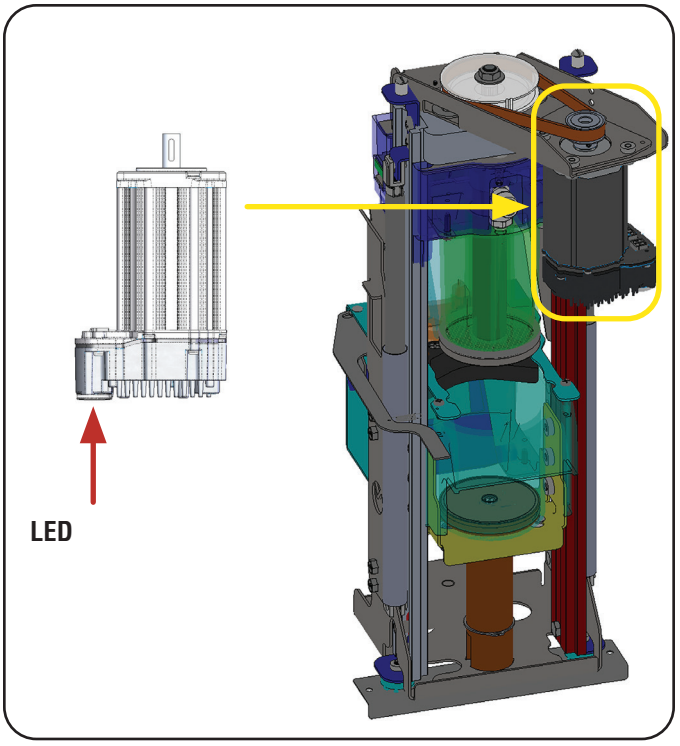
PART RELATES TO THE FOLLOWING SYMPTOMS

- Erratic flow out dispense nozzle
- Active Notice - E-045: Water Pump Low Flow Blockage
- Active Notice - E099: Brew Error Pump Flow Limit

LOWER FRONT PANEL

Piston Motor

Purpose: A precision motor that moves the upper piston up or down in millimeter increments, staging the upper piston throughout an entire brew or clean process.



TEST INSTRUCTION

NOTE: The brewer software controls an incremental process of moving the upper piston within the brew chamber during a brew process and during testing purposes.

Piston Motor LED Indicator

Green - Enabled to run

Yellow - At home position or door is open

Red - Motor error(overload)

Brew Piston Stage or Stop Points (mm)

Brew Piston Home - 0 mm, At Home, **Status** - Home

Brew Piston Top - 25 mm, Not Home, **Status** - Out of Chamber

Brew Piston Closed - 71 mm, **Status** - In Chamber

Brew Piston Latch - 109 mm, **Status** - Latched

Swiper Removal - 8 mm, **Status** - Swiper Remove

Enter Service Technician Mode and Select Service icon

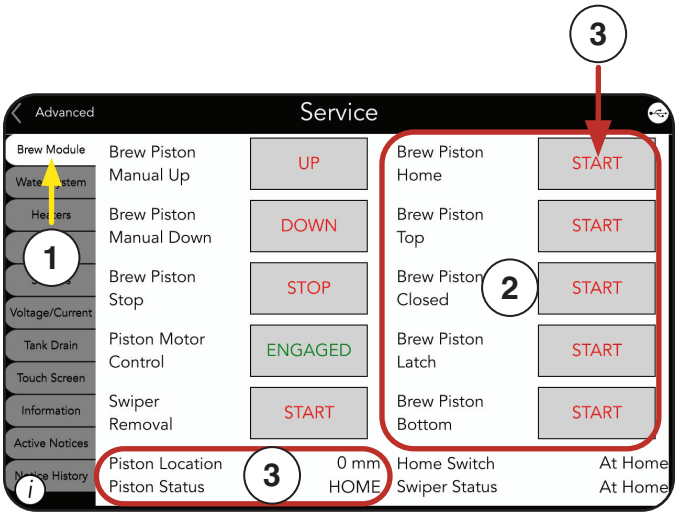
Step 1: Select and enter the Brew Module tab.

Step 2: Touch each Brew Piston position buttons to confirm each staging point number.

Step 3: Start with Brew Piston Home button and reference the 0mm for Piston Location and Piston Status: Home

Step 4: Continue testing each Brew Piston stage point and reference the mm Location and Piston Status.

Step 5: If Brew Piston Home position starts with 1mm, go to the proximity sensor test instruction.



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LOWER FRONT PANEL

Piston Motor

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

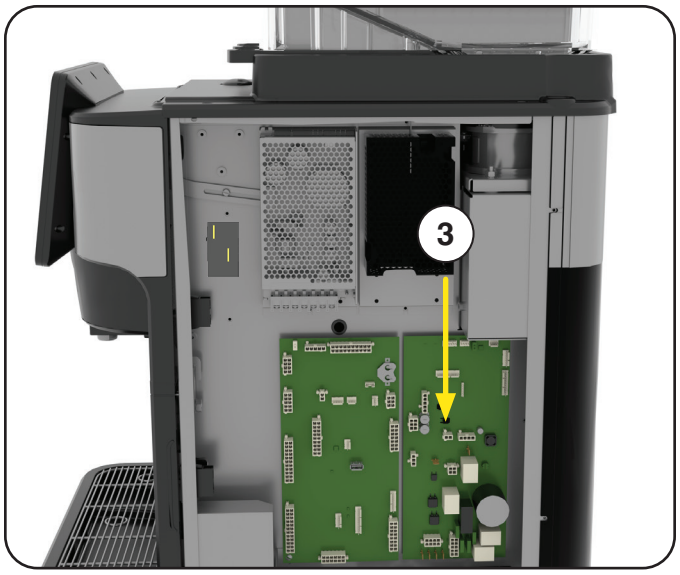
Step 2: Remove right panel to access circuit boards.

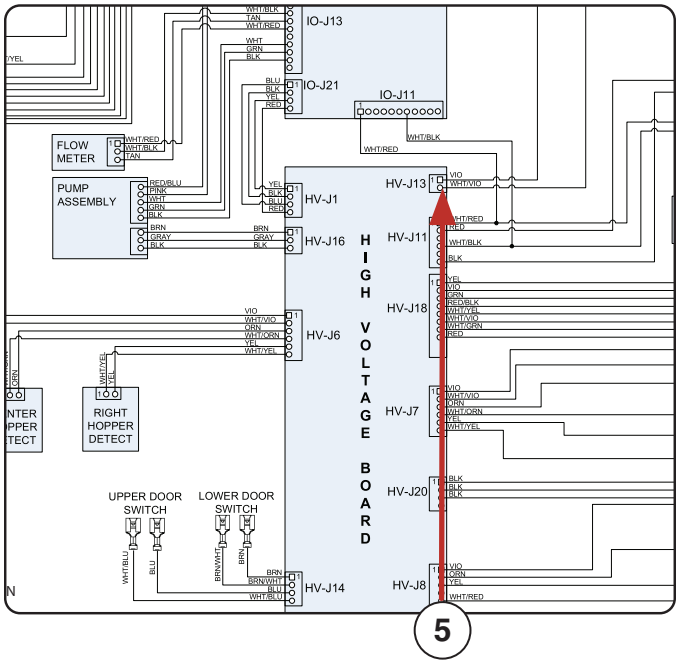
Step 3: Locate J13 connector on the High Voltage board.

Step 4: Connect power to machine.

Step 5: Set voltmeter on D/C voltage. Install red meter lead on terminal J13-1 Violet wire (positive) and black meter lead on J13-2 WHI/VIO wire (negative) terminal.

Step 6: The reading should be 48.0VDC with both door switches turned On. The reading will be 16.0VDC with one door switch turned Off.





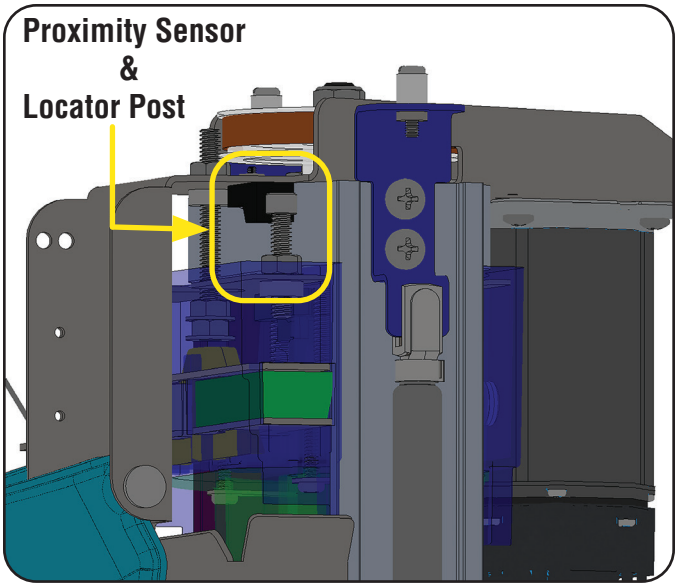
PART RELATES TO THE FOLLOWING SYMPTOMS

- Motor making unusual noise during operation
- Active Notice - E-098: Piston Error Comm Fail
- Active Notice - E-071: Brew Error Piston Move Timeout

LOWER FRONT PANEL

Proximity Sensor

Purpose: The proximity sensor is used to validate "Home" position for the upper piston assembly before start of a brew process.
The sensor is mounted to the underside of the piston motor top bracket. A metal locator post is secured on top of the upper piston/latch assembly. When the metal post is aligned by the side of the proximity sensor, it is referred as "At Home" position and metal post away from the sensor is referred as "Not Home" position.

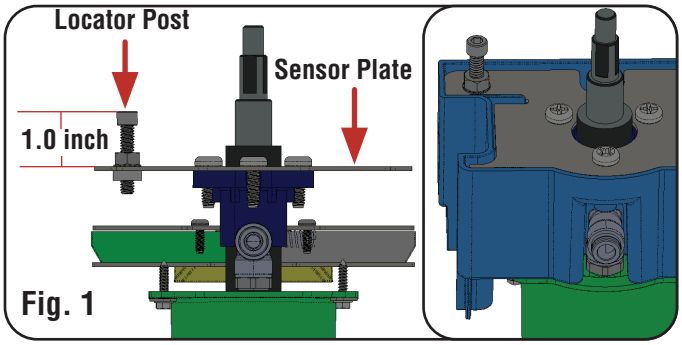


TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Factory Locator Post Height Specification: In the event of "Home" position error or related service to the upper piston, check the Locator Post for correct height setting of 1.0 inch.

The dimension specification is taken from the top of the locator post to the top of the sensor mounting plate. See Fig. 1.



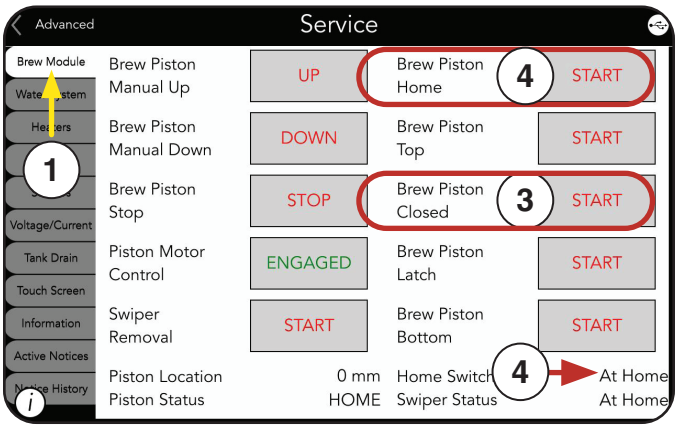
Step 1: Select and enter the Brew Module tab. The Brew Piston buttons on the right of the display will move the piston to designated mm position point when touched.

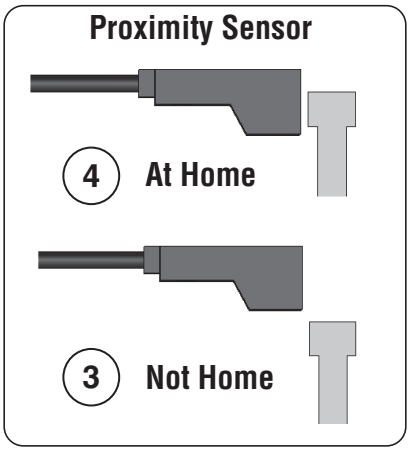
Step 2: Door switches must be enabled or in service On position to test operation.

Step 3: Touch a Brew Piston position point button to move piston from At Home to Not Home position. The reading is displayed in the lower right corner of the test screen.

Step 4: Next, touch the Brew Piston Home button. Piston will move back home and read At Home in the lower right corner of the test screen.

Step 5: No change in position reading - Verify proximity switch for voltage before replacing sensor.





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LOWER FRONT PANEL

Volt/Ohm Meter - Voltage Check

Step 6: Disconnect or unplug machine from power.

Step 7: Remove right panel to access circuit boards.

Step 8: Locate J16 connector on the Input/Output board.

Step 9: Connect power to machine.

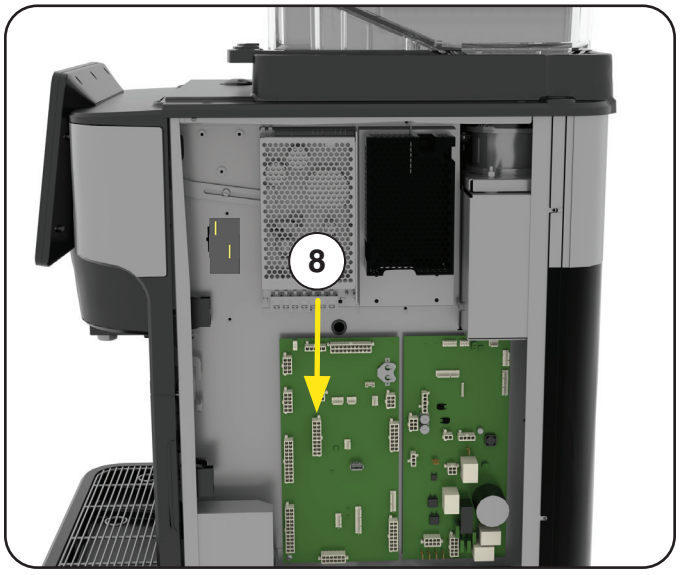
Step 10: Set voltmeter on D/C voltage. Install red meter lead on terminal J16-6 BRN wire (positive) and black meter lead on J16-5 BLK wire (negative) terminal.

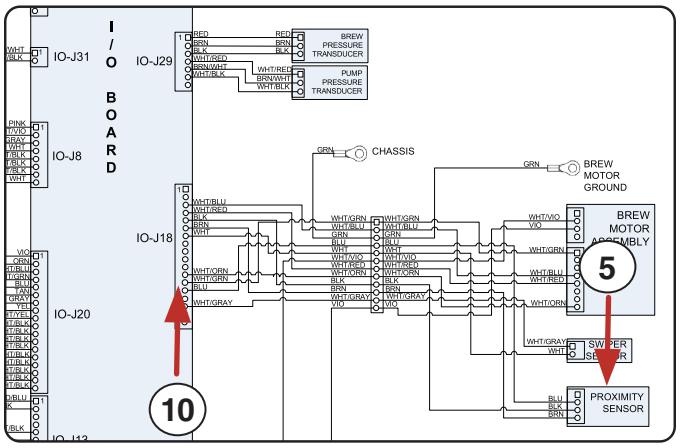
Step 11: Home position, the voltage reading will be 24.0VDC.

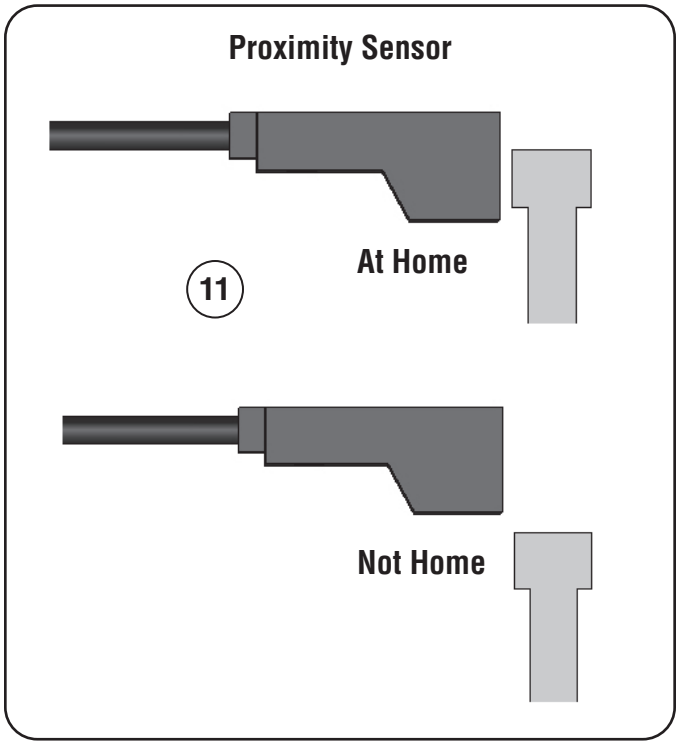
Signal

At Home Position - J16-14 Blue wire - J16-5 BLK wire, 0.00VDC.

Not Home Position - J16-14 Blue wire - J16-5 BLK wire, 4.0VDC.







PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-079: Piston Error Stall Up Not Home

LOWER FRONT PANEL

Swiper Switch

Purpose: A normally open switch that will close when a magnetic field is applied. The magnet is mounted and sealed in the underside of the swiper assembly. The swiper switch is used to validate swiper position throughout machine operations.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Brew Module tab. The Brew Piston test buttons will move the piston to a designated mm position point when touched.

Step 2: Touch Swiper Removal button to move piston from At Home to Not Home position (8mm). The position is displayed in the lower right corner of the test screen.

Step 3: If Not Home position is not achieved, remove swiper assembly and verify magnet is in position and the area is clean of coffee residue before continuing with switch voltage test.

Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove right panel to access circuit boards.

Step 6: Locate J16 connector on the Input/Output board.

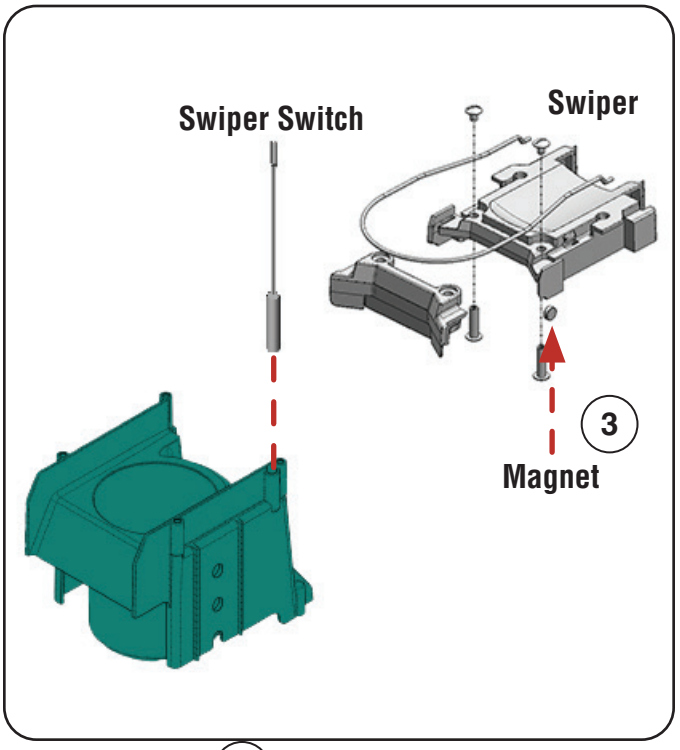
Step 7: Connect power to machine.

Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J16-7 WHT wire (positive) and black meter lead on J16-16 WHT/GRAY wire (negative) terminal.

Step 9: The reading should be 3.0VDC when swiper is At Home position and go to 00.0VDC when Swiper is Not Home position (swiper extended forward).
If the voltage never drops out when the swiper is in Not Home position, replace the swiper sensor.

PART RELATES TO THE FOLLOWING SYMPTOMS

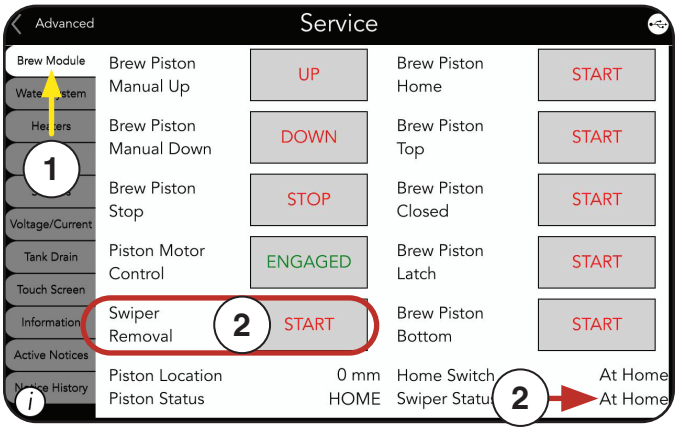
- Active Notice - E-042: Swiper Not Detected, E-044: Swiper Did Not Return, E-075: Brew Error No Swipe return

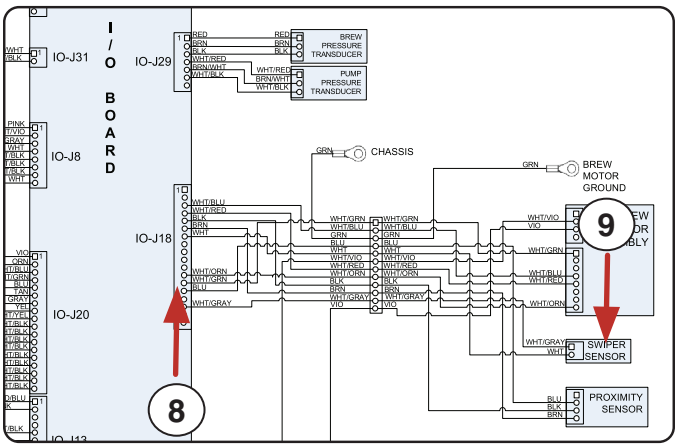


Swiper Status 2

Swiper Extended in Forward Removal Position (8mm): Not Home

Swiper Retracted Position: At Home

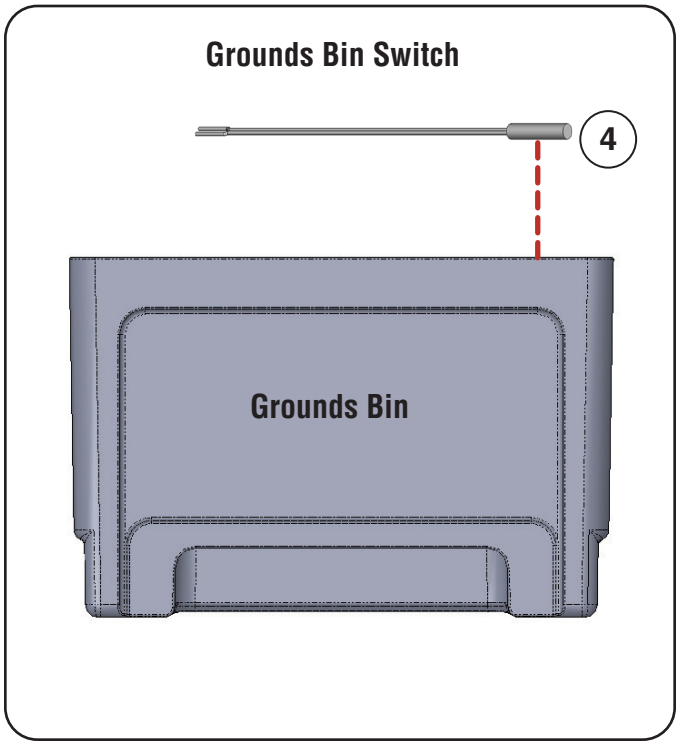




LOWER FRONT PANEL

Grounds Bin Switch

Purpose: A normally open switch that will close when a magnetic field is applied. The magnet is located in the upper rear of the grounds bin. When the grounds bin is placed in position, the switch will close, enabling the brewer display to allow operation.



TEST INSTRUCTION

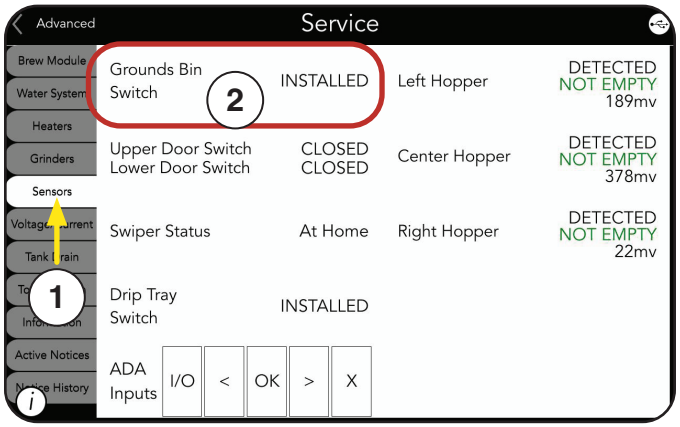
Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Located left side, Grounds Bin Switch. Grounds Bin in position: reads: Installed Grounds Bin out of position or removed reads: Removed

Step 3: If brewer does not see the grounds bin while in position, look for the magnet on the upper rear of the bin. The magnet must be present and be clean for the magnetism to operate the grounds bin switch that is mounted to the brewer frame directly behind the grounds bin.

Step 4: Magnet present and clean - Check the grounds bin switch for continuity when the magnet is near the switch.



Volt/Ohm Meter - Continuity Check

Step 5: Disconnect or unplug machine from power.

Step 6: Remove right panel to access circuit boards.

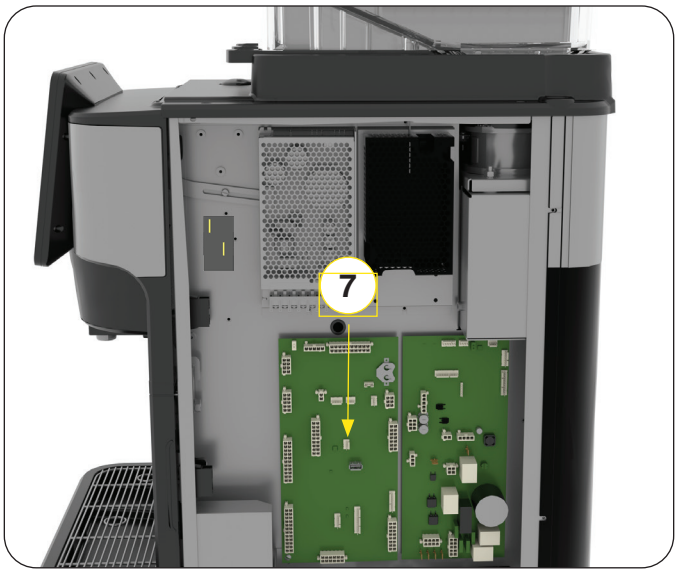
Step 7: Locate and disconnect J4 connector from the Input/Output board.

Step 8: Set meter to read continuity/tone.

Step 9: Place black meter lead on J4-3 Brown wire terminal and red meter lead on J4-4 BRN/WHT wire terminal.

continued >

LOWER FRONT PANEL



Volt/Ohm Meter - Continuity Check

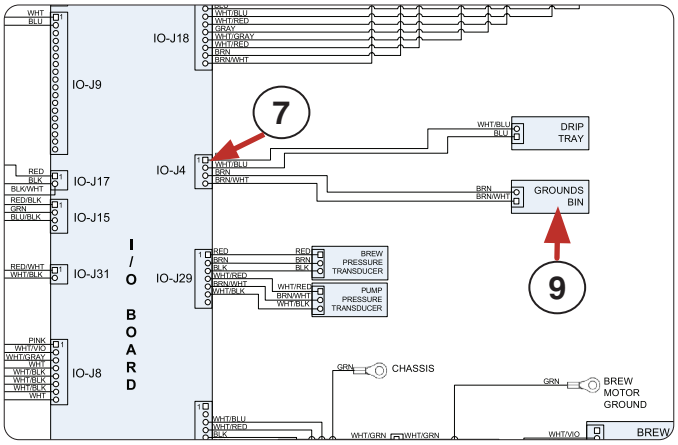
Step 10: Place grounds bin in corresponding position - Meter should show continuity 0.00 on display or here audible tone.

Grounds Bin Removed - Meter should show infinite or open circuit.

Step 11: If grounds bin switch shows infinite all the time regardless positioning of magnet near switch - Replace the grounds bin switch.

PART RELATES TO THE FOLLOWING SYMPTOMS

- Cannot start a brew process
- Message - Grounds Bin Has Been removed
- Active Notice - E-131: Grounds Bin Sensor Error

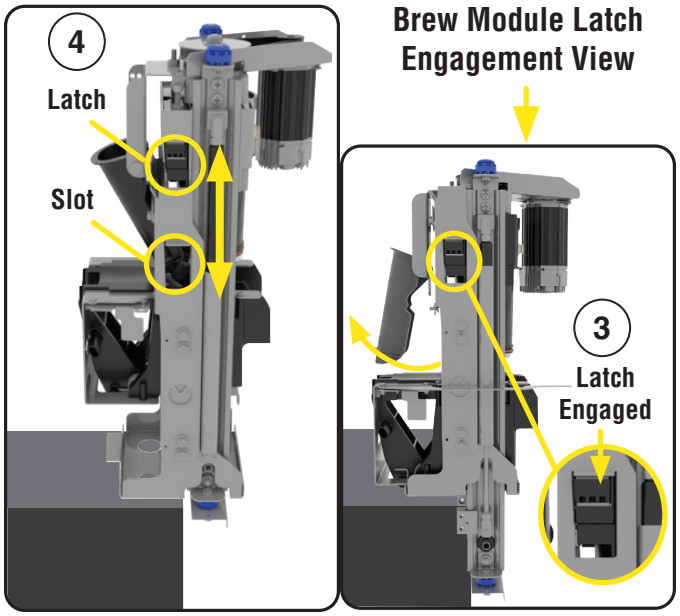


LOWER FRONT PANEL

Latch Assembly

Purpose: The upper piston is attached to the latch assembly. Inside the latch assembly is a mechanism that protrudes a latch out each side of the assembly. When the latch assembly moves downward, the latches will get compressed inward by the side brackets until the assembly reaches latch position. The latching point is when the latches reach the slotted opening in the side brackets and spring outward into the opening, engaging the lower brew piston assembly.

When a brew dispense is completed, the latch assembly raises the lower piston in the brew chamber to ready the semi-wet coffee grounds to be swiped into the grounds bin and will continue raising the upper piston with latch assembly until the latch assembly hits the upper latch release stud that will disengage the latches from the side brackets. The two gas springs assist in the return of the lower piston back to bottom/start position.



TEST INSTRUCTION

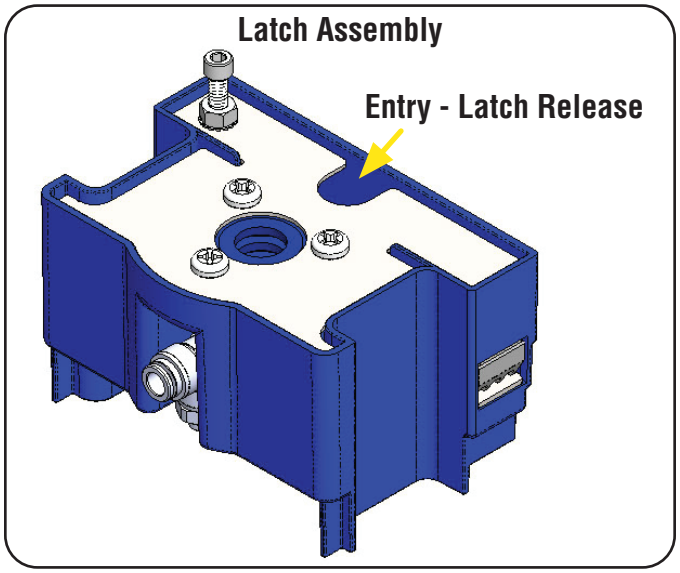
Enter Service Technician Mode and Select Service icon

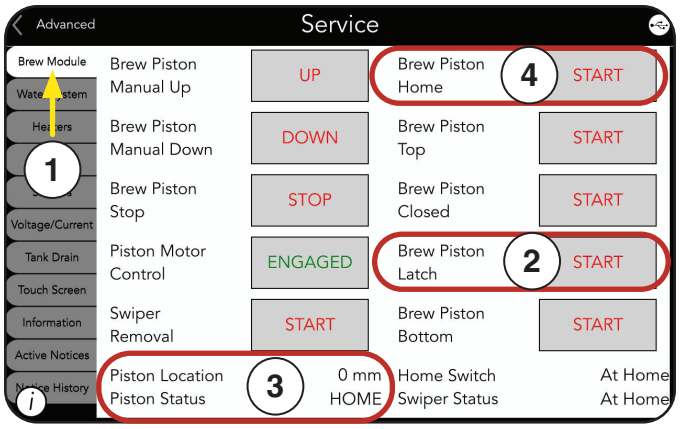
Step 1: Select and enter the Brew Module tab. The Brew Piston test buttons will move the piston to a designated mm position point when touched.

Step 2: Touch Brew Piston Latch button.

Step 3: Listen for latch engagement, piston location will read 109mm and piston status will display the word Latched.

Step 4: Next, touch Brew Piston Home button. Listen for the latch disengagement, lower piston returning to bottom/start position. **Note:** Normal hearing latch disengagement.





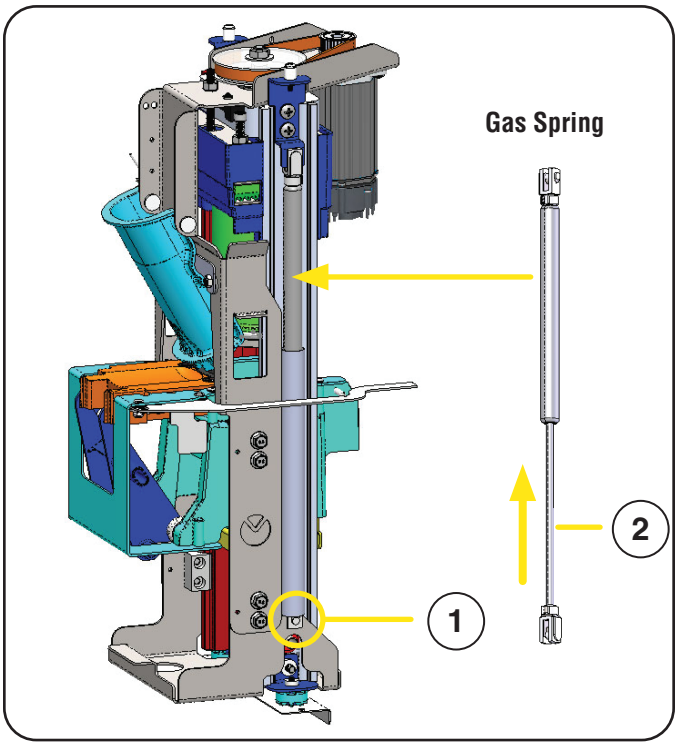
PART RELATES TO THE FOLLOWING SYMPTOMS

- Heightened latch disengagement sound, confirm all legs are flat on the counter surface
- No latch engagement - Over maximum 45 gram limit in brew chamber
- Active Notice - E-083: Piston Error Stall Down No Latch

LOWER FRONT PANEL

Gas Springs

Purpose: The two gas springs assist the rate of fall of the lower brew piston assembly back down to the bottom/start position.



TEST INSTRUCTION

Brew Module Removal

Step 1: Release gas spring from lower mount bracket by removing the lower lock pin.

Step 2: Check gas spring for resistance when compressing spring by hand.

Step 3: Gas spring should extend back after releasing compression.

Step 4: Gas spring does not automatically extend back after test compression. Replace failed gas spring.

PART RELATES TO THE FOLLOWING SYMPTOMS

- Heightened machine noise when lower piston returning back to bottom/start position

LEFT PANEL

Left Side Panel Removal Instructions

Step 1: Open lower door.

Step 2: Lift upper door assembly until upper assembly locks in position.

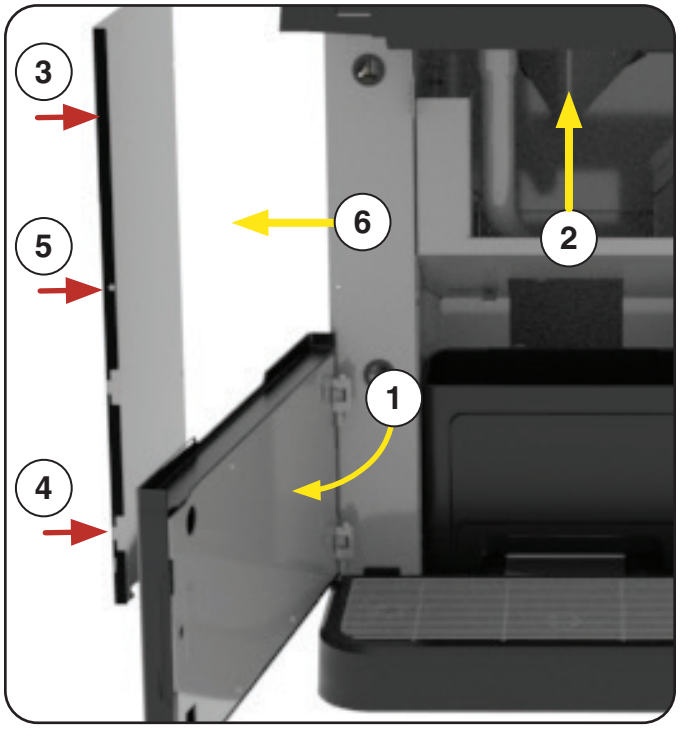
NOTE: Key may be needed to unlock upper door assembly.

Step 3: Remove Qty-1 slotted screw from left side panel in the front.

Step 4: Remove Qty-1 slotted screw from lower side of left side panel.

Step 5: Loosen Qty-1 slotted screw from upper side of left side panel.

Step 6: Remove panel.

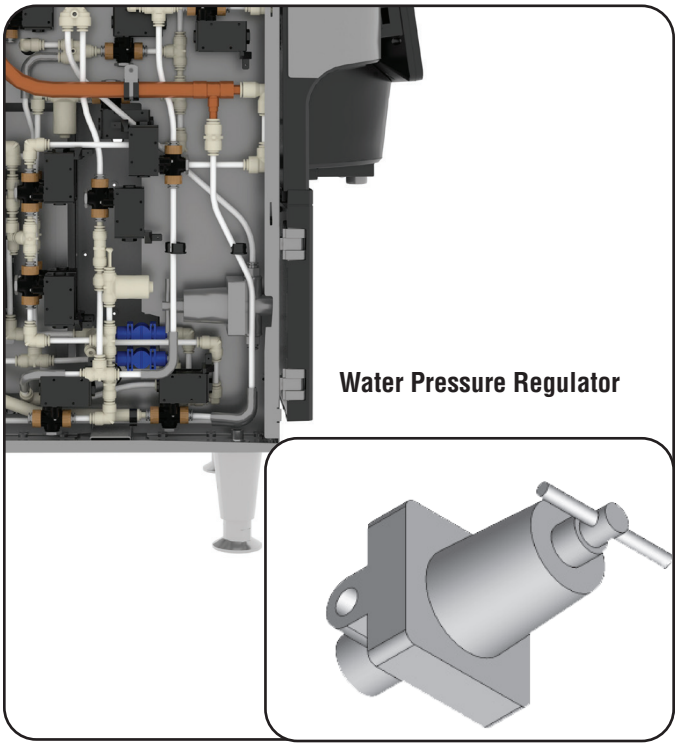


LEFT PANEL

Water Pressure Regulator

Purpose: The pressure regulator is a control valve that reduces the input water pressure to a desired output pressure/flow rate. The brewer internal regulator is factory set at 20psig.

NOTE: Regulator specification is 1 - 25 psig.



TEST INSTRUCTION

Factory Setting is 20psig

A pressure gauge allows direct reading of the pressure, and is used for reading of the adjusted output pressure setting.

Increase Pressure: Rotate “T” handle clockwise.
Decrease Pressure: Rotate “T” handle counter clockwise.

NOTE: If you do not have a pressure gauge to precisely set your replacement pressure regulator before installing in brewer, you can loosen locking nut, rotate “T” handle clockwise until it stops and note position of “T” handle. Next, rotate “T” handle 7 1/2 full turns counter clockwise, tighten lock nut. This will be close to 20psig setting.

NOTE: Water regulator set too low in the brewer will cause a very loud obnoxious vibrating sound.

PART RELATES TO THE FOLLOWING SYMPTOMS

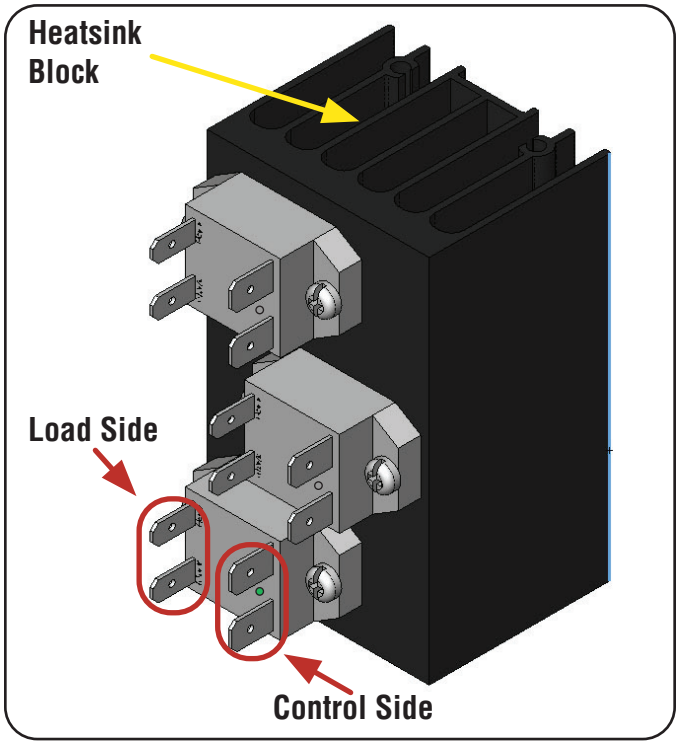
- Loud obnoxious vibration sound
- Active Notice - E-068: Low Water Flow-Supply

LEFT PANEL

Solid State Relay (SSR)

Purpose: The solid state relay with led indicator is made up of solid state components which have no mechanical contacts or moving parts which extends the life of operation. The SSR switches A/C power to the tank heater and provides electrical isolation from the low input D/C control circuit. The green LED is a visual indicator used for easy identification of the input control or operation of the SSR.

NOTE: One SSR per boiler tank/heater.



TEST INSTRUCTION

Note: First, cool the tank module down in temperature before testing solid state relay so you don't accidentally create an over temperature error which could result in a tripped limit thermostat.

Tank Module Cooling Instruction

Step 1: Enter Service Technician Mode and select Service icon.

Step 2: Select and enter the Heaters tab.

Step 3: Disable Finish, Pre-Heat and Inlet Heater Control. This will temporarily stop the heating control from turning ON because of low tank temperature.

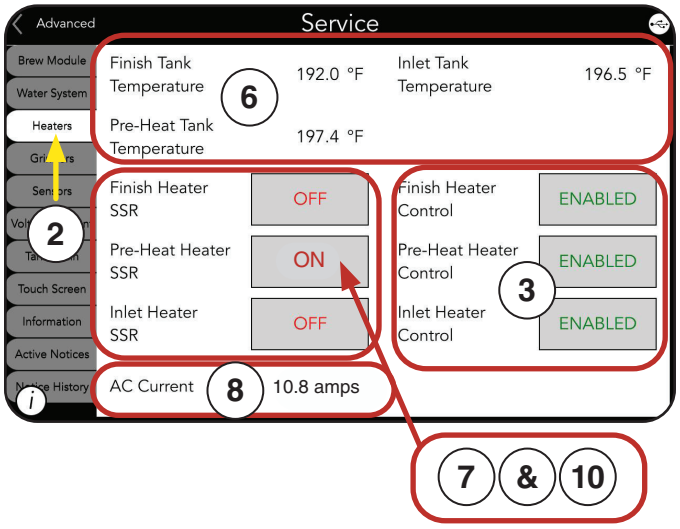
Step 4: Exit Heaters tab and enter Water System tab.

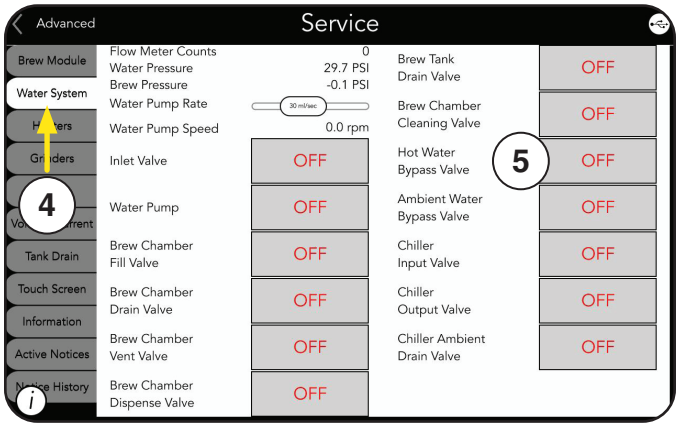
Step 5: Touch and hold Hot Water Bypass Valve to start cooling down the tank module. The valve test time runs a maximum of 10 seconds.

Step 6: Next, go back to the Heaters tab. Read all three tank temperature's and ensure they are cooled down below 150° F. from 200°F.

Step 7: The SSR control can be tested with the SSR being disabled in Step 3. Touch the corresponding Finish, Pre-Heat or Inlet Heater SSR button to activate the control.

Step 8: An LED control status indicator will illuminate on the SSR to indicate input/operation. Heater A/C Current 10.8 Amps +/- 5% will be displayed at the bottom of the Service Screen. SSR & Boiler Tank/Heater Operating correctly.





continued >

LEFT PANEL

SSR Test Results

Step 9: LED not illuminated on SSR, plus zero amp reading - Set voltmeter on D/C voltage and check for 24.0VDC control voltage at SSR being checked.

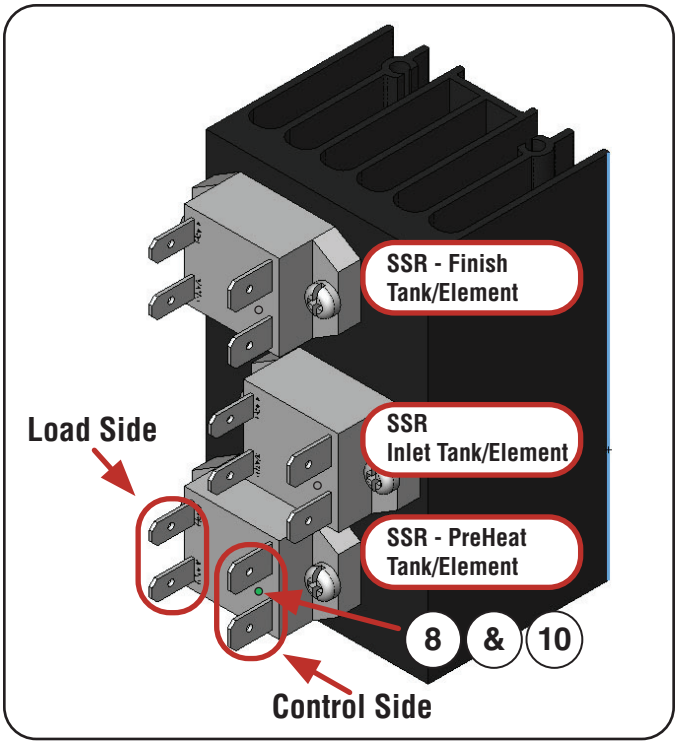
Step 10: 24.0VDC should be present when SSR test button is touched and go to 0.00VDC when finger is removed from button or 5 second test timeout has elapsed.

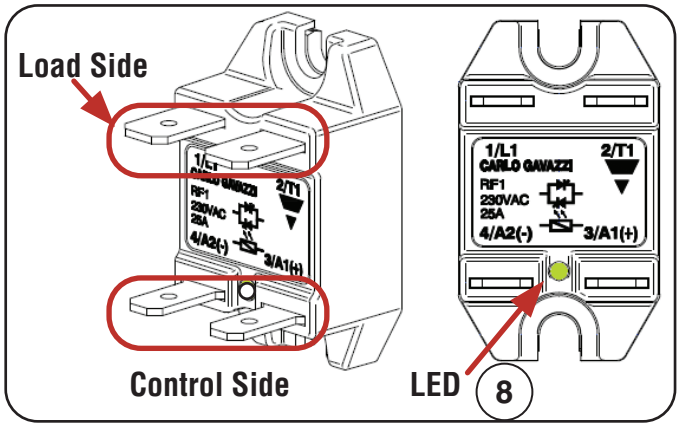
Yes voltage - Go to Step 11.

No voltage - Inspect wiring harness for loose connection before replacing Power (HV) Board.

Step 11: LED illuminated on SSR, plus zero amp reading - Check associated heating components (limit thermostat, heater) for an open circuit.

Step 12: LED not illuminated on SSR, plus 10.8 Amp +/-5% is displayed - Replace Solid State Relay.





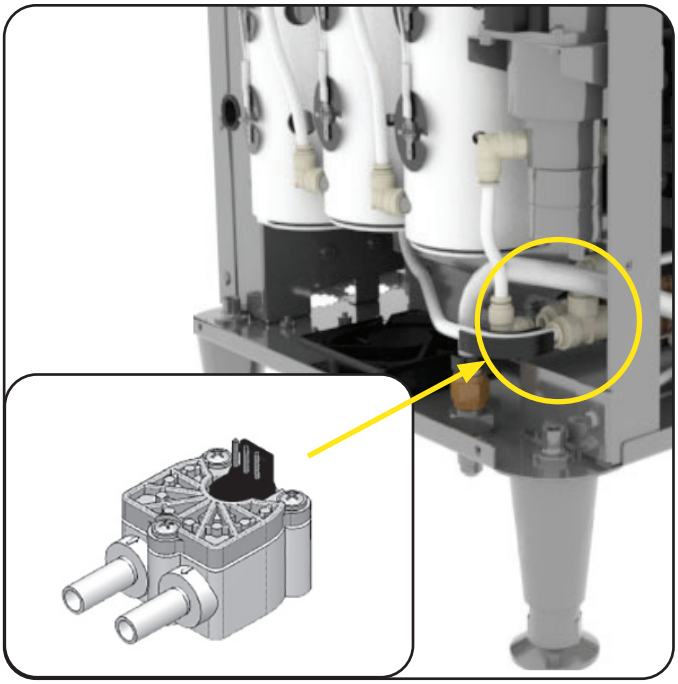
PART RELATES TO THE FOLLOWING SYMPTOMS

- Irregular or weak coffee profile
- Active Notice - E-053, 054, 055: Finish, PreHeat & Inlet Tank Heating
- Active Notice - E-059, 060, 061: Finish, PreHeat & Inlet Tank Over Temp

LEFT PANEL

Flow Meter

Purpose: The volumetric meter uses a turbine with magnets. The water passes by the turbine causing the turbine to rotate while the hall affect sensor inputs the pulse signals for every amount of milliliters passing through.



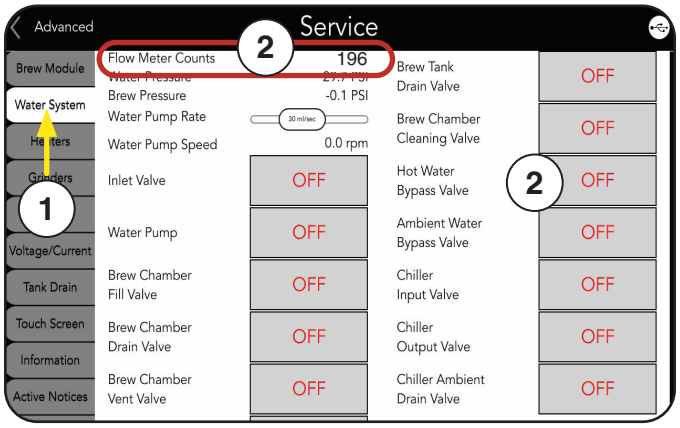
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch Hot Water Bypass Valve to see rise in flow counts. The increase in flow count number informs technician that the turbine is rotating from water flow exiting out the dispense nozzle and produces signal inputs to the main control board.

No Signal Inputs: Check wiring harness between flow meter and I/O board for loose connection, check flow meter for supply voltage before replacing flow meter.



Volt/Ohm Meter - Voltage Check

Step 3: Disconnect or unplug machine from power.

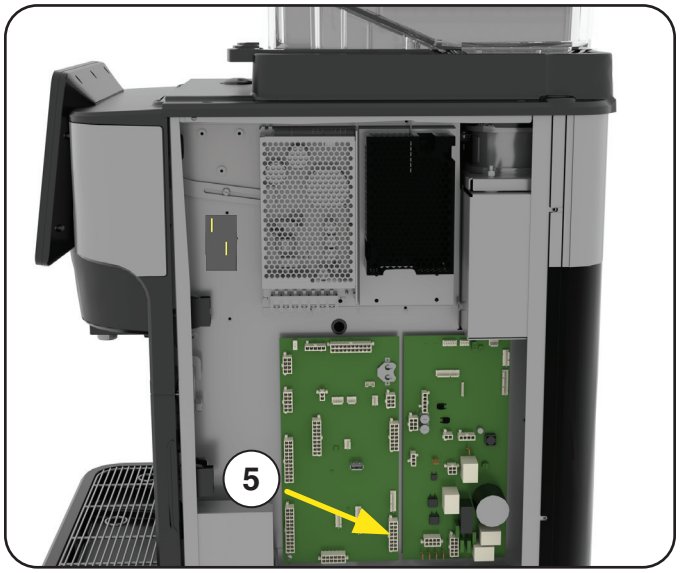
Step 4: Remove right panel to access circuit boards.

Step 5: Locate J13 connector on the Input/Output board.

Step 6: Connect power to machine.

Step 7: Set voltmeter on D/C voltage. Install red meter lead on terminal J13-7 WHT/RED wire (positive) and black meter lead on J13-5 WHT/BLK wire (negative) terminal.

Step 9: The reading should be 5.0VDC.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-045: Low Water Flow-Blockage

LEFT PANEL

Brew Inline Pressure Sensor (IPS)

Purpose: The sensor monitors brew pressure during a brew process. The sensor will input data which may cause a variation in the brew pump motor rpm to maintain a flow rate.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Brew Module tab. The Brew Piston test buttons will move the piston to a designated mm position point when touched.

Step 2: Touch Brew Piston Closed button to move upper piston into brew chamber, creating a seal. The Piston Status is displayed at the bottom of the service screen.

Step 3: Exit Brew Module tab and enter the Water System tab.

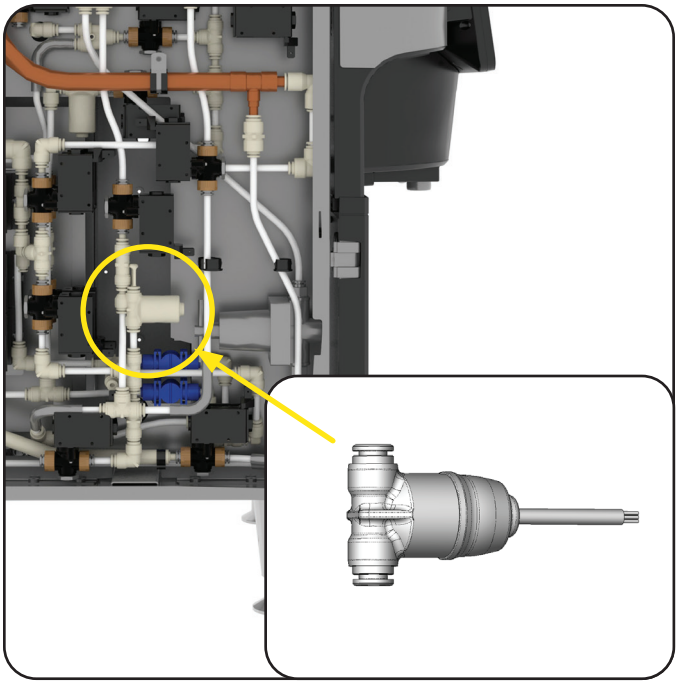
Step 4: Touch the Brew Chamber Fill Valve button.

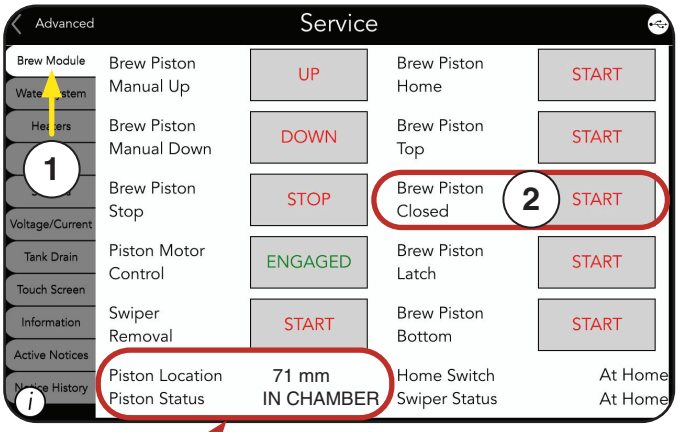
Step 5: Ensure the Brew Pressure reading on the display increases in pressure during water flow test (typically no more than 15.0psig) and returns back to zero pressure after flow test is completed.

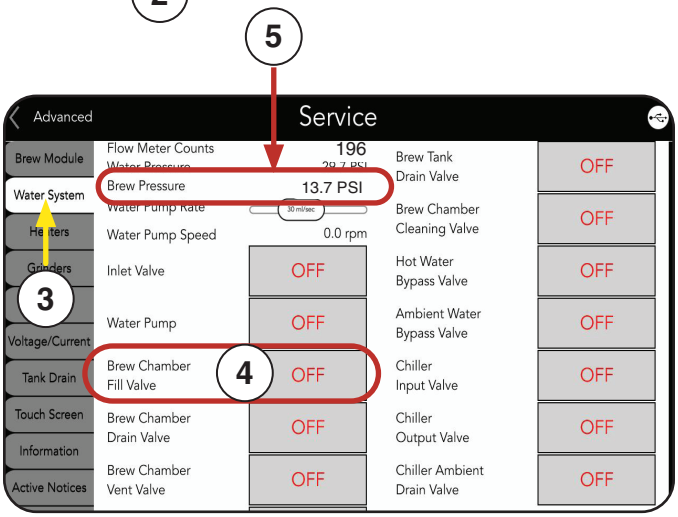
Yes - Brew sensor is operating correctly.

Brew pressure goes above 50 psig during this particular test.

This could be an indicator that when water is entering the bottom of the brew chamber and is trying to flow through the upper brew piston screen, through the dispense valve, tubing and out the coffee nozzle, that a flow restriction has formed some where in the dispense path (dirty filter screens or dispense valve) causing rise in brew pressure.







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LEFT PANEL

Volt/Ohm Meter - Voltage Check

Step 6: Disconnect or unplug machine from power.

Step 7: Remove right panel to access circuit boards.

Step 8: Locate J29 connector on the Input/Output board.

Step 9: Connect power to machine.

Step 10: Set voltmeter on D/C voltage. Install red meter lead on terminal J29-1 RED wire (positive) and black meter lead on J29-3 BLK wire (negative) terminal.

Step 11: The reading should be 5.0VDC.

Note: To check the pressure sensor signal voltage, the brew chamber must be pre-pared for pressure test. Follow steps 2 thru 5 to seal the brew chamber.

Step 12: Signal Voltage - Install red meter lead on terminal J29-1 RED wire (positive) and the black meter lead on J29-2 BRN or Tan wire (negative) terminal.

Step 13: Monitor the voltage reading and brew pressure (service screen) simultaneously when you touch the Brew Chamber Fill Valve button.

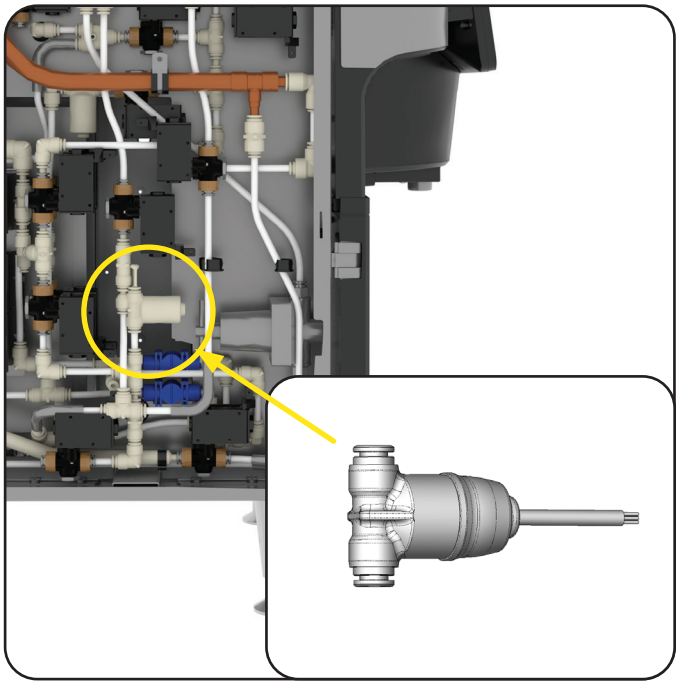
Use the example as a reference guide.

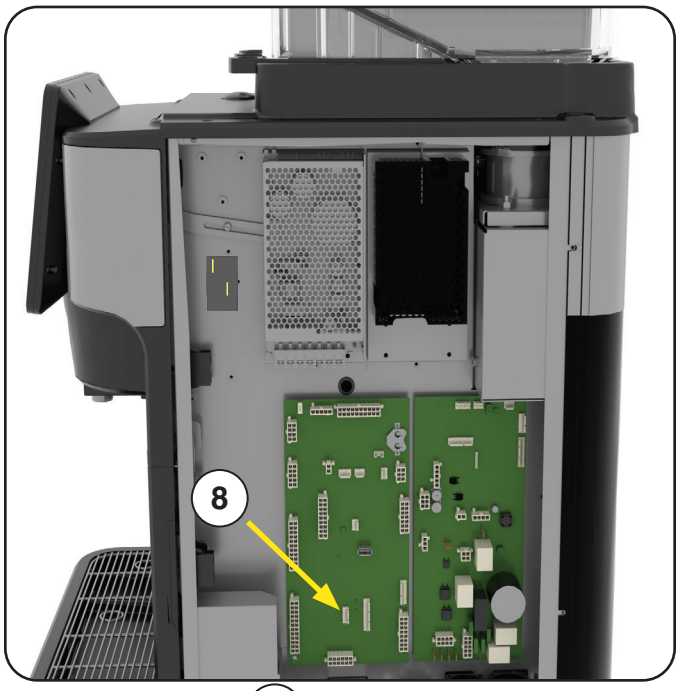
Example: Brew PSI	Signal D/C Voltage
-29.0	4.9
1.5	4.3
10	4.1
16	4.0

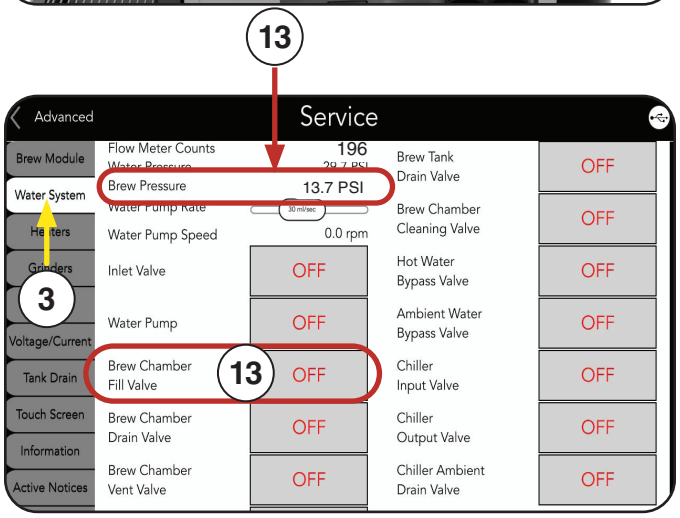
No voltage change - Check wiring harness for loose connection before replacing Brew Pressure Sensor.

PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-xxx: Currently no error or event code for Brew Inline Pressure Sensor



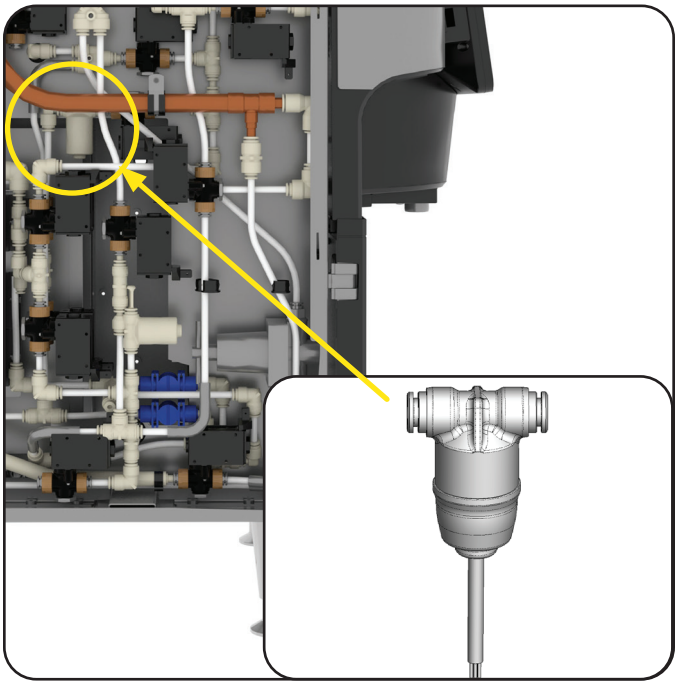




LEFT PANEL

Water Inline Pressure Sensor (IPS)

Purpose: The water sensor monitors pressure within the water system. Once system pressure reaches 70 or 120psig; the brewer will momentarily activate the purge solenoid valve to relieve and maintain system pressure below 70psig. The very small amount of water is directed to the drip tray.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab. The water pressure psig can be viewed during the Water Inline Pressure Sensor voltage test.

Volt/Ohm Meter - Voltage Check

Step 2: Disconnect or unplug machine from power.

Step 3: Remove right panel to access circuit boards.

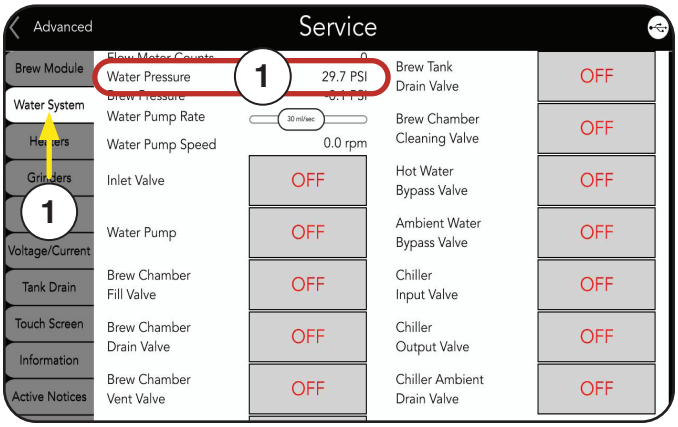
Step 4: Locate J29 connector on the Input/Output board.

Step 5: Connect power to machine.

Step 6: Set voltmeter on D/C voltage. Install red meter lead on terminal J29-4 WHI/RED wire (positive) and black meter lead on J29-6 WHI/BLK wire (negative) terminal.

Step 7: The reading should be 5.0VDC.

Step 8: Signal Voltage - The voltage reading will be dependent upon Water System pressure reading. Install red meter lead on terminal J29-4 WHI/ RED wire (positive) and the black meter lead on J29-5 BRN/ WHI or Tan wire (negative) terminal.



continued >

LEFT PANEL

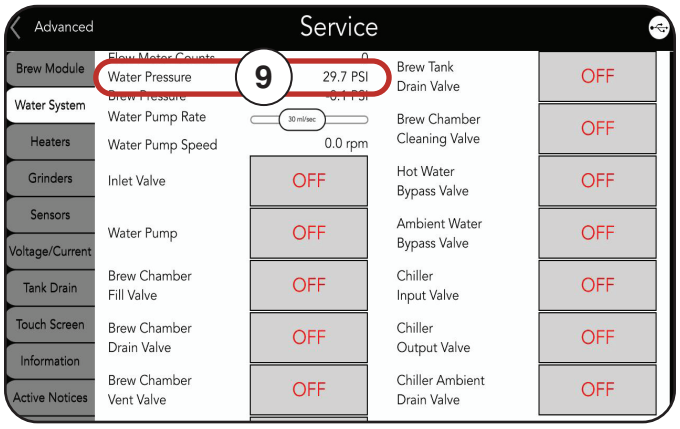
Step 9: Monitor the voltage and water pressure (service screen) simultaneously.

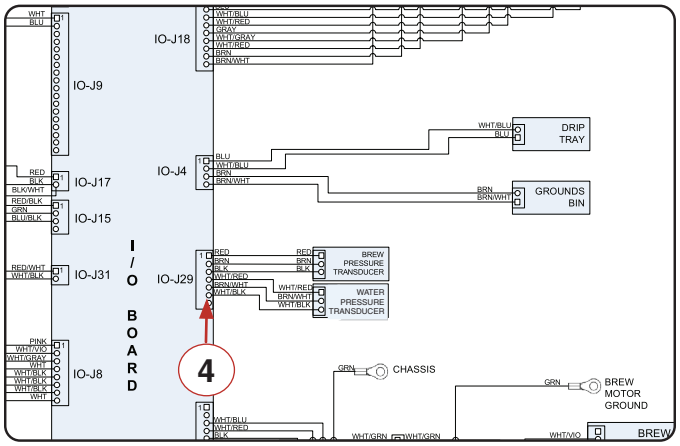
Use the example as a reference guide.

Example:

Water PSI		Signal D/C Voltage
-29.0		4.9
10		4.2
20		3.8
30		3.7
40		3.6
50		3.4
60		3.3
70	Purge Valve Opens for .5 Sec.	3.1
80		3.0
90		2.8
100		2.6
110		2.4
120	Purge Valve Opens for .5 Sec.	2.2

No voltage change - Check wiring harness for loose connection before replacing Water Pressure Sensor.





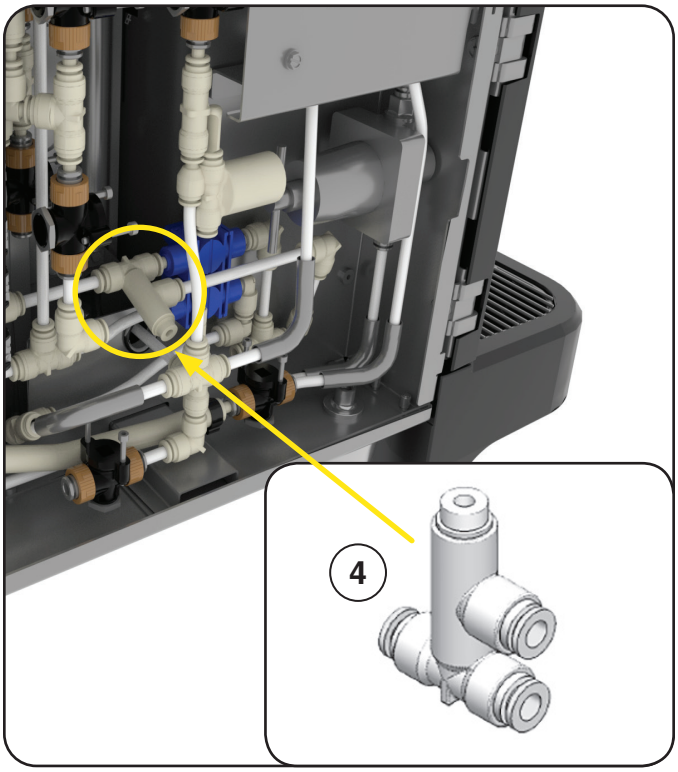
PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-xxx: Currently no error or event code for Water Inline Pressure Sensor

LEFT PANEL

Pressure Control Valve (12 Bar)

Purpose: The pressure control valve is used as a back up device if the water system should ever reach 12 Bar (174.05 psig). The mechanical spring/ball valve will open to relieve system pressure to drip tray and close once pressure is reduced below 12 Bar.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab. The water system pressure psig can be monitored here for high pressure.

Visual

Step 2: Disconnect or unplug machine from power.

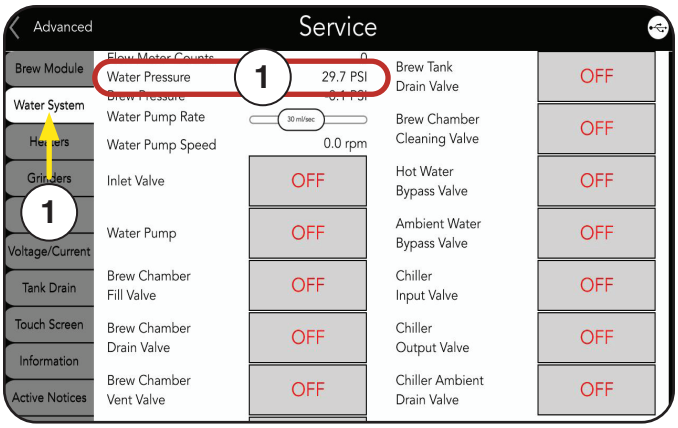
Step 3: Remove left panel to access water system.

Step 4: Locate pressure control valve.

Step 5: Observe the pressure control valve tubing going to the drain port for water flow.

Water system over 12 Bar - Pressure control valve opened to relieve system pressure below 12 bar.

Water system under 12 Bar - Pressure control valve open. Debris may be keeping the valve open, replace pressure control valve.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Water system above 12 Bar, water entering drip tray
- Water system below 12 Bar, water enters drip tray during a brew process

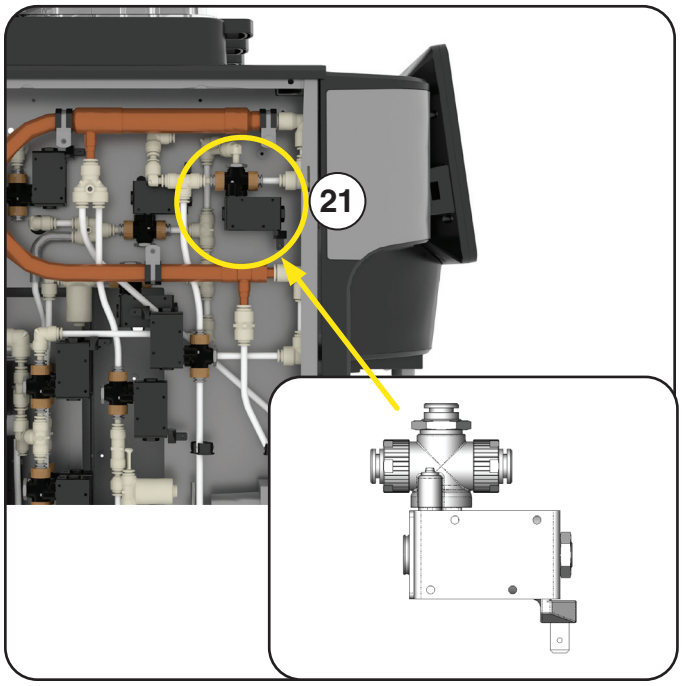
LEFT PANEL

Chiller Input Coffee Solenoid Valve, 3 Way

Purpose: The chiller 3 way “Inlet” solenoid valve is electrically used when a coffee recipe has been originally check marked as an “Ice Beverage” recipe under Recipe set-up mode. The internal paddle seat will move from the normally closed port and seal off the normally open port, directing the coffee through the chiller module and out through another coffee 3 way solenoid valve labeled as the “chiller outlet valve”.

Solenoid Valve, 3 Way

21) Chiller Input Coffee Solenoid Valve



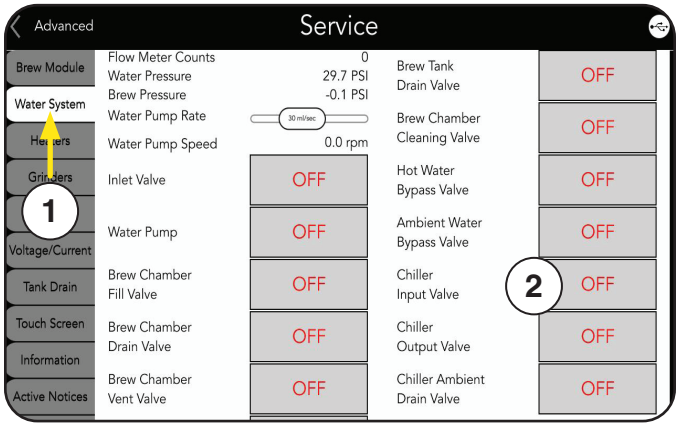
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch Chiller Input Valve button to activate the solenoid valve.

Step 3: Monitor the center plunger for movement and/or click sound.
Yes - Electrically the solenoid valve is working but product may not be flowing through valve because of an internal blockage. Valve will need to be taken apart, cleaned and rebuilt.
No click sound or movement - Go to Voltage Check before replacing solenoid valve.



Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove left & right panel to access water system and circuit boards.

Step 6: Locate J8 connector on the Input/Output board.

Step 7: Connect power to machine.

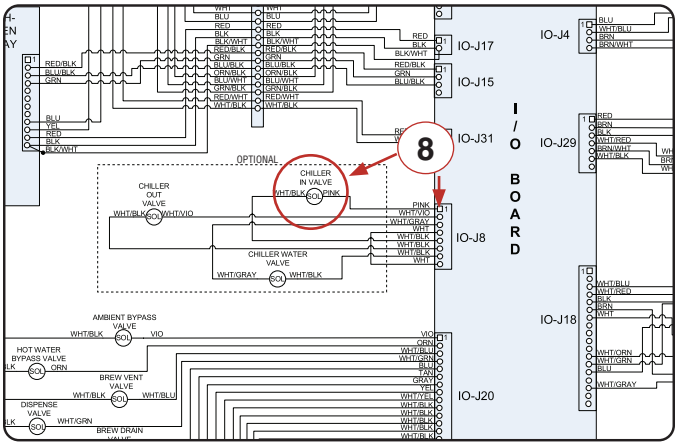
Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J8-1 Pink wire (positive) and black meter lead on J8-5 WHI/BLK wire (negative) terminal.

continued >

LEFT PANEL

Step 9: The reading should be 24.0VDC when activated in Step 2.

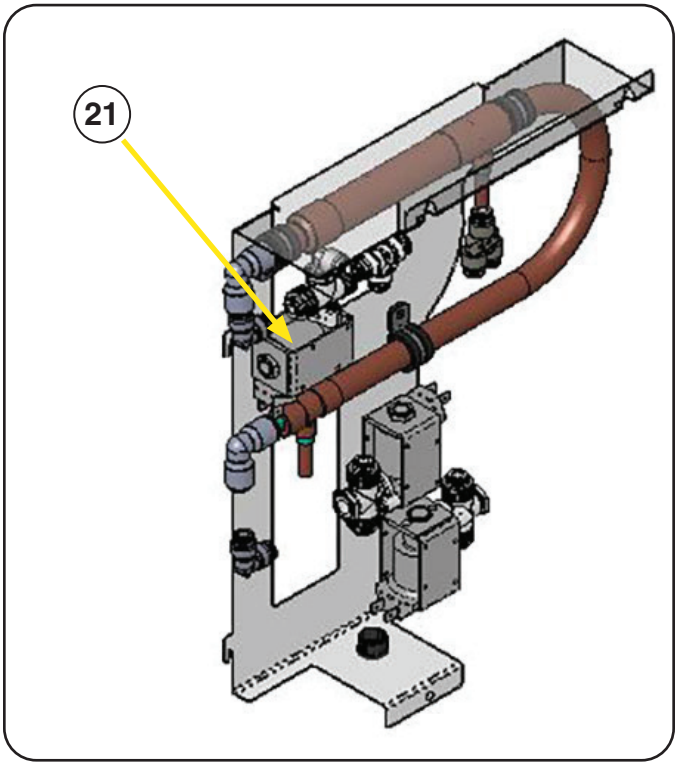
Voltage present - Replace Chiller Input Coffee Solenoid valve.
Voltage not present - Check wiring harness for loose connection between solenoid valve and J8 connector on Input/Output board before replacing I/O board.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Beverage is hotter than usual, not cool
- Active Notice - E-xxx: Currently no error or event code for Chiller Input Coffee Solenoid Valve

Water System - Chiller Assembly Rear View



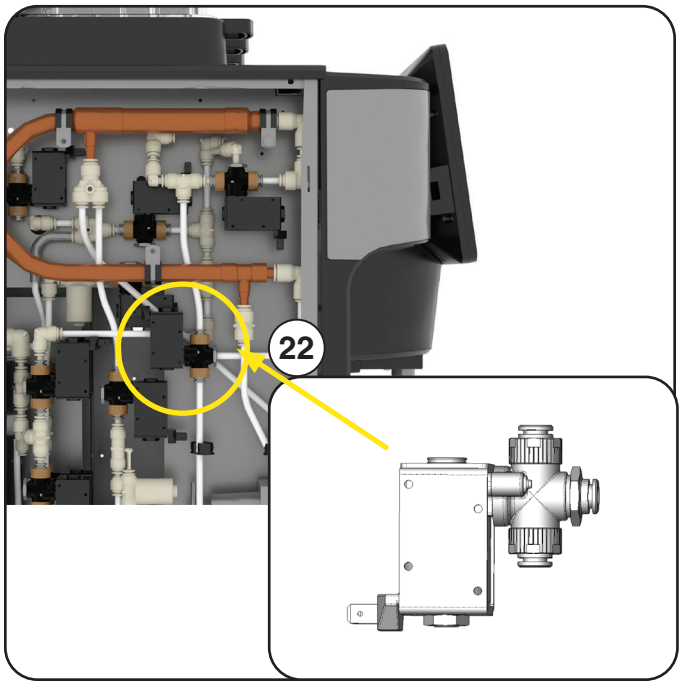
LEFT PANEL

Chiller Output Coffee Solenoid Valve, 3 Way

Purpose: The chiller 3 way "Outlet" solenoid valve is electrically used when a coffee recipe has been originally check marked as an "Ice Beverage" recipe under Recipe set-up mode. The internal paddle seat will move from the normally closed port and seal off the normally open drain port, directing the ice coffee beverage out the dispense nozzle.

Solenoid Valve, 3 Way

22) Chiller Output Coffee Solenoid Valve



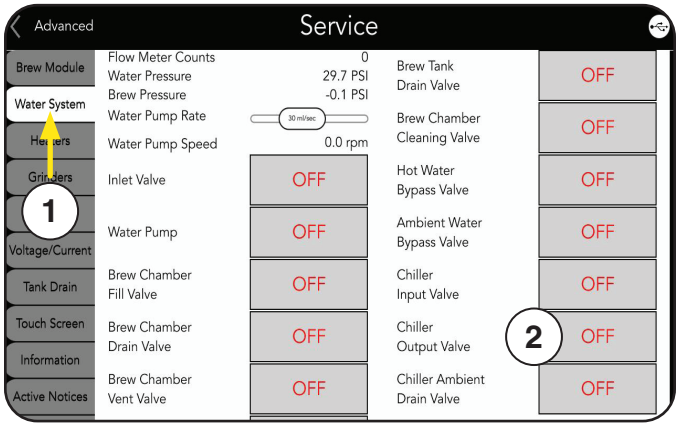
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch Chiller Output Valve button to activate the solenoid valve.

Step 3: Monitor the center plunger for movement and/or click sound.
Yes - Electrically the solenoid valve is working but product may not be flowing through valve because of an internal blockage. Valve will need to be taken apart, cleaned and rebuilt.
No click sound or movement - Go to Voltage Check before replacing solenoid valve.



Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove left & right panel to access water system and circuit boards.

Step 6: Locate J8 connector on the Input/Output board.

Step 7: Connect power to machine.

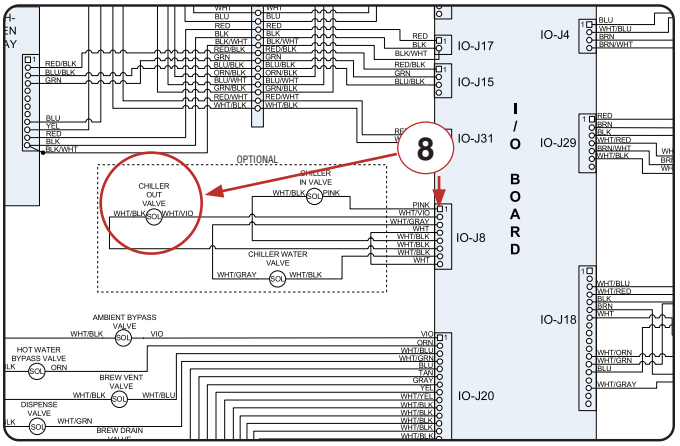
Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J8-2 WHI/VIO wire (positive) and black meter lead on J8-6 WHI/BLK wire (negative) terminal.

continued >

LEFT PANEL

Step 9: The reading should be 24.0VDC when activated in Step 2.

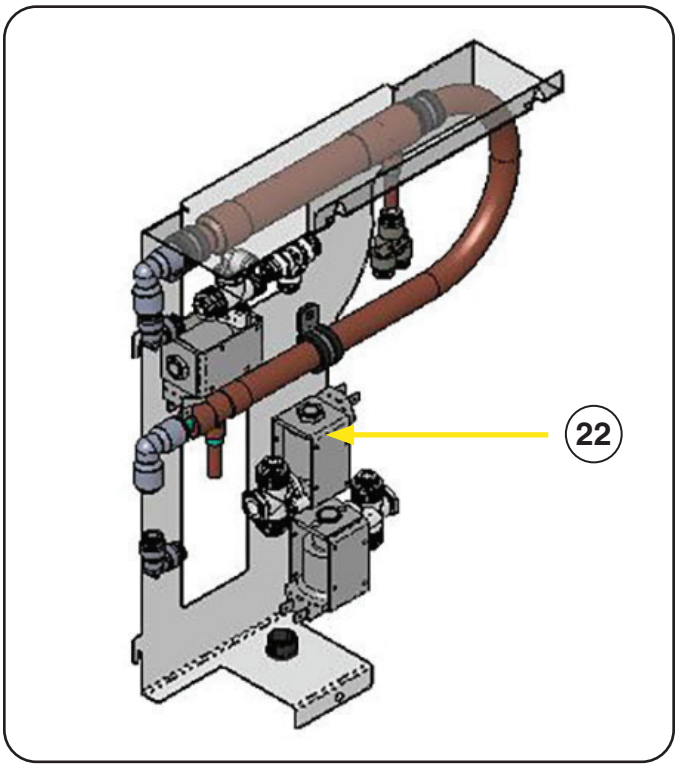
Voltage present - Replace Chiller Output Coffee Solenoid valve.
Voltage not present - Check wiring harness for loose connection between solenoid valve and J8 connector on Input/Output board before replacing I/O board.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Beverage not dispensing out nozzle, going directly to drip tray
- Active Notice - E-xxx: Currently no error or event code for Chiller Input Coffee Solenoid Valve

Water System - Chiller Assembly Rear View



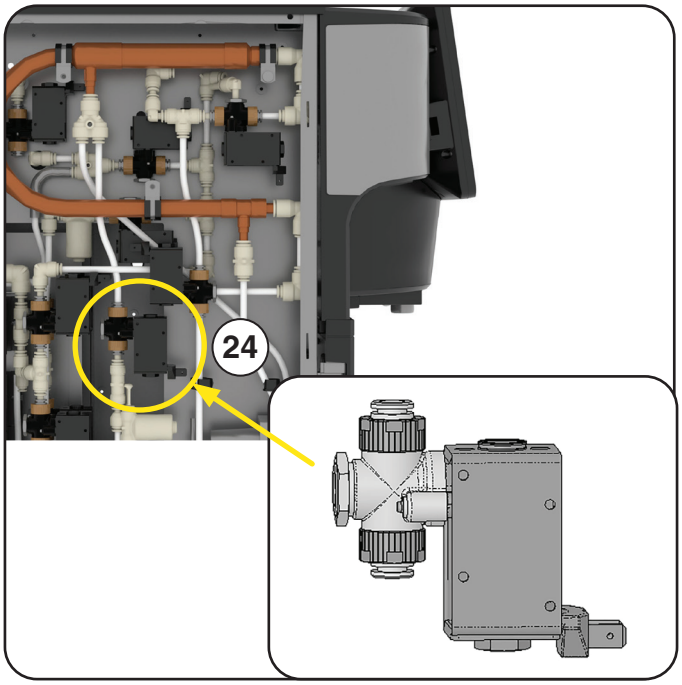
LEFT PANEL

Chiller Ambient Drain Solenoid Valve, 2 Way

Purpose: The chiller ambient drain valve opens to allow the isolated heat exchanger water from the "ice coffee" brew process to be discharged down the drain. The continual ambient flow into the heat exchanger, discharge through chiller ambient drain valve and into the drip tray, efficiently cools the coffee beverage before entering the coffee cup.

Solenoid Valve, 2 Way - Normally Closed

24) Chiller Ambient Drain Solenoid Valve



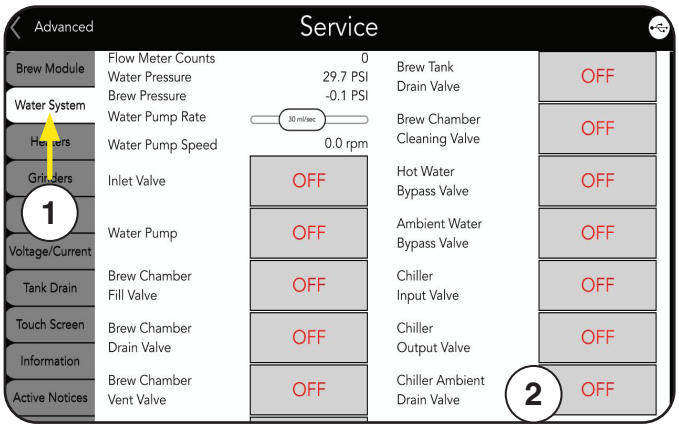
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch Chiller Ambient Drain Valve button to activate the solenoid valve.

Step 3: Monitor the center plunger for movement and/or click sound.
Yes - Electrically the solenoid valve is working but water may not be flowing through valve because of an internal blockage. Valve will need to be taken apart, cleaned and rebuilt.
No click sound or movement - Go to Voltage Check before replacing solenoid valve.



Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove left & right panel to access water system and circuit boards.

Step 6: Locate J8 connector on the Input/Output board.

Step 7: Connect power to machine.

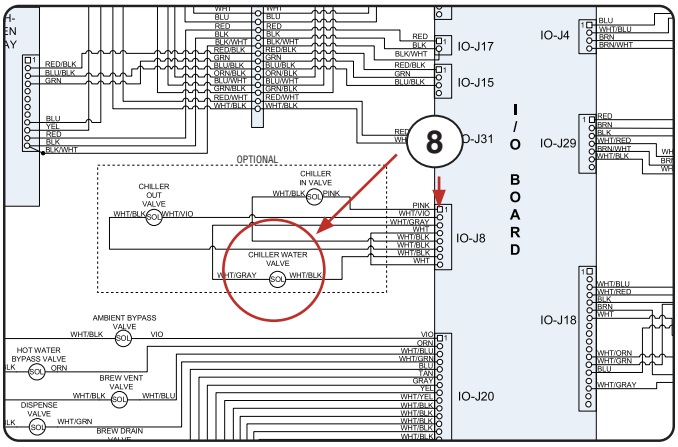
Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J8-3 WHI/GRAY wire (positive) and black meter lead on J8-7 WHI/BLK wire (negative) terminal.

continued >

LEFT PANEL

Step 9: The reading should be 24.0VDC when activated in Step 2.

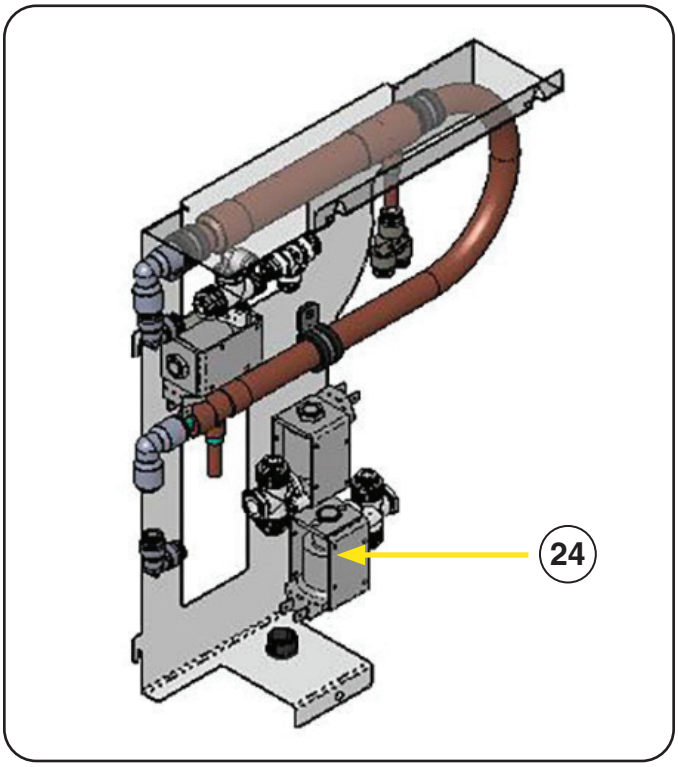
Voltage present - Replace Chiller Ambient Drain Solenoid valve.
Voltage not present - Check wiring harness for loose connection between solenoid valve and J8 connector on Input/Output board before replacing I/O board.



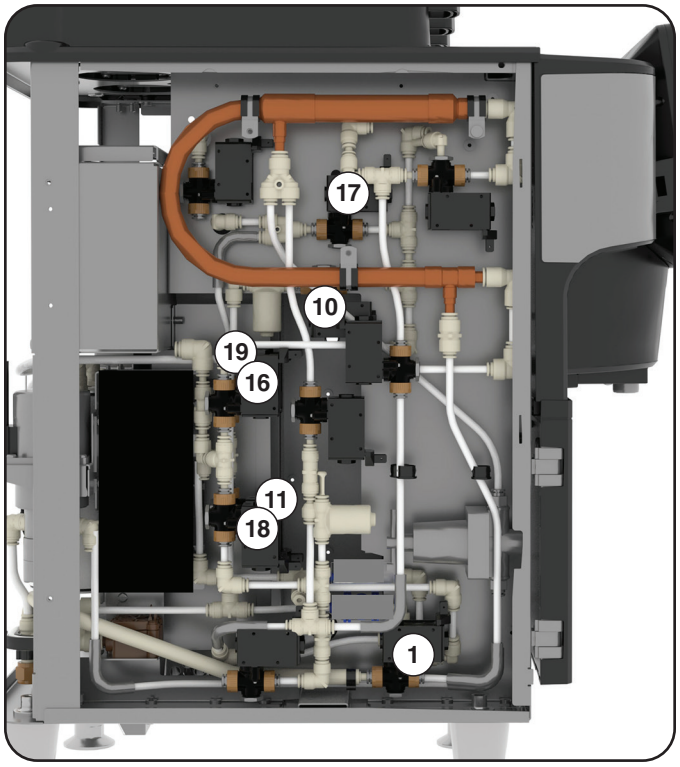
PART RELATES TO THE FOLLOWING SYMPTOMS

- Beverage is hotter than usual, not cool
- Active Notice - E-xxx: Currently no error or event code for Chiller Input Coffee Solenoid Valve

Water System - Chiller Assembly Rear View



LEFT PANEL



Qty-7 - Solenoid Valves, 2 Way Normally Closed

Purpose: The coil energizes creating a magnetic field to work against a spring force pivot mounted lever that has a paddle style seal attached to the pivot mount which will move away from outlet seat during coil activation and will return paddle back to seat position by spring force when coil is de-energized to stop flow through valve.

Normally Closed Solenoid Valves

1) Inlet Valve
10) Ambient Water Bypass Valve
11) Brew Tank Drain Valve (Rear)
16) Hot Water Bypass Valve (Front)
17) Brew Chamber Coffee Dispense Valve
18) Brew Chamber Fill Valve* (Front, See Step 2)
19) Brew Chamber Cleaning Valve (Rear)

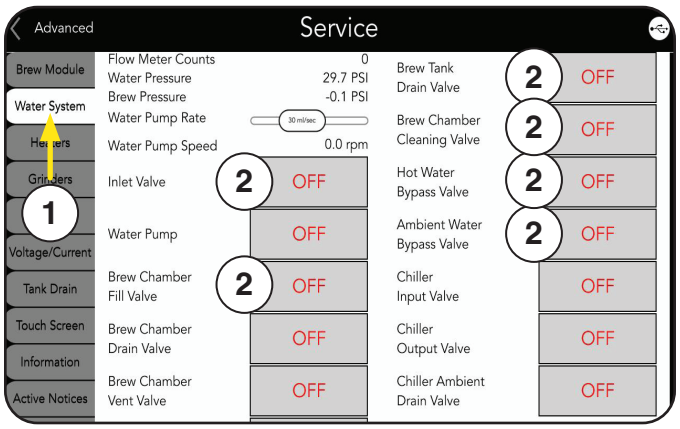
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch any of the normally closed valve buttons to activate the solenoid valve. *Brew Chamber Fill Valve button simultaneously activate Brew Chamber Coffee Dispense Valve.

Step 3: Monitor the center plunger for movement and/or click sound.
Yes - Electrically the solenoid valve is working but water or product may not be flowing through valve because of an internal blockage. Valve will need to be taken apart, cleaned and rebuilt.
No click sound or movement - Go to Voltage Check before replacing solenoid valve.



Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove left & right panel to access water system and circuit boards.

continued >

LEFT PANEL

Step 6: Locate J20 connector on the Input/Output board.

Step 7: Connect power to machine.

Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J20-x WHI/xx wire (positive) and black meter lead on J20-x WHI/BLK wire (negative) terminal.

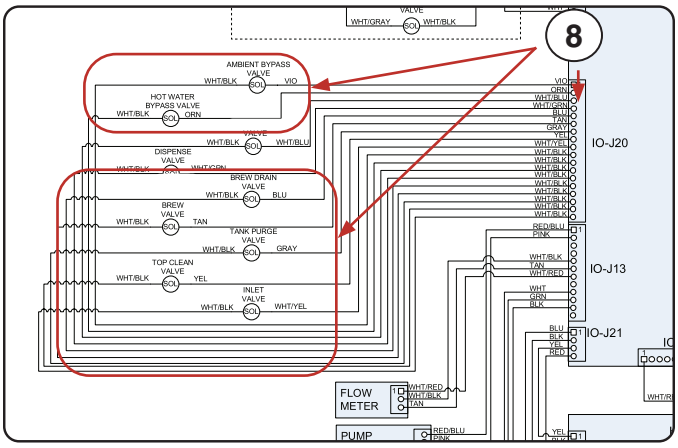
Solenoid Valve Normally Closed	I/O Connector #	Terminal #
Inlet	J20	J20-9 & J20-18
Ambient Bypass	J20	J20-1 & J20-10
Brew Tank Drain	J20	J20-7 & J20-16
Hot Water Bypass	J20	J20-2 & J20-11
Brew Chamber Dispense	J20	J20-4 & J20-13
Brew Chamber Fill	J20	J20-6 & J20-15
Brew Chamber Cleaning	J20	J20-8 & J20-17

Step 9: The reading should be 24.0VDC when activated in Step 2.

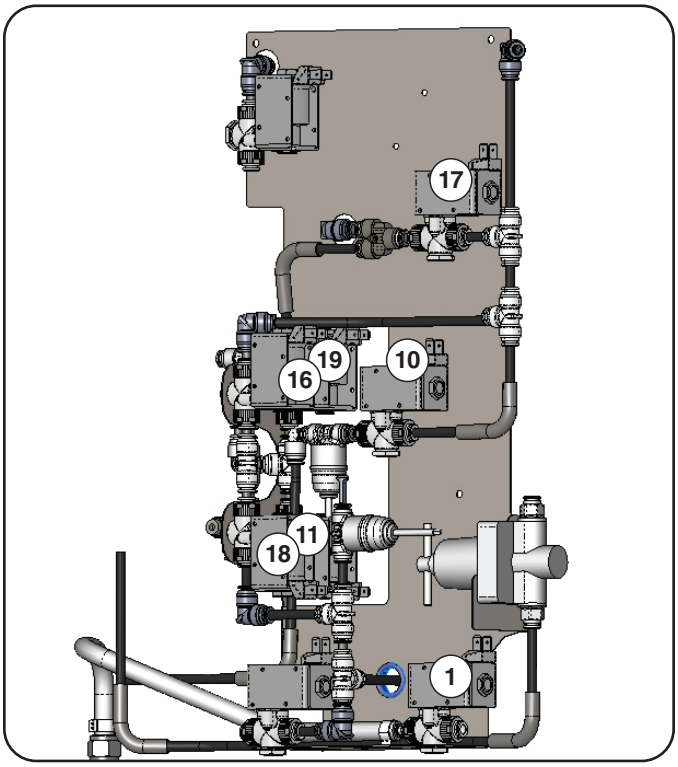
Voltage present - Replace Solenoid valve.
Voltage not present - Check wiring harness for loose connection between solenoid valve and J20 connector on Input/Output board before replacing I/O board.

PART RELATES TO THE FOLLOWING SYMPTOMS

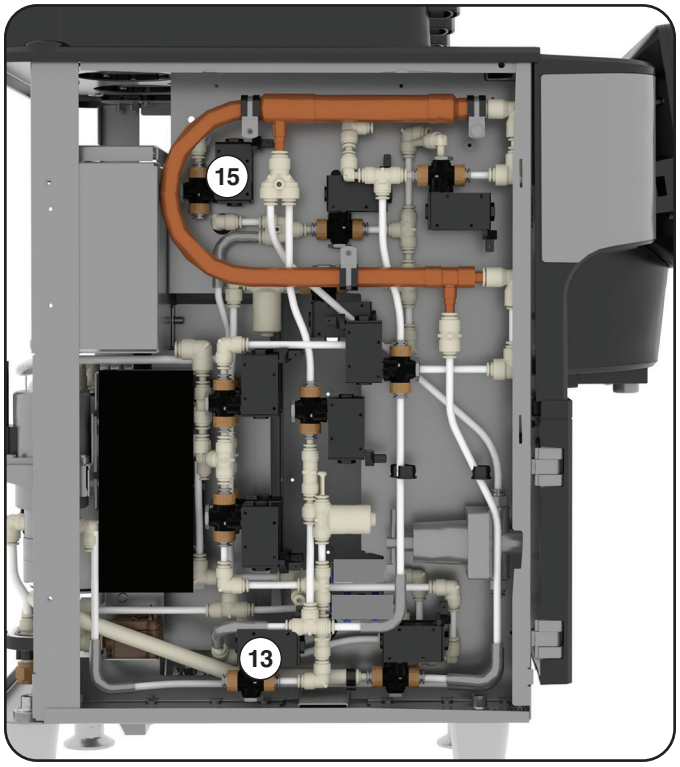
- Active Notice - E-xxx: Currently no error or event code for Solenoid Valves



Water System Panel Angle View
Normally Closed valves



LEFT PANEL



Qty-2 - Solenoid Valves, 2 Way Normally Open

Purpose: The coil energizes creating a magnetic field to work against a spring force pivot mounted lever that has a paddle style seal attached to the pivot mount which will move, closing the port during coil activation and will return paddle back to position by spring force when coil is de-energized.

Note: Normally Closed & Open Solenoid Valve physically look the same on the outside.

Normally Open Solenoid Valves

13) Brew Chamber Drain Valve
15) Brew Chamber Vent Valve

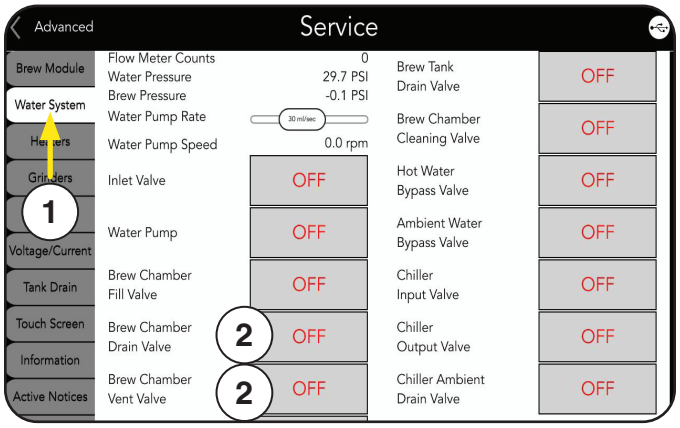
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Water System tab.

Step 2: Touch any of the normally open valve buttons to activate the solenoid valve.

Step 3: Monitor the center plunger for movement and/or click sound.
Yes - Electrically the solenoid valve is working but water or product may not be flowing through valve because of an internal blockage. Valve will need to be taken apart, cleaned and rebuilt.
No click sound or movement - Go to Voltage Check before replacing solenoid valve.



Volt/Ohm Meter - Voltage Check

Step 4: Disconnect or unplug machine from power.

Step 5: Remove left & right panel to access water system and circuit boards.

Step 6: Locate J20 connector on the Input/Output board.

Step 7: Connect power to machine.

Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J20-x WHI/xx wire (positive) and black meter lead on J20-x WHI/BLK wire (negative) terminal

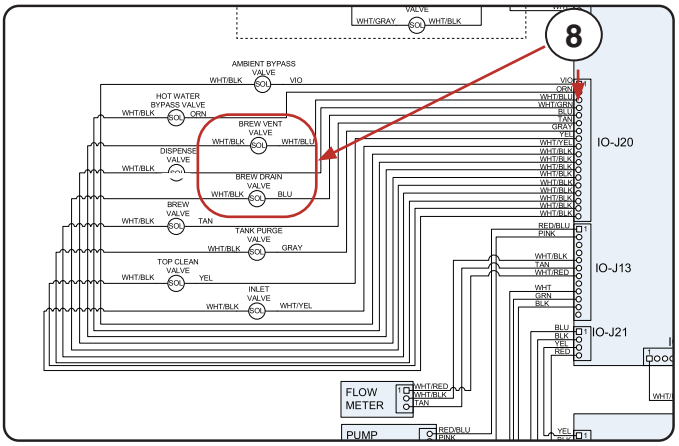
continued >

LEFT PANEL

Solenoid Valve Normally Open	I/O Connector #	Terminal #
Brew Chamber Drain Valve	J20	J20-5 & J20-14
Brew Chamber Vent Valve	J20	J20-3 & J20-12

Step 9: The reading should be 24.0VDC when activated in Step 2.

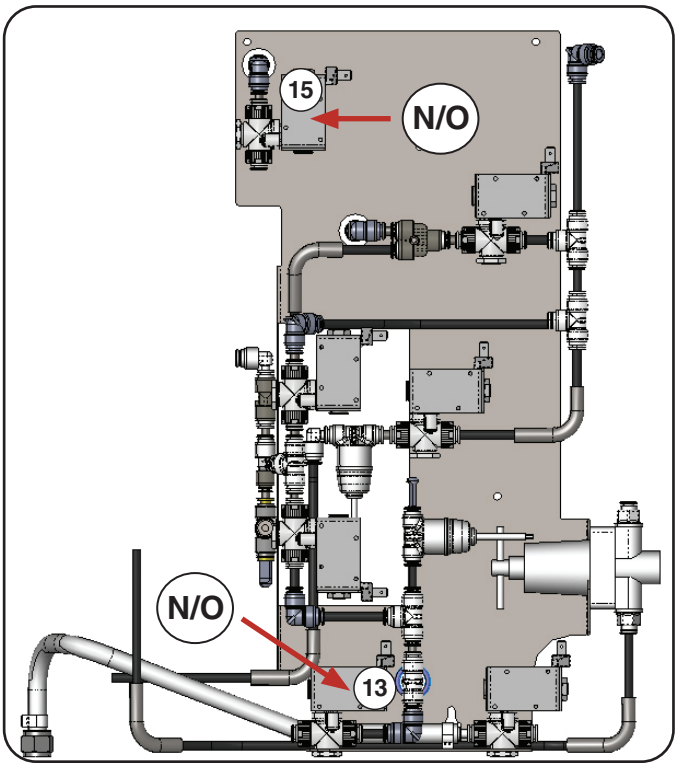
Voltage present - Replace Solenoid valve.
Voltage not present - Check wiring harness for loose connection between solenoid valve and J20 connector on Input/Output board before replacing I/O board.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-xxx: Currently no error or event code for Solenoid Valves

Water System Panel
Normally Open valves



RIGHT PANEL

Right Side Panel Removal Instructions

Step 1: Open lower door.

Step 2: Lift upper door assembly until upper assembly locks in position.

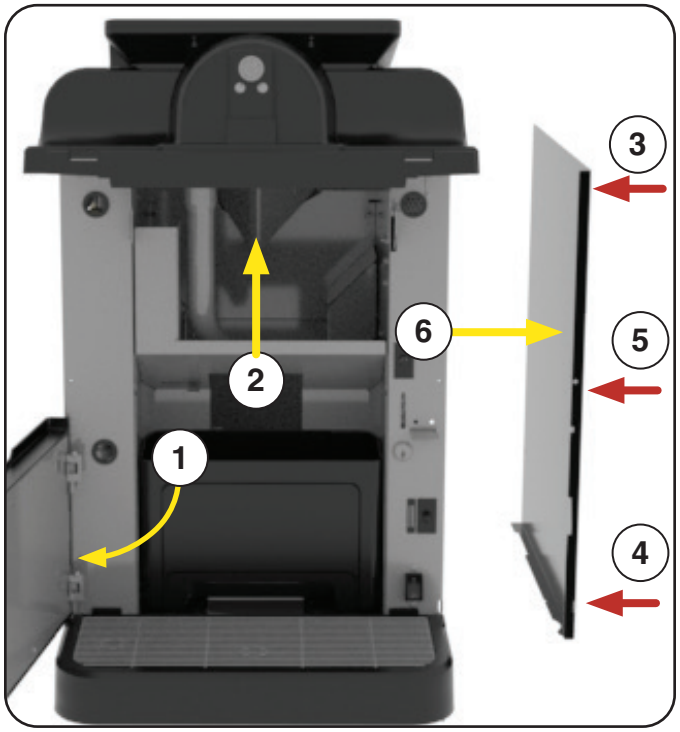
NOTE: Key may be needed to unlock upper door assembly.

Step 3: Remove Qty-1 slotted screw from right side panel in the front.

Step 4: Remove Qty-1 slotted screw from lower side of right side panel.

Step 5: Loosen Qty-1 slotted screw from upper side of right side panel.

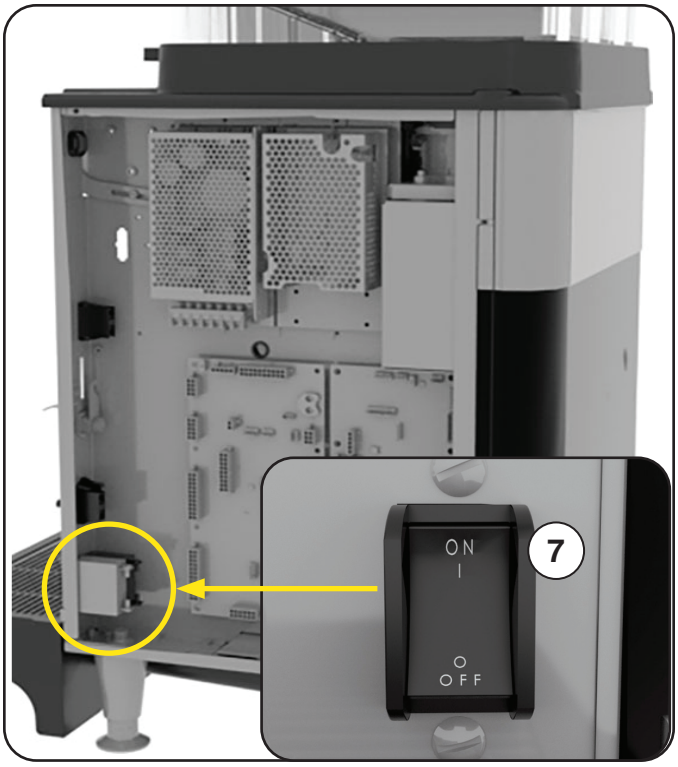
Step 6: Remove panel.



RIGHT PANEL

Main On/Off Switch

Purpose: The main On/Off switch enabled or turned on will power on the machine. The switch turned in the Off position will keep L1 & L2 power isolated at the switch.
In the event of Message or Active Notice, the main On/Off switch can be used to power cycle the machine to reset a premature Event Code.



TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

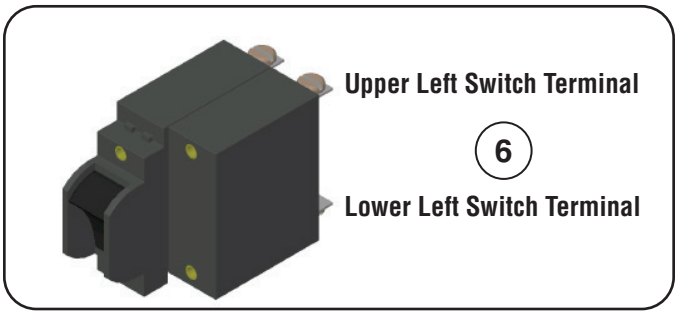
Step 2: Remove right panel to access On/Off switch.

Step 3: Isolate the On/Off switch in preparation of checking the switch for continuity by disconnecting the wires from the switch.

Step 4: Ensure On/Off switch is in the OFF position.

Step 5: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

Note: Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.



Step 6: Install red meter lead on the left upper switch terminal and the black meter lead on the left lower switch terminal. No continuity should be present.

Step 7; Next, turn the switch to ON position, volt meter should display 0.00 or audible tone will sound to indicate continuity.

Step 8: Repeat steps 3 thru 7 for the other set of terminals on the On/Off switch.

Step 9: If continuity is not present during testing as described in steps 6 thru 8, replace switch.

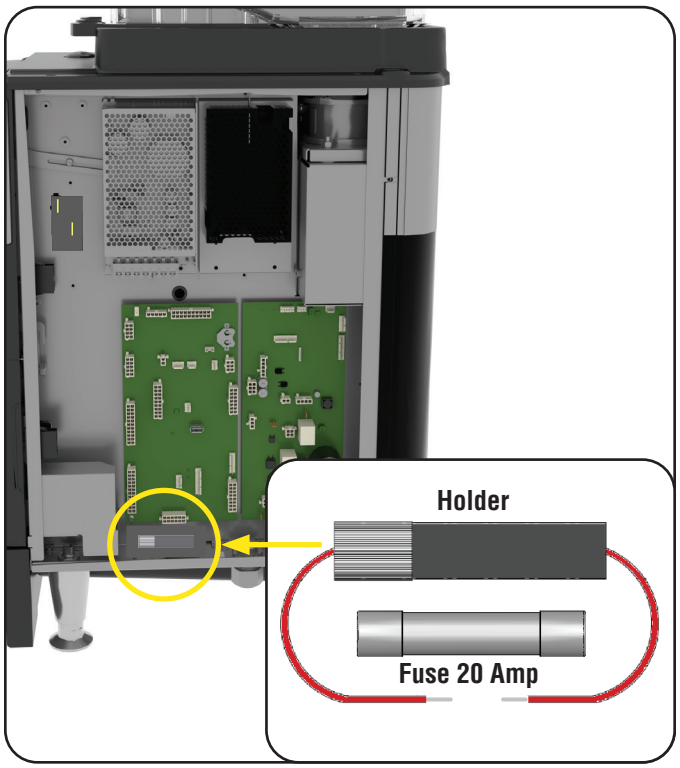
PART RELATES TO THE FOLLOWING SYMPTOMS

- Machine or user display is not On

RIGHT PANEL

Inline Fuse Holder & Fuse 20 Amp 250V

Purpose: A fuse holder is incorporated on the L2 heater line containing a 20 Amp fuse. In the event all three boiler tanks turn on, the fuse will protect against excessive current and open resulting in the heating circuit being inoperable.



TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access fuse holder.

Step 3: Locate the fuse holder and open, remove the fuse from the holder.

Step 4: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

NOTE: Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.

Step 5: Install red meter lead on end of the fuse and the black meter lead on the opposite end of the fuse. Continuity should be present.

No continuity - Replace fuse.

PART RELATES TO THE FOLLOWING SYMPTOMS

- Active Notice - E-053, 054, 055: Finish, PreHeat & Inlet Tank Heating Too Long
- Active Notice - E-062, 063, 064: Finish, Pre-Heat Inlet Tank Heater Test Failure

RIGHT PANEL

Upper and Lower Door Interrupt Switch

Purpose: The upper and lower door interrupt switch disables the operation of the coffee machine. With a door open, the switch requires a service key to actuate the switch to On position for a technician to perform testing purposes with an operational machine.

TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Located left side, Upper or Lower Door Switch.
Door closed: reads: CLOSED.
Door open reads: OPEN

Step 3: Open and close door while monitoring the service screen. If machine does not see the door switch as being closed when the door is closed, visually inspect that the door rear panel has a stud that will align with the switch hole on the trunk frame before moving onto testing the switch for continuity.
When the door is closed, the stud pushes on the spring loaded door switch to unlock the User Panel/Touchscreen.

Volt/Ohm Meter - Continuity Check

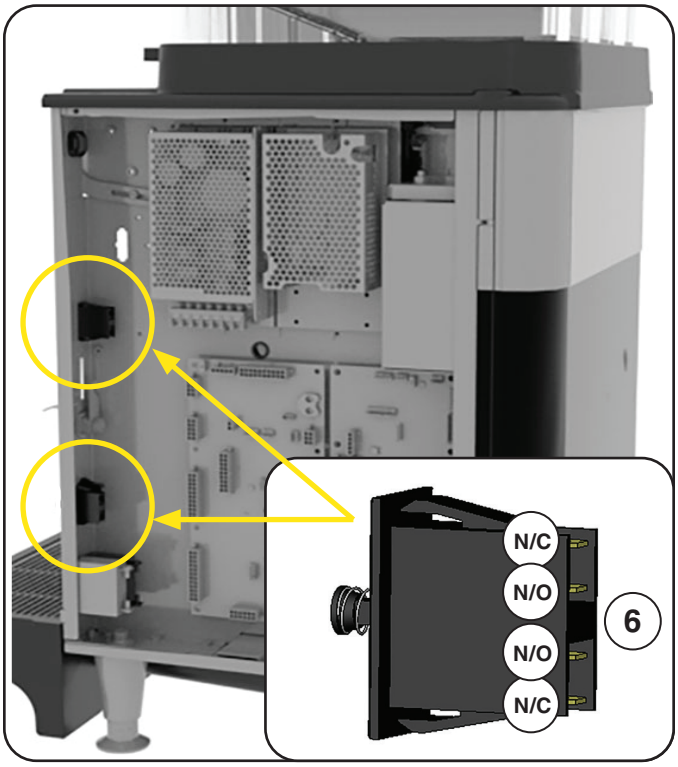
Step 4: Disconnect or unplug machine from power.

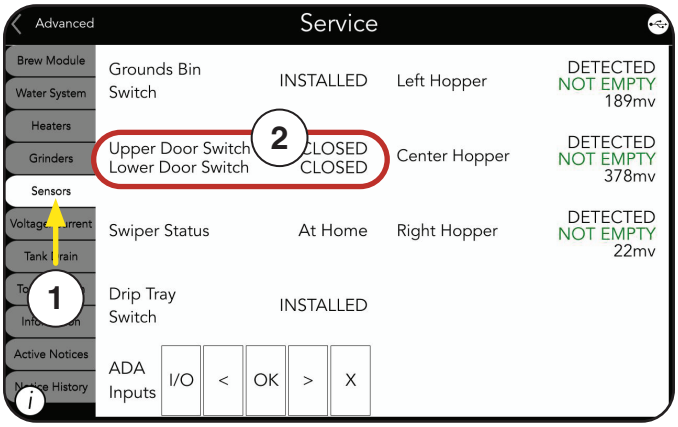
Step 5: Remove right panel to access door interrupt switches.

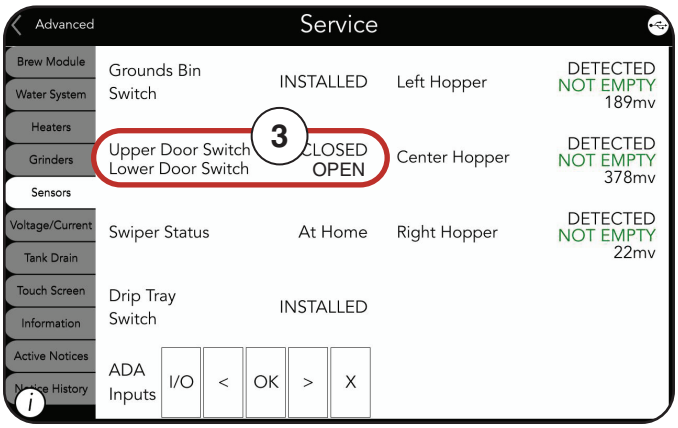
Step 6: Isolate the door switch being tested in preparation of checking the switch for continuity by disconnecting the wires from the switch terminals labeled "Normally Open".

Step 7: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

NOTE: Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.







continued >

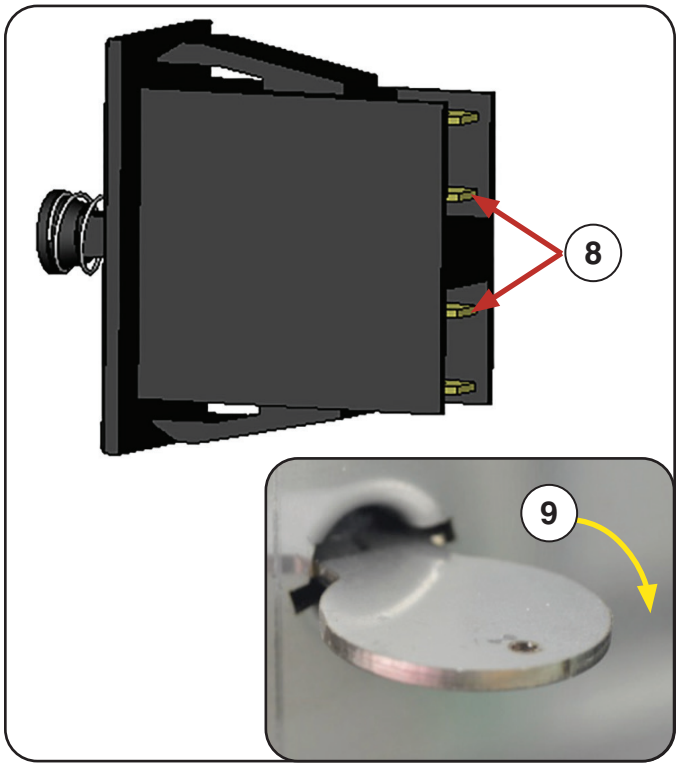
RIGHT PANEL

Step 8: Install red meter lead on the top middle terminal labeled N/O and the black meter lead on the bottom middle terminal labeled N/O. No continuity should be present.

Step 9: Next, insert service key into the opening, then turn about 15 degrees to actuate the switch in On/Service position.

Step 10: Voltmeter should display 0.00 or audible tone will sound to indicate continuity.

Step 11: If continuity is not present during testing as described, replace switch.



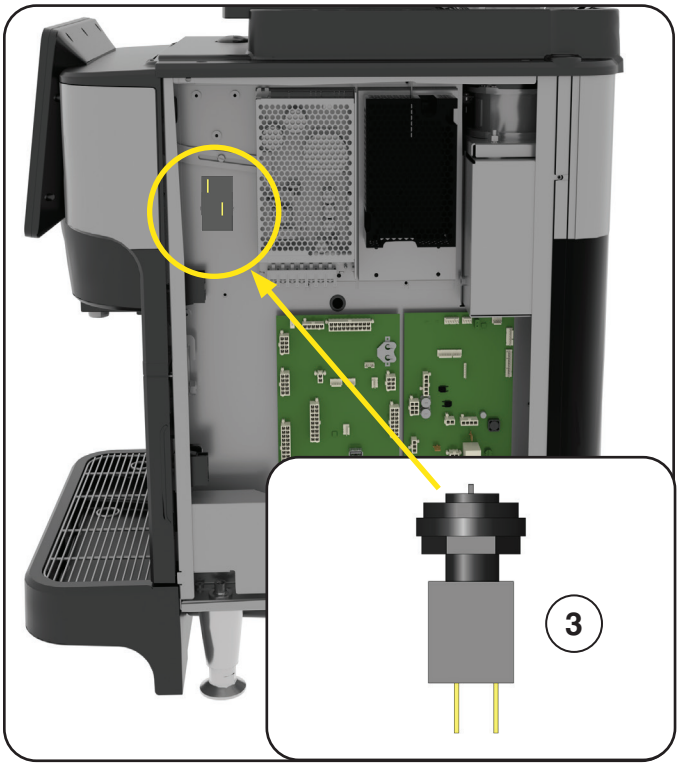
PART RELATES TO THE FOLLOWING SYMPTOMS

- Message: Door Open
- Home screen grayed out- no user operation

RIGHT PANEL

Circuit Breaker 3 Amp

Purpose: A breaker in series with the touchscreen assembly. The breaker will break the electrical circuit in the event of a electrical short to prevent damage to the touchscreen assembly.



TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access circuit breaker.

Step 3: Isolate the circuit breaker in preparation of checking continuity by disconnecting the wires from the breaker.

Step 4: Open upper door and locate breaker on the right sidewall, ensure breaker button is pushed inward or reset.

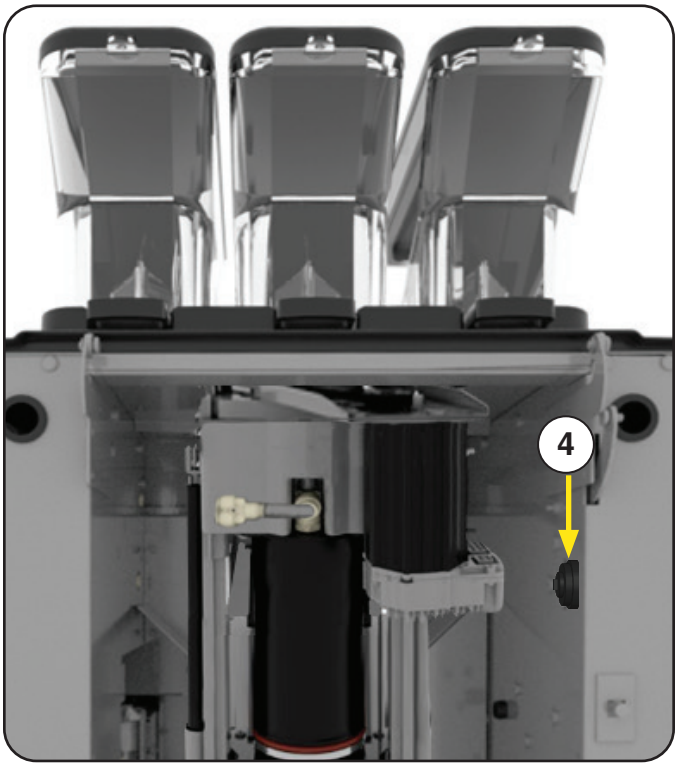
Step 5: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

NOTE**:** Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.

Step 6: Install red meter lead on the left breaker terminal and the black meter lead on the right breaker terminal.

Step 7: The voltmeter should display 0.00 or audible tone will sound to indicate continuity.

Step 8: If continuity is not present during testing as described in steps 4 thru 7, replace breaker.



PART RELATES TO THE FOLLOWING SYMPTOMS

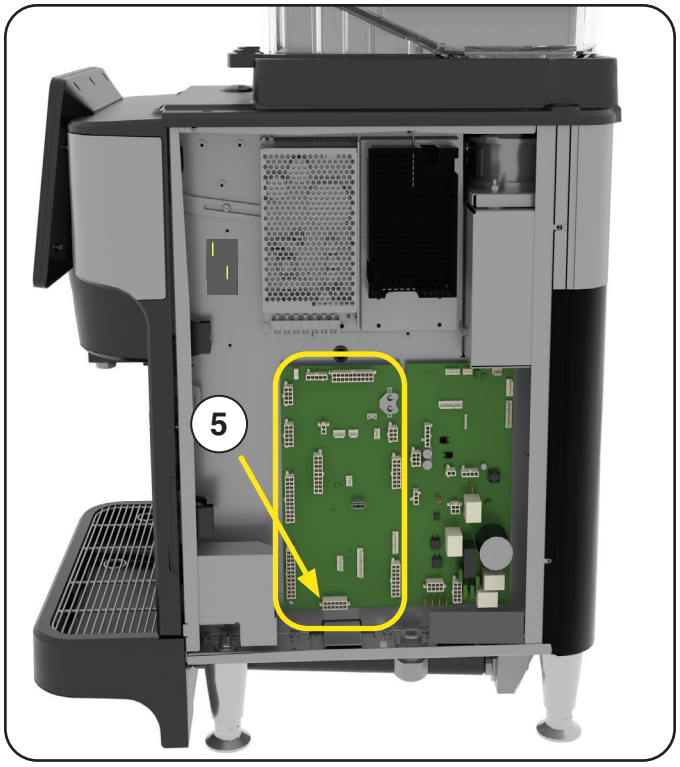
- User display is not On or illuminated
- LED on Input/Output Board labeled Status, flashing rapidly

RIGHT PANEL

Input/Output Circuit Board (I/O)

Purpose: The I/O board receives and interprets the input data it receives from the user touchscreen assembly, resulting in a series of outputs to operate components.

Input/Output Board		
24.0VDC	**5.0VDC**	**3.3VDC**
Display	Flow Meter	Drip Tray Switch
Door Fan	Pressure Trans-ducers	Grounds Bin Switch
Rear Fan	BUNN Link	Swiper Switch
Brew Module Home Sensor	R,C,L Bean Detect	
All Valves		
LED (Door)		

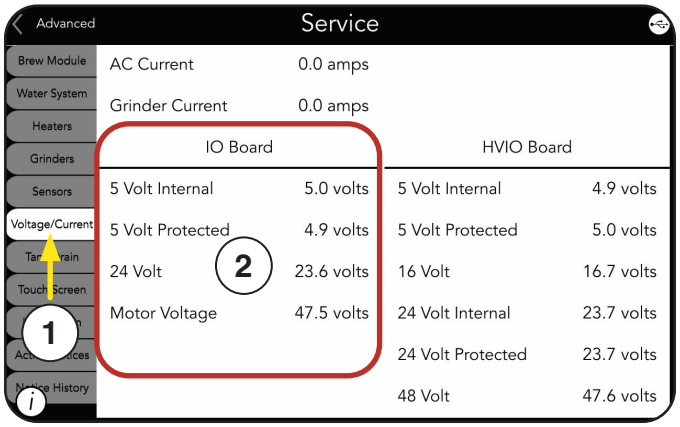


TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Voltage/Current tab.

Step 2: You can view the I/O board internal voltages and the protected output circuit voltages.



Volt/Ohm Meter - Voltage Check

Step 3: Disconnect or unplug machine from power.

Step 4: Remove right panel to access circuit boards.

Step 5: Locate J11 connector on the Input/Output board.

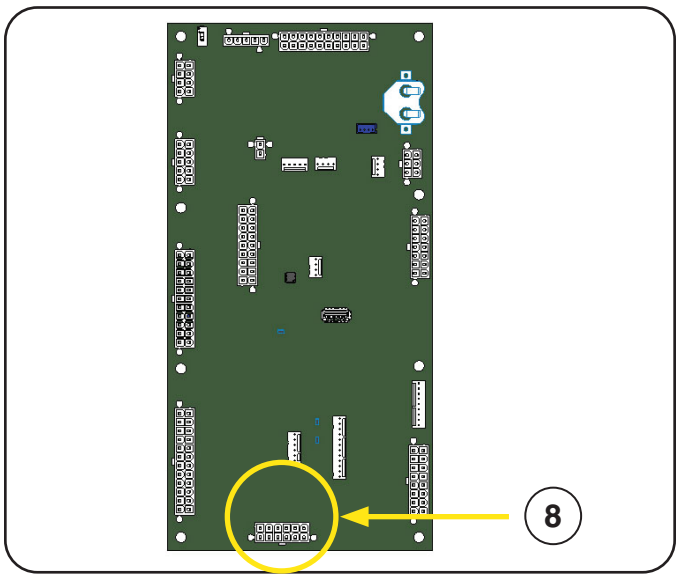
Step 6: Connect power to machine.

Step 7: Enable main On/Off switch.

Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J11-1 WHI/RED wire (positive) and black meter lead on J11-7 WHI/BLK wire (negative) terminal.

Step 9: The voltage reading should be 24.0VDC.

No voltage - Check for loose wire connection before going to 24V Universal Power Supply.



PART RELATES TO THE FOLLOWING SYMPTOMS

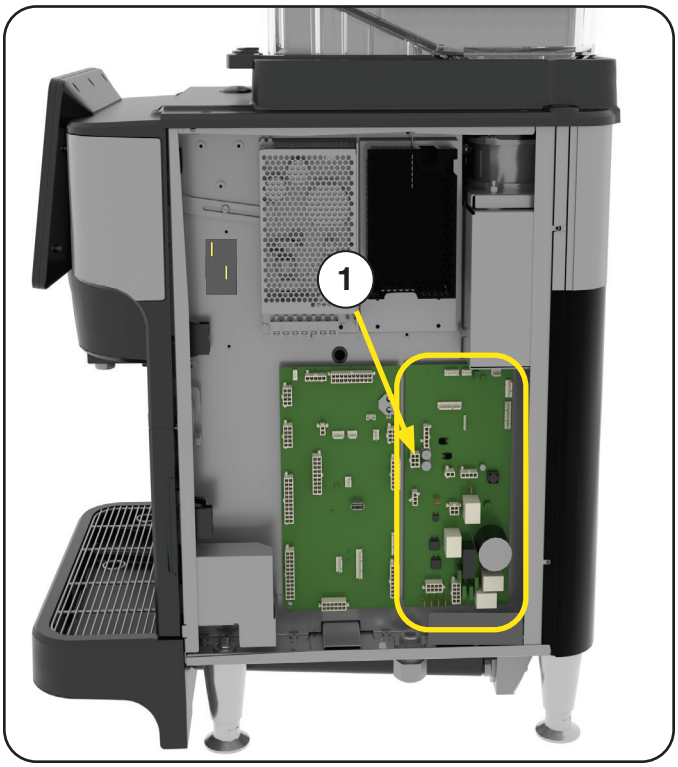
- Machine is not On
- User touchscreen is not illuminated

RIGHT PANEL

High Voltage Board

Purpose: The H/V board receives and interprets the input data it receives from the user touchscreen assembly, resulting in a series of outputs to operate components.

High Voltage Board					
270VDC	**48VDC**	**24VDC**	**16VDC**	**5VDC**	**3VDC**
R,C,L Grinder	Water Pump	Solid State Relay Control	Door Switch-es	R,C,L Hopper Detect Switch-es	R,C,L Temper-ature Sensors
	Brew Motor		Comm. Brew Motor		



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Voltage/Current tab.

Step 2: You can view the H/V board internal voltages and the protected output circuit voltages.

Volt/Ohm Meter - Voltage Check

Step 3: Disconnect or unplug machine from power.

Step 4: Remove right panel to access circuit boards.

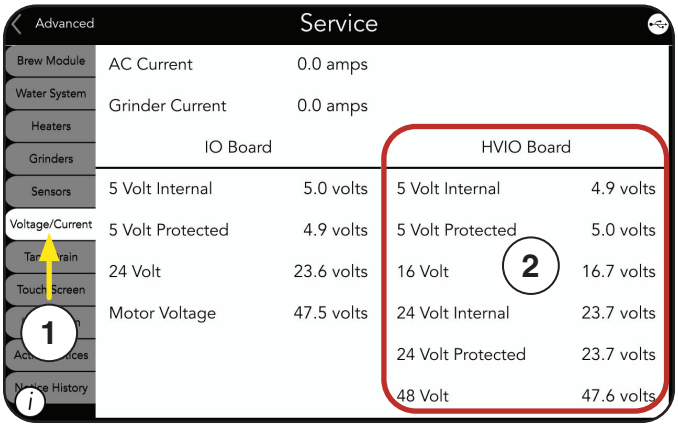
Step 5: Locate J11 connector on the High Voltage board.

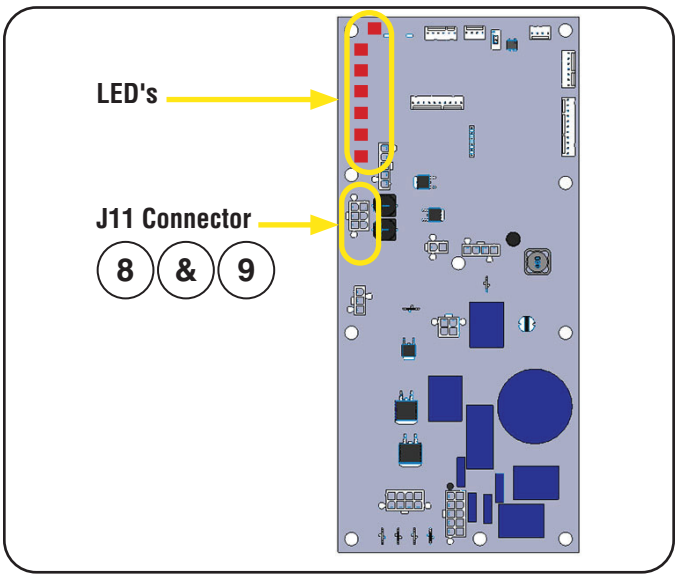
Step 6: Connect power to machine.

Step 7: Enable main On/Off switch.

Step 8: Set voltmeter on D/C voltage. Install red meter lead on terminal J11-1 WHI/RED wire (positive) and black meter lead on J11-4 WHI/BLK wire (negative) terminal. The voltage reading should be 24.0VDC.

Step 9: Set voltmeter on D/C voltage. Install red meter lead on terminal J11-2 RED wire (positive) and black meter lead on J11-6 BLK wire (negative) terminal. The voltage reading should be 48.0VDC.

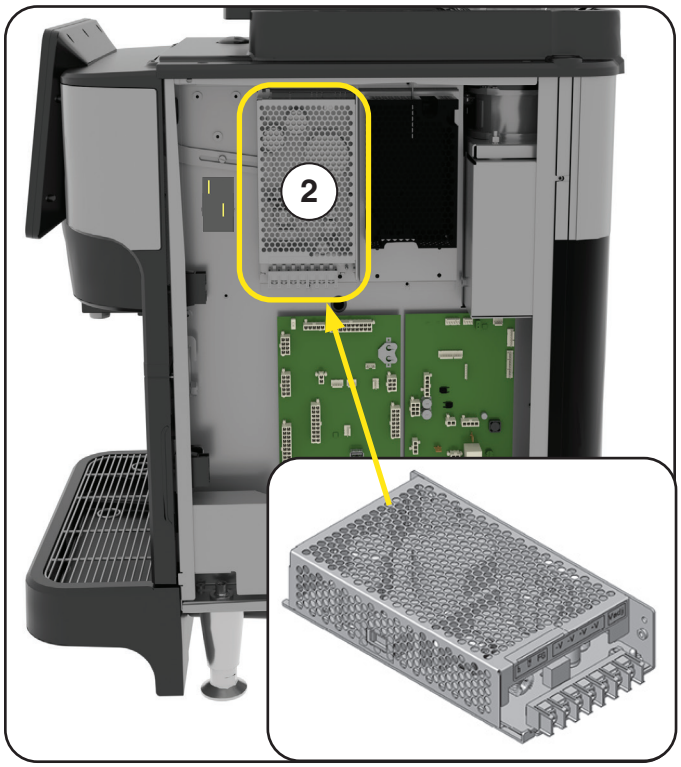




PART RELATES TO THE FOLLOWING SYMPTOMS

- No 24VDC - H/V Board LED's not illuminated
- No 48VDC - H/V Board LED labeled 48V will not be illuminated

RIGHT PANEL



Universal Power Supply 24VDC

Purpose: The power supply accepts an incoming voltage range of 88 to 264vac and steps and converts it down to a low output D/C voltage. The unit is adjusted by the potentiometer to put out 24.0VDC. The 24VDC goes to the High Voltage Board and to the Input/Output board.

TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access power supply board board/24VDC.

Step 3: Connect power to machine.

Step 4: Enable main On/Off switch.

Step 5: Locate the LED on the left power supply board (24VDC). An illuminated green led indicates the unit has incoming power.

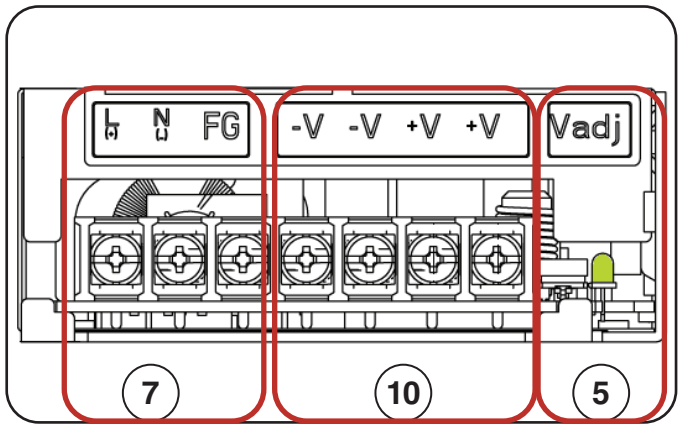
Step 6: Check input voltage at the power supply.

Step 7: Set volt meter on 600VAC, install red meter lead on terminal labeled "L" and black meter lead on terminal labeled "N". Reading must be 208VAC.

Step 8: No 208VAC input - First, verify main power supply and go to Main On/Off switch test instruction.

Step 9: Next, check the output voltage at the power supply.

Step 10: Set volt meter on 200VDC, install red meter lead on positive (+) terminal and black meter lead on negative (-) terminal. Reading must be 24VDC.
NOTE: Potentiometer adjustment screw on power board is an adjustment for the output voltage.



Step 11: No 24.0VDC output - replace power supply.
NOTE: 24.0VDC present but is interrupted going to High Voltage board. See Active Notice icon for Event Codes.

PART RELATES TO THE FOLLOWING SYMPTOMS

- User display is not illuminated
- Power supply green led is not illuminated
- High Voltage Board All Status LED's Not Illuminated

RIGHT PANEL

Universal Power Supply 48VDC

Purpose: The power supply accepts an incoming voltage range of 88 to 264vac, the voltage steps down and is converted to a 48VDC output. The 48.0VDC voltage is used to power the brew (piston) and water pump motor.

TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right panel to access power supply board/48VDC.

Step 3: Connect power to machine.

Step 4: Enable main On/Off switch.

Step 5: Check input voltage at the power supply.

Step 6: Set volt meter on 600VAC, install red meter lead on terminal labeled "1" and black meter lead on terminal labeled "2". Reading must be 208VAC.

Step 7: No 208VAC input - First, verify main power supply and go to Main On/Off switch test instruction.

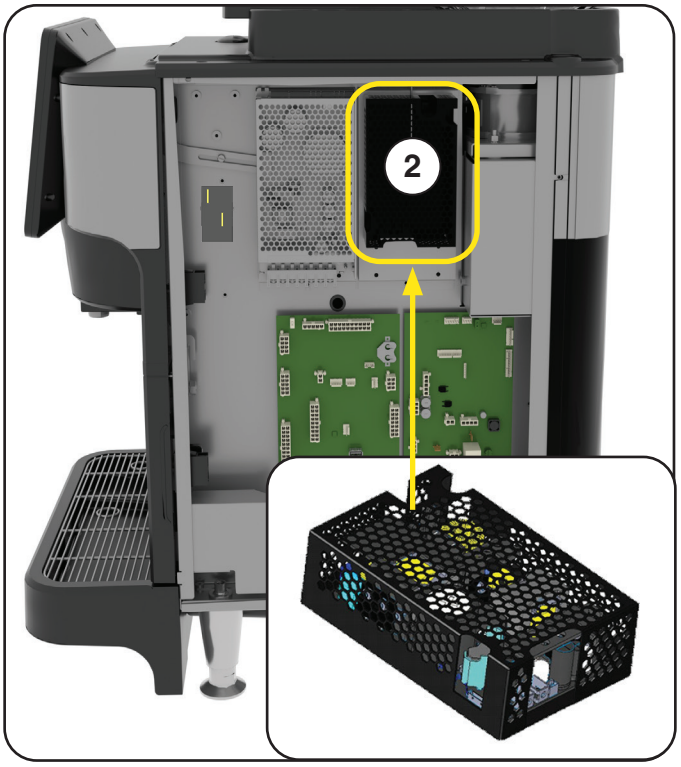
Step 8: Next, check the output voltage at the power supply.

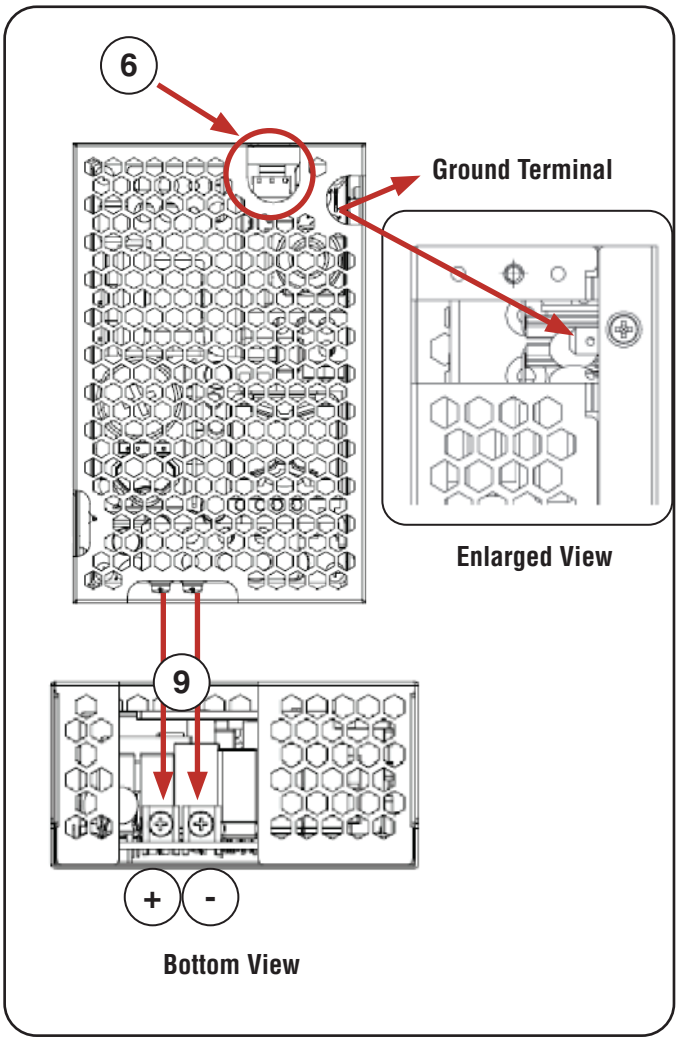
Step 9: Set volt meter on 200VDC, install red meter lead on positive (+) terminal and black meter lead on negative (-) terminal. Reading must be 48VDC.

Step 10: Input voltage present and no 48.0VDC output - replace power supply.

PART RELATES TO THE FOLLOWING SYMPTOMS

- User display grayed out
- High Voltage Circuit Board 48V LED not illuminated
- Active Notice - E-046: Water Pump Stalled, E-071: Brew Error Piston Move Timeout





REAR PANEL

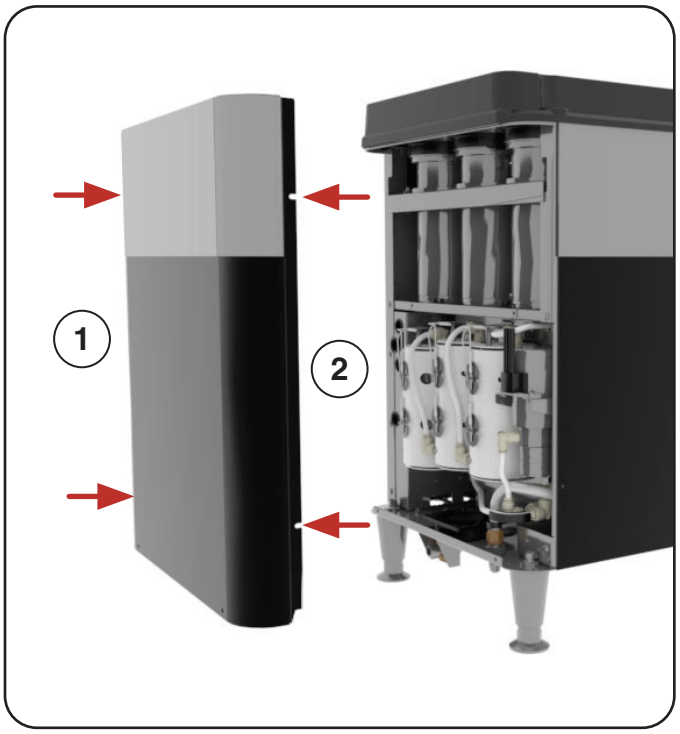
Rear Panel Removal Instructions

Step 1: Loosen Qty-2 slotted screws from top and bottom left and right side panel.

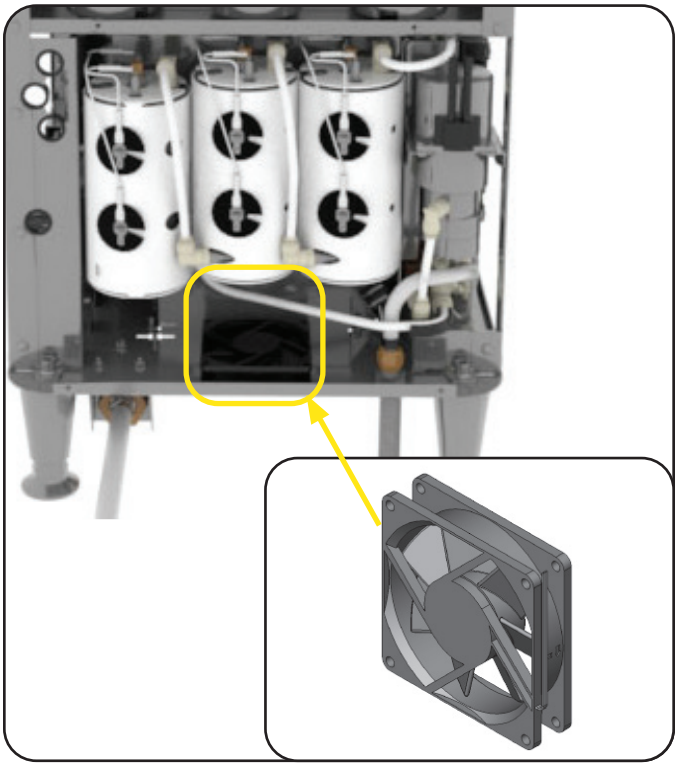
Step 2: Remove Qty-2 slotted screws from lower rear panel.

Step 3: Grab rear panel and lift upwards and out to remove panel.

NOTE: Rear panel has side key holes to hang on left and right panel screws.



REAR PANEL



Fan

Purpose: The fan mounted in the rear under the tank module operates continuously. The fan circulates or moves air within the cabinet/housing and exhausts air out the bottom of the machine.

TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right & rear panel to access power board & cabinet fan.

Step 3: Connect power to machine.

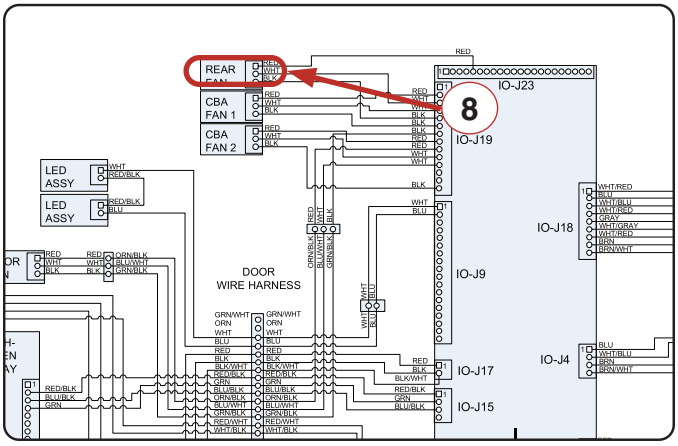
Step 4: Enable main On/Off switch.

Step 5: Check 24VDC output at the Input/Output board.

Step 6: Set voltmeter on D/C voltage. Install red meter lead on terminal J23-5 (+) RED wire terminal and black meter lead on J19-5 (-) BLK wire terminal.

Step 7: The reading should be 24.0VDC.

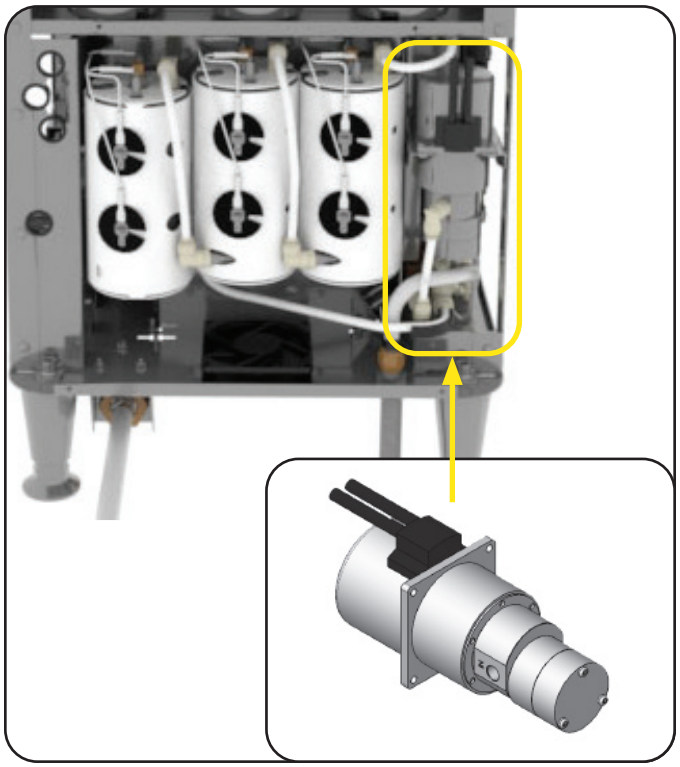
Step 8: No 24.0VDC - Check for loose wire connection between fan connector and J19 & J23 connector on I/O Board before replacing I/O Board.
Yes 24.0VDC - Replace failed fan.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Irregular or higher internal cabinet temperature
- Currently no error or event code exists for the fan

REAR PANEL



Water Pump Assembly

Purpose: The variable speed precision pump assembly is used to maintain flow rate during brewer operation by indirectly increasing or decreasing pump motor rpm.

TEST INSTRUCTION

Volt/Ohm Meter - Voltage Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove right & rear panel to access power boards & water pump.

Step 3: Connect power to machine.

Step 4: Enable main On/Off switch.

Step 5: Check pump motor for voltage coming from J16 connector on the High Voltage board. The reading should be 48.0VDC.

Step 6: Set voltmeter on D/C voltage. Install red meter lead on terminal J16-1 (+) BRN wire terminal and black meter lead on J16-3 (-) BLK wire terminal.

Step 7: No 48.0VDC - First, check H/V board for incoming 48.0VDC from the power supply before replacing H/V board.

Yes 48.0VDC - Go to Step 8 thru 10.

Step 8: Next, check water pump control voltage at J13 connector on the Input/Output board. The reading should be 24.0VDC.

Step 9: Set voltmeter on D/C voltage. Install red meter lead on terminal J13-1 (+) RED/BLU wire terminal and black meter lead on J13-11 (-) BLK wire terminal.

Step 10: No 24.0VDC - First, check Input/Output board for incoming 24.0VDC from the power supply before replacing I/O board.

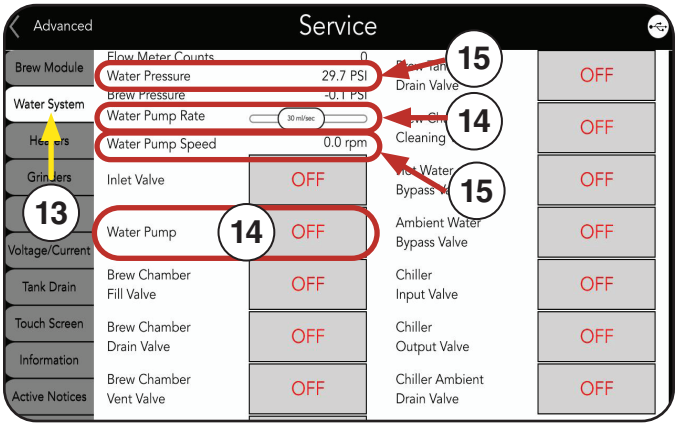
Yes 24.0VDC - Go to Step 11 thru 15

continued >

REAR PANEL

Step 11: Next, check water pump control/signal (PWM) at J13 connector on the Input/Out board.

Step 12: Set voltmeter on D/C voltage. Install red meter lead on terminal J13-10 (+) GRN wire terminal and black meter lead on J13-11 (-) BLK wire terminal.



Enter Service Technician Mode and Select Service icon

Step 13: Select and enter the Water System tab.

Step 14: Touch the Water Pump button to activate the water pump. The voltage reading will range between 0.00 to 24.0VDC indirectly related to the Water Pump Rate (ml/sec) slider bar setting.

Water Pump Rate - Slider Bar

MI/Sec	D/C Voltage
30	10.2
40	14.6
50	21.0
60	24.0

Step 15: Voltage present and no water pressure or water pump speed increase - Replace water pump.

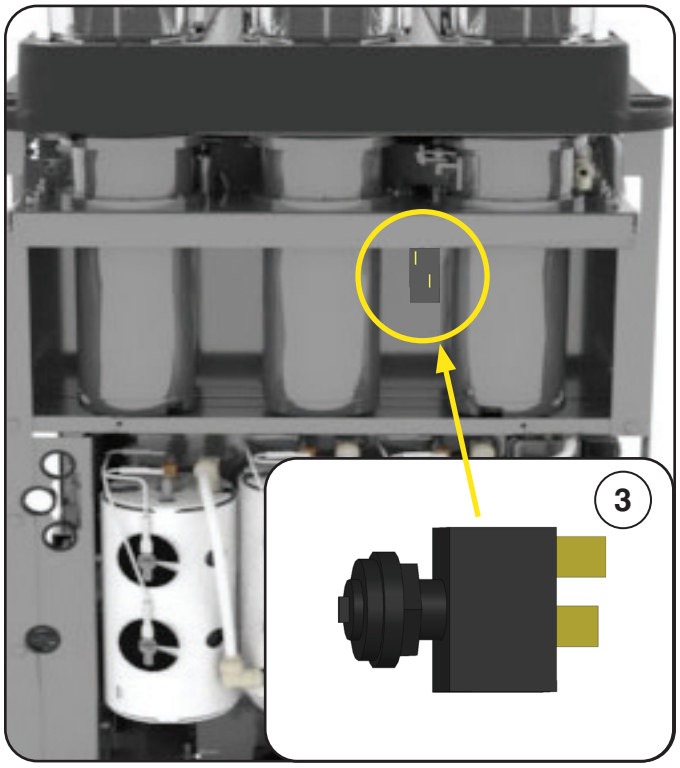
PART RELATES TO THE FOLLOWING SYMPTOMS

- Brew starts and then aborts/cancels
- Active Notice - E-046: Water Pump Stalled

REAR PANEL

Circuit Breaker 3 Amp

Purpose: A breaker in series with all three grinder motors. The breaker will break the electrical circuit in the event of a foreign object getting in a motor grind chamber and causing a jam between the coffee burrs.



TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove rear panel to access circuit breaker.

Step 3: Isolate the circuit breaker in preparation of checking continuity by disconnecting the wires from the breaker.

Step 4: Open upper door and locate breaker on the rear wall behind brew module, ensure breaker button is pushed inward or reset.

Step 5: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

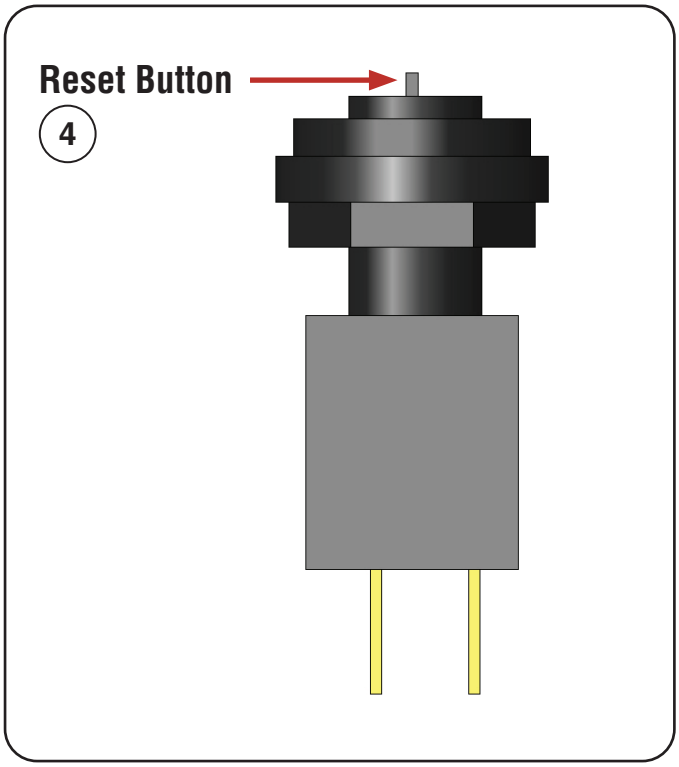
NOTE: Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.

Step 6: Install red meter lead on the left breaker terminal and the black meter lead on the right breaker terminal.

Step 7: The voltmeter should display 0.00 or audible tone will sound to indicate continuity.

Step 8: Continuity present - Inspect all motor grind chambers for foreign object jamming coffee burrs unless the particular grind motor is already identified by an error code (Left, Center or Right).

Continuity not present - Replace breaker.



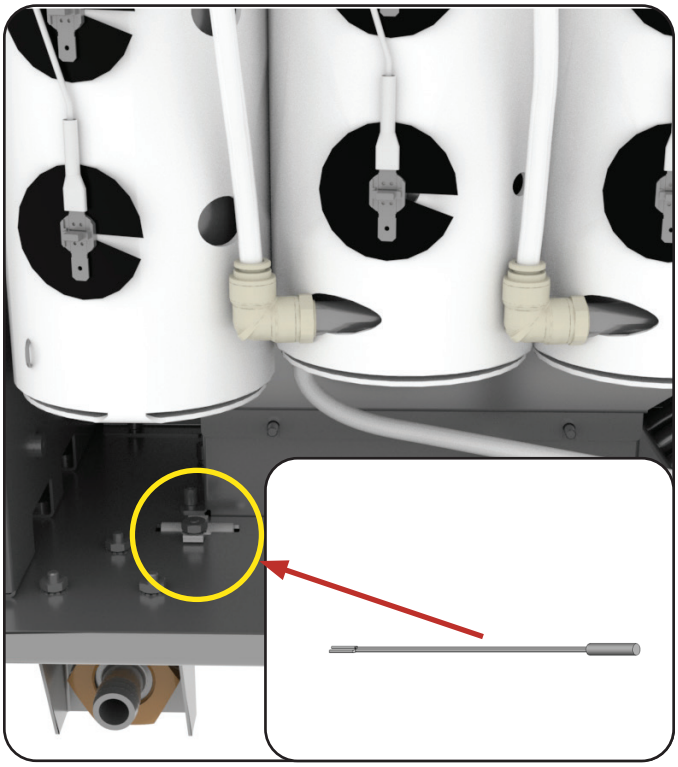
PART RELATES TO THE FOLLOWING SYMPTOMS

- Brew starts and then aborts/cancels
- Active Notice - E-030, 032, 034 - Left, Right or Center Grinder No Current

REAR PANEL

Drip Tray Switch

Purpose: A drip tray switch is used for tray detection to ensure drip tray is in position for brewer operation. If the drip tray is not present, brewer will not heat and user will not be able to operate the brewer.



TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Sensors tab.

Step 2: Located left side, Drip Tray Switch.
Drip Tray in position: reads: Installed
Drip Tray out of position or removed reads: Removed

Step 3: If brewer does not see the drip tray while in position, look for the magnet on the end of the drip tray, must be present and be clean for the magnetism to operate a switch that is mounted in the brewer base directly above the drip tray magnet when the drip tray is in position.

Step 4: Magnet present and clean - Check switch for continuity.

Volt/Ohm Meter - Continuity Check

Step 5: Disconnect or unplug machine from power.

Step 6: Remove right panel to access circuit boards.

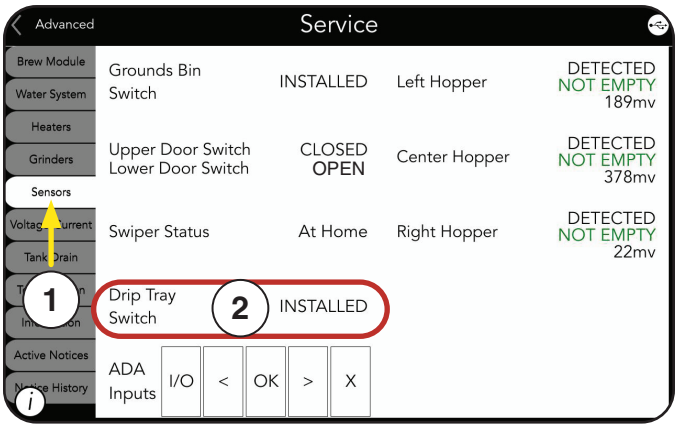
Step 7: Locate and disconnect J4 connector from the Input/Output board.

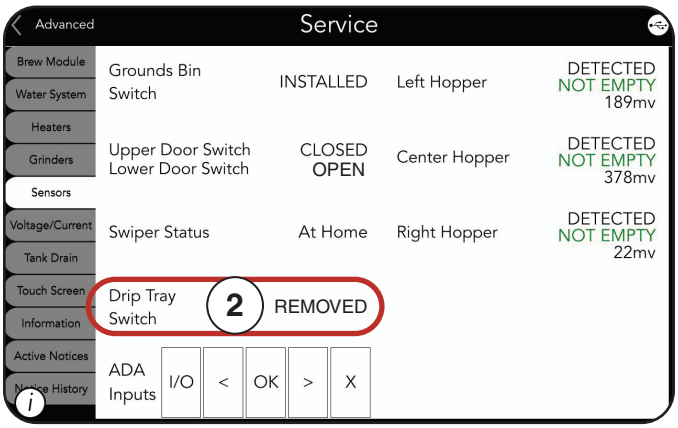
Step 8: Set meter to read continuity/tone.

Step 9: Place black meter lead on J4-1 BLU wire terminal and red meter lead on J4-2 WHI/BLU wire terminal.

Step 10: Place drip tray in corresponding position, meter should show continuity 0.00 on display or here audible tone.

Drip Tray Removed - Meter should show infinite or open circuit.

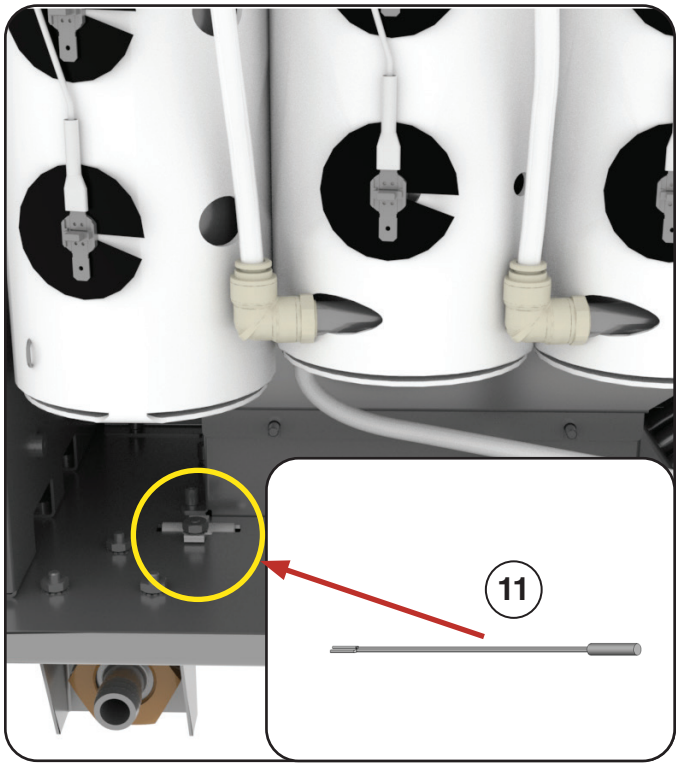




continued >

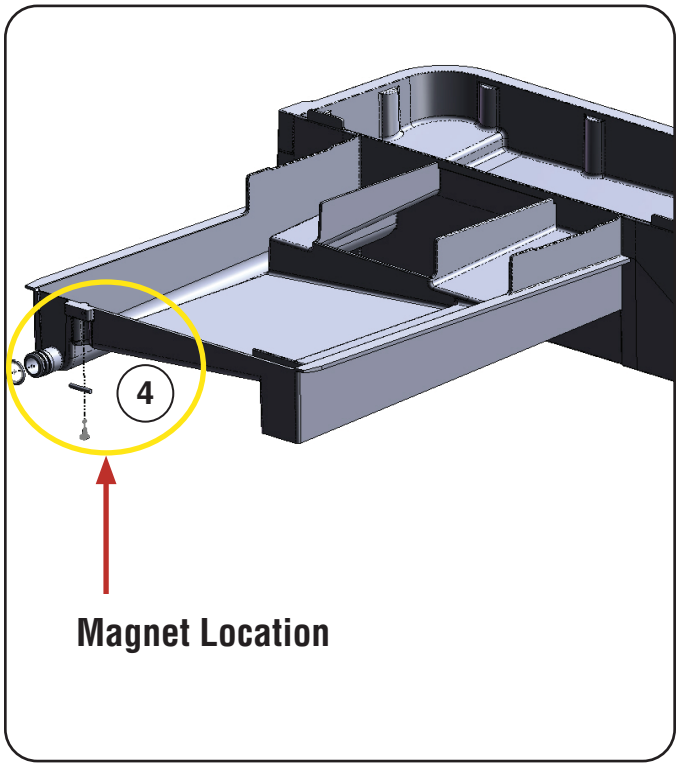
REAR PANEL

Step 11: If drip tray switch shows infinite all the time regardless positioning of magnet near switch - Replace the drip tray switch.

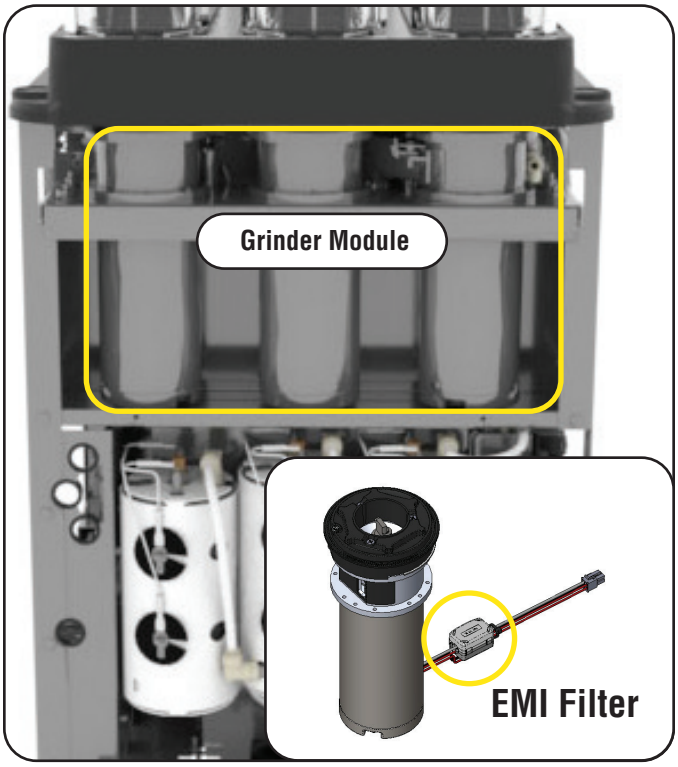


PART RELATES TO THE FOLLOWING SYMPTOMS

- Message - Drip Tray Removed - Please Replace the Drip tray
- Message - Machine Stopped Due to Drip Tray Removed, Machine will Reset when Drip Tray is Installed
- Message - Beverage Canceled Machine Resetting
- Active Notice - E-056, 057, 058 - Finish Tank Heater Control OFF, Pre-Heat Tank Heater Control OFF, Inlet Tank Heater Control OFF



REAR PANEL



Left, Center & Right Grinder Motor (Module)

Purpose: A total of three grinder motors make up the grinder module. A grinder motor is positioned under each hopper station (Left, Center & Right). After user selects a hopper station and starts a brew cycle, the grinder motor rotates a bean auger and coffee burr. The auger helps feed the coffee beans between the coffee burrs for cutting of the beans.

An EMI filter is clamped around power wires going to each grinder motor, the EMI is used to suppress high frequency noise in the circuit.

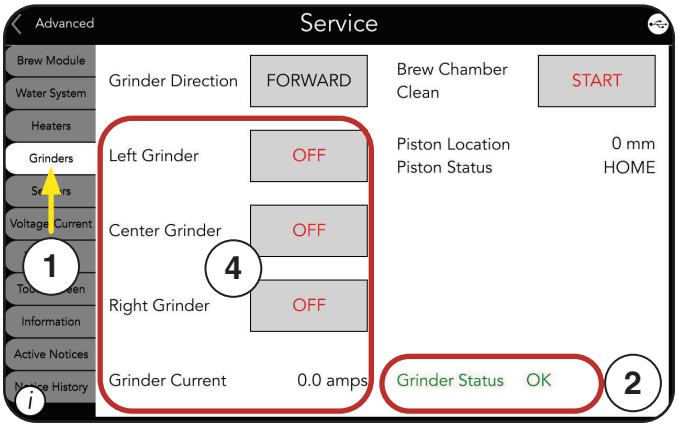
TEST INSTRUCTION

Enter Service Technician Mode and Select Service icon

Step 1: Select and enter the Grinders tab.

Step 2: An informational Grinder Status event can be viewed here under the Grinders tab, lower right corner.
The Grinder Status event will be highlighted in green or red text.

Grinder Status Messages	Trigger Event
OK (Green Text)	None
Chamber Overfilled, Scoop Out Chamber (Red Text)	Piston Stall Down Event
Piston Error (Red Text)	Misc. Piston Events
Hoppers Not Installed (Red Text)	Any Hopper Missing
Brew Chamber Clean Needed (Red Text)	Grinder Button Pressed > 5 Sec.



Step 3: In preparation of grinder motor voltage test, remove and empty coffee hopper of beans and reinstall empty hopper.

Step 4: Touch and hold the corresponding Left, Center or Right Grinder button to operate grinder (3 second hold run time). The grinder current can be viewed at the bottom of the display.

Volt/Ohm Meter - Voltage Check

Step 5: Disconnect or unplug machine from power.

Step 6: Remove right and rear panel to access grinder motors and circuit boards.

continued >

REAR PANEL

Step 7: Locate J18 connector on the High voltage board.

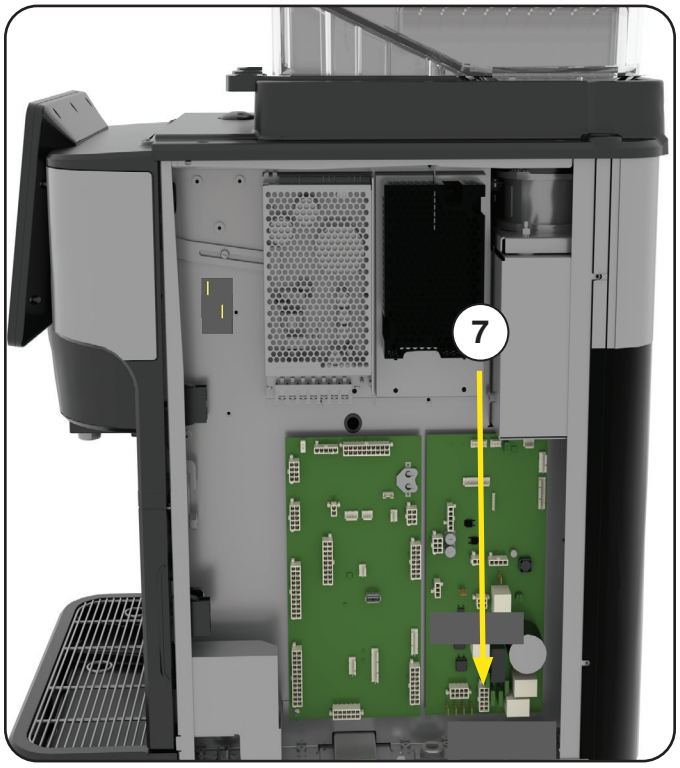
Step 8: Connect power to machine.

Enter Service Technician Mode and Select Service icon

Step 9: Select and enter the Grinders tab.

Step 10: Check for 270-290VDC at corresponding grinder motor 4 pin connector or at J18 connector on the High Voltage board.

Step 11: Set volt meter on D/C voltage. Install red meter lead on the positive side and black meter lead on the negative side going to the corresponding motor being checked.



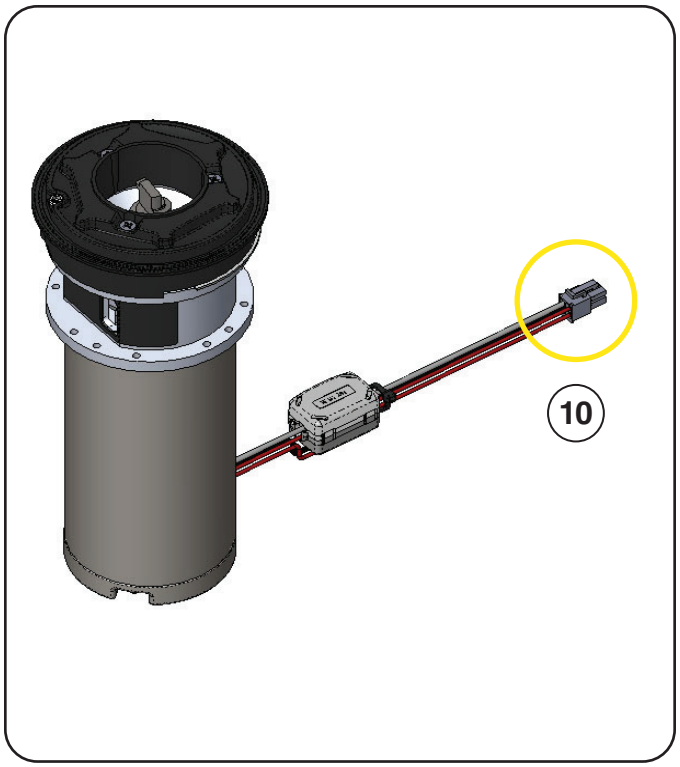
Grinder Motor	I/O Connector & Terminal #
Left	J18-3 VIO (+) and J18-8 WHT/VIO (-)
Center	J18-4 ORN (+) and J18-9 WHT/ORN (-)
Right	J18-2 YEL (+) and J18-7 WHT/YEL (-)

Step 12: Touch and hold the corresponding Grinder Motor button.

Step 13: The volt meter should read between 270 - 290VDC.

No voltage present - Ensure grinder circuit breaker is not tripped before replacing High Voltage board.

Yes voltage present & motor does not operate - Replace grinder motor.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Message - An issue has been detected with the left grinder (can indicate center and right grinder too)
- Brew starts and then aborts/cancels
- Active Notice - E-030, 032, 034 - Left, Right or Center Grinder No Current

REAR PANEL

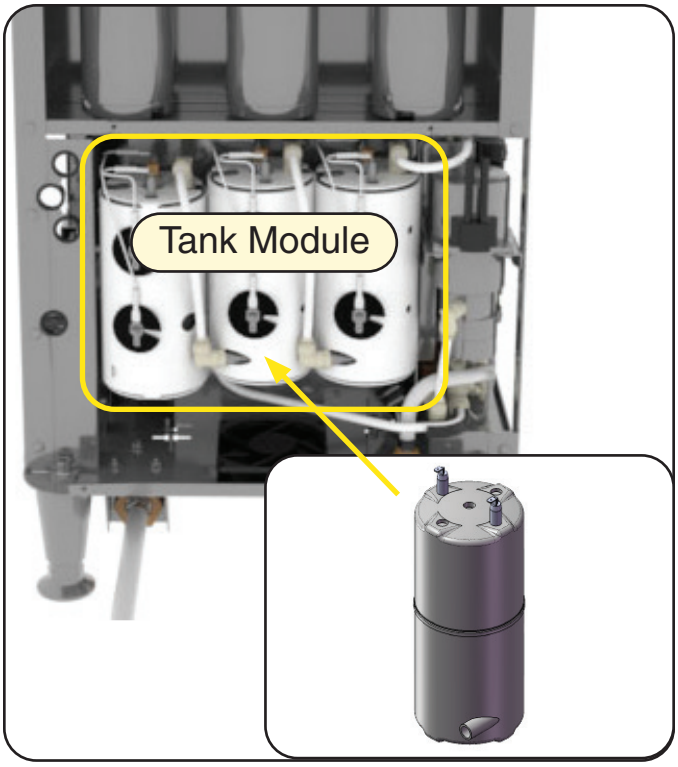
Inlet, Pre-Heat & Finish Tank Assembly (Module)

Purpose: A total of three tanks make up the tank module. The three tanks are referenced as Inlet, Pre-Heat and Finished boiler tank. Each tank has a heating element, qty-2, limit thermostats and a temperature sensor.

All three tanks are identical in electrical components. The only difference is the orientation or position of the Inlet Tank from the other two tanks (Pre-Heat & Finish). All three tanks are plumbed in series, designed in managing the heating cycle/current and capable of delivering a minimum of qty-6, 20 oz. drinks back to back before "Please Wait Heating" message appears.

Heating Priority: First, Finish Boiler Tank, Second, Pre-Heat Boiler Tank and Third, Inlet Boiler Tank

NOTE: A maximum of any two tanks can heat at the same time.



TEST INSTRUCTION

Note: First, cool the tank module so you don't accidentally create a tank over temperature error which could result in a tripped limit thermostat.

Tank Module Cooling Instruction

Step 1: Enter Service Technician Mode and select Service icon.

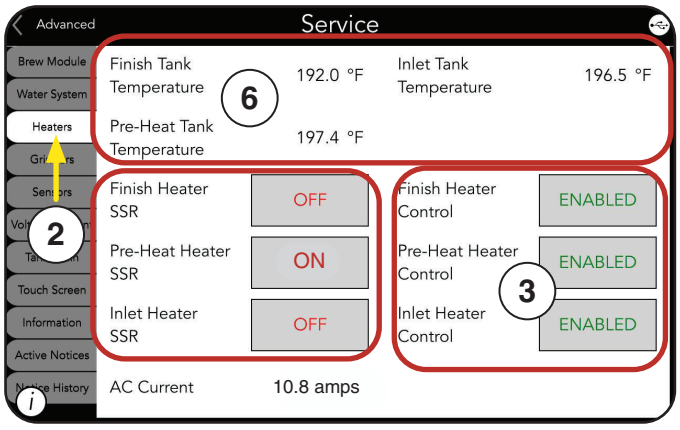
Step 2: Select and enter the Heaters tab.

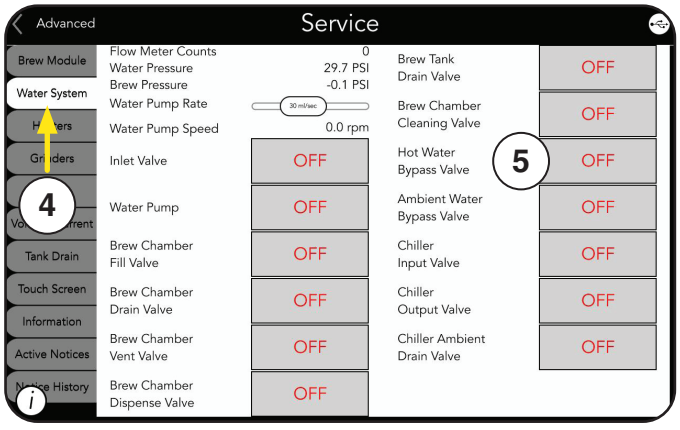
Step 3: Disable Finish, Pre-Heat and Inlet Heater Control. This will temporarily stop the heating control from turning ON because of low tank temperature.

Step 4: Exit Heaters tab and enter Water System tab.

Step 5: Touch and hold Hot Water Bypass Valve to start cooling down the tank module. The valve test time runs a maximum of 10 seconds.

Step 6: Next, go back to the Heaters tab. Read all three tank temperature's and ensure they are cooled down below 150° F. from 200°F.





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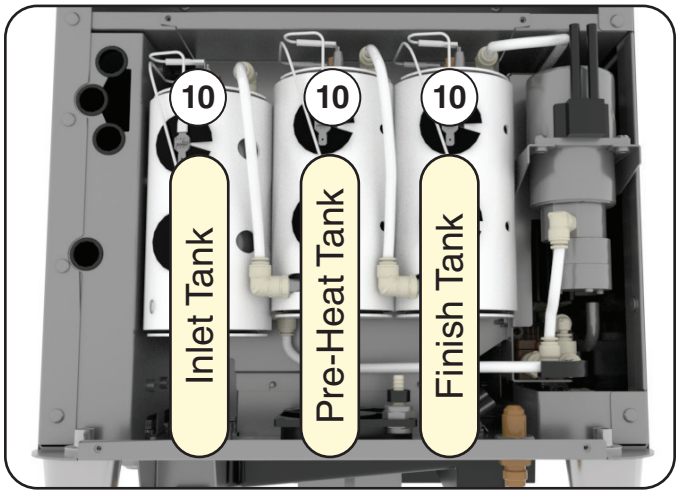
REAR PANEL



Volt/Ohm Meter - Voltage Check

Step 7: Disconnect or unplug machine from power.

Step 8: Remove right and rear panel to access circuit boards and tank module.

Step 9: Connect power to machine.

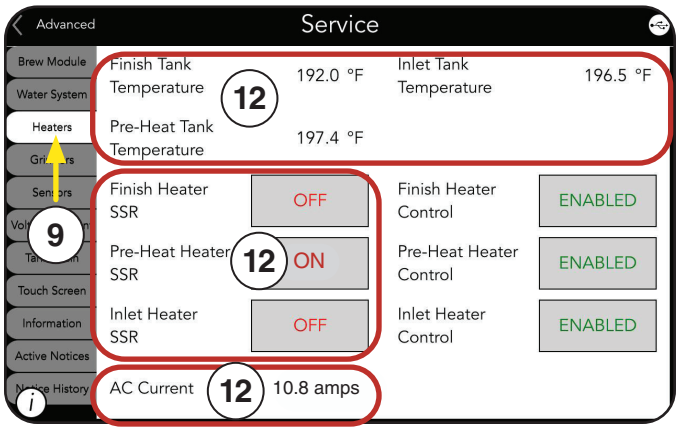
Enter Service Technician Mode and Select Service icon

Step 9: Select and enter the Heaters tab.

Step 10: Check for 208VAC at corresponding Inlet, Pre-Heat or Finish Tank element.

NOTE: Defective heating element, entire tank must be replaced.

Step 11: Set volt meter on 750 A/C voltage. Install red meter lead on corresponding tank heat element terminal and black meter lead on the remaining heat element terminal.



Step 12: Touch the corresponding Inlet, Pre-Heat or Finish Heater SSR button to turn on heating element.

> Volt meter will should display 208VAC.

> Ensure temperature rises by viewing the tank temperature on the Service Screen.

> The tank element AC current will be shown at the bottom of the Service screen during testing.

208VAC present but zero current or temperature rise - Replace tank assembly.

No 208VAC present - First, go to Limit Thermostat testing procedure before moving onto Solid State Relay (SSR) testing procedure.

Volt/Ohm Meter - Resistance Check

Step 13: Disconnect or unplug machine from power.

Step 14: Remove rear panel to access tank module.

Step 15: In preparation of testing element for resistance value, Isolate the tank element by disconnecting the wires from the heater element.

continued >

REAR PANEL

Step 16: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

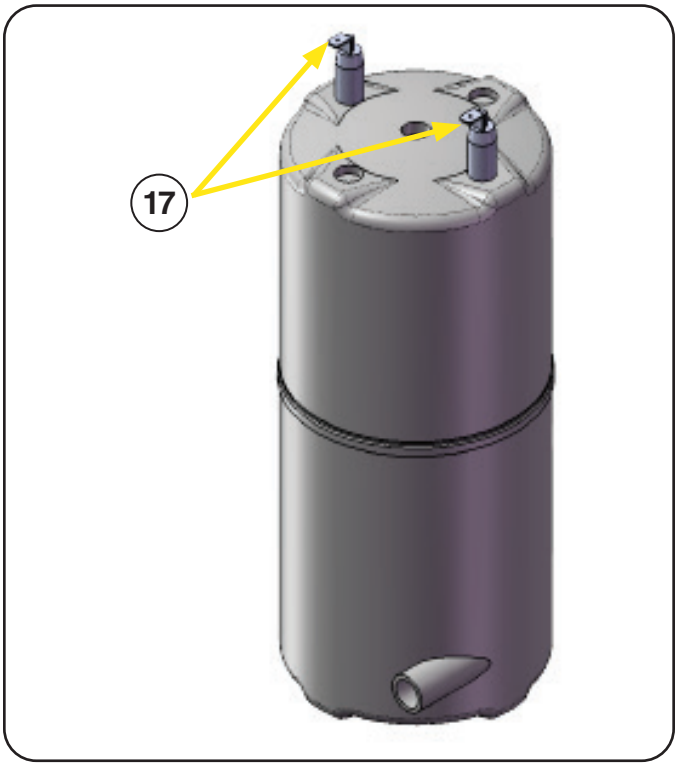
Step 17: Place red meter lead on heat element terminal and black meter lead on the remaining heat element terminal.

Step 18: The Ohm Meter should show a resistance value between 16.43 - 19.06 Ohms for a good heating element.

Electrical Rating: 230VAC, 3000W

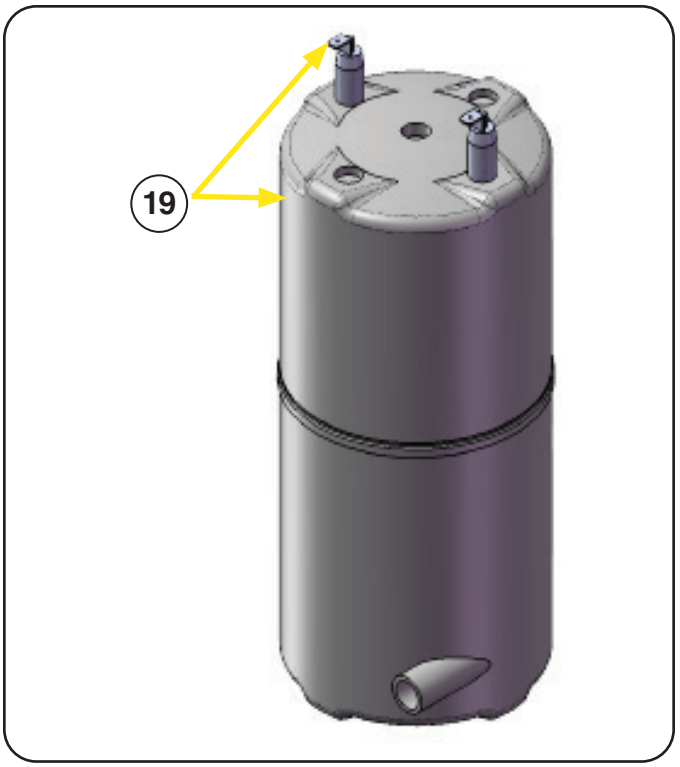
Step 19: Next, move red meter lead to tank chassis and keep black meter lead on heat element terminal, Ohm meter should show infinite or OL for open line.

Step 20: If heat element is not within the resistance range or shows resistance to the tank chassis, replace tank assembly.

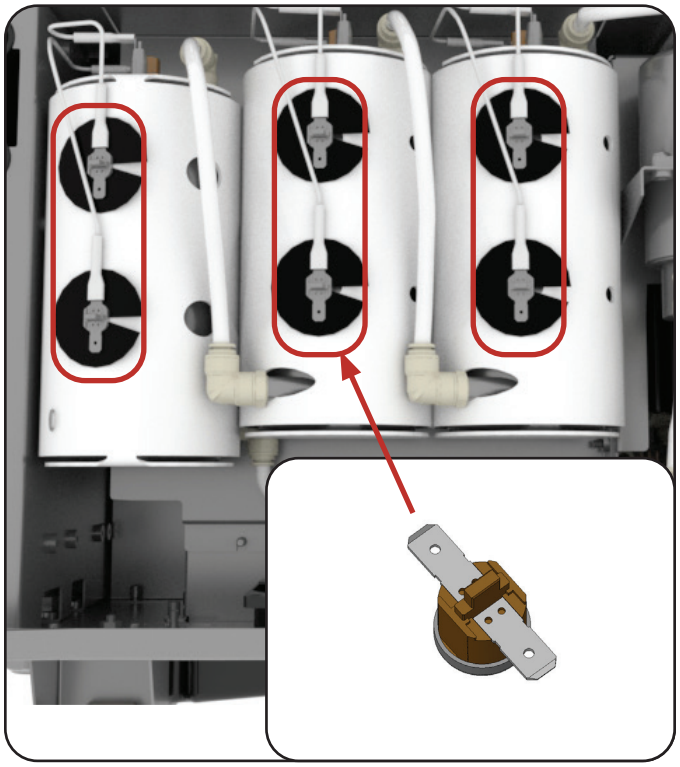


PART RELATES TO THE FOLLOWING SYMPTOMS

- Message - Finish Tank Heater Control OFF, Pre-Heat Tank Heater Control OFF, Inlet Tank Heater Control OFF
- Active Notice - E-053, 054, 055 - Finish, PreHeat & Inlet Tank Heating Too Long
- Active Notice - E-062, 063, 064 - Finish, Pre-Heat or Inlet Tank Heater Test Failure



REAR PANEL



Limit Thermostat

Purpose: In the event of a tank over heating or a high current condition exists, the limit thermostat will open at 230° Fahrenheit to prevent the water system from excessive high temperature & pressure.
A limit thermostat is installed on each conductor line (L1 & L2) going to the heating element. In the event of a tripped limit thermostat, diagnosis and repair, the limit will need to be mechanically reset by pushing on the center button/tab.

TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove rear panel to access tank module.

Step 3: Isolate the corresponding tank with the limit thermostats in preparation of checking continuity by disconnecting the wires from both limit thermostats..

Step 4: Select the lowest resistance (OHMS) range on the voltmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

NOTE: Various voltmeters may have a symbol to indicate audible tone or sound. The meter will alert with a loud tone or sound to indicate continuity.

Step 5: Install red meter lead on limit thermostat terminal and the black meter lead on the remaining limit thermostat terminal.

Step 6: The voltmeter should display 0.00 or audible tone will sound to indicate continuity.

Step 7: No continuity - Reset limit thermostat by pushing in the center tab. Repeat continuity check procedure.

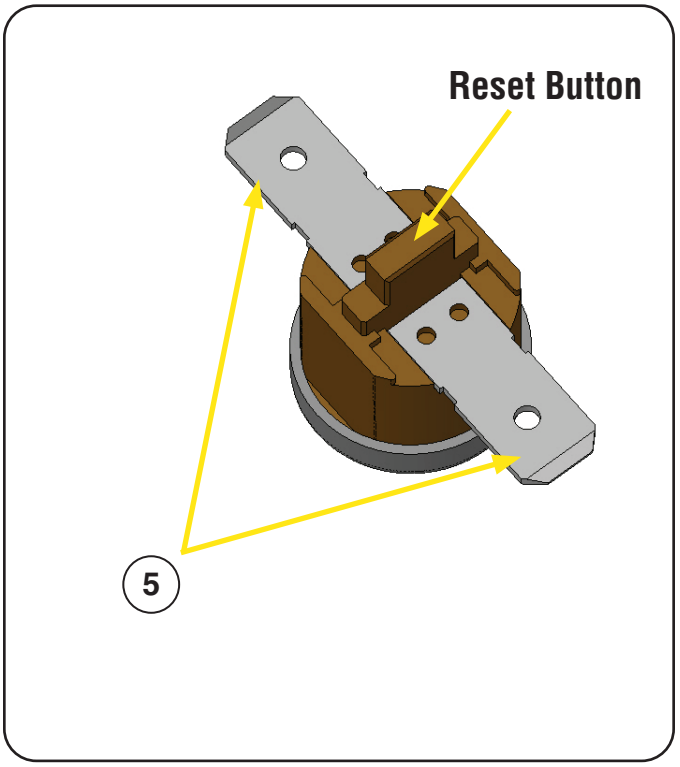
No continuity after reset - Replace limit thermostat and further diagnose heating circuit.

continued >

REAR PANEL

PART RELATES TO THE FOLLOWING SYMPTOMS

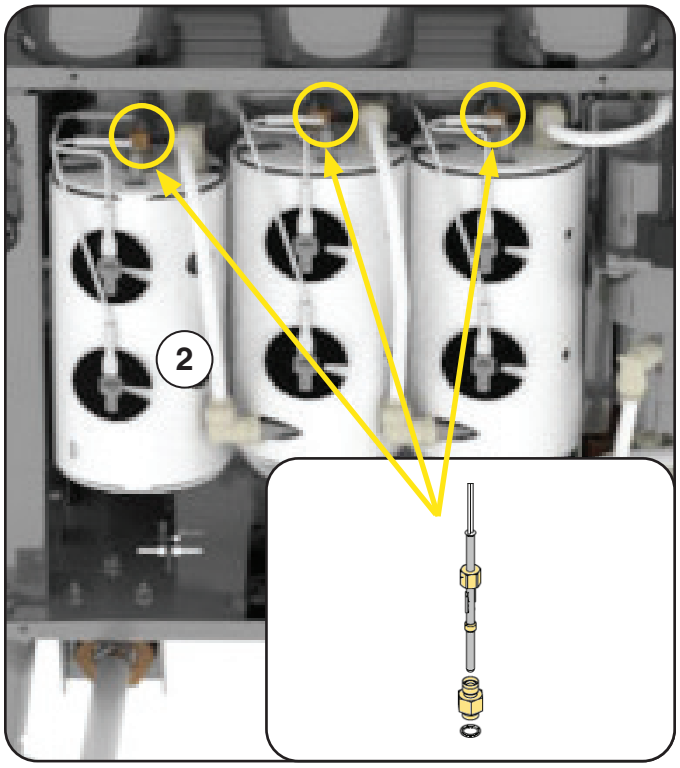
- Message - Finish Tank Heater Control OFF, Pre-Heat Tank Heater Control OFF, Inlet Tank Heater Control OFF
- Active Notice - E-053, 054, 055 - Finish, PreHeat & Inlet Tank Heating Too Long
- Active Notice - E-062, 063, 064 - Finish, Pre-Heat or Inlet Tank Heater Test Failure



REAR PANEL

Temperature Sensor

Purpose: A Temperature Sensor/Thermistor is a temperature sensitive resistor used to monitor water temperature. The Negative Temperature Coefficient (NTC) temperature sensor will decrease in resistance/ohm value as it heats and increase in resistance when it cools. These are commonly used in temperature sensing applications.



TEST INSTRUCTION

Volt/Ohm Meter - Continuity Check

Step 1: Disconnect or unplug machine from power.

Step 2: Remove rear panel to access tank module.

Step 3: Isolate the corresponding temperature sensor in preparation of checking the sensor resistance value by disconnecting the sensor connector from the machine wiring harness.

Step 4: Select the 200K (OHMS) setting on the volt/ohmmeter. Install black meter lead in the meter COM terminal and red meter lead in the terminal labeled with the OHM symbol.

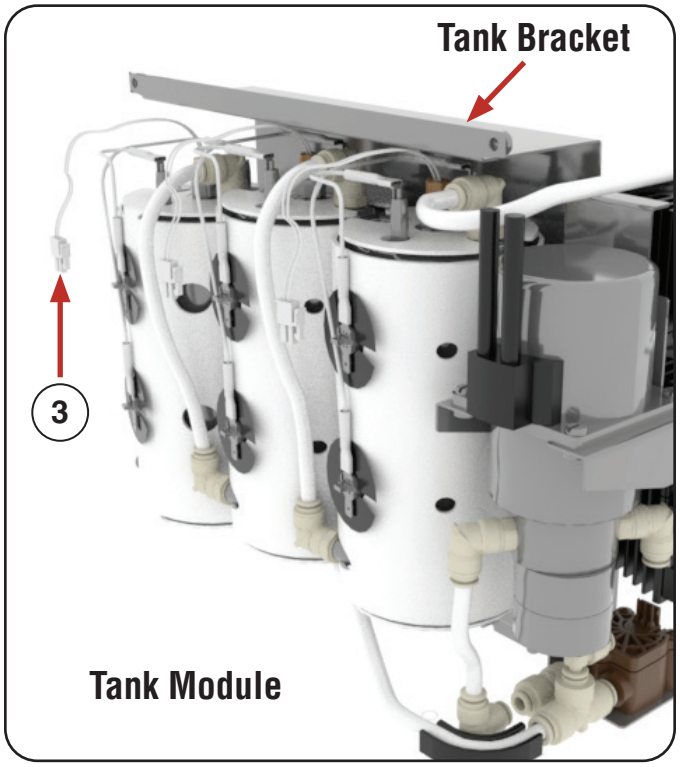
Step 5: Install red meter lead in temperature sensor connector terminal and the black meter lead in the remaining connector terminal.

Step 6: The meter should show a resistance value based off the water temperature in the tank being checked.
Alternative: The tank module will need to be removed from the machine and tank mounting bracket to allow clearance for the removal of temperature sensor.

Place temperature sensor in a known temperature environment and let it stabilize before checking the resistance value.
> Room temperature.
> Glass of water with ice (32° F.)

Reference OHM Chart next page.

Step 7: If temperature sensor resistance is not to specification, replace the temperature sensor.



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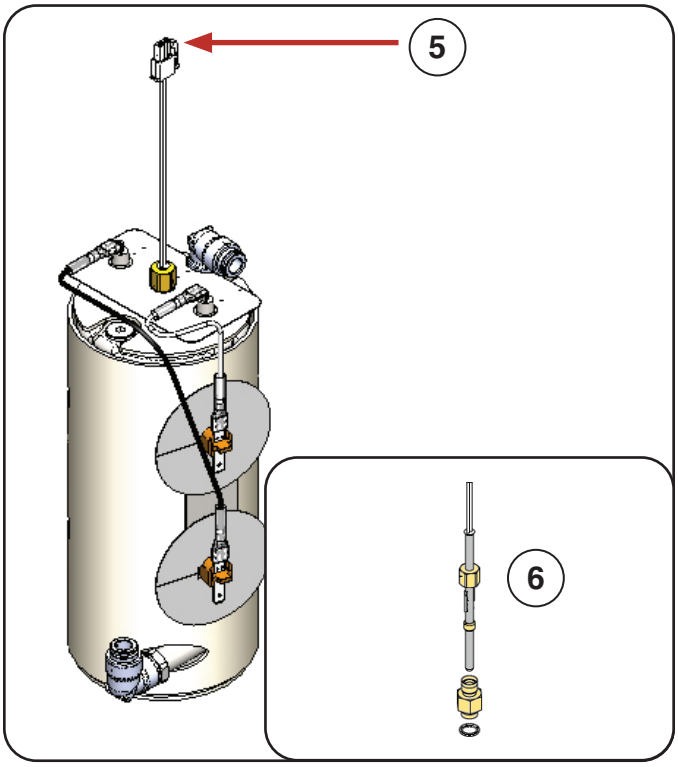
REAR PANEL

If temperature sensor resistance is within specification, check wiring harness between Temperature Sensor and High Voltage board for loose connection before board replacement.



PART RELATES TO THE FOLLOWING SYMPTOMS

- Message - Finish Tank Heater Control OFF, Pre-Heat Tank Heater Control OFF, Inlet Tank Heater Control OFF
- Active Notice - E-047, 048, 049 - Finish, PreHeat & Inlet Tank Temperature Sensor Open
- Active Notice - E-050, 051, 052 - Finish, Pre-Heat or Inlet Tank Temperature Sensor Short
- Active Notice - E-053, 054, 055 - Finish, PreHeat & Inlet Tank Heating Too Long
- Active Notice - E-059, 060, 061: Finish, Pre-Heat & Inlet Tank Over Temperature

TEMPERATURE SENSOR OHM CHART	
Temperature Fahrenheit	**Acceptable Resistance Range**
32°	144,257 - 182,243 Ohms
50°	89,423 -109,592 Ohms
70°	54,279 - 64,553 Ohms
100°	27,179 - 31,091 Ohms
150°	9792 - 10,638 Ohms
200°	4,013 - 4,263 Ohms
205°	3,693 - 3,920 Ohms

FAST CUP®

20k Drinks Preventive Maintenance Kit

To Be Performed by Qualified Personnel Only

PM Level: 20,000 Cycles
Brewer Type: Fast Cup
Part Number: 55400.2003 - 20k PM Kit, FAST CUP

Kit Contents:

Part Number	Description	Quantity
55166.0000	O-ring, 334 Silicone, Upper Piston	1
55360.0005	Screen, SST Fast Cup Upper Piston	1
55664.0000	Nozzle, Laminar Flow Dispense	1
55361.0000	Screen, SST Fast Cup Lower Piston	1
54506.0103	Swiper, Wiper Antimicrobial	1
56269.1000	O-Rings	1
01311.0001	Screw, Trh SLtd SST 8-32x.25LG	2

PURPOSE

Regular preventative maintenance is essential for the brewer. This ensures a long service life and a high quality product dispensed from each cycle. A PM service visit is not just replacing the parts that come in the PM kit; the brewer should be checked for the most current software, be cleaned and each system evaluated for any potential issues that may occur in the future. A PM creates opportunity for store level training on use, maintenance, and cleanliness and builds goodwill with the customer. View each PM visit as an opportunity to go above and beyond for the customer.

PREPARATION

Determine if the brewer can be serviced in place or if it will need to be moved to a suitable area. Review any concerns or ongoing issues with the manager that would need to be addressed during the PM visit. Review the brewer's error history in the Event Log on the Server Access screen for open or ongoing issues. Locate the brewer's water filter, electrical connection point or circuit breaker, drain connection, and water supply connection. Clear a suitable work area around the brewer, ask the location manager to provide you with a suitable location to relocate any items that may be around the brewer temporarily (i.e. cups, syrups, pitchers, etc.)

FILTRATION

The water filtration is the customer's responsibility, and should be replaced every 6 months. Check the date on the water filter cartridge. If the water filter needs to be replaced, inform the customer you will replace it. The cartridge will be billed separately from the PM. Add the cartridge as a separate part line on your work order.
56000.0120 - WEQ-SCALE-PRO.X CARTRIDGE
56000.0121 - WEQ-10(1.5)5L Cartridge
56000.0122 - WEQ-10(1.5)5 Cartridge

NOTE: Choosing a filter is dependent on water quality in the area.

BUNN-O-MATIC CORPORATION
POST OFFICE BOX 3227
SPRINGFIELD, ILLINOIS 62708-3227

FAST CUP® 20,000 DRINKS - REMOVING BREW MODULE

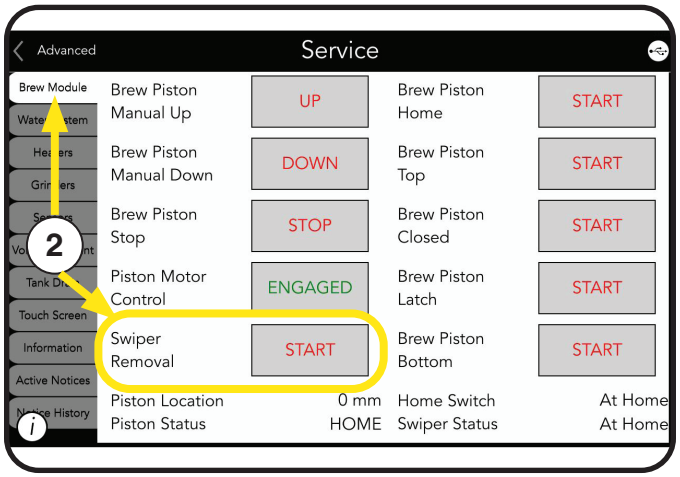
Brew Module Removal Instruction

Step 1: Enter Service Technician Mode and select Service icon.

Step 2: Select and enter the Brew Module tab. Touch the Swiper Removal Start button.

NOTE: The Brew Piston will move to the Latch position.

Step 3: Disconnect machine from main power and water supply.



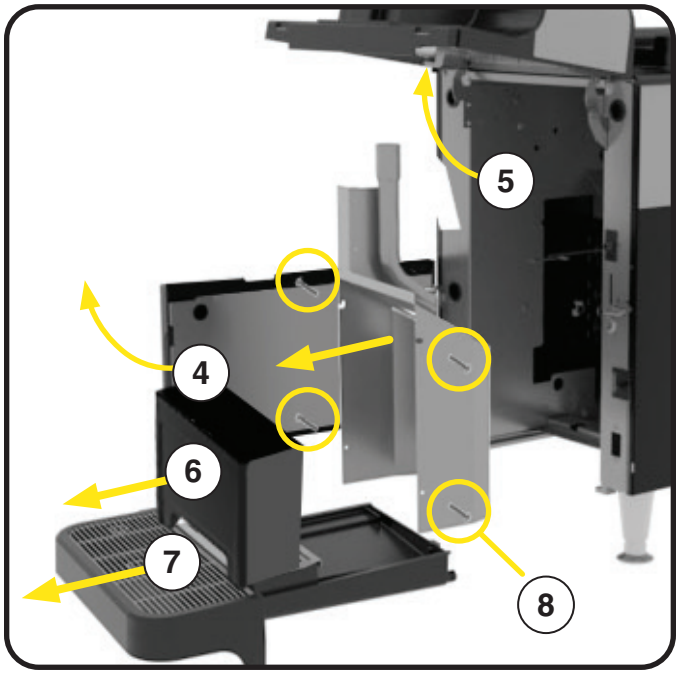
Step 4: Open lower front door.

Step 5: Open upper front door.

Step 6: Remove Waste Bin.

Step 7: Remove drip tray.

Step 8: Remove Qty-4, thumb screws securing the inner panel. Remove panel.

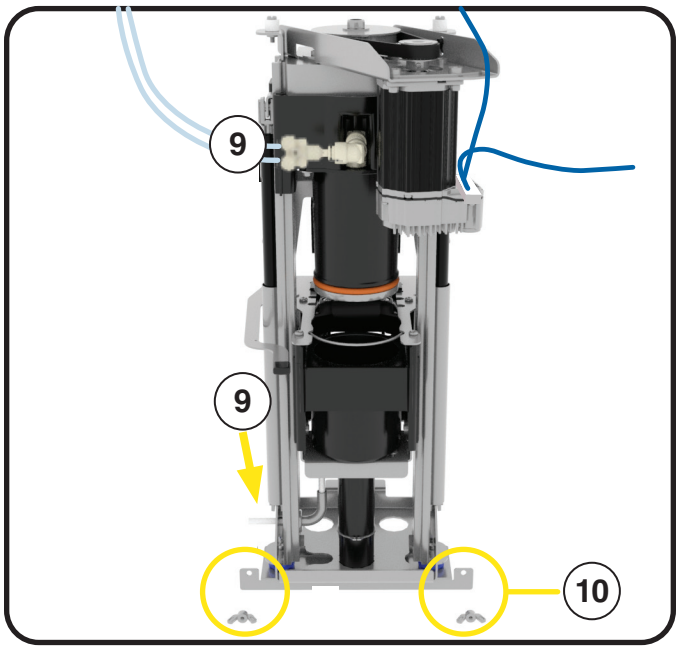


Step 9: Disconnect upper and lower brew tubes going to the push-in fittings.

Step 10: Remove Qty-2, thumb screws or wing nuts at the bottom of the Brew Module.

Early Style - Thumbscrews (vertical position)

Current Style - Wing nuts (facing toward front)



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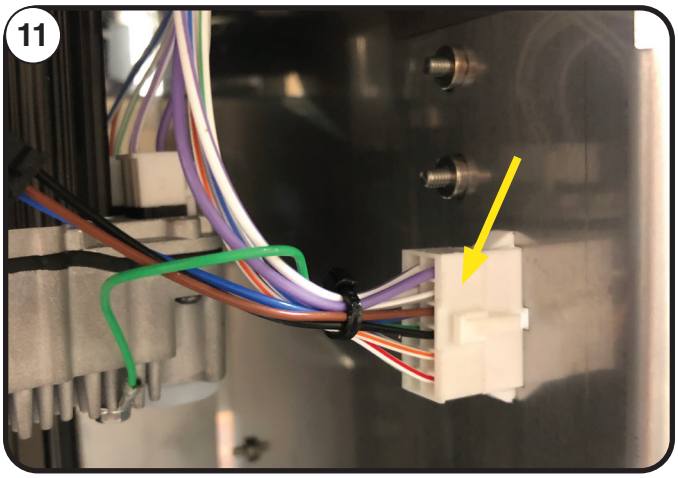
FAST CUP® 20,000 DRINKS - REMOVING BREW MODULE

Brew Module Removal Instruction (cont)

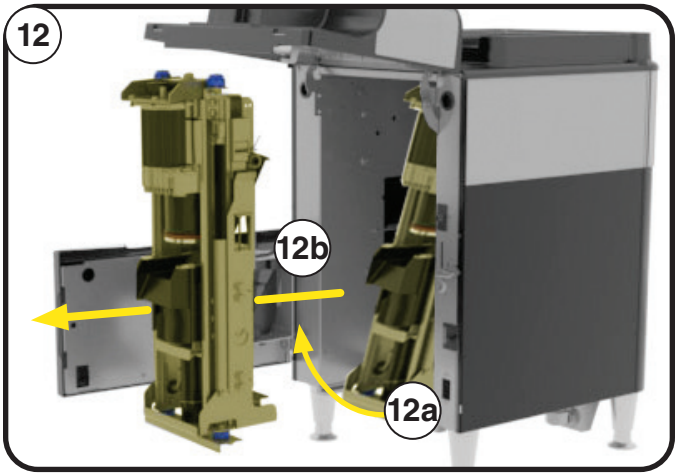
Step 11: Disconnect the brew module motor connector.



Step 12: Remove Brew Module

a. Grab the bottom of the brew module.

b. Gently pull outward to remove brew module from the brewer.

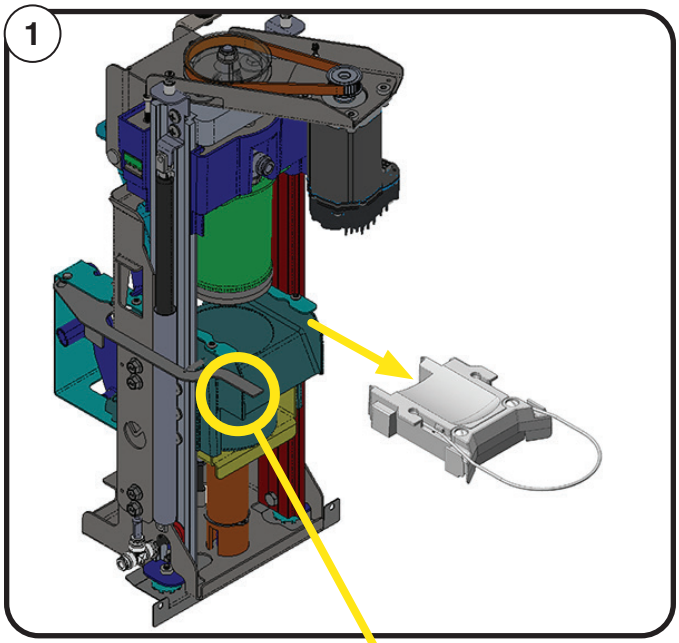


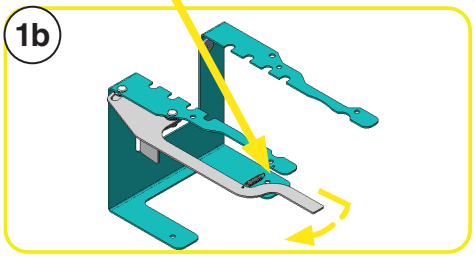
Brew Module PM Steps

Step 1: Remove swiper assembly from Brew Module and discard.

a. **Brew Module In Latch Position:** Release lever is already open, grab swiper handle and pull swiper out from the module.

b. **Brew Module In Un-latch Position:** Release lever in lock position, push release lever to the left and hold, grab swiper handle and pull swiper out from the module.





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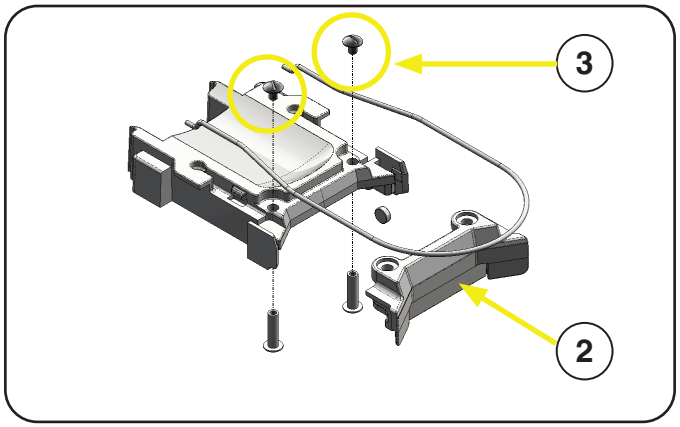
FAST CUP® 20,000 DRINKS - BREW MODULE PARTS

Brew Module PM Steps (cont)

Step 2: Replace the swiper wiper with 54506.0106

Step 3: Replace screws with 01311.0001

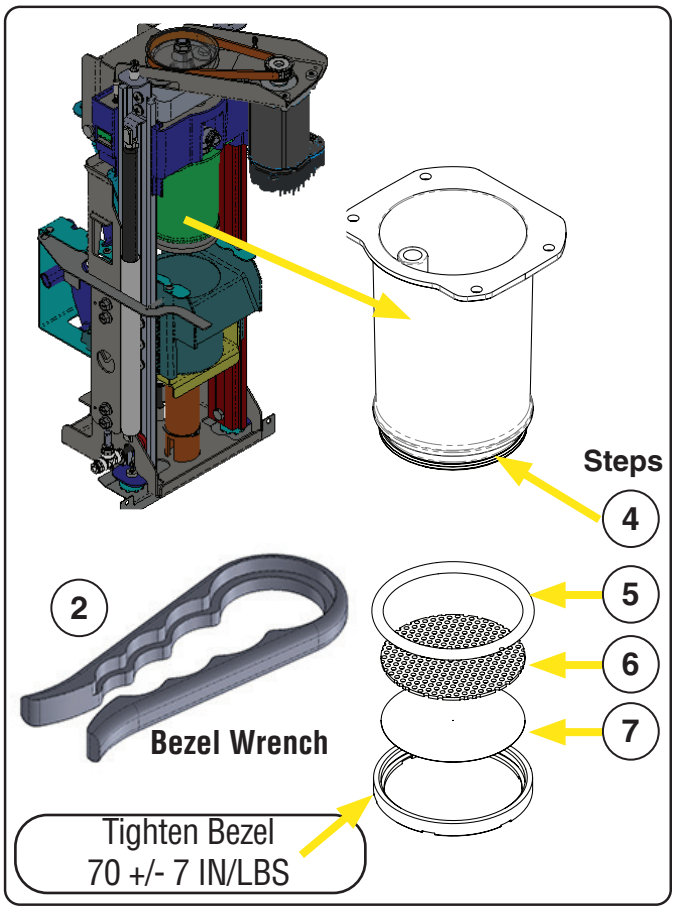


Step 4: Unscrew upper brew piston bezel to access screen. Retain the bezel and support plate. Clean upper piston and o-ring groove with a damp cloth.

NOTE: Bezel wrench can be used to loosen upper piston bezel.

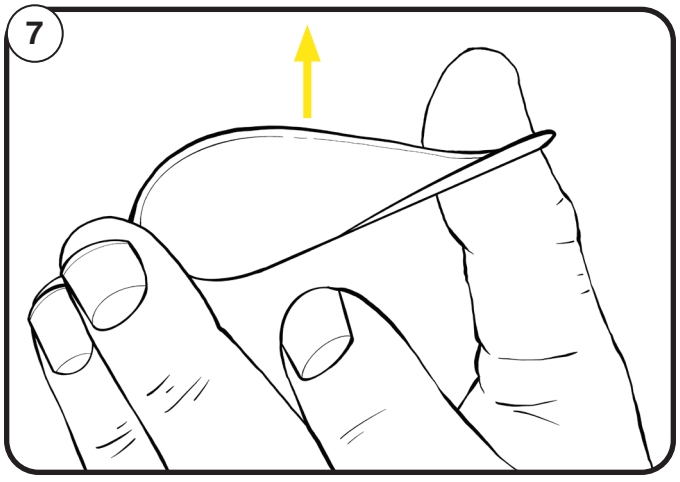
Step 5: Replace upper piston o-ring with 55166.0000

Step 6: Inspect the screen for wear and clean.



Step 7: Install new screen (Item 30) from PM kit into the bezel with curved edge facing upward in the bezel. Re-install support plate on top of new screen and screw bezel back onto upper brew piston.
Tighten bezel to 70 +/- 7 in/lbs.

NOTE: The new screen from the 20k PM kit will be slightly curved during replacement until bezel is tightened to 70 +/- 7in/lbs.



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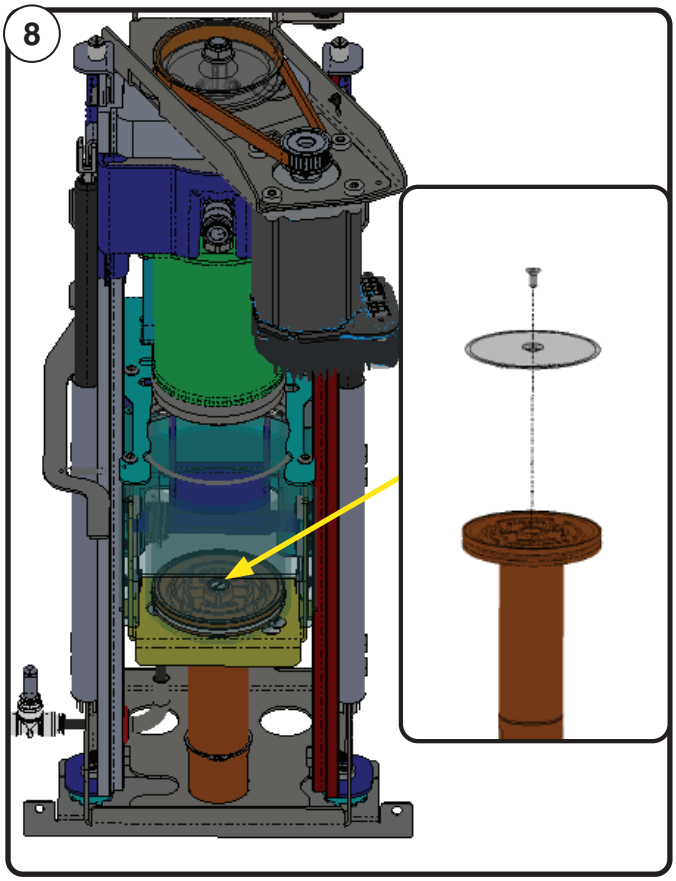
Brew Module PM Steps (cont)

Step 8: Remove lower piston screen via screw. Retain screw but discard screen.

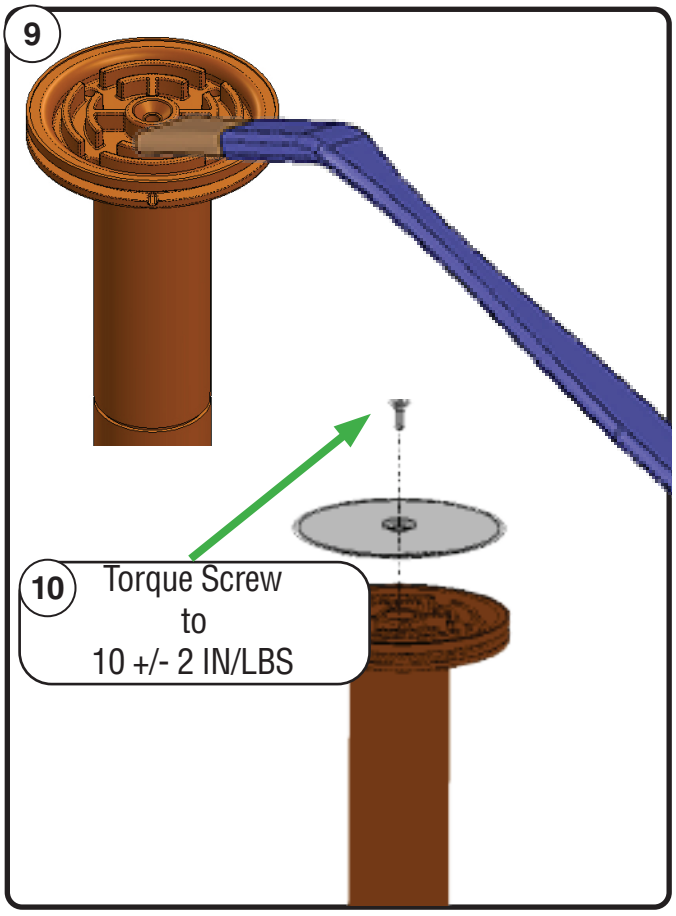
NOTE: Small 90 degree standard blade screwdriver will be used to access lower piston screen screw.



Step 9: Use nylon brush to clean top surface of lower piston.

Step 10: Install new screen (Item 33) from PM kit and secure with the retained screw from step 8.

Torque the screw to 10 +/- 2 IN/LBS.



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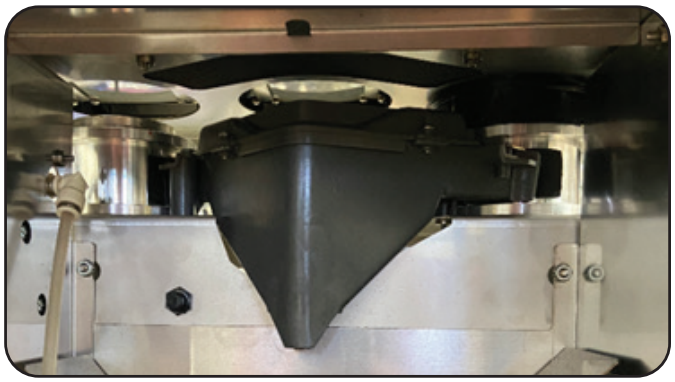
Grounds Manifold Inspection

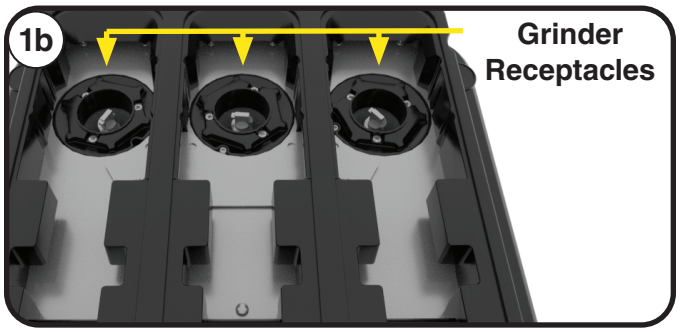
Locate the grind manifold behind where the brew module was before removal. If the color of the manifold is black or white, you will need to further inspect the manifold. If the color is gray, no inspection is required.



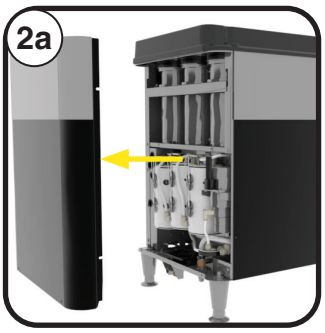
To inspect a white or black grinder manifold:

Step 1: a. Remove all bean hoppers.

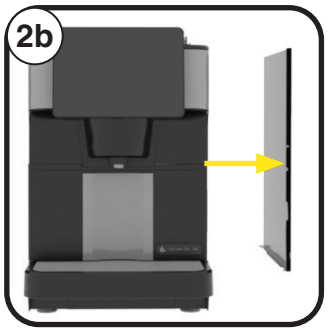
b. Remove remaining coffee beans from all the grinder receptacles by shop-vac.

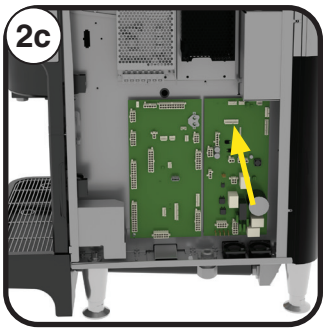


Step 2: a. First, remove rear panel and locate to panel wiring harness union connector and disconnect to be able to remove top panel.



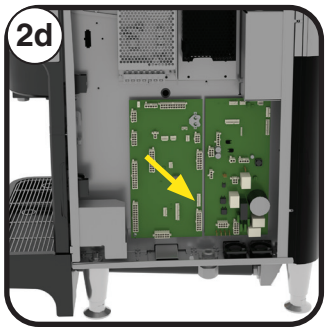
b. NOTE: Older Style machines will need the right panel removed to access top panel wiring harness connectors going to the control board.

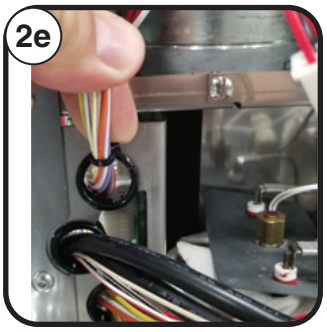




c. Disconnect J6-6 connector from high voltage board.

d. Disconnect J18-9 connector from control board.



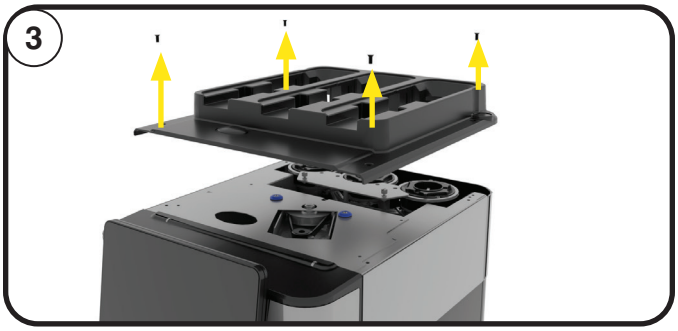


e. Route harness connectors through bracket opening to remove top panel.

continued >

Grounds Manifold Inspection (cont)

Step 3: With the top panel harness released in earlier step, remove 4 screws securing top panel and remove top panel.

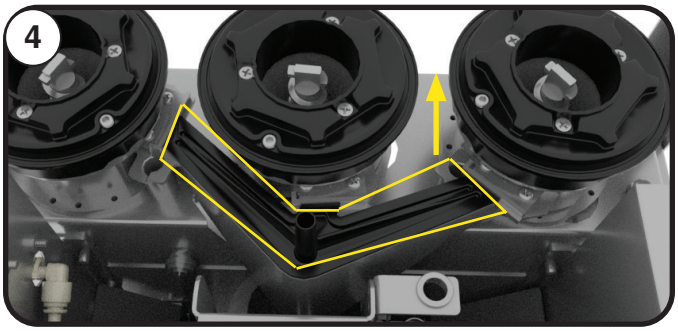


Step 4: Grinder Manifold Color Represents Criteria Action:

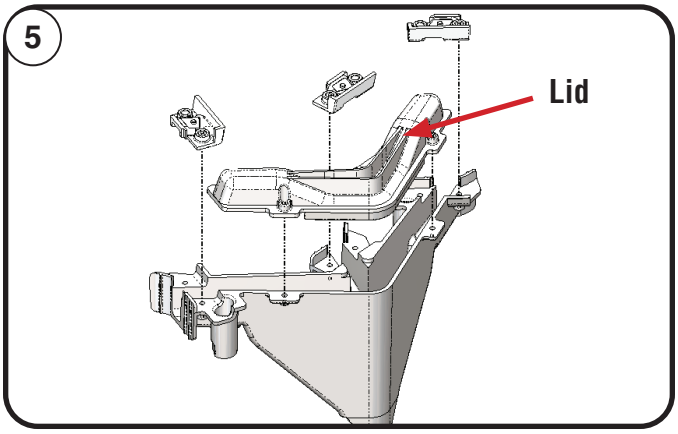
a. Gray Manifold - Pass

b. Black Manifold - Inspect and/or replace as needed.

c. White Manifold - Inspect and/or replace as needed.

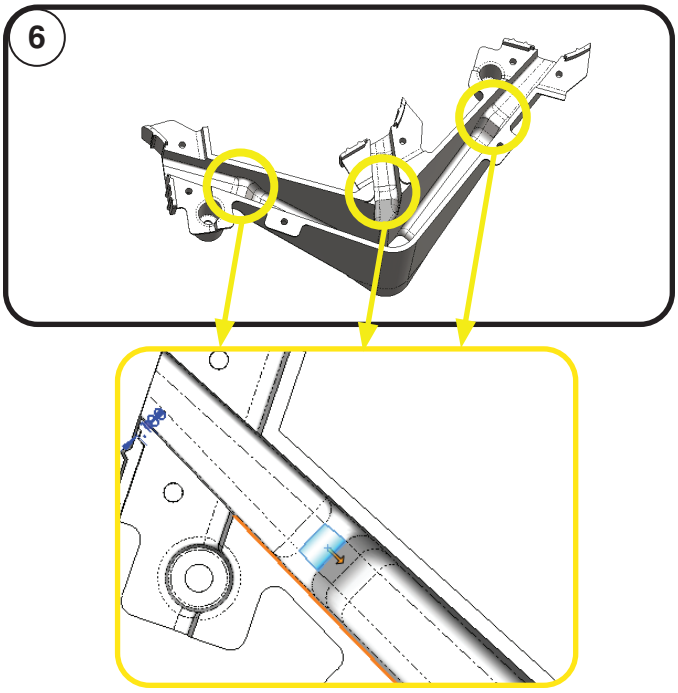


Step 5: Locate and remove 2 screws securing manifold lid. Remove manifold lid.



Step 6: Inspect all coffee ground internal speed bumps for wear near all three coffee ground manifold inlets. If speed bump is worn smooth (flat), service technician will need to order and replace grinder manifold.

NOTE: grinder manifold kit 57513.1000.



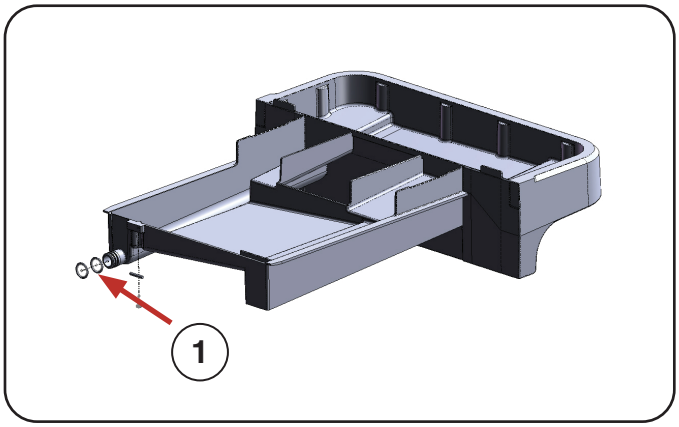
continued >

FAST CUP® 20,000 DRINKS - O-RINGS, NOZZLE AND FILTER

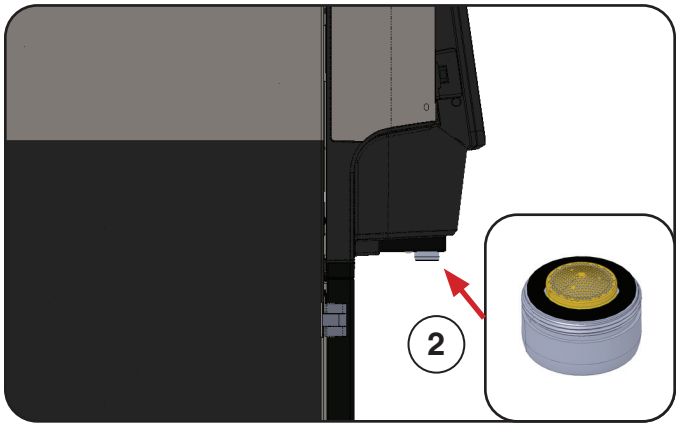
O-rings and Dispense Nozzle PM Steps

Step 1: Remove drip tray from machine and remove o-rings from tray fitting. Discard o-rings.

Install new o-rings (Item 37) from PM kit onto tray fitting and re-install drip tray into machine.



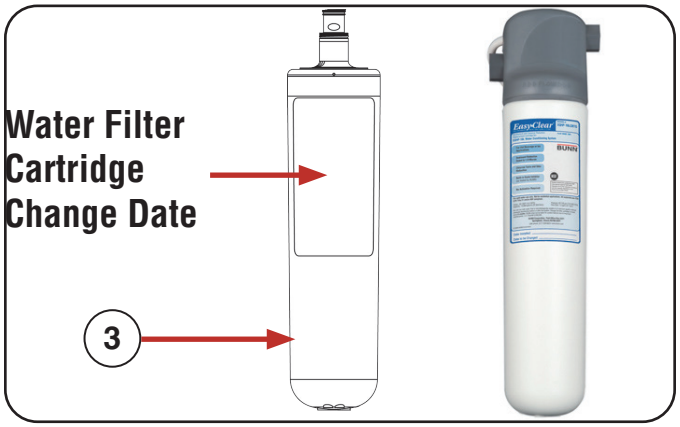
Step 2: Unscrew dispense nozzle from the machine. Discard nozzle. Install new nozzle (Item 40) from PM kit.



Machine Water Filter Cartridge Replacement

Step 1: Locate machine water filter. If applicable, change out the water filter cartridge.

Purge 2.5 gallons through new water cartridge before connecting to machine. Document filter cartridge change date onto the filter decal.



Internal Cleaning Instructions

Step 1: Inspect the inside of the machine where the brew module is mounted. Remove all coffee grounds with a brush and vacuum grounds from the area. Wipe areas clean with a damp cloth.

continued >

FAST CUP® 20,000 DRINKS - BREW MODULE RE-INSTALLATION

Internal Cleaning Instructions

Step 2: Inspect the drain lines that empty into the drip tray and remove all coffee grounds from the area with a brush and Wipe area clean with a damp cloth.

Brew Module Re-Installation

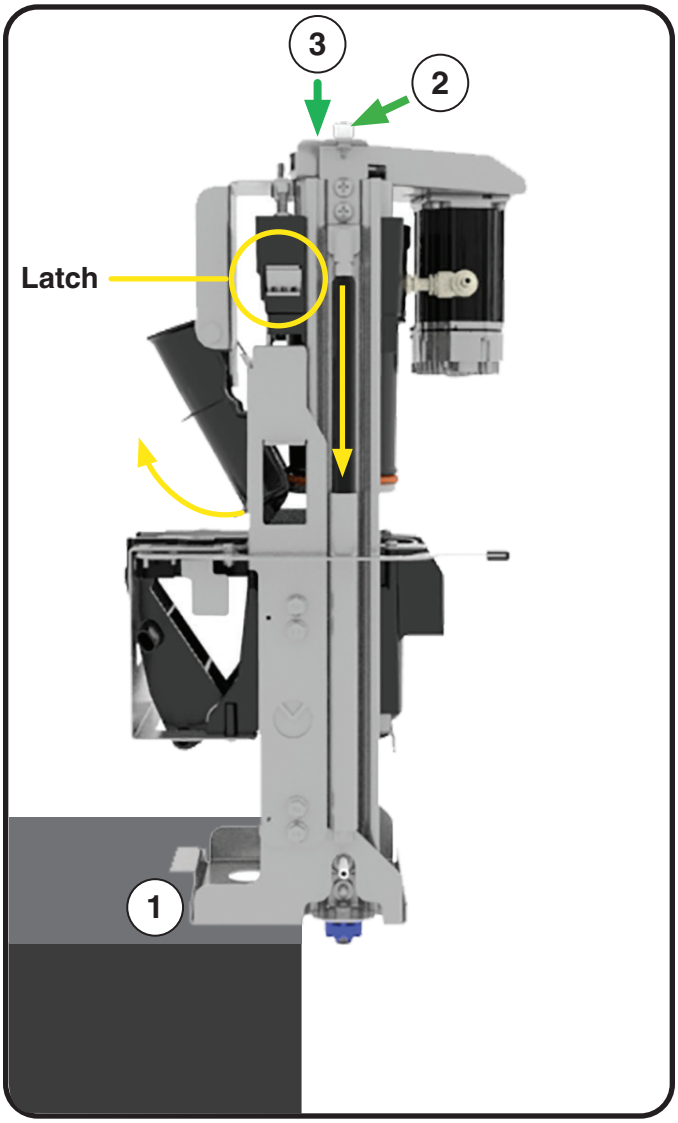
Hint: Easier to install module back into the brewer frame when the brew module latch system is engaged.

NOTE: All illustrations are shown with the Early style Brew Module mounting base plate.

Step 1: If the Brew Module is not already latched, position Brew Module upright with flat bottom on edge of table and module mounting bracket away from table.

Step 2: Place hand on top of brew module.

Step 3: Push downward to compress the lower piston with brew screen further into the brew chamber.

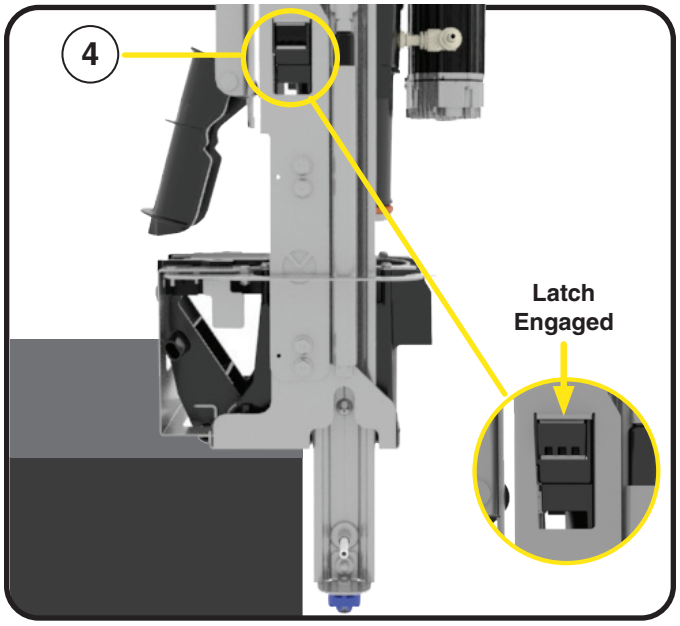


continued >

FAST CUP® 20,000 DRINKS - BREW MODULE RE-INSTALLATION

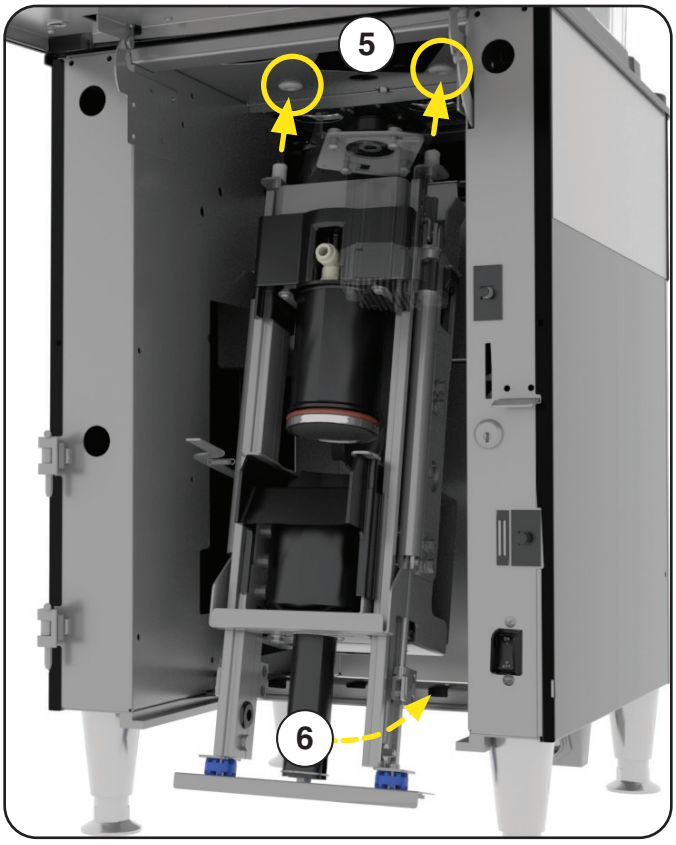
Brew Module Re-Installation (Cont)

Step 4: Compress until the upper latch system fully engages in the slots (locked position).



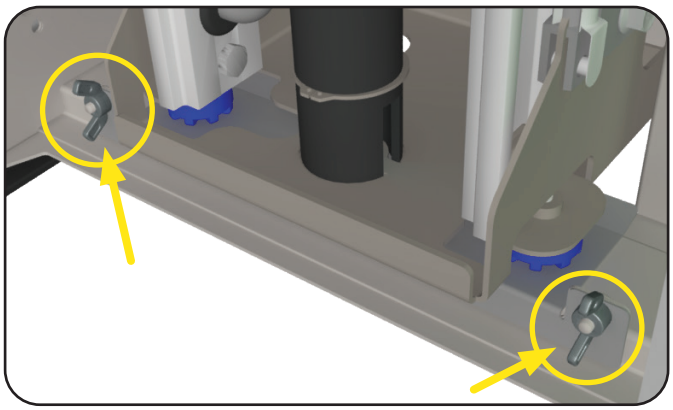
Step 5. Align studs on top of Brew Module with holes in top of machine interior.

Step 6. Swing bottom of Brew Module to align metal plate with Thumb Screw holes.



Step 7. Replace 2 Wing nut Screws to secure the brew module in place.

NOTE: Early style brew modules have thumbscrews instead of wing nuts.

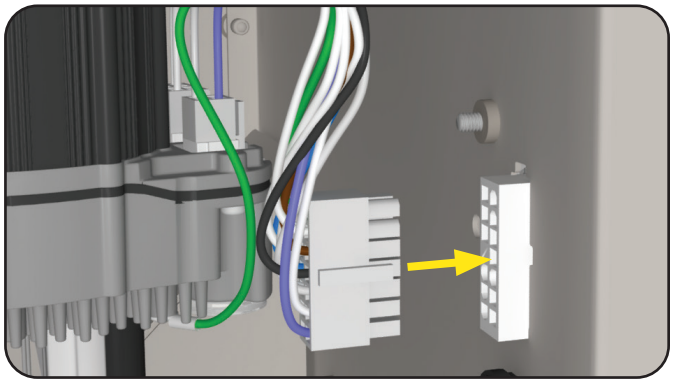


continued >

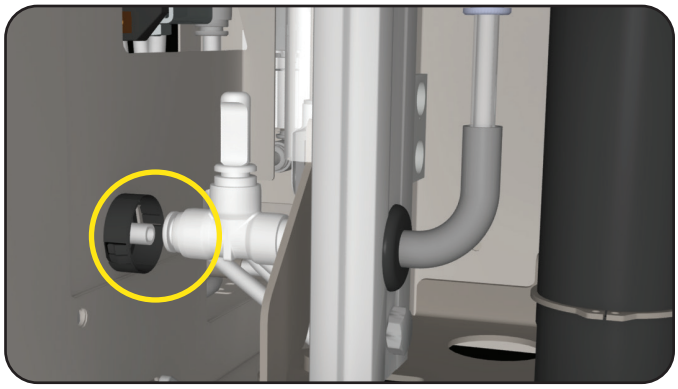
FAST CUP® 20,000 DRINKS - BREW MODULE RE-INSTALLATION

Brew Module Re-Installation (Cont)

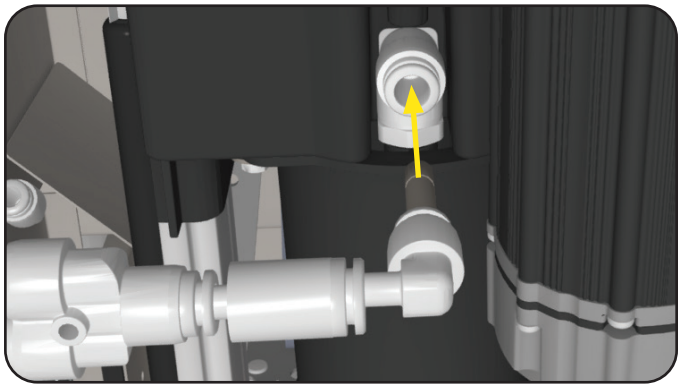
Step 8. Connect the Harness Connector located on the right side of Motor.



Step 9. Connect the lower plumbing to the brew module.



Step 10. Connect the upper plumbing to the brew module.



Step 11. Place Inner Panel into brewer, then tighten 4 Thumb Screws that secure the panel.

Step 12. Install Swiper

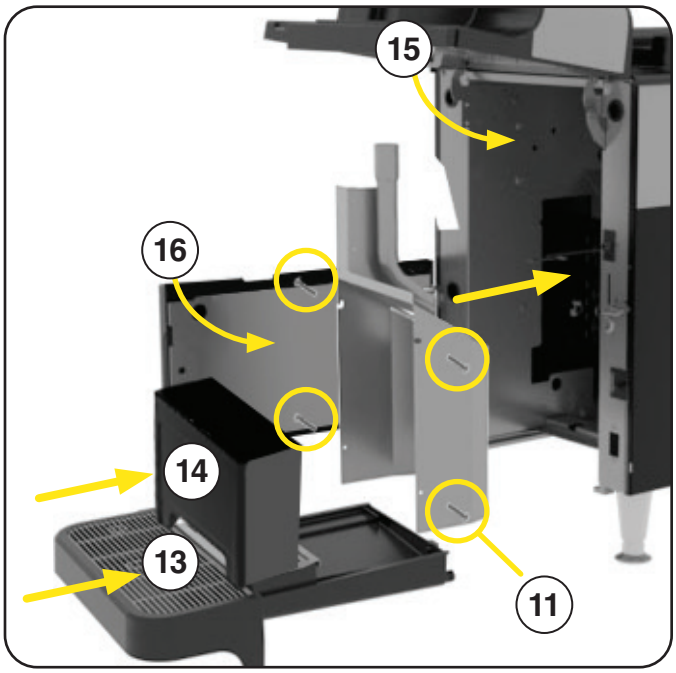
Step 13. Install Drip Tray.

Step 14. Install Waste Bin.

Step 15. Close upper Front Door.

Step 16. Close lower Front Door.

Step 17: Plug in the machine and turn the power switch On.



continued >

FAST CUP® 20,000 DRINKS -SOFTWARE

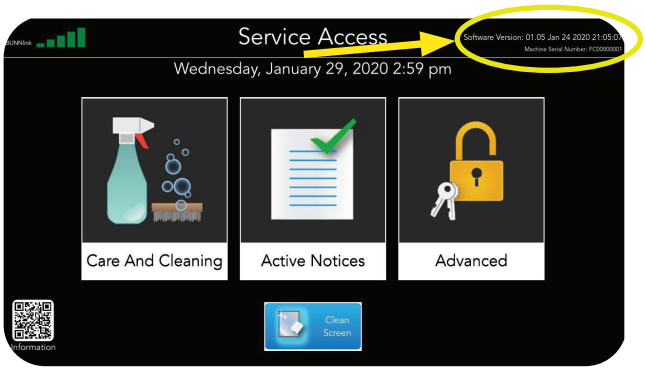
Software Update

Step 1. Power on the machine and from the home screen, press and hold the BUNN logo to view Service Access screen. The software version is shown in the upper-right corner of the screen.

Step 2. Visit learningcenter.bunn.com and click on Software Downloads. For Guest access, enter password:"usbupdate"

Step 3. Click on Fast Cup and compare the software versions with the machine. If a newer software is available, download the file and load it on a USB storage device. Instructions for loading the USB device is shown on the software page.

Step 4. Scan the QR code on the right to view a video on how to update software for Fast Cup.

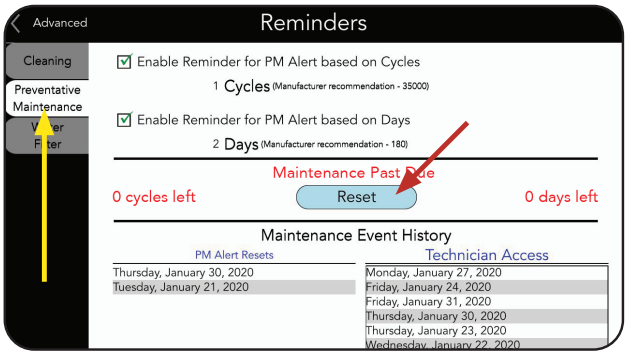


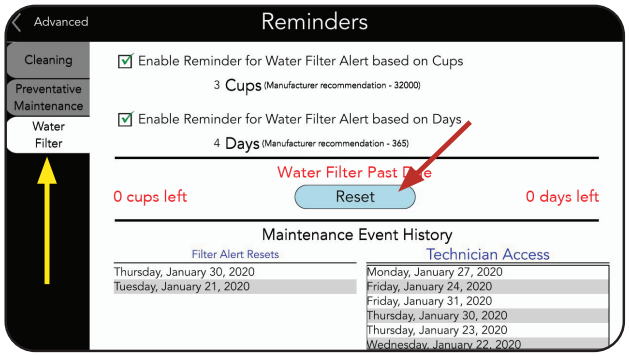
Scan for Software Update Video

Machine PM & Water Filter Reminder Alert Reset

Step 1: Go to the BUNN Website and look up Fast Cup Programing Manual on how to access, navigate and operate the PM and Water Filter Reminder Alert menus. If the menus have been enabled, the PM and Water Filter Reminder Alerts will need to be reset after performing the 20k PM service. Select Preventive Maintenance and/or Water Filter tab. Touch the Maintenance and/or Water Filter Reset button to reset reminder alert.

NOTE: Ensure new water filter cartridge has next Change Date written on the cartridge decal.





Grinder Calibration

Step 1: After performing preventive maintenance and re-installation of the Brew Module (See: Fast Cup 20,000 Drinks - Brew Module Re-Installation), go to the BUNN Website and look up Fast Cup Install & Operating Manual on how to access, navigate, operate and calibrate the machine coffee grinders.

Scan for Grinder Calibration Video

FAST CUP®
80k Drinks Preventive Maintenance Kit

To Be Performed by Qualified Personnel Only

PM Level: 80,000 Cycles
Brewer Type: Fast Cup
Part Number: 55400.2001 - PM Kit, FAST CUP 80k

Kit Contents:

Part Number	Description	Quantity
54933.1020	Kit, Tray Assy Drip with Magnet - Fast Cup	1
57513.1000	Grinder Manifold	1
55664.0000	Nozzle, Laminar Flow Dispense	1
54532.1032	Kit, Brew Module W/O Motor	1
55599.0001	Seal, Grinder Manifold Adhesive Backed	3

PURPOSE
Regular preventative maintenance is essential for the brewer. This ensures a long service life and a high quality product dispensed from each cycle. A PM service visit is not just replacing the parts that come in the PM kit; the brewer should be checked for the most current software, be cleaned and each system evaluated for any potential issues that may occur in the future. A PM creates opportunity for store level training on use, maintenance, and cleanliness and builds goodwill with the customer. View each PM visit as an opportunity to go above and beyond for the customer.

PREPARATION
Determine if the brewer can be serviced in place or if it will need to be moved to a suitable area. Review any concerns or ongoing issues with the manager that would need to be addressed during the PM visit. Review the brewer's error history in the Event Log on the Server Access screen for open or ongoing issues. Locate the brewer's water filter, electrical connection point or circuit breaker, drain connection, and water supply connection. Clear a suitable work area around the brewer, ask the location manager to provide you with a suitable location to relocate any items that may be around the brewer temporarily (i.e. cups, syrups, pitchers, etc.)

FILTRATION
The water filtration is the customer's responsibility, and should be replaced every 6 months. Check the date on the water filter cartridge. If the water filter needs to be replaced, inform the customer you will replace it. The cartridge will be billed separately from the PM. Add the cartridge as a separate part line on your work order.
56000.0120 - WEQ-SCALE-PRO.X CARTRIDGE
56000.0121 - WEQ-10(1.5)5L Cartridge
56000.0122 - WEQ-10(1.5)5 Cartridge

NOTE: Choosing a filter is dependent on water quality in the area.

BUNN-O-MATIC CORPORATION
POST OFFICE BOX 3227
SPRINGFIELD, ILLINOIS 62708-3227

FAST CUP® 80,000 DRINKS - REMOVING BREW MODULE

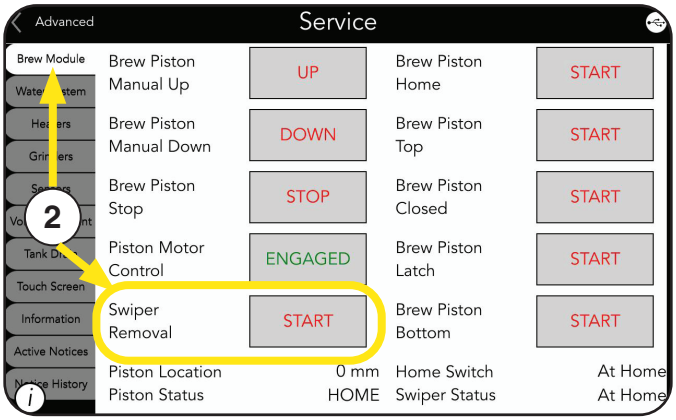
Brew Module Removal Instruction

Step 1: Enter Service Technician Mode and select Service icon.

Step 2: Select and enter the Brew Module tab. Touch the Swiper Removal Start button.

NOTE: The Brew Piston will move to the Latch position.

Step 3: Disconnect machine from main power and water supply.



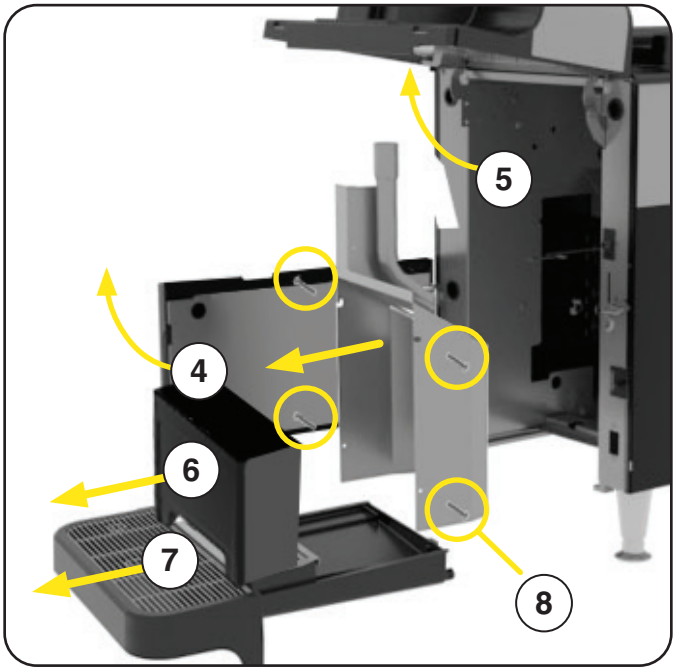
Step 4: Open lower front door.

Step 5: Open upper front door.

Step 6: Remove Waste Bin.

Step 7: Remove drip tray.

Step 8: Remove Qty-4, thumb screws securing the inner panel. Remove panel.

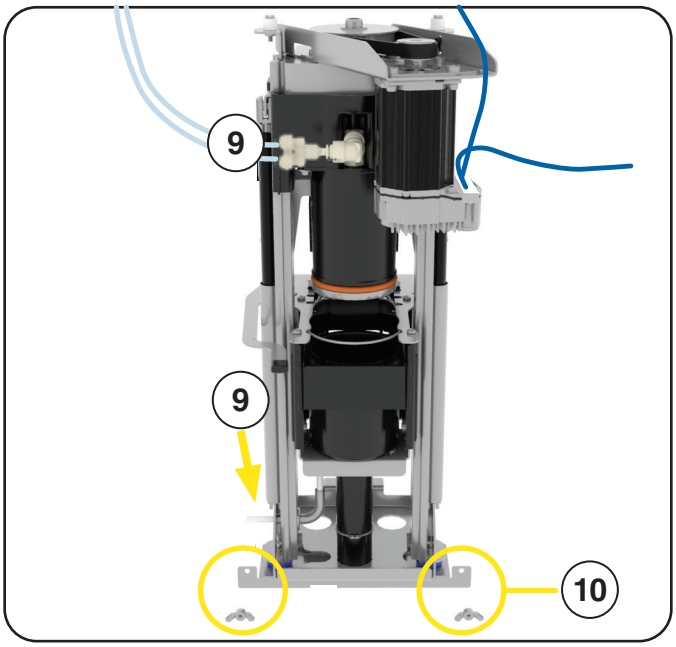


Step 9: Disconnect upper and lower brew tubes going to the push-in fittings.

Step 10: Remove Qty-2, thumb screws or wing nuts at the bottom of the Brew Module.

NOTE: **Early Style** - Thumbscrews (vertical position)

Current Style - Wing nuts (facing toward front)



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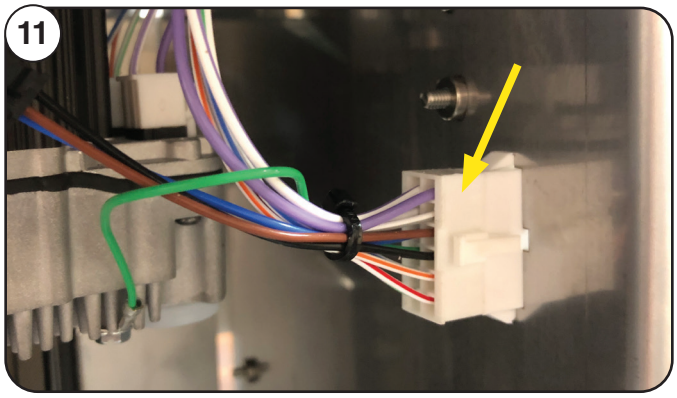
FAST CUP® 80,000 DRINKS - REMOVING BREW MODULE

Brew Module Removal Instruction (cont)

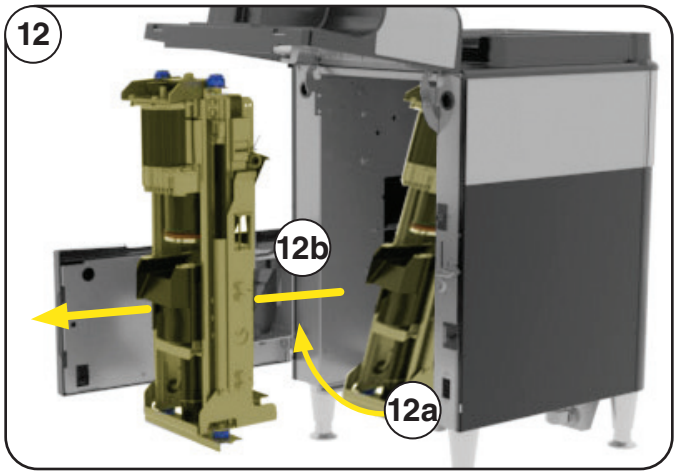
Step 11: Disconnect the brew motor connector.



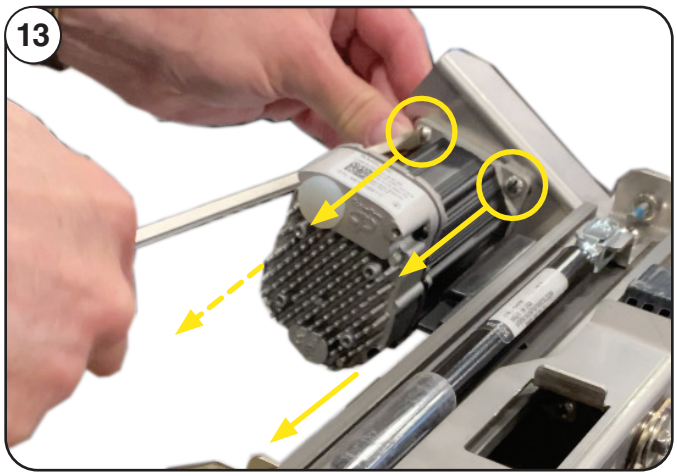
Step 12: Remove Brew Module

a) Grab the bottom of the brew module.

b) Gently pull outward to remove brew module from the brewer.



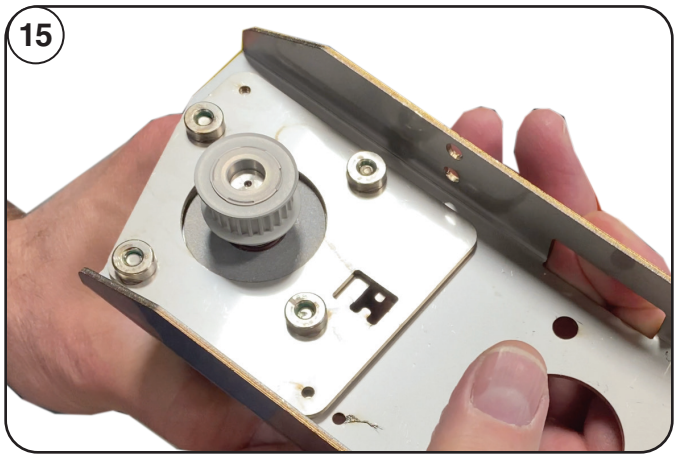
Step 13. Remove 4 screws from bottom of Motor Mounting Plate.



Step 14. Remove Belt from Pulleys.

Step 15. Remove Motor from Mounting Plate.

NOTE: Keep Belt and Motor for NEW Brew Module.



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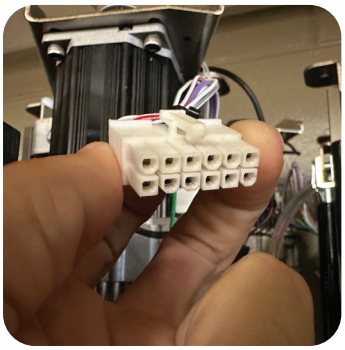
FAST CUP® 80,000 DRINKS -BREW MODULE CONVERSION

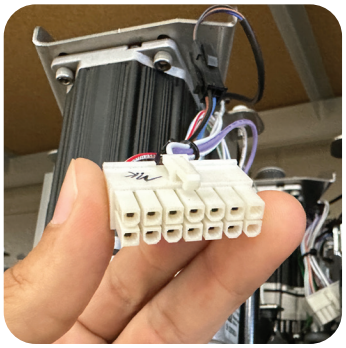
Brew Module Identification

NOTE: A FAST CUP® machine being encountered out in the field may be an Early or Current style machine.

The machine being serviced, the Brew Module will need to be identified as an early or current style module. A couple of extra steps will need to be completed with the Brew Module (current style) in the PM kit for proper placement back into an existing early style machine.



12 pin - Early Style

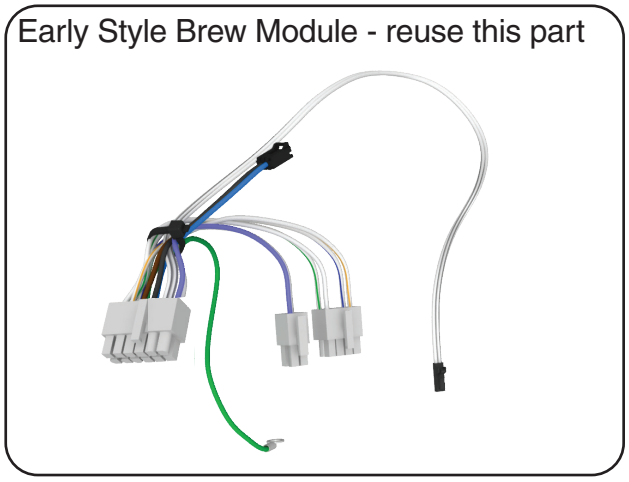


14 pin - Current Style

a) Brew Module/Motor Wiring Harness/Connector

Early Style: If a 12 Pin Harness/Connector is found, re-use the 12 pin motor wiring harness.

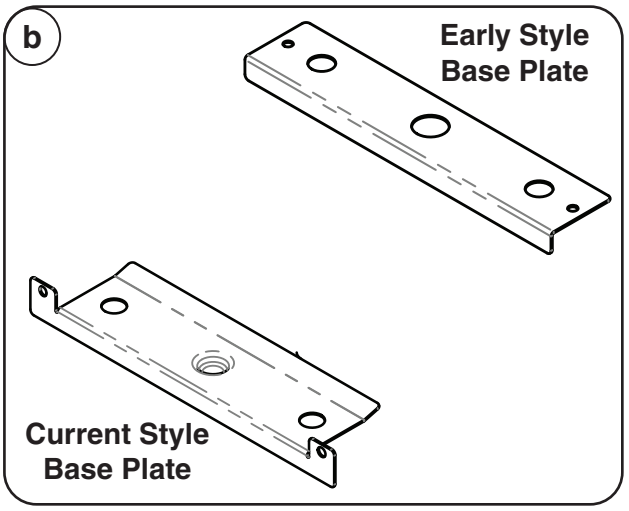
Current Style: If a 14 Pin Harness/Connector is found, then no conversion needed.



b) Brew Module Mounting Base Plate

Early Style: Mounting of the Brew Module base plate in a machine will have thumb screws that install vertically through the module base plate to secure the module in the machine.

Current Style: Mounting of the Brew Module base plate in a machine will have wing nuts facing toward the front that secures the module in the machine.



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FAST CUP® 80,000 DRINKS -BREW MODULE CONVERSION

Brew Module Mounting Base Plate (cont)

Step 1: The current style Brew Module in the 80k PM kit may have a different mounting plate that uses wing nuts and will need to be swapped with the Early Style Brew Module mounting plate.

Step 2: Remove 2 screws (28) from both brew modules.

Step 3: Remove the mounting plate bracket from both brew modules.

NOTE: Observe how the spacers and washers are arranged.

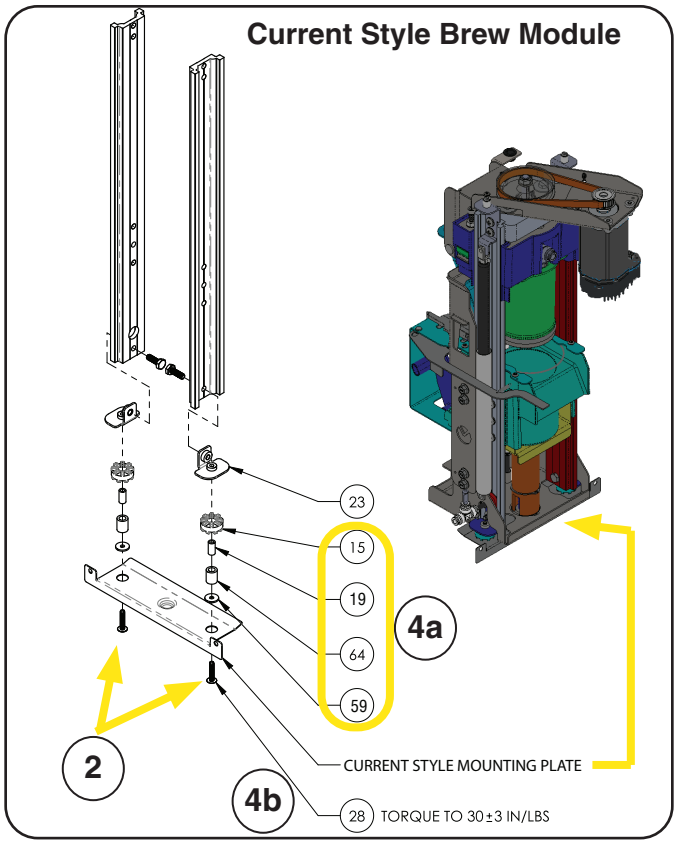
NOTE: This is a good time to clean the mounting bracket.

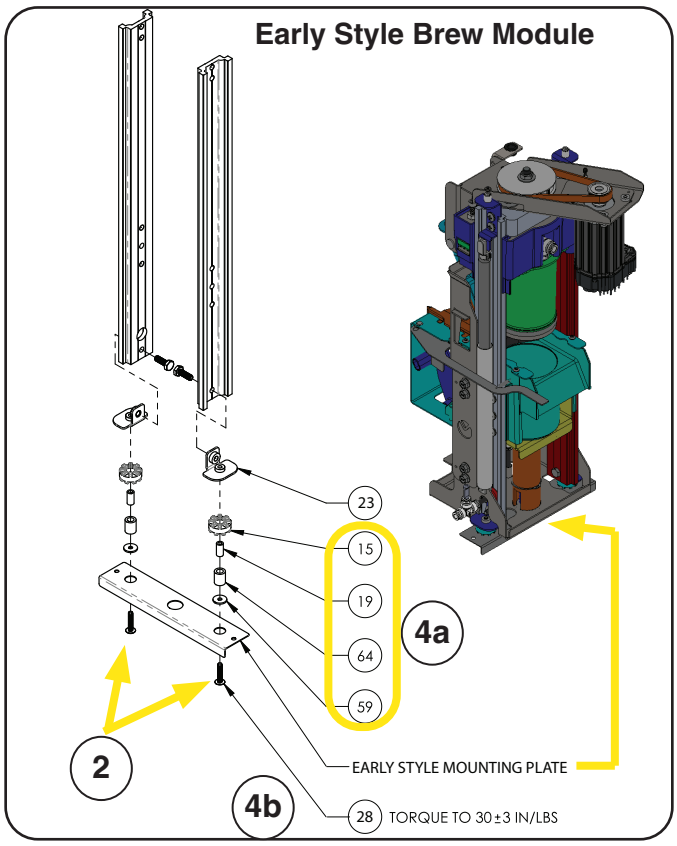
Step 4: Install the Early Style (to match your machine) mounting bracket on the current brew module.

a) Make sure the spacers and washers (15,19, 64 & 59) are installed in the proper order. The new ones should be used, but old or new, they are the same.

b) Tighten the 2 screws (28) and torque to 30 +/- 3 in-lbs.

Step 5: The new brew module with the Early Style mounting bracket is now ready for re-installation after servicing Grounds Manifold (next section).





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FAST CUP® 80,000 DRINKS - BREW MOTOR INSTALL

Installing Motor and Belt on NEW Brew Module

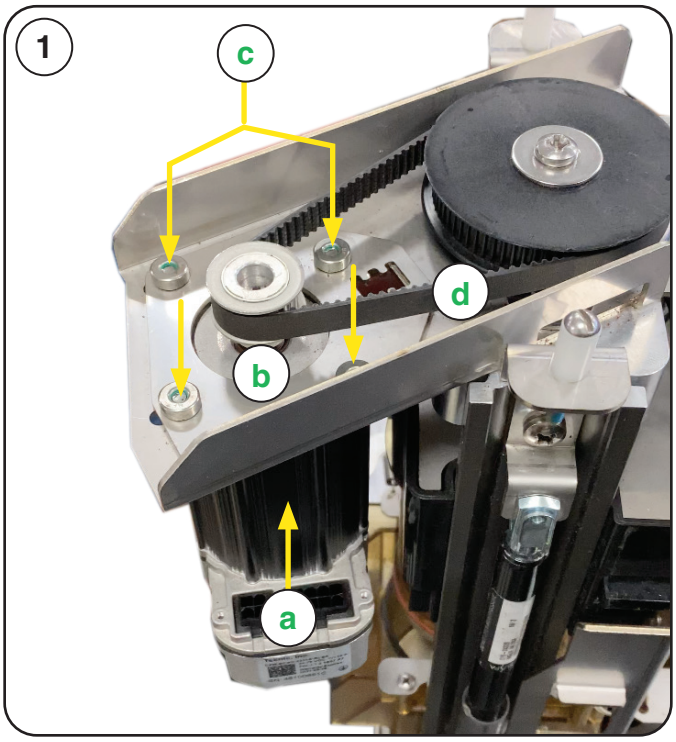
Step 1. Installing Motor.

a. Place Motor through bottom of Funnel Bracket.

b. Place Mounting Plate on top of Funnel Bracket.

c. Insert 4 screws into Motor plate, then up through Mounting Plate and into nuts.

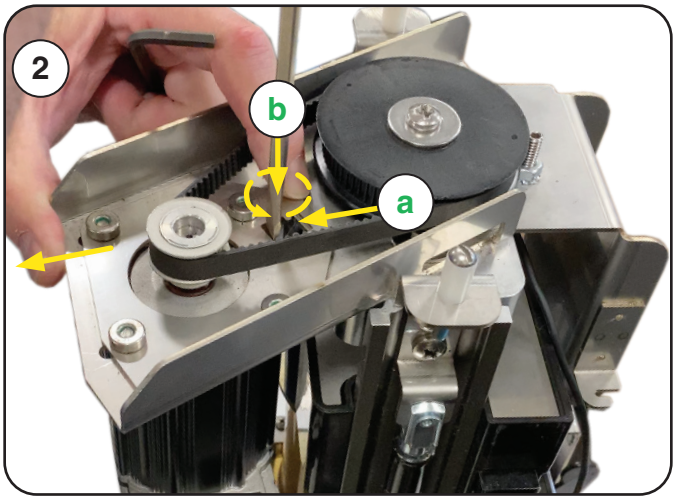
d. Place Belt on both Pulleys.



Step 2. Creating the suggested 1/8 inch play in the tension of each side of the Belt:

a. Place wide, flat head screwdriver in slot on top of the Mounting Plate.

b. Twist screw driver to move Mounting Plate to create tension in Belt.



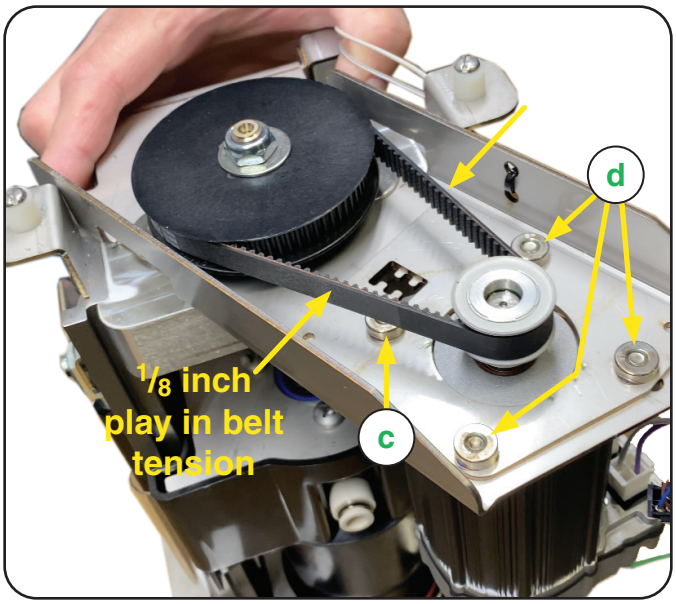
c. When tension in Belt is satisfactory, tighten the back screw first.

NOTE: Screw is located closest to the slot used by the Screwdriver.

NOTE: Tightening this screw first assures that the Belt and Pulleys stay level.

d. Tighten 3 remaining screws.

NOTE: The 4 screws should be torqued to 30 +/- 3 in-lbs.



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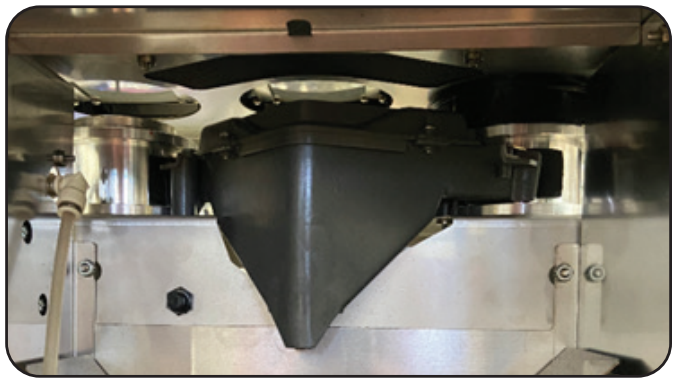
Grounds Manifold Inspection

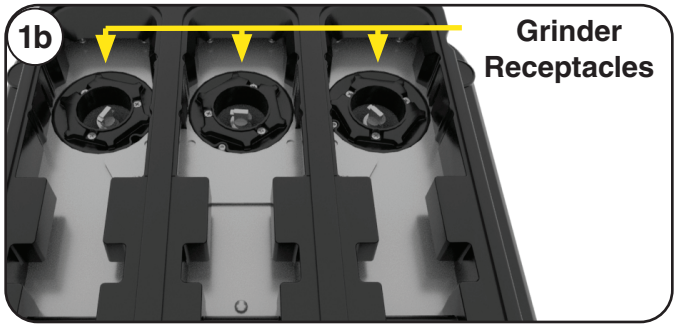
Locate the grind manifold behind where the brew module was before removal. If the color of the manifold is black or white, you will need to replace the manifold. If the color is gray, no replacement is required.



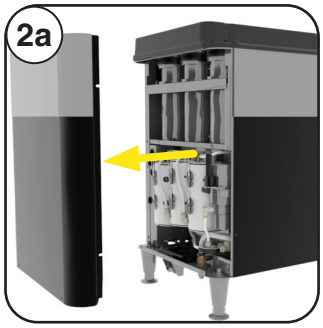
To replace a white or black grinder manifold:

Step 1: a. Remove all bean hoppers.

b. Remove remaining coffee beans from all the grinder receptacles by shop-vac.

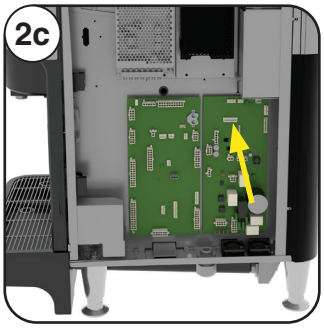


Step 2: a. First, remove rear panel and locate to panel wiring harness union connector and disconnect to be able to remove top panel.



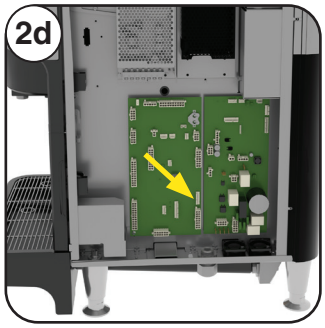
b. NOTE: Older Style machines will need the right panel removed to access top panel wiring harness connectors going to the control board.

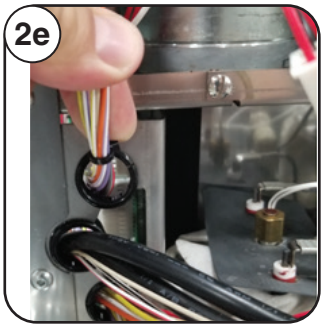
c. Disconnect J6-6 connector from high voltage board.



d. Disconnect J18-9 connector from control board.

e. Route harness connectors through bracket opening to remove top panel.



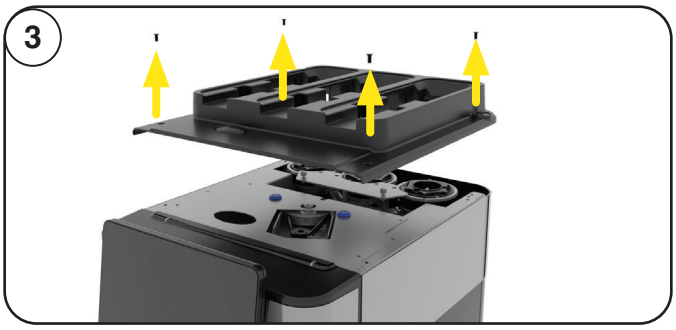


continued >

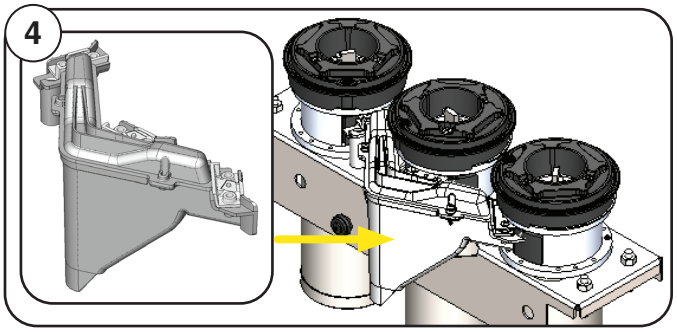
FAST CUP® 80,000 DRINKS - PM INSPECTION

Grounds Manifold Inspection (cont)

Step 3: With the top panel harness released in earlier step, remove 4 screws securing top panel and remove top panel.

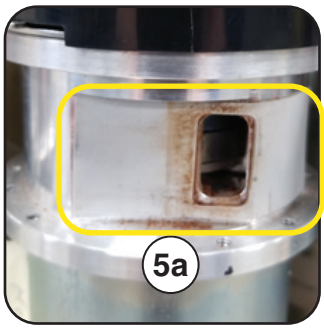


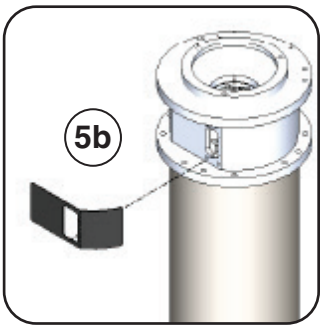
Step 4: Remove the grinder manifold and Install new Manifold Assembly from 80k PM kit.



Step 5: a. The old Style white and gray grinder outlet seal will need to be replaced with the new black seal from the 80k PM kit.

b. If new black style seal exists, inspect/ clean and replace if needed.





Drip Tray PM Steps

Step 1: Replace drip tray with the new assembly provided in the kit.

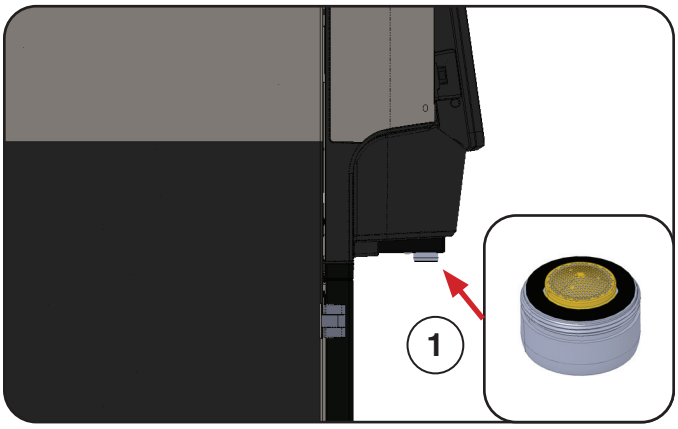
NOTE: Do not install the new drip tray until the brew module is re-installed.

continued >

FAST CUP® 80,000 DRINKS - NOZZLE AND FILTER

Dispense Nozzle PM Instruction

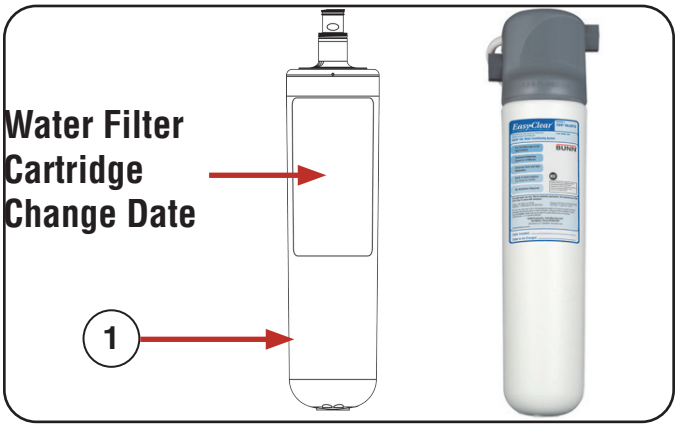
Step 1: Unscrew dispense nozzle from the machine. Discard nozzle. Install new nozzle (Item 40 from PM kit.



Machine Water Filter Cartridge Replacement

Step 1: Locate machine water filter. If applicable, change out the water filter cartridge.

Purge 2.5 gallons through new water cartridge before connecting to machine. Document filter cartridge change date onto the filter decal.



Internal Cleaning Instructions

Step 1: Inspect the inside of the machine where the brew module is mounted. Remove all coffee grounds with a brush and vacuum grounds from the area. Wipe areas clean with a damp cloth.

Step 2: Inspect the drain lines that empty into the drip tray and remove all coffee grounds from the area with a brush and Wipe area clean with a damp cloth.

continued >

Brew Module Re-Installation

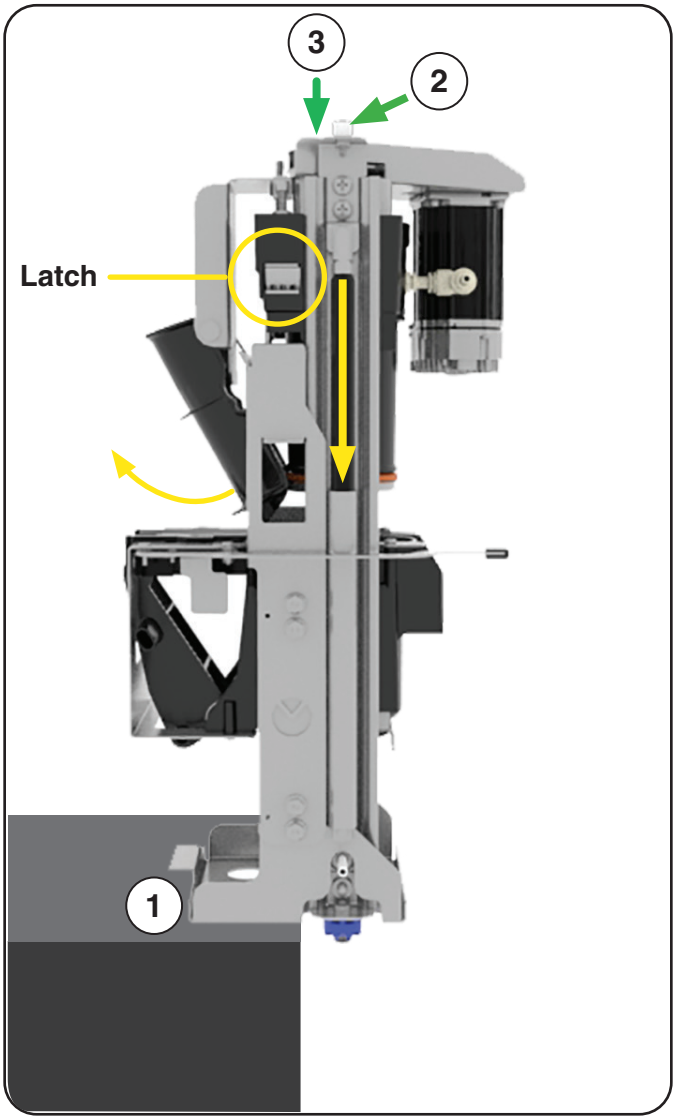
Hint: Easier to install module back into the brewer frame when the brew module latch system is engaged.

NOTE: All illustrations are shown with the Early Style Brew Module mounting base plate.

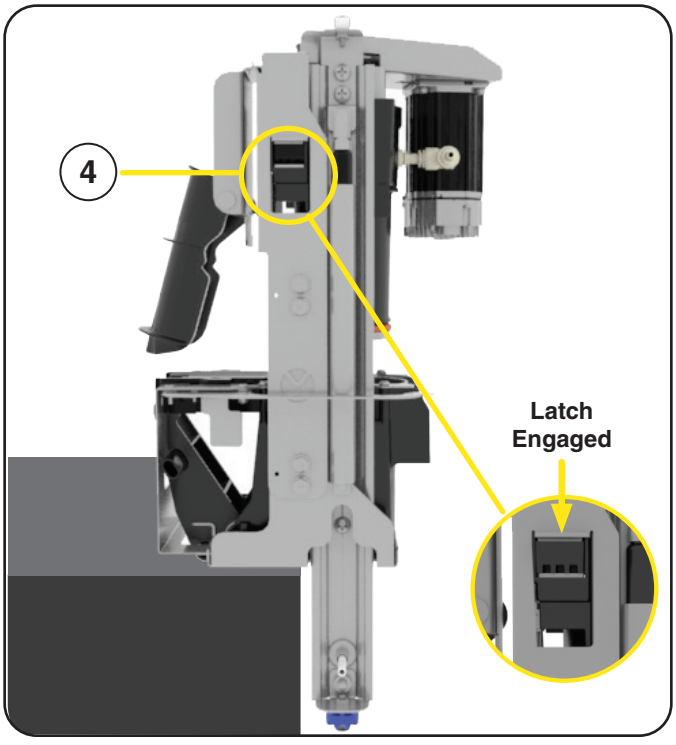
Step 1: If the Brew Module is not already latched, position Brew Module upright with flat bottom on edge of table and module mounting bracket away from table.

Step 2: Place hand on top of brew module.

Step 3: Push downward to compress the lower piston with brew screen further into the brew chamber.



Step 4: Compress until the upper latch system fully engages in the slots (locked position).

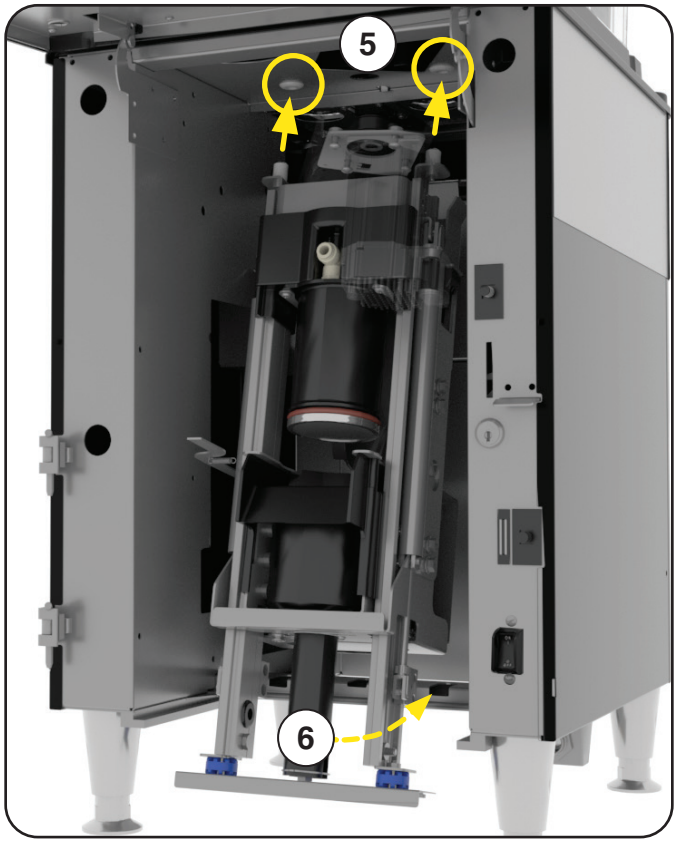


continued >

Brew Module Re-Installation (Cont)

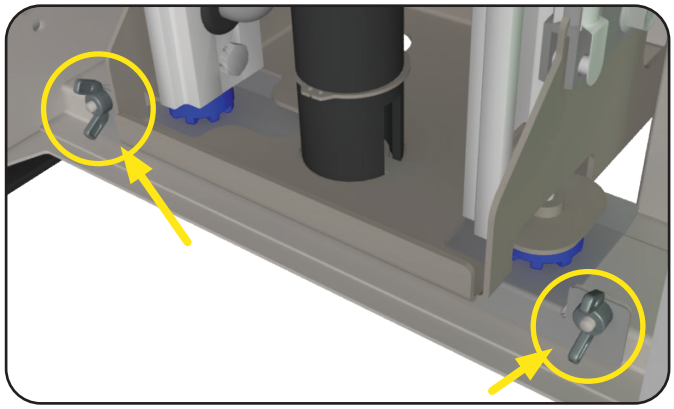
Step 5. Align studs on top of Brew Module with holes in top of machine interior.

Step 6. Swing bottom of Brew Module to align metal plate with Thumb Screw holes.

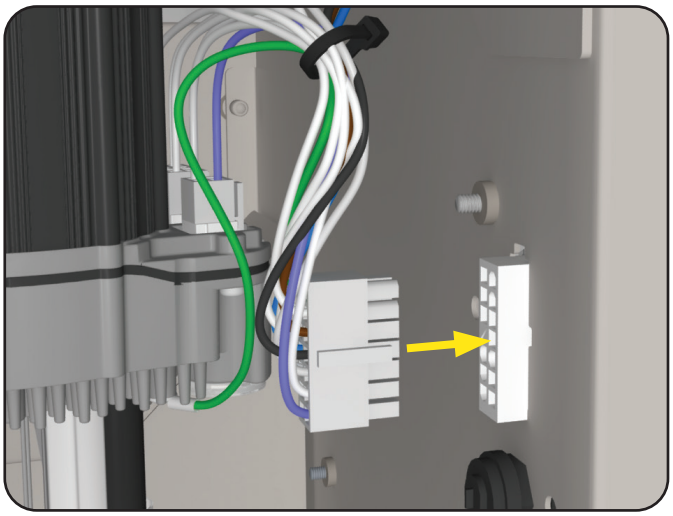


Step 7. Replace 2 Wing nut Screws to secure the brew module in place.

NOTE: Early style brew modules have thumbscrews instead of wing nuts.



Step 8. Connect the Wiring Harness connector located on the right side of Motor.

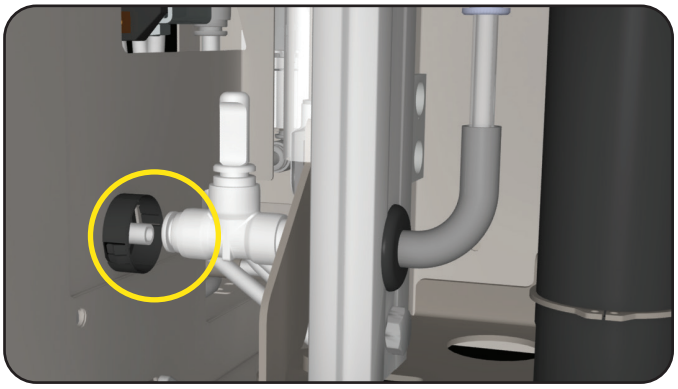


continued >

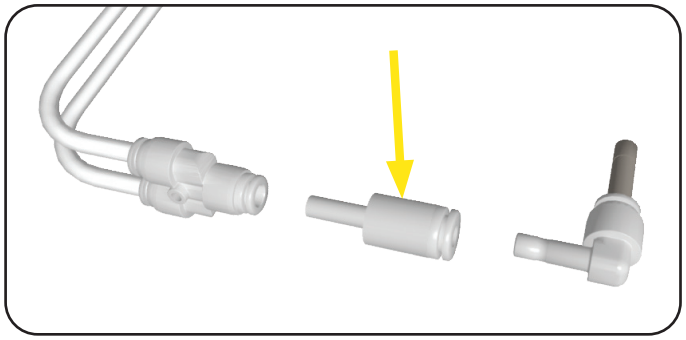
FAST CUP® 80,000 DRINKS - BREW MODULE RE-INSTALLATION

Brew Module Re-Installation (Cont)

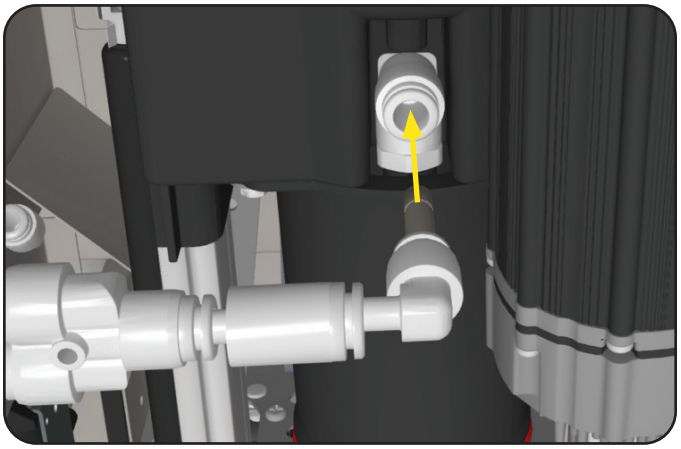
Step 9. Connect the lower plumbing to the brew module.



Step 10. Disconnect the upper brew module plumbing assembly and clean the filter fitting to ensure there are no grounds inside. Reconnect the components when clean.



Step 11. Connect the upper plumbing to the brew module.



Step 12. Place Inner Panel into brewer, then tighten 4 Thumb Screws that secure the panel.

Step 13. Install Swiper

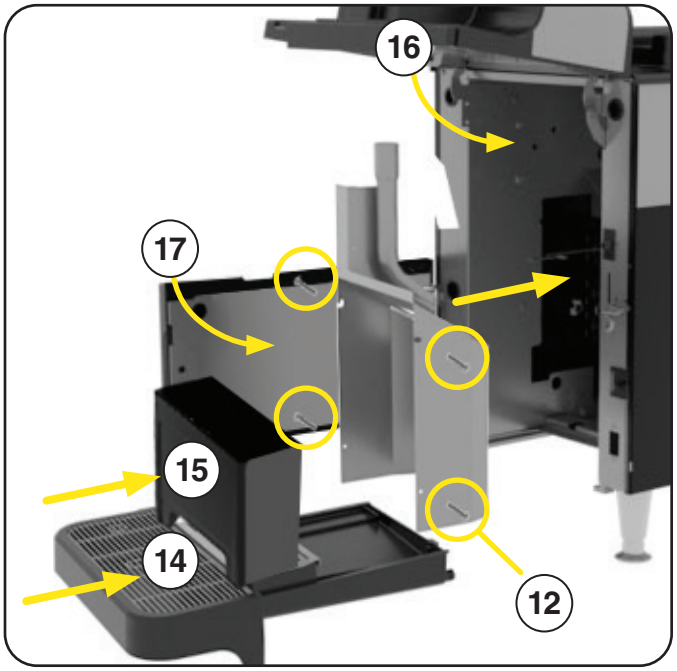
Step 14. Install Drip Tray.

Step 15. Install Waste Bin.

Step 16. Close upper Front Door.

Step 17. Close lower Front Door.

Step 18: Plug in the machine and turn the power switch On.



continued >

FAST CUP® 80,000 DRINKS -SOFTWARE

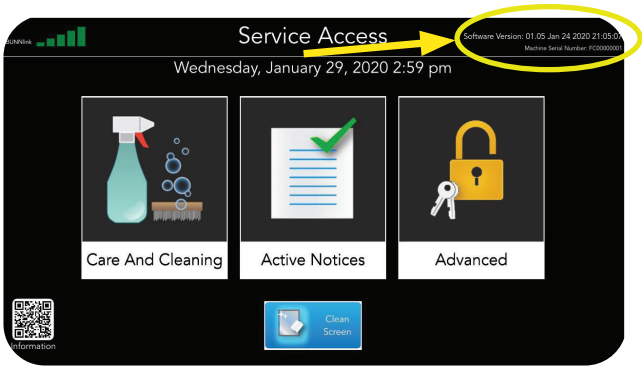
Software Update

Step 1. Power on the machine and from the home screen, press and hold the BUNN logo to view Service Access screen. The software version is shown in the upper-right corner of the screen.

Step 2. Visit learningcenter.bunn.com and click on Software Downloads. For Guest access, enter password:"usbupdate"

Step 3. Click on Fast Cup and compare the software versions with the machine. If a newer software is available, download the file and load it on a USB storage device. Instructions for loading the USB device is shown on the software page.

Step 4. Scan the QR code on the right to view a video on how to update software for Fast Cup.

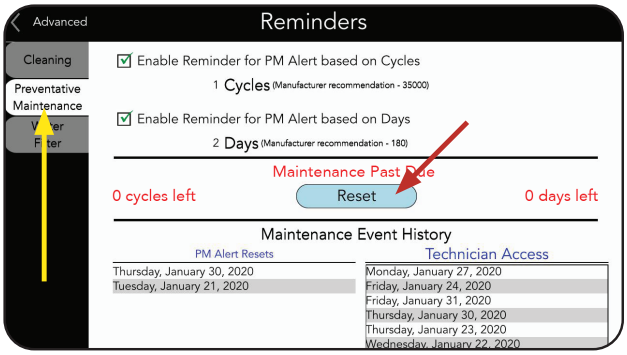


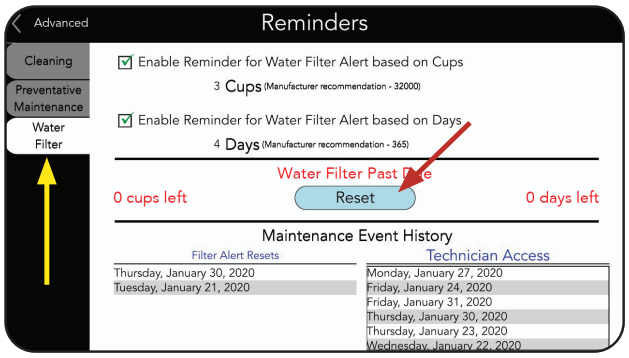
Scan for Software Update Video

Machine PM & Water Filter Reminder Alert Reset

Step 1: Go to the BUNN Website and look up Fast Cup Programing Manual on how to access, navigate and operate the PM and Water Filter Reminder Alert menus. If the menus have been enabled, the PM and Water Filter Reminder Alerts will need to be reset after performing the 20k PM service. Select Preventive Maintenance and/or Water Filter tab. Touch the Maintenance and/or Water Filter Reset button to reset reminder alert.

NOTE: Ensure new water filter cartridge has next Change Date written on the cartridge decal.



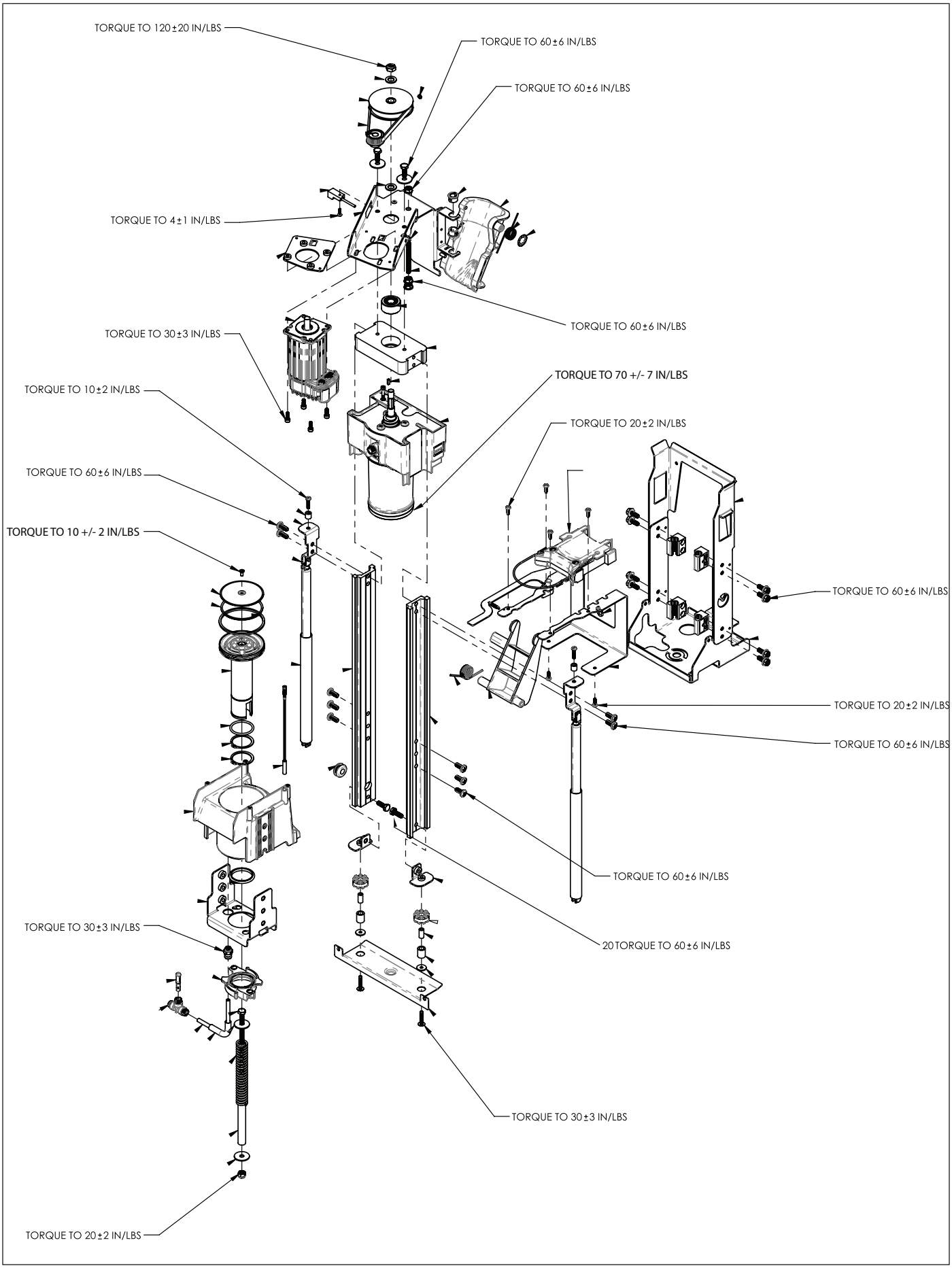


Grinder Calibration

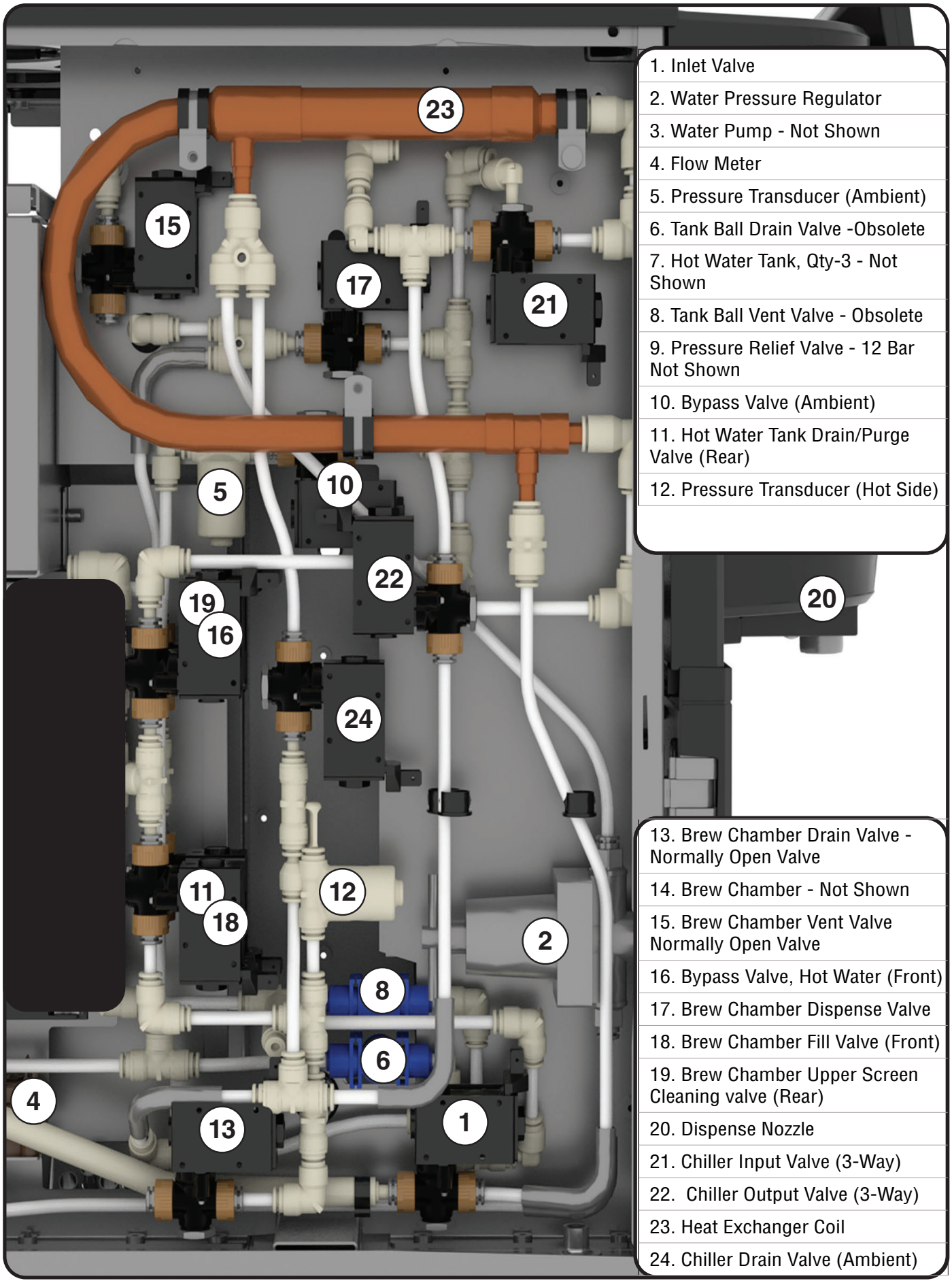
Step 1: After performing preventive maintenance and re-installation of the Brew Module (See: Fast Cup 20,000 Drinks - Brew Module Re-Installation), go to the BUNN Website and look up Fast Cup Install & Operating Manual on how to access, navigate, operate and calibrate the machine coffee grinders.

Scan for Grinder Calibration Video

FAST CUP® BREW MODULE TORQUE SPECIFICATIONS

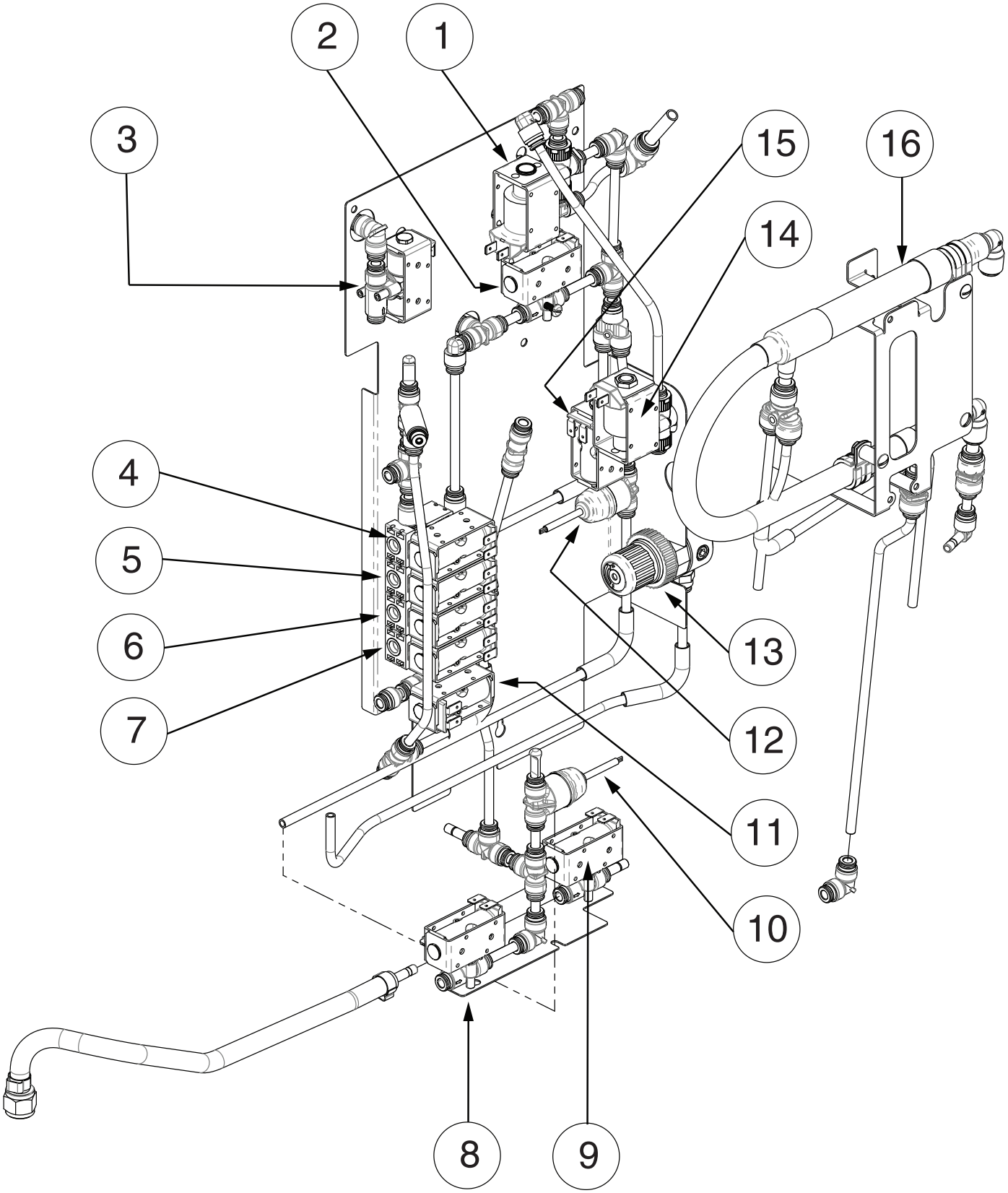


FAST CUP® WATER VALVES IDENTIFICATION - EARLY STYLE



1. Inlet Valve
2. Water Pressure Regulator
3. Water Pump - Not Shown
4. Flow Meter
5. Pressure Transducer (Ambient)
6. Tank Ball Drain Valve -Obsolete
7. Hot Water Tank, Qty-3 - Not Shown
8. Tank Ball Vent Valve - Obsolete
9. Pressure Relief Valve - 12 Bar Not Shown
10. Bypass Valve (Ambient)
11. Hot Water Tank Drain/Purge Valve (Rear)
12. Pressure Transducer (Hot Side)
13. Brew Chamber Drain Valve - Normally Open Valve
14. Brew Chamber - Not Shown
15. Brew Chamber Vent Valve Normally Open Valve
16. Bypass Valve, Hot Water (Front)
17. Brew Chamber Dispense Valve
18. Brew Chamber Fill Valve (Front)
19. Brew Chamber Upper Screen Cleaning valve (Rear)
20. Dispense Nozzle
21. Chiller Input Valve (3-Way)
22. Chiller Output Valve (3-Way)
23. Heat Exchanger Coil
24. Chiller Drain Valve (Ambient)

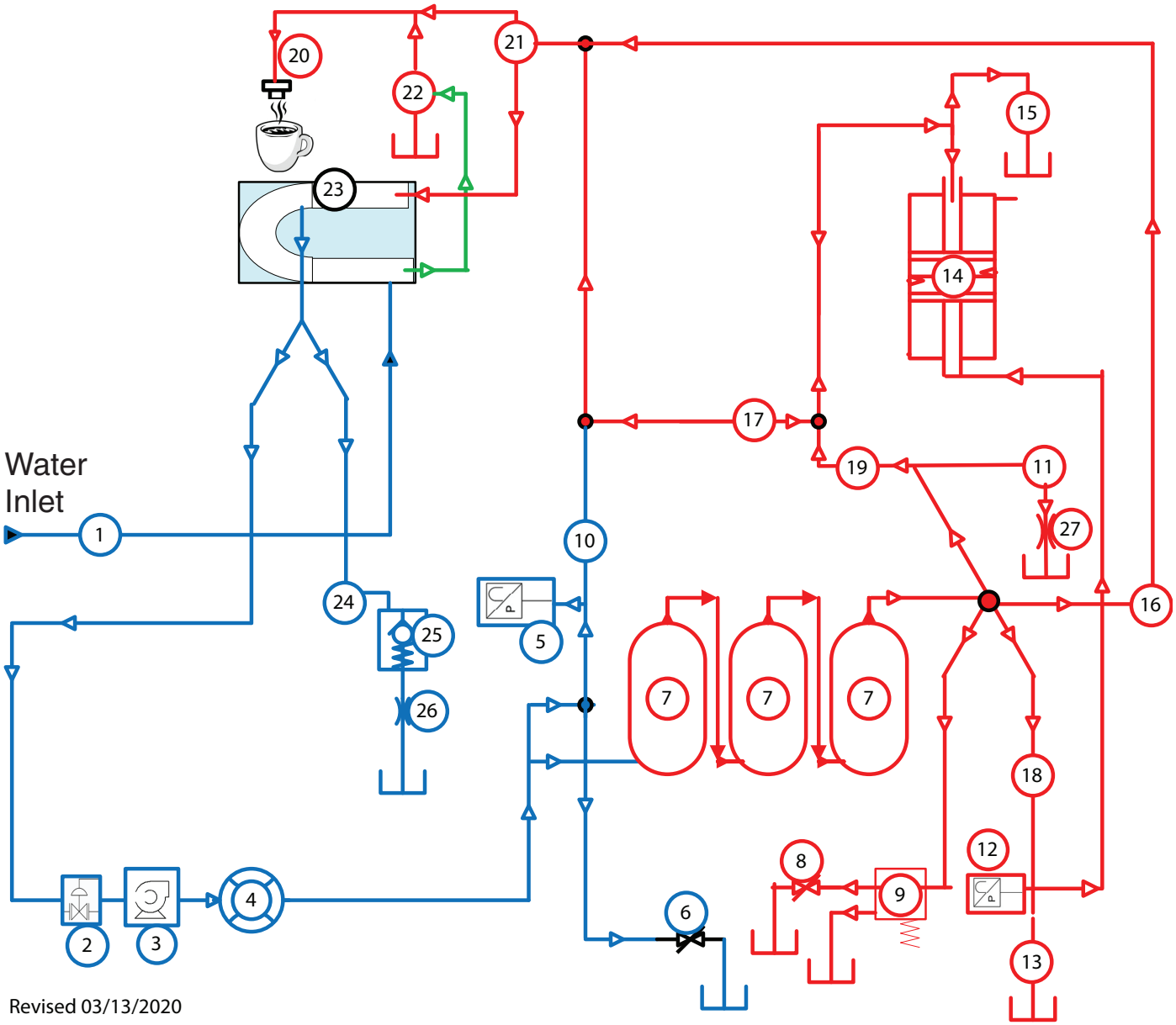
FAST CUP® WATER VALVES IDENTIFICATION - LATER STYLE



FAST CUP® WATER VALVES IDENTIFICATION - LATER STYLE

1		Chiller Coffee Input Valve, 3 Way		
2		Brew Chamber Dispense Valve		Normally Closed
3		Brew Chamber Vent Valve (N/O - Normally Open) -		Normally Open
4		Brew Chamber Cleaning Valve		Normally Closed
5		Hot Water By-Pass Valve (Front)		Normally Closed
6		Brew Chamber Fill Valve		Normally Closed
7		Brew Tank Drain Valve (Rear)		Normally Closed
8		Brew Chamber Drain Valve (N/O - Normally Open)		Normally Open
9		Inlet Water Valve	02308.0000	Normally Closed
10		Water Inline Pressure Sensor (Ambient Side)		
11		Chiller Ambient Drain Valve		Normally Closed
12		Brew Inline Pressure Sensor (Hot Side)		
13		Water Pressure Regulator		
14		Ambient Water By-Pass Valve		Normally Closed
15		Chiller Coffee Output Valve, 3 Way		
16		Chiller		

FAST CUP® WATER FLOW DIAGRAM - EARLY STYLE



Revised 03/13/2020

*Optional

1. Inlet Valve	10. Bypass Valve (Ambient)	19. Brew Chamber Upper Screen Cleaning valve
2. Water Pressure Regulator	11. Hot Water Tank Drain Valve (Purge)	20. Dispense Nozzle
3. Water Pump	12. Pressure Transducer (Hot Side)	21. *Chiller Input Valve (3-Way)
4. Flow Meter	13. Brew Chamber Drain Valve - Normally Open Valve	22. *Chiller Output Valve (3-Way)
5. Pressure Transducer (Ambient)	14. Brew Chamber	23. *Heat Exchanger Coil
6. Tank Ball Drain Valve -Obsolete	15. Brew Chamber Vent Valve Normally Open Valve	24. *Chiller Drain Valve (Ambient)
7. Hot Water Tank, Qty-3	16. Bypass Valve (Hot Water)	25. Check Valve
8. Tank Ball Vent Valve - Obsolete	17. Brew Chamber Dispense Valve	26. Orifice 1.75 MM
9. Pressure Relief Valve - 12 Bar	18. Brew Chamber Fill Valve	27. Orifice 1.75 MM

I/O CIRCUIT BOARD CONNECTOR NUMBER IDENTIFICATION

J4: Drip tray and grounds bin switch.

J8: Chiller assembly solenoid valves.

J9: Door blue LED's.

J11: 24VDC Input.

J13: Flow meter and water pump.

J15: Touchscreen assembly.

J16: Brew motor, swiper sensor and proximity sensor.

J17: Touchscreen power input.

J18: Coffee bean detection sensors.

J19: Cabinet Fans.

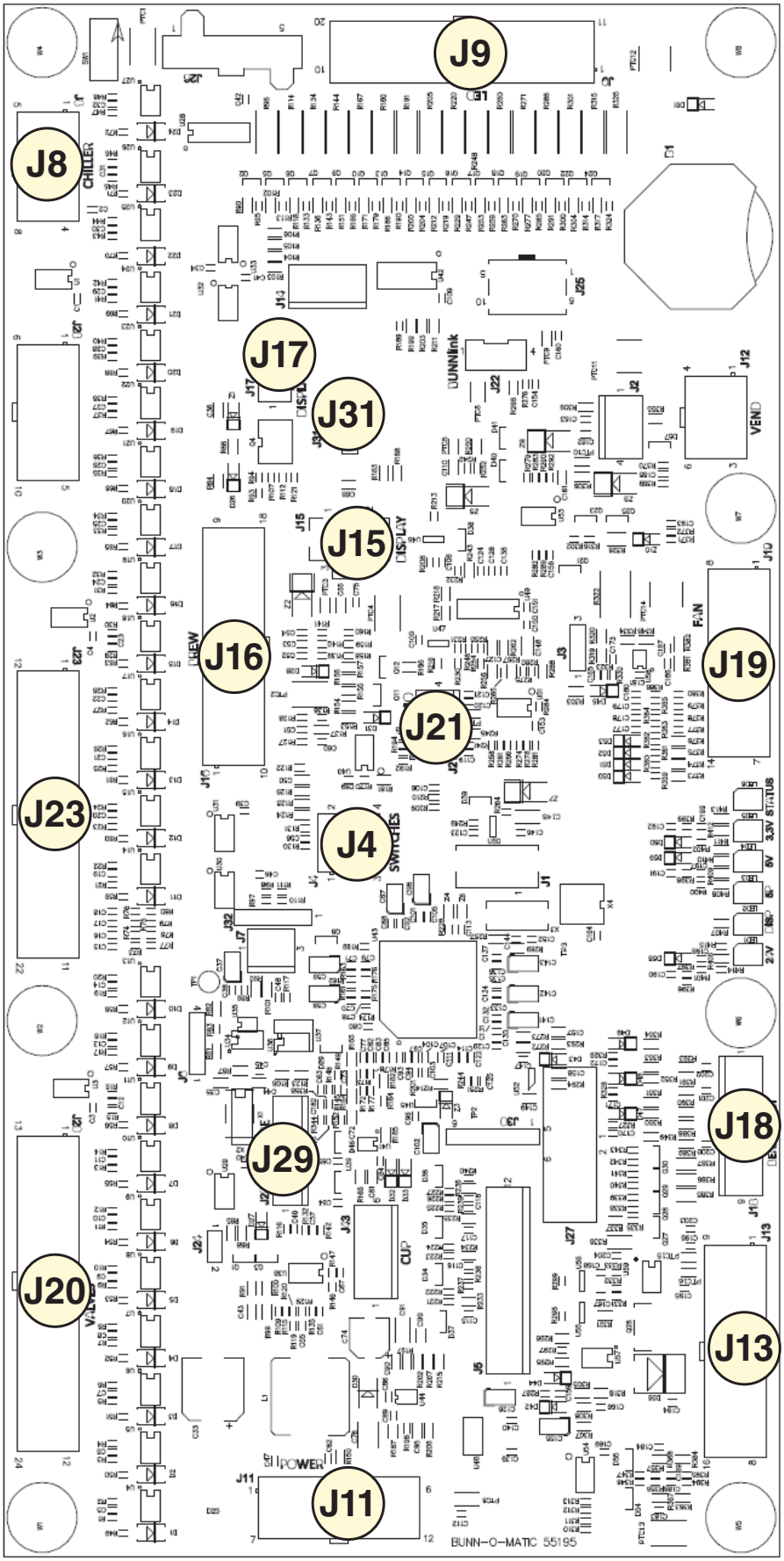
J20: All solenoid valves.

J21: Communication.

J23: Rear cabinet fan

J29: Brew and water pressure sensors.

J31: BUNNLink wireless board.



H/V CIRCUIT BOARD CONNECTOR NUMBER IDENTIFICATION

J1: Communication.

J6: Coffee hopper detection switches.

J7: Boiler tank temperature sensors.

J8: Logic 24VDC - Solid state relays.

J11: 24.0VDC and 48.0VDC Input.

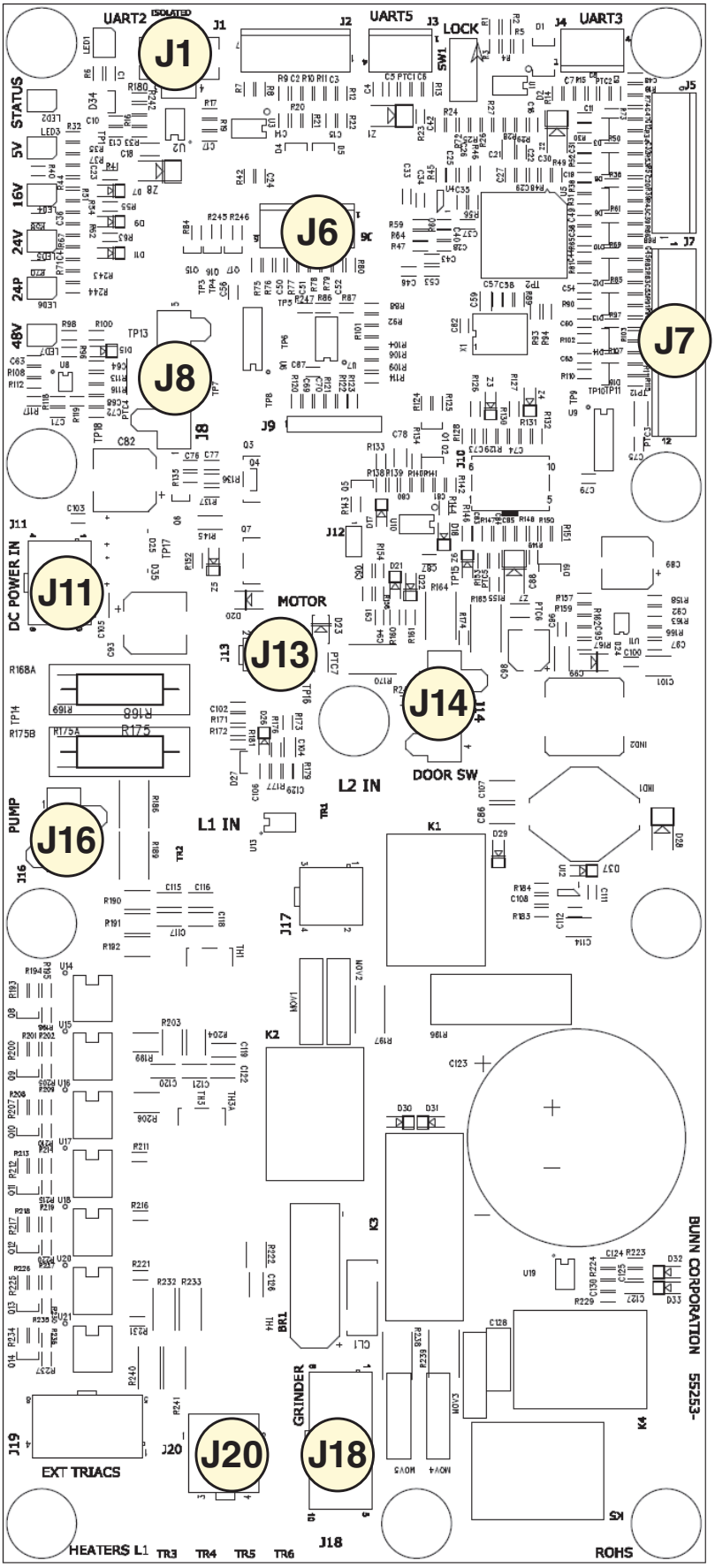
J13: 48.0VDC Input - Brew motor.

J14: Upper and lower door switches.

J16: 48.0VDC Input Water Pump.

J18: Left, center, right grinder and circuit breaker.

J20: Solid state relays.



FAST CUP® POWER CHART

208 VAC/30 Amp

Power Supply
24 VDC

Input/Output Board

24 VDC

1. Display
2. Door & Rear Fan
3. Brew Module Home Sensor
4. Solenoid Valves
5. Door LED

5 VDC

1. Flow Meter
2. Pressure Transducers
3. BUNNLink
4. Bean Detect Circuit Boards

3.3 VDC

1. Drip Tray Switch
2. Grounds Bin Switch
3. Swiper Switch

Power Supply
48 VDC

High Voltage Board

270 VDC

1. Left, Center & Right Grinder Motor

48 VDC

1. Water Pump
2. Brew/Piston Motor

24 VDC

1. Left, Center & Right Solid State Relay-Control

16 VDC

1. Brew Motor (Door Switches)

5 VDC

1. Left, Center & Right Hopper Detect Switches

3 VDC

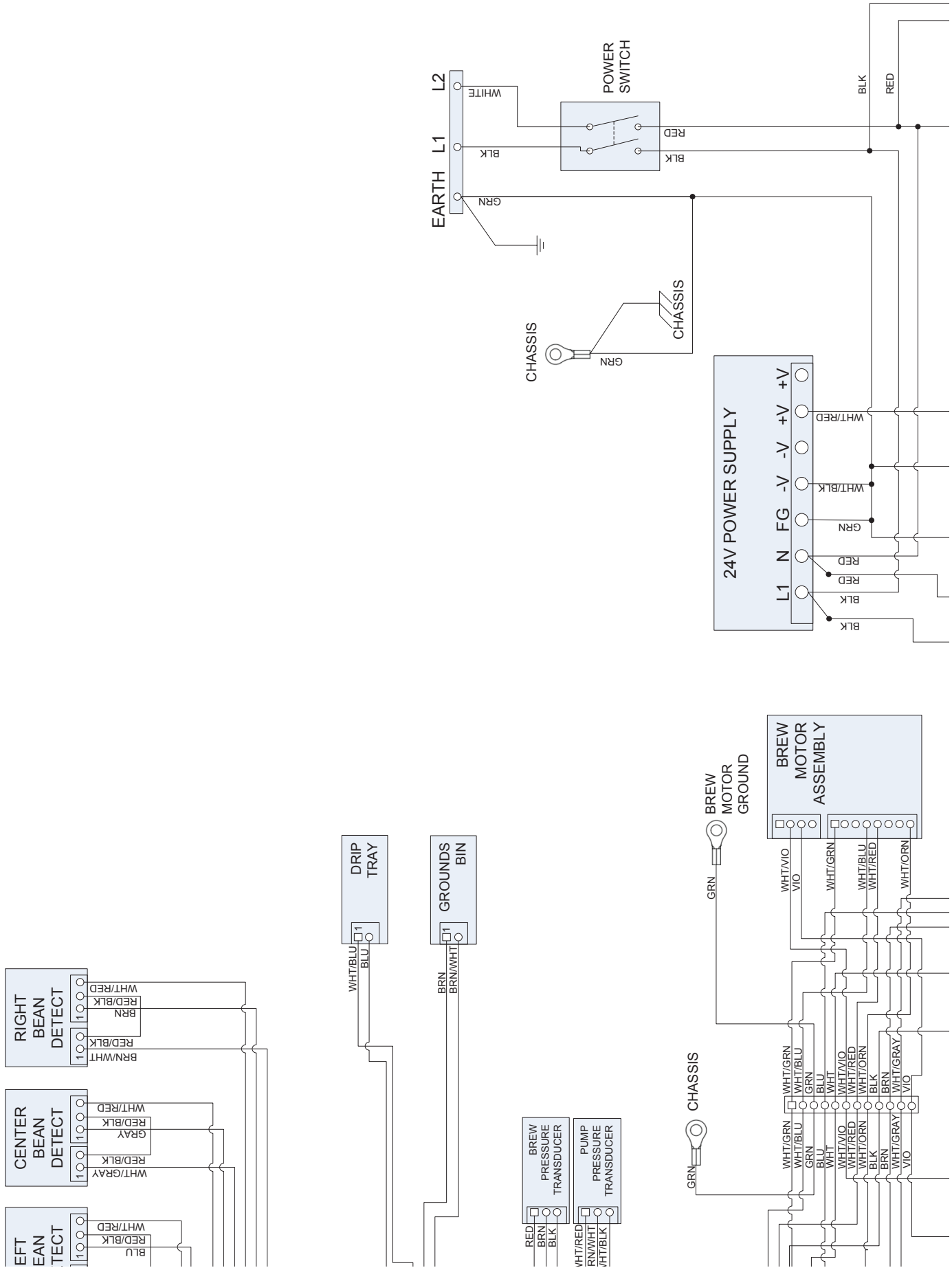
1. Inlet, Preheat & Finish Tank Temperature Sensors

208 VAC

1. Inlet, Preheat, & Finish Tank Heat Elements

2. Left, Center & Right Solid State Relay-Load Line

ELECTRICAL SCHEMATIC DIAGRAM



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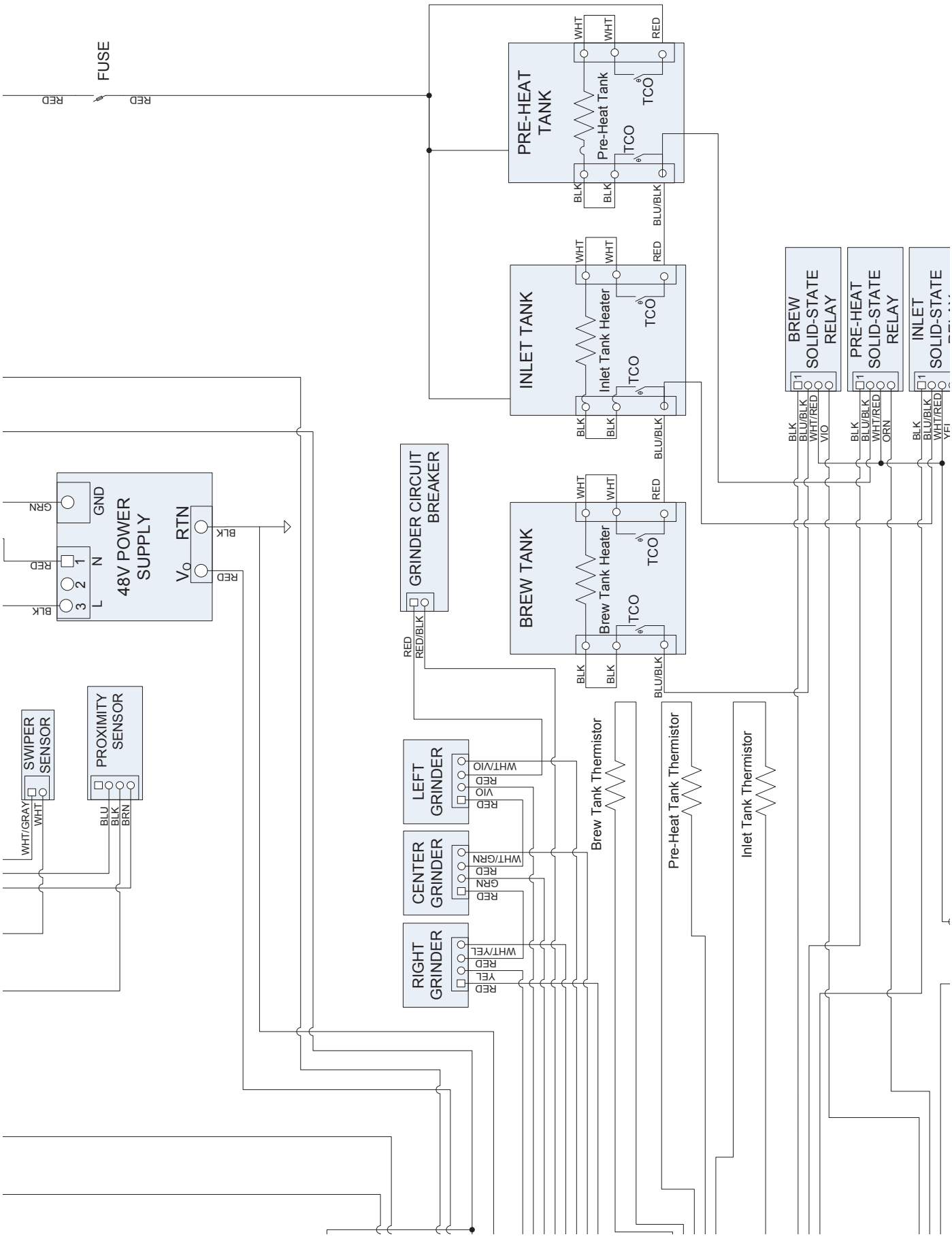
ELECTRICAL SCHEMATIC DIAGRAM



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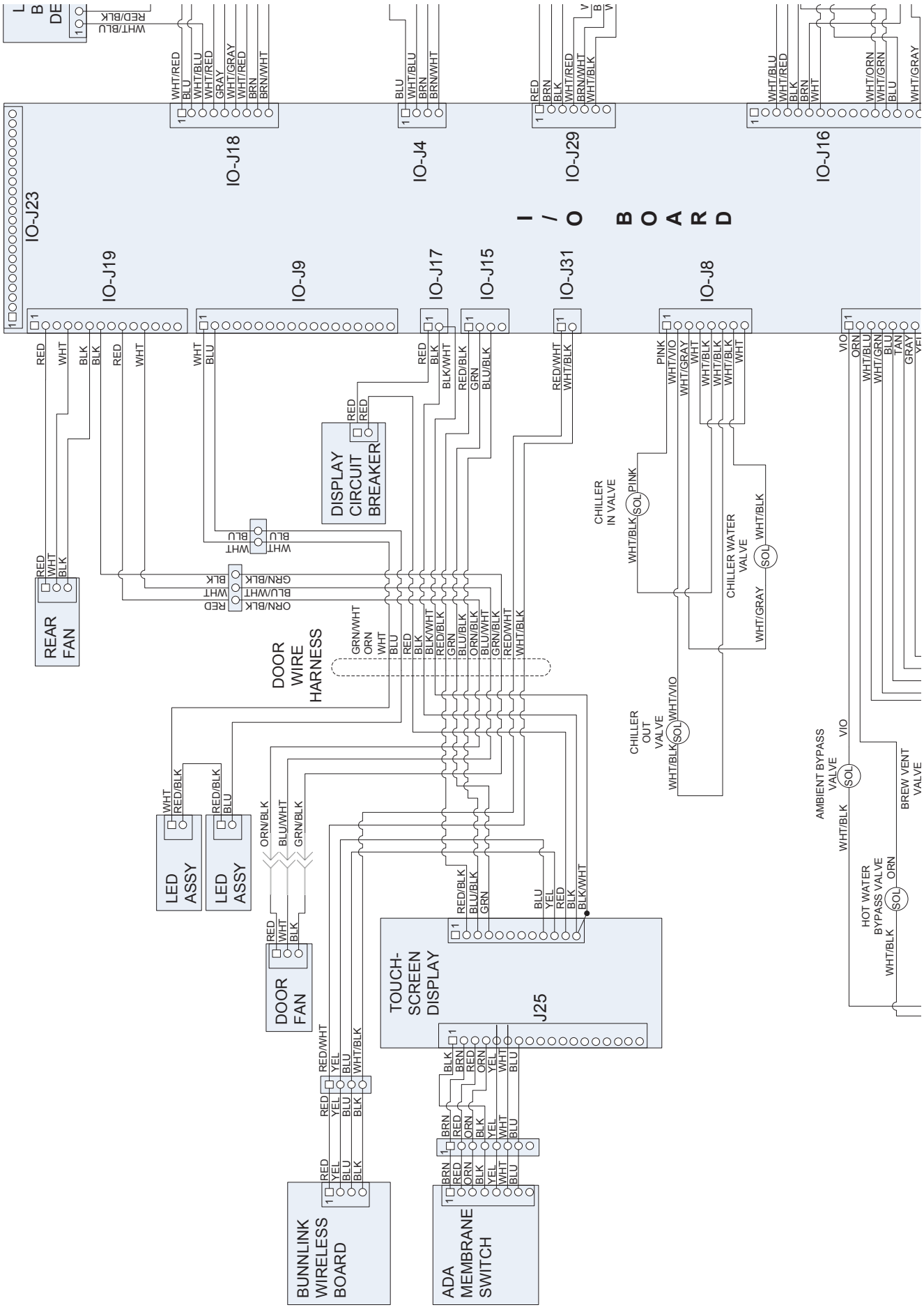
ELECTRICAL SCHEMATIC DIAGRAM



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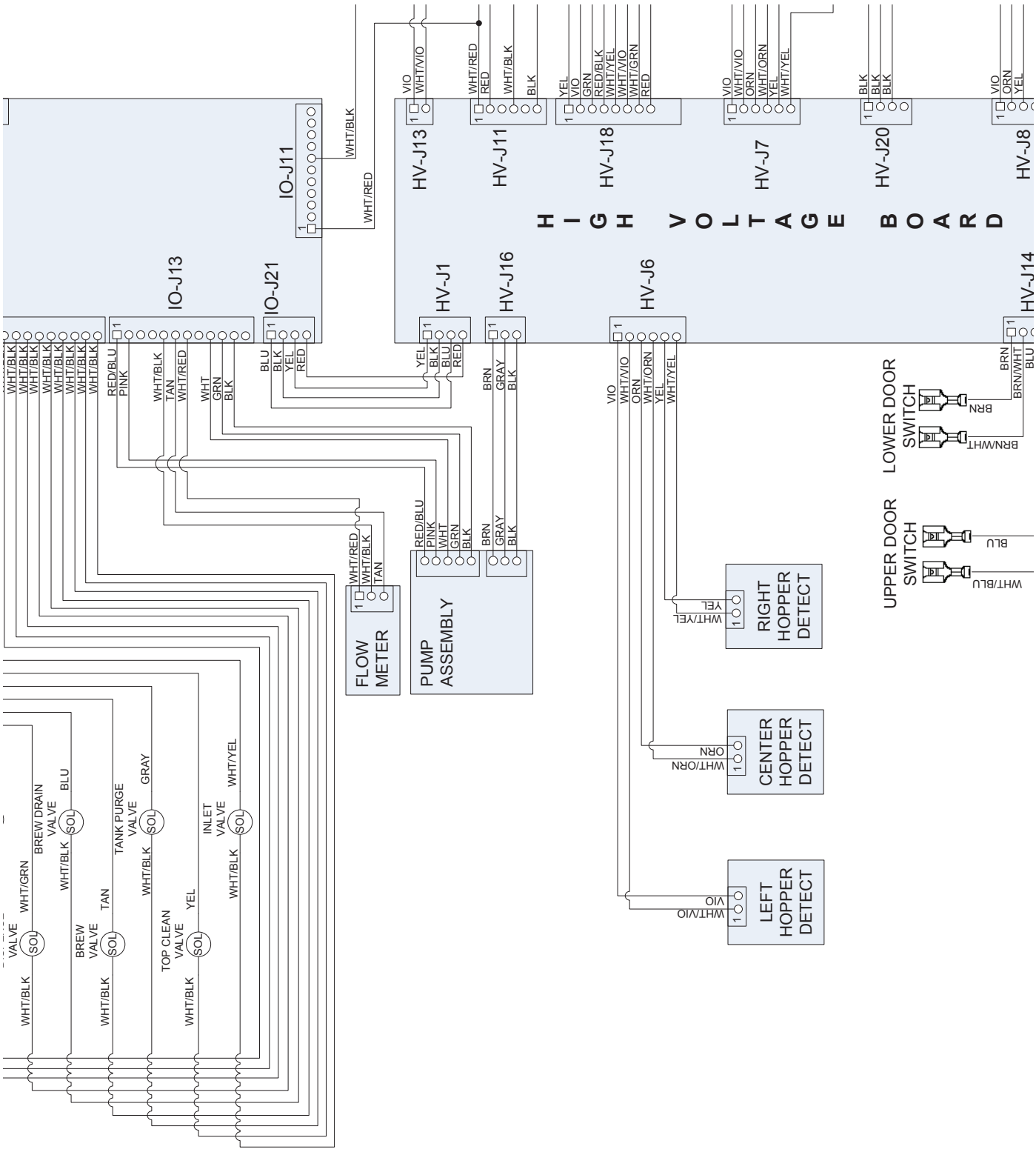
ELECTRICAL SCHEMATIC DIAGRAM



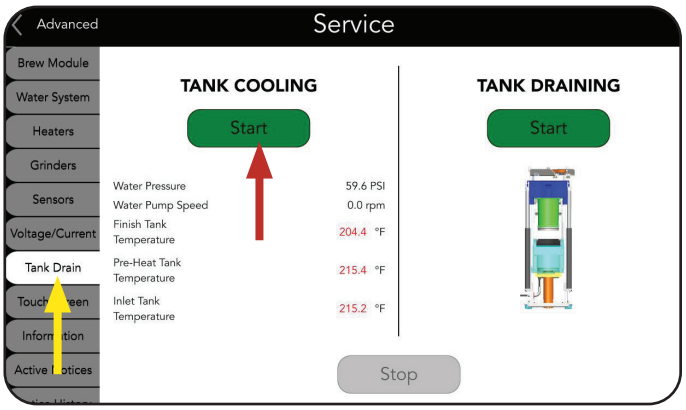
Fast Cup®
Tank Module Draining Instructions

STEP 1

Prepare Fast Cup brewer for Tank Drain process by positioning Cleaning Tube onto drip tray under dispense nozzle.
Note: The Tank Drain procedure takes approximately 4:30 minutes.

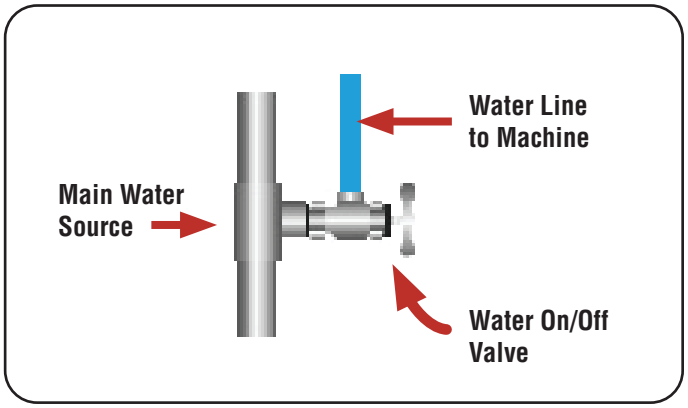
STEP 2

Enter Technician pass code to access Service icon.



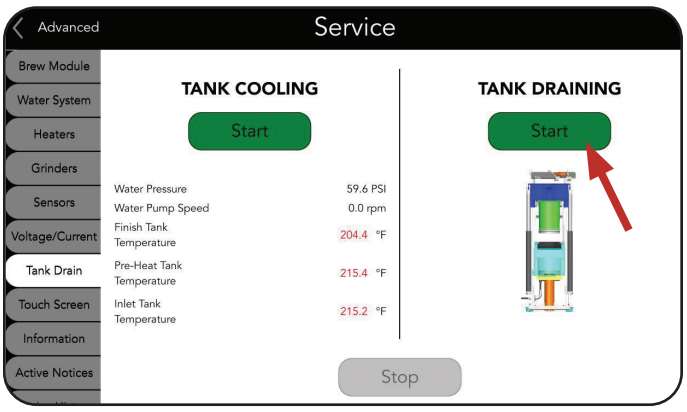
STEP 3

Select Tank Drain tab. Begin Tank Cooling process by touching the Start button. The automatic cooling process will stop when all three tanks have reached 120° F. or below.



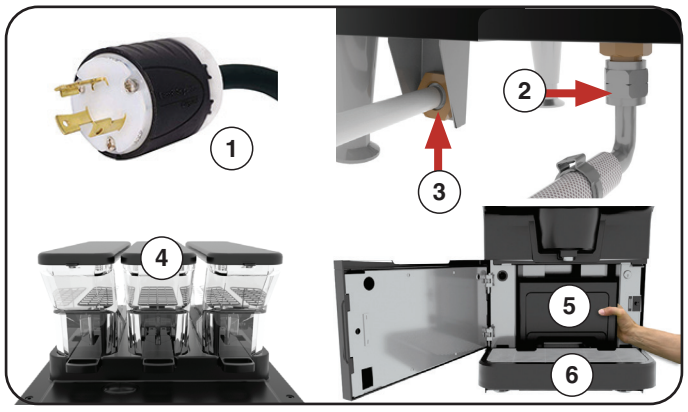
STEP 4

When Tank Cooling process is complete, turn OFF the main water supply valve.



STEP 5

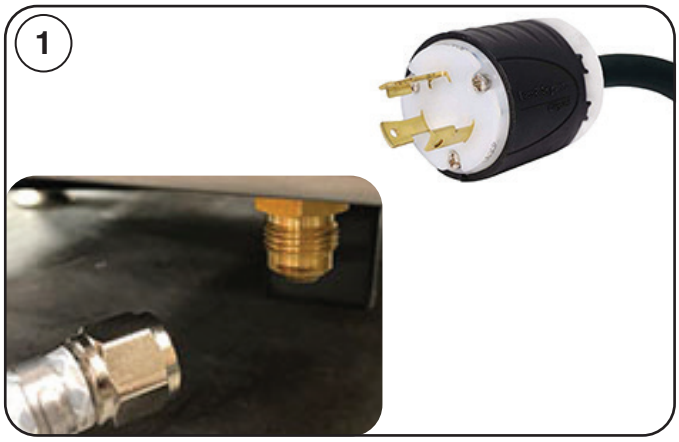
Begin Tank Draining process by touching the Start button. The automatic draining process pressurizes the tank module, forcing water out of the tanks and out the dispense nozzle until water is depleted from the tanks.



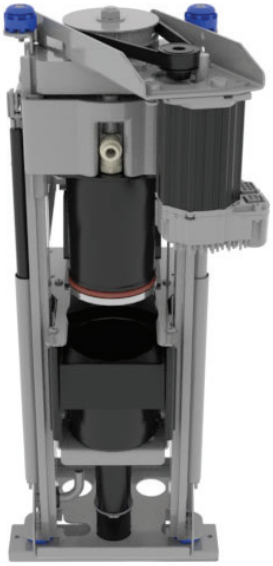
STEP 6

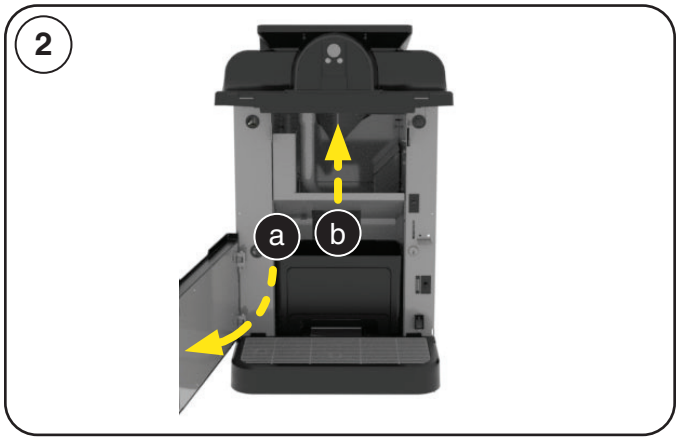
Ready the machine for removal. Wipe down external surfaces.
Disconnect: 1. Power 2. Water Line 3. Drain Line
Empty/Clean: 4. Hoppers 5. Grounds Bin 6. Drip Tray

Brew Module - Removal Instructions

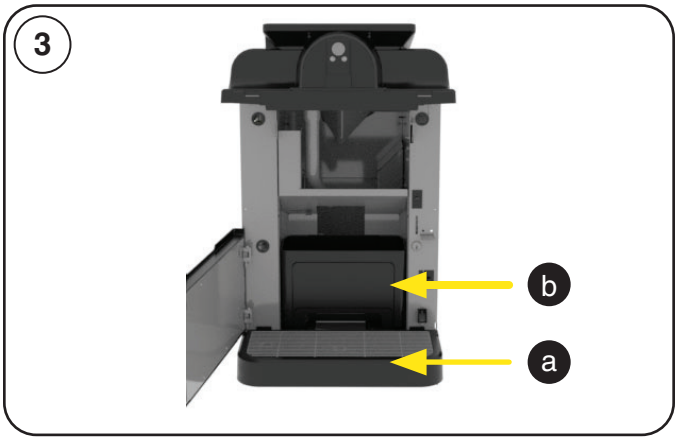


Turn off main water supply and disconnect power and water going to the brewer.

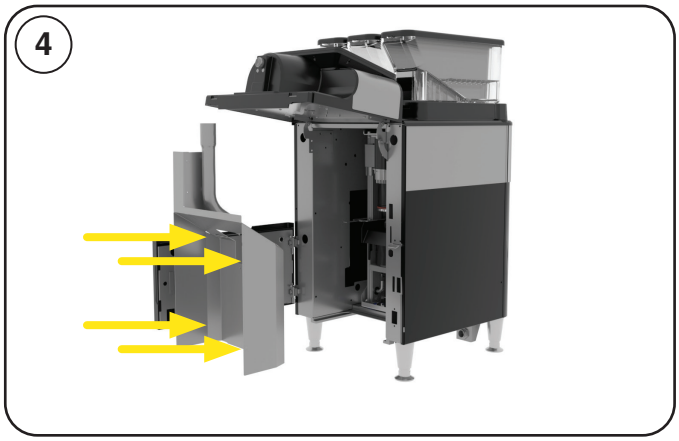




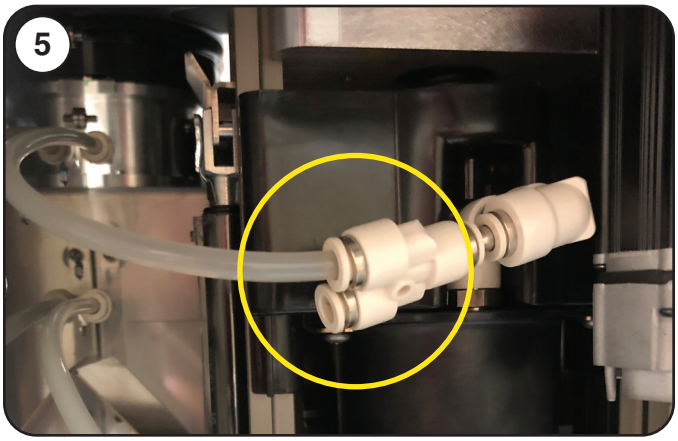
Open lower (a) and upper (b) front doors.



Remove drip tray (a) and grounds bin (b).



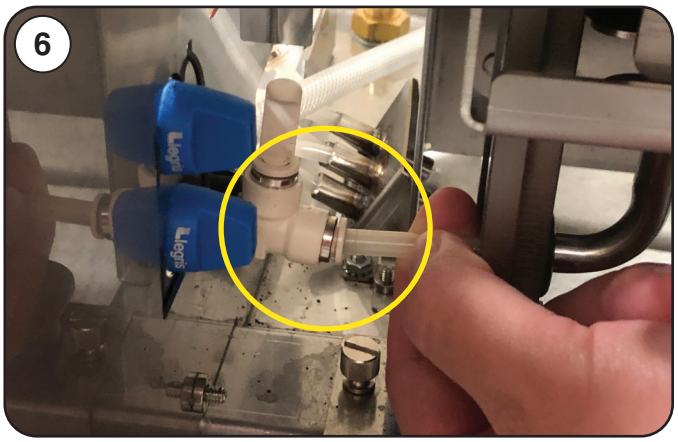
Remove 4 thumb screws securing the inner front panel.



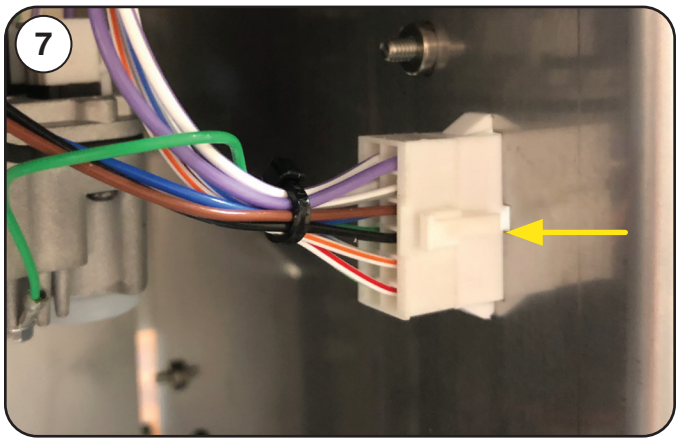
Locate the upper piston tubes, disconnect 2 tubes at the “Y” fitting.

NOTE: One tube already shown disconnected from “y” fitting.

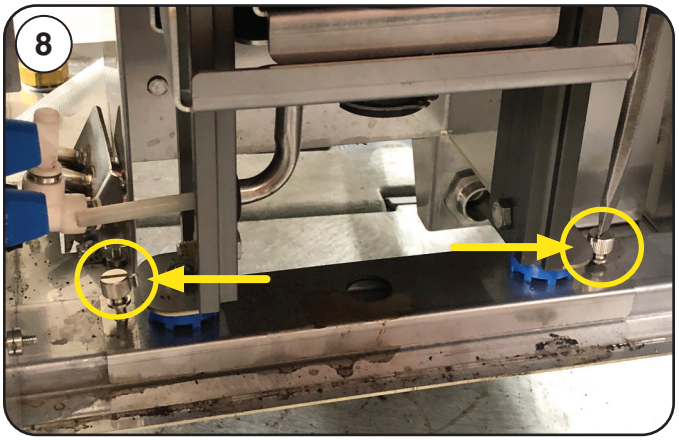
continued >



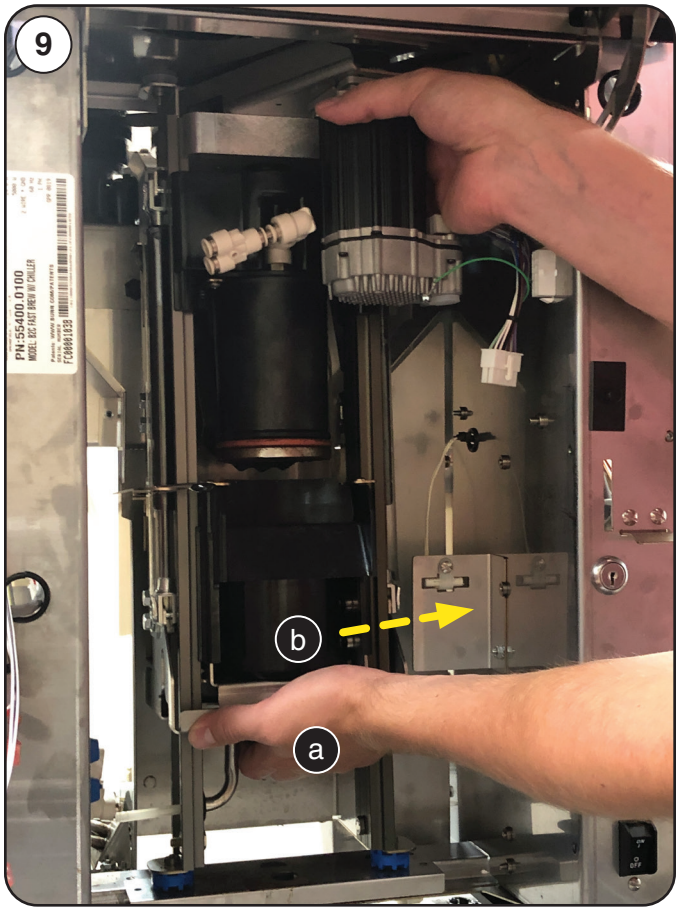
Locate the lower inlet tube going to the bottom of the brew chamber. Disconnect tube at the fitting coming through the side wall.



Disconnect the wiring harness at the 12 pin connector junction located on the right inner wall (located by upper door hinge).



Remove 2 thumb screws at the bottom of the Brew Module.

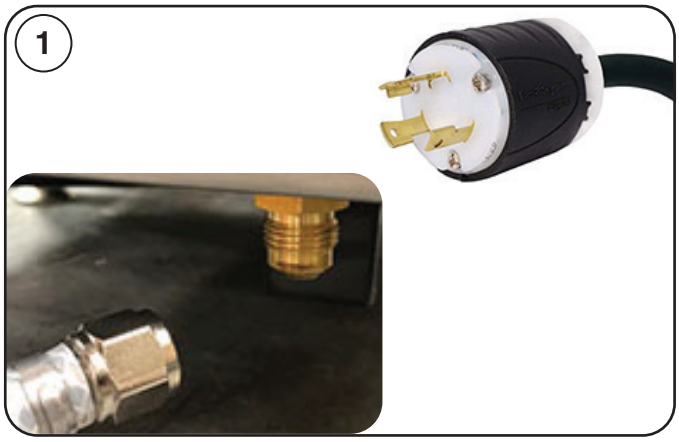


The Brew Module is ready to be removed.

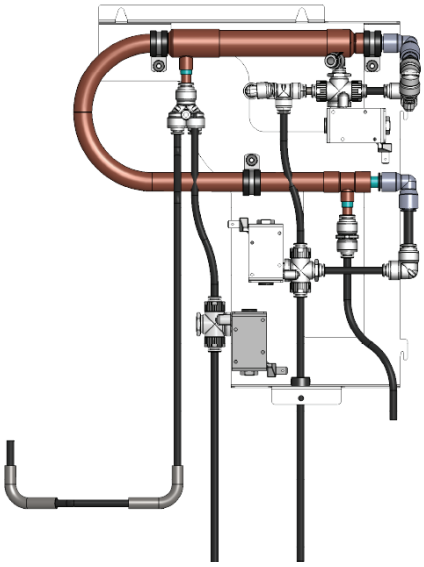
a. Grab the bottom of the Brew Module.

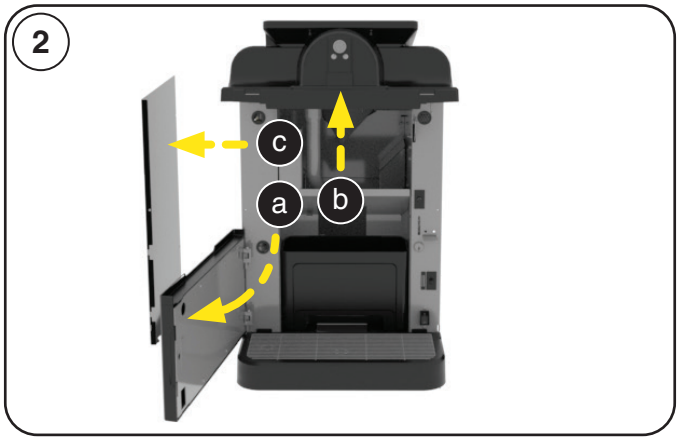
b. Gently pull outward to remove module from brewer.

Coffee Chiller Module - Removal Instructions



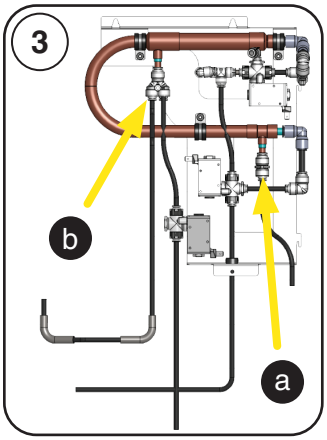
Turn off main water supply and disconnect power and water going to the brewer.

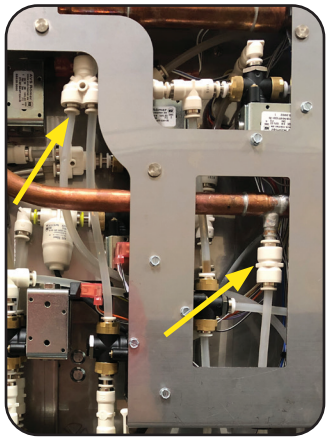




Open lower (a) and upper (b) front doors.

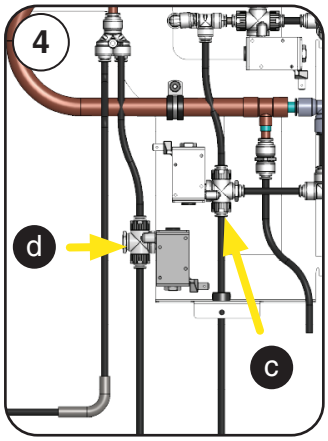
Remove left side panel (c) to access Chiller Module and plumbing connections.

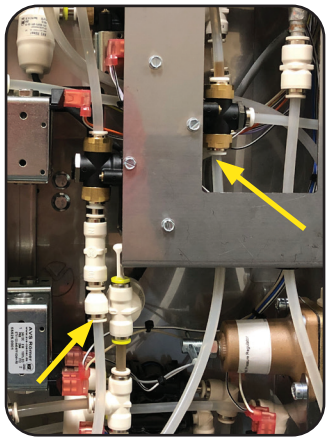




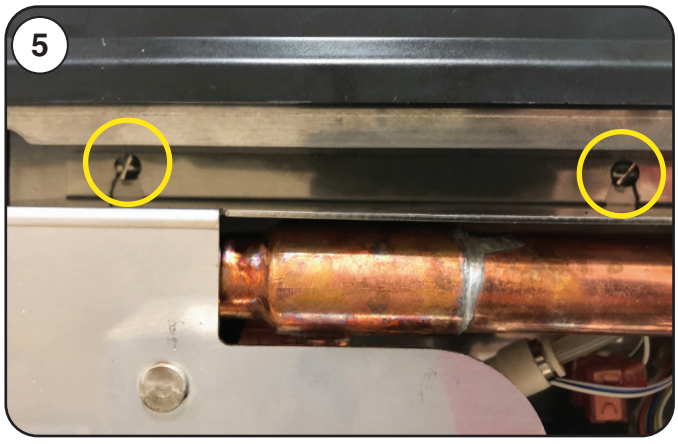
Disconnect the ambient water line going to the chiller inlet fitting (a) and the outlet fitting (b).

See Rear View Pictorial for exact location.



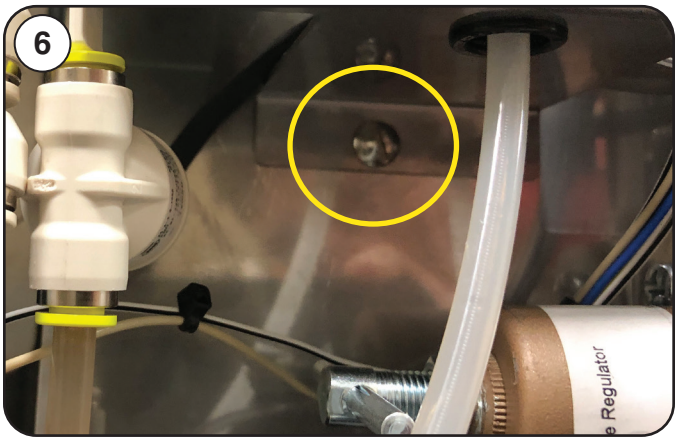


Disconnect the drain tube at the chiller coffee outlet solenoid 3 way valve (c). Disconnect the drain tube at the chiller ambient drain solenoid valve (d).
See Rear View Pictorial for exact location.

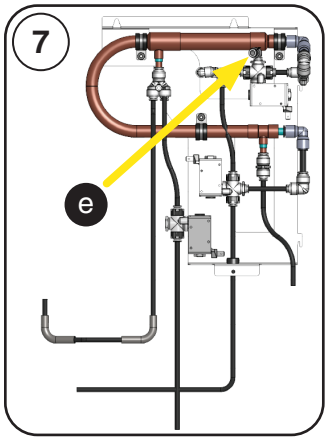


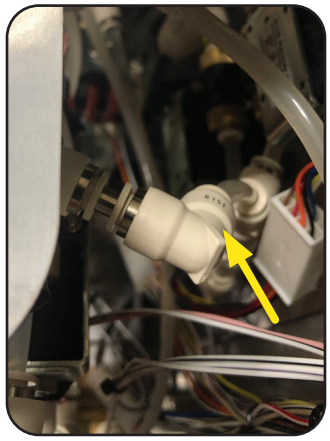
Above the Chiller assembly, loosen the 2 slotted screws securing chiller bracket.

continued >

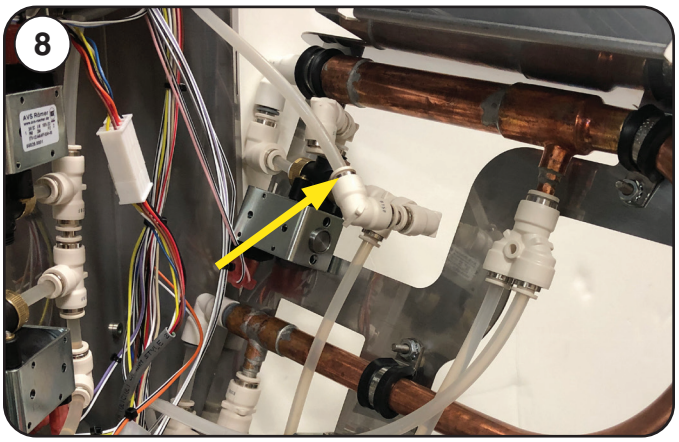


Below the Chiller assembly, remove the slotted screw securing the chiller bracket.

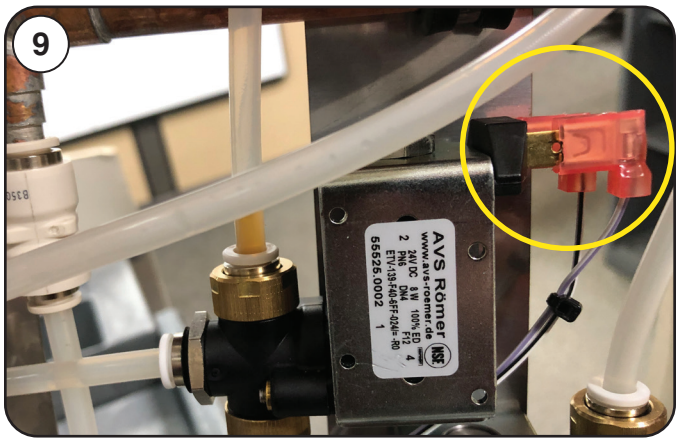




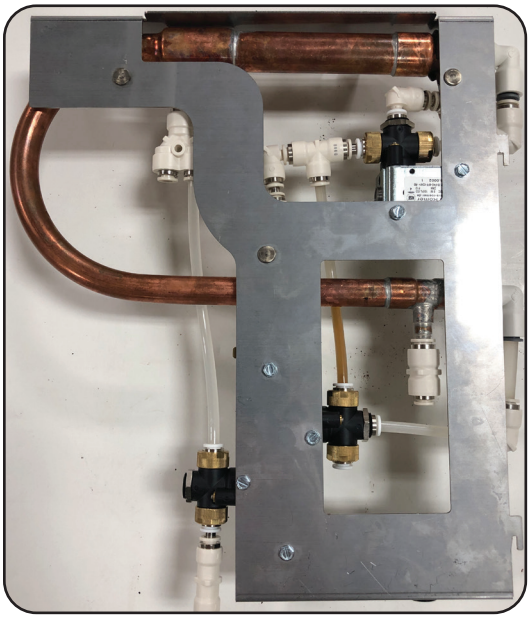
Grab Chiller Assembly and gently lift upwards to free the bracket from the upper key lock screws. Slightly move assembly outward enough so you can easily disconnect the coffee tube at the chiller coffee solenoid valve inlet elbow fitting (e). **NOTE:** See pictorial for exact location.



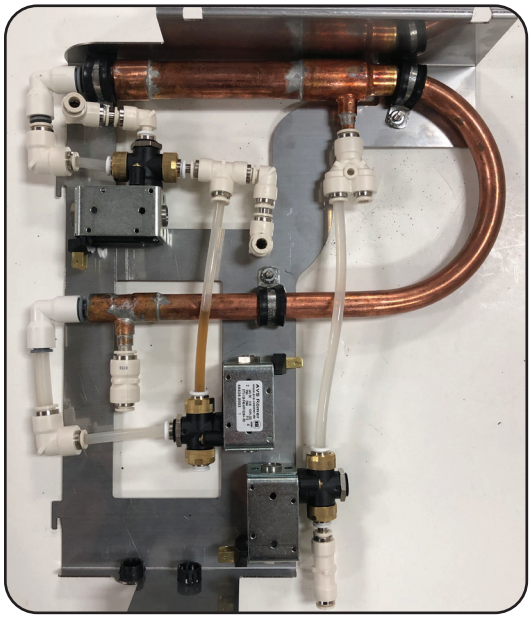
The chiller module is free enough where you can swing the module out of the machine and disconnect the remaining tube that comes from the door nozzle.



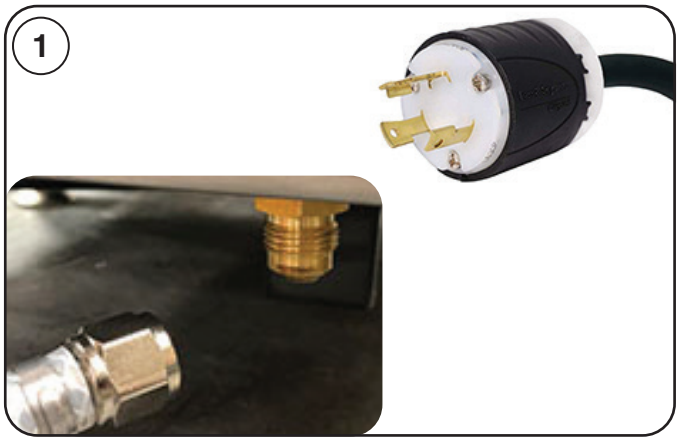
Disconnect all wires from quantity 3 Chiller solenoid valves. **NOTE:** Document wire harness color to each solenoid valve.



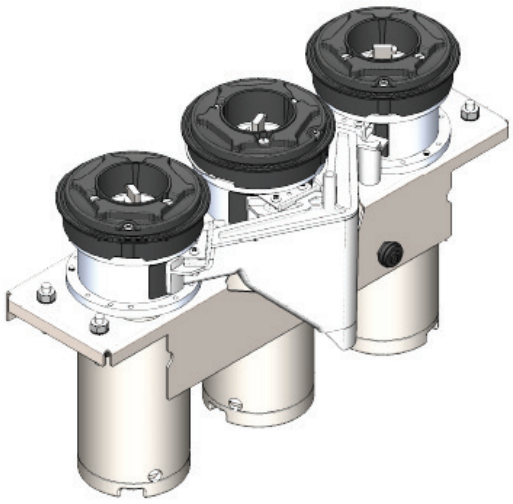
Front View

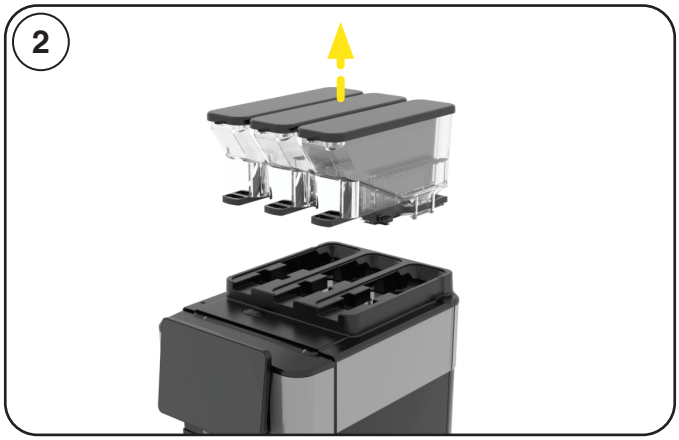


Rear View

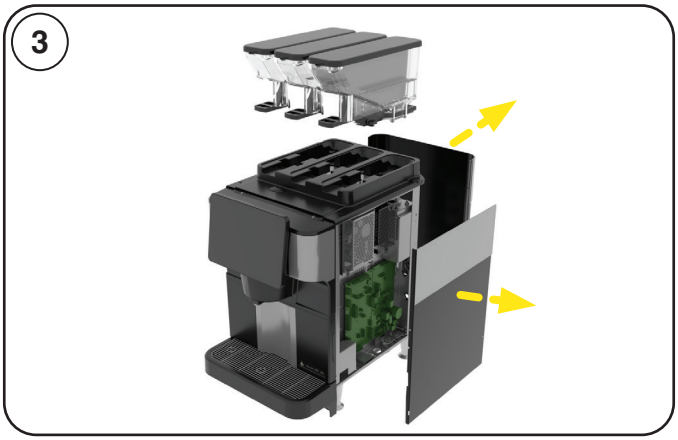


Turn off main water supply and disconnect power and water going to the brewer.

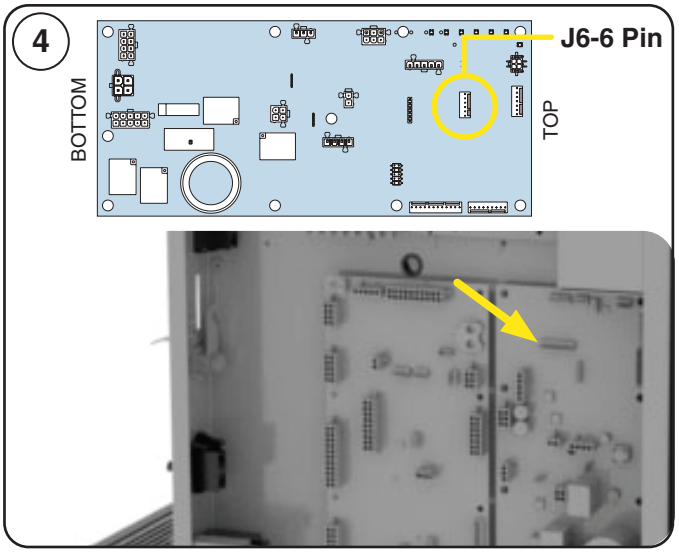




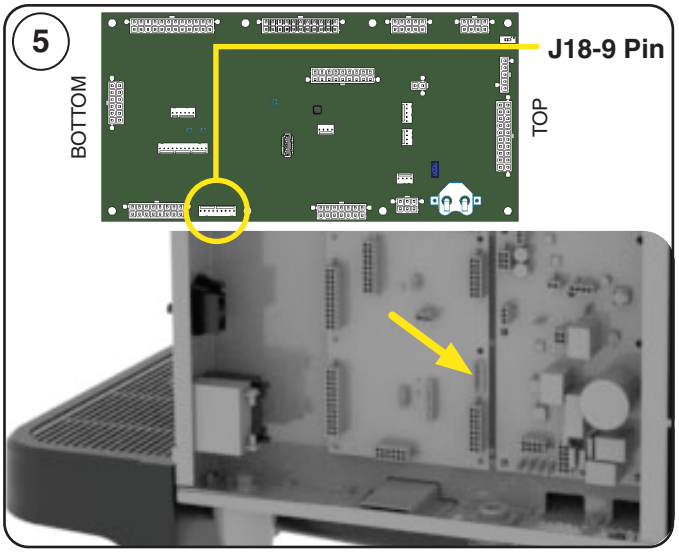
Remove coffee bean hoppers.



Remove right side panel to access electrical connections. Remove rear panel to access grinder module.

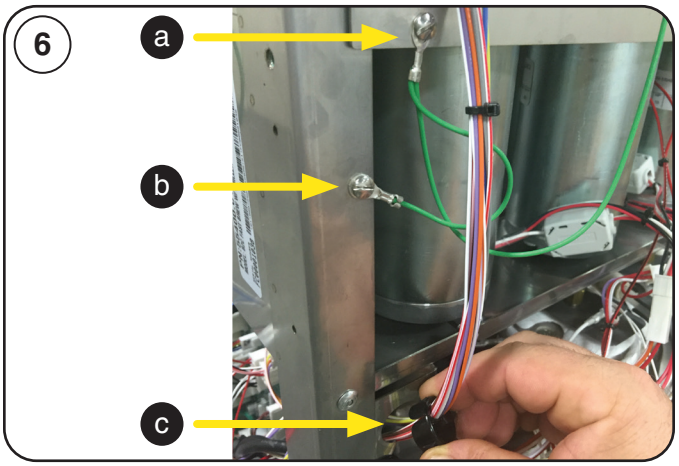


Disconnect J6-6 pin connector from the High Voltage Board.



Disconnect J18-9 pin connector from the Input/Output Board.

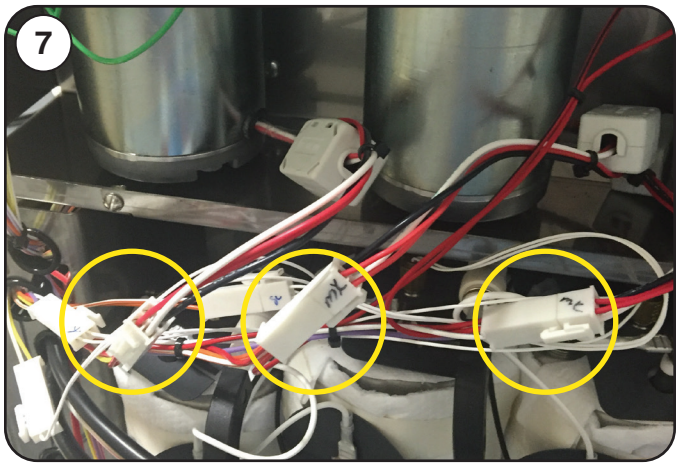
continued >



Disconnect green wire (a) and (b) attached to brewer chassis.

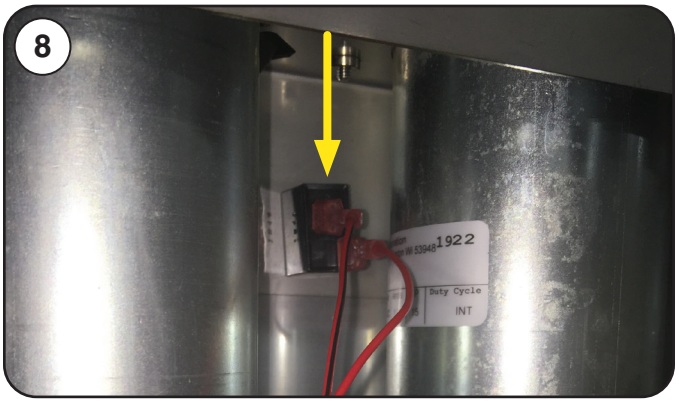
Remove protective harness bushing (c) from housing.

Remove wiring harness with connectors through hole that was previously disconnected in Step 4 and 5.

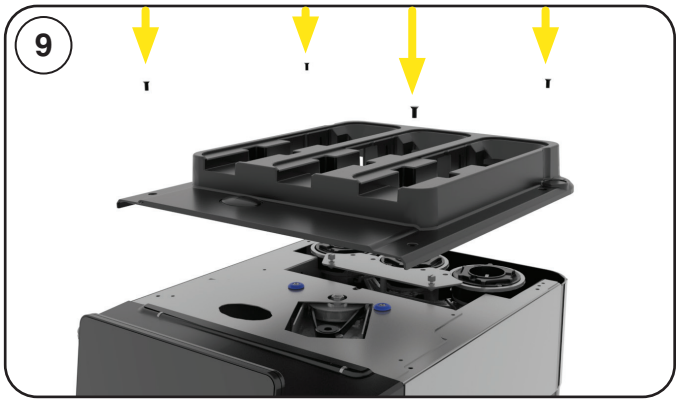


Disconnect 3 grind motor 4 pin connectors.

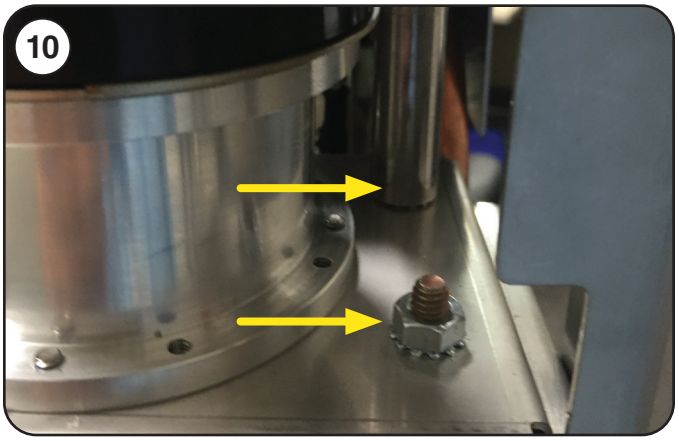
NOTE: Document wiring harness color to each grinder motor.



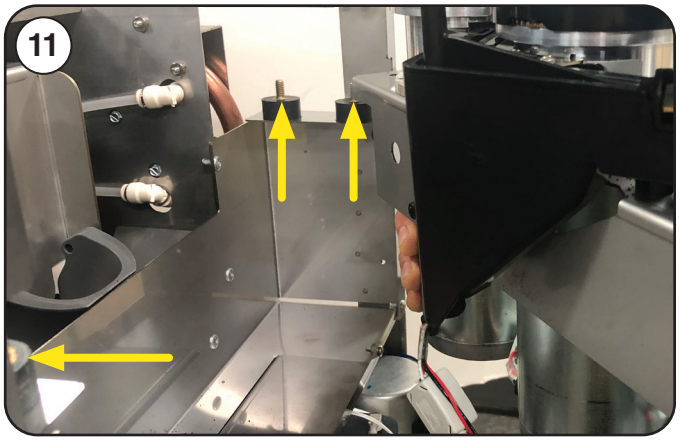
Disconnect quantity two red wires with 1/4 spade terminals from the 3 amp grinder circuit breaker.



Remove 4 screws securing top cover. Remove cover with attached harness and green ground wires.

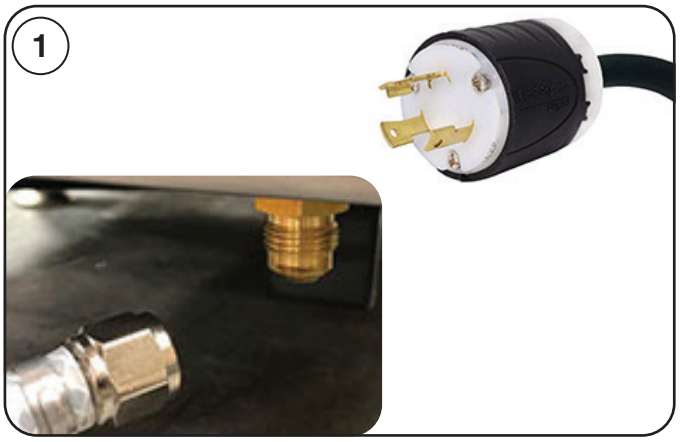


Use 7/16 deep well socket or extension to remove 2 hex nuts on each end securing grinder module bracket to the brewer frame.

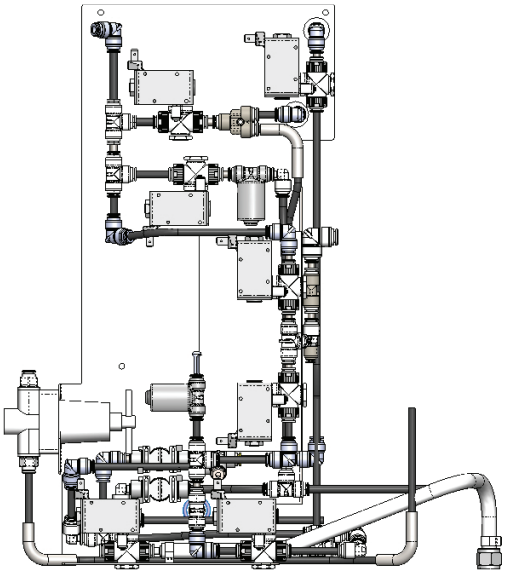


Grab grinder module and lift upwards to clear mounting studs and pull toward yourself. Set grinder module aside.

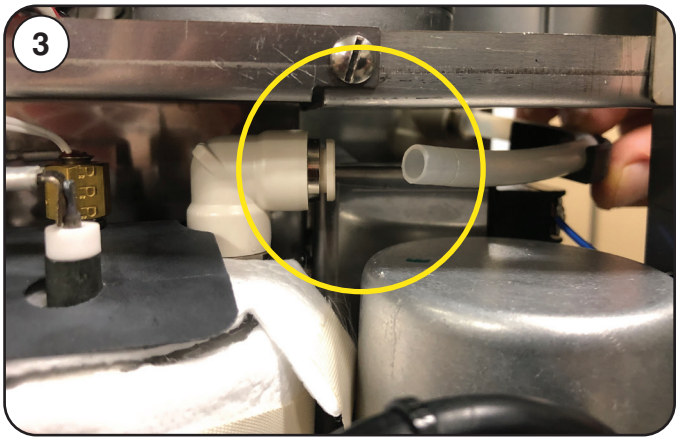
Solenoid Valve Module - Removal Instructions



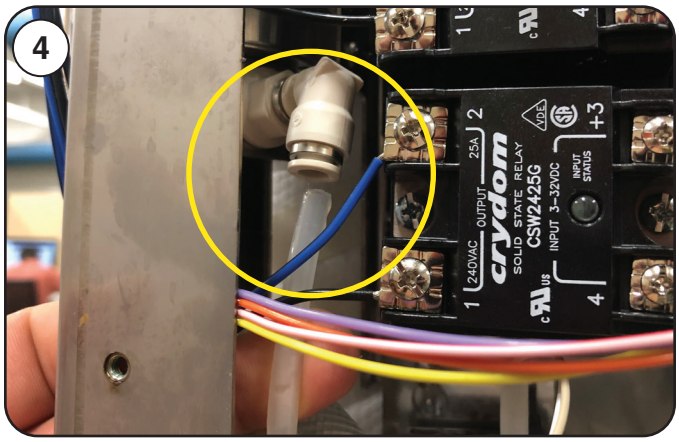
Turn off main water supply and disconnect power and water going to the brewer.



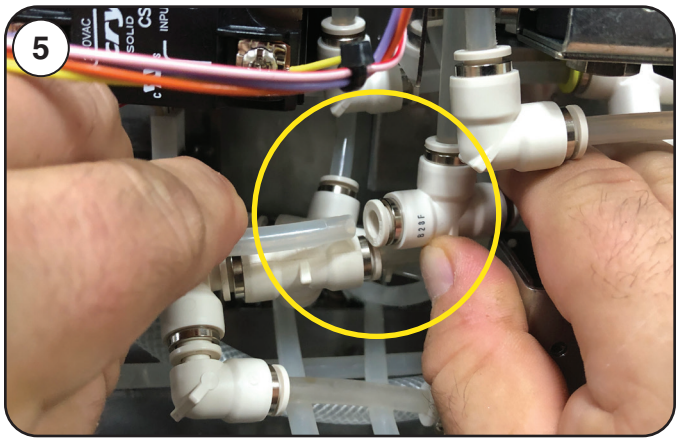
Use Chiller Module removal instructions to remove the Chiller module from the brewer.



Disconnect Finish Tank outlet tube from the outlet elbow fitting.



Disconnect tube at the brew pump inlet elbow fitting.

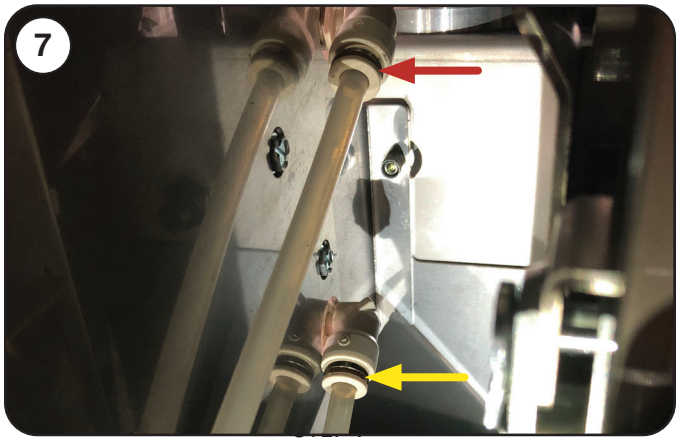


The tube coming off the top of the flow meter outlet fitting going to a “T” connection before the pressure transducer needs to be disconnected at the “T” fitting.

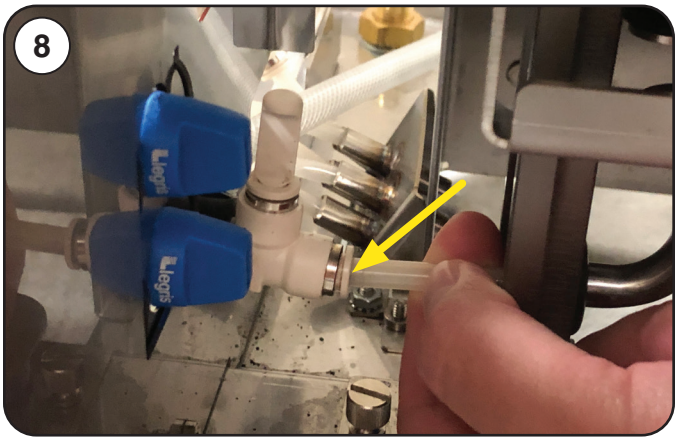
continued >

Unscrew the 3/8” female flare from the main bulkhead fitting.

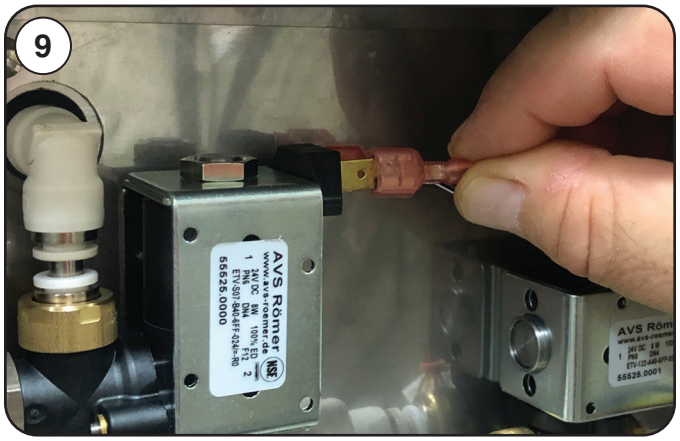
NOTE: Retain flare gasket/seal.



Open lower and upper brewer doors. Locate the upper piston outlet tubes. Disconnect each tube at the elbow fittings coming through the side wall.

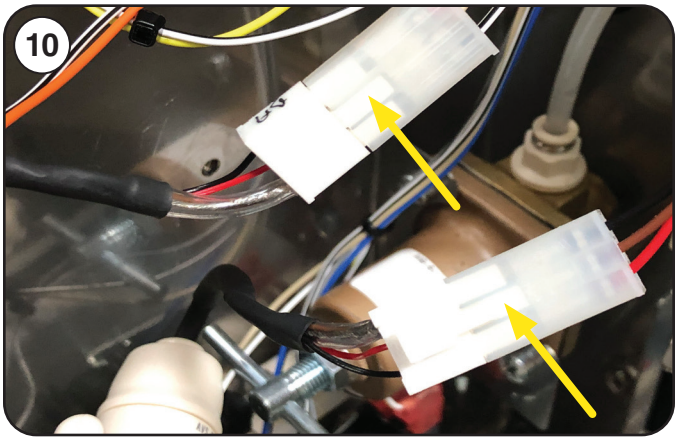


Locate the lower inlet tube going to the bottom of the brew chamber. Disconnect tube at the fitting coming through the side wall.



Disconnect all wires from quantity 9 solenoid valves.

NOTE: Document wiring harness color to each solenoid valve.

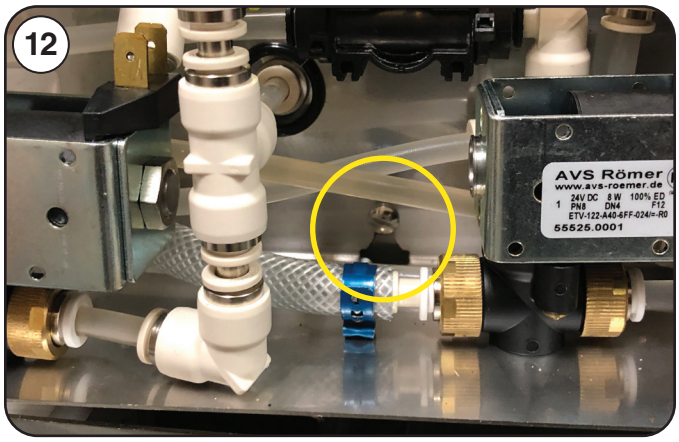


Disconnect 2 pressure transducers from the wiring harness.

NOTE: Document harness color to each pressure transducer.

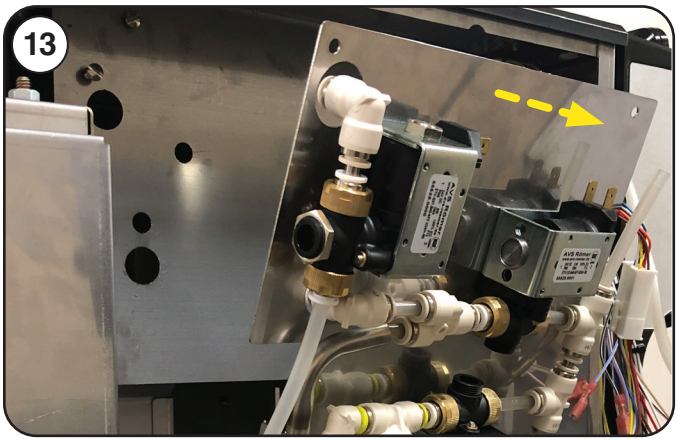
Remove 2 slotted screws above the solenoid valves securing the solenoid valve panel to the brewer frame.

continued >

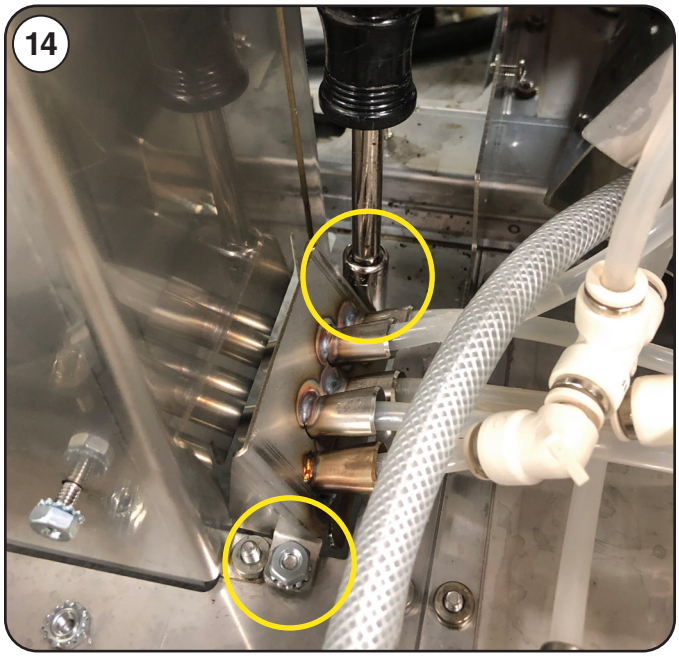


Loosen the slotted screw below the solenoid valves.

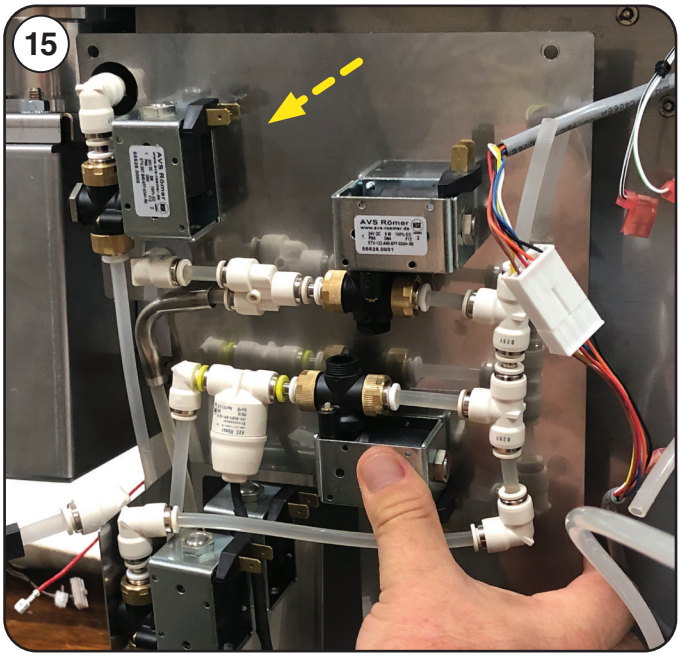
NOTE: It secures the solenoid valve panel to the brewer frame.



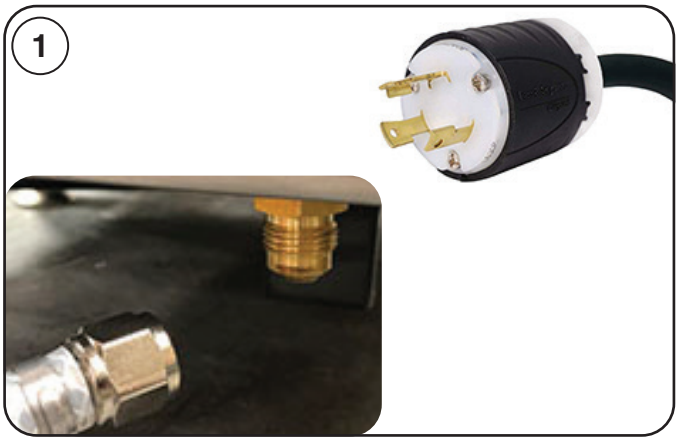
Tilt the solenoid valve panel forward enough to get access to the drain manifold bracket.



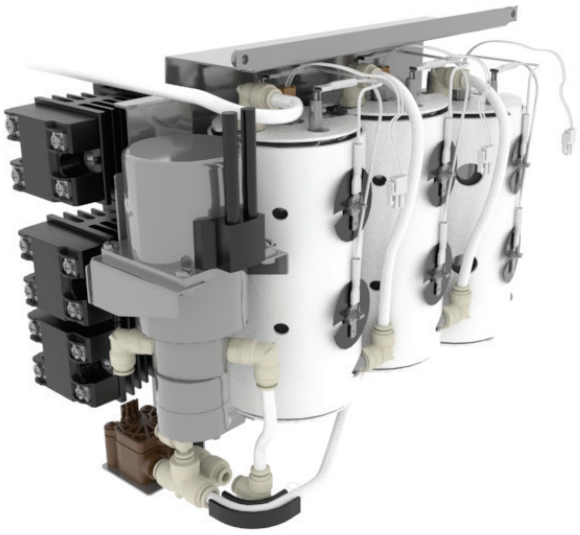
Use 11/32 nut driver to remove the 2 hex nuts securing drain manifold to the brewer frame.

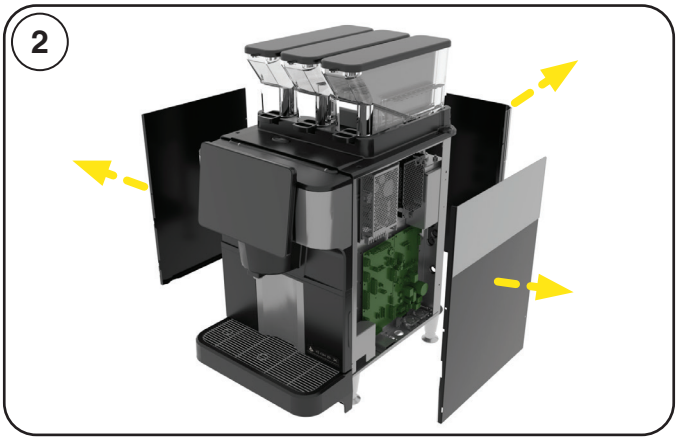


The Solenoid Valve module is ready to be removed from the brewer with the drain tubes still inserted in the drain manifold.



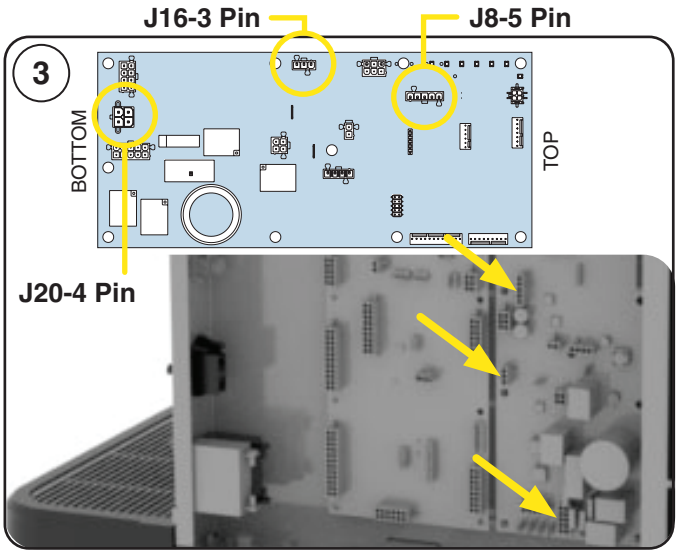
Turn off main water supply and disconnect power and water going to the brewer.



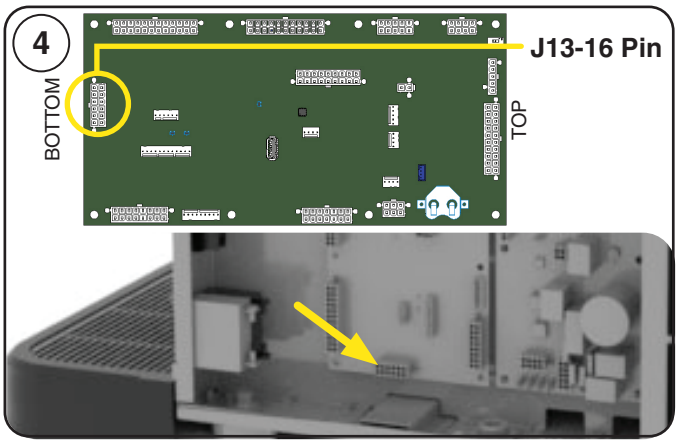


Remove left & right side panel to access electrical and plumbing connections.

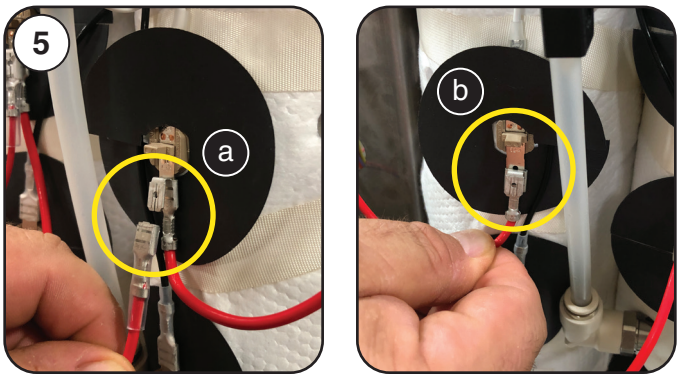
Remove rear panel to access tank module.



Disconnect the following pin connectors from the High Voltage Board. J20-4, J16-3 and J8-5.



Disconnect J13-16 pin connector from the Input/Output Board.

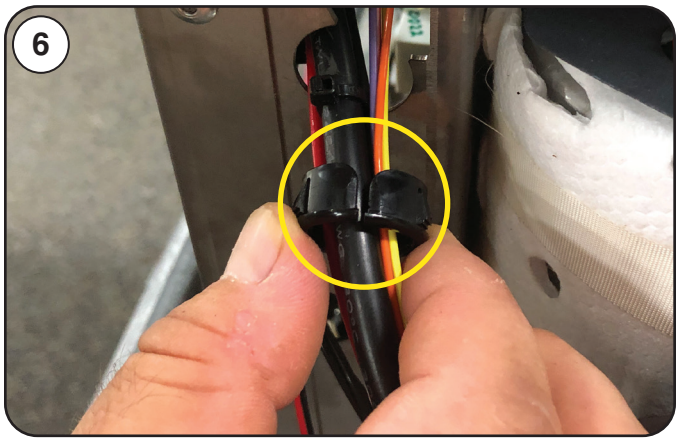


a. Disconnect red jumper wire (a) at the limit thermostat on the “Inlet Tank”.

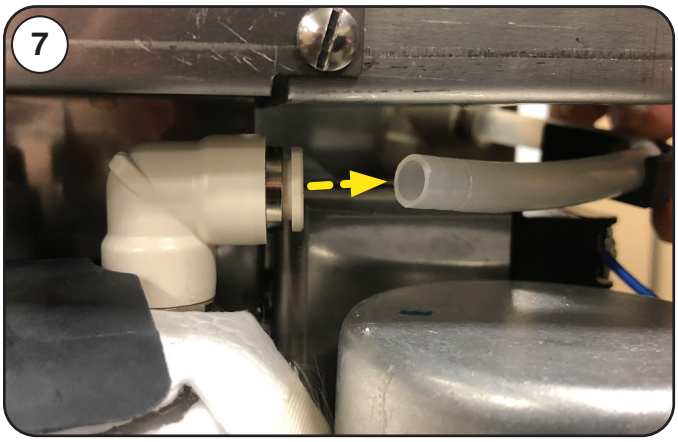
b. Disconnect the main red (L2) wire with the extra male spade terminal (b) from the limit thermostat on the “Inlet Tank”.

continued >

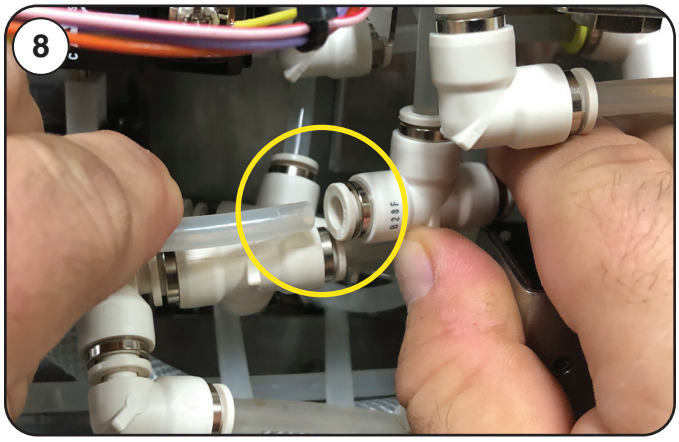
Tank Module - Removal Instructions (continued)



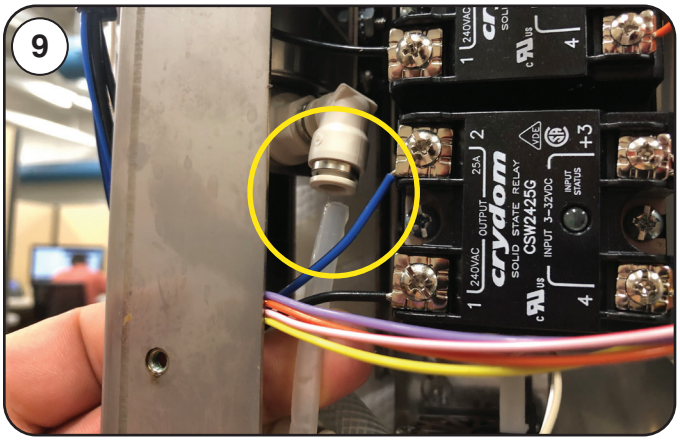
Remove protective harness bushings from housing. Remove wiring harness with connectors through holes that were previously disconnected in Step 3 and 4.



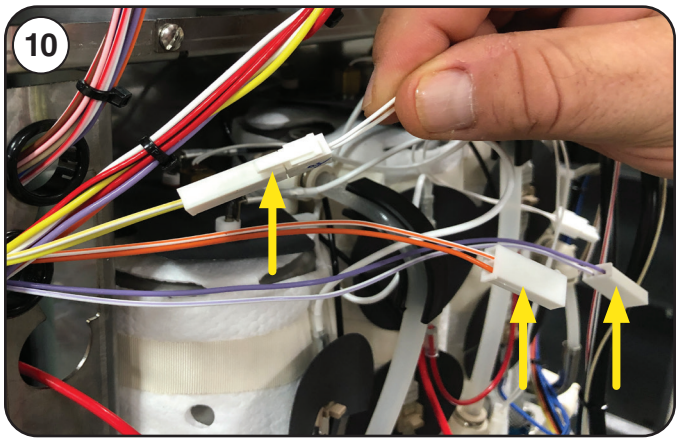
On top of the “Finish Tank”, disconnect the tube from the outlet fitting.



The tube coming off the top of the flow meter outlet fitting going to a “T” connection before the pressure transducer needs to be disconnected at the “T” fitting.

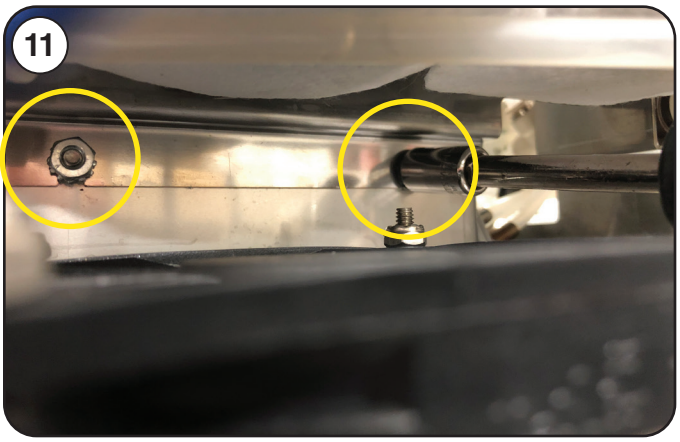


Disconnect the tube at the brew pump inlet elbow connection.



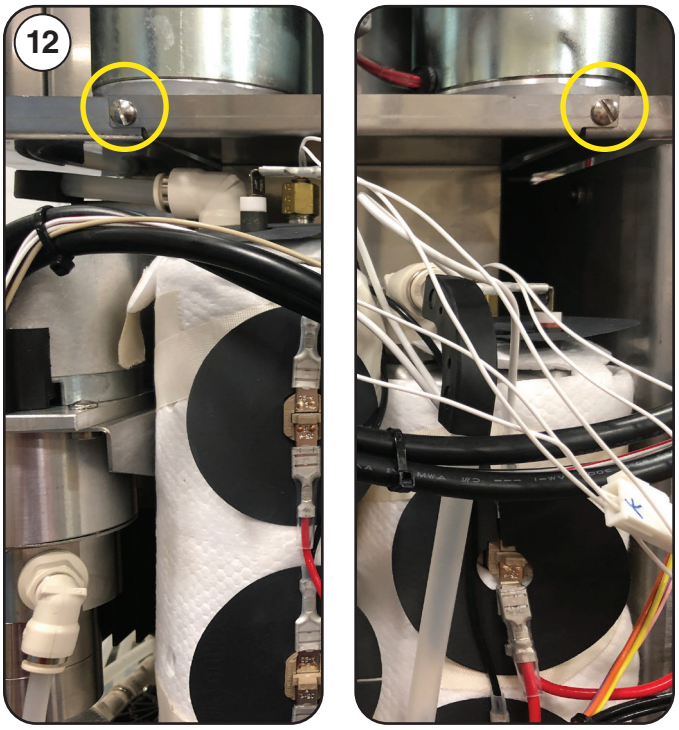
Disconnect each tank temperature sensor 2 pin connector.

NOTE: Document wiring harness color to each temperature sensor.

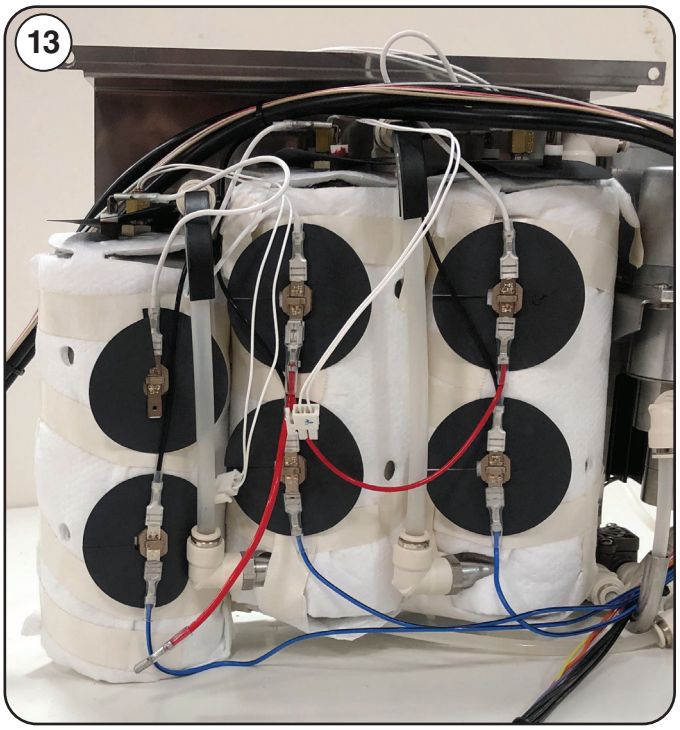


Use a 11/32 nut driver or socket to loosen 2 hex nuts under the tank module.

continued >



Remove the 2 slotted screws above the tank module.



Grab and tilt the tank module toward yourself while lifting upwards to remove from the lower, threaded, mounting studs. Set tank module aside.