F'REAL FRLB6 SERVICE MANUAL

Quick Links

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Model: FRLB6

Service Manual

Rev. D

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General Information

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Consumer Error Codes

Other Issues

Daily Blender Maintenance

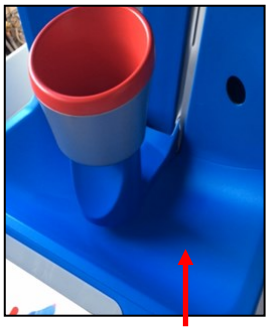
1 Open the front door and perform a visual inspection to verify the surfaces are clean.

2 Wipe down the blender daily with a soft cloth and solution or glass cleaner.

Don't spray solution directly onto the screens

3 Wipe down the Cup Holder and underneath the Cup Holder in the Drip Pan area with a damp cloth.

Cup Holder



Drip Pan

4 Press upwards on the Flip-Up Door to clean off any product build-up around the blending chamber rim and gasket.

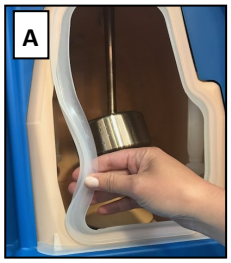
Be careful not to damage the gasket

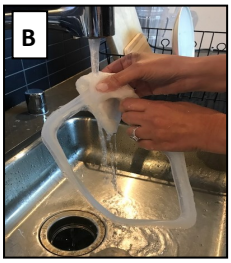
Weekly Blender Maintenance

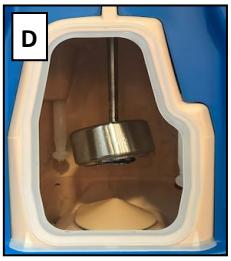
1 Open front door and locate the seal from around the chamber opening and follow the steps below:

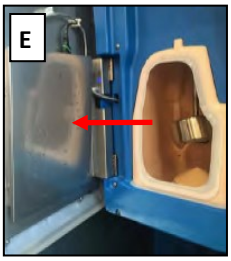
Remove the seal

A. Clean seal with a damp cloth and rinse
B. Clean chamber opening rim, inside and out
C. Re-install the seal
D. Clean the Chamber Door









2 Locate the cup sensors underneath the front door. Use a damp cloth and wipe them down.

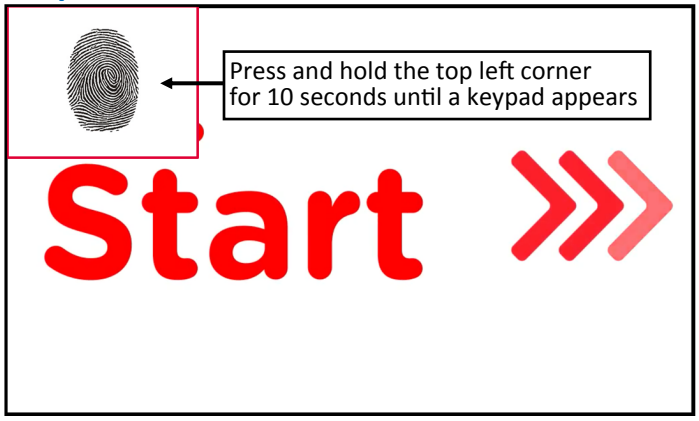
(10 total sensors)

Main Menu

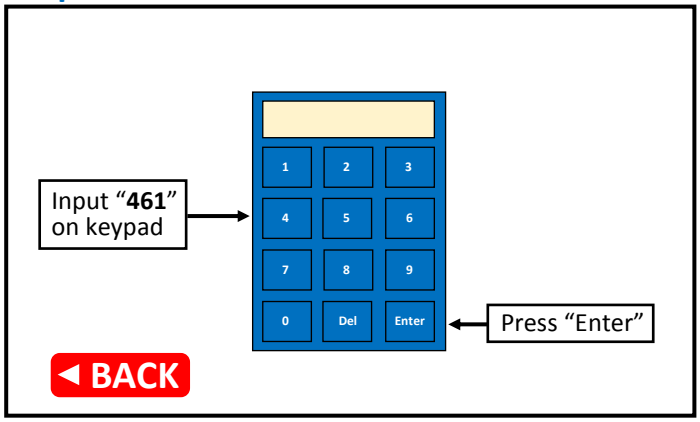
Access the Main Menu

Locate the lower screen and follow the instructions below to access the **Main Menu**:

Step 1

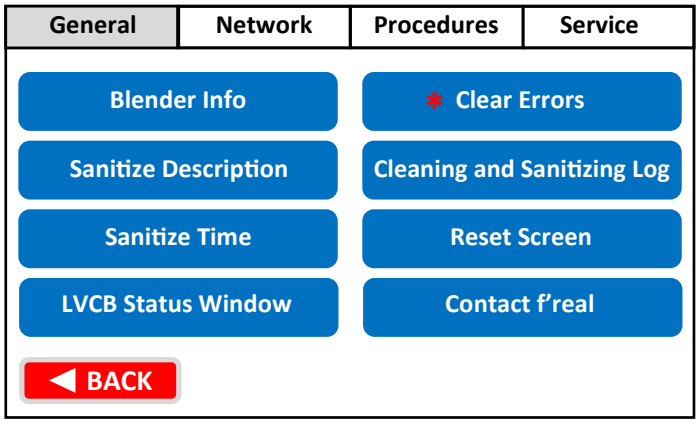


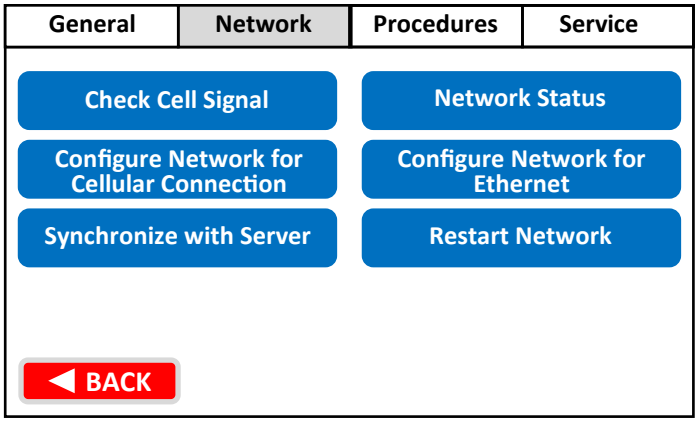
Step 2

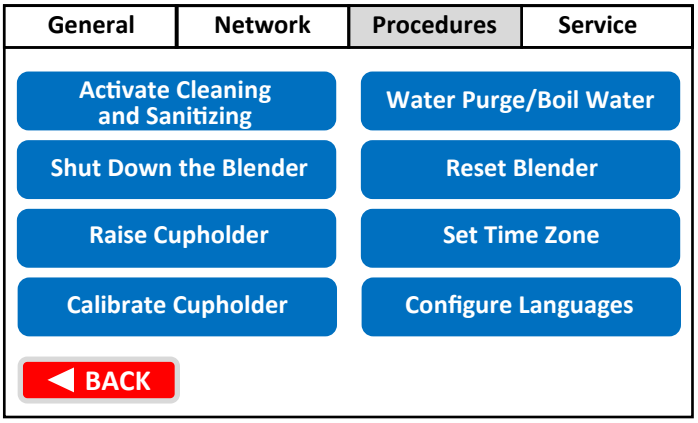


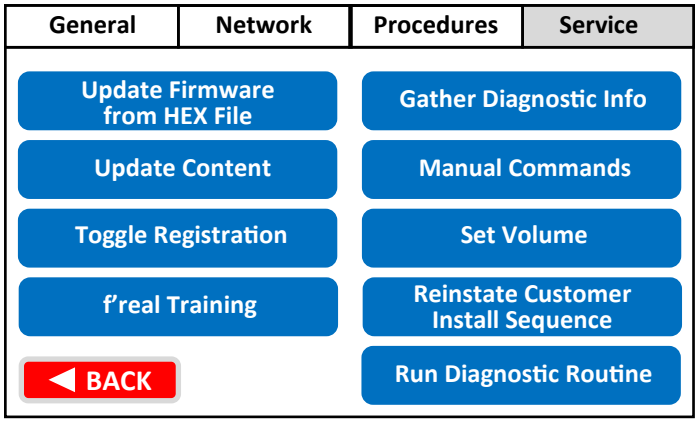
Main Menu Options

The Main Menu utilizes a 4-tab layout that results in a single access point.









* How to Reset a Blender Error Code

Used while Troubleshooting errors from pages 6-13

1. Follow Steps 1 & 2 in the "Access the Main Menu" above.
2. Press the "Clear Errors" button on the "General" tab.

Blender Error Codes

Error 64: Mix Motor Peak Current Limit Exceeded

TRIGGER: Mix Motor current exceeds 9.5 amps

1. Check the display freezer temperature. f'real products should be between 0-6°F.
   A. Perform the Squeeze Test by squeezing a chocolate milkshake in the middle of the cup. You should be able to squeeze a dime-size dent in the cup. If not, the product is too cold for blending (see "Too Thick/Too Thin Shakes" on Pg 14).
   B. Ensure the product is tempered (see "Too Thick/Too Thin Shakes" on Pg 16).
2. Open the front door and spin the Mix Motor Spindle by hand to ensure it spins freely.
   A. If the spindle turns with little or no resistance, proceed to Step 3.
   B. If the spindle won't turn or is difficult to turn, replace the **Mix Motor** (Parts Manual: Mixer System).
3. Access the Main Menu and press the "Clear Errors" button.
4. Remove the right side panel and locate the High Voltage Control Board (HVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep the blender unplugged when replacing parts and practice caution when testing voltages.*
   A. Measure for DC voltages for the Mix Motor on the HVCB at TB3.
      a. If there is voltage present, proceed to Step 4.B.
      b. If there is no voltage present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).
   B. Measure the resistance through the Mix Motor wiring. Resistance should be between 4-6 ohms.
      a. If out of range, replace the **Mix Motor** (Parts Manual: Mixer System).

Error 65: Position Motor Peak Current Limit Exceeded

TRIGGER: Position Motor current exceeds 8 amps

1. Check the display freezer temperature. f'real products should be between 0-6°F.
2. Check for obstructions in the path of the Cup Holder.
3. Access the Main Menu and press the "Clear Errors" button.
4. Remove the right side panel and measure DC voltages for the Position Motor on the Low Voltage Control Board at TB23.
   A. If there is voltage present, replace the **Position Motor** (Parts Manual: Linear Motion System).
   B. If there is no voltage present, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 66: Pump Motor Peak Current Limit Exceeded

TRIGGER: Pump Motor current exceeds 9.5 amps

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the left side panel to locate the Rotary Pump Head (RPH) at the bottom of the blender. Pull out the plastic shelf housing the parts. Disconnect the metal band securing it to the Water Pump Motor. Manually turn the shaft key on the RPH.
   A. If it turns will little or no resistance, proceed to Step 3
   B. If it is difficult to turn or locked up, replace the **Rotary Pump Head** (Parts Manual: Water System).
3. Remove the right side panel and locate the High Voltage Control Board (HVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep the blender unplugged when replacing parts and practice caution when testing voltages.*
   A. Ensure the wire harness from the Water Pump Motor is securely connected to the HVCB at TB9.
   B. Measure for DC voltages for the Water Pump Motor on the HVCB at TB9.
      a. If there is voltage present, proceed to Step 3.C.
      b. If there is no voltage present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).
   C. Measure the resistance through the Water Pump Motor wiring. The resistance should be between 8-9 ohms.
      a. If out of range, replace the **Water Pump Motor** (Parts Manual: Water System).

Error 67: Time-Out Occurred During Blending

TRIGGER: Any blend routine time-out parameter exceeded

1. Open the front door and ensure that the Blending Components are assembled/functioning correctly and are tight.
2. Check the display freezer temperature. f'real products should be between 0-6°F.
3. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
   A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
   B. Blend a shake. If the error returns, proceed to Step 4.
4. Remove the left, right and rear panels and check the Position Motor Encoder located on the back of the Position Motor.
   A. Access the Position Motor Encoder from the back of the blender.
   B. Verify that the connector to the encoder is oriented properly. From top to bottom, the wire orientation should be: Red | Black | Orange | Brown. Verify that the wires are secure. (continued on the next page)

C. If the encoder connections are correct/secure, Access the Main Menu and press the "Clear Errors" button.
    a. Blend a shake. If the error returns, replace the **Position Motor** (Parts Manual: Linear Motion System).

Error 69: Flip-Up Door Misalignment During Blend on Travel Up

TRIGGER: Flip-Up Door closed during blending while carriage position is sensed as holding it open on travel up

1. Ensure the consumer completely removed the foil lid from the frozen product.
2. Open the front door and check the chamber for signs of debris.
3. Access the Main Menu and press the "Clear Errors" button.
4. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
    A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
    B. Blend a shake. If the error returns, proceed to Step 5.
5. If the error occurred as the cup is traveling into the blending chamber, replace the **Flip-Up Door Assembly** (Parts Manual: Mechanical System).

Error 6B: Home Sensor Malfunction During Blending

TRIGGER: Home sensor blocked or unblocked at the wrong carriage location

1. Access the Main Menu and press the "Clear Errors" button.
2. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
    A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
    B. Blend a shake. If the error returns, proceed to Step 3.
3. Remove the Inside Left and Inside Right panels (located behind the Cup Holder) and manually raise the Cup Holder to inspect the Home Sensor (located behind the Cup Holder Carriage):
    A. Ensure there are no foreign substances on the sensing posts. Clean if needed.
    B. Check for signs of water damage. If damage is present, replace the **Home Sensor** (Parts Manual: Linear Motion System).
4. Remove the right side panel to remove and re-seat the wire connections on the Low Voltage Control Board (LVCB) at the connection located at TB7.
5. Access the Main Menu. Press the "LVCB Status Window" button and locate Line Q: "HomeSN"
    A. If it reads: "HomeSN: 0" and the Cup Holder is in the home position, replace the **Home Sensor** (Parts Manual: Linear Motion System).

Error 6E: Steamer Thermistor Shorted or Open

TRIGGER: A short or open circuit of the steamer heater is detected by the LVCB

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the left side panel and check the thermistor wires and connector on the bottom of the Steamer Heater. The Steamer Heater is the upper heater on the left-hand side of the blender.
    A. Ensure the wires are seated in the connector securely.
    B. Check the wiring harness for damage or breaks in the wiring insulation. Replace the **Steamer Heater** (Parts Manual: Water System), if necessary.
3. Remove the right side panel and check the wiring on the Low Voltage Control Board at the connection labeled TB13.
    A. Ensure the wires are securely in place in the connector and the board.
    B. Disconnect the TB13 connector and measure the resistance through the white wires on the bottom of the connector, it should measure 3K-10K ohms.
        a. If out of range, replace the **Steamer Heater** (Parts Manual: Water System).

Error 71: Scour Thermistor Shorted or Open

TRIGGER: A short or open circuit of the scour heater thermistor is detected by the LVCB

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the left side panel and check the thermistor wires and connector on the bottom of the Scour Heater. The Scour Heater is the lower heater on the left-hand side of the blender.
    A. Ensure the wires are seated in the connector securely.
    B. Check the wiring harness for damage or breaks in the wiring insulation. Replace the **Scour Heater** (Parts Manual: Water System), if necessary.
3. Remove the right side panel and check the wiring on the Low Voltage Control Board at the connection labeled TB13.
    A. Ensure the wires are securely in place in the connector and the board.
    B. Disconnect the TB13 connector and measure the resistance through the white wires on the bottom of the connector, it should measure 3K-10K ohms.
        a. If out of range, replace the **Scour Heater** (Parts Manual: Water System).

Error 74: Time-Out Occurred During Homing

TRIGGER: Any homing time-out parameter exceeding 120 seconds

1. Ensure the blender has the latest Firmware Version.
2. Inspect all moving components of the Linear Motion System, checking for obstructions in the path of the Cup Holder.
3. Access the Main Menu and press the "Clear Errors" button.
4. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
   A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
   B. Blend a shake. If the error returns, proceed to Step 5.
5. Remove the right side panel and measure for DC voltages for the Position Motor on the Low Voltage Control Board at TB23.
   A. If there is voltage present, replace the **Position Motor** (Parts Manual: Linear Motion System).
   B. If there is no voltage present, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 75: Sanitize Sequence Timed Out

TRIGGER: The required blending chamber temperature wasn't reached within 25 minutes

1. Access the Main Menu and press the "Clear Errors" button.
   A. Ensure the front door stays open during the troubleshooting process unless stated otherwise.
   B. If needed, cancel the sanitize cycle if it starts again:
      a. Access the Main Menu and select the "Service" tab, press the "Manual Commands" button and press the "Cancel Sanitize" button.
   C. If needed, activate the Sanitize Cycle when ready:
      a. Access the Main Menu and select the "Procedures" tab and press the "Activate Cleaning and Sanitizing" button.
2. Pour a large amount of water inside the chamber to verify whether or not it drains.
   A. If it drains, proceed to Step 3.
   B. If it doesn't drain, ensure the drain is not pinched, kinked or clogged and proceed to Step 3, only after it drains.
3. Check if water is continuously running inside the blending chamber.
   A. If the water continues to run out of the spray or rotary nozzles, replace the **3-Way Valve** (Parts Manual: Water System).
   B. If the water continues to run out of the Water Shot Orifice, replace the **Single Valve** (Parts Manual: Water System).
   C. If water is not continuously running, proceed to Step 4.
4. Clear the Water Shot Orifice inside the chamber of any lime scale build-up by grabbing it and squeezing it from side to side. It is the silicone nozzle situated on the ceiling of the chamber, to the left of the blending shaft.
5. Access the Main Menu and select the "Procedures" tab and press the "Activate Cleaning and Sanitizing" button.
6. Access the Main Menu and select the "LVCB Status Window" button and locate Line F: "StmTemp"
   A. Wait 5-10 minutes before proceeding to the next steps (the heaters needs to heat up).
   B. If the StmTemp never rises above 85°, proceed to Step 7.
   C. If the StmTemp rises above 218°, proceed to Step 8.
   D. If the StmTemp rises to 200-218° and then drops 30° or more suddenly, proceed to Step 9.
7. Remove the left side panel and verify the Steamer (upper) Heater is heating properly.
   A. Verify wiring at the steamer tank is intact and correct.
   B. Check for continuity through the steamer elements with a Multi-Meter.
      a. If continuity is present, proceed to the Step 7.C.
      b. If no continuity is present, replace the **Steamer Heater** (Parts Manual: Water System).
   C. Verify steamer tank is receiving 120VAC by measuring at the elements on top of the Heater. If no voltage is present, measure the VAC between the bottom post on the Thermal Cutout (white wire) and the main post (white wire) on top of the heater. If there is still no voltage present, remove the right side panel and proceed to the next step.
   D. The voltage for the steamer tank is located at TB6 on the HVCB. Measure the white wires for 120VAC. If no voltage is present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).
8. If there is no clog, check the Chamber Thermistor wiring located on the lower left side of the Blending Chamber (remove the left side panel for access). Verify that both sides of the connection are secure. Verify the connection is secure on the LVCB, located at P2 on the Pinch Board (located underneath the blending chamber with the two tail panels and the throat panel removed).
9. Locate the two wires (black and white) connected on the side of the Steamer Heater, this is the Thermal Cutout. Remove the black jumper wire connection from the top of the Heater. Then, remove the white wire from the Thermal Cutout and connect it to the open power terminal on top of the Steamer Heater.
   A. Access the Main Menu and select the "Procedures" tab and press the "Activate Cleaning and Sanitizing" button.
   B. If the Error 75 **does not** return, the Thermal Cutout has failed. Replace the **Steamer Heater** (Parts Manual: Water System).

Error 76: Sanitize Steamer Recharge Limit Exceeded

TRIGGER: Steamer recharge timed-out after 60 seconds

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button. (continued on next page)
3. Run an Empty Cup Cycle to determine if the amount of water being dispensed actually matches what the blender counts:
    A. Locate and empty f'real cup - if none is present, remove a shake from the freezer and wash/rinse out the shake and place the cup in the cup holder.
    B. Access the Main Menu and select the "Service" tab.
    C. Press the "Manual Commands" button.
    D. Press the "Regular Thick" button and then quickly press the "Bypass Hardness Sensor" button. The cup will go up and return in 60 seconds with a small amount of water in the bottom of the cup.
    E. Quickly Access the Main Menu and select the "General" tab and press the "LVCB Status Window" button and inspect Line J and inspect the last value on that line "Count XXXXmL".
    F. Measure the amount of water in your f'real cup to verify if that amount matches the amount on Line J of the LVCB Status Window.
        a. If the amounts are the same, proceed to Step 4.
        b. If the amounts are different, replace the **Flow Meter** (Parts Manual: Water System).
4. Remove the left side panel and inspect for any internal leaks. Replace parts as necessary.

Error 77: Steamer Heater Temperature Outside of Allowable Range

TRIGGER: Steamer temperature above 250°F or below 40°F

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Remove the left side panel and check the thermistor wires and connector on the bottom of the Steamer Heater. The Steamer Heater is the upper heater on the left-hand side of the blender.
    A. Verify wiring is intact and correct.
    B. Check for continuity through the steamer elements with a Multi-Meter.
        a. If resistance is present, proceed to the Step 3.C.
        b. If no resistance is present, replace the **Steamer Heater** (Parts Manual: Water System).
    C. Verify the steamer tank is receiving 120VAC by measuring at the elements on top of the heater. If no voltage is present, measure the VAC between the bottom post on the Thermal Cutout (white wire) and the main post (white wire) on top.
        a. If there is still no voltage present, remove the right side panel and proceed to the next step.
    D. The voltage for the Steamer Heater is located at TB6 on the HVCB. Measure the white wires for 120VAC.
        a. If no voltage is present at this point, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 78: Scour Heater Temperature Outside of Allowable Range

TRIGGER: Scour Heater temperature is above 310° or below 40°

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Remove the left side panel and check the thermistor wires and connector on the bottom of the Steamer Heater. The Steamer Heater is the lower heater on the left-hand side of the blender.
    A. Verify wiring is intact and correct.
    B. Check for continuity through the scour elements with a Multi-Meter.
        a. If resistance is present, proceed to Step 3.C.
        b. If no resistance is present, replace the **Scour Heater** (Parts Manual: Water System).
    C. Verify the scour tank is receiving 120VAC by measuring at the elements on top of the heater. If no voltage is present, measure the VAC between the bottom post on the Thermal Cutout (white wire) and the main post (white wire) on top of the heater. If there is still no voltage present, remove the right side panel and proceed to the next step.
    D. The voltage for the Scour Heater is located at TB6 on the HVCB. Measure the black wires for 120VAC.
        a. If no voltage is present at this point, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 7A: Rinse Water-Shot Time Too Short

TRIGGER: Rinse Water-Shot reached 100mL in less than 20 seconds

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Clear the Water Shot Orifice inside the chamber of any lime scale build-up by grabbing it and squeezing it from side to side. It is the silicone nozzle situated on the ceiling of the chamber, to the left of the blending shaft.

4. Run an Empty Cup Cycle to determine if the amount of water being dispensed matches what the blender counts:
    A. Locate an empty f'real cup or remove a shake from the freezer and wash/rinse out the shake.
    B. Access the Main Menu and select the "Service" tab.
    C. Press the "Manual Commands" button and place the cup in the cup holder.
    D. Press the "Regular Thick" button and then quickly press the "Bypass Hardness Sensor" button directly after.
    E. As the cup moves up, quickly access the Main Menu and select the "General" tab and press the "LVCB Status Window" button and locate Line J. Inspect the last value on that line: "Count XXXXmL".
    F. Measure the amount of water in your f'real cup to verify if that amount matches the amount on Line J of the LVCB Status Window. (continued)
        a. If the amounts are the same, proceed to Step 5.
        b. If the amounts are different, replace the **Flow Meter** (Parts Manual: Water System).
5. Inspect the steamer heater and its water line for lime scale build up. Replace the **Steamer Heater** (Parts Manual: Water System), if necessary.

Error 85: Steamer Heater Temperature Control Error

TRIGGER: Steamer temperature has not reached target temperature within 15 minutes or temperature is above 151°F

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Access the Main Menu. Press the "LVCB Status Window" button and locate Line F: "StmTemp:XXX"
    A. If the "StmTemp" is above 100°F, replace the **Steamer Heater** (Parts Manual: Water System).
    B. If the "StmTemp" is below 100°F, proceed to Step 4.
4. Remove the left side panel to verify the Steamer Heater is heating properly.
    A. Verify wiring is intact and correct.
    B. Check for continuity through the elements on top of the Steamer Heater (upper heater) with a Multi-Meter.
        a. If resistance is present, proceed to Step 4.C.
        b. If no resistance is present, replace the **Steamer Heater** (Parts Manual: Water System).
    C. Verify the heater is receiving 120VAC by measuring at the elements on top of the heater.
        a. If no voltage is present, remove the right side panel and proceed to step 5.
        b. If 120VAC is present, replace the **Steamer Heater** (Parts Manual: Water System).
5. Remove the right side panel to verify the Steamer Heater is receiving voltage.
    A. The voltage for the Steamer Heater is located on the HVCB at TB6. Measure at the white wires for 120VAC.
        a. If no voltage is present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 86: Scour Heater Temperature Control Error

TRIGGER: Scour temperature has not reached target temperature within 15 minutes or temperature is above 151°F

1. Access the Main Menu and press the "Clear Errors" button.
2. Ensure water supply is on and regulated to 25 - 65 PSI.
3. Access the Main Menu. Press the "LVCB Status Window" button and locate Line E: "ScrTemp:XXX"
    A. If the "ScrTemp" does not reach 130° or by-passes it, replace the **Scour Heater** (Parts Manual: Water System).
    B. If the "ScrTemp" is 70°F or below, proceed to Step 4.
4. Remove the left side panel to verify the Scour (lower) Heater is heating properly.
    A. Verify wiring is intact and correct.
    B. Check for continuity through the elements on top of the Scour Heater with a Multi-Meter.
        a. If resistance is present, proceed to Step 4.C.
        b. If no resistance is present, replace the **Scour Heater** (Parts Manual: Water System).
    C. Verify the heater is receiving 120VAC by measuring at the elements on top of the heater.
        a. If no voltage is present, remove the right side panel and proceed to Step 4.D.
        b. If 120VAC is present, replace the **Scour Heater** (Parts Manual: Water System).
    D. The voltage for the Scour Heater is located at TB6 on the HVCB. Measure at the black wires for 120VAC.
        a. If no voltage is present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 8A: Mix Motor Open Circuit Detected

TRIGGER: Mix Motor current is less than .05 amps during blend

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the right side panel and locate the High Voltage Control Board (HVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep blender unplugged and practice caution.*
    A. Ensure the wire harness from the Mix Motor is securely connected to the HVCB at TB6.

B. Ensure the White Jumper cables between the HVCB and LVCB are secure.
C. Measure the resistance through the Mix Motor wiring back to the motor. It should read 4-6 ohms.
    a. If in range, proceed to Step 2.D.
    b. If out of range, replace the **Mix Motor** (Parts Manual: Mixer System).
D. Measure DC voltages for Mix Motor on the HVCB at TB6.
    a. If there is voltage present, replace the **Mix Motor** (Parts Manual: Mixer System).
    b. If there is no voltage present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 8B: Position Motor Open Circuit Detected

TRIGGER: Position Motor current is less than .05 amps during blend

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the right side panel and locate the Low Voltage Control Board (LVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep the blender unplugged when replacing parts and practice caution when testing voltages.*
   A. Ensure the wire harness leading from the Position Motor is securely attached to the Low Voltage Control Board at TB23.
   B. Measure the resistance through the Position Motor wiring back to the motor. It should read 4-6 ohms.
      a. If in range, proceed to Step 2.C.
      b. If out of range, replace the **Position Motor** (Parts Manual: Linear Motion System).
   C. Measure DC voltages for the Position Motor on the LVCB at TB23.
      a. If there is voltage present, replace the **Position Motor** (Parts Manual: Linear Motion System).
      b. If there is no voltage present, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 8C: Pump Motor Open Circuit Detected

TRIGGER: Pump Motor current is less than .05 amps during blend

1. Access the Main Menu and press the "Clear Errors" button.
2. Remove the right side panel and locate the High Voltage Control Board (HVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep the blender unplugged when replacing parts and practice caution when testing voltages.*
   A. Ensure the wire harness from the Pump Motor is securely connected to the HVCB at TB9.
   B. Ensure the White Jumper cables between the HVCB and LVCB are secure.
   C. Measure the resistance through the Pump Motor wiring. It should read 4-6 ohms.
      a. If out of range, replace the **Pump Motor** (Parts Manual: Water System).
      b. If in range, proceed to the next step.
   D. Measure DC voltages for the Position Motor on the HVCB at TB9.
      a. If there is voltage present, replace the **Pump Motor** (Parts Manual: Water System).
      b. If there is no voltage present, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 91: Mix Motor FET Destroyed

TRIGGER: Current or rotation being detected in the Mix Motor circuit while it is inactive

1. Remove the right side panel and locate the High Voltage Control Board (HVCB)
   A. Ensure the wire harness from the Mix Motor is securely connected to the HVCB at TB6.
2. Turn the blender off, wait 30 seconds and turn it back on.
3. If the error returns, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 92: Pump Motor FET Destroyed

TRIGGER: Current being detected in the Pump Motor circuit while it is inactive

1. Remove the right side panel and locate the High Voltage Control Board (HVCB).
   Warning: *There are areas of High Voltage in the Electronics Bay. Keep the blender unplugged when replacing parts and practice caution when testing voltages.*
   A. Ensure the wire harness from the Pump Motor is securely connected to the HVCB at TB9.
2. Turn the blender off, wait 30 seconds and turn it back on.
3. If the error returns, replace the **High Voltage Control Board** (Parts Manual: Electrical System).

Error 95: Parameter Chucksum after Reading EEPROM

TRIGGER: At start-up, if Parameter Checksum match fails

1. Open the front door by pressing the tab underneath the right side of the screen and power the blender off. Wait 30 seconds and power back on.
2. If the error returns, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 96: Extended Water Shot too Short in Duration

TRIGGER: The target volume of 5,000mL was reached faster than 10 seconds

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Remove the left side panel and inspect for any internal leaks. Replace parts as necessary.
4. Clear the Water Shot Orifice inside the chamber of lime scale build-up by grabbing it and squeezing it from side to side.

Error 97: Extended Water Shot too Long in Duration

TRIGGER: The Water Shot ran longer than 900 seconds during water system purge

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu and press the "Clear Errors" button.
3. Remove the left side panel and inspect for any internal leaks. Replace parts as necessary.
4. If there are no signs of scale buildup and the blender has been subjected to water pressure greater than 65 PSI, replace the **Single-Valve** (Parts Manual: Water System).

Error 9A: Chamber Temperature Sensor Differential Limit Exceeded

TRIGGER: Difference of greater than 10° detected between sensors

1. Access the Main Menu. Press the "LVCB Status Window" button and locate Line E: "ChmTemps"
   A. If the differential of the temperatures have more than a 10° difference, replace the **Chamber Thermistor** (Parts Manual: Water System).
   B. If the differential of the temperatures has less than a 10° difference, proceed to Step 2.
2. Access the Main Menu and press the "Clear Errors" button.
3. Remove the left side panel and locate the thermistor at the lower-left corner of the chamber. The wires are black and attached to the blending chamber behind a small metal shield.
   A. Check the Chamber Thermistor wires and connector for water damage or breaks in the wiring insulation.
   B. Ensure the wire harness on the from the Chamber Thermistor is securely connected to the Pinch Guard Assembly at P2.
      a. If damaged, replace the **Chamber Thermistor** (Parts Manual: Water System).
   C. Measure the resistance through the Chamber Thermistor wiring harness. It should read 3K-10K ohms.
      a. If in range, proceed to the Step 3.D.
      b. If out of range, replace the **Chamber Thermistor** (Parts Manual: Water System).
   D. Measure DC voltages for the Chamber Thermistors on the Pinch Guard Assembly at P2.
      a. If there is voltage present, replace the **Chamber Thermistor** (Parts Manual: Water System).
      b. If there is no voltage present, replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).

Error 9B/9C: 1 of the 2 Chamber Thermistors Shorted or Open

TRIGGER: A short or open circuit of the thermistor is detected by the LVCB

1. Remove the left side panel and locate the thermistor at the lower-left corner of the chamber. The wires are black and attached to the blending chamber behind a small metal shield.
   A. Check the Chamber Thermistor wires and connector for water damage or breaks in the wiring insulation.
   B. Ensure the wire harness on the from the Chamber Thermistor is securely connected to the Pinch Guard Assembly at P2.
      a. If damaged, replace the **Chamber Thermistor** (Parts Manual: Water System).
   C. Measure the resistance through the Chamber Thermistor wiring harness. It should read 3K-10K ohms.
      a. If in range, proceed to Step 1.D.
      b. If out of range, replace the **Chamber Thermistor** (Parts Manual: Water System).
   D. Measure DC voltages for the Chamber Thermistors on the Pinch Guard Assembly at P2.
      a. If there is voltage present, replace the **Chamber Thermistor** (Parts Manual: Water System).
      b. If there is no voltage present, replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).

Error 9D: End-Stop Detected too Early (Linear Motion Calibration Sequence)

TRIGGER: Calculated location indicates stopping before 14 inches of travel, which is beyond the limit

1. Access the Main Menu and press the "Clear Errors" button.
2. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
   A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
   B. If the error persists, proceed to Step 3.
3. Verify Linear Motion System is not obstructed at the top of the cup carriage movement.
4. Verify if the Cup Holder can be moved manually be pulling up on the bottom of the Cup Holder Carriage.
   A. If it moves, replace the **Lower LinMo Assembly** (Parts Manual: Mechanical System), if necessary.
   B. If it does not move, proceed to Step 5.

5. Remove the panels behind and above the Cup Holder to expose the Pinch Board. Inspect for dust or water damage.
6. Remove the right side panel and measure DC voltages for the Position Motor on the LVCB at TB23.
    A. If there is voltage present, replace the **Position Motor** (Parts Manual: Linear Motion System).
    B. If there is no voltage present, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 9E: End-Stop Detection Failed Error (Linear Motion Calibration Sequence)

TRIGGER: Calculated location indicates more than 16 inches of travel, which is beyond the limit

1. Access the Main Menu and press the "Clear Errors" button.
2. Locate the "Procedures" tab and press the "Calibrate Cupholder" button in the Main Menu.
    A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
    B. If the error persists, proceed to Step 3.
3. Remove the panels behind the Cup Holder and verify Linear Motion System is not obstructed at the top of the cup carriage movement.
    A. Ensure the yellow spacer and screw are in place on the back of the Cup Holder Carriage.
4. Verify if the Cup Holder can be moved manually be pulling up on the bottom of the Cup Holder Carriage.
    A. If it moves, replace the **Lower LinMo Assembly** (Parts Manual: Linear Motion System), if necessary.
    B. If it does not move, proceed to Step 5.
5. Remove the right side panel and measure DC voltages for the Position Motor on the LVCB at TB23.
    A. If there is voltage present, replace the **Position Motor** (Parts Manual: Linear Motion System).
    B. If there is no voltage present, replace the **Low Voltage Control Board** (Parts Manual: Electrical System).

Error 9F: Sanitize Failed, Blending is Locked Out

TRIGGER 1: Blend was requested while sanitize is in progress or hasn't completed in 24 hours
TRIGGER 2: A manual sanitize stop was requested after the previous sanitize failed

1. Access the Main Menu and press the "Clear Errors" button.
2. Clear the Water Shot Orifice inside the chamber of any lime scale build-up by grabbing it and squeezing it from side to side. It is the silicone nozzle situated on the ceiling of the chamber, to the left of the blending shaft.
3. Access the Main Menu and select the "Procedures" tab and press the "Activate Cleaning and Sanitizing" button.
4. If the blender errors out, locate the error code troubleshooting steps in this Service Manual.

Error A0: Chamber is too Cold

TRIGGER: Chamber temperature is less than 40° at any time

1. Access the Main Menu and press the "Clear Errors" button.
2. Access the Main Menu. Press the "LVCB Status Window" button and locate Line E: "ChmTemps: XXX : XXX"
    A. If either ChmTemp is <40° and the blender is indoors at room temperature, replace the **Chamber Thermistor** (Parts Manual: Water System).

Error A1: Flush for Shipping

TRIGGER: Blender is flushed and ready for shipping

Blender is ready to ship, TURN OFF with power switch and pack for shipping.

Error A2: Flip-Up Door was Open During the End of the Blend

TRIGGER: **Flip Door misalignment when carriage is going downward**

1. Ensure the consumer completely removed the foil lid from the frozen product.
2. Open the front door and check the chamber for signs of debris.
3. Access the Main Menu and press the "Clear Errors" button.
4. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
    A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
    B. Blend a shake. If the error returns, proceed to Step 5.
5. If the error occurred as the cup is traveling into the blending chamber, replace the **Flip-Up Door Assembly** (Parts Manual: Mechanical System).

Consumer Errors

"Please remove the cup lid completely"

TRIGGER: The LVCB detects a spike in the Position Motor current around the time the blending disc would contact the foil lid

1. Ensure the customer is completely removing the foil lid before blending. Open the front door and check the blending chamber for debris.
2. Ensure the Cup Lid Weight and Blending Assembly are installed correctly. If the Blending Assembly is damaged or missing, replace the **Blending Assembly** (Parts Manual: Mixer System).
3. Run another shake to make sure the error is cleared.
4. Ensure f'real product cups are not over-filled. A properly filled cup, before blending, will be two-thirds full. If cups are over-filled or if they are thawed and re-frozen upside down, those shakes will not blend. Try blending a properly filled cup.

"Please close the front door"

TRIGGER: Front door is detected as being open when the blender is blending, in sanitize or in an idle state

1. Ensure the front door is completely shut and latched.
2. Locate the Front Door Switch on the Pinch Guard Assembly.
    A. To find the Front Door Switch, remove the (2) small panels directly behind the Cup Holder. Next, remove the right side panel. Lastly, remove the Throat Panel that sits under the Chamber. The switch is located on the front right side of the Pinch Guard Assembly. Ensure it is secure and undamaged.
    B. Access the Main Menu. Press the "LVCB Status Window" button and locate Line Q: "FrDrSw"
        a. If "FrDrSw: 1" and the door will not close, replace the **Front Door Lock Assembly** (Parts Manual: Mechanical System).
        b. If "FrDrSw: 0" and the door is closed/latched, replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).

"Flippin' door is open"

TRIGGER: Flip-Up Door open at a non-critical time

1. Verify that the Flip-Up Door is seated properly over the opening. Ensure that the silicone gasket on the Flip-Up Door is securely fastened to the Flip-Up Door. If the gasket is coming off or damaged, replace the **Flip-Up Door** (Parts Manual: Mechanical System).
2. Check the operation of the Flip-Up Door. Manually operate the door. The Flip-Up Door should have spring tension, but should operate smoothly. If not, replace the **Flip-Up Door Assembly** (Parts Manual: Mechanical System).
3. Access the Main Menu. Press the "LVCB Status Window" button and locate Line Q: "FpDrSw".
    A. If it shows "FpDrSw: 1" and the Flip-Up door is shut, the screen should be back to normal.
    B. If it shows "FpDrSw: 0" and the Flip-Up door is shut, proceed to Step 4.
4. Verify operation of the Flip-Up Door Switch with a Multi-Meter.
    A. Disconnect the harness going to the Flip-Up Door switch.
    B. Place the probes of the meter into the connector going to the switch.
        a. If the Flip-Up Door is closed, you should get a continuity tone or very little resistance.
        b. If switch tests bad, replace the **Flip-Up Door Assembly** (Parts Manual: Mechanical System).

"Something's in the way of the cup holder"

TRIGGER: Position Motor detects a current overload (> 3.0A) at any time during the cycle

1. Check the path of the Cup Holder and remove any obstructions that are limiting the free movement, including the area around the opening at the bottom of the blending chamber.
2. Access the Main Menu and locate the "Procedures Tab" and press the "Calibrate Cupholder" button.
    A. If the "Calibrate Cupholder" procedure is successful, end troubleshooting.
    B. Blend a shake. If the error returns, proceed to Step 3.
3. Open the front door and ensure that the Flip-Up Door is not damaged. If so, replace the **Flip-Up Door** (Parts Manual: Mechanical System).
4. Access the Main Menu. Press the "LVCB Status Window" button and locate Line H: "PosMotCurrent"
    A. Blend a shake and watch the "PosMotCurrent". This value should be less than 1.5A.
        a. If this value raises above 1.5A, replace the **Position Motor** (Parts Manual: Linear Motion System).

"Wrong cup size used"

TRIGGER: If the cup Size sensors are triggered too early, too late or not at all

1. Ensure the customer is using a f'real cup.
2. Locate the Cup Sensors underneath the front door and clean them using a damp paper towel. (continued on next page)

3. Access the Main Menu. Press the "LVCB Status Window" button and locate Line R: "CupInP"
    A. If Line R reads: "CupInP: 1" - replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).
    B. If Line R reads: "CupInP: 0" - troubleshooting is complete.

"The product is not cold enough to be blended"

TRIGGER: During the first part of the first bore, if the cup carriage moves fast and/or the mix motor current load is too small, it assumes there is no product in the cup or it has already been blended

1. Check the display freezer temperature. f'real products should be between 0-6°F.
2. Ensure f'real product cups are not over-filled. A properly filled cup, before blending, will be 2/3 full. If cups are over-filled or if they are thawed and re-frozen upside down or at an angle, those shakes will not blend. Try blending a properly filled cup.
3. Open the front door and verify that the Blending Components are secure and assembled correctly.
    A. If damaged or missing, replace the **Blending Assembly** (Parts Manual: Mixer System).

"The Blender needs water to blend"

TRIGGER: If the pressure switch is open for 10 seconds during Idle state

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Remove the left side panel and inspect for any internal leaks. Replace parts as necessary.
3. If no leaks are present, remove the Female Quick-Disconnect (QD) (water line) from the back of the blender. Point the water line into a bucket and depress the mechanism inside the QD.
    A. If no water is present, the issue is at store-level.
    B. If water is present, connect the QD back onto the blender.
4. Access the Main Menu and press the "Clear Errors" button.
5. If the error returns, remove the Female QD from the back of the blender.
6. Remove the left side panel and locate the Water Pressure Regulator (WPR) (located on the lower plastic shelf and has (2) blue quick-connect clips).
    A. Pull the top blue clip to remove it from the top of the WPR.
    B. Point the fitting from the top of the WPR into a large cup.
    C. Connect the Female QD back to the blender, you should have good water pressure.
        a. If no water pressure is present, replace the **Female Quick-Disconnect** (Parts Manual: Water System).
        b. If water is present, replace the **Scour Heater** (Parts Manual: Water System).

"Please remove any obstruction from the under-side of the blending chamber"

TRIGGER: Pinch condition during blend before the Mix Motor started

1. Check the path of the Cup Holder area around the opening at the bottom of the blending chamber and remove any obstacles that may be blocking the path.
2. Wipe off the Pinch Guard Assembly located underneath the blending chamber with a damp cloth.

"Cup was left in the Cup Holder too Long"

TRIGGER: Cup was not removed within 1 minute of a completed blend

1. Wipe off the lens on the bottom, right-hand side of the Cup Holder.
2. Wipe off the Pinch Guard Assembly located underneath the blending chamber with a damp cloth.

Other Issues

Front Door Issues

TRIGGER: Door will not shut/stay shut

1. Attempt to close the door by firmly pressing in on the lower right side of the LCD touchscreen bezel until you hear the door latch (unable to open the door without pressing the front door button).
   Caution: *Slamming the door will damage the display screen*.
    A. Remove the right side panel and inspect the latch to verify if it is bent or broken. Replace the **Front Door Lock Assembly** (Parts Manual: Mechanical System), as needed.

TRIGGER: Door will not open

1. Remove the right side panel and inspect the lower left hand side of the blending chamber. Locate the small metal tab with a hole at the end of it. The tab will be oriented at an angle. Use a screwdriver to press up on the tab to pop the door open.
    A. If it opens, slowly close the front door and watch where the front door latch meets the blender frame. If the latch has been bent or damaged, replace the **Front Door Lock Assembly** (Parts Manual: Mechanical System).
    B. If it will not open, the Front Door Lock may be energized. Unplug the Front Door Lock from the Pinch Guard Assembly at P6. If it unlocks, replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).

Front Door Water Leaks

TRIGGER: During any water event, water will leak from in between the front door and the chamber onto the screen below

1. Ensure the door is completely closed.
2. Open the front door and locate the Front Door Gasket. Ensure it is seated correctly and tightly in place on the rim of the blending chamber opening.
3. Check to see if the drain has an Air-Lock issue:
   A. Ensure the drain line flows in a downward direction at ALL times (no loops, kinks, etc.).
   B. Ensure the end of the blender's drain line is NOT submerged in water.
4. Close the door and run another cycle to see if the drips return. If it leaks, wipe it dry and attempt another cycle. If it still leaks, replace the **Front Door Seal** (Parts Manual: Water System).

Mixer System Issues: Unusual Noises during Blending

TRIGGER: Blender makes a grinding noise while mixing a f'real product

1. Open the front door and ensure the Blending Components are assembled/functioning correctly and are tight.
2. Check the display freezer temperature. f'real products should be between 0-6°F.
   A. Perform the Squeeze Test by squeezing a chocolate milkshake in the middle of the cup. You should be able to squeeze a dime-size dent in the cup. If not, the product is too cold for blending (see "Too Thick/Too Thin Shakes" below).
   B. Ensure the product is tempered (see "Too Thick/Too Thin Shakes" below).
3. Open the front door and spin Mix Motor Spindle by hand to ensure it spins freely. If the spindle won't turn, difficult to turn or is bent, replace the **Mix Motor** (Parts Manual: Mixer System).

Blended Beverages are Too Thin or Too Thick

TRIGGER: Anytime a blended product has on overly runny or overly thick consistency

Product Temperature Issue:

1. Check the freezer temperature of your display freezer. f'real products should be between 0-6°F.
   A. Perform the Squeeze Test by squeezing a chocolate milkshake in the middle of the cup. You should be able to squeeze a dime-size dent in the cup. If not, the product is too cold for blending.
   B. Ensure the product is tempered (see the next step).
2. Check the freezer temperature of your back-stock freezer:
   A. If the back-stock freezer is 0°, see the "Blender Issue" section below.
   B. If the back-stock freezer is below 0°, proceed to the next step.
      a. When moving product from the back-stock freezer that is less than 0°, ensure you place the product in the refrigerated section with your soda or beer for 45 minutes, at most.
      b. Every 15 minutes, perform the Squeeze Test (step 1.A above).
         i. If you cannot put a dent in the side of the shake during the squeeze test, the product is not ready to move into the front display freezer.
         ii. If you can put a dent in the side of the shake during the squeeze test, the product is ready to move into the front display freezer.

Blender Issue:

1. Ensure water supply is on and regulated to 25 - 65 PSI.
2. Access the Main Menu. Press the "LVCB Status Window" button and locate Line J: "Count XXXXmL".
   A. Run another shake on "Regular" and watch the XXXXmL - it should stop at or around 72mL (+/- 3mL). If it is more or less, replace the **Water Valve** (Parts Manual: Water System).

Cup Sensor Issues (Cup In Place Sensor Set)

TRIGGER: Something has interrupted one of the Infrared Beams that make up the cup sensor circuit

1. Ensure there is no cup in the Cup Holder.
2. Locate the Cup Sensors underneath the front door and clean them using a damp paper towel.
3. Access the Main Menu. Press the "LVCB Status Window" button and locate Line R: "CupInP".
   A. If Line R reads: "CupInP: 0" - troubleshooting is complete.
   B. If Line R reads: "CupInP: 1" - replace the **Pinch Guard Assembly** (Parts Manual: Electrical System).

Cup Sensor Issues (Cup Size Sensor Set)

TRIGGER: Something has interrupted one of the Infrared Beams that make up the cup sensor circuit

1. See the "Wrong cup size used" troubleshooting steps on page 14.