Drying Tumblers

50 Pound Capacity
75 Pound Capacity

Refer to Page 7 for Model Numbers
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Section 1
Safety Information

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

In the interest of safety, some general precautions relating to the operation of this machine follow.

<table>
<thead>
<tr>
<th>WARNING</th>
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<tr>
<td>• Failure to install, maintain and/or operate this product according to the manufacturer’s instructions may result in conditions which can produce serious injury, death and/or property damage.</td>
</tr>
<tr>
<td>• Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and unless you understand and have the skills to carry out the servicing.</td>
</tr>
<tr>
<td>• Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury or death.</td>
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<table>
<thead>
<tr>
<th>DANGER</th>
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<td>Danger indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.</td>
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<table>
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<tr>
<th>WARNING</th>
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<tr>
<td>Warning indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.</td>
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<table>
<thead>
<tr>
<th>CAUTION</th>
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<tr>
<td>Caution indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.</td>
</tr>
</tbody>
</table>

Additional precautionary statements ("IMPORTANT" and "NOTE") are followed by specific instructions.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.
IMPORTANT INFORMATION: During the lifetime of a tumbler, it may require service. The information contained in this manual was written and is intended for use by qualified service technicians who are familiar with the safety procedures required in the repair of a tumbler, and who are equipped with the proper tools and testing equipment.

NOTE: The WARNING and IMPORTANT instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution and carefulness are factors which CANNOT be built into this tumbler. These factors MUST BE supplied by the person(s) installing, maintaining or operating the tumbler.

Always contact your dealer, distributor, service agent or the manufacturer on any problems or conditions you do not understand.

---

**WARNING**

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

---

**WARNING**

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you or the inexperienced person making such repairs to the risk of serious injury, electrical shock or death.

---

**CAUTION**

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.
Safety Information

Locating an Authorized Service Person
Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

Warranty service must be performed by an authorized technician, using authorized factory parts. If service is required after the warranty expires, Alliance Laundry Systems also recommends contacting an authorized technician and using authorized factory parts.

Safety Warnings and Decals
SAFETY WARNINGS and decals have been provided in key locations to remind you of important precautions for the safe operation and maintenance of your tumbler. Please take the time to review these warnings before proceeding with service work.

All decals have been designed and applied to withstand washing and cleaning. Decals should be checked periodically to be sure they have not been damaged, removed, or painted.

Safety Precautions for Servicing Tumblers

Prior to servicing tumbler:
- Disconnect electrical service and “lockout” to prevent unintentional connection.
- Shut off supply gas valve.
- Allow machine to cool prior to servicing.

After servicing tumbler:
- Control/access panels must be reinstalled.
- Motor/drive/belt guards must be reinstalled.
- Contactor/junction/accessory box covers must be reinstalled.
- Use a non-corrosive leak detection solution to check all pipe connections for gas leaks. DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS!
- The loading door switch, lint door switch and airflow switch must be operating properly.
## Section 2
### Introduction

**Model Identification**

Information in this manual is applicable to these models:

<table>
<thead>
<tr>
<th>50 Pound</th>
<th>Gas</th>
<th>Steam/Thermal Oil</th>
<th>Electric</th>
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NOTE: Control suffixes listed on next page.
**Introduction**

Includes models with the following control suffixes:

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Includes models with the following control suffixes:

- **3O** - DX4 OPL
- **DO** - DMP OPL
- **R3** - reversing DX4 OPL
- **3V** - DX4 vended
- **DV** - DMP vended
- **RD** - reversing DMP OPL
- **3X** - DX4 prep for coin
- **DX** - DMP prep for coin
- **RM** - reversing OPL micro
- **BC** - basic electronic, coin
- **MT** - manual timer
- **RQ** - reversing dual digital timer
- **BL** - basic electronic, central pay
- **NC** - NetMaster coin
- **RT** - reversing manual timer
- **BX** - basic electronic, prep for coin
- **NR** - NetMaster card
- **SD** - single drop
- **BY** - basic electronic, prep for card
- **NX** - NetMaster, prep for coin
- **SX** - single drop, prep for coin
- **CD** - rotary coin drop
- **NY** - NetMaster, prep for card
- **ZC** - NetMaster network, coin
- **CX** - prep for coin
- **OM** - OPL micro
- **ZR** - NetMaster network, card
- **CY** - prep for card
- **QT** - dual digital timer
- **ZX** - NetMaster network, prep for coin
- **ZY** - NetMaster network, prep for card
Serial Plate Location

When calling or writing about your product, be sure to mention model and serial numbers. Model and serial numbers are found on serial plate on the rear of machine and inside door.

Customer Service

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at (920) 748-3950 for the name and address of the nearest authorized parts distributor.

For technical assistance, call (920) 748-3121.

Wiring Diagram

The wiring diagram is located inside the junction or contactor box.

Models starting Serial No. 0309____ or later will have the wiring diagram part number in the lower portion of the electrical data on the serial plate.
Introduction

How a Tumbler Works

A tumbler uses heated air to dry loads of laundry.

1. When the motor is started, the exhaust fan pulls room temperature air in through the air intake at the rear of the tumbler and over the heat source (burner flame for gas, heating element for electric, and coil for steam).

2. The heated air moves into the cylinder, where it is circulated through the wet load by the tumbling action of the cylinder.

3. The air then passes through the lint filter, exhaust fan, and is vented to the outdoors.

Theory of Operation of Instant Electronic Ignition

IMPORTANT: The Non-CE Marked Instant Electronic Ignition system will attempt to light the gas by sparking for approximately 15 seconds. If gas ignition does not take place within approximately 15 seconds, the Instant Electronic Ignition control will go into safety lockout and the valve will no longer open until Instant Electronic Ignition control is reset. To reset Instant Electronic Ignition control, remove power from control by opening and closing the tumbler door. If condition persists, check that the gas shut-off valve is in “on” position and that the gas service is properly connected.

If condition persists:

1. Check resistance of high tension lead (approximately 1000 ohms/inch), and replace if not within resistance range.
2. Check voltage present at valve.
3. Check that machine is properly grounded.
4. Check the gap between igniter and burner tube (gap should be 1/4-3/8 inch).
5. Check that burner ports are not blocked or plugged under the igniter.
Section 3
Troubleshooting

**WARNING**

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

**IMPORTANT:** Refer to appropriate wiring diagram for aid in testing tumbler components.
Troubleshooting

1. Motor Does Not Start

Motor does not start

- Is electrical power off or have any fuses blown?
  - Yes: Check power and fuses. Replace fuses if necessary.
  - No: Is loading door open or is door switch inoperative?
    - Yes: Close door or test switch and replace if inoperative.
    - No: Is lint door open or is lint door switch inoperative?
      - Yes: Close lint door, confirm switch is positioned to actuate with door closed.
      - No: Is trunnion shaft assembly binding in trunnion housing bearings?
        - Yes: Replace trunnion housing bearings.
        - No: Is start circuit incomplete?
          - Yes: Press start switch or test switch and replace if inoperative.
          - No: Is idler shaft binding in idler housing bearings?
            - Yes: Replace bearings.
            - No: Is motor inoperative?
              - Yes: Have motor tested and replace if inoperative.
              - No: Is motor inoperative?
                - Yes: Non-Metered Models: Is timer set properly?
                  - Yes: Turn drying timer clockwise to desired setting.
                  - No: Test timer and relay and replace if inoperative.
                - No: Non-Metered Models: Are the timer or relay inoperative?
                  - Yes: Test timer and relay and replace if inoperative.
                  - No: Metered Models: Are proper coins inserted in accumulator?
                    - Yes: Check that proper coins are inserted.
                    - No: Metered CD Models: Is the accumulator knob improperly set after coins were inserted?
                      - Yes: Turn knob clockwise to its full limit of travel.
                      - No: Metered CD Models: Is run switch (accumulator) inoperative?
                        - Yes: Test run switch and replace if inoperative.
                        - No: Is there broken, loose or incorrect wiring?
                          - Yes: Refer to wiring diagram located inside contactor box.
                          - No: TMB1873S

Non-Metered Models: Is timer set properly?

- Yes: Non-Metered Models: Are the timer or relay inoperative?
  - Yes: Test timer and relay and replace if inoperative.
  - No: Metered Models: Are proper coins inserted in accumulator?
    - Yes: Check that proper coins are inserted.
    - No: Metered CD Models: Is the accumulator knob improperly set after coins were inserted?
      - Yes: Turn knob clockwise to its full limit of travel.
      - No: Metered CD Models: Is run switch (accumulator) inoperative?
        - Yes: Test run switch and replace if inoperative.
        - No: Is there broken, loose or incorrect wiring?
          - Yes: Refer to wiring diagram located inside contactor box.
          - No: TMB1873S
2. Motor Overload Protector Cycles Repeatedly

Motor overload protector cycles repeatedly

- Is voltage incorrect? Yes → Refer to the Installation Manual for electrical requirements.
- No →
  - Is clothes load too large? Yes → Remove part of load.
  - No →
    - Is clothes cylinder binding? Yes → Check cylinder for binding. Refer to Adjustments Section for cylinder adjustment.
    - No → Check with an electrician to ensure that wiring is adequate.
    -
  - Is wiring inadequate? Yes → Refer to Installation Manual for make-up air requirements.
  - No →
    - Is make-up air inadequate? Yes → Clean lint accumulation on and around motor.
    - No →
      - Has lint built up? Yes → Refer to wiring diagram located inside contactor box.
      - No →

TMB1874S
Troubleshooting

3. Motor Runs But Cylinder Does Not Turn

Motor runs but cylinder does not turn

Is motor drive pulley loose?

Yes
Confirm key is in place, tighten setscrews.

No

Is sheave loose?

Yes
Confirm key is in place, tighten setscrews and bushing.

No

Is belt broken or loose?

Yes
Replace or adjust belt.

No

Is cylinder binding?

Yes
Check cylinder for binding. Refer to Adjustments Section for proper cylinder adjustment.

No

Does cylinder turn counterclockwise when viewed from front of machine (3 Phase models only)?

Yes
Switch power leads L1 and L2 to correct rotation.

No
4. Motor Does Not Stop

Motor does not stop

Is door switch inoperative?

Yes → Test switch and replace if inoperative.

No → Non-Metered Models: Is timer or relay inoperative?

Yes → Test timer and relay and replace if inoperative.

No → Metered Models: Is accumulator inoperative?

Yes → Test accumulator and replace if inoperative.

No → Is wiring incorrect?

Yes → Refer to wiring diagram located inside contactor box.

No → Is motor relay or motor contactor inoperative?

Yes → Check relay/contactor and replace if inoperative.
5. Heating Element Does Not Heat or Burner Does Not Ignite

- Heating element does not heat or burner does not ignite
  - Is there improper or inadequate exhaust or make-up air?
    - Yes: Refer to Installation Manual for exhaust and make-up air requirements.
    - No: Are there blown fuses or tripped circuit breakers?
      - Yes: Check fuses or circuit breakers.
      - No: Is drying timer not selected or inoperative?
        - Yes: Set drying timer or replace if necessary.
        - No: Is "No Heat" selected on control?
          - Yes: Select temperature option.
          - No: Is control relay inoperative?
            - Yes: Test relay and replace if inoperative.
            - No: Test thermistor by removing harness from thermistor terminals. Check resistance across terminals, should read approximately 50,000 Ohms at 77°F. Resistance should decrease with a temperature increase. Replace thermistor if inoperative.

              Electric Models: Are heating elements or contactors inoperative?
                - Yes: Check heat contactors and elements. Replace if necessary.
                - No: Gas Models: Is gas supply insufficient?
                  - Yes: Open partially closed gas shut-off valve, or correct low gas pressure. Check inlet pressure and compare to pressure specified on serial plate. If pressure cannot be obtained, contact gas supplier.
                  - No: Gas Models: Are orifices incorrect?
                    - Yes: Tumbler is equipped for type of gas specified on serial plate at 0-2,000 feet altitude. Refer to Installation Manual.
                    - No: Continued on next page

TMB1877S-a
5. Heating Element Does Not Heat or Burner Does Not Ignite (continued)

Gas Models: Are gas valve coils inoperative?
  Yes → Test coils and replace if available as a service part, otherwise replace valve.
  No → Gas Models: Is igniter inoperative?
        Yes → Test igniter and replace if inoperative.
        No → Gas Models: Is igniter control inoperative?
               Yes → Test igniter control and replace if inoperative.
               No → Gas and Electric Models: Is high limit thermostat inoperative?
                      Yes → Test thermostat and replace if inoperative.
                      No → Gas and Electric Models: Is airflow switch inoperative?
                             Yes → Gas and Electric Models: Is airflow switch out of adjustment?
                                   Yes → Refer to Adjustments Section for airflow switch adjustment.
                                   No → Is lint door panel not closed properly?
                                          Yes → Open lint door panel. Place lint door panel back on tumbler ensuring a tight fit.
                                          No → Is there broken, loose or incorrect wiring?
                                                 Yes → Refer to wiring diagram located inside contactor box.
                                                 No → Yes →
6. Igniter Does Not Shut Off After Gas Ignition — Gas Burner

- **Igniter does not shut off after gas ignition - gas burner**
  - **Is tumbler not properly equipped for type of gas being used?**
    - Yes: Tumbler is equipped for type of gas specified on serial plate at 0-2,000 feet altitude. Refer to *Installation Manual.*
    - No:
      - **Is there insufficient gas supply?**
        - Yes: Open partially closed gas shut-off valve or correct low gas pressure.
        - No:
          - **Is burner flame adjusted improperly?**
            - Yes: Refer to *Adjustments* Section for recommended burner flame adjustment.
            - No:
              - **Is electrode assembly incorrectly installed?**
                - Yes: Check assembly for correct alignment.
                - No:
                  - **Is igniter control inoperative?**
                    - Yes: Test igniter control and replace if inoperative.
                    - No:
                      - **Is wiring incorrect?**
                        - Yes: Refer to wiring diagram located inside contactor box.
7. Heating Element or Burner Shuts Off Prematurely

- **Heating element or burner shuts off prematurely**

  - Is there improper or inadequate exhaust and/or make-up air? **Yes**
    - Refer to *Installation Manual* for exhaust and make-up air requirements.
    **No**

  - Gas Models: Is there insufficient gas supply? **Yes**
    - Open partially closed gas shut-off valve or correct low pressure.
    **No**

  - Gas Models: Is tumbler not properly equipped for type of gas used? **Yes**
    - Tumbler is equipped for type of gas specified on serial plate at 0-2,000 feet altitude. Refer to *Installation Manual*.
    **No**

  - Gas Models: Is burner flame improperly adjusted? **Yes**
    - Refer to *Adjustments Section* for burner flame adjustment.
    **No**

  - Is high limit thermostat cycling off? **Yes**
    - Refer to *Paragraph 8*.
    **No**

  - Is there broken, loose or incorrect wiring? **Yes**
    - Refer to wiring diagram located inside contactor box.
    **No**

TMB1879S
8. Heating Element or Burner Repeatedly Cycles Off On High Limit Thermostat

Heating element or burner repeatedly cycles off on high limit thermostat

Is external exhaust system longer than recommended or is there inadequate make-up air?

Yes

Refer to Installation Manual for exhaust and make-up air requirements.

No

Is lint screen clogged?

Yes

Remove screen and clean. Lint screen and compartment should be cleaned after every eight hour shift.

No

Is there lint in tumbler ducts?

Yes

Clean tumbler ducts.

No

Is there lint in tumbler ducts?

No

Is there lint in external exhaust system?

Yes

Disassemble exhaust system and clean.

No

Is backdraft damper not operating?

Yes

Check for foreign objects, lint accumulation or other possible obstructions.

No

Is lint door panel not closed properly?

Yes

Open lint door panel, place lint door panel back on tumbler ensuring a tight fit.

No
9. Heating Element or Burner Does Not Shut-Off

- Heating element or burner does not shut-off
  - Gas Models: Are there impurities on gas valve seat, preventing valve from closing?
    - Yes: Replace gas valve.
    - No: Is drying timer, relay or contactor inoperative?
      - Yes: Replace timer, relay or contactor.
      - No: Is wiring incorrect?
        - Yes: Refer to wiring diagram located inside contactor box.
        - No: Yes
10. Clothes Do Not Dry

**Clothes do not dry**

- **Is heat source inoperative?**
  - Yes: Refer to Paragraph 5.
  - No:
    - **Is there too much water in articles being dried?**
      - Yes: Remove excess water.
      - No:
        - **Is clothes load too large?**
          - Yes: Remove part of load.
          - No:
            - **Is exhaust system improper or inadequate?**
              - Yes: Refer to Installation Manual for exhaust requirements.
              - No:

- **Does heat source shut-off prematurely?**
  - Yes: Refer to Paragraph 7.
  - No:
    - **Is drying timer improperly set?**
      - Yes: Set selector for higher setting.
      - No:
        - **Is voltage incorrect?**
          - Yes: Refer to Installation Manual for electrical requirements.
          - No:

**Yes**

**No**

**Yes**

**No**

**Yes**

**No**

**Yes**
11. Tumbler Overheating

- Tumbler overheating
  - Gas Models: Are main burner orifices incorrect?
    - Yes: Replace orifices. Refer to the Installation Manual for burner orifice requirements.
    - No: Gas Models: Is gas pressure too high?
      - Yes: Gas pressure must be as specified on serial plate.
      - No: Is make-up air inadequate?
        - Yes: Refer to Installation Manual for make-up air requirements.
        - No: Is there lint accumulation?
          - Yes: Remove lint.
          - No: Is exhaust system restricted or inadequate?
            - Yes: Remove obstruction or lint build-up from exhaust ductwork. Refer to Installation Manual for exhaust system requirements.
            - No: Is make-up air inadequate?
              - Yes: Refer to Installation Manual for make-up air requirements.
              - No: Is there lint accumulation?
                - Yes: Remove lint.
                - No: Check thermostats with Ohm meter and replace if open.

TMB1883S
12. Burners Not Burning Properly — Gas Models

- **Are burner air shutters incorrectly adjusted?**
  - Yes: Refer to **Adjustments** Section for proper flame adjustment.
  - No: Continue to next step.

- **Is there dirt in burners?**
  - Yes: Disassemble burners and blow out the dirt.
  - No: Continue to next step.

- **Is gas pressure too high or too low?**
  - Yes: Check serial plate on back of the tumbler for correct gas pressure.
  - No: Continue to next step.

- **Are orifices incorrect?**
  - Yes: Tumbler is equipped for type of gas specified on serial plate at 0-2,000 feet altitude. Refer to **Installation Manual**.
  - No: Continue to next step.

- **Is make-up air inadequate?**
  - Yes: Refer to **Installation Manual** for proper make-up air requirements.
  - No: Continue to next step.

- **Is exhaust duct restricted or blocked?**
  - Yes: Disassemble and clean exhaust system.
  - No: Continue to previous step.
13. Loading Door Opens During Operation

- Loading door opens during operation
  - Is door strike improperly adjusted?
    - Yes: Refer to Adjustments Section for door strike adjustment.
    - No: Is tumbler improperly leveled?
      - Yes: Refer to Installation Manual for leveling leg adjustment.
14. Tumbler Runs But No Steam To Coils — Steam Models

Tumbler runs but no steam to coils - Steam Models

Are valves closed?  
Yes  
Check all valves in supply and return lines, make sure they are open.

No  
Is steam trap blocked?  
Yes  
Remove trap and clean. Replace if inoperative.

No  
Is solenoid valve inoperative?  
Yes  
Check operation of solenoid valve.

No  
Is check valve incorrectly installed?  
Yes  
Check for inlet and outlet markings on check valve and invert if necessary.

No  
Is strainer clogged?  
Yes  
Remove strainer and clean.

No  
Is timer or thermistor inoperative?  
Yes  
Test timer. Test thermistor by removing harness from thermistor terminals. Check resistance across terminals, should read approximately 50,000 Ohms at 77°F. Resistance should decrease with a temperature increase. Replace either if inoperative.
15. Water In Steam Line — Steam Models

Water in steam line - Steam Models

Is steam piping installed incorrectly?

- Yes: Refer to Installation Manual for steam requirements.
- No:

  Is trap functioning improperly?

- Yes: Check trap for size and capacity. If trap is dirty or sluggish clean thoroughly or replace. Check return line for high back pressure.

16. Door Open Light and Display Flash With Door Closed – Electronic Control Models

If door switch faulty?

Yes: Replace door switch.

No:

Is lint panel switch faulty?

Yes: Replace lint panel switch.

No:

Is electrical service connected incorrectly?

Yes: Check service connections to terminal block in junction box. For 120 or 240 Volt tumblers, neutral wire must be connected to terminal marked “NEUT”. On single phase tumblers, hot wire must be connected to terminal marked “L1”. A ground wire must be secured to the ground screw in the junction box.

No:
17. Display Shows “SH” and Signals Sounds – Electronic Control Models

- Display shows "SH" and signals sounds - Electronic Control Models

  - Is temperature at sensor over 191°F (88.3°C)?
    - Yes: Allow tumbler to cool and press ON/SELECT pad. If display still shows "SH", replace sensor.
    - No
      - Has temperature sensor shorted?
        - Yes: Replace temperature sensor.
18. Display Shows “OP” and Signal Sounds Three Minutes After Tumbler is Started – Electronic Control Models

Display shows “OP” and signal sounds three minutes after tumbler is started - Electronic Control Models

Is temperature at sensor under 24˚F (-4.4˚C)?

Yes

If the temperature of the tumbler is above 24˚F (-4.4˚C), replace temperature sensor.

No

Is temperature sensor open?

Yes

Replace temperature sensor.
19. Tumbler Will Not Start, Time on Drying Timer, Door Closed – Manual Timer Models

- Tumbler will not start, time on drying timer, door closed - Manual Timer Models

  - Is there 24 volts into door switch?
    - No: Check electrical service to tumbler (transformer/fuses).
    - Yes: Is there 24 volts out of door switch?
      - No: Has door switch been actuated?
        - Yes: Replace door switch.
        - No: Is there 24 volts out of lint panel switch?
          - No: Check lint panel switch for broken wire or poor connection at harness plug.
          - Yes: Check electrical service to tumbler (transformer/fuses).
      - Yes: Replace lint panel switch.
  - Is there 24 volts at terminal 3 of control relay?
    - No: Is there 24 volts across coil terminals of control relay?
      - No: Is there 24 volts on terminal B of drying timer?
        - Yes: Replace timer.
        - No: Replace relay.
      - Yes: Is there 24 volts on terminal 5 of control relay?
        - Yes: Is there 24 volts into push-to-start switch?
          - No: Check for broken wire from control relay terminal 5.
          - Yes: Continued on next page.
        - No: Replace lint panel switch.
    - Yes: Check lint panel switch for broken wire or poor connection at harness plug.
Troubleshooting

19. Tumbler Will Not Start, Time on Drying Timer, Door Closed – Manual Timer Models (continued)

Continued from previous page.

Press push-to-start switch. Is there 24 volts out of push-to-start switch?

Yes

Is there 24 volts to motor relay coil?

Yes

Is there line voltage in and out of relay?

Yes

Check power supply to tumbler and wires to relay.

Yes

No

Check for broken wire or poor connection at harness plug.

No

Replace push-to-start switch.

Are motor connections per wiring diagram?

Yes

No

Correct wiring.

Is there line voltage at motor terminals?

Yes

No

Check connections and harness continuity.

Replace motor.

TMB1889S-b
20. Motor Runs, Time on Drying Timer But No Heat

- Motor runs, time on drying timer but no heat
  - Is there power out of temperature control board? [Yes/No]
    - Yes: Check the ignition circuit.
    - No: Is there power into temperature control board? [Yes/No]
      - Yes: Check thermistor and cable. If OK, replace temperature control board.
      - No: Coin Switch B Normally Closed (CD Models): Is there power on terminal 4 of control relay (manual timer models)? [Yes/No]
        - Yes: Loose or broken wire to temperature control board.
        - No: Is there power into burner high limit thermostat? [Yes/No]
          - Yes: Check for broken wire from airflow switch.
          - No: Replace switch B or accumulator.

- Coin Switch B Common (CD Models): Is there power on terminal 6 of control relay (manual timer models)? [Yes/No]
  - Yes: Replace control relay.
  - No: Is there power across coil terminals of control relay? [Yes/No]
    - Yes: Repair wire.
    - No: Is there broken or loose wire at harness plug? [Yes/No]
      - Yes: Repair wire.
      - No: Check for broken wire from airflow switch.

Continued on next page.
20. Motor Runs, Time on Drying Timer But No Heat (continued)

- Is there power out of burner high limit thermostat?
  - No: Replace burner high limit thermostat.
  - Yes: Is there power into airflow switch?
    - No: Check for loose or broken wire from cabinet limit.
    - Yes: Is there power out of airflow switch?
      - Yes: Is airflow switch closed?
        - No: Is airflow switch closed?
          - No: Adjust airflow switch.
          - Yes: Replace airflow switch.
        - Yes: Replace airflow switch.
      - No: Replace airflow switch.
    - Yes: Is there power out of cabinet high limit thermostat?
      - No: Replace thermostat.
      - Yes: Check for loose or burned connection at harness plugs.
    - Yes: Check for broken wire from motor switch.
21. No Main Burner Flame, Igniter Does Not Spark

No main burner flame, igniter does not spark

Is igniter sparking?
- No
- Yes

Is IEI control in safety lockout?
- No
- Yes

Is resistance of high voltage lead greater than 25,000 Ohms or less than 5,000 Ohms?
- No
- Yes

Is igniter gap not 5/32 in. (.397 cm) or is ceramic cracked?
- No
- Yes

Open and close door.

Is green wire from IEI control connected to ground terminal?
- No
- Yes

Connect green wire to ground terminal.

Is gas shut-off valve open?
- No
- Yes

Open gas shut-off valve.

Is there 24 volts present on white/black wire from IEI control?
- No
- Yes

Check gas valve coils. Replace as required.

Replace IEI control.
22. Steam OM Control: No Heat With Cycle Selected, Unit Running and Calling For Heat

120 Volt/60 Hertz/1 Phase and 208-240 Volt/60 Hertz/1 Phase Nonreversing
460-480 Volt/60 Hertz/3 Phase and 208-240 Volt/60 Hertz/3 Phase Reversing and Nonreversing

Steam OM Models:
No heat with cycle selected, unit running and calling for heat

Is there voltage at H2-13?
No → Replace micro control.
Yes

Is there voltage at H2-6?
No → Correct wiring between H2-6 and H2-13.
Yes

Is there voltage at H2-5?
No → Check for proper thermistor operation. Replace micro control if necessary.
Yes

Is there voltage to the input of the motor relay?
No → Correct wiring between motor relay and micro control.
Yes

Is there voltage to the output of the motor relay?
No → Replace motor relay.
Yes

Is there voltage to the input of the motor switch?
No → Correct wiring to motor switch.
Yes

Is there voltage to the output of the motor switch?
No → Replace motor.
Yes

Is there voltage across the steam valve coil?
No → Correct wiring to steam valve coil.
Yes → Unit operational. If unit still does not heat, check steam supply.
OM and RM Models:
No start with cycle selected, start button pressed and door closed

Is there voltage to the primary of the transformer?

Yes
Correct wiring to transformer primary. Check fuses.

No

Is there 24 VAC across terminals 2 & 3 of transformer secondary?

Yes

Is there voltage to the COM terminal of the lint panel switch?

Yes
Correct wiring between lint panel switch and loading door switch.

No

Is there voltage to the N.O. terminal of the lint panel switch?

Yes
Check lint panel switch for proper operation. Replace if necessary.

No

Correct wiring between micro control and lint panel switch.

Is there voltage at terminal H2-7 on the micro control?

Yes
Replace micro control.

No

Is there voltage at terminal H2-8 on the micro control?

Yes
Correct wiring between door switch and transformer. Check fuse.

No

Is there voltage to terminal H2-8 on the micro control?

Yes
Correct wiring between lint panel switch and loading door switch.

No

Is there voltage to the COM terminal of the lint panel switch?

Yes
Correct wiring to transformer primary. Check fuses.

No

Is there 24 VAC across terminals 2 & 3 of transformer secondary?

Yes

Is there voltage to the COM terminal of the lint panel switch?

Yes

Check lint panel switch for proper operation. Replace if necessary.

No

Is there voltage to the N.O. terminal of the lint panel switch?

Yes
Replace if necessary.

No

Is there voltage to the N.O. terminal of the lint panel switch?
Troubleshooting

23. OM and RM Control: No Start With Cycle Selected, Start Button Pressed and Door Closed (continued)

Continued from previous page.

Is there voltage across the coil of the motor relay?

- Yes
- No

Correct wiring between motor relay and micro control.

Is there voltage to the input of the motor relay?

- Yes
- No

Correct wiring between motor relay and supply voltage.

Is there voltage to the output of the motor relay?

- Yes
- No

Replace motor relay.

Does the motor operate?

- Yes
- No

Replace motor.

Unit operational.

TMB1893S-b
24. OM Control: No Display After Selecting One of the ON/SELECT Keys

120 Volt/60 Hertz/1 Phase Gas and Steam Nonreversing
208-240 Volt/60 Hertz/1 Phase Gas and Steam Nonreversing
208-240 Volt/60 Hertz/3 Phase Gas and Steam Reversing/Nonreversing
208-240 Volt/60 Hertz/3 Phase Electric Reversing/Nonreversing
460-480 Volt/60 Hertz/3 Phase Gas, Electric and Steam Reversing/Nonreversing

OM Models: No display after selecting one of the on/select keys

Is there voltage across the primary of the transformer?
- Yes
- No

Correct wiring between transformer and supply voltage. Check fuses.

Is there 24 VAC across terminals 1 & 4 of transformers secondary?
- Yes
- No

Replace transformer.

Is there 24 VAC across terminals H3-3 and H3-4 on the micro control?
- Yes
- No

Correct wiring between H3 and transformer.

Is there voltage to the input of the fuse on the micro control?
- Yes
- No

Replace micro control.

Is there voltage to the opposite side of the fuse on the micro control?
- Yes
- No

Check fuse making sure it is not blown. Replace if necessary.

Replace micro control.

TMB1894S
25. Electric OM Control: No Heat With Cycle Selected, Unit Running and Calling For Heat

460-480 Volt/60 Hertz/3 Phase and 208-240 Volt/60 Hertz/3 Phase Reversing and Nonreversing

<table>
<thead>
<tr>
<th>Electric OM Models: No heat with cycle selected, unit running and calling for heat</th>
</tr>
</thead>
</table>

- **Is there voltage at H2-13?**
  - **No**: Replace micro control.
  - **Yes**: **Is there voltage at H2-6?**
    - **No**: Correct wiring between H2-6 and H2-13.
    - **Yes**: **If there voltage at H2-5?**
      - **No**: Check for proper thermistor operation. Replace micro control if necessary.
      - **Yes**: **Is there voltage to terminal 14 of the motor relay?**
        - **No**: Correct wiring between motor relay and micro control.
        - **Yes**: **Is there voltage to terminal 13 of the motor relay?**
          - **No**: Replace motor relay.
          - **Yes**: Continue on next page.

- **Is there voltage at white/brown fan motor centrifugal switch?**
  - **No**: Correct wiring between relay and motor switch.
  - **Yes**: **Is there voltage at orange/brown fan motor centrifugal switch?**
    - **No**: Replace motor.
    - **Yes**: Correct wiring between fan motor centrifugal switch and cabinet limit thermostat.

- **Is there voltage to cabinet limit black wire?**
  - **No**: Correct wiring between fan motor centrifugal switch and cabinet limit thermostat.
  - **Yes**: **Is there voltage out of cabinet limit white wire?**
    - **No**: Replace thermostat.
    - **Yes**: Continue on next page.

TMB1895S-a
25. Electric OM Control: No Heat With Cycle Selected, Unit Running and Calling For Heat (continued)

Continued from previous page.

Is there voltage to airflow switch orange wire (common terminal)?

Yes

Correct wiring between cabinet limit and airflow switch.

No

Is there voltage to the N.O. terminal of the airflow switch?

Yes

Check for proper airflow. Replace airflow switch.

No

Is there voltage to the input of the stove limit?

Yes

Correct wiring between stove limit and airflow switch.

No

Is there voltage to the output of the stove limit?

Yes

Check for proper airflow. Replace stove limit if necessary.

No

Is there voltage across coil of HC1?

Yes

Correct wiring to HC1.

No

Is the voltage to terminals T1, T2 and T3 of HC1?

Yes

Correct wiring between HC1 and supply.

No

Replace HC1.

Is there voltage to terminals L1, L2 and L3 of HC1?

Yes

Correct wiring to the elements.

No

Is there voltage across the elements?

Yes

Do the elements produce heat?

Note: If elements are glowing bright red/orange, there is not enough airflow.

No

Check for opens or shorts in the elements.

Yes

Correct wiring to HC1.

Unit operational.
26. Gas OM Control: No Heat With Cycle Selected, Unit Running and Calling For Heat

120 Volt/60 Hertz/1 Phase and 208-240 Volt/60 Hertz/1 Phase Nonreversing
460-480 Volt/60 Hertz/3 Phase and 208-240 Volt/60 Hertz/3 Phase Reversing and Nonreversing

Gas OM Models: No heat with cycle selected, unit running and calling for heat

- Is there voltage at H2-13? No → Replace micro control.
  Yes →
  - Is there voltage at H2-6 of the micro control? No → Correct wiring between H2-6 and H2-13 on the micro control.
    Yes → Check for proper thermistor operation. Replace micro control if necessary.
  No → Correct wiring to fan motor switch.
    Yes → Replace fan motor.
    No → Correct wiring between cabinet limit and CR1.
  Yes → Replace cabinet limit.
- Is there voltage to the input of the motor relay? No → Correct wiring between motor relay and micro control.
  Yes →
  - Is there voltage to the output of the motor relay? No → Replace motor relay.
    Yes → Continued on next page.
    No → Correct wiring between airflow switch and cabinet limit.

Is there voltage to the input of the fan motor switch? No → Correct wiring to fan motor switch.
Yes → Is there voltage out from the fan motor switch? No → Replace fan motor.
Yes → Is there voltage to the input of the cabinet limit? No → Correct wiring between cabinet limit and CR1.
Yes → Is there voltage to the output of the cabinet limit? No → Replace cabinet limit.
Yes → Is there voltage to the input of the airflow switch? No → Correct wiring between airflow switch and cabinet limit.
Yes → Continued on next page.

TMB1896S-a
26. Gas OM Control: No Heat With Cycle Selected, Unit Running and Calling For Heat (continued)

Is there voltage to the N.O. terminal of the airflow switch?

Yes

Is there voltage to the input of the stove limit?

Yes

Is there voltage to the output of the stove limit?

Yes

Is there voltage to terminal 2 of the ignition control?

Yes

Check for proper operation and airflow. Replace airflow switch if necessary.

No

Correct wiring between stove limit and airflow switch.

No

Correct wiring between terminal 1 of the ignition control.

Yes

Check for proper airflow. Replace stove limit if necessary.

No

Correct wiring to gas valve.

Yes

Check for gas flow and proper gas pressure. Replace gas valve or coils of gas valve.

No

Unit operational.

No

Replace igniter control.

Yes

Does the igniter spark?

Check for proper gap on igniter and check for proper resistance of ignition cable. Replace if necessary.

No

Replace ignition control.

Yes

Is there voltage across the gas valve?

Correct wiring to gas valve.

Yes

Check for proper operation and airflow. Replace airflow switch if necessary.

Is there voltage at the input of the stove limit?

Yes

Is there voltage to terminal 2 of the ignition control?

Correct wiring between ignition control and stove limit.

Yes

No
27. OM Control: No Fan Motor Rotation With Cycle Selected and Start Pressed
208-240 Volt/60 Hertz/3 Phase and 480 Volt/60 Hertz/3 Phase Electric Reversing Models
208-240 Volt/60 Hertz/3 Phase and 460-480 Volt/60 Hertz/3 Phase Gas Reversing and Steam Models

OM Models: No fan motor rotation with cycle selected and start pressed

Is there voltage across the primary of the transformer?

Yes

Is there 24 VAC across terminals 2 & 3 of the transformer secondary?

Yes

Is there voltage to the COM of the door switch?

Yes

Is there voltage to the N.O. terminal of the door switch?

Yes

Is there voltage into lint panel switch?

Yes

Correct wiring to lint panel switch.

Is there voltage out of lint panel switch?

Yes

Correct wiring to transformer. Check fuses.

Is there 24 VAC across terminals 2 & 3 of the transformer secondary?

No

Replace transformer.

Is there voltage to the COM of the door switch?

No

Correct wiring to door switch. Check fuse.

Is there voltage to H2-8 of micro control?

Yes

Is there voltage to H2-7 of micro control?

Yes

Is there voltage across the coil of the M contactor?

Yes

Is there voltage to L1, L2 and L3 of the M contactor?

Yes

Check door switch for proper operation. Replace if necessary.

Correct wiring to the M contactor.

Correct the wiring to the M contactor.

Correct wiring between M contactor and supply voltage.

Correct wiring between door switch and lint panel switch.

If actuated replace inoperative switch. If not actuated adjust switch as needed.

Correct wiring between micro control and door switch.

Replace micro control.

Correct wiring between door switch and lint panel switch.

Continued on next page.
27. OM Control: No Fan Motor Rotation With Cycle Selected and Start Pressed (continued)

Continued from previous page.

Is there voltage to T1, T2 and T3 of the M contactor?

No
Replace M contactor.

Yes

Is there voltage across L1, L2 and L3 of the motor?

No
Correct wiring between motor and M contactor.

Yes

Unit operational.
Troubleshooting

28. OM Reversing Control: No Cylinder Rotation or Reversing Capabilities

OM Reversing Models: No cylinder rotation or reversing capabilities

Is there voltage across the primary of the transformer?
- Yes
- No
  Correct wiring between transformer and supply voltage. Check fuses.

Is there voltage across terminals 2 & 3 of the transformer secondary?
- Yes
- No
  Replace transformer.

Is there voltage to the COM of the door switch?
- Yes
- No
  Correct wiring to door switch. Check fuses.

Is there voltage to the N.O. terminal of the door switch?
- Yes
- No
  Correct wiring and check fuses.

Is there voltage into lint panel switch?
- No
  Correct wiring between door switch and lint panel switch.
- Yes
  If actuated replace inoperative switch. If not actuated adjust switch as needed.

Is there voltage out of lint panel switch?
- No
  Correct wiring between micro control and door switch.
- Yes
  Forward Rotation: Is there voltage to H2-3 of micro control?
  - Yes
    Continued on next page.
  - No
    Make sure unit is in the forward portion of rotation. Replace micro control.

Is there voltage to H2-8 terminal of micro control? Continue to next step for forward rotation or next page for reverse rotation.

TMB1898S-a
28. OM Reversing Control: No Cylinder Rotation or Reversing Capabilities (continued)

Continued from previous page.

- Is there voltage across the coil of the forward relay?
  - Yes
  - Is there voltage to terminals L1, L2 and L3 of the forward relay?
    - Yes
    - Correct wiring between relay and supply voltage.
    - No
    - Replace forward relay.
  - No
  - Correct wiring to the relay.

- Is there voltage across the coil of the reverse relay?
  - Yes
  - Is there voltage to terminals X, Y and Z of the reversing relay?
    - Yes
    - Replace reversing relay.
    - No
    - Correct wiring between relay and supply voltage.
  - No
  - Correct the wiring to the relay.

- Is there voltage to terminals T1, T2 and T3 of the forward relay?
  - Yes
  - Is there voltage to terminals U, V and W of the reversing relay?
    - Yes
    - Correct wiring between motor and reversing relay.
    - No
    - Replace motor.
  - No
  - Replace micro control.

Make sure unit is in the reverse portion of rotation.

- Does the motor turn?
  - Yes
  - Unit operational.
  - No
  - Check drive components between motor and cylinder.

- Does the cylinder rotate?
  - Yes
  - Unit operational.
  - No
  - Replace motor.

Continue here from previous page for Reverse Rotation: Is there voltage to H2-4 of micro control?
Troubleshooting

29. CD Control: No Start With Vend Satisfied and Start Button Pressed In

NOTE: All voltage checks are referenced to neutral unless stated otherwise.

CD Models: No start with vend satisfied and start button pressed in

Is there voltage to NC terminal of switch A?

No → Correct wiring between L1 and switch A.

Yes → Check for proper operation of switch A. Replace switch A if necessary.

Is there voltage to the COM terminal of switch A?

No → Correct wiring between switch A and H1-2 at time delay board.

Yes → Check for proper operation of switch A. Replace switch A if necessary.

Is there voltage to H1-2 at time delay board?

No → Replace time delay board.

Yes → Correct wiring between switch A and H1-2 at time delay board.

Is there voltage to H1-3 at time delay board?

No → Replace time delay board.

Yes → Correct wiring between switch A and H1-3 at time delay board.

Is there voltage to the common terminal of the door switch?

No → Correct wiring between door switch and switch A.

Yes → Correct wiring between door switch and lint panel switch.

With the door closed, is there voltage to the N.O. terminal of the door switch?

No → Check door switch for proper operation, replace if necessary.

Yes → Is there voltage at COM of lint panel switch?

No → Correct wiring between door switch and lint panel switch.

Yes → Is there voltage to NO of lint panel switch?

No → Adjust switch as needed.

Yes → Correct wiring between door switch and lint panel switch.

Is there voltage to the input side of the Push-To-Start button?

No → Correct wiring between start switch and lint panel switch.

Yes → Continued on next page.
29. CD Control: No Start With Vend Satisfied and Start Button Pressed In (continued)

Continued from previous page.

Is there voltage to output of push-to-start switch?

Yes

Is there voltage to the input side of the auxiliary contacts on the motor contactor?

No

Correct wiring between motor contactor and lint panel switch.

Yes

Is there voltage to the auxiliary contacts on the motor contactor?

No

Correct wiring between motor contactor and supply.

Yes

Is there voltage to motor contactor?

No

Check for proper operation. Replace motor contactor if necessary.

Yes

Is there voltage out of the motor contactor?

No

Correct wiring between motor contactor and lint panel switch.

Yes

Is there voltage to the motor?

No

Correct wiring between motor contactor and motor.

Yes

Is the internal wiring of the motor correct for the supply voltage?

No

Change the wiring accordingly.

Yes

Check for proper operation of motor contactor and fan motor centrifugal switch, replace if necessary.

Thermal overload cycled, allow motor to cool and recheck.

No

Replace motor.

Yes

Unit operational.

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Troubleshooting

30. CD Control: No Heat With Vend Satisfied and Unit Running

NOTE: All voltage checks are referenced to neutral unless stated otherwise.

- CD Models: No heat with vend satisfied and unit running
  - Is there voltage to the output of the motor switch?
    - Yes: Replace motor.
    - No: Is there voltage to the input of the cabinet limit?
      - Yes: Correct wiring between cabinet limit and motor switch.
      - No: Is there voltage to the output of the cabinet limit?
        - Yes: Check for proper operation, replace if necessary.
        - No: Is there voltage to the output of the COM terminal of the airflow switch?
          - Yes: Correct wiring between airflow switch and cabinet limit.
          - No: Is there voltage to the N.O. terminal of the airflow switch?
            - Yes: Check for proper airflow and function of the airflow switch. Replace airflow switch if necessary.
            - No: Is there voltage to the N.C. terminal of the airflow switch?
              - Yes: Correct wiring between switch B and stove limit.
              - No: Is there voltage to the COM terminal of switch B?
                - Yes: Check for proper operation, replace switch B if necessary.
                - No: Is there voltage to the N.C. terminal of switch B?
                  - Yes: Check for proper airflow and function of the airflow switch. Replace airflow switch if necessary.
                  - No: Is there voltage to temperature control board?
                    - Yes: Correct wiring between thermostat and switch B.
                    - No: Check for voltage at thermistor, or correct wiring between thermostat and switch B.
  - Is there voltage to the input of the cabinet limit?
    - Yes: Correct wiring between cabinet limit and motor switch.
    - No: Is there voltage to the output of the cabinet limit?
      - Yes: Check for blockage and proper airflow. Replace stove limit if necessary.
      - No: Is there voltage to the COM terminal of switch B?
        - Yes: Correct wiring between switch B and stove limit.
        - No: Is there voltage to the N.C. terminal of switch B?
          - Yes: Check for proper operation, replace switch B if necessary.
          - No: Is there voltage to temperature control board?
            - Yes: Correct wiring between thermostat and switch B.
            - No: Check for voltage at thermistor, or correct wiring between thermostat and switch B.

Continued on next page.
30. CD Control: No Heat With Vend Satisfied and Unit Running (continued)

Is there voltage to temperature control board?

- Yes
  - Disconnect thermistor wires and check resistance across terminals. Should read approximately 50,000 Ohms at 77°F. Resistance should decrease with a temperature increase. Replace board if necessary.

- No
  - Correct wiring between IEI board and temperature control board.

Is there voltage to the output?

- Yes
  - Correct wiring between IEI board and temperature control board.

- No
  - Check for proper igniter gaps (5/16 inch above burner and 5/32 inch between electrode and grounding tab) and resistance for high voltage lead (between 5,000 and 25,000 Ohms).

Does the igniter spark?

- Yes
  - Is there voltage across V1 and V3 of the IEI board?
    - Yes
      - Replace IEI board.
    - No
      - Continue to next step.

- No
  - Is there gas pressure on the output side of the gas valve?
    - Yes
      - Replace gas valve.
    - No
      - Correct wiring between gas valve and IEI board.

Is there a flame? If yes, unit is operational.

- Yes
  - Continue to next step.

- No
  - Is there voltage across the coils of the gas valve?
    - Yes
      - Correct wiring between gas valve and IEI board.
    - No
      - Continue to next step.
Troubleshooting

31. CD Control: No Start With Vend Satisfied and Start Button Pushed

240 Volt/60 Hertz/1 Phase Gas Nonreversing

NOTE: All voltage checks are referenced to neutral unless stated otherwise.

CD Models: No start with vend satisfied and start button pushed

- Is there voltage to the NC terminal of switch A?
  - No: Correct wiring between L1 and TB1 and switch A.
  - Yes: Is there voltage to COM terminal of switch A?
    - No: Check for proper operation of switch A. Replace switch A if necessary.
    - Yes: Is there voltage to H1-2 on time delay board?
      - No: Correct wiring between switch A and H1-2 at time delay board.
      - Yes: Is there voltage to H1-3 on time delay board?
        - No: Replace time delay board.
        - Yes: Is there voltage to the input side of the start switch?
          - No: Correct wiring between door switch and lint panel switch.
          - Yes: Is there voltage to the COM terminal of the door switch?
            - No: Check door switch for proper operation, replace if necessary.
            - Yes: Correct wiring between door switch and lint panel switch.

Continued on next page.
31. CD Control: No Start With Vend Satisfied and Start Button Pushed (continued)

With the start button pressed in, is there voltage to the output side of the tart button?

- No: Replace start switch.
- Yes: Is there voltage to terminal 1 of the control relay?
  - No: Correct wiring to terminal 1 of the control relay.
  - Yes: Is there voltage to coil of the motor relay?
    - No: Check for proper operation. Replace relay if necessary.
    - Yes: Is there live power to motor relay input?
      - No: Correct wiring between input terminal block and relay.
      - Yes: Is there live power out of motor relay?
        - No: Replace contactor.
        - Yes: Replace the motor.

Does the motor run?
- No: Replace the motor.
- Yes: Unit operational.

Correct wiring between input terminal block and relay.
Section 4
Adjustments

**WARNING**

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

### 32. Main Gas Burner Air Inlet Shutters (Gas Models)

Refer to Figure 1.

**CAUTION**

The air inlet shutters on the burner must be adjusted so sufficient primary air is metered into the system for proper combustion and maximum efficiency. Before adjusting the inlet shutter be sure that all lint is removed from lint compartment and lint screen.

Air inlet shutter adjustments will vary from location to location and will depend on the vent system, number of units installed, make-up air and line gas pressure. Opening the shutter increases the amount of air supplied to the burner while closing the shutter decreases the air supply. Adjust air shutter as follows:

- a. Unlock and remove the access door.
- b. Start the tumbler and check the flame pattern. Correct air and gas mixture is indicated if the flame pattern is primarily blue, with small yellow tips, and bends to the right of the heater section. Too little air is indicated if the flame is yellow, lazy and smoky.
- c. To adjust the air inlet shutter, loosen adjusting screws.
- d. Push or pull shutters in or out as necessary to obtain desired flame intensity.
- e. After shutter is adjusted, tighten locking screw securely.
- f. If the shutter is correctly adjusted, but the flame pattern is straight up, insufficient air is flowing through the tumbler and airflow switch is improperly set. A flame pattern that flares to the right and left indicates that no air is flowing through the tumbler. Adjust airflow switch.

---

![Figure 1](image-url)
33. Airflow Switch (Gas and Electric Models)
   Refer to Figure 2.

The airflow switch (located on the rear of tumbler, Figure 2), is set at the factory for proper operation. However, if there is a problem with the switch, it should be adjusted as follows:

NOTE: Steam models do not have an airflow switch.

NOTE: Control panel must be in place and access door closed before attempting to adjust airflow switch.

IMPORTANT: Airflow switch disc must remain closed during operation. If it opens and closes during the drying cycle, this indicates insufficient airflow through the tumbler. If switch remains open, or pops open and closed during the cycle, the heating system will shut off. The cylinder and fan will continue to operate even though the airflow switch is opened.

The airflow switch operation is controlled by the counterweight position on the shaft. Moving the counterweight either increases or decreases airflow switch sensitivity. The counterweight should be adjusted so the disc moves away from the cabinet when the lint panel is opened 1-1/2 inch (38.1 mm) with a full load. Adjust the airflow switch as follows:

a. Load the tumbler. This adjustment is much faster to make with one person opening lint panel in front and another adjusting the counterweight in the rear of tumbler.

b. Temporarily tape down the lint panel safety switch located behind the upper right corner of the lint panel.

c. Start the tumbler. Open the lint panel 1-1/2 inch (38.1 mm). The airflow disc should move away from the cabinet, opening the switch contacts and shutting off the heat system. This indicates proper operation and proper adjustment.

d. If switch is not opening as described in step 3, it should be adjusted so it is MORE sensitive. Depress the spring clip and move counterweight toward disc. Retest by opening lint panel and continue moving counterweight toward disc until switch operates as described in Step c.

e. If switch opens BEFORE lint panel is opened the proper distance, step 3, it should be adjusted so it is LESS sensitive. Depress the spring clip and move counterweight away from the disc. Retest by opening lint panel and continue moving counterweight away from disc until switch operates as described in Step c.

IMPORTANT: Remove tape from lint panel switch.
Adjustments

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

Figure 2
### Adjustments

#### WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

---

**34. Loading Door Strike**  
Refer to Figure 3.

The door strike must be adjusted so it has sufficient tension to hold loading door closed against the force of a tumbling load. The door strike is properly adjusted when 8-15 lbs. (17.6-33 kg) of pull is required to open door.

To adjust, open door, loosen acorn nut and turn door strike screw in or out as required. Retighten acorn nut.

---

**35. Drive Belt Tension**

Proper tension is when drive belt can be depressed 1/2 inch (12.7 mm) by applying light thumb pressure (approximately 5 pounds) at a point midway between sheave and motor pulley.

Reversing Belt Drive Models: Proper tension is when each cylinder belt can be depressed approximately 3/16 inch (4.77 mm) by applying light thumb pressure (approximately 5 pounds) at a point midway between the sheave and the idler.

Nonreversing Models:
Refer to Figure 4.

a. Remove guard from rear of tumbler.

b. Loosen idler housing capscrews holding idler housing to the housing support.

c. Position housing assembly by turning adjusting bolt until proper belt tension is reached, then retighten idler housing capscrews.

d. Replace guard on rear of tumbler.

Reversing Models:
Refer to Figure 5.

a. Remove guard from rear of tumbler.

b. To adjust cylinder belt tension, loosen idler housing bolts holding idler housing assembly to the housing support.

c. Position housing assembly by turning adjusting bolt until proper belt tension is reached, then retighten idler housing bolts.

NOTE: Adjust cylinder belt tension first, then adjust motor to idler belt tension. Refer to Figure 5.

d. Loosen the locking bolt.

e. Loosen the adjusting nut and use the adjusting screw to move the motor up or down.

f. Once proper belt tension is reached, retighten the adjusting nut and locking bolt.

g. Replace the guard on rear of tumbler.
Figure 4

NONREVERSING

Poly V-belt (Self-adjusting)

Trunnion Housing Adjusting Bolts

Trunnion Housing Bolts

Idler Housing Bolts (2)

Adjusting Bolt

Drive V-Belt

Idler Housing Assembly

Guide Rails

T234E3F
Adjustments

REVERSING

Drive Belt

Adjusting Bolt (Not Shown)

Idler Housing Bolts (2)

Locking Bolt

Adjusting Nut

Adjusting Screw

Cylinder Belts

Idler Housing Assembly

Figure 5
Adjustments

**WARNING**

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

36. Cylinder Clearance
The clearance between the cylinder rim and front panel must be adjusted so the cylinder is centered within the front panel opening when the cylinder is fully loaded and is turning. However, the adjustment should be made when the cylinder is empty.

a. Open loading door and check the gap between the center of the front panel top flange and the cylinder rim. Proper adjustment is when the gap is 1/2 - 3/4 inch (12.7 - 19.05 mm). Refer to Figure 6.

b. Remove drive guard.

c. Loosen the four trunnion housing bolts. Refer to Figure 4.

d. Loosen the locknuts on the trunnion housing adjusting bolts. Refer to Figure 4.

e. Turn the adjusting bolts in or out as necessary to obtain proper clearance between cylinder rim and front panel.

**NOTE:** Turning the adjusting bolts clockwise will raise the cylinder and turning them counterclockwise will lower the cylinder. Turn both bolts evenly to adjust top and bottom clearance. Turn one or the other adjusting bolt in or out to adjust side clearance.

f. After the cylinder is properly adjusted, tighten the adjusting bolt locknuts and the four trunnion housing bolts.

g. Install the belt guard removed in Step b.

**NOTE:** If adjusting the trunnion housing fails to correct the clearance, the problem is probably due to a worn trunnion shaft or bearings.

**NOTE:** Use Kit M4763P3 to upgrade from two washers to one spacer on machines made prior to serial number 0902XXXXX to ensure proper cylinder and front panel alignment to prevent the possibility of forward cylinder movement and rubbing against the front panel.

![Figure 6](image_url)
37. Coins Ignored When Entered

Start coin drop diagnostic tests. (Refer to programming manual, "Production Test Cycle" section.)

Does the display on the electronic control increment properly?

YES

Exit diagnostic testing and reset control. (Prompting for vend price)

NO

Is connector H5 on the control firmly seated in its receptacle?

YES

NO

Reconnect and run diagnostic test again.

Reconnect and run diagnostic test again.

Is the 3 pin connector between coin drop and control connected correctly?

YES

NO

Reconnect and run diagnostic test again.

Reconnect and run diagnostic test again.

Are wires exiting coin drop optical sensor cracked or broken?

YES

Replace coin drop.

NO

Replace coin drop. If problem still exists then replace the electronic control.

Gas and electric heat. Single and three phase power supply.
Micro Display Control (MDC) Troubleshooting

38. Control Has No Display

Gas, steam and electric heat.
Single and three phase power supply.

(1) Is there power supplied to the unit?

YES

NO

Plug unit in and start cycle.

(2) Is there 120 VAC at input of primary fuses?

YES

NO

Correct wiring between primary fuse and power supply.

(3) Is there 120 VAC at output side of the primary fuses?

YES

NO

Replace primary fuse(s).

(4) Is there 120 VAC across terminals 1 & 2 of transformer primary?

YES

NO

Correct wiring between primary fuse and transformer.

(5) Is there 24 VAC across terminals 1 & 4 of transformer secondary?

YES

NO

Replace transformer.

(6) Is there 24 VAC at the input of the secondary fuse?

YES

Correct wiring between secondary fuse and transformer.

NO

Replace secondary fuse.

(7) Is there 24 VAC at output side of secondary fuse?

YES

Correct wiring between secondary fuse and transformer.

NO

(8) Is there 24 VAC across H1-1 & H1-3 on the control?

YES

Replace Electronic Control.

NO

Correct wiring between control and secondary fuse.
39. Door Open Indicator

Gas, steam and electric heat. Single and three phase power supply.

Reference voltage checks to transformer neutral.

Check for proper function of door switch replace if necessary.

Correct wiring between N.O. and output of secondary fuse.

Correct wiring between secondary fuse and transformer.

Replace secondary fuse.

Correct wiring between primary fuses and transformer.

Replace primary fuse(s).

Correct wiring between primary fuses and power supply.

Replace Control.

Plug unit in and start cycle.

Correct wiring between primary fuses and transformer.

Correct wiring between primary fuses and transformer.

Replace transformer.

Is there voltage at H2-1 on the Electronic control?

Is there power supplied to the unit?

Is there 120 VAC at input of primary fuses?

Is there 120 VAC at output side of primary fuses?

Is there 120 VAC across terminals 1 & 2 of transformer primary?

Is there 24 VAC across terminals 2 & 3 of transformer secondary?

Is there 24 VAC across terminals 1 & 2 of transformer secondary?

Is there 24 VAC at the input of the secondary fuse?

Is there 24 VAC at the output of the secondary fuse?

Is there 24 VAC at N.O. of door switch?

Is there 24 VAC at N.O. of lint drawer switch?

Is there 24 VAC at COM of lint drawer switch?

Is there 24 VAC at COM of lint drawer switch with lint panel closed?

With door closed is there 24 VAC to COM of door switch?

Is there 24 VAC at COM of lint drawer switch with lint panel closed?
Micro Display Control (MDC) Troubleshooting

Door Open Indicator
**Micro Display Control (MDC) Troubleshooting**

**40. Motor Will Not Start/Run**

- **Is there 24 VAC across H2-1 and H2-6 on the electronic control?**
  - **YES:** Replace MDC Control.
  - **NO:** Refer to Door open flow chart.

- **Is there 24 VAC across H2-4 and H2-6 on the electronic control?**
  - **YES:** Replace control.
  - **NO:** Correct wiring to coil of motor relay.

- **Is the unit equipped with single phase or three phase power?**
  - **Single phase:** Correct wiring to coil of motor relay.
  - **Three phase:** Correct wiring between L1, L2 and supply.

- **Is there 24 VAC across L1 & 4 of the motor?**
  - **YES:** Does the motor run?
  - **NO:** Replace motor.

- **Is unit equipped with single phase or three phase power supply?**
  - **Single phase:** Replace motor control relay.
  - **Three phase:** Replace motor control relay.

- **Is there supply voltage between L2 & L3 of motor control relay?**
  - **YES:** Correct wiring between L2 & L3 and T3.
  - **NO:** Replace motor control relay.

- **Is there supply voltage across terminals L2 & T2 and L3 & T3?**
  - **YES:** Replace motor control relay.
  - **NO:** Correct wiring between L1 & L2 and T1 and T2 and L1 & T1 and L2 & T2.

- **Is there supply voltage to L1 and L2 of the motor control relay?**
  - **YES:** Replace motor control relay.
  - **NO:** Correct wiring between L1, L2 and power supply.

- **Is there supply voltage across L1 & T1 and L2 & T2?**
  - **YES:** Replace motor control relay.
  - **NO:** Correct wiring between L1 & T1 and power supply.

**Note:** Test conducted with vend price satisfied and start button pressed.

Gas, electric and steam heat. Single and three phase power supply.
40. Motor Will Not Start/Run (continued)

Is there supply voltage across terminals 1 & 4 of motor?  

- YES
  - Does the motor run?  
    - NO  
      - Replace motor.  
    - YES
      - Motor is operational.
  - NO
    - Correct wiring between motor and motor control relay.

Correct wiring between terminal 6 of motor control relay and supply.

Correct wiring between L2, L3 and supply.

Note: For high voltage three phase supply (200 volts or higher), the motor is supplied by L1, L2, L3 through the motor contactor terminals T1, T2, T3. Make the appropriate adjustments when doing voltage checks.

Please see following page for wiring diagram information.
Micro Display Control (MDC) Troubleshooting

Motor Will Not Start/Run
41. Unit Will Not Heat – Gas

Note: Tests are conducted with unit running and calling for heat. All voltage checks are referenced to transformer neutral.

1. Is there 24 VAC at FS-2 of MDC control?
   - NO: Correct wiring between FS-2 and COM of lint drawer.
   - YES: Replace thermistor.

2. Is there 24 VAC at FS-1 of MDC control?
   - NO: Replace MDC control.
   - YES: Is the thermistor operational?

3. Is there 24 VAC at COM of airflow switch?
   - NO: Correct wiring between COM of airflow switch and FS-1 of MDC control.
   - YES: Is there 24 VAC across COM & N.C. terminal of airflow switch?

4. Is there 24 VAC across COM & N.C. terminal of airflow switch?
   - YES: Check for proper function of airflow switch and replace if necessary.
   - NO: Is there 24 VAC at terminal 7 of motor control relay?

5. Is there 24 VAC at terminal 7 of motor control relay?
   - NO: Correct wiring between terminal 7 on motor control relay and N.C. terminal on airflow switch.
   - YES: Is there 24 VAC across terminals 7 & 4 of motor control relay?

6. Is there 24 VAC across terminals 7 & 4 of motor control relay?
   - NO: Replace motor control relay.
   - YES: Replace MDC control.

7. Is there 24 VAC at terminal 3 of fan motor centrifugal switch?
   - NO: Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 4 of motor control relay.
   - YES: Is there 24 VAC across terminals 3 & 5 of fan motor centrifugal switch?

8. Is there 24 VAC across terminals 3 & 5 of fan motor centrifugal switch?
   - YES: Replace fan motor.
   - NO: Is there 24 VAC to the input side of the cabinet limit?

9. Is there 24 VAC to the input side of the cabinet limit?
   - NO: Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.
   - YES: Replace cabinet limit.

10. Is there 24 VAC across cabinet limit?
    - YES: Replace cabinet limit.
    - NO: Is there 24 VAC to the input side of the stove limit?

11. Is there 24 VAC to the input side of the stove limit?
    - NO: Correct wiring between stove limit and cabinet limit.
    - YES: Replace MDC control.
41. Unit Will Not Heat – Gas (continued)

Please see following page for wiring diagram information.
Unit Will Not Heat – Gas

[Diagram of MDC system]
Micro Display Control (MDC) Troubleshooting

42. Unit Will Not Heat – Steam

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

1. Is there 24 VAC on FS-2 of MDC control?
   - YES: Correct wiring between FS-2 and COM of lint drawer.
   - NO: Replace thermistor.

2. Replace MDC control.

3. Is there 24 VAC on COM of airflow switch?
   - YES: Correct wiring between COM of airflow switch and FS-1 of MDC control.
   - NO: Replace motor control relay.

4. Check for proper function of airflow switch and replace if necessary.

5. Is there 24 VAC across COM & N.C. terminal of airflow switch?
   - YES: Replace MDC control.
   - NO: Replace motor control relay.

6. Correct wiring between terminal 7 on motor control relay and N.C. terminal on airflow switch.

7. Is there 24 VAC on terminal 3 of fan motor centrifugal switch?
   - YES: Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 4 of motor control relay.
   - NO: Replace fan motor.

8. Replace cabinet limit.

9. Is there 24 VAC across terminals 3 & 5 of fan motor centrifugal switch?
   - YES: Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 5 of motor control relay.
   - NO: Replace fan motor.

10. Replace cabinet limit.

11. Is there 24 VAC to the input side of the stove limit?
    - YES: Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.
    - NO: Correct wiring between cabinet limit and cabinet limit.
42. Unit Will Not Heat – Steam (continued)

Please see following page for wiring diagram information.
Micro Display Control (MDC) Troubleshooting

Unit Will Not Heat – Steam
43. Unit Will Not Heat – Electric

Note: Tests are conducted with unit running and calling for heat. All voltage checks are referenced to transformer neutral.

(1) Is there 24 VAC at FS-2 of MDC control?
   - NO: Correct wiring between FS-2 and COM of lint panel switch.
   - YES: Replace MDC control.

(2) Is there 24 VAC on FS-1 of MDC control?
   - NO: Replace thermistor.
   - YES: Replace thermistor operational.

(3) Is there 24 VAC at COM of airflow switch?
   - NO: Correct wiring between COM of airflow switch and FS-1 of MDC control.
   - YES: Check for proper function of airflow switch and replace if necessary.

(4) Is there 24 VAC across COM & N.C. terminal of airflow switch?
   - YES: Replace motor control relay.
   - NO: Replace motor control relay.

(5) Is there 24 VAC at terminal 14 of motor control relay?
   - NO: Correct wiring between terminal 7 on motor control relay and N.C. terminal on airflow switch.
   - YES: Replace motor control relay.

(6) Is there 24 VAC across terminals 13 & 14 of motor control relay?
   - NO: Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 13 of motor control relay.
   - YES: Replace fan motor.

(7) Is there 24 VAC at terminal 3 of fan motor centrifugal switch?
   - NO: Correct wiring between terminal 3 & 5 of fan motor centrifugal switch.
   - YES: Replace cabinet limit.

(8) Is there 24 VAC across terminals 3 & 5 of fan motor centrifugal switch?
   - NO: Correct wiring between cabinet limit and terminal 5 of motor control relay.
   - YES: Replace cabinet limit.

(9) Is there 24 VAC to the input side of the cabinet limit?
   - NO: Correct wiring between stove limit and cabinet limit.
   - YES: Replace cabinet limit.

(10) Is there 24 VAC across cabinet limit?
    - NO: Correct wiring between stove limit and cabinet limit.
    - YES: Replace cabinet limit.

(11) Is there 24 VAC to the input side of the stove limit?
     - NO: Correct wiring between stove limit and cabinet limit.
     - YES: Replace cabinet limit.
43. Unit Will Not Heat – Electric (continued)

Please see following page for wiring diagram information.
Unit Will Not Heat – Electric
44. Error Codes

OP - Indicates physical “open” in the thermistor circuit. Possible causes are: 1) thermistor, 2) wiring between control and thermistor, 3) control.

SH - Indicates a “short” in the thermistor circuit. Possible causes are: 1) shorted thermistor, 2) a short in the wiring between control and thermistor, 3) control.

Card Reader Machines: (In addition to the above errors)

EC:19 - Indicates no card reader communication. The control and the reader cannot communicate. Check reader, control and harness.

NOTE: For all other card reader errors, consult the card reader manual provided by the manufacturer.

<table>
<thead>
<tr>
<th>Display</th>
<th>Definition</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| OP      | Indicates an open circuit in the thermistor. | • Check thermistor. Replace if inoperative.  
• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.  
• Check control. Replace if inoperative. |
| SH      | Indicates a short circuit in the thermistor. | • Check thermistor. Replace if inoperative.  
• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.  
• Check control. Replace if inoperative. |
| EC:19   | Indicates no communication between control and card reader. | • Check card reader. Replace if inoperative.  
• Check wire harness connecting card reader and control. Replace if inoperative.  
• Check control. Replace if inoperative. |

*Card Reader models only
Section 6
NetMaster Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
• Disconnect electric power to the tumbler before servicing.
• Close gas shut-off valve to gas tumbler before servicing.
• Close steam valve to steam tumbler before servicing.
• Never start the tumbler with any guards/panels removed.
• Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.
45. No Infrared Communication

- Is IR communication disabled by manual programming?
- Is the IR window covered or blocked on the control?
  - If needed, replace the electronic control.
  - Is the IR cap properly attached to the Micro-Wand?

Gas and electric heat. Single and three phase power supply.

Check the following:
- Is the battery low on the Micro-Wand?
- Is the IR window covered or blocked on the control?
- If needed, replace the electronic control.
- Is the IR cap properly attached to the Micro-Wand?

Communication sequence checks out.

Check the following:
- Is IR communication disabled by manual programming?
- Is the IR window on the control covered or blocked?
  - If needed, change control board.
46. Coins Ignored When Entered

Start coin drop diagnostic tests.

Does the display on the electronic control increment properly?

- Yes: Exit diagnostic testing and reset control. (Prompting for vend price)
- No: Reconnect and run diagnostic test again.

Is connector H5 on the control firmly seated in its receptacle?

- No: Reconnect and run diagnostic test again.
- Yes: Is the 3 pin connector between coin drop and control connected correctly?

- No: Reconnect and run diagnostic test again.
- Yes: Are wires exiting coin drop optical sensor cracked or broken?

- No: Replace coin drop.
- Yes: Replace coin drop. If problem still exists, then replace the electronic control.

Gas and electric heat. Single and three phase power voltage.

NOTE: Refer to Programming Manual for test procedures.
47. No Display

(1) Is there 24 volts AC across terminals H1-1 and H1-3 on control? Yes → Replace the electronic control.  
No →

(2) Is the secondary fuse good? No → Replace the fuse.  
Yes →

(3) Is there 24 volts AC across terminals 1 and 4 on the secondary side of the transformer? Yes → Correct the wiring between the transformer secondary and the electronic control.  
No →

(4) Is line voltage present across terminals 1 and 2 on the primary side of the transformer? Yes → Replace the transformer.  
No →

(5) Is the primary fuse good? No → Replace the primary fuse.  
Yes → Correct wiring from terminal block to transformer. Verify that the unit is connected to power and the power is on.
No Display
48. “Door Open” Indicator

Note: All voltages are to be measured to transformer common, unless otherwise stated.

(1) Is there 24 volts across terminals H2-1 and H2-6 on the control?

Yes → Replace control.

No → (2) Is there 24 volts to the normally open contact on the lint panel switch?

Yes → Correct the wiring between the N.O. terminal on the lint panel switch to terminal H2-1 on the control.

No → (3) Is there 24 volts to the common terminal of the lint panel switch?

Yes → Replace the lint panel switch.

No → (4) Is there 24 volts at the normally open terminal of the door switch with the door closed?

Yes → Correct the wiring between the door switch and the lint panel switch.

No → (5) Is there 24 volts to the common terminal of the door switch?

Yes → Check door switch for proper operation. Replace if necessary.

No → (6) Is there 24 volts to the output side of the secondary fuse?

Yes → Correct the wiring between the fuse and the common terminal of the door switch.

No → (7) Is there 24 volts to the input side of the secondary fuse?

Yes → Check fuse. Replace if necessary.

No → (8) Is there 24 volts across terminals 2 and 3 of the transformer secondary?

Yes → Correct wiring between the transformer and the fuse.

No → (9) Is line voltage present across terminals 1 and 2 on the primary side of the transformer?

Yes → Replace transformer.

No → (10) Is the primary fuse good?

Yes → Correct wiring from terminal block to transformer. Verify that unit is connected to power and the power is on.

No → Replace the primary fuse.
"Door Open" Indicator
**NetMaster Troubleshooting**

**49. No Start/Run**

*Note: For steps 2 and 3. For 208/240 1 phase, both lines to the motor are controlled by contacts. Please check second set of contacts. For 3 phase units, the three legs supplied to the motor will be controlled by N.O. contacts. Please check all three legs.*

1. **Is there line voltage across terminals 1 and 4 of the motor?**
   - Yes: Check motor for proper operation. Replace if necessary.
   - No:
     2. **Is there voltage on the output of the motor relay?**
        - Yes: Correct wiring between the motor relay and the motor.
        - No:
          3. **Is there voltage to the input side of the motor relay?**
             - Yes: Correct wiring supplying voltage to the contacts of the motor relay.
             - No:
               4. **Is there 24 Volts across the coil of the relay?**
                  - Yes: Check relay for proper operation. Replace if necessary.
                  - No:
                    5. **Is there 24 volts at terminal H2-4 on the control?** Measured to transformer neutral.
                       - Yes: Correct wiring between control and motor relay coil.
                       - No:
                         6. **Is there 24 volts to terminal H2-1 on the control?**
                            - Yes: Press the start button. If machine does not start, replace control.
                            - No: Correct wiring to the control. Refer to “Door Open” Indicator.”
50. Unit Will Not Heat – Gas

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

1. Is there voltage at FS-2 of control?
   - Yes: Replace thermistor.
   - No: Correct wiring between FS-2 and N.O. of lint panel switch.

2. Is there voltage at FS-1 of control?
   - Yes: Replace control.
   - No: Is the thermistor operational?

3. Is there voltage at N.O. terminal of the motor control relay?
   - Yes: Correct wiring between N.O. terminal and FS-1.
   - No: Correct wiring between motor terminal 3 and motor relay.

4. Is there voltage to terminal 3 of the fan motor?
   - Yes: Check motor for proper operation. Replace if necessary.
   - No: Correct wiring between motor terminal 3 and motor relay.

5. Is there voltage at terminal 5 of the fan motor?
   - Yes: Check motor for proper operation. Replace if necessary.
   - No: Correct wiring between cabinet limit and terminal 5 of fan motor.

6. Is there voltage to the input of the cabinet limit?
   - Yes: Check operation of cabinet limit. Replace if necessary.
   - No: Correct wiring between stove limit and normally open terminal of the airflow switch.

7. Is there voltage to the output of the cabinet limit?
   - No: Check cabinet limit for proper operation. Replace if necessary.

8. Is there voltage to the common of the airflow switch?
   - Yes: Correct wiring between airflow switch and cabinet limit.
   - No: Check for proper operation of airflow switch. Replace if necessary.

9. Is there voltage to the N.O. terminal of the airflow switch?
   - Yes: Correct wiring between stove limit and normally open terminal of the airflow switch.
   - No: Check operation of stove limit. Replace if necessary.

10. Is there voltage to the input of the stove limit?
    - Yes: Correct wiring between stove limit and normally open terminal of the airflow switch.
    - No: Check operation of stove limit. Replace if necessary.

Continued on next page.
50. Unit Will Not Heat – Gas (continued)

Is there a flame?
- Yes: Unit operational.
- No: Proceed to next step.

Is there voltage to terminal 2 of the Ignition Control Module (ICM)?
- Yes: Correct wiring between terminal 2 of ICM and stove limit.
- No: Is there voltage at terminal 1 of ICM board?

Is there voltage at terminal 1 of ICM board?
- Yes: Correct wiring between gas valve and ICM board.
- No: Replace ICM board.

Is there voltage across the coils of the gas valve?
- Yes: Is there gas flow through the gas valve?
- No: Replace gas valve coils or complete gas valve.

Is there gas flow through the gas valve?
- Yes: Does the igniter spark?
- No: Replace high voltage ignition cable or igniter.

Please see following page for wiring diagram information.
NetMaster Troubleshooting

Unit Will Not Heat – Gas

[Diagram of a gas unit heat system with various components labeled and connected by lines, including transformer, ignitor, gas valve, and control box.]
51. Unit Will Not Heat – Steam

Note: Tests are conducted with unit running and calling for heat. All voltage checks are referenced to transformer neutral.

1. Is there voltage on FS-2 of control?
   - Yes: Replace thermistor.
   - No: Correct wiring between FS-2 and N.O. of lint panel switch.

2. Is there voltage on FS-1 of control?
   - Yes: Correct wiring between N.O. terminals of motor control relay and FS-1.
   - No: Replace control.

3. Is there voltage to the N.O. terminal of the motor control relay?
   - Yes: Correct wiring between terminal 3 of fan motor centrifugal switch and motor control relay.
   - No: Does the steam valve open?

4. Is there voltage on terminal 3 of fan motor centrifugal switch?
   - Yes: Replace fan motor.
   - No: Is the thermistor operational?

5. Is there voltage across terminals 3 and 5 of fan motor centrifugal switch?
   - Yes: Correct the wiring between the steam valve and the fan motor switch.
   - No: Replace fan motor.

6. Is there voltage across the coil of the steam valve?
   - Yes: Correct the wiring between the steam valve and the fan motor switch.
   - No: Check steam valve for proper operation. Replace if necessary.

Verify that the correct steam is supplied to the unit. Verify that the steam valve and other items were installed according to the Installation Manual.
NetMaster Troubleshooting

Unit Will Not Heat – Steam

[Diagram of a washing machine electrical system with various labeled components such as power supply, control panel, and failure points indicated with numbers and text labels.]
52. Unit Will Not Heat – Electric

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

(1) Is there voltage at FS-2 of control?
   No → Correct wiring between FS-2 and N.O. of lint panel switch.
   Yes → Replace thermistor.

(2) Is there voltage at FS-1 of control?
   No → No
   Yes → Is the thermistor operational?
      Yes → Replace control.
      No → (3) Is there voltage at N.O. terminal of the motor control relay?

(3) Is there voltage at N.O. terminal of the motor control relay?
   No → Correct wiring between N.O. terminal and FS-1.
   Yes → (4) Is there voltage to terminal 3 of fan motor?

(4) Is there voltage to terminal 3 of fan motor?
   No → Correct wiring between motor terminal 3 and motor relay.
   Yes → (5) Is there voltage at terminal 5 of the fan motor?

(5) Is there voltage at terminal 5 of the fan motor?
   No → Check motor for proper operation. Replace if necessary.
   Yes → (6) Is there voltage to the input of the cabinet limit?

(6) Is there voltage to the input of the cabinet limit?
   No → Correct wiring between cabinet limit and terminal 5 of fan motor.
   Yes → (7) Is there voltage to the output of the cabinet limit?

(7) Is there voltage to the output of the cabinet limit?
   No → Check cabinet limit for proper operation. Replace if necessary.
   Yes → (8) Is there voltage to the common of the airflow switch?

(8) Is there voltage to the common of the airflow switch?
   No → Correct wiring between airflow switch and cabinet limit.
   Yes → (9) Is there voltage to the N.O. terminal of the airflow switch?

(9) Is there voltage to the N.O. terminal of the airflow switch?
   No → Check for proper operation of airflow switch. Replace if necessary.
   Yes → (10) Is there voltage to the input of the stove limit?

(10) Is there voltage to the input of the stove limit?
     No → Correct wiring between stove limit and normally open terminal of the airflow switch.
     Yes → (11) Is there voltage to the output side of the stove limit?

(11) Is there voltage to the output side of the stove limit?
     No → Check operation of stove limit. Replace if necessary.
     Yes → Continued on next page.
NetMaster Troubleshooting

52. Unit Will Not Heat – Electric (continued)

- **Is there voltage across the coil(s) of the heater contactor(s)?**
  - No: Correct wiring between heater contactor and stove limit.
  - Yes:

- **Is there voltage to the input terminals of HC1 and/or HC2?**
  - No: Correct wiring between HC1, HC2 and line voltage.
  - Yes:

- **Is there voltage to the output side of HC1/HC2 contacts?**
  - No: Check for proper operation of contactors. Replace if necessary.
  - Yes:

- **Do all elements produce heat (glow a slight orange color)?**
  - No: Check elements for shorts or opens. Check wires between contactors and elements.
  - Yes:

Unit is operational.

Please see following page for wiring diagram information.
Unit Will Not Heat – Electric
53. CE Models No Display

1. Is there voltage across H1-1 and H1-3 on the control?
   - Yes: Replace the control.
   - No: Is there voltage coming out of fuse F4?

2. Is there voltage coming out of fuse F4?
   - Yes: Correct wiring between fuse F4 and control.
   - No: Is fuse F4 good?

3. Is fuse F4 good?
   - Yes: Correct wiring between transformer and fuse.
   - No: Is there voltage across terminals 1 and 4 of the transformer?

4. Is there voltage across terminals 1 and 4 of the transformer?
   - Yes: Check transformer for operation. Replace if necessary.
   - No: Is line voltage supplied to the transformer primary?

5. Is there line voltage on the output side of F1?
   - Yes: Correct wiring between fuse F1 and transformer.
   - No: Is there line voltage on the input side of F1?

6. Is there line voltage on the input side of F1?
   - Yes: Replace fuse F1.
   - No: Verify that unit is plugged in. Correct wiring between supply terminals and fuse F1.
CE Models No Display
54. CE Models “Door Open” Indicator

Note: All voltage checks are referenced to the transformer neutral unless otherwise stated.

Is there voltage across terminals H2-1 and H2-6 on the control?

Correct wiring between H2-1 on control and normally closed on airflow switch.

Is there voltage to normally closed terminal of the airflow switch?

Check AFS for proper operation. Replace if necessary.

Is there voltage to common terminal of the airflow switch (AFS)?

Correct wiring between LDS and AFS.

Is there voltage to output side of lint door switch (LDS)?

Check LDS for proper operation. Replace if necessary.

Is there voltage to common of LDS?

Correct wiring between DS and LDS.

Is there voltage to output side of door switch (DS)?

Check DS for proper operation. Replace if necessary.

Is there voltage to common terminal on DS?

Correct wiring between fuse F3 and DS.

Is there voltage to output side of fuse F3?

Check fuse F3 for proper operation. Replace if necessary.

Is there voltage to input side of fuse F3?

Correct wiring between transformer and fuse F3.

Is there voltage across transformer secondary?

Refer to steps 4, 5 and 6 of “EU No Display.” Replace transformer if necessary.
CE Models “Door Open” Indicator
55. CE Models No Start/Run

Is there line voltage across terminals 1 and 4 of the motor? [Yes, No]

- If Yes: Check operation of motor. Replace if necessary.
- If No: Is there voltage on the output side of the motor relay terminals? Check to common line.

Is there voltage on the output side of the motor relay terminals? Check to common line. [Yes, No]

- If Yes: Correct wiring between motor relay and motor.
- If No: Is there voltage on the input side of the motor relay terminals? Check to common line.

Is there voltage on the input side of the motor relay terminals? Check to common line. [Yes, No]

- If Yes: Correct wiring from line supply voltage to motor relay.
- If No: Is there voltage across H2-1 on the control? [Yes, No]

Is there voltage across H2-1 on the control? [Yes, No]

- If Yes: Press start button. If machine doesn't start, replace control.
- If No: Correct wiring to control. Refer to "EU Door Open Indicator."

Note: Voltage checks referenced to transformer neutral unless otherwise stated.

Note: Common can be neutral or live wire depending on voltage and phase.
CE Models No Start/Run
56. CE Models Will Not Heat – Gas

- **Note:** Test conducted with unit running and calling for heat.
- **Note:** Voltage checks referenced to neutral unless otherwise stated.

1. **Is there voltage on FS-2 on the control?**
   - No: Check airflow switch (AFS) for proper operation. If needed correct wiring between AFS and FS-2.
   - Yes: Proceed to step 2.

2. **Is there voltage at FS-1 of the control?**
   - No: Check thermistor for proper operation. Replace if necessary. Replace control if thermistor is good.
   - Yes: Proceed to step 3.

3. **Is there voltage at terminal 3 of the motor?**
   - No: Correct wiring between FS-1 on the control and terminal 3 of the motor.
   - Yes: Proceed to step 4.

4. **Is there voltage at terminal 5 of the motor?**
   - No: Check for proper operation of the fan motor switch. Replace motor if necessary.
   - Yes: Proceed to step 5.

5. **Is there voltage to the input side of the cabinet limit?**
   - No: Correct wiring between cabinet limit and fan motor switch.
   - Yes: Proceed to step 6.

6. **Is there voltage to the output side of the cabinet limit (CT)?**
   - No: Check cabinet limit for proper operation. Replace if necessary.
   - Yes: Proceed to step 7.

7. **Is there voltage to input side of the stove limit (ST)?**
   - No: Correct wiring between stove limit and cabinet limit.
   - Yes: Proceed to step 8.

8. **Is there voltage to the output side of the stove limit?**
   - No: Check stove limit for proper operation. Replace if necessary.
   - Yes: Proceed to step 9.

9. **Is there voltage to terminal 4 on the ignition control?**
   - No: Correct wiring between ignition control and stove limit.
   - Yes: Proceed to step 10.

10. **Is there voltage to terminal 2 on the ignition control?**
    - No: Correct wiring between ignition control and lint door switch (LDS).
    - Yes: Proceed to step 11.

11. **Is there voltage on terminal 6 of ignition control module?**
    - No: Replace ignition control.
    - Yes: Proceed to step 12.

12. **Is there voltage across the coil of the gas valve?**
    - No: Correct wiring between ignition control and gas valve.
    - Yes: Continued on next page.
56. CE Models Will Not Heat – Gas (continued)

Does the gas ignite and stay on?

Yes → Unit operational.

No → Check valve for proper operation. Replace if necessary. Verify that the correct gas and gas pressures are supplied. Verify that the control is not going into lockout.
CE Models Will Not Heat – Gas
57. CE Models Will Not Heat – Steam

Note: Voltage checks referenced to neutral unless otherwise stated.

(1) Is there voltage on FS-2 on the control?
   Yes
   (2) Is there voltage at FS-1 on the control?
       Yes
       (3) Is there voltage to terminal 3 of the motor?
           Yes
           (4) Is there voltage on terminal 5 of the motor?
               Yes
               (5) Is there voltage across the coil of the steam solenoid?
                   Yes
                   (6) Does the steam valve open?
                        Yes
                        (7) Is heat produced?
                            Yes
                            Unit operational.
                            No
                            Check for correct steam supply. Verify that steam was connected according to the Installation Manual.
                        No
                        Replace steam valve.
               No
               Replace control if thermistor is okay.
       No
       Correct wiring between FS-2 and K2 terminal 14.
   No
   Check thermistor for proper operation. Replace if needed.

(4) Is there voltage on terminal 5 of the motor?
   Yes
   (5) Is there voltage across the coil of the steam solenoid?
       Yes
       Correct wiring between steam solenoid and motor switch.
       No
       Correct wiring between FS-2 and K2 terminal 14.
   No
   Check for proper operation of motor switch. Replace motor if necessary.
CE Models Will Not Heat – Steam
58. CE Models Will Not Heat – Electric

Note: All voltage checks are referenced to neutral unless otherwise stated.

(1) Is there voltage to FS-2 on the control?
   No  Correct wiring between FS-2 and normally open terminal on the airflow switch (AFS). Check AFS for proper operation. Replace if necessary.
   Yes  Correct wiring between FS-2 and normally open terminal on the airflow switch (AFS). Check AFS for proper operation. Replace if necessary.

(2) Is there voltage on FS-2 of the control?
   No  Check thermistor for proper operation. Replace if needed. Check control.
   Yes  Correct wiring between the motor terminal 3 and FS-1 on the control.

(3) Is there voltage to terminal 3 on the motor?
   No  Correct wiring between motor terminal 3 and FS-1 on the control.
   Yes  Correct wiring between motor terminal 3 and FS-1 on the control.

(4) Is there voltage to terminal 5 on the motor?
   No  Correct wiring between motor terminal 3 and FS-1 on the control.
   Yes  Correct wiring between motor terminal 3 and FS-1 on the control.

(5) Is there voltage to the input of K2 relay terminal 14?
   No  Check for proper operation of motor relay and motor switch.
   Yes  Correct wiring between motor control relay and motor switch.

(6) Is there voltage to output side of motor control relay terminal 13?
   No  Check for proper operation of motor control relay. Replace if necessary.
   Yes  Correct wiring between motor control relay and motor switch.

(7) Is there voltage to the input side of the cabinet limit?
   No  Check for proper operation of cabinet limit. Replace if necessary.
   Yes  Correct wiring between the motor and cabinet limit.

(8) Is there voltage to the output side of the cabinet limit?
   No  Check for proper operation of cabinet limit. Replace if necessary.
   Yes  Check for proper operation of cabinet limit. Replace if necessary.

(9) Is there voltage to the input side of the stove limit?
   No  Correct wiring between stove limit and cabinet limit.
   Yes  Correct wiring between stove limit and cabinet limit.

(10) Is there voltage to output side of the stove limit?
    No  Check stove limit for proper operation. Replace if necessary.
    Yes  Check stove limit for proper operation. Replace if necessary.

(11) Is there voltage across the coils of the heater contactor(s)?
    No  Correct wiring between heater contactor coils and stove limit.
    Yes  Correct wiring between heater contactor(s) and line voltage.

(12) Is there line voltage to the input side of the heat contactor(s)?
    No  Correct wiring between heat contactor(s) and line voltage.
    Yes  Continued on next page.
58. CE Models Will Not Heat – Electric (continued)

- Check for proper operation of contactors. Replace if necessary.
- Is there line voltage to the output side of the heat contactors?
  - No → Check for proper operation of contactors. Replace if necessary.
  - Yes → Proceed to (14)

- Is there line voltage across the elements?
  - No → Correct wiring between the elements and contactors.
  - Yes → Proceed to (14)

- Do elements produce heat?
  - No → Check elements for opens/shorts. Replace if necessary.
  - Yes → Unit operational.

TMB1817S
CE Models Will Not Heat – Electric
Section 7
On Premise Micro Control (OM)
Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.
59. Control Has No Display

Control Has No Display

Gas, steam and electric heat. Single and three phase power supply.

(1) Is there power supplied to the unit?

Yes

No

Plug unit in and start cycle.

(2) Is there 120 VAC at input of primary fuses?

Yes

Correct wiring between primary fuse and power supply.

No

Correct wiring between primary fuse and power supply.

(3) Is there 120 VAC at output side of the primary fuses?

Yes

No

Replace primary fuse(s).

(4) Is there 120 VAC across terminals 1 & 2 of transformer primary?

Yes

No

Correct wiring between primary fuse and transformer.

(5) Is there 24 VAC across terminals 1 & 4 of transformer secondary?

Yes

No

Replace transformer.

Correct wiring between transformer and control.

(6) Is there 24 VAC across H3-3 nd H3-4 on the control?

Yes

No

Is the control fuse functional?

Yes

No

Replace control fuse.

Replace control.

TMB2251S
On Premise Micro Control (OM) Troubleshooting

Control Has No Display

![Diagram of On Premise Micro Control (OM) Troubleshooting for Control Has No Display](image-url)
60. Door Open Indicator

Is there 24 VAC between H2-8 and H2-9?

Yes
Replace control.

No
Plug unit in and start cycle.

Is there power supplied to the unit?

Yes
Correct wiring between primary fuses and power supply.

No
Is there 120 VAC at output side of the primary fuses?

Yes
Correct wiring between primary fuses and transformer.

No
Replace primary fuse(s).

Is there 120 VAC at output side of the primary fuses?

Yes
Is there 24 VAC at the input of the secondary fuse?

Yes
Correct wiring between secondary fuse and transformer.

No
Replace secondary fuse.

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Replace secondary fuse.

Is there 24 VAC across terminals 2 & 3 of transformer secondary?

Yes
Is there 24 VAC across terminals 2 & 3 of transformer primary?

Yes
Continued on next page

No
Correct wiring between primary fuses and transformer.

Is there 120 VAC at output side of secondary fuse?

Yes
Correct wiring between secondary fuse and transformer.

No
Replace secondary fuse.

Is there 24 VAC at input of primary fuses?

Yes
Is there 24 VAC at output side of secondary fuse?

Yes
Correct wiring between primary fuses and transformer.

No
Replace secondary fuse.

No
Correct wiring between COM and output of secondary fuse.

Is there 120 VAC across terminals 1 & 2 of transformer primary?

Yes
Continue on next page

No
Correct wiring between primary fuses and transformer.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?

Yes
Continued on next page

No
Correct wiring between COM and output of secondary fuse.

Is there 24 VAC at COM of door switch?
60. Door Open Indicator (continued)

With door closed is there 24 VAC to N.O. of door switch?

Yes

No

Check for proper function of door switch, replace if necessary.

Is there 24 VAC at COM of lint panel switch?

Yes

No

Correct wiring between N.O. on door switch and COM on lint panel switch.

Is there 24 VAC at N.O. of lint panel switch with lint panel closed?

Yes

Correct wiring between H2-8 of electronic control and N.O. of lint panel switch.

No

Check lint panel switch for proper operation, replace if necessary.

Please see following page for wiring diagram information.
On Premise Micro Control (OM) Troubleshooting

Door Open Indicator
61. Motor Will Not Start/Run

**Flowchart Diagram**

1. **Is there supply voltage between H2-7 and H2-9?**
   - Yes: **Is there 24 VAC across the coil of the motor control relay?**
     - Yes: **Correct wiring to coil of motor relay.**
     - No: **Correct wiring between black wire and power supply.**
   - No: **Replace control.**

2. **Is there supply voltage at black wire on the motor control relay?**
   - Yes: **Replace motor control relay.**
   - No: **Correct wiring between black wire on the motor control relay.**

3. **Is there supply voltage at gray wire on the motor control relay?**
   - Yes: **Correct wiring between motor and motor control relay.**
   - No: **Replace motor control relay.**

4. **Is the unit equipped with single phase or three phase power?**
   - Yes: **Motor is operational.**
   - No: **Correct wiring between L1, L2, L3 and power supply.**

5. **Is there supply voltage across terminals 1 & 4 of the motor?**
   - Yes: **Motor is operational.**
   - No: **Correct wiring between motor and motor control relay.**

6. **Is there supply voltage at L1-L2, L2-L3 and L1-L3 at the motor contactor?**
   - Yes: **Correct wiring between motor and motor control relay.**
   - No: **Correct wiring between L1, L2, L3 and power supply.**

7. **Is there supply voltage across T1-T2, T2-T3 and T1-T3 on the motor contactor?**
   - Yes: **Replace motor control relay.**
   - No: **Replace motor.**

8. **Is there supply voltage between L1-L2, L2-L3 and L1-L3 of motor?**
   - Yes: **Correct wiring between motor and motor contactor.**
   - No: **Replace motor.**

Note: Test conducted with vend price satisfied and start button pressed.

Note: For high voltage three phase supply (200 volts or higher), the motor is supplied by L1, L2, L3 through the motor contactor terminals T1, T2, T3. Make the appropriate adjustments when doing voltage checks.

Gas, steam and electric heat.
Single and three phase power supply.
Motor Will Not Start/Run – Single Phase
Motor Will Not Start/Run – 3 Phase
On Premise Micro Control (OM) Troubleshooting

62. Unit Will Not Heat – Gas

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

(1) Is there voltage at H2-5 of control?
   No
   Is the thermistor operational?
      Yes
      Correct wiring between H2-5 and motor contactor.
      Yes
      Replace motor contactor.
      No
   No
   Correct wiring between H2-5 and motor contactor.

(2) Is there voltage on BRN/WHT wire on motor contactor?
   Yes
   Is there voltage at WHT/BRN wire on motor contactor?
      No
      Replace motor contactor.
      Yes
   Correct wiring between H2-5 and motor contactor.

(3) Is there voltage at WHT/BRN wire on motor contactor?
   No
   Replace motor contactor.
   Yes

(4) Is there voltage to terminal 3 of the motor contactor?
   No
   Correct wiring between motor terminal 3 and motor contactor.
   Yes

(5) Is there voltage at terminal 5 of the fan motor?
   No
   Check motor for proper operation. Replace if necessary.
   Yes

(6) Is there voltage to the input of the cabinet limit?
   No
   Correct wiring between cabinet limit and terminal 5 of fan motor.
   Yes

(7) Is there voltage to the output of the cabinet limit?
   No
   Check cabinet limit for proper operation. Replace if necessary.
   Yes
   Correct wiring between airflow switch and cabinet limit.

(8) Is there voltage to the common of the airflow switch?
   No
   Check for proper operation of airflow switch. Replace if necessary.
   Yes

(9) Is there voltage to the N.O. terminal of the airflow switch?
   No
   Correct wiring between airflow switch and cabinet limit.
   Yes

(10) Is there voltage to the input of the stove limit?
    No
    Correct wiring between stove limit and normally open terminal of the airflow switch.
    Yes

Continued on next page
62. Unit Will Not Heat – Gas (continued)

Continued from previous page

Is there voltage to the output side of the stove limit?

Yes

Is there voltage to terminal 2 of the Ignition Control Module (ICM)?

No

Correct wiring between terminal 2 of ICM and stove limit.

Yes

Is there voltage at terminal 1 of ICM board?

No

Replace ICM board.

Yes

Note: Make sure unit is not in a lockout condition.

Is there voltage across the coils of the gas valve?

No

Correct wiring between gas valve and ICM board.

Yes

Is there gas flow through the gas valve?

No

Replace gas valve coils or complete gas valve.

Yes

Does the igniter spark?

No

Replace high voltage ignition cable, igniter or ICM board.

Yes

Is there a flame?

No

Unit operational.

Yes

Is the igniter spark?

Yes

Is there a flame?

No

Unit operational.

Please see following page for wiring diagram information.
On Premise Micro Control (OM) Troubleshooting

Unit Will Not Heat – Gas
On Premise Micro Control (OM) Troubleshooting

63. Unit Will Not Heat – Steam

All voltage checks are referenced to transformer neutral.

Note: Tests are conducted with unit running and calling for heat.

- Is there voltage at terminal 5 of the fan motor?
  - Yes
  - No
    - Is there voltage at terminal 3 of the motor contactor?
      - Yes
      - No
        - Correct wiring between motor terminal 3 and motor contactor.
      - Replace motor contactor.
  - Yes
    - Replace motor contactor.

- Is there voltage on BRN/WHT wire on motor contactor?
  - Yes
  - No
    - Correct wiring between H2-5 and motor contactor.
  - Replace thermistor.

- Is there voltage at H2-5 of control?
  - Yes
  - Replace thermistor.
  - No
    - Replace control.

- Is the thermistor operational?
  - Yes
  - Correct wiring between steam valve coil and motor.
  - No
    - Does the steam valve coil have continuity?
      - Yes
      - Is the steam supply functional?
        - Yes
        - Replace or rebuild the steam valve.
        - No
          - Connect the steam supply.
      - No
        - Replace the steam valve coil.
  - No
    - Replace the steam valve coil.

- Is there 24 VAC across the coil of the steam valve?
  - Yes
  - No
    - Replace the control.

- Is there voltage at WHT/BRN wire on motor contactor?
  - Yes
  - No
    - Replace motor contactor.

- Is there voltage at terminal 3 of the motor contactor?
  - Yes
  - No
    - Correct wiring between motor terminal 3 and motor contactor.
  - Replace or rebuild the steam valve.

TMB2256S
Unit Will Not Heat – Steam
On Premise Micro Control (OM) Troubleshooting

64. Unit Will Not Heat – Electric

Unit Will Not Heat – Electric

Is there voltage at H2-5 of control?

Yes

Is there voltage on BRN/WHT wire on motor contactor?

Yes

Is there voltage to the common of the airflow switch?

Yes

Is there voltage at terminal 5 of the fan motor?

Yes

Is the thermistor operational?

No

Is there voltage to terminal 3 of the motor contactor?

Yes

Is there voltage at WHT/BRN wire on motor contactor?

No

Correct wiring between H2-5 and motor contactor.

Correct wiring between airflow switch and cabinet limit.

Check for proper operation of airflow switch. Replace if necessary.

Correct wiring between stove limit and normally open terminal of the airflow switch.

Correct wiring between motor terminal 3 and motor contactor.

Check motor for proper operation. Replace if necessary.

Check for proper operation of airflow switch.

Check cabinet limit for proper operation. Replace if necessary.

Correct wiring between cabinet limit and terminal 5 of fan motor.

Correct wiring between cabinet limit and terminal 5 of fan motor.

Correct wiring between cabinet limit and terminal 5 of fan motor.

Correct wiring between cabinet limit and terminal 5 of fan motor.

Correct wiring between cabinet limit and terminal 5 of fan motor.

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

Continued on next page

TMB2257S-a
64. Unit Will Not Heat – Electric (continued)

Continued from previous page

(11) Is there voltage to the output side of the stove limit?

Yes

(12) Is there supply voltage to the T1-T2, T2-T3 and T1-T3 terminals of HC1?

Yes

(13) Is there supply voltage to the T1-T2, T2-T3 and T1-T3 terminals of HC2?

(14)(15) Is there supply voltage across L1-L2, L2-L3 and L1-L3?

No

Correct wiring between HC1 and line voltage.

No

Check operation of stove limit. Replace if necessary.

Yes

Check for proper operation of contactors, replace them if necessary.

No

Correct wiring between HC2 and line voltage.

Yes

Do all elements produce heat (glow a slight orange color)?

No

Check elements for shorts or opens. Check wires between contactors and elements.

Yes

Unit operational.

Check elements for shorts or opens. Check wires between contactors and elements.

TMB2257S-b

Please see following page for wiring diagram information.
### WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the dryer(s) before servicing.
- Close gas shut-off valve to gas dryer(s) before servicing.
- Never start the dryer(s) with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the dryer is properly grounded.

---

**65. Error Codes**

**OP** - Indicates physical “open” in the thermistor circuit. Possible causes are: 1) thermistor, 2) wiring between control and thermistor, 3) control.

**SH** - Indicates a “short” in the thermistor circuit. Possible causes are: 1) shorted thermistor, 2) a short in the wiring between control and thermistor, 3) control.

<table>
<thead>
<tr>
<th>Display</th>
<th>Definition</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| OP      | Indicates an open circuit in the thermistor. | • Check thermistor. Replace if inoperative.  
• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.  
• Check control. Replace if inoperative. |
| SH      | Indicates a short circuit in the thermistor. | • Check thermistor. Replace if inoperative.  
• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.  
• Check control. Replace if inoperative. |
Section 8
Hybrid Timer Control Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- Disconnect electric power to the tumbler before servicing.
- Close gas shut-off valve to gas tumbler before servicing.
- Close steam valve to steam tumbler before servicing.
- Never start the tumbler with any guards/panels removed.
- Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

66. Coins Ignored When Entered

Gas and electric heat.
Single and three phase power supply.

<table>
<thead>
<tr>
<th>Start coin drop diagnostic tests.</th>
<th>YES</th>
<th>Exit diagnostic testing and reset control. (prompting for vend price)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the light on the control increment properly?</td>
<td>NO</td>
<td>Is connector H2 on the control firmly seated in its receptacle?</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace coin drop or optic switch.</td>
</tr>
<tr>
<td></td>
<td>Replace coin drop. If problem still exists then replace the electronic control.</td>
<td></td>
</tr>
</tbody>
</table>

TMB2051S
67. Control Has No Display – QT and RQ Control Suffixes

Gas, steam and electric heat.
Single and three phase supply.

Is there voltage supplied to the unit?  
Yes \(\rightarrow\) Reference voltage to supply neutral.  
No \(\rightarrow\) Connect supply voltage and run unit.

Is there voltage to the input side of the primary fuse(s)?  
Yes \(\rightarrow\) Correct wiring between primary fuse and supply.  
No \(\rightarrow\) Replace primary fuse.

Is there voltage to the output side of the primary fuse(s)?  
Yes \(\rightarrow\) Correct wiring between transformer and primary fuse.  
No \(\rightarrow\) Replace transformer.

Is there voltage across 2 & 3 of transformer secondary?  
Yes \(\rightarrow\) Replace transformer.  
No \(\rightarrow\) Replace display assembly.

Is there voltage across terminals H1-3 & H1-1 on hybrid timer?  
Yes \(\rightarrow\) Correct wiring between hybrid timer and transformer secondary.

Check H6-1 (+) and H6-2 (-) for +5 VDC.

Replace hybrid control assembly.
Hybrid Timer Control Troubleshooting

Control Has No Display – QT and RQ Control Suffixes

[Diagram of hybrid timer control troubleshootin]
Display Flashes “dr” With Door Closed – QT and RQ Control Suffixes

Gas, steam and electric heat.
Single and three phase power supply.

(1) Is there voltage between H1-1 & H1-3 on the control?
   Yes: Replace hybrid control.
   No: Is there power supplied to the unit?
      Yes: Is there voltage at input of primary fuses?
           Yes: Is there voltage at output side of the primary fuses?
                Yes: Correct wiring between primary fuse and transformer.
                No: Replace primary fuse(s).
           No: Correct wiring between primary fuse and power supply.
      No: Plug unit in and run it.

(2) Is there voltage at input of primary fuses?
   Yes: Is there voltage at output side of the primary fuses?
        Yes: Correct wiring between primary fuse and power supply.
        No: Replace primary fuse(s).
   No: Is there voltage across the transformer primary?
        Yes: Correct wiring between primary fuse and transformer.
        No: Replace hybrid control.

(3) Is there voltage at output side of the primary fuses?
   No: Is there voltage at COM of door switch?
        Yes: Connect wiring between COM and output of secondary fuse.
        No: Replace secondary fuse.

(4) Is there voltage across the transformer primary?
   Yes: Connect wiring between COM and output of secondary fuse.
   No: Replace hybrid control.

(5) Is there voltage across terminals 2 & 3 of transformer secondary?
   No: Replace transformer.

(6) Is there voltage at the input of the secondary fuse?
   Yes: Correct wiring between secondary fuse and transformer.
   No: Replace secondary fuse.

(7) Is there voltage at the output side of the secondary fuse?
   Yes: Correct wiring between secondary fuse and transformer.
   No: Replace secondary fuse.

(8) Is there voltage at COM of door switch?
   No: Connect wiring between COM and output of secondary fuse.

Continued on next page
68. Display Flashes “dr” With Door Closed – QT and RQ Control Suffixes (continued)

- With door closed, is there voltage to N.O. of door switch?
  - Yes (9)
  - No
    - Replace door switch.

- Is there voltage at COM of lint panel switch?
  - Yes (10)
  - No
    - Connect wiring between door switch and COM of lint panel switch.

- With lint panel closed, is there power at N.O. connection?
  - Yes (11)
  - No
    - Replace lint panel switch.

- Correct wiring between lint panel switch and hybrid control.
Hybrid Timer Control Troubleshooting

Display Flashes “dr” With Door Closed – QT and RQ Control Suffixes
**69. Vend Satisfied, No In Use LED – SD and SX Control Suffixes**

- Is there voltage at the input side of the primary fuse?  
  - Yes: Correct wiring between the primary fuse and the terminal block.  
  - No: Replace the primary fuse.  

- Is there voltage at the output side of the primary fuse?  
  - Yes: Correct wiring between the primary fuse and the transformer.  
  - No: Replace transformer.  

- Is there voltage at the input side of the transformer?  
  - Yes: Correct wiring between the transformer and the secondary fuse.  
  - No: Replace secondary fuse.  

- Is there voltage at the output side of the secondary fuse?  
  - Yes: Correct wiring between fuse and control.  
  - No: Correct wiring between the secondary fuse and COM of the door switch.  

- Is there power to the control of H1-1 and H1-3?  
  - Yes: Correct wiring between fuse and control.  
  - No: Correct wiring between the secondary fuse and COM of the door switch.  

- Is there voltage at COM of the door switch?  
  - Yes: Correct wiring between the secondary fuse and COM of the door switch.  
  - No: Correct wiring between the secondary fuse and COM of the door switch.  

*continued on next page*
69. Vend Satisfied, No In Use LED – SD and SX Control Suffixes (continued)

(9) Is there voltage at N.O. of the door switch?

Yes

(10) Is there voltage at COM of the lint drawer switch?

Yes

(11) Is there voltage at N.O. of the lint drawer switch?

Yes

(12) Is there power at H3-1 and H3-3 on the control?

Yes

(13) Is the H6 connection plugged in securely on the control?

No

Re-seat the H6 connection to the control.

Yes

Is the optic-coupler harness connected securely into the control harness?

No

Re-seat the optic-coupler harness to the control.

Yes

Replace the opto-coupler on the coin drop.

No

Replace the control.

Yes

Unit is operational.

No

Replace the control.

Correct wiring between the door switch and lint drawer switch.

Replace the lint drawer switch.

Correct wiring between the lint drawer switch and H3 on the control.

Replace the door switch.
Hybrid Timer Control Troubleshooting

Vend Satisfied, No In Use LED – SD and SX Control Suffixes

[Diagram of electrical connections and components relevant to Hybrid Timer Control Troubleshooting]
70. In Use LED Lit, No Motor Run – SD and SX Control Suffixes

In Use LED Lit, No Motor Run – Coin Models

(1) Is there continuity through the start switch circuit? No

Yes

(2) Is there voltage at H3-6 on the control? No

Yes

(3) Is there voltage at A1 on the motor relay? No

Yes

(4) Is there voltage across A1 and A2 on the motor relay? No

Yes

(5) Is there voltage at the input side of the motor relay? No

Yes

(6) Is there voltage at the output side of the motor relay? No

Yes

(7) Is there voltage across the lines of the motor? No

Yes

Correct wiring between the control and the motor relay.

Replace the motor.

Correct wiring between the control and terminal block.

Replace the control.

Correct wiring between the control and the motor relay A1.

Correct wiring between the control and the motor relay A2.

Correct wiring between the motor and motor relay.

Replace the motor relay.

Correct wiring between the motor relay and terminal block.
71. Motor Will Not Start/Run – SD and SX Control Suffixes

Note: test conducted with vend price satisfied and start button pressed.

Is there voltage across H3-1 and H3-6 on the electronic control? NO

YES

(1) 

(2)

Is there voltage across H3-4 and H3-6 on the electronic control? NO

YES (3)

Is there voltage at terminal 5 of the motor control relay? NO

YES

Correct wiring to coil of motor relay.

Is the unit equipped with single phase or three phase power? Single phase (4)

Is there voltage at terminal 5 of the motor control relay? NO

YES (5)

Is there voltage at terminal 6 of motor control relay? NO

YES

Correct wiring between terminal 5 and power supply.

Does the cylinder motor run? NO

Replace cylinder motor.

YES

Motors are operational.

Is there voltage across terminals 1 & 4 of the fan motor? NO

YES

Correct wiring between fan motor and motor control relay.

Refer to Vend Satisfied, No In Use LED - SD and SX Control Suffixes flowchart.

Gas, electric and steam heat. Single and three phase power supply.
Motor Will Not Start/Run – SD and SX Control Suffixes
72. Motor Will Not Start/Run – QT and RQ Control Suffixes

Note: test conducted with vend price satisfied and start button pressed.

Gas, electric and steam heat. Single and three phase power supply.

Is the unit equipped with single phase or three phase power?

Single phase

Is there voltage at terminal 5 of the motor control relay?

YES

NO

Correct wiring between terminal 5 and power supply.

Is there voltage at terminal 6 of motor control relay?

YES

NO

Replace motor control relay.

Is there voltage across H4-3 and H4-4 on the electronic control?

YES

NO

Replace control.

Motors are operational.

Is there voltage across H4-7 and H4-4 on the electronic control?

YES

NO

Refer to Control Has No Display - QT and RQ Control Suffixes flowchart.

Is there voltage across H4-3 and H4-4 on the electronic control?

YES

NO

Is there voltage across terminals 1 & 4 of the fan motor?

YES

NO

Correct wiring to coil of motor relay.

Does the cylinder motor run?

YES

NO

Replace cylinder motor.

Is there voltage across terminals 1 & 4 of the fan motor?

YES

NO

Correct wiring between fan motor and motor control relay.

Is there voltage at terminal 6 of the motor control relay?

YES

NO

Is there voltage across terminals 1 & 4 of the fan motor?
Hybrid Timer Control Troubleshooting

Motor Will Not Start/Run – QT and RQ Control Suffixes
73. Unit Will Not Heat – Gas – SD and SX Control Suffixes

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

(1) Is there voltage at FS-2 of hybrid control?

Yes

Replace hybrid control.

No

Correct wiring between FS-2 and N.O. of lint panel.

(2) Is there voltage at FS-1 of hybrid control?

Yes

Replace thermistor.

No

Is the thermistor operational?

Yes

Correct wiring between COM of airflow switch and FS-1 of hybrid control.

No

(3) Is there voltage at COM of airflow switch?

Yes

No

(4) Is there voltage across COM & N.O. terminal of airflow switch?

Yes

Check for proper function of airflow switch and replace if necessary.

No

(5) Is there voltage at terminal 13 of motor control relay?

Yes

No

Correct wiring between terminal 7 on motor control relay and N.O. terminal on airflow switch.

(6) Is there voltage across terminals 13 & 14 of motor control relay?

Yes

Replace motor control relay.

No

(7) Is there voltage at terminal 3 of fan motor centrifugal switch?

Yes

No

Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 4 of motor control relay.

(8) Is there voltage across terminals 3 & 5 of fan motor centrifugal switch?

Yes

No

Replace fan motor.

(9) Is there voltage to the input side of the cabinet limit?

Yes

No

Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.

continued on next page

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Hybrid Timer Control Troubleshooting

73. Unit Will Not Heat – Gas – SD and SX Control Suffixes (continued)

continued from previous page

Is there voltage to terminal 2 of the Ignition Control Module (ICM)?

Yes

Replace cabinet limit.

No

Correct wiring between terminal 2 of ICM and stove limit 2.

Is there voltage at terminal 1 of ICM board?

Yes

Replace ICM board.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between stove limit 1 and cabinet limit.

Is there voltage across the stove limit 1?

Yes

Replace the stove limit.

No

Correct wiring between stove limit 1 and stove limit 2.

Is there voltage across stove limit 1?

Yes

Replace stove limit 2.

No

Correct wiring between stove limit 1 and stove limit 2.

Is there voltage to input side of stove limit 2?

Yes

Replace the stove limit.

No

Correct wiring between stove limit 1 and stove limit 2.

Is there voltage across stove limit 2?

Yes

Replace stove limit 2.

No

Correct wiring between terminal 2 of ICM and stove limit 2.

Is there voltage to terminal 2 of the Ignition Control Module (ICM)?

Yes

Correct wiring between terminal 2 of ICM and stove limit 2.

No

Unit operational.

Note: Make sure unit is not in a lock out condition.

(16)

(17)

(10)

(11)

(12)

(13)

(14)

(15)

(16)

Is there voltage to input side of stove limit 2?

Yes

Replace the stove limit.

No

Correct wiring between stove limit 1 and stove limit 2.

Is there voltage across stove limit 2?

Yes

Replace stove limit 2.

No

Correct wiring between terminal 2 of ICM and stove limit 2.

Is there voltage to terminal 2 of the Ignition Control Module (ICM)?

Yes

Correct wiring between terminal 2 of ICM and stove limit 2.

No

Replace cabinet limit.

(16)

Is there voltage at terminal 1 of ICM board?

Yes

Replace ICM board.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between stove limit 1 and cabinet limit.

Is there voltage to the input side of the stove limit 1?

Yes

Replace the stove limit.

No

Correct wiring between stove limit 1 and cabinet limit.

Is there voltage across cabinet limit?

Yes

Replace cabinet limit.

No

Correct wiring between stove limit 1 and cabinet limit.

Is there voltage across cabinet limit?

Yes

Replace cabinet limit.

No

Correct wiring between stove limit 1 and cabinet limit.

Is there voltage to the input side of the stove limit 1?

Note: Make sure unit is not in a lock out condition.

(17)

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?

Yes

Replace gas valve coils or complete gas valve.

No

Correct wiring between gas valve and ICM board.

Is there voltage across the coils of the gas valve?
Hybrid Timer Control Troubleshooting

74. Unit Will Not Heat – Gas – QT and RQ Control Suffixes

Note: Tests are conducted with unit running and calling for heat. All voltage checks are referenced to transformer neutral.

(1) Is there voltage at H4-1 of hybrid control? NO Replace cabinet limit.
YES

(2) Is there voltage at terminal 13 of motor control relay? NO Replace hybrid control.
YES Correct wiring between terminal 13 on motor control and H4-1 on hybrid control.

(3) Is there voltage across terminals 13 & 14 of motor control relay? NO Replace motor control relay.
YES

(4) Is there voltage at terminal 3 of fan motor centrifugal switch? NO Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 4 of motor control relay.
YES

(5) Is there voltage across terminals 3 & 5 of fan motor centrifugal switch? NO Replace fan motor.
YES

(6) Is there voltage to the input side of the cabinet limit? NO Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.
YES

(7) Is there voltage across cabinet limit? NO Replace thermistor.
YES

(8) Is there voltage to the input side of the stove limit? NO Correct wiring between stove limit 1 and cabinet limit.
YES

(9) Is there voltage across the stove limit? NO Replace the stove limit.
YES

(10) Is there voltage to input side of stove limit 2? NO Correct wiring between stove limit 1 and stove limit 2.
YES

(11) Is there voltage across stove limit 2? NO Replace limit 2.
YES

(12) Is there voltage to terminal 2 of the Ignition Control Module (ICM)? NO Correct wiring between terminal 2 of ICM and stove limit 2.
YES
74. Unit Will Not Heat – Gas – QT and RQ Control Suffixes (continued)

- **Is there voltage at terminal 1 of ICM board?**
  - **NO:** Replace ICM board.
  - **YES:**
    - **Is there voltage across the coils of the gas valve?**
      - **NO:** Correct wiring between gas valve and ICM board.
      - **YES:**
        - **Is the airflow switch working properly?**
          - **NO:** Replace airflow switch
          - **YES:**
            - **Is there gas flow through the gas valve?**
              - **NO:** Replace gas valve coils or complete gas valve.
              - **YES:**
                - **Does the igniter spark?**
                  - **NO:** Replace high voltage ignition cable or igniter.
                  - **YES:**
                    - **Is there a flame?**
                      - **YES:** Unit operational.
                      - **NO:**

Note: Make sure unit is not in a lock out condition.

Please see following page for wiring diagram information.
Hybrid Timer Control Troubleshooting

Unit Will Not Heat – Gas – QT and RQ Control Suffixes
75. Unit Will Not Heat – Electric – QT and RQ Control Suffixes

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.

1. Is there voltage at H4-1 of hybrid control?
   - Yes: Replace hybrid control.
   - No: Is the thermistor operational?
     - Yes: Replace thermistor.
     - No: Continue to next step.

2. Is there voltage at terminal 13 of motor control relay?
   - Yes: Correct wiring between terminal 13 on motor control relay and hybrid control.
   - No: Continue to next step.

3. Is there voltage across terminals 3 & 5 of fan motor centrifugal switch?
   - Yes: Replace motor control relay.
   - No: Correct wiring between terminal 3 of fan motor centrifugal switch and terminal 14 of motor control relay.

4. Is there voltage at terminal 3 of fan motor centrifugal switch?
   - Yes: Replace the stove limit.
   - No: Correct wiring between stove limit and cabinet limit.

5. Is there voltage across terminals 3 & 5 of fan motor centrifugal switch?
   - Yes: Replace fan motor.
   - No: Correct wiring between cabinet limit and terminal 5 of fan motor centrifugal switch.

6. Is there voltage to the input side of the cabinet limit?
   - Yes: Replace cabinet limit.
   - No: Correct wiring between stove limit and cabinet limit.

7. Is there voltage to the input side of the stove limit?
   - Yes: Replace the stove limit.
   - No: Correct wiring between stove limit and cabinet limit.

8. Is there voltage across the stove limit?
   - Yes: Replace the stove limit.
   - No: Correct wiring between stove limit and cabinet limit.

9. Is there voltage across the stove limit?
   - Yes: Replace the stove limit.
   - No: Correct wiring between stove limit and cabinet limit.

Note: Tests are conducted with unit running and calling for heat.

All voltage checks are referenced to transformer neutral.
Hybrid Timer Control Troubleshooting

75. Unit Will Not Heat – Electric – QT and RQ Control Suffixes (continued)

Is there voltage across the coil(s) of the heater contactor(s)?

Yes

(10)

No

Correct wiring between the heater contactor(s) and line voltage.

Is there voltage to the L1, L2 and L3 terminals of HC1?

Yes

(11)

No

Correct wiring between HC1 and line voltage.

Is there voltage to the L1, L2 and L3 terminals of HC2?

Yes

(12)

No

Correct wiring between HC2 and line voltage.

Is there voltage across L3 & L1, L1 & L2 and L2 & L3?

Yes

(13)(14)(15)

No

Check for proper operation of contactors, replace them if necessary.

Is the airflow switch working properly?

Yes

(15)

No

Replace airflow switch.

Do all elements produce heat?

Yes

Unit is operational

No

Check elements for shorts or opens. Check wires between contactors and elements.

Note: Please make the appropriate adjustments if your unit is single phase.

Please see following page for wiring diagram information.
Hybrid Timer Control Troubleshooting

Unit Will Not Heat – Electric – QT and RQ Control Suffixes
WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
• Disconnect electric power to the tumbler before servicing.
• Close gas shut-off valve to gas tumbler before servicing.
• Close steam valve to steam tumbler before servicing.
• Never start the tumbler with any guards/panels removed.
• Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the tumbler is properly grounded.

76. Error Codes

<table>
<thead>
<tr>
<th>Display</th>
<th>Definition</th>
<th>Corrective Action</th>
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</thead>
<tbody>
<tr>
<td>OP</td>
<td>Open thermistor error.</td>
<td>• Check thermistor. Replace if inoperative.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check control. Replace if inoperative.</td>
</tr>
<tr>
<td>SH</td>
<td>Shorted thermistor error.</td>
<td>• Check thermistor. Replace if inoperative.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check wiring between control and thermistor. Refer to wiring diagram for proper wiring.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check control. Replace if inoperative.</td>
</tr>
<tr>
<td>AF-1</td>
<td>Airflow switch closed when cycle started.</td>
<td>• Check airflow switch. Replace if inoperative.</td>
</tr>
<tr>
<td>AF-2</td>
<td>Airflow switch failed to closed after cycle started.</td>
<td>• Check airflow switch. Replace if inoperative.</td>
</tr>
<tr>
<td>AF (flashing)</td>
<td>Airflow stich opened/closed 5 or more times in a running cycle.</td>
<td>• Check airflow switch. Replace if inoperative.</td>
</tr>
</tbody>
</table>