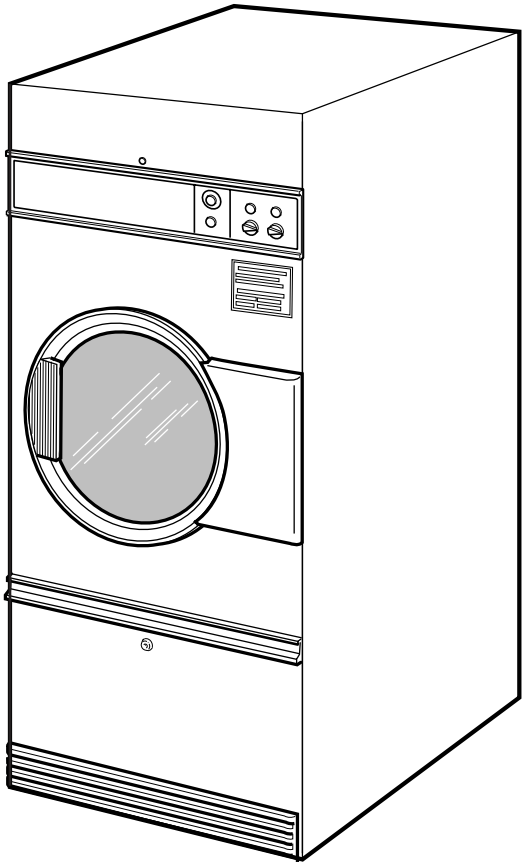
Drying Tumblers

30 Pound Capacity (31.5" Wide)

Refer to Page 5 for Model Numbers

Service



T025C

Alliance Laundry Systems

www.comlaundry.com

Part No. M413438
September 2001

Table of Contents

Section 6 – Adjustments

Section 1
Safety Information

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

⚠ DANGER

Danger indicates the presence of a hazard that **will** cause **severe** personal injury, death or substantial property damage if the danger is ignored.

⚠ WARNING

Warning indicates the presence of a hazard that **can** cause **severe** personal injury, death or substantial property damage if the warning is ignored.

⚠ CAUTION

Caution indicates the presence of a hazard that **will** or **can** cause **minor** personal injury or property damage if the caution is ignored.

Additional precautionary statements (i.e., “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.

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

WARNING

- **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.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and that you understand and have the skills to carry out.**
- **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.**

W006R1

IMPORTANT INFORMATION: During the lifetime of your 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 your tumbler and who are equipped with the proper tools and testing equipment.

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.**

W240

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.

W007

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.

W008

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.

Locating An Authorized Service Person:

Alliance Laundry Systems LLC 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 LLC also recommends contacting an authorized technician and using authorized factory parts.

Section 2
Introduction

Model Identification

Information in this manual is applicable to these tumbler models:

Gas	Steam	Electric
DCB30CG	DCB30CSH	DCB30CE
DT30CG	DCB30CSL	DT30CE
DT30CGI	DT30CSH	DTB30CE
DT30EG	DT30CSL	JCB30CE
DT30EGI	DTB30CSH	JT30CE
DTB30CG	DTB30CSL	JTB30CE
JCB30CG	JCB30CSH	SCB30CE
JT30CG	JCB30CSL	ST30CE
JT30CGI	JT30CSH	STB30CE
JT30EG	JT30CSL	
JT30EGI	JTB30CSH	
JTB30CG	JTB30CSL	
SCB30CG	SCB30CSH	
ST30CG	SCB30CSL	
ST30CGI	ST30CSH	
ST30EG	ST30CSL	
ST30EGI	STB30CSH	
STB30CG	STB30CSL	

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. Refer to the Parts Manual for ordering replacement decals.

Safety Precautions for Servicing Tumblers

- **Disconnect electrical service.**
- **Shut off supply gas valve before servicing gas components.**
- **Control panel and access panel MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Use a non-corrosive leak detection fluid to check all pipe connections for gas leaks. DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS!**
- **Drive guard MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Belt guard MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Contactor box cover MUST be reinstalled after inspection or servicing of tumbler is completed.**
- **Loading door switch MUST be operational before putting tumbler into service.**
- **Junction box cover MUST be reinstalled after inspection or servicing of tumbler is completed.**

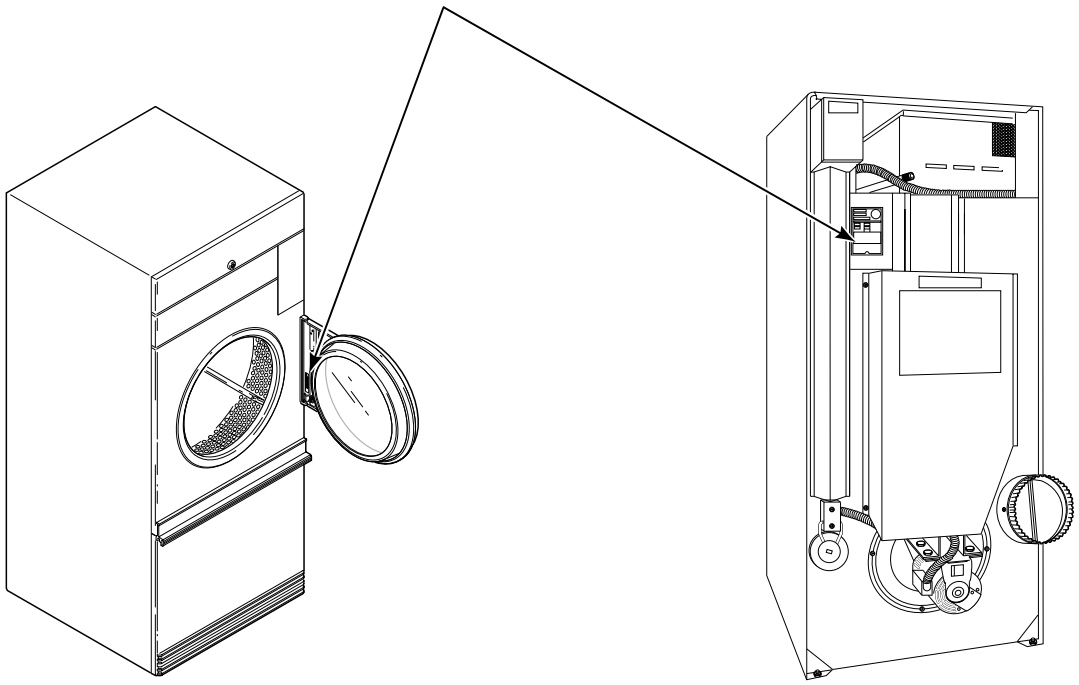
Customer Service

If literature or replacement parts are required, contact the source from whom 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.

Serial Plate Location

When calling or writing about your product, be sure to mention model and serial numbers. Model and serial numbers are located on the Serial Plate as shown.



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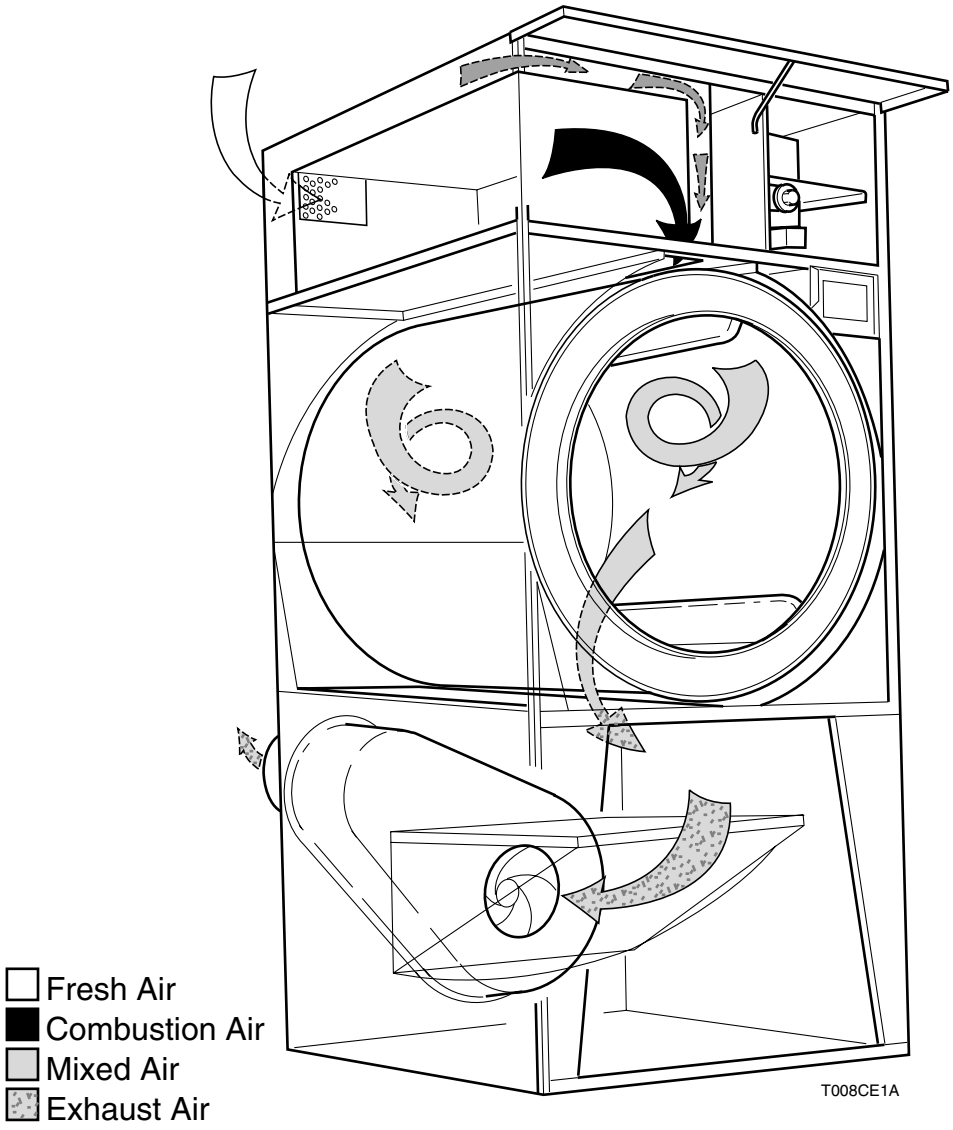
How Your Tumbler Works



Standard Models

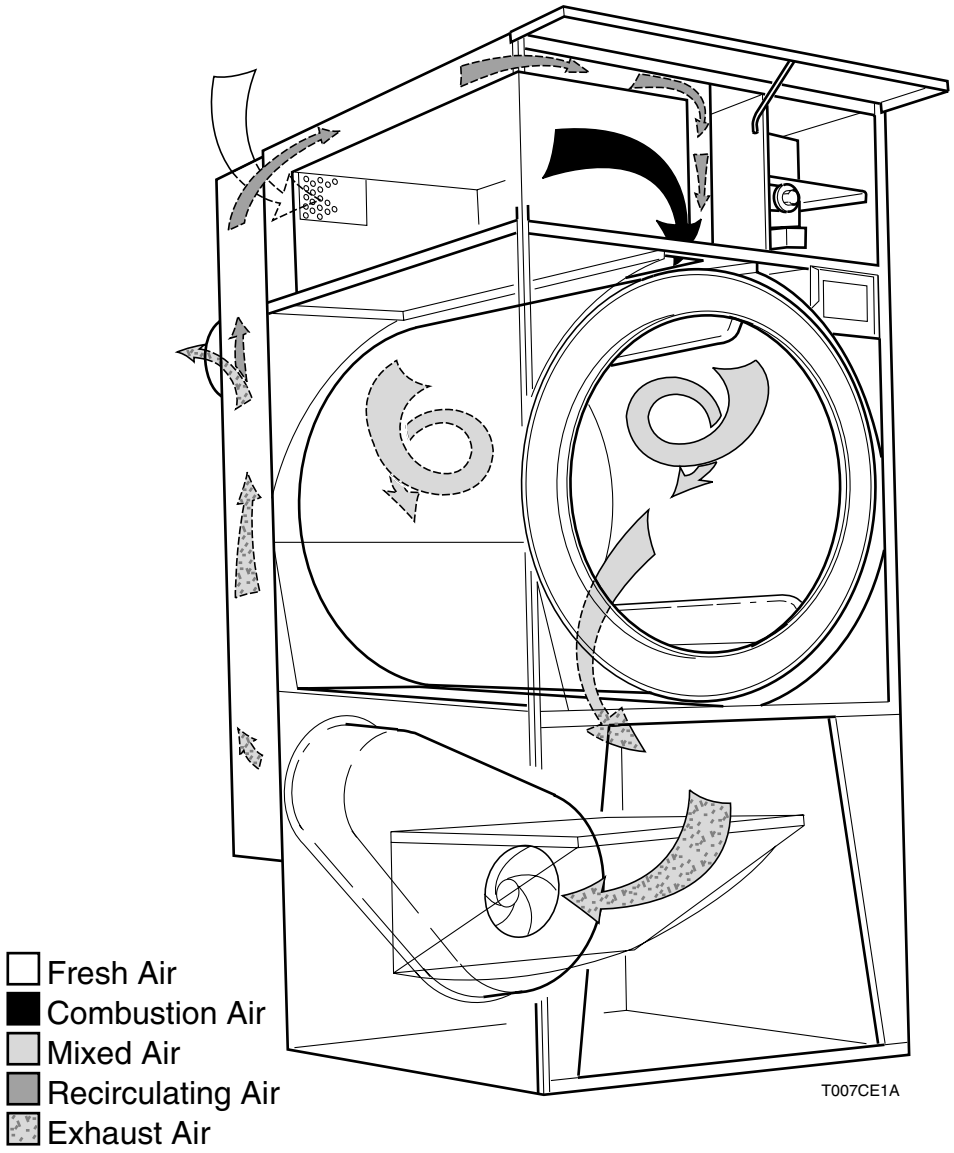
The tumbler uses heat, air and movement to dry loads of laundry.

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

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

The air then passes through the lint filter and fan and is vented to the outdoors. Refer to the illustration above.

NOTE: In Energy Saver Models, some of the exhaust air is recirculated. Refer to illustration on following page.



Energy Saver Models

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.**

W002

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

1. MOTOR DOES NOT START

POSSIBLE CAUSE	TO CORRECT
Electrical power off or fuses blown.	• Check power and fuses. Replace fuses if necessary
Loading door not closed or inoperative door switch.	• Close door or test switch and replace if inoperative.
Door switch improperly adjusted.	• Refer to ***Adjustment Section*** in this manual for door switch adjustment.
Trunnion shaft assembly binding in trunnion housing bearings.	• Replace trunnion housing bearings.
Start circuit not completed.	• Press start switch or test switch and replace if inoperative.
Idler shaft binding in idler housing bearings.	• Replace bearings.
Inoperative motor.	• Have motor tested and replace if inoperative.
Non-Metered Models: Timer improperly set.	• Turn drying timer clockwise to desired setting.
Non-Metered Models: Inoperative timer.	• Test timer and replace if inoperative.
Non-Metered Models: Inoperative relay.	• Test relay and replace if inoperative.
Metered Models: Improper coins inserted in accumulator.	• Check that proper coins are inserted.
Metered Models: Accumulator knob improperly set after coins were inserted.	• Turn knob clockwise to its full limit of travel.
Metered Models: Inoperative run switch (accumulator).	• Test run switch and replace if inoperative.
Broken, loose or incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

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.**

W002

2. MOTOR OVERLOAD PROTECTOR CYCLES REPEATEDLY

POSSIBLE CAUSE	TO CORRECT
Incorrect voltage.	• Refer to the ***Installation Manual*** (supplied with tumbler) for electrical requirements.
Clothes load too large.	• Remove part of load.
Clothes cylinder is binding.	• Check cylinder for binding. Refer to ***Adjustment Section*** in this manual for cylinder adjustment.
Inadequate wiring.	• Check with local power company to ensure that wiring is adequate.
Inadequate make-up air.	• Refer to ***Installation Manual*** (supplied with tumbler) for make-up air requirements.
Lint build-up.	• Clean lint accumulation on and around the motor.
Broken, loose or incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

3. MOTOR RUNS BUT CYLINDER DOES NOT TURN.

POSSIBLE CAUSE	TO CORRECT
Motor drive pulley loose.	• Tighten setscrews.
Sheave loose.	• Tighten setscrews.
Broken or loose belt.	• Replace or adjust belt.
Broken drive sprocket. (Chain drive units)	• Replace sprocket and adjust chain.
Broken or loose drive chain. (Chain drive units)	• Replace or adjust chain.
Cylinder is binding.	• Check cylinder for binding. Refer to ***Adjustment Section*** in this manual for proper cylinder adjustment.

4. MOTOR DOES NOT STOP

POSSIBLE CAUSE	TO CORRECT
Inoperative door switch or switch is out-of-adjustment.	• Test switch and replace if inoperative. Refer to ***Adjustment Section*** in this manual for proper switch adjustment.
Non-Metered Models: Inoperative timer.	• Test timer and replace if inoperative.
Non-Metered Models: Inoperative relay.	• Test relay and replace if inoperative.
Metered Models: Inoperative accumulator.	• Test accumulator and replace if inoperative.
Incorrect wiring.	• Refer to wiring diagram located on the back of tumbler or in literature packet.
Metered Models: Inoperative timer motor.	• Test timer motor and replace if inoperative.

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.**

W002

5. HEATING ELEMENT DOES NOT HEAT OR BURNER DOES NOT IGNITE

POSSIBLE CAUSE	TO CORRECT
Improper or inadequate exhaust system or make-up air.	• Refer to the ***Installation Manual*** (Supplied with tumbler) for exhaust system requirements.
Blown fuses or tripped circuit breakers.	• Check fuses or circuit breakers.
Drying timer not selected or inoperative.	• Set drying timer or replace if necessary.
Metered Models: Inoperative heat switch.	• Check switch “B” on the coin accumulator and replace if inoperative.
Non-Metered Models: Inoperative relay.	• Test relay and replace if inoperative.
Inoperative thermostat.	• Test thermostat and replace if inoperative.
Electric Models: Inoperative heating elements.	• Check heat contactors and elements. Replace if necessary.
Gas Models: Insufficient gas supply.	• Open partially-closed gas shut-off valve or correct low gas pressure. Check manifold pressure and adjust to pressure specified on Serial Plate. If pressure cannot be obtained, have gas supplier check main pressure.
Gas Models: Incorrect orifices.	• Tumbler is equipped for type of gas specified on Serial Plate. If orifices are different from that specified on Serial Plate, obtain and install proper orifices.
Gas Models: (Standing Pilot Ignition) Pilot is not ignited.	• See ***Installation Manual*** (supplied with tumbler) or Serial Plate on back of tumbler for **lighting and shutting down standing pilot.**
Gas Models: (Standing Pilot Ignition) Inoperative gas valve reset assembly or thermocouple.	• Check and replace thermocouple or reset assembly if necessary.
Gas Models: (Standing Pilot Ignition) Inoperative burner coil.	• Test burner coil and replace if inoperative.
Gas Models: (Automatic Ignition) Inoperative gas valve coils.	• Test coils and replace if inoperative.
Gas Models: (Automatic Ignition) Inoperative igniter.	• Test igniter and replace if inoperative.
Gas Models: (Automatic Ignition) Inoperative igniter control.	• Test igniter control and replace if inoperative.

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.**

W002

5. HEATING ELEMENT DOES NOT HEAT OR BURNER DOES NOT IGNITE *(continued)*

POSSIBLE CAUSE	TO CORRECT
Gas Models: (Glow Bar Ignition) Inoperative gas valve coils.	• Test coils and replace if inoperative.
Gas Models: (Glow Bar Ignition) Inoperative igniter	• Test igniter and replace if inoperative.
Gas Models: (Glow Bar Ignition) Inoperative sensor.	• Test sensor and replace if inoperative.
Gas and Electric Models: Inoperative cabinet or heater high limit thermostat.	• Test thermostat and replace if inoperative.
Gas and Electric Models: Airflow switch out of adjustment.	• Refer to ***Adjustment Section*** in this manual for airflow switch adjustment.
Gas and Electric Models: Inoperative airflow switch	• Clean lint compartment after every eight hour shift.
	• Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening.
	• Check ductwork for lint build-up. Refer to ***Installation Manual*** (supplied with tumbler) to ensure that ductwork and make-up air openings are sized properly.
	• Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in winter. Never install a screen over the exhaust outlet.
	• Vacuum within the tumbler drops to .09 inches water column or less for normal operation of tumbler. Vacuum reading (In water column inches) should range between .15 and .3. Vacuum reading can be made with a vacuum 4-gauge by removing a sheet metal screw in the front panel of tumbler and inserting the rubber tube of the vacuum gauge into screw opening.
Lint door panel not closed properly.	• Unlock and open lint door panel, place lint door and panel back on tumbler (ensuring a tight fit) then lock.
Broken, loose or incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

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.**

W002

6. PILOT DOES NOT IGNITE — GAS MODELS (STANDING PILOT IGNITION)

POSSIBLE CAUSE	TO CORRECT
Gas shut-off valve to tumbler is closed.	• Open valve.
Air is present in gas line.	• Purge air from gas line.
Incorrect pilot orifice.	• Tumbler is equipped for type of gas specified on Serial Plate. If pilot orifice is different from that specified on Serial Plate, obtain and install correct orifice.
Clogged pilot gas filter.	• Replace reset assembly.
Clogged pilot gas tube or pilot orifice.	• Clean or replace tube or orifice.
Inoperative pilot assembly.	• Replace pilot assembly.

7. PILOT GOES OUT — GAS MODELS (STANDING PILOT IGNITION)

POSSIBLE CAUSE	TO CORRECT
Improper or inadequate exhaust system or make-up air.	• Refer to ***Installation Manual*** (supplied with tumbler) for exhaust system requirements.
Clogged lint screen.	• Remove and clean lint screen.
Improperly adjusted burner flame.	• Close air shutter slightly (harsh roaring flame will draw pilot flame out.)
Soot or carbon accumulation on heated end of pilot thermocouple.	• Wipe soot or carbon off end of thermocouple.
Incorrect pilot orifice.	• Tumbler is equipped for type of gas specified on Serial Plate. If pilot orifice is different from that specified on Serial Plate, obtain and install correct orifice.
Inoperative gas valve reset assembly.	• Check and replace reset assembly or thermocouple if necessary.

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.**

W002

8. IGNITER DOES NOT SHUT OFF AFTER GAS IGNITION — GAS BURNER (AUTOMATIC PILOT IGNITION)

POSSIBLE CAUSE	TO CORRECT
Tumbler not properly equipped for type of gas being used.	• Tumbler is equipped for type of gas specified on Serial Plate. If tumbler is equipped for gas different from that specified on Serial Plate, obtain the necessary components to correct the problem.
Insufficient gas supply.	• Open partially-closed gas shut-off valve or correct low gas pressure.
Improperly adjusted burner flame.	• Refer to ***Adjustment Section*** in this manual for recommended burner flame adjustment.
Pilot and electrode assembly incorrectly installed.	• Check assembly for correct alignment.
Inoperative igniter control.	• Test igniter control and replace if inoperative.
Incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

9. IGNITER DOES NOT GLOW (GAS SUPPLY SUFFICIENT) — GAS MODELS (GLOW-BAR IGNITION)

POSSIBLE CAUSE	TO CORRECT
No electrical power to leads on gas valve.	• Refer to wiring diagram located on back of tumbler or in literature packet to check for electrical circuit.
Sensor failed with contacts open.	• Replace sensor.
Igniter is broken or open.	• Replace glow bar igniter.
No circuit for burner operation.	• Tumbler is not calling for heat. Check the heat circuit to the ignition system.

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.**

W002

10. IGNITER GLOWS AND SENSOR OPENS BUT NO IGNITION — GAS MODELS (Johnson Controls System)

POSSIBLE CAUSE	TO CORRECT
Insufficient gas supply.	• Check gas supply and pressure.
Gas flow but no ignition.	• Remove igniter and bracket and bend "L" shaped bracket (located on left side of stove) up or down. Reinstall igniter and bracket and check for 1/8 inch gap between bottom of igniter and top of main burner.
No gas flow through gas valve.	• Check primary valve coil and plunger. Replace coil if inoperable or check for 120 Volts to control relay (PR1) coil contacts (A) and 120 Volts to control relay (PR1) contact number 7. If no voltage, replace control relay (PR1) or check secondary valve coil and plunger operation. Replace coil if inoperative.

NOTE: To check the primary and secondary valve coil and plunger operation, place fingers on top of coils, cycle the machine and restart ignition circuit. You should feel the primary valve coil plunger open first, followed by glow bar heating up, followed by the sensor opening and the secondary valve coil plunger opening. If plungers do not open, electrically check the coils. Check gas pressure to the tumbler. Line pressure should be 7 ± 1/2 inches (Natural Gas) or 11 inches (L.P. gas) water column pressure. Manifold pressure should be 3.5 inches (Natural Gas) or 11 inches (L.P. gas) water column pressure.

11. IGNITER GLOWS AND FLAME SENSOR OPENS BUT NO IGNITION — GAS MODELS (White Rodgers Glow-bar Ignition)

POSSIBLE CAUSE	TO CORRECT
Insufficient gas supply.	• Is manual shut-off valve in full open position? Check gas pressure.
Gas flow but no ignition.	• Gap between igniter and burner must be 1/8 inch.
No gas flow through gas valve.	• Check for 80-120 Volts between red and white wire on gas valve.
	• If correct voltage is present and redundant coil does not click open, replace complete gas valve.
	• If correct voltage is not present, replace diode logic board.
	• If correct voltage is present and redundant coil clicks open, check for 40-60 Volts across the purple wires on the main coil after the igniter cycles off.
	• If voltage is present and main coil does not click open, replace main coil.
	• If no voltage is present, replace diode logic board.

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.**

W002

12. BURNER IGNITES AND GOES OUT REPEATEDLY — GAS MODELS (Glow-Bar Ignition)

POSSIBLE CAUSE	TO CORRECT
Burner heat not holding sensor contacts open.	• Replace sensor.
Insufficient gas pressure.	• Check gas supply and pressure. A low flame will not maintain radiation to sensor.
Burner ports plugged or dirty.	• Check burner tubes for build-up.
Improper or inadequate exhaust system or make-up air.	• Refer to ***Installation Manual*** (supplied with tumbler) for exhaust and make-up air requirements.
Inoperative high limit thermostat.	• Test thermostat and replace if inoperative.
Improper orifices.	• Tumbler is equipped for type of gas specified on Serial Plate. If orifices are different from that specified on Serial Plate, obtain and install proper orifices.

13. HEATING ELEMENT OR BURNER SHUTS OFF PREMATURELY

POSSIBLE CAUSE	TO CORRECT
Improper or inadequate exhaust and/or make-up air system.	• Refer to ***Installation Manual*** (supplied with tumbler) for exhaust and make-up air requirements.
Gas Models: Insufficient gas supply.	• Open partially closed gas shut-off valve, or correct low pressure.
Gas Models: Tumbler not properly equipped for type of gas used.	• Tumbler is equipped for type of gas specified on Serial Plate. If orifices are different from that specified on Serial Plate, obtain and install proper orifices.
Gas Models: Improperly adjusted burner flame.	• Refer to ***Adjustment Section*** in this manual for burner flame adjustment.
Gas Models: (Glow-Bar Ignition) Sensor contact opening prematurely.	• Replace sensor.
Cycling off on limit thermostat.	• Refer to *Paragraph 14*.
Broken, loose or incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

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.**

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14. HEATING ELEMENT OR BURNER REPEATEDLY CYCLES OFF ON HIGH LIMIT THERMOSTAT

POSSIBLE CAUSE	TO CORRECT
External exhaust system is longer than recommended or inadequate make-up air.	• Refer to ***Installation Manual*** (supplied with tumbler) for exhaust and make-up air requirements.
Clogged lint screen.	• Remove screen and clean. Lint screen and compartment should be cleaned after every eight hour shift.
Lint in tumbler ducts.	• Disassemble tumbler ducts and clean.
Lint in external exhaust system.	• Disassemble exhaust system and clean.
High limit thermostat cycling at too low of a temperature.	• Replace thermostat.
Lint door panel not closed properly.	• Unlock and remove lint door panel — place lint door panel back on tumbler (ensuring a tight fit) then lock or latch.

15. HEATING ELEMENT OR BURNER DOES NOT SHUT OFF

POSSIBLE CAUSE	TO CORRECT
Gas Models: Impurities on gas valve seat, preventing valve from closing.	• Replace gas valve.
Inoperative drying timer or relay.	• Replace timer or relay.
Incorrect wiring.	• Refer to wiring diagram located on back of tumbler or in literature packet.

16. CLOTHES DO NOT DRY

POSSIBLE CAUSE	TO CORRECT
Heat source inoperative.	• Refer to *Paragraph 5*.
Too much water in articles being dried.	• Remove excess water.
Clothes load too large.	• Remove part of load.
Improper or inadequate exhaust system or make-up air.	• Refer to ***Installation Manual*** (supplied with tumbler) for exhaust and make-up air requirements.
Heat source shuts off prematurely.	• Refer to *Paragraph 13*.
Incorrect voltage.	• Refer to ***Installation Manual*** (supplied with tumbler) for electrical requirements.

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.**

W002

17. TUMBLER OVERHEATING

POSSIBLE CAUSE	TO CORRECT
Gas Models: Incorrect main burner orifices.	• Replace orifices.
Gas Models: Gas pressure too high.	• Adjust gas pressure as specified on Serial Plate.
Lint accumulation.	• Remove lint.
Restricted or inadequate exhaust system or make-up air.	• Remove obstruction or lint build-up from exhaust ductwork. Refer to the ***Installation Manual*** (supplied with tumbler) for exhaust system and make-up air requirements.
Inoperative thermostat.	• Replace thermostat.

18. BURNERS NOT BURNING PROPERLY — GAS MODELS

POSSIBLE CAUSE	TO CORRECT
Burner air shutters incorrectly adjusted.	• Refer to ***Adjustment Section*** in this manual for proper flame adjustment.
Dirt in burners.	• Disassemble burners and blow out the dirt.
Gas pressure too high.	• Check Serial Plate on back of the tumbler for correct gas pressure.
Incorrect orifices.	• Tumbler is equipped for type of gas specified on Serial Plate. If orifices are different from that specified on Serial Plate, obtain and install proper orifices.
Restricted or blocked exhaust duct.	• Disassemble and clean exhaust system.
Airflow switch not functioning properly.	• Check adjustment and replace airflow switch if necessary.

19. CYLINDER DOOR OPENS DURING OPERATION

POSSIBLE CAUSE	TO CORRECT
Door strike improperly adjusted.	• Refer to ***Adjustment Section*** in this manual for door strike adjustment.
Tumbler improperly leveled.	• Refer to ***Adjustment Section*** in this manual for leveling leg adjustment.

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.**

W002

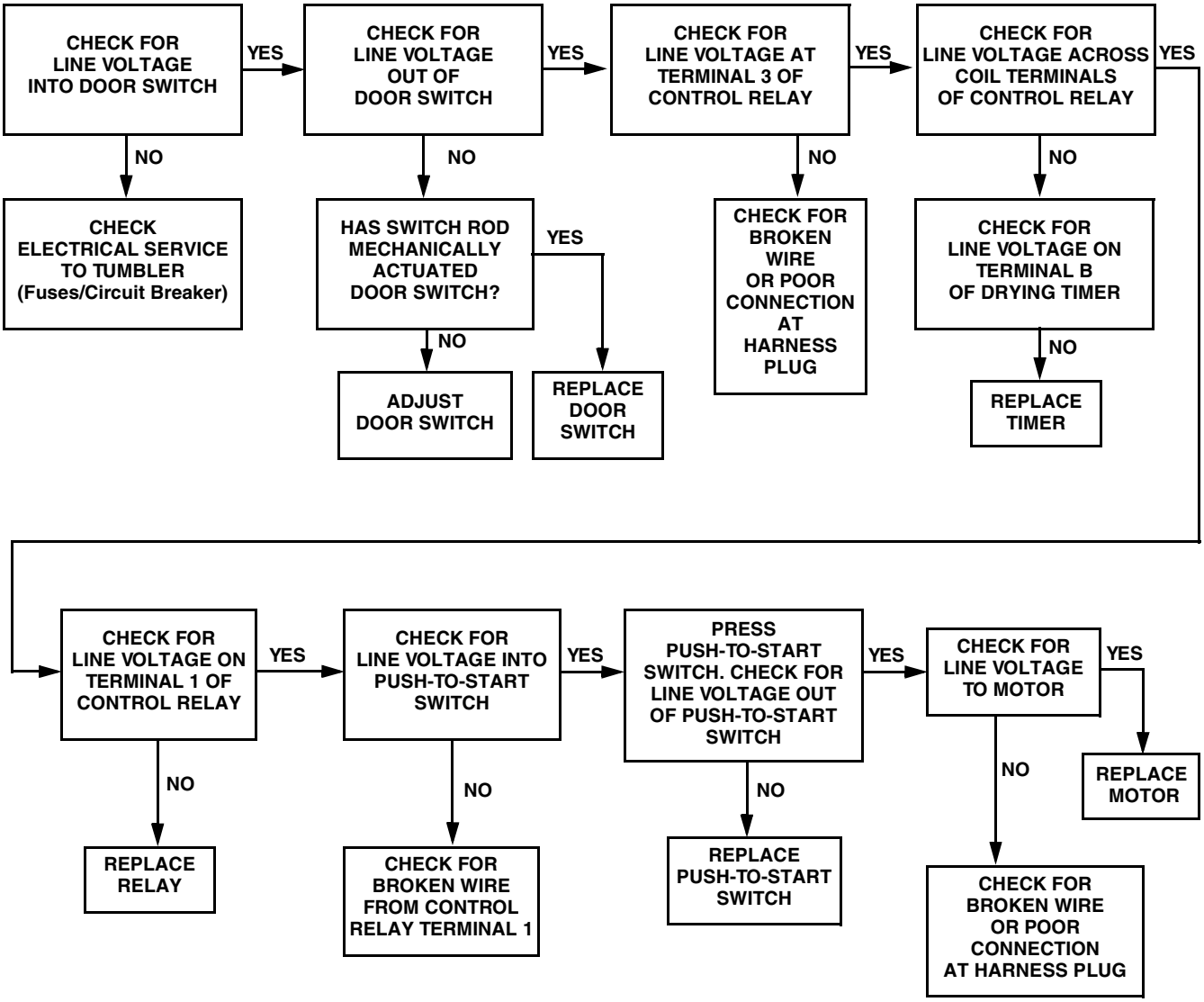
20. TUMBLER RUNS BUT NO STEAM TO COILS — STEAM MODELS

POSSIBLE CAUSE	TO CORRECT
Valves closed.	• Check all valves in supply and return lines, make sure they are open.
Blocked steam trap.	• Remove trap and clean. Replace if inoperative.
Inoperative solenoid valve.	• On tumblers using solenoid temperature control, check operation of solenoid valve by advancing thermostat.
Incorrect installation of check valve.	• Check for inlet and outlet markings on check valve and invert if necessary.
Clogged strainer.	• Remove strainer and clean.

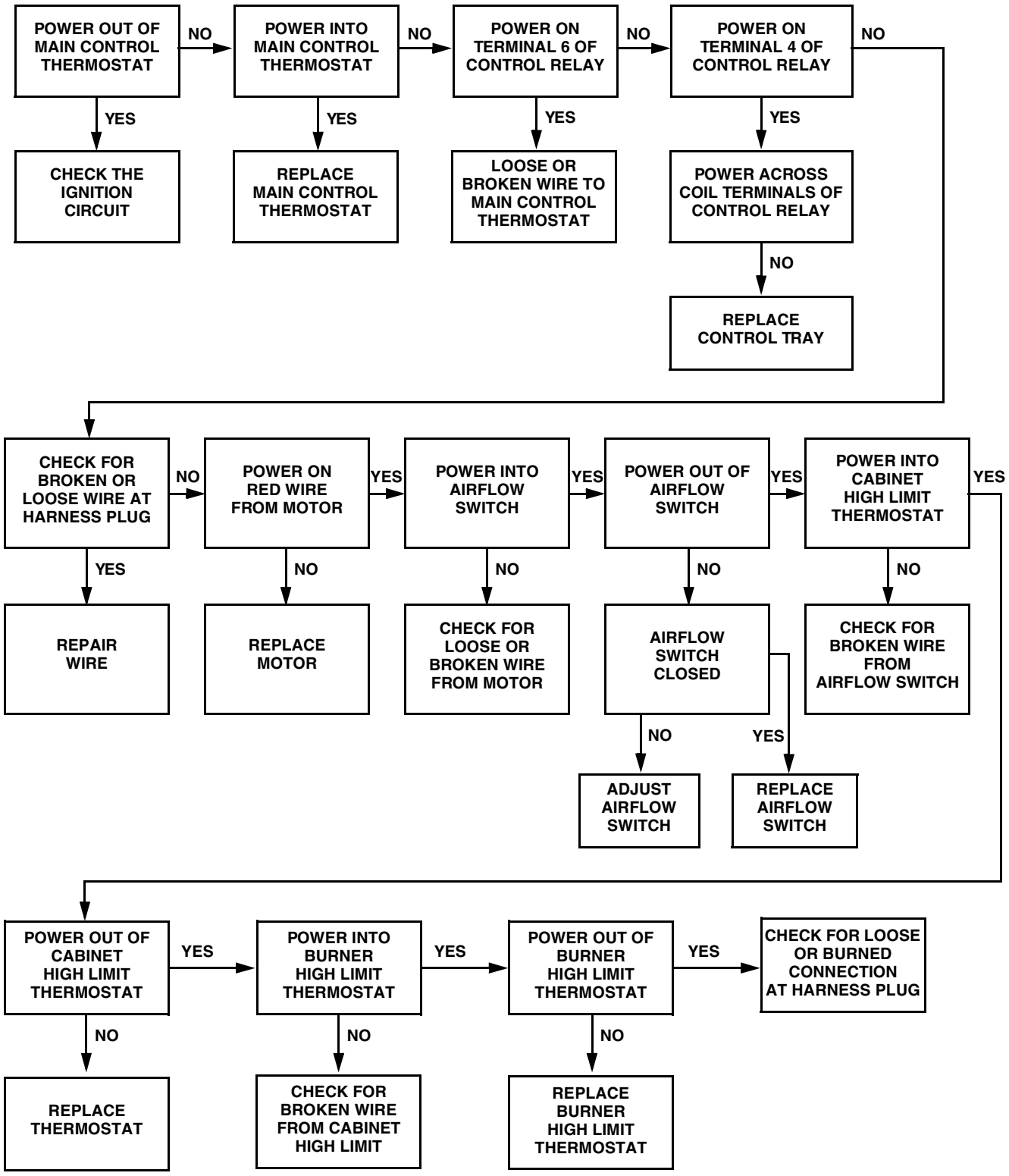
21. WATER IN STEAM LINE — STEAM MODELS

POSSIBLE CAUSE	TO CORRECT
Incorrect installation of steam piping.	• Refer to ***Installation Manual*** (supplied with tumbler) for steam requirements.
Trap functioning improperly.	• Check trap for size and capacity. If trap is dirty or sluggish, clean thoroughly or replace. Check return line for high back pressure.

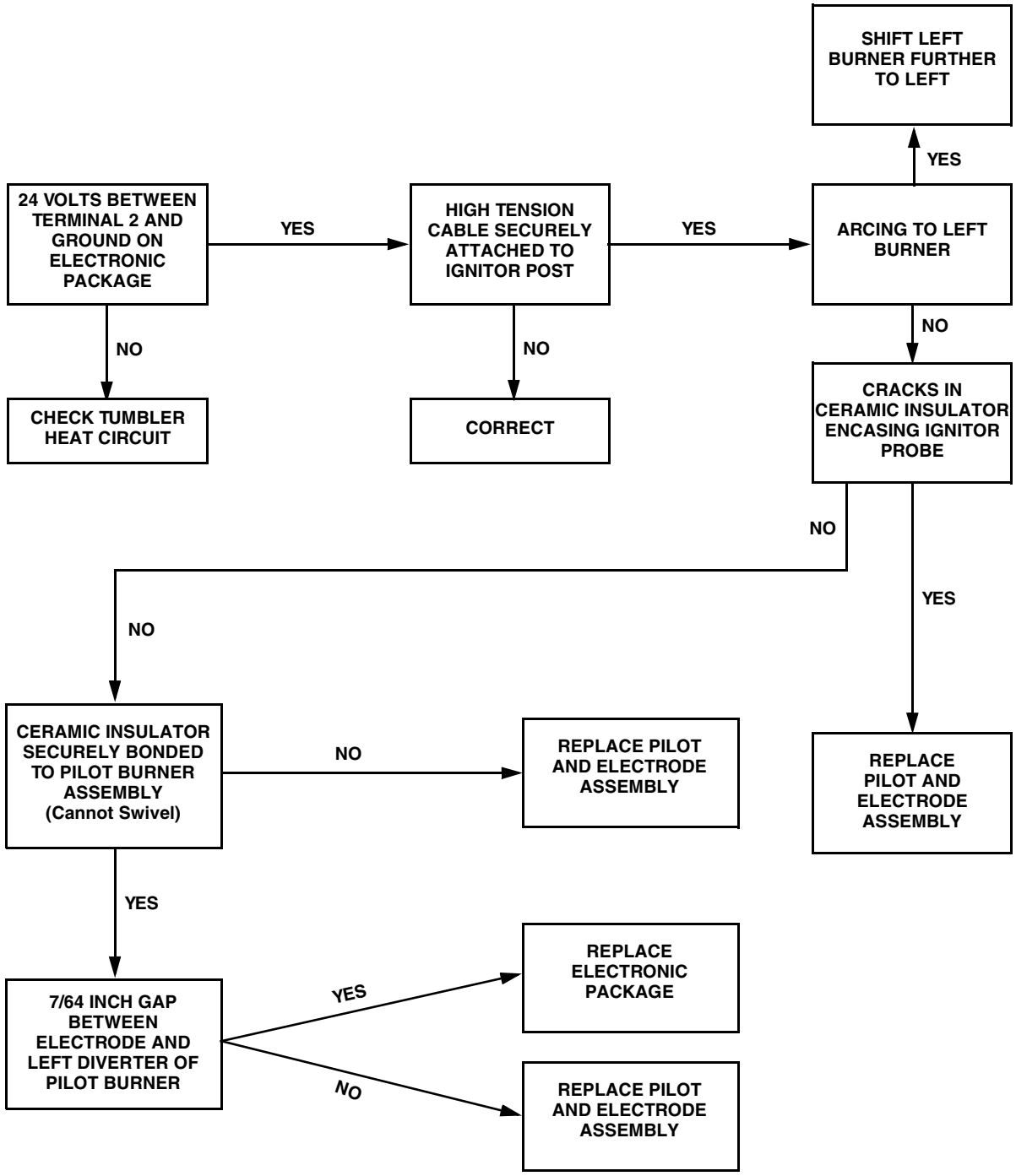
22. TUMBLER WILL NOT START, TIME ON DRYING TIMER, DOOR CLOSED – MANUAL TIMER MODELS



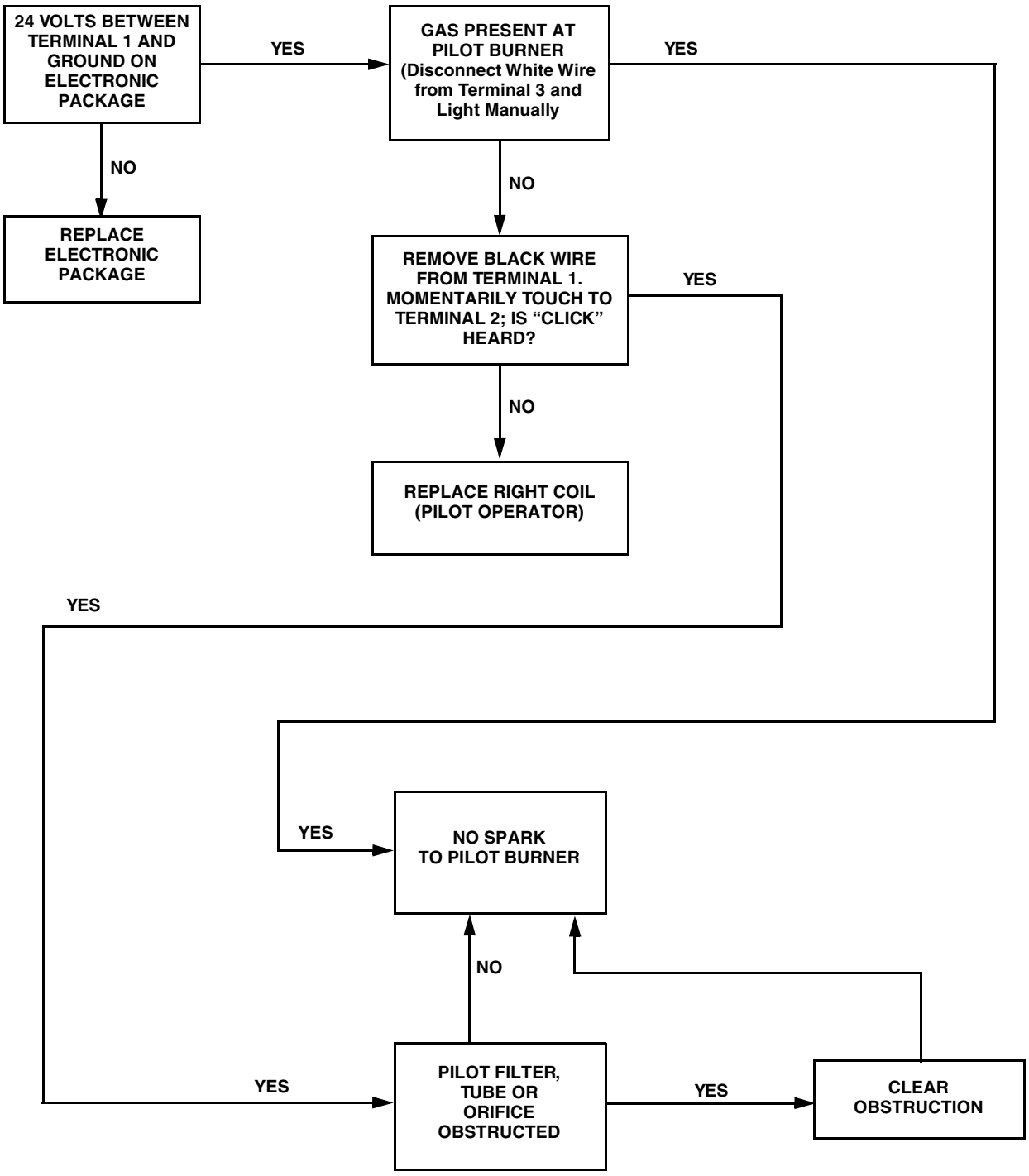
23. MOTOR RUNS, TIME ON DRYING TIMER BUT NO HEAT



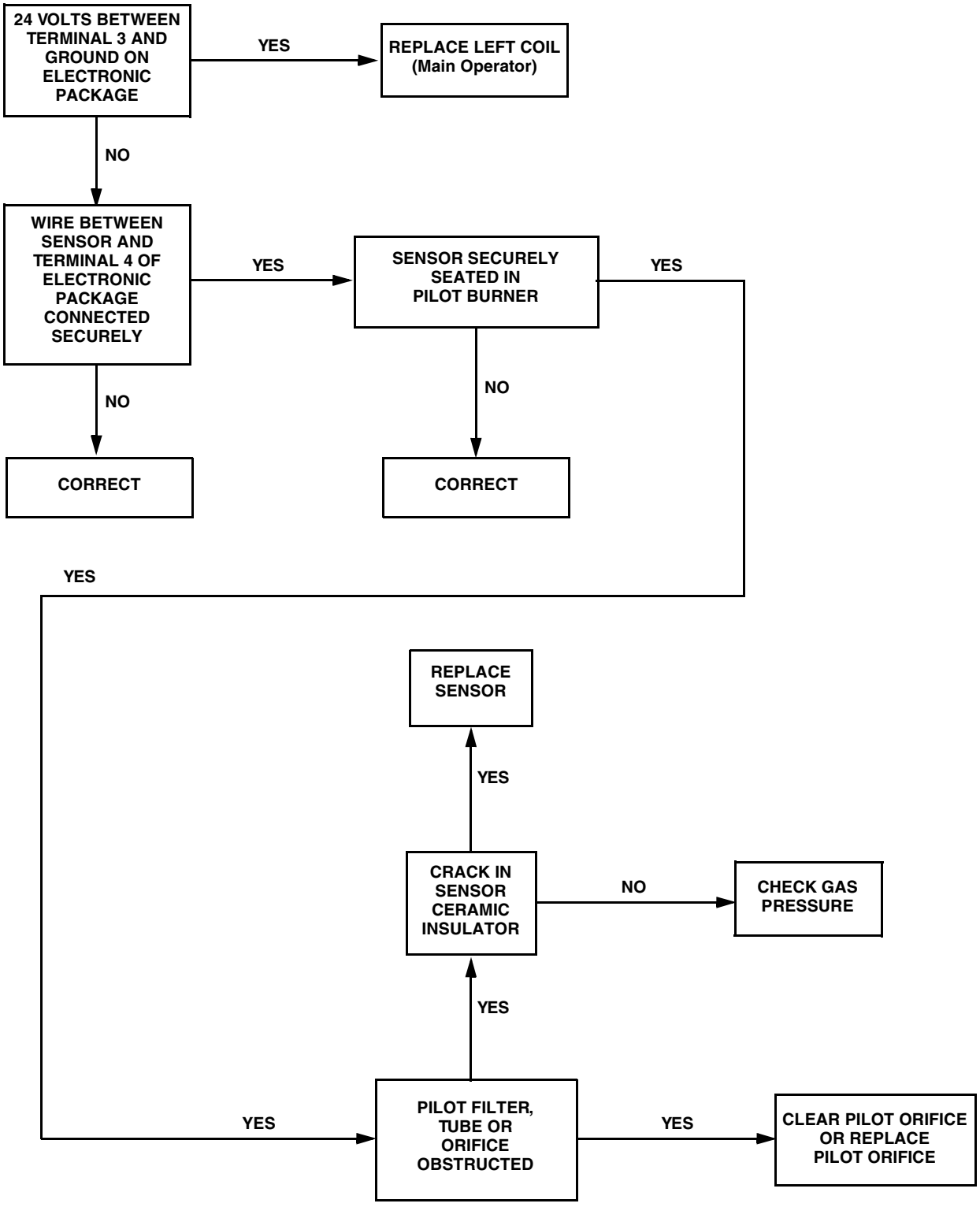
24. NO SPARK TO PILOT BURNER (Johnson Intermittent Ignition)



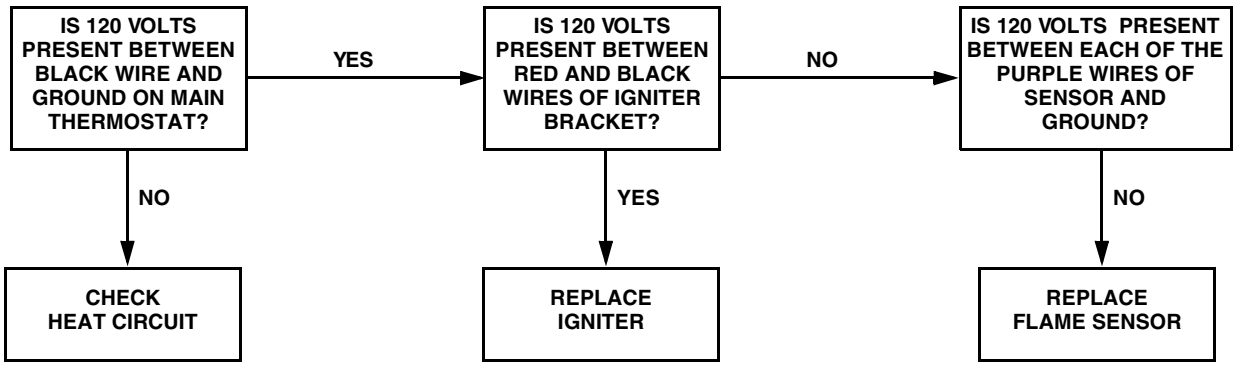
25. SPARK TO PILOT BURNER — NO PILOT FLAME (Johnson Intermittent Ignition)



26. SPARK TO PILOT BURNER — PILOT LIGHTS — NO MAIN BURNER (Johnson Intermittent Ignition)

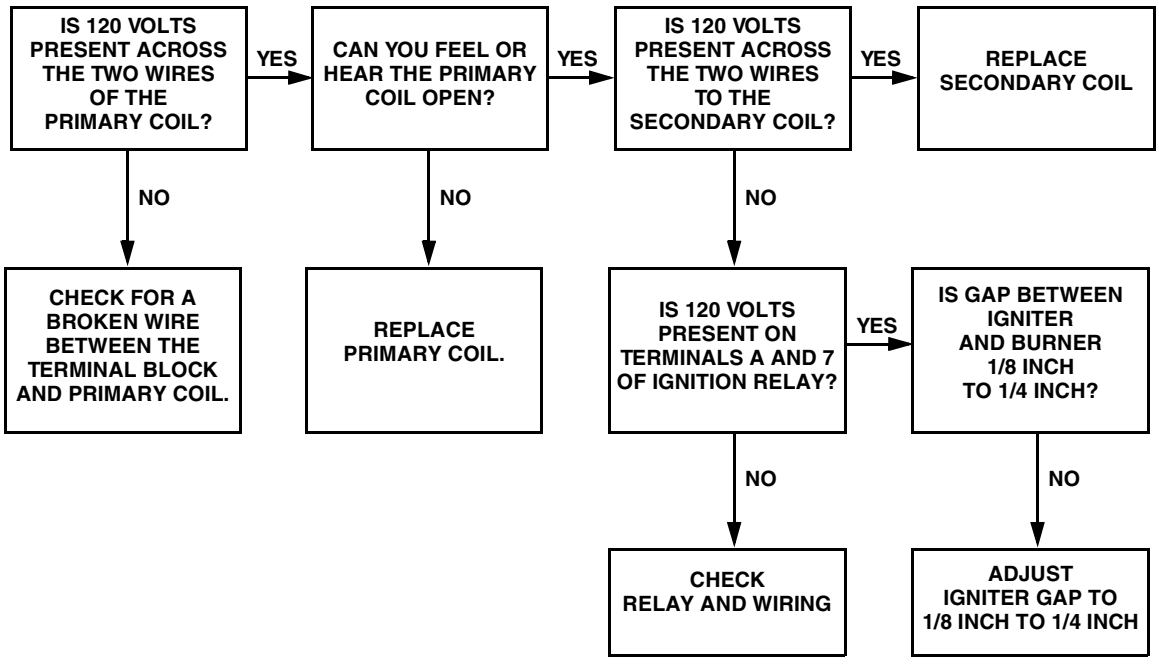


27. IGNITER DOES NOT GLOW (Johnson Controls Glow-Bar System)

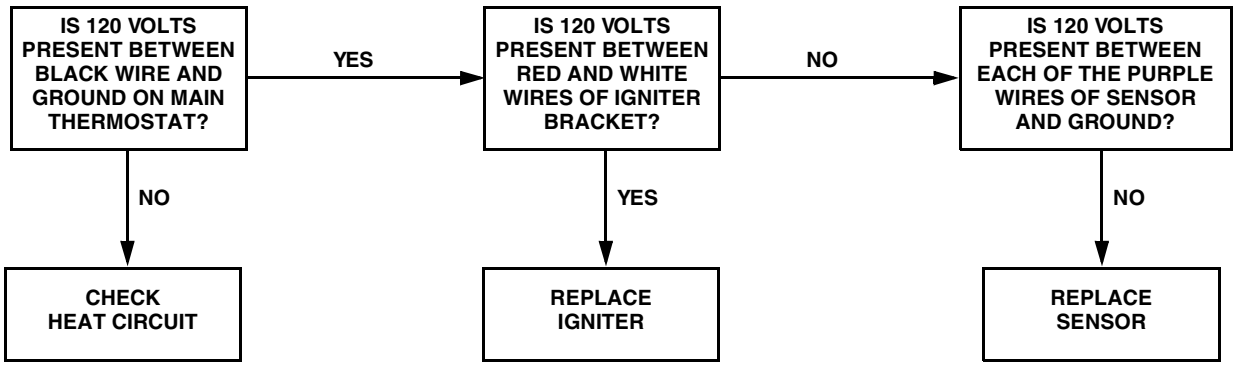


28. IGNITER GLOWS CONSTANTLY (Johnson Controls Glow-Bar System)

29. IGNITER GLOWS, CYCLES OFF BUT BURNER DOES NOT IGNITE (Johnson Controls Glow-Bar System)

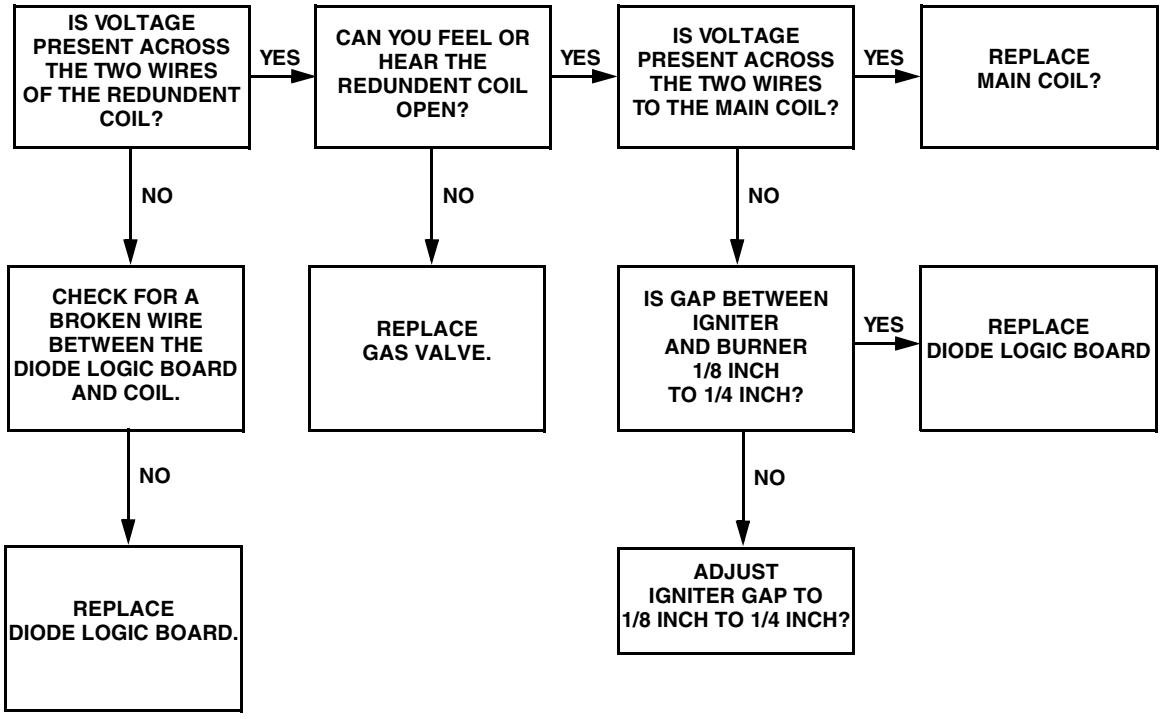


30. IGNITER DOES NOT GLOW (White Rodgers Glow-Bar System)

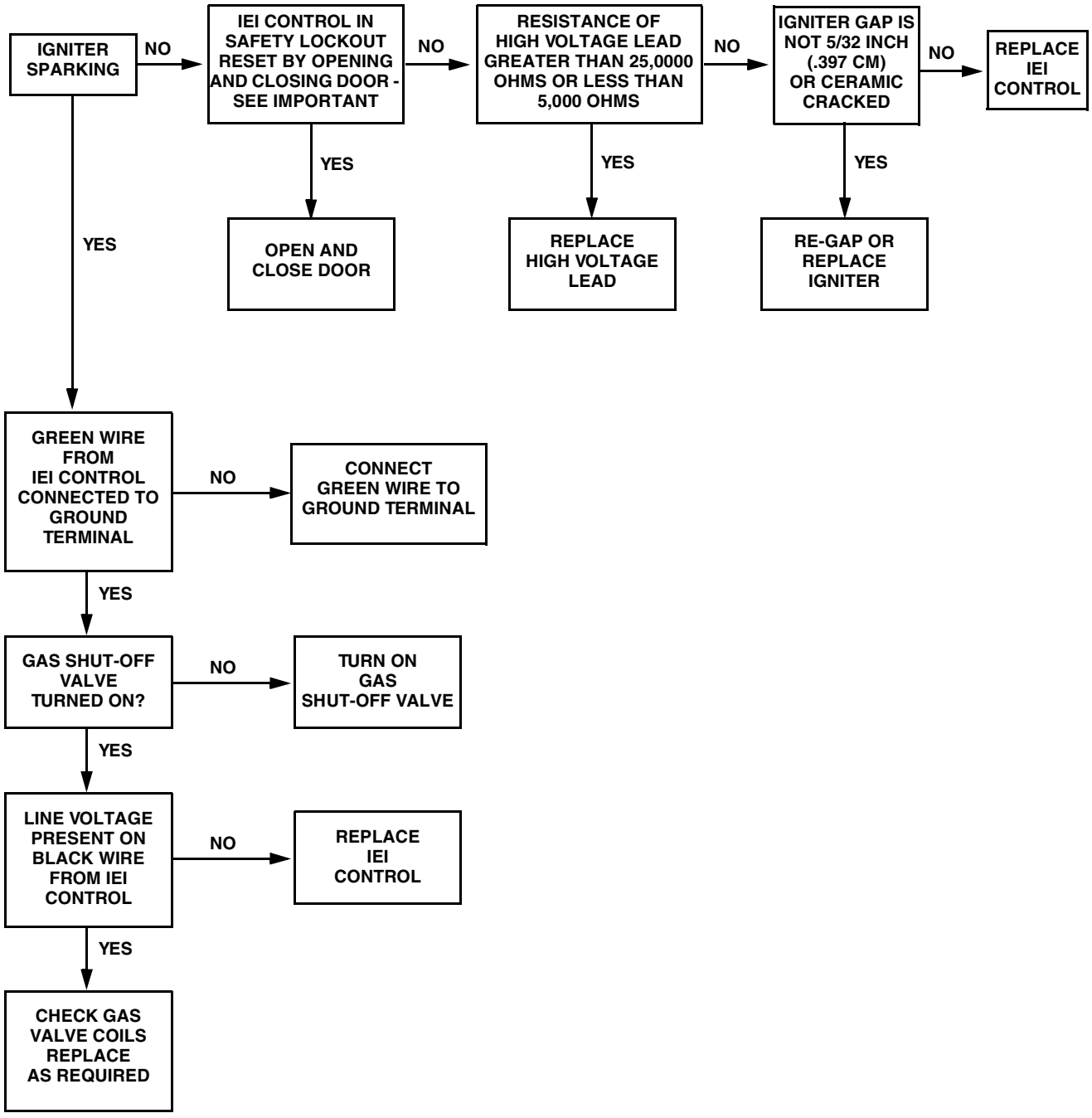


31. IGNITER GLOWS CONSTANTLY (White Rodgers Glow-Bar System)

32. IGNITER GLOWS, CYCLES OFF BUT BURNER DOES NOT IGNITE (White Rodgers Glow-Bar System)



33. IGNITER SPARKS — NO MAIN BURNER IGNITION
Instant Electronic Ignition (IEI)



Section 4
Grounding

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.**

W002

WARNING

To reduce the risk of fire and electric shock, check with a qualified serviceperson for proper grounding procedures. Improper connection of the equipment grounding conductor may result in a risk of electric shock.

W313

WARNING

To reduce the risk of fire and electric shock, if electrical supply is coming from a three phase service, DO NOT connect a "High Leg" or "Stinger Leg" to a single phase machine. On a three phase machine, if there is a "High Leg" or "Stinger Leg" it should be connected to L3.

W069

Grounding Instructions

This tumbler must be grounded. In the event of malfunction or breakdown, grounding will reduce the risk of electric shock by providing the path of least resistance for electric current. This tumbler must be connected to a grounded metal or a permanent wiring system or an equipment grounding conductor must be run with the circuit conductors and connected to the appropriate ground location.

NOTE: To ensure protection against shock, this tumbler MUST be electrically grounded in accordance with local codes, or in the absence of local codes, with the latest edition of the National Electrical Code ANSI/NFPA No. 70. In Canada, the electrical connections are to be made in accordance with CSA C22.1 or the latest edition of the Canadian Electrical Code, Part I and/or local codes. Electrical work should be done by a qualified electrician.

WARNING

All electrical connections should be made by a qualified electrician.

To reduce the risk of electrical shock, de-energize the electrical circuit being connected to the tumbler before making any electrical connections. Never attempt to connect a live circuit.

W070

Section 5
Service Procedures

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.**

W002

IMPORTANT: References made to the left or right hand direction are taken from the operator's position facing the front of the tumbler.

34. CONTROL PANEL

a. Unlock and open access panel. To hold panel open, swing support rod under panel. Refer to *Figure 3*.

b. **Coin Slide Models**

(1) Remove screw holding top of escutcheon to right side panel. Refer to *Figure 1*.

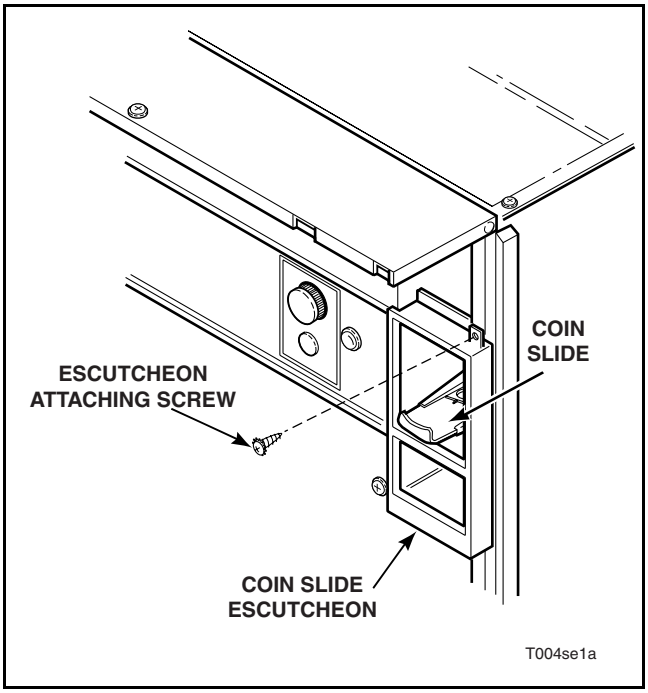


Figure 1

(2) Pull top of escutcheon forward and slide escutcheon to the left to remove it from hinge pin. Refer to *Figure 2*.

(3) Remove two screws holding control panel to cabinet.

(4) Lift control panel off top edge of front panel and pull it forward just far enough to disconnect wire harness at the plug.

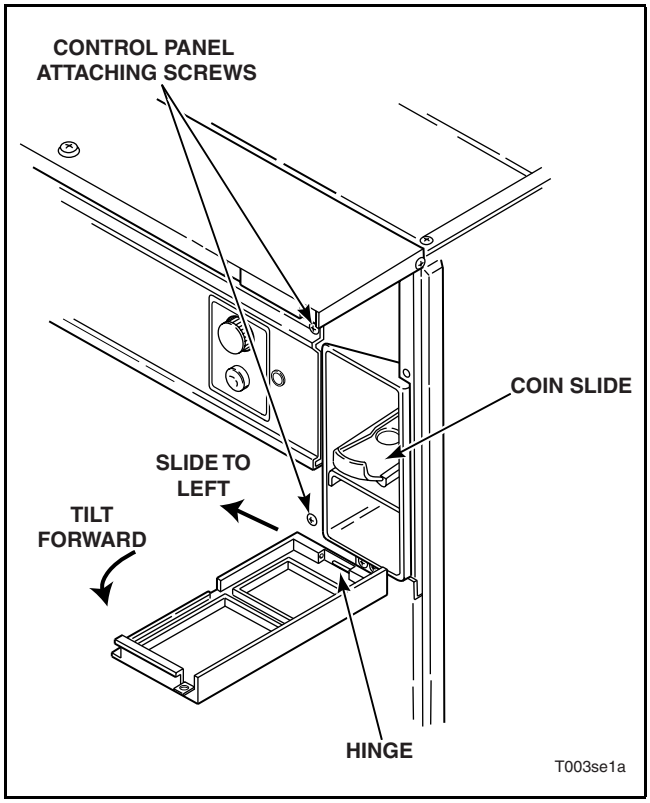


Figure 2

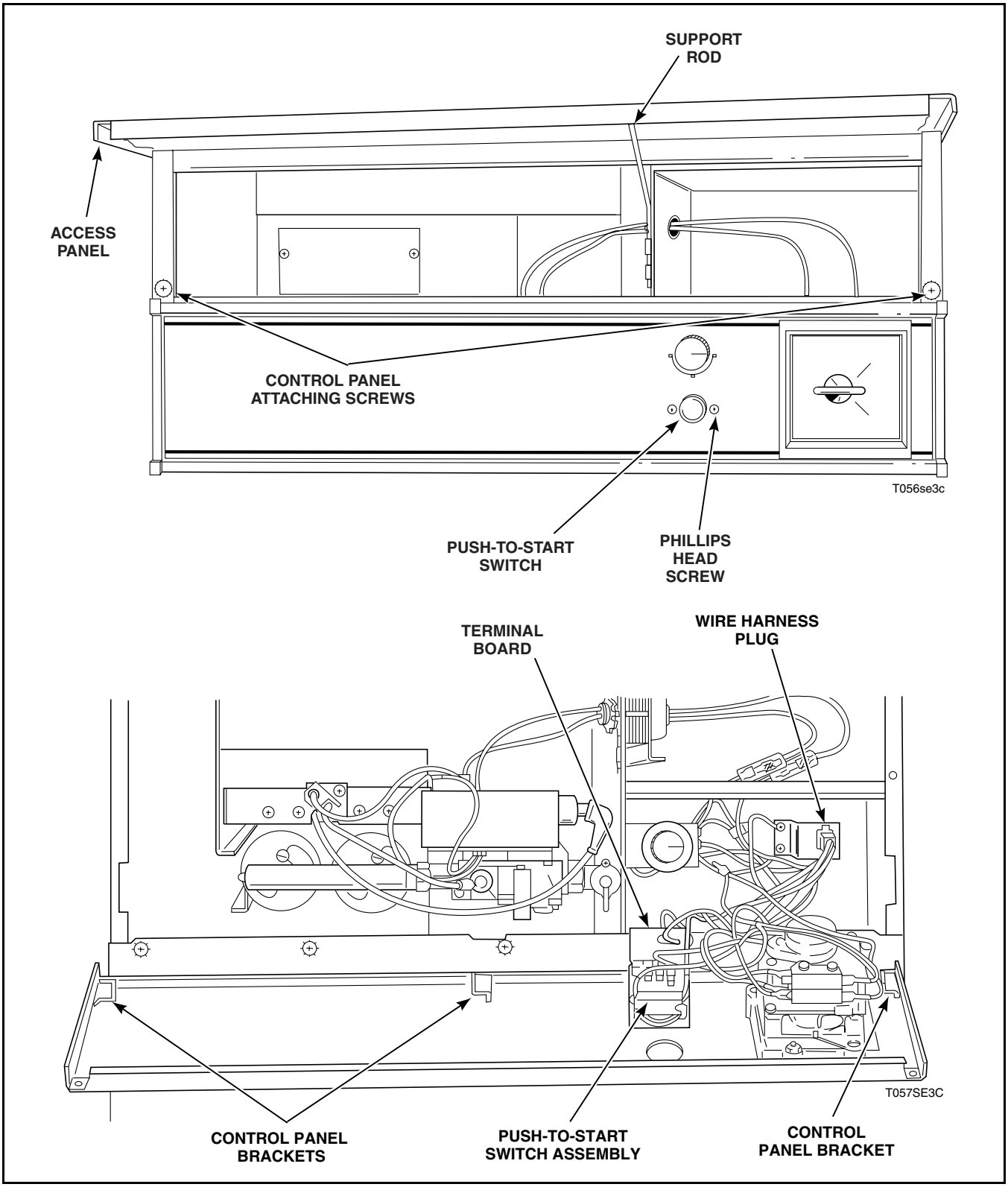


Figure 3

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.**

W002

c. **Manual Timers and Coin Meter Models**
   (1) Remove two screws holding control panel to cabinet. Refer to *Figure 3.*
   (2) Lift control panel off top edge of front panel and pull panel forward just far enough to disconnect wire harness at the plug.

35. PUSH-TO-START SWITCH
a. Remove control panel.
b. Remove two screws holding switch and mounting bracket (if applicable) to control panel. Refer to *Figure 3*.
c. Disconnect wires from switch terminals and remove switch.

NOTE: Refer to wiring diagram when rewiring switch.

36. COOLING, DRYING OR RUN LIGHT
a. Remove control panel.
b. Disconnect light wire leads.

NOTE: On Coin Meter Models, the run light white lead must be joined to the wire harness white lead using a double spade connector. Remove the single spade lug from the replacement run light white wire. On Coin Slide Models, the run light leads must be disconnected from the Molex plug. Mark plug with felt tipped pen to insure proper reconnecting of the wire leads.

c. Compress locking tabs on sides of light and push light through front of control panel. *(*Refer to *Figure 4*, Coin Models; Refer to *Figure 5,* Manual Timer Models).

NOTE: Refer to wiring diagram when rewiring light.

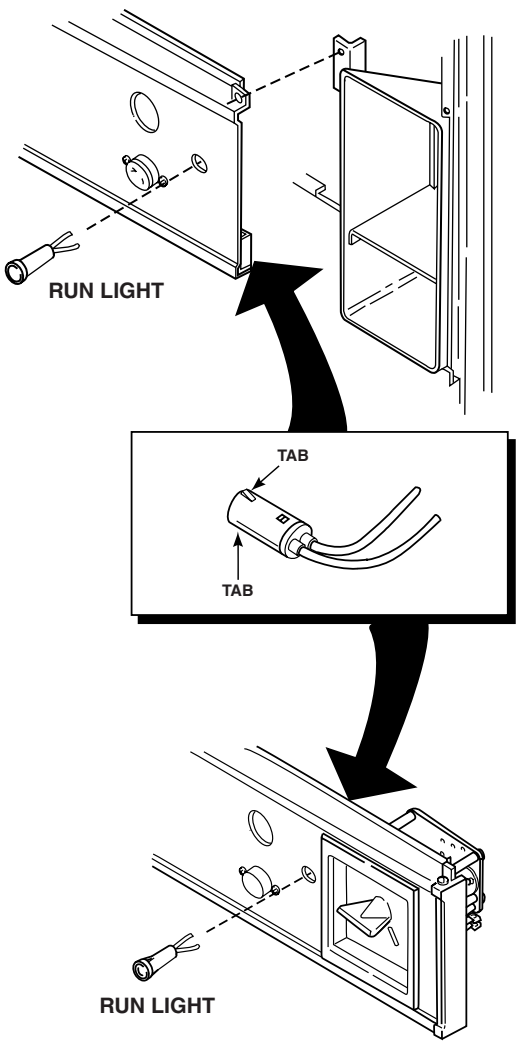


Figure 4

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.**

W002

37. RELAY (MANUAL TIMERS MODELS)
a. Remove control panel.
b. Remove two screws holding relay to bracket. Refer to *Figure 5*.
c. Disconnect wires from relay.

NOTE: Refer to wiring diagram when rewiring relay.

38. RESISTOR
(Some 208/240 Volt Models)
a. Remove control panel.
b. Disconnect resistor leads. Refer to *Figure 5*.

NOTE: Refer to wiring diagram when rewiring resistor.

39. COOLING OR DRYING TIMER
a. Remove control panel.
b. Pull timer knob off timer shaft. Refer to *Figure 5*.
c. Remove three screws holding timer to control panel or mounting bracket.
d. Remove wires from timer terminal board, and timer motor lead from terminal block.

IMPORTANT: Be sure barrier is installed in proper position when reinstalling drying timer. Refer to *Figure 5*.

NOTE: Refer to wiring diagram when rewiring timer.

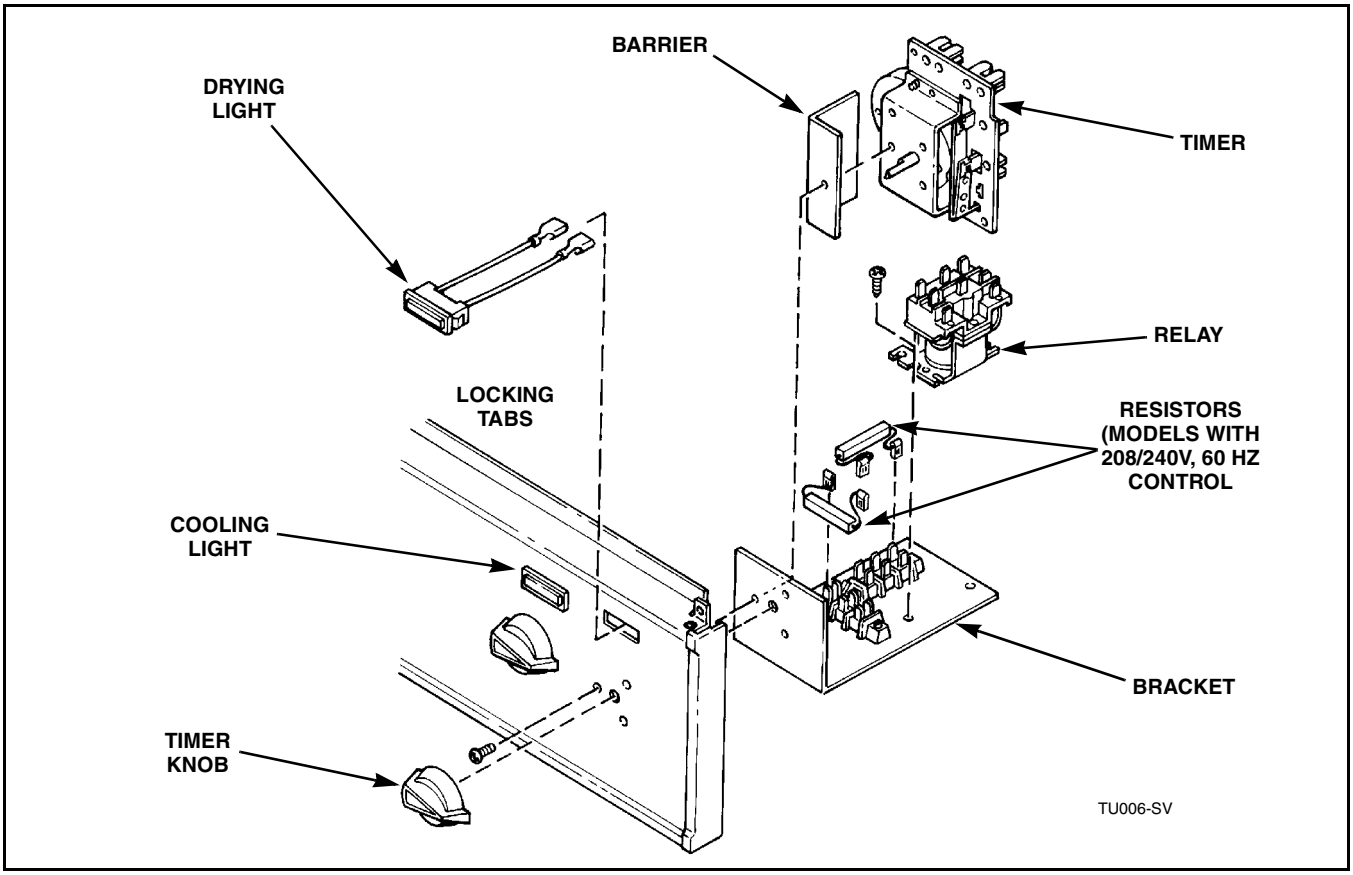


Figure 5

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.**

W002

40. COOLING OR DRYING TIMER MOTOR (Old Style Timers)

NOTE: Cooling and drying timers used prior to January 1985 were supplied by Greenwald and have serviceable timer motors. After January 1985, Robert Shaw or Mallory timers are used, which do not have serviceable timer motors. These later timers must be replaced as complete assemblies if the timer motor fails.

a. Remove control panel.
b. Disconnect motor leads.
c. Remove screws holding timer motor to mounting bracket. Refer to *Figure 6.*

NOTE: Refer to wiring diagram when rewiring timer motor.

d. To replace Greenwald timer assembly with Mallory timer assembly:
   (1) Pull timer knob off timer shaft. Refer to *Figure 5.*
   (2) Remove three screws holding timer to control panel or mounting bracket.
   (3) Remove wires from timer terminal board, and timer motor lead from terminal block.
   (4) Connect timer terminal wire 3 to terminal board terminal B.
   (5) Connect timer terminal 5 wire to terminal board terminal C.

41. COIN METER

a. Remove control panel.
b. Disconnect wires from heat and run switches.
c. Cut remaining motor wire and joining white wire at wire nut.
d. Remove four speed nuts holding coin meter to coin meter frame. Refer to *Figure 7.*

NOTE: Refer to wiring diagram when rewiring coin meter. Connect wires cut in step "c" above with new wire nut.

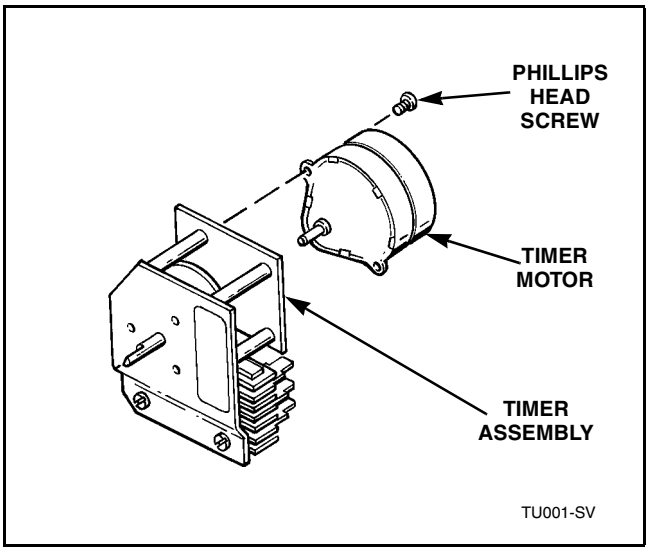


Figure 6

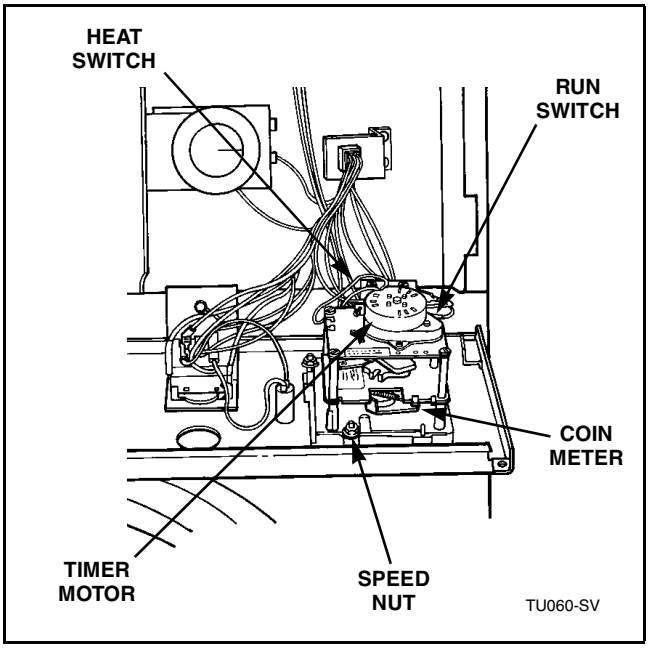


Figure 7

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.**

W002

42. COIN METER TIMER MOTOR

a. Remove control panel.
b. Remove two screws holding motor to mounting bracket. Refer to *Figure 8.*
c. Hold cam and drive fork against inside face of motor mounting bracket and pull motor free of cam and drive fork.
d. Disconnect motor leads.
e. Slide cam and drive fork out from under motor mounting bracket.

NOTE: Refer to wiring diagram when rewiring timer motor.

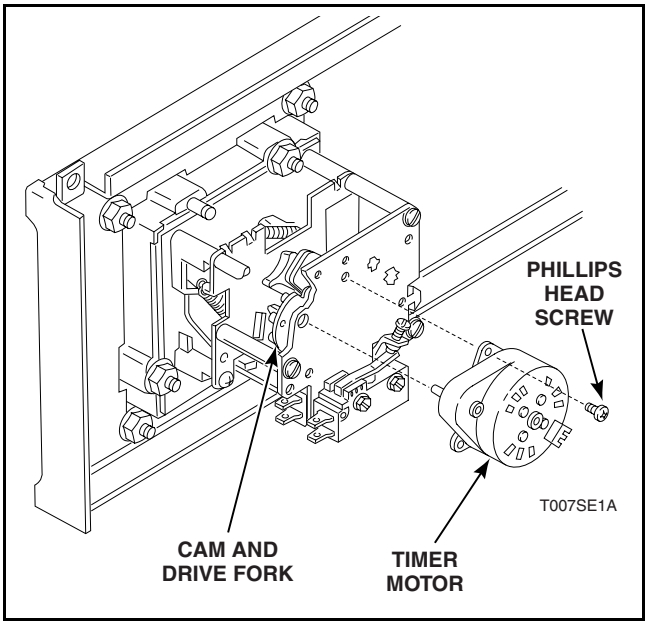


Figure 8

43. COIN METER RUN OR HEAT SWITCH

NOTE: Run switch is marked "A" and heat switch is marked "B".

a. Remove control panel.
b. Disconnect wires from switches on timer. Refer to *Figure 9.*
c. Hold switches and actuating bracket under switches tightly together with one hand while removing two screws holding switches to timing motor mounting bracket. Carefully remove the switches and actuating bracket parts. Refer to *Figure 9.*
d. Assemble the two switches and the two parts making up the switch actuating bracket. Refer to *Figure 9.*
e. Actuate the switches a number of times by manually pressing the actuating plate against the switch lever and plunger to ensure that the actuating parts do not bind. If binding occurs, reposition the actuating plate slightly until the binding stops.

NOTE: Refer to wiring diagram when rewiring switches.

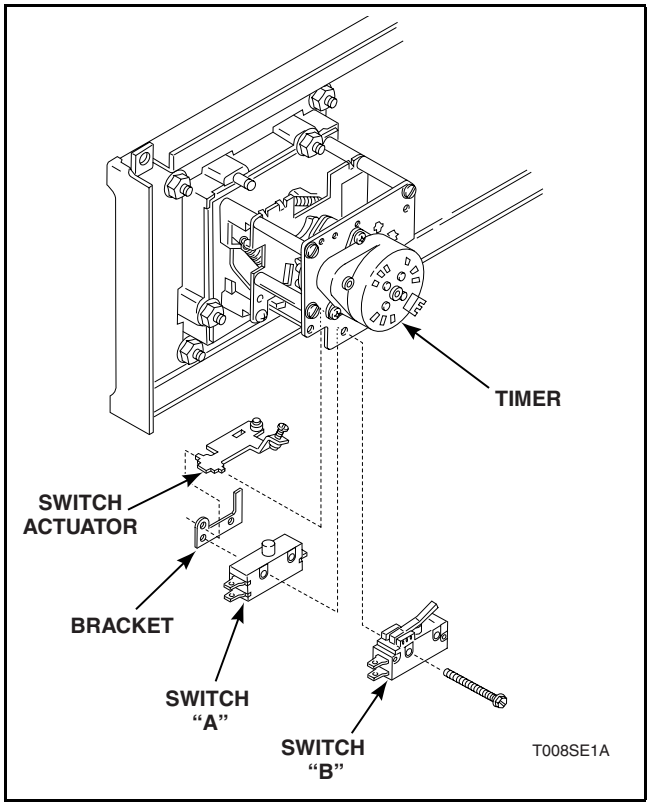


Figure 9

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.**

W002

44. ACCUMULATOR (COIN SLIDE MODELS)

a. Unlock and open access panel. Use support rod to hold panel up.

b. Disconnect accumulator wire harness at plug. Refer to *Figure 10*.

c. Unlock service door on top of meter case.

d. Lift service door. Remove door, accumulator, mounting bracket and wire harness from tumbler.

IMPORTANT: Be careful not to damage wires or thermostat sensing tube when lifting service door off of meter case (or when reinstalling).

e. Remove two capscrews holding accumulator bracket to service door. Refer to *Figure 10*.

f. Remove two screws holding accumulator assembly to bracket. Refer to *Figure 10*.

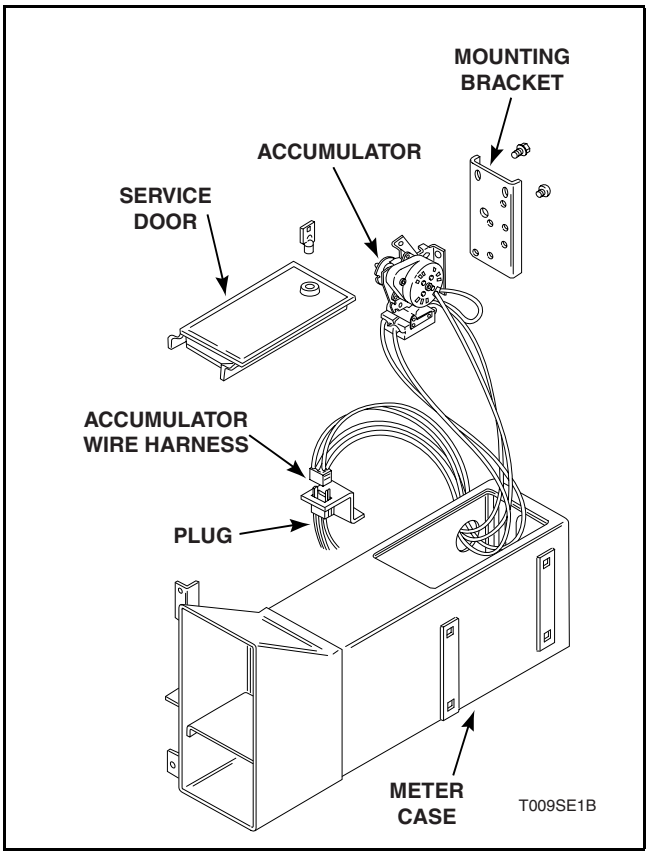


Figure 10

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.**

W002

45. ACCUMULATOR TIMER MOTOR

a. Unlock and open access panel. Use support rod to hold panel up.
b. Disconnect accumulator wire harness at plug.
c. Unlock service door on top of meter case.
d. Lift service door. Remove door, accumulator, mounting bracket and wire harness from tumbler.
e. Remove two capscrews holding accumulator bracket to service door. Refer to *Figure 11*.
f. Remove two screws holding timer motor to mounting bracket.Refer to *Figure 11*.
g. Hold cam and drive fork against inside face of mounting bracket and carefully pull timer motor out of cam hub.
h. Disconnect motor leads at wire nut and at double spade connector on switch terminal.
i. Connect leads of new motor using new wire nut and connector. Refer to wiring diagram for proper connections.

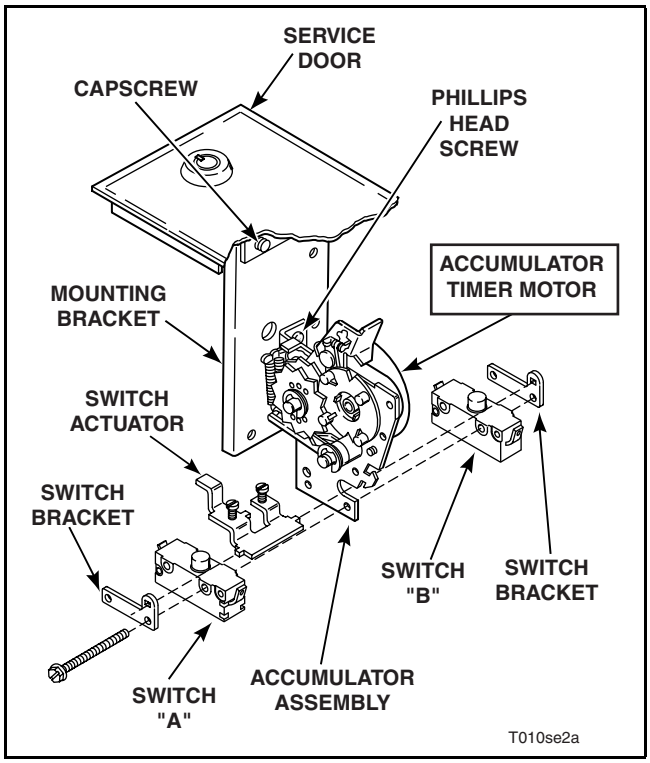


Figure 11

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.**

W002

46. COIN SLIDE

a. Unlock and open access panel. Use support rod to hold panel up.
b. Disconnect accumulator wire harness at plug.
c. Unlock service door on top of meter case.
d. Lift service door. Remove door, accumulator, mounting bracket and wire harness from tumbler.
e. Remove two capscrews holding accumulator bracket to service door. Refer to *Figure 12*.
f. From back side of tumbler, remove screw holding coin slide assembly to bracket on inside of meter case. Refer to *Figure 12*.
g. Remove coin slide assembly.

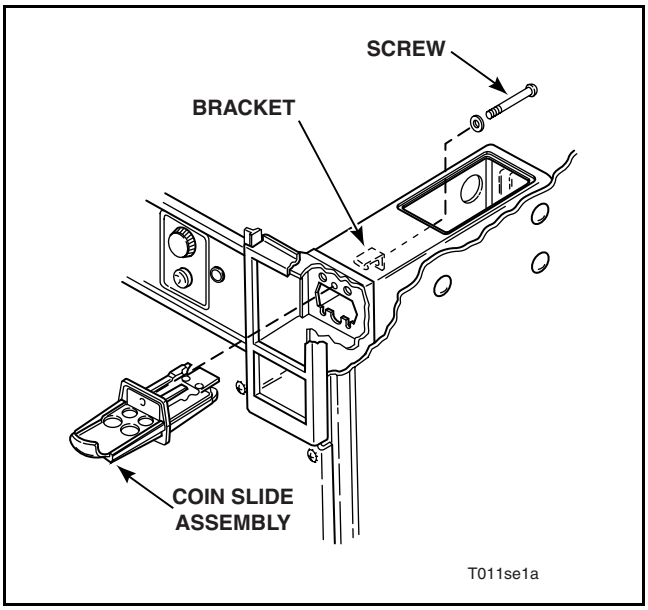


Figure 12

47. CONTROL THERMOSTAT

a. Remove control panel.
b. Pull knob off thermostat. Refer to *Figure 13.*
c. Disconnect wires from thermostat.
d. Remove two screws holding thermostat to bracket.
e. Remove wire-way attaching screws. Refer to *Figure 14.*
f. Remove screws, wire clips and/or retaining straps securing thermostat sensing tube in wire-way.
g. **Later Models:** Remove junction box cover attaching screws. Refer to *Figure 14.*

IMPORTANT: When reinstalling thermostat, be sure to install all screws and wire clips and replace all retaining straps removed in steps "f" and "g."

h. Unlock and remove lint panel.
i. Spread locking tabs on sensing probe bracket and disengage probe from bracket. Refer to *Figure 15.*

IMPORTANT: When reinstalling thermostat, be sure to secure sensing probe with locking tabs on bracket.

j. Carefully remove thermostat, tube and probe.

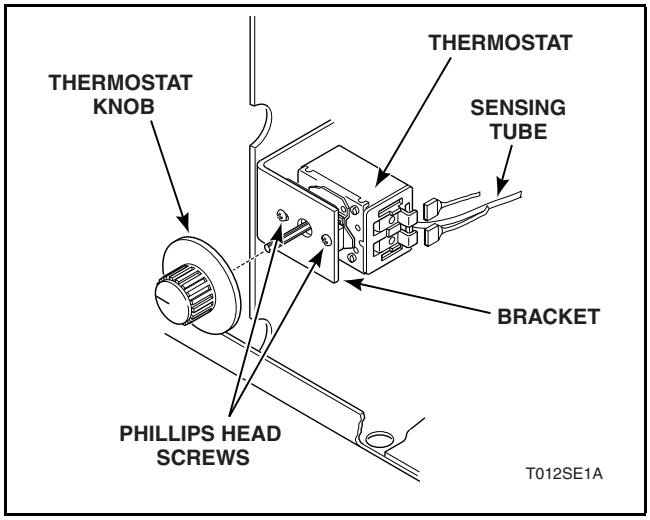


Figure 13

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.**

W002

IMPORTANT: Do not kink sensing tube when installing thermostat.

NOTE: Refer to wiring diagram when rewiring thermostat.

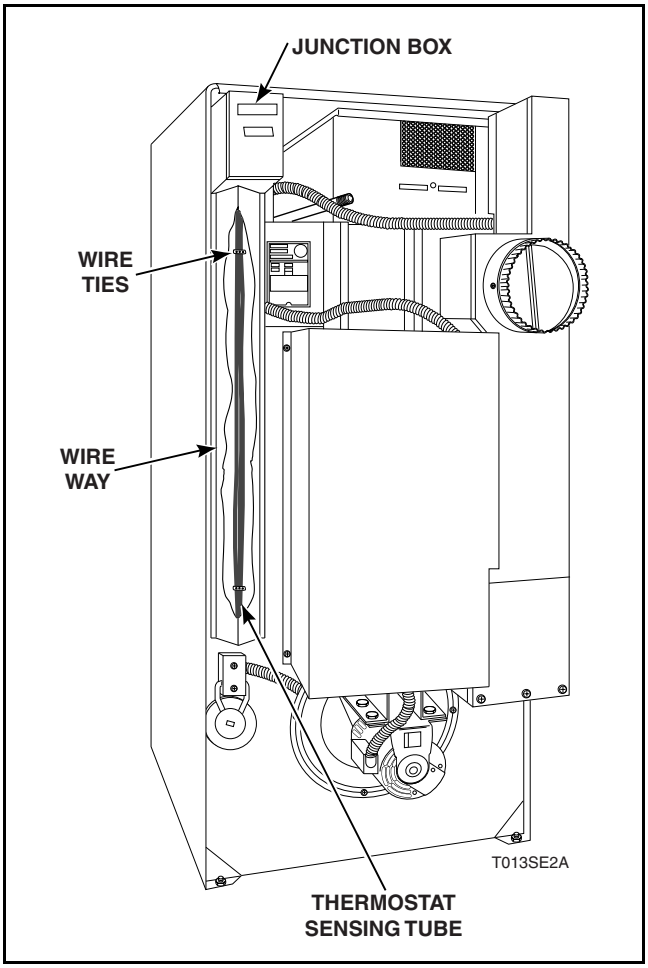


Figure 14

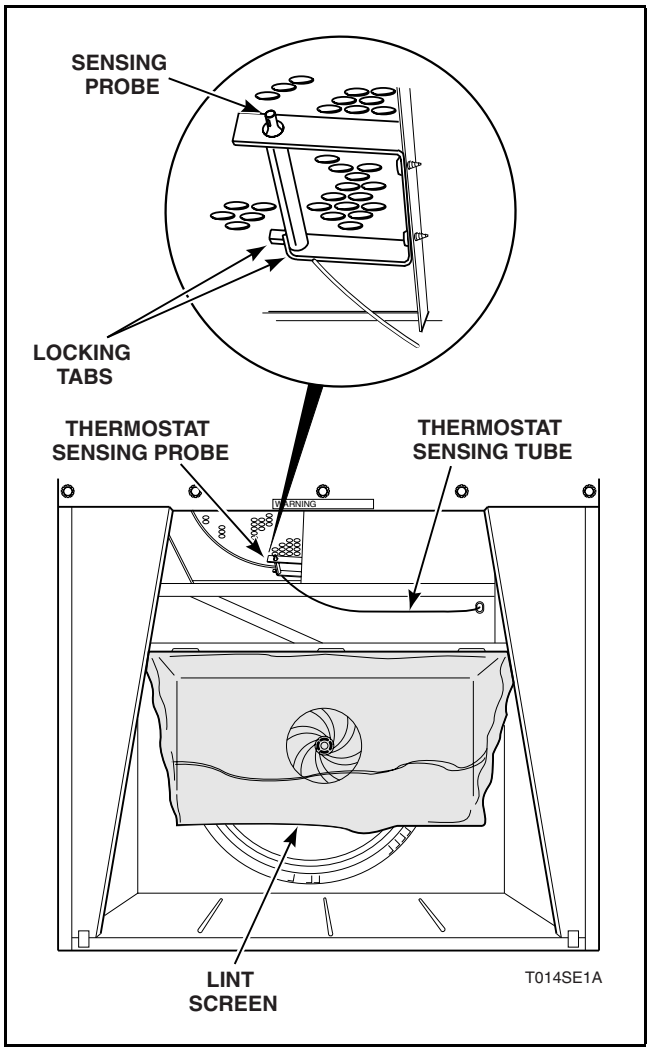


Figure 15

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.**

W002

48. TRANSFORMER
(Automatic Pilot Ignition Models)

a. Remove control panel.

b. Disconnect transformer wires at electronic package. Refer to *Figure 16.*

c. Disconnect remaining wires from transformer at connectors.

NOTE: Refer to wiring diagram when rewiring transformer.

d. Remove nut holding transformer to cabinet. Refer to *Figure 16.*

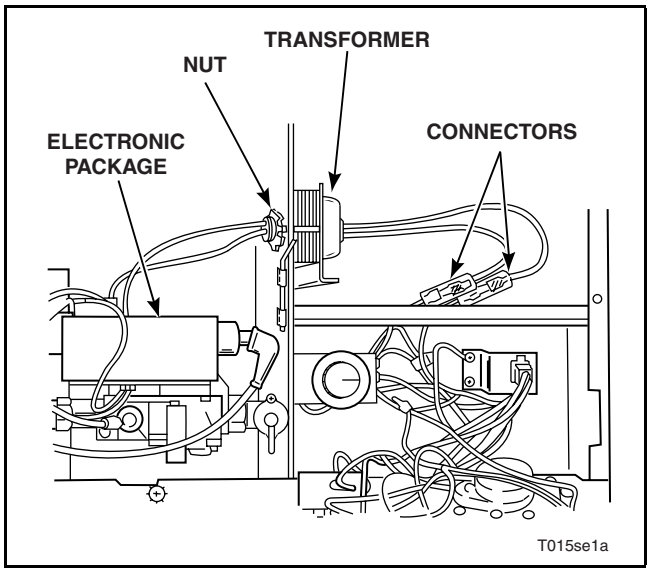


Figure 16

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.**

W002

49. GAS VALVE ASSEMBLY (Automatic Pilot Ignition Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 17.*
c. Disconnect all wires from gas valve terminals and disconnect gas valve union nuts.
d. Disconnect igniter wire and sensor wire from electronic package.
e. Disconnect pilot tube from gas valve.

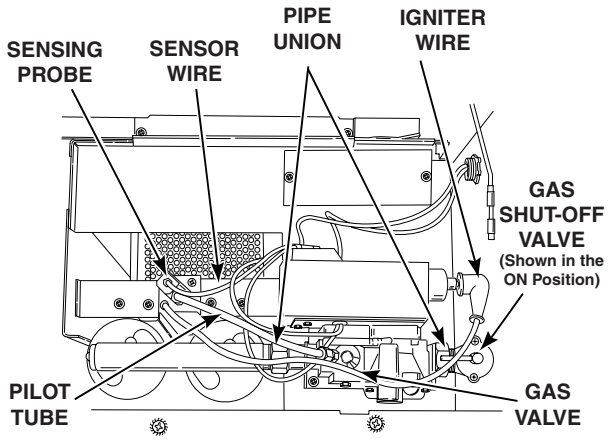


Figure 17

IMPORTANT: When reinstalling gas valve, use pipe compound resistant to action of L.P. gas on all pipe threads.

WARNING

To reduce risk of fire or explosion, check pipe connections for gas leaks with a non-corrosive leak detection fluid. Do not use an open flame to check for gas leaks!

W310

f. Remove screws holding gas valve and bracket to stove assembly.
g. Remove nipple from left side of valve and plug from right side of valve.

NOTE: Refer to wiring diagram when rewiring gas valve.

50. ELECTRONIC PACKAGE (Automatic Pilot Ignition Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 17.*
c. Disconnect igniter wire and sensor wire from electronic package.
d. Remove two screws holding electronic package to gas valve. Refer to *Figure 18.*
e. Disconnect two operator wires and two transformer wires from electronic package terminals.

NOTE: Refer to wiring diagram when rewiring electronic package.

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.**

W002

51. MAIN OR PILOT OPERATOR (Automatic Pilot Ignition Models)

a. Remove control panel.

b. Close gas shut-off valve. Refer to *Figure 17.*

c. Disconnect igniter wire and sensor wire from electronic package.

d. Remove two screws holding electronic package to gas valve. Refer to *Figure 18*

e. Disconnect two operator wires and two transformer wires from electronic package terminals.

NOTE: Refer to wiring diagram when rewiring electronic package.

f. Remove screws holding main or pilot operator to gas valve body. Refer to *Figure 19.*

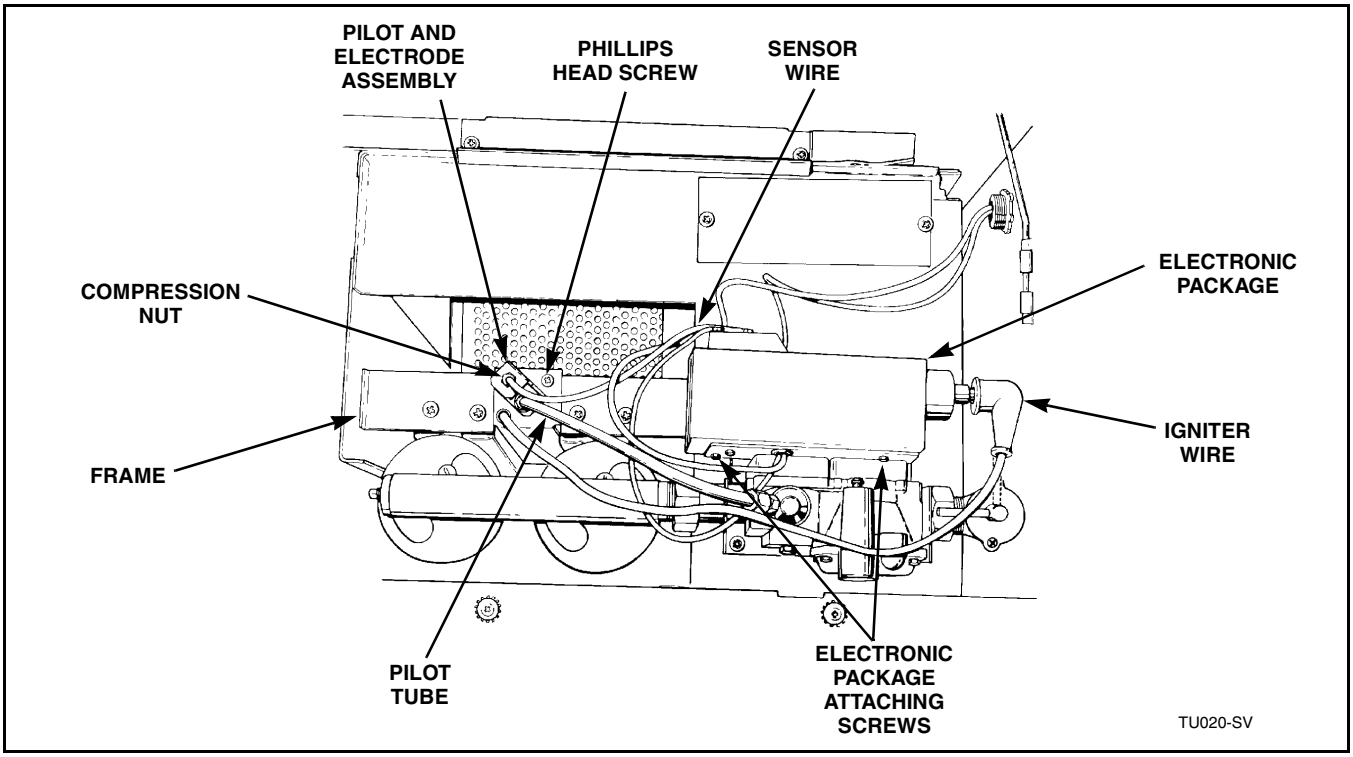


Figure 18

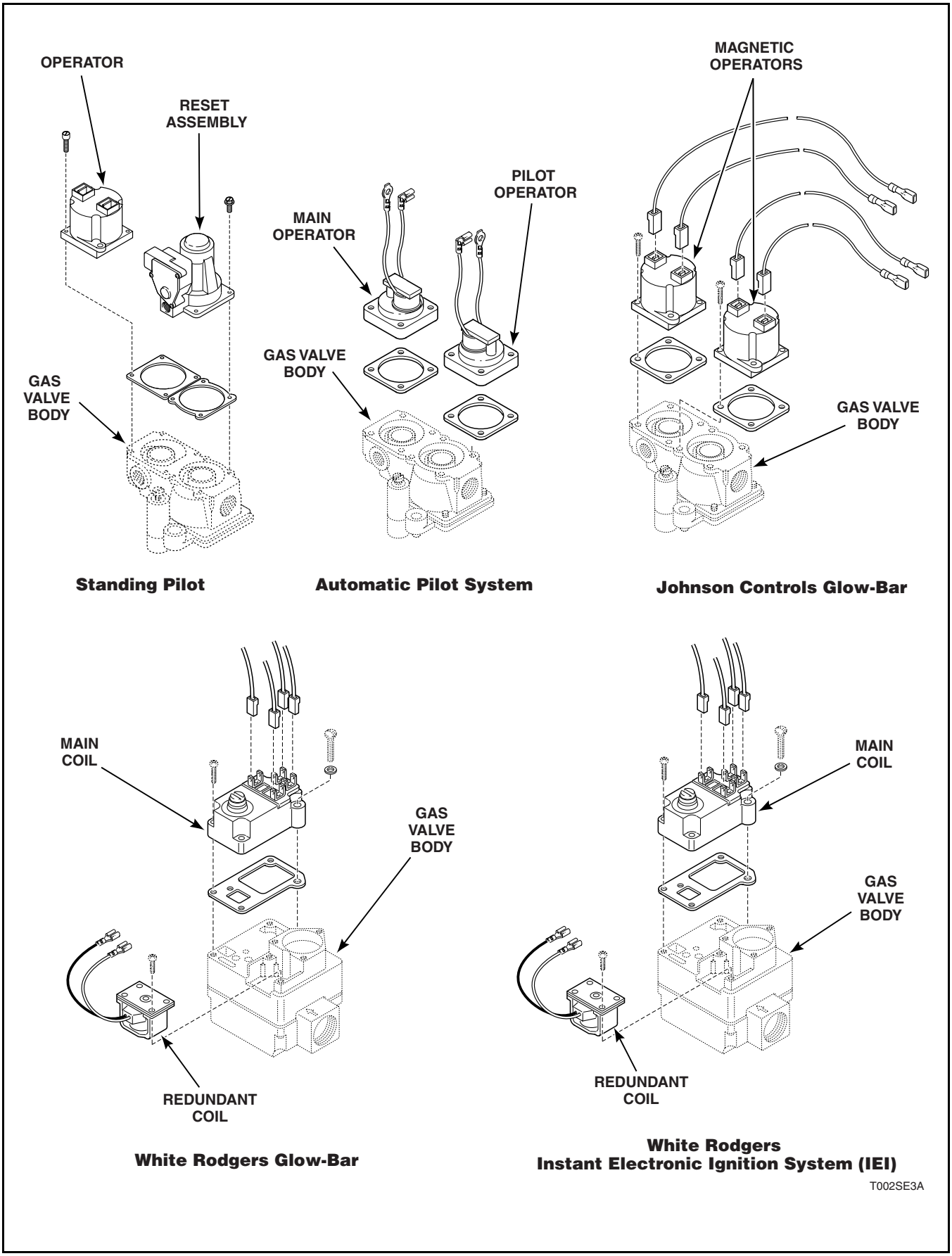


Figure 19

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.**

W002

52. GAS VALVE
(Standing Pilot Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 20*.
c. Disconnect all wires from gas valve terminals and disconnect gas valve pipe unions.
d. Disconnect thermocouple and pilot tube from gas valve.

IMPORTANT: When reinstalling gas valve, use pipe compound resistant to action of L.P. gas on all pipe threads.

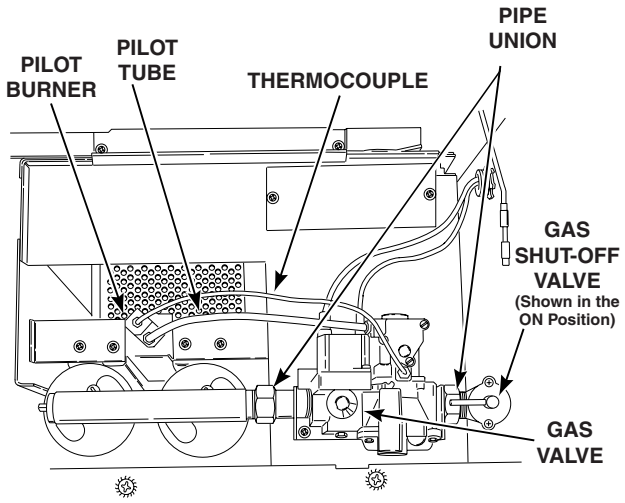


Figure 20

WARNING

To reduce risk of fire or explosion, check pipe connections for gas leaks with a non-corrosive leak detection fluid. Do not use an open flame to check for gas leaks!

W310

e. Remove screws holding gas valve and bracket to stove assembly.
f. Remove nipple from left side of valve and plug from right side of valve.

53. OPERATOR
(Standing Pilot Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 20*.
c. Disconnect wires from operator terminals
d. Remove screws holding operator to gas valve body, Refer to *Figure 19*.

NOTE: Refer to wiring diagram when rewiring gas valve operator.

54. RESET ASSEMBLY
(Standing Pilot Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 20*.
c. Disconnect pilot tube and thermocouple from reset assembly.
d. Remove screws holding reset assembly to gas valve. Refer to *Figure 19*.

WARNING

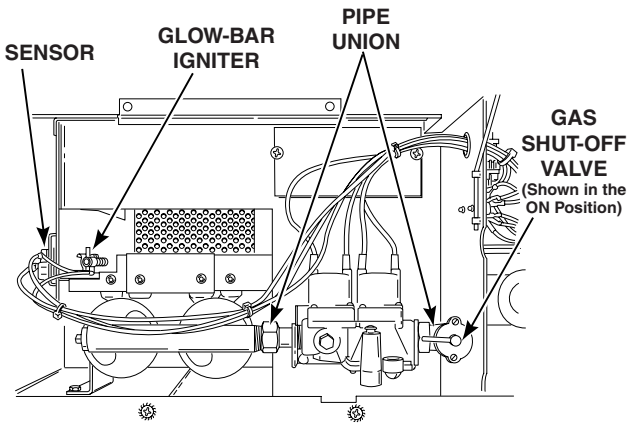
To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with 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.**

W002

55. GAS VALVE
(Johnson Controls Glow-Bar Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 21.*
c. Disconnect all wires from gas valve terminals and disconnect gas valve pipe unions.
d. Remove screws holding gas valve and bracket to stove assembly.
e. Remove nipple from left side of valve and plug from right side of valve.

NOTE: Refer to wiring diagram when rewiring gas valve.



JOHNSON CONTROLS GLOW-BAR IGNITION BURNER

T018SE3B

Figure 21

IMPORTANT: When reinstalling gas valve, use pipe compound resistant to action of L.P. gas on all pipe threads.

WARNING

To reduce risk of fire or explosion, check pipe connections for gas leaks with a non-corrosive leak detection fluid. Do not use an open flame to check for gas leaks!

W310

56. MAGNETIC OPERATORS
(Johnson Controls Glow-Bar Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 21.*
c. Disconnect wires from magnetic operator terminals.
d. Remove screws holding magnetic operators to gas valve body, Refer to *Figure 19.*

NOTE: Refer to wiring diagram when rewiring magnetic operators.

WARNING

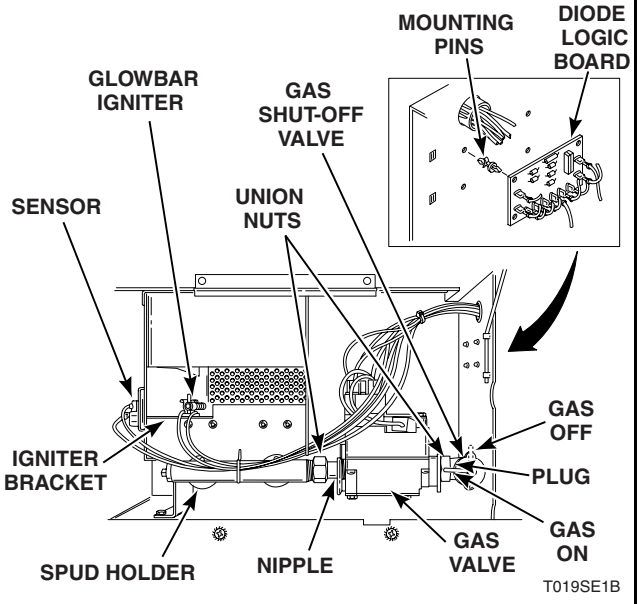
To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the tumbler before servicing.**
- **Close gas shut-off valve to gas tumbler before servicing.**
- **Close steam valve to steam tumbler before servicing.**
- **Never start the tumbler with 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.**

W002

57. GAS VALVE
(White Rodgers Glow-Bar Models)

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 22*.
c. Disconnect all wires from gas valve terminals and disconnect gas valve pipe unions.
d. Remove screws holding gas valve and bracket to stove assembly.
e. Remove gas valve from mounting bracket.
f. Remove nipple from left side of valve and plug from right side of valve.

IMPORTANT: When reinstalling gas valve, use pipe compound resistant to action of L.P. gas on all pipe threads.



White Rodgers Glow-Bar Ignition Burner

Figure 22

WARNING

To reduce risk of fire or explosion, check pipe connections for gas leaks with a non-corrosive leak detection fluid. Do not use an open flame to check for gas leaks!

W310

NOTE: Refer to wiring diagram when rewiring gas valve.

58. DIODE LOGIC BOARD
(White Rodgers Glow-Bar Models)

a. Remove control panel.
b. Disconnect wires from diode logic board terminals. Refer to *Figure 22*.
c. Compress tabs on back ends of diode logic board mounting pins and push pins through holes in cabinet wall to free to diode logic board.

NOTE: Refer to wiring diagram when rewiring diode logic board.

59. MAIN COIL
(White Rodgers Glow-Bar Models)

NOTE: The redundant coil cannot be purchased separately. Replace the complete gas valve.

a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 22*.
c. Disconnect wires from main coil terminals.
d. Remove screws holding main coil to gas valve.

NOTE: Refer to wiring diagram when rewiring gas valve main coils.

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.**

W002

60. IGNITER AND BRACKET (Glow-Bar Models)

a. Remove control panel.
b. Insert tips of 90 degree snap ring pliers into holes in each igniter mounting clip and spread clips just far enough for igniter removal.

IMPORTANT: Use extreme care when handling the igniter as it is very fragile. Handle igniter by grasping the white ceramic portion only. Do not handle the silicon carbide portion of the igniter with hands or allow any oil, grease, or other foreign material to contaminate it. Hairline cracks, oil, grease, or other impurities will cause igniter to burn out.

c. Remove screw holding igniter bracket to stove assembly.
d. Disconnect igniter wires from diode logic board (White Rodgers) or relay (Johnson Controls).

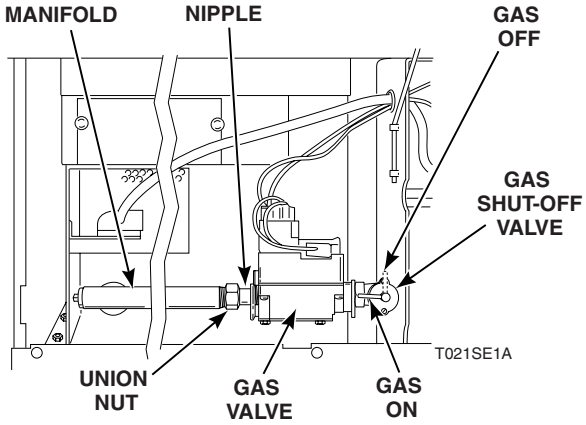
61. SENSOR (Glow-bar Models)

a. Remove control panel.
b. Disconnect wires from sensor. Refer to *Figures 21* or *22*.
c. Remove screw holding sensor to side of stove assembly.

NOTE: Refer to wiring diagram when rewiring sensor.

62. IGNITER (Instant Electronic Ignition Models)

Refer to *Figure 23*.
a. Remove control panel.
b. Disconnect high voltage lead from igniter.
c. Remove two screws attaching igniter bracket to stove assembly.



Instant Electronic Ignition Burner

Figure 23

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.**

W002

63. IGNITION CONTROL
(Instant Electronic Ignition Models)
Refer to *Figure 23*.
a. Remove control panel.
b. Disconnect wire harness.
c. Remove high voltage lead.

IMPORTANT: Remove circuit board and plastic back as a unit. Handle ignition control unit by sides of board only. Do not contact circuit boards with hands or metal objects. Place unit in clean, dry area away from work area to avoid damage. Do not attempt field repair of the ignition control unit. Attempted repair or tampering with the ignition control unit will void its warranty.

d. Remove two screws attaching ignition control unit to cabinet frame.
e. Remove ignition control unit.

64. GAS VALVE
(Instant Electronic Ignition Models)
a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 23*.
c. Disconnect all wires from gas valve terminals and disconnect gas valve pipe unions.
d. Remove screw holding gas valve bracket to stove.
e. Remove nipple from left side of valve and plug from right side of valve.
f. Remove gas valve from mounting bracket.

IMPORTANT: When reinstalling gas valve, use pipe compound resistant to action of L.P. gas on all pipe threads.

WARNING

To reduce risk of fire or explosion, check pipe connections for gas leaks with a non-corrosive leak detection fluid. Do not use an open flame to check for gas leaks!

W310

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.**

W002

NOTE: Refer to wiring diagram when rewiring gas valve coils.

65. MAIN COIL
(Instant Electronic Ignition Models)

NOTE: The redundant coil cannot be purchased separately. Replace complete gas valve.

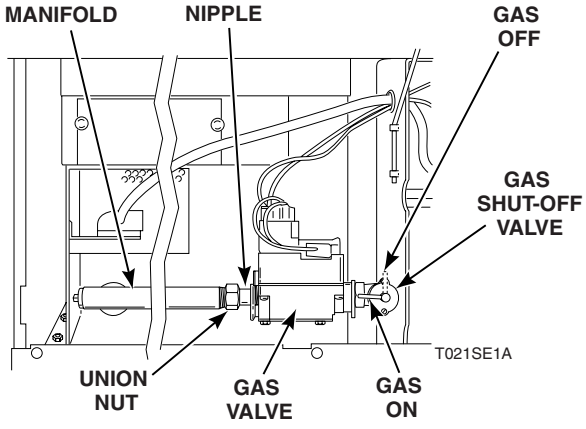
a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 24*.
c. Disconnect wires from main coil terminals.
d. Remove screws holding main coil to gas valve. Refer to *Figure 19*.

66. BURNER TUBE
a. Remove control panel.
b. Close gas shut-off valve. Refer to *Figure 24*.
c. Disconnect union nut attaching nipple to manifold and remove manifold.
d. Remove screws holding gas and valve bracket to stove assembly.
e. Remove screws holding burner tubes to stove frame and remove burner tubes.

WARNING

When reinstalling manifold, use non-corrosive leak detection fluid to check all pipe connections for gas leaks. DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS! Make sure that manifold and orifices are positioned such that gas will be injected directly down the center of the burner.

W318



Instant Electronic Ignition Burner

Figure 24

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.**

W002

67. CONTACTORS AND TERMINAL BLOCK (Electric Models)
Refer to *Figure 25*.

NOTE: Contactors and terminal blocks are located in contactor box at the rear of the tumbler.

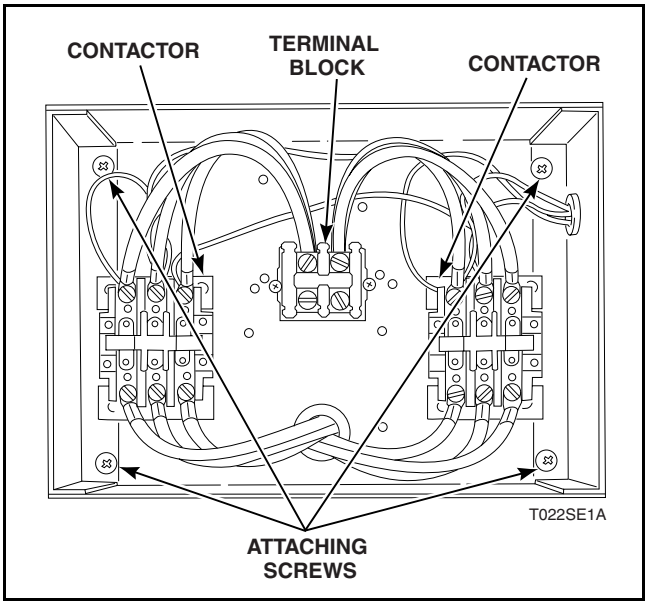


Figure 25

a. Remove screw holding cover to contactor box and remove cover.
b. Remove wires from contactor terminals and terminal blocks.

NOTE: Refer to wiring diagram when rewiring contactors or terminal blocks.

c. Remove screws attaching contactor to box.
d. Remove two screws holding terminal block to box. Refer to *Figure 25*.

NOTE: Terminal block consists of two terminal section (one phase) or three terminal sections (three phase) and an end piece snapped together.

NOTE: Terminal blocks and contactors on units manufactured after September 1, 1994 are din rail mounted. Terminal block is one piece. Refer to *Figure 26*.

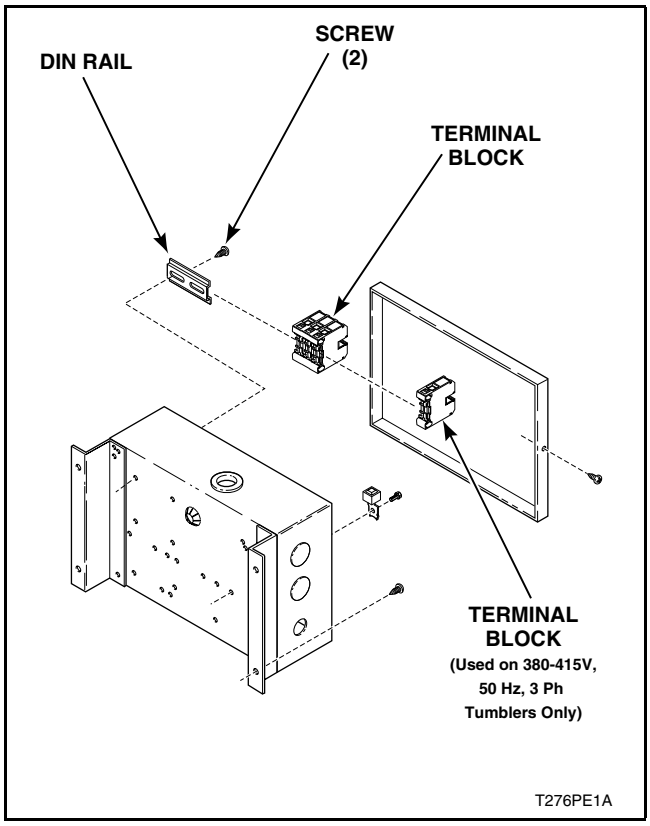


Figure 26

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.**

W002

68. HEATER ELEMENT (Electric Models)

NOTE: Remove heater element from the rear of the tumbler.

a. Remove two screws and lift hood assembly off heater housing.
b. Remove nuts, disconnect wires and buss bars from element terminals. Refer to *Figure 27*.

NOTE: Refer to wiring diagram when rewiring element terminals.

c. Remove screw attaching element to rear of heater housing. Refer to *Figure 27*.
d. Slide element toward front of tumbler and carefully lift element up and out of heater housing. Refer to *Figure 27*.

NOTE: Each tumbler is equipped with three elements. Remove each element individually.

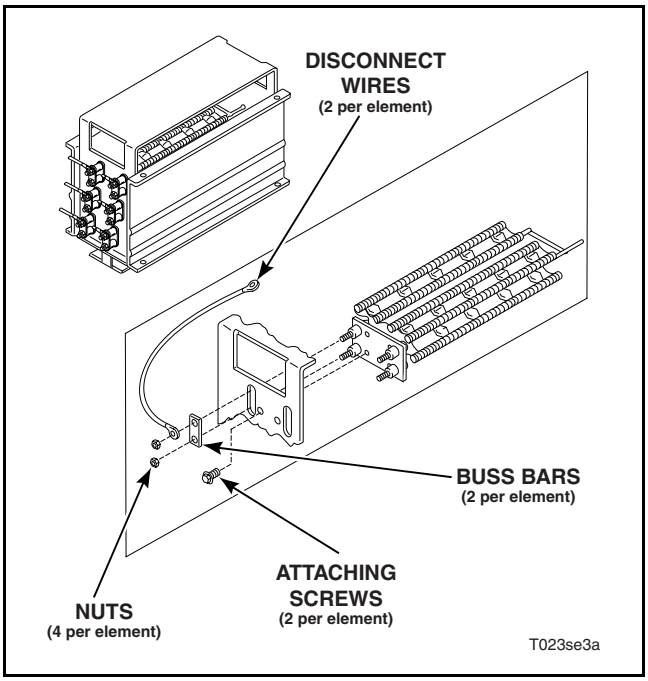


Figure 27

69. BURNER HIGH LIMIT THERMOSTAT (Gas Models)

a. Remove control panel.
b. Remove screw holding cover plate to wire-way (older models); or, remove screw holding cover to junction box or airflow switch box (older models). Remove cover. Refer to *Figure 28*.
c. Disconnect burner high limit thermostat wires in wire-way or in junction box.
d. Remove conduit nut from BX on inside of wire-way or junction box. Refer to *Figure 28*.
e. Remove two screws holding thermostat and bracket to rear side of burner. Refer to *Figure 28*.

NOTE: This will allow the conduit to follow through between burner and cabinet when thermostat and bracket assembly are slid toward front of tumbler.

f. Carefully slide assembly, with conduits, toward front of tumbler far enough to permit removal of complete assembly from burner.
g. Remove two screws holding cover to mounting bracket. Refer to *Figure 29*.
h. Disconnect wires from thermostat.
i. Remove two screws holding thermostat to mounting bracket. Refer to *Figure 29*.

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.**

W002

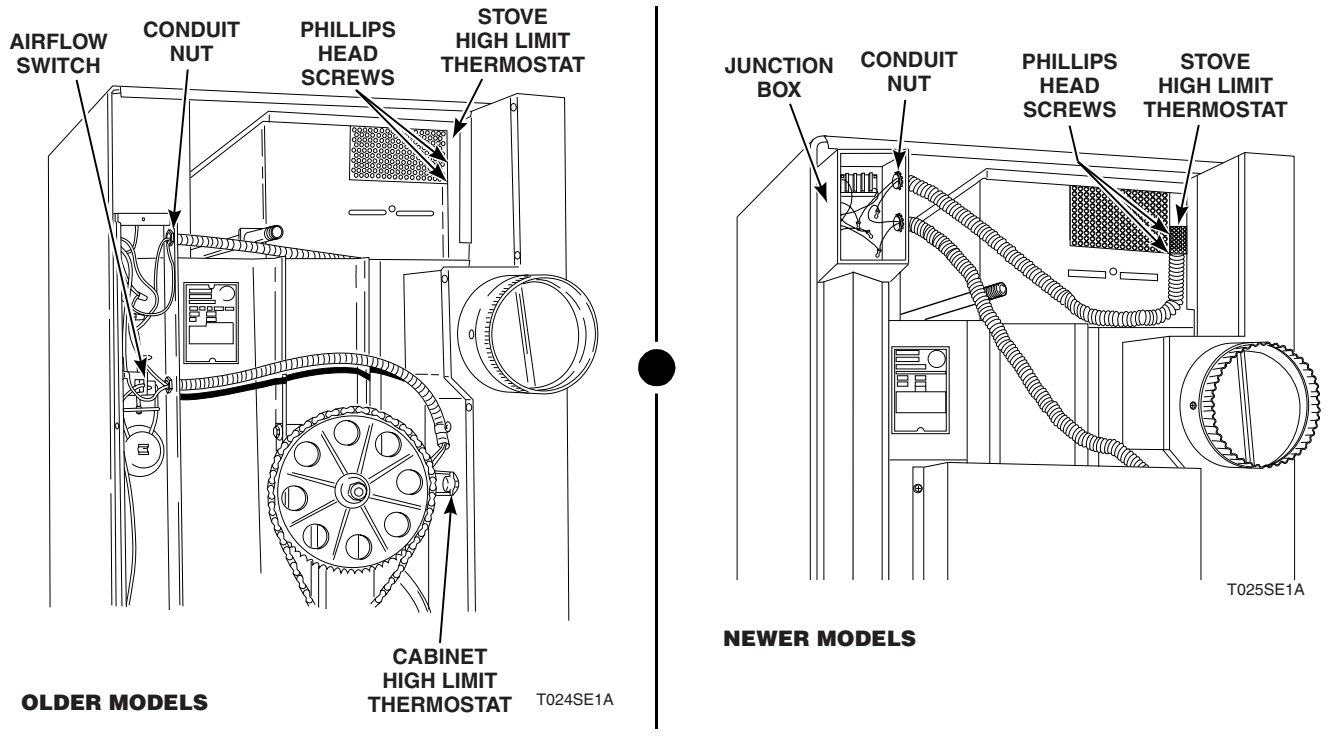


Figure 28

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.**

W002

70. CABINET HIGH LIMIT THERMOSTAT (Energy Saver Gas Models)

a. Remove drive guard.
b. Disconnect wires from thermostat. Refer to *Figure 29*.
c. Remove two screws holding thermostat to cabinet.

(Standard Models)

a. Remove lint panel.
b. Remove cover.
c. Disconnect wires from thermostat. Refer to *Figure 29*.
d. Remove two screws holding thermostat to cabinet.

NOTE: Refer to wiring diagram when reconnecting thermostat wires.

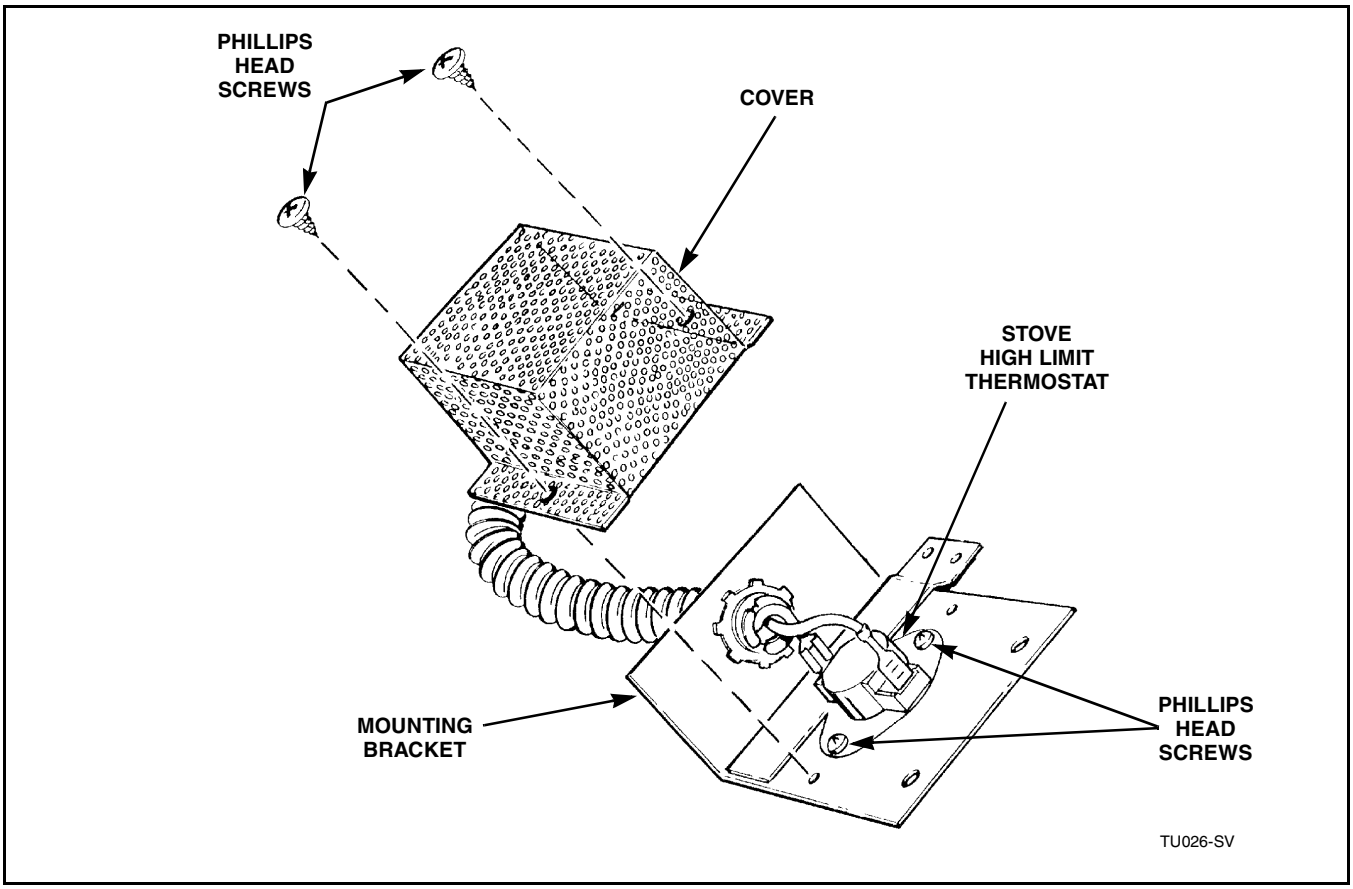


Figure 29

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.**

W002

71. HIGH LIMIT THERMOSTAT (Electric Models)

Refer to *Figure 30*.

a. Unlock and open access door.
b. Remove cover.
c. Disconnect wires from thermostat.
d. Remove two screws holding thermostat to front of heater housing and remove thermostat.

NOTE: Refer to wiring diagram when rewiring thermostat.

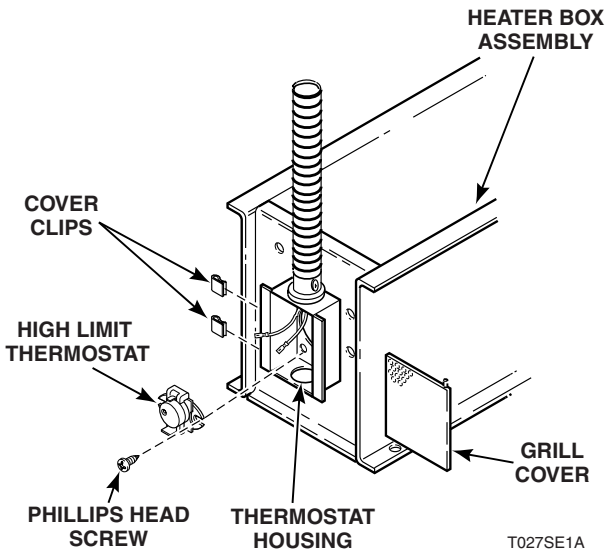


Figure 30

WARNING

Allow steam coils and valve to cool down before attempting any service procedures.

W249

72. STEAM COILS (Steam Models)

a. Shut off inlet and outlet valves and disconnect flex hoses from steam coils.
b. Remove screws holding cover to top of steam heating unit and remove cover.
c. Remove screws holding steam coils to coil frame.
d. Remove steam coils by lifting straight up and out of tumbler.

IMPORTANT: When removing or replacing steam coils, be careful not to damage fins on steam coils.

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.**

W002

73. LOADING DOOR ASSEMBLY

Refer to *Figure 31*.

a. Open loading door.

b. While supporting door, remove upper hinge shoulder bolt holding door to hinge bracket.

c. Remove door from hinge bracket.

NOTE: Nylon washer must be in place on lower pin when reinstalling loading door.

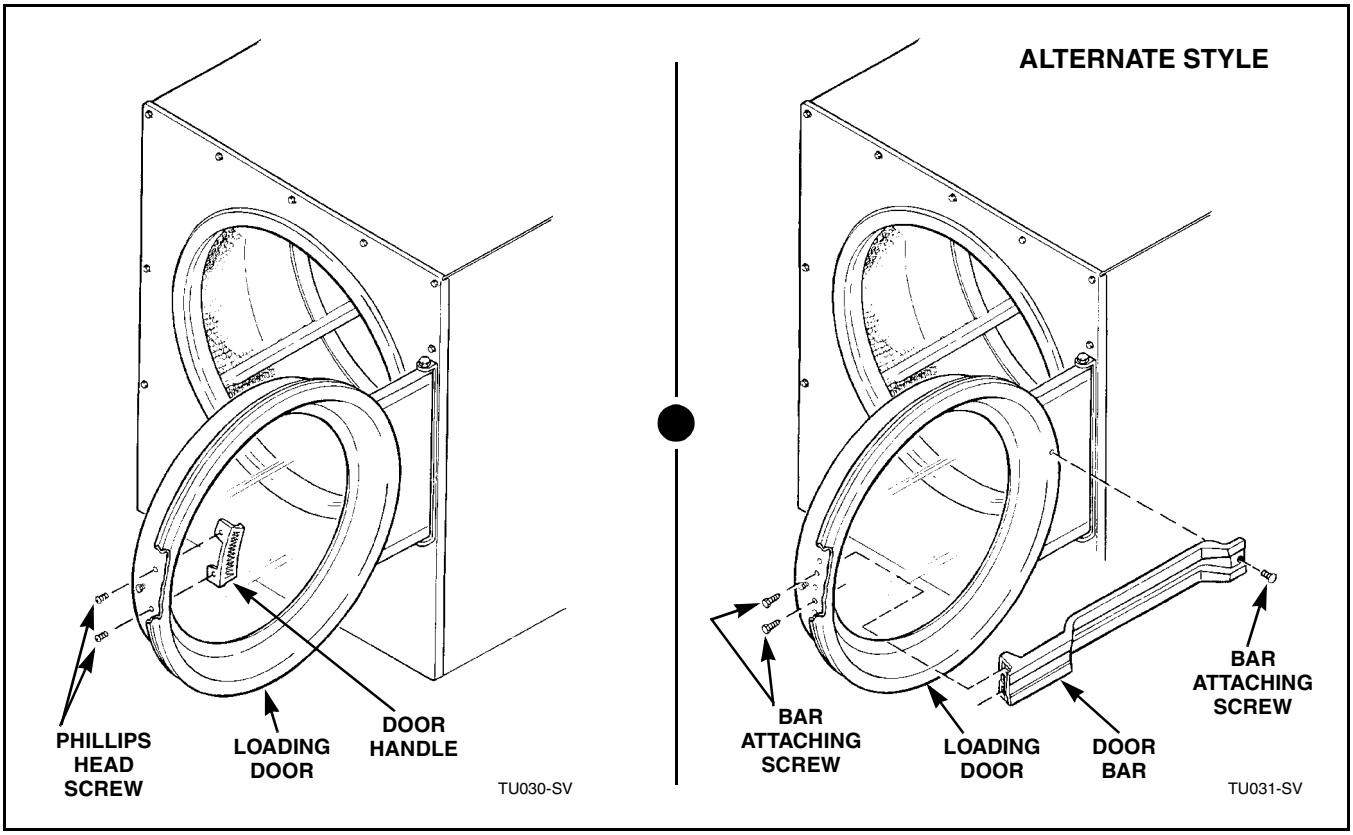


Figure 31

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.**

W002

74. DOOR HINGE

a. Open loading door.
b. While supporting door, remove upper hinge shoulder bolt holding door to hinge bracket.
c. Remove door from hinge bracket.

NOTE: Nylon washer must be in place on lower pin when reinstalling loading door.

d. Remove nuts and screws holding hinge to door frame. Refer to *Figure 33*.

75. DOOR HANDLE

a. Open loading door.
b. Remove screws holding door handle to door frame. Refer to *Figure 31*.

76. FRONT PANEL

a. Remove control panel.
b. Unlock, open and remove lint panel. Set aside to prevent damage.
c. Open loading door, support door and remove upper hinge bolt holding door to hinge bracket. Refer to *Figure 32*.

NOTE: Nylon washer must be in place on lower hinge pin when reinstalling door.

d. Remove door from bracket.
e. Support front panel and remove screws (and three speed nuts — newer models only) holding front panel to tumbler cabinet. Refer to *Figure 34*.
f. Remove front panel.

NOTE: When removing front panel, lower panel slightly to make sure door switch rod clears hole in cabinet.

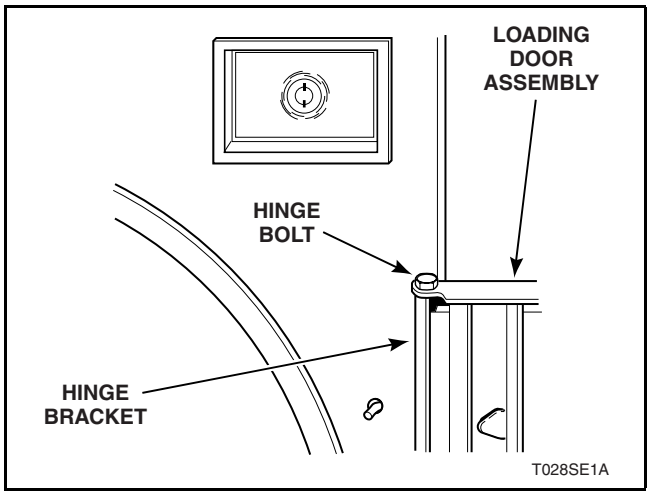


Figure 32

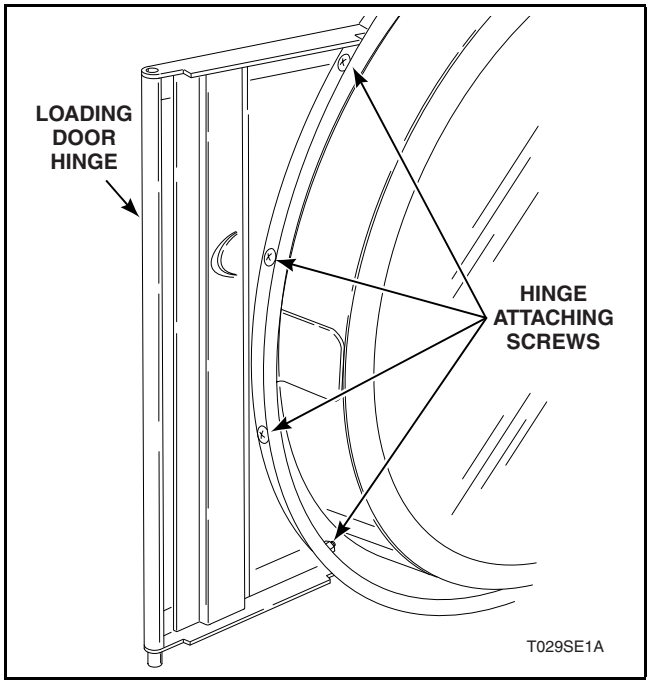


Figure 33

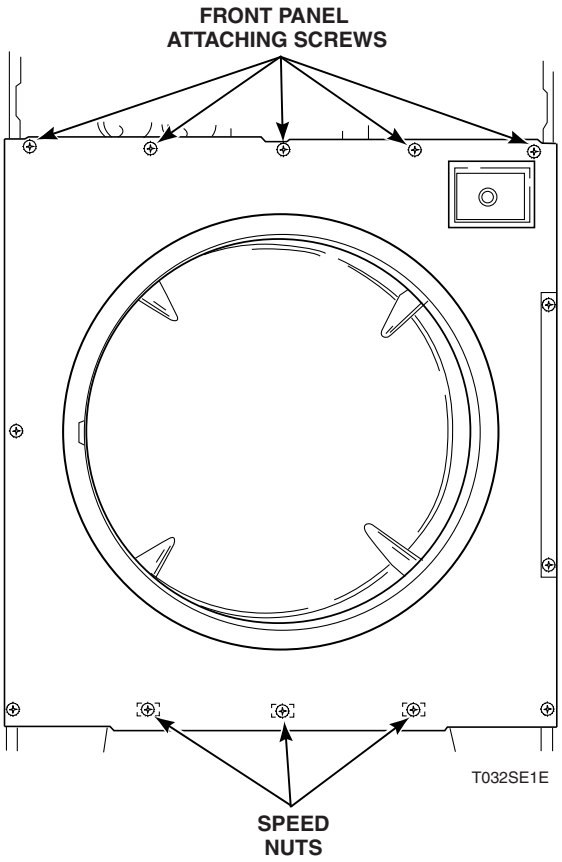


Figure 34

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.**

W002

77. DOOR SWITCH

Refer to *Figure 35*.

a. Remove control panel.

b. Disconnect wires from door switch.

c. Remove two screws holding door switch to bracket (older models).

NOTE: Refer to wiring diagram when rewiring door switch.

WARNING

Loading door switch MUST be reinstalled after service is completed.

W272

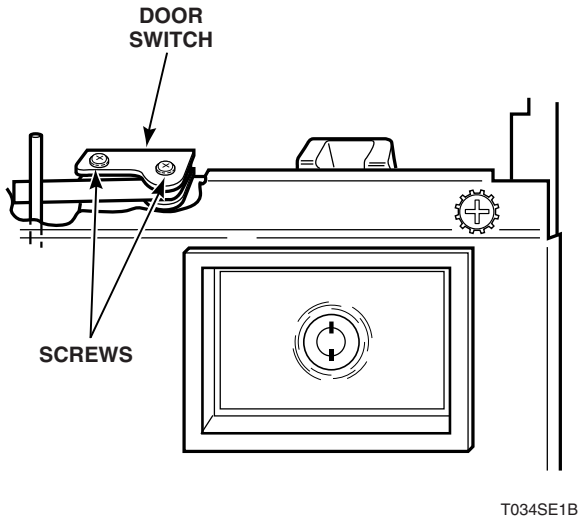


Figure 35

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.**

W002

78. DOOR SWITCH ROD

Refer to *Figure 36*.

a. Remove control panel.
b. Unlock, open and remove lint panel. Set aside to prevent damage.
c. Open loading door, support door and remove upper hinge bolt holding door to hinge bracket. Refer to *Figure 32*.

NOTE: Nylon washer must be in place on lower hinge pin when reinstalling door.

d. Remove door from bracket.
e. Support front panel and remove screws (and three speed nuts — newer models only) holding front panel to tumbler cabinet. Refer to *Figure 34*.
f. Remove front panel.
g. Remove nut, washers and spring clip holding switch rod to back side of front panel.

NOTE: When removing front panel, lower panel slightly to make sure door switch rod clears hole in cabinet.

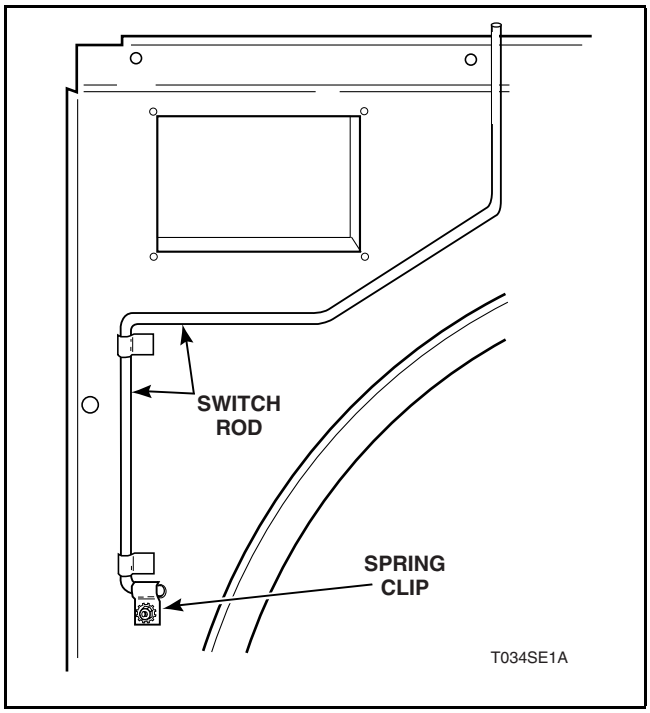


Figure 36

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.**

W002

79. AIRFLOW SWITCH

a. Remove wire-way cover plate (older models), or airflow switch box cover (newer models, *Figure 37*).

b. Disconnect wires from switch. Refer to *Figure 38*.

NOTE: Refer to wiring diagram when rewiring airflow switch.

c. Remove screw(s) holding switch and mounting bracket to rear of tumbler (older models); or to switch box (newer models), Refer to *Figure 38*.

d. Remove two screws holding switch to mounting bracket.

NOTE: After reinstalling airflow switch and mounting bracket into switch box, adjust switch. Refer to *Adjustments* section.

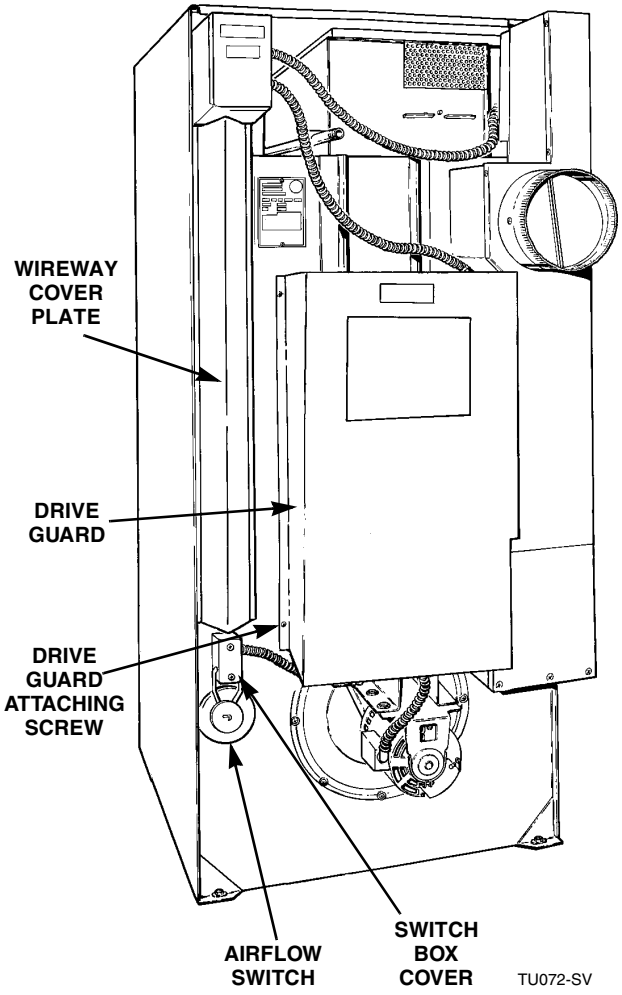


Figure 37

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.**

W002

80. WIRE COVER OR WIRE CHANNEL COVER PLATE

Refer to *Figure 37*.

a. Remove single screw holding wire channel cover plate to wire channel (older models); or remove six screws holding wire cover to rear of tumbler (new models).

b. Remove wire cover or wire channel cover plate.

IMPORTANT: When reinstalling cover, make sure the wires and thermostat sensing tube (if equipped) are not pinched between rear of cabinet and wire cover or between cover plate and channel.

81. DRIVE GUARD

a. Support drive guard and remove screws holding guard to rear of tumbler. Refer to *Figure 37*.

b. Reinstall drive guard.

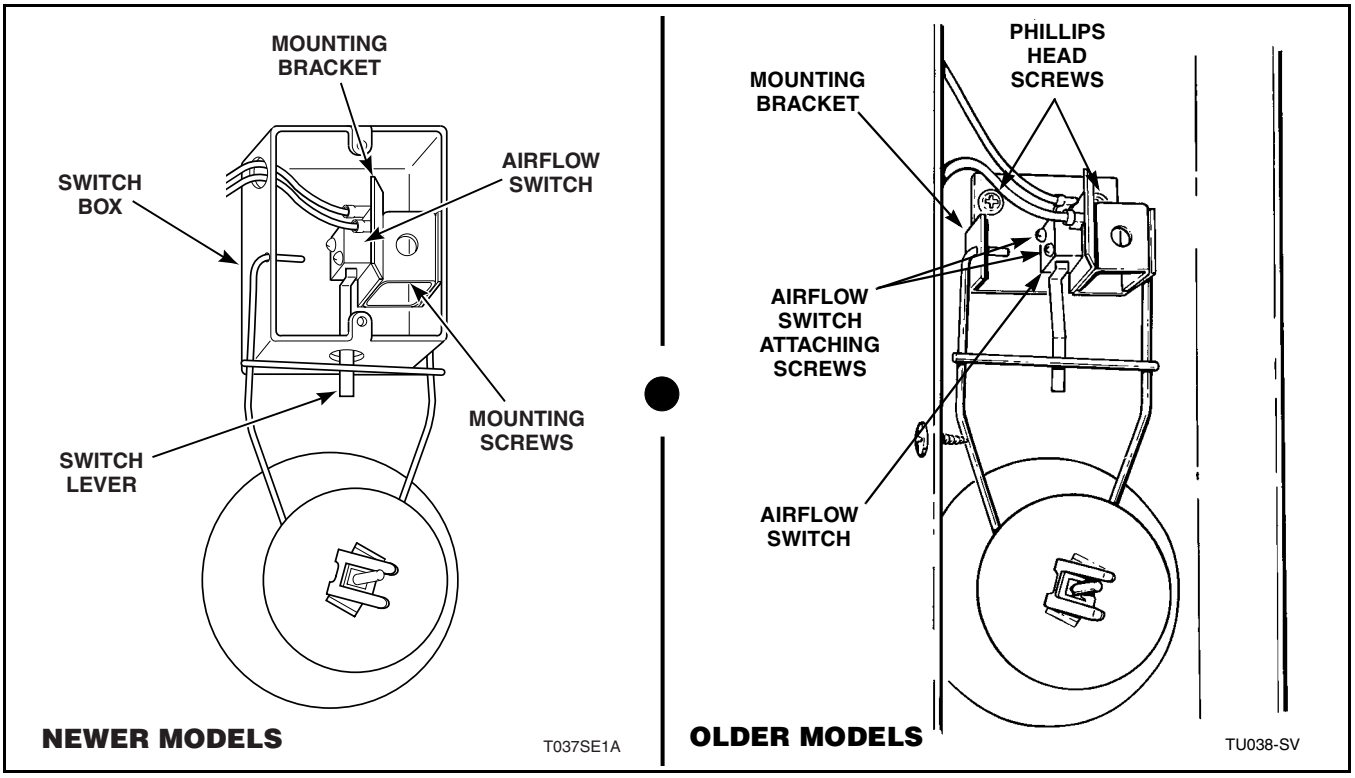


Figure 38

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.**

W002

82. DRIVE BELT

a. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard.
b. Remove four clips (older models) or two screws (newer models) holding belt guard assembly to motor bracket, Refer to *Figure 39*.
c. Remove belt guard.
d. Remove belt from sheave and motor pulley.
e. Loosen upper bolt and nut holding guide rails to trunnion housing. Refer to *Figure 41*.
f. Remove lower bolt and nut from guide rail. Refer to *Figure 41*. Hinge guide rail out and slip belt out from under guide rails.
g. Slip new belt under guide rail and onto sheave and motor pulley. Refer to *Figure 41*.

NOTE: After reinstalling belt and chain, adjust belt, then adjust chain. Refer to *Adjustments* section.

NOTE: After reinstalling belt on sheave and motor pulley, adjust belts. Refer to *Adjustments* section.

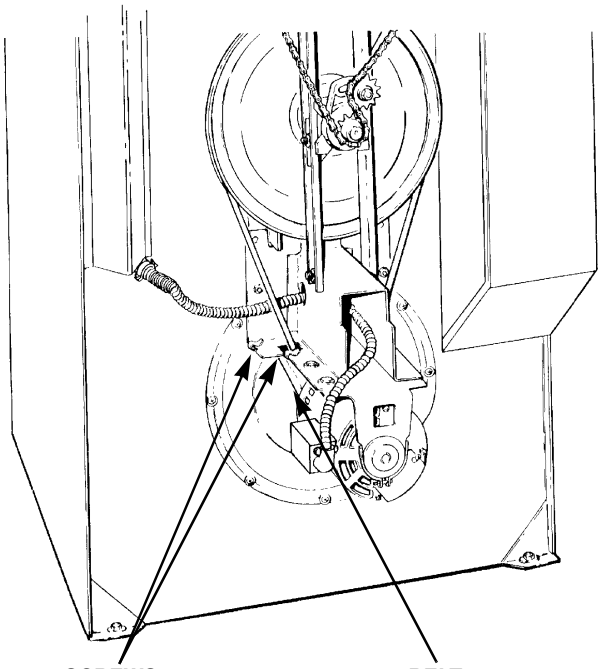


Figure 39

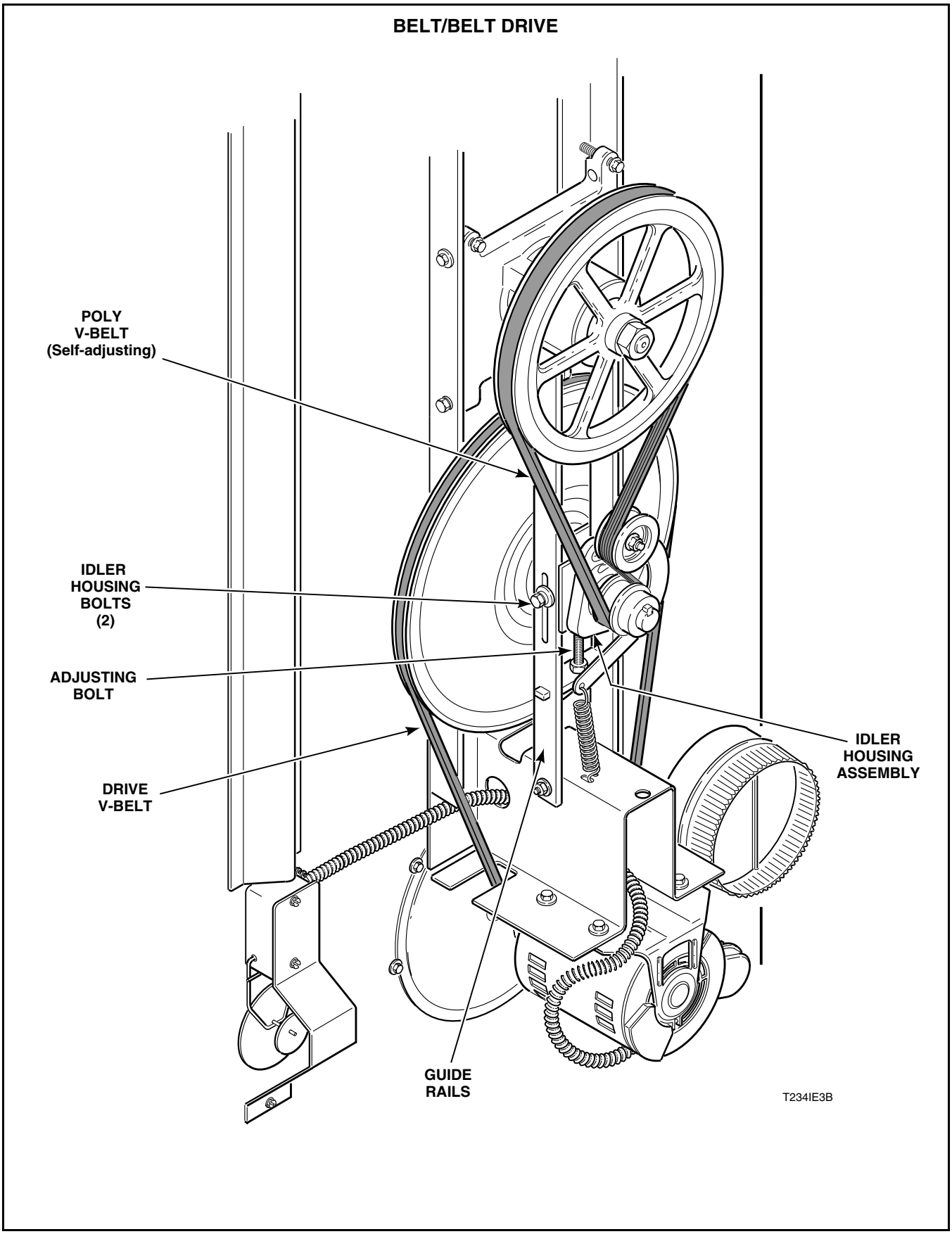


Figure 40

BELT/CHAIN MODELS

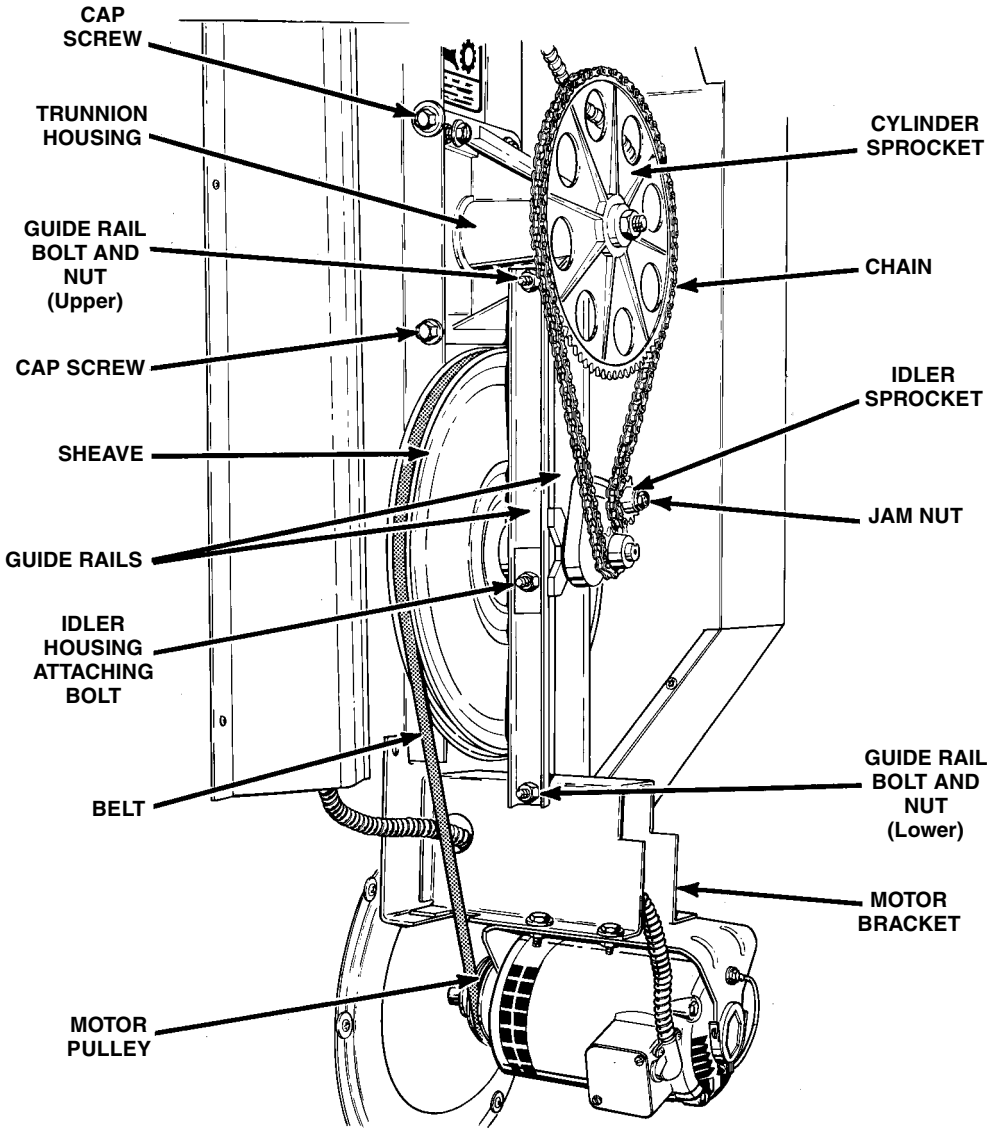


Figure 41

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.**

W002

83. DRIVE CHAIN

a. Disconnect electrical service to tumbler.
b. Support chain guard and remove screws holding guard to rear of tumbler. Remove guard.
c. Loosen jam nut on idler sprocket locking bolt and move sprocket to the right to relieve chain tension. Refer to *Figure 41*.
d. Run chain off sprocket drive and lift chain off cylinder sprocket.
e. Reinstall chain and drive guard.

84. IDLER SPROCKET

a. Disconnect electrical service to tumbler.
b. Support chain guard and remove screws holding guard to rear of tumbler. Remove guard.
c. Remove jam nut and sprocket from bolt.
d. Reinstall chain and chain guard.

NOTE: After installing chain and sprocket, adjust chain. Refer to *Adjustments* section.

85. SHEAVE, IDLER HOUSING AND IDLER SHAFT

a. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard.
b. Run belt off sheave and motor pulley.
c. Loosen jam nut on idler sprocket and move idler sprocket to the right. Refer to *Figure 41*.
d. Run chain off drive sprocket.
e. While supporting idler housing, remove the upper and lower bolts, nuts, and lockwashers holding guide rails to trunnion housing and motor bracket. Refer to *Figure 41*.
f. Remove the sheave, guide rails and idler housing as an assembly from the rear of the tumbler.
g. Remove snap ring from idler shaft. Refer to *Figure 42*.
h. Loosen two setscrews holding sheave to idler shaft and pull sheave off idler shaft.

IMPORTANT: Key must be properly positioned on idler shaft when installing sheave.

NOTE: After installing sheave, adjust belt and chain.

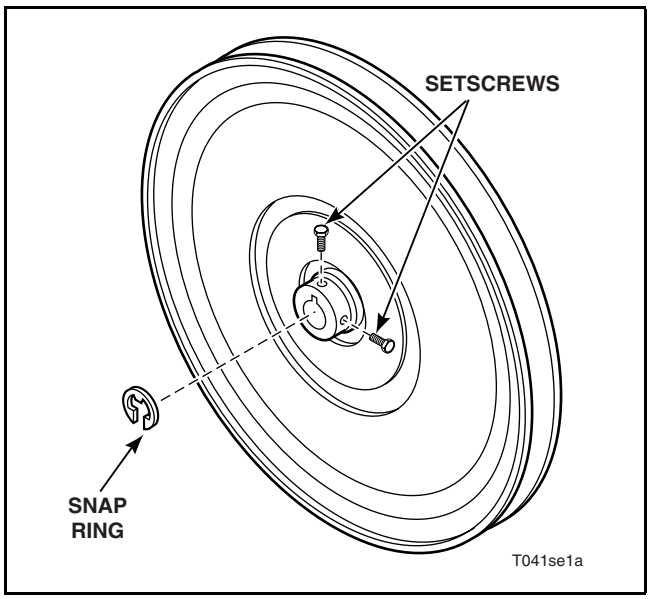


Figure 42

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.**

W002

86. IDLER HOUSING ASSEMBLY

a. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard.
b. Run belt off sheave and motor pulley.
c. Loosen jam nut on idler sprocket and move idler sprocket to the right.
d. Run chain off drive sprocket.
e. While supporting idler housing, remove the upper and lower bolts, nuts and lockwashers holding guide rails to trunnion housing and motor bracket.
f. Remove the sheave, guide rails and idler housing as an assembly from the rear of the tumbler.
g. Remove snap ring from idler shaft.
h. Loosen two setscrews holding sheave to idler shaft and pull sheave off idler shaft.
i. Remove bolt holding idler housing to guide rails.
j. Support idler housing and carefully drive idler shaft from housing using a hammer and a hardwood dowel.
k. Support idler housing and drive bearings from housing using a hammer and a hardwood dowel.
l. Reinstall shaft and bearings.

IMPORTANT: When installing new bearings, apply a film of oil to the bearing cavity surfaces in the housing and to the outside diameter of the bearings.

IMPORTANT: If a press is not available to install bearings, carefully tap bearings into housing.

m. Reinstall drive guard.

87. IDLER SHAFT

Refer to *Figure 44*.

a. Remove idler housing assembly.
b. Remove sheave and drive sprocket.
c. Remove bolt holding idler housing to guide rails.
d. Support idler housing assembly and carefully drive idler shaft from housing using a hammer and a hardwood dowel.
e. Support idler housing assembly and remove bearings from housing using a hammer and a hardwood dowel.
f. Reinstall shaft and bearings.

IMPORTANT: When installing new bearings, apply a film of oil to the bearing cavity surfaces of the housing and the outside diameter of the bearings.

IMPORTANT: If a press is not available to install bearings, carefully tap bearings into housing.

g. Reinstall chain guard.

NOTE: After installing sheave, adjust belt, then adjust chain.

88. CYLINDER SPROCKET

a. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard. Refer to *Figure 41*.
b. Loosen jam nut on idler sprocket and move sprocket to the right to relieve chain tension.
c. Run chain off idler and drive sprocket.
d. Lift chain off cylinder sprocket.

NOTE: After installing chain on drive and idler sprockets, adjust chain.

e. Remove pal nut, jam nut, and sprocket from cylinder shaft.
f. Reinstall drive guard.

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.**

W002

89. CYLINDER ASSEMBLY

a. Remove control panel.
b. Open loading door.
c. While supporting door, remove upper hinge bolt holding door to hinge bracket.
d. Remove door from hinge bracket.

NOTE: Nylon washer must be in place on lower pin when reinstalling loading door

e. Remove front panel assembly.
f. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard.
g. Loosen jam nut on idler sprocket locking bolt and move sprocket to the right to relieve chain tension. (Chain models)
h. Run chain off idler sprocket and lift chain off cylinder sprocket.
i. Remove woodruff key and cylinder sprocket.
j. Pull cylinder out through front of cabinet.

NOTE: When removing cylinder out through front of cabinet, spread cabinet slightly so cylinder will clear cabinet sides.

NOTE: After reinstalling chain on cylinder drive and idler sprockets, adjust chain.

NOTE: After installing cylinder and shaft, adjust cylinder. Refer to *Adjustments* section.

k. Reinstall drive guard on tumbler.

If the cylinder cannot be removed because of the shaft binding in bearings, use a two-leg gear puller to pull trunnion housing off shaft. Remove four capscrews attaching trunnion housing to cabinet before using puller and disconnect guide railes from trunnion housing.

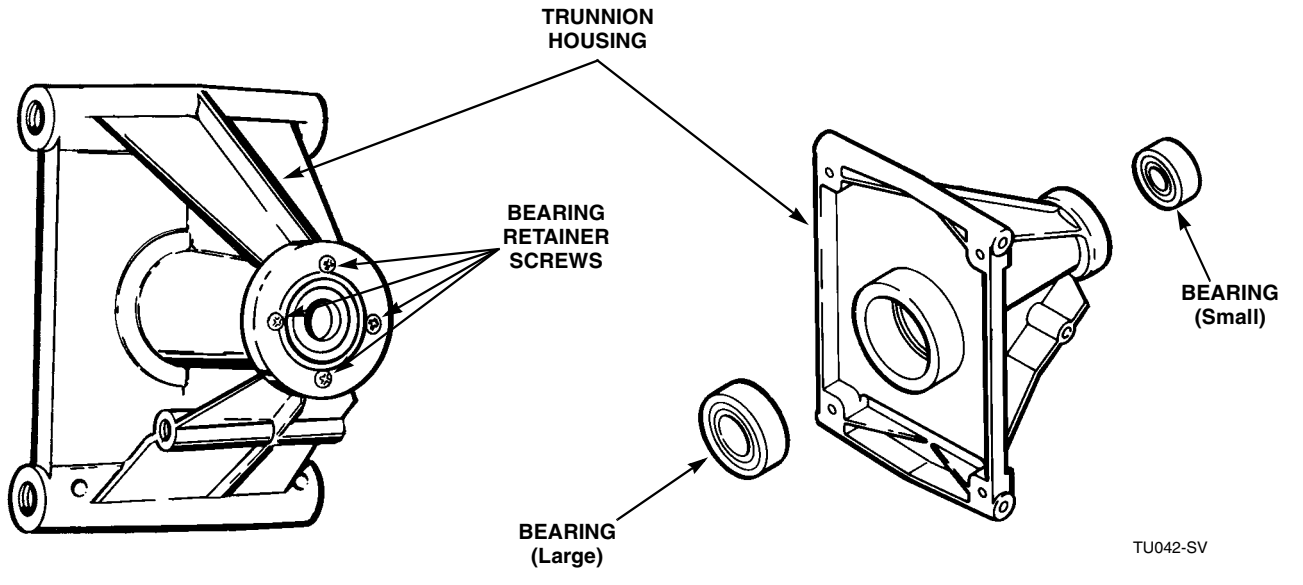


Figure 43

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.**

W002

90. TRUNNION HOUSING ASSEMBLY

a. Remove cylinder assembly.
b. Remove upper guide rail bolt and nut.
c. Remove four cap screws holding trunnion housing assembly to rear of cabinet.
d. Remove four bearing retainer screws holding the small bearing in housing.
e. Use a hammer and a hardwood dowel to remove bearings.

IMPORTANT: When installing new bearings, apply a film of oil to the bearing cavity surfaces in the housing and to the outside diameter of the bearings.

IMPORTANT: If a press is not available to install bearings, carefully tap bearings into housing.

f. Reinstall drive guard on tumbler.

91. TRUNNION SHAFT ASSEMBLY

a. Remove cylinder assembly.
b. Remove the four washers and nuts holding trunnion shaft assembly to rear of cylinder.

IMPORTANT: When installing trunnion assembly on cylinder, the cylinder and shaft must be leveled. Refer to *Figure 44* for an example of how to check for proper alignment of the shaft and cylinder. Measure the distance between the center of the trunnion shaft and the outer rim of the cylinder at the points shown. If any measurement is lower than the highest point, place shim(s) (M401402) between trunnion channel and cylinder back until the measurement is equal to the highest point.

NOTE: After installing cylinder and shaft, adjust cylinder.

c. Reinstall drive guard on tumbler.

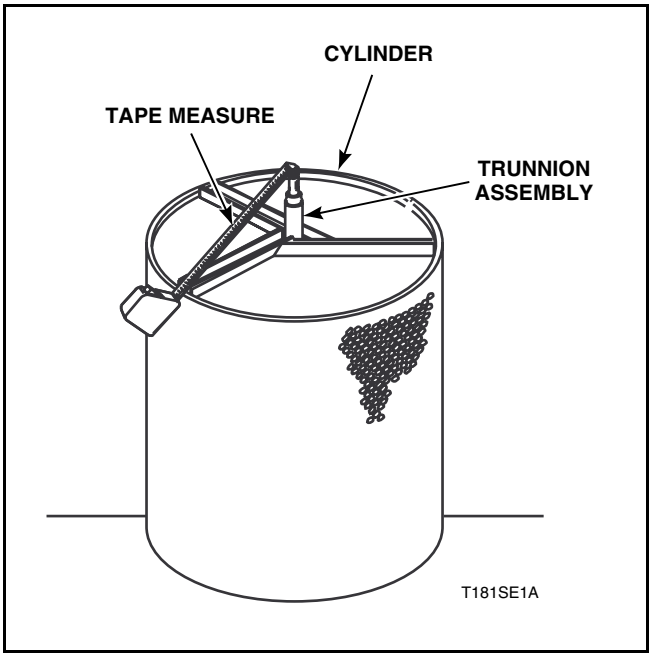


Figure 44

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.**

W002

92. MOTOR AND FAN ASSEMBLY

a. Support drive guard and remove screws holding guard to rear of tumbler. Remove guard.
b. Loosen nut on upper guide rail bolt.
c. Remove four clips or two screws holding belt guard to motor bracket and remove belt guard.
d. Remove nut and washer from lower guide rail bolt.
e. Run belt off of sheave.

NOTE: After removing belt, replace the lower guide rail bolt. Refer to *Figure 46*.

f. Slip drive belt off motor pulley.
g. Remove seven fan housing attaching screws. Refer to *Figure 45*.
h. Remove the two capscrews and two sets of nuts and washers holding motor bracket to rear of tumbler cabinet. Refer to *Figure 45*.
i. Remove cover from motor junction box and disconnect wires from motor.

NOTE: Refer to wiring diagram when rewiring motor.

j. Using the guide rails as supports, swing motor and fan assembly out and away from rear of tumbler. Refer to *Figure 46*.
k. While supporting motor and fan assembly, remove the lower guide rail bolt.
l. Remove four sets of nuts, washers and bolts holding mounting bracket to motor. Refer to *Figure 45*.
m. Remove locknut and jam nut holding fan on motor shaft. Refer to *Figure 47*. Pull fan off motor shaft.

NOTE: Fan is keyed to motor shaft and may have to be removed using a puller.

n. Remove spacer washer from motor shaft. Refer to *Figure 47*.
o. Loosen two setscrews holding motor pulley to motor shaft. Refer to *Figure 47*. Remove motor pulley.

NOTE: A puller may be required to remove pulley from motor shaft.

NOTE: After installing motor and fan assembly, adjust belt, then adjust chain.

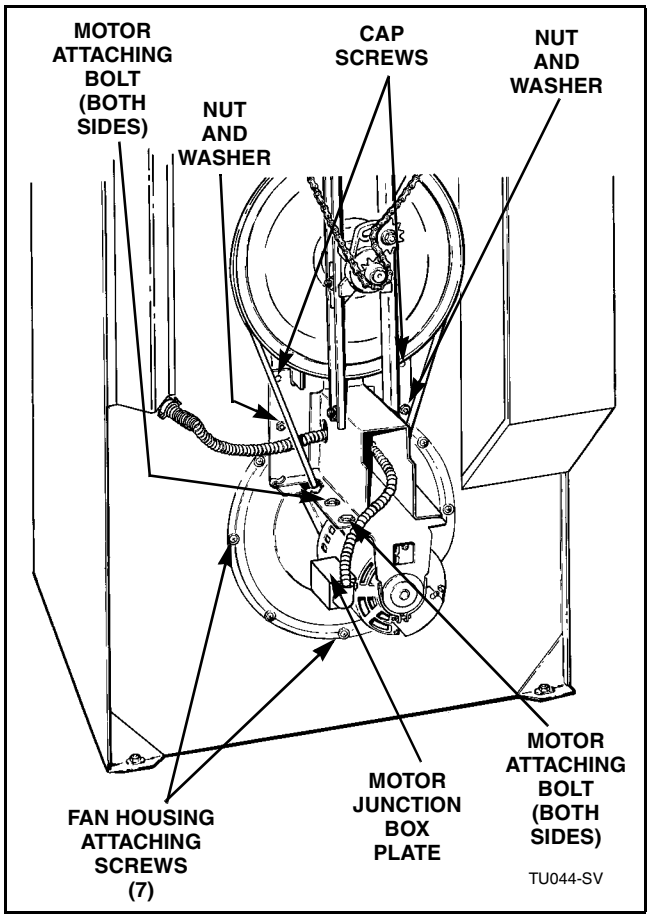


Figure 45

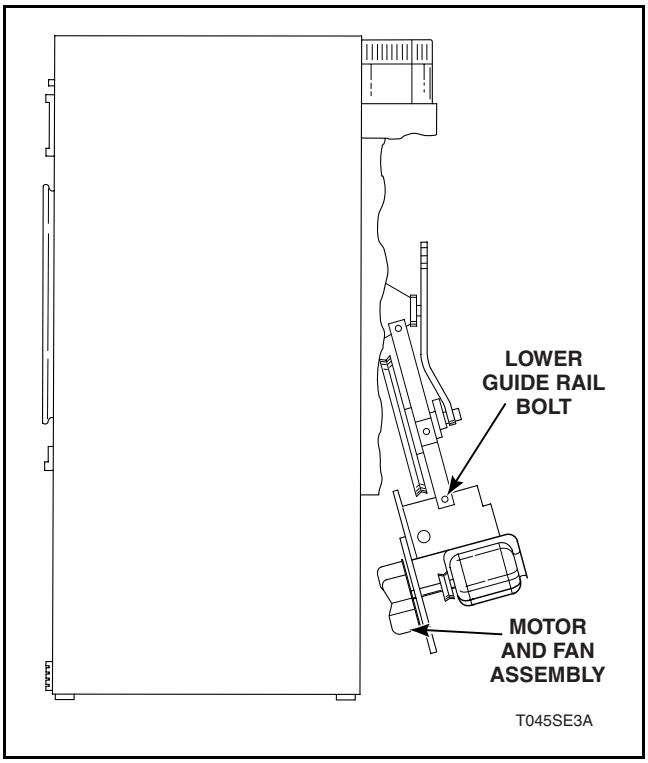


Figure 46

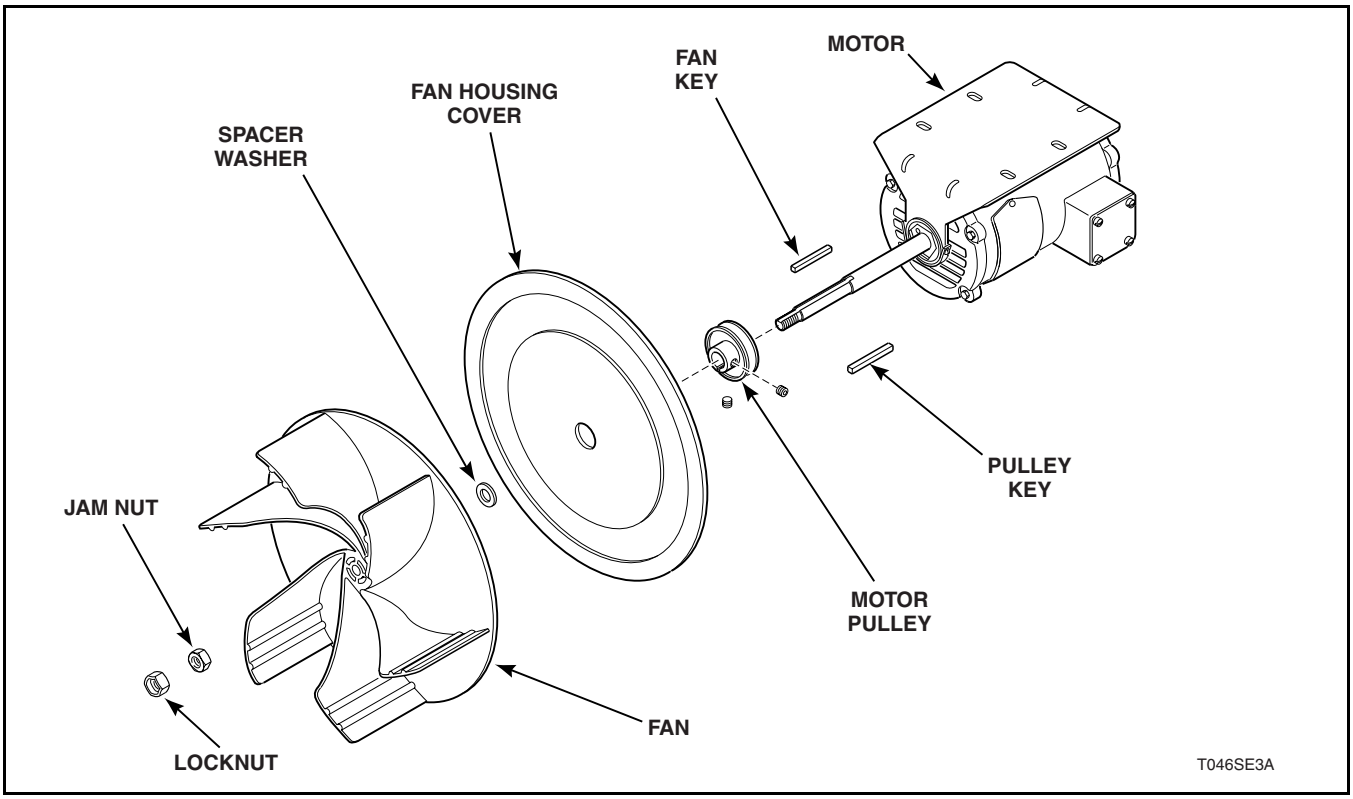


Figure 47

Notes

Section 6
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.**

W002

93. LEVELING LEGS

NOTE: It is recommended that the front of the tumbler be kept slightly higher than the rear (approximately 1/8 inch, 3.0 mm). This will prevent clothes, while tumbling, from wearing on the door glass gasket.

a. Check front to rear level by rotating clothes cylinder until one of the cylinder ribs is at the bottom. Place a level on the rib.
b. Check side to side level by placing a level on the front and rear of top panel.
c. Front leg adjustment fittings are accessed by removing lint panel door. Rear adjustment fittings are located on rear corner braces. Adjust legs as needed.

NOTE: Keep tumbler as close to the floor as possible. All four legs must rest firmly on the floor so weight of tumbler is evenly distributed. Tumbler must not rock.

d. Replace lint panel.

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.**

W002

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.

W281

94. MAIN GAS BURNER AIR SHUTTERS (All Gas Models)

Refer to *Figure 48*.

Air 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 primary air supplied to the burner while closing the shutter decreases the air supply. Adjust air shutter as follows:

a. Unlock and open the access door.
b. Start tumbler and check the flame pattern. Correct air and gas mixture is indicated if flame pattern is primarily blue with small yellow tips and bends to the right of the heater section. Refer to *Figure 48*. Too little air is indicated if the flame is yellow, lazy and smoky.
c. To adjust the air inlet shutter, loosen air inlet adjusting screw. Refer to *Figure 48*. Control panel may have to be removed temporarily to loosen screw.
d. Turn shutter to right or left as necessary to obtain desired flame intensity.
e. After shutter is adjusted, tighten screw securely.
f. If 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. Refer to *Figure 48*

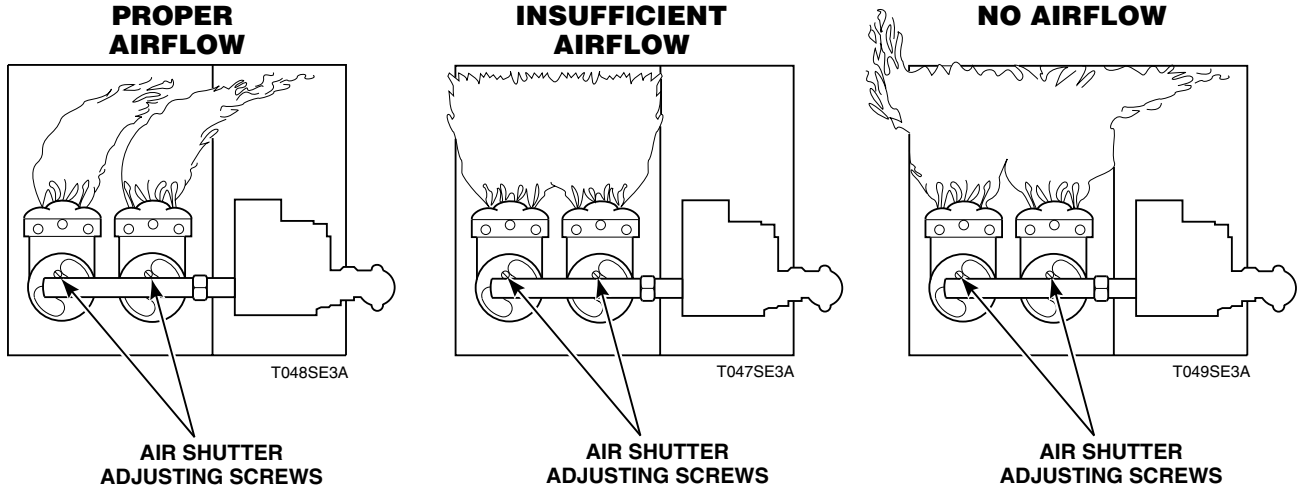


Figure 48

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.**

W002

95. AIRFLOW SWITCH
Refer to *Figure 50*.

WARNING

Control panel, access panel, and lint panel must be in place before attempting to adjust airflow switch.

W276

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

WARNING

Airflow switch operation may be affected by a clogged lint screen, lack of make-up air, or by obstructions in the vertical recirculation stack, or in the customer installed main or collector ducts. These conditions MUST be checked and necessary corrections made before adjusting airflow switch. Always check airflow at installation. Under no circumstances is the airflow switch to be blocked closed or bypassed.

W277

NOTE: Airflow switch adjustment should be made with all tumblers operating.

Airflow switch is set at the factory for proper operation. However, at installation, and following repairs, airflow must be checked. Airflow switch operation is controlled by the counterweight position on the shaft. Moving the counterweight changes airflow switch sensitivity. The counterweight should be adjusted so the disc will move away from the cabinet when lint panel is opened 1-1/2 inches (38 mm). Adjust airflow switch as follows:

a. Load tumbler with a cotton load.

NOTE: Airflow adjustment is much faster with one person opening lint panel in front and another adjusting the counterweight in the rear of tumbler.

b. Start tumbler. Open lint panel 1-1/2 inches (38 mm). 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.
c. If switch is not opening as described in step “b,” it should be adjusted so it is MORE sensitive. Depress spring clip and move counterweight a small amount toward disc. Retest by opening lint panel and continue moving counterweight toward disc until switch operates as described in step “b.”
d. If switch opens BEFORE lint panel is opened the proper distance as indicated in step “b,” it should be adjusted so it is LESS sensitive. Depress spring clip and move counterweight a small amount away from the disc. Retest by opening lint panel and continue moving counterweight away from disc until switch operates as described in step “b.” Refer to *Figure 49*.

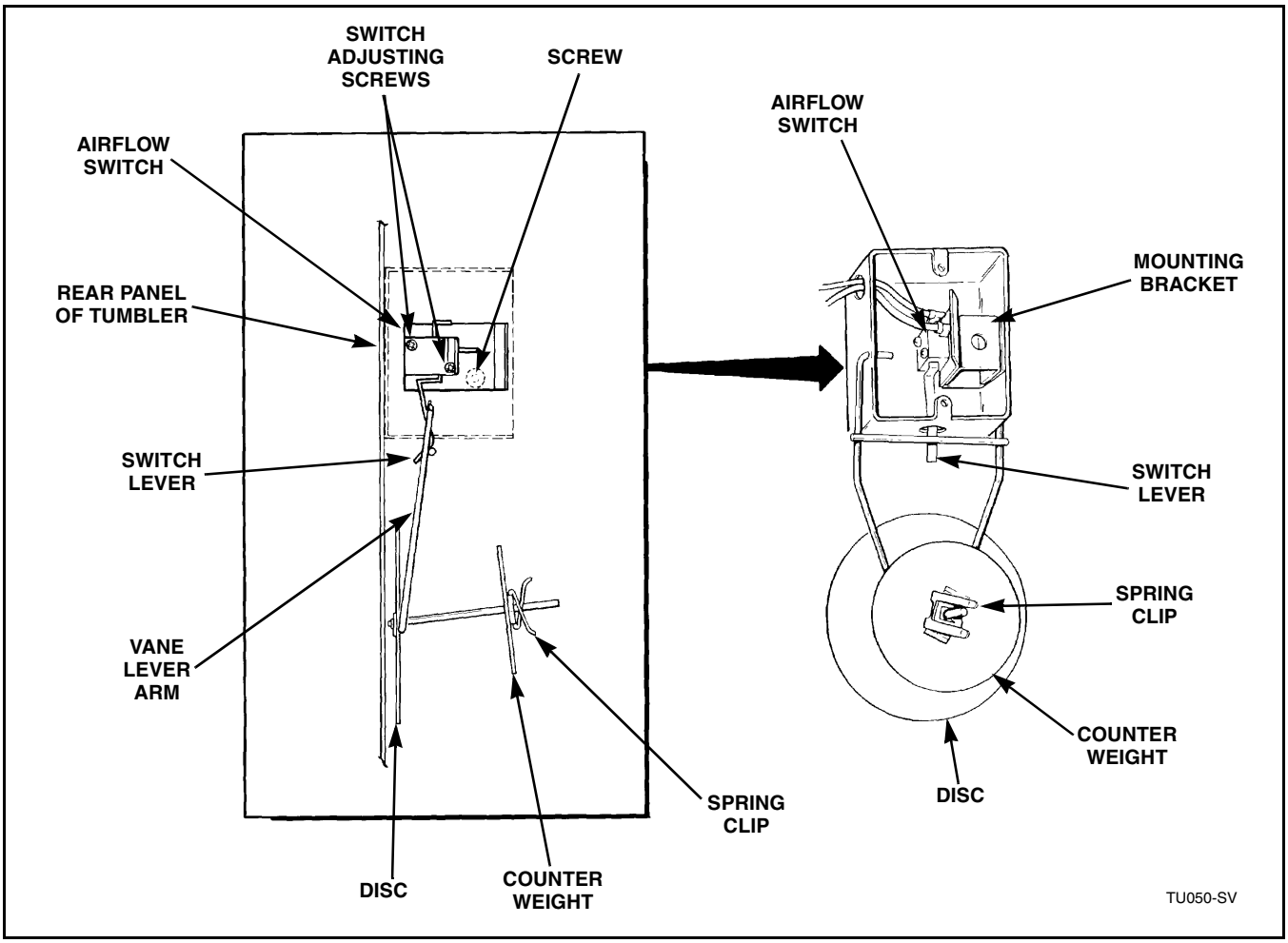


Figure 49

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.**

W002

96. DOOR SWITCH

Refer to *Figure 50*.

Door switch should be adjusted so cylinder stops when door is opened two inches (51 mm), plus or minus 1/4 inch (6 mm). The switch is a normally open switch and is closed when door is closed.

a. Close door and start tumbler, then slowly open loading door. Cylinder and heat system should shut off when door is open two inches (51 mm) plus or minus 1/4 inch (6 mm).

b. Slowly close loading door. When door is two inches (51 mm) from being fully closed, tab on the door should contact switch rod and depress it enough to close switch with an audible "click."

c. If tab does not depress the switch rod enough to operate switch, loosen switch adjusting screws and adjust switch postion. If repositioning switch doesn't attain proper operation bend tab **OUTWARD** and repeat steps "a" and "b."

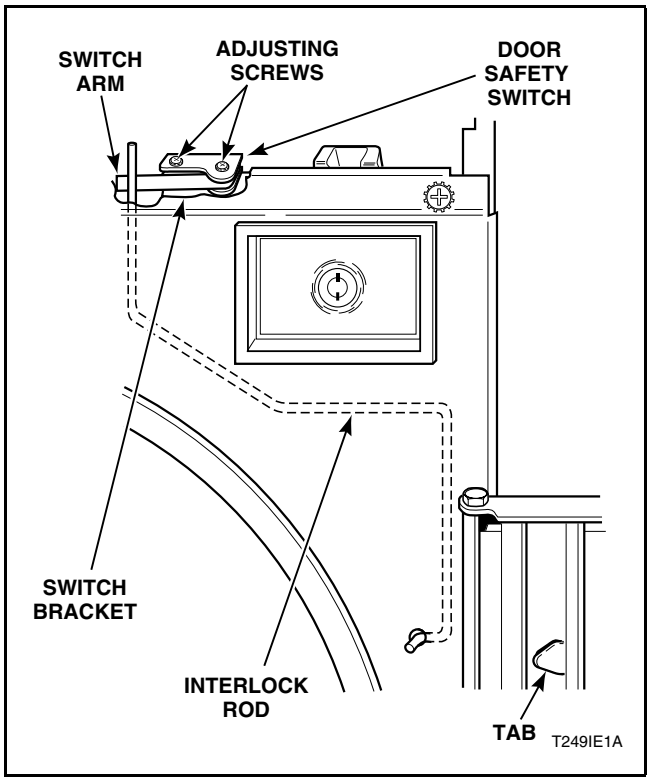


Figure 50

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.**

W002

97. CYLINDER DOOR STRIKE

Refer to *Figure 51*.

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

To adjust door strike, open door, loosen acorn nut and turn door strike screw in or out as required. Retighten acorn nut. Refer to *Figure 51*.

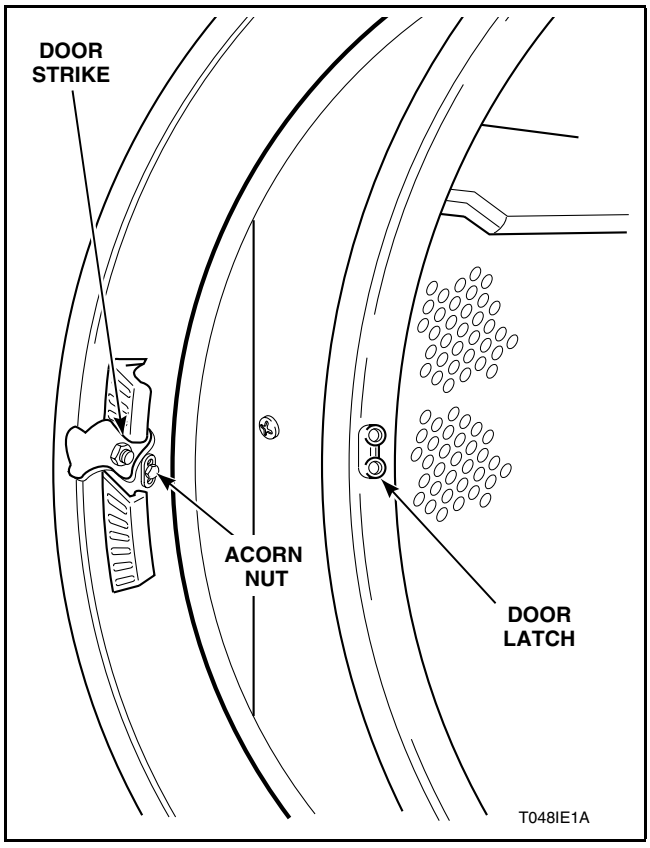


Figure 51

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.**

W002

98. DRIVE V-BELT TENSION

Belt/Chain Models

Refer to *Figure 53*.

To find proper tension, apply light thumb pressure midway between sheave and motor pulley and adjust until the belt can be depressed approximately 1/2 inch (13 mm).

CAUTION

Adjusting the drive belt tension WILL AFFECT drive chain tension. You MUST check and readjust the chain tension after adjusting belt tension.

W282

a. Remove guard from rear of tumbler.
b. Loosen belt adjusting bolt holding idler housing assembly to guide rails.
c. Lift idler housing assembly upward until proper belt tension is reached, then raise and retighten belt adjusting bolt.
d. Replace guard.

Belt/Belt Models

Refer to *Figure 52*.

a. Remove guard from rear of tumbler.
b. To adjust belt tension, loosen ideler housing bolts holding idler assembly to guide rails.
c. Position housing assembly by turning adjusting bolt until proper belt tension is reached, then retighten idler housing bolts.
d. Replace guard on rear of tumbler.

99. DRIVE CHAIN TENSION

Refer to *Figure 53*.

To find proper tension, apply light thumb pressure midway between cylinder sprocket and idler sprocket and adjust until chain can be depressed approximately 1/2 inch (13 mm).

IMPORTANT: After tumbler has been in operation over an extended period of time, a "HIGH POINT" will develop on the cylinder drive sprocket from use and wear. Turn sprocket manually with drive chain in place until this "high point" is at the top center. The "high point" can be found by noticing increased chain tension while slowly rotating the cylinder sprocket manually. Chain must be at the "high point" when making the adjustment. Refer to *Figure 53*.

a. Remove guard from rear of tumbler.
b. Adjust belt first.
c. To adjust chain tension, loosen jam nut holding idler sprocket to housing.
d. Move idler sprocket left or right until proper chain tension is reached, then retighten the jam nut.
e. Check chain tension.
f. Replace guard.

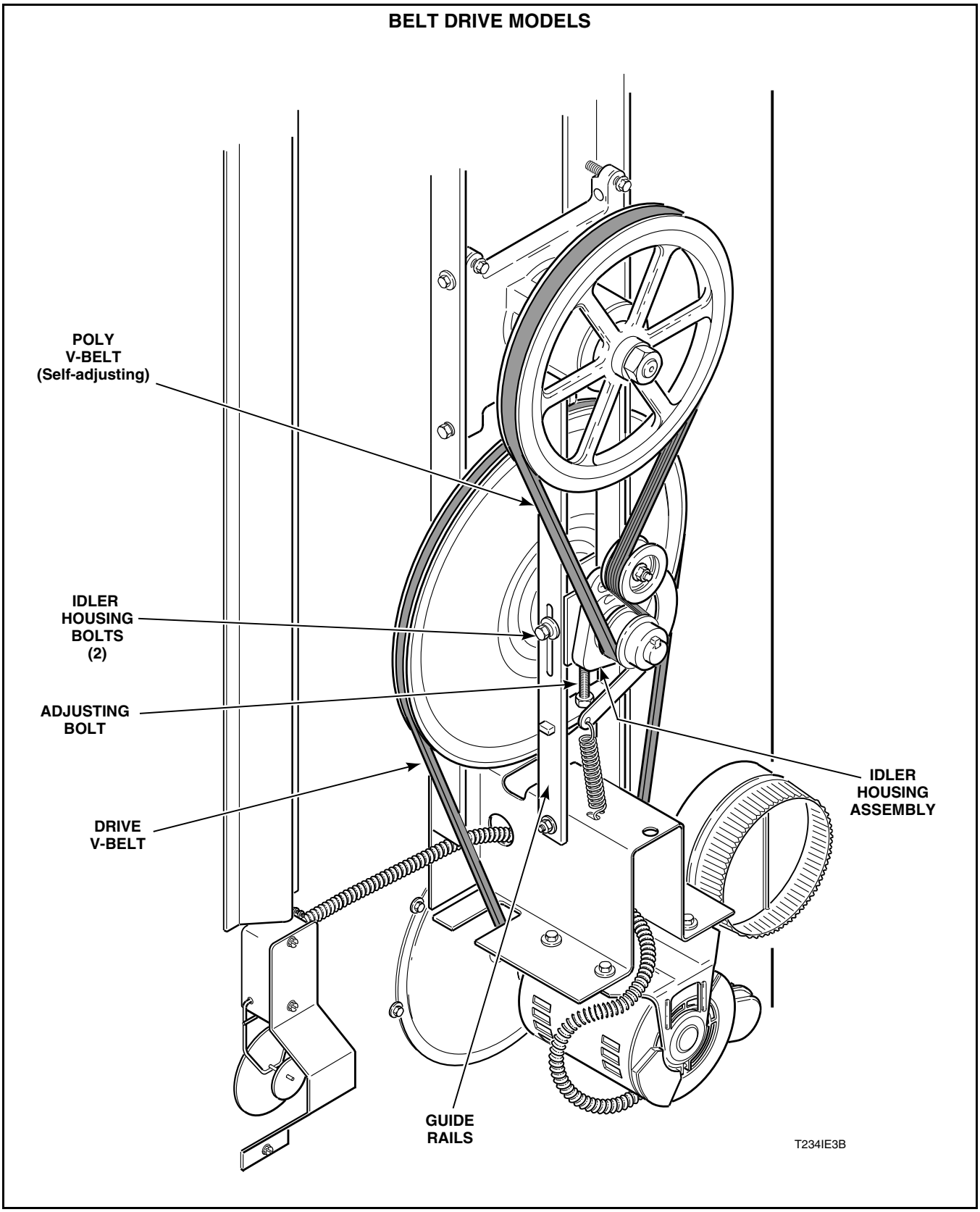
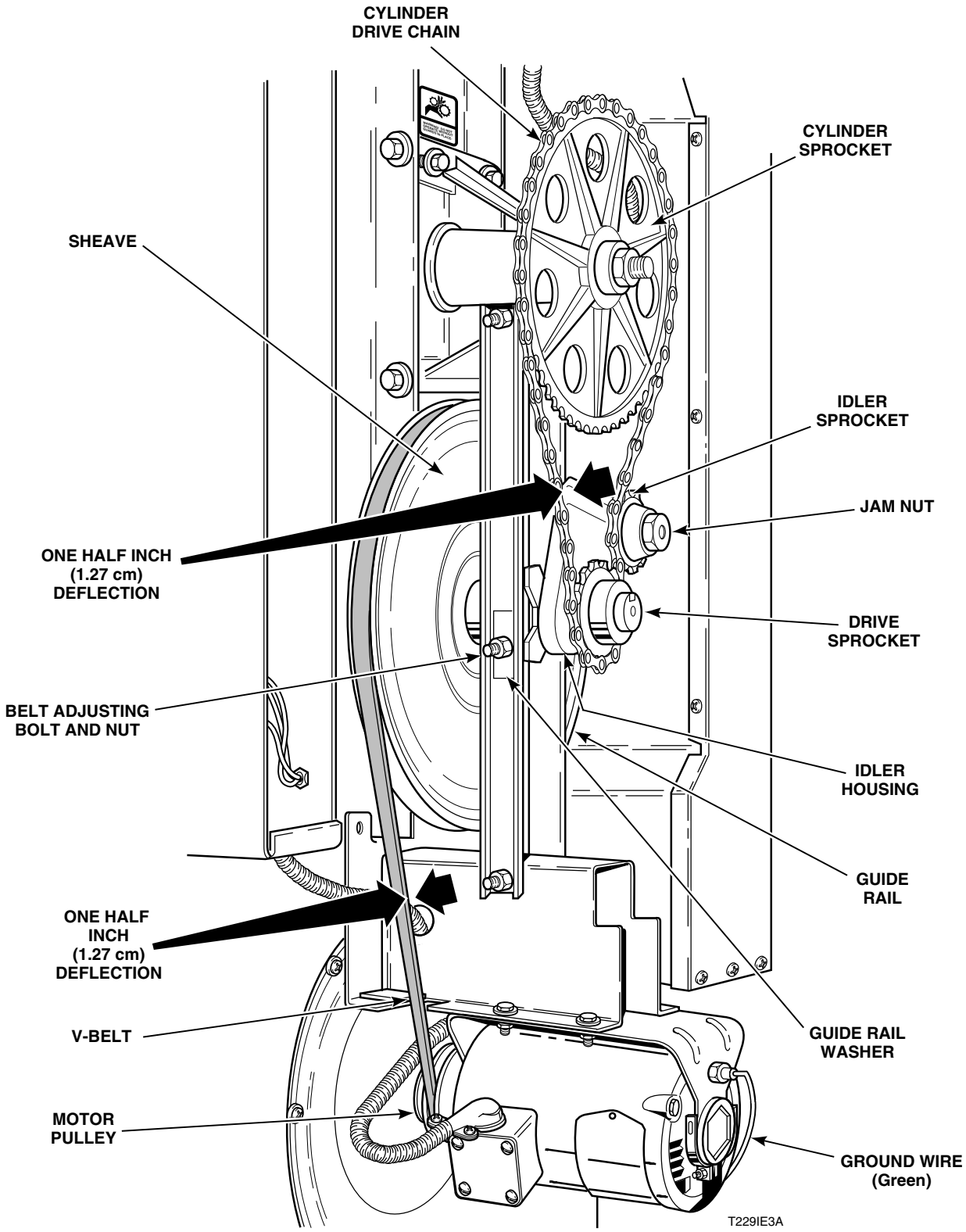


Figure 52

CHAIN DRIVE MODELS



NOTE: Tumbler is shown with guards removed for ilustration purposes only. Never operate the tumbler with the guards removed.

Figure 53

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.**

W002

100. CYLINDER CLEARANCE

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

NOTE: If cylinder is not properly adjusted, cylinder rim will rub against the front panel.

a. Open loading door and check gap between center of the front panel top flange and cylinder rim. Proper adjustment is when gap is 7/16 inch (11 mm). Refer to *Figure 54*.
b. Remove drive guard.
c. Loosen four trunnion housing bolts.
d. Loosen locknuts on trunnion housing adjusting bolts.
e. Turn adjusting bolts in or out as necessary to obtain proper clearance between cylinder rim and front panel.

NOTE: Turning adjusting bolts clockwise will raise cylinder and turning them counter-clockwise will lower 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 cylinder is properly adjusted, tighten adjusting bolt locknuts and four trunnion housing bolts.
g. Install the drive guard removed in step "b."

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

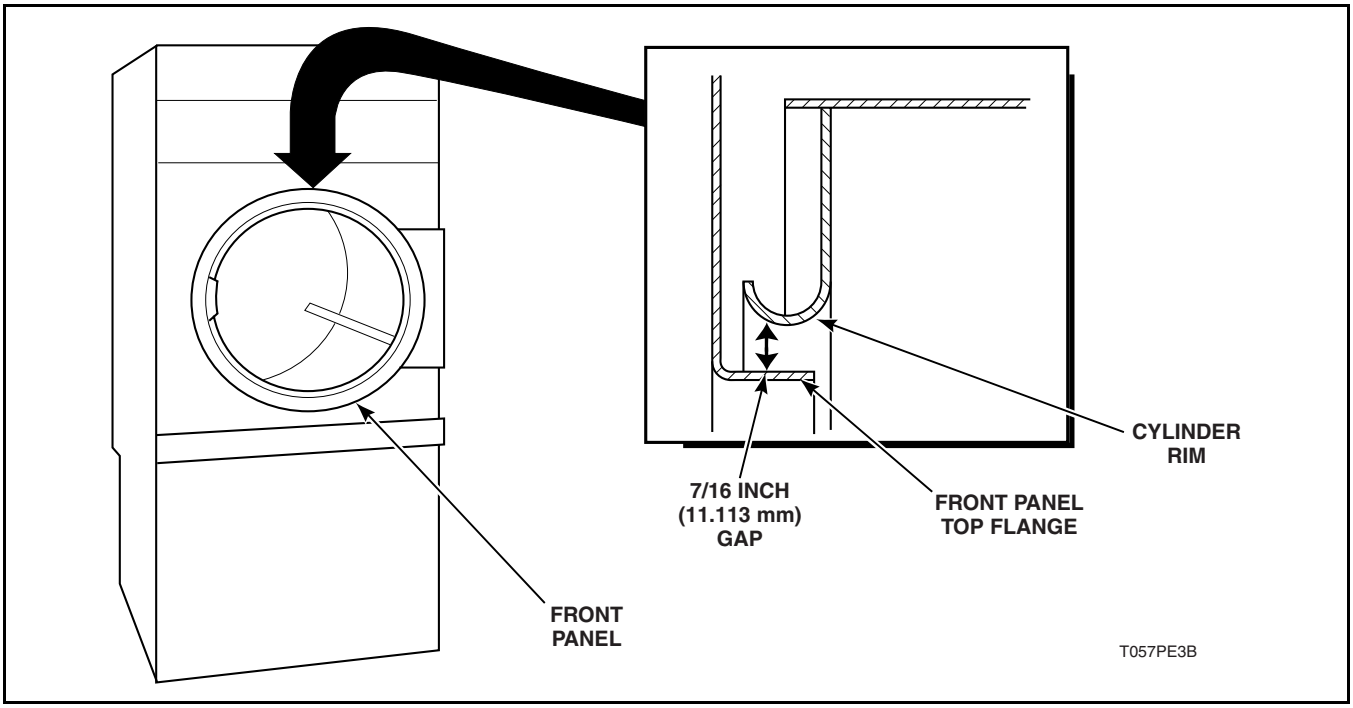


Figure 54