



***Huebsch Originators***

**Parts and  
Service Manual  
for  
Drying Tumblers  
(65 Pound Capacity)**

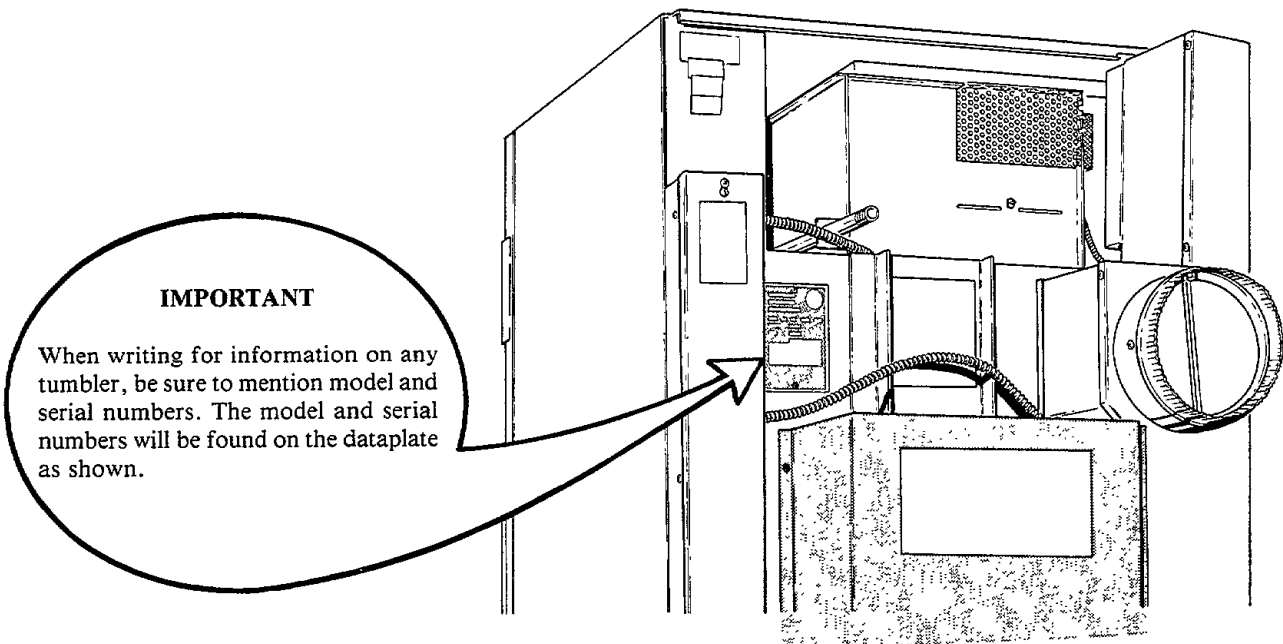
**WARNING**

**FAILURE TO INSTALL, MAINTAIN, AND/OR OPERATE THIS MACHINE ACCORDING TO MANUFACTURER'S INSTRUCTIONS MAY RESULT IN CONDITIONS WHICH CAN PRODUCE BODILY INJURY AND/OR PROPERTY DAMAGE.**

**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.

**DATAPLATE LOCATION**



**INFORMATION CONTAINED IN THIS MANUAL IS APPLICABLE TO THESE NON-REVERSING TUMBLER MODELS. (Refer to supplement No. M405417 for reversing models.)**

- 65/75CG (standard gas)
- 65/75EG (energy saver gas)
- 65/75CE (electric)

- 65/75CSL (low pressure steam)
- 65/75CSH (high pressure steam)

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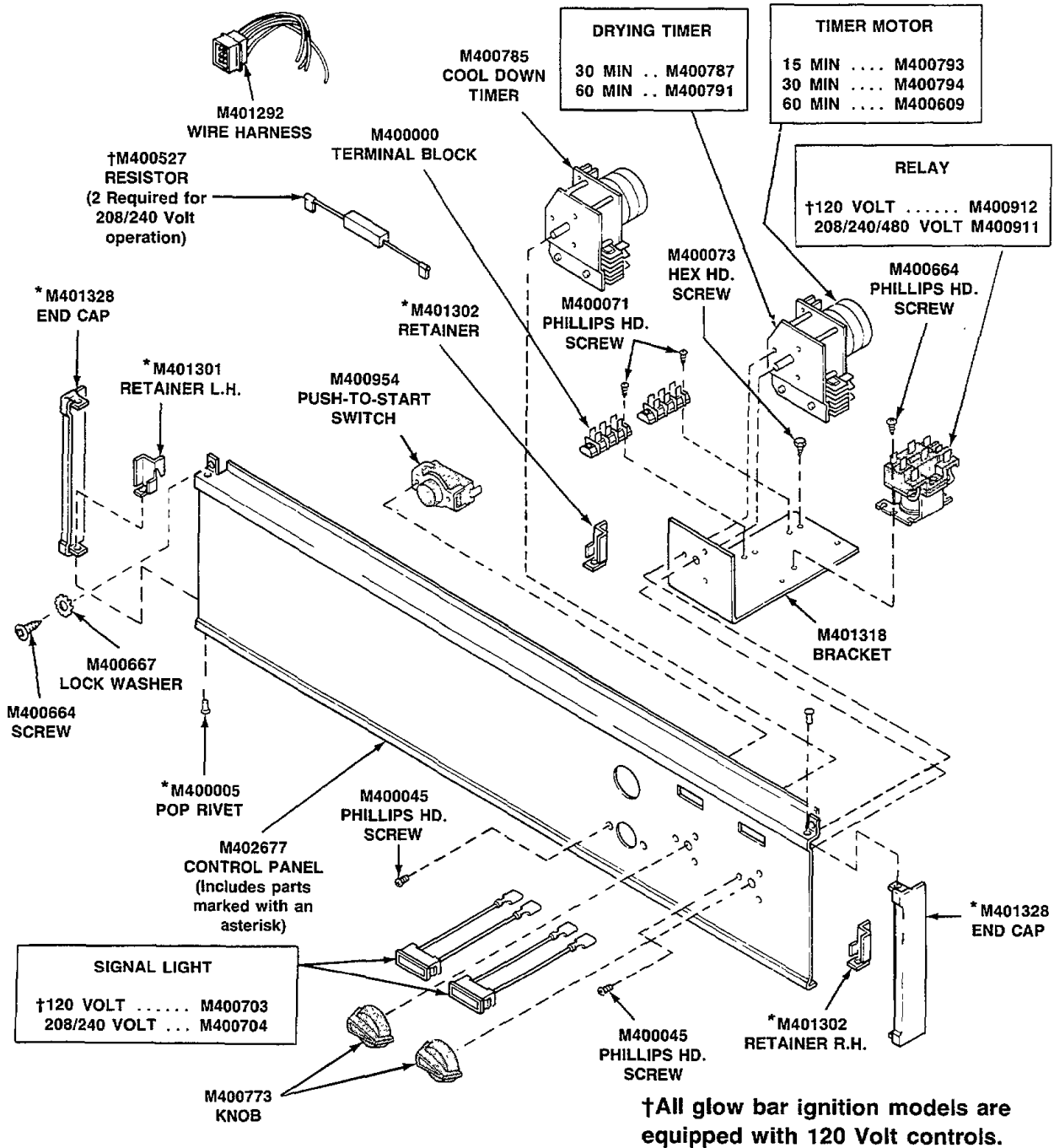
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# SECTION I

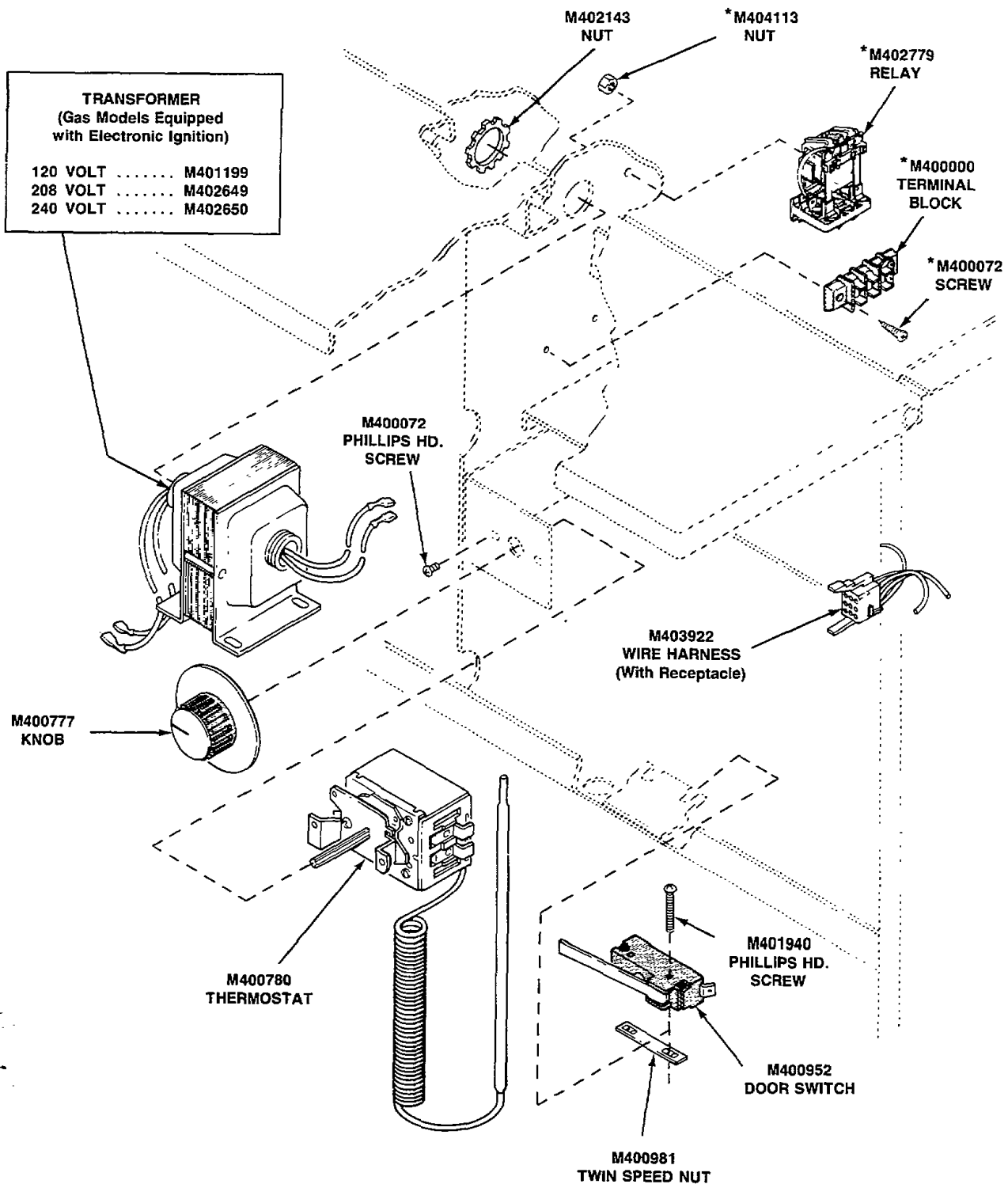
## Parts



COMPLETE CONTROL PANEL ASSEMBLY	
<b>GAS MODELS</b>	<b>ELECTRIC MODELS</b>
Energy Savers	208/240 Volt ..... M402390
†120 Volt ..... M402346	480 Volt ..... M406216
208/240 Volt ..... M402368	
<b>Standard</b>	<b>STEAM MODELS</b>
†120 Volt ..... M402346	120 Volt ..... M402412
208/240 Volt ..... M402368	208/240 Volt ..... M402434

CONTROL PANEL ASSEMBLY (Manual)

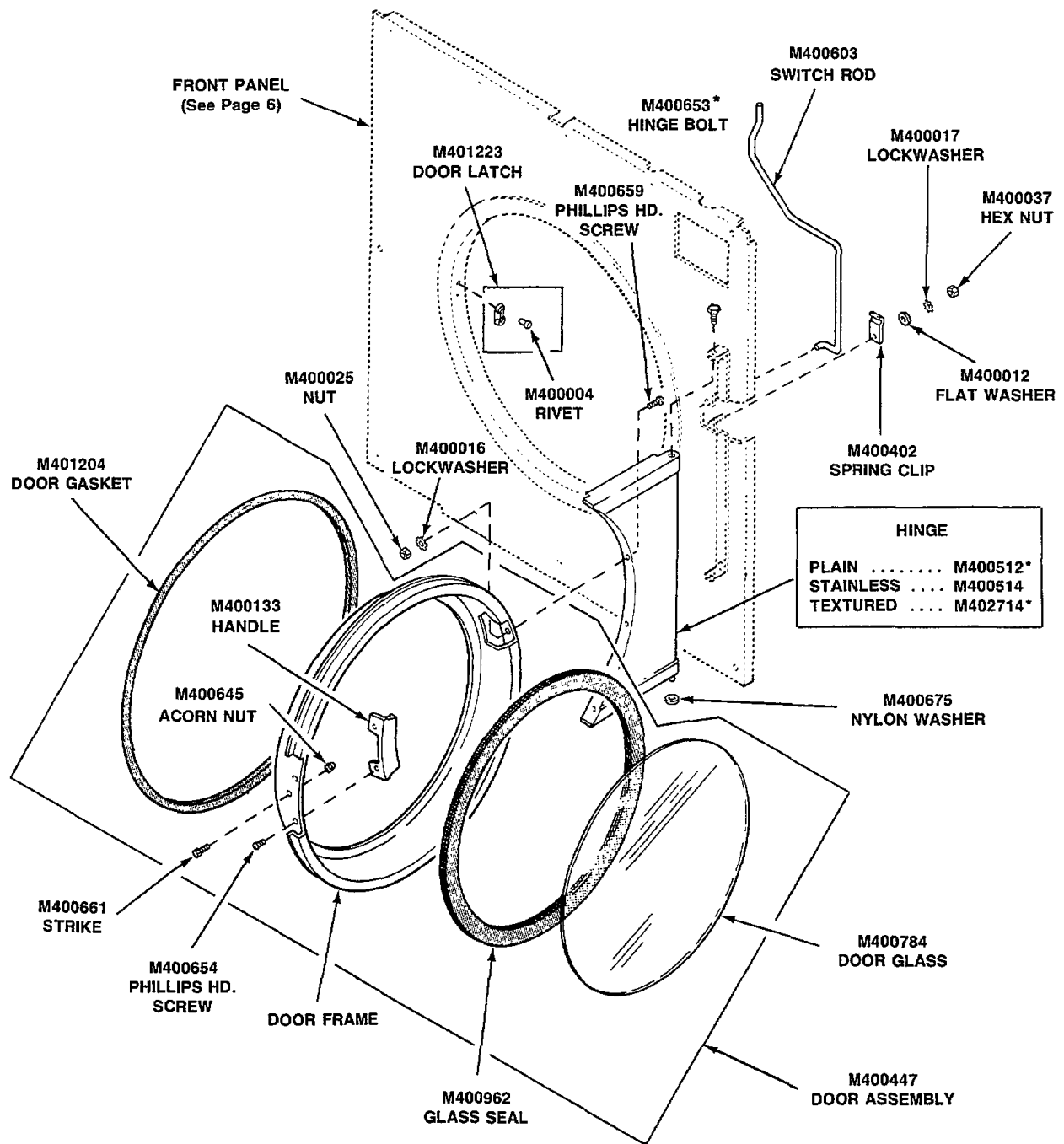
**\* Johnson Glow Bar Ignition Models Only**



**DOOR SWITCH, THERMOSTAT, TRANSFORMER, RELAY AND TERMINAL BLOCK**

\*Add Suffix Letter To Part Number To Designate Color.

D Apple Green	F Autumn Oak	H Harvest Gold
L Almond	R Butterscotch	V Orange
	W White	



**LOADING DOOR AND SWITCH ROD ASSEMBLY**

**TOP ACCESS PANEL**

**ENERGY SAVER MODELS**

- PLAIN ..... M400893\*
- STAINLESS ..... M400894
- TEXTURED ..... M402720\*

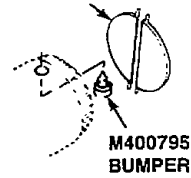
**ALL OTHER MODELS**

- PLAIN ..... M400840\*
- STAINLESS ..... M400842
- TEXTURED ..... M402719\*

\*Add Suffix Letter To Part Number To Designate Color.

- D Apple Green      F Autumn Oak      H Harvest Gold
- L Almond            R Butterscotch    V Orange
- W White

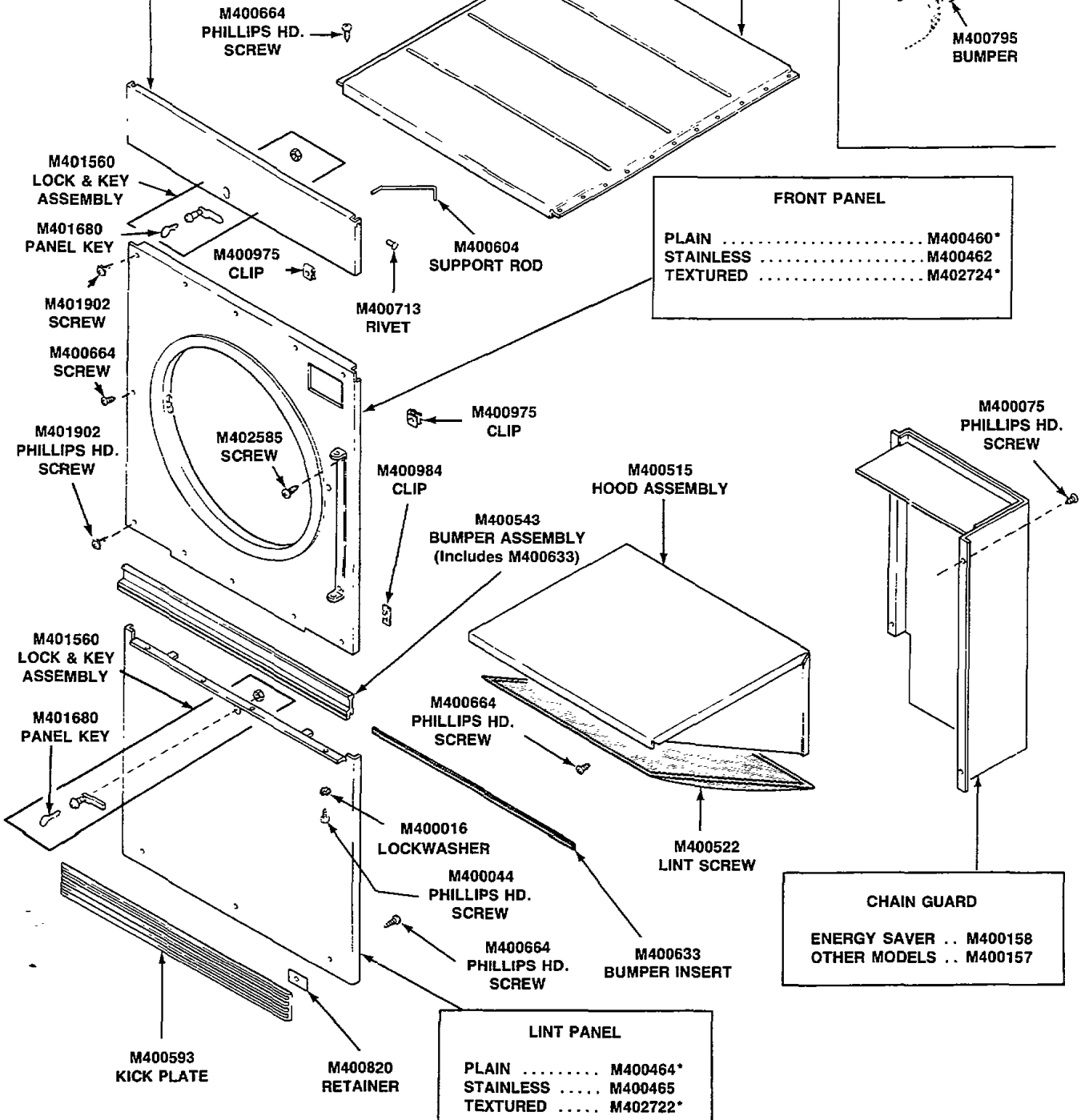
**M400503  
DAMPER VANE**



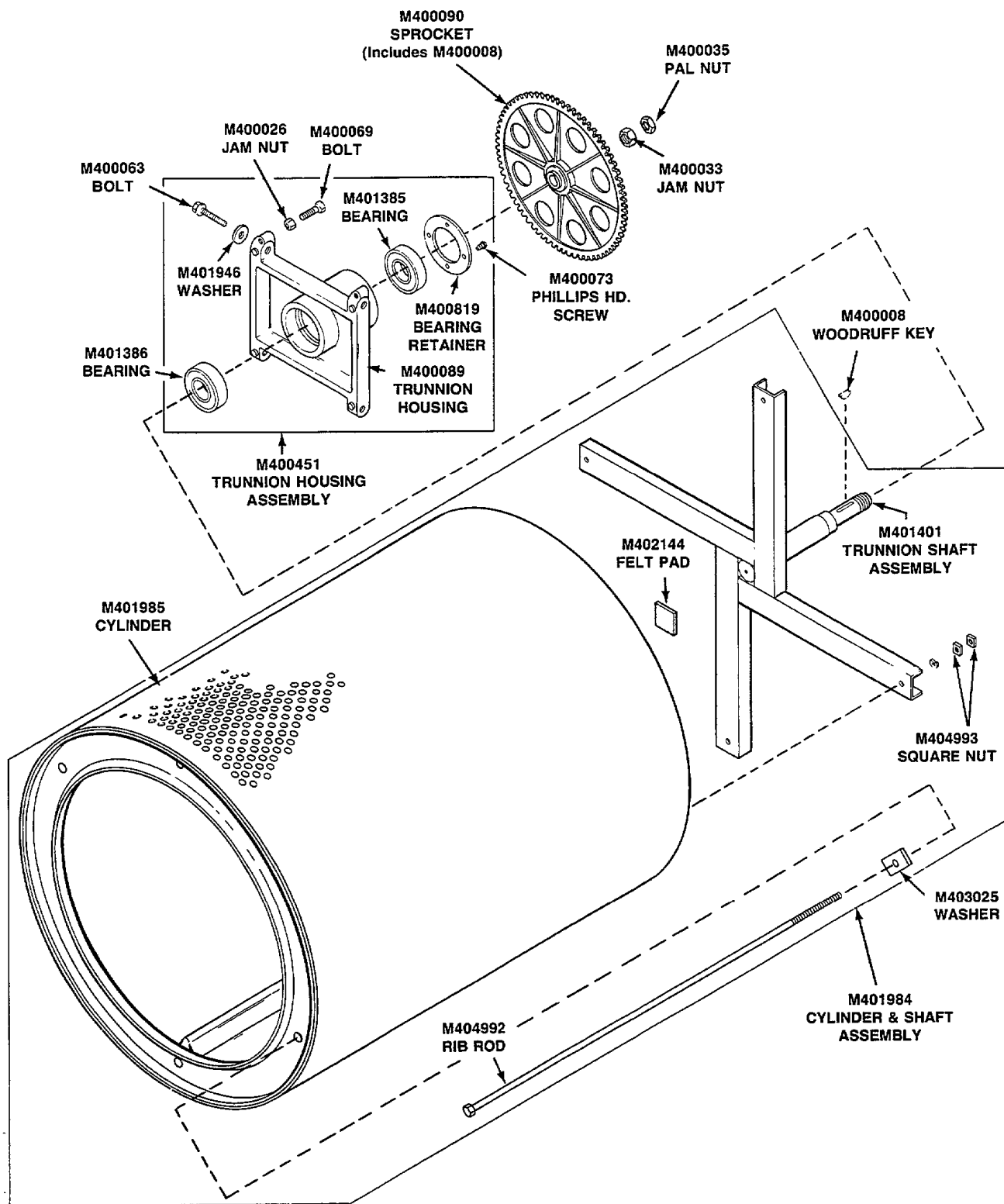
**M403385  
TOP COVER**

**FRONT PANEL**

- PLAIN ..... M400460\*
- STAINLESS ..... M400462
- TEXTURED ..... M402724\*

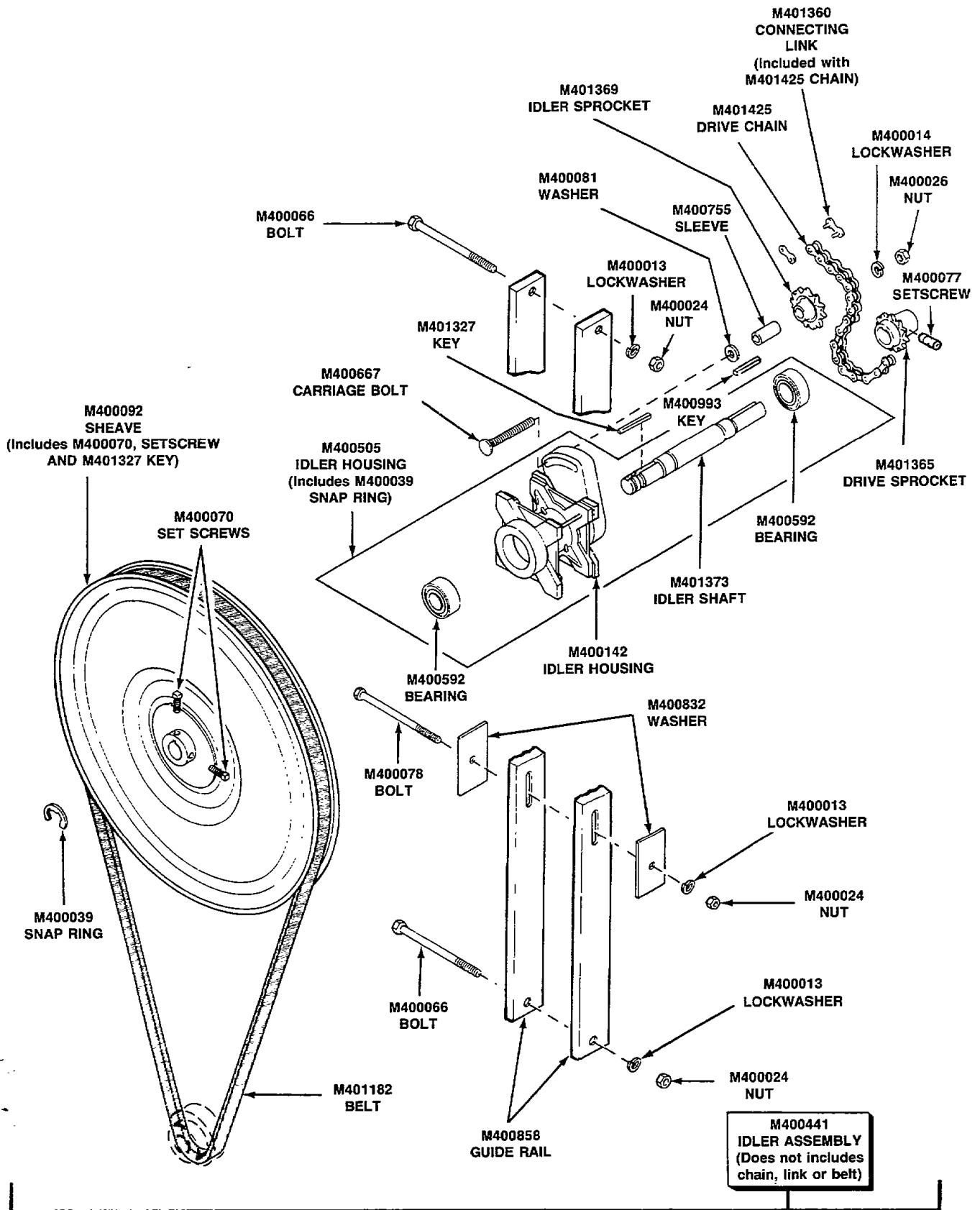


**PANELS, GUARDS AND LINT HOOD ASSEMBLY**



**CYLINDER AND TRUNNION ASSEMBLIES**  
 (Non-Reversing)





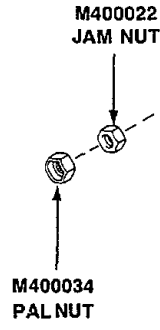
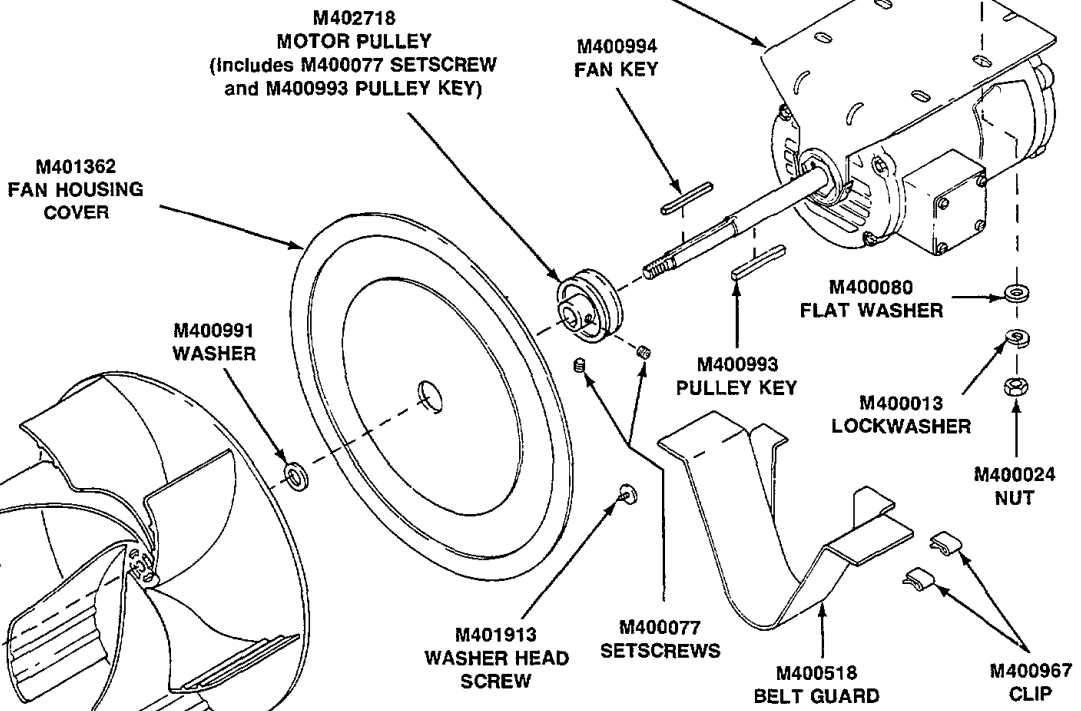
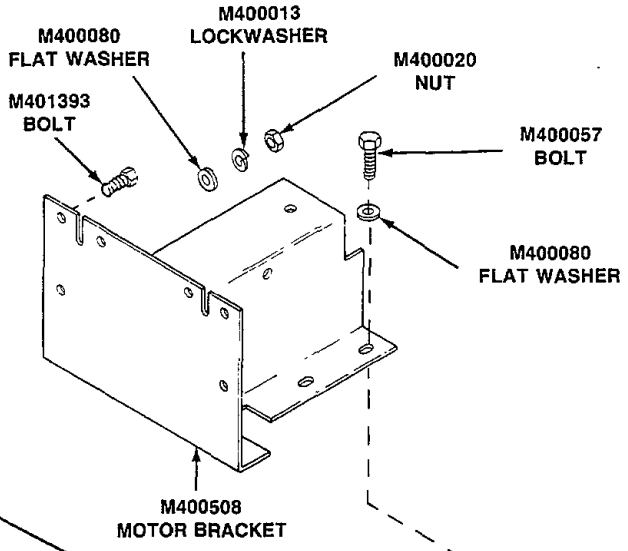
**IDLER DRIVE COMPONENTS**

**FAN MOTOR**

**GAS AND ELECTRIC**  
 1/2 HP 208 VOLT/60 HZ/1 PH ..... M400388  
 1/2 HP 120/240 VOLT/60 HZ/1 PH ... M400390  
 1/2 HP 240/480 VOLT/60 HZ/3 PH ... M400393  
 NOTE: M400393 applies to 480 VOLT tumblers only 208 VOLT or 240 VOLT - 3 PH electric tumblers use the respective 1 PHASE MOTORS.

**STEAM**  
**LOW PRESSURE**  
 3/4 HP 120/240 VOLT/60 HZ/1 PH ... M400394  
**HIGH PRESSURE**  
 1/2 HP 208 VOLT/60 HZ/1 PH ..... M400388  
 1/2 HP 120/240 VOLT/60 HZ/1 PH ... M400390  
 1/2 HP 480 VOLT/60 HZ/3 PH ..... M400393

**MOTOR INCLUDES: M400034 PALNUT, M400022 JAM NUT, M400993 PULLEY KEY, M400994 FAN KEY AND M400991 WASHER**

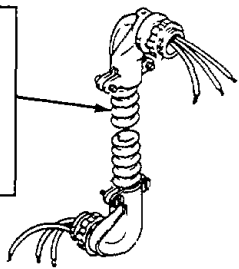


**FAN**  
 (Includes M400994 FAN KEY)

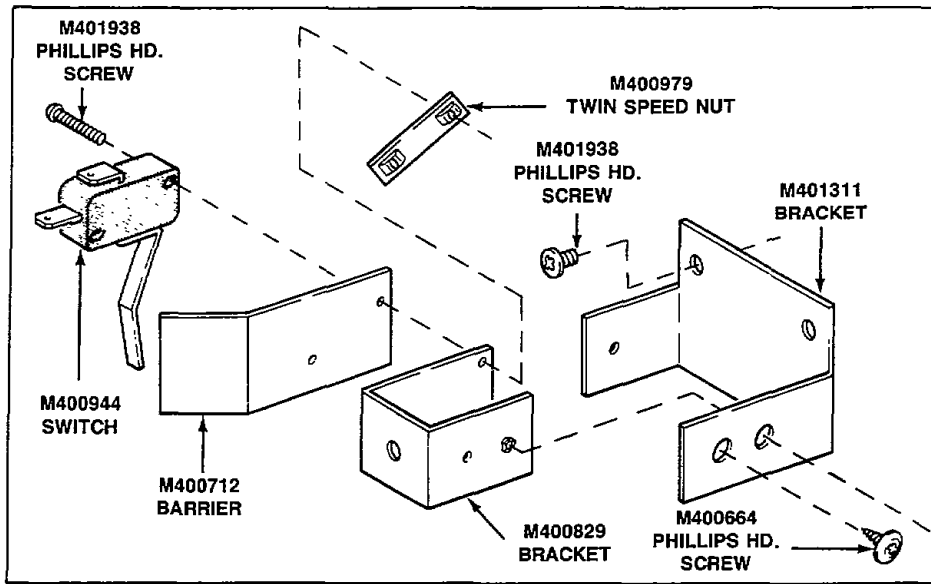
**LOW PRESSURE**  
**STEAM** ..... M400088  
**OTHER MODELS** .. M400086

**MOTOR HARNESS**

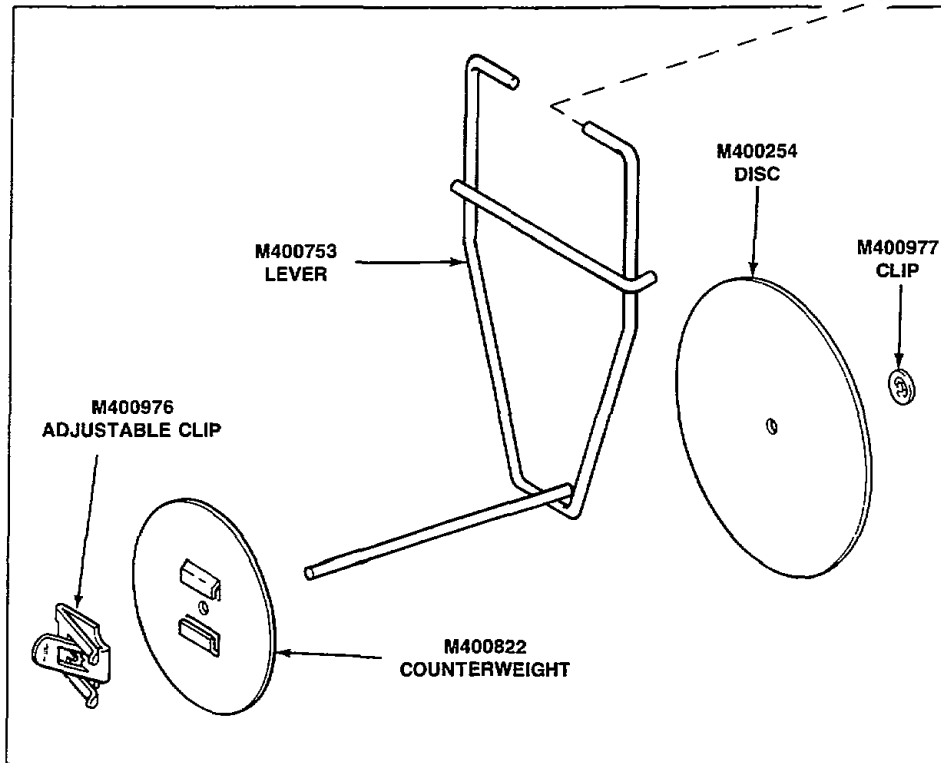
**GAS MODELS (Glow-Bar Ignition)**  
 208/240 VOLT ..... M405139  
**ELECTRIC MODELS**  
 480 VOLT ..... M401290  
**ALL OTHER MODELS** ... M401289



**FAN AND MOTOR ASSEMBLY**

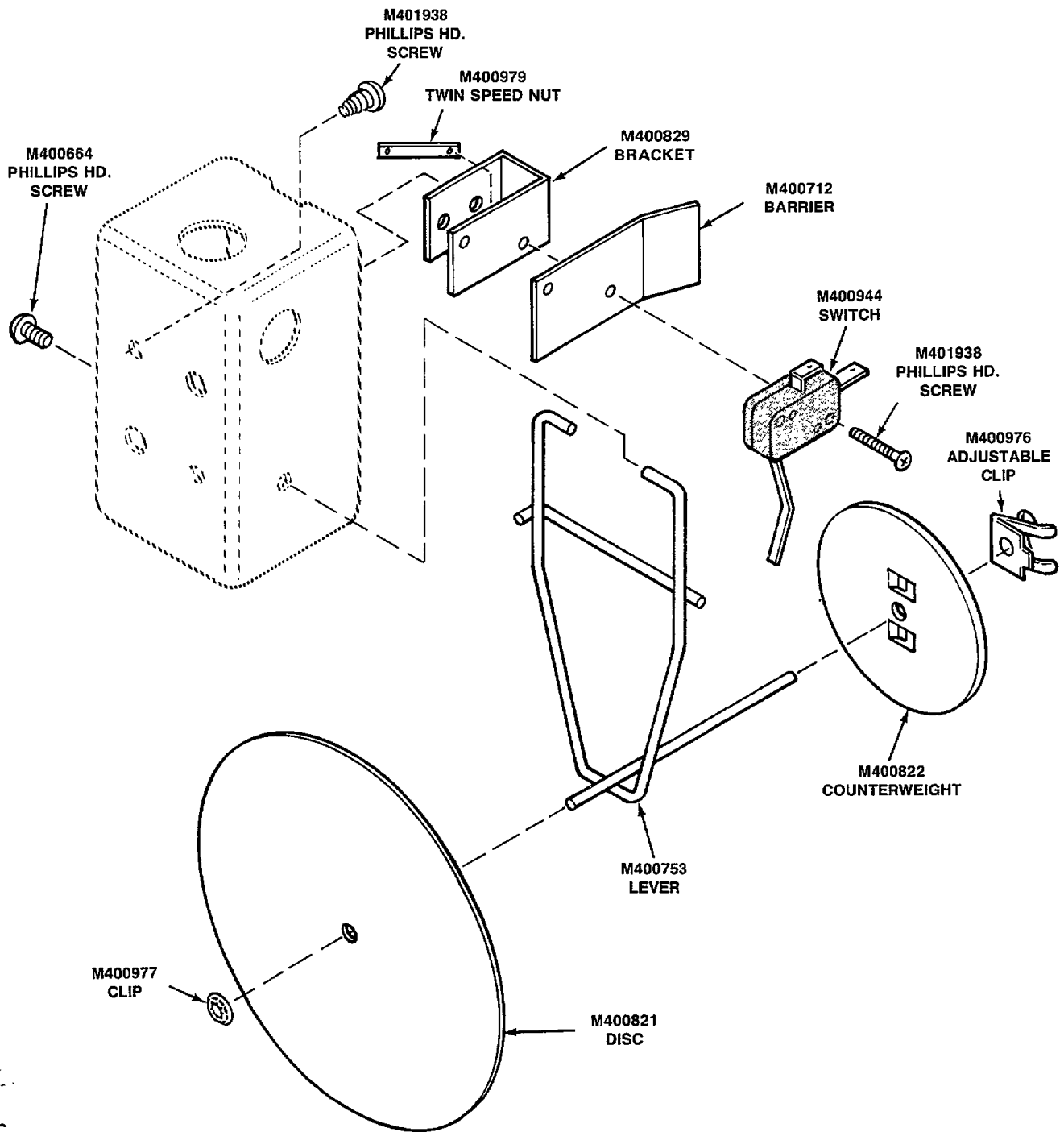


M401883  
AIR FLOW SWITCH ASSEMBLY

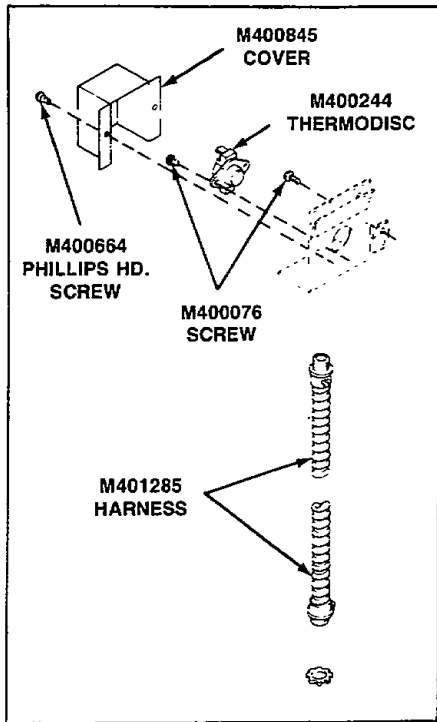


M400542  
AIR FLOW VANE ASSEMBLY

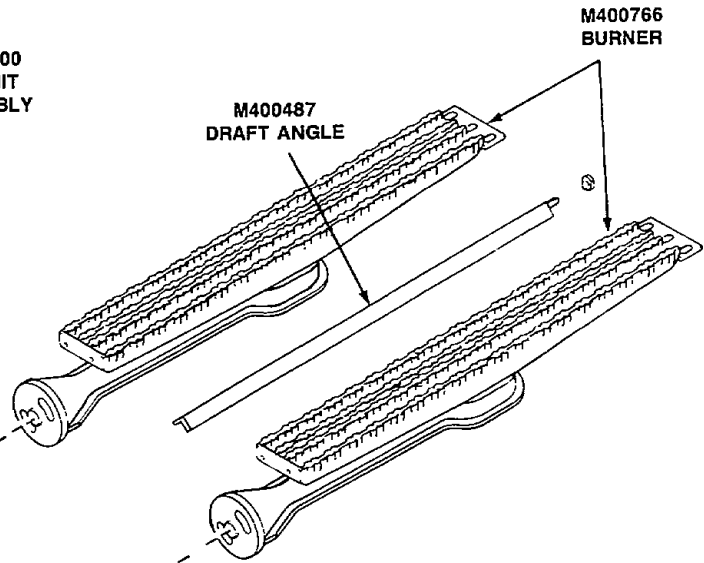
**AIR FLOW SWITCH ASSEMBLY**  
(Mounted inside wire way at rear of tumbler)



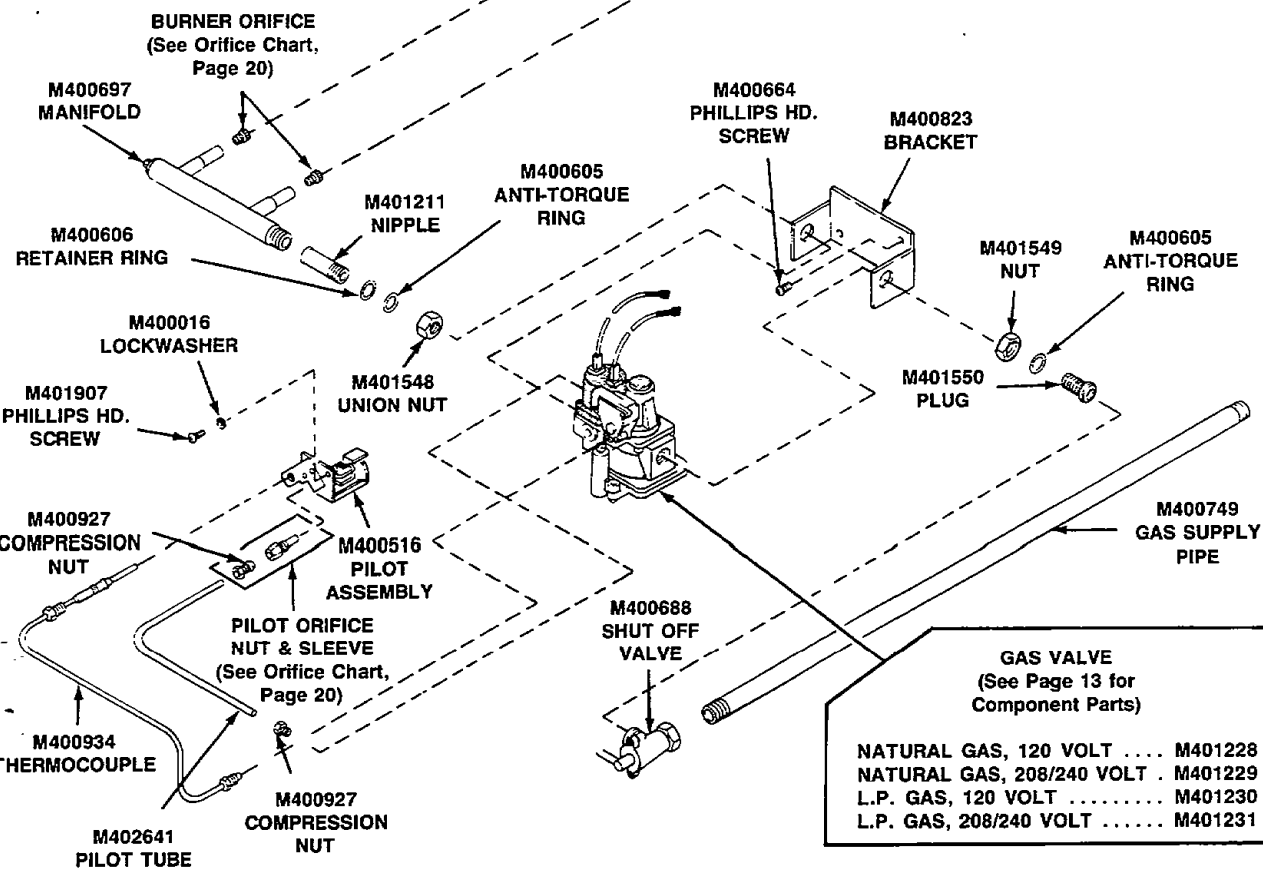
**AIR FLOW SWITCH ASSEMBLY**  
 (Mounted on rear of stove assembly)



M400500  
HI-LIMIT  
ASSEMBLY



M400766  
BURNER

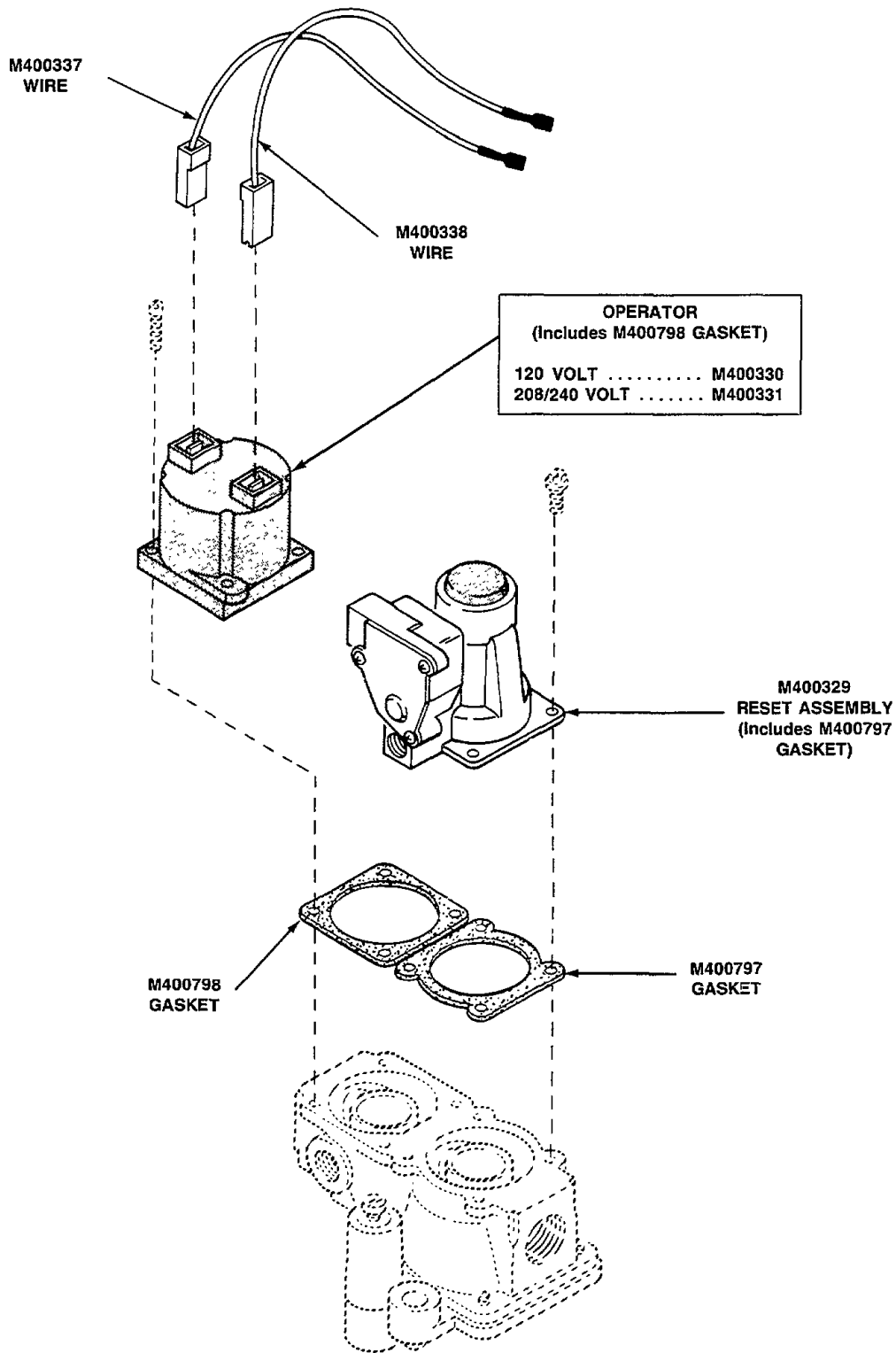


BURNER ORIFICE  
(See Orifice Chart,  
Page 20)

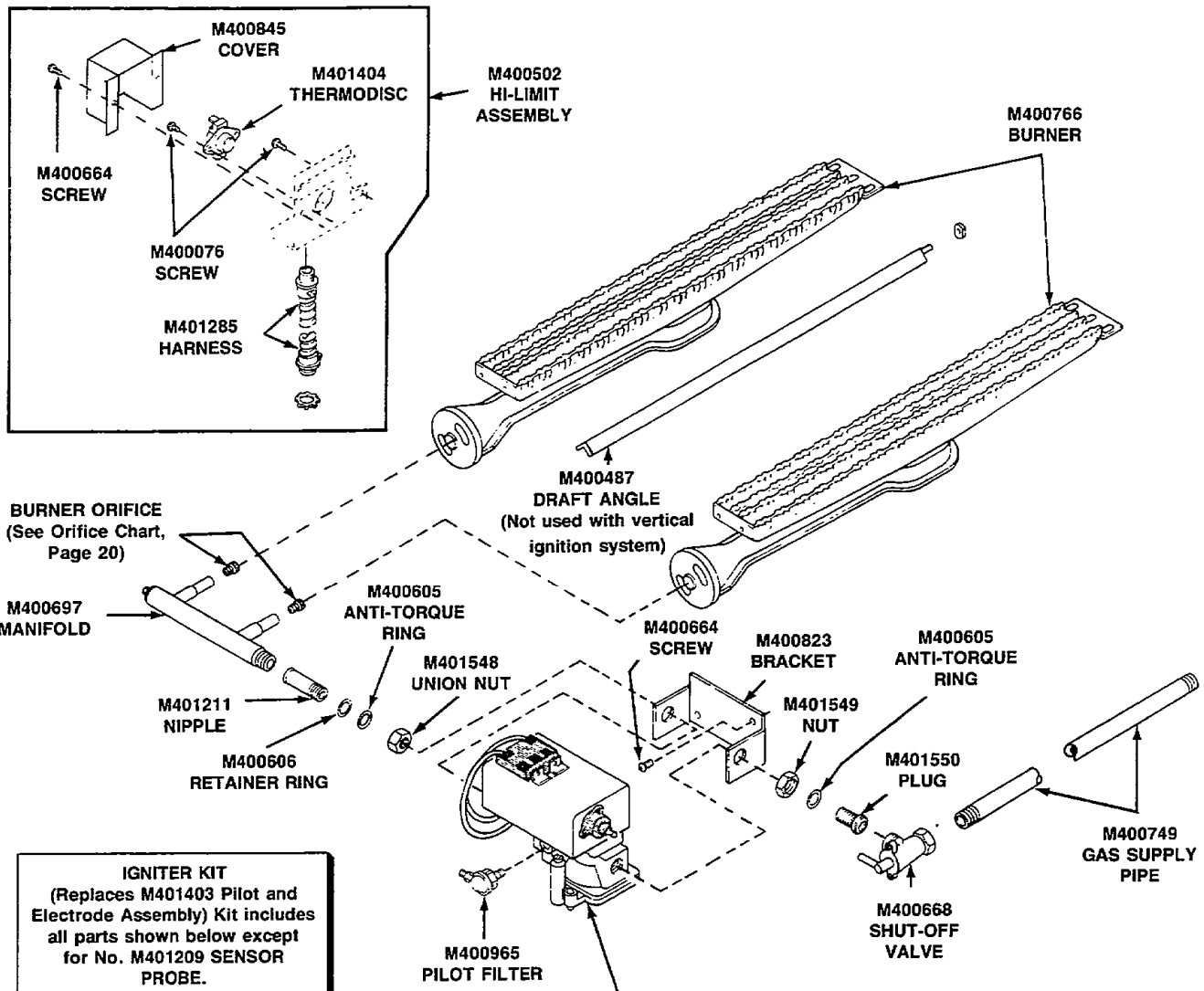
PILOT ORIFICE  
NUT & SLEEVE  
(See Orifice Chart,  
Page 20)

<b>GAS VALVE</b> (See Page 13 for Component Parts)	
NATURAL GAS, 120 VOLT . . . .	M401228
NATURAL GAS, 208/240 VOLT . . . .	M401229
L.P. GAS, 120 VOLT . . . . .	M401230
L.P. GAS, 208/240 VOLT . . . . .	M401231

**GAS HEATER ASSEMBLY (STANDING PILOT IGNITION)**



**STANDING PILOT GAS VALVE BREAKDOWN**



**BURNER ORIFICE**  
(See Orifice Chart, Page 20)

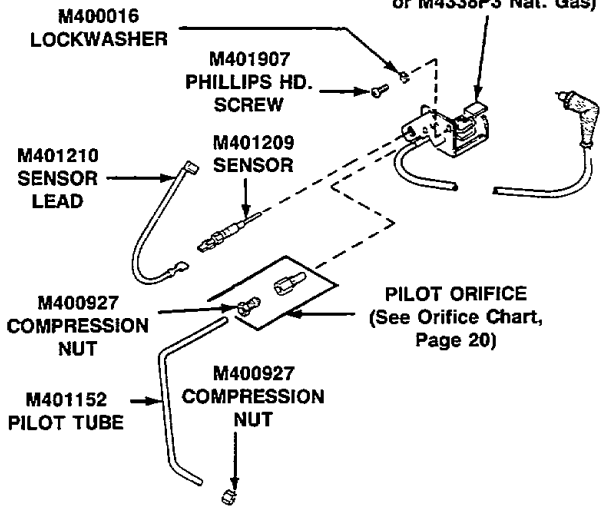
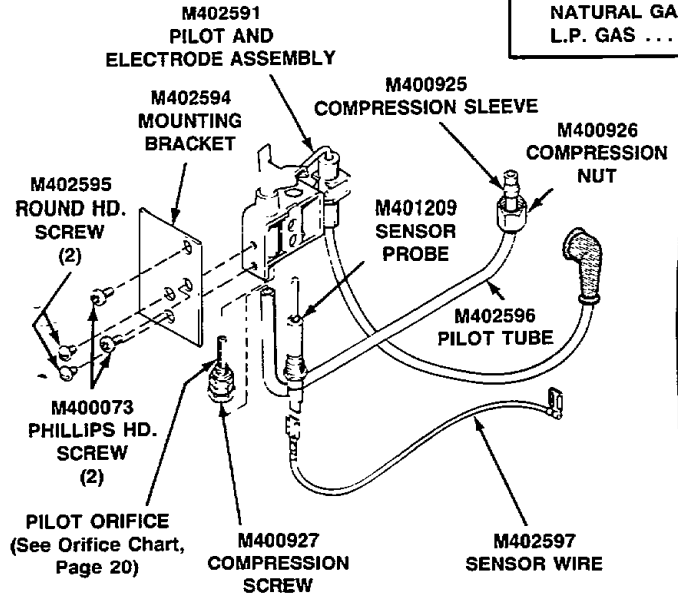
**IGNITER KIT**  
(Replaces M401403 Pilot and Electrode Assembly) Kit includes all parts shown below except for No. M401209 SENSOR PROBE.

L.P. GAS ..... M4337P3  
NAT. GAS ..... M4338P3

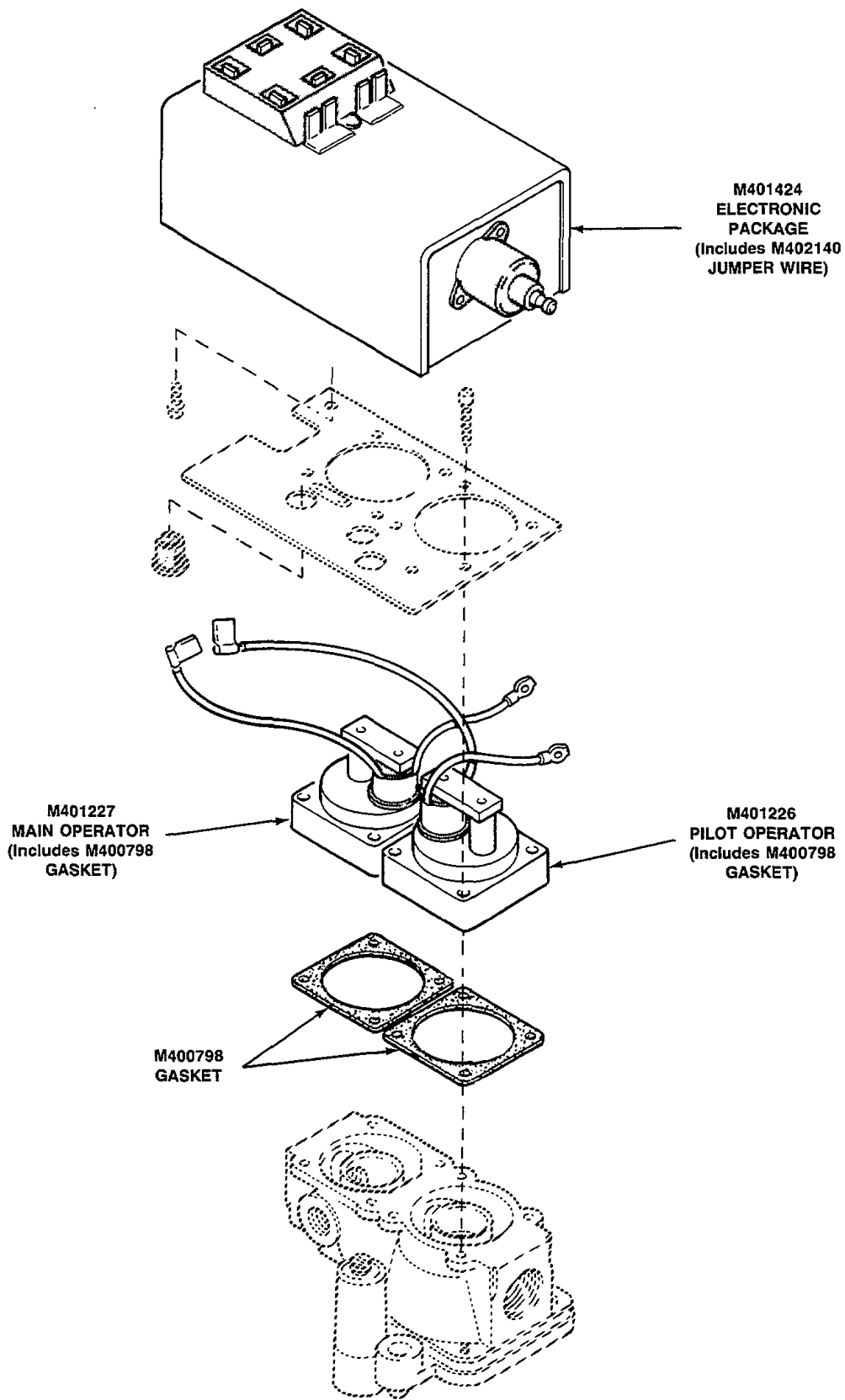
**GAS VALVE**  
(See Page 15 for Component Parts)

NATURAL GAS ..... M401224  
L.P. GAS ..... M401225

**M401403 PILOT AND ELECTRODE ASSEMBLY**  
(Replaced by Igniter Kit, Nos. M40337P3 L.P. Gas or M4338P3 Nat. Gas)

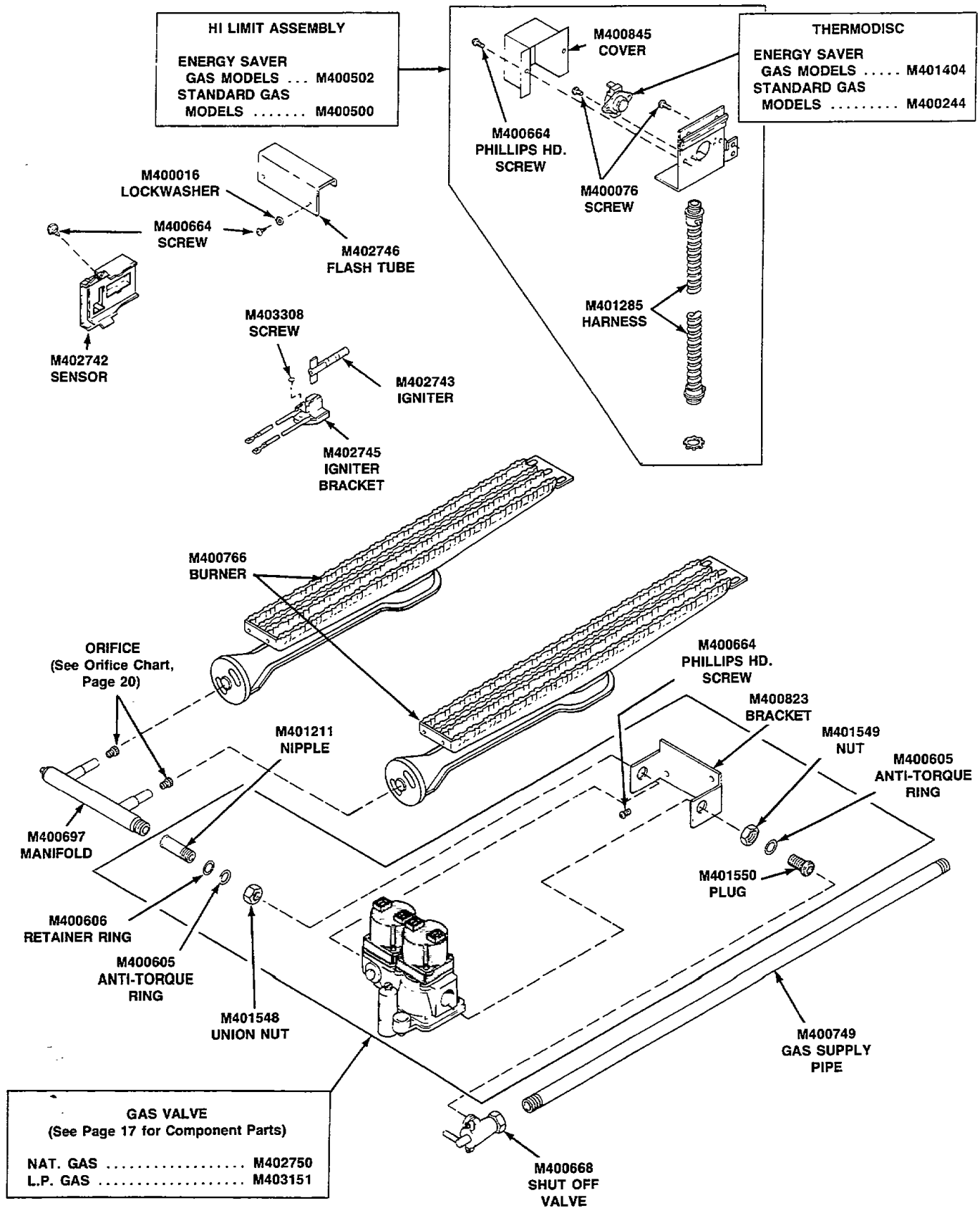


**VERTICAL IGNITION SYSTEM      HORIZONTAL IGNITIONS SYSTEM**  
**GAS HEATER ASSEMBLY (AUTOMATIC IGNITION)**

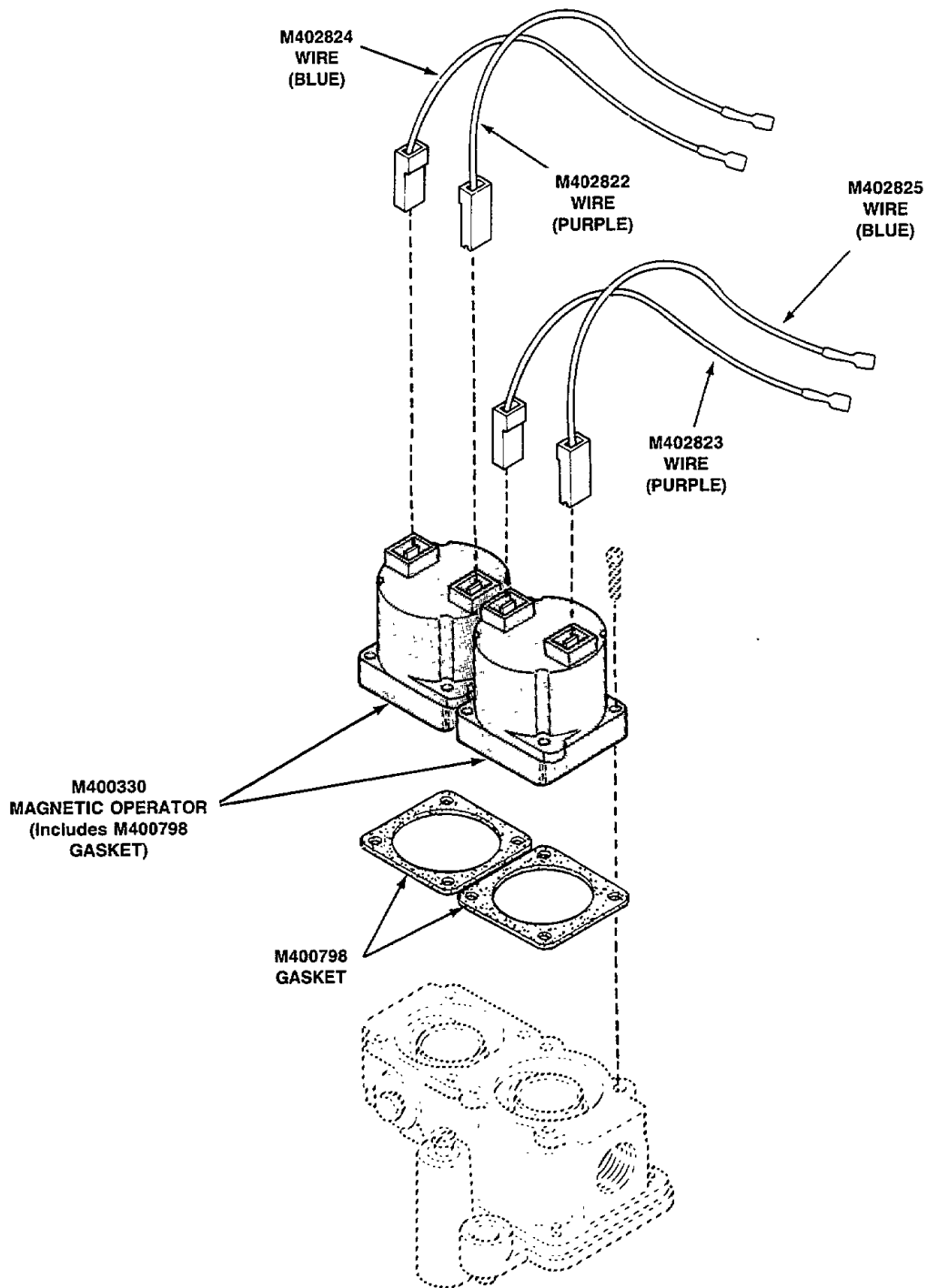


**AUTOMATIC IGNITION GAS VALVE BREAKDOWN**

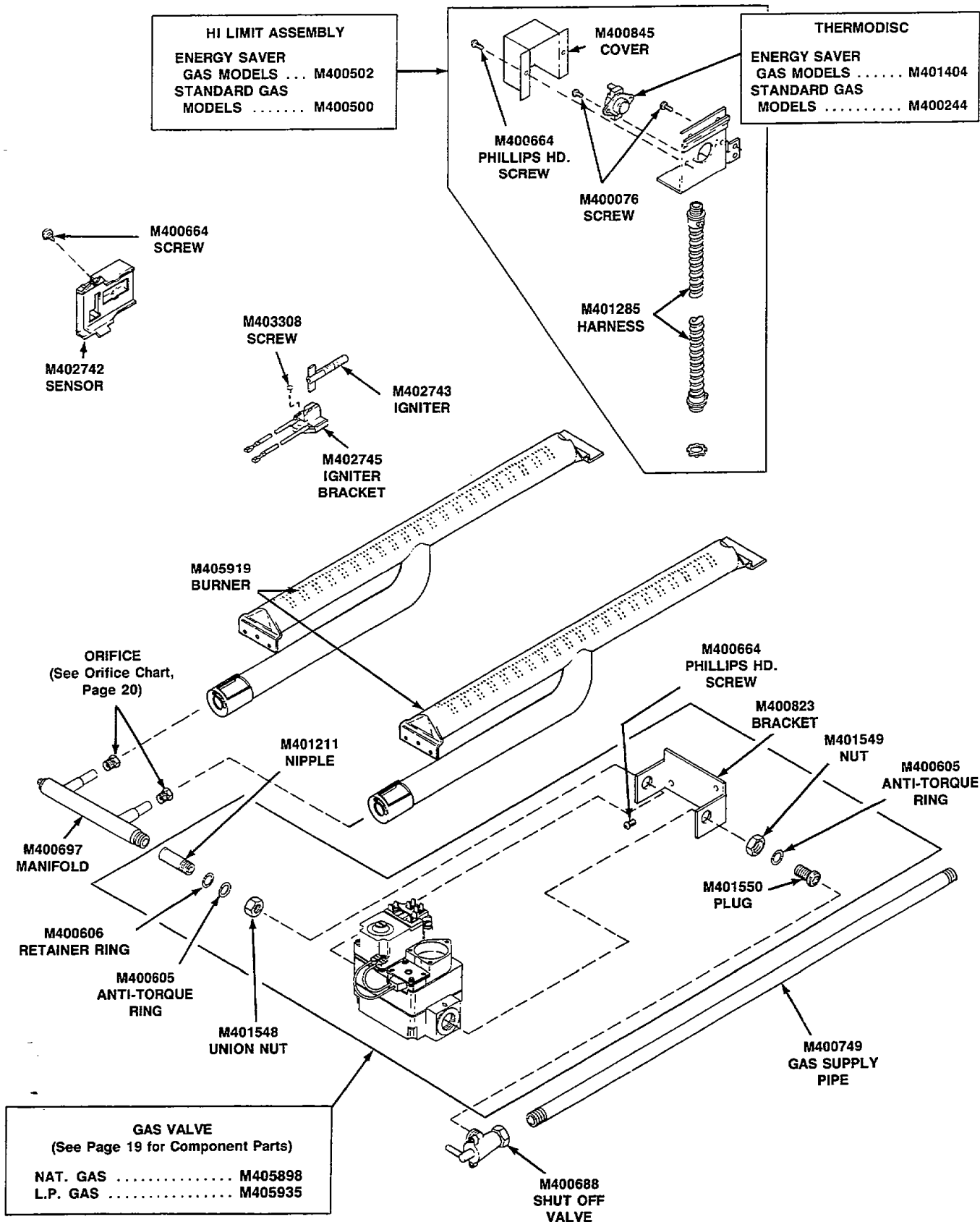




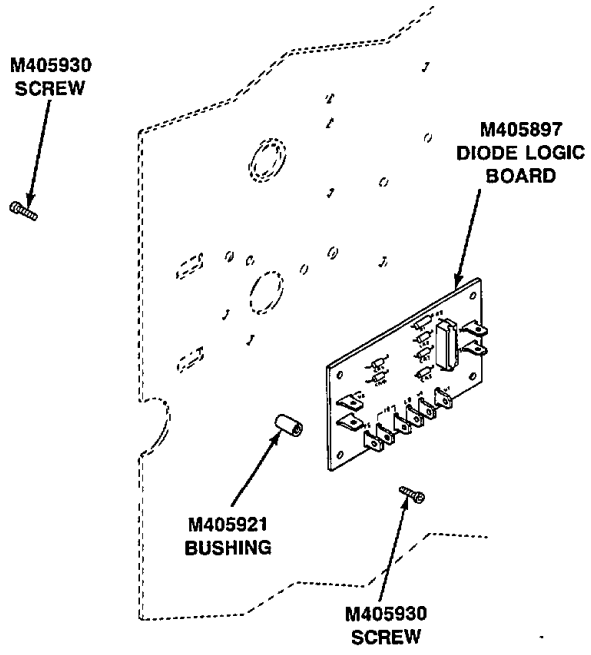
**GAS HEATER ASSEMBLY (JOHNSON GLOW-BAR IGNITION)**



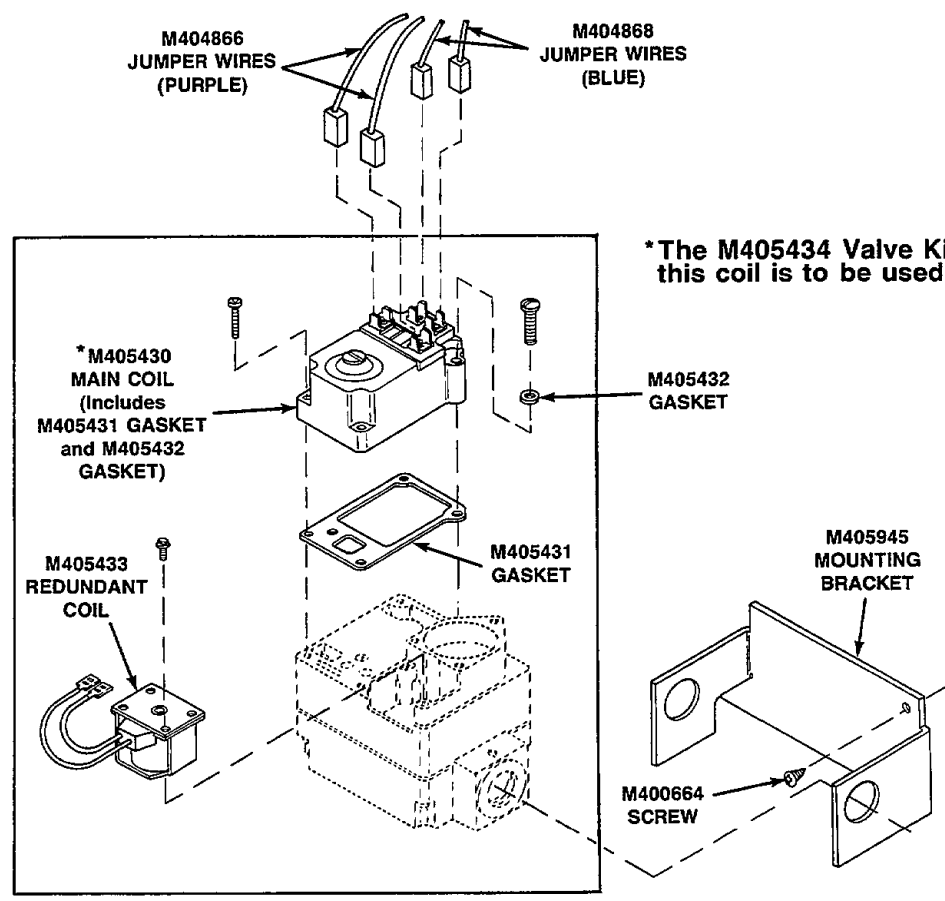
**JOHNSON GLOW BAR GAS VALVE BREAKDOWN**



**GAS HEATER ASSEMBLY (WHITE RODGERS GLOW-BAR IGNITION)**



GAS CONVERSION KITS (Natural to L.P. Gas)	
65EG .....	M4377P3
65CGI .....	M4379P3



\*The M405434 Valve Kit is required if this coil is to be used with L.P. gas.

**WHITE RODGERS GLOW BAR GAS VALVE BREAKDOWN, DIODE LOGIC BOARD, AND GAS CONVERSION KITS**

**TABLE 1. MAIN GAS BURNER ORIFICE (All Models Except Energy Saver Models)**

	ALTITUDE	DRILL SIZE	PART NO.
NATURAL GAS 1,000 BTU/cu. ft. Specific Gravity 0.60 3.5 In. WC	0 - 2,500	No. 27	M400998
	2,500 - 4,000	No. 28	M401014
	4,000 - 6,000	No. 29	M400997
	6,000 - 7,500	No. 30	M401021
PROPANE GAS 2,500 BTU/cu. ft.	0 - 2,000	No. 44	M401011
	2,000 - 4,500	No. 45	M401027

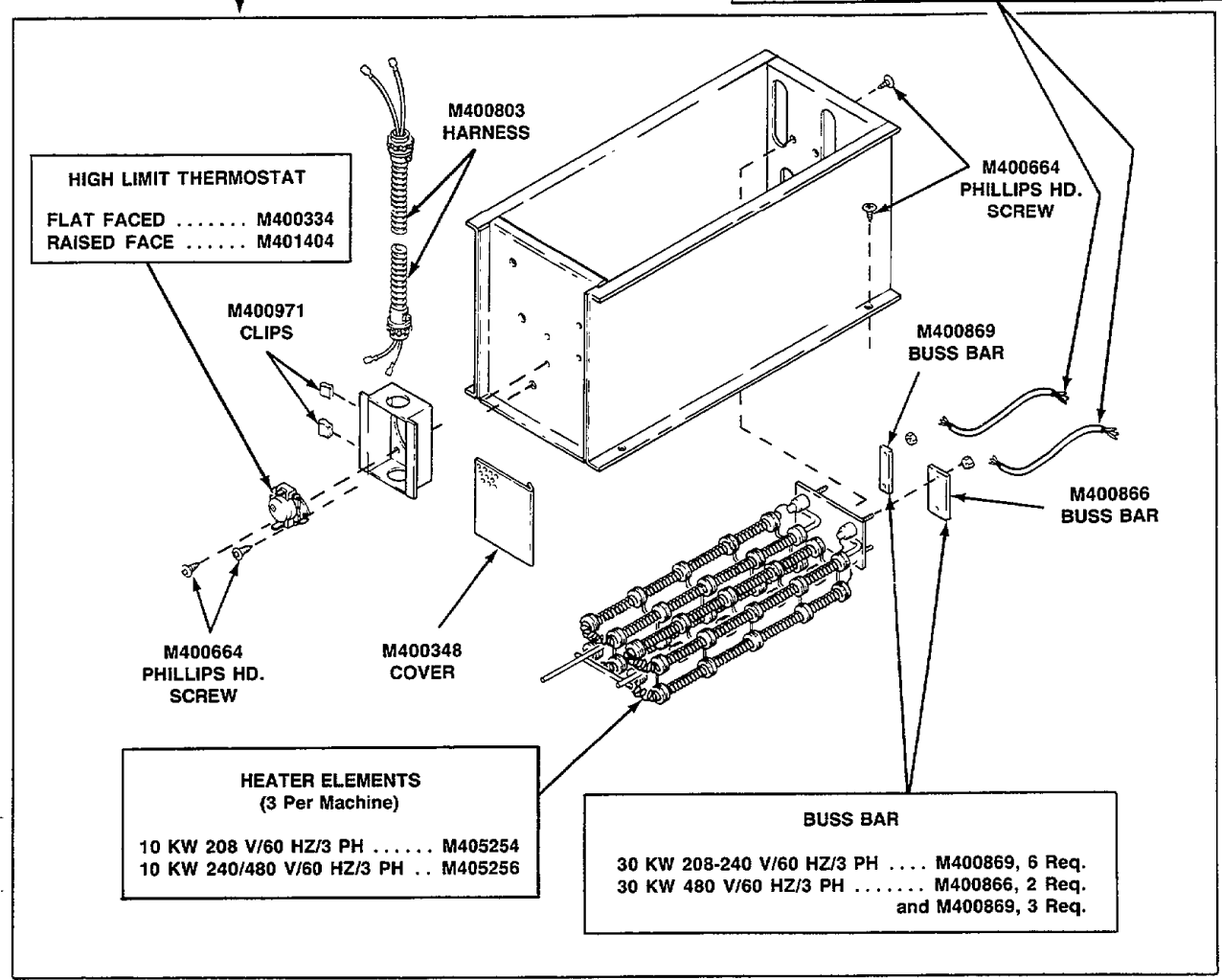
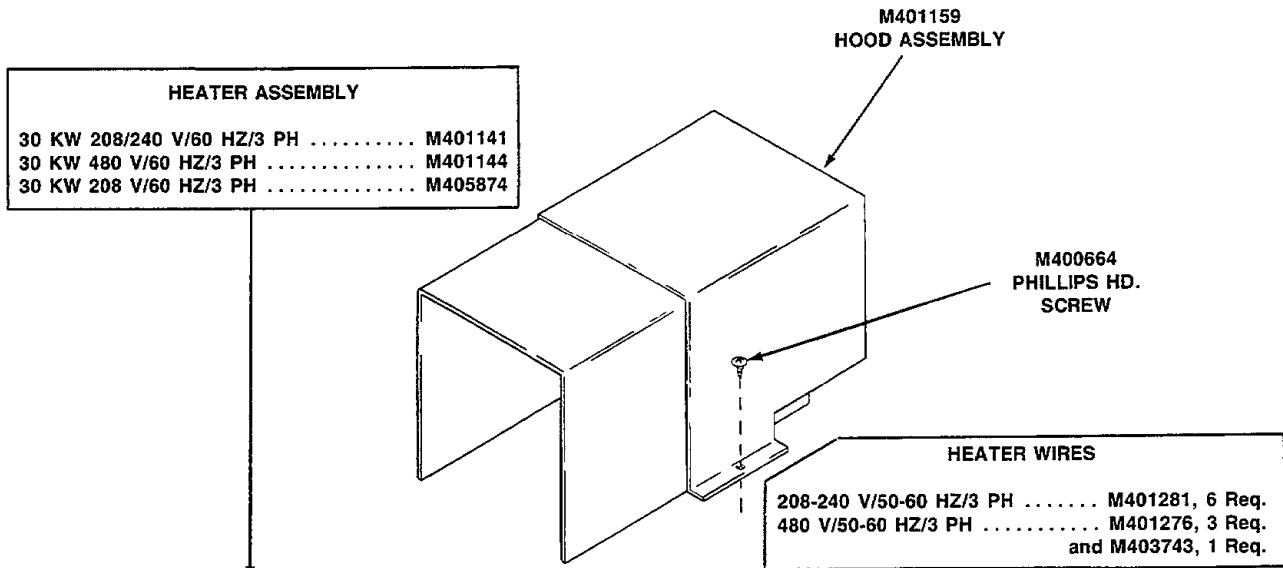
**TABLE 2. MAIN GAS BURNER ORIFICE (Energy Saver Models)**

	ALTITUDE	DRILL SIZE	PART NO.
NATURAL GAS 1,000 BTU/cu. ft. Specific Gravity 0.60 3.5 In. WC	0 - 2,500	No. 29	M400997
	2,500 - 6,500	No. 30	M401021
	6,500 - 9,500	No. 31	M401017
PROPANE GAS 2,500 BTU/cu. ft. Specific Gravity 1.53 11 In. WC	0 - 1,500	No. 46	M401003
	1,500 - 4,500	No. 47	M400999
	4,500 - 6,500	No. 48	M401001
	6,500 - 8,500	No. 49	M401018

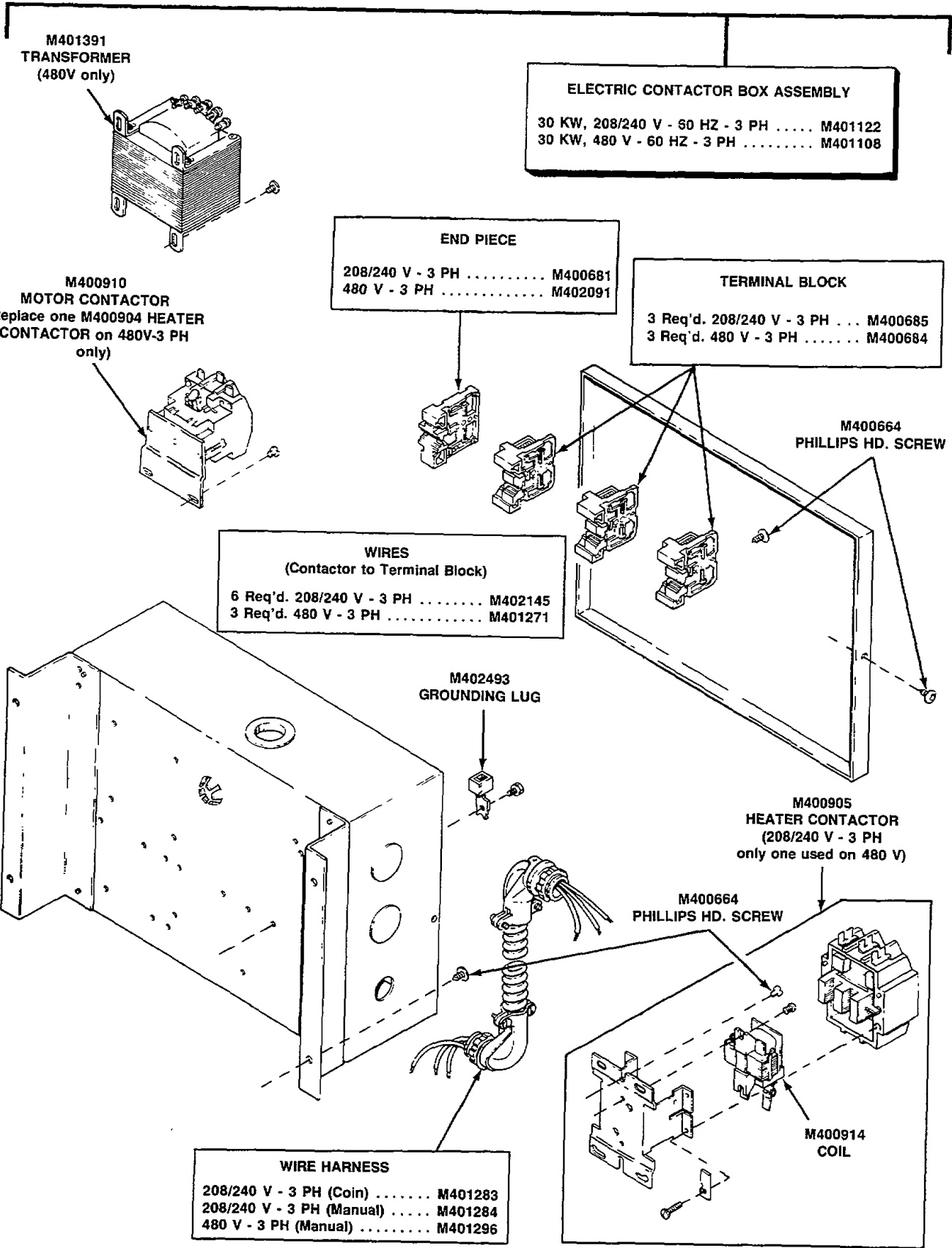
**TABLE 3. PILOT ORIFICE (Standing Pilot and Automatic Ignition Models)**

	TYPE OF BURNER	ALTITUDE	DRILL SIZE	PART NO.
NATURAL GAS 1,000 BTU/cu. ft. Specific Gravity 0.60 3.5 In. WC	Standing Pilot	0 - 6,000	.023	M400922
	Automatic Ignition (Horizontal)	0 - 6,000	.025	M400920
	Automatic Ignition (Vertical)	0 - 6,000	.023	M402701
PROPANE/ BUTANE GAS 2500 BTU/cu. ft.  Specific Gravity 1.53 11 In. WC	Standing Pilot and Automatic Ignition (Horizontal)	0 - 5,900	.012	M400918
	Automatic Ignition (Vertical)	0 - 5,900	.012	M402598

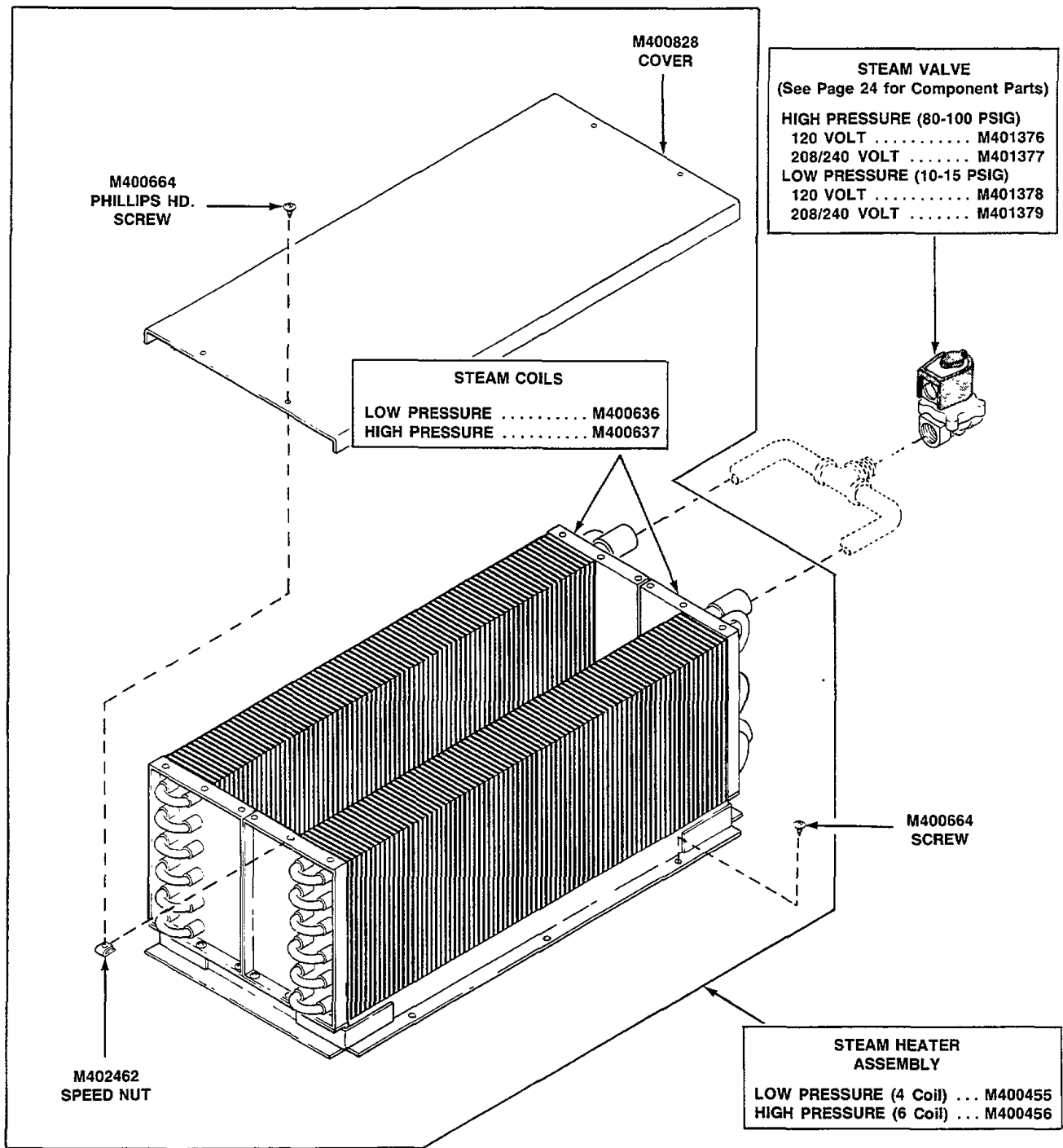
**ORIFICE CHART**



**ELECTRIC HEATER ASSEMBLY**



**ELECTRICAL CONTACTOR BOX ASSEMBLY**



**STEAM HEATER AND VALVE ASSEMBLY**

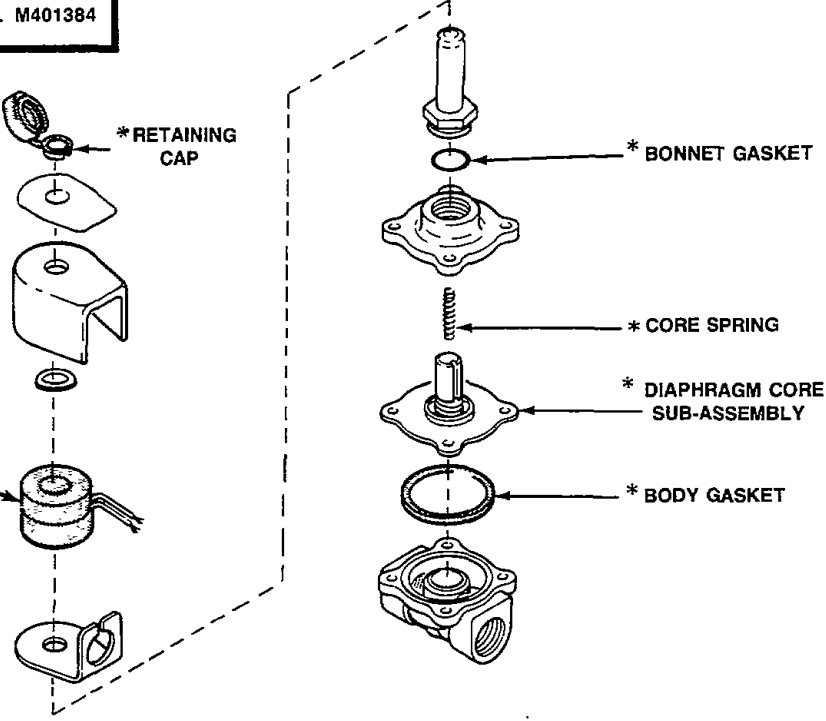


**REPAIR KIT**  
 (Includes parts marked  
 with an asterisk)

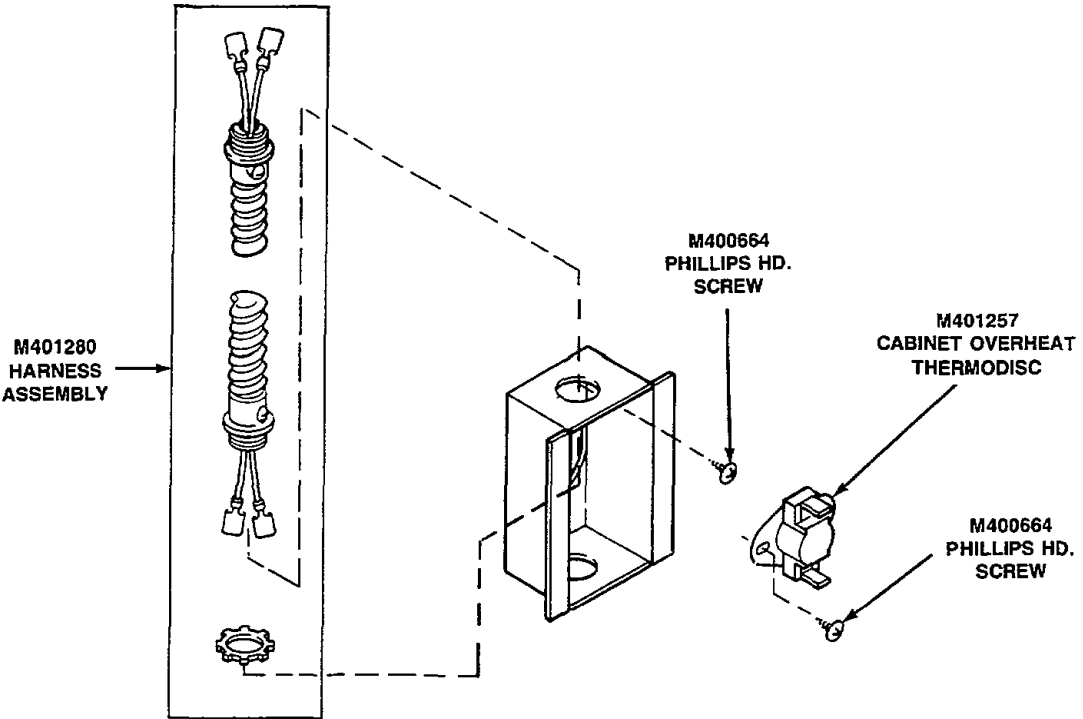
HIGH PRESSURE (80-100 PSIG) ..... M400152  
 LOW PRESSURE (10-15 PSIG) ..... M401384

**REPLACEMENT COILS**

HIGH PRESSURE (80-100 PSIG)  
 120 VOLT ..... M401380  
 208/240 VOLT ..... M401381  
 LOW PRESSURE (10-15 PSIG)  
 120 VOLT ..... M401382  
 208/240 VOLT ..... M401383



**SOLENOID STEAM VALVE BREAKDOWN**



**CABINET HIGH LIMIT ASSEMBLY**  
 (Energy Saver Gas Models Only)

# SECTION II

## Service Procedures

**IMPORTANT:** When reference to direction (right or left) is made in this manual, it is from the operator's position facing the front of the drying tumbler.

### WARNING

**FOR SAFETY REASONS DISCONNECT ELECTRICAL SERVICE TO THE TUMBLER UNIT. ALSO CLOSE VALVE IN GAS SUPPLY LINE TO GAS TUMBLER UNIT AND CLOSE VALVE IN STEAM SUPPLY LINE TO STEAM TUMBLER UNIT.**

#### 1. CONTROL PANEL

- a. Unlock and open access door.

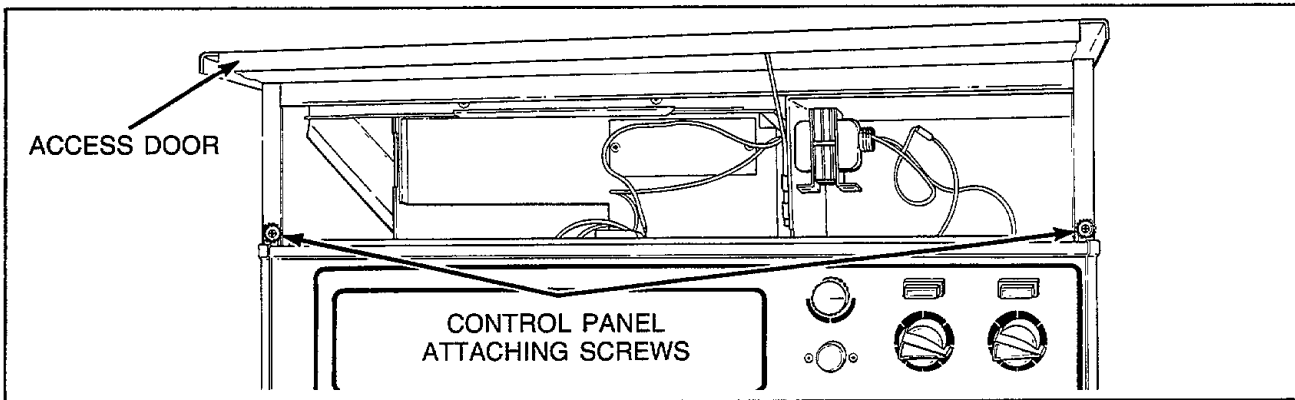


Figure 1

- b. Remove two Phillips head screws holding control panel to cabinet, *Figure 1*.
- c. Lift control panel off brackets, *Figure 2*.
- d. Disconnect wire harness at the Molex plug, *Figure 2*.

#### 2. PUSH-TO-START SWITCH ASSEMBLY

- a. Remove control panel, paragraph 1.
- b. Remove two Phillips head screws holding start switch assembly to control panel, *Figure 2*.
- c. Disconnect wires from switch.

**NOTE:** Refer to wiring diagram when rewiring switch.

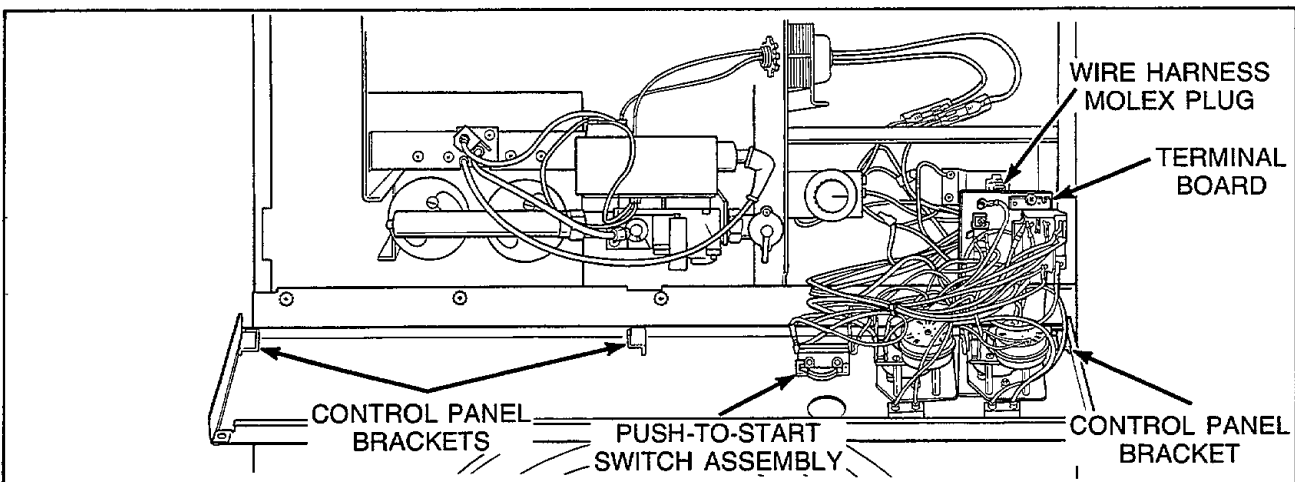


Figure 2

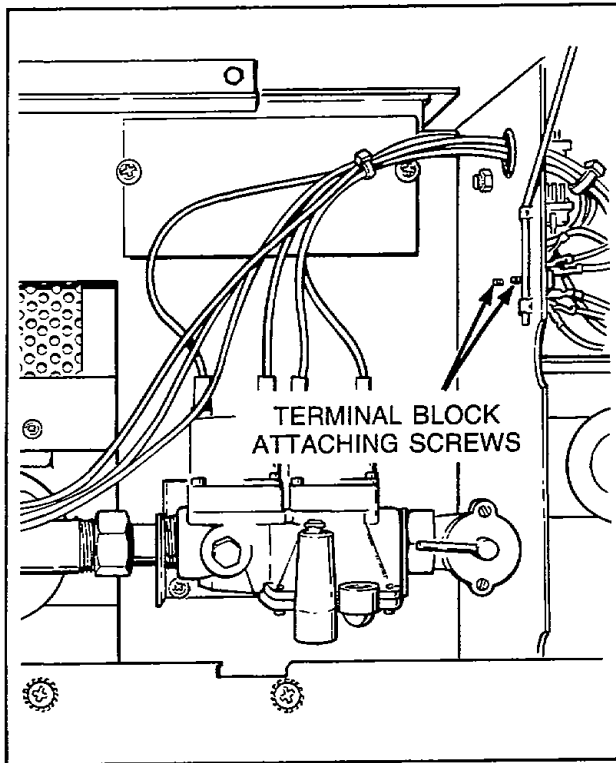


Figure 3

3. **TERMINAL BLOCK OR BOARDS** (Refer to Figures 2 or 3)

- a. Remove control panel, paragraph 1.
- b. Remove Phillips head screws holding terminal block(s) to bracket.
- c. Disconnect all wires from terminal block.

**NOTE:** Refer to wiring diagram when rewiring.

4. **PILOT AND ELECTRODE ASSEMBLY — Vertical or Horizontal System (Gas Models)** (Refer to Figure 4)

- a. Unlock and open access door.
- b. Disconnect igniter and sensor wires.
- c. Loosen compression nut and remove sensor probe.
- d. Disconnect pilot tube from pilot assembly.
- e. Remove Phillips head screw holding pilot and electrode assembly to frame.

5. **BURNER SYSTEM COMPONENTS**

- a. Complete Gas Valve Assembly, Figure 5.

- (1) Unlock and open access door.
- (2) Remove control panel assembly, paragraph 1.

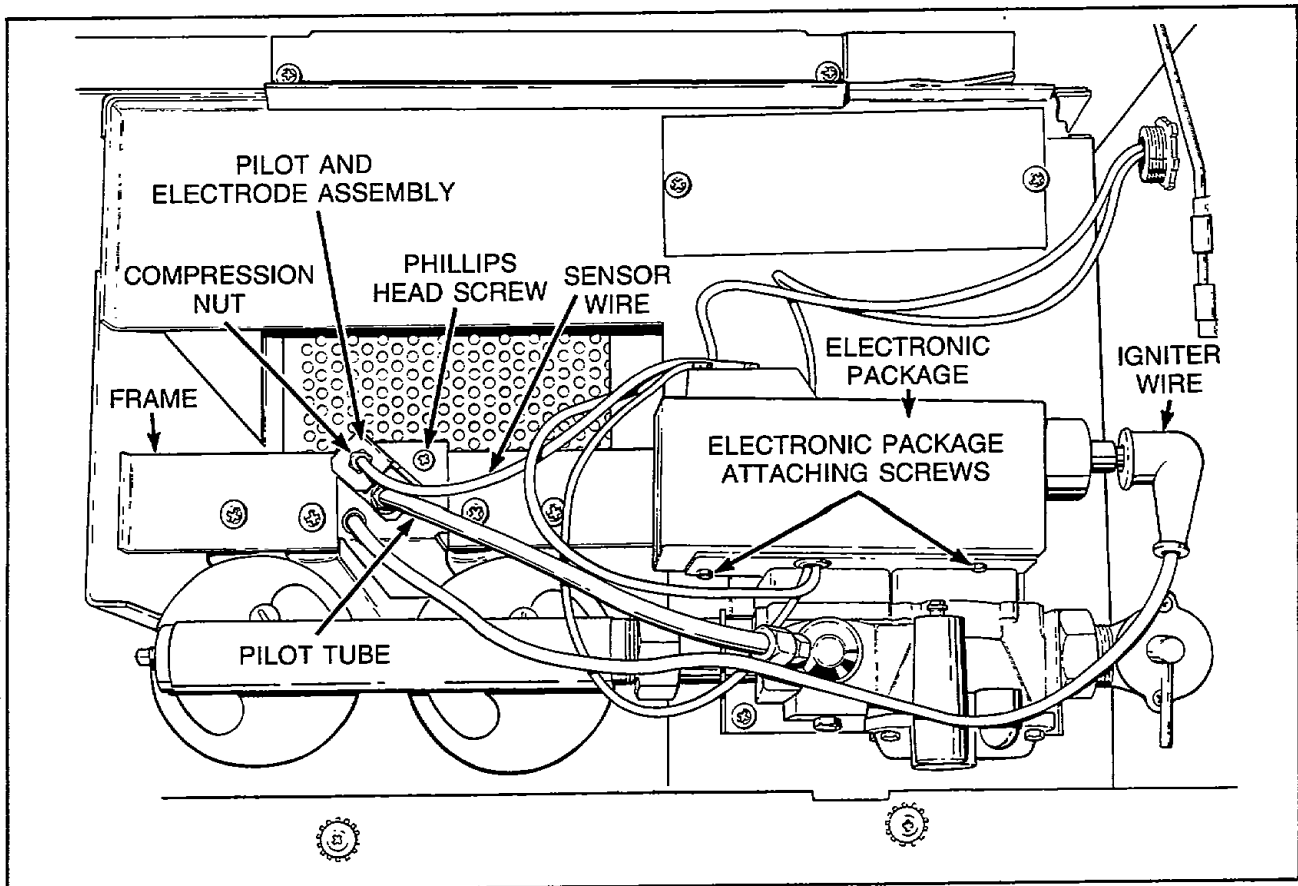


Figure 4

- (3) Close manual gas supply valve.
- (4) Disconnect all wires from gas valve and disconnect gas valve pipe unions.
- (5) Standing Pilot Models - Disconnect thermocouple from gas valve.
- (6) Standing Pilot or Automatic Ignition Models - Disconnect pilot tube from gas valve.
- (7) Automatic Ignition Models - Disconnect igniter wire from electronic package.
- (8) Automatic Ignition Models - Disconnect sensor wire from electronic package.
- (9) Remove Phillips head screws holding gas valve and bracket to stove assembly.

b. Electronic Package — Automatic Ignition Models (Refer to Figure 4)

- (1) Unlock and open access door.

- (2) Remove control panel assembly, paragraph 1.
- (3) Remove two screws holding electronic package to gas valve.

c. Gas Valve Reset Assembly or Solenoid Coil

- (1) Unlock and open access door.
- (2) Remove control panel assembly, paragraph 1.
- (3) Close manual gas supply valve.
- (4) Disconnect all wires from gas valve.
- (5) Automatic Ignition Models - Remove two screws holding electronic package to gas valve, Figure 4.
- (6) Remove screws holding reset assembly or solenoid coil to gas valve body.

**NOTE:** Refer to Figure 6 for assembly sequence.

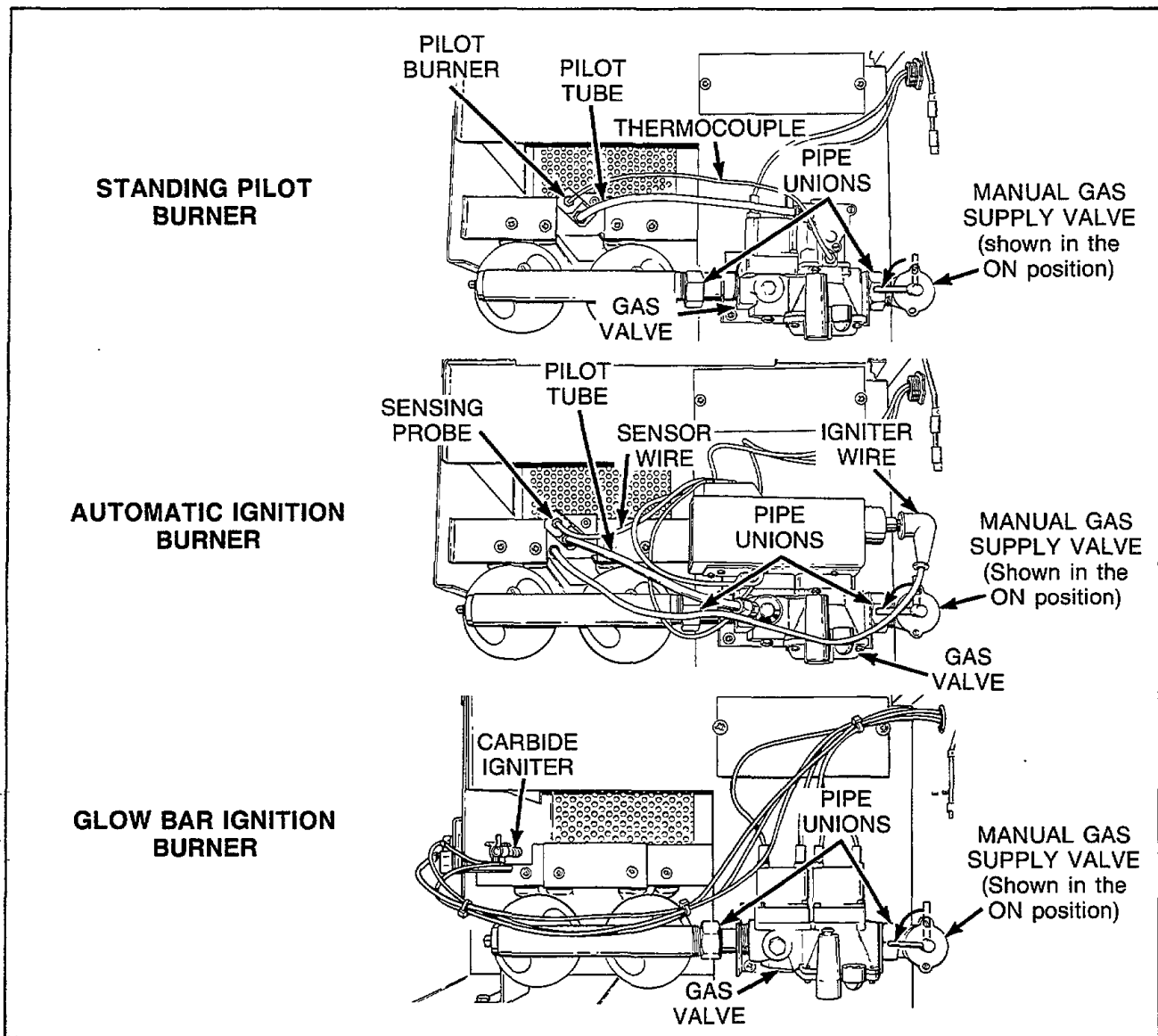


Figure 5

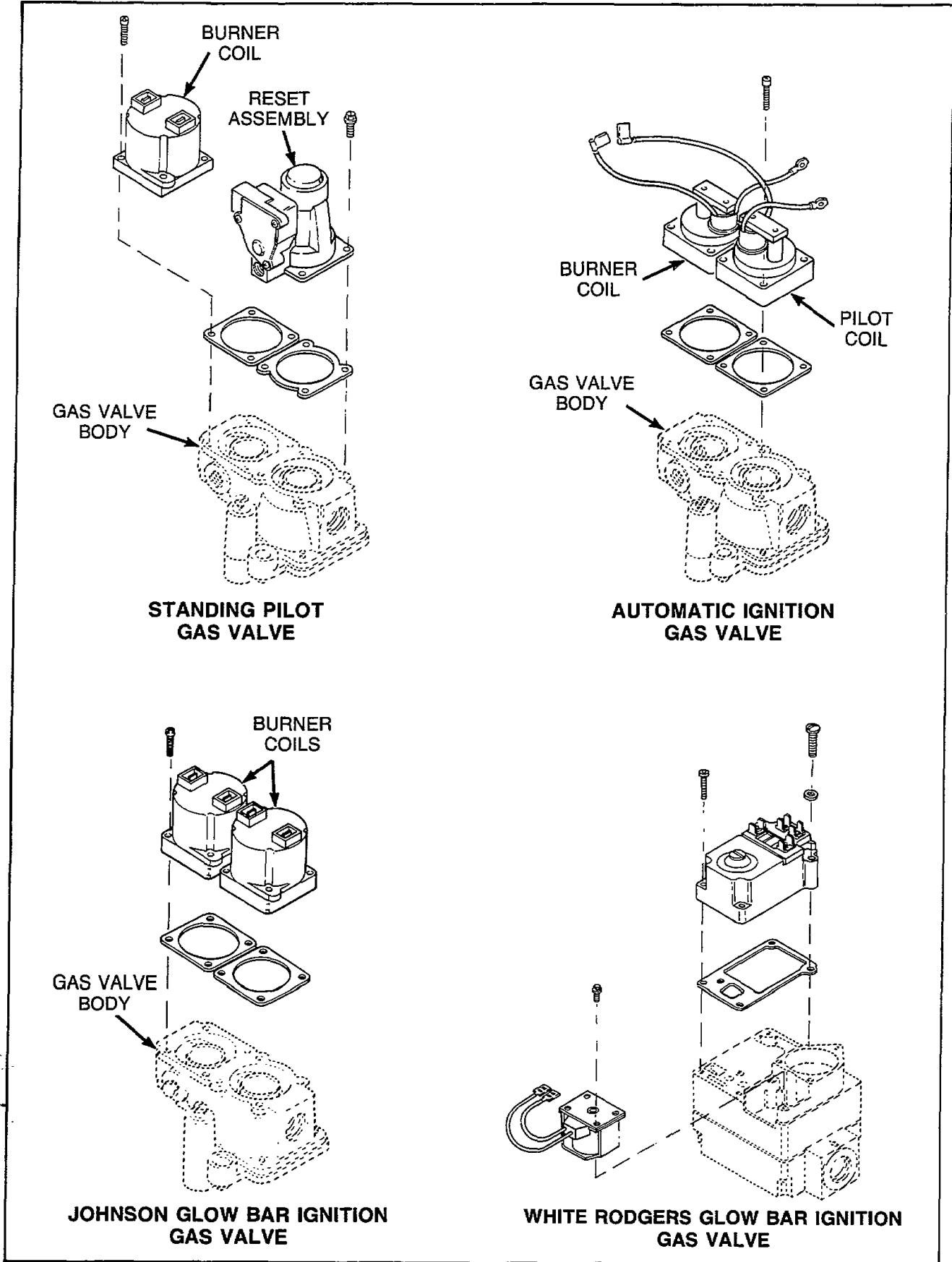


Figure 6

d. Burner Tube Assembly (Refer to Figure 7)

- (1) Unlock and open access door.
- (2) Remove control panel assembly, paragraph 1.
- (3) Disconnect gas valve pipe union and remove manifold.
- (4) Remove Phillips head screws holding burner tube to stove frame and remove burner tube.

e. Igniter and Bracket — Glow Bar Ignition Models (Refer to Figure 7)

- (1) Unlock and open access door.
- (2) Using a 90 degree tip Tru-Arc pliers, insert the plier tips into holes in each mounting clip just far enough for igniter removal.

f. Flame Sensor — Glow-Bar Ignition Models (Refer to Figure 7)

- (1) Unlock and open access door.
- (2) Disconnect wires from flame sensor.
- (3) Remove screw holding flame sensor to side of stove assembly.

g. Control Relay — Glow-Bar Ignition Models (Refer to Figure 8)

- (1) Unlock and open access door.
- (2) Disconnect wires from relay.
- (3) Remove nut holding control relay to stove assembly.

**WARNING**

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 OR OIL, GREASE OR OTHER IMPURITIES WILL CAUSE IGNITER TO BURN OUT.

- (3) Remove screw holding igniter bracket to stove assembly.

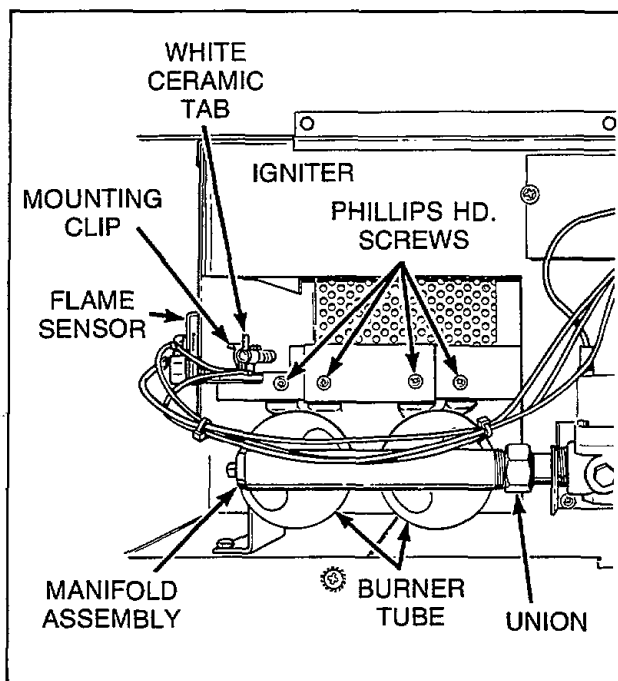


Figure 7

6. THERMOSTAT

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Pull thermostat knob off thermostat shaft, Figure 9.
- d. Disconnect all wires from thermostat.

continued

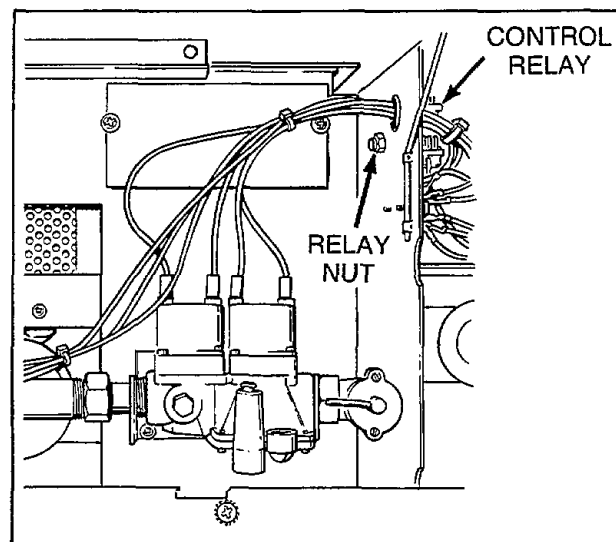


Figure 8

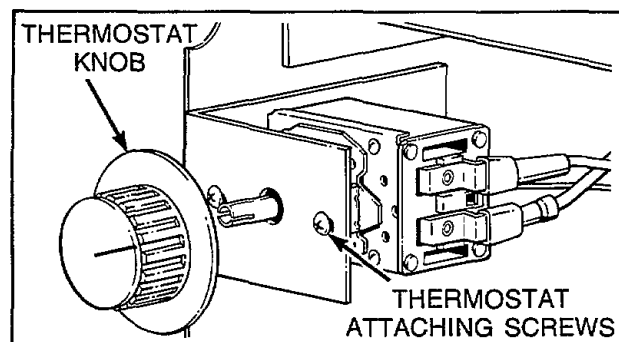


Figure 9

**NOTE:** Refer to wiring diagram when rewiring thermostat.

- e. Remove two Phillips head screws holding thermostat to mounting bracket, *Figure 9*.
- f. Remove Phillips head screw holding wire way cover plate to rear of tumbler, *Figure 10*, or remove two Phillips head screws attaching junction box cover, and six Phillips head screws attaching wire cover to cabinet back, *Figure 11*.
- g. Remove three screws and wire clips, *Figure 12*, holding sensing tube to wire way.
- h. Unlock and open lint panel door.
- i. Spread locking tabs on sensing probe bracket, *Figure 13*.
- j. Carefully feed sensing probe through openings in cabinet and remove thermostat.

**IMPORTANT:** DO NOT bend or kink sensing tube when removing or installing thermostat.

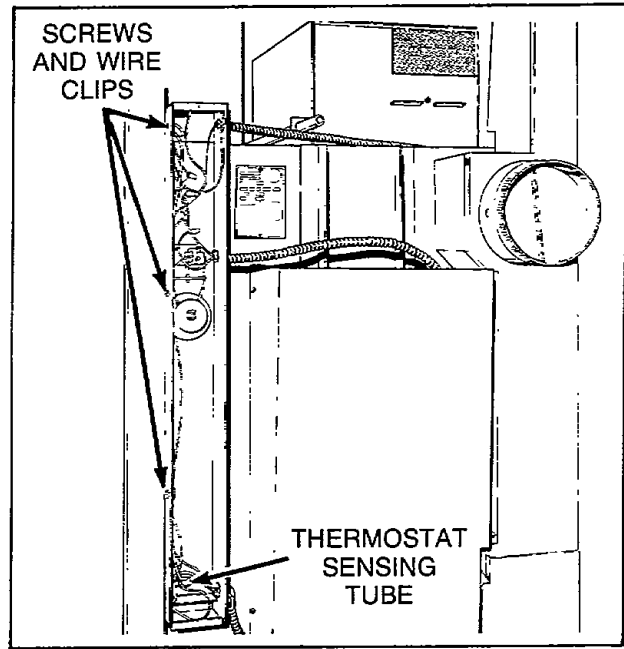


Figure 12

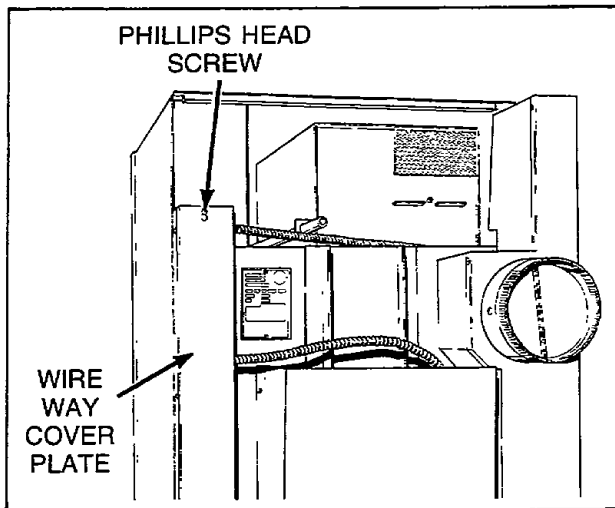


Figure 10

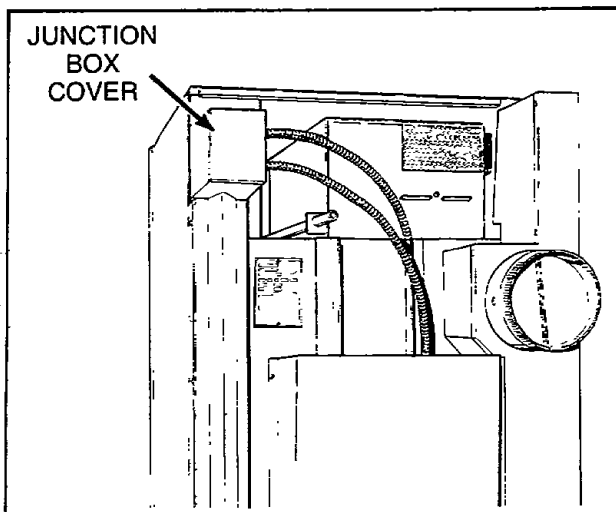


Figure 11

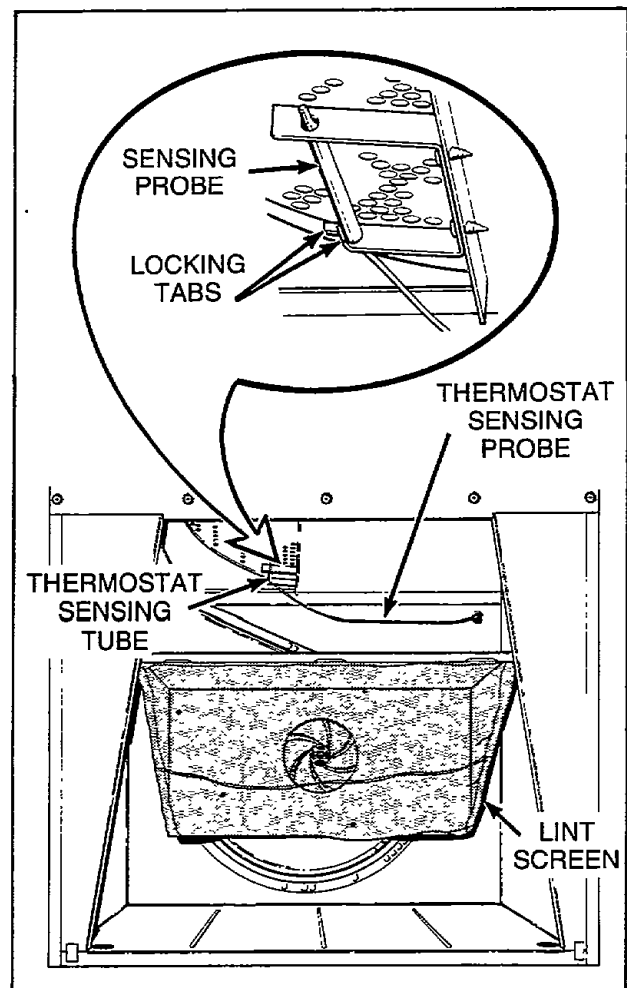


Figure 13

7. **TRANSFORMER — AUTOMATIC IGNITION MODELS**

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Disconnect wires from transformer to electronic package.
- d. Disconnect remaining wires from transformer at connectors.

**NOTE:** Refer to wiring diagrams when rewiring transformer.

- e. Remove screw or nut holding transformer to cabinet.

8. **RELAY AND TERMINAL BLOCK — JOHNSON GLOW BAR SYSTEM**

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Disconnect wires from relay and terminal block to gas valve.

**NOTE:** Refer to wiring diagrams when rewiring relay and terminal block.

- d. Remove nut holding relay to cabinet.
- e. Remove two Phillips head screws attaching terminal block to cabinet.

9. **DIODE LOGIC BOARD — WHITE RODGERS GLOW BAR SYSTEM**

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Carefully disconnect wires from diode logic board.

**NOTE:** Refer to wiring diagrams when rewiring diode logic board.

- d. Remove four screws attaching logic board to stand off bushings, or compress nylon stand off bushing together and pull logic board off.

10. **DOOR SWITCH (Refer to Figure 14)**

- a. Remove control panel, paragraph 1.
- b. Disconnect wires from door switch.

**NOTE:** Refer to wiring diagram when rewiring door switch.

- c. Remove two Phillips head screws holding door switch to bracket.

11. **LOADING DOOR ASSEMBLY (Refer to Figure 15)**

- a. Open loading door.
- b. While supporting door, remove upper hinge bolt holding door to hinge bracket.

**NOTE:** Nylon washer must be in place on lower hinge pin when installing loading door.

12. **DOOR HINGE**

- a. Remove loading door assembly, paragraph 10.
- b. Remove four nuts, lockwashers and screws holding hinge to door frame, *Figure 16*.

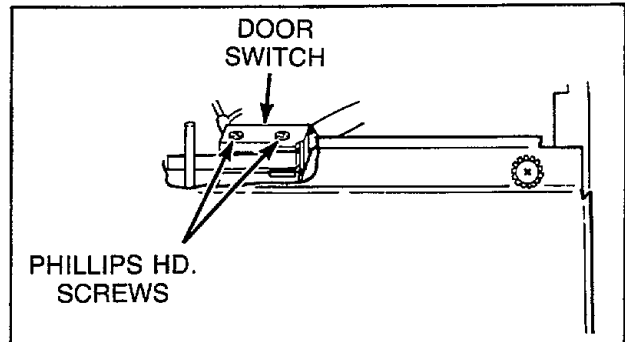


Figure 14

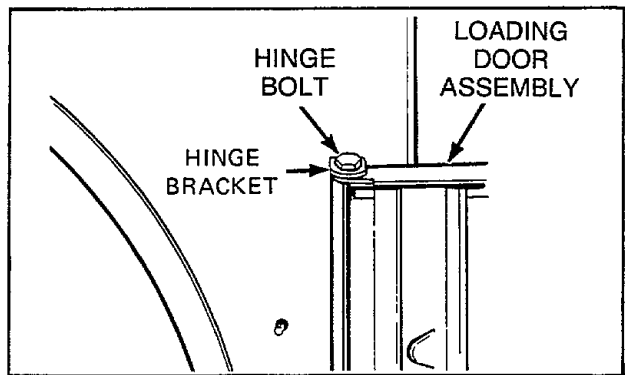


Figure 15

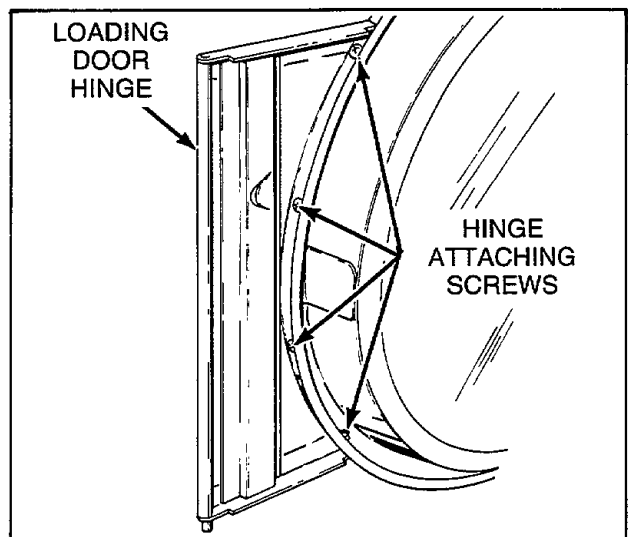


Figure 16



**13. DOOR HANDLE** (Refer to Figure 17)

- a. Open loading door.
- b. Remove two Phillips head screws holding door handle to door frame.

**14. FRONT PANEL** (Refer to Figure 18)

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Unlock, open and remove lint panel door.
- d. Remove loading door assembly, paragraph 11.
- e. Remove Phillips head screws holding front panel to cabinet.

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

**15. DOOR SWITCH ROD** (Refer to Figure 19)

- a. Remove front panel, paragraph 13.
- b. Remove nut, washers, and spring clip holding switch rod to backside of front panel.

**16. CHAIN GUARD** (Refer to Figure 20)

- a. Support chain guard and remove Phillips head screws holding guard to rear of tumbler.

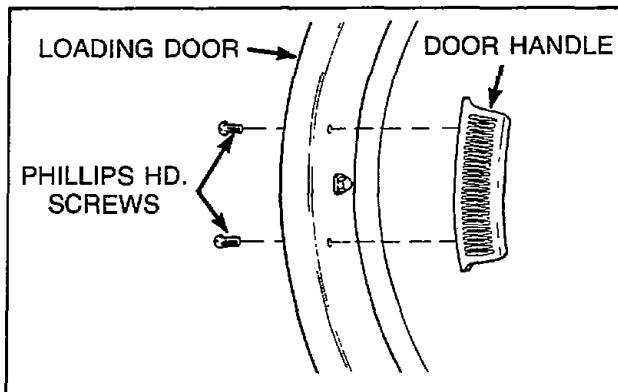


Figure 17

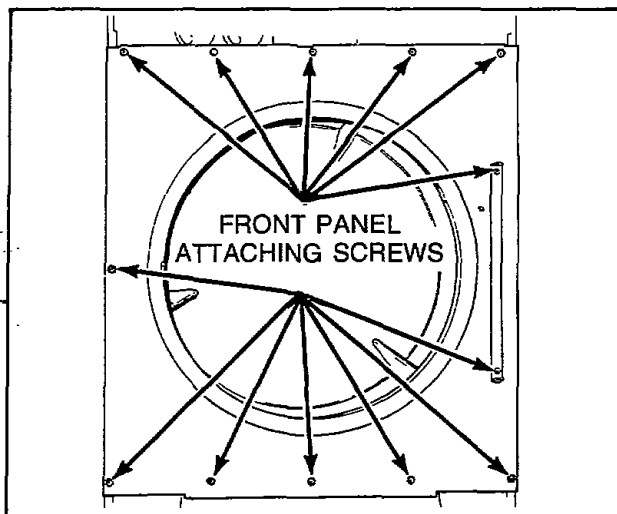


Figure 18

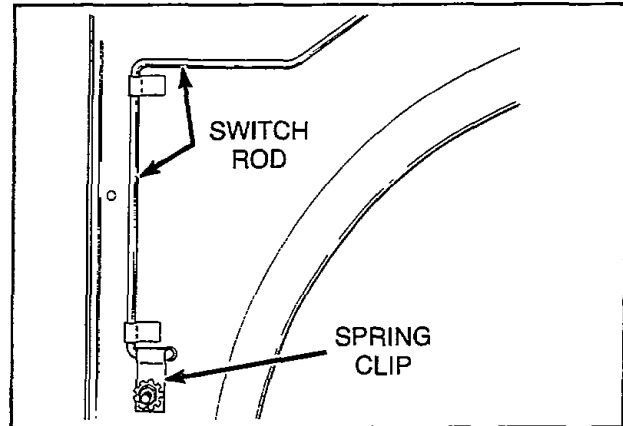


Figure 19

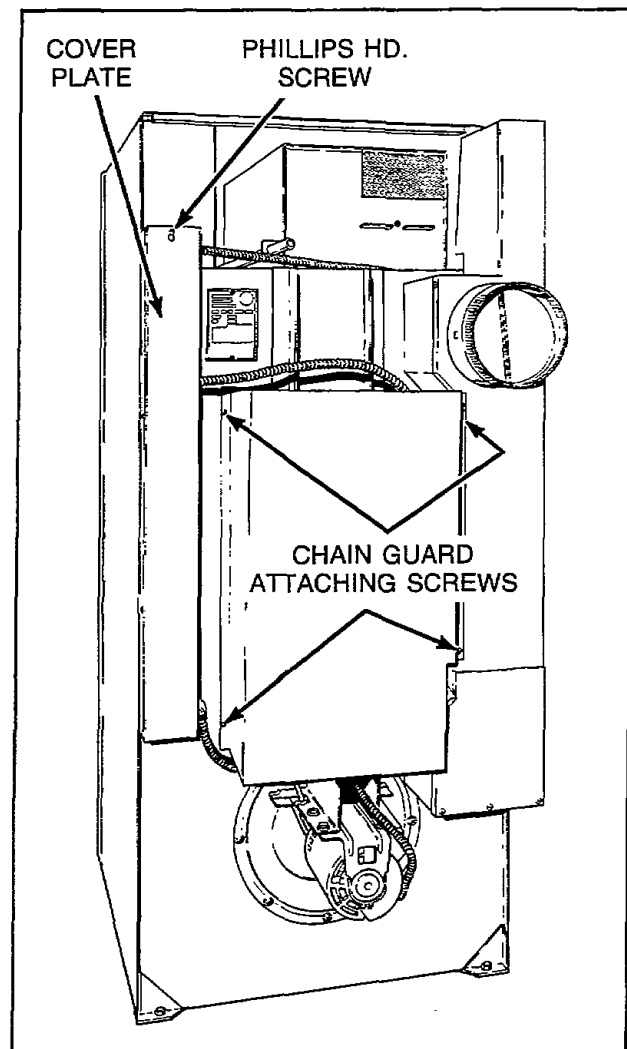


Figure 20

17. **WIRE CHANNEL COVER PLATE** (Refer to Figure 20)

- a. Remove Phillips head screw holding cover plate to rear of tumbler.

**IMPORTANT:** When installing cover plate, be sure no wires are pinched between the wire way channel and cover plate.

- b. Lift cover off rear of tumbler, or remove six Phillips head screws attaching wire cover to rear of tumbler.
- c. Remove two Phillips head screws holding mounting bracket to rear of tumbler and remove switch and bracket.
- d. Remove two screws holding switch to mounting bracket.

**NOTE:** After installing air flow switch to rear of tumbler, adjust air flow switch, paragraph 37.

18. **AIR FLOW SWITCH** (Refer to Figure 21)

**NOTE:** Depending on the model, the air flow switch is located either in the wire way channel, or on the rear of the stove assembly.

- a. Remove wire channel cover plate, paragraph 17, or air flow switch box cover.
- b. Disconnect wires from switch.

**NOTE:** Refer to wiring diagram when rewiring switch.

**CAUTION**

For personal safety, chain guard **MUST** be reinstalled after servicing is completed.

19. **BELT**

- a. Remove chain guard, paragraph 16.
- b. Remove two clips from each side, Figure 22,

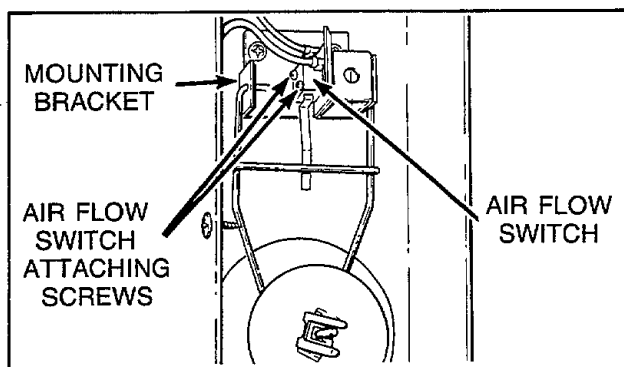


Figure 21

- holding belt guard assembly to motor bracket and remove belt guard.
- c. Run belt off sheave and motor pulley, Figure 23.
- d. Loosen upper bolt and nut holding guide rails to trunnion housing, Figure 23.
- e. Remove bottom bolt and nut from guide rail and hinge guide rail out, then slip belt under guide rail.

**NOTE:** After installing belt on sheave and motor pulley, adjust belt, paragraph 40, then adjust chain, paragraph 41.

20. **CHAIN** (Refer to Figure 23)

- a. Remove chain guard, paragraph 16.
- b. Loosen jamnut on idler sprocket and move idler sprocket to the right.
- c. Run chain off idler sprocket and lift chain off cylinder sprocket.

**NOTE:** After installing chain on cylinder sprocket and idler sprocket, adjust chain, paragraph 41.

21. **IDLER SPROCKET** (Refer to Figure 23)

- a. Remove chain guard, paragraph 16.
- b. Remove jamnut from idler sprocket locking bolt.
- c. Slide idler sprocket to the right and remove sprocket from bolt.

**NOTE:** After installing idler sprocket on locking bolt, adjust chain, paragraph 41.

22. **SHEAVE** (Refer to Figure 23)

- a. Remove chain guard, paragraph 16.
- b. Run belt off sheave and motor pulley.

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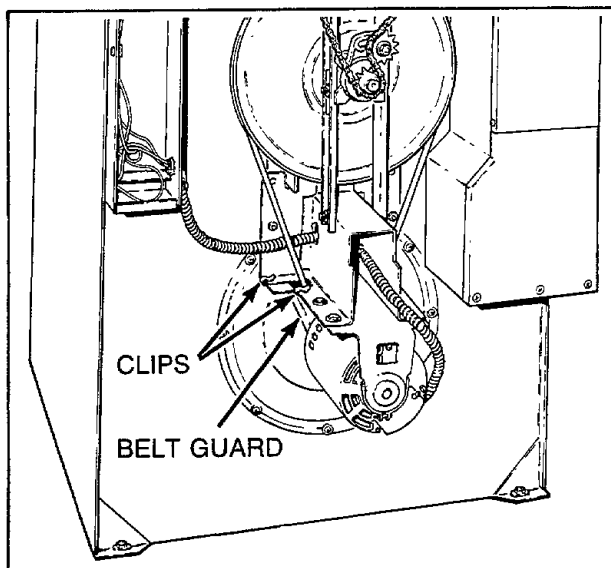


Figure 22

- c. Loosen jamnut on idler sprocket and move idler sprocket to the right.
- d. Run chain off idler sprocket.
- e. 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.

**NOTE:** Sheave is keyed to idler shaft.

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

**NOTE:** After installing sheave to the rear of the tumbler, adjust belt, paragraph 40, then adjust chain, paragraph 41.

### 23. IDLER HOUSING (Refer to Figure 23)

- a. Remove sheave, paragraph 22.
- b. Remove bolt, nut, lockwasher and two rectangular washers holding idler housing to guide rails.
- c. Support idler housing and carefully drive idler shaft from housing using a hammer and a hardwood dowel.
- d. Support idler housing and drive bearings from housing using hammer and hardwood dowel.

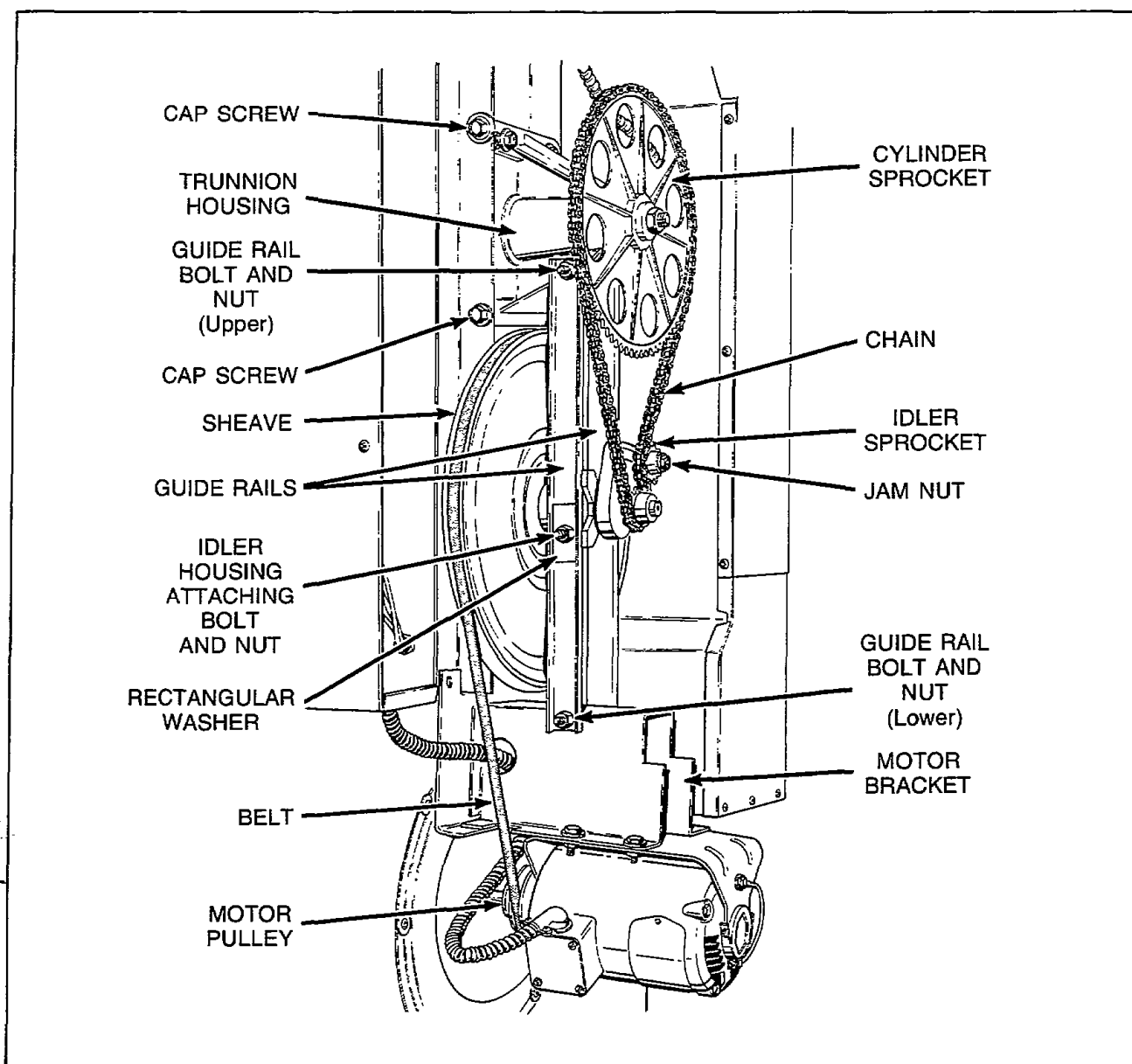


Figure 23

## 24. CYLINDER SPROCKET (Refer to Figure 23)

- a. Remove chain guard, paragraph 16.
- b. Loosen jamnut on idler sprocket and move idler sprocket to the right.
- c. Run chain off idler sprocket and drive sprocket.
- d. Lift chain off cylinder sprocket.

**NOTE:** After installing chain on the cylinder, drive and idler sprockets, adjust chain, paragraph 41.

- e. Remove sprocket from cylinder shaft.

**NOTE:** Sprocket is keyed to shaft and may require being removed by means of a puller. However, if a puller is required, use extreme care so as not to damage the sprocket during removal.

## 25. TRUNNION HOUSING ASSEMBLY

- a. Remove sheave, paragraph 22, steps "a" through "f".
- b. Remove cylinder sprocket, paragraph 24.
- c. Remove four cap screws holding trunnion housing assembly to rear of tumbler cabinet, *Figure 23*.
- d. Use a gear puller and pull the trunnion housing assembly off cylinder shaft.
- e. Remove the four bearing retainer screws holding the small bearing in housing, *Figure 24*.
- f. Support trunnion housing and drive small bearing from housing using hammer and hardwood dowel.
- g. Drive large bearing from housing using hammer and hardwood dowel.

**NOTE:** 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.

- h. Press bearings into housing.

**NOTE:** If press is not available for installing bearings into housing, tap bearings into housing using a prylin hammer.

- i. Install bearing retainer screws removed in step "e".

**NOTE:** After trunnion housing assembly is installed to the rear of the tumbler cabinet and cylinder sprocket is installed on the shaft, adjust cylinder, paragraph 42.

- j. Install sheave and guide rails to trunnion housing.
- k. Install belt on motor pulley and sheave and attach guide rails to motor bracket.
- l. Install chain on cylinder sprocket and idler sprocket.

**NOTE:** After installing belt and chain, adjust belt paragraph 40, then adjust chain, paragraph 41.

## 26. CYLINDER ASSEMBLY

- a. Remove front panel, paragraph 14.
- b. Remove cylinder sprocket, paragraph 24.
- c. Pull cylinder out through front of tumbler.

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

**IMPORTANT:** After installing cylinder and shaft, adjust cylinder, paragraph 42.

## 27. TRUNNION SHAFT ASSEMBLY

- a. Remove cylinder assembly, paragraph 26.
- b. Remove the four rib rods, washers and nuts holding trunnion shaft assembly to rear of cylinder.

continued

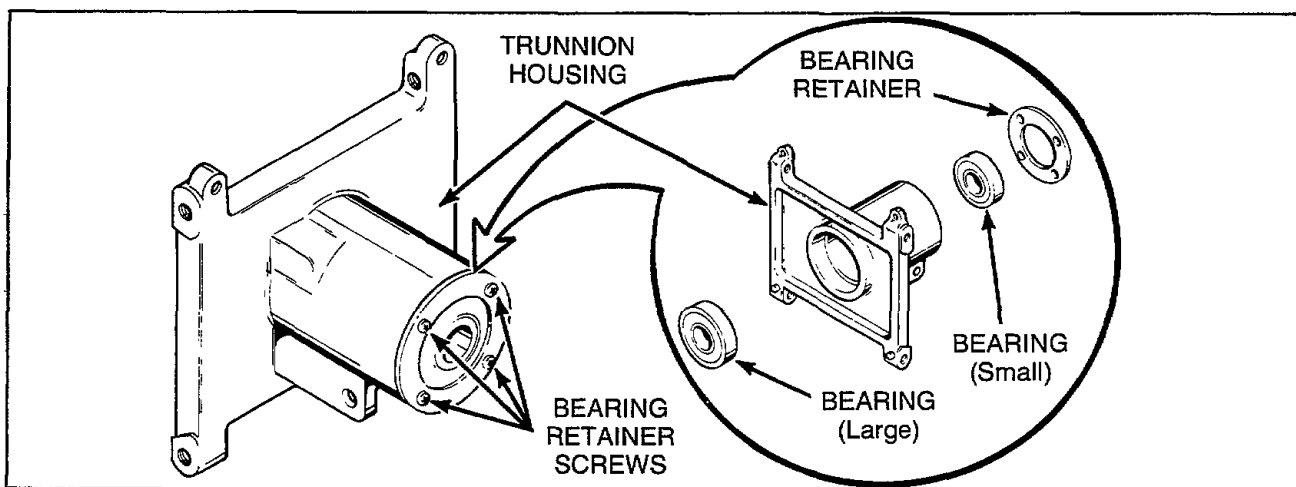


Figure 24

**IMPORTANT:** When installing trunnion shaft assembly on cylinder, cylinder and shaft must be leveled. See *Figure 25* for an example of how to check the levelness of the shaft and cylinder. Support a 6 foot 2 x 4 and drill a hole in the 2 x 4 slightly larger than the size of the trunnion shaft. Hang shaft and cylinder through the hole and place nut on shaft. While turning cylinder by hand, use a gauge and check the cylinder edge for levelness. If cylinder is not level, place a shim or shims between the appropriate trunnion bracket, rod and cylinder.

**NOTE:** After installing cylinder and shaft, adjust cylinder, paragraph 42.

## 28. MOTOR AND FAN ASSEMBLY

a. Remove chain guard, paragraph 15.

- b. Loosen nut on top guide rail bolt, *Figure 23*.
- c. Remove four clips holding belt guard to motor bracket, *Figure 22*, and remove belt guard.
- d. Remove the nut from the bottom guide rail bolt, *Figure 23*.

**NOTE:** DO NOT remove bottom bolt at this time.

- e. Run belt off motor pulley.
- f. Remove the seven fan housing attaching screws, *Figure 26*.
- g. Remove the two cap screws, nuts and washers, holding motor bracket to rear of tumbler cabinet, *Figure 26*.
- h. Remove plate from motor junction box and disconnect wires from motor, *Figure 26*.

**NOTE:** When installing motor, refer to wiring diagram when rewiring motor.

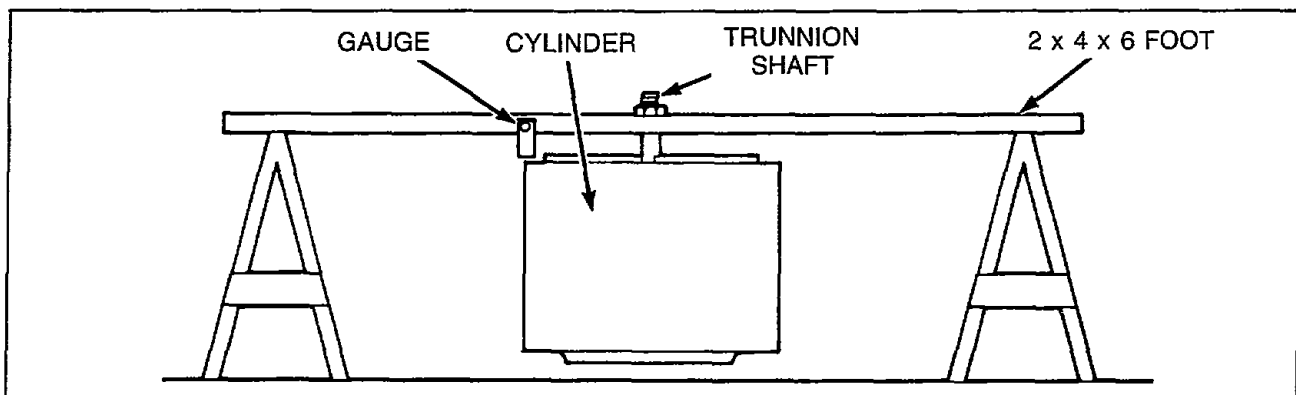


Figure 25

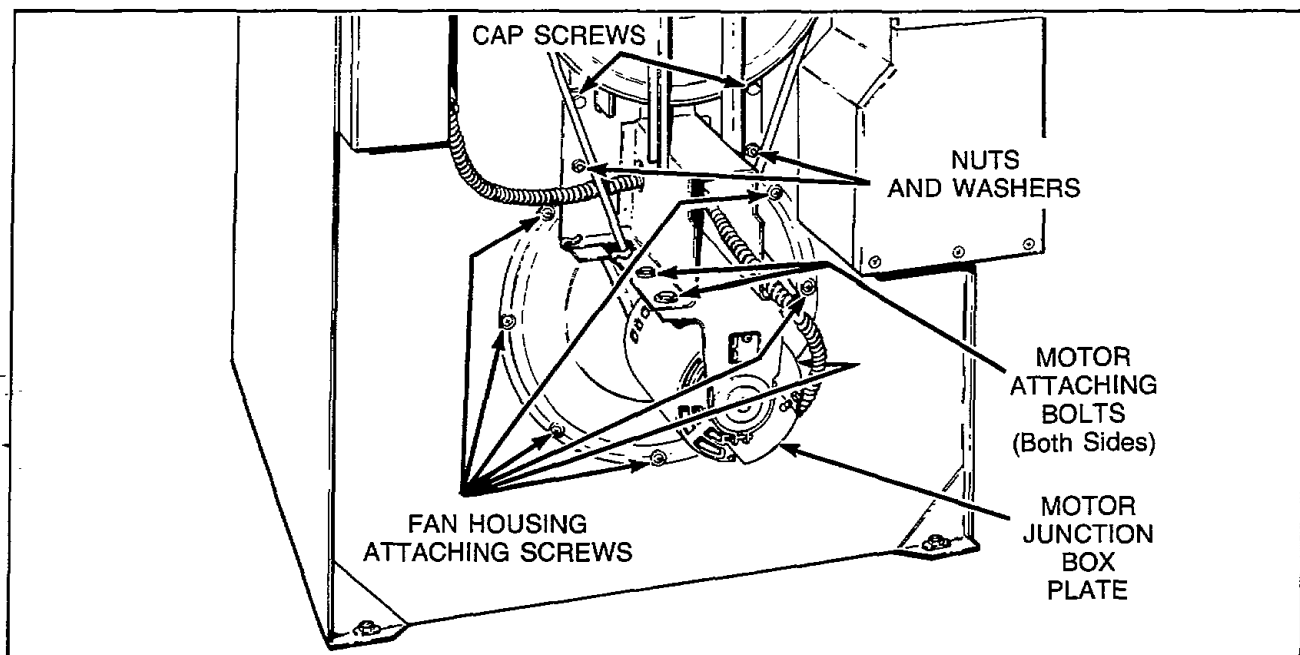


Figure 26

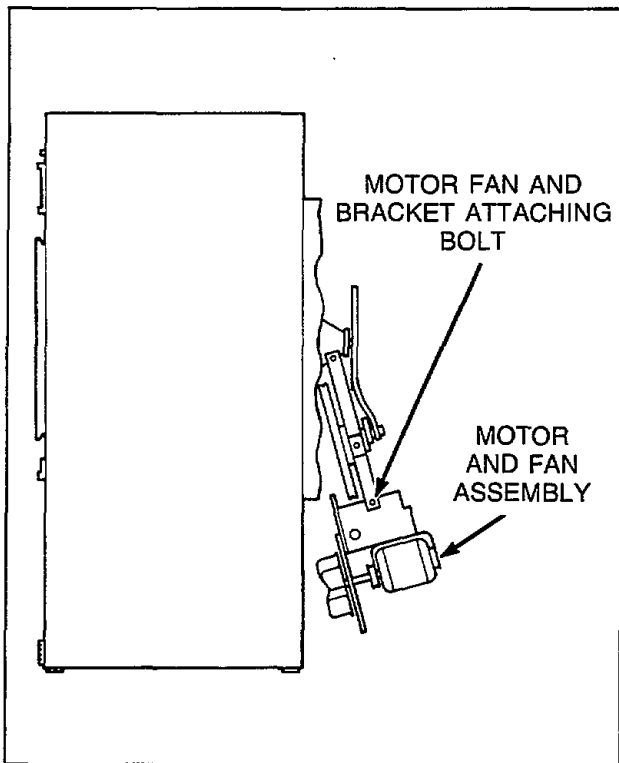


Figure 27

- i. Using the guide rails as support, swing motor and fan assembly out and away from rear of tumbler, *Figure 27*.
- j. While supporting motor and fan assembly, remove the bottom bolt holding the motor fan and bracket to guide rails, *Figure 27*.
- k. Remove four nuts, washers and bolts holding mounting bracket to motor, *Figure 26*.
- l. Remove locknut and jamnut holding fan on motor shaft, *Figure 28*, and pull fan off motor shaft.

**NOTE:** Fan is keyed to motor shaft and may require being removed from shaft by means of a puller.

- m. Remove spacer washer from motor shaft, *Figure 28*.

**NOTE:** Spacer washer must be between fan and motor pulley when fan is installed on motor shaft.

- n. Remove fan housing cover from motor shaft, *Figure 28*.
- o. Loosen two setscrews holding motor pulley to motor shaft.

**NOTE:** Pulley may require being removed from shaft by means of a puller.

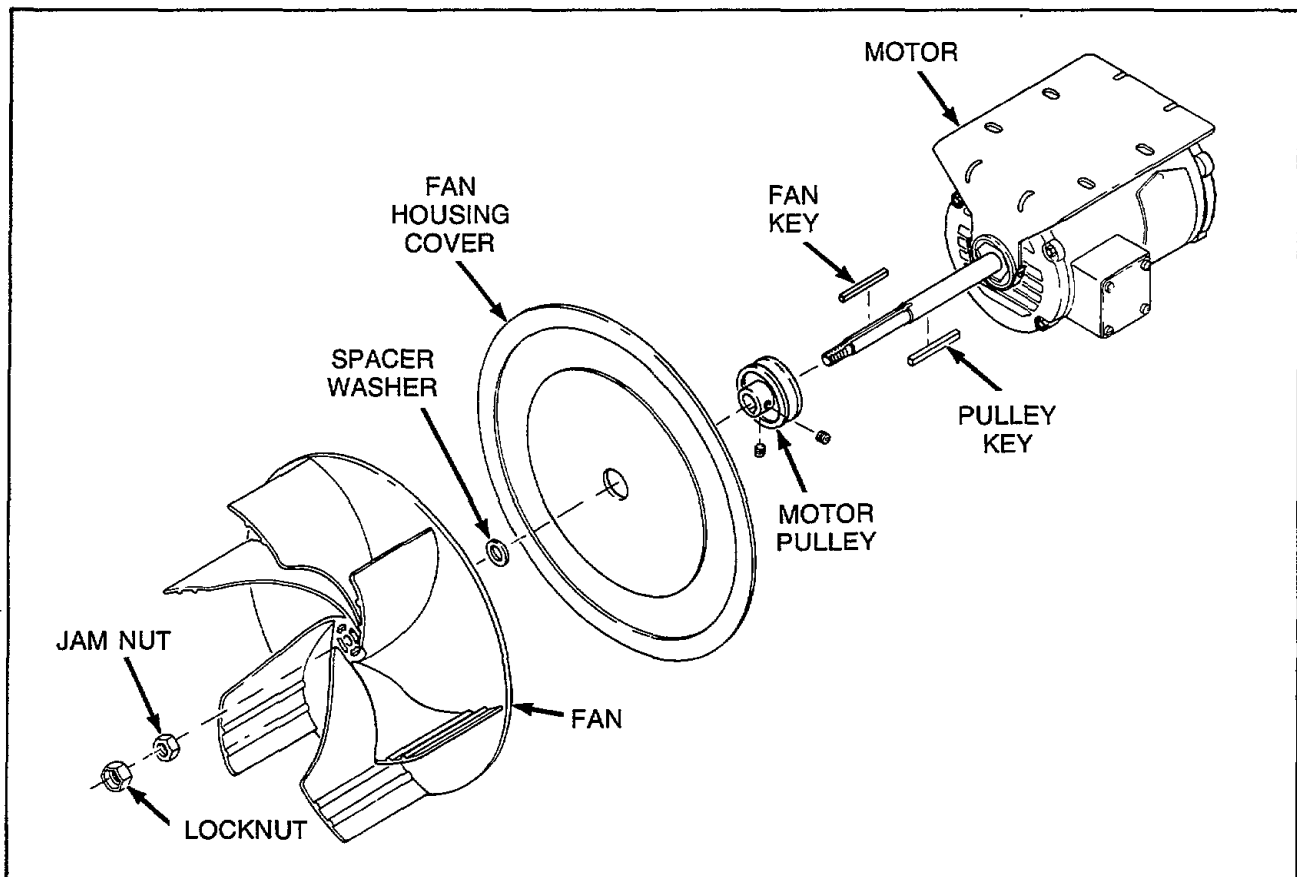


Figure 28

**29. STOVE HIGH LIMIT THERMOSTAT (Gas Models)**

- a. Remove control panel assembly, paragraph 1.
- b. Remove two Phillips head screws at rear of tumbler holding thermostat and bracket to stove, *Figure 29*.
- c. Remove Phillips head screw holding cover plate to wire way, *Figure 20*, and lift cover off wire way.
- d. Remove nut holding conduit to wire way, *Figure 29*, and disconnect conduit from wire way.

- e. Disconnect blue wire from airflow switch, *Figure 29*, and remove orange wire from wire nut.

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

- f. Carefully slide assembly toward front of tumbler far enough to permit removing assembly from stove.

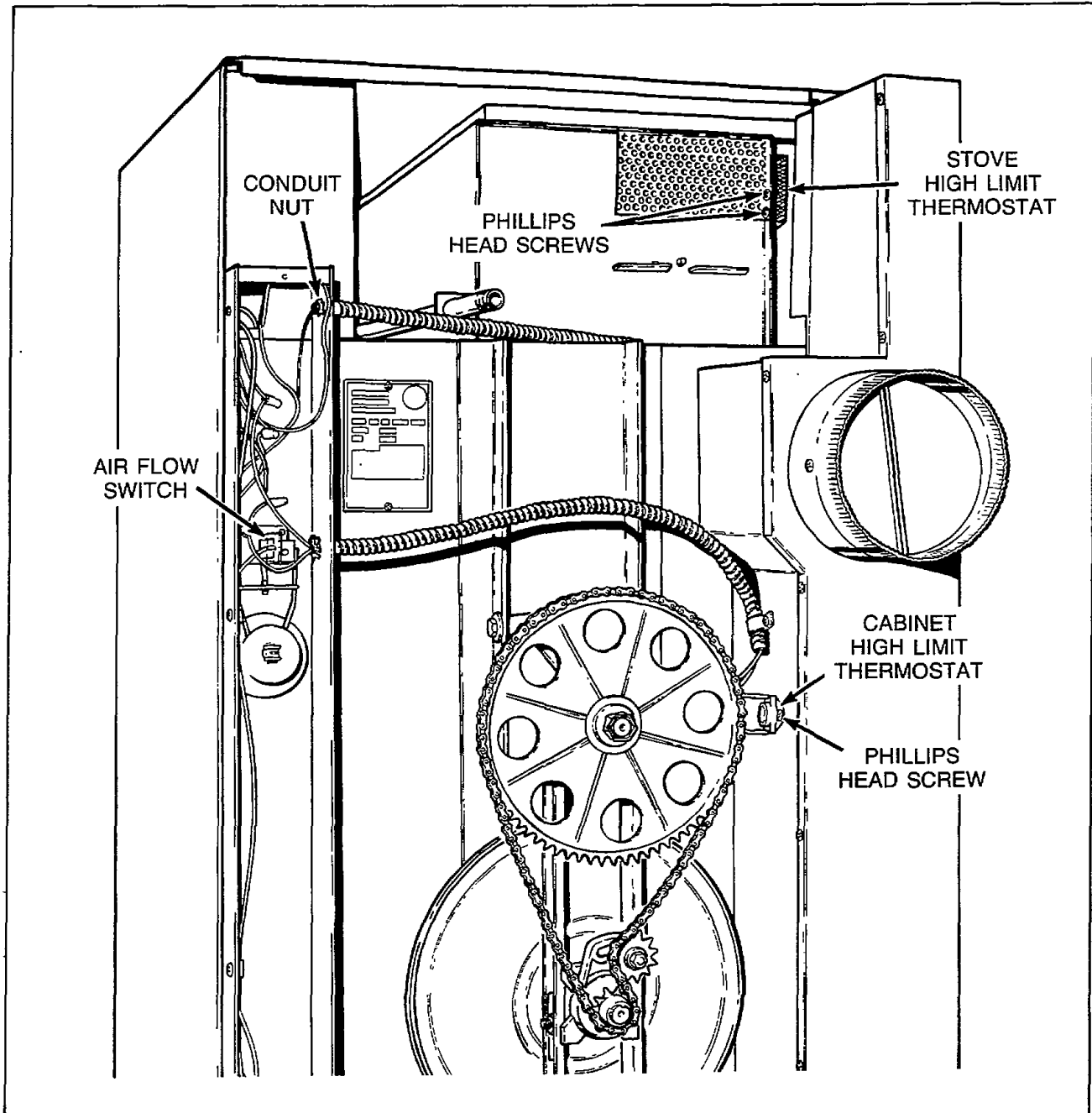


Figure 29

- g. Remove two Phillips head screws, *Figure 30*, holding cover to mounting bracket.
- h. Disconnect wires from thermostat.
- i. Remove two Phillips head screws holding thermostat to mounting bracket, *Figure 30*.

**30. CABINET HIGH LIMIT THERMOSTAT - Energy Saver Gas Models**

- a. Remove chain guard, paragraph 16.

**CAUTION**

For personal safety, chain guard **MUST** be reinstalled after servicing is completed.

- b. Disconnect wires from thermostat, *Figure 29*.
- c. Remove two Phillips head screws holding thermostat to cabinet.

**31. HIGH LIMIT THERMOSTAT - Electric Models (Refer to Figure 31)**

- a. Unlock and open access door.

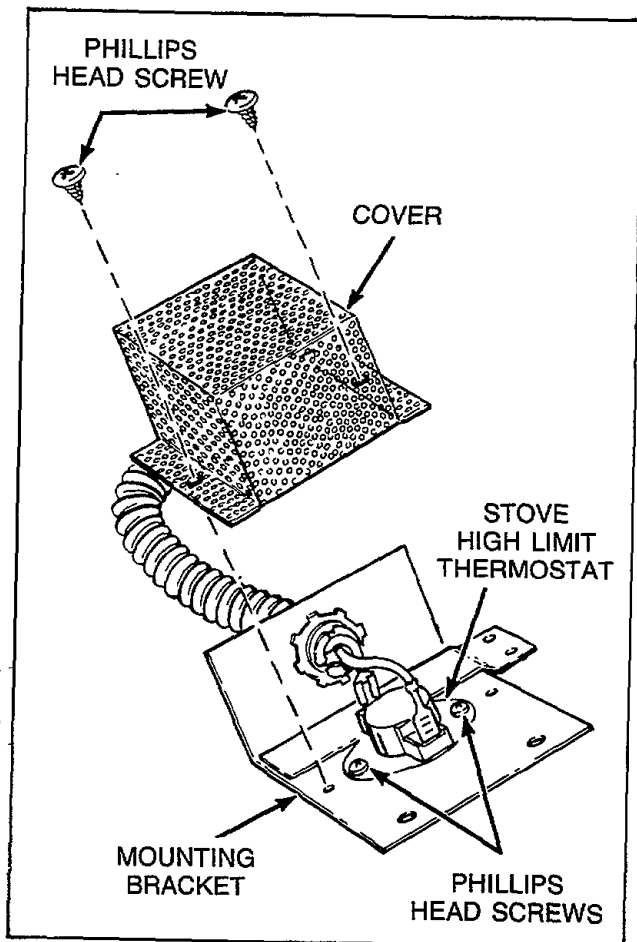


Figure 30

- b. Remove two clips holding grille cover to thermostat housing on front of heater housing.
- c. Disconnect wires from thermostat.

**NOTE:** Refer to appropriate wiring diagram when rewiring thermostat.

- d. Remove two Phillips head screws holding thermostat to front of heater housing and remove thermostat.

**32. HEATER ELEMENT — Electric Models (Refer to parts section in this manual for assembly sequence.)**

**WARNING**

**DISCONNECT ELECTRICAL POWER TO TUMBLER BEFORE ATTEMPTING SERVICE.**

**NOTE:** Element removal is done from the rear of the tumbler.

- a. Remove two Phillips head screws and lift hood assembly off heater housing.

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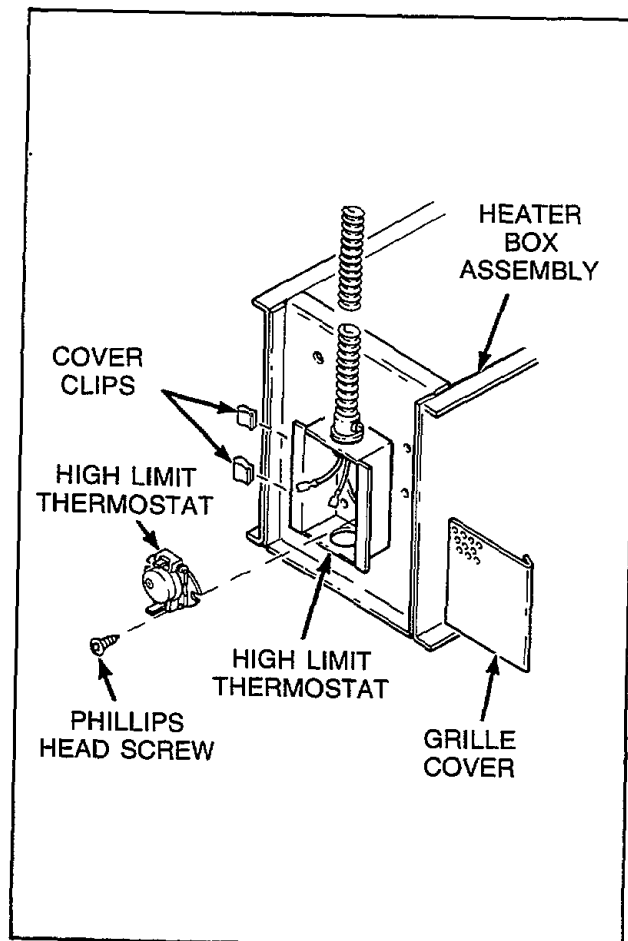


Figure 31



- b. Remove nuts and disconnect wires and buss bars from element terminals.

**NOTE:** Refer to appropriate wiring diagram when rewiring elements and be sure all connections are tight.

- c. Remove Phillips head screw holding element to rear of heater housing.
- d. Slide element toward front of tumbler and carefully lift element up and out of heater housing.

**NOTE:** Each tumbler is equipped with three elements and each element has to be removed individually.

**33. CONTACTORS AND TERMINAL BLOCKS — Electric Models (Refer to parts section in this manual for assembly sequence.)**

---

**WARNING**

**DISCONNECT ELECTRICAL POWER TO TUMBLER BEFORE ATTEMPTING SERVICE.**

---

**NOTE:** Contactors and terminal blocks are located at the rear of the tumbler.

- a. Remove screw holding cover to contactor box and remove cover.

- b. Remove wires from contactor terminals and terminal blocks.

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

- c. Remove screws holding each contactor and bracket to contactor box.
- d. Remove screws holding terminal blocks to contactor box.

**34. STEAM COILS — Steam Models**

---

**WARNING**

**SHUT OFF STEAM PRESSURE TO TUMBLER BEFORE ATTEMPTING TO SERVICE.**

---

- a. Shut off inlet and output valves and disconnect flex hoses from steam coils.
- b. Remove screws holding top cover to tumbler cabinet and remove cover.
- c. Remove screws holding cover to top of steam heating unit and remove cover.
- d. Remove screws holding steam coils to coil frame.
- e. 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.

# SECTION III

## Adjustments

### 35. LEVELING LEGS

**NOTE:** Each tumbler should be leveled from front to rear and from side to side.

- a. Check the front to rear level by rotating the clothes cylinder until one of the cylinder ribs is at the bottom.
- b. Place a level on the rib.
- c. Thread leveling legs, located at each corner of base, in or out of base as necessary to level the tumbler. Keep the tumbler as close to the floor as possible. All four legs must rest firmly on the floor.

**NOTE:** It is recommended to have the front of the tumbler slightly higher than the rear (approximately 1/8"). This will prevent the clothes, while tumbling, from wearing on the door glass gasket.

- d. Check the side to side level by placing a level on the front and rear top panel.

### 36. MAIN GAS BURNER AIR SHUTTER (All Gas Models)

#### CAUTION

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

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 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 the tumbler and check the flame pattern. Correct air and gas mixture is indicated if the flame pattern is primarily blue, with small yellow tips, and bends to the right of the heater section. (See Figure 32). Too little air is indicated if the flame is yellow, lazy and smokey.
- c. To adjust the air shutter, loosen air inlet shutter adjusting screw, Figure 32.
- d. Turn air shutter to the right or left as necessary to obtain flame intensity.

- e. After air shutter is adjusted for proper flame, tighten air shutter adjusting screw securely. Control panel may have to be removed temporarily to loosen air shutter screws to turn shutter.
- f. If the shutter is correctly adjusted, but the flame pattern is straight up (see Figure 32), insufficient air is flowing through the tumbler and airflow switch is improperly set. A flame pattern that flares to the right and left (see Figure 32), indicates no air is flowing through the tumbler.

### 37. AIR FLOW SWITCH (Gas and Electric Models, Figure 33)

#### WARNING

**CONTROL PANEL MUST BE IN PLACE AND ACCESS DOOR CLOSED BEFORE ATTEMPTING TO ADJUST AIR FLOW SWITCH.**

**IMPORTANT:** Air flow switch disc must remain closed during operation. If opens and closes during the dry cycle, this indicates insufficient air flow through the tumbler. If switch remains open, or pops open and closed during the cycle, the heat system will shut off.

#### WARNING

**AIR FLOW SWITCH OPERATION MAY BE AFFECTED BY A CLOGGED LINT SCREEN, LACK OF MAKE-UP AIR, OR OBSTRUCTIONS IN VERTICAL RECIRCULATION STACK OR IN THE CUSTOMER INSTALLED MAIN OR COLLECTOR DUCTS. THESE CONDITIONS MUST BE CHECKED AND NECESSARY CORRECTIONS MADE BEFORE ADJUSTING AIR FLOW SWITCH. ALWAYS ADJUST AIR FLOW AT INSTALLATION.**

**IMPORTANT:** The cylinder and fan will continue to operate even though the air flow switch is malfunctioning.

The air flow switch operation is controlled by the counterweight position on the shaft. Moving the counterweight either increases or decreases air flow switch sensitivity. The counterweight should be adjusted so the air flow will force the disc away from the cabinet when the lint panel is opened

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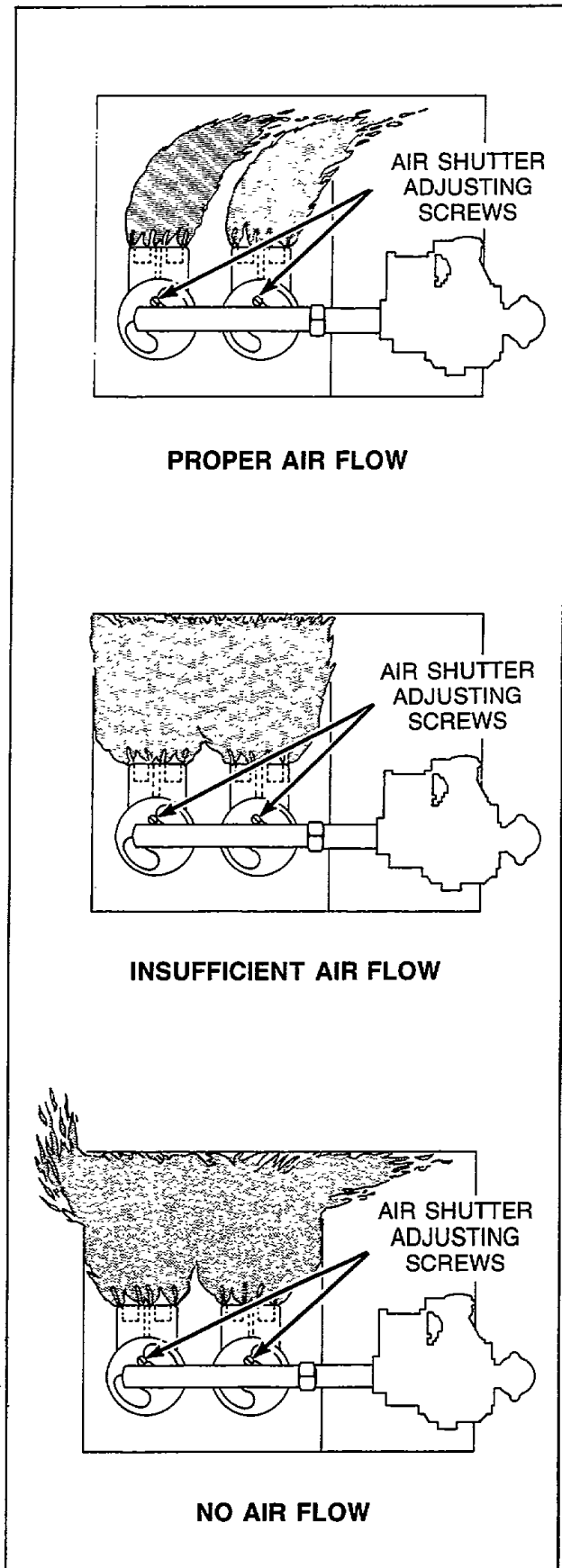


Figure 32

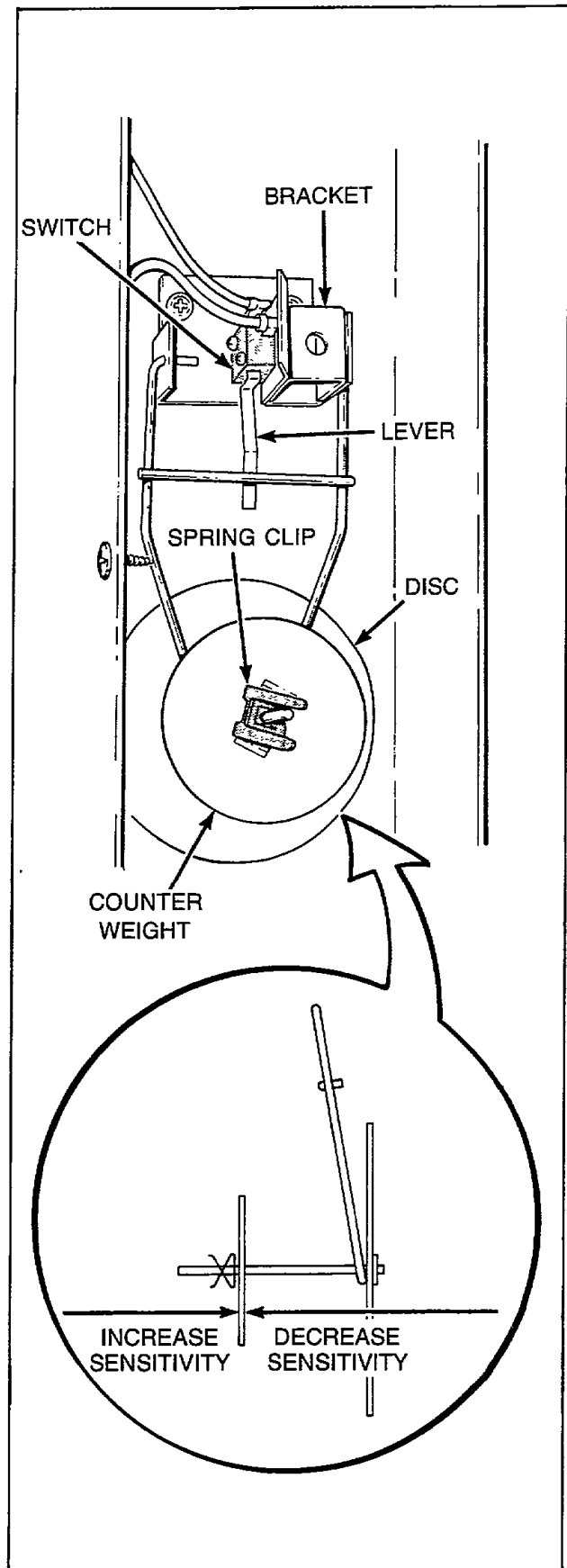


Figure 33

1-1/2 inch with a 50 pound AHAM cotton load.  
Adjust the air flow switch as follows:

- a. Remove the cover plate, *Figure 20*.
- b. Load the tumbler with a 50 pound AHAM cotton load. This adjustment is much faster to make with one person opening lint panel in front and another adjusting the counterweight at the rear of tumbler.
- c. Start the tumbler. Open the lint panel 1-1/2 inches. The airflow disc should move away from the cabinet, opening the switch contacts and shutting off the heat system. This indicates proper operation and proper adjustment.
- d. If switch is not opening as described in step "c" it should be adjusted so it is MORE sensitive. Depress the spring clip and move counterweight toward disc. Retest by opening lint panel and continue moving counterweight toward disc until switch operates as described in step "c".
- e. If switch opens BEFORE lint panel is opened the proper distance, in step "c", it should be adjusted so it is LESS sensitive. Depress the spring clip and move counterweight away from the disc. Retest by opening lint panel and continue moving counterweight away from disc until switch operates as described in step "c".

### 38. CYLINDER DOOR SWITCH (*Figure 34*)

**NOTE:** The door switch should be adjusted so the cylinder stops when door is opened two inches, plus or minus 1/4 inch. This switch is a normally open switch and is closed by the interlock rod when the door is closed.

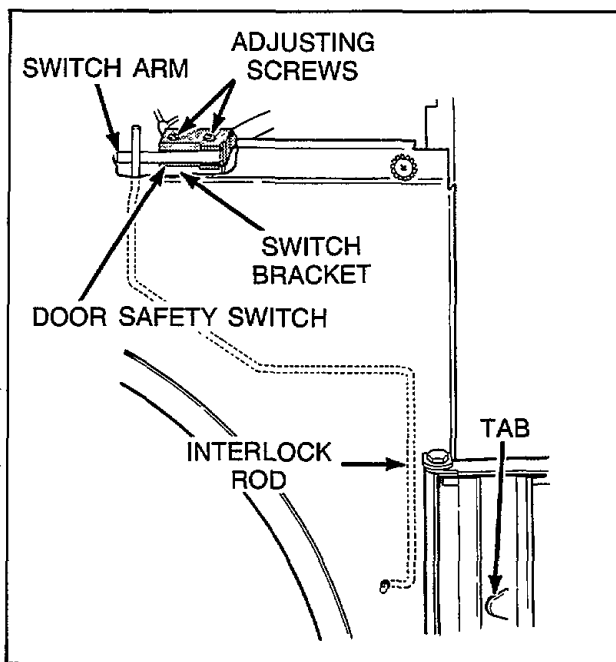


Figure 34

- a. Close door and start tumbler, slowly open loading door. Cylinder and heat system should shut off when door is open two inches plus or minus 1/4 inch.
- b. Slowly close loading door. When door is two inches from being fully closed, the tab should contact the interlock rod and depress it enough to operate the switch arm closing the switch with an audible "click".
- c. If interlock rod does not depress enough to operate the switch, bend tab on loading door OUTWARD 1/8 inch and repeat steps "a" and "b". Bend tab outward an additional 1/8 inch if required to obtain proper rod movement and switch operation.
- d. If proper operation is not obtained by procedure outlined in step "c", unlock and open access door and remove control panel. Loosen the two adjusting screws holding the switch to the bracket and move switch 1/8 inch toward the front of the switch bracket and retighten the screws. Repeat steps "a" and "b". If switch and rod still do not have sufficient movement, move switch forward an additional 1/8 inch.

### 39. CYLINDER DOOR STRIKE (*Figure 35*)

The door strike must be adjusted to have sufficient tension to hold loading door closed against force of load tumbling against it. Proper adjustment is when two to three pounds pull is required to open door.

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

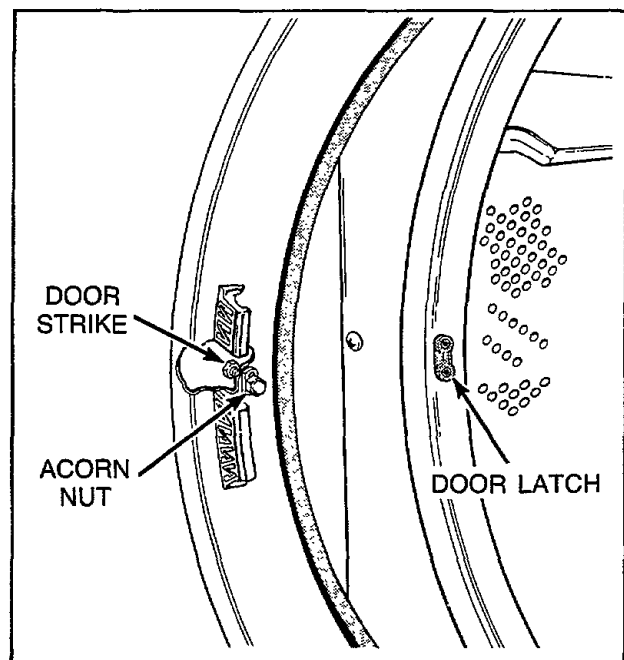


Figure 35

40. DRIVE V-BELT TENSION (Figure 38)

WARNING

DISCONNECT POWER TO MACHINE BEFORE PERFORMING THIS OPERATION.

Proper tension is when the belt can be depressed approximately 1/2 inch by applying light thumb pressure at a point midway between the sheave and motor pulley.

CAUTION

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

- a. Remove chain guard from rear of tumbler, paragraph 15.

CAUTION

For personal safety, chain guard MUST be reinstalled after servicing is completed.

- b. To adjust belt tension, loosen adjusting bolt and nut holding idler housing assembly to guide rails.
- c. Lift or lower idler housing assembly until proper belt tension is reached, then tighten adjusting bolt and nut.

41. DRIVE CHAIN TENSION (Figure 36)

WARNING

DISCONNECT POWER TO MACHINE BEFORE PERFORMING THIS OPERATION.

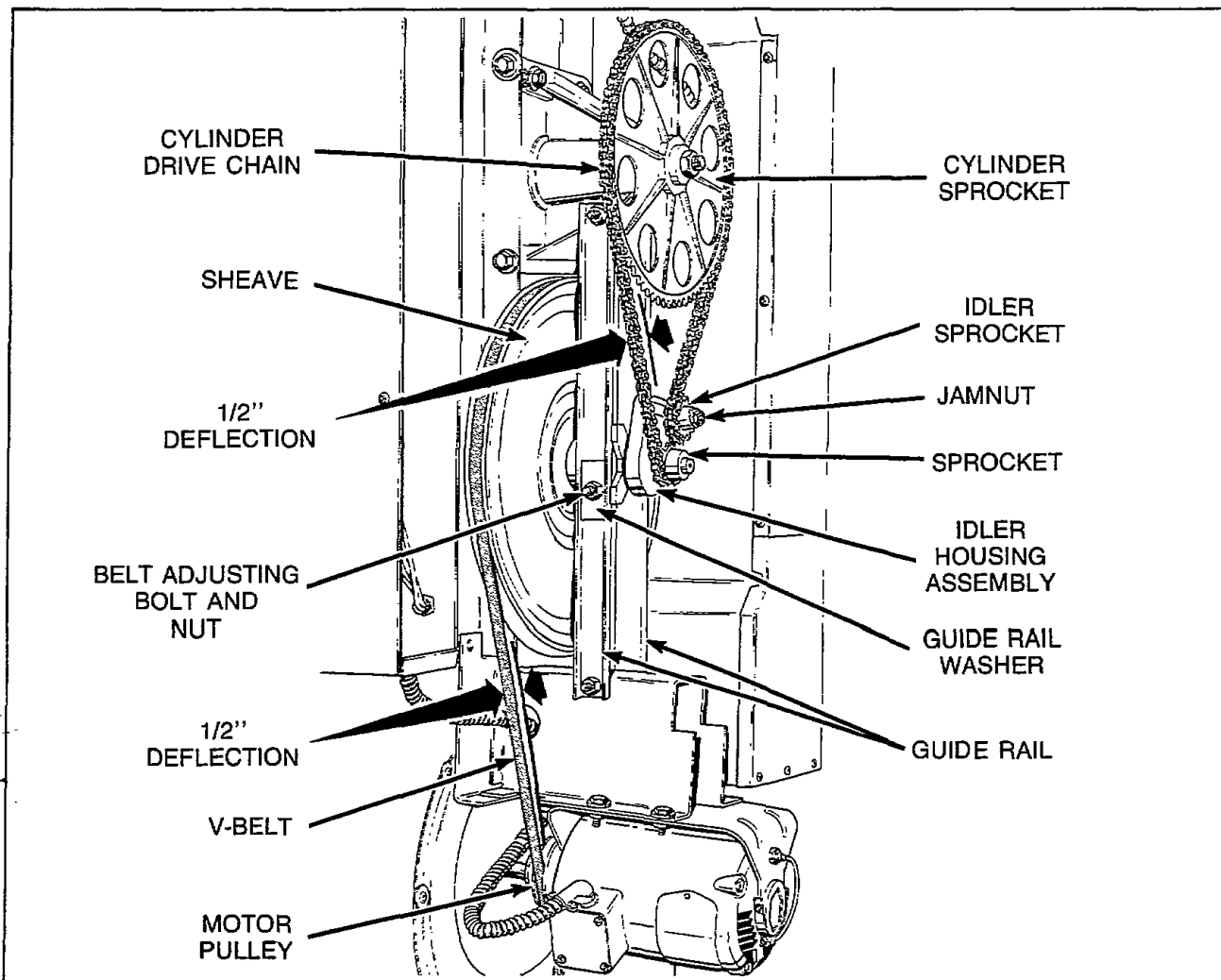


Figure 36

Proper tension is when the chain can be depressed approximately 1/2 inch by applying light thumb pressure at a point midway between the cylinder sprocket and the idler sprocket.

**IMPORTANT:** After a tumbler has been in operation over an extended period of time, a "HIGH POINT" will develop on the cylinder drive sprocket through use and wear. Turn the 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.

- a. Remove chain guard from rear of tumbler, paragraph 16.

**CAUTION**

For personal safety, chain guard **MUST** be reinstalled after servicing is completed.

- b. To adjust chain tension, loosen jamnut holding idler sprocket to housing.
- c. Move idler sprocket left or right until proper chain tension is reached, then tighten jamnut.

## 42. CYLINDER

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

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

- a. Open loading door and check the gap between the center of the front panel top flange and the cylinder rim.

**NOTE:** The gap should be 7/16 inch, *Figure 37*.

- b. Remove chain guard, paragraph 15.

**CAUTION**

For personal safety, chain guard **MUST** be reinstalled after servicing is completed.

continued

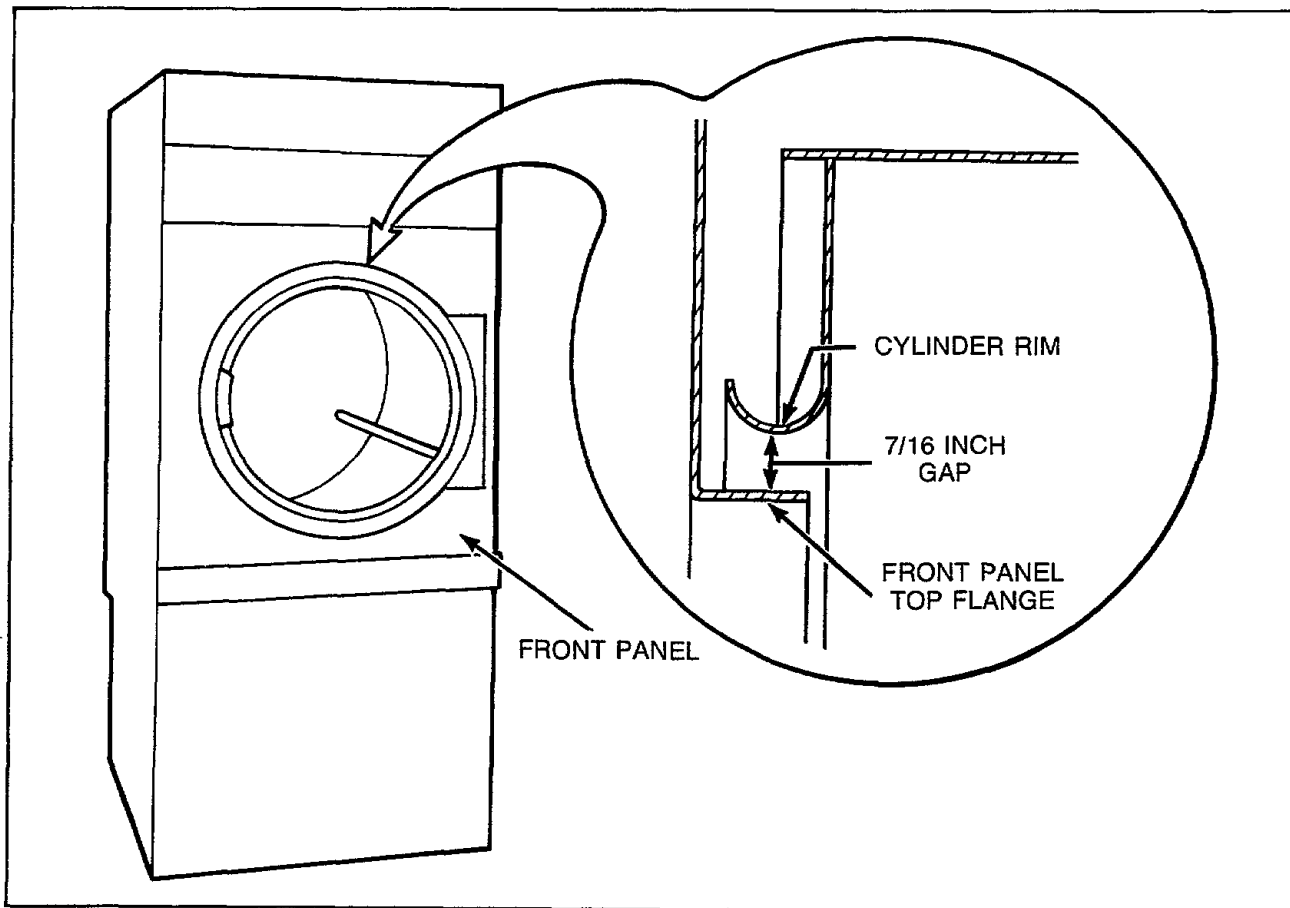


Figure 37

- c. Loosen the four trunnion housing cap screws, *Figure 38*.
- d. Loosen the locknuts on the trunnion housing adjustment screws, *Figure 38*.
- e. Turn the adjustment screws in or out as necessary to obtain proper clearance.

**NOTE:** Turning the adjustment screws clockwise will raise the cylinder and turning them

counterclockwise will lower the cylinder. The cylinder can be shifted from side to side by turning one or the other adjustment screws in or out as required to obtain proper clearance.

- f. After the cylinder is properly adjusted, tighten the adjusting screw locknuts and the four trunnion housing cap screw.
- g. Install the chain guard removed in step "b".

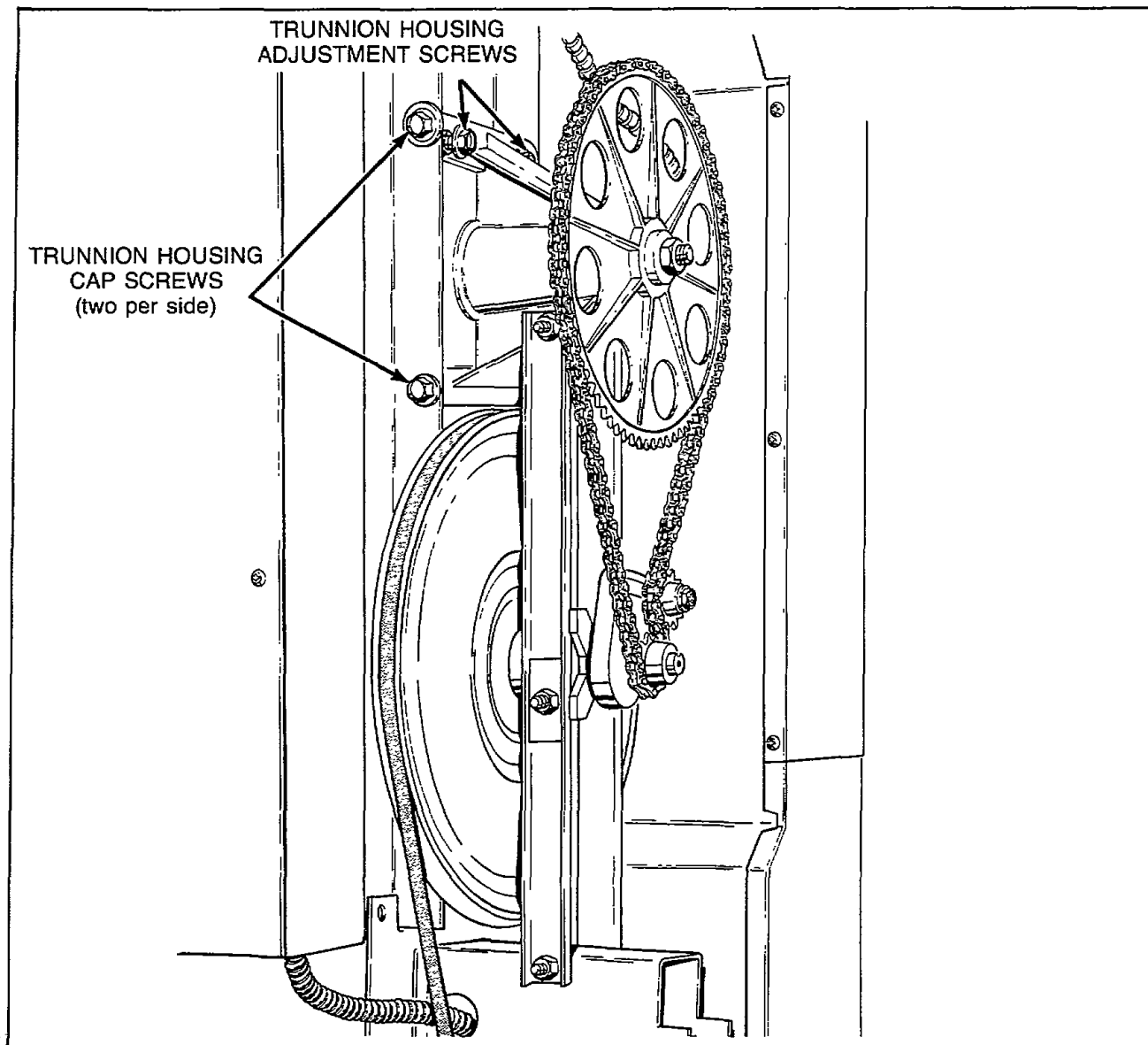


Figure 38

# SECTION IV

## Service Helps

—WARNING—

**FOR SAFETY REASONS, DISCONNECT ELECTRICAL SERVICE TO TUMBLER, ALSO CLOSE VALVE IN GAS SUPPLY LINE TO GAS TUMBLER BEFORE SERVICING.**

—IMPORTANT—

Refer to appropriate Wiring Diagram for aid in testing tumbler components.

### 43. MOTOR DOES NOT START

POSSIBLE CAUSE	TO CORRECT
Electrical power off or fuses blown.	
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 button, 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.
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.



**44. MOTOR OVERLOAD PROTECTOR CYCLES REPEATEDLY**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Incorrect voltage.	Refer to the <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) for electrical requirements.
Clothes load too large.	Remove part of load.
Clothes cylinder is binding.	Check cylinder for binding. Refer to <b>ADJUSTMENT SECTION</b> in this manual for cylinder adjustment.
Inadequate wiring.	Check with local power company to insure that wiring is adequate.
Inadequate make-up air.	Refer to <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) for make-up air requirements.
Poor housekeeping.	Clean lint accumulation on and around the motor.
Broken, loose or incorrect wiring.	Refer to wiring diagram located on back of tumbler.

**45. MOTOR RUNS BUT CYLINDER DOES NOT TURN**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Motor drive pulley loose.	Tighten setscrews.
Sheave loose.	Tighten setscrews.
Broken or loose belt.	Replace or adjust belt.
Broken or loose drive chain.	Replace or adjust chain.
Cylinder is binding.	Check cylinder for binding. Refer to <b>ADJUSTMENT SECTION</b> in this manual for proper cylinder adjustment.

**46. MOTOR DOES NOT STOP**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Inoperative door switch or switch is out-of-adjustment.	Test switch and replace if inoperative. Refer to <b>ADJUSTMENT SECTION</b> in this manual for proper switch adjustment.
Non-Metered Models: Inoperative timer.	Test timer 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.

**47. HEATING ELEMENT DOES NOT HEAT OR BURNER DOES NOT IGNITE**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Improper or inadequate exhaust system.	Refer to <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) for exhaust system requirements.
Blown fuses or tripped circuit breakers.	Check fuses or circuit breakers.
Drying selector set in the "cool-down" portion of cycle.	Reset switch or test switch and replace if inoperative.
Inoperative thermostat.	Test thermostat and replace if inoperative.
Electric Models: Inoperative heating element.	Replace element(s).
Gas Models: Insufficient gas supply.	Open partially closed gas shutoff valve, or correct low gas pressure. Check manifold pressure and adjust to pressure specified on rating 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 rating plate. If orifices are different from that specified on rating plate, obtain and install proper orifices.
Gas Models: (Standing Pilot Ignition) Pilot is not ignited.	See <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) or <b>INSTRUCTION</b> plate on back of tumbler for <b>LIGHTING AND SHUTTING DOWN STANDING PILOT</b> .
Gas Models: (Standing Pilot Ignition) Inoperative reset valve.	Replace reset valve.
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 electronic package.	Test electronic package and replace if inoperative.
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 flame sensor.	Test flame sensor and replace if inoperative.
Gas and Electric Models: Inoperative high limit thermostat.	Test thermostat and replace if inoperative.
Timer improperly set or inoperative.	Check and reset timer, or test timer and replace if inoperative.

continued

**47. HEATING ELEMENT DOES NOT HEAT OR BURNER DOES NOT IGNITE (Continued)**

POSSIBLE CAUSE	TO CORRECT
<p>Gas and Electric Models: Inoperative air flow switch.</p>	<p>Clean lint compartment after every 8 hour shift. Check air flow damper for foreign objects, lint accumulation, or other causes that may prevent damper from opening. Check ductwork for lint build-up. Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) to insure that ductwork and make-up air openings are sized adequately. 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.</p>
<p>Gas and Electric Models: Air flow switch out of adjustment. Lint door panel not closed properly.</p>	<p>Refer to ADJUSTMENT SECTION in this manual for airflow switch adjustment. Unlock and open lint door panel, place lint door panel back on tumbler (insuring a tight fit) then lock.</p>
<p>Broken, loose or incorrect wiring.</p>	<p>Refer to wiring diagram located on back of tumbler.</p>

**48. PILOT DOES NOT IGNITE — GAS MODELS (Standing Pilot Ignition)**

POSSIBLE CAUSE	TO CORRECT
<p>Gas shutoff valve to tumbler is closed.</p>	<p>Open valve.</p>
<p>Air is present in gas line.</p>	<p>Purge air from gas line until odor of gas is detected.</p>
<p>Incorrect pilot orifice.</p>	<p>Tumbler is equipped for type of gas specified on rating plate. If pilot orifice is different from that specified on rating plate, obtain and install correct orifice.</p>
<p>Clogged pilot gas filter.</p>	<p>Replace reset assembly, paragraph 6.</p>
<p>Clogged pilot gas tube or pilot orifice.</p>	<p>Clean or replace tube or orifice.</p>
<p>Inoperative thermocouple.</p>	<p>Replace thermocouple.</p>
<p>Inoperative pilot assembly.</p>	<p>Replace pilot assembly.</p>

**49. PILOT GOES OUT — GAS MODELS (Standing Pilot Ignition)**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Improper or inadequate exhaust system.	Refer to <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) for exhaust system requirements.
Clogged lint screen.	Remove and clean lint screen.
Improperly adjusted burner flame.	Close air shutter slightly - a harsh roaring flame will draw pilot flame out.
Improperly installed or defective exhaust system.	Outer end of exhaust system must have a weather hood with hinged dampers to prevent back-draft when tumbler is not in operation. Install or replace weather hood if missing or inoperative.
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 rating plate. If pilot orifice is different from that specified on rating plate, obtain and install correct orifice.
Inoperative reset valve.	Replace reset valve.

**50. IGNITER DOES NOT SHUT OFF AFTER GAS IGNITION — Gas Burner (Automatic Ignition)**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Tumbler not properly equipped for type of gas being used.	Tumbler is equipped for type of gas specified on rating plate. If tumbler is equipped for gas different from that specified on rating 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 <b>ADJUSTMENT SECTION</b> in this manual for recommended burner flame adjustment.
Pilot and electrode assembly incorrectly installed.	Check assembly for correct alignment.
Inoperative electronic package.	Test electronic package and replace if inoperative.
Incorrect wiring.	Refer to wiring diagram located on back of tumbler.

**51. 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 to check for electrical circuit.
Flame sensor failed with contacts open.	Replace flame 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.

**52. IGNITER GLOWS, FLAME SENSOR OPENS BUT NO IGNITION — Gas Models (Glow Bar Ignition)**

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 glow bar and top of main burner.
No gas flow through gas valve. (Johnson Glow Bar)	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.
No gas flow through gas valve. (White Rodgers)	Check for 120 Volts across RED and WHITE wires on redundant coil. If no reading, reverse meter probes before continuing. If no voltage is present, replace diode logic board. If voltage is present, listen for audible click on redundant coil. If no click, replace redundant coil. If voltage is present and redundant coil clicks, check for 120 Volts between two BLUE wires on main coil (check across two unused front terminals on gas valve terminal block) after igniter cycles off. If no reading, reverse meter probes before continuing. If voltage is present, listen for audible click on main coil. If no click, replace main coil. If no voltage is present after igniter cycles off, replace diode logic board.  <b>NOTE:</b> When igniter cycles off on the sensor, voltage across the redundant coil will drop to approximately 50 Volts.

**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 heat up, followed by the flame 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.

**53. BURNER IGNITES AND GOES OUT REPEATEDLY — Gas Models (Glow Bar Ignition)**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Burner heat not holding flame sensor contacts open.	Replace flame sensor.
Insufficient gas pressure.	Check gas supply and pressure.
Inoperative high limit thermostat.	Test thermostat and replace if inoperative.
Improper or inadequate exhaust system.	Refer to <b>INSTALLATION INSTRUCTIONS</b> supplied with tumbler for exhaust requirements.
Improper orifices.	Tumbler is equipped for type of gas specified on rating plate. If orifices are different from that specified on rating plate, obtain and install proper orifices.
Improperly adjusted burner flame.	Refer to <b>ADJUSTMENT SECTION</b> in this manual for burner flame adjustment.
Broken, loose or incorrect wiring.	Refer to wiring diagram located on back of tumbler.

**54. HEATING ELEMENT OR BURNER SHUTS OFF PREMATURELY**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Improper or inadequate exhaust system.	Refer to <b>INSTALLATION INSTRUCTIONS</b> (supplied with tumbler) for exhaust 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 rating plate. If orifices are different from that specified on rating plate, obtain and install proper orifices.
Gas Models: Improperly adjusted burner flame.	Refer to <b>ADJUSTMENT SECTION</b> in this manual for burner flame adjustment.
Gas Models: (Glow Bar Ignition) Flame sensor contact opening prematurely.	Replace flame sensor.
Cycling off on limit thermostat.	Refer to paragraph 54.
Broken, loose or incorrect wiring.	Refer to wiring diagram located on back of tumbler.

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

POSSIBLE CAUSE	TO CORRECT
External exhaust system is longer than recommended.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for exhaust system requirements.
Clogged lint screen.	Remove screen and clean. Lint screen and compartment should be cleaned after every 8 hour shift.
Lint in internal tumbler ductwork.	Disassemble tumbler ductwork and clean.
Lint in external exhaust system.	Disassembly exhaust system and clean.
High limit thermostat cycling at too low a temperature.	Replace thermostat.
Lint door panel not closed properly.	Unlock and remove lint door panel - place lint door panel back on tumbler (insuring a tight fit) then lock.

**56. HEATING ELEMENT OR BURNER DOES NOT SHUT OFF**

POSSIBLE CAUSE	TO CORRECT
Motor does not stop.	Refer to paragraph 45.
Gas Models: Impurities on gas valve seat, preventing valve from closing.	Disassemble and clean valve or replace gas valve.
Non-Metered Models: Inoperative drying timer.	Replace timer.
Incorrect wiring.	Refer to wiring diagram located on back of tumbler.

**57. CLOTHES DO NOT DRY**

POSSIBLE CAUSE	TO CORRECT
Heating element does not heat, or burner does not ignite.	Refer to paragraph 46.
Too much water in articles being dried.	Remove excess water.
Clothes load too large.	Remove part of load. Fifty pounds dry weight (AHAM cotton load) is a normal load.
Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for exhaust requirements.
Heating element or burner shuts off prematurely.	Refer to paragraph 53.
Drying selector improperly set.	Set selector for higher setting.
Incorrect voltage.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for electrical requirements.
Inadequate make-up air.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for make-up air requirements.

### 58. 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 rating plate.
Inadequate make-up air.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for make-up air requirements.
Lint accumulation.	Remove lint.
Restricted or inadequate exhaust system.	Remove obstruction or lint build up from exhaust ductwork. Refer to the INSTALLATION INSTRUCTIONS (supplied with tumbler) for exhaust system requirements.
Inoperative thermostat.	Replace thermostat.

### 59. 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 rating plate on back of the tumbler for correct gas pressure.
Incorrect orifices.	Tumbler is equipped for type of gas specified on rating plate. If orifices are different from that specified on rating plate, obtain and install proper orifices.
Restricted or blocked exhaust duct.	Disassemble and clean exhaust system.
Air switch not functioning properly.	Replace air switch.

### 60. 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.



**61. TUMBLER RUNS BUT NO STEAM TO COILS — STEAM MODELS**

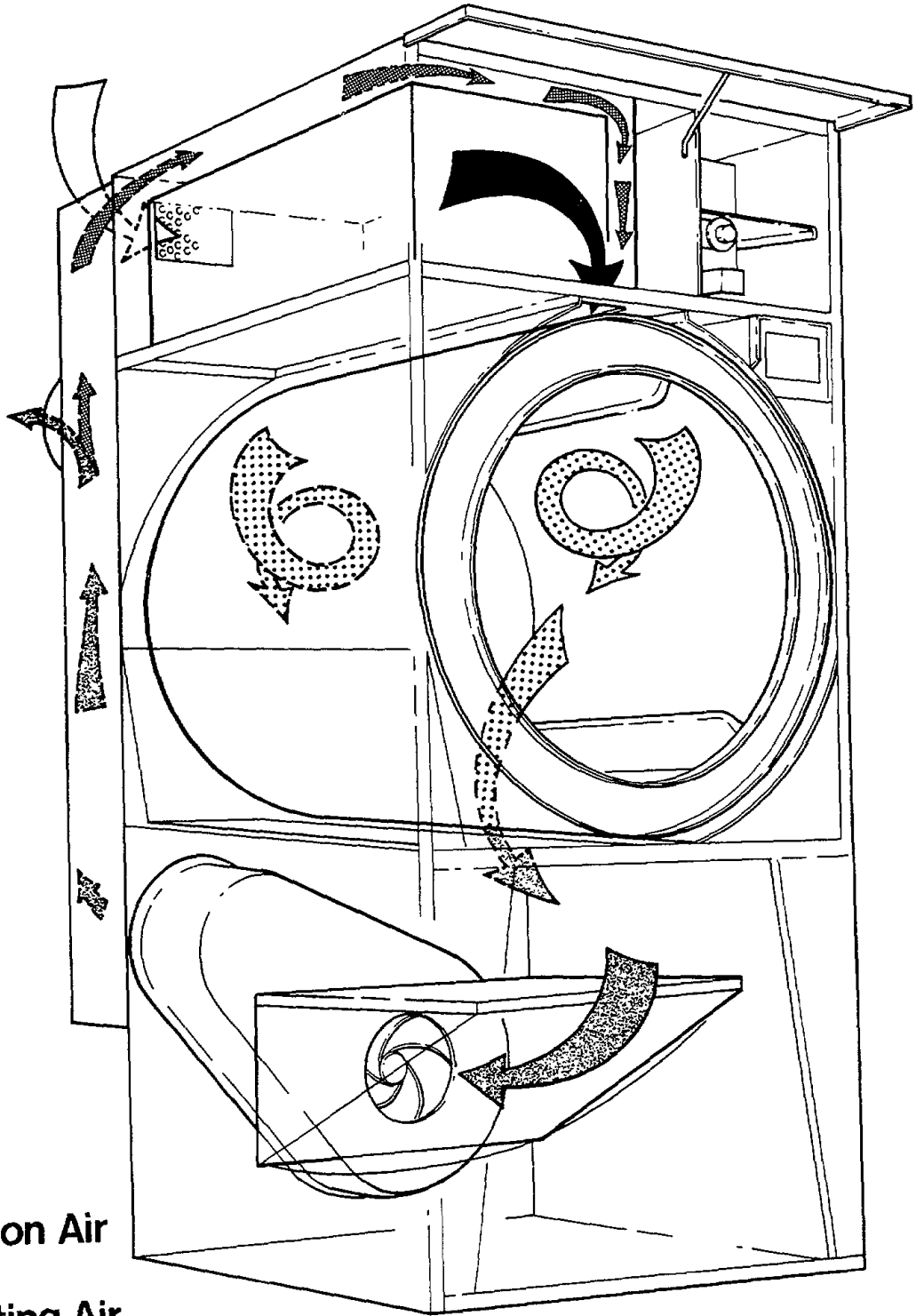
<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Valves closed.	Check all valves in supply and return lines, make sure they are open.
Blocked steam trap.	Remove trap and clean. Replace if inoperative.
Inoperative solenoid valve.	On tumblers using solenoid temperature control, check operation of solenoid valve 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.

**62. WATER IN STEAM LINE — STEAM MODELS**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Incorrect installation of steam piping.	Refer to <b>INSTALLATION INSTRUCTIONS</b> (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.

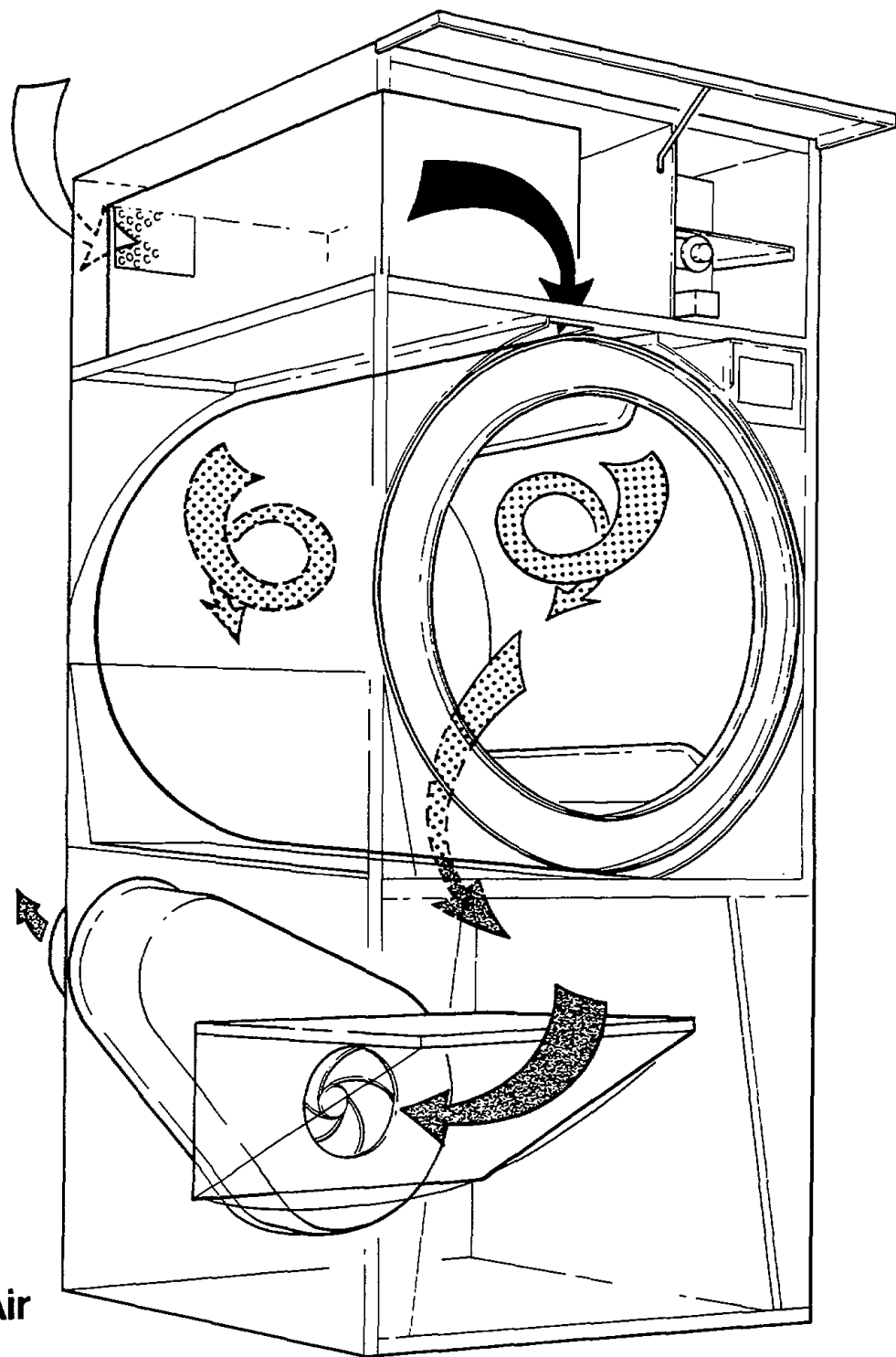
# SECTION V

## Air Flow



- Fresh Air
- Combustion Air
- ▤ Mixed Air
- ▨ Recirculating Air
- Exhaust Air

**ENERGY SAVER MODELS**

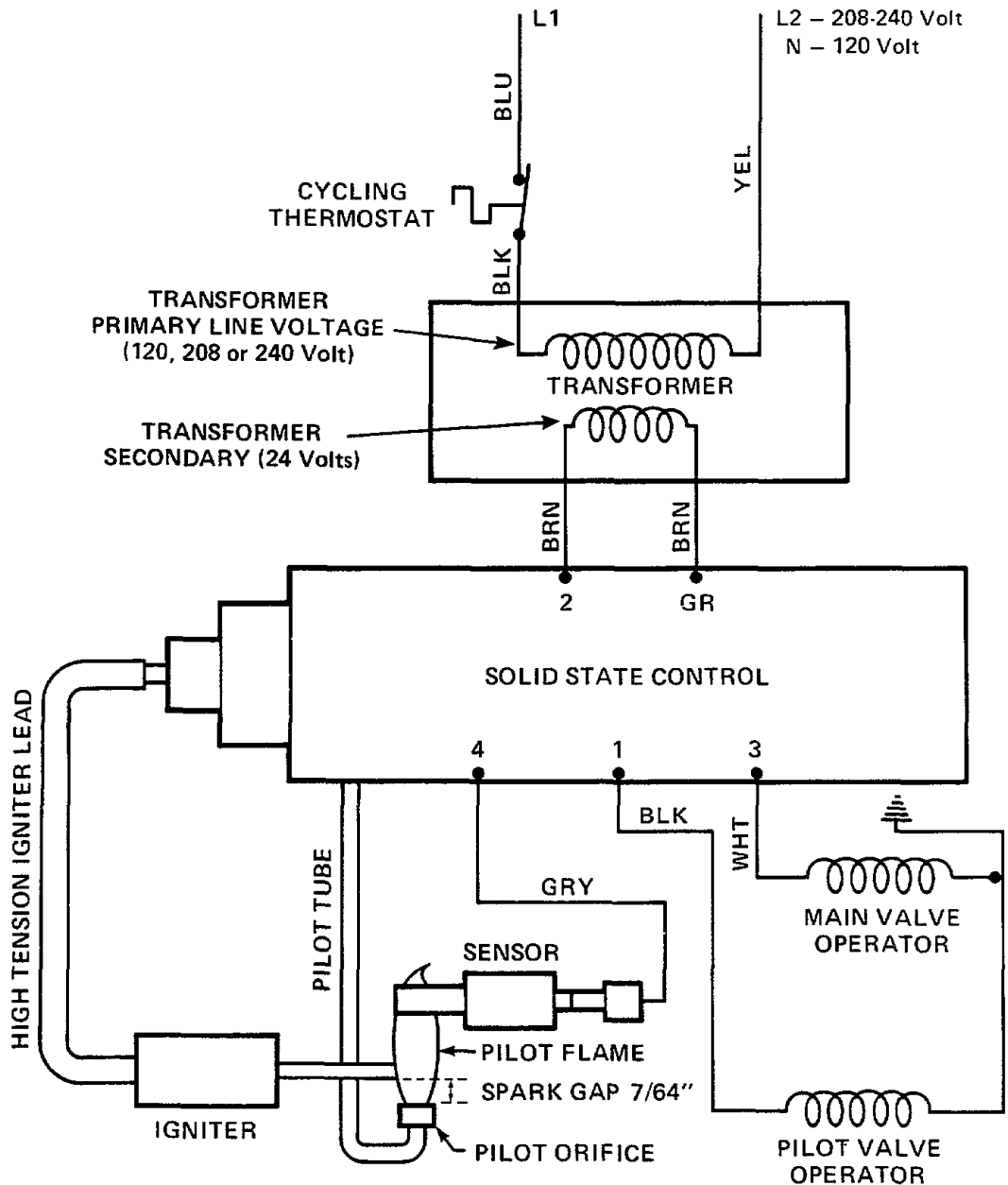


-  Fresh Air
-  Combustion Air
-  Mixed Air
-  Exhaust Air

### STANDARD MODELS

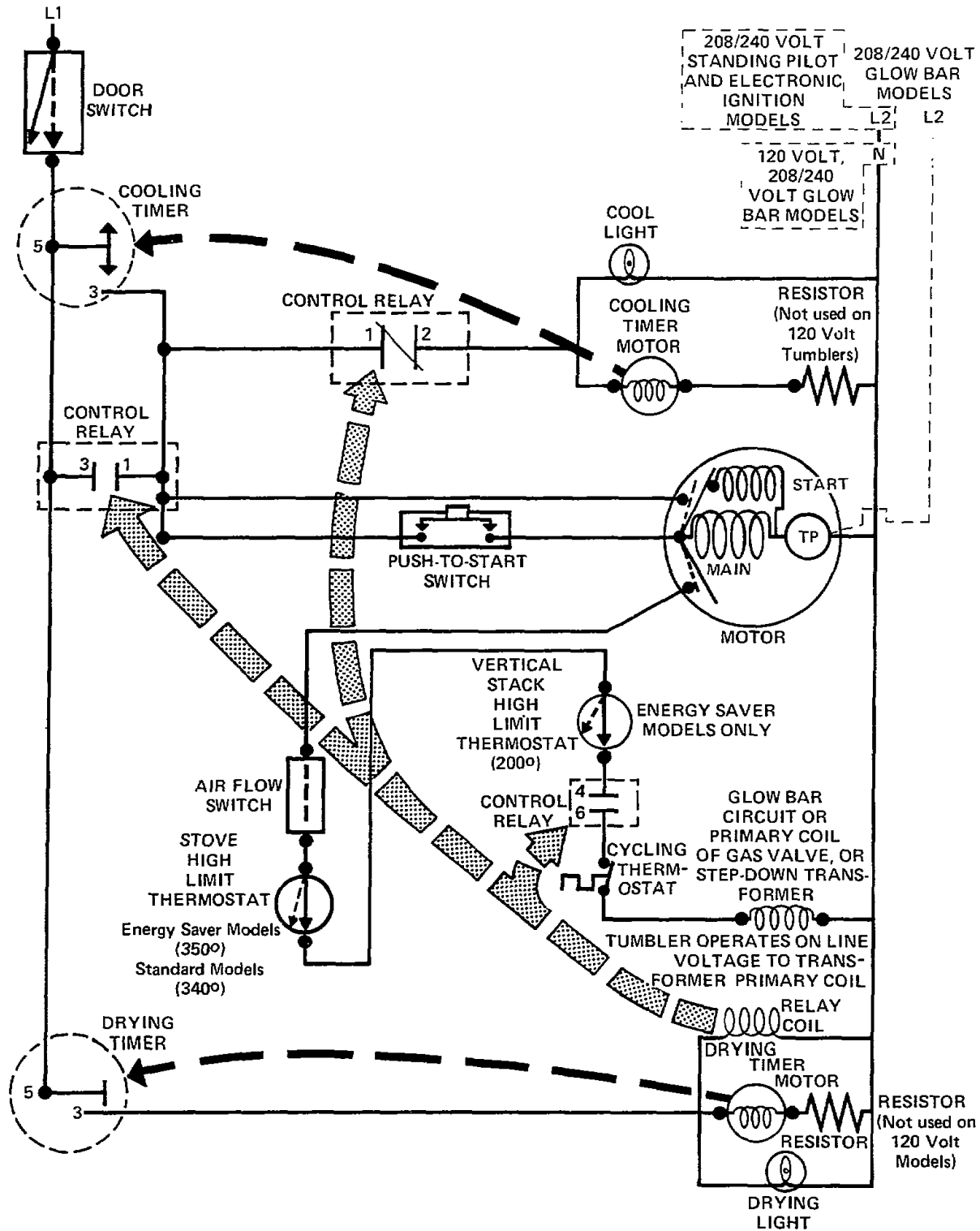
# SECTION VI

## Wiring Diagrams

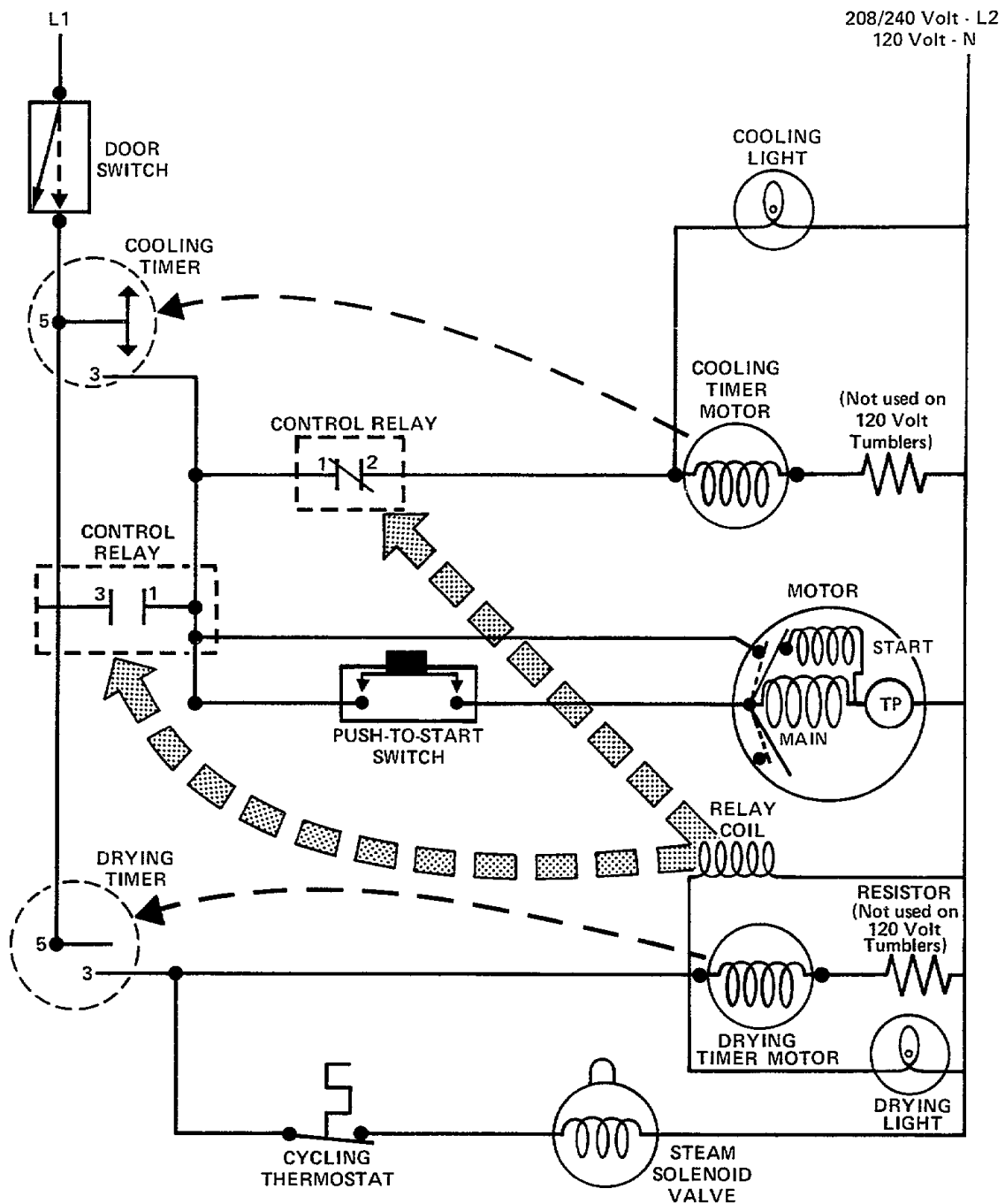


### AUTOMATIC IGNITION BURNER SYSTEM

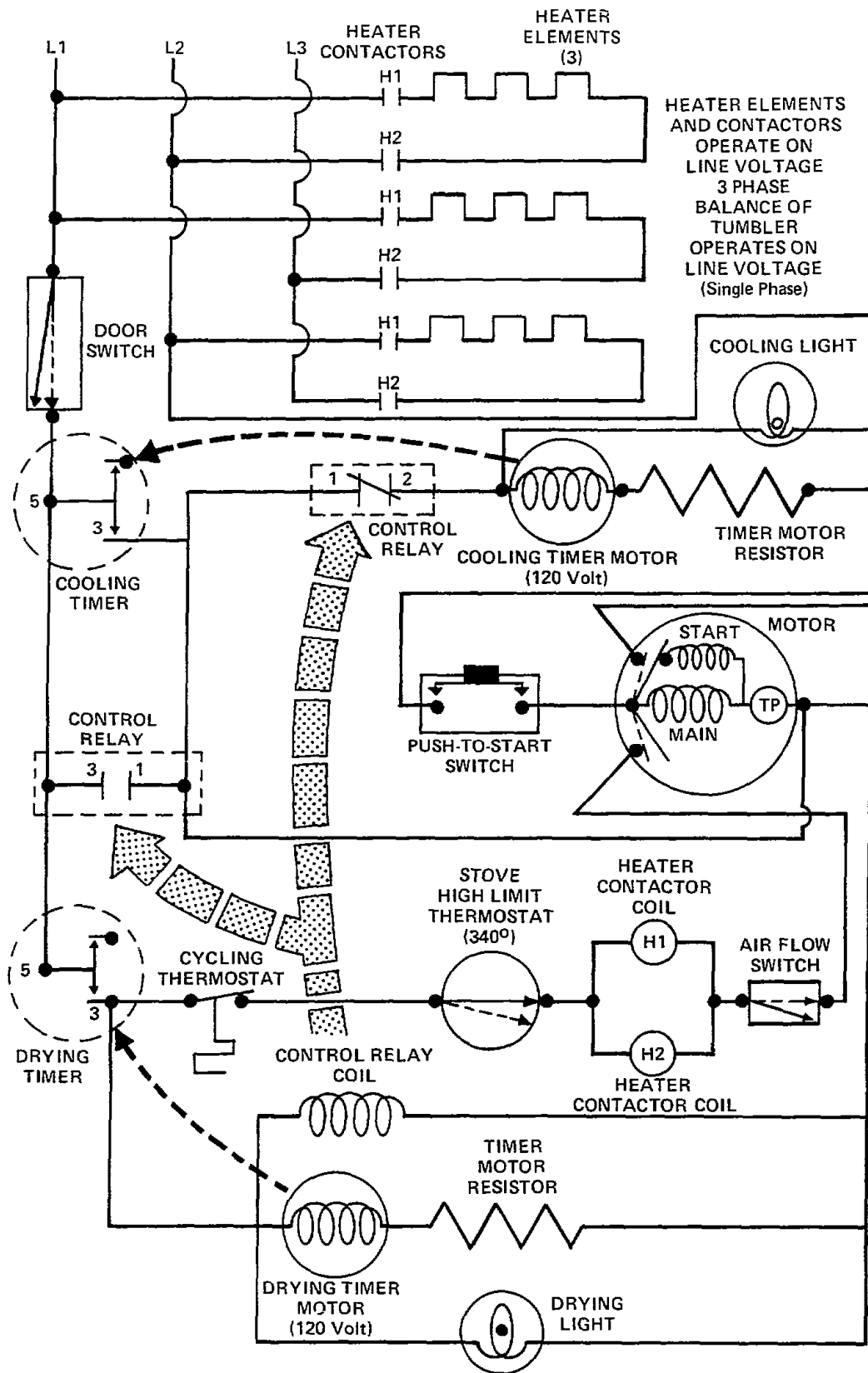
(Use With Heat Circuit, Pages 70 and 71 -  
Energy Saver Gas Models)



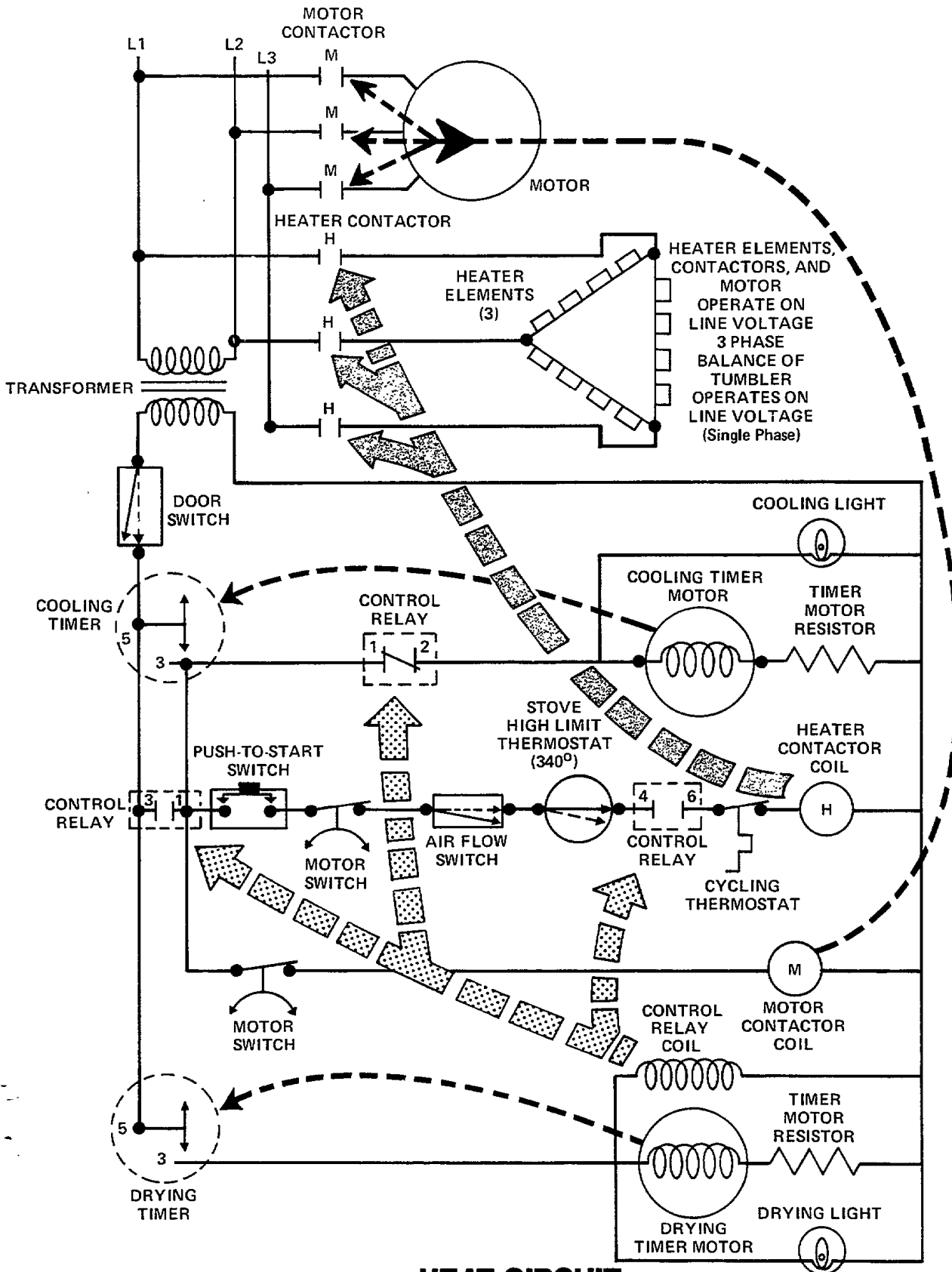
**HEAT CIRCUIT**  
**(Gas Manual Permanent Press Tumbler)**



**HEAT CIRCUIT**  
**(Steam Manual Permanent Press Tumbler)**



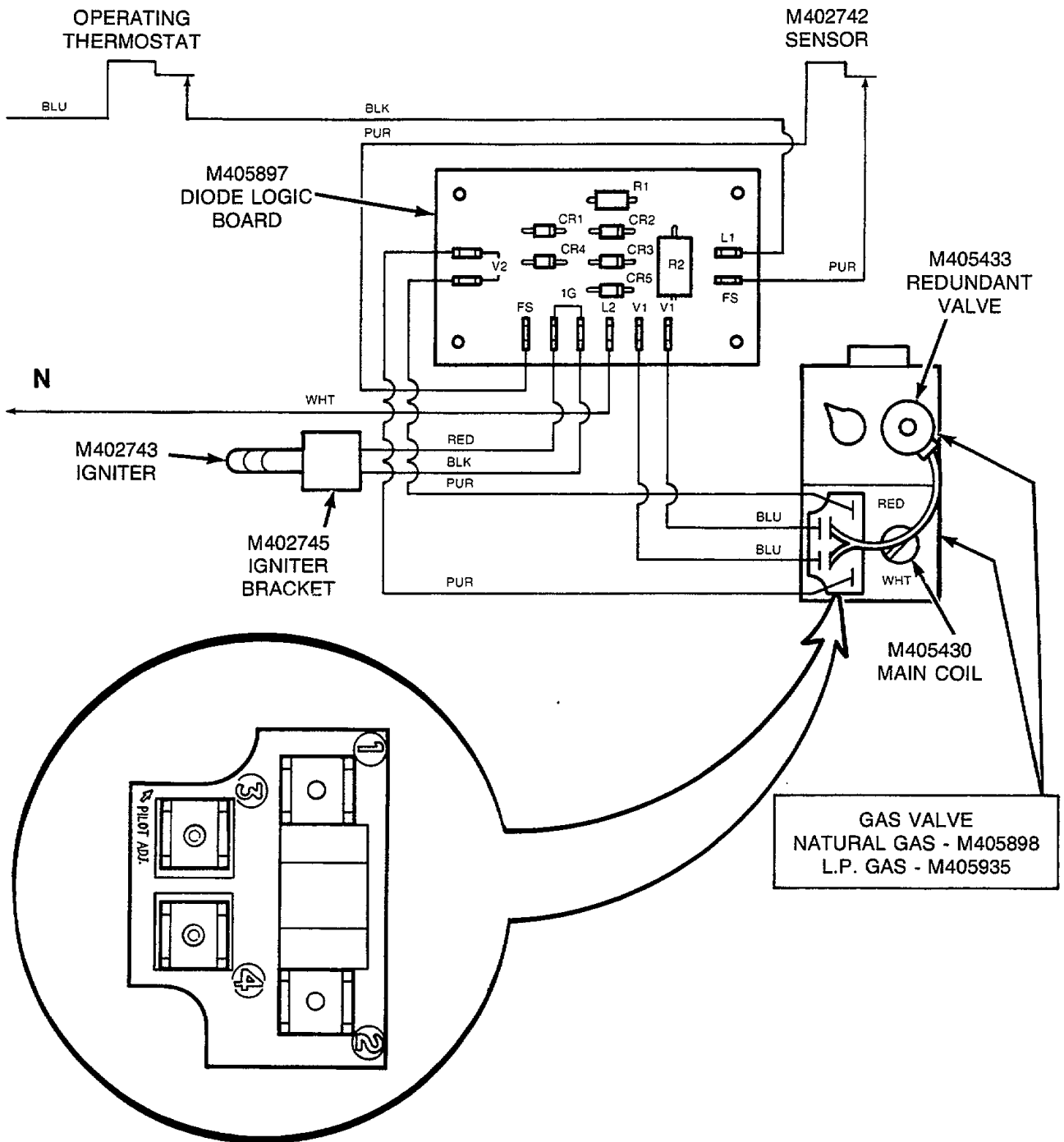
**HEAT CIRCUIT**  
**(Electric Manual Permanent Press Tumbler)**  
**(208 or 240 Volt-3 Phase)**



**HEAT CIRCUIT**  
**(Electric Manual Permanent Press Tumbler)**  
**(480 Volt · 60 Hertz · 3 Phase)**







**IGNITION SYSTEM  
(White Rodgers Glow Bar)**