



**Huebsch Originators**

**Parts and  
Service Manual  
for LOADSTAR III  
Drying Tumblers  
(Model 30WG)**

**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.**

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**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.

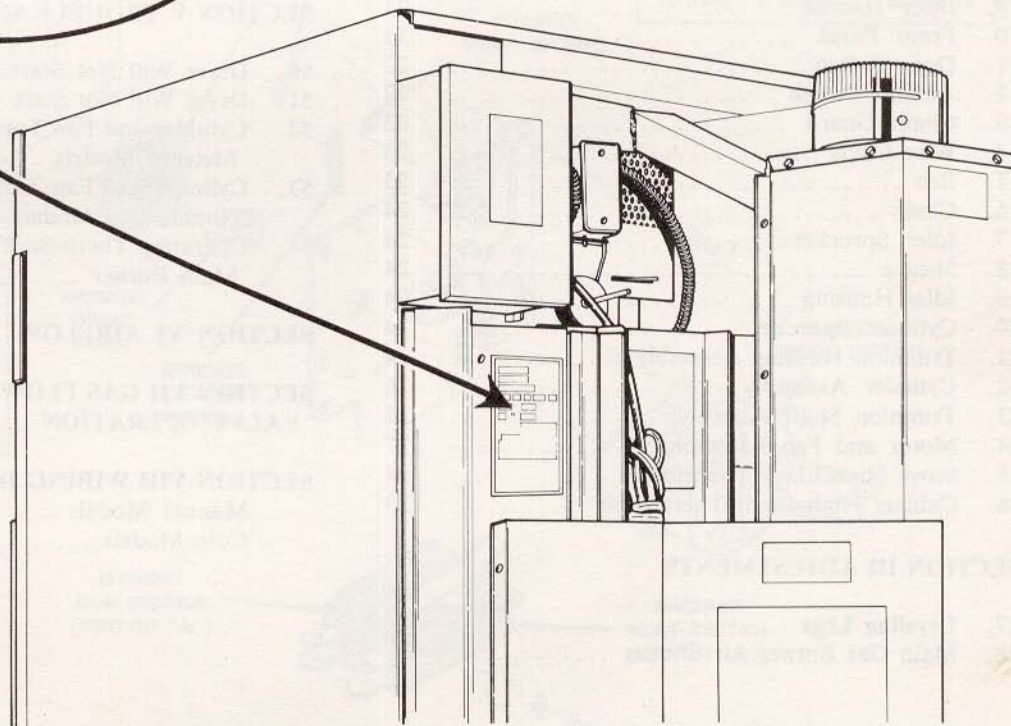
Always contact your dealer, distributor, service agent or the manufacturer on any problems or conditions you do not understand.

## DATA PLATE LOCATION

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**IMPORTANT**

When writing for information on any tumbler, be sure to mention model and serial numbers. The model and serial numbers will be found on the data plate as shown.



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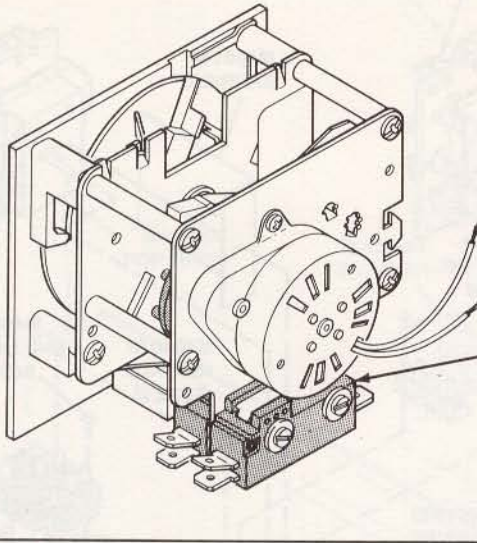
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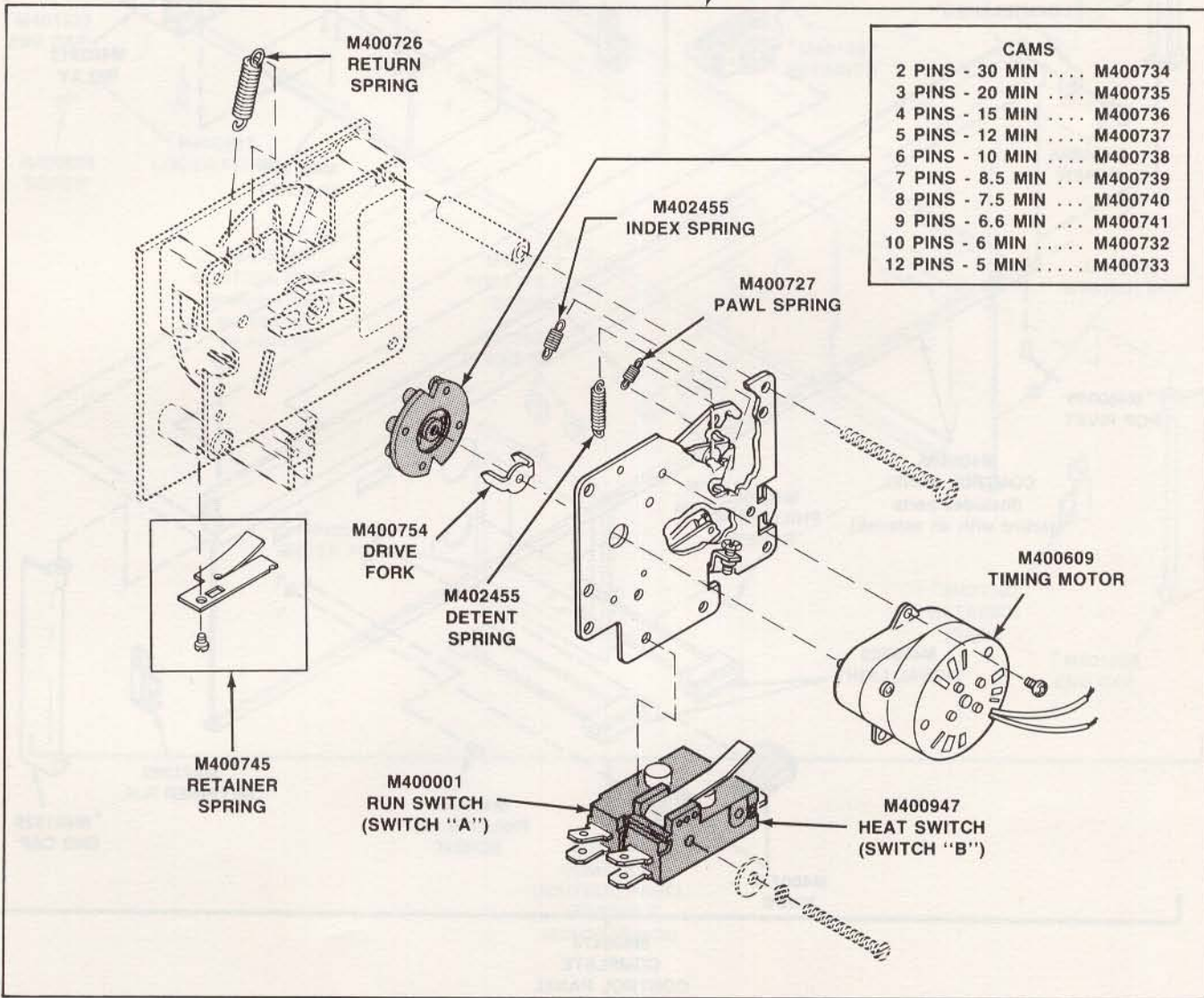
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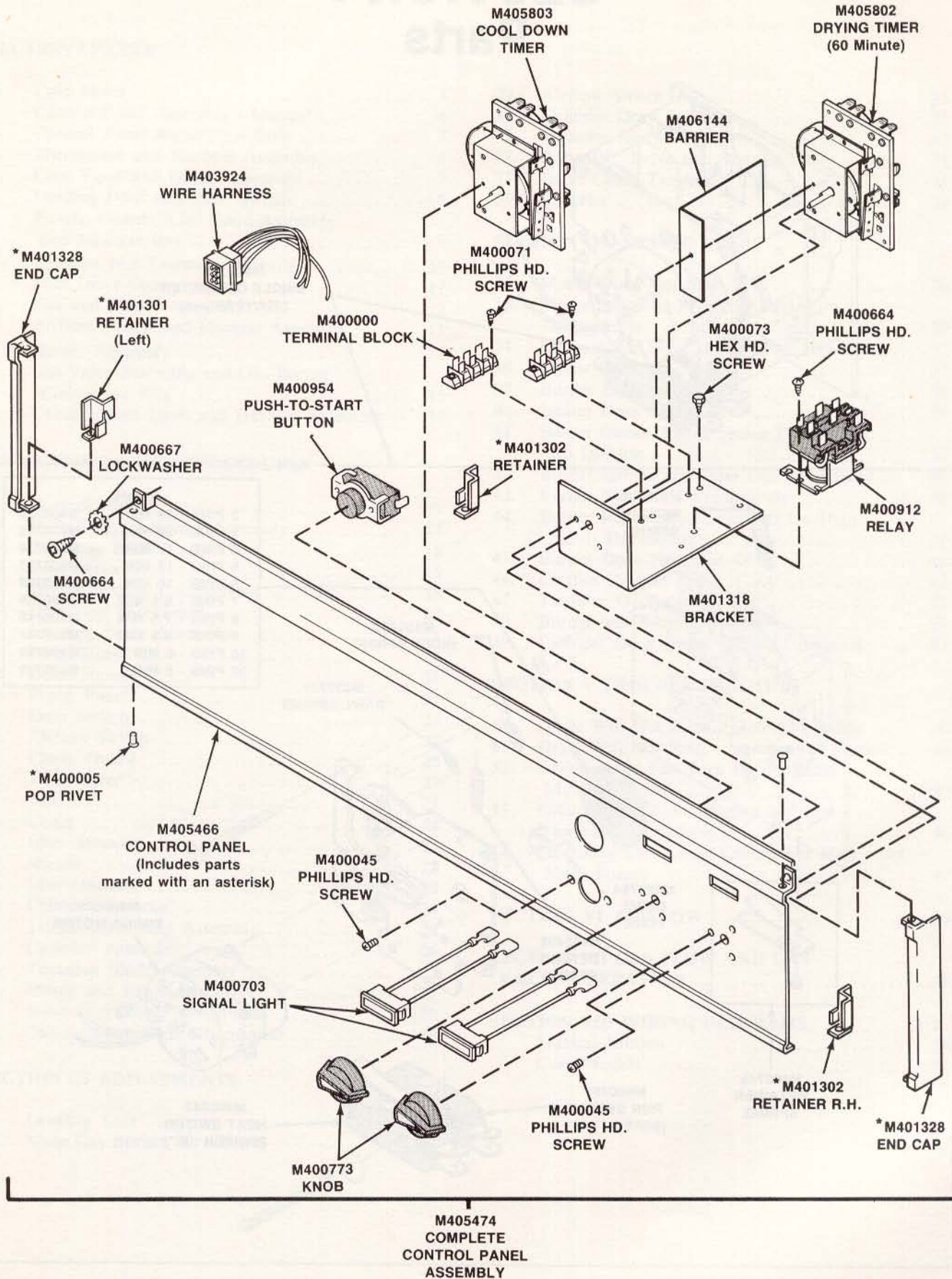
# SECTION I Parts



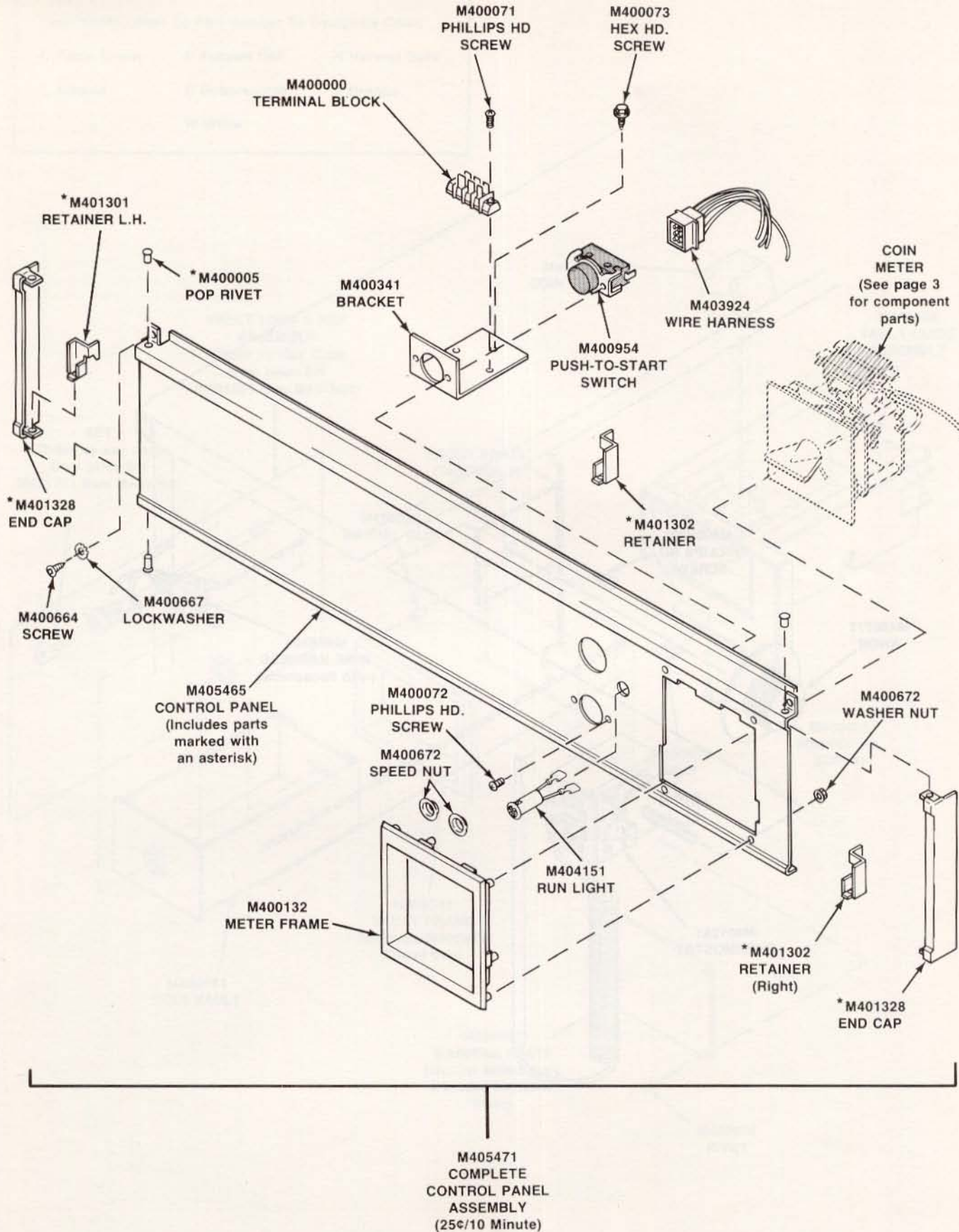
**M405138  
SINGLE COINMETER  
(25¢/10 Minute)**



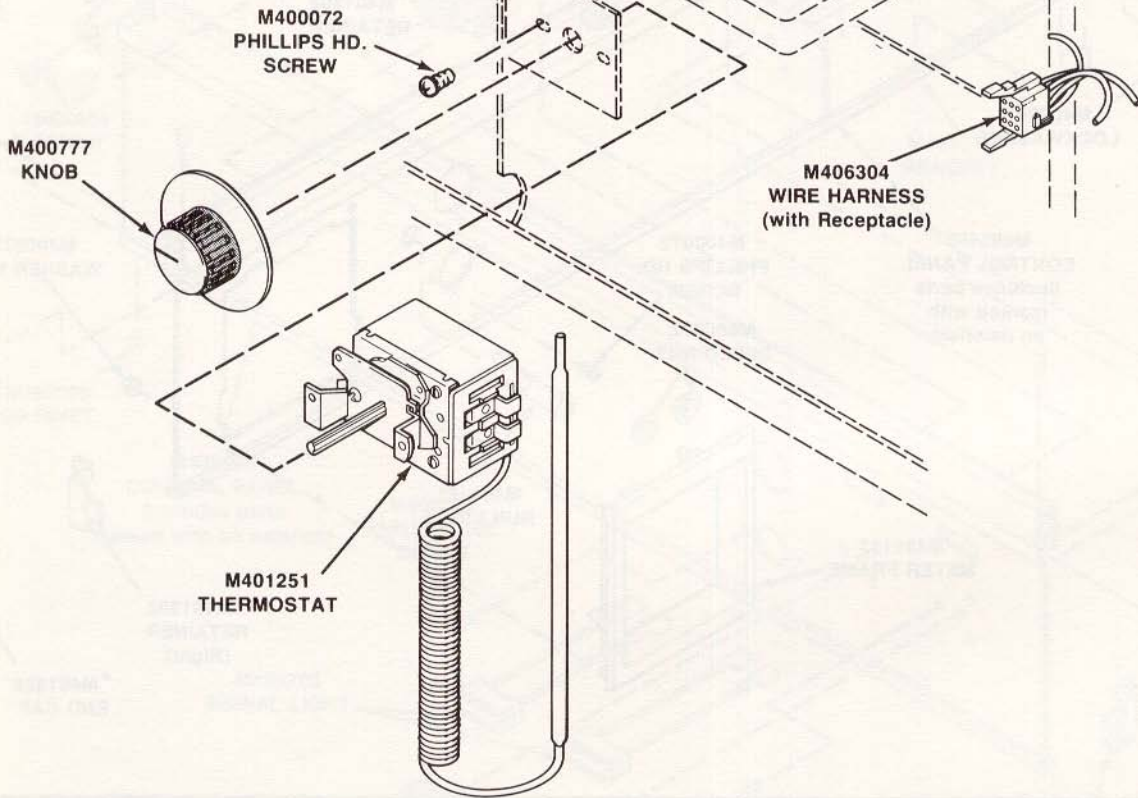
**COIN METER**



**CONTROL PANEL ASSEMBLY (Manual)**



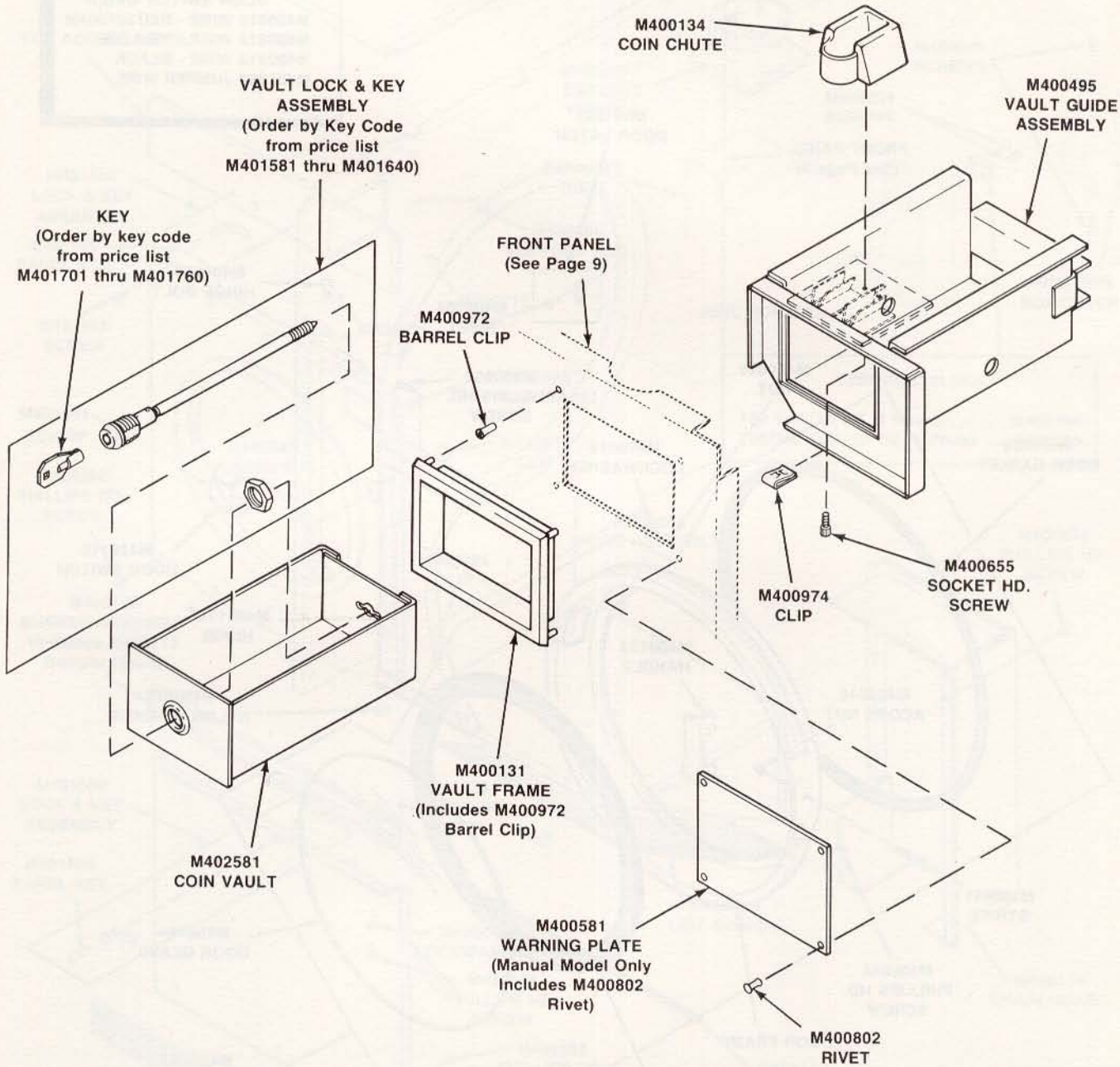
**CONTROL PANEL ASSEMBLY (Coin)**



**THERMOSTAT AND HARNESS ASSEMBLY**

\*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	



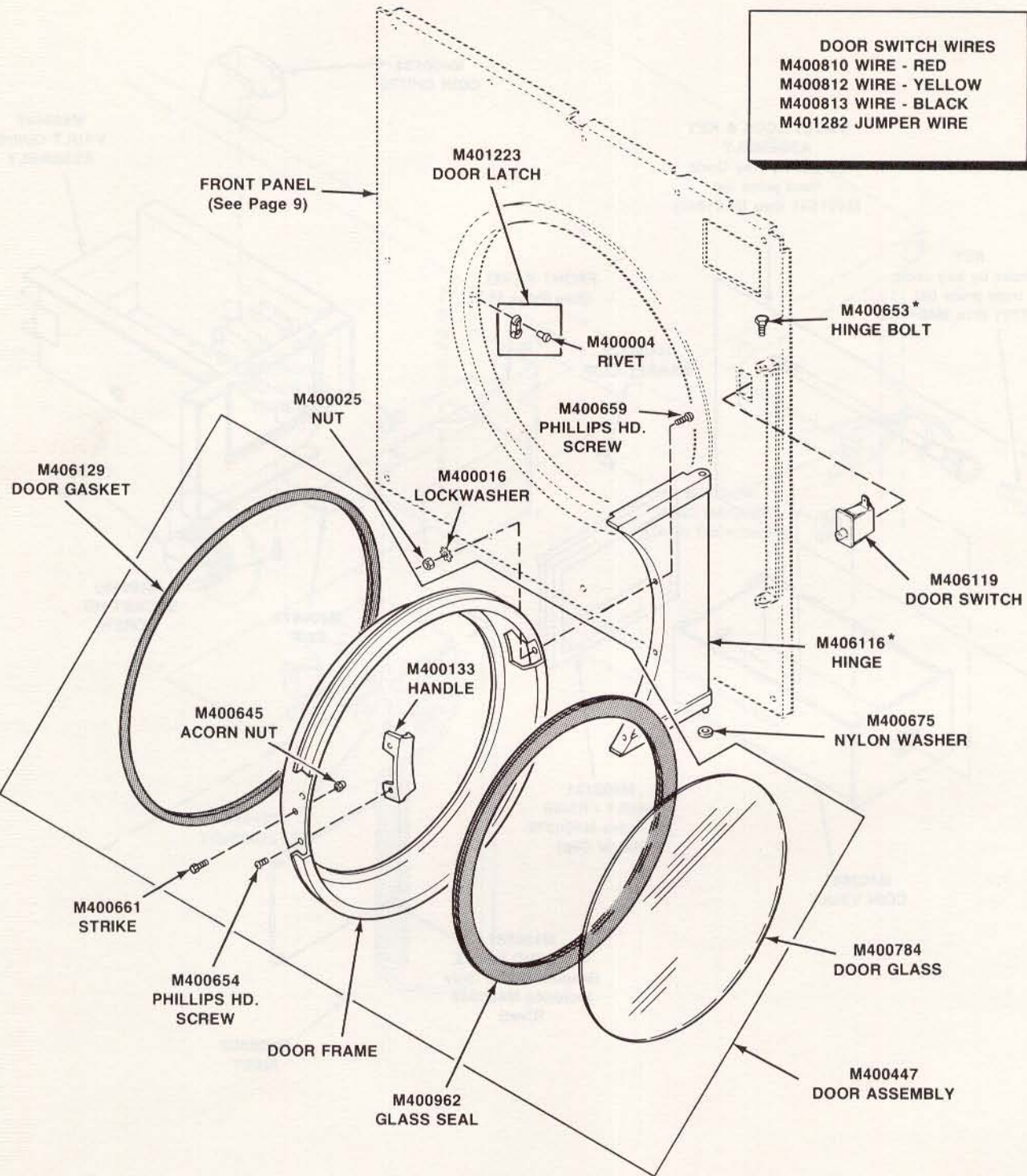
**COIN VAULT AND GUIDE ASSEMBLY**



\*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	

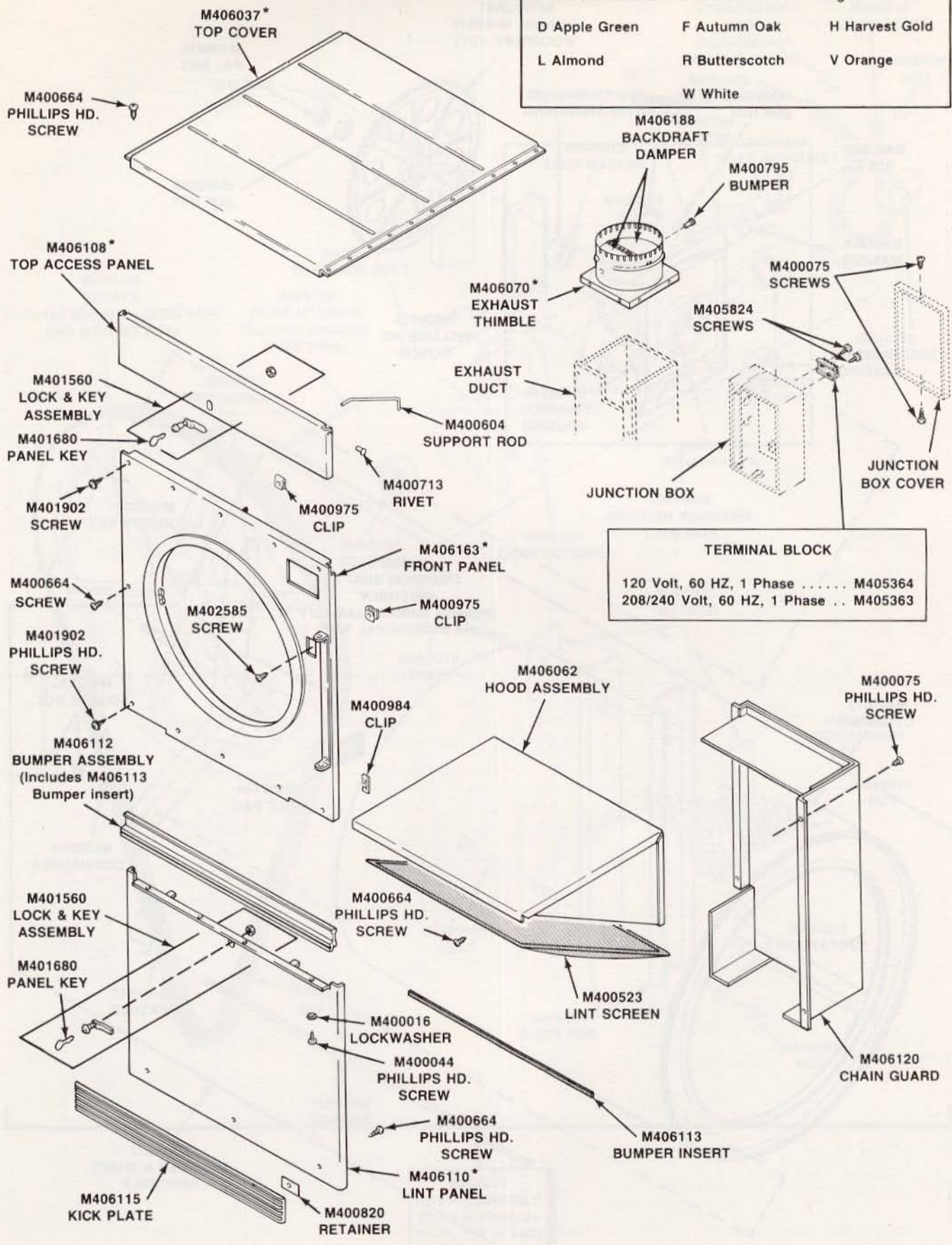
**DOOR SWITCH WIRES**  
M400810 WIRE - RED  
M400812 WIRE - YELLOW  
M400813 WIRE - BLACK  
M401282 JUMPER WIRE



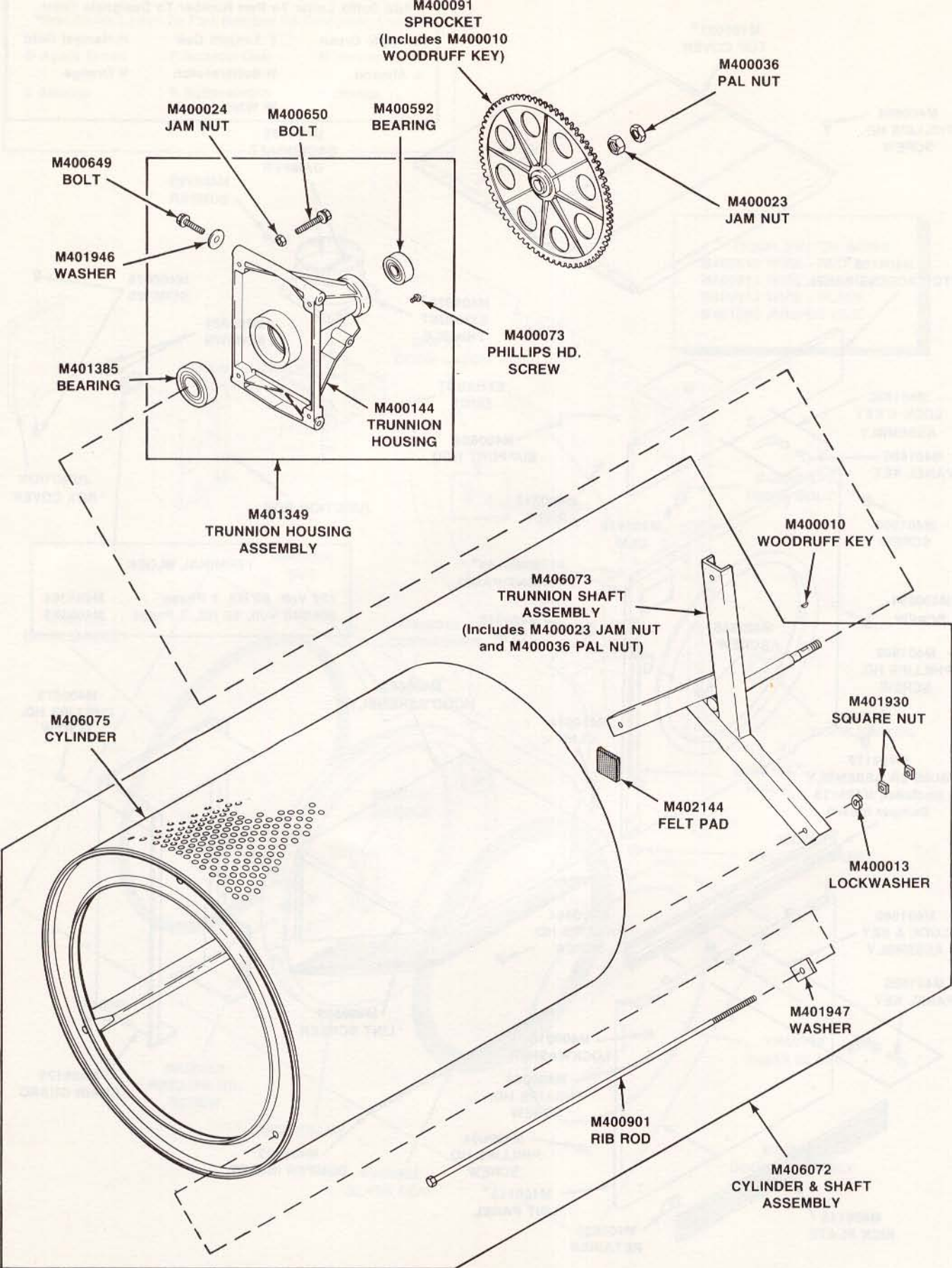
**LOADING DOOR AND DOOR SWITCH**

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

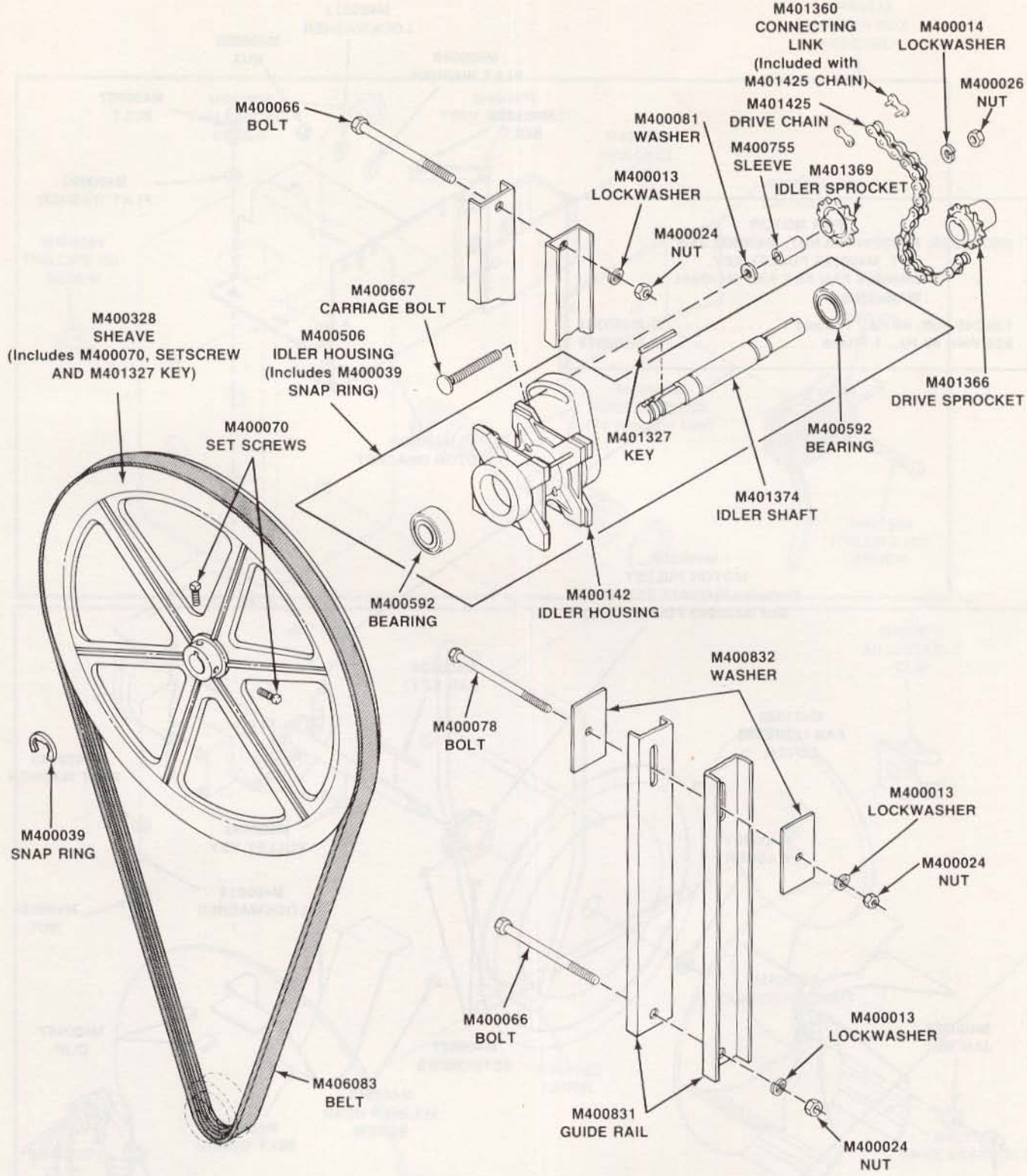
D Apple Green	F Autumn Oak	H Harvest Gold
L Almond	R Butterscotch	V Orange
W White		



**PANELS, GUARDS AND LINT HOOD ASSEMBLY**



**CYLINDER AND TRUNNION ASSEMBLIES**

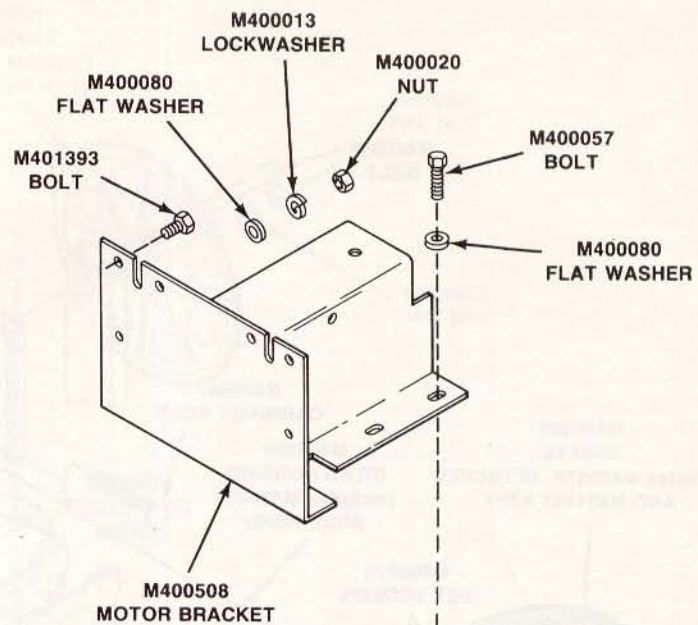


**M406077**  
**IDLER ASSEMBLY**  
 (Does not include chain, link or belt)

**IDLER DRIVE COMPONENTS**

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

120/240 Volt, 60 Hz., 1 Phase .....	M400383
208 Volt, 60 Hz., 1 Phase .....	M400379



**M406082 MOTOR PULLEY**  
 (Includes M400077 SETSCREW and M400993 PULLEY KEY)

**M401362 FAN HOUSING COVER**

**M400994 FAN KEY**

**M400080 FLAT WASHER**

**M400991 WASHER**

**M400993 PULLEY KEY**

**M400013 LOCKWASHER**

**M400024 NUT**

**M400022 JAM NUT**

**M400077 SETSCREWS**

**M400967 CLIP**

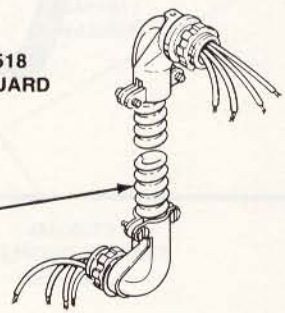
**M401913 WASHER HEAD SCREW**

**M400518 BELT GUARD**

**M400034 PALNUT**

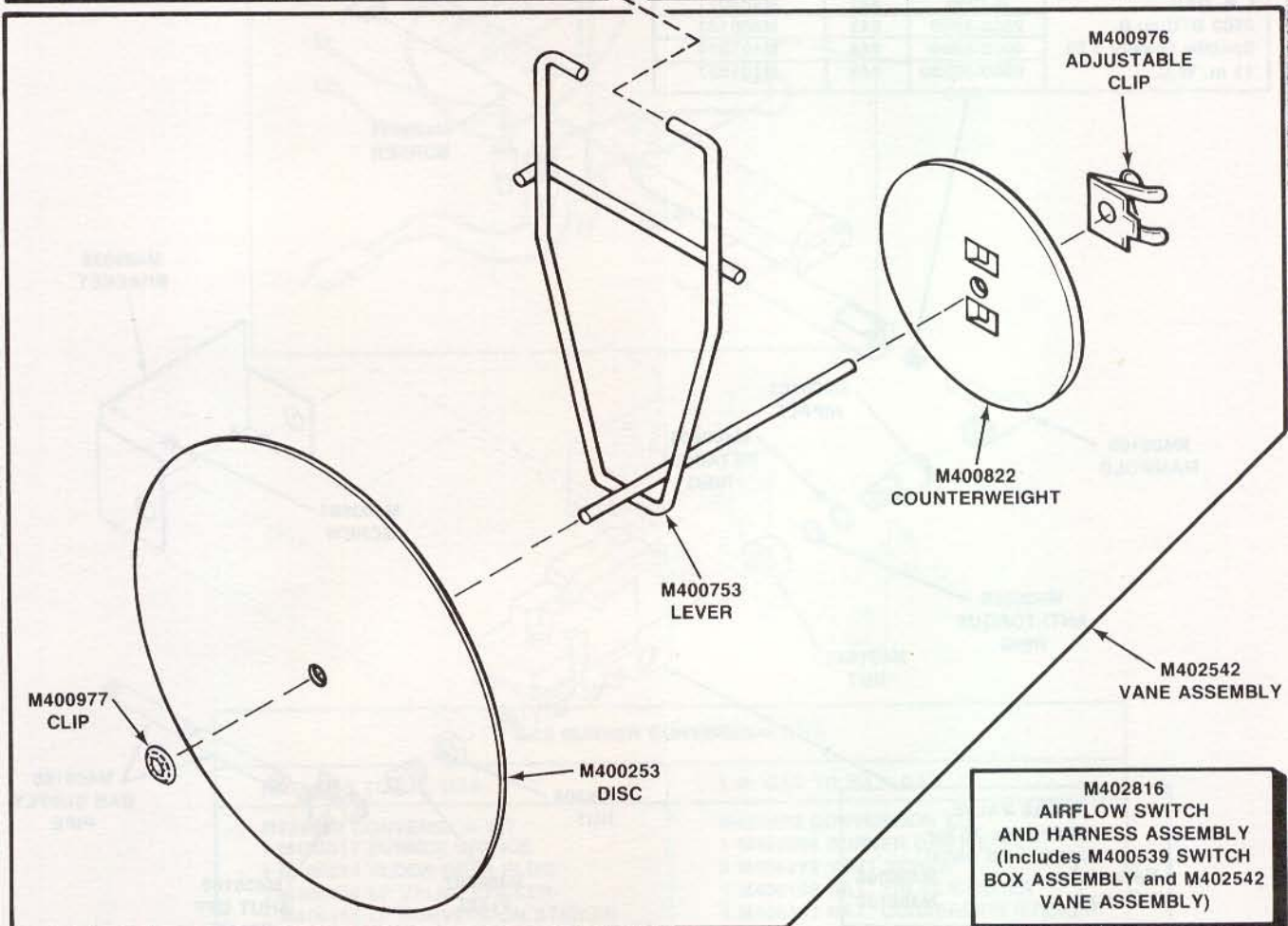
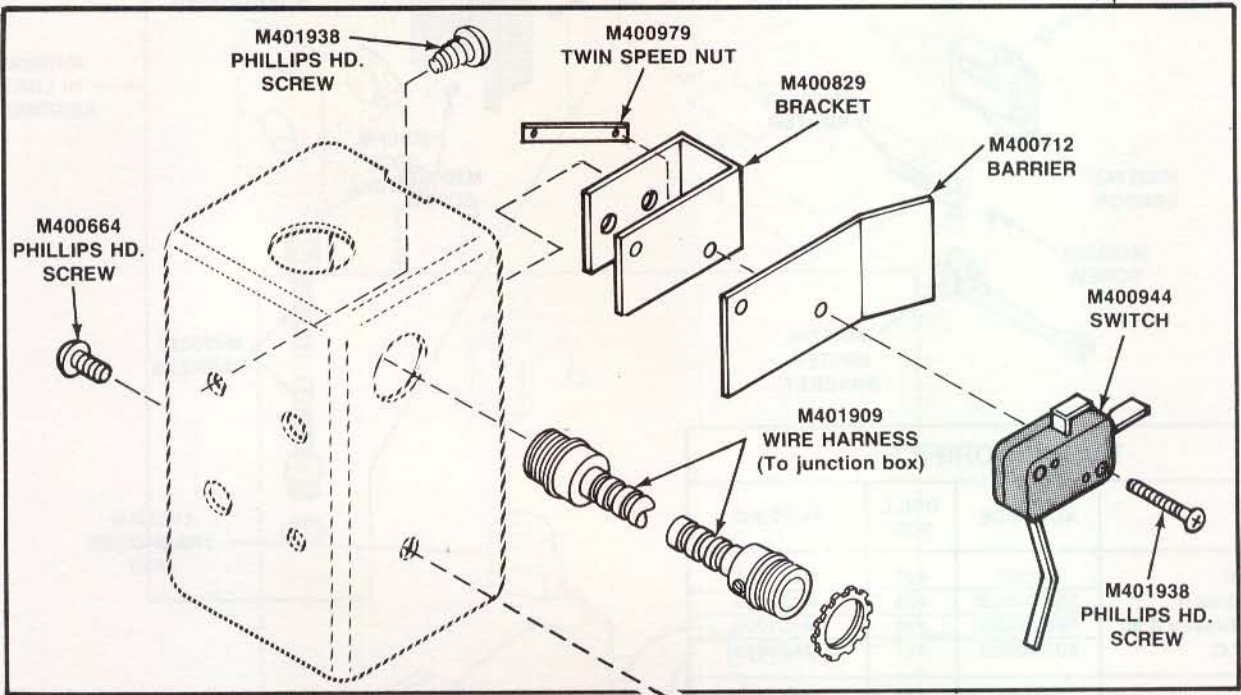
**M400086 FAN**  
 (Includes M400994 FAN KEY)

**MOTOR HARNESS**  
 120 Volt, 60 Hz., 1 Phase ..... M405353  
 208/240 Volt, 60 Hz., 1 Phase .. M405351



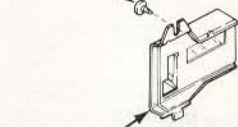
**FAN AND MOTOR ASSEMBLY**

M400539  
SWITCH BOX  
ASSEMBLY



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

M400664  
SCREW



M402742  
SENSOR

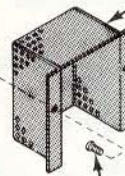
M403308  
SCREW



M402743  
IGNITER

M406206  
IGNITER  
BRACKET

M400664  
PHILLIPS HD.  
SCREW



M400845  
COVER

M400244  
THERMODISC

M400076  
SCREW

M400895  
HI LIMIT  
ASSEMBLY

M403824  
HARNESS

### BURNER ORIFICE

TYPE OF GAS	ALTITUDE	DRILL SIZE	PART NO.
NAT. GAS 1000 BTU/cu.ft. Specific Gravity 0.60 3.5 In. W.C.	0-2000	#22	M402996
	2000-4000	#24	M402980
	4000-6000	#26	M401000
	6000-8000	#27	M400998
L.P. GAS 2500 BTU/cu.ft. Specific Gravity 1.53 11 In. W.C.	0-2000	#42	M403017
	2000-4000	#43	M406184
	4000-6000	#44	M401011
	6000-8000	#45	M401027

M405938  
BURNER

M406038  
BRACKET

M406100  
MANIFOLD

M406101  
NIPPLE

M400606  
RETAINER  
RING

M400605  
ANTI-TORQUE  
RING

M401548  
NUT

M400664  
SCREW

**GAS VALVE**  
(See page 15 for  
component parts)  
Natural Gas ..... M406099  
L.P. Gas ..... M406136

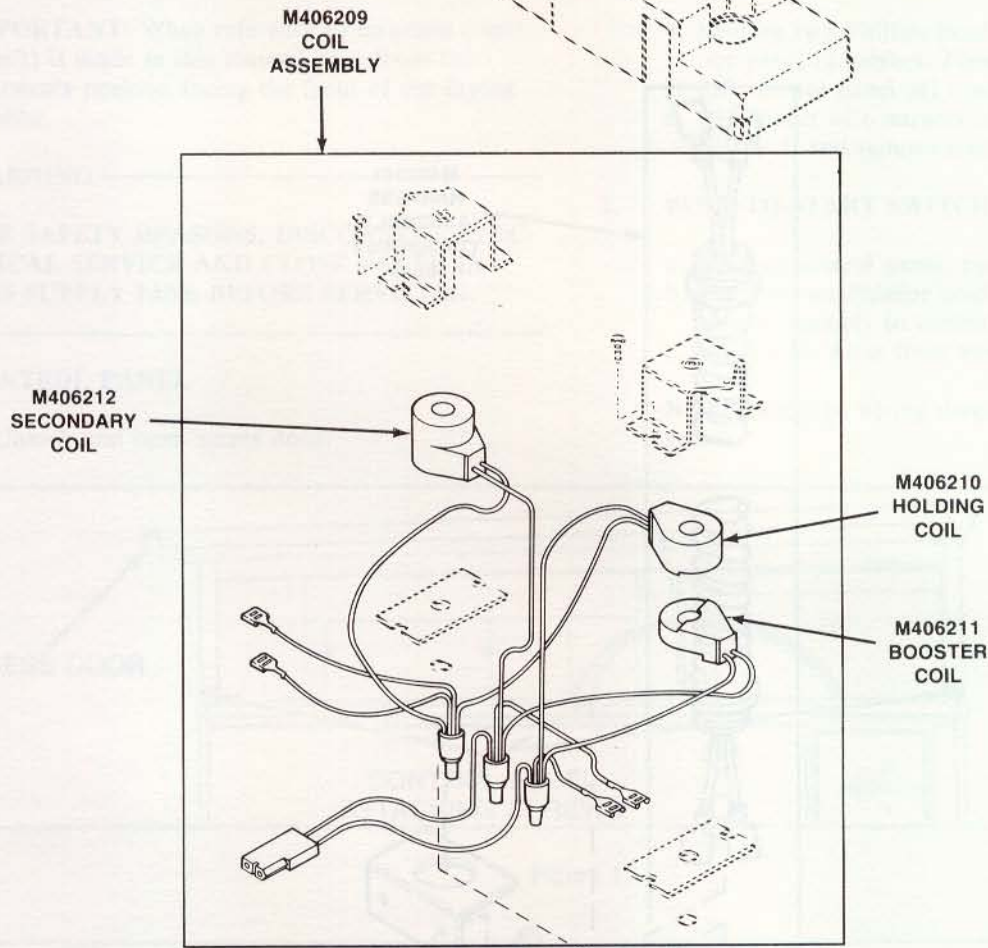
M406208  
NUT

M406207  
PLUG

M406102  
SHUT OFF  
VALVE

M406160  
GAS SUPPLY  
PIPE

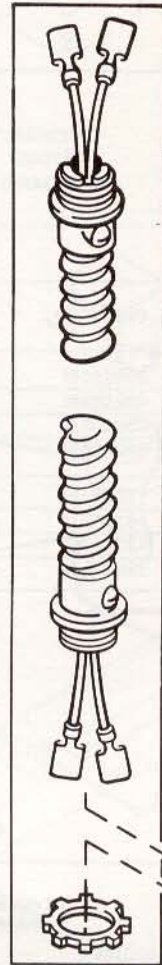
### BURNER ASSEMBLY



GAS BURNER CONVERSION KITS	
NAT. GAS TO L.P. GAS	L.P. GAS TO NAT. GAS
M4390P3 CONVERSION KIT 1 M403017 BURNER ORIFICE 1 M406214 BLOCK OPEN PLUG 1 M406194 LP VALVE STICKER 1 M406196 LP CONVERSION STICKER	M4389P3 CONVERSION KIT 1 M402996 BURNER ORIFICE 1 M406213 VENT SCREW 1 M406195 NAT. VALVE STICKER 1 M406197 NAT. CONVERSION STICKER

**GAS VALVE ASSEMBLY  
AND GAS BURNER CONVERSION KITS**





M405391  
HARNESS  
ASSEMBLY  
(To Junction  
Box)



M400664  
PHILLIPS HD.  
SCREW



M401257  
THERMODISC

**CABINET HIGH LIMIT AND HARNESS ASSEMBLY**

# 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 AND CLOSE VALVE IN GAS SUPPLY LINE BEFORE SERVICING.**

#### 1. CONTROL PANEL

- a. Unlock and open access door.

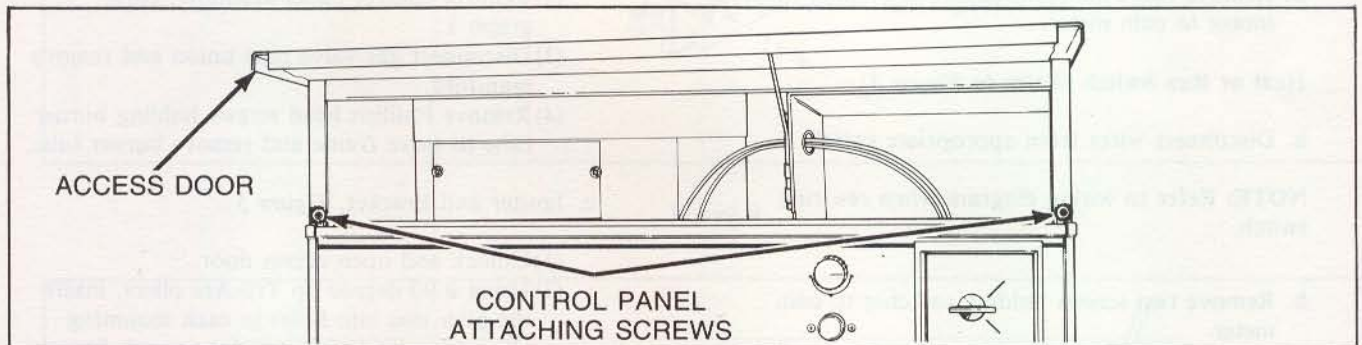


Figure 1

- 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*, and remove control panel.

#### 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.

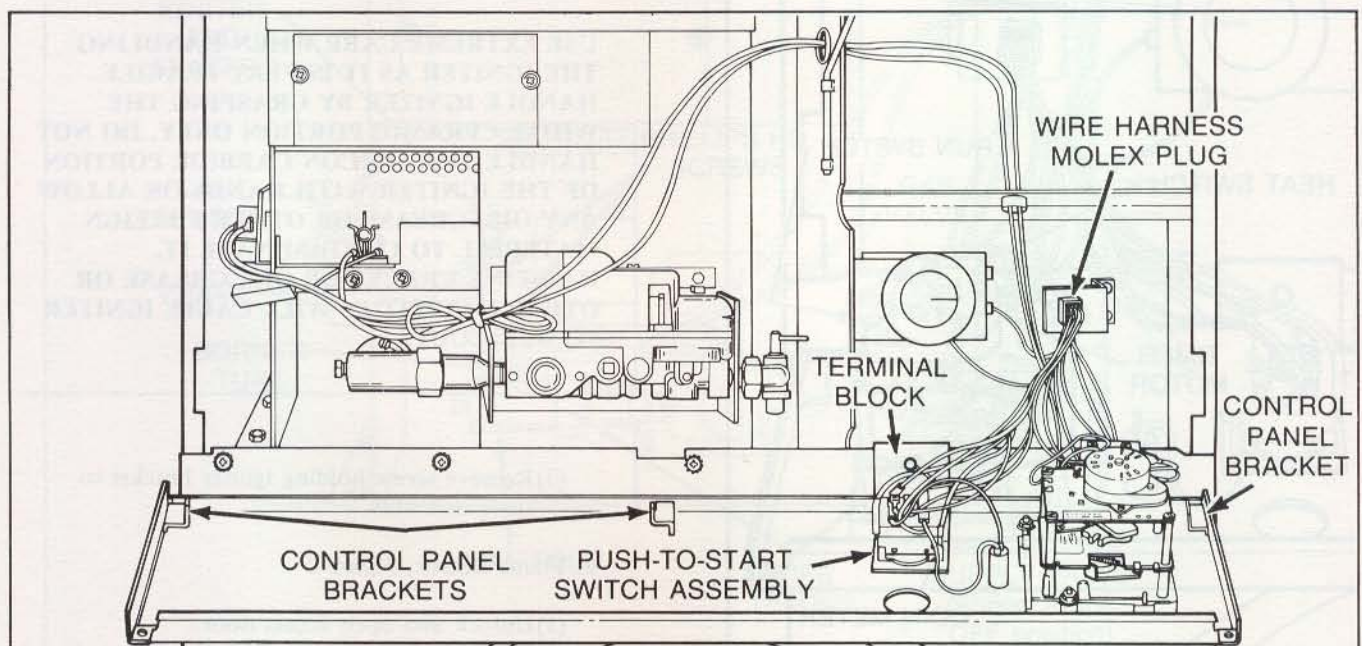


Figure 2

3. **TERMINAL BLOCK** (Refer to Figure 2)

- 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. **COIN METER - Metered Models** (Refer to Figure 3)

- a. Remove control panel, paragraph 1.
- b. Remove washer nut holding coin meter to meter frame.
- c. Disconnect all wires from coin meter.

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

**Timer Motor** (Refer to Figure 3)

- a. Disconnect timer motor leads.
- b. Remove two Phillips head screws holding timer motor to coin meter.

**Heat or Run Switch** (Refer to Figure 3)

- a. Disconnect wires from appropriate switch.

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

- b. Remove two screws holding switches to coin meter.

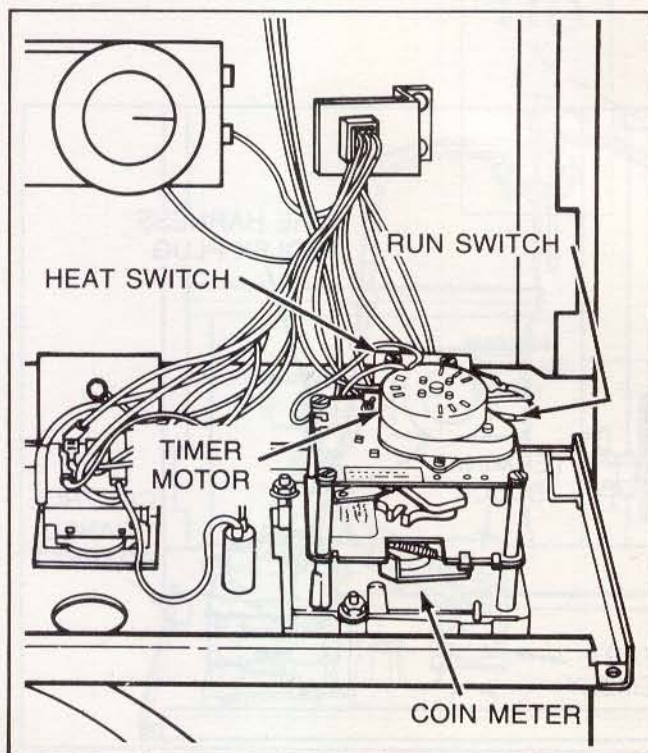


Figure 3

**NOTE:** Refer to Figure 4 for assembly sequence.

5. **BURNER SYSTEM COMPONENTS**

- a. Complete Gas Valve Assembly, Figure 5.

- (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 and disconnect gas valve pipe unions.
- (5) Remove Phillips head screws holding gas valve and bracket to stove assembly.

**NOTE:** The holding coil, booster coil and secondary coil can be replaced individually or in a kit. Refer to the parts section of this manual for the part numbers and assembly sequence.

- b. Burner Tube Assembly, Figure 5

- (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.

- c. Igniter and Bracket, Figure 5

- (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 and spread clips just far enough for igniter removal.

**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.

- d. Flame Sensor, Figure 5

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

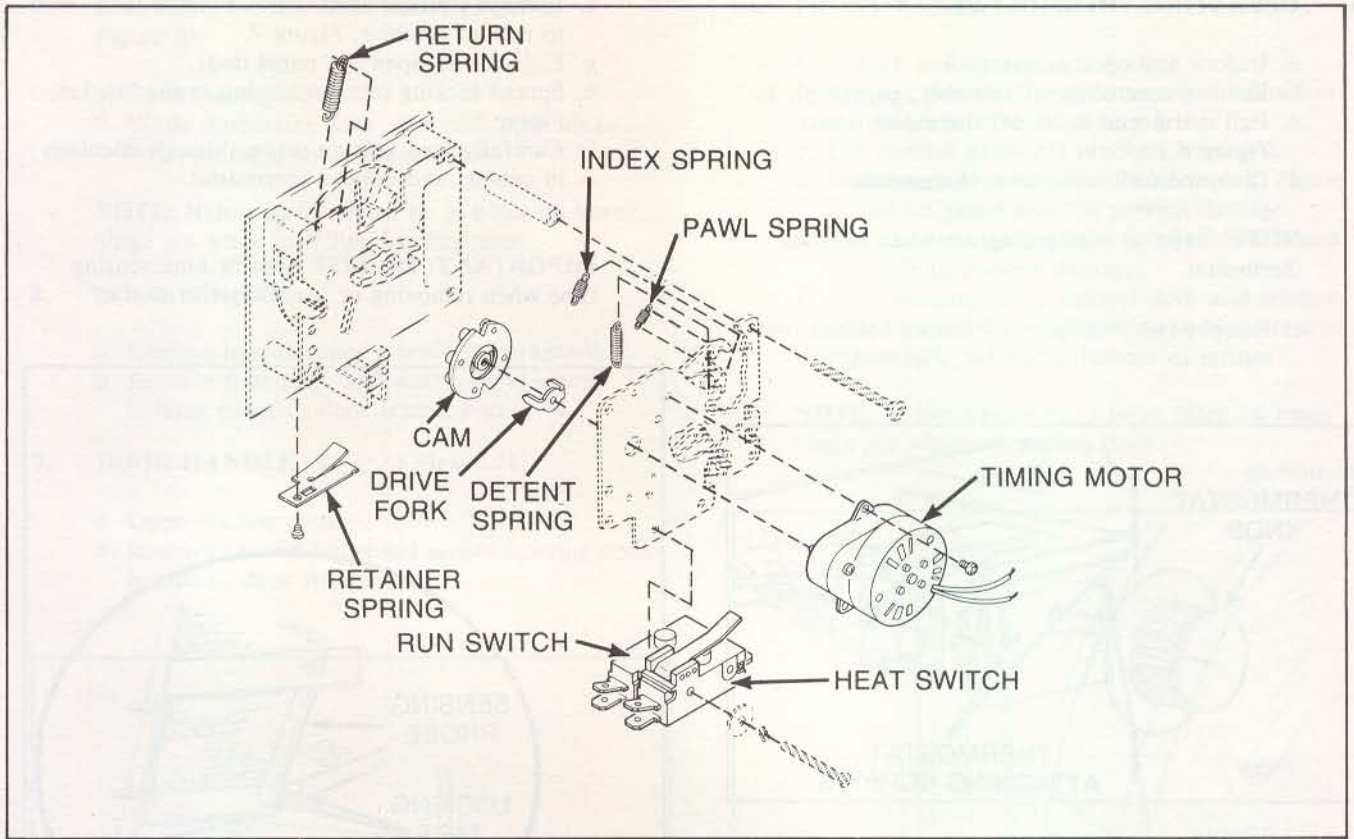


Figure 4

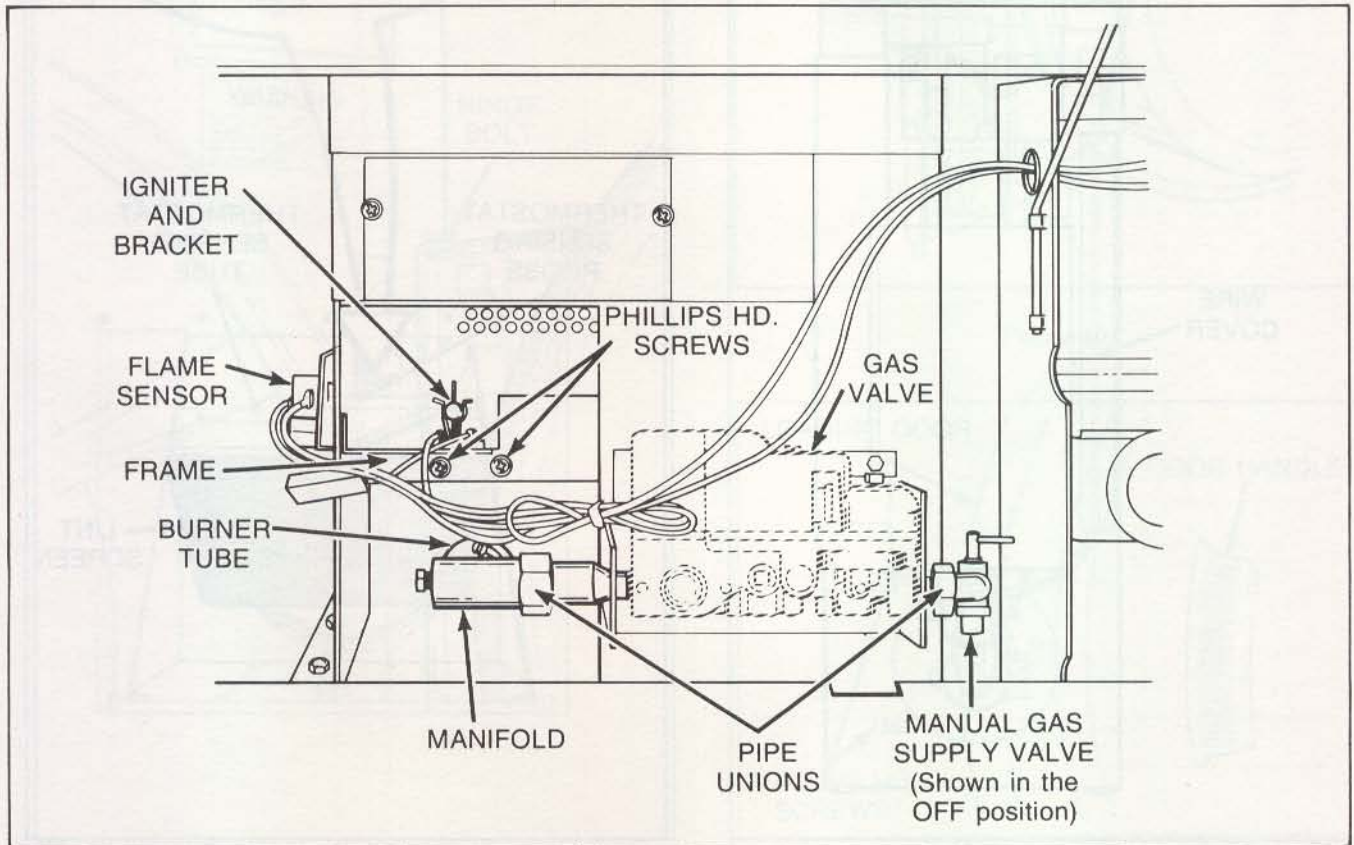


Figure 5

## 6. OPERATING THERMOSTAT

- a. Unlock and open access door.
- b. Remove control panel assembly, paragraph 1.
- c. Pull thermostat knob off thermostat shaft, *Figure 6*.
- d. Disconnect all wires from thermostat.

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

- e. Remove two Phillips head screws holding thermostat to mounting bracket, *Figure 6*.

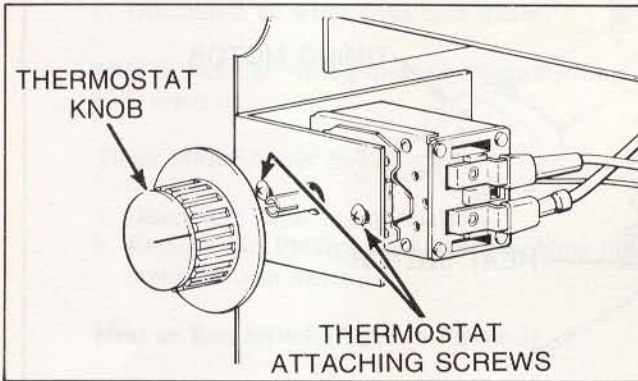


Figure 6

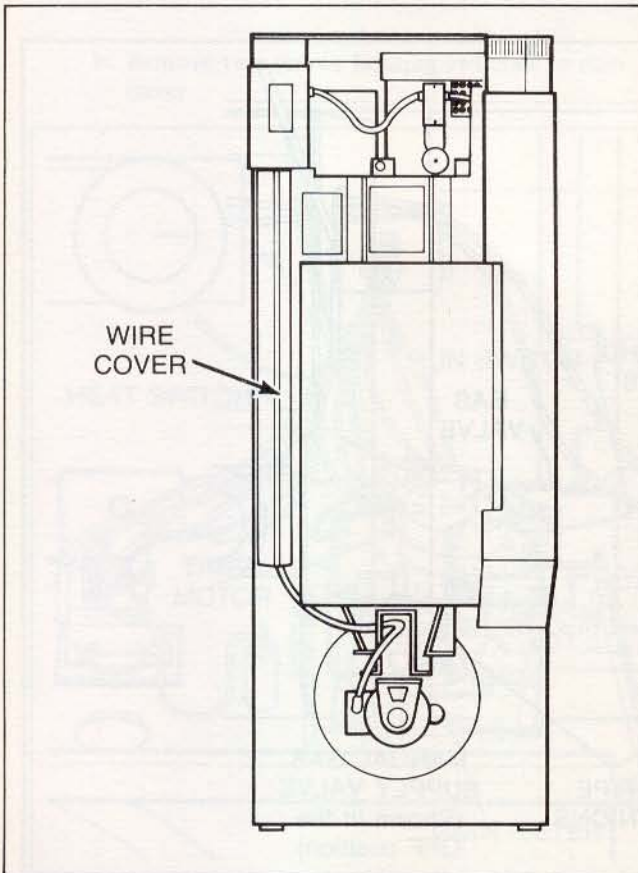


Figure 7

- f. Remove Phillips head screws holding wire cover to rear of tumbler, *Figure 7*.
- g. Unlock and open lint panel door.
- h. Spread locking tabs on sensing probe bracket, *Figure 8*.
- i. Carefully feed sensing probe through openings in cabinet and remove thermostat.

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

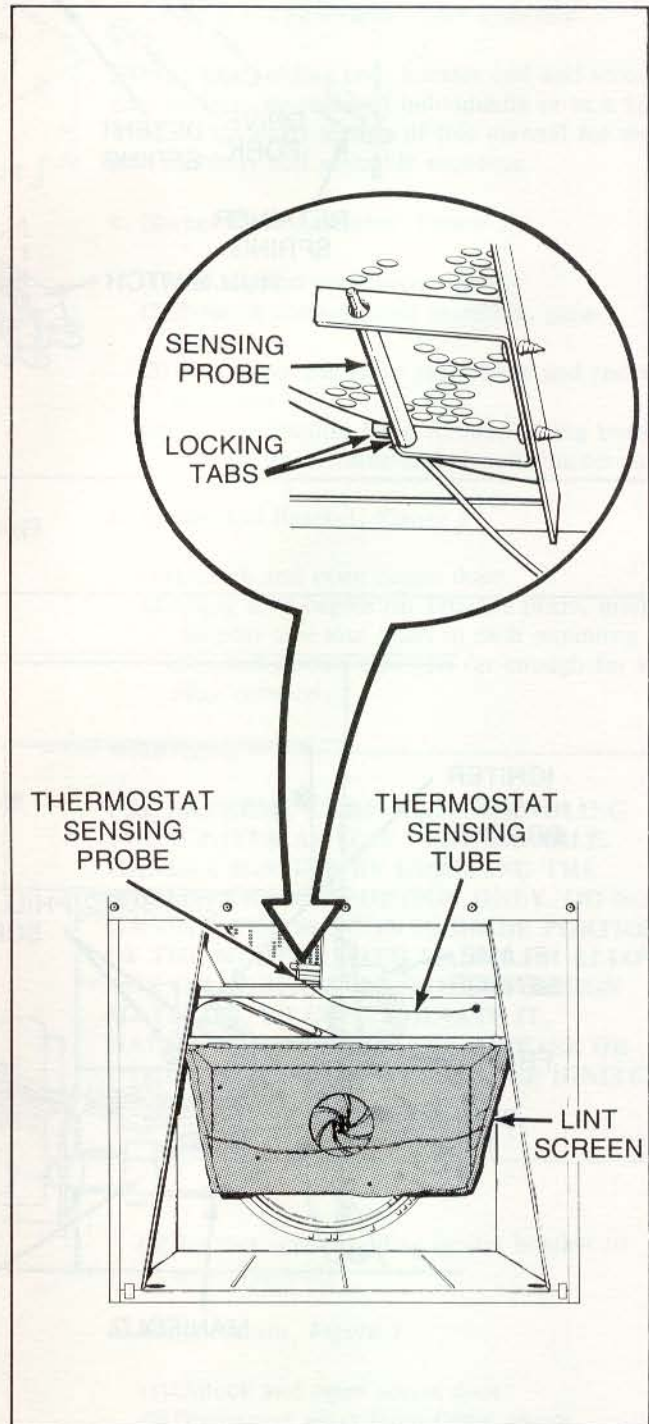


Figure 8

7. **LOADING DOOR ASSEMBLY** (Refer to Figure 9)

- 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.

8. **DOOR HINGE**

- a. Remove loading door assembly, paragraph 7.
- b. Remove four nuts, lockwashers and screws holding hinge to door frame, Figure 10.

9. **DOOR HANDLE** (Refer to Figure 11)

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



Figure 9

10. **FRONT PANEL**

- a. Unlock and open access door.
- 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 Molex plug, Figure 2, and set panel aside to prevent damage.
- e. Unlock, open and remove lint panel door and set aside to prevent damage.
- f. Open loading door, support door and remove upper hinge bolt holding door to hinge bracket, Figure 9.

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

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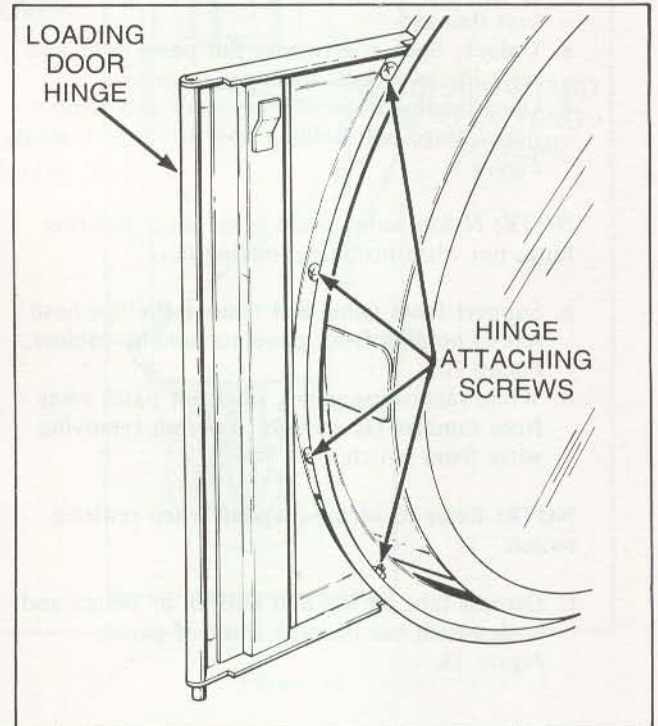


Figure 10

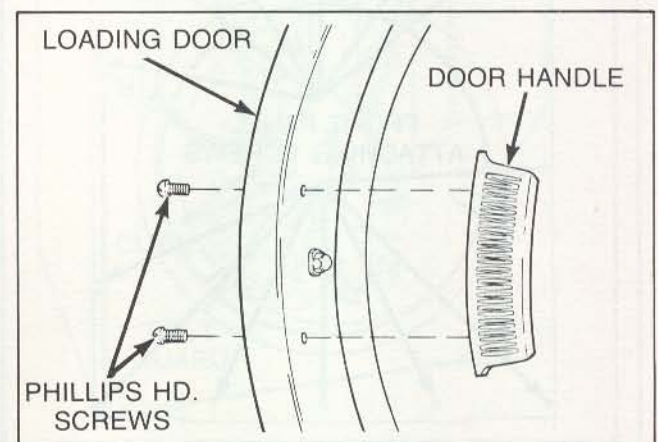


Figure 11

- g. Support front panel and remove Phillips head screws holding front panel to tumbler cabinet, *Figure 12*.
- h. While supporting front panel, tilt panel away from tumbler far enough to permit removing wires from door switch.

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

## 11. DOOR SWITCH

- a. Unlock and open access door.
- 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 Molex plug, *Figure 2*, and set control panel out of the way to prevent damage.
- e. Unlock, open and remove lint panel door and set aside to prevent damage.
- f. Open loading door, support door and remove upper hinge bolt holding door to hinge bracket, *Figure 9*.

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

- g. Support front panel and remove Phillips head screws holding front panel to tumbler cabinet, *Figure 10*.
- h. While supporting panel, tilt front panel away from tumbler far enough to permit removing wires from switch.

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

- i. Depress tabs on top and bottom of switch and push switch out through front of panel, *Figure 13*.

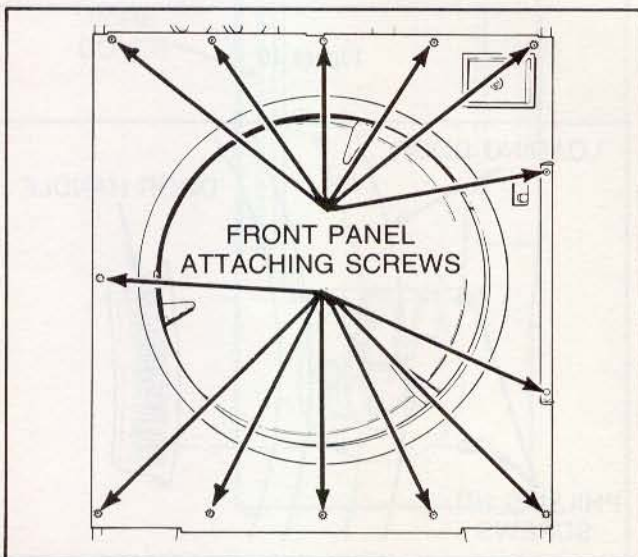


Figure 12

## 12. AIRFLOW SWITCH

- a. Remove airflow switch box cover, *Figure 14*.
- b. Disconnect wires from switch.

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

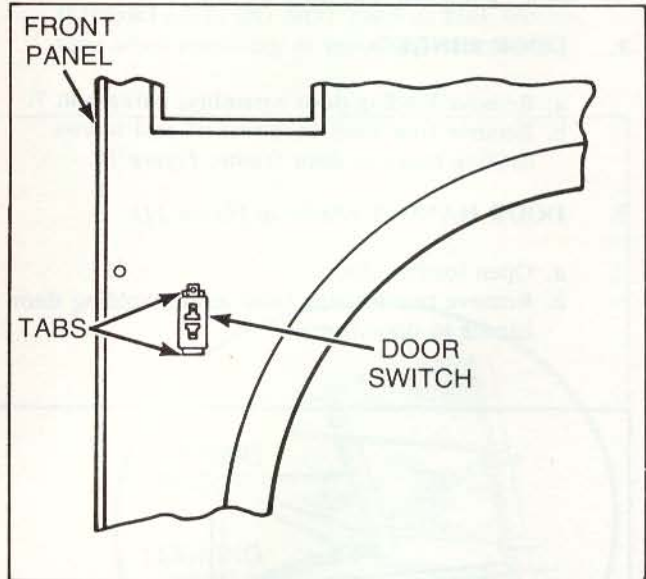


Figure 13

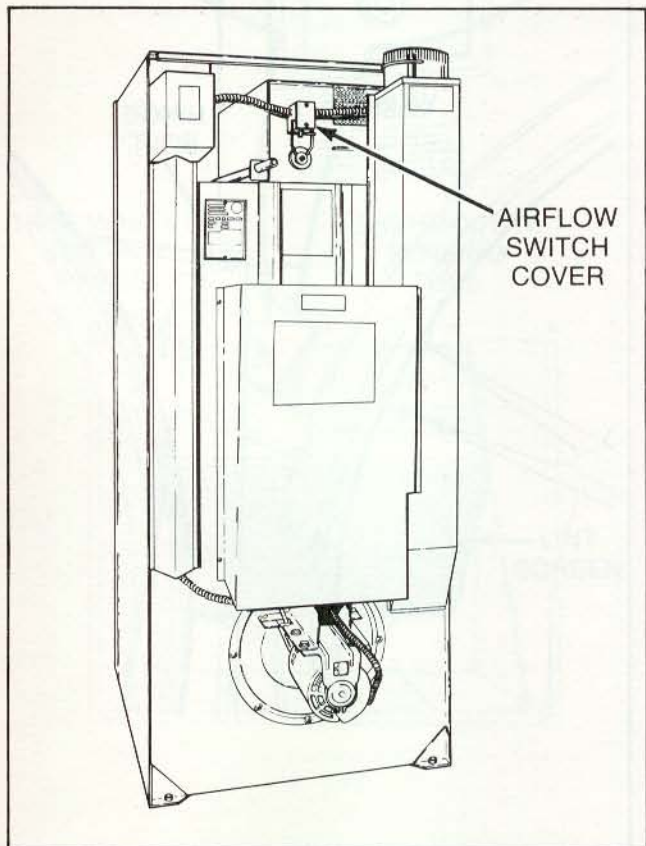


Figure 14

- c. Remove two Phillips head screws holding switch and mounting bracket to switch box, *Figure 15*.
- d. Remove two screws holding switch to mounting bracket, *Figure 15*.

**NOTE:** After reinstalling airflow switch and mounting bracket into switch box, adjust switch, paragraph 29.

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

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

**CAUTION**

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

**14. WIRE COVER** (*Refer to Figure 16*)

- a. Remove Phillips head screws holding cover to rear of tumbler.
- b. Remove cover from the rear of the tumbler.

**IMPORTANT:** When reinstalling cover, be sure no wires are pinched between the rear of the tumbler cabinet and the cover.

**15. BELT**

- a. Support chain guard and remove Phillips head screws holding guard to rear of tumbler, *Figure 16*.

**CAUTION**

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

- b. Remove two clips (from each side) holding belt

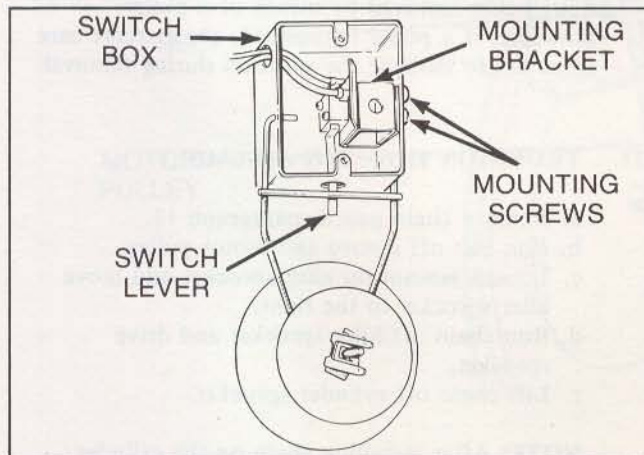


Figure 15

- guard assembly to motor bracket, *Figure 17*, and remove belt guard.
- c. Run belt off sheave and motor pulley, *Figure 18*.

**NOTE:** When reinstalling new belt, center 4 groove belt on 6 groove sheave and motor pulley, adjust belt paragraph 32, then adjust chain, paragraph 33.

(continued)

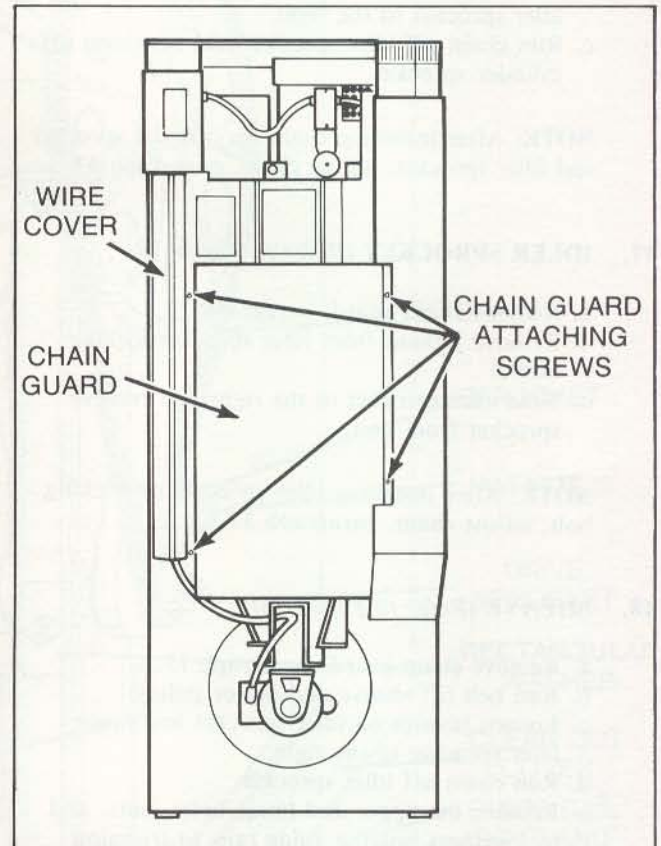


Figure 16

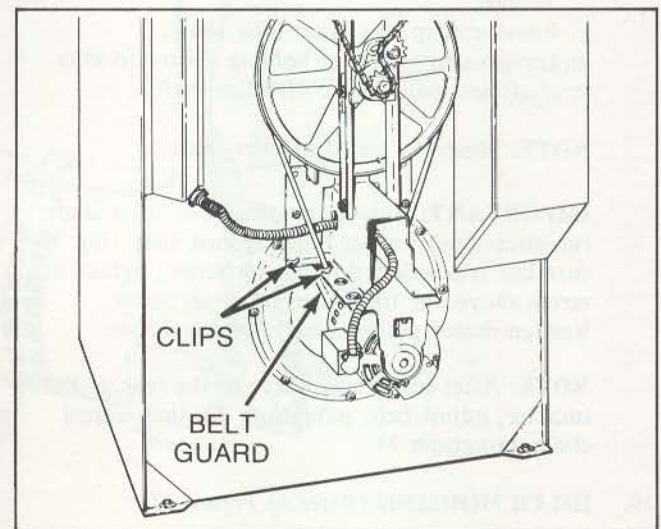


Figure 17



- d. Loosen upper bolt and nut holding guide rails to trunnion housing, *Figure 18*.
- e. Remove lower bolt and nut from guide rail. Hinge guide rail out and slip belt out from under guide rails.

**16. CHAIN** (*Refer to Figure 18*)

- a. Remove chain guard, paragraph 13
- 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 33.

**17. IDLER SPROCKET** (*Refer to Figure 18*).

- a. Remove chain guard, paragraph 13.
- 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 33.

**18. SHEAVE** (*Refer to Figure 18*)

- a. Remove chain guard, paragraph 13.
- b. Run belt off sheave and motor pulley.
- 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 shafts.

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

**IMPORTANT:** Reassemble sheave to idler shaft; run sheave out until it butts against snap ring; insure key is positioned under set screw; tighten set screw above key first, then other set screw. Realign motor pulley directly under sheave.

**NOTE:** After installing sheave to the rear of the tumbler, adjust belt, paragraph 32, then adjust chain paragraph 33.

**19. IDLER HOUSING** (*Refer to Figure 18*)

- a. Remove chain guard, paragraph 13.
- b. Run belt off sheave and motor pulley.

- 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 32, then adjust chain, paragraph 33.

- i. Remove bolt, nut, lockwasher and two rectangular washers holding idler housing to guide rails. Support idler housing and carefully drive idler shaft from housing using a hammer and a hardwood dowel.
- j. Support idler housing and drive bearings from housing using hammer and hardwood dowel.

**20. CYLINDER SPROCKET** (*Refer to Figure 18*)

- a. Remove chain guard, paragraph 13.
- 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 33.

- 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.

**21. TRUNNION HOUSING ASSEMBLY**

- a. Remove chain guard, paragraph 13.
- b. Run belt off sheave and motor pulley.
- c. Loosen jamnut on idler sprocket and move idler sprocket to the right.
- d. Run chain off idler sprocket and drive sprocket.
- e. Lift chain off cylinder sprocket.

**NOTE:** After installing chain on the cylinder, drive and idler sprockets, adjust chain, paragraph 33.

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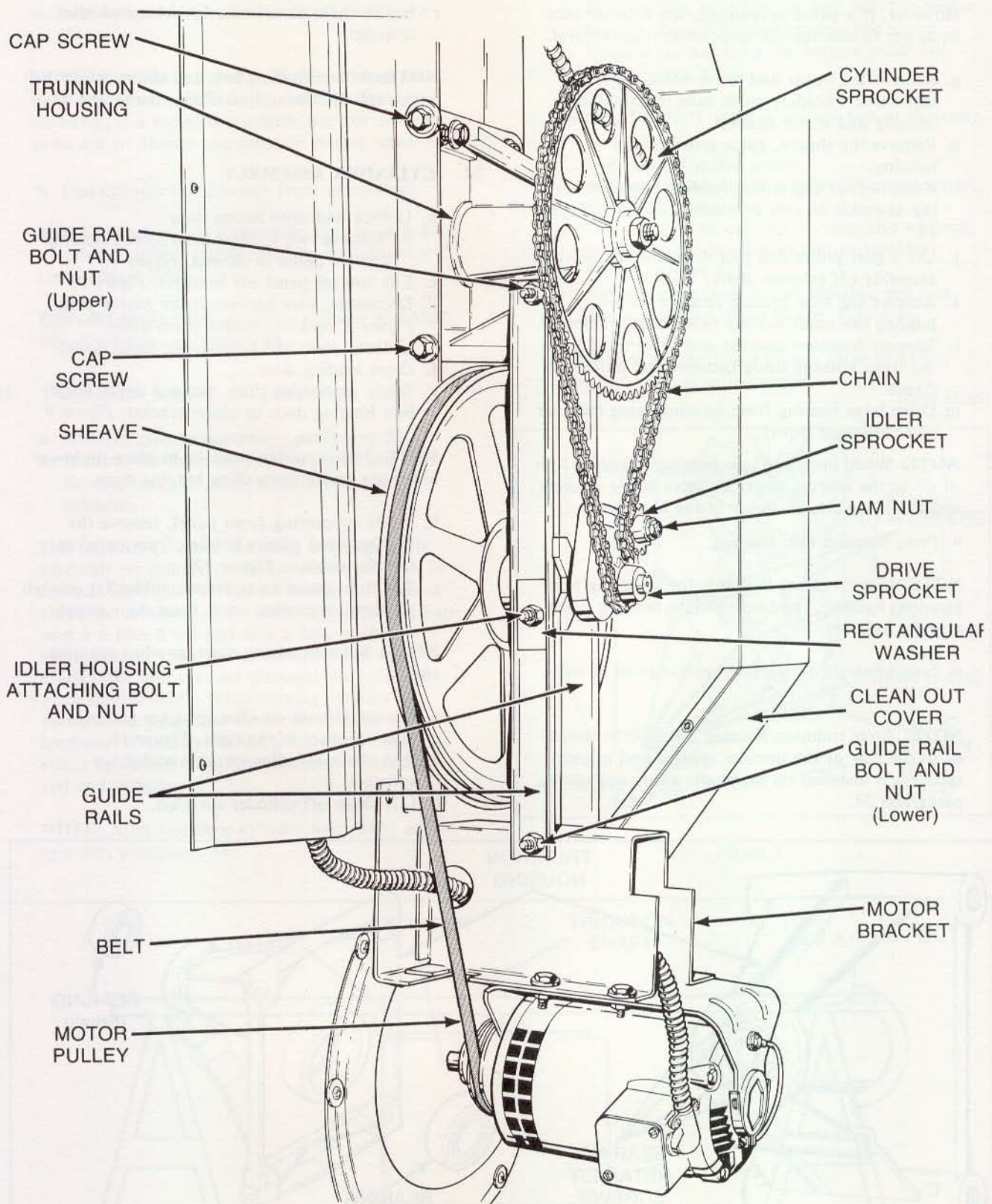


Figure 18

f. 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.

g. Remove the upper and lower bolts, nuts, lockwashers holding guide rails to trunnion housing and motor bracket.

h. Remove the sheave, guide rails and idler housing.

i. Remove four cap screws holding trunnion housing assembly to rear of tumbler cabinet, *Figure 18*.

j. Use a gear puller and pull the trunnion housing assembly off cylinder shaft.

k. Remove the four bearing retainer screws holding the small bearing in housing, *Figure 19*.

l. Support trunnion housing and drive small bearing from housing using hammer and hardwood dowel.

m. 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.

n. Press bearings into housing.

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

o. Install bearing retainer screws removed in step "k".

**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 34.

p. Install sheave and guide rails to trunnion housing.

q. Install belt on motor pulley and sheave and attach guide rails to motor bracket.

r. Install chain on cylinder sprocket and idler sprocket.

**NOTE:** After installing belt and chain, adjust belt paragraph 32, then adjust chain, paragraph 33.

## 22. CYLINDER ASSEMBLY

a. Unlock and open access door.

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*, and set control panel aside.

e. Unlock, open and remove lint panel door.

f. Open loading door.

g. While supporting door, remove upper hinge bolt holding door to hinge bracket, *Figure 9*.

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

h. While supporting front panel, remove the Phillips head screws holding front panel to tumbler cabinet, *Figure 12*.

i. Tilt front panel away from tumbler far enough to permit removing wires from door switch.

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

j. Loosen jamnut on idler sprocket and move idler sprocket to the right, *Figure 18*.

k. Run chain off idler sprocket and drive sprocket.

l. Lift chain off cylinder sprocket.

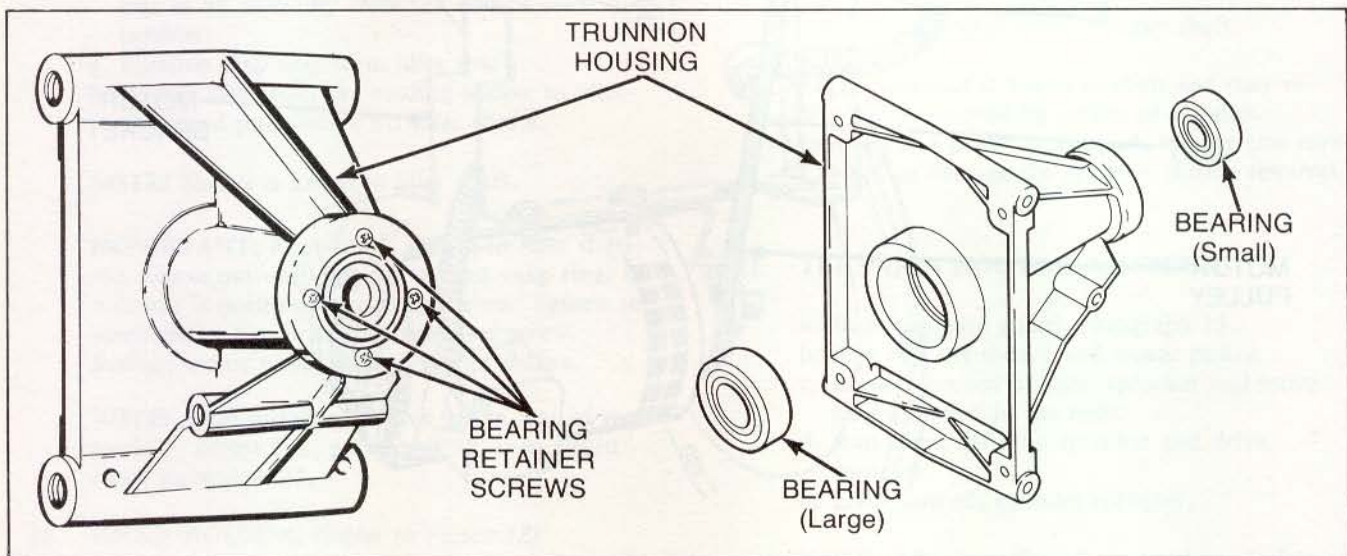


Figure 19

**NOTE:** After reinstalling chain on the cylinder, drive and idler sprocket, adjust chain, paragraph 33.

m. Remove sprocket from cylinder shaft, *Figure 18*.

**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.

n. 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 34.

### 23. TRUNNION SHAFT ASSEMBLY

- a. Remove cylinder assembly, paragraph 22.
- b. Remove the three rib rods, washers and nuts holding trunnion shaft assembly to rear of cylinder.

**IMPORTANT:** When installing trunnion shaft assembly on cylinder, cylinder and shaft must be leveled. See *Figure 20* 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 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 34.

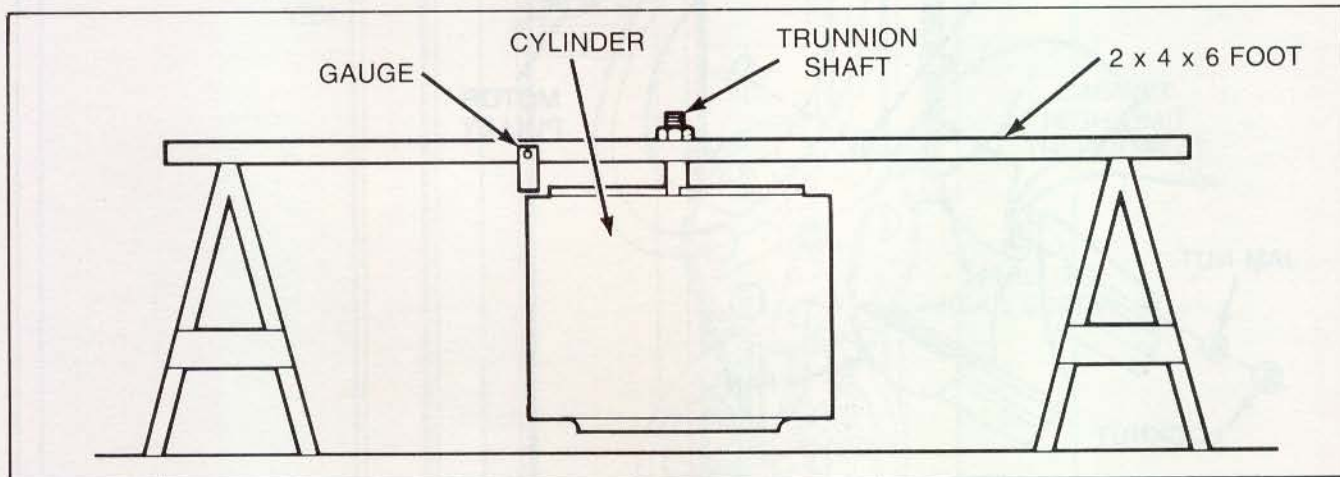


Figure 20

### 24. MOTOR AND FAN ASSEMBLY

- a. Remove chain guard, paragraph 13.
- b. Loosen nut on top guide rail bolt, *Figure 18*.
- c. Remove four clips holding belt guard to motor bracket, *Figure 17*, and remove belt guard.
- d. Remove the nut from the bottom guide rail bolt, *Figure 18*.

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

- e. Run belt off motor pulley.
- f. Remove the seven fan housing attaching screws, *Figure 21*.
- g. Remove the two cap screws, nuts and washers, holding motor bracket to rear of tumbler cabinet, *Figure 21*.
- h. Remove plate from motor junction box and disconnect wires from motor, *Figure 21*.

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

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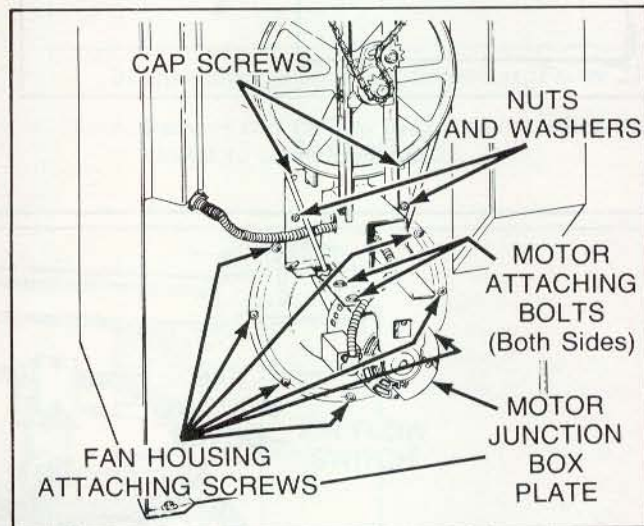


Figure 21

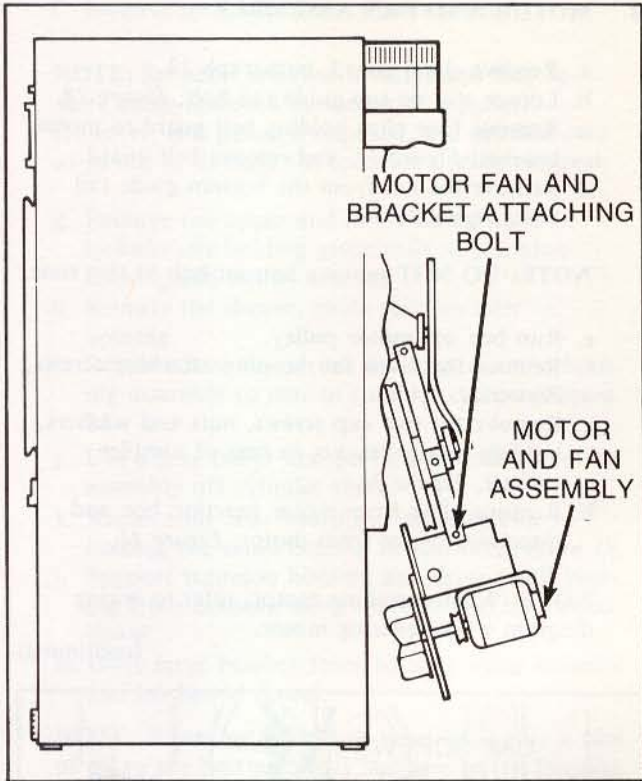


Figure 22

- i. Using the guide rails as support, swing motor and fan assembly out and away from rear of tumbler, *Figure 22*.
- j. While supporting motor and fan assembly, remove the bottom bolt holding the motor fan and bracket to guide rails, *Figure 22*.
- k. Remove four nuts, washers and bolts holding mounting bracket to motor, *Figure 21*.
- l. Remove locknut and jamnut holding fan on motor shaft *Figure 23*, 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 23*.
- o. Loosen two setscrews holding motor pulley to motor shaft, *Figure 23*.

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

## 25. STOVE HIGH LIMIT THERMOSTAT

- a. Unlock and open access door.
- b. Remove two Phillips head screws holding control panel to cabinet, *Figure 1*.

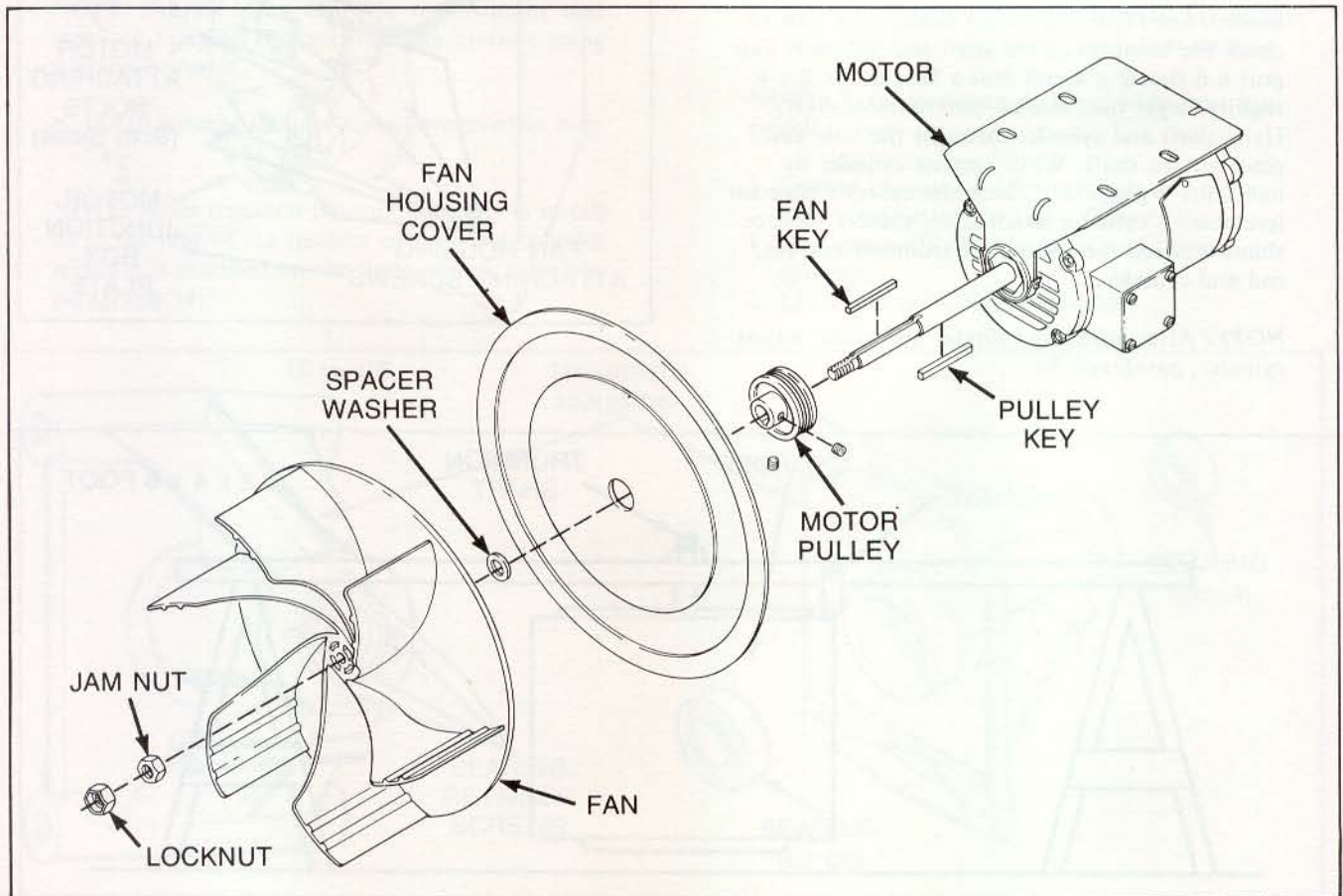


Figure 23

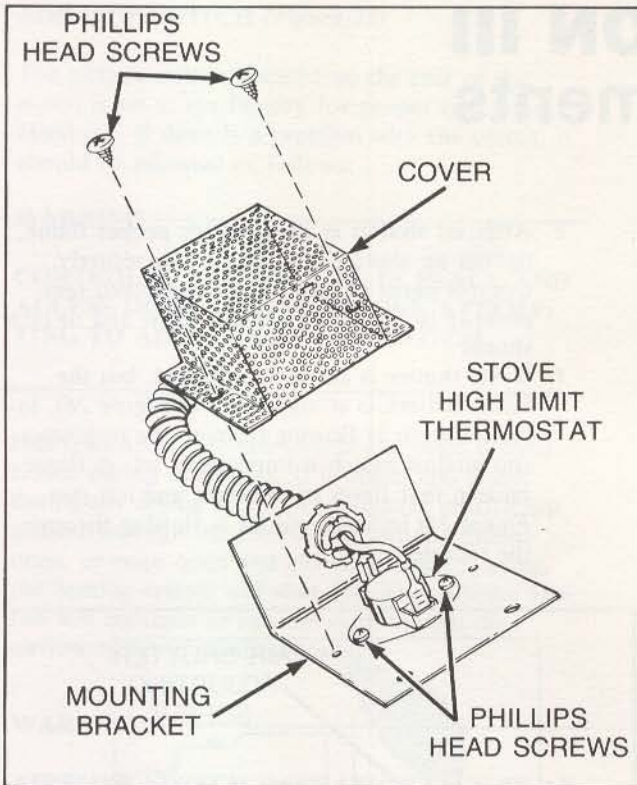


Figure 24

- c. Lift control panel off brackets, *Figure 2*.
- d. Disconnect wire harness at the Molex plug, *Figure 2*, and remove control panel.
- e. Reach in through front of tumbler and remove two Phillips head screws holding thermostat, bracket and cover to left side of stove.
- f. Carefully remove thermostat, bracket and cover out through rear of tumbler as far as wire harness permits.
- g. Remove two Phillips head screws holding cover to mounting bracket, *Figure 24*.
- h. Disconnect wires from thermostat, *Figure 24*.
- i. Remove two Phillips head screws holding thermostat to mounting bracket, *Figure 24*.

## 26. CABINET HIGH LIMIT THERMOSTAT

- a. Remove chain guard, paragraph 13.

### CAUTION

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

- b. Disconnect wires from thermostat, *Figure 25*.
- c. Remove two Phillips head screws holding thermostat to cabinet, *Figure 25*.

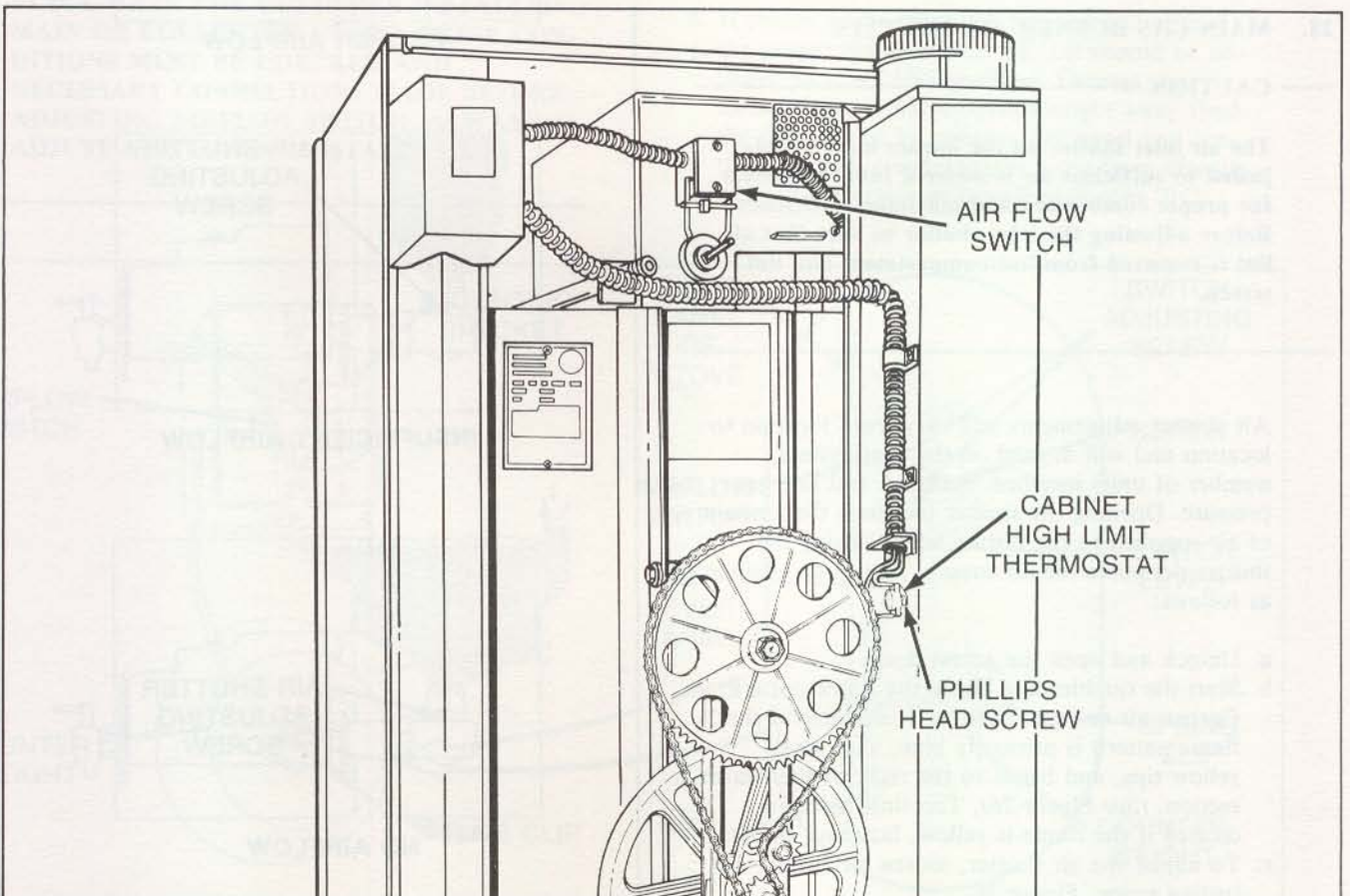


Figure 25

# SECTION III

## Adjustments

### 27. LEVELING LEGS

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

- Check the front to rear level by rotating the clothes cylinder until one of the cylinder ribs is at the bottom.
- Place a level on the rib.
- 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.

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

### 28. MAIN GAS BURNER AIR SHUTTER

#### CAUTION

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

Air shutter adjustments will vary from location to location and will depend on the vent system, number of units installed, make-up 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:

- Unlock and open the access door.
- 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 26). Too little air is indicated if the flame is yellow, lazy and smokey.
- To adjust the air shutter, loosen air shutter adjusting screw, Figure 26.
- Turn air shutter to the right or left as necessary to obtain flame intensity.

- 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 screw and to turn shutter.
- If the shutter is correctly adjusted, but the flame pattern is straight up (see Figure 26), 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 26) indicates no air is flowing through the tumbler.

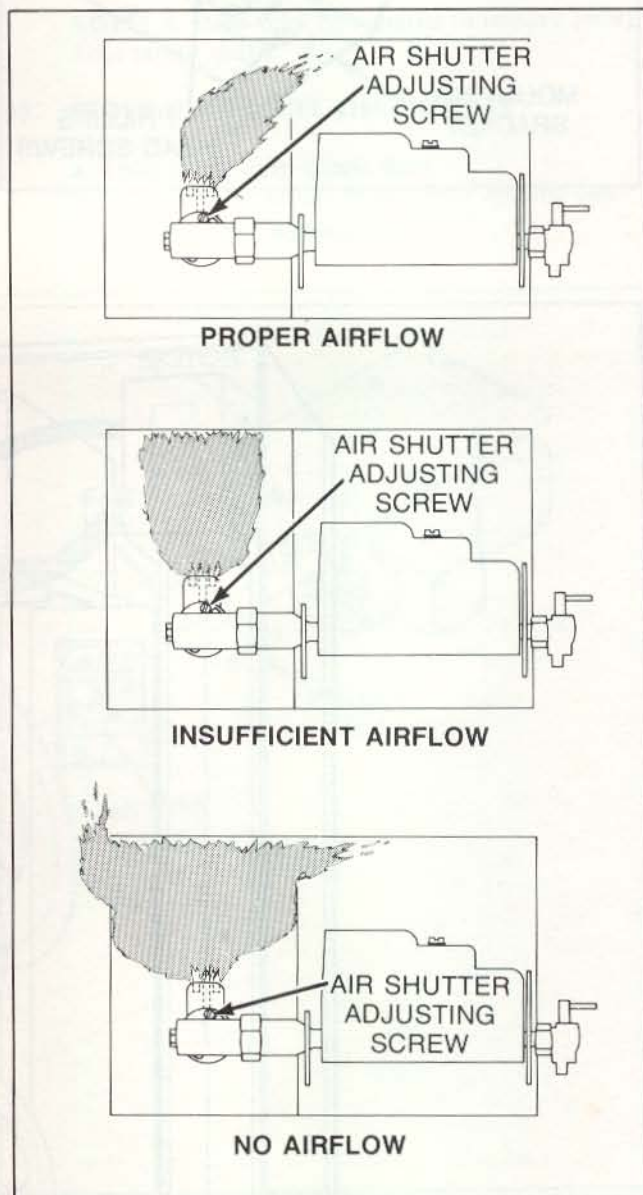


Figure 26

## 29. AIRFLOW SWITCH (Figure 27)

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

### WARNING

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

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

### WARNING

**AIRFLOW 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 AIRFLOW SWITCH. ALWAYS ADJUST AIRFLOW AT INSTALLATION.**

The airflow switch operation is controlled by the counterweight position on the shaft. Moving the counterweight either increases or decreases airflow switch sensitivity. The counterweight should be adjusted so the airflow will force the disc away from the cabinet when the lint panel is opened 1-1/2 inches (3.81 cm). Adjust the airflow switch as follows:

- Load the tumbler with a 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 the tumbler.
- Start the tumbler. Open the lint panel 1-1/2 inches (3.81 cm). 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.
- If switch is not opening as described in step "b", 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 "b".
- If switch opens BEFORE lint panel is opened the proper distance, step "b", 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 "b".

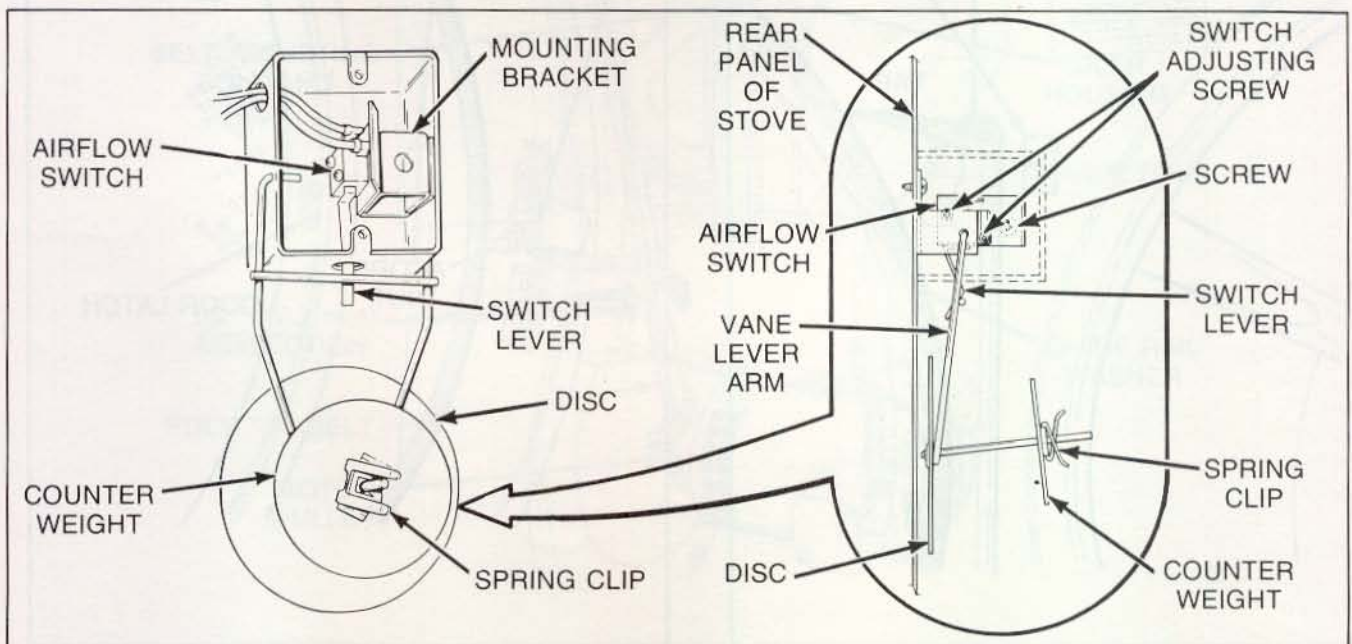


Figure 27



### 30. CYLINDER DOOR SWITCH (Figure 28)

The door switch should be adjusted so the cylinder stops when door is opened two inches (5.08 cm), plus or minus 1/4 inches (6.35mm). This switch is a normally open switch and is closed when the door is closed.

- a. Close door and start tumbler, slowly open loading door. Cylinder and heat system should shut off when door is open two inches (5.08cm) plus or minus 1/4 inch (6.35mm).
- b. Slowly close loading door. When door is two inches (5.08 cm) from being fully closed, the tab on the door should contact the switch plunger and depress it enough to close the switch with an audible "click".
- c. If tab does not depress the switch plunger enough to operate the switch, bend tab on loading door OUTWARD and repeat steps "a" and "b".
- d. If the tab on the door operates the switch before the two inch (5.08 cm) distance, bend tab on loading door INWARD and repeat steps "a" and "b".

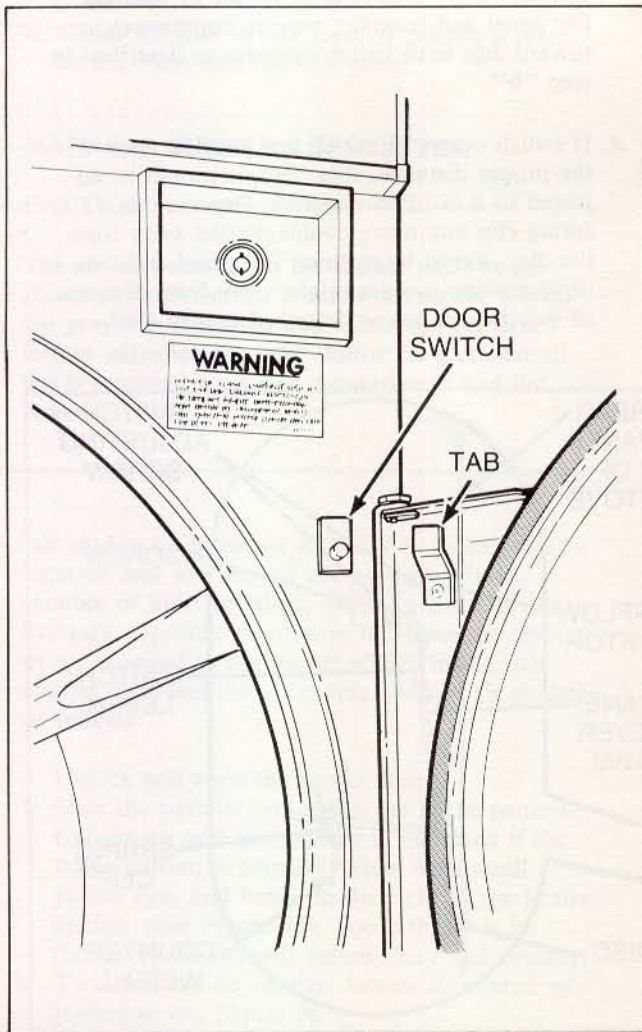


Figure 28

### 31. CYLINDER DOOR STRIKE (Figure 29)

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 (.91 to 1.36 kg) pull is required to open door.

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

### 32. POLY "V" DRIVE BELT TENSION (Figure 30)

#### WARNING

**DISCONNECT POWER TO MACHINE BEFORE PERFORMING THIS OPERATION.**

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

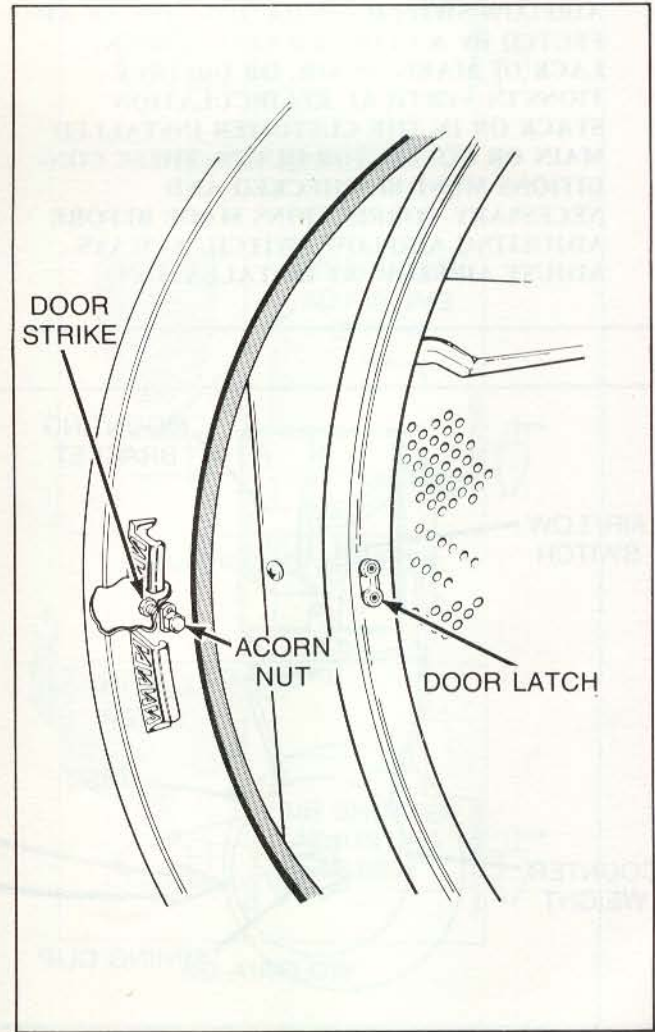


Figure 29

**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, Figure 16.

**IMPORTANT:** Guard MUST be installed on rear of tumbler after belt adjustment is made.

- b. To adjust belt tension, loosen adjusting bolt holding idler housing assembly to the housing support.

- c. Lift idler housing assembly upward until proper belt tension is reached and retighten adjusting bolt.

**33. DRIVE CHAIN TENSION (Figure 30)**

**WARNING**

**DISCONNECT POWER TO MACHINE BEFORE PERFORMING THIS OPERATION.**

Proper tension is when the chain can be depressed approximately 1/2 inch (12.7 mm) by applying light thumb pressure at a point midway between the cylinder sprocket and the idler sprocket.

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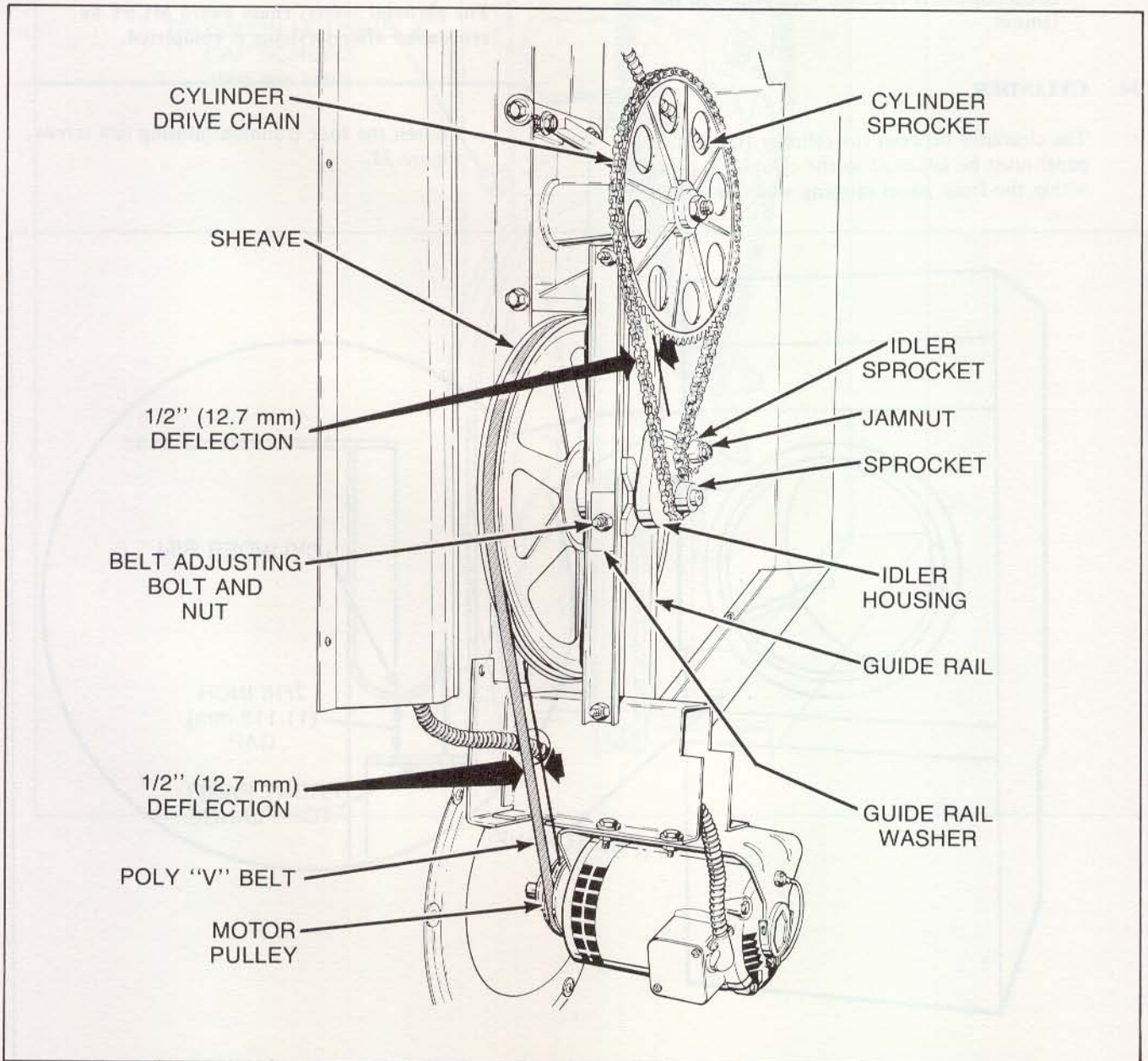


Figure 30

**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" can be found by noticing increased chain tension while slowly rotating the cylinder sprocket manually.

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

**IMPORTANT: Guard MUST** be installed on rear of tumbler after drive chain adjustment is made.

- 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 retighten the jamnut.

#### 34. 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 (11.113 mm) *Figure 31.*

- b. Remove chain guard, paragraph 13.

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#### CAUTION

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

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- c. Loosen the four trunnion housing cap screws, *Figure 32.*

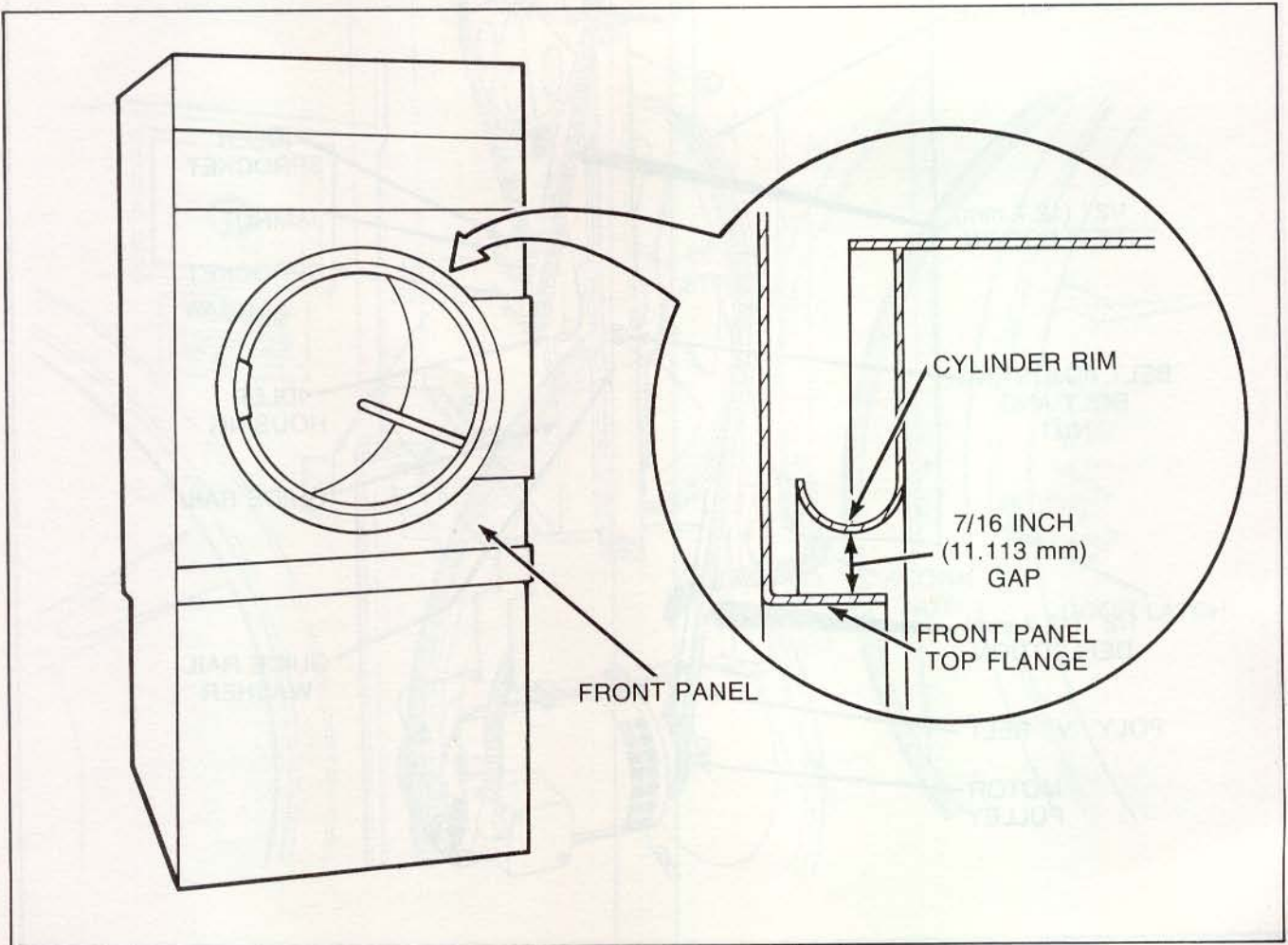


Figure 31

- d. Loosen the locknuts on the trunnion housing adjustment screws, *Figure 32*.
- e. Turn the adjustment screws in or out as necessary to obtain proper clearance.

**NOTE:** Turning the adjusting 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 screws.
- g. Install the chain guard removed in step "b".

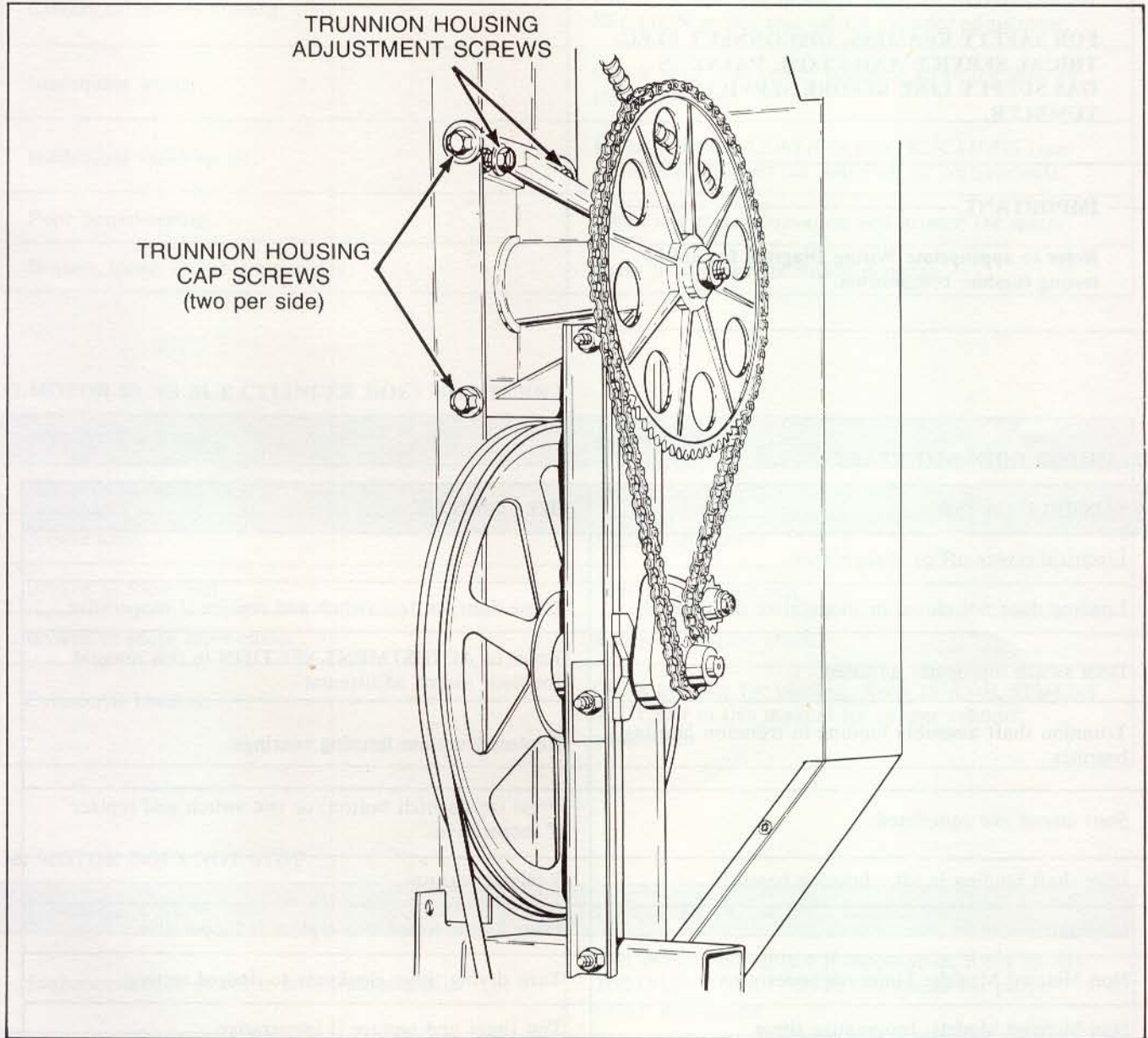


Figure 32

# SECTION IV

## Service Helps

### WARNING

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

### IMPORTANT

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

### 35. 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 appropriate wiring diagram.

### 36. MOTOR OVERLOAD PROTECTOR CYCLES REPEATEDLY

POSSIBLE CAUSE	TO CORRECT
Incorrect Voltage.	Refer to the INSTALLATION INSTRUCTIONS (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 insure that wiring is adequate.
Inadequate make-up air.	Refer to INSTALLATION INSTRUCTIONS (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 appropriate wiring diagram.

### 37. 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 or loose drive chain.	Replace or adjust chain.
Cylinder is binding.	Check cylinder for binding. Refer to ADJUSTMENT SECTION in this manual for proper cylinder adjustment.

### 38. MOTOR DOES NOT STOP

POSSIBLE CAUSE	TO CORRECT
Inoperative door 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.
Metered Models: Inoperative accumulator.	Test accumulator and replace if inoperative.
Incorrect wiring.	Refer to appropriate wiring diagram.

### 39. BURNER DOES NOT IGNITE

POSSIBLE CAUSE	TO CORRECT
Blown fuses or tripped circuit breakers.	Check fuses or circuit breakers. If okay, disconnect gas valve black wire from thermostat and separate gas valve white wire from white NEUTRAL wire at INLINE connector. Start tumbler, if fuses blow or circuit breakers open check all electrical components, wires and connections for short. If fuses or circuit breakers remain closed, check gas valve coils, flame sensor, igniter and wires for short.
Inoperative thermostat.	Test thermostat and replace if inoperative.
Inoperative igniter.	Test igniter and replace if inoperative.
Inoperative flame sensor.	Test flame sensor and replace if inoperative.
Inoperative gas valve coils.	Test coils and replace if inoperative.
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.
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.
Non-Metered Models: Timer improperly set or inoperative.	Check and reset timer, or test timer and replace if inoperative.
Metered Models: Inoperative heat switch (accumulator).	Test heat switch and replace if inoperative.
Inoperative airflow switch.	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.
Airflow switch out of adjustment.	Refer to ADJUSTMENT SECTION in this manual for airflow switch adjustment.
Lint door panel not closed properly.	Unlock and open lint door panel, place lint door panel back on tumbler (insuring a tight fit) then lock.
Broken, loose or incorrect wiring.	Refer to appropriate wiring diagram.

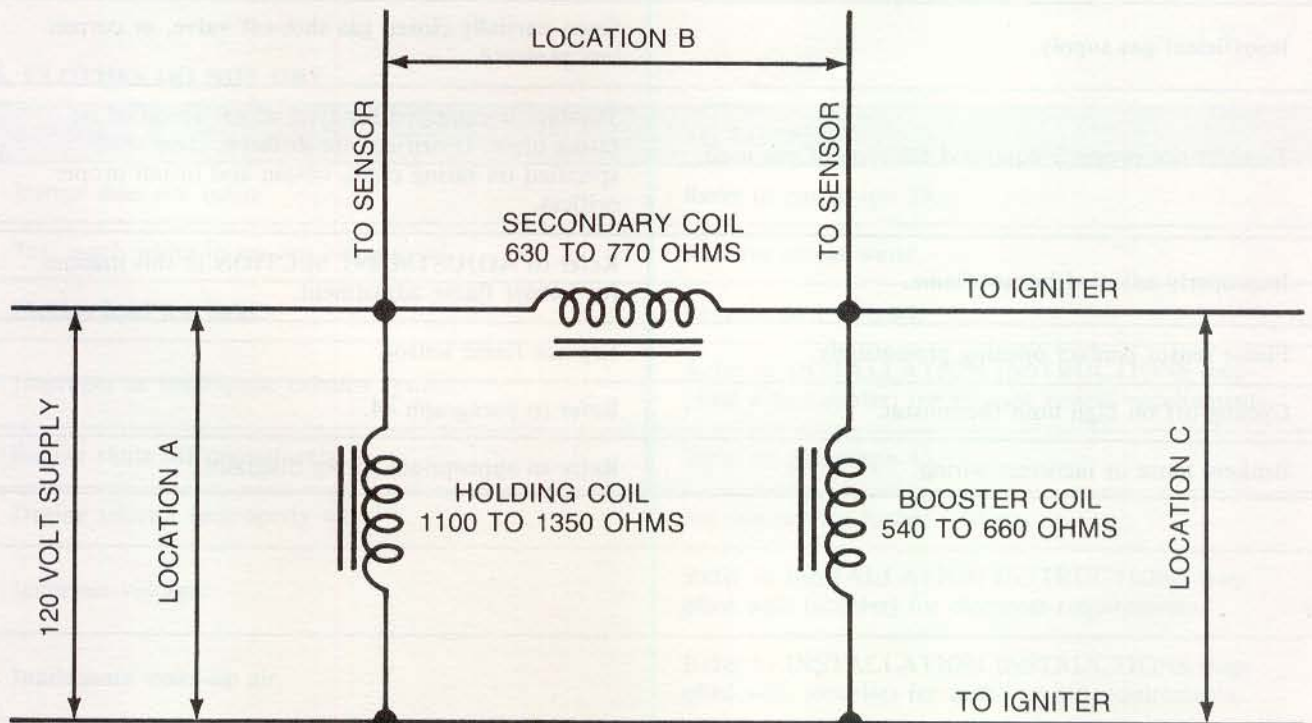
#### 40. IGNITER DOES NOT GLOW (gas supply sufficient)

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 contact 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.

#### 41. IGNITER GLOWS, FLAME SENSOR OPENS BUT NO IGNITION

POSSIBLE CAUSE	TO CORRECT
Insufficient gas supply.	Check gas supply and pressure.
No gas flow through gas valve.	Check coil set and replace if inoperative. See NOTE below.

**NOTE:** Use a volt-ohm meter to check gas valve coils. Disconnect electrical power to tumbler. Remove control panel assembly, paragraph 1. Disconnect gas valve wires at disconnect block and remove wires from igniter and flame sensor. **BE SURE THAT NONE OF THE WIRE ENDS ARE TOUCHING ONE ANOTHER.** Set test meter to read ohms. Place meter probes on location "A" (black and white, 120 Volt supply wires). If reading is 567 to 694 ohms, all of the coils are okay. If reading is 1100 to 1430 ohms, then move meter probes to location "B" (two black wires to sensor). If reading is 1640 to 2010 ohms, the secondary coil is open and coil must be replaced. If reading is 630 to 770 ohms, then move meter probes to location "C" (2 red wires to igniter). If reading is 540 to 660 ohms, holding coil is open and coil must be replaced. If reading is 1730 to 2120 ohms, booster coil is open and coil must be replaced.





**42. BURNER IGNITES AND GOES OUT REPEATEDLY**

<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.
Inoperative cabinet high limit thermostat.	Test thermostat and replace if inoperative.
Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTIONS (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 ADJUSTMENT SECTION in this manual for burner flame adjustment.
Broken, loose or incorrect wiring.	Refer to appropriate wiring diagram.

**43. BURNER SHUTS OFF PREMATURELY**

<b>POSSIBLE CAUSE</b>	<b>TO CORRECT</b>
Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for exhaust system requirements.
Insufficient gas supply.	Open partially closed gas shut-off valve, or correct low pressure.
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.
Improperly adjusted burner flame.	Refer to ADJUSTMENT SECTION in this manual for burner flame adjustment.
Flame sensor contact opening prematurely.	Replace flame sensor.
Cycling off on high limit thermostat.	Refer to paragraph 44.
Broken, loose or incorrect wiring.	Refer to appropriate wiring diagram.

**44. 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 requirement.
Clogged lint screen.	Remove screen and clean. Lint screen and compartment should be cleaned after every 8 hour shift.
Lint in internal tumbler ductwork.	Remove cleanout cover at bottom of cabinet vertical duct and clean out lint.
Lint in external exhaust system.	Disassemble 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.

**45. BURNER DOES NOT SHUT OFF**

POSSIBLE CAUSE	TO CORRECT
Motor does not stop.	Refer to paragraph 38.
Impurities on gas valve seat, preventing valve from closing.	Replace gas valve.
Non-Metered Models: Inoperative drying timer.	Replace timer.
Timer motor not advancing.	Replace timer motor or accumulator; or replace drying timer.
Incorrect wiring.	Refer to appropriate wiring diagram.

**46. CLOTHES DO NOT DRY**

POSSIBLE CAUSE	TO CORRECT
Burner does not ignite.	Refer to paragraph 39.
Too much water in articles being dried.	Remove excess water.
Clothes load too large.	Remove part of load.
Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTIONS (supplied with tumbler) for exhaust system requirements.
Burner shuts off prematurely.	Refer to paragraph 43.
Drying selector improperly set.	Set selector for higher settings.
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.

#### 47. TUMBLER OVERHEATING

POSSIBLE CAUSE	TO CORRECT
Incorrect main burner orifices.	Replace orifices.
Gas pressure too high.	Adjust gas pressure as specified on rating plate.
Inadequate make-up air.	Refer to INSTALLATION INSTRUCTIONS (supplied with your 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.

#### 48. BURNER NOT BURNING PROPERLY

POSSIBLE CAUSE	TO CORRECT
Burner air shutters incorrectly adjusted.	Refer to ADJUSTMENT SECTION in this manual for proper flame adjustment.
Dirt in burner.	Disassemble burner and blow out 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.

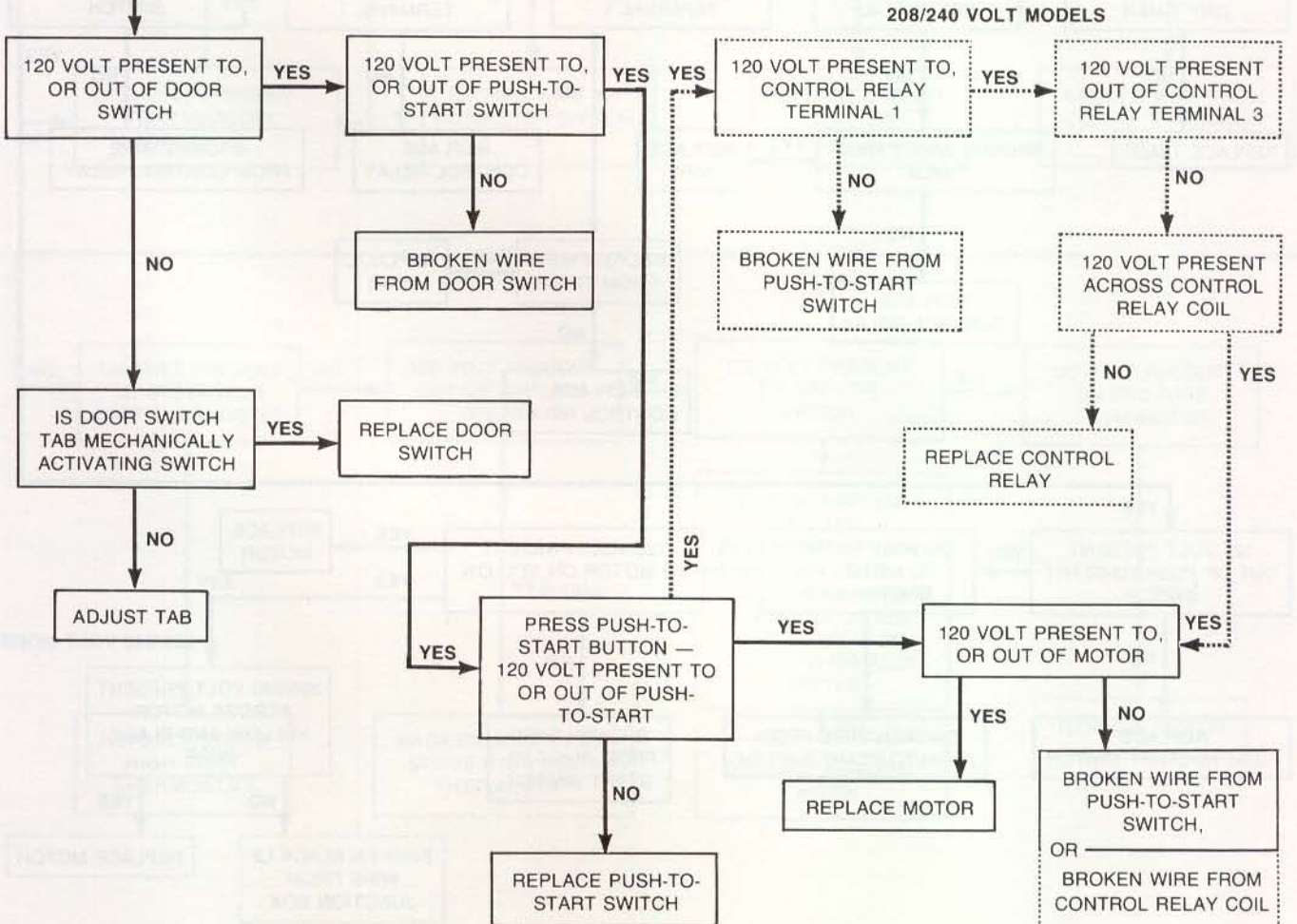
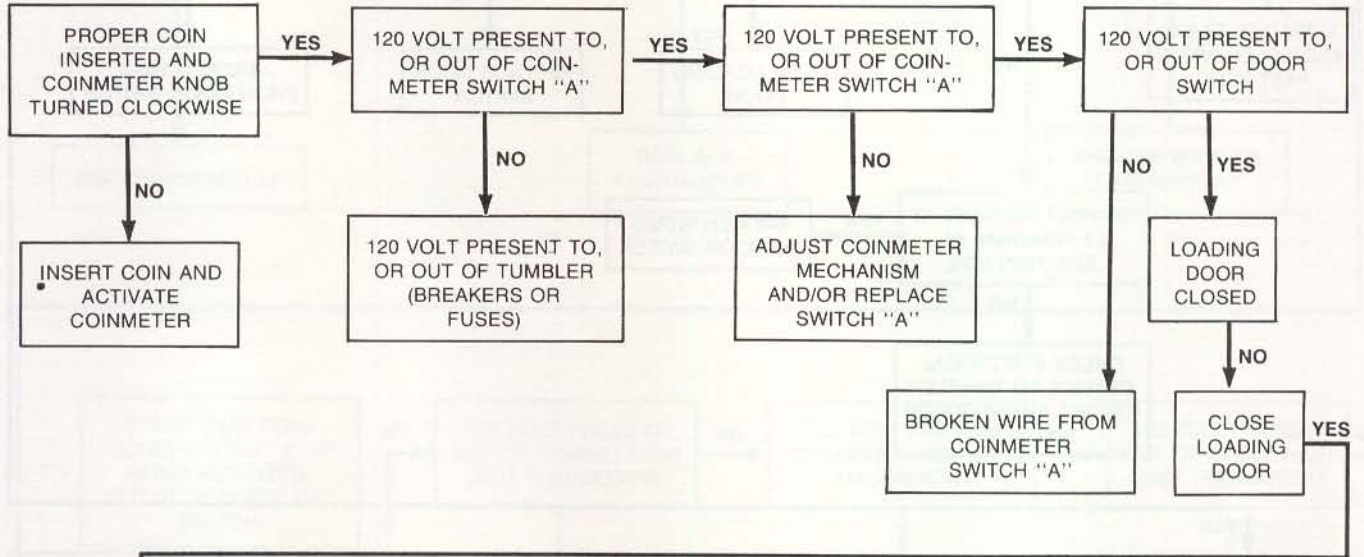
#### 49. CYLINDER DOOR OPENS DURING OPERATION

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.

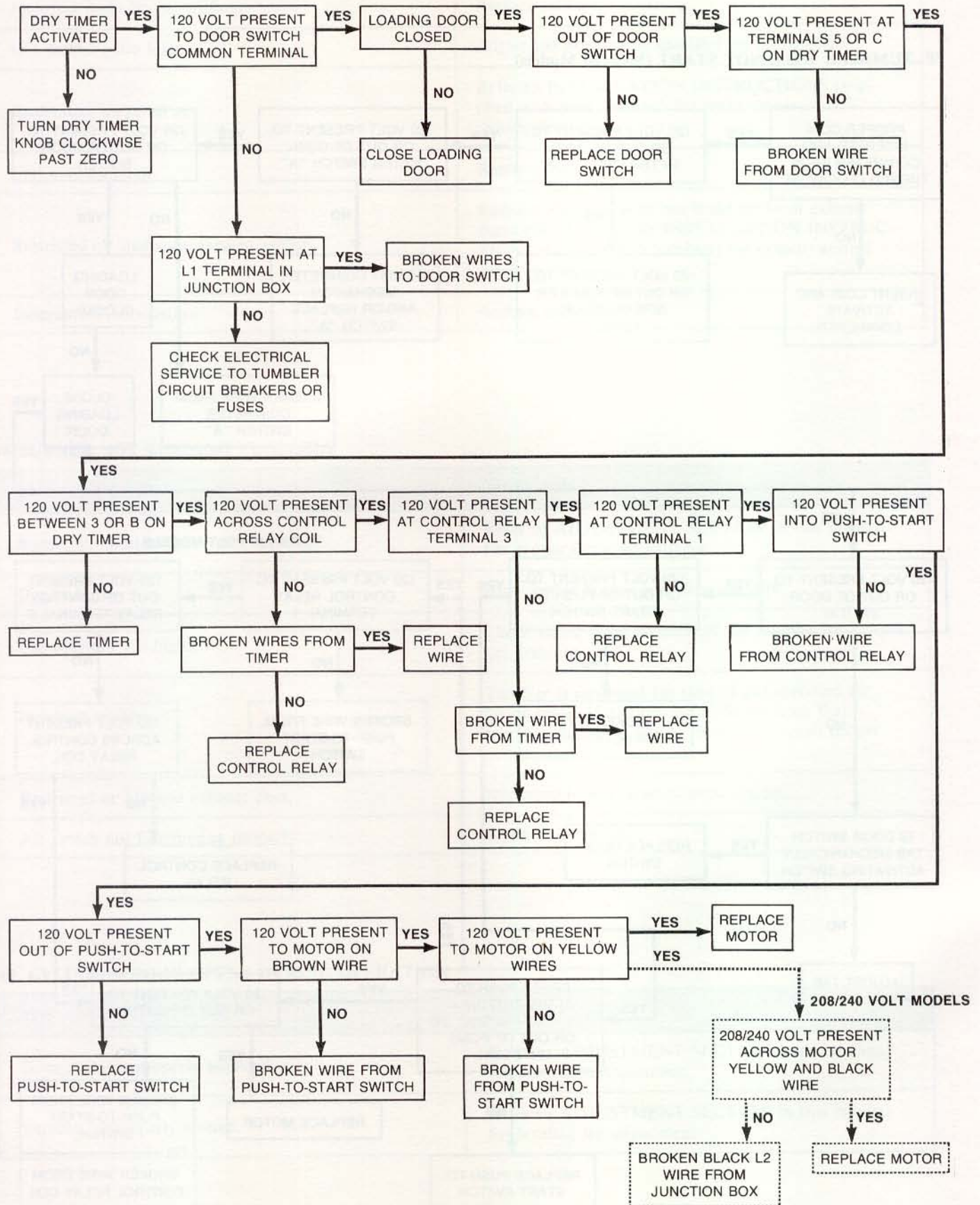
# SECTION V

## Trouble Shooting

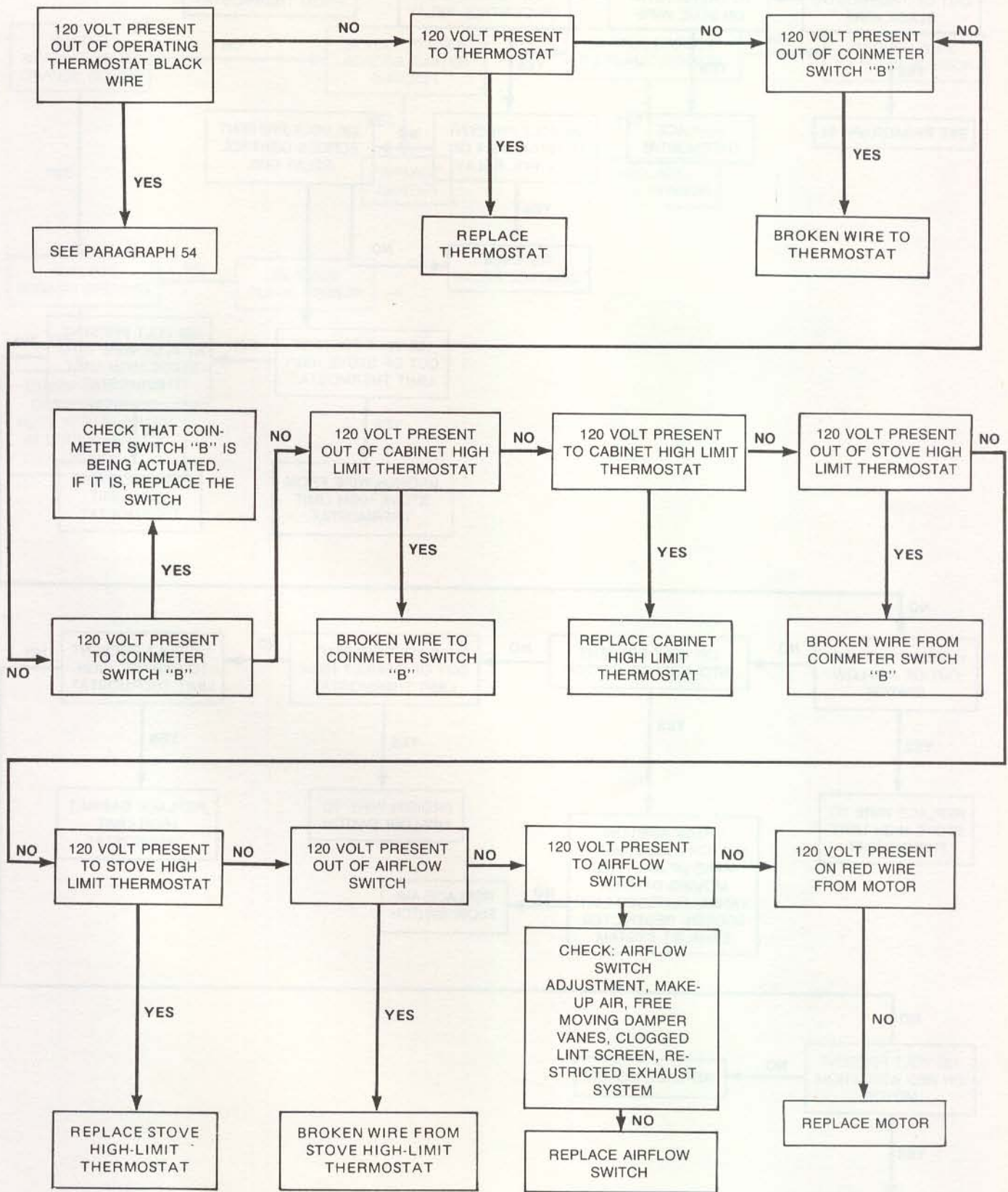
### 50. TUMBLER WILL NOT START (Metered Models)



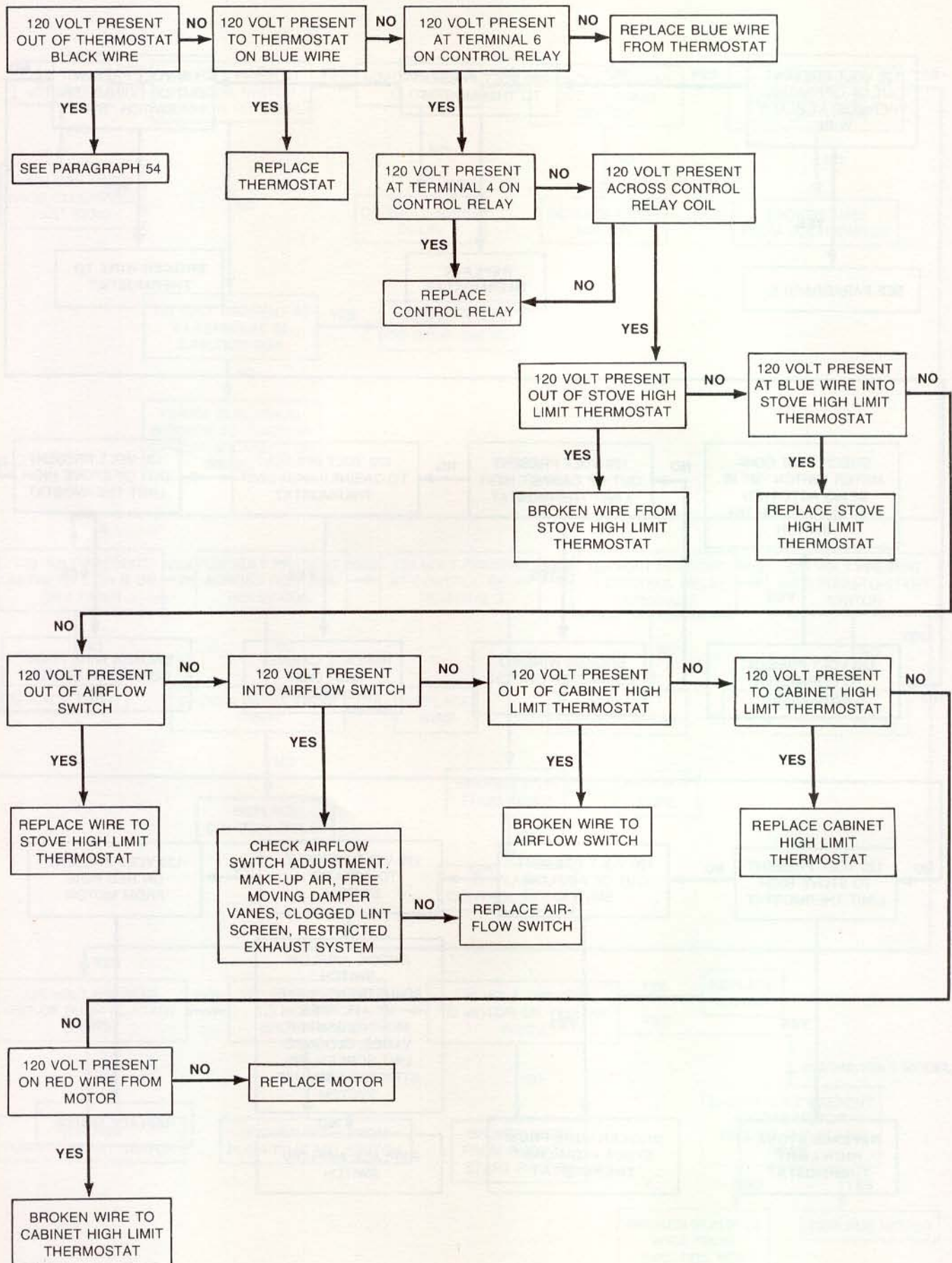
# 51. TUMBLER WILL NOT START (Nonmetered Models)



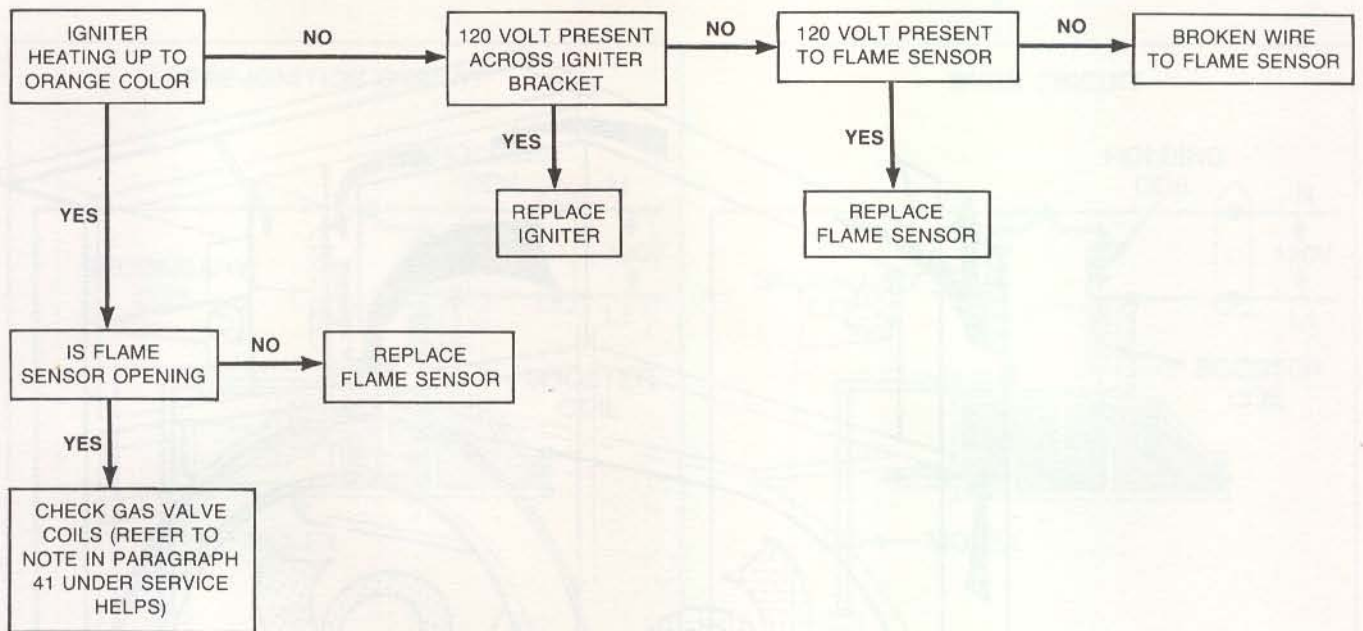
52. CYLINDER AND FAN TURN BUT NO HEAT (Metered Models)



53. CYLINDER AND FAN TURN BUT NO HEAT (Nonmetered Models)



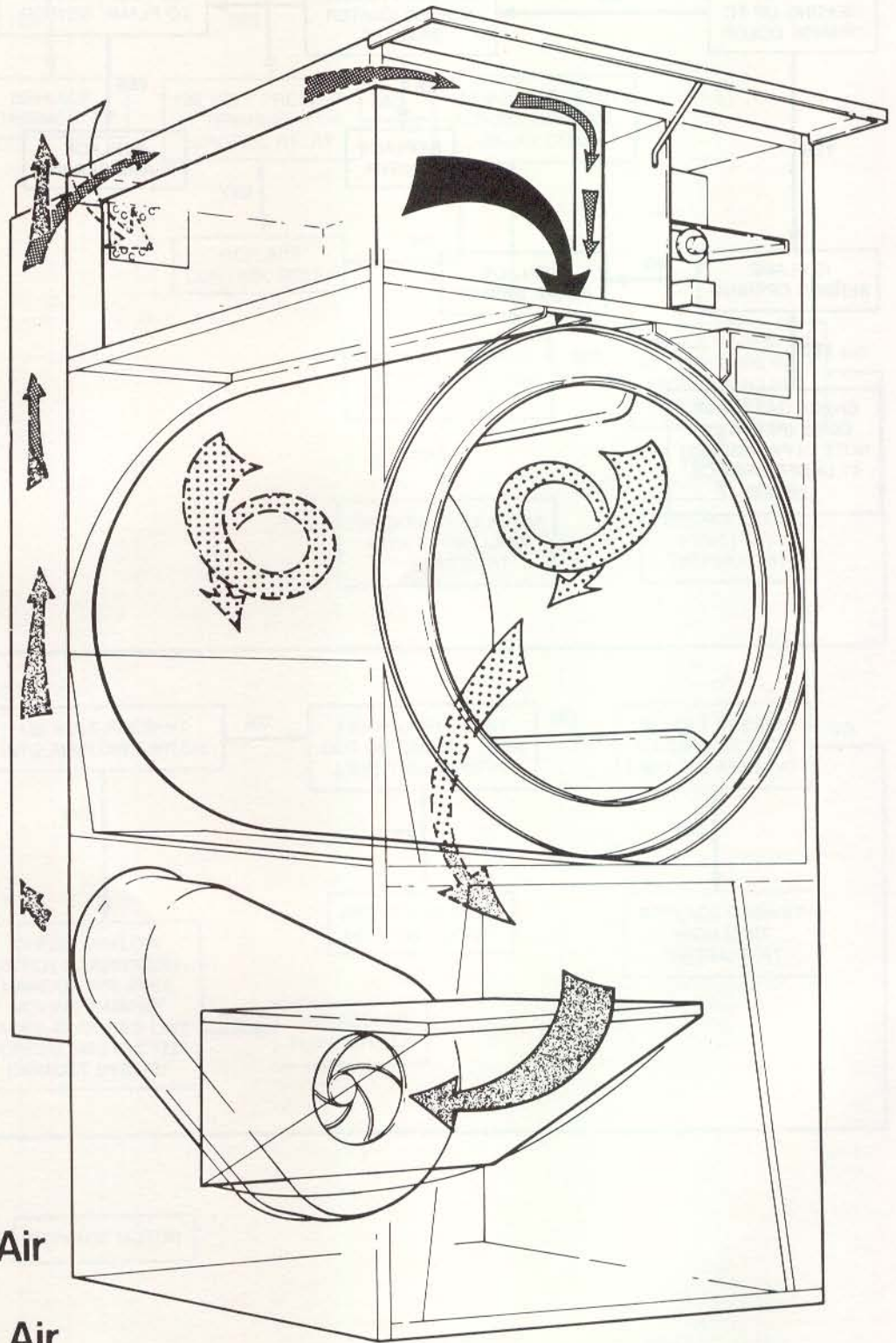
#### 54. OPERATING THERMOSTAT CALLING FOR HEAT — NO MAIN BURNER










# SECTION VI

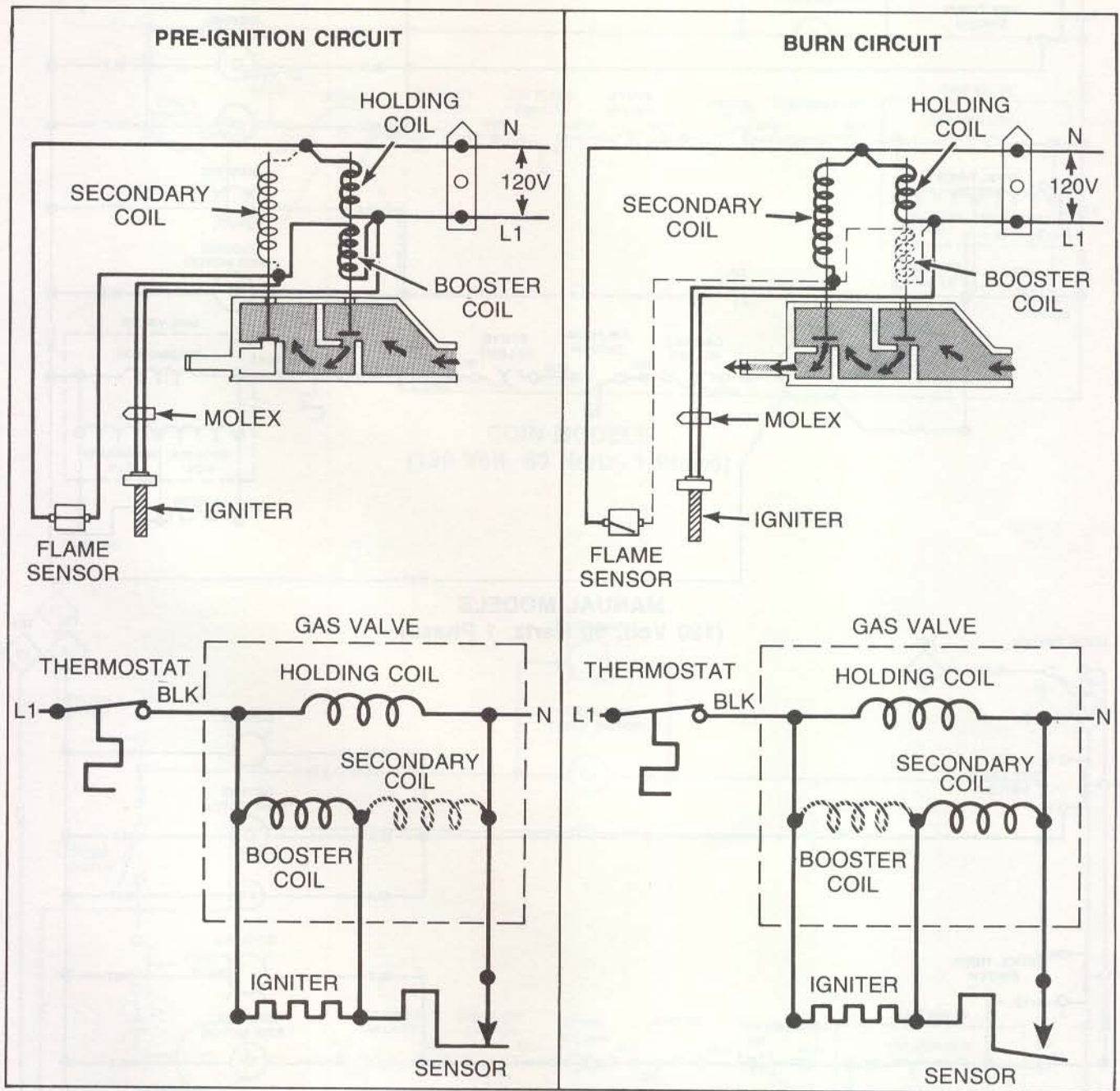
## Air Flow



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

# SECTION VII

## Gas Flow and Gas Valve Operation



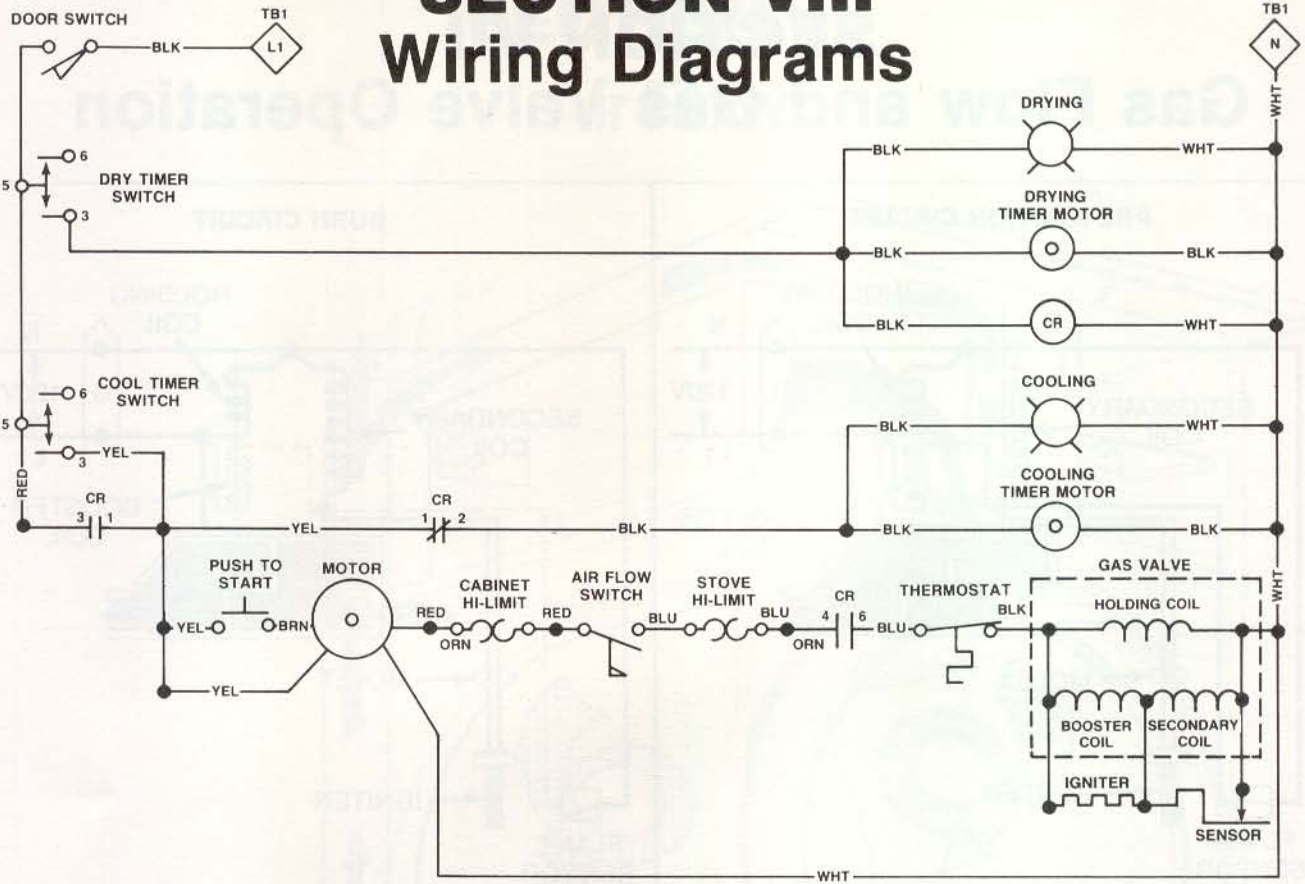
### IGNITION SYSTEM FEATURES

**MOMENTARY POWER INTERRUPTION:** Upon resumption of power, flame sensor contacts will still be open, permitting secondary valve to open. However, with the secondary coil in the circuit, the booster coil cannot draw enough current to open the split-coil valve. When flame sensor contacts do reclose, the secondary valve will close, and the burner system will be in the normal pre-ignition circuit.

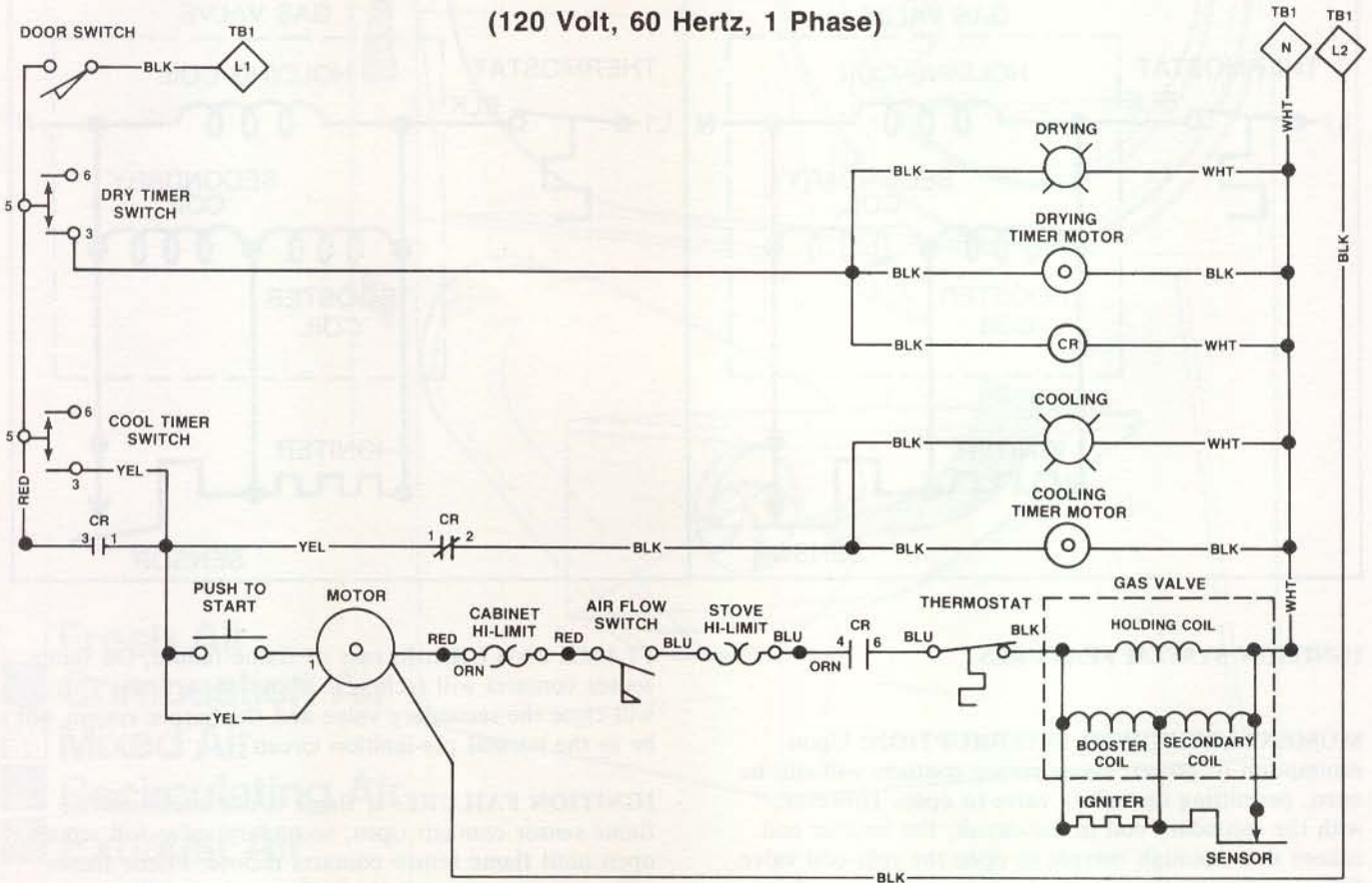
**FLAME FAILURE:** In case of flame failure, the flame sensor contacts will reclose in about 45 seconds. This will close the secondary valve and the burner system will be in the normal pre-ignition circuit.

**IGNITION FAILURE:** If flame is not established as flame sensor contacts open, secondary valve will remain open until flame sensor contacts reclose. Flame sensor will continue to recycle the igniter and secondary valve (about once per minute) until ignition is made or tumbler is turned off.

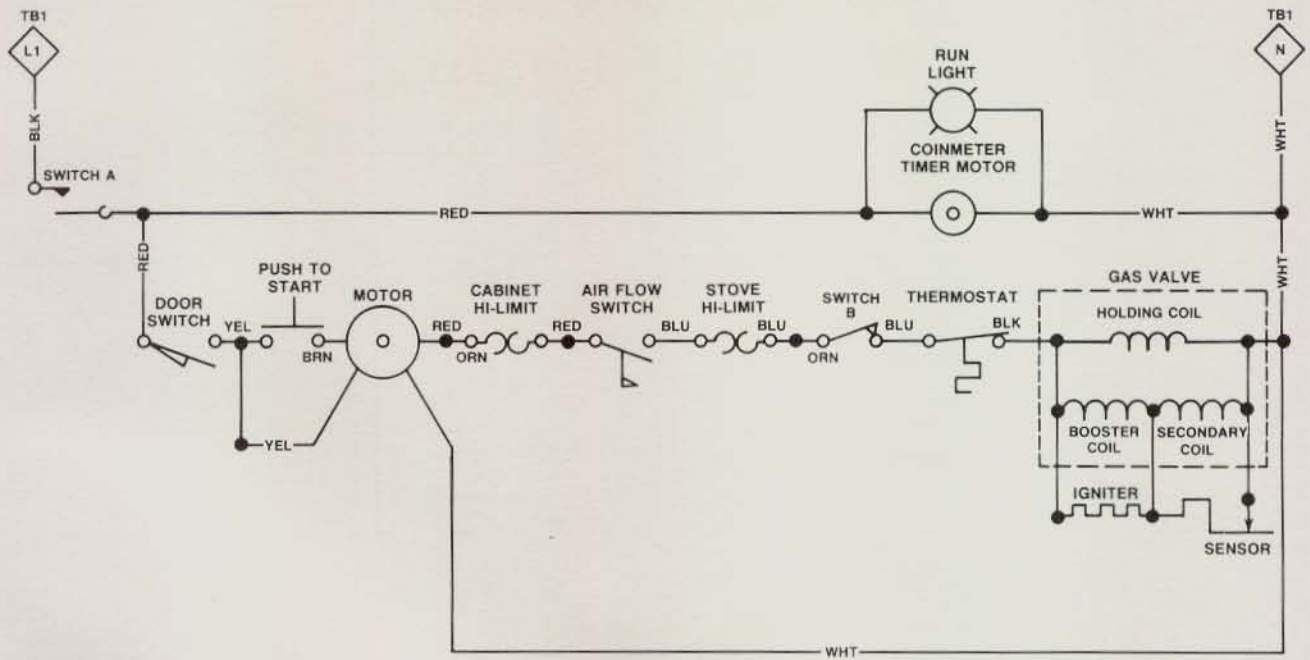
# SECTION VIII Wiring Diagrams



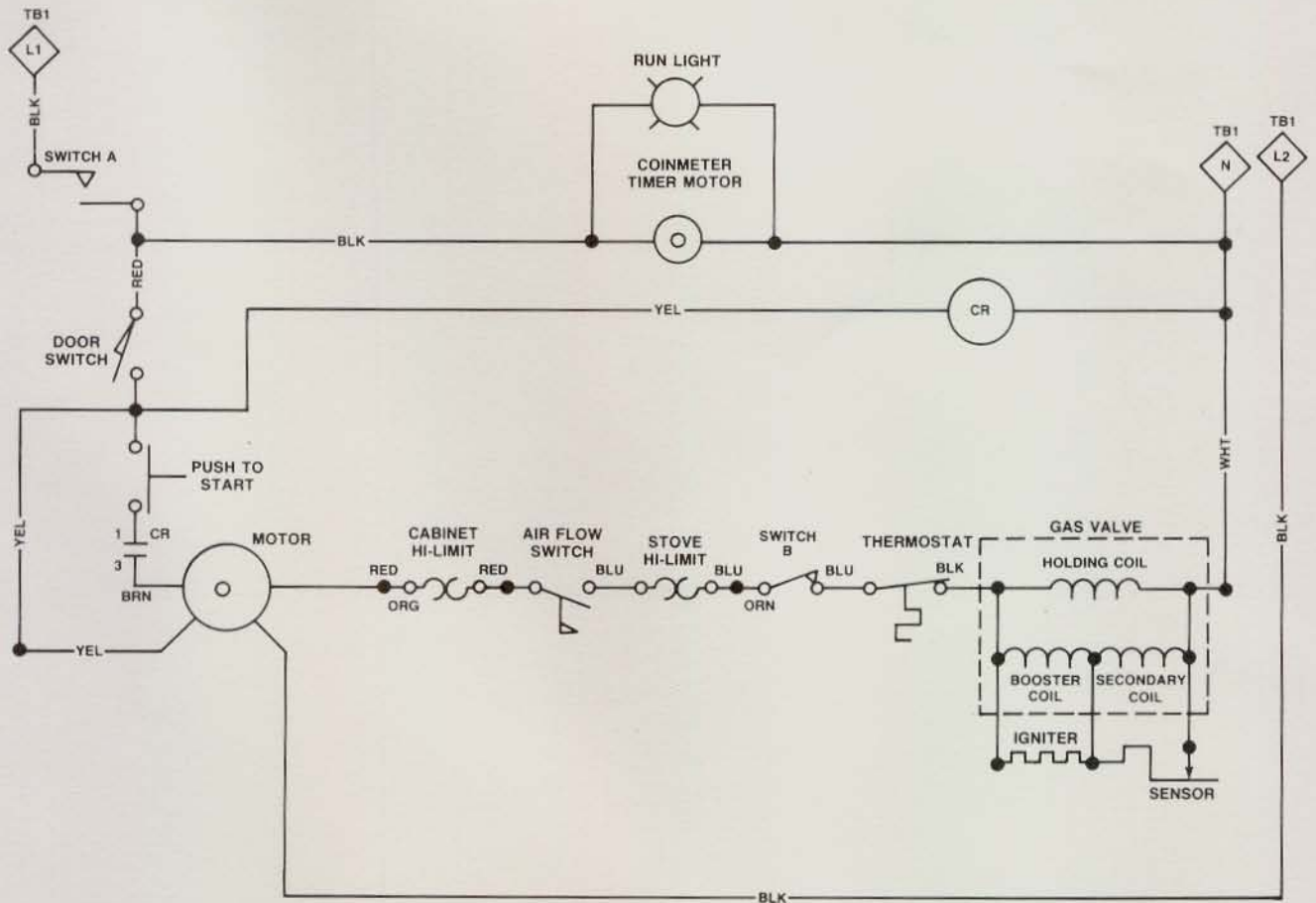
**MANUAL MODELS  
(120 Volt, 60 Hertz, 1 Phase)**



**MANUAL MODELS  
(208/240 Volt, 60 Hertz, 1 Phase)**



**COIN MODELS**  
(120 Volt, 60 Hertz, 1 Phase)



**COIN MODELS**  
(208/240 Volt, 60 Hertz, 1 Phase)