

Manual: CGI 8533-037-001– Service Procedures and Parts Data

30lb. STACK DRYER DL2X30CGQ

IMPORTANT **Part Number Modifications**

*** Control Overlay Color Change ***

	Burgandy Control Overlay <u>(use numbers shown)</u>	<u>Black Control Overlay</u>
Name Plate	9412-084-002	9412-111-001
SW Assy-Membrane	9801-064-001	9801-073-001
Overlay- Escutcheon, Upper	9435-008-001	9435-013-001
Overlay-Lint Drwr, Up Coin	9435-003-007	9435-014-003
Overlay-Escutcheon, Lower	9435-002-003	9435-002-004
Overlay-Lint Drwr, Lwr Coin	9435-003-006	9435-014-004
Label-Kit, Instruct (Escutch)	8502-690-001	---
Overlay-Lint Drwr, Up OPL	9435-003-007	9435-014-001
Overlay-Lint Drwr, Lwr OPL	9435-003-006	9435-014-002

*** Door Style Change ***

	Vertical Door Handle <u>(use numbers shown)</u>	<u>Horizontal Door Handle</u>
Door Assy White	9960-256-027	9960-272-004
Door Assy Almond	9960-256-026	9960-272-005
Door Assy Stainless	9960-256-030	9960-272-006

Continental Girbau, Inc.
2500 State Rd 44 | Oshkosh, WI 54904
Phone: 920-231-8222 | Fax: 920-231-4666

**Continental
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Inc.**

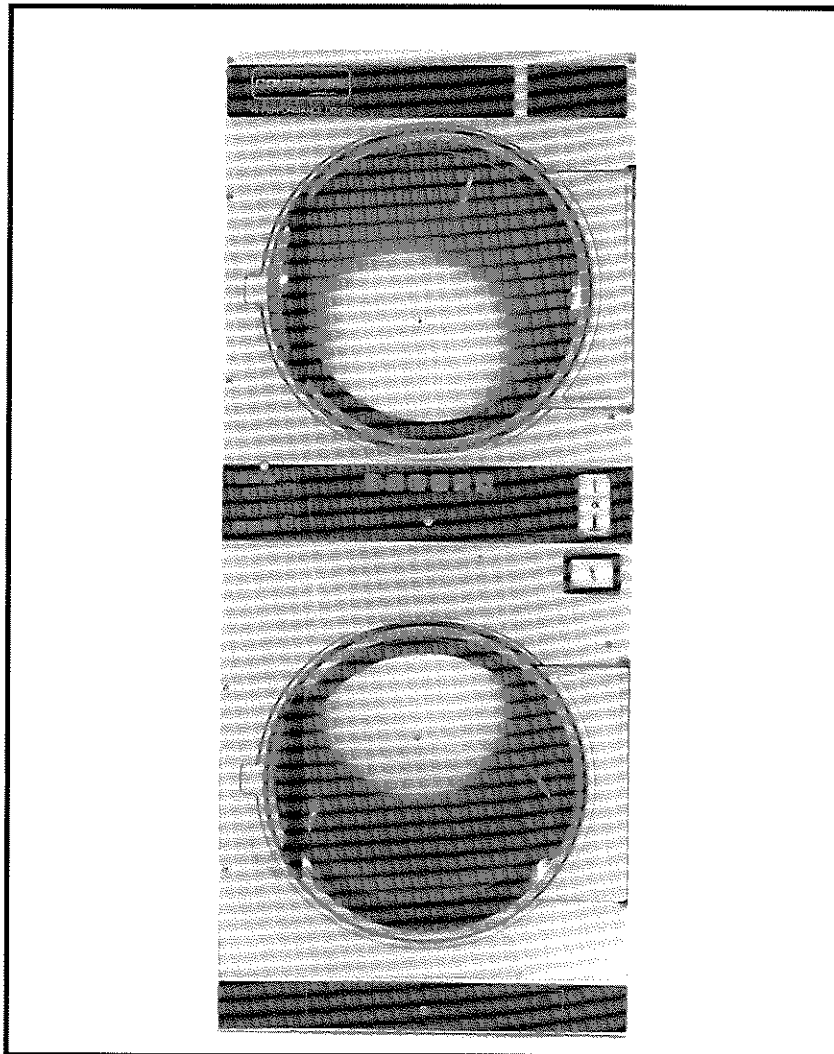


30 LB. STACK DRYER

DL2X30CGQ COMPUTER

Service Procedures and Parts Data

DL2X30CGQ



Oshkosh, Wi. 54901-2021

Telephone 414-231-8222

FAX 414-231-4666

WARNING

FOR YOUR SAFETY, THE INFORMATION IN THIS MANUAL MUST BE FOLLOWED TO MINIMIZE THE RISK OF FIRE OR EXPLOSION OR TO PREVENT PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

Do not store gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

IF YOU SMELL GAS:

- Do Not** try to light any appliance.
- Do Not** touch or operate any electrical switch.
- Do Not** use any phone in your building.
- Do** clear the room, building or area of all occupants.
- Do** immediately call your gas supplier from a neighbors phone. Follow the gas suppliers instructions.
- Do** call the fire department if your gas supplier is not available.

Table of Contents

SECTION 1

Specifications	page 4
----------------------	--------

SECTION 2

Installation & Operation	page 5-13
--------------------------------	-----------

Clearances	page 5
------------------	--------

Make up Air	page 5-6
-------------------	----------

Electrical	page 6
------------------	--------

Gas	page 6
-----------	--------

Exhaust	page 6-7
---------------	----------

Dimensions	page 8-9
------------------	----------

Description of Control	page 10
------------------------------	---------

Programmed Data	page 10
-----------------------	---------

Changing Programmed Data	page 13
--------------------------------	---------

SECTION 3

Wiring Schematics	page 14-17
-------------------------	------------

Dryer Idle--No Coins Added	page 14
----------------------------------	---------

Coins Added--Motor Started & Running	page 14
--	---------

Heat Circuit	page 14-15
--------------------	------------

Over Temperature Thermostat	page 15
-----------------------------------	---------

Cool Down	page 15
-----------------	---------

End of Cycle	page 15
--------------------	---------

Schematic	page 16
-----------------	---------

Diagram	page 17
---------------	---------

SECTION 4

Service Procedures	page 18-23
Clothes Door	page 18
Clothes Door Latch Adjustment	page 18
Door Switch	page 18
Clothes Door Window & Gasket	page 18
High Limit Thermostats (burner housing & manual reset)	page 18
Pressure Regulator	page 19
Coin Acceptor	page 19
Electronic Control Failure Codes	page 19
Electronic Control Diagnostic Lights	page 19
Electronic Control Test Cycle	page 20
Electronic Control	page 20
Membrane Switch	page 20
Temperature Sensor Testing & Replacement	page 20
Temperature Testing	page 20
Front Panel (upper & lower)	page 20
Drive Belt	page 21
Tumbler Pulley	page 21
Intermediate Pulley & Tension Arm	page 21
Motor & Blower Assembly	page 21
Air Flow Switch	page 21
Ignition Control Transformer & Fuse	page 21
Electronic Ignition Module	page 22
Ignition System Check Out	page 22
Spark Electrode	page 23
Gas Valve & Manifold	page 23
Main Burner Orifice	page 23
Main Burner	page 23
Cylinder	page 23

Tumbler Through Bolt Access Cover page 23

Bearing Housing page 23

SECTION 5

Trouble Shooting page 24-26

SECTION 6

Parts Data page 28-40

Cabinet Group page 28-31

Door Switch Group page 32

Bearing Housing Group page 3.

Burner Housing Group page 34-35

Rear View page 36-37

Tumbler Group page 38

Coin Box Group page 39

Wiring Group page 40

SECTION 7

Maintenance page 41-42

Section 1

Specifications

30 lb. Coin Stack Dryer

Model DL2X30CGQ **Voltage** 120 volts, 60 Hz, Single Phase

Dry Weight Capacity (lbs.)	2 X 30=60
Dimensions	
Basket Depth	27 1/2"
Basket Diameter	30"
Basket Volume	11.25cu.ft.
Door Opening	22 11/16"
Overall Height (with legs)	
minimum	76 5/8"
maximum	77 5/8"
Cabinet Width	31 1/2"
Overall Depth	47 5/16"
Door Height (floor to bottom of door)	top 44 15/16" bottom 7 5/16"
Necessary Service Clearance Behind Machine	18"
Temperature (degrees)	
Regular/Hot (factory setting)	150-190 F 175 F
Permanent Press/Medium (factory setting)	120-170 F 150 F
Delicate/Warm (factory setting)	110-150 F 125 F
Electrical	
Motor H.P. (per pocket)	1/2 H.P.
Running Amps (complete dryer)	19.6
Circuit Breaker (amps)	30
Built-in Motor Protection Circuit	Yes
Phase	Single
Voltage 60 Hz. **	120V
Service	2 wire plus ground
Wire Size (min.)	#10

Cylinder Rotation	
Direction	counter clockwise
Speed (RPM)	47
Gas	
Natural (supply line)	4"-10" W.C.
Natural (burner manifold)	3 1/2" W.C.
L.P. (supply line)	11"-14" W.C.
L.P. (burner manifold)	11" W.C.
Inlet Line Size	1/2" NPT
BTU Input	80,000
Venting	
Exhaust Air Flow (cfm)	500
Size	2-6" (optional) 1-8" (standard)
Maximum Length with (2 elbows)	14ft.
Make-up Air	
Each Dryer (minimum)	1 1/2 sq. ft.
Weight	
Shipping (lbs.)	737
Net (lbs.)	685

** International Voltages Available

Section 2

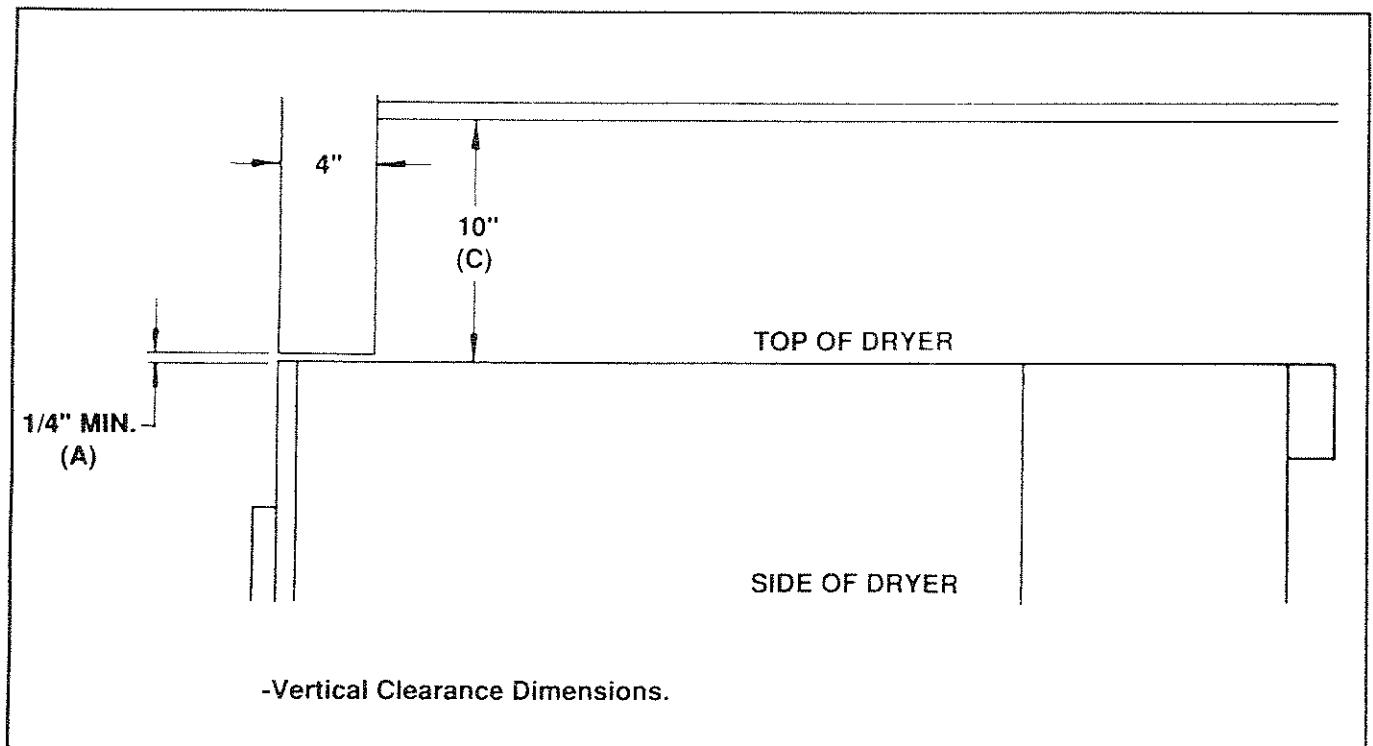
Installation and Operation

All commercial dryer installations must conform with local applicable local codes or in the absence of local codes, with the National Fuel Gas Code ANSI Z223.1A-1988. Canadian installations must comply with current standard CAN/CGA-B149(.1 or .2) Installation Code for Gas Burning Appliances or Equipment, and local codes if applicable. The appliance, when installed, must be electrically grounded in accordance with the National Electric Code, ANSI/NFPA No. 70-1990, or when installed in Canada, with Standard CSA C22.1 Canadian Electrical Code Part 1.

Installation Clearances:

This unit may be installed at the following alcove clearances.

1. Left side- 0"
2. Right side- 0"
3. Back- 18" (Certified for 6" clearance: however 18" is required to clean, service, and maintain the dryer).
4. Front- 48" to allow use of dryer.
5. Top- Refer to figure labelled "Vertical Clearance Dimensions".
6. Floor- This unit may be installed upon a combustible floor.



Makeup Air

Adequate makeup air must be supplied to replace air exhausted by dryers on all types of installations. Provide a minimum of 1 1/2 square feet of makeup air opening to the outside for each dryer. This is a net requirement of effective area. Screens, grills or louvers which will restrict the flow of air must be considered. Consult the supplier to determine the free area equivalent for the grill being used.

The source of makeup air should be located sufficiently away from the dryers to allow an even air flow to the air intakes of all dryers. Multiple openings should be provided.

NOTE: The following considerations must be observed for gas dryer installations where dry cleaners are installed. The sources of all makeup air and room ventilation air movement to all dryers must be located away from any dry cleaners. This is necessary so that solvent vapors will not be drawn into the dryer inlet ducts. Dry cleaner solvent vapors will decompose in contact with an open flame such as the gas flame present in clothes dryers. The decomposition products are highly corrosive and will cause damage to the dryer ducts and clothes loads.

Electrical Requirements

The electrical requirements necessary to operate the unit satisfactorily are listed on the serial plate located on the back panel of each dryer. The electrical connection should be made to the pigtail leads in the outlet box on the rear of the unit, using #10 AWG wire.

ONE 30 Amp circuit breaker is required for each complete stack dryer. The wiring diagram is located on the belt guard on the back of the dryer.

NOTE: IT IS ABSOLUTELY ESSENTIAL THAT THE DRYER BE GROUNDED BY A SEPARATE GROUND CONDUCTOR FROM THE GROUND SCREW ON THE DRYER TO THE NEUTRAL BAR IN THE SUPPLY BREAKER BOX.

NOTE: WHEN INITIALLY CONNECTING POWER TO THE MACHINE IF UNUSUAL BEHAVIOR OF THE DISPLAYS OR CONTROLS OCCUR, GIVE THE MACHINE AN HOUR TO STABILIZE AND CHECK OPERATION AGAIN.

Gas Requirements

The complete gas requirements necessary to operate the dryer satisfactorily are listed on the serial plate located on the back panel of the dryer. The inlet gas connection to the unit is 1/2 inch pipe thread. However, the size of the piping to supply the dryer should be determined by reference to the Fuel Gas Code and consulting the local gas supplier.

A joint compound resistant to the action of liquefied petroleum gases should be employed in making pipe connections. A 1/8 inch NPT plugged tapping, accessible for test gage connection, must be installed immediately upstream of the gas supply connection to the dryer.

A drip tee is provided in the unit gas piping to catch dirt and other foreign articles.

All pipe connections should be checked for leakage with soap solution or leak detector. Never check with an open flame.

CAUTION: The dryer and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig. The dryer must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig.

Exhaust Installation

We recommend using the factory designed offset and collector system for exhausting the dryer. This two 6" into one 8" collector is designed to minimize back pressure to the units. Exhausting of the dryer should always be planned and constructed so that minimum air restrictions occur. (Refer to Figure on dryer exhausting). Any restriction due to pipe size or type of installation can cause slow drying time, excessive heat, and lint build up in system and the room.

From an operational standpoint, incorrect or inadequate exhausting can cause cycling of the high limit thermostat which shuts off the main burners and results in inefficient drying.

Individual exhausting of the dryer is recommended. All heat, moisture, and lint should be exhausted outside by attaching a pipe of the proper diameter to the dryer adapter collars and extending it out through an outside wall. This pipe must be very smooth on the inside, as rough surfaces tend to collect lint which will eventually clog the ducts and prevent the dryer from exhausting properly. All elbows must be smooth on the inside. All joints must be made so the exhaust end of one pipe is inside the next one downstream. The addition of an exhaust pipe tends to reduce the amount of air the blower can exhaust. This does not affect the dryer operation if held within practical limits. For the most efficient operation, it is recommended that no more than 14 feet of straight 6" diameter pipe with two right angle elbows be used for each cylinder. When more than two elbows are used, two feet of straight pipe should be removed for each additional elbow. No more than two right angle elbows should be used to exhaust each cylinder.

If the exhaust pipe passes through a wall, a metal sleeve of slightly larger diameter should be set in the wall and the exhaust pipe passed through this sleeve. This practice is required by some local codes and is recommended in all cases to protect the wall.

This type of installation should have a means provided to prevent rain and high winds from entering the exhaust when the dryer is not in use. A hood with a hinged damper can be used for this purpose. Another method would be to point the outlet end of the pipe downward to prevent entrance of wind and rain. In either case, the outlet should be kept clear by at least 24" of any objects which would cause air restrictions.

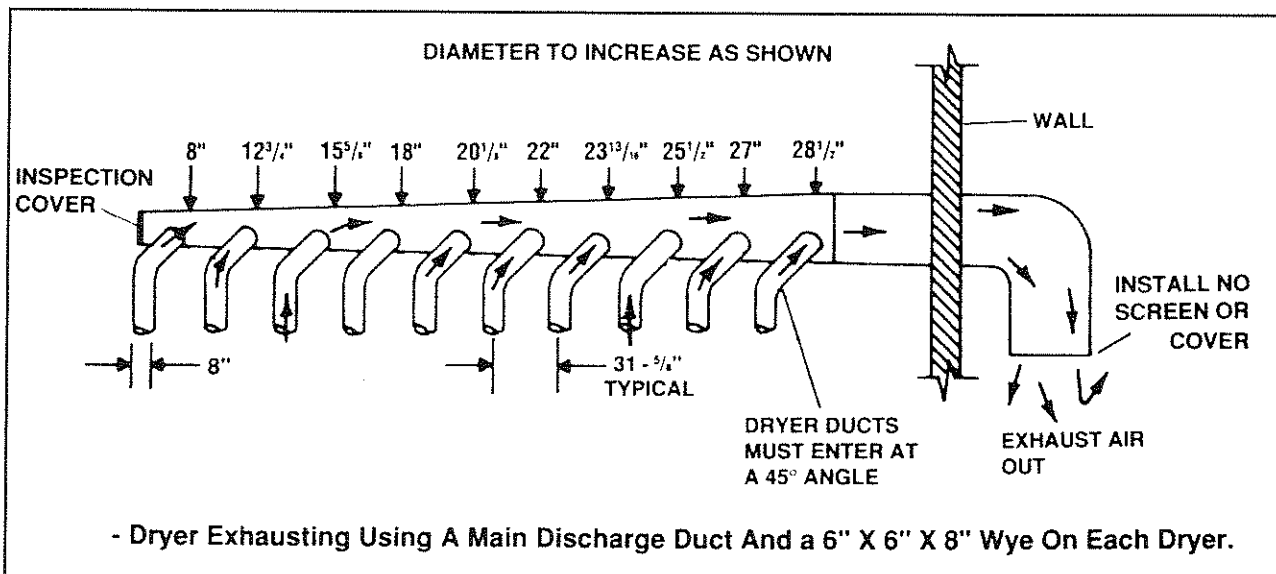
Never install a protective screen over the exhaust outlet.

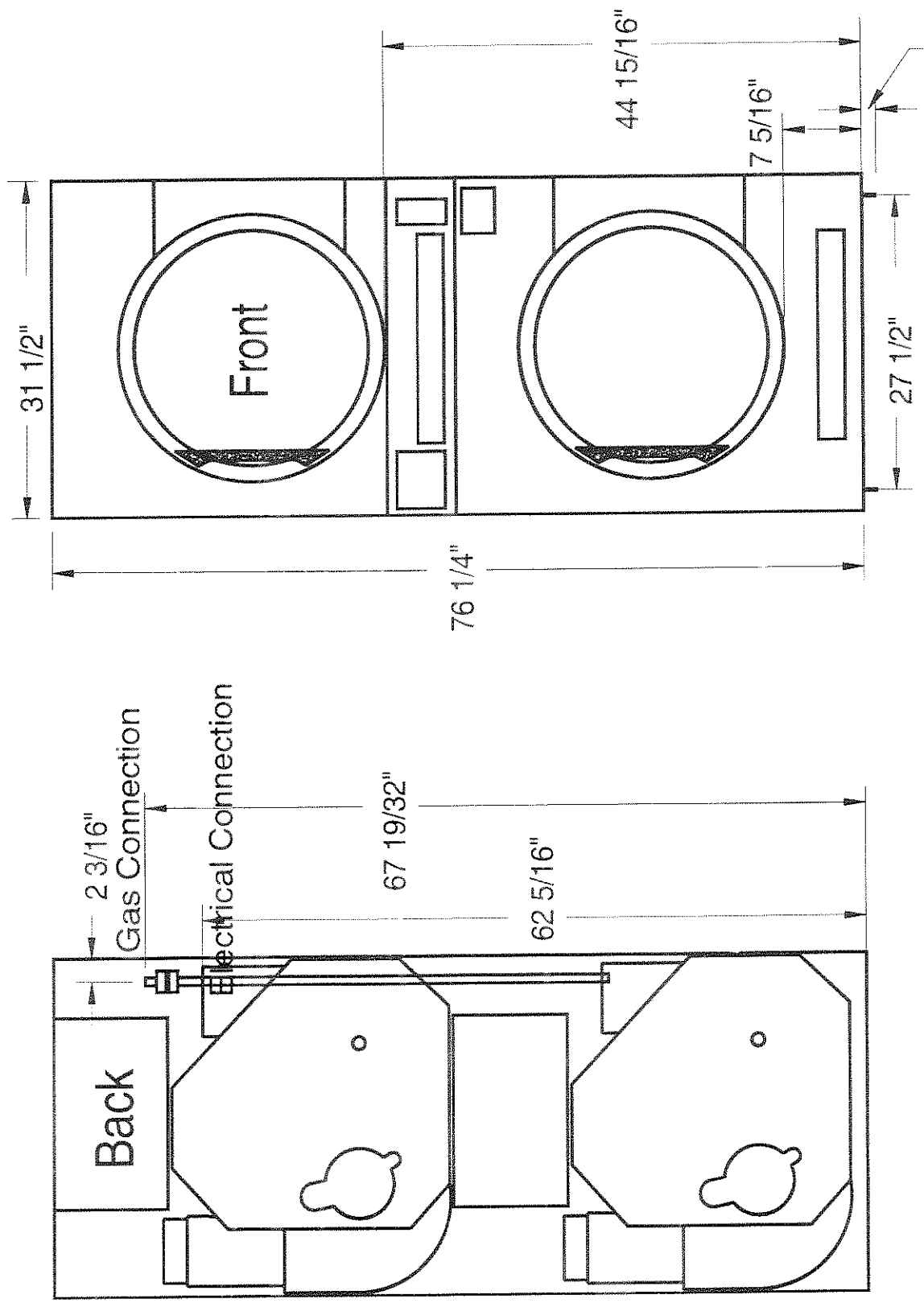
When exhausting a dryer straight up through a roof, the overall length of the duct has the same limits as exhausting through a wall. A rain cap must be placed on top of the exhaust and must be of such a type as to be free from clogging. The type using a cone shaped "roof" over the pipe is suitable for this application. Exhausting the dryer into a chimney or under a building is not permitted. In either case there is a danger of lint buildup which can be highly combustible.

Installation of several dryers where a main discharge duct is necessary, will need the following considerations for installation. Whether using the 8" exhaust kit or individual 6" ducts, entrance into the main discharge duct should be at a 45 degree angle in the direction of discharge air flow.

NOTE: Never install either the 8" kit or individual 6" ducts at a right angle into the main discharge duct. The following illustration shows the various round main duct diameters to use with the individual dryer ducts. The main duct can be rectangular or round, provided adequate air flow is maintained. For each individual cylinder the total exhausting (main discharge duct plus duct outlet from the dryer) should not exceed the equivalent of 14 feet and two elbows. The diameter of the main discharge duct at the last dryer must be maintained to exhaust end.

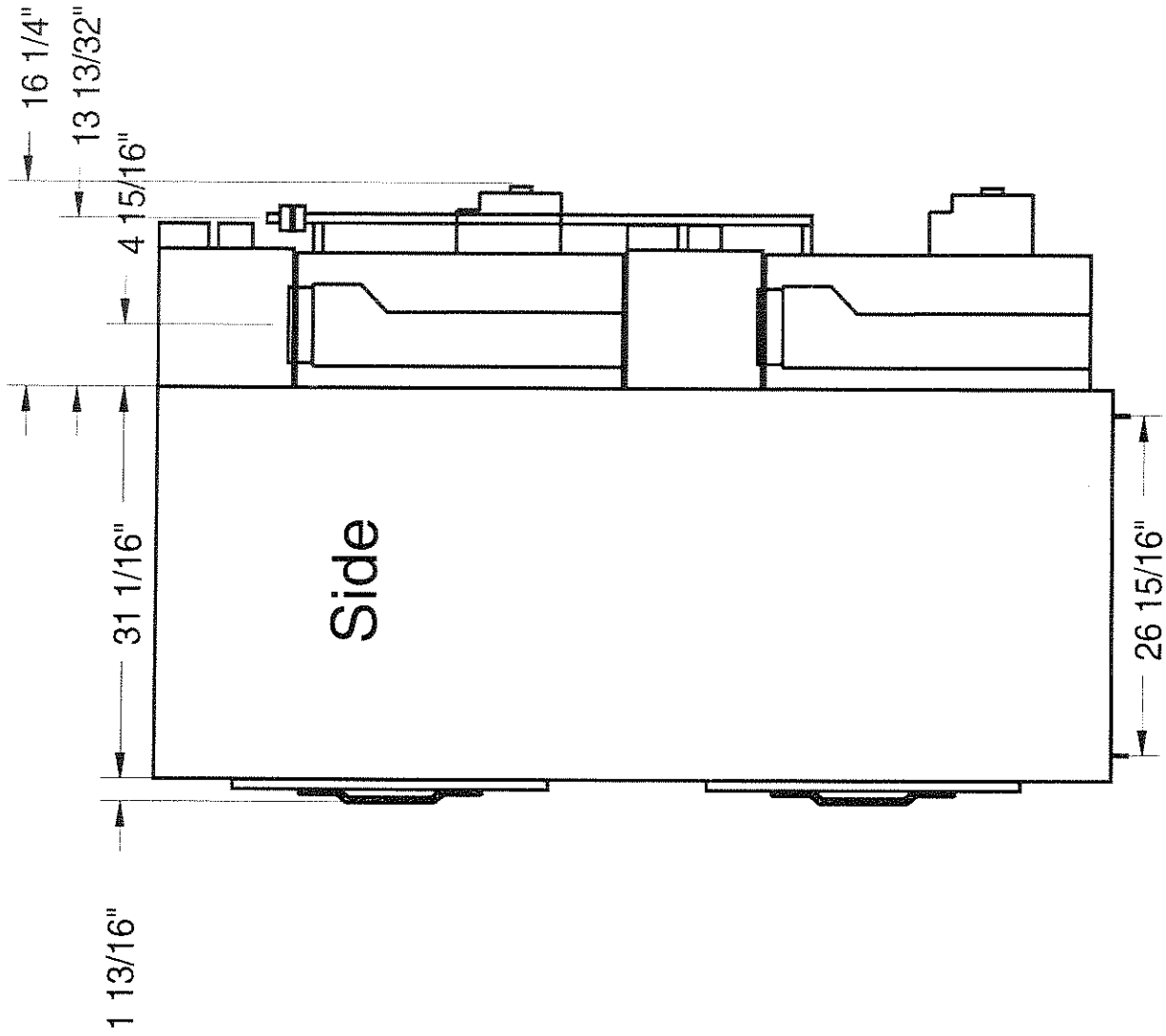
NOTE: A small diameter duct will restrict air flow, a large diameter duct will reduce air velocity, both contributing to lint build up. An inspection door should be provided for periodic clean-out of the main duct.





$1\frac{3}{8}"$ Max.
 $\frac{3}{8}"$ min.

Stack Dryer - Installation Dimensions



Stack Dryer - Installation Dimensions

DESCRIPTION OF CONTROL

The single electronic control unit controls all coin counting, timing, temperature control and displaying of information for both tumblers.

Each digital display shows vend price when its particular tumbler is waiting for coins to be inserted. When a tumbler is in use, the display shows the number of minutes remaining to be used on that tumbler.

The small green light to the left of the displays flashes to indicate that money has been added to the coin acceptor. The flashing stops when the customer credits the coins to one tumbler or the other by touching a start button or temperature selection button for the appropriate tumbler. At this time the purchased time is reflected by the digital display.

The three temperature selection buttons for each tumbler also have indicator lights to indicate which selection of temperature has been made. At the end of the cycle, the digital display flashes until the operator opens the door to remove his load.

Temperature readout for each tumbler is available by pressing the temperature that is in use along with the start button for that tumbler.

OPERATING INSTRUCTIONS

1. Load clothes into the tumbler and close the door.
2. Deposit the vend price that is shown in the display. Choose the desired temperature for the tumbler to be used and then push the start button.
3. Additional time may be purchased and is added to the displayed time by touching the start button or temperature selection button.

Characteristics of running dryer:

Temperature selection may be changed at any time with the dryer running.

Running time may be extended any time that time is showing on the display even if the added amount is less than the original vend price.

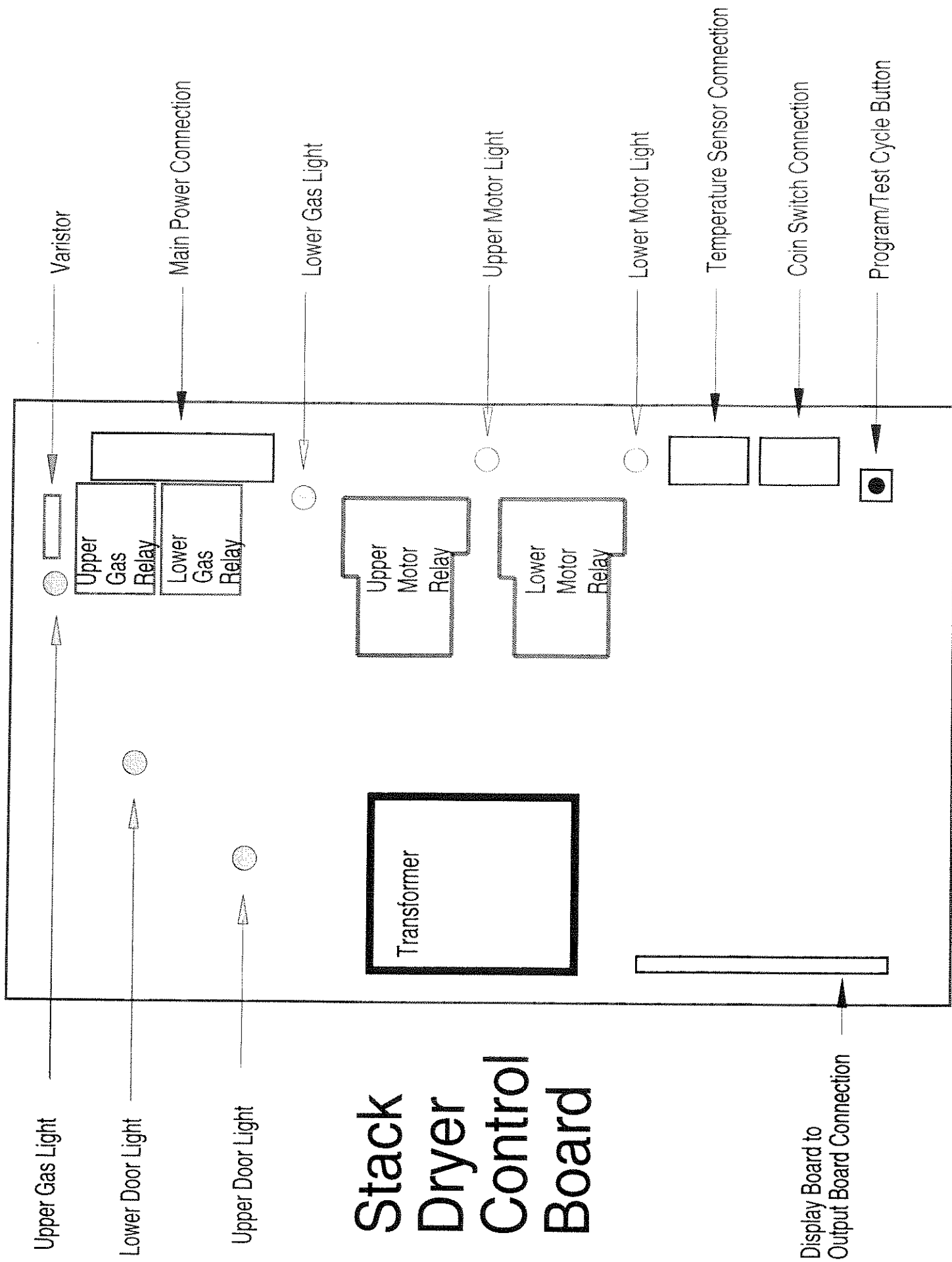
PROGRAMMED DATA

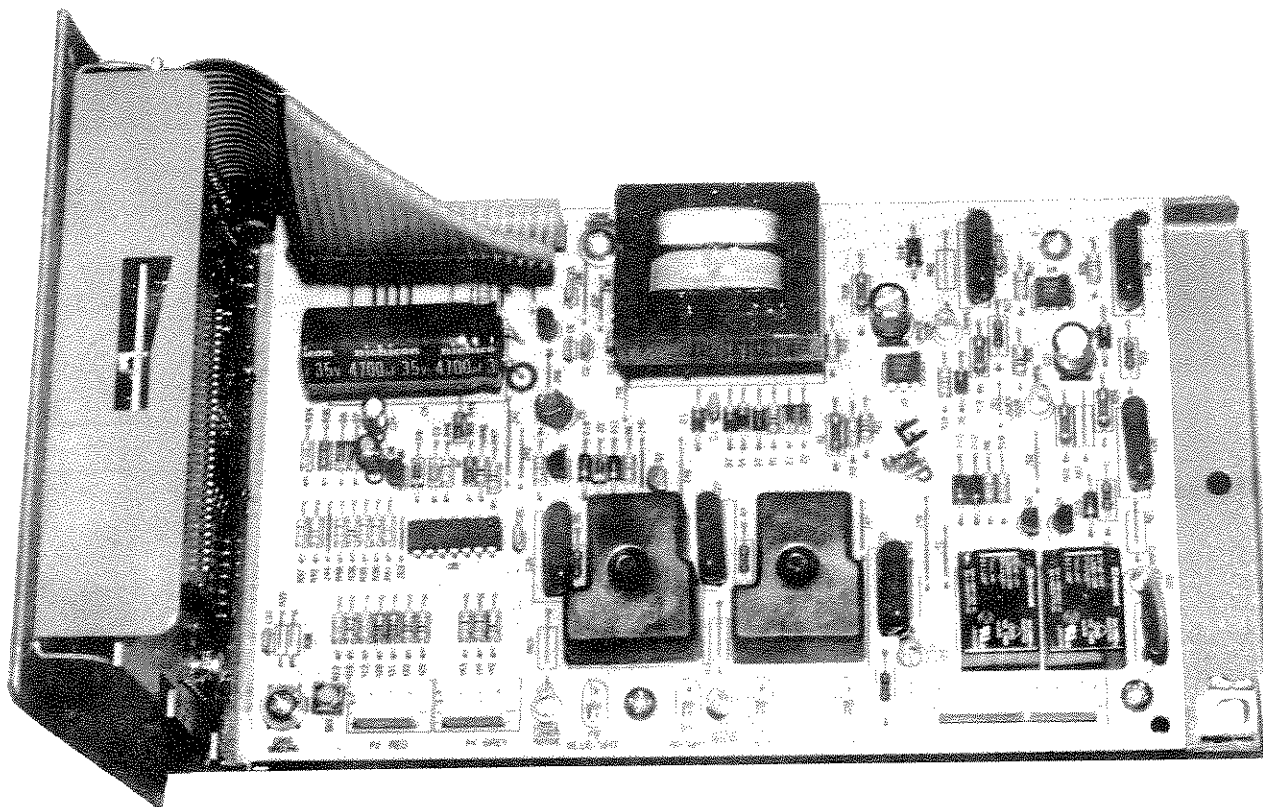
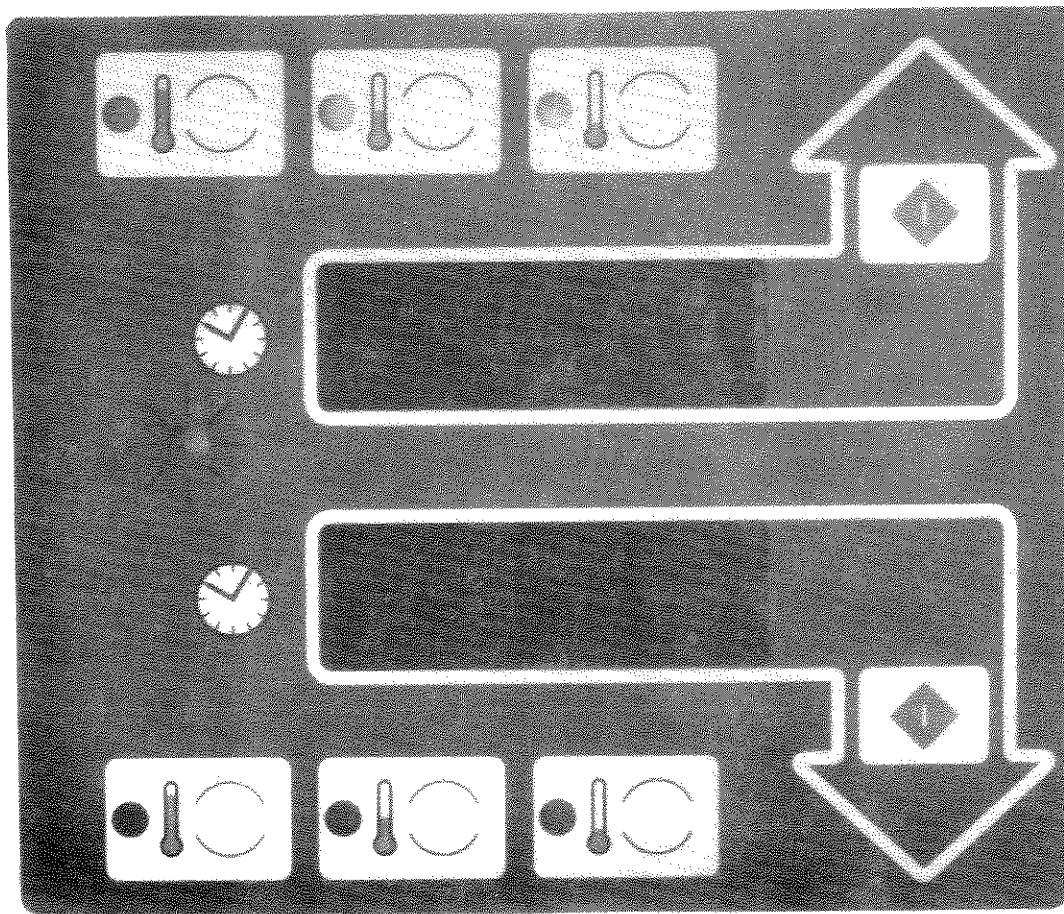
Adjustable parameters are vend price, temperatures, and cool-down times. Hours run and money count information can be displayed and these registers are resettable to zero.

There are sixteen programming steps. These sixteen steps are: (all temperatures are degrees Fahrenheit).

STEP	DESCRIPTION	RANGE	PROGRAMMING INCREMENTS	ORIGINAL SETTINGS
00	Lower drum hour meter	0 to 9999 hr.	—	0
01	Upper drum hour meter	0 to 9999 hr.	—	0
02	Lower drum money audit	0 to \$9999	—	0
03	Upper drum money audit	0 to \$9999	—	0
04	Hot temp. setting	150-190	5	175
05	Perm press temp. setting	120-170	5	150
06	Warm temp. setting	110-150	5	125
07	Skip (not used)			
08	Coin Value	0-100	5	25
09	Vend price	0-100	5	25
10	Skip (not used)			
11	Time per coin	0-99:59 minutes	5 sec.	10:00
12	Free vend time	0-99:59 minutes	5 sec.	10:00
13	Cool down time Hot cycle	0-10:00 minutes	5 sec.	2:00
14	Cool down time Perm Press	0-10:00 minutes	5 sec.	2:00
15	Cool down time Warm cycle	0-10:00 minutes	5 sec.	2:00
16	Temperature scale	Centigrade or Fahrenheit	C or F	F

Stack Dryer Control Board





CHANGING PROGRAMMED DATA

ENTERING PROGRAM MODE

The controller is put into the programming mode by opening both dryer doors and pushing the program switch (shown in a previous picture) on the back of the controller circuit board. The switch is accessed by unlocking the controller and sliding it out just enough to reach the switch.

PROGRAMMING

The upper display shows the setting for each step of the program as you go through the list.

The lower display gives the number of the program step as given on the previous program step chart (00-16).

The lower **“Hot switch”** will advance the controller through the seventeen steps which can be observed or altered. Each step can be identified by the step number in the lower display.

The upper and lower **“Start switches”** increase and decrease the values in the upper display by the increments given in the program step chart.

The lower **“Perm press”** switch will return the value for the step being displayed to the original value given on the program step chart. Note: For the hour meter and the money audit steps this value is zero.

EXITING PROGRAM MODE

The controller remains in the programming mode until one of the following happens:

1. The mode switch is pushed again.
2. The sixteenth and last step of the programming sequence is completed (first step is 00, last step is 16) and the step switch is pushed following this step.
3. Programming is stopped for approximately one minute.
4. The dryer doors are closed.

PROGRAMMING EXAMPLE

For an example we will change the vend price from \$.25 to \$.50.

STEP

1. Open upper and lower loading doors.
2. Unlock the control tray and carefully slide it about 3 inches out of the machine. Press the program switch behind the vertical portion of the circuit board. Replace and relock the control tray in its original position.
3. Consult program chart to find vend price as step 09. Push lower “Hot” button to advance through steps until 09 is displayed in lower display. Current vend price (25 in this case) will be displayed in upper window.
4. Push upper start button to increase price by increments of 5 until 50 is reached and shows in the upper display.

NOTE: To make any change it is necessary after changing the value to press the lower **“Hot”** and advance one more step in order for the new value to be entered into the computer memory.

5. Exit the program mode by any of the methods previously mentioned.
6. The displays should now show “50” as the price to start the machine.

Section 3

Wiring Schematics

Dryer Idle--No Coins Added

Top Dryer Used For This Example

120VAC is supplied to the Electronic Control (computer board) by L1 on the black wire. This tells us that any time there is power to the dryer that the Computer Board will be powered and the display lighted. 120VAC also goes to one side of the door switch on a black wire. Closing the loading door sends 120VAC to the Computer Board on two blue wires. One blue wire makes 120VAC available to one side of the Motor Run Relay. The other blue wire provides a 120VAC signal to the Computer Board telling it that the door is closed. The door light on the computer board should be illuminated when the door is closed.

Coins Added--Motor Starting and Running

Top Dryer Used For This Example

As each coin is added the Coin Switch closes and completes a circuit to the Computer Board. The Computer Board counts these signals and when the correct number of coins are counted the Computer Board closes the Motor Run Relay. With this Relay closed, 120VAC is supplied to the Motor on the red wire. The motor light on the computer board should be illuminated anytime the computer calls for the motor to operate. The Motor Start Switch is drawn in the start position. In this position the incoming power is supplied directly to the main run winding and through the Start Capacitor to the Auxiliary Winding (start winding). As the Motor comes up to speed, the switch opens the circuit to the Start Winding and closes the circuit to the Gas Relay. This kicks the Start Winding out of the circuit and provides power to the Gas Relay on the blue wire that connects to a black wire. The heat circuit in the dryer can not operate if the motor is not running. The gas light on the computer board should be illuminated anytime the computer calls for the heat.

Heat Circuit

Top Dryer Used For This Example

With the Drive Motor running, 120VAC is provided to the Gas Relay on the blue wire from the motor. This blue wire has an in-line connector and changes to a gray wire before it arrives at the Gas Relay. The gas light on the computer board should be illuminated anytime the computer calls for the heat. The Computer Board closes the Gas Relay Contact providing 120VAC on the orange/black wire to the High Limit Thermostat. The High Limit Thermostat is normally closed. (It will open, turning off the heat circuit, if the dryer can't move enough air from problems such as an exhaust restriction) 120VAC goes through the normally closed High Limit Thermostat to the normally open Air Switch (Sail Switch) on the brown wire. This switch is closed only if the dryer is running and has the correct air flow. With the dryer running and the Air Switch closed, 120VAC is supplied to the Control Transformer on the gray wire that connects to the black wire at the transformer. This transformer steps 120VAC down to 24VAC. There is a 1.5 amp in-line fuse that protects the Control Transformer. 24 volts is supplied to the Spark Ignition Module (Ignition Controller) by the Control Transformer on the red wire. The Spark Ignition Module will then send high voltage to the Spark Electrode via the High Voltage Lead (this lead looks like an automotive spark plug wire). The Spark Ignition Module also sends 24VAC to the Gas Valve Coils which open the Gas Valve. When ignition occurs the high voltage sparking stops. If ignition does not occur, the Spark Ignition Module will only spark for 10 seconds and then it locks out. To reset the Spark Ignition Module the dryer loading door must be opened for 10 seconds.

Heat Sensor

This unit takes the place of the regulating thermostat on a mechanical timer dryer. The Heat Sensor is a thermistor. The way these work is fairly simple. As the temperature goes up, the resistance in the thermistor (heat sensor) goes down. As the temperature drops, the resistance in the thermistor (heat sensor) goes up.

Over Temperature Thermostat (Manual Reset Safety Shutoff Thermostat)

Top Dryer Used For This Example

The neutral side of the schematic (L2) uses white wire. On the neutral side prior to the Drive Motor or the Heat Circuit there is an Over Temperature Thermostat. This thermostat is manually reset by pushing in the red button. The Over Temperature Thermostat is a safety backup for the entire Heat Circuit. If the dryer overheats the Over Temperature Thermostat opens the neutral side of the line to all components except the Computer Board. This turns off the heat and the drive motor but leaves the Computer Board lighted.

Cool Down

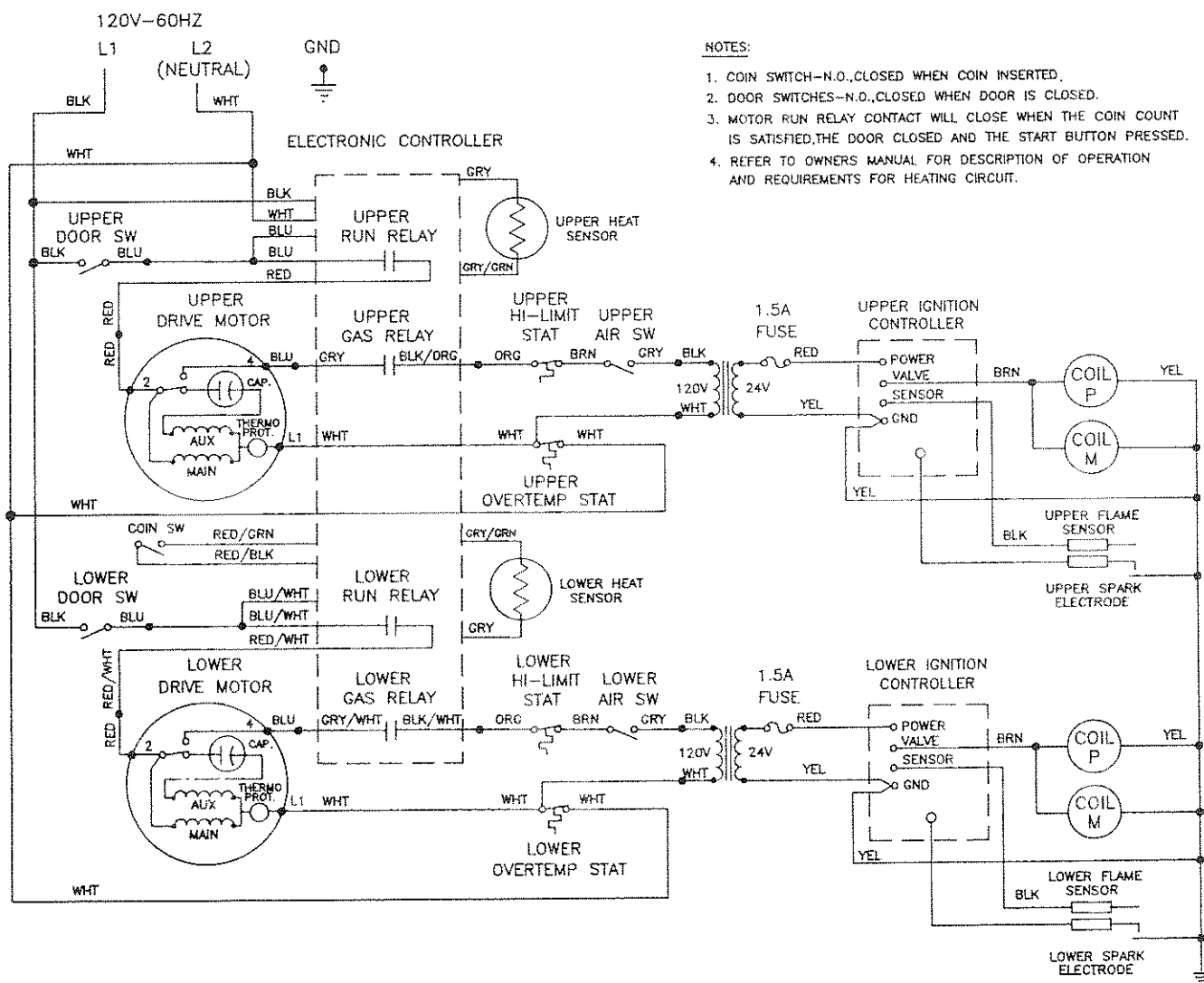
Top Dryer Used For This Example

At the preprogrammed time (2 minutes factory setting--adjustable) the Computer Board will open the Gas Relay Contact. This allows the Drive Motor to continue to run but without heat. The gas light on the computer board should not be illuminated anytime the computer is in cool down. This Cool Down period allows the clothing (zippers, snaps, etc.) time to cool down to a temperature that is easily handled by customers.

End of Cycle

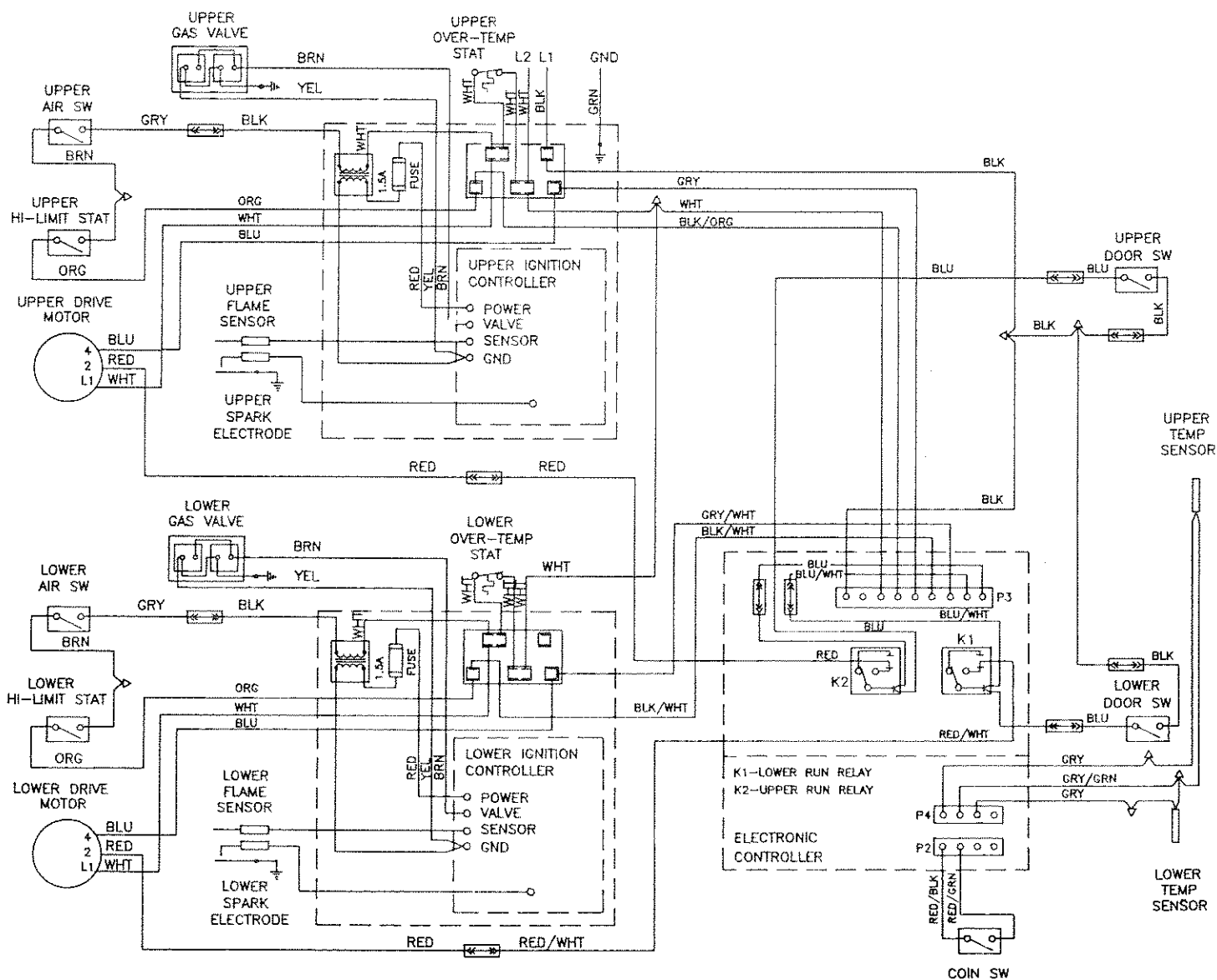
Top Dryer Used For This Example

At the end of the cool down, the Computer Board opens the Run Relay which removes power from the Drive Motor on the red wire. The motor light on the computer board should no longer be illuminated. The Drive Motor stops and the Computer Board display now flashes until the dryer door is opened. Once the door is opened to remove the clothing the display goes back to 25 cents.



SCHEMATIC

9345-769-002



WIRING DIAGRAM

Section 4

Service Procedures

CLOTHES DOOR REMOVAL

1. The clothes door may be removed from the hinge bracket by unscrewing and removing the allen-head pivot screw located at the door upper hinge point.
2. Next lean the door out of the top of the hinge bracket and lift the door from the bottom hinge pin. Note the spacer between the bottom of the door and the hinge.

CLOTHES DOOR LATCH ADJUSTMENT

1. Loosen the lock nut on the latching stud. It is located directly behind the door handle.
2. Open the loading door.
3. Screw the door catch stud in or out as necessary and then retighten the lock nut.

DOOR SWITCH REMOVAL AND INSTALLATION

1. Each door switch is located directly behind the hinge plate of the loading door assembly. Open the door for access to the switch area. Remove the two screws holding the switch box cover in position. This will allow the removal of the cover and the switch actuator plate.
2. The entire switch box can now be pulled from the front panel opening, creating access to the door switch mounting screws.
3. Remove these two mounting screws and twin nut which frees the door switch and insulating shield. Remove wires.
4. When installing the door switch make certain the insulating shield is reassembled in the correct position and the wires are on the two rear terminals.
5. The actuator plate and switch box cover should be assembled as illustrated in the parts section of the book.

INSTALLATION OF CLOTHES DOOR WINDOW AND GASKET

1. Place the clothes door, with its face down, on a solid surface.
Note: Prewarming the gasket makes the installation much easier.
2. Install the window gasket on the clothes door flange. The wider lip of the gasket should be on the bottom side or front face of the clothes door and the ridges should be up.
3. Locate the seam at the latching stud.
4. Apply a soapy water solution or rubber lubricant to the gasket.
5. Slide the glass into the middle of the door ring and gasket with half of the glass above the door and half below.
6. While pressing down on the glass, stand the door up and use a modified screw driver with the end rounded off to install half of the glass. Lay the door down and install the other half.
7. At the six o'clock position, pry the glass up enough to install the black spacer. (reuse from old door gasket)

HIGH LIMIT THERMOSTAT LOCATIONS AND FUNCTIONS

- A. Burner Housing-** This hi-limit is located on the back side of each burner housing.
1. The thermostat opens the circuit to the main burners in the event of malfunction in the gas control area or temperature control. This thermostat will open quickly if there is a significant loss of air flow over the burner area.
 2. It is covered by a guard and is held in place by two screws. There are spacers between the thermostat and bracket which must be used to give proper operation.
- B. Manual Reset Over temperature Safety Thermostats-** The second hi-limit thermostat is located on the right side of each burner housing as you view from the back of the machine. It is just above the gas valve and covered by a guard with a small access hole.
1. The manually resettable thermostat limits the operating temperature a dryer can reach should some abnormal situation occur.
 2. Should one of the thermostats be tripped, that particular tumbler will cease to operate until the thermostat is reset. Once the dryer cools, the thermostat may be reset by inserting a pencil or stick through the opening in the thermostat cover.

PRESSURE REGULATOR ADJUSTMENT

Use the following procedure whenever it is necessary to check the pressure regulator setting.

NOTE: Any adjustment of the pressure regulator must be made with a manometer attached at the plug in the main burner manifold.

1. Shut off the gas supply to the dryer.
2. Remove the 1/8" pipe plug from the end of the main burner manifold.
3. Attach a manometer to the manifold end.
4. Remove the pressure regulator cover screw on the gas valve.
5. Open the shutoff valve, and operate the dryer.
6. Adjust the pressure for a manometer reading of 3.5" water column gas pressure. (11.0" for L.P.)

NOTE: The main burners must be operating when adjusting the pressure regulator.

7. Shut off the gas supply to the dryer. Remove the manometer and install the 1/8" pipe plug in the manifold.
8. Open the shut off valve, start the dryer and check for gas leaks while the burners are ignited.

COIN ACCEPTOR REMOVAL

Loosen the four screws (Torx #10 driver) mounting the coin acceptor to its retaining bracket.

Do not remove the screws or the retainer will fall behind the panel.

Shift the acceptor up and down to allow the retainer to slide through the panel opening. When removing, the bottom should be brought through the panel opening first. When reinstalling, the top should go in first.

COIN SWITCH ADJUSTMENT

The coin switch should click soon after the coin hits the operator wire. However there must be enough travel to allow the switch to reset once the coin has passed. Adjustment should be made by bending the wire very close to its attachment point.

ELECTRONIC CONTROL FAILURE CODES

The electronic control may show the following error codes in the display:

1. **F1**--Shorted sensor or shorted sensor wire harness.
2. **F2**--Open sensor or sensor wire harness unplugged.
3. **F1** or **F2** in both displays at the same time usually would mean that the control itself is defective as it would be unlikely that both sensors would develop a problem at the same time.
4. **F3**--Electronic Control Failure.

ELECTRONIC CONTROL DIAGNOSTIC LIGHTS

The electronic control has 6 diagnostic lights to aid in service of the dryer. Each pocket has indicator lights for the motor circuit, door switch circuit, and the heat circuit. When the electronic control is carefully unlocked and moved forward these lights are visible on the circuit board. They are each labeled as to function indicated.

1. When either dryer door is closed, the appropriate door light on the computer should be illuminated indicating that the door is closed.
2. When either dryer is running, the appropriate motor light on the computer should be illuminated indicating that the computer is calling for the motor to operate.
3. When either dryer is calling for heat, the appropriate heat light on the computer should be illuminated indicating that the computer is calling for heat.

An example of their function would be troubleshooting an upper dryer pocket that did not heat.

1. Start the machine and insure that it did not heat.
2. Check the upper heat light and see if it is lit.
3. If the heat light is on, this would indicate that the computer was calling for heat and that it was not at fault. You would then go on to check the rest of the heat circuit.

ELECTRONIC CONTROL TEST CYCLE

This test cycle allows the dryer to run for 5 minutes without the need for adding money while servicing. To actuate this 5 minute test cycle leave the loading doors closed, unlock the computer and push the program button on the right front corner of the computer as if you were putting it into the program mode. This will give a 5 minute cycle on both tumblers for evaluating the machine.

ELECTRONIC CONTROL REMOVAL

Unlock the retaining lock in the control assembly. Slide the control out of the machine holding the control by the metal tray. There is enough wire length to allow removing the control tray from the machine before disconnecting the wires.

MEMBRANE SWITCH REPLACEMENT

The control buttons are an adhesive membrane switch assembly which may be replaced separately. Slide the control out to gain access to disconnect the ribbon connector.

The ribbon connector must be pushed solidly and squarely into its connector when connecting a new membrane switch.

TEMPERATURE SENSOR TESTING

If either tumbler display shows an F1 or F2, that is an indication of possible temperature sensor problems for that tumbler. Before replacing a sensor, check the wires and connections of the sensor for damage. The sensor lead wires are very small and care should be used in routing and connecting them. The sensors are located under the tumblers and may be viewed by removing the lint screen. The temperature sensor should have between 30,000 ohms and 60,000 ohms resistance at room temperature if okay.

TEMPERATURE TESTING

To check the temperature in the dryer tumbler, press and hold the upper or lower start button for the tumbler being checked and while holding the start button also press the temperature button for the temperature to be checked. The display will read out the current temperature.

TEMPERATURE SENSOR REMOVAL

UPPER- To remove the upper temperature sensor first remove the electronic control from the machine. Then reach through the opening left by the electronic control in the front panel to remove the #10 screw that retains the sensor mounting bracket.

LOWER- To remove the lower temperature sensor it is necessary to remove the lower front panel to gain access to the mounting bracket. Then the bracket is removed as on the upper cylinder.

UPPER FRONT PANEL REMOVAL

1. Remove the loading door from the panel.
2. Remove the 3 left side screws, 1 at top right and the 4 right side screws that mount the hinge. The phillips screw does not have to be removed as it retains the wiring channel to the back of the front panel. The trim does not have to be removed. (The panel may be removed with the door left in place, although it is much heavier and more awkward to do so.)

LOWER FRONT PANEL REMOVAL

To remove the lower front panel a procedure similar to the upper may be used. However, the bottom of the upper panel must be loosened and pulled out to allow the upper flange of the lower panel clearance to be removed.

NOTE: Always remove power from the machine before changing drive belts or working with the drive system.

FINAL DRIVE BELT REPLACEMENT

To replace the final drive belt turn the cylinder slowly by hand and work the belt off of the large pulley.

MOTOR DRIVE BELT REPLACEMENT

To replace the motor drive belt the final drive belt should be removed as above. Cut the old motor belt and remove. The new motor drive belt fits inside of three of the four motor mounting bolts. To achieve this, remove these three bolts one at a time and slide the belt in past each in turn. In this way the motor is always supported by 3 bolts at any time.

Note: All drive belts are self adjusting.

TUMBLER PULLEY REMOVAL AND INSTALLATION

Remove the 1 1/2" nut and lock washer. Pull the pulley off the shaft. Watch for the locking key on the tumbler shaft. Upon installation, the tumbler nut should be torqued to 150 ft./lbs.

INTERMEDIATE PULLEY AND TENSION ARM REMOVAL

1. The intermediate pulley is retained with a snap ring. Remove the snap ring and the pulley slides off the shaft.
2. With the pulley off, there is access to the self adjusting tension arm assembly. The tension arm assembly may be removed by removing the snap ring that holds it to the tension arm support assembly pin. The arm assembly is replaced as a complete unit .
3. The grease fitting for the intermediate shaft should be greased monthly.

TENSION ARM SUPPORT ASSEMBLY ADJUSTMENT

The tension arm support assembly may be adjusted for alignment of the intermediate pulley and also to align the belts. The three outer nuts allow the alignment of the pin to be adjusted by pivoting the assembly on the center bolt. The center bolt can be screwed in to allow bringing the complete assembly farther back if necessary for belt alignment.

MOTOR AND BLOWER ASSEMBLY REMOVAL AND INSTALLATION

1. Remove the tumbler and intermediate pulleys. (see above)
2. Remove the motor wiring cover and take the 3 motor wires off.
3. Remove the 9 nuts and lock washers that retain the blower cover and set assembly out of dryer.
4. The blower is held in place with 2 square headed set screws. Upon reassembly, one blower set screw should fit in the counter sink in the shaft and the other set screw should go against the flat side of the shaft. Use red Loctite on the set screws and torque to 165 in./lbs.
5. The motor is mounted with 4 bolts to the blower cover.

AIR FLOW SWITCH OPERATION AND ADJUSTMENT

The air flow switch assembly is part of the ignition safety circuit and insures that the burners don't operate unless there is air flow. When the drive motor and blower are running the flat actuator is pulled in against the back of the dryer closing the switch. If this doesn't happen ignition will not occur. The air flow switch assembly is mounted by two screws through the bracket. It can be adjusted by loosening these mounting screws and moving the switch forward or backward.

IGNITION TRANSFORMER FUSE

The 1 1/2 amp fuse protects the ignition transformer. To remove it just twist and pull it out.

IGNITION CONTROL TRANSFORMER

When heat is called for, the ignition control transformer steps 120VAC down to 24VAC to power the ignition control.

ELECTRONIC IGNITION MODULE

This machine uses an electronic spark ignition system to directly light the burners in each tumbler.

1. The electronic ignition module for each tumbler is located inside the electrical box. This is the metal box on the back of each tumbler area directly to the right of the final drive pulleys.
2. The red wire from the transformer traveling thru the 1.5 amp fuse and into the module supplies the 24VAC required to operate the entire direct ignition system.
3. The black colored hi-voltage wire (spark plug type) plugs onto the post connector on the module, and the multi-wire plug fits into the side of the module.

SPARK ELECTRODE ASSEMBLY-FUNCTION

1. The spark electrode and sensing electrodes are located directly over the rear burner inside the burner housing.
2. The electrode with the black hi-voltage wire conducts the spark to the center grounding probe, directly over the burner.
3. The electrode with the black sensing wire detects ignition and monitors flame by signaling the module.

NOTE: Proper grounding of the ignition system (yellow wires) is very critical for proper ignition sequence.

IGNITION SYSTEM-FUNCTION & SEQUENCE

During normal dryer operation, the following occurs:

1. The dryer electronic control calls for heat.
2. If the drive motor is running, the motor safety circuit provides power to the electronic control. If the control senses that the heat should be on, a circuit is closed allowing power through the high limit thermostat and air flow switch to the ignition transformer. The transformer provides 24VAC to the ignition module and sparking occurs at the ignition electrode. At the same time 24VAC is applied to the gas valve.
3. Once the flame is established, the sensing electrode detects the presence of flame and the sparking stops.
4. If for any reason the flame is not established in a period of 10 seconds, the electronic control shuts down the sparking and closes the gas valve which is now in "Safety Lock-Out". Normally the 10 seconds "Trial For Ignition" period is ample to establish and prove flame.
5. If the flame is shutdown or blown out during operation, the ignitor will immediately go into "Trial For Ignition" again for 10 seconds.
6. However, if during any 10 second "Trial for Ignition", the flame is not established, the ignition system goes into "Safety Lock-Out" and will not reactivate the "Trial for Ignition" until there is a current interruption for a period of 15 seconds. This interruption can be provided by opening the dryer loading door and allowing the machine to come to a complete stop for 15 seconds.

IGNITION SYSTEM-CHECKOUT

1. If flame is present during "Trial For Ignition" period but the system shuts down, there may be an improper ground. The entire ignition system is grounded together including the electrode assembly, the electrode mounting bracket, the burners and the burner bracket. Shutdown can also occur if for some reason the system isn't sensing the flame. Check the sensor for damage and check the connections of the sensor lead.
2. If there is no spark or intermittent spark, check black hi-voltage lead wire for damage or cracks in insulation. **(This lead wire must not be taped or connected to any metal edges along its length to prevent pinching and arcing. Also, do not bundle this wire with other wires.)**

Note: Spark gap and electrode location are important. If the electrode is damaged or mounting is changed the spark gap may not be correct for ignition to occur. Check for cracks in the ceramic insulator. Replace electrode assembly if necessary. Also check for carbon or foreign material on the electrodes and clean if necessary.

SPARK ELECTRODE ASSEMBLY-REMOVAL

1. Remove electrode cover and disconnect wires to electrodes.
2. Remove two screws to detach electrode assembly.

GAS VALVE & MANIFOLD REMOVAL

1. Disconnect union at gas valve and disconnect wires from gas valve operator coils.
2. Remove right manifold mounting bracket screws and slide manifold to remove from left bracket.

MAIN BURNER ORIFICE REMOVAL

1. Remove manifold and gas valve assembly as above.
2. Using an open end wrench, remove orifices from manifold.

MAIN BURNER REMOVAL

1. Remove the 4 screws securing the cover for the burner housing and the one screw mounting the high limit cover. With the burner housing cover removed, there is complete access to the burner assemblies.

CYLINDER REMOVAL

1. Remove the front panel in front of the cylinder.
2. Remove drive belt, pulley, and key from cylinder shaft.
3. Pull the cylinder from the front of the machine.

ADJUSTMENT OF CYLINDER ASSEMBLY

1. Loosen the two top adjusting bolts and two bottom adjusting nuts and lock nuts holding the bearing housing to the drive plate.
2. Loosen the four mounting bolts on the side channels.
3. Open the clothes door and insert a 1/2" thick shim at the 3 and 9 o'clock positions and a 1/4" thick shim at the 6 o'clock position.
4. Tighten the two bottom adjusting nuts and tighten locking nuts.
5. Tighten the bottom right mounting bolt, then the top left mounting bolt. Tighten the remaining two bolts. (Shim where and if necessary.)
6. Tighten the two top adjusting bolts.
7. Remove all the shims from between the front panel flange and cylinder (3, 6, and 9 o'clock).
8. Spin the cylinder to check for rubbing baffles, pressing down hard while rotating. If rubbing is detected, repeat procedure paying particular attention to placement of shims between bearing housing and side channels.

TUMBLER THROUGH BOLT ACCESS COVER

Remove 4 screws that mount the electrical box to the back of the dryer. Remove 2 screws that retain access cover. With access cover removed, tightness on the tumbler through bolts can be checked and tumbler alignment can be adjusted.

BEARING HOUSING REMOVAL

After removing cylinder as previously outlined, simply unbolt the bearing housing and remove.

Section 5

Trouble Shooting

ELECTRONIC CONTROL DIAGNOSTIC LIGHTS

The electronic control has 6 diagnostic lights to aid in service of the dryer. Each pocket has indicator lights for the motor circuit, door switch circuit, and the heat circuit. When the electronic control is carefully unlocked and moved forward these lights are visible on the circuit board. They are each labeled as to function indicated.

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3. When either dryer is calling for heat, the appropriate heat light on the computer should be illuminated indicating that the computer is calling for heat.

An example of their function would be troubleshooting an upper dryer pocket that did not heat.

1. Start the machine and insure that it did not heat.
2. Check the upper heat light and see if it is lit.
3. If the heat light is on, this would indicate that the computer was calling for heat and that it was not at fault. You would then go on to check the rest of the heat circuit.

ELECTRONIC CONTROL TEST CYCLE

This test cycle allows the dryer to run for 5 minutes without the need for adding money while servicing. To actuate this 5 minute test cycle leave the loading doors closed, unlock the computer and push the program button on the right front corner of the computer as if you were putting it into the program mode. This will give a 5 minute cycle on both tumblers for evaluating the machine.

Symptom	Probable Cause	Suggested Remedy
Tumbler does not turn	Drive belts	Check both drive belts. Replace if failed.
	Over temperature Thermostat	Check to see if manually resettable thermostat is kicked out. Reset by pushing red reset button.
	Drive motor	Check capacitor and motor. Replace if failed
	Door switch	Check door switch contacts and adjustment. Adjust or replace door switch.
	Electronic Control	Is electronic control closing motor relay to power drive motor? Check for motor light on electronic control. If no light change control. If light is on, check voltage and wiring to motor.
Tumbler turns but no spark at burner	Glass fuse	Check small glass control fuse in back of dryer. Replace if failed.
	Temperature Sensor	The temperature sensor should have between 30,000 ohms and 60,000 ohms resistance at room temperature if okay. Replace if not in this range.
	Ignition Transformer	Check for 24VAC output from transformer. Replace if no voltage.

Symptom	Probable Cause	Suggested Remedy
Tumbler turns but no spark at burner (continued)	Ignition control	Check for 24VAC coming into the control on the red wire. If voltage, then check for 24VDC out on the brown wire. Also check for spark at the ignitor. If no 24VDC output or no spark to the ignitor, replace ignition control.
	Air Flow Switch	Check air flow switch to be sure it closes when dryer is running. If not, adjust or replace switch.
	Hi-limit	Check for continuity. Should be 0 ohms resistance when cold. If not, replace thermostat.
	Gas supply	No gas can cause system lockout
	Electronic Control	Is electronic control closing gas relay to power heat circuit? Check for gas light on electronic control. If no light change control. If light is on, check voltage and components in heat circuit.
Tumbler turns, ignition sparks, no flame	Gas supply	Make sure gas supply is working.
	Gas pressure	Make manometer check of gas pressure. Adjust if necessary.
	Spark electrode	Check for damage to electrode or mounting. Replace if necessary.
	Gas valve	Check coil continuity, replace valve if failed.
	Ignition Control	Check for 24VDC to gas valve coils. If no voltage replace ignition control.
Slow drying	Temperature Setting	Check program for correct high temperature setting. Adjust if necessary.
	Air flow restrictions	<ol style="list-style-type: none"> 1. Check lint screen and clean if necessary. 2. Check exhaust for correct length and clean if necessary. 3. Check exhaust damper to insure that it opens when dryer is running and closes when dryer is not in use. 4. Check makeup air to insure that it is adequate. Increase makeup air if necessary.
	Temperature Sensor	The temperature sensor should have between 30,000 ohms and 60,000 ohms resistance at room temperature if okay. Replace if not in this range.
Erratic display	Initial Start-up	If erratic on initial start-up, leave power on for approximately one hour and check machine operation again.

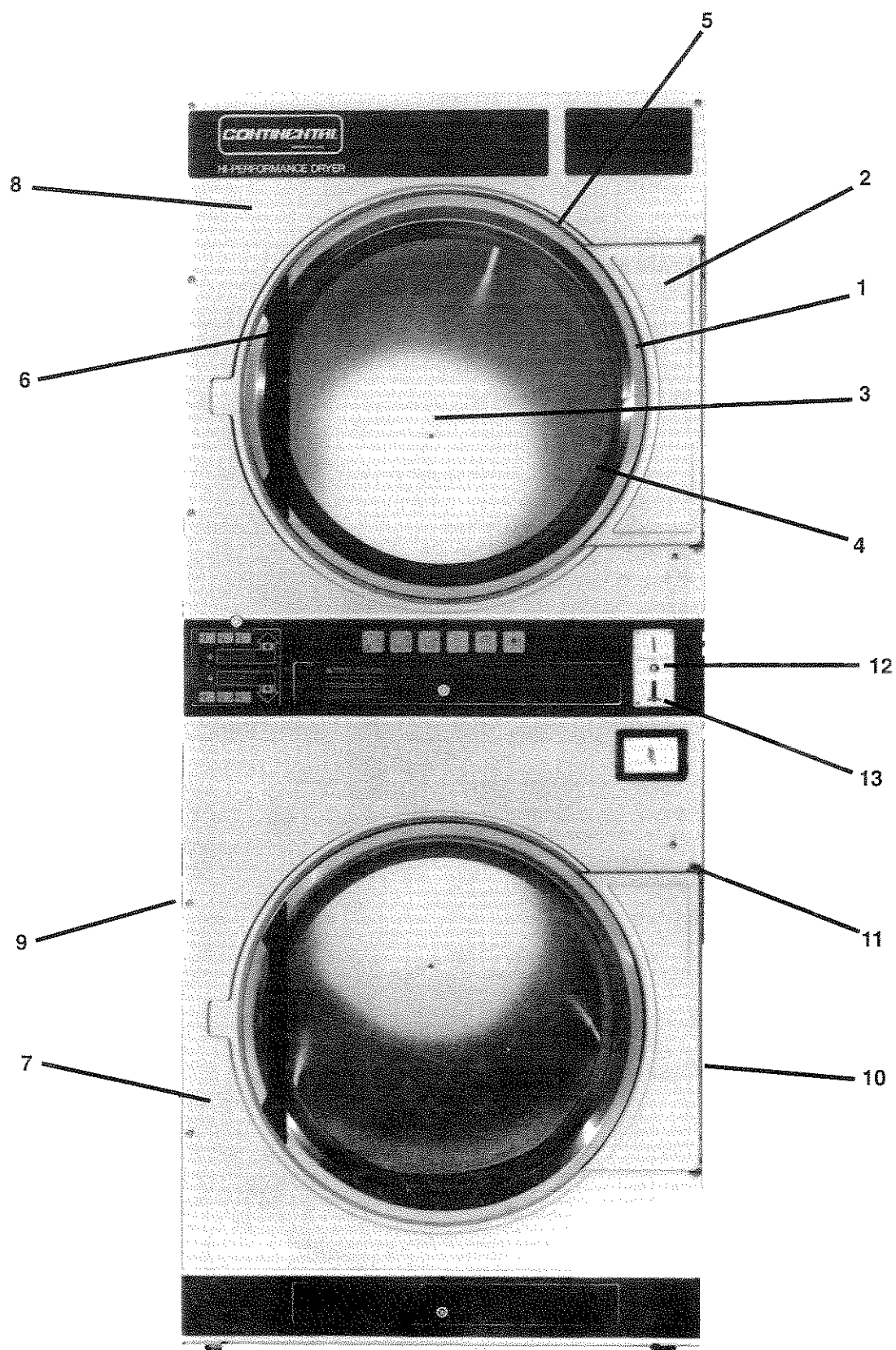
Symptom	Probable Cause	Suggested Remedy
Erratic display (continued)	Grounding	Machine must be grounded by separate conductor back to neutral bar in breaker box.
	Program	Check program and make corrections if necessary.
	Voltage spike	Power down machine for 20 seconds and repower. If no improvement, replace control.

Section 6

Parts Data

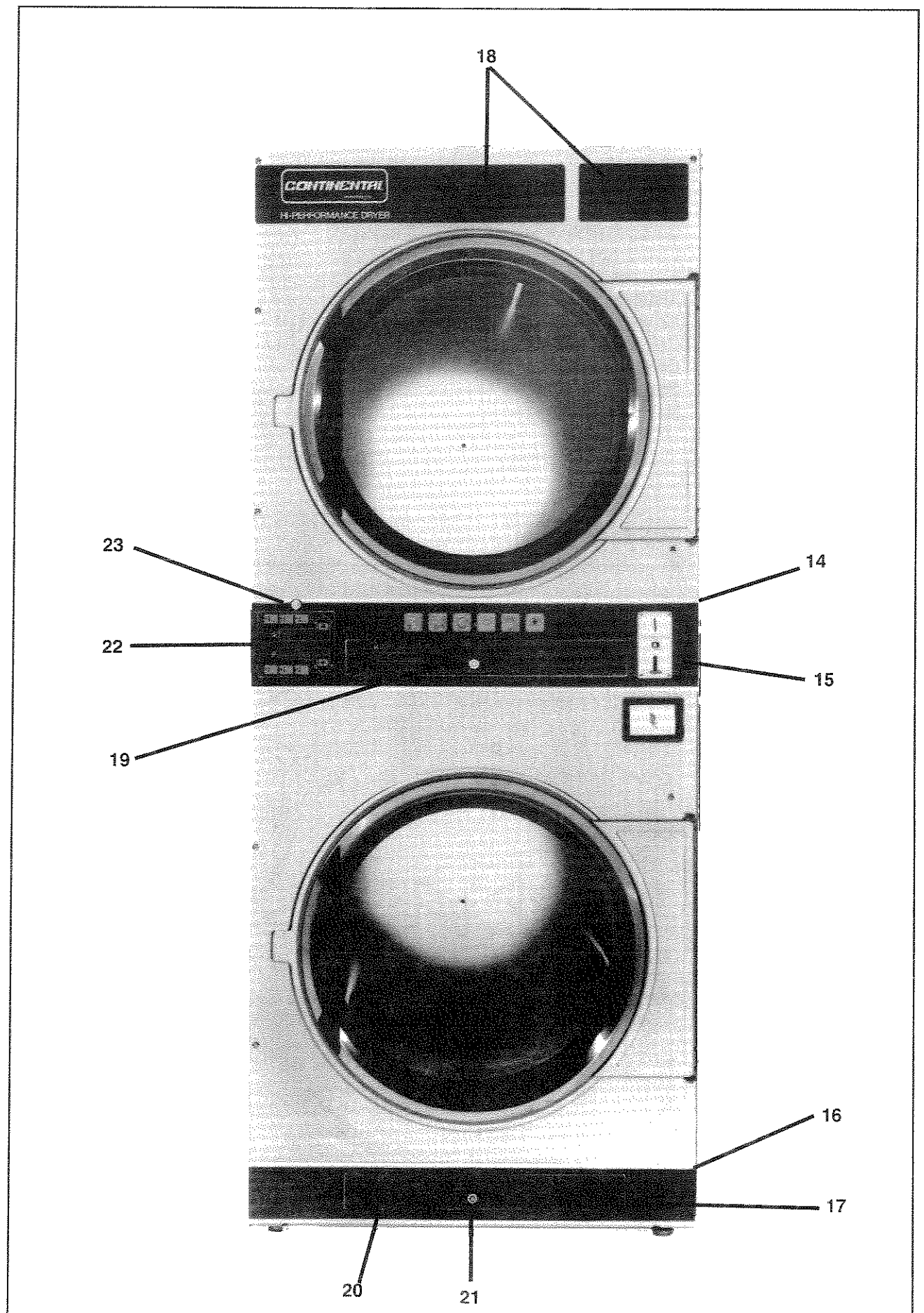
CABINET GROUP

Key	Part Number	Description	
*	9960-256-027	Door Assy., Loading Complete-Alm	2
*	9960-256-026	Door Assy., Loading Complete-Wht	2
*	9960-256-030	Door Assy., Loading Complete-SS	2
1	9960-255-005	Door Assy., Loading-SS	1
2	9982-280-005	Plate Assy., Hinge (Alm)	1
2	9982-280-005	Plate Assy., Hinge (Wht)	1
2	9982-280-005	Plate Assy., Hinge (SS)	1
*	9545-012-015	Screw, Hinge to Door	4
*	8640-413-002	Nut, Hinge to Door	4
3	9212-002-003	Glass, Door	1
4	9206-164-006	Gasket, Glass	1
*	9548-117-000	Support, Door Glass	1
5	9206-420-001	Gasket, Outer Rim	1
6	9244-082-001	Handle, Loading Door	1
*	9545-018-007	Screw, Handle	2
*	9531-033-001	Stud, Door Catch	1
*	8640-413-003	Nut, Acorn	1
*	8640-413-001	Nut, Hex	1
*	9086-015-002	Catch, Loading Door	1
*	9545-012-003	Screw	4
*	8641-582-006	Lockwasher	4
*	8640-399-001	Spring Nut	6
7	9989-445-016	Panel Assy., Front- Lower (Alm)	1
7	9989-445-018	Panel Assy., Front- Lower (Wht)	1
7	9989-445-024	Panel Assy., Front- Lower (SS)	1
8	9989-445-015	Panel Assy., Front- Upper (Alm)	1
8	9989-445-017	Panel Assy., Front- Upper (Wht)	1
8	9989-445-023	Panel Assy., Front- Upper (SS)	1
9	9545-008-002	Screw, Chrome	14
9	8641-582-019	Lockwasher	6
*	8640-399-001	Nut, Spring	12
10	9544-047-005	Strap, Hinge (Alm)	2
10	9544-047-005	Strap, Hinge (Wht)	2
10	9544-047-005	Strap, Hinge (SS)	2
*	9545-008-009	Screw, Hinge to Panel	8
11	9545-052-001	Screw, Door to Hinge Strap	2
*	8641-436-003	Washer, Fiber	2
12	9021-001-010	Acceptor, Coin	1
*	9486-136-001	Retainer, Coin Acceptor	1
13	9545-053-002	Screw	4



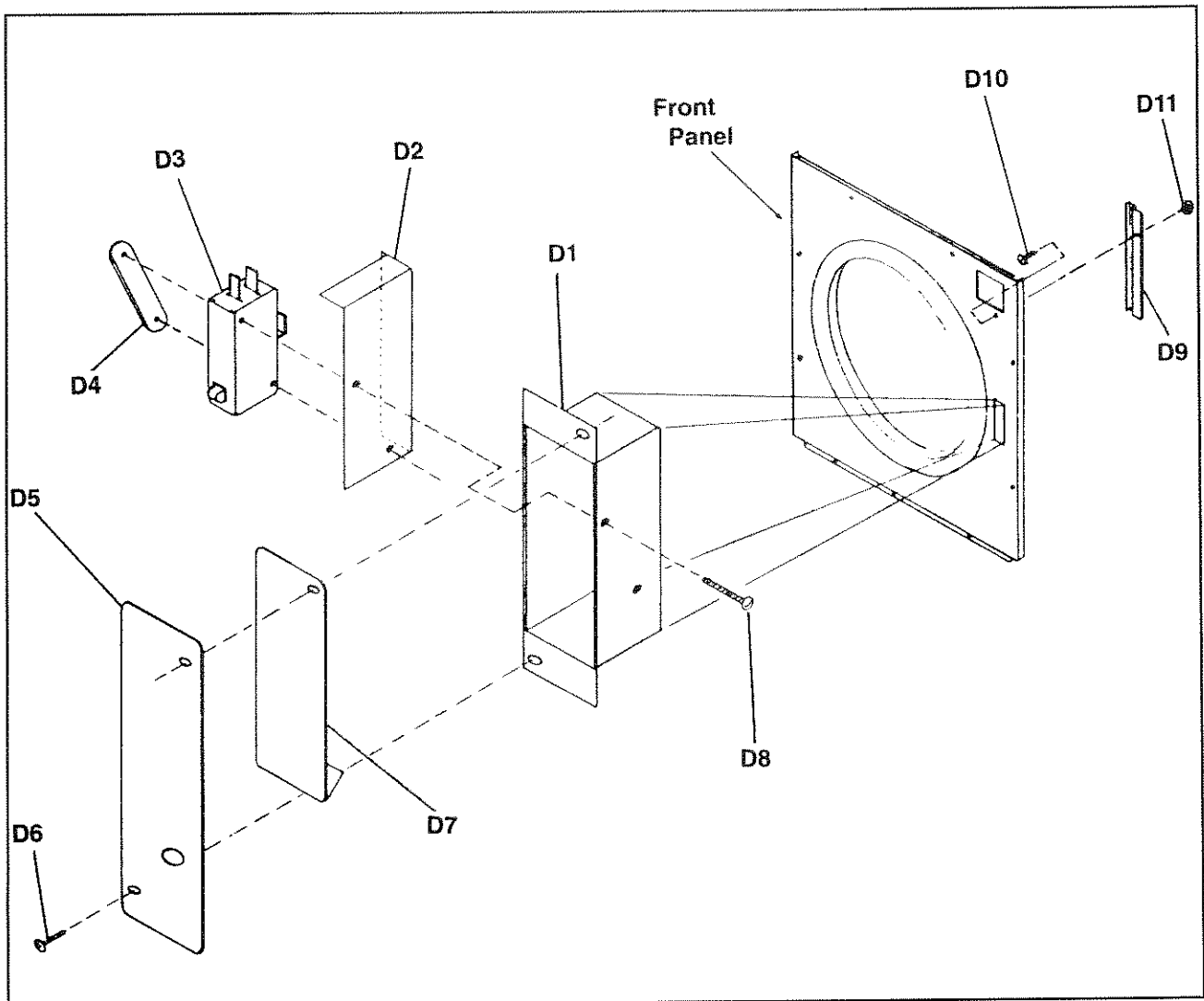
CABINET GROUP CONTINUED

Key	Part Number	Description	
14	9141-152-001	Escutcheon, Upper	1
15	9435-008-001	Trim, Overlay-Upper	1
16	9141-153-001	Escutcheon, Lower	1
17	9435-002-003	Trim, Overlay-Lower	1
*	9545-031-005	Screw	20
18	9412-084-002	Nameplate	1
*	9029-042-001	Bracket, Lint Drawer Lock	2
19	9866-003-008	Drawer Assembly, Lint-Upper	1
19	9435-003-007	Overlay Trim, Lint Drwr-Upper	1
20	9866-003-007	Drawer Assembly, Lint-Lower	1
20	9435-003-006	Overlay Trim, Lint Drwr-Lower	1
*	9805-027-002	Lint Screen Assembly	2
21	8650-012-003	Lock and Key, Lint Drawer	2
*	9306-025-001	Key	2
*	9095-041-001	Cam, Lock	2
22	9857-133-015	Controls Assy, Electronic Mounted With Membrane Switch	1
22	9801-064-001	Membrane Switch Assy	1
*	9627-677-001	Harness, Electronic Control	1
*	9627-676-001	Harness, Door Sw. & Coin Sw	1
23	8650-012-003	Lock and Key, Control	1
*	9306-025-001	Key	1
*	9095-041-001	Cam, Lock	1
*	8639-621-007	Screw, Green Grounding	1
*	9627-675-001	Harness, Heat Sensor	1
*	8652-130-037	Terminal, Grounding	1
*	9985-168-001	Bracket Ass'y Heat Sensor	2
*	9501-004-001	Sensor Temp Control	2
*	9545-005-005	Screw, Round Head	2
*	8641-582-014	Lockwasher	2
*	9209-037-002	Grommet, 3/16 ID	2
*	8544-005-000	Leg, Leveling	4
*	9074-261-001	Cover, Cabinet	1



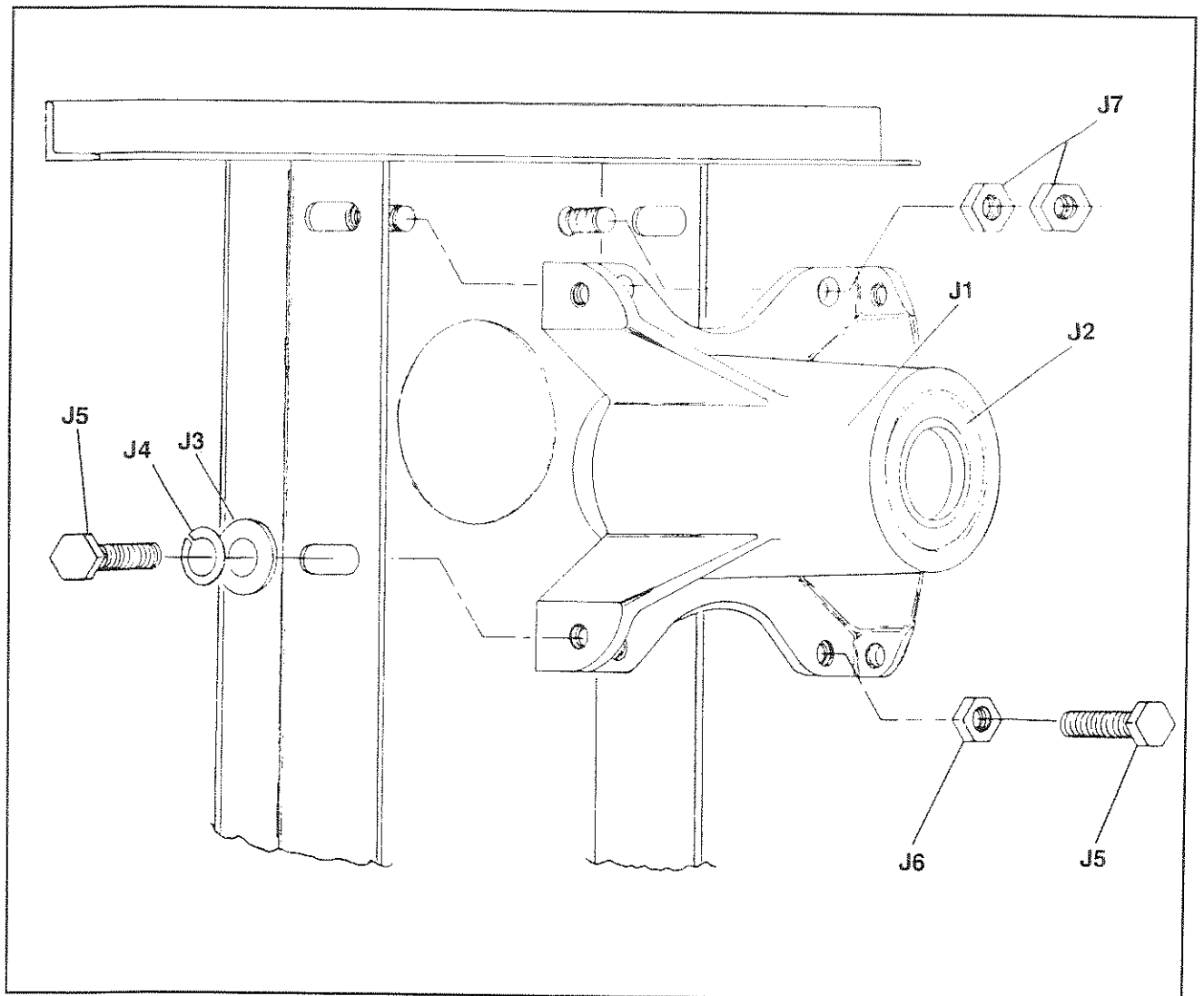
DOOR SWITCH GROUP

Key	Part Number	Description	
D1	9041-076-001	Box, Door Switch (Lower)	1
D1	9041-076-002	Box, Door Switch (Upper)	1
D2	9550-159-001	Shield, Door Switch	2
D3	9539-461-001	Switch, Door	2
D4	8640-401-001	Nut, Special Twin	2
D5	9074-255-001	Cover, Switch Box	1
D6	9545-008-020	Screw, Box Cover	2
D7	9008-004-001	Actuator, Switch- Lower	1
D7	9008-004-002	Actuator, Switch- Upper	1
D8	9545-020-001	Screw, Switch Mtg	4
D9	6068-041-001	Conduit, Lower Panel	1
D9	6068-043-001	Conduit, Upper Panel	1
D10	9545-012-003	Screw	2
D11	8640-413-004	Nut, Elastic Stop	2



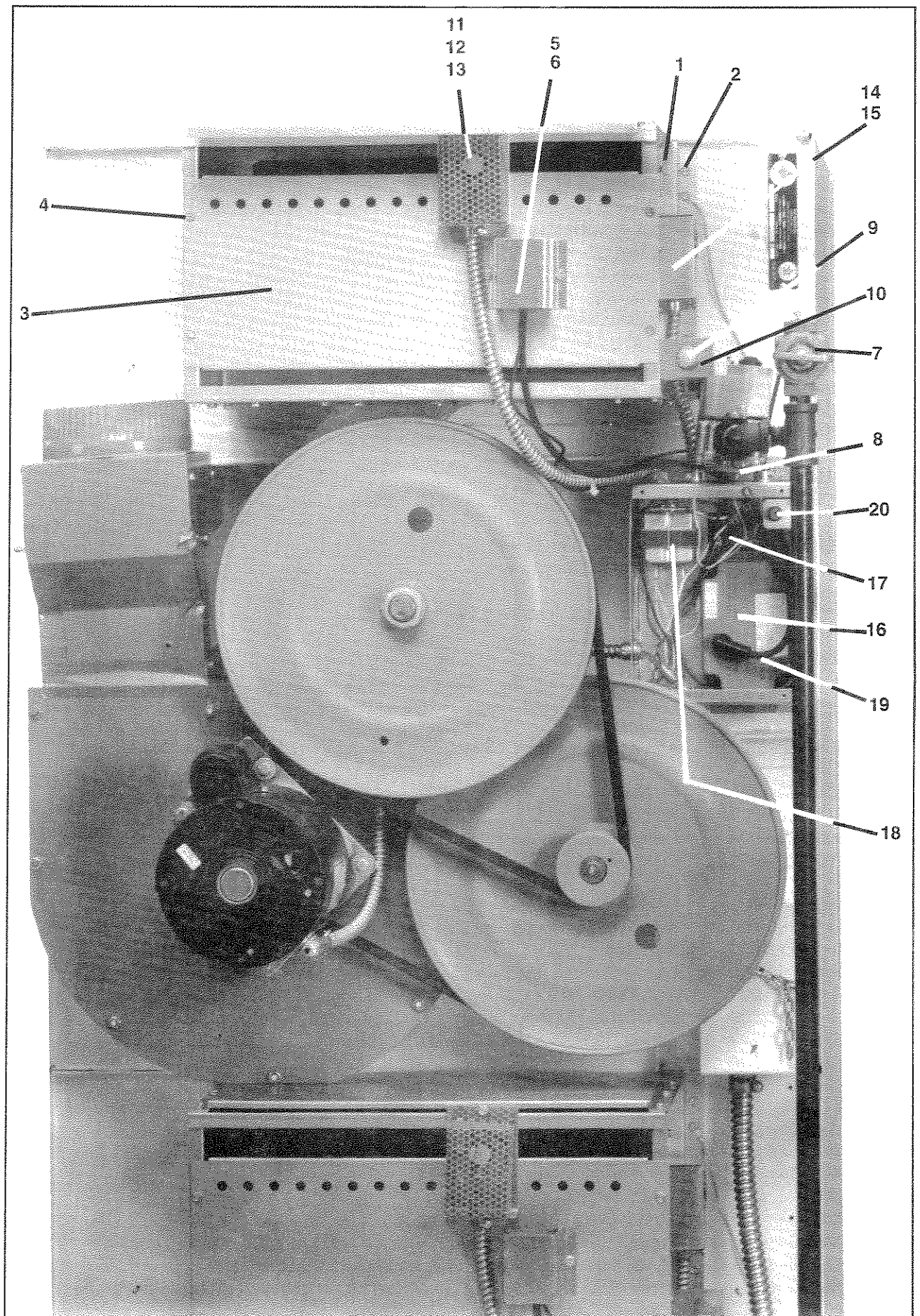
BEARING HOUSING GROUP

Key	Part Number	Description	
J1	9241-161-002	Housing, Bearing	2
J2	9036-130-001	Bearing, Ball	4
*	9538-139-002	Spacer, Bearing	2
J3	8641-581-009	Washer, Flat	8
J4	8641-582-003	Lockwasher	8
J5	9545-049-001	Screw, 3/8x1	12
J6	8640-415-002	Nut, 3/8	4
J7	8640-400-002	Nut, 5/16	8



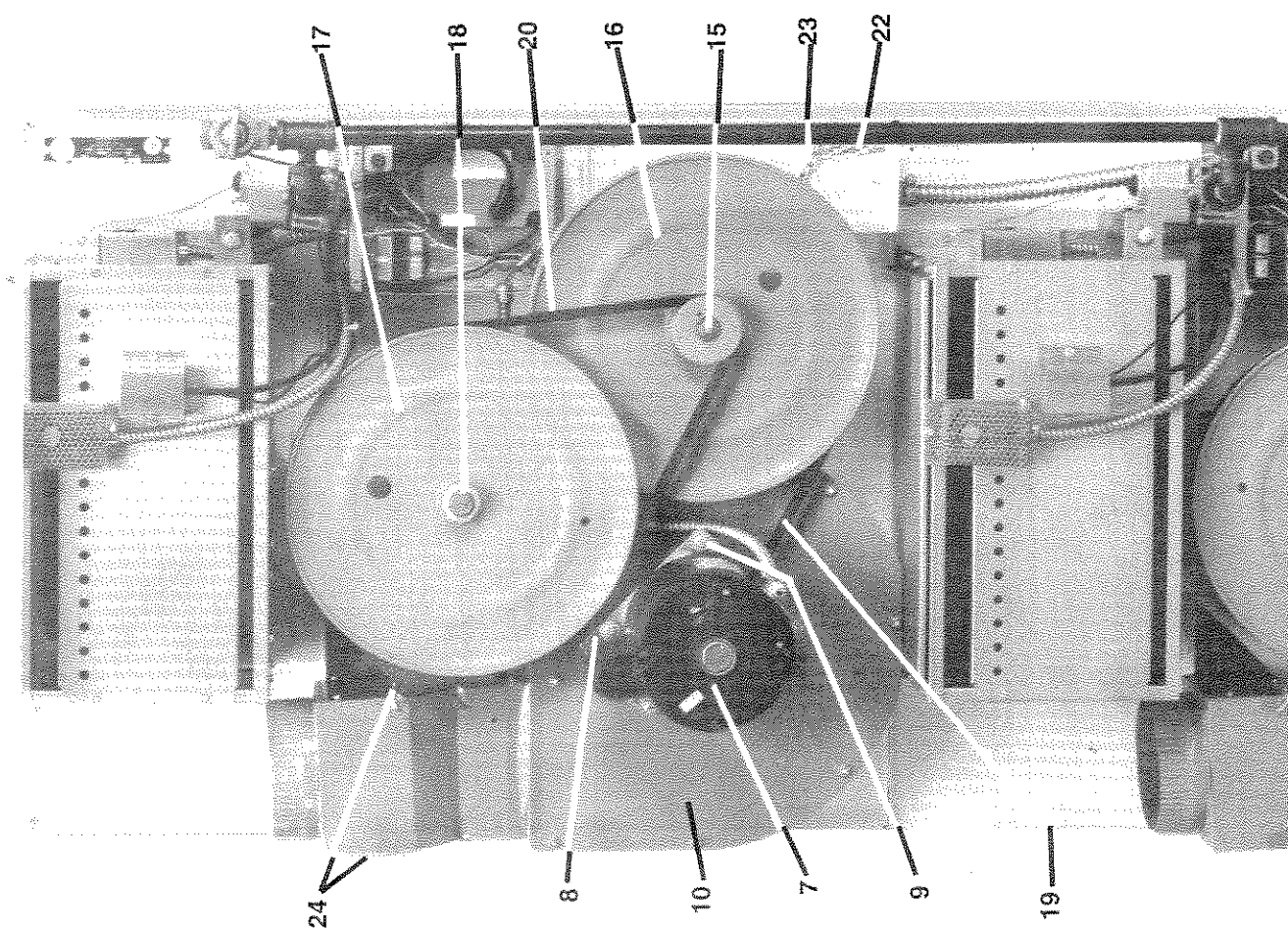
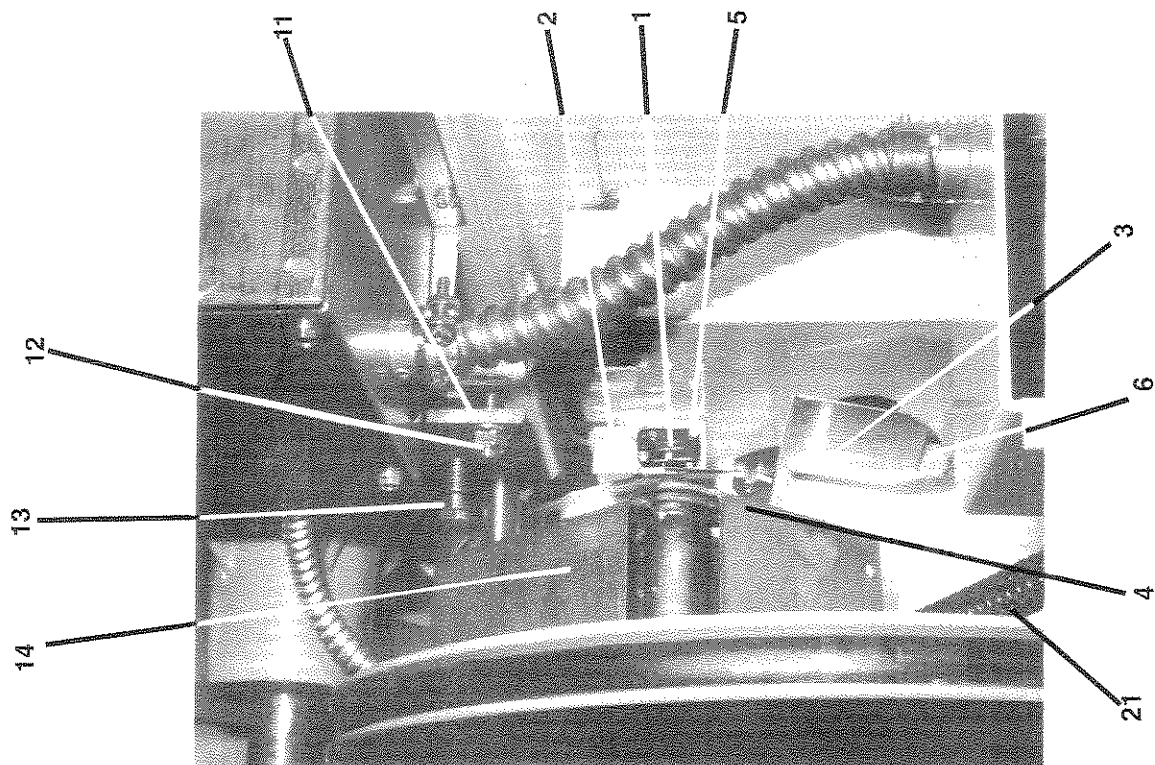
BURNER HOUSING GROUP

Key	Part Number	Description	
1	9803-185-001	Housing Assembly, Burner	2
2	9545-008-001	Screw	12
*	9003-220-001	Angle, Burner Support	2
*	9545-008-006	Screw	4
*	9048-020-001	Burner, Main	4
*	9545-008-006	Screw	4
3	9454-645-001	Panel, Back Burner Housing	2
4	9545-008-001	Screw	8
5	9875-002-002	Electrode Assy, Ignition	2
*	9545-045-001	Screw, Electrode Mtg	4
6	9550-172-001	Shield, Ignitor Terminals	2
7	9379-186-001	Valve, Gas Shut Off	1
8	9857-134-001	Control Assy, Gas	2
9	9381-009-001	Manifold, Assy	2
*	9425-069-007	Orifice, Burner-Natural	4
*	9425-069-008	Orifice, Burner-LP	4
10	9029-047-001	Bracket, Manifold	2
*	9039-915-001	Bracket, Inlet Pipe	2
11	9982-263-002	Plate Assy, Hi-Limit Stat	2
*	9545-008-006	Screw	4
12	9576-203-002	Thermostat, Hi-Limit	2
*	9538-142-001	Spacer, Hi-Limit	4
*	9545-045-007	Screw	4
13	9074-234-001	Cover, Hi-Limit Stat	2
*	9545-008-006	Screw	6
14	9576-207-008	Thermostat, Safety Shutoff	2
*	9545-008-006	Screw	4
15	9825-057-002	Cover, Safety Stat	2
*	9545-008-006	Screw	4
16	9857-116-002	Control, Ignition	2
*	9545-031-006	Screw	4
17	9897-026-001	Terminal Block	2
*	9545-031-004	Screw	4
18	8711-002-001	Transformer, Control	2
*	8640-397-002	Nut, Conduit	2
*	9039-915-001	Bracket	2
*	9545-008-006	Screw	4
19	9631-403-002	Wire, Hi Voltage	2
*	9627-678-001	Harness, Low Voltage Ignition	2
20	9200-001-002	Fuseholder	2
20	8636-018-001	Fuse	2
*	9074-263-001	Cover, Ignition Cntrl. Box	2
*	9545-008-006	Screw	8
*	9550-173-001	Shield, Burner Inlet	1
*	9732-102-002	Kit, LP Conversion	2



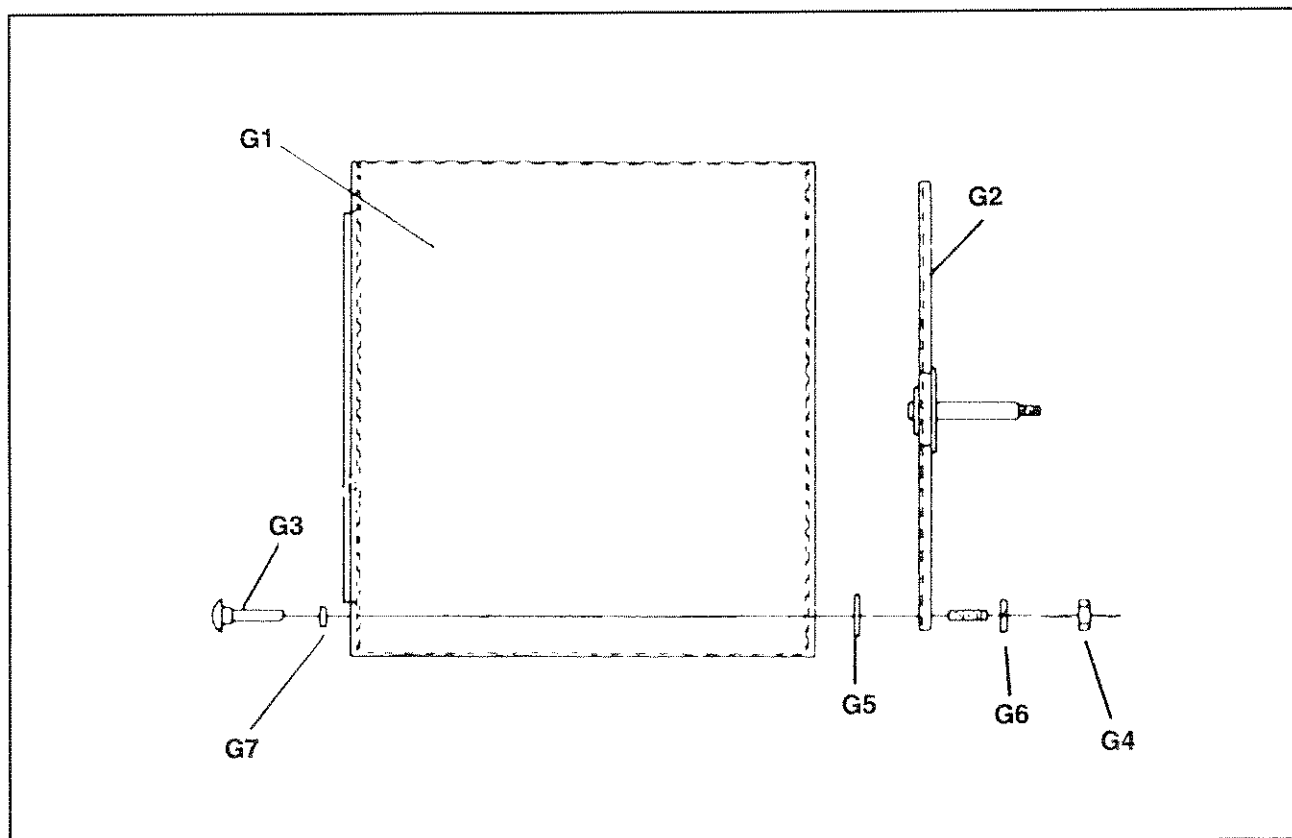
REAR VIEW

Key	Part Number	Description	
*	9801-060-001	Switch Assy, Air Flow	2
1	9539-461-005	Switch, Air Flow	2
2	9029-044-001	Bracket, Switch- Air Flow	2
3	9008-007-001	Actuator, Switch	2
4	9451-169-002	Pin, Cotter	2
5	9545-020-001	Screw	4
*	8640-401-001	Nut, Special Twin	2
*	9550-169-003	Shield, Switch	2
6	9029-046-001	Bracket, Actuator Stop	2
*	9545-008-001	Screw	4
7	9376-296-002	Motor, Drive	2
8	9452-609-001	Plate, Motor Mtg	8
*	8640-413-002	Nut, Motor to Plate	8
9	9545-018-019	Screw, Motor Plate to Hsg Back	8
9	8641-582-006	Lockwasher	8
9	9538-163-006	Spacer	8
*	9453-157-001	Pulley, Motor	2
*	9545-028-013	Screw, Set	4
10	9962-010-004	Back Assy, Blower Hsg	2
*	9278-039-001	Impeller, W/Set Screws	2
11	9991-053-001	Support Assy, Intermed. Pulley	2
12	9545-029-010	Bolt, Rd Hd	6
13	9545-029-003	Screw	2
12	8640-415-004	Nut	
12	8641-581-035	Washer, Flat	6
14	9861-022-001	Arm Assy-Tension, Complete	2
*	8641-581-035	Washer, Flat	2
15	9487-200-003	Ring-Retaining	10
16	9908-039-004	Pulley Assy, Intermediate	2
17	9908-040-001	Pulley Driven	2
*	9538-164-001	Spacer, Shaft	2
*	9306-006-000	Key, Tumbler Shaft	2
18	8640-222-000	Nut, Hex	2
18	8641-582-015	Washer, Lock	2
19	9040-077-001	Belt, Drive- Motor	2
20	9040-073-009	Belt, Drive- Tumbler	2
21	9534-319-002	Spring, Tension	2
22	9099-012-002	Chain, Tension	2
23	9248-022-001	Hook, Tension	2
*	9125-003-001	Damper	4
24	9451-146-004	Pin, Damper Hinge	4
*	8520-141-000	Nut, Spring	8
*	9208-048-001	Guard, Drive	2
*	9454-649-001	Panel, Drive Guard, RH	2
*	9989-444-001	Panel, Drive Guard, LH	2
*	9545-008-006	Screw	36



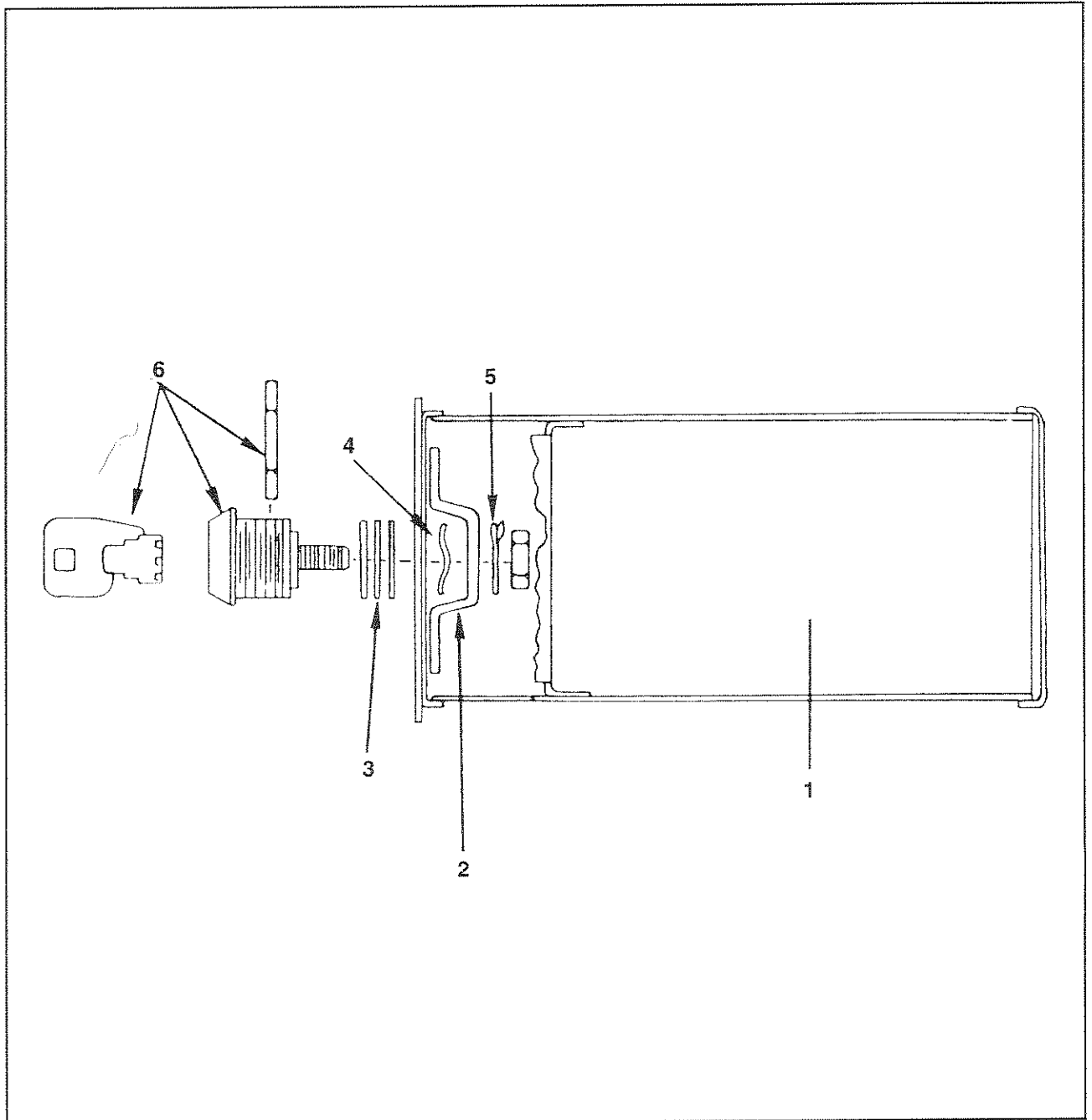
TUMBLER GROUP

Key	Part Number	Description	
G1	9848-112-001	Tumbler Ass'y	2
G2	9568-009-005	Spider Ass'y	2
G3	9497-019-003	Rod, Tumbler	6
G4	8640-415-001	Nut	6
G5	8641-582-003	Washer, Spring Lock	6
G6	8641-554-001	Washer, Special	6
G7	9552-013-000	Shim	AR



COIN BOX GROUP

Key	Part Number	Description	
*	9732-122-011	Kit, Coin Box and Hardware	1
1	9807-077-007	Box Assy, Coin	1
2	9349-033-001	Latch, Coin Box	1
3	8641-581-008	Washer, Latch Spacer-Thick	2
3	8641-581-010	Washer, Latch Spacer-Thin	4
4	8641-569-002	Washer, Wave	1
5	8641-583-001	Washer, Special Keeper	1
6	8650-012-002	Lock, Coin Box (includes key & nut)	1



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