cissell
MANUFACTURING COMPANY

OWNER'S MANUAL

"Slim 50" Lb. Laundry Dryer

MODELS

GAS		STEAM	ELECTRIC
L36???30G	L36???30G	L36???30S	L36???30E

CISSELL MANUFACTURING COMPANY
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THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER.

MAN3050 **11/96** **D0559**

IMPORTANT NOTICES—PLEASE READ

For optimum efficiency and safety, we recommend that you read the Manual before operating the equipment. Store this manual in a file or binder and keep for future reference.

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 or use gasoline or other flammable liquids or vapors in the vicinity of this or any other appliance.

- WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliances.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Clear the room, building, or area of all occupants.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach the gas supplier, call the fire department.**

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING: In the event the user smells gas odor, instructions on what to do must be posted in a prominent location. This information can be obtained from the local gas supplier.

WARNING: Wear Safety Shoes to prevent injuries.

WARNING: Purchaser must post the following notice in a prominent location:

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

WARNING: A clothes dryer produces combustible lint and should be exhausted outside the building. The dryer and the area around the dryer should be kept free of lint.

WARNING: Be safe, before servicing machine, the main power should be shut off.

WARNING: To avoid fire hazard, do not dry articles containing foam rubber or similar texture materials. Do not put into this dryer flammable items such as baby bed mattresses, throw rugs,undergarments (brassieres, etc.) and other items which use rubber as padding or backing. Rubber easily oxidizes causing excessive heat and possible fire. These items should be air dried.

WARNING: Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These fumes cause rusting of painted parts, pitting of bright or plated parts, and completely removes the zinc from galvanized parts, such as the tumbler basket. If drycleaning machines are in the same area as the tumbler, the tumbler's make-up air must come from a source free of solvent fumes.

WARNING: Do not operate without guards in place.

WARNING: Check the lint trap often and clean as needed but at least a minimum of once per day.

WARNING: Alterations to equipment may not be carried out without consulting with the factory and only by a qualified engineer or technician. Only **Cissell** parts may be used.

WARNING: Remove clothes from dryer as soon as it stops. This keeps wrinkles from setting in and reduces the possibility of spontaneous combustion.

WARNING: Be Safe - shut main electrical power and gas supply off externally before attempting service.

WARNING: Never use drycleaning solvents, gasoline, kerosene, or other flammable liquids in the dryer. ***FIRE AND EXPLOSION WILL OCCUR. NEVER PUT FABRICS TREATED WITH THESE LIQUIDS INTO THE DRYER. NEVER USE THESE LIQUIDS NEAR THE DRYER..***

WARNING: Never let children play near or operate the dryer. Serious injury could occur if a child should crawl inside and the dryer is turned on.

WARNING: Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer. These fibers cause skin irritation if they become mixed with other fabrics.

WARNING: Before operating gas ignition system - purge air from Natural Gas or Propane Gas Lines per manufacturer's instructions..

CISSELL DRYER WARRANTY

The Cissell Manufacturing Company (Cissell) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of two (2) years from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than two (2) years due to normal wear and tear, and with respect to all new repair or replacement parts for Cissell equipment for which the two (2) year warranty period has expired, or for all new repair or replacement parts for equipment other than Cissell equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Cissell in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

With respect to electric motors, coin meters and other accessories furnished with the new equipment, but not manufactured by Cissell, the warranty is limited to that provided by the respective manufacturer.

Cissell's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by Cissell's negligence or otherwise, shall be limited to Cissell repairing or replacing, at its option, any defective equipment or part returned f.o.b. Cissell's factory, transportation prepaid, within the applicable warranty period and found by Cissell to have been defective, and in no event shall Cissell be liable for damages of any kind, whether for any injury to persons or property or for any special or consequential damages. The liability of Cissell does not include furnishing (or paying for) any labor such as that required to service, remove or install; to diagnose troubles; to adjust, remove or replace defective equipment or a part; nor does it include any responsibility for transportation expense which is involved therein.

The warranty of Cissell is contingent upon installation and use of its equipment under normal operating conditions. The warranty is void on equipment or parts; that have been subjected to misuse, accident, or negligent damage; operated under loads, pressures, speeds, electrical connections, plumbing, or conditions other than those specified by Cissell; operated or repaired with other than genuine Cissell replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of Cissell; altered or repaired in any way that effects the reliability or detracts from its performance, or; which have had the identification plate, or serial number, altered, defaced, or removed.

No defective equipment or part may be returned to Cissell for repair or replacement without prior written authorization from Cissell. Charges for unauthorized repairs will not be accepted or paid by Cissell.

CISSELL MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, STATUTORY OR OTHERWISE, CONCERNING THE EQUIPMENT OR PARTS INCLUDING, WITHOUT LIMITATION, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR A WARRANTY OF MERCHANTABILITY. THE WARRANTIES GIVEN ABOVE ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. CISSELL NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

For warranty service, contact the Distributor from whom the Cissell equipment or part was purchased. If the Distributor cannot be reached, contact Cissell.

IDENTIFICATION NAMEPLATE

The Identification Nameplate is located on the rear wall of the dryer. It contains the dryer serial number, product number, model number, electrical specifications and other important data that may be needed when servicing and ordering parts, wiring diagrams, etc. Do not remove this nameplate.

TABLE OF CONTENTS
50 LB. LAUNDRY DRYER

SYMBOLS

The following symbols are used in this manual and/or on the machine. The numbers between () refer to the numbers on the machine surveys.

Symbol	Description	Part/Measurement
	**NOTE!**	
	**Hot! Do Not Touch** **Heiß! Nicht Beruhren** **Haute temperature! Ne pas toucher** **Caliente! no tocar**	
	**dangerous voltage** **tension dangereuse** **Gefährliche elektrische Spannung** **tension peligrosa**	
	**on** **marche** **Ein** **conectado**	
	**off** **arrêt** **Aus** **desconectado**	
	**start** **demarrage** **Start** **arranque de un movimiento**	
	**emission of heat in general** **êmission de chaleur en general** **Warmeabgabe allgemein** **emisión de calor**	
	**cooling** **refroidissement** **Kühlen** **enfriamiento**	

SYMBOLS

Symbol	Description	Part/Measurement
	**rotation in two directions** **rotation dans les deux sens** **Drehbewigung in zwei Richtungen** **movimiento rotativo en los dos sentidos**	
	**direction of rotation** **sens de mouvement continu de rotation** **Drehbewegung in Pfeilrichtung** **movimiento giratorio o rotatorio en el sentido de la flecha**	
	**End of Cycle**	
	**caution** **attention** **Achtung** **atencion; precaucion**	

UNPACKING

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

Upon locating permanent location of a unit, care should be taken in movement and placement of equipment.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tape, manuals, skid, etc

Leveling: Use spirit level on top of dryer. Adjust leveling bolts on dryer (see adjustable leveling bolts in maintenance section).

Check voltage and amperes on rating plate before installing the dryer.

GENERAL INSTALLATION (ALL DRYERS)

The construction of Cissell dryers permits installation side-by-side to save space or to provide a wall arrangement. Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material is 0" ceiling clearance, 0" rear clearance, and 0" side clearance.

Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.

IMPORTANT
Opening the clothes loading door deactivates the door switch to shut off the motors, fan, gas, steam, or electric element. To restart the dryer, close the door and press in the push to start button and hold briefly.

IMPORTANT
This dryer is designed for a capacity maximum load. Overloading it will result in long drying times and damp spots on some clothes.

IMPORTANT
Maximum operating efficiency is dependent upon proper air curculation. The lint screen must be kept cleaned daily to insure proper air circulation throughout the dryer.

IMPORTANT
Provide adequate clearance for air opening into the combustion chamber.

GENERAL INFORMATION

The Cissell Dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stop. You can expect fast drying from a Cissell Laundry Dryer. Hot, dry air is properly and effectively moved through the basket and exhausted through a lint trap to the atmosphere. The Cissell Dryer comes equipped with an inclined self-cleaning lint screen. In this system, lint accumulates on the underside of the screen until a blanket of lint will fall from the screen to the bottom of the dryer cabinet, and should be removed daily or as required, to prevent an over-accumulation.

IMPORTANT
Provide adequate clearance for air openings into the combustion chamber.

CISSELL "COOL-DOWN" CYCLE

Permanent press, durable press and other modern day fabrics require the care that your Cissell Laundry Dryers now provide. At the end of the drying cycle, a timed "Cool-Down" control automatically takes over and continues the rotation of the fan and basket without heat until the garment load reaches a safe cool temperature. This function is performed at the end of each drying cycle and continues for two minutes.

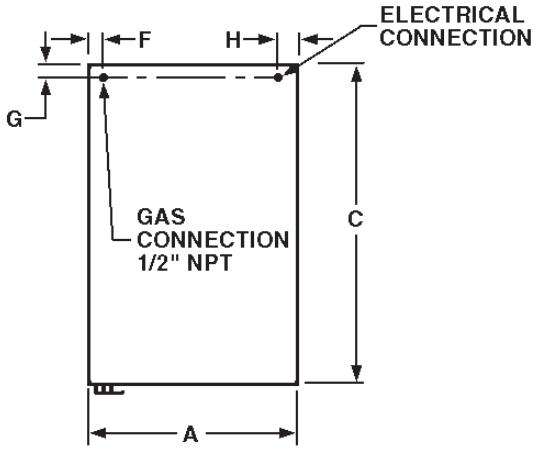
REPLACEMENT PARTS

Replacement parts for this dryer are available from your distributor or by contracting the factory at the address or phone number printed on the cover page of this manual.

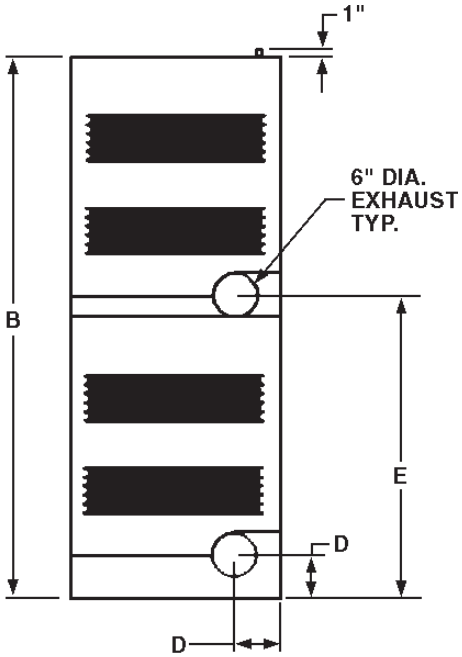
ONLY CISSELL PARTS SHOULD BE USED.

LEVELING

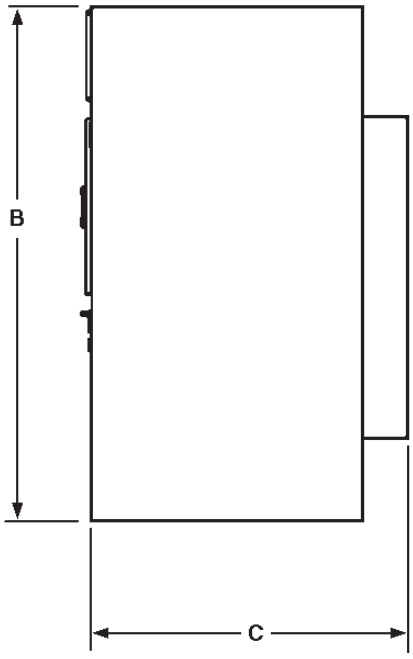
All electrical, gas and vent ducts should be in place and ready for hook-up before the dryer is moved into position. Level dryer from side to side. It is recommended that the dryer be tilted back approximately 2-3 degrees. To raise the dryer at any given corner, turn adjusting screw clockwise; to lower, turn counter-clockwise.



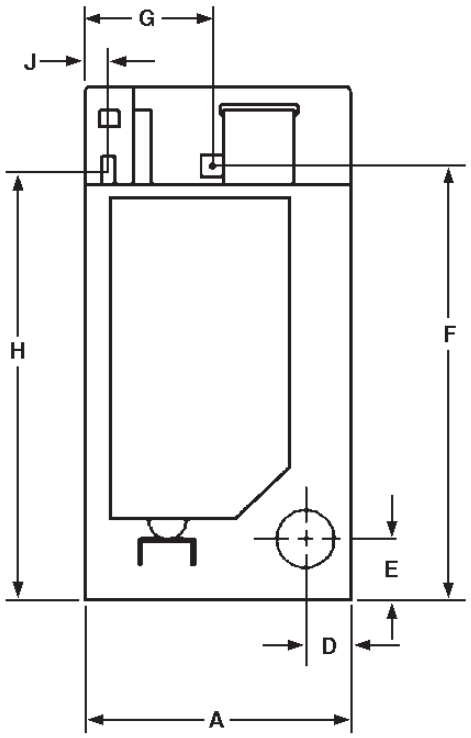
TOP VIEW



REAR VIEW



SIDE VIEW



REAR VIEW

GENERAL SPECIFICATIONS FOR "SLIM 50" LB. LAUNDRY DRYERS

Maximum Capacity ..... 50 lbs. (22.68 kg)
(Dry Weight)

Basket Diameter ..... 33" (83.82 cm)

Basket Depth ..... 32" (81.28 cm)

Motor ..... *Non-Reversing:* 1/2 HP
..... *Reversing:* 1/2 HP

Air Flow ..... 775 CFM

Door Opening ..... 22-5/8" (72.71 cm)

Approximate Weight ..... *Non-Reversing:* 510 lbs (231.33 kg)
..... *Reversing:* 550 lbs (249.48 kg)

Approximate Shipping Weight .. *Non-Reversing:* 550 lbs (249.48 kg)
..... *Reversing:* 590 lbs (267.62 kg)

Exhaust Diameter ..... 8" (20.32 cm)

Cabinet & Connection Dimensions:

A = Width ..... 34-3/4" (88.27 cm)
B = Height ..... 75-1/4" (191.14 cm)
C = Depth ..... 49-1/4" (125.1 cm)
D = Exhaust ..... 5-1/2" (13.97 cm)
E = Exhaust ..... 12-3/4" (32.39 cm)
F = Gas Conn. ..... 67-1/4" (170.82 cm)
G = Gas Conn. ..... 12" (30.48 cm)
H = Elec. Conn. ..... 60-1/2" (153.67 cm)
J = Elec. Conn. ..... 2-1/2" (6.35 cm)

Heat Input:

Standard Gas ..... 125,000 BTU/hr

Electric ..... 25 KW

Steam ..... 120,000 BTU/hr

Electric Dryer Specifications

Heater Output (Kilowatts)	Design Voltage (Volts)	Phase	Element Voltage (Volts)	Max Line Current (Amperes)	*Wire Size
25	208	1	208	125	0
25	240	1	240	109	1
25	208	3	208	79	2
25	240	3	240	69	3
25	380	3	240	43	6
25	415	3	240	47	6
25	480	3	240	41	8

Gas Dryer Specifications

Motor Horsepower	Volts	Cycle	Phase	Amps	RPM	Temp Rise °C	Heat Input BTU/HR
1/2	115	60	1	8.6	1725	40	125,000
1/2	230	60	1	4.3	1725	40	125,000
1/2	230	50	1	4.6	1425	50	125,000
1/2	220	60	3	1.9	1725	40	125,000
1/2	220	50	3	1.9	1425	40	125,000
1/2	380	50	3	1.1	1425	40	125,000
1/2	415	50	3	1.1	1425	40	125,000

Steam Dryer Specifications

Motor Horse Power	Volts	Cycle	Phase	Amps	RPM	Temp Rise °C	Pounds Steam Condensate	Boiler H.P. Normal Load	Heat Input BTU/HR
1/2	115	60	1	8.8	1725	40	100	3.5	120,000
1/2	230	60	1	4.4	1725	40	100	3.5	120,000
1/2	230	50	1	5.2	1425	50	100	3.5	120,000
1/2	220	60	3	2.0	1725	40	100	3.5	120,000
1/2	220	50	3	2.0	1425	40	100	3.5	120,000
1/2	380	50	3	1.2	1425	40	100	3.5	120,000
1/2	415	50	3	1.1	1425	40	100	3.5	120,000

GENERAL INSTALLATION

The dryer, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code. ANSI/NFPA No. 70 - Latest Edition, or in Canada, with the Canadian Electrical Code, Part 1. The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 - Lastest Edition or, in Canada, with CAN 1-B149. 1 & 2 installation codes for gas burning appliances.

UNPACKING

Your dryer is delivered bolted to a skid, covered with a polyethylene protective cover and stretch wrapped.

1. An envelope with keys will be found in the drying cylinder. Unlock and open the lint compartment door, unscrew the four bolts holding dryer on skid.
2. Remove shipping blocks from between front panel and basket.
3. Slide dryer off the skid and put into position.

CONSTRUCTION CLEARANCES

Before proceeding with installation, check the rating plate on back of dryer to confirm information on minimum clearance to combustible construction. The following minimum clearance with regard to combustible contruction must be maintained:

1” from right or left side of dryer
6” from top of dryer
0” from rear of dryer
2” from exhaust ducting

When dryer in installed flush with and protruding thru a wall, the front 4 inches may contact combustible construction. However, from a point 4 inches from the front toward the rear, clearance must be 1 inch as stated above.

LOCATION

For most efficient operation, best placement of dryers is where exhaust duct length can be kept to a minimum and where the least number of fittings are required. This will assure full exhausting, faster drying and easier load on motors.

NOTE

NOTE:

Do not install or store dryer in an area where it will be exposed to water and/or weather.

LEVELING

All electrical, gas and vent ducts should be in place and ready for hook-up before the dryer is moved into position. It is important that the dryer be level from side to side. It is recommended that the dryer be tilted back approximately 2-3 degrees. The front leveling legs can be adjusted with a screwdriver from inside the lint compartment. The rear leveling legs can be adjusted from behind the dryer. To raise dryer at any given corner, turn adjusting screw clockwise; to lower turn counterclockwise.

DUCTING

If practical, provide a separate duct for each dryer, the shorter the better. Diameter of duct should be at least the same as exhaust collar on dryer. It may be larger but it should never be smaller. Run ducts directly as possible to the outside of building. For any necessary turns, use 30 or 45 degree elbows or large-radius 90 degree sweeps elbows.

If duct terminates horizontally outside a wall, attach a 90 degree sweep elbow pointing down. If it terminates vertically thru roof, attach a conical hood or a 180 degree sweep elbow. For proper exhaust clearances, distance between mouth of terminal duct and conical hood or roof surface must be at least equal to twice the duct diameter.

For a bank or dryers it may be advantageous to install a main collector duct with all dryer ducts entering collector at a 45 degree angle in the direction of exhaust air flow. Cross-section area of collector must exceed the sum of cross-section areas of all entering ducts.

More detailed ducting information can be obtained, if necessary, directly from Cissell Manufacturing directly.

TO PUT YOUR GAS DRYER INTO OPERATION

Unlock and raise control door and prop it in raised position. Visually check for loose wires and miscellaneous material.

Secure upper compartment. Load cylinder with clothing to be dried. Close door firmly. The door is held closed by two heavy duty magnets. A switch operated by opening and closing the door provides a safety control. Dryer will run only when loading door is closed.

Select proper dryer temperature by positioning thermostat knob indicator at desired temperature: High (heavy items, jeans, towels), Medium (middleweight garments), Low (permanent press items). CAUTION: Do not mix loads heavy and light items, as lighter garments will dry faster and will be subject to scorching.

Deposit proper coin in coin meter. The red machine on light will go on and remain on until the end of the time cycle. Push the "Push to Start" switch to start the basket rotating. Once the motor gets up to speed and proper air flow thru the dryer is achieved the ignition system will be energized and the burner will be lit.

Normally, dryer operation will continue uninterruptedly thru the time cycle determined by coin or coins deposited. However, opening loading door will interrupt motor and gas heater circuits. Whether door is closed or open, the signal will remain on and the time cycle will continue independently or the interruption. At expiration of the time purchased, the coin meter will shut down entire machine.

THERMOSTATIC CONTROLS*

The THERMOSTAT maintains temperatures within desired limits in the drying cylinder, to protect clothes from scorching and shrinkage. It does this by means of a liquid-filled sensing bulb which "sees" gas-on and gas-off temperatures and averages the two to come out with desired "set" temperature. Factory-set temperature range can be charged by adjusting the thermostat set screw.

HIGH TEMPERATURE LIMIT control switch is located in top of burner box housing. It will break circuit to gas valve if insufficient air is being drawn in over gas flame, and shut gas off. Lack of air flow would make burner areas excessively hot and activate high limit control switch.

All dryers are further equipped with a second high limit temperature switch located under the tumbling cylinder, adjacent to the thermostat temperature sensing bulb. This switch will function if the thermostat temperature control should fail.

*Robertshaw KX 20-72 up to 8/87
Eaton 275-2859-00 9/87 to 5/94
Robertshaw KX 446-96 6/94 to Present

IMPORTANCE OF FREE AIR FLOW

Anything that restricts free flow of air thru the dryer can cause the high-limit switch to function. To be sure maximum air flow is being obtained, check the following:

1. Is lint screen clean?
2. Is lint door tightly closed?
3. Is air exhaust duct clean and free from obstructions?
4. Is duct itself itself properly installed, with a minimum run and minimum friction caused by elbows and other fittings?
5. Is blower impeller assembly operating properly?

When burner compartment has cooled down after a high-limit cutoff, the limit switch will re-set itself and gas will come on again. If the problem has been cleared up, gas will remain on without further interruption.

LINT SCREEN

The lint screen is accessible thru bottom door on front of dryer. On all model dryers the lint door has a safety interlock switch which prevents machine operation unless the door is closed. The lint screen allows lint to fall to base of machine for ready removal. Do not brush or remove screen. A build-up of lint on the screen will drop off by itself between cycles, when heavy enough. A slight accumulation of lint around edges of screen helps seal it and prevent lint by-pass.

Removal of lint from base of machine at regular and frequent intervals will help keep dryer operating at top efficiency.

IMPORTANT
Excessive buildup of lint in the compartment can materially effect efficiency of dryer and create a hazardous condition.

DRYING PERFORMANCE

Drying performance depends on many variable factors, any one of which can materially affect drying:

1. Prior to drying, the washer-extractor should have removed maximum amount of water from wash load.
2. Gas line must be of adequate size.
3. Dryer must be burning rated volume of gas at burner.
4. Air flow thru dryer must be at full volume.
5. Cylinder must not be overloaded.
6. Air duct must be of ample diameter, short as possible in length, with a minimum of friction-causing elbows, tees and caps.
7. Lint screen must be kept clean.
8. Make-up air must be adequate to replace air being vented out of building by dryers.

If all these conditions are met and checked regularly, your dryer's performance can be maintained at a constant high level of efficiency.

"BROWNING" OF GARMENTS

"Browning" of garments is rarely the direct fault of the dryer. It is usually the result of over-soaping or improper rinsing in the washer. Soap deposits remaining in clothes tend to turn whites slightly brownish at drying temperatures. This discoloration can usually be washed out by running clothes thru washer again with a little bleach and no soap added.

DAMAGE TO CLOTHES

Damage to clothes dried in this machine may sometimes result from improper installation or misuse of dryer or from the presence of materials in the load not suited to machine drying. We cannot assume responsibility for such damage, and we especially advise you to post a warning to users to the effect that plastic or rubberized articles should not be placed in the dryer.

PERCHLORETHYLENE VAPORS

Perchlorethylene vapors drawn into a clothes dryer thru heater flame can decompose into strong acid vapors. These vapors are damaging both to the dryer itself and to the clothes being dried. If drycleaning equipment is located in the same area as dryers, isolate make-up air source by partitioning it off from main area.

GAS INFORMATION

Cissell recommends that its gas dryers (except butane or propane units) be connected with 1/2" nominal pipe size. Larger pipe than this may be required, depending on length of pipe run and number of dryers to be connected. Your plumber or gas supplier can size these pipe layouts properly.

The dryer and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of system at test pressures in excess of 1/2 PSIG.

The dryer must be isolated from, the gas supply piping by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG.

FOR MULTIPLE INSTALLATIONS

For multiple installations it is recommended that dryers be connected to a continuous "loop" manifold. This will reduce possibility of successive pressure drops in gas manifold. It should be borne in mind that proper drying depends on adequate gas combustion at burner, factors affecting gas combustion are: size and length of gas supply line, number of pipe fittings, pipe line friction, gas manifold pressure, gas-air mixture.

MAIN GAS SHUT-OFF

A main gas shut-off ("A" cock) and union should be installed in the gas supply line coming into dryer. This will permit shutting off gas completely, outside the dryer, for periodic or temporary shutdowns, servicing or disconnecting dryer.

MAIN GAS VALVE

The main gas valve already installed in each dryer includes a gas pressure regulator section and an electric solenoid operator valve section. Gas pressure is reduced in this regulator to 3-1/2" water column pressure, except in the case of propane or butane gas. If either or these gases are to be used, the valve must be converted to propane and the regulator resent to 11" water column pressure.

ORIFICE SPUDS

Main burner nozzle fittings are sized for the particular gas dryers are to operate on, and are removable.

ROTATING AIR SHUTTERS

Rotating ait shutters on main burner can be moved in either direction until the best-appearing flame (mainly blue) is obtained. Open air shutter to increase air input, close to reduce air input. Avoid mixing intoo much air; it will make some gases to snappy and unstable. Natural gas and gases having a higher BTU/CF content will not be subject to this condition.

Following are possible gas malfuctions and probable causes:

1. **Main burner solenoid chatters or does not open:** Cause may be excessive gas pressure, low voltage or improper voltage.
2. **Available dryer heat fails to dry clothes:** Gas pressure may be too low or size of gas supply line may be inadequate.

IMPORTANT

IMPORTANT

Upon completion of installation and connection of dryer to gas line, all gas connections should be checked for leaks. **WARNING: DO NOT USE A FLAME FOR SUCH A TEST.** This check should be made with a soap solution or other suitable leak detector. Whenever working on dryer, gas should be turned off at shut-off valve. All adjustments should be made after dryer has been operated for at least 15 minutes.

ELECTRICAL INFORMATION

The Cissell dryer comes to you completely wired in accordance with electrical specifications appearing on data tag. It is necessary only to connect proper electric service to junction box on the back of dryer.

All Cissell dryers have built-in over-current protection for motor circuits. This protection will prevent burnouts due to voltage that is too low or even too high, or due to high ambient temperatures surrounding motor. Should voltage problems exist, contact the local power company to be certain that power supplied is adequate.

An installation properly installed by a licensed electrician can prevent problems. Inadequate wiring and loose connections can be a source of frequent power interruptions caused by motor protectors. Avoid confined installations that prevent proper ventilation around motors. Locating make-up air vents at level of motors serves to cool the motors and warm the air rising past exhaust ducts and back of machines.

Use adequate wire size in making connection to dryer. Number 12 wire is recommended. Voltage drops will be minimized with this size wire. Number 18 wire lamp cords are definitely inadequate.

The dryer cylinder rotates in a counter-clockwise direction when viewed from rear of dryer. (See arrow marked marked above 18" drive pulley) This direction must be set up properly on three-phase dryers; just interchange any two leads to change rotation direction.

When an electrical component requires service, contact Cissell for instructions on what to do or where to send it. Electric motors are usually repairable at all electric motor repair centers throughout the country. We cannot accept responsibility for unauthorized repair charges. See terms of warranty in this manual. Electric motor repair center location information is available from Cissell upon request

IMPORTANT NOTICE

IMPORTANT NOTICE
This machine must be electrically grounded when installed if an external source is utilized. The grounding should be done according to best commercial practice and in compliance with the National Electical Code USAS-C1 Section on "Branch Circuit Grounding Conductors to Metallic Boxes." In Canada installation must be in accordance with the current CSA C22.2 Canadian Electrical Code Part 1.

LUBRICATION

Trunion bearings on some dryers are sealed and require no lubrication. The idler shaft fitting should be greased at least every three months, with any good grade automotive bearing grease in the 285 degree range. All motors have sealed bearings and require no lubrication.

THERMOSTATS

The thermostats furnished on Cissell dryers is of snap-action, single-pole design, direct-acting (opens or "breaks" circuit on temperature rise).

Gold contacts and heavy-duty terminals assure durability and sustained accuracy. The power element - a stainless steel diaphragm with a capacity tube and bulb filled with a liquid having a high coefficient of expansion - provides extreme sensitivity to temperature fluctuations, operates within very close temperature differential.

HOW TO CHECK CALIBRATION AND RECALIBRATE

Each thermostat is adjusted at the factory and calibrated on precision instruments to control temperatures accurately. Adjustment or recalibration is not needed unless the thermostat has been mishandled in transit, or changed or abused while in service.

To Check Calibration:

1. Use a thermocouple tester. Clip the sensor to the thermostat bulb located under the tumbling cylinder, to determine the drying temperature.

2. Turn the dial of the thermostat to the "high" temperature setting, which is set by the factory.

3. Allow enough time for temperature to stabilize, or until several temperature readings are identical. A load of rags in the tumbling cylinder will help to limit the temperature override.

4. CAUTION: Do not attempt to calibrate thermostats without first consulting factory. Doing so could result in extremely high temperatures which could damage garments.

TUMBLING CYLINDER BEARINGS

How to Mount Replacement Units:

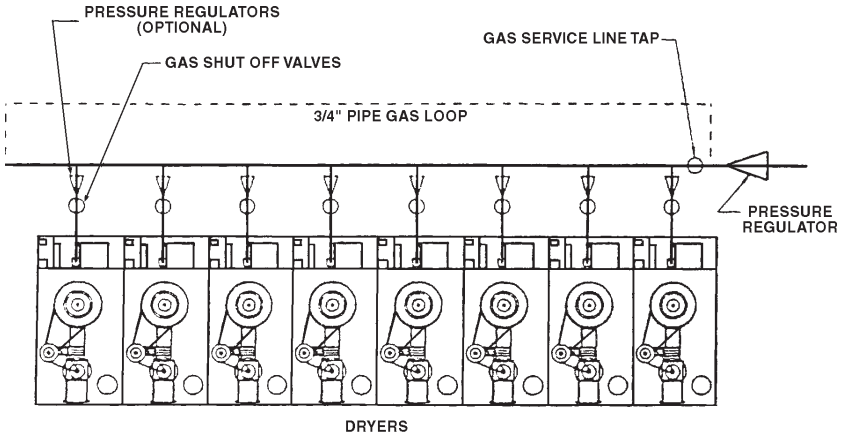
1. Check cylinder shaft. Shaft must be clean, round, straight, free of burrs and nicks, and of correct size. Shaft fit should be as snug as practicable.

2. Slide bearings onto shaft and tighten mounting bolts "finger tight".

3. Locate shaft in desired axial position and fasten collar on one bearing only. Run machine for 3 to 5 minutes.

4. Tighten all set screws on each collar as tight as possible: 35 inch pounds on the 1" bearing is recommended, and 75 inch pounds on the 1-3/8" bearing is recommended.

5. Check shaft for freedom of rotation. Apply final tightening torque to mounting bolts.



TYPICAL GAS INSTALLATION

Cissell recommends that its gas dryers (except butane or propane units) be connected with 3/4" nominal pipe size. Larger pipe than this may be required, depending on length of pipe run and number of dryers to be connected. Your plumber or gas supplier can size these pipe layouts properly.

The dryer and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of 1/2 PSIG.

The dryer must be isolated from the gas supply piping by closing its closing its individual manual shut-off valve during any pressure testing of the gas supply system at test pressures equal to or less than 1/2 PSIG.

MULTIPLE INSTALLATIONS

For multiple installations, it is recommended that the dryers be connected to a continuous "loop" manifold. This will reduce possibility of successive pressure drops in the gas manifold. It should be borne in mind that proper drying depends on adequate gas combustion at the burner. Factors affecting gas combustion are: size and length of gas supply line, number of gas fittings, pipe line friction, gas manifold pressure, gas-air mixture.

MAIN GAS SHUT-OFF

("A" cock) and union should be installed in the gas supply line coming into the dryer. This will permit shutting off gas completely, outside the dryer, for periodic or temporary shutdowns, servicing or disconnecting the dryer.

MAIN GAS VALVE

The Main Gas Valve already installed in each dryer includes a gas pressure regulator section and an electric solenoid operator valve section. Gas pressure is reduced in this regulator to 3-1/2" water column pressure, except in the case of propane or butane gas. If either of these gases are to be used, the valve must be converted to propane, and the regulator reset to 11" water column pressure.

ORIFICE SPUDS

Main burner nozzle fittings are sized for the particular gas dryers are to operate on, and are removable.

ROTATING AIR SHUTTERS

Rotating Air Shutters on the main burner can be moved in either direction until the best-appearing flame (mainly blue) is obtained. Open the air shutter to increase air input, close to reduce air input...Avoid mixing to too much air; it will make some gases too snappy and unstable. Natural gas and gases having higher BTU/CF content will not be subject to this condition.

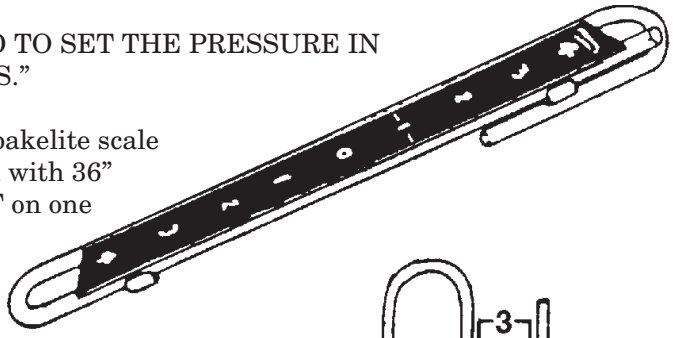
IMPORTANT

Upon completion of the installation and connection of the dryer to the gas line, all gas connections should be checked for leaks. **WARNING: DO NOT USE A FLAME FOR SUCH A TEST**. This check should be made with a soap solution or other suitable leak detector. Whenever working on the dryer, gas should be turned off at the shut-off valve. All adjustments should be made after the dryer has been operated for at least 15 minutes.

HOW TO USE SID HARVEY'S® MANOMETER "U" GAGE

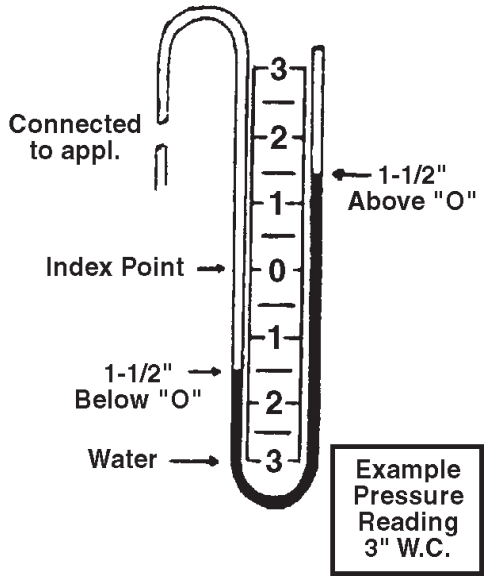
A SIMPLE, ACCURATE INSTRUMENT USED TO SET THE PRESSURE IN "APPLIANCE GAS PRESSURE REGUALTORS."

Tubing is unbreakable plastic with adjustable bakelite scale graduated in inches and tenths. It is furnished with 36" rubber tubing with reversible fitting. 1/4" MPT on one end and special thread for connecting to refrigeration burner on the other.



HOW TO INSTALL

Fill water to "O" point on scale. Connect fitting on of rubber tubing to any convenient tapping located "down stream" of the regulator. Turn on appliance. Reading must be taken with gas flowing through through appliance. The gas pressure in inches of water column (Ins. W.C.) is the sum of the inches shown above the "O" point and that shown below the "O" point. See illustration.



PRESSURE CONVERSION FACTORS		
TO CONVERT FROM:	TO:	MULTIPLY BY:
Inches of Water Column (Ins. W.C.)	Ounces per square inch	0.5774
Ounces per square inch (oz./Sq.In.)	Inches of Water Column	1.7320

AVAILABLE AT ALL SID HARVEY STORES

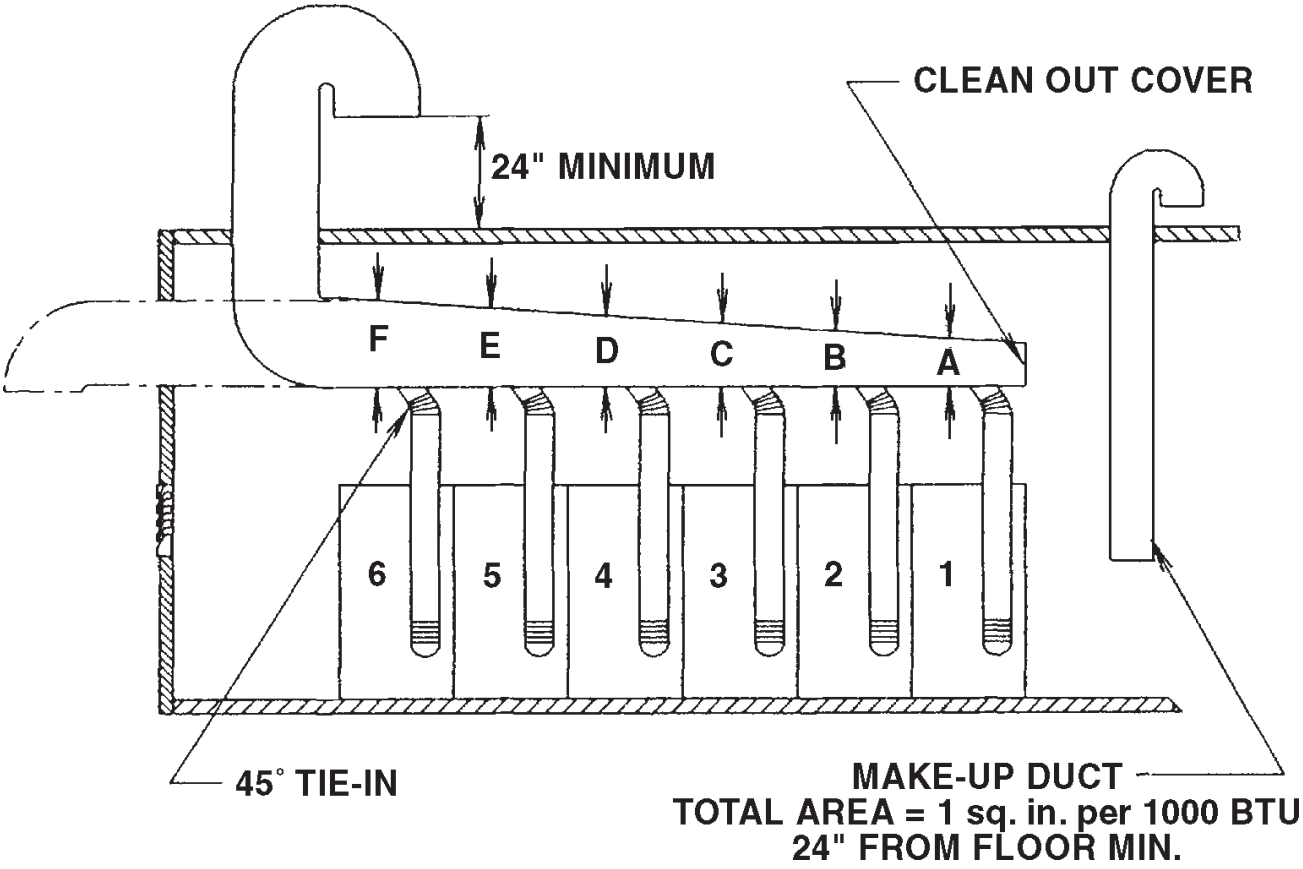
SID HARVEY'S®

To test dryer exhaust duct static pressures using the manometer (described above), punch a hole in the exhaust duct (using a sharp instrument) large enough to insert sampling tube about one inch into the duct. Make the hole approximately 6 to 12 inches from the exhaust collar of the dryer and in a straight length of duct. The sampling tube should be held as near to 90 degrees with respect to the axis of the duct as possible.

With the manometer in this position, start dryer and observe the displacement of the water levels as described above. If a multiple-dryer manifold duct is being checked, then all dryers should be running when test is made. Also check static pressure at each dryer in the manifold duct is being checked, then all dryers should be running when test is made. Also check static pressure at each dryer in the manifold duct.

If the static pressure exceeds 0.30" W.C. on any dryer, duct improvements should be considered, particularly a duct fan.

MULTIPLE VENTED INSTALLATION



NOTE:

AIR MUST ALWAYS BE GIVEN DIRECTION.

# of Dryers in Line	Station on Duct	Diameter of Dryer Exhaust Duct	
		6" Duct	8" Duct
		Duct Diameter at Station	
1	A	6"	8"
2	B	9"	12"
3	C	11"	14"
4	D	13"	16"
5	E	14"	18"
6	F	16"	20"
7	G	17"	21"
8	H	18"	23"
9	J	19"	24"
10	K	20"	26"
11	L	21"	27"
12	M	22"	28"

EXHAUST AND VENTING

The common exhaust duct and all dryer pipe must conform to the following:

1. Inside of ducts must be smooth.

2. Use rust resisting duct material.

3. Insulate ducts when passing through walls or cold areas, to eliminate condensation in ducting which collects lint.

4. **NEVER** exhaust dryers into a chimney.

5. Don't put a damper or a screen in ducts. (They catch and hold lint.)

6. Keep the main exhaust duct and all dryer ducts clean.

The main exhaust duct must conform to the following:

1. The main duct must have a "Clean Out Cover".

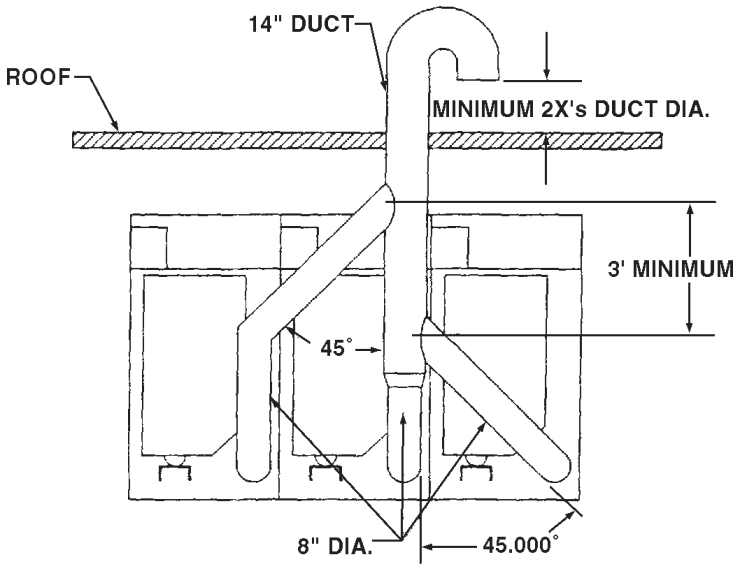
2. An "Auxiliary Fan" is recommended for maximum efficiency of the operation and is a must when the main duct is more than 20 feet from the dryer installation.

3. The output of the auxiliary fan should be approximately the total CFM of the number of dryers being exhausted.

The exhaust duct from the dryers must conform to the following:

1. Dryer exhaust duct must enter the main exhaust duct at a 45 degree angle in the direction of the flow, **NEVER** at right angles.

2. Use short runs of ducts and as few elbows as possible.



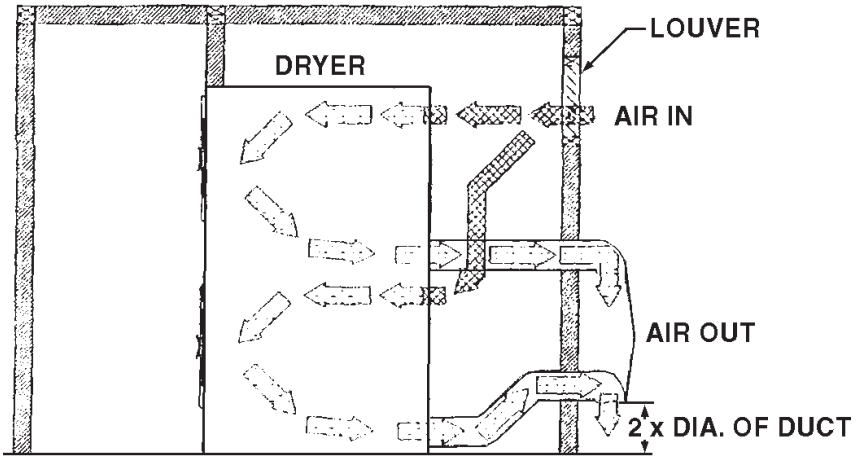
NOTE: Ducts must not enter the common duct at more than 45 degrees. Never place 2 auxiliary duct entrances opposite each other. Observe minimum distance above.

EXHAUSTING

If practicable, provide a separate duct for each dryer, the shorter the better and with a minimum number of fittings. The diameter of the duct should be at least the same as the exhaust collar on the dryer. Improperly sized ducts will create excessive back pressure which results in slow drying, increase in energy usage, overheating of the dryer and possible dryer damage.
If individual ducting is not possible, install a long tapered main connector duct. Individual tumbler ducts enter the main connector duct at a 45 degree angle in the direction of exhaust flow. The diameter of the main connector duct progressively increases as more dryers are added (refer to illustration).

DESIGN GUIDE

Shape of duct is not critical if the cross section area is maintained.
Use rust resistant duct material.
Inside of duct should be smooth with no sheet metal screws protruding.
Overlap all joints.
Tape all joints to avoid air loss and to avoid condensation.
Install several clean-out and inspection doors.
Do not exceed 20 feet of duct work.
Do not use 90 degree turns, use 30 degree or 45 degree instead.
Duct should have two (2") inches of clearance (all around) when they go through a wall.
Insulate ducts passing through walls or cold areas.
Horizontal ducts exiting a building should terminate with a 90 degree elbow bent downward. Do not put screening or cap over the end of the duct. Minimum clearance from the end of the 90 degree elbow to ground should be 2x duct diameter.
Vertical ducts exiting through a roof should terminate with a 180 degree elbow turn downward. Do not put screening or a cap over the end of the duct. Minimum clearance from the end of the 180 degree elbow to the roof level should be 2x the duct diameter.
Do not vent into enclosed spaces i.e. an attic. Venting must be to the outdoors.



SECTIONAL SIDE VIEW OF ROOM

FRESH AIR
HEATED AIR

NOTE: Air must always be given direction.

MAKE-UP AIR

The need for make-up air gas dryers is understood, but the need for electric and steam dryers seems to surprise some people, including architects and construction experts. Since there is no air need for combustion, there are no codes available to govern the air requirements of the laundry room equipped with electric or steam dryers.

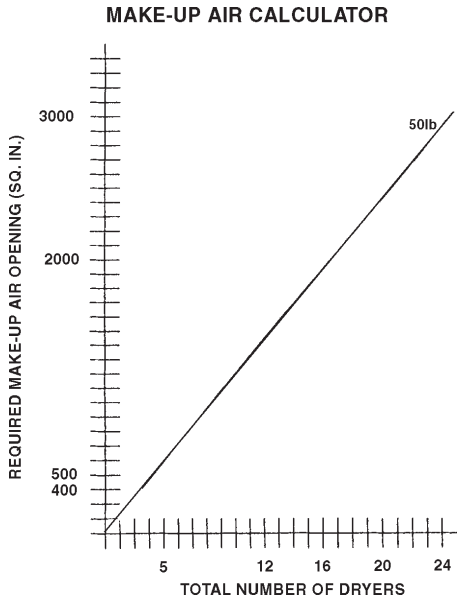
Sufficient make-up air must be supplied to replace air exhausted by the dryer. Each dryer exhausts about 700 cubic feet of air per minute, and requires approximately one square foor of air opening to the outside for make-up air.

The following statements concerning clothes dryer operations are a **FACT** and **EXTREMELY IMPORTANT**:

1. Make-up air is a full-time need.
2. Make-up air has a very definite bearing on the volume of air moving through a dryer.
3. Each and every time the dryer runs it must move air through it (gas, electric, or steam).
4. You cannot dry clothes properly or safely without air movement through the dryer.

It is essential that ductwork be adequate in size and properly contructed for efficient operation, and safety. Improper duct work will cause back pressure resulting in slow drying, lint blowing back into the room and an increased fire hazard.

To operate safely and efficiently, a dryer must intake clean dry air, pass it through the dryer and then exhaust it outside of the building. The air taken into the dryer is called make-up air (refer to illustration).



MAKE-UP AIR

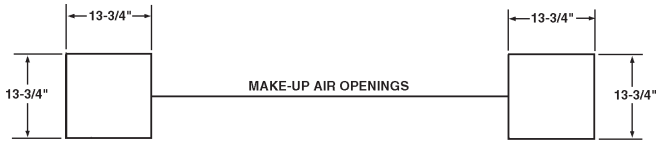
A dryer can quickly deplete available make-up in a sealed room, consquently vents to the outside of the building are required. Vents are usually openings in a wall covered with louvers.

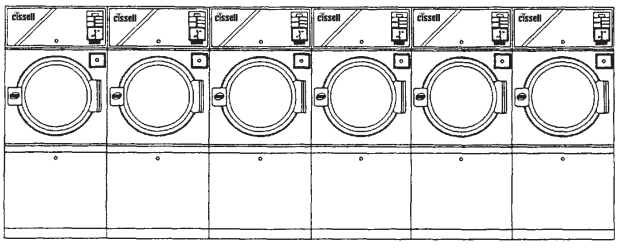
Louvers will reduce the number of square inches of available make-up air. This reduction must be taken into account when calculating the make-up air opening.

Recommended total area must equal one (1) square inch per 1000 BTU's of unrestricted outside air.

Example: ID-20G dryer requires 62.5 square inches of unrestricted make-up air. One square inch/1000 BTU's = 62,500 BTU or 62.5 square inches.

NOTE: The need for "make-up air" for electric or steam are just as important (refer to Product Bulletin - The Need for Make-Up Air).





TYPICAL INSTALLATION SHOWING AIR OPENINGS

TROUBLE	CAUSE	REMEDY
Motor will not start.	No power.	Check fuses on Circuit Breakers. Make sure Main Control Switch is ON.
	Incorrect power.	Check power source; voltage, phase and frequency must be the same as specified on Electrical Rating Plate.
	Time off.	Turn timer clockwise to desired time setting.
	Loose wiring connections.	Check wire connections in electrical box on rear of dryer. Check coils and contacts.
	Defective starting relay.	Check voltage at motor terminals. Voltage must be
Motor tripping on thermal overload.	Low voltage.	within ± 10% of voltage shown on Motor Rating Plate. If not, Check with local power company for recommended corrective measures.
	Inadequate wiring.	Check with local power company to insure that wiring is adequately sized for load.
	Loose connections.	Check all electrical connections and tighten any loose connections.
	Inadequate air.	Check Installation Sheet in Service Manual for recommended make-up air openings.
	Poor housekeeping.	Clean lint accumulation on and around motors.
Basket motor will not run.	Loading door OPEN.	Close door.
	Door Switch out of adjustment.	Adjust switch by removing cover and bend Actuator Lever to clear Switch Button 3/8” with cover in place.
	Defective Door Switch.	Replace switch.
	Defective Basket Motor Contractor.	Replace contactor.
Dryer does not stop at end of time period.	Defective Timer.	Replace Timer.
Motor runs, but basket will not revolve.	V-Belt broken.	Replace V-Belt.
	V-Belt loose.	Adjust belt tension.
	Motor Pulley loose.	Tighten set screw.
	Basket overloaded.	Remove load.

TROUBLE	CAUSE	REMEDY
Dryer noisy or vibrating.	Not leveled.	Check manual for proper leveling procedures.
	Fan out of balance.	Accidental damage to the fan blade can change the dynamic balance. Damaged fans should be replaced.
	Basket rubbing.	Adjust basket clearance.
	V-Belt sheaves.	Tighten set screws. Make sure sheaves are in proper alignment.
	Belt.	Adjust belt tension.
	Foreign objects.	Occcasionally screws, nails, etc., will hang in the basket perforations and drag against the sweep sheets surrounding the basket. Such foreign objects should be removed immediately.
Dryer runs, but no heat.	Incorrect voltage.	Check for correct control voltage - 120V.
	No voltage.	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Defective Gas Valve. Gas turned OFF.	Replace Coil Assembly. Turn Manual Gas Valve ON.
	Defective Door Switch.	Replace Door Switch.
	Air Switch not operating.	Clean out lint compartment daily. Check Back Draft Damper for foreign objects, lint accumulation or other causes that may prevent damper from operating. Check duct work for lint build-up. Check installation sheet to insure that duct work and make-up air openings are adequately sized. 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 on the exhaust outlet. Vacuum within dryer drops to .09 inches or water column, or less, for normal operation of dryer, vacuum reading can be made with a Vacuum U-Gauge by removing a sheet metal screw in the front panel of dryer, and inserting the rubber tube of the vacuum gauge into screw opening.

TROUBLE	CAUSE	REMEDY
Dryer runs, but no heat. (continued)	Air Switch out of adjustment.	See Air Switch Adjustment Sheet in Service Manual.
	Air Switch defective.	Replace Air Switch.
	Gas pressure too low.	Check manifold pressure and adjust to pressure specified on Rating Plate. If this pressure cannot be obtained, have gas supplier check main pressure.
	Improper orifice.	Dryer is orificed for type of gas specified on Rating Plate. Check with gas supplier to determine specifications for gas being used. If different from Rating Plate, Contact factory and obtain proper orifices.
	Direct Spark Ignition module defective.	Replace Direct Spark Ignition Module
	Electric power to heating unit turned OFF.	Turn power ON.
	Line Fuse or Heater Circuit Fuse blown to unit.	Replace fuse
	Defective relay.	Replace relay.
	Defective electric elements.	Replace elements.
	Defective thermostat.	Replace thermostat.
	Defective Safety Overload Thermostat.	Replace thermostat.
	Lint compartment door OPEN.	CLOSE door.
Main Burners burning improperly.	Burner Air Shutters CLOSED.	OPEN for blue flame.
	Dirt in burner.	Blow out.
	High gas pressure.	Adjust gas pressure per Rating Plate.
	Orifice too large.	Send to factory for correct orifices.
	Restricted or blocked exhaust.	Clean exhaust.
Main Burner cycles ON and OFF.	Radiant Sensor defective.	Replace Radiant Sensor.
Low or high gas flame.	Incorrect Main Burner orifices.	Replace orifices. Check factory for correct size.
Dryer too hot.	Incorrect Main Burner orifice.	Replace orifices. Check factory for correct size.
	Inadequate make-up air.	Make-up air must be 4 to 6 times the exhaust area of the dryer. Remove lint.
	Lint accumulated.	Must be full OPEN or replace.
	Exhaust duct dampers.	Adjust gas pressure per Rating Plate.
	High gas pressure.	Check Service Manual for recommended sizes. Remove
	Partially restricted or inadequately sized exhaust system.	obstructions or lint build up from duct work. NEVER use smaller size exhaust duct. ALWAYS use larger size.

TROUBLE	CAUSE	REMEDY
Dryer does not stop at end of time period (6).	Defective thermostat.	Replace thermostat.
	Defective timer.	Replace timer.
Dryer runs no steam to coils.	Valve CLOSED.	Check all valves in steam supply and return. Make sure they are OPEN.
	Steam Trap blocked.	Remove and clean. Replace if defective.
	Solenoid Valve.	On dryers using solenoid temperature control, thermostat controls operation od Solenoid Valve by advancing thermostat.
	Thermostat.	On dryers using solenoid temperature control, thermostat controls operation of Solenoid Valve. If defective, replace thermostat.
	Check Valve installed incorrectly.	Check for inlet and outlet marking on Check Valve and invert if necessary.
	Strainer clogged.	Remove plug and blow down Strainer or remove and clean thoroughly if heavily clogged.
Water in Steam Line.	Steam Piping installed incorrectly.	Check piping per Steam Installation Instructions.
	Trap not functioning.	Check trap for size and capacity. If dirty and sluggish, clean thoroughly or replace. Check return line for high back pressure, or another trap charging against the trap functioning improperly.
Basket does not reverse.	Reversing timer.	Check timer to see if operating.
	24V Transformer.	Check Transformer for 24V.

DIRECT SPARK IGNITION OPERATION

NOTE: Some models are equipped with a dual ignition system. The dual ignition system contains two Direct Spark Ignition modules in parallel. Each module has its own Flame Sense circuit and acts independently of the other. If either Bonnet Limit Thermostat opens because of high heat or flame impingement, the entire ignition system will shut down.

1. When a call for heat is received from the control supplying 24VAC to the Ignition Control Module, the pre-purge delay timer begins. This delay time allows any air/sediment to be ejected prior to burner ignition. Following the pre-purge delay period, the gas valve is energized and the spark ignitor sparks for the trial ignition period.

2. When a flame is detected during the trial for ignition period, the spark ignitor shuts off and the gas valve remains energized.

3. If no flame is detected by the Flame Sense Circuit, the Ignition Control Module will go into safety lockout. The valve will be turned off immediately. If the module has multiple retries and no flame is detected, the gas valve is de-energized and the module goes into an interpurge delay. After this delay, the module will attempt another trial for the ignition period. This will continue until the number of retries has been used up. At the time, the module will go into safety lockout.

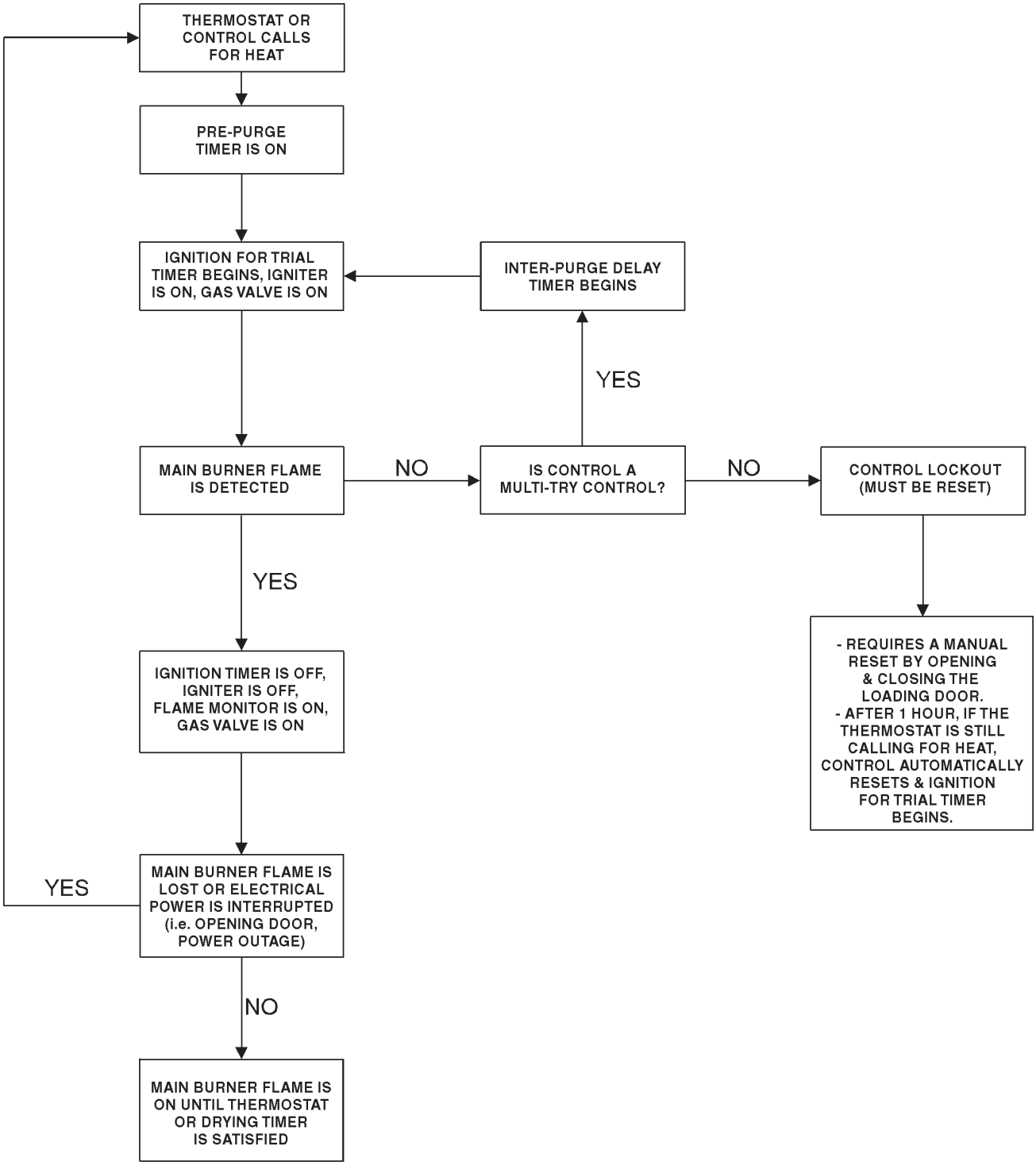
4. Recovery from safety lockout requires one of the following:
   a. A manual reset by opening and closing the loading door.
   b. After one hour if the Control Thermostat is still calling for heat, the module will automatically reset and the trial for ignition period will start over.

5. Opening the loading door will cause the flame to extinguish. Closing the door and starting the dryer will restart the trial for ignition period.

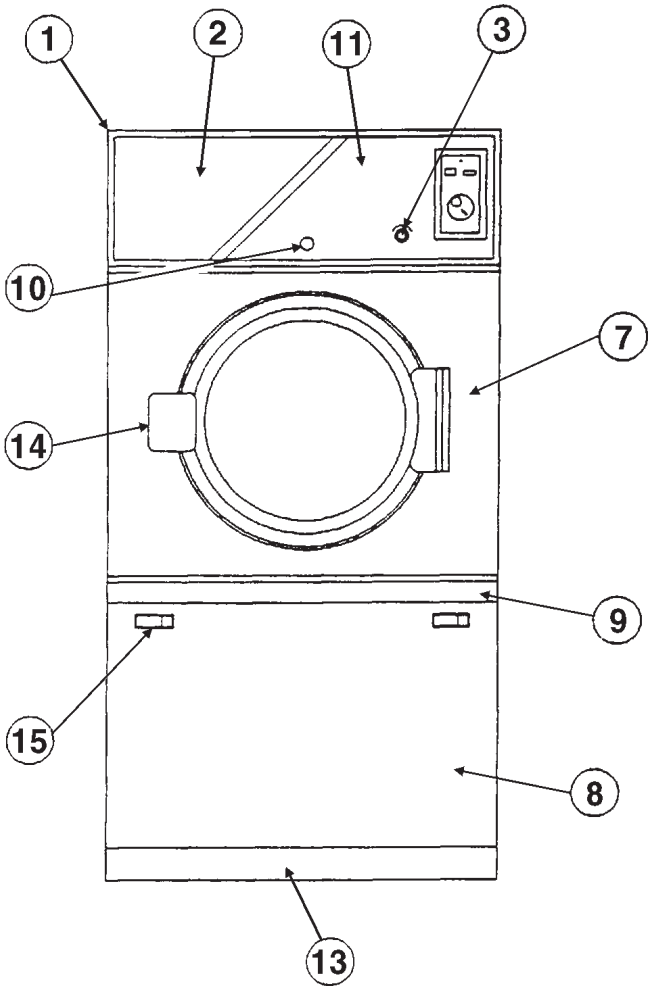
6. Once the Control Thermostat has been satisfied and/or the Drying Timer has been timed out, the Ignition Control Module(s) will be de-energized, the gas valve(s) will be de-energized and the flames will extinguish.

7. The machine will continue to run in a cooldown mode without heat. This process will cool the load to the touch and help to eliminate wrinkling.

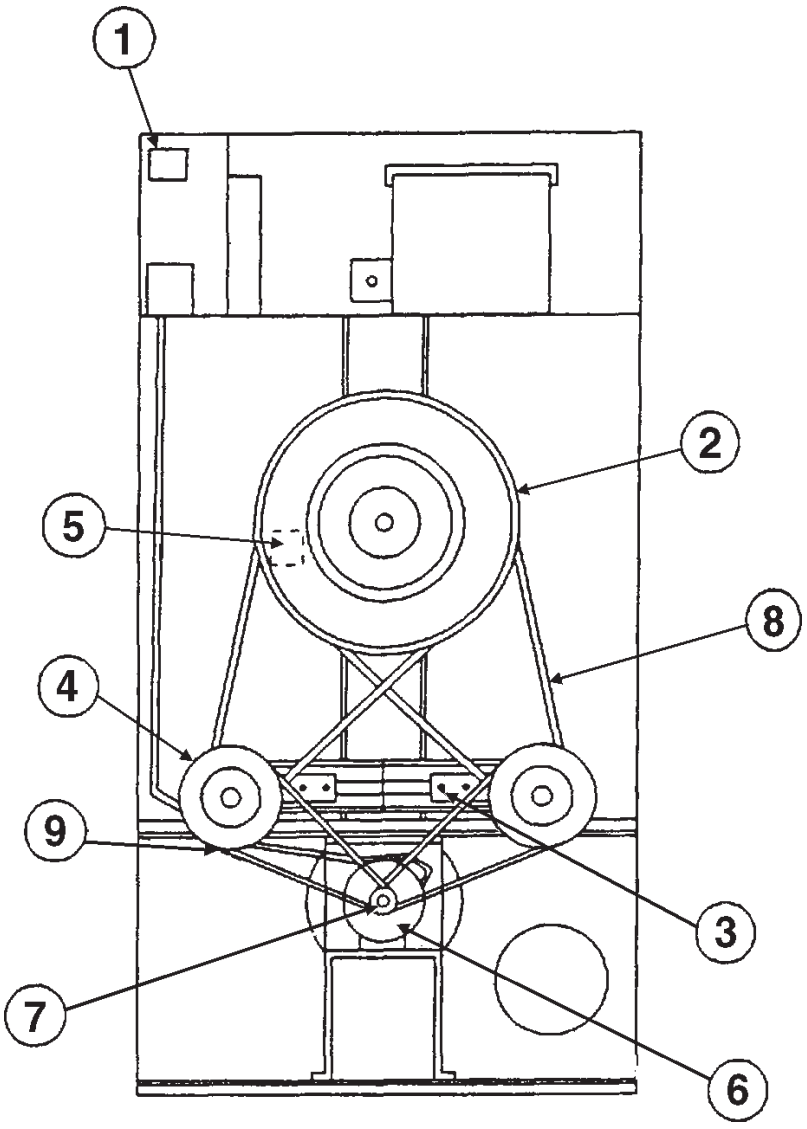
DIRECT SPARK IGNITION OPERATION FLOW CHART



"Slim 50" Dryer - Front View

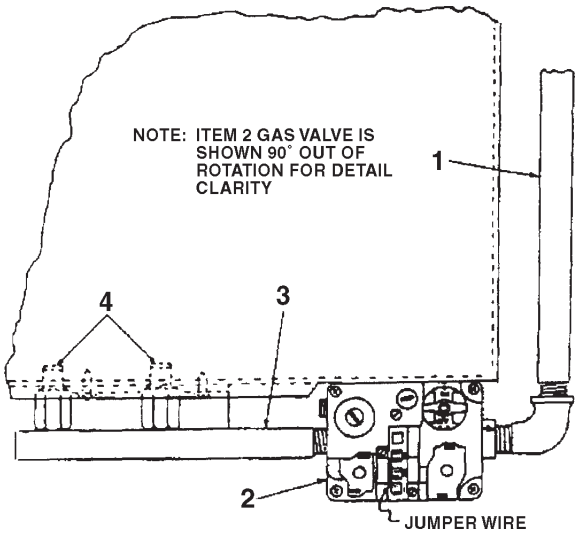


1	???	Control Door Trim
2	???	Control Door (Rotary) Comp.
	???	Control Door (Micro) Comp.
	???	Control Door (Mirco OPL) Comp.
	???	Control Door (Manual Dual Timer) Comp.
3	???	Thermostat/Knob
	???	Thermostat
5	???	Coin Box
	???	Faceplate
	???	Bezel/Coin Box
	???	Lock/Coin Box
7	???	Front Panel (Micro & Rotary)
	???	Front Panel (Meter Slide)
	???	Front Panel (Manual Dual Timer)
8	???	Lint Door
9	???	Lint Door Rubrail
10	???	Control Door Lock
11	???	Label/Control Door (Rotary)
	???	Label/Control Door (Dual Timer)
	???	Label/Control Door (Micro)
	???	Label/Control Door (Meter Slide)
13	???	Label/Scuff Plate/Rubrail
14	???	Label/Main Door Handle



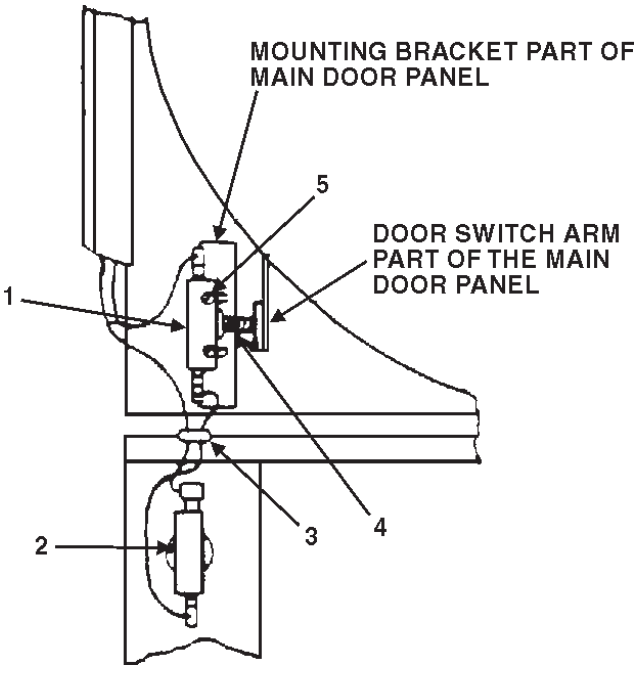
1	???	Rating Plate
2	???	Pulley 18" Double Groove
3	???	Idler Arm Assy.
4	???	Pulley & Shaft Assy. 11" Compound
5	???	Switch Differential Air
	???	Sail Switch Assy.
6	???	Motor 1/2 HP 115/230/60/50/1
	???	Motor 1/2 HP 230/380/60/50/3
7	???	Motor Sheave Fixed 60 Cycle
	???	Motor Sheave Fixed 50 Cycle
8	???	V-Belt/#BX-70 Upper
9	???	V-Belt/#AX-50 Lower

Top View Burner Box Assembly



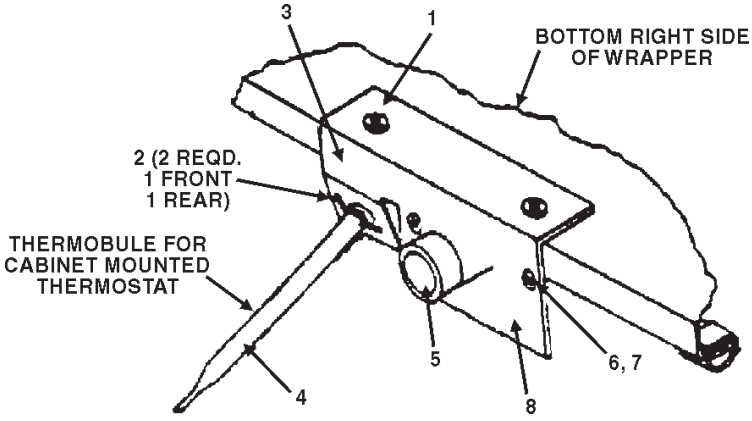
1	???	Nipple, 1/2 x 24 NPT
2	???	Gas Valve
3	???	Double Burner Manifold
4	???	Orifice, Nat. Gas Main Burner
	???	Orifice, LP Gas Main Burner

Rear View of Front Panel
(Right Side of Cabinet)



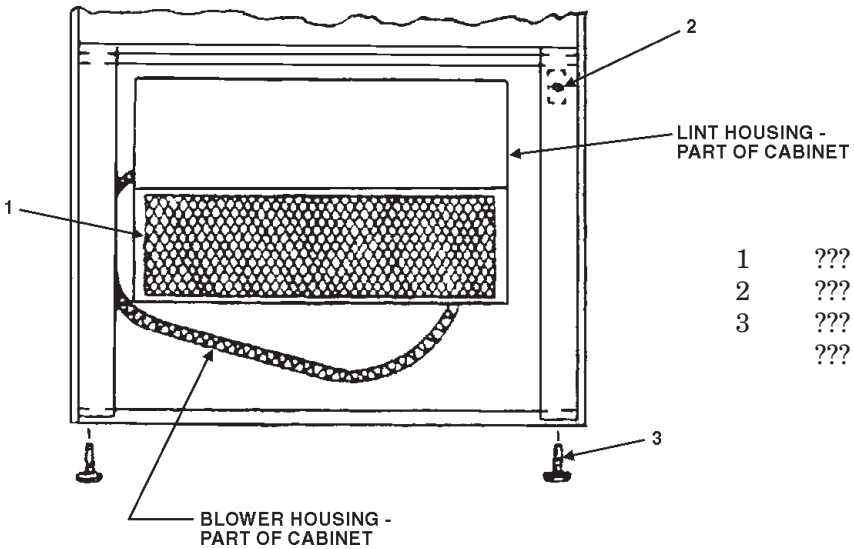
1	???	Main Door Switch
2	???	Lint Door Switch
3	???	Plastic Insulation
4	???	Switch Return Spring
5	???	Plated Screw

Temperature Controls Under Cylinder

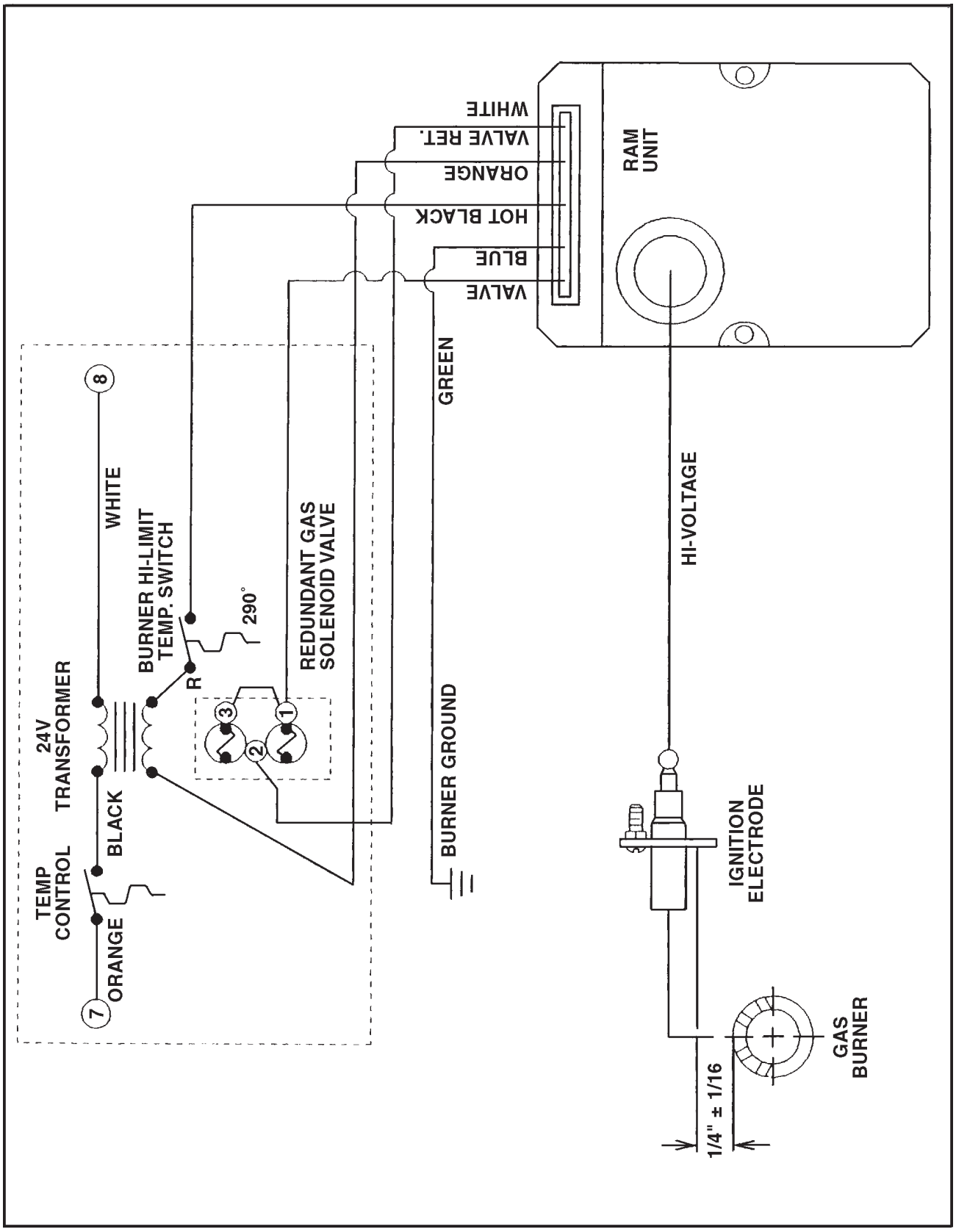


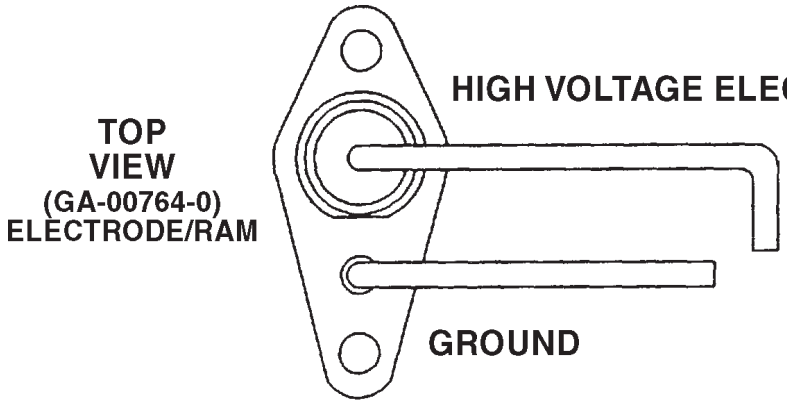
1	???	Plated Screw
2	???	Spring Clamp
3	???	Rubber Grommet
4	???	Thermostat
5	???	Thermodisc 200 Degree Switch
6	???	Plated Screw
7	???	Hex Nut
8	???	Bracket Assembly

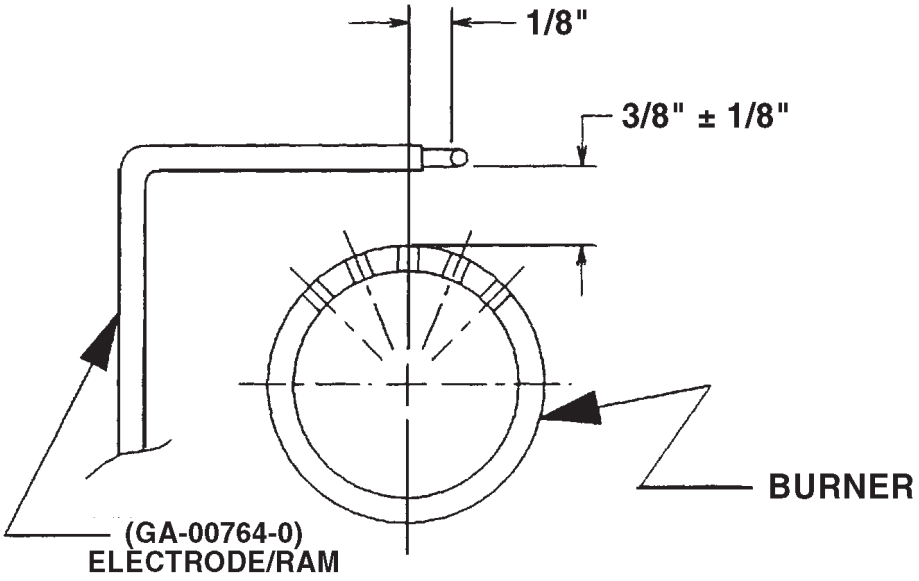
Bottom Front of Cabinet
(with Lint Door Removed)



1	???	Lint Screen
2	???	Lint Door Switch
3	???	Plated Leveling Leg
	???	Lint Screen CED


RAM UNIT
WHITE
VALVE RET.
ORANGE
HOT BLACK
BLUE
VALVE
GREEN
HI-VOLTAGE
BURNER GROUND
IGNITION ELECTRODE
GAS BURNER
1/4" ± 1/16
TEMP CONTROL
24V TRANSFORMER
BLACK
WHITE
ORANGE
BURNER HI-LIMIT TEMP. SWITCH
290°
R
REDUNDANT GAS SOLENOID VALVE
8
7
3
2
1



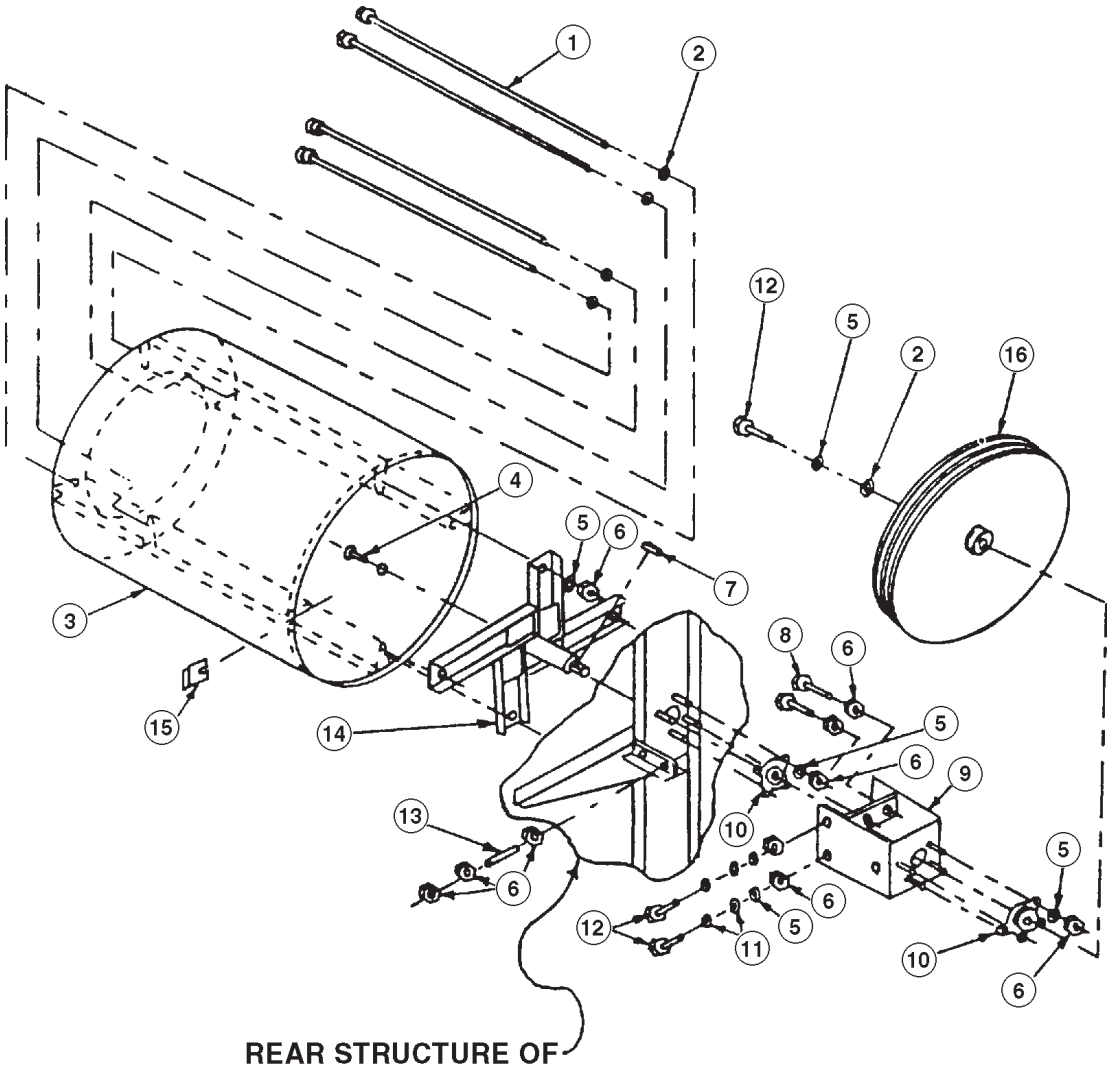


FRONT VIEW

BURNER ASSEMBLY
ROBERTSHAW DESIGN
(SINGLE AND DOUBLE BURNER)

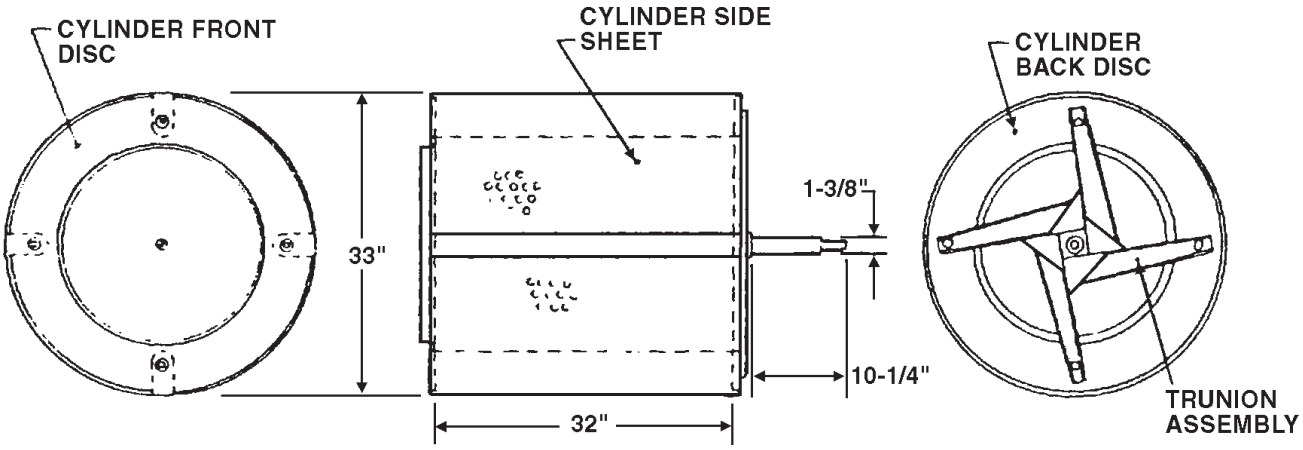
IMPORTANT NOTE:

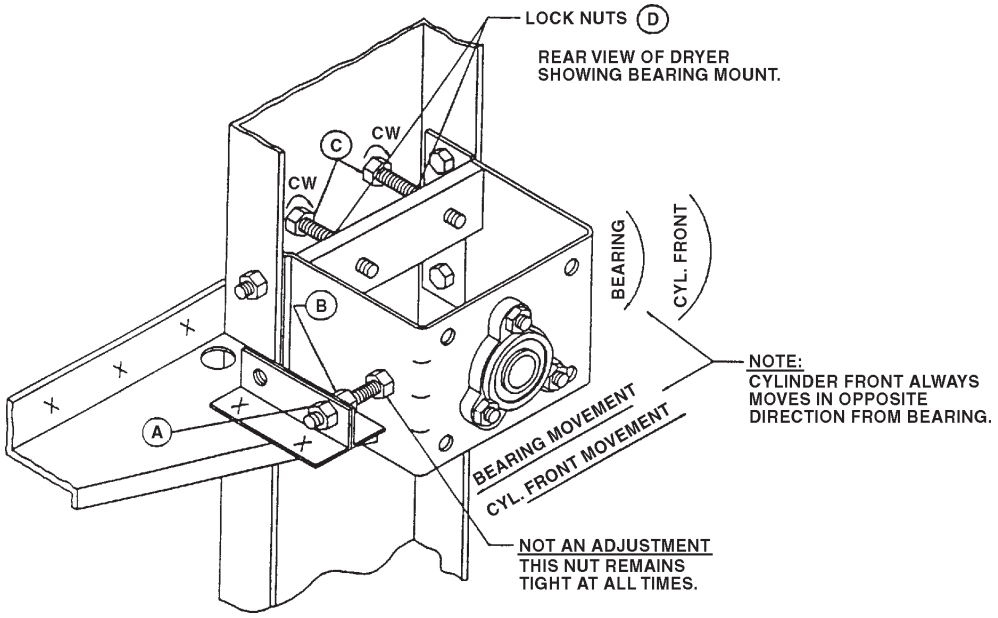
IF IT BECOMES NECESSARY TO ADJUST THESE DIMENSIONS, DO NOT BEND, THE ELECTRODE PORCELAIN MAY CRACK.



REAR STRUCTURE OF DRYER CABINET

1	???	Tie Rod
2	???	Fender Washer
3	???	Cylinder
4	???	Center Bolt
5	???	Split Lock Washer
6	???	Hex Nut
7	???	Trunnion Shaft Key
8	???	Hex Plated Bolt
9	???	Rear Bearing Mount Assy
10	???	Flanged Bearing
11	???	Flat Washer
12	???	Hex Plated Bolt
13	???	Threaded Stud
14	???	Trunnion Assy
15	???	Cylinder to Trunnion Shim
16	???	18” Double Groove Pulley





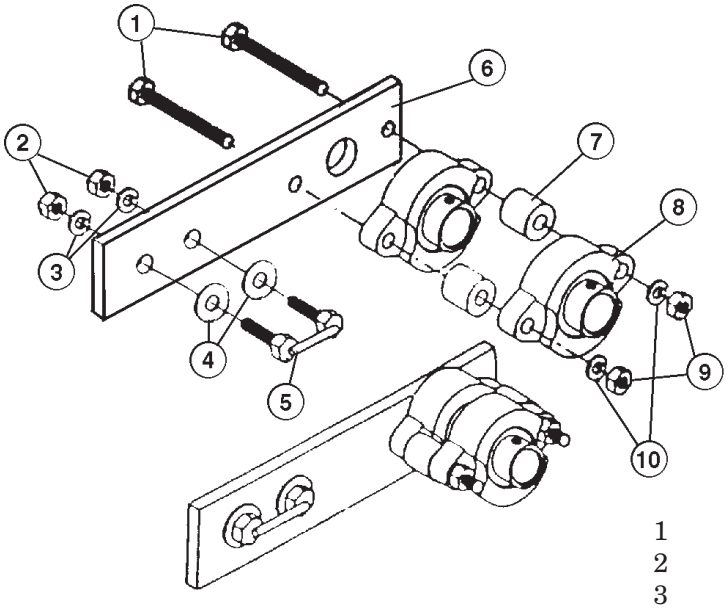
CYLINDER ADJUSTMENTS

1. Cylinder front up and down adjustment
   a. Loosen (2) locknuts (D),
   b. Loosen (4) nuts holding bearing box to channel.
   c. Turn screws (C) clockwise to raise cylinder front or counter-clockwise to lower cylinder front.
   d. Retighten (4) bearing box nuts and 2 locknuts.

2. Cylinder front left and right adjustment
   a. Loosen nut (B), tighten nut (A) cylinder front moves to left (as viewed from front) retighten nut (B).
   b. Loosen nut (A), tighten nut (B) cylinder front moves to left (as viewed from front) retighten nut (A).

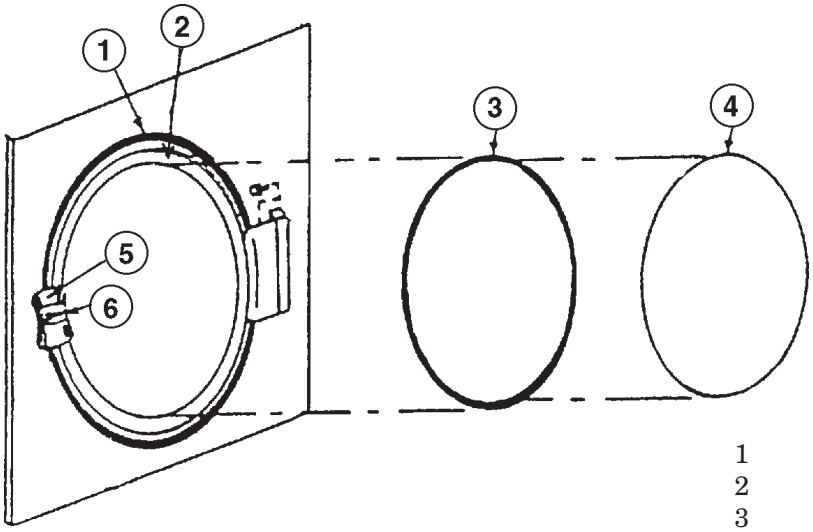
3. Cylinder front to back adjustment
   a. Loosen the (2) set screws in each bearing and then move the cylinder forward or back. When set retighten the (4) set screws.

Compound Pulley Idler Assembly



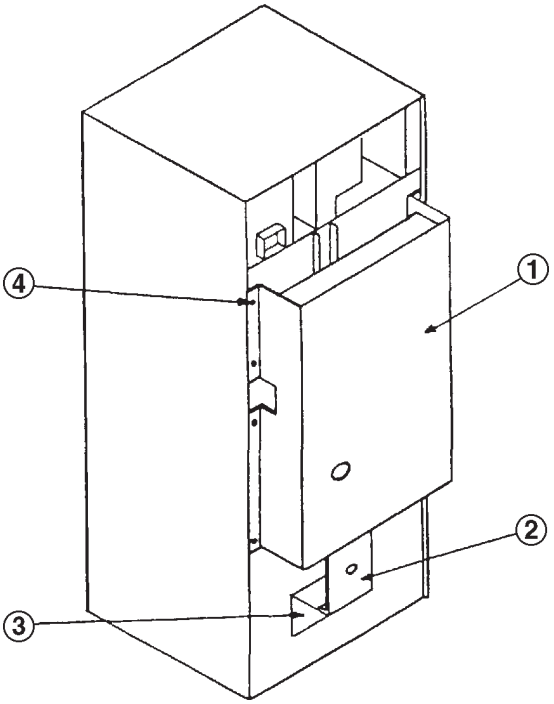
1	???	5/16” - 18 x 2-1/2” Hex Head Bolt
2	???	3/8” - 16 Nut
3	???	3/8” Lockwasher
4	???	Flat Washer
5	???	Bolt Assy
6	???	Idler Arm
7	???	Spacer
8	???	Bearing
9	???	5/16” - 18 Nut
10	???	5/16” Lockwasher

Main Door Assembly



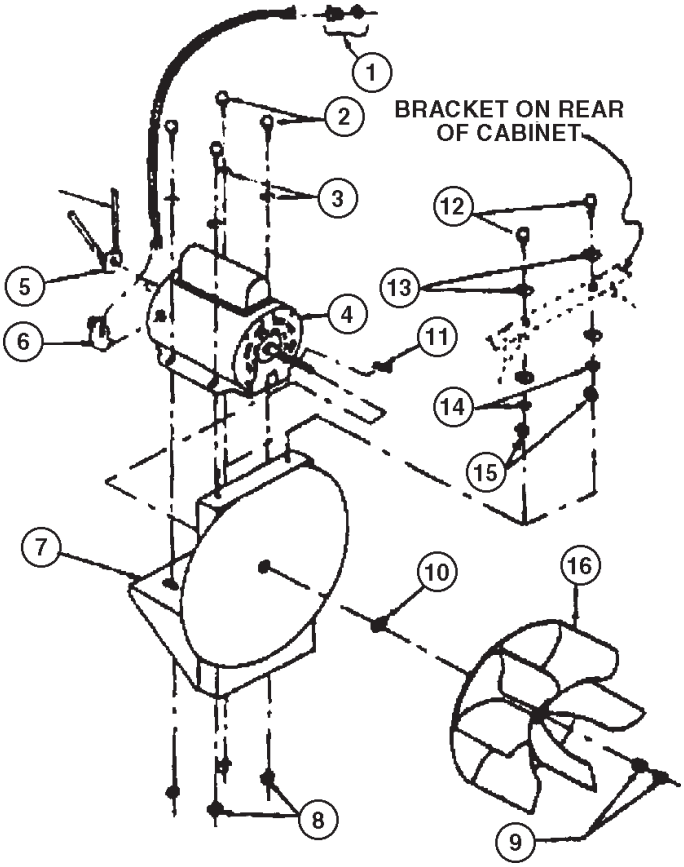
1	???	Door Rim Gasket
2	???	Main Door w/Hinge
3	???	Main Door Glass Gasket
4	???	Main Door Glass
5	???	Door Handle
6	???	Door Handle Label

Backguard Motor Guard Assembly



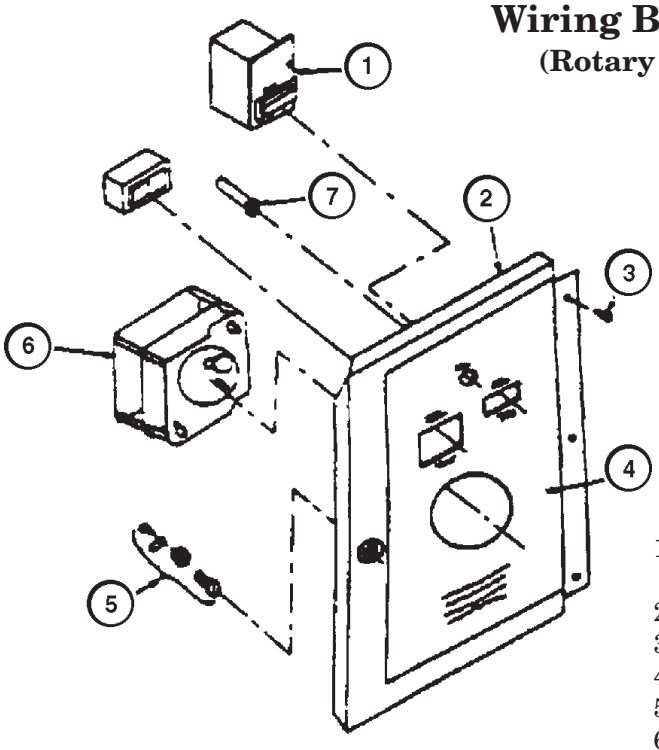
1	???	Backguard
2	???	Motor Pulley Guard
3	???	Motor Mount
4	???	Screw

Main Door Assembly



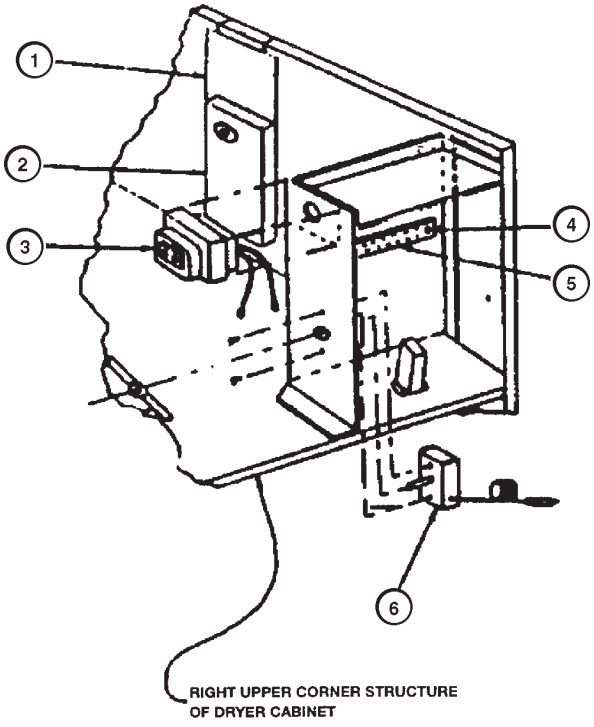
1	???	Connector Box
2	???	Hex Plated Bolt
3	???	Split Lockwasher
4	???	1/2 Hp Motor (115/230/60/50/1)
	???	1/2 Hp Motor (230/380/60/50/3)
5	???	Motor Sheave (60 Cy.)
	???	Motor Sheave (50 Cy.)
6	???	90° Box Connector
7	???	Motor Mount
8	???	Caged Nut
9	???	Hex Nut
10	???	Plated Flat Washer
11	???	Square Key
12	???	Plated Hex Hd. Bolt
13	???	Plated Flat Washer
14	???	Plated Split Lockwasher
15	???	Plated Hex Nut
16	???	12” Impeller

Wiring Box Door
(Rotary Meter)



1	???	Push-to-Start Switch (115V)
	???	Push-to-Start Switch (240V)
2	???	Wiring Box Door w/Hinge
3	???	Plated Screw
4	???	Wiring Box Door Label
5	???	Wiring Box Lock Assembly
6	???	Coin Meter (115V)
	???	Coin Meter (240V)
7	???	Red Pilot Light (115V)
	???	Red Pilot Light (240V)

Wiring Box Assembly
(all models except Microprocessor)



1	???	Igniter Mounting Bracket
2	???	Direct Spark Igniter
3	???	Transformer, 24V Sec. 115 Primary
	???	Transformer, 24V Sec. 240 Primary
4	???	Plated Screws
5	???	Terminal Block
6	???	Thermostat

TROUBLE	CAUSE	REMEDY
Burner does not inite.	Inoperative thermostat.	Test thermostat and replace as necessary.
	Inoperative gas valve coils.	Test coils and replace as necessary.
	Insufficient gas supply.	Open partially closed shut off valve, or correct low gas pressure. Check manifold pressure specified on rating plate. If pressure cannot be obtained, have gas supplier check main pressure.
	Incorrect orifices.	Check that tumbler is equipped for type of gas specified on rating plate, obtain and install proper orifices.
	Timers improperly set or inoperative.	Check and reset timer, or timer and replace if inoperative.
	Inoperative airflow switch.	Clean lint compartment every day. Check air flow damper for foreign objects, accumulation or other causes that may prevent damper from opening. Check ductwork for lint build-up. Refer to INSTALLATION INSTRUCTION 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 the winter. Never install screen over the exhaust outlet. Replace airflow switch as necessary.
	Lint door 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.
Burner ignites and goes out repeatedly.	Insufficient gas pressure.	Check gas supply and pressure.
	Inoperative high limit thermostat.	Test thermostat and replace if necessary.
	Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTION for exhaust requirements.
	Improper orifices.	Check that 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.

TROUBLE	CAUSE	REMEDY
Burner shuts off prematurely.	Improper or inadequate exhaust system.	Refer to INSTALLATION INSTRUCTION (supplied with tumbler) for exhaust system requirements.
	Insufficient gas supply.	Open partially closed shutoff valve to correct low pressure.
	Tumbler not properly equipped for type of gas used.	Check that tumber is equipped for type of gas specified on rating plate. Call Factory.
	Improperly adjusted burner flame.	Refer to ADJUSTMENT SECTION in this manual for burner flame adjustment.
	Cycling off on high limit thermostat.	Check operating thermostat and replace as necessary.
	Broken, loose or incorrect wiring.	Refer to appropriate wiring diagram.
Burner not burning properly.	Burner air shutters incorrectly adjusted.	Refer to ADJUSTMENT SECTION 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.	Check that tumbler is equipped for type of gas 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.
Ram igniter does not spark (gas supply sufficient).	No electrical power to leads on Ignition Module.	Refer to wiring diagram to check electrical circuit providing power to the Ignition module.
	Ignition Module in safety lockout.	Reset by opening & closing door. Push to start.
	No circuit for burner operation.	Tumbler is not calling for heat. Check the circuit to the ignition system.
	Insufficient gas supply.	Check gas supply and pressure.
Ram igniter sparks but no burner ignition.	No gas flow through gas valve.	Check coils and replace if inoperative.
	Spark Igniter is broken or spark gas is closed.	Replace igniter. Reset spark gap to .125°.
	Disconnected or shorted high voltage lead.	Check for proper connection and replace if necessary.

TROUBLE	CAUSE	REMEDY
Tumbler overheating.	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 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 for exhaust system requirements.
	Inoperative thermostat	Replace thermostat.

THERMOSTAT CALLING FOR HEAT - NO MAIN BURNER