



75 lb. Laundry Dryer

MODELS

GAS

L36USS36G
L36USD36G
L36URS36G
L36URD36G
L36USP36G
L36URP36G

STEAM

L36URS36S
L36URD36S
L36URP36S

ELECTRIC

L36URS36E
L36URD36E
L36URP36E

OWNER'S MANUAL

CISSELL MANUFACTURING COMPANY

U.S. HEADQUARTERS

831 SOUTH FIRST ST.
P.O. BOX 32270
LOUISVILLE, KY
40203-2270

PHONE: (502) 587-1292
PARTS EXPRESS: 1-800-882-6665
PARTS SALES FAX: (502) 584-4070
SALES OFFICE FAX: (502) 585-3625

EUROPEAN HEADQUARTERS

PANTEX/CISSELL B.V. PHONE: (05970) 12300
INDUSTRIEWEG 27 FAX: (05970) 12723
P.O. BOX 53
9670 AB WINSCHOTEN
THE NETHERLANDS

IMPORTANT NOTICES - PLEASE READ

For optimum efficiency and safety, we recommend that you read the Owner's 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 the 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

This dryer must be used only to dry water-washed fabrics.

To avoid fire hazard, do not dry articles containing foam rubber or similar textured 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.

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.

Note: 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.

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.

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

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.

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CISELL 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.

CISELL 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. CISELL 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.

UNPACKING

All Cissell dryers are packed in a protective (heavy-duty) plastic bag.

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: tapes, manuals, skid, etc. On gear reducer models, remove screw from air vent and cork from oil reserve well.

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 for approximately 2 seconds.

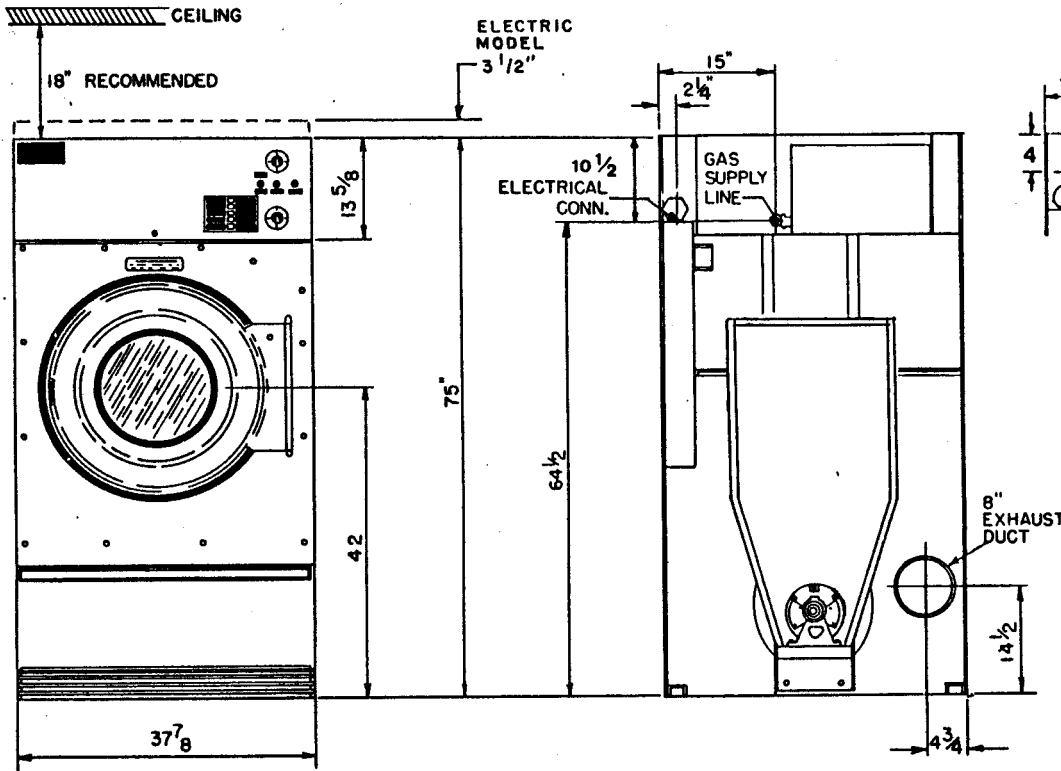
IMPORTANT: This dryer is designed for a capacity maximum load. over-loading it will result in long drying times and damp spots on some clothes.

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

IMPORTANT: The reversing models are equipped with basket reversing switches. The switch gives the operator the option of a clockwise or counter clockwise direction.

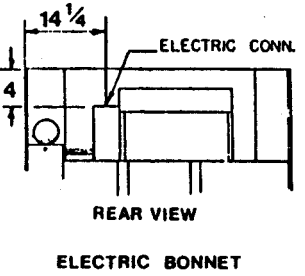
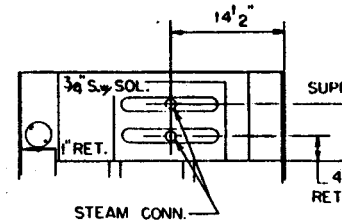
IMPORTANT: Provide adequate clearance for air opening innto the combustion chamber.

75 LB. "UR" DRYER OUTLINE DIMENSIONS

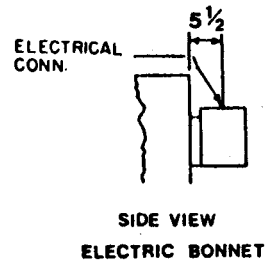


FRONT VIEW

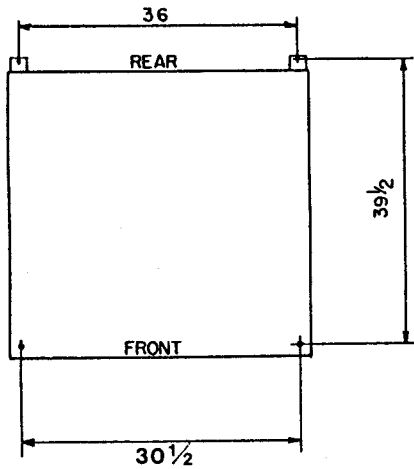
REAR VIEW



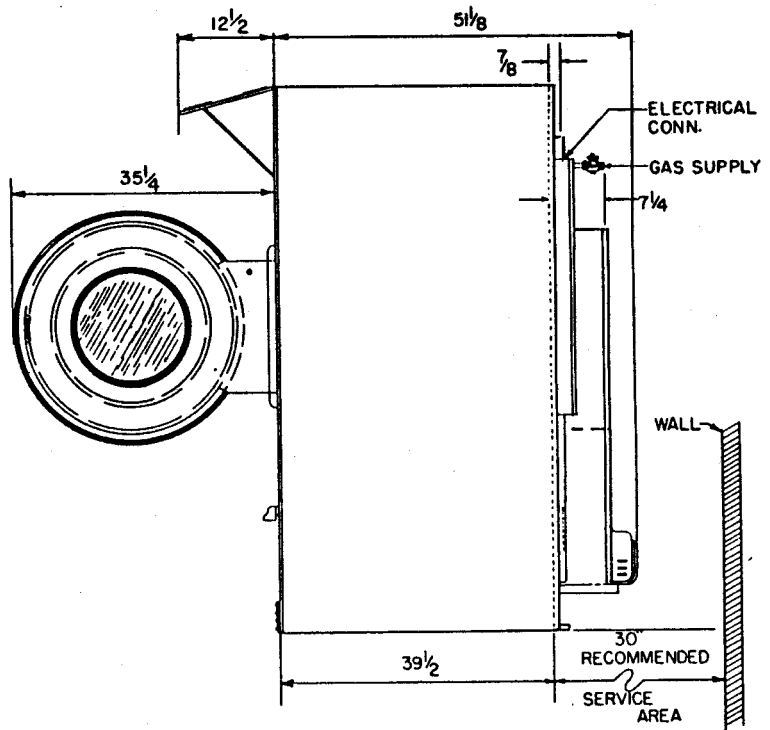
ELECTRIC BONNET



SIDE VIEW
ELECTRIC BONNET



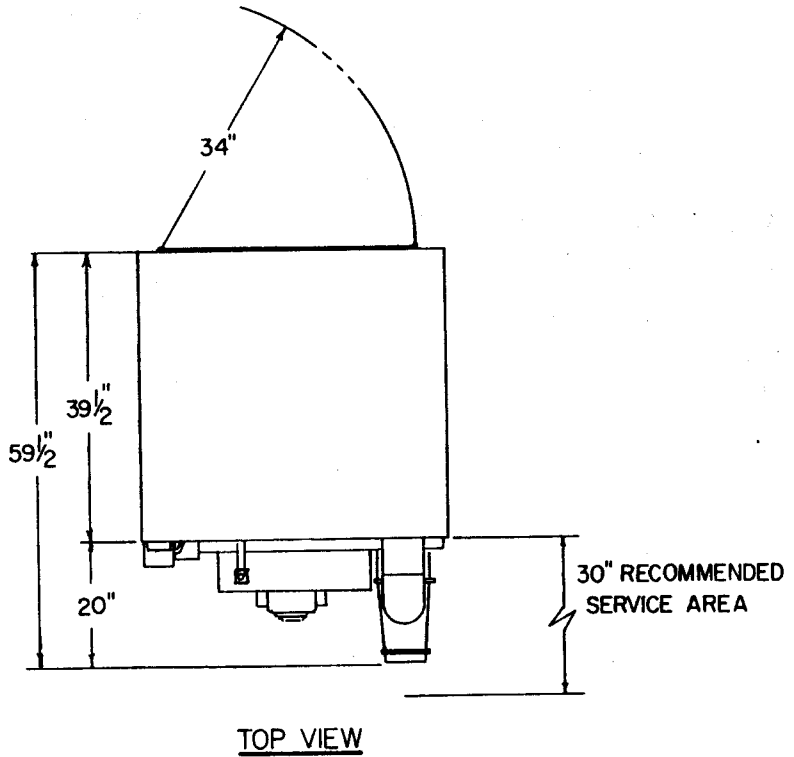
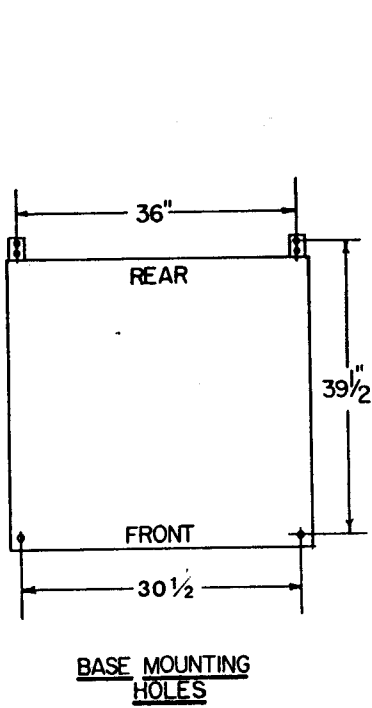
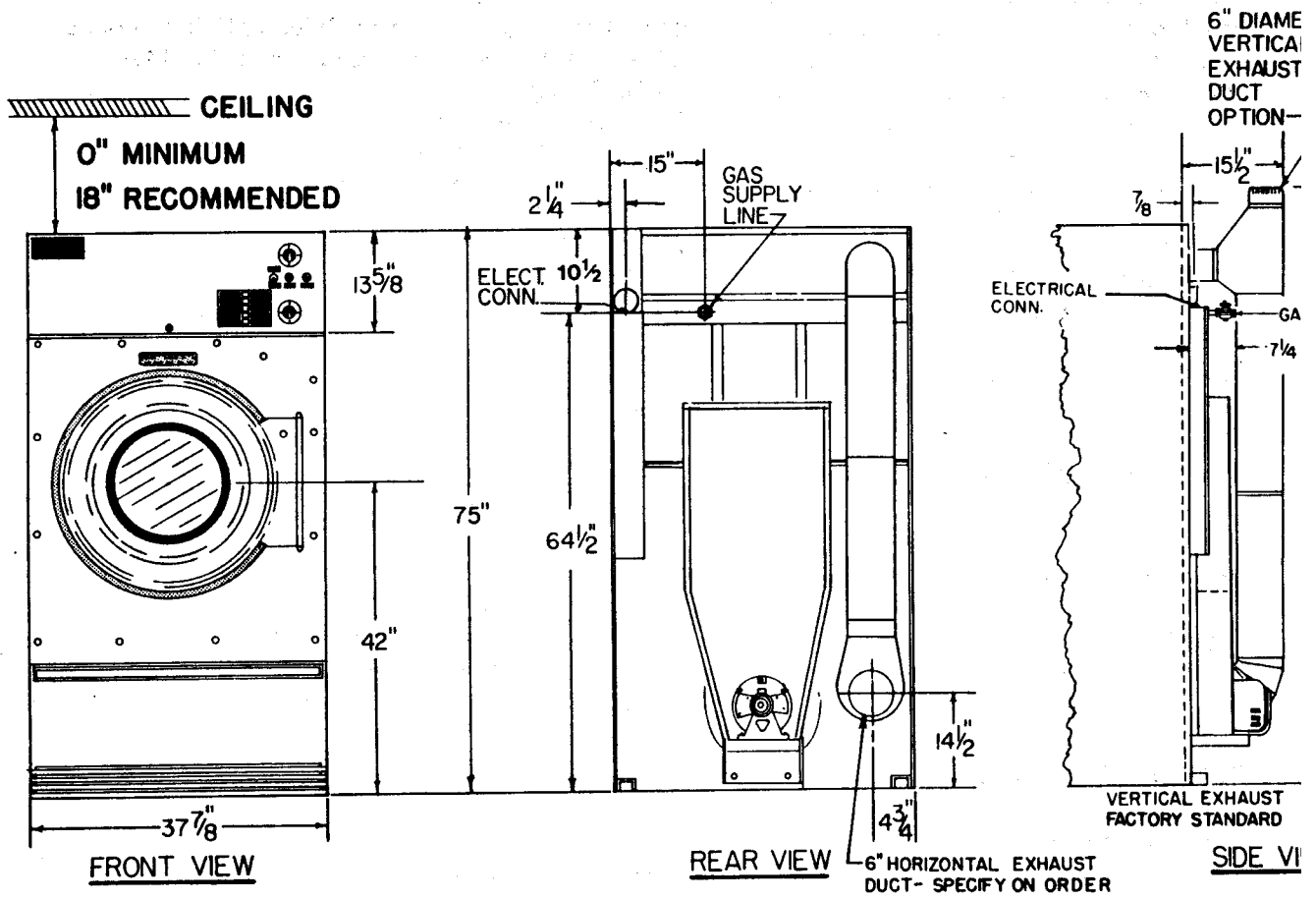
MOUNTING HOLES



SIDE VIEW

ALL DIMENSIONS GIVEN IN INCHES ± 1/4

75 LB. "US" DRYER OUTLINE DIMENSIONS



ALL DIMENSIONS GIVEN IN INCHES ± 1/4

GENERAL SPECIFICATIONS

Basket Load Capacity.....	75 lbs. (34.0 kg) Dryweight
Floor Space.....	75" (191 cm) High x 38" (96 cm) Wide x 51" (130 cm)Deep
Basket Size.....	36" (92 cm) Diameter x 36" Deep-21 cu. ft.(0.63 M3)
Exhaust Duct.....	8" Dia. (20 cm)
Motor Sizes.....	Fan-1/3 H.P.; Basket-1 H.P.
Maximum Air Displacement.....	1000 C.F.M. (28.3 M3/Min.)
Recommended Operating Range.....	788-913 C.F.M. (22-25.8 M3/Min.)
Net Weight (approximate).....	600 lbs. (270 kg)
Domestic Shipping Weight (carton)	670 lbs. (302 kg)
Export Shipping Weight (Box).....	1140 lbs. (513 kg)
Export Shipping Dimensions.....	83" (208 cm) L x 45" (113 cm) W x 61" (153 cm)H
Export Crating.....	131.8 Cu. Ft. (3.73 M3)
Basket R.P.M.....	Reversing 40-3.2 Reversals per minute
.....	Non-Reversing- 40

GAS FIRED MODEL

Gas Supply.....	3/4" Pipe Connection (1.91 cm)
Gas Pressure Regulator (Natural Gas)	Set at 3.5" Water Column (8.9 cm)
*B.T.U. Input (4 Burners)	180,000 BTU/HR. (Natural Gas)
.....	180,000 BTU/HR. (L.P. Gases)
Electronic Ignition	Silicon Carbide Gas Ignition System
Drying Time (Approximate).....	75 lbs. Dryweight (Indian Head Cloth)
.....	70% Moisture Retention - 38 Minutes .

ELECTRIC HEATED MODEL

Heater Input.....	40 Kilowatts/Hour
Total Heater Current.....	See Page 73
Drying Time (Approximate).....	75 lbs. Dryweight (Indian Head Cloth)
.....	70% Moisture Retention - 47 Minutes

*Input ratings as shown are for elevations up to 2000 ft. (610 M). For higher elevations, ratings should be reduced 4% for each 1000 feet (305 M) above sea level.

STEAM HEATED MODEL

Operating Steam Pressure.....	15 P.S.I.G. (Low Pressure)
.....	100 P.S.I.G. (High Pressure)
Supply Connection To Solenoid.....	3/4"
Return Connection.....	1"
Steam Consumption.....	214, 265 BTU/HR
.....	6.4 B.H.P.
.....	221 lbs. of condensate
Drying Time (Approximate).....	75 lbs. dryweight
.....	70% water retention - 32 Minutes
Heat Capacity.....	6 Coils

SPECIFICATIONS - ENERGY SAVER GAS MODEL

Basket Load Capacity	75 lbs. (34.0 kg) Dryweight
Floor Space	78" (195 cm) H x 59 1/2" (149 cm) D x 38" (96cm) W
Basket Size	36" (92 cm) Diameter x 36" Deep-21 Cu. Ft.(.63M3)
Exhaust Duct	6" Dia. (15 cm)
Motor Size	Fan - 1/3 H.P.; Basket - 1 H.P.
*B.T.U. Input (3 Burners)	144,000 BTU/Hour Natural and Liquid Petroleum Gases
Maximum Air Displacement	536 C.F.M.(15.2 M3/Min.)
Recommended Operating Range	436-536 C.F.M.(12-15 M3/Min.)
Gas Supply	3/4" Pipe Connection (1.91 cm)
Gas Pressure Regulator (Natural Gas)	Set at 3.5" (8.9 cm) Water Column
Manifold Pressure (L.P. Gas)	13" (28cm) Water Column
Drying Time (Approximate)	75 lbs. Dryweight (Indian Head), 70% Moisture Retention- 38 Minutes
Net Weight (Approximate)	675 lbs. (306 kg)
Domestic Shipping Weight (Approx.)	725 lbs. (329 kg) I Carton
Export Shipping Weight (Approx.)	1215 lbs. (551 kg) I Box
Export Crating	131.8 Cu. Ft. (3.73 M3)
Export Shipping Dimensions	83" (208 cm) L x 45" (113 cm) W x 61" (153cm) H.
Basket R.P.M.	Reversing 40-3.2 Reversals per minute Non-Reversing 40

*Input ratings as shown are for elevations up to 2000 ft. (610 M). For higher elevations, ratings should be reduced 4% for each 1000 feet (305 m) above sea level.

MOTOR LIST - DOUBLE MOTOR MODELS

Motor No.	Voltage	Hz.	Phase	Basket/Fan	H.P.	Amps	R.P.M.
MTR203	115/200/230	60	1	B	1	10.4/5.2	1725
MTR212	200/230/460	60	3	B	1	3.8/1.9	1725
MTR206	110/220	50	1	B	1	12/6	1425
MTR104	240/415	50	3	B	1	3.1/1.8	1425
MTRI04	220/380	50	3	B	3/4	2.6/1.5	1425
MTR104	220/380	60	3	B	3/4	2.4/1.4	1725
MTR104	200/346	50	3	B	3/4	2.6/1.5	1425
MTR101	575	60	3	B/F	1	1.7	1725
MTR209	115/208-230	60	1	F	1/3	5.2/2.6	1725
MTR218	208/230/460	60	3	F	1/3	1.6/.80	1725
MTR184	240/415	50	3	F	1/3	1.6/.9	1425
MTR187	220/380	50	3	F	1/3	1.6/.91	1425
MTR187	220/380	60	3	F	1/3	1.5/.80	1725
MTRI87	200/346	50	3	F	1/3	1.5/.80	1425

MOTOR LIST- SINGLE MOTOR MODELS

Motor No.	Voltage	Hertz	Phase	H.P.	Amps	R.P.M.
MTR246	115/208-230	60	1	1	11.3/5.65	1725
MTR247	208-230/460	60	3	1	3.8-4.2/2.1	1725
MTR248	575	60	3	1	1.8	1725
MTR249	230/415	50	3	1	3.8/2.2	1425
MTR250	240	50	1	1	7.3	1425
MTR266	220/380	50	3	1	3.5/2.0	1425
MTR266	200/380	60	3	1	3.2/1.8	1725
MTR266	200/346	50	3	1	3.2/1.8	1425

GENERAL INFORMATION

The Cissell Dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stops. You can expect fast drying from a Cissell Laundry Dryer. Hot, dry air is properly and effectively moved through basket and exhausted through a lint trap to 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 approximately 1/4" thick is formed. This 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.

CISSELL THERMO-COOL DRYERS

Permanent press, durable press, and other modern day fabrics require the care that your Cissell Therm-O-Cool Laundry Dryers now provide.

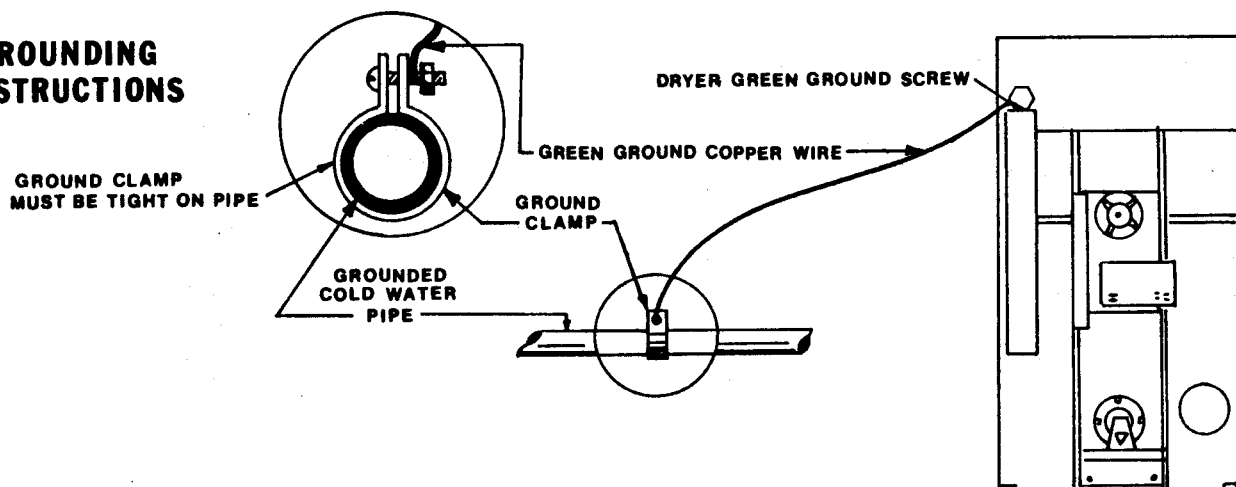
At the end of the drying cycle, determined by the time and temperature; single timer, a thermostatic control automatically takes over and continues the rotation of the fan and basket without heat until the garment load reaches a safe cool temperature. This function is performed at the end of each drying cycle, and because it's controlled by the heat retained in the garments after the normal drying period, its time can extend from one minute up to five minutes. The therm-o-cool cycle is never too long or too short. Always the exact minimum time required to reduce the temperature of the garment load to a safe and cooling handling temperature.

ELECTRICAL CONNECTIONS

Dryers must be electrically grounded - by a separate #14 or larger green wire from the grounding terminal within the service connection box to a cold water pipe, or through the fourth green wire properly grounded and connected to the grounding terminal. In all cases, the grounding method must comply with local electrical code requirements; or in the absence of local codes, with the National Electrical Code as ANSI/NFPA No. 70-1987.

See wiring diagram furnished with dryer. Your Cissell dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors within the service connection box on the rear of the dryer. Do not change wiring without consulting factory as you may void the factory warranty. Do not connect the dryer to any voltage or current other than that specified on the dryer rating plate. (Wiring diagram is located on rear wall of dryer).

GROUNDING INSTRUCTIONS

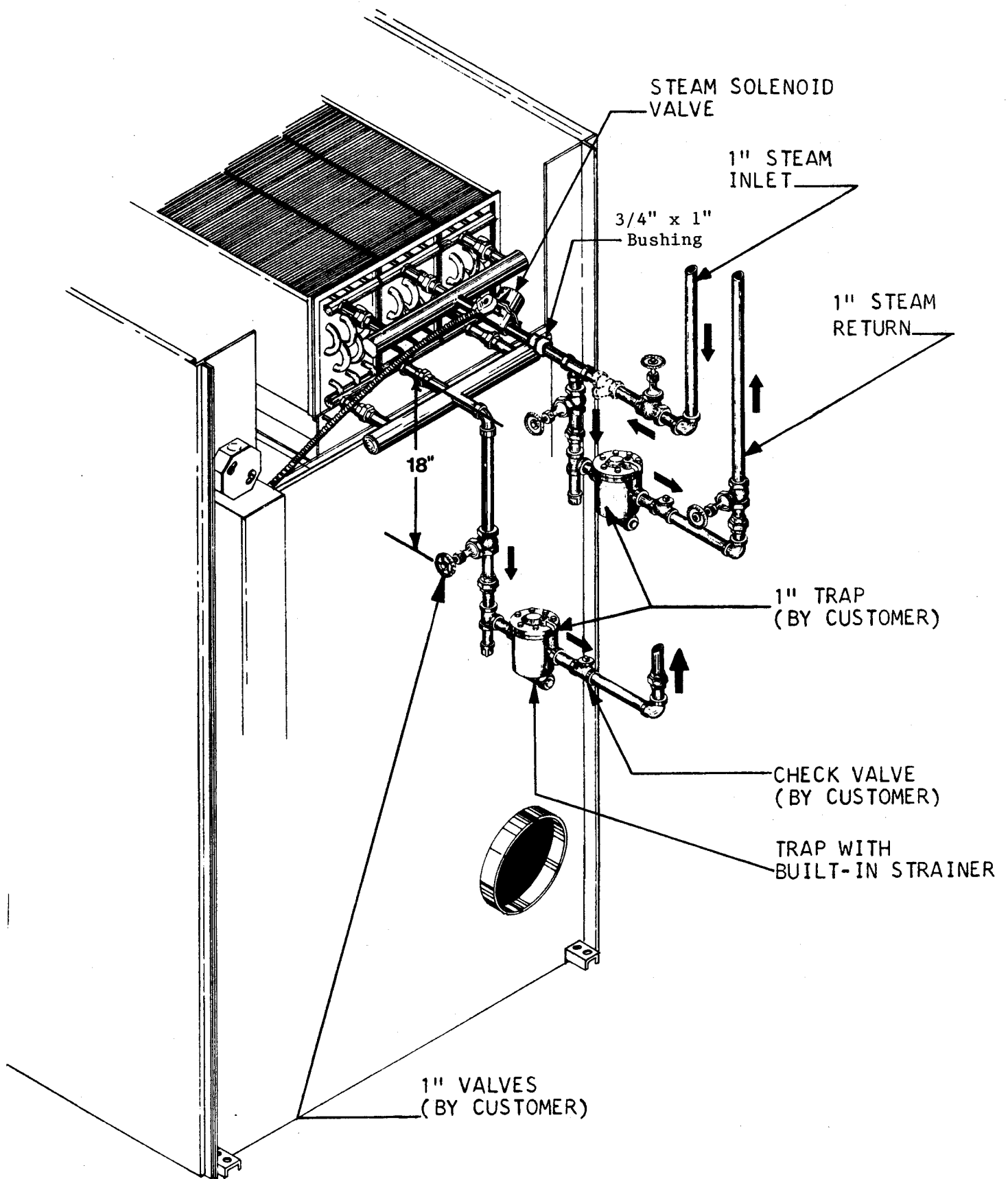


STEAM PIPING INSTALLATION INSTRUCTIONS

1. Set and anchor dryer in position. Machine should be level to assure proper steam circulation.
2. To prevent condensate draining from headers to dryer, piping should have a minimum 12" above respective header. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.
3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a by-pass trap to drain condensate from the low point in the steam supply header to the return.
4. In both steam supply and steam return line, it is recommended that each have a 1" union and 1" globe valve. This will enable you to disconnect the steam connections and service the dryer while your plant is in operation.
5. Before connecting trap and check valve to dryer, open globe valve in steam supply line and allow steam to flow through dryer to flush out any dirt and scale from dryer. This will assure proper operation of trap when connected.
6. After flushing system, install bucket trap (w/built in strainer) and check valve. For successful operation of dryer, install trap 18" below coil and as near to the dryer as possible. Inspect trap carefully for inlet and outlet markings and install according to trap manufacturer's instructions. If steam is gravity returned to boiler, omit trap but install check valve in return line near dryer.
7. Install union and globe valve in return line and make final pipe connections to return header.

PIPING RECOMMENDATIONS

1. Trap each dryer individually. Always keep the trap clean and in good working condition.
2. When dryer is on the end of a line of equipment extend header at least 4 feet beyond dryer. Install globe valve, union, check valve and by-pass trap at end of line. If gravity return to boiler, omit trap.
3. Insulate steam supply and return line for safety of operator and safety while servicing dryer.
4. Keep dryer in good working condition. Repair or replace any worn or defective parts.



GAS PIPING INFORMATION

Check gas rating plate for type of gas to equip the dryer.

Check for altitude elevation of the dryer.

Check utility for proper installation of gas supply line and gas pressure.
NATURAL GAS ONLY.

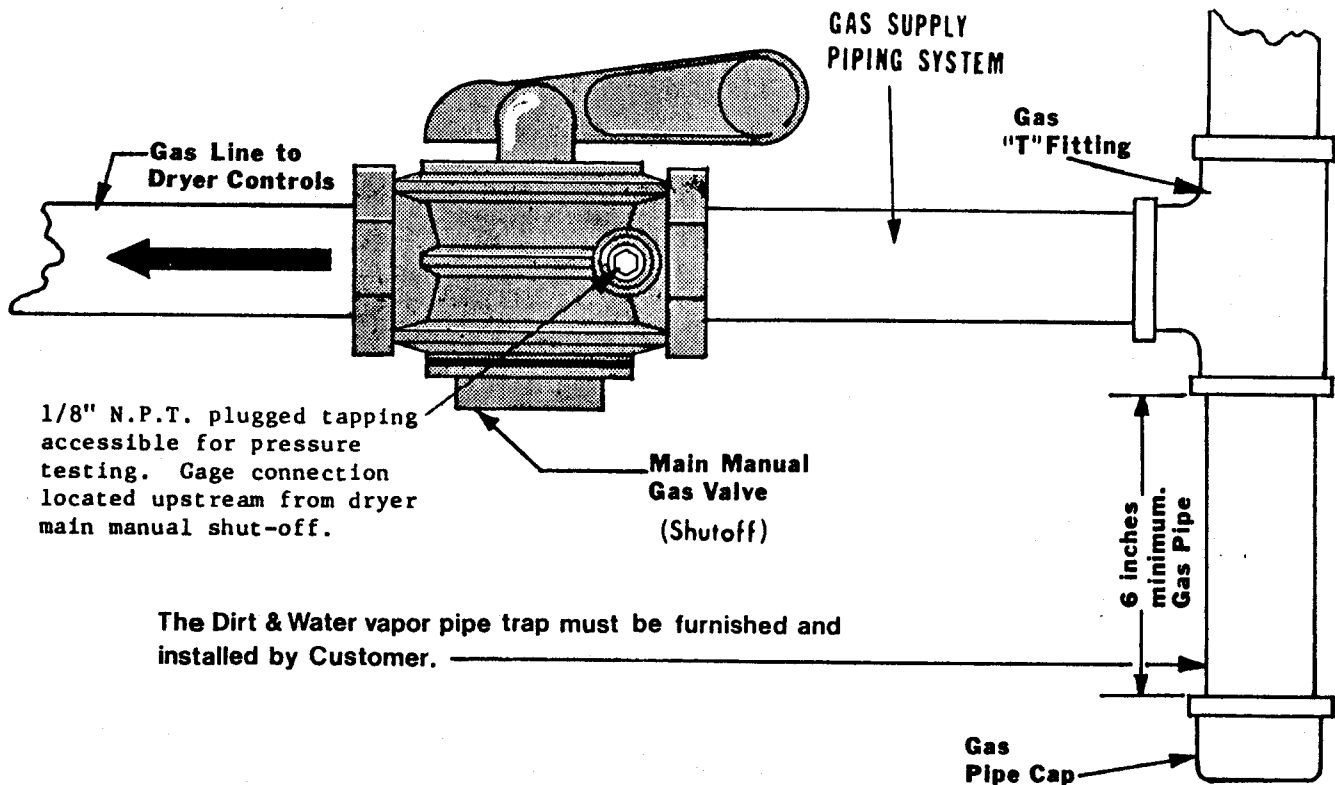
Check the gas pressure inlet supply to dryer, 11 inches W.C. Pressure maximum.
Check the manifold pressure 3.5 inches W.C. Pressure (Natural Gas)

L.P. GAS ONLY - 13 inches W.C. Pressure Maximum

CAUTION: Low gas pressure and intermittent gas will cause gas ignition problems. This will cause inadequate in drying of the clothes load.

The dryer and it's 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 $\frac{1}{2}$ psig.

The dryer must be isolated from the gas supply piping system by closing it's individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than $\frac{1}{2}$ psig.



GAS PIPE SIZE CHART

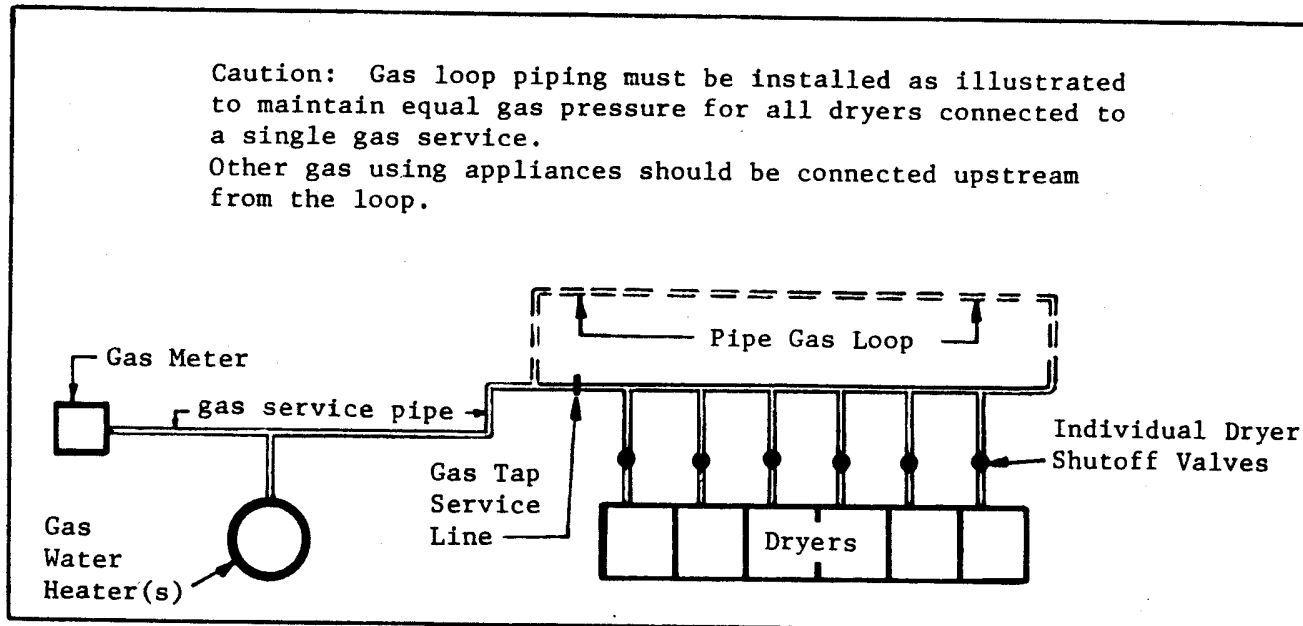
TOTAL BTU/HR (for L.P. gas correct total BTU/HR below by multiplying by .6)	GAS PIPE SIZE FOR 1000 BTU NATURAL GAS AT 7" W.C. PRESSURE					
	In figuring total length of pipe, make allowance for tees and elbows.					
	25 Ft.	50 Ft.	75 Ft.	100 Ft.	125 Ft.	150 Ft.
60,000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	3/4	3/4	3/4	1	1	1
100,000	3/4	3/4	1	1	1	1
120,000	3/4	1	1	1	1	1
140,000	3/4	1	1	1	1	1 1/2
160,000	3/4	1	1	1 1/2	1 1/2	1 1/2
180,000	1	1	1	1 1/2	1 1/2	1 1/2
200,000	1	1	1 1/2	1 1/2	1 1/2	1 1/2
300,000	1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
400,000	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2
500,000	1 1/2	1 1/2	1 1/2	2	2	2
600,000	1 1/2	1 1/2	2	2	2	2
700,000	1 1/2	2	2	2	2	2 1/2
800,000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	2	2 1/2	2 1/2	3	3	3
1,700,000	2	2 1/2	2 1/2	3	3	3
1,800,000	2 1/2	2 1/2	3	3	3	3
1,900,000	2 1/2	2 1/2	3	3	3	3
2,000,000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	3	3 1/2	3 1/2	4	4	4
4,000,000	3	3 1/2	3 1/2	4	4	4

GAS PIPING INSTALLATION

The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-1987.

GAS SERVICE INSTALLATION INFORMATION

The size of the gas service pipe is dependant upon many variables, such as tees, lengths, etc. Specific pipe size should be obtained from the gas supplier. Refer to the "Gas Pipe Size" chart in this manual for general gas pipe size information.



WARNING: LIQUIFIED PETROLEUM GASES ONLY

A Gas Pressure Regulator for Liquified Petroleum Gases is not furnished on Cissell Gas Heated Clothes Dryers. This regulator is normally furnished by the installer. In accordance with American Gas Association (A.G.A.) standards, a gas pressure regulator, when installed indoors, must be equipped with a vent limiter or a vent line must be installed from the gas pressure regulator vent to the outdoors.

EXHAUST INSTALLATION- SEPARATE DUCTS (PREFERRED)

For ductwork less than 14 ft. and 2 elbows equivalent and less than 0.3 in. static pressure.

Never exhaust the dryer into a chimney.

Never install wire mesh screen over the exhaust or make-up air area.

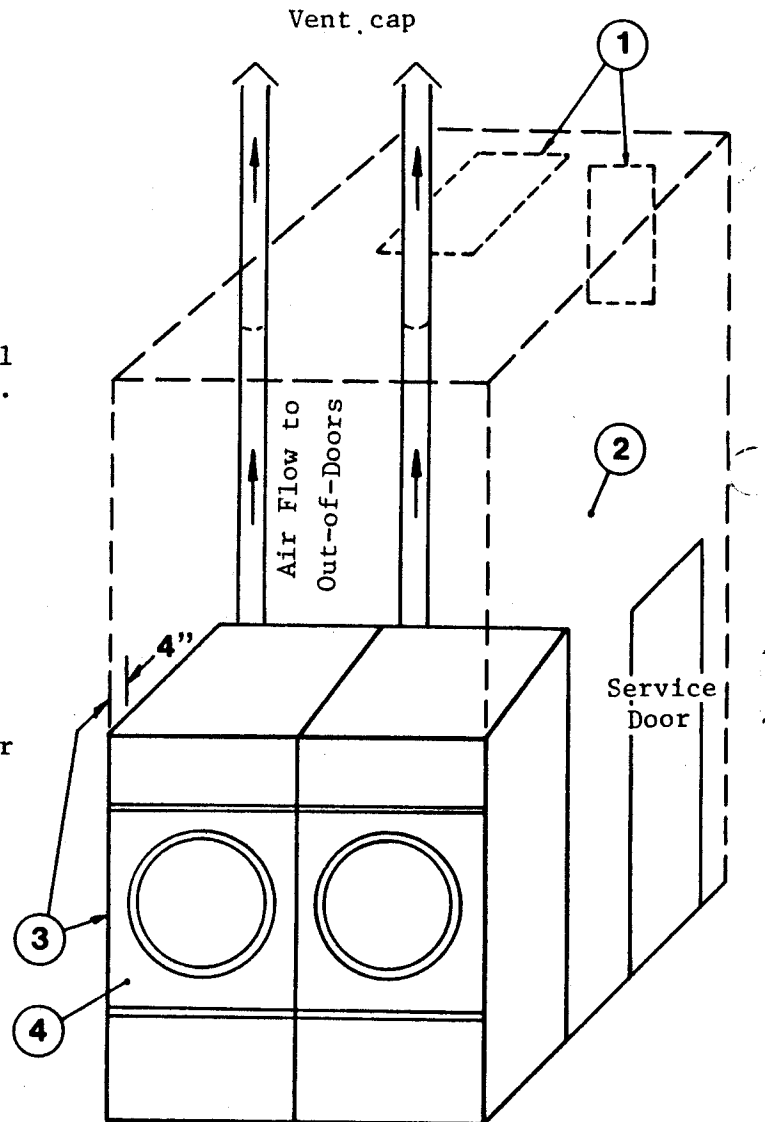
Never exhaust into a wall, ceiling, or concealed space.

1. Make-Up Air opening from outside the building may enter the enclosure from the top or side walls. The area of the opening should be equal to 4 to 6 times the sum of the dryer duct areas. Provide 1 sq. ft. for each 6 in. diameter; 2 sq. ft. for each 8 in. diameter; and 4 sq. ft. for each 12 in. diameter.

2. Enclosure (plenum) with service door. This separates the dryer air from the room comfort air. If dryers use room air instead of outside air, additional heat loss can be another 25 B.T.U./hr. for each cubic foot per minute (CFM) used. Example: a 110 lb. dryer with 2000 CFM = heat loss of 50,000 B.T.U./hr.

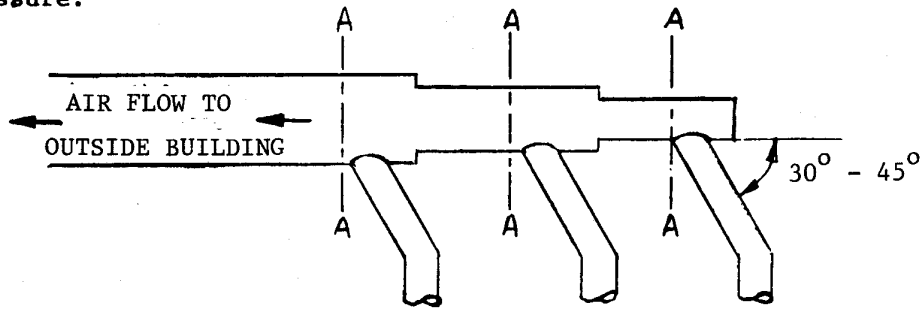
3. Zero inches clearance to combustible material allowed on sides and at points within 4 inches of front on top.

4. Heat loss into laundry room from dryer front panels is about 60 B.T.U./hr. per square foot.



EXHAUST INSTALLATION- MULTIPLE MANIFOLD DUCT

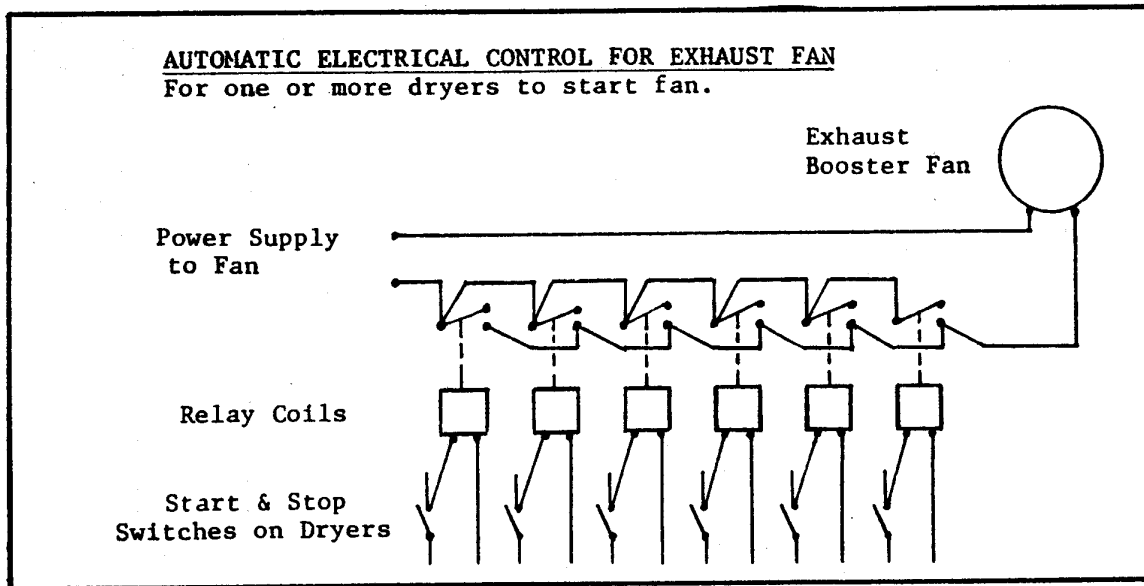
For Exhaust Duct less than 14 ft. and two elbows equivalent and less than 0.3 in. static pressure.



DRYER EXHAUSTS

Area of section "A-A" must be equal to the sum of dryer exhaust pipes entering multiple exhaust pipe. See chart below.

NO. OF DRYERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DUCT DIAMETER in inches	6	9	11	12	14	15	16	17	18	19	20	21	22	23	23	24	25	26	26	27	28	28	29	30
NO. OF DRYERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DUCT DIAMETER in inches	8	12	14	16	18	20	22	23	24	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
NO. OF DRYERS	1	2	3	4	5	6	7	8	9	10	11	12												
DUCT DIAMETER in inches	12	17	21	24	27	30	32	34	36	38	40	42												

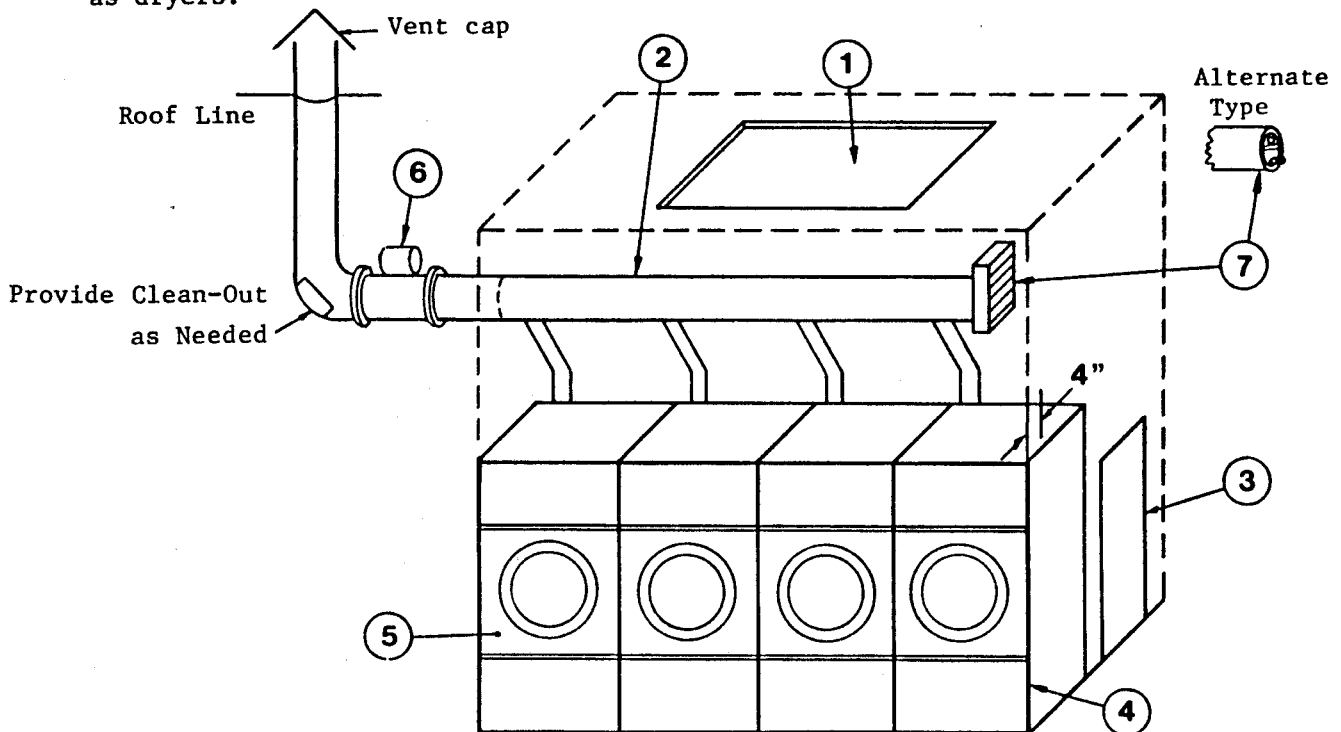


EXHAUST INSTALLATION- MULTIPLE MANIFOLD DUCT

For Exhaust Duct more than 14 ft. and 2 elbows equivalent and more than 0.3 in. static pressure.

1. Make-Up air from outside building may enter enclosure from top or side walls. Area of opening should be equal to 4 - 6 times the sum of dryer duct areas. Provide 1 sq. ft. for each 6 in. diameter; 2 sq. ft. for each 8 in. diameter; and 4 sq. ft. for each 12 in. diameter.
2. Use constant diameter duct with area equal to the sum of dryer duct areas. Example: 6 - 8 in. diameter duct = 1 - 19.6 in. diameter duct in area. Use 20 in. diameter duct or diameter to match tube-axial fan.
3. Enclosure (plenum) with service door. This separates the dryer air from room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 B.T.U./hr. for each cubic foot per minute (CFM) used. Example: 110 lb. dryer, 2000 CFM = 50,000 B.T.U./hr. loss.
4. Zero inches clearance to combustibile material allowed on sides and at points within 4 inches of front on top.
5. Heat loss into laundry room from dryer fronts only is about 60 B.T.U./hr. per sq. ft.
6. Flange mounted, belt driven tube-axial fan. Fan must run when one or more dryers are running. See suggested automatic electrical control wiring diagram on previous page. Must meet local electrical codes. Fan air flow (CFM) is equal to sum of dryer air flows, but static pressure (S.P.) is dependent on length of pipe and number of elbows.
7. Barometric By-Pass Damper - adjust to closed flutter position with all dryers and exhaust fan running. Must be located within enclosure.

CAUTION: No two installations are the same. For assistance, consult factory (502) 587-1292. Never install hot water heaters or other gas appliances in the same room as dryers. Never install cooling exhaust fans in the same room as dryers.



DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be a fluid air flow to the inlet of the dryer if there is to be the proper fluid air flow out of the exhaust duct. In summary, there must be the proper size out-of-doors inlet air opening (4 to 6 times the combined areas of the air outlet) and an exhaust duct size and length which allows flow through the dryer with no more than 0.3 inches water column static pressure in the exhaust duct.

Energy-saving dryer models require less inlet air area and smaller exhaust ducts than the regular dryers because there is about half as much air flow through the dryer. However, the importance of the proper inlet air area and the correct exhaust duct size is twice as important on energy saving models. The huge savings of an energy-saver dryer is offset only by the attention required to provide the proper air flow. Once this proper air flow is provided, it lasts for the life of the installation.

CISSELL WILL PROVIDE FREE ENGINEERING ADVICE FOR ANY SPECIFIED INSTALLATION.

In some instances, special fans are required to supply make-up air and/or boost exhaust fans are required for both regular and energy saving models.

EXHAUSTING DUCT

For best drying:

1. Exhaust duct maximum length 14 feet of straight duct and maximum of two 90 degree bends.
2. Use 45 deg. and 30 deg. elbows wherever possible.
3. Exhaust each dryer separately.
4. Use 2 feet of straight duct on dryer before installing an elbow, on Energy Saver models only.
5. Do not install wire mesh or other restrictions in the exhaust duct.
6. Use clean-outs in the exhaust duct and clean periodically when needed.
7. Never exceed 0.3 inches water column static pressure in the exhaust duct.
8. Inside surface of the duct must be smooth.
9. Recommend pop rivets for duct assembly.

MAKE-UP AIR

For best drying:

1. Provide opening to the out-of-doors in accordance with the following: For each dryer -
6" dia. exhaust req. 1 sq. ft. make-up air
8" dia. exhaust req. 2 sq. ft. make-up air
12" dia. exhaust req. 4 sq. ft. make-up air
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

Other Recommendations

To assure compliance, consult local building code requirements.

FOR HELP, consult Cissell Engineering on tough installations.

Trouble Shooting: Hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch malfunction are indicators of exhaust duct and/or make-up air problems.

RULES FOR SAFE OPERATION OF DRYER

1. Be sure your dryer is installed properly in accordance with the recommended instructions.
2. CAUTION: Be safe - shut main electrical power supply and gas supply off externally before attempting service.
3. CAUTION:
 - a. Never use drycleaning solvents: gasoline, kerosene, or other flammable liquids in the dryer. Fire and explosion will occur.
 - b. Never put fabrics treated with these liquids into the dryer.
 - c. Never use these liquids near the dryer.
 - d. Always keep the lint screen clean.
 - e. Never use heat to dry items that contain plastic, foam or sponge rubber, or rags coated with oils, waxes or paints. The heat may damage the material or create a fire hazard. Rubber easily oxidizes causing excessive heat and possible fire. Never dry the above items in the dryer.
4. Never let children play near or operate the dryer. Serious injury will occur if a child should crawl inside and the dryer is turned on.
5. Never use dryer door opening and top as a step stool.
6. Read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed any warnings or precautions.
7. Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer and could cause skin irritation if they become mixed into other fabrics.
8. Reference - Lighting and shutdown instructions and wiring diagrams are located on the rear wall of the dryer cabinet.

ENERGY SAVING TIPS

1. Install dryer so that you can use short, straight venting. Turns elbows and long vent tubing tend to increase drying time. Longer dry time means the use of more energy and higher operating costs.
2. Operate dryer using full-size loads. Very large loads use extra energy. Very small loads waste energy.
3. Dry light weight fabrics separately from heavy fabrics. You will use less energy and get more even drying results by drying fabrics of similar weight together.
4. Clean the lint screen area daily. A clean lint screen helps give faster, more economical drying.

5. Do not open the dryer door while drying, you let warm air escape from the dryer into the room.
6. Unload your dryer as soon as it stops. This saves having to re-start your dryer to remove wrinkles.

SERVICE SAVERS

To help you troubleshoot the dryer, we list below the most common reasons for service calls and some answers to the problems. Before you call service please review the following items:

DRYER WON'T START:

1. Is the door completely closed?
2. Are the controls set to a drying position and not to off?
3. Did you push the start control?
4. Has a fuse blown or a circuit breaker tripped? Are fuses tight?
5. Check for low voltage.

DRYER WON'T HEAT:

1. Is the dryer set for a heat rather than an air only position?
2. Is the gas valve in the dryer and the valve on the main gas line turned on?
3. Check for low or intermittant gas pressure.

CLOTHES ARE NOT SATISFACTORILY DRY:

1. Timed cycle - Did you allow enough heating time before the cool-down part of the cycle?
2. Is the lint screen blocked?
3. Is the exhaust duct to the outside clean and not blocked? (A blocked exhaust will cause slow drying and other problems.)
4. Venting, air switch closing and make-up air for each drying.

GAS DRYER IGNITION:

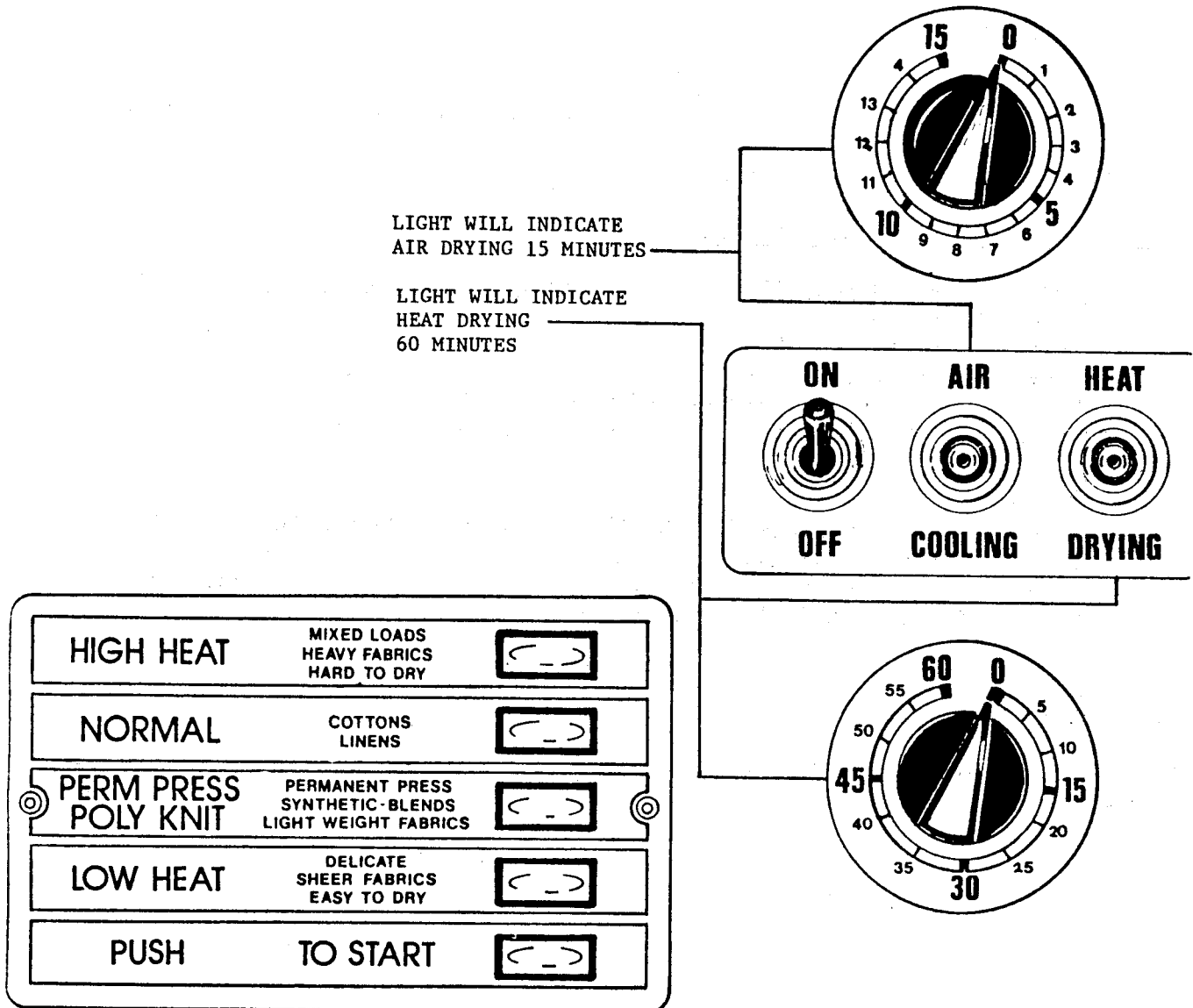
Refer to page "Instructions for the Direct Ignition System Operation." Check to see if the manual gas valve is open. Then reset the dryer controls. If dryer still fails to heat, call for service. All panels, covers, and doors must be in place and closed before starting dryer.

VERY IMPORTANT:

When calling the factory for service, always refer to the model number and serial number.

OPERATING INSTRUCTIONS - TWO TIMER MODEL

1. After loading dryer with water washed clothes, close the loading door.
2. Turn the 60 minute drying (heat) timer to the desired time. The drying cycle light will be on.
3. Turn the 15 minute cooling (air) to the desired time. The cooling light will come on after the drying finishes.
4. Select the temperature desired:
 - HIGH- 180° exhaust temperature, heavy fabrics and hard to dry.
 - NORMAL- 170° exhaust temperature, cottons and linens.
 - PERMANENT PRESS- 155° exhaust temperature, synthetic blends.
 - LOW- 140° exhaust temperature, delicate, sheer fabrics.
5. Turn ON/OFF toggle switch to ON and press the PUSH TO START button to start the drying and cooling cycles.
6. To shut the dryer off at any time during the cycles, switch the ON/OFF switch to OFF.



AUTOMATIC COMPUTERIZED DRYER CONTROL

DESCRIPTION

The Automatic Computerized Drying Control is used to manage the drying and cooling cycles of one clothes dryer. The operator has the flexibility to select either automatic or timed drying and cooling. When automatic is selected, the drying cycle will be terminated when the clothes are dry. A dryness sensor "feels" the clothes and signals the control when they are dry. In the timed mode, the operator sets the time and temperature for the load.

FEATURES

Automatic/Timed drying selection	Automatic/Timed cooling selection
Fabric selection (automatic mode)	LED display of cycle time
Drying range of 100°F-195°F (timed mode)	Repeat last cycle
Drying range of 0-60 minutes (timed mode)	Safety tumble cycle
Cooling range of 0-60 minutes (timed mode)	Reversing/Non-reversing selection (option)

DRYNESS SENSOR When in the Auto Drying mode, the length of the cycle is controlled by a dryness sensor. The sensor works on a "capacitor charge time" principle. The electronic circuit looks at the charge on the capacitor in the dryness circuit. When the capacitor is fully charged, the circuit ends the drying cycle. One side of the capacitor is connected to a dryness probe located in the center of the basket. Wet clothes hitting the probe will "discharge" the capacitor or prevent it from reaching full charge. As the clothes dry, they have less effect on discharging until finally it is fully charged, ending the drying cycle. The time to charge the capacitor with no clothes load is listed:

<u>Fabric Selection</u>	<u>Charge Time</u>
Heavy	11.5 Minutes
Cotton	5.5 Minutes
Permanent Press	5.5 Minutes
Delicate	5.5 Minutes

LED DISPLAY MESSAGES

<u>Display</u>	<u>Condition</u>
__0	Normal display between loads. Dryer is ready for next load.
012	Normal display of minutes during drying/cooling cycles.
012 (Flashing)	The door is open. Close door and press Start.
-S- (Flashing)	Dryer is in Safety Tumble mode. The cycle has ended, unload the dryer. If the door is not opened in 2 minutes or the Off button is not pressed, the dryer will start a cooling cycle for 30 minutes to prevent clothes from wrinkling.
_PF (Flashing)	Power failure. Press On and Start. To terminate cycle, press Off/Stop. If power failure is less than 24 hours long, settings are in memory, otherwise settings must be re-entered.
FFF (Flashing)	The temperature sensor (thermistor) has failed; must be repaired before continuing.
-A-	Indicates dryer in Automatic mode.

AUTOMATIC COMPUTERIZED DRYING CONTROL

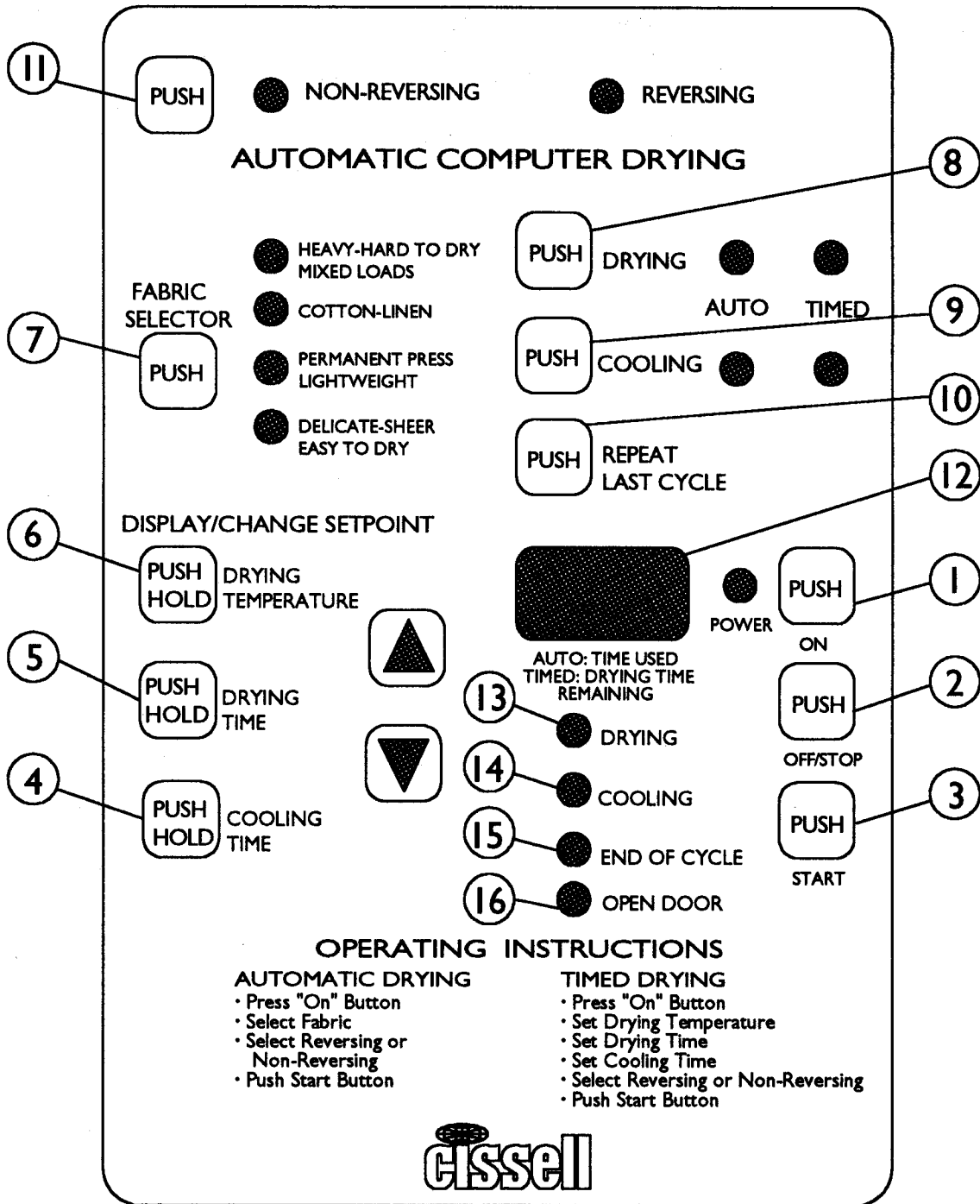
OPERATION OF CONTROL PANEL (See drawing next page)

1. **ON** Turns the control on. If dryer is not used for 30 minutes, the power will turn off. Press On for power.
2. **OFF/STOP** Turns the control off or stops the dryer during a cycle.
3. **START** Starts the cycle or re-starts if off.
4. **COOLING TIME** In Timed mode, with this button held down, the set cooling time in minutes will be displayed. To change the time, use the "up" and "down" buttons while Cooling Time button is down. The cooling time cannot be changed when in Automatic mode. If this button is held down, "-A-" will be displayed.
5. **DRYING TIME** In Timed mode, with this button held down, the set drying time in minutes will be displayed. To change the time, use the "up" and "down" buttons while holding Drying Time down. The drying time cannot be changed when in Automatic mode. If this button is held down, "-A-" will be displayed.
6. **DRYING TEMPERATURE** With this button held down, the drying temperature in degrees F will be displayed. To change the temperature, use the "up" and "down" buttons while Temperature button is down. The temperature cannot be changed when in Automatic mode. If this button is held down, the temperature associated with the fabric selection will be displayed. If both the "up" and "down" buttons are held down at the same time, the actual temperature inside the dryer will be displayed.
7. **FABRIC SELECTOR** Used to select the type of fabric (and temperature) to be dried in Auto Drying mode. Press until desired selection is indicated by light. See chart below for corresponding temperature.

HEAVY	195°F
COTTON	195°F
PERMANENT PRESS	175°F
DELICATE	160°F

8. **DRYING** Pressing this button changes the selection of Automatic or Timed Drying, indicated by a light.
9. **COOLING** Pressing this button changes the selection of Automatic or Timed Cooling, indicated by a light. In Auto Cooling mode, the cycle will end when the temperature falls below 135°F.
10. **REPEAT LAST CYCLE** Pressing this button before the start of a cycle will reset all of the selections to what they were at the beginning of the previous cycle. Press Start to begin the previous cycle.
11. **NON-REVERSING/REVERSING** Pressing this button changes the selection of reversing/non-reversing.
12. **LED DISPLAY** Shows cycle time or temperature. In Auto mode, it shows the minutes used. In Timed mode, it shows the minutes remaining. When the Drying Temperature button is held down, the set drying temperature is displayed. When the Drying Time button is held down, either the total drying time or -A- is displayed, depending on whether Auto or Timed is selected. When the Cooling button is held down, either the total cooling time or -A- is displayed, depending on Auto or Timed selection. See previous page for additional messages displayed.
13. **DRYING** Illuminated when in the drying cycle.
14. **COOLING** Illuminated when in the cooling cycle.
15. **END OF CYCLE** Illuminated at the end of the cycle.
16. **OPEN DOOR** Illuminated if door is opened. The dryer will stop; to re-start, close the door and press Start.

CONTROL PANEL



AUTOMATIC COMPUTERIZED DRYER CONTROL

DETAILS OF CONTROL BOARD AND OPTIONS (Refer to drawing on next page)

OPTION SWITCH SET 1	Switch	On	Off
	#8 - F/C	Fahrenheit	Centigrade
	#7 - SFTY/EN	Enabled	Disabled
	#6 - 6-Add	+6 Minutes	0
	#5 - Repeat S/E	Start	End
	#4 - 2 Deg.	+2 Degrees	0
	#3 - 5 Deg.	+5 Degrees	0
	#2 - 10 Deg.	+10 Degrees	0
	#1 - 20 Deg.	+20 Degrees	0

#8 - F/C Select Fahrenheit or Centigrade for temperature LED display.

#7 - SFTY/EN Select Safety Tumble mode to be enabled or disabled.

#6 - 6 Add Used with HEAVY Fabric Selection to add 6 minutes to drying time (Auto mode) for hard-to-dry loads.

#5 - Repeat S/E Used with REPEAT LAST CYCLE. The cycle settings will be stored either at the Start or End of the cycle, based on this switch setting. The stored settings will be used when REPEAT LAST CYCLE is pressed.

#4 - 2 Deg. Adds 2 degrees to the differential temperature.

#3 - 5 Deg. Adds 5 degrees to the differential temperature.

#2 - 10 Deg. Adds 10 degrees to the differential temperature.

#1 - 20 Deg. Adds 20 degrees to the differential temperature.

Note: The differential temperature is part of the heating logic. When the temperature in the dryer reaches the "set" temperature, the heat shuts off. The heat turns on when the temperature falls a certain number of degrees below the "set" temperature. The difference between the "on" and "off" temperature is the differential temperature, which can be set between 5 and 25 degrees. The control "sums" the values set with the switches #4 - #1, but will not go lower than 5 or higher than 25. If the sum is less than 5, it defaults to 5; if the sum is greater than 25, it defaults to 25.

OPTION SWITCH SET 2 - These switches have no function.

THERMISTOR CALIBRATION - To verify the thermistor circuit calibration, proceed as follows:

1. Disconnect the thermistor leads to the circuit board.
2. Short the JP5 terminals (Thermistor Calibration Pins).
3. Hold down the "up" & "down" buttons together to display the temperature. It should read 158°F.
4. If not 158°F, adjust the Thermistor Calibration Potentiometer until it reads 158°F.
5. Remove the jumper at JP5 and connect the leads to the circuit board.

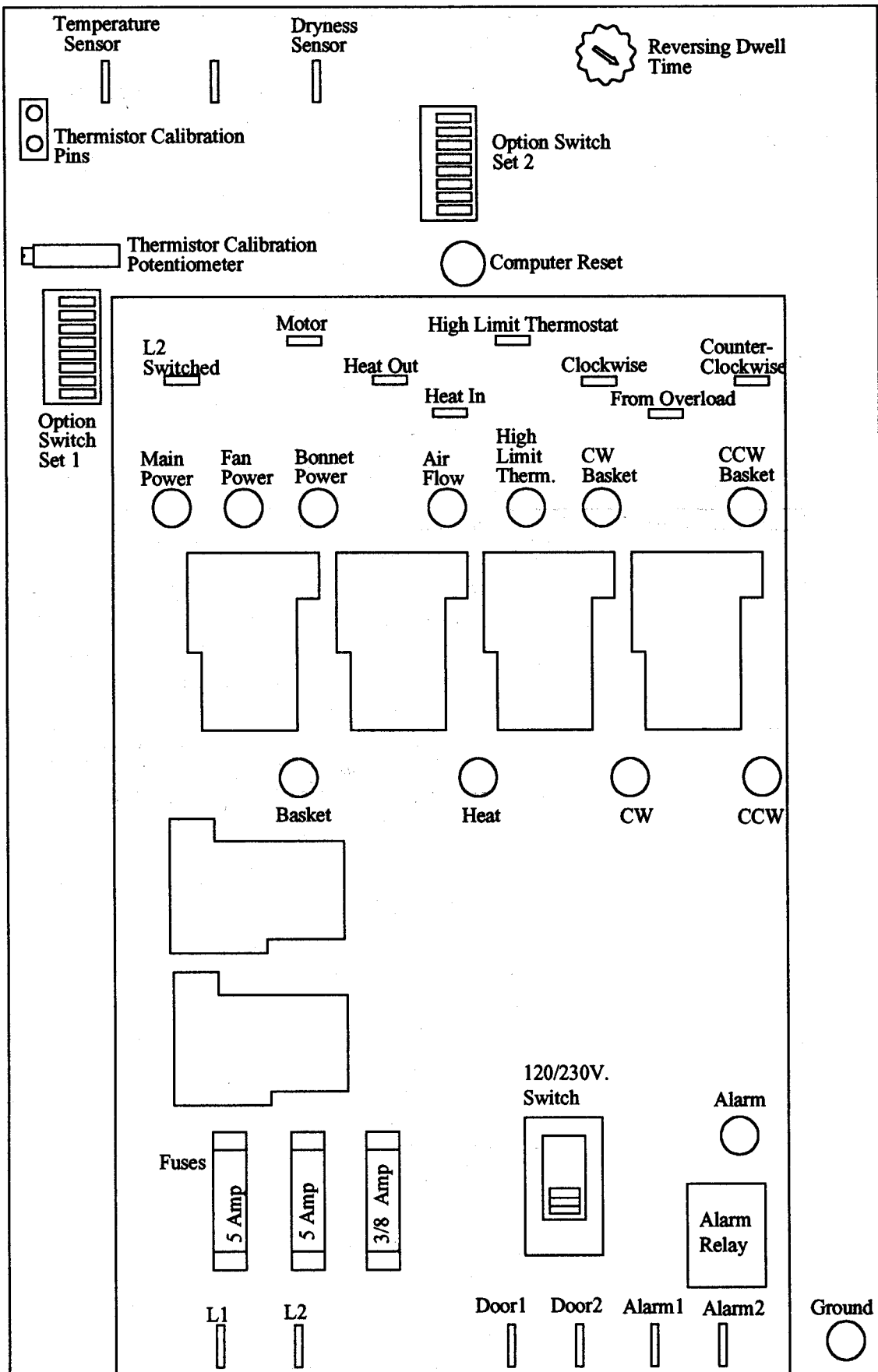
REVERSING DWELL TIME Used to set dwell time on Reversing dryers. The dwell time is the pause when the motor stops and changes direction. Turn the knob counter-clockwise to increase time; clockwise to decrease time.

COMPUTER RESET Push this button to reset, if the computer control "locks up".

120/230V. SWITCH Set to correct input voltage to prevent blown fuses on the control board.

ALARM RELAY This socket is used to add an alarm relay to signal the end of the cycle. Alarm1 and Alarm2 terminals connect to the relay contacts. The relay energizes at the end of the cycle and stays energized until either the door is opened or the dryer control OFF/STOP button is pressed.

CONTROL BOARD



TROUBLE SHOOTING CHART

CAUTION: To avoid electrical shock, shut off electrical supply before servicing machine.

WARNING: To avoid burns, avoid contact with hot steam coils, gas flames, and hot electrical coils in the machine's heating unit. On steam heated dryers, close the steam supply and purge pressure from steam lines. On gas-fired dryers, shut off gas supply. And on electric heated dryers, shut off electric supply to heating unit.

CAUTION: Be careful of moving mechanical parts such as gears, pulleys, etc. while servicing dryer. Keep fingers and loose articles of clothing free from moving mechanical parts to avoid injury.

IMPORTANT: Refer to Parts Sheets for correct Cissell replacement parts.

TROUBLE	CAUSE	REMEDY
Motors will not start	No Power	Check fuses or circuit breakers. Main switch must be on.
	Incorrect power	Check power source. Voltage, phase, and frequency must match rating plate on rear of dryer.
	Low voltage	Check voltage at motor terminals. Voltage must be within 10% (plus or minus) of voltage on rating plate. If not, consult local power company for corrective measures.
	Timer off	Set timer on control panel.
	Loose wire connection	Check connections in junction box on rear of dryer.
Motor tripping on thermal overload	Start relay defective	Check coils and contacts.
	Low voltage	Check voltage at motor terminals. Voltage must be within 10% (plus or minus) of voltage on rating plate. If not, consult local power company for corrective measures.
	Inadequate wiring	Check if wire is correctly sized for load.
	Loose wire connections	Check connections and correct if bad.
	Inadequate air	Check installation for recommended make-up air.
Basket motor will not run	Poor housekeeping	Clean lint accumulation around and on motor.
	Loading door open	Close door after dryer is loaded with clothes.
	Door switch out of adjustment	Adjust switch by removing cover and bend the actuator lever to clear switch button 3/8" with cover in place.
	Defective door switch	Replace door switch.
Basket motor runs, but basket will not revolve	Bad basket motor contactor	Replace contactor.
	V-Belt broken	Replace V-Belt.
	V-Belt loose	Adjust belt tension.
	Motor pulley loose	Tighten set screw(s).
Dryer noisy or vibrating	Basket over-loaded	Lessen load.
	Not leveled	Level per instructions on separate page of this manual.
	Fan out of balance	Accidental damage to fan blades can change dynamic balance. Replace damaged fan.
	Basket rubbing	Adjust basket clearance.
	V-Belt sheaves	Align sheaves and tighten set screws.
	Belt	Adjust belt tension.
Foreign objects inside dryer		Occasionally screws, nails, etc. may hang in the basket perforations and drag against the sweep sheets surrounding the basket. Remove such objects immediately.

TROUBLE SHOOTING CHART

TROUBLE	CAUSE	REMEDY
Dryer runs but no heat	Incorrect voltage	Check for correct voltage at ignition system on terminals 4 and B, should be 120V.
	No voltage	Check power supply and secondary voltage on transformer. Check wiring with diagram.
	Igniter will not glow red	Replace defective igniter.
	Igniter glows light red	Check for 2.5 amps minimum. Low amps insufficient.
	Lint door open	Close lint door.
	Defective gas valve	Replace coil in valve.
	Gas turned off	Open manual gas valve.
	Defective door switch	Replace door switch.
	Igniter not igniting gas	Must be 3/16 - 5/16" above igniter; replace radiant sensor.
	Air switch not operating	Clean area around back-draft damper and ductwork of lint. Check make-up air and exhaust installation per instructions. Take a vacuum reading of dryer by removing a screw from the front panel and inserting the rubber tube of U-gauge into hole. Reading should not fall below 0.3 water column pressure. If so, adjust air flow installation per instructions.
	Air switch out of adjustment	Adjust per instructions in this manual.
	Air switch defective	Replace air switch.
	Gas pressure too low	Check manifold pressure; adjust to rating plate specification. If not, have supplier check main pressure.
	Improper gas orifice	Gas type on rating plate should match orifice. Check supplier for gas type. If does not match rating plate, replace orifice.
	No electric power to dryer	Restore power to dryer.
	Electric elements bad.	Replace electric heating elements.
	Thermostat(s) bad	Replace bad thermostat(s)
	Relay bad	Replace relay.
	Line fuse or heater circuit fuse blown	Replace blown fuse.
Main burners burning improperly	Burner air shutter closed	Adjust per instructions in this manual.
	Burner holes clogged	Clean burner holes; blow out dirt.
	Gas pressure too high	Adjust per rating plate specification.
	Orifice too large	Check with factory for correct orifices.
	Restricted or blocked exhaust	Clean exhaust of lint or restrictions.
Burner cycles on and off	Radiant sensor bad	Replace radiant sensor.
Low gas flame or high gas	Incorrect burner orifices	Check with factory for correct orifices and replace if needed.

TROUBLE SHOOTING CHART

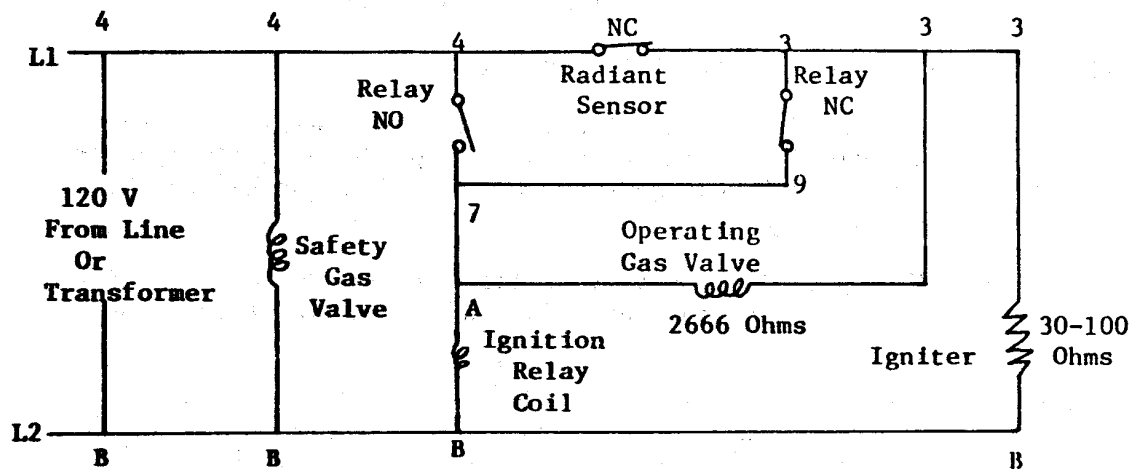
TROUBLE	CAUSE	REMEDY
Dryer too hot	Incorrect burner orifices	Check with factory for correct size, replace if needed.
	Inadequate make-up air flow	Check air flow installation per instructions in this manual.
	Lint accumulation	Clean dryer of lint.
	Exhaust duct damper	Must be fully open or replace.
	Gas pressure too high	Adjust per rating plate specification.
	Exhaust system restricted or inadequate sized ductwork	Clean exhaust system; check installation instructions for duct size recommendations.
	Thermostat defective	Replace thermostat.
Dryer doesn't stop.	Timer defective	Replace timer.
Dryer runs, but no steam to coils	Valve closed	Open all valves in steam supply and return lines.
	Steam trap blocked	Remove and clean.; replace if defective.
	Solenoid valve	On dryers with solenoid temperature control, check solenoid valve by advancing thermostat; replace if defective.
	Thermostat	Replace thermostat if defective.
	Check valve installed wrong	Check markings on valve; invert if needed.
	Strainer clogged	Remove plug and blow out; remove strainer and clean.
Water in steam line	Steam piping incorrect	Check installation instructions per this manual.
	Trap not working	Check trap for correct size and capacity. Clean if dirty and sluggish. Check return line or high back pressure; check for another trap charging against trap functioning improperly.
Basket does not reverse	Reversing timer	Check timer; replace if defective.
	Reversing timer	Adjust timer per instructions in this manual.

IGNITION SYSTEM OPERATION

Power to the ignition system is 120 volts. It is rated voltage or on higher voltage machines the 120 volts is from a transformer. The ignition system is powered through a timer or coin meter and a thermostat which calls for heat.

The two gas valves are plumbed into a single gas line and both must open before the gas can flow into the burners.

The following diagrams are line to line schematics of the ignition system. The numbers 4, 7, 3, 9, and letters A and B are terminals on the ignition relay.

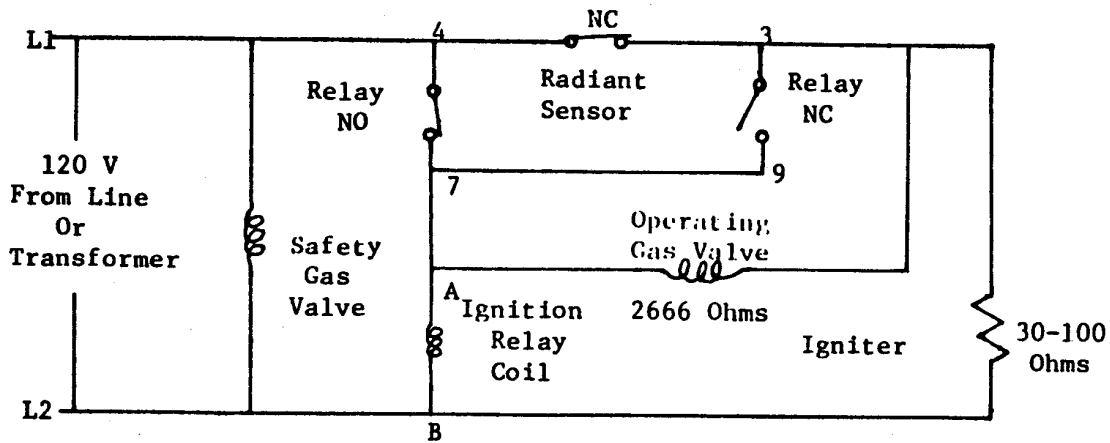


NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 1 (Start of Cycle)

Step #1 (Start of Cycle), see Fig. 1

- a. The safety gas valve is connected across the lines and opens immediately as soon as a need for heat is indicated by the thermostat.
- b. The ignition relay coil is energized through the normally closed (NC) contacts of the radiant sensor and the NC contacts of the relay. Note! Fig. 1 shows the electrical circuit of the relay just before it is energized. Fig. 2 shows the circuit a moment later.
- c. The igniter is energized through the NC contacts of the radiant sensor.
- d. The operating gas valve is connected such that the same 120 volts is applied to both sides of the gas valve and the valve stays closed.

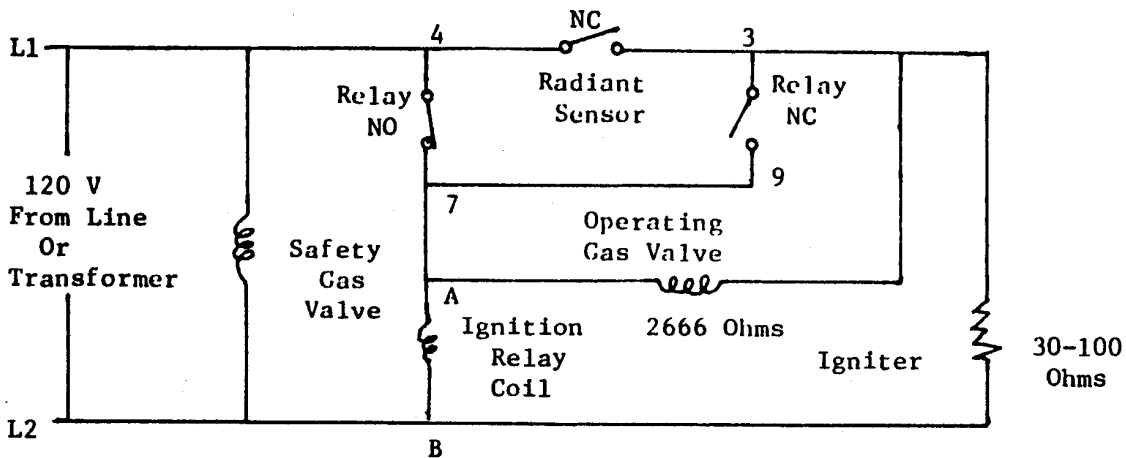


NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 2 (An Instant Later)

Step #2 (A moment after Step #1), see Fig. 2

- a. The ignition relay closes now and the relay coil stays energized by being powered through the normally open (NO) contacts of the ignition relay which close before the NC contacts open.
- b. The operating gas valve still has the 120 volts applied to both sides of the gas valve and the valve stays closed.



NORTON SILICON CARBIDE IGNITION SYSTEM

Fig. 3 (About 20 Seconds Later)

Step #3 (About 20 seconds after Step #2), see Fig. 3

- a. The igniter glows red hot which causes the radiant sensor to open its NC contacts which de-energizes the igniter.
- b. As the radiant sensor NC contacts open, the 120 volt to one side of the operating gas valve coil is removed and an electrical circuit is formed through the NO contacts of the inition relay,

through the gas valve and through the igniter; and the gas valve opens. The relatively low resistance of the igniter allows nearby full voltage to be applied to the operating gas valve and nearby zero voltage to the igniter and the igniter is de-energized for all practical purposes.

- c. As the raw gas flows against the red hot igniter, ignition takes place. The radiant gas flame replaces the radiant glowing of the igniter and the radiant sensor NC contacts remain open.

The flame will burn until the thermostat opens the circuit or until the time on the timer or coin meter expires.

The following summarizes the ignition operation.

Start machine drying cycle. Carbide igniter will get red hot. Then gas valve will open. The gas burners are ignited by the carbide igniter. Igniter will shut off and burners will remain on during drying cycle.

Opening tumbler door will cause gas to extinguish. Shut door and gas will not light until flame sensor cools and normal ignition cycle begins.

Note! Push start switch after door is shut.

If gas does not light, then the sensor will cool down and restart the ignition cycle.

SAFETY FEATURES

Power Interruptions During Burning of the Gas

Both gas valves are de-energized and the gas is shut off. The ignition relay is also de-energized and returns the contacts to the NO and NC positions. Even with resumption of power, the operating gas valve stays closed until the NC contacts of the radiant sensor close (about 30 seconds from time of power interruption). A normal ignition cycle begins at this time.

Burner Doesn't Light Because of Low Voltage or Low Gas Pressure

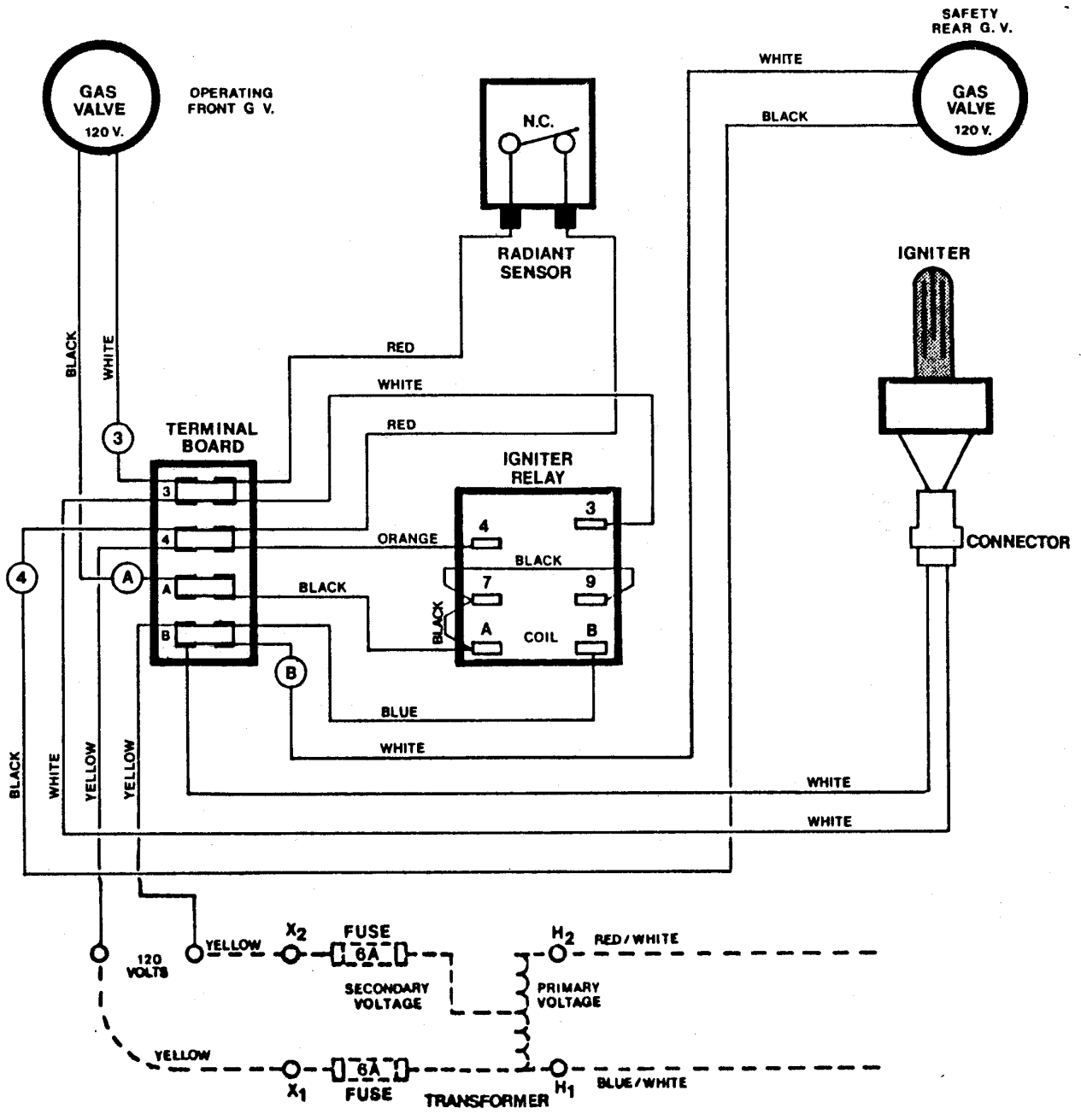
The operating gas valve will be energized for about 30 seconds and then the NC contacts of the radiant sensor will be closed. 120 volts is applied to both sides of the operating gas valve and it closes to shut off the gas. A normal ignition cycle begins at this time.

WIRING DIAGRAM

NORTON SILICON CARBIDE GAS IGNITION SYSTEM
120 VOLTS; 50/60 HZ; 1 PHASE

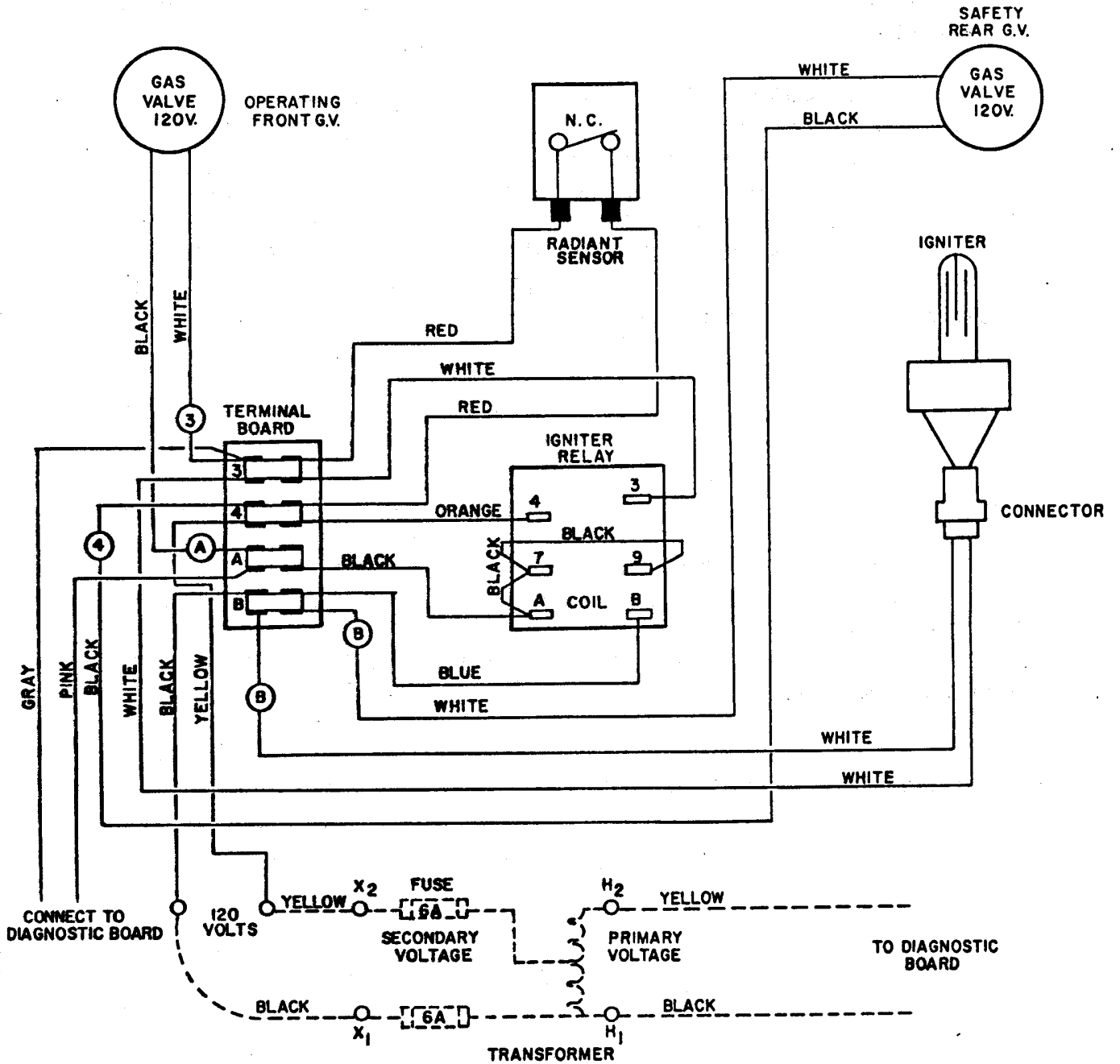
TWL 679

TWL 680



NORTON SILICON CARBIDE GAS IGNITION SYSTEM
 120 VOLTS : 50/60 HZ : 1 PHASE
 GAS DRYERS

PROMPTER MODELS



g-30-83

NORTON IGNITION SYSTEM

TEST PROCEDURE

1. If glow bar does not glow red, disconnect and test with separate 120V. Replace if it does not glow red. If it is damaged or cracked, replace.
2. Check wiring of ignition system parts per wiring diagram.
3. Gas valves must open (click) when dryer is energized. Burners will ignite after 12 to 25 seconds.
4. After flame is burning, glow bar will go out. If both gas valves do not open, then replace.
5. If glow bar does not go out, then replace radiant sensor. If the radiant sensor glass is broken, replace it.
6. Open and close dryer loading door after gas has started burning. When door is closed, gas should not flow until radiant sensor has cooled and glow bar recycles.

INSTRUCTIONS FOR DIRECT IGNITION SYSTEM OPERATION

1. Open manual gas valve, handle should be parallel with gas line.
2. Start machine drying cycle. The igniter will glow red hot, the gas valves will open and the burners will ignite.
3. The igniter will shut off and the burners will continue burning during heat cycle.
4. Opening the tumbler loading door will cause the gas to extinguish. Shut the door and the gas will not flow until the flame sensor has cooled. Push the Start button to begin cycle after door is closed. If ignition fails, wait for five minutes to re-start.
5. To shut off dryer, close the manual gas valve. The handle should be at a right angle to gas line. Turn off the main electrical supply switch.

CAUTION: CHECK IGNITERS WITH 120V. BEFORE INSTALLING ON DRYER.

TROUBLE ANALYSIS FOR ENERGY SAVER DRYERS AND THE ELECTRONIC GAS IGNITION SYSTEM

CAUTION: Problems with the electronic silicon carbide ignition can be the result of the following:

1. Exhaust air flow restriction. Exhaust pipe size must be equal to or larger than the exhaust opening, depending on the pipe size. See chart in manual.
2. Dryer inlet air is a must for each unit. It must be 4 to 6 times the area of the dryer exhaust outlet. Refer to chart in the manual.
3. All dryer panels must be in place on machine for proper operation.
4. Gas supply inlet to dryer. Gas pressure must be 7-9½ inches W.C. for natural gas and 11 inches W.C. for propane or butane (bottled) gases. Manifold gas pressure 3.5 inches W.C. for natural gas and 11 inches W.C. for propane or butane gas.
5. Refer to chart for correct gas pipe sizes and lengths. The ¾ inch gas pipe must be the minimum gas supply pipe for each dryer and over 50 feet, 1 inch pipe size. Low gas pressures are caused by small pipe size, see chart.
6. Main burner orifices must be the correct size. They are calculated with the following information :
 - A. Your locality heating value of gas, B.T.U./ Cubic foot.
 - B. Local specific gravity of gas.
 - C. Gas manifold pressure inches of water column.
 - a. 3.5 inches water column pressure for natural gas.
 - b. 11 inches water column pressure for propane or butane gas.
 - D. Gas input rate per each burner orifice.
7. Voltage must be identical as on the electrical rating plate. Prevent low voltage, it causes longer dryer operation time and gas ignition problems. CAUTION: Very low gas flame will not heat up radiant sensor.
8. Back draft damper must swing fully open to prevent air flow restrictions. Check for full open operation every 6 months. Non-operative or erratic operation of the exhaust dampers will cause air flow switches to shut off gas, will result in longer drying time and will cause erratic ignition problems. Improper connection of the 3 wires in a 3 phase circuit will cause the motor to run backwards and no air flow (damper stays closed). reverse the 2 wires of the 3 wire, 3 phase power supply.

THE ABOVE SHOULD BE CHECKED AND CORRECTED BEFORE ATTEMPTING TO TROUBLE SHOOT THE IGNITION SYSTEM.

GENERAL MAINTENANCE

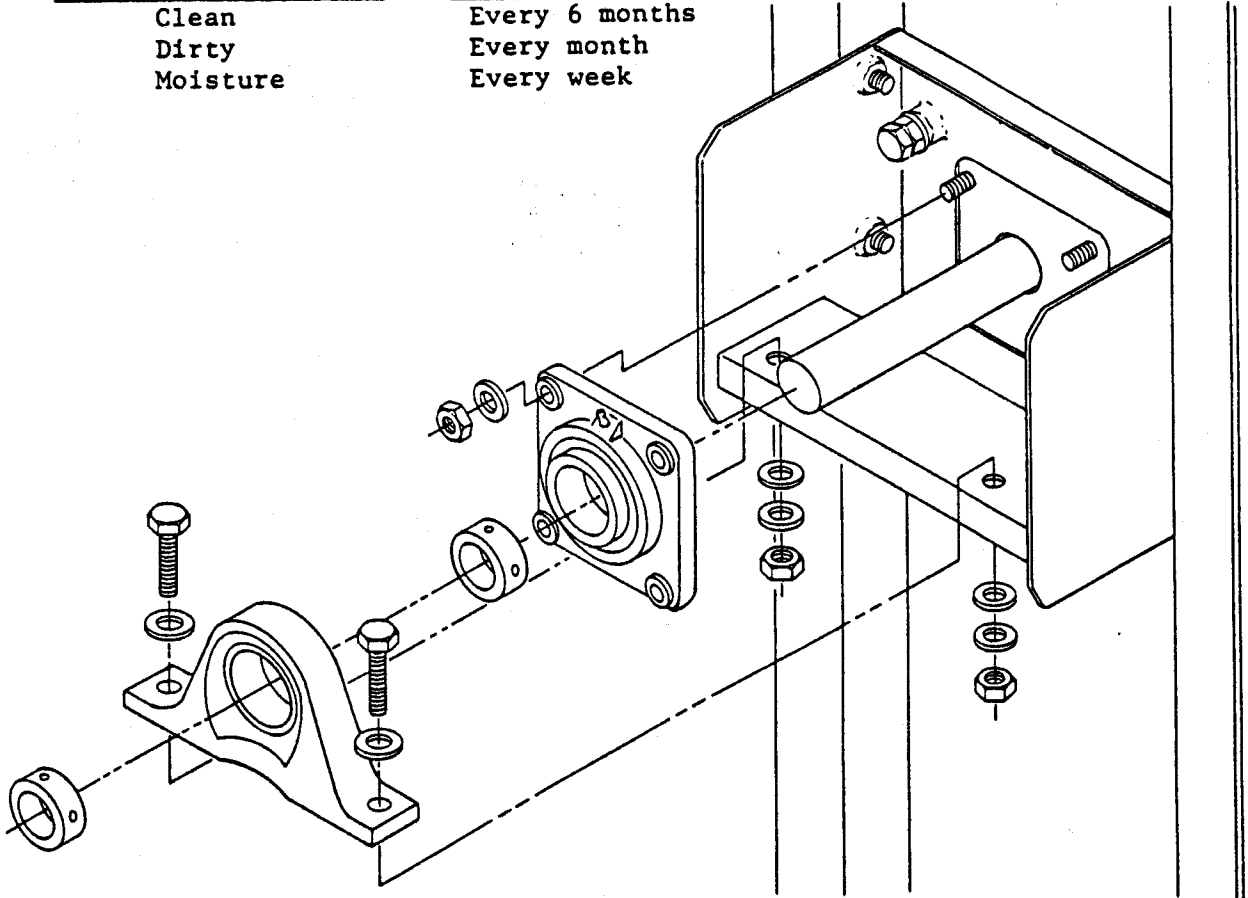
1. Clean lint trap daily. Remove lint before or after each day of operation. A clean lint trap will increase the efficiency of the dryer and the moisture laden air will be exhausted outside more quickly.
2. Keep basket and sweep sheets clean. Clean as often as needed. The basket and sweep sheets are accessible by removing the front panel of the dryer.
3. Gas burners, steam coils, electric coils. Check and clean often.
4. Pulleys and belts. Keep clean as oil and dirt will shorten the life of a belt. Check periodically for alignment. Pulley shafts must be parallel and the grooves must be aligned. Check belt tension periodically. Adjust tension by movement of idler bracket. Lubricate Idler Pulley once every two months using six grams of high temperature grease. Do not overgrease.
5. Electric motor. Keep motor clean and dry. Motors are packed with sufficient grease for 10 years normal service. After that, bearings and housing should be cleaned and repacked one third full with Chevron Grease No. SR1-2. See label on motor for further information.
6. Adjustable leveling bolts. One at each corner permits accurate alignment of dryer.
To adjust: Block one corner of dryer up off the floor, loosen hex nut. With wrench, turn bolt clockwise to raise dryer, opposite to lower. Rear bolts are outside of dryer and front bolts are inside lint trap compartment.
7. Periodically clean and examine exhaust system.
8. Keep dryer area clean and free of gasoline, combustible materials and other flammable liquids or vapors.
9. Do not obstruct the flow of combustion (make-up) air and ventilating air.
10. Check gas pressure periodically.
11. Gas burners air inlet shutters can be adjusted for proper flame by following instructions outlined on separate page of this manual.
12. Main Basket Bearings - Lubricate once every six months using six grams of high temperature grease. Do not overgrease.
13. Steam Heating Units. Keep steam coils clean. Check periodically and clean as often as required. Remove lint and dirt accumulation from coil fins to avoid decreasing their efficiency.
14. Clean Out Panel (Energy Saver Gas Models Only) - Remove this panel located on the energy saver heating unit and clean the inside area of lint and dirt on a regular basis.
15. Gear Reducer - Maintain oil level at half the depth of oil cup. See separate sheet in this manual for further information.

REPLACING BEARINGS AND COLLARS

- Step 1: Remove belt guard, V-Belt, and basket sheave.
- Step 2: Loosen set screw in first locking collar and remove from shaft by rotating clockwise. If necessary, use punch and mallet, hitting in clockwise direction to break collar loose.
- Step 3: Remove the two bolts holding the pillow block bearing and take it off the shaft.
- Step 4: Remove the second locking collar in the same manner as in Step 2.
- Step 5: Remove the four nuts and washers holding the flange basket bearing and take it off the dryer.
- Step 6: Inspect the bearings and collars for damage and replace as necessary in reverse order of removing them. Before tightening securely, align basket per instructions on separate instruction sheet.
- Step 7: Lubrication Guide - Grease bearings at regular intervals shown below. Use #42-032-6015 Lubriplate #310 1 lb. can or 14.5 oz. tube, Lubriplate #930-2 Multi-purpose grease #10098.

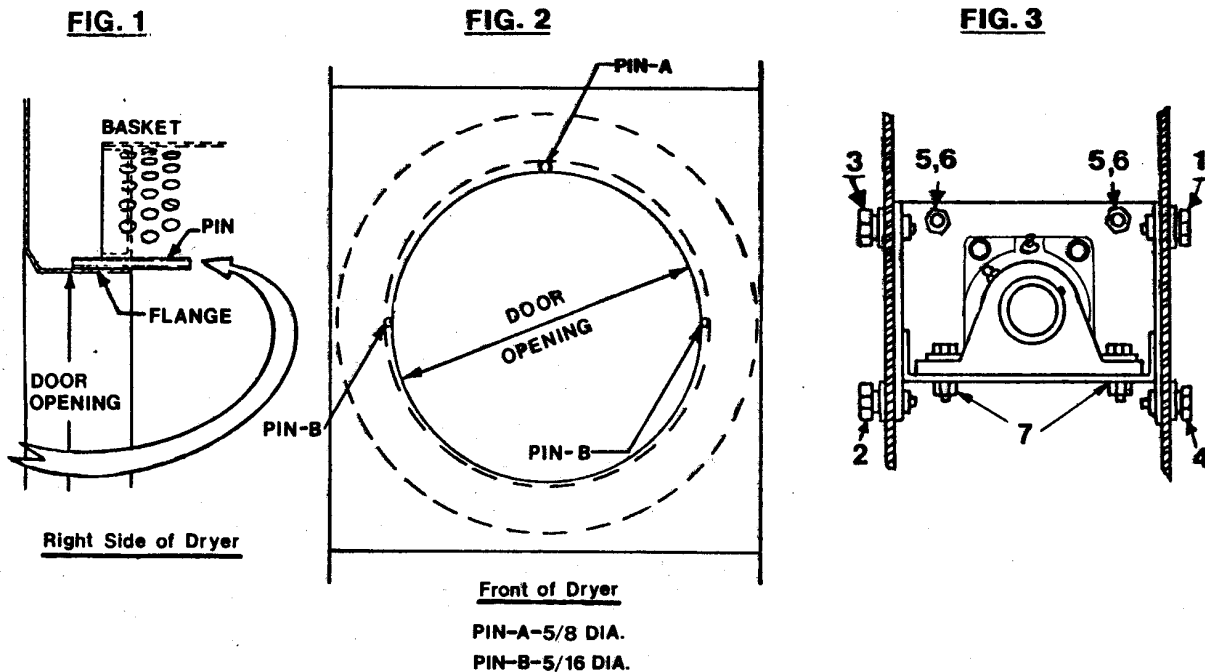
Bearings are factory lubricated and ready for use. They are equipped with fittings for lubricating. Add grease slowly; when grease begins to come out of the seals, the bearing will contain the correct amount.

<u>Operating Conditions</u>	<u>Grease Intervals</u>
Clean	Every 6 months
Dirty	Every month
Moisture	Every week



BASKET ALIGNMENT - SINGLE MOTOR MODEL

- Step 1 Loosen both eccentric locking collars on the two basket bearings (flange and pillow block types). Loosen the set screws and turn clockwise. If necessary, use a punch and mallet, striking the punch hole in a clockwise direction to break it loose.
- Step 2 Loosen the four side bolts, "1, 2, 3, 4," on the basket bearing bracket (See Fig. 3). Loosen the two adjusting bolts and locknuts "5, 6," inside the bracket. And loosen the bolts "7," on the pillow block bearing.
- Step 3 Place one "A" and two "B" diameter pins inside the drying compartment between the rim of the basket opening and the rim of the door opening in the positions shown in Figs. 1 & 2. Check the two "B" pins for equal clearance.
Note: Push the basket toward the rear.
- Step 4 With the pins in position, lock the collar nearest the rear wall of the dryer on the shaft by striking the punch hole in a counterclockwise direction. Tighten the set screw.
- Step 5 Tighten the side bolts "1, 2, 3, 4," in numerical order. Tighten the bolts "7" on the pillow block bearing. And tighten the bolts "5" and locknuts "6".
- Step 6 Remove the aligning pins and if alignment is O. K., then tighten the collar on the pillow block bearing the same as in Step 4.
Caution: Check to see that the set screws are wrench tight on the locking collars.



BASKET ALIGNMENT - DOUBLE MOTOR MODEL

1. Loosen the 4 gear reducer mounting bolts (1, 2, 3 & 4) on rear of dryer, and 2 adjusting bolts #5, on gear reducer housing. (Fig. 3).
2. Place one "A" and two "B" diameter pins inside the drying compartment between the rim of the basket opening and the rim of the door opening in the positions shown in Figure 1 and Figure 2. Check the two "B" pins for equal clearance.
3. With the pins in position, tighten the two No. 5 bolts until flush against back of dryer. Retighten gear reducer mounting bolts in the numerical order indicated in Figure 3. Tighten lock nuts No. 6 to secure bolts No. 5 in position. Then remove pins.
4. Check the space between basket and door opening at "A" pin and "B" pin positions (Figure 2). If the gap is not approximately the same on both sides, repeat steps 1, 2 & 3.

NOTE: Use short sections of round steel rod for pins or drill bits may be used in place of round rod.

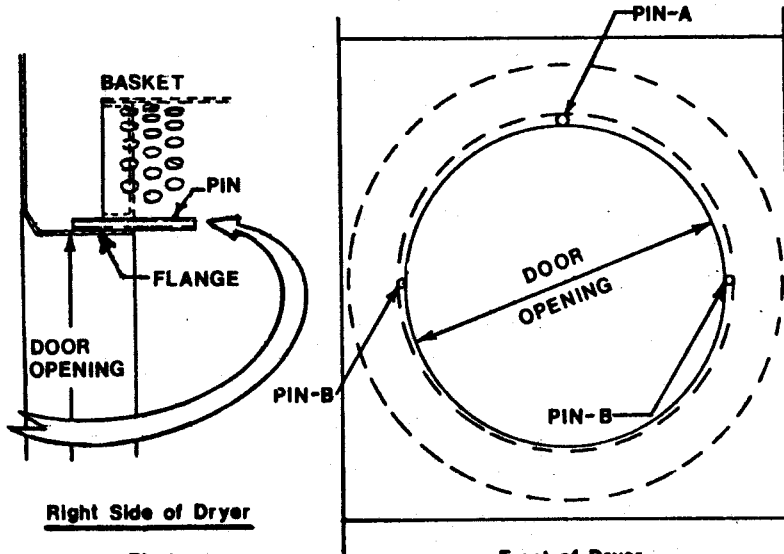
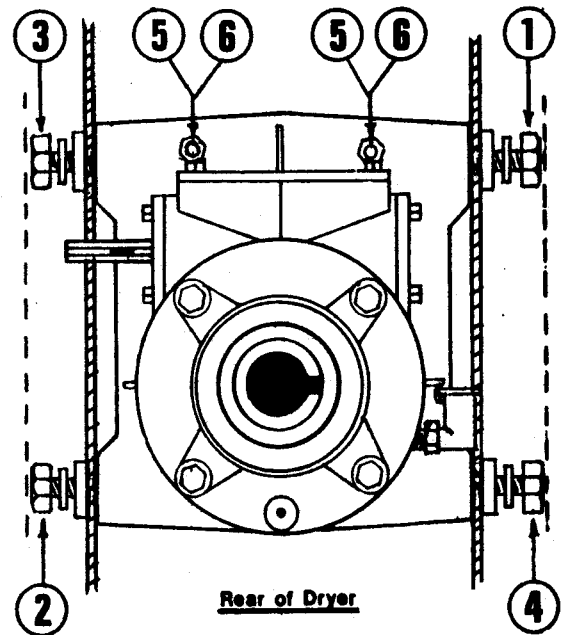


Fig.1

Front of Dryer

PIN-A-5/8 DIA.
PIN-B-5/16 DIA.

Fig.2



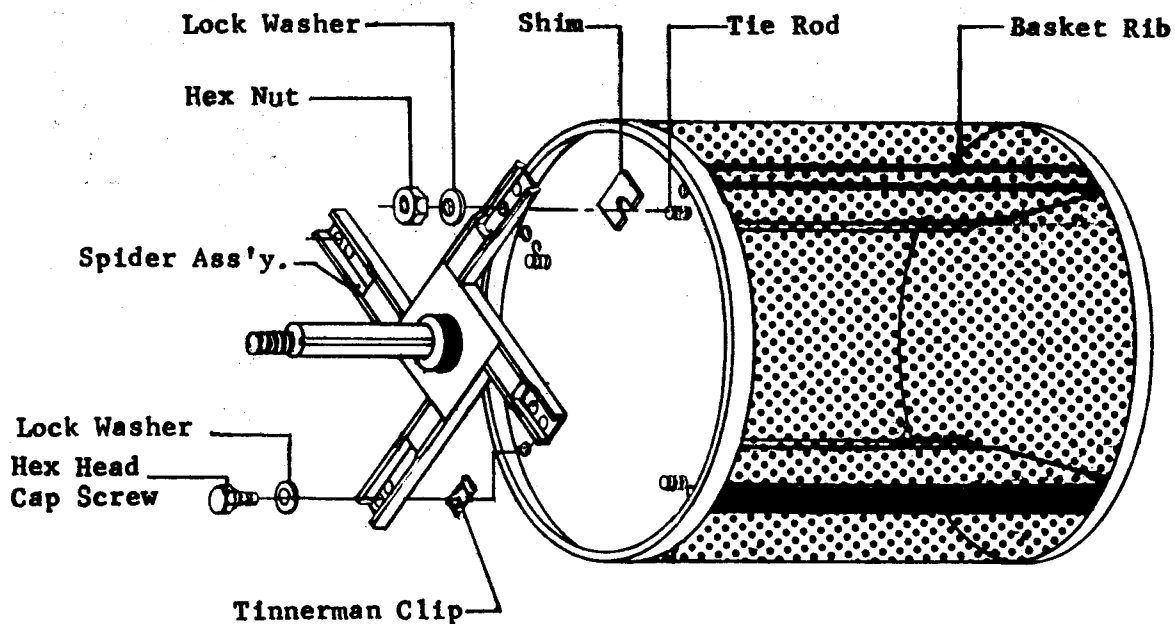
Rear of Dryer

Fig.3

SHIMMING THE BASKET AND SPIDER ASSEMBLY

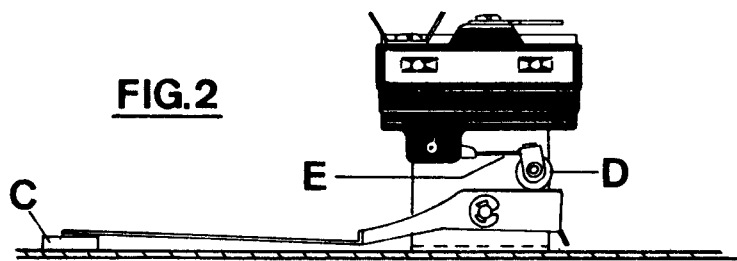
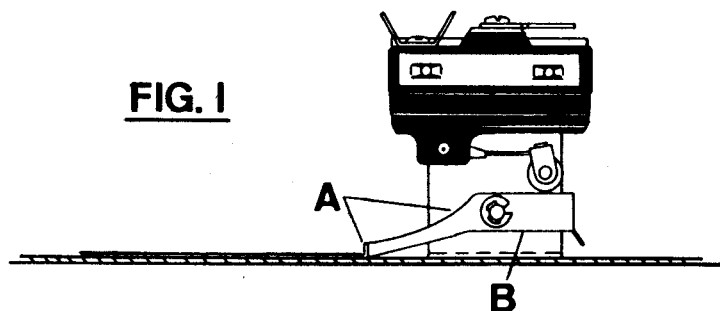
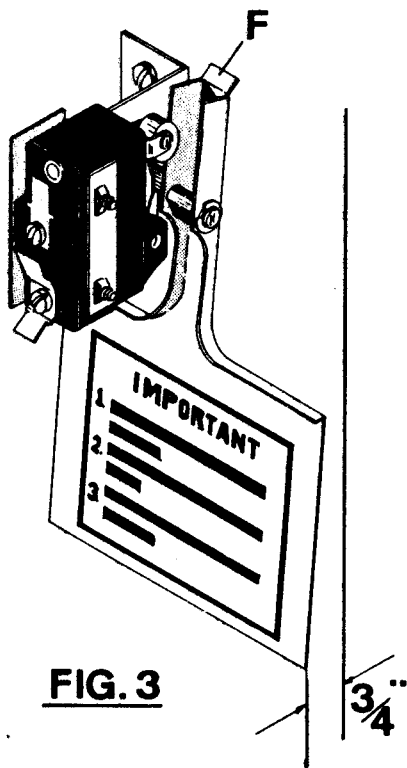
This procedure is normally necessary when replacing either the basket or the spider assembly on any Cissell tumbler. The alignment of these two parts are crucial in assuring a true running basket.

1. Align the basket as per instructions in manual.
2. Rotate the basket to determine where the most out of round point is (where the basket scraped or comes closest to scraping the sweep sheet).
3. Mark this position and the nearest rib to this position.
4. Remove the basket (do not loosen the alignment bolts).
5. With the basket on the floor (spider up), place one or two shims between the spider leg and the back of the basket at the marked rib position. (see drawing)
6. Re-insert spider and basket assembly and re-check cylinder.
7. If at this point, the basket is still out of round, procedure must be repeated starting with Step 2.
8. Upon completion of shimming process, re-alignment of basket is necessary.



AIR SWITCH ADJUSTMENT

1. Shut off current; disconnect leads and remove air switch.
2. Lay air switch assembly on flat surface. Adjust air blade at "A" (fig. 1) so that air blade lays flat and surface "B" is parallel to the flat surface.
3. Place 3/8" x 5/8" spacer bar or equivalent "C" (fig. 2) under air blade in position shown; hold switch mounting bracket firmly and adjust switch actuator "D" with needle nose pliers at "E" by twisting actuator right or left whichever is needed so that switch closes when end of air blade engages bar "C".
4. Maximum opening of air switch must be no greater than 3/4" (fig.3). Bend tab "F" in or out to maintain this dimension.
5. Re-install air switch assembly on rear of dryer.
6. Re-check operation of air blade. Switch must close before air blade engages face of opening and re-open before stop "F" engages.



REVERSING CONTROL TIMER OPERATION

In operation, coasting of basket increases, making it necessary to readjust Reversing Timer:

CAUTION:

Failure to do this will cause the thermal overload units for the basket to cut-out unnecessarily and probably damage gear reducer.

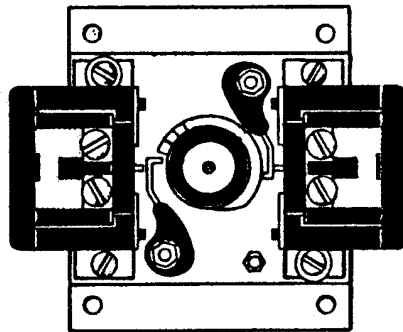
Adjustment of Reversing Timer:

CAUTION: Dryer power supply must be shut off before adjusting timer.

1. Reversing timer operates 18.7 seconds per reversal.
2. Rotate upper cam clockwise to increase stop time between reversals, counter-clockwise to decrease.
3. Lower cam has 10 divisions. Normal adjustment, 3 divisions, as shown.
4. Each divisions adds 1.87 seconds. Example:
3 divisions "off time" - 5.61 seconds
7 divisions "on time" - 13.09 seconds.
5. Recommended time basket must stop completely for 5 to 7 seconds between reversals. Minimum basket stopping time is 4 seconds.

CAUTION

ONLY Operate Non-Reversing and Reversing SWITCH when basket is rotating or basket will not rotate.



Furnas Timer #L3788

FAN ROTATION

NOTE: Fan rotates counter-clockwise as viewed from back end of motor. See arrow on motor support. To change rotation, reverse power leads L1 and L2.

INSTRUCTION FOR DRYERS WITHOUT REVERSING CONTROL FAN AND BASKET ROTATION

NOTE: Fan rotates counter-clockwise as viewed from back end of motor. See arrow on motor support.

Basket rotates clockwise as viewed from front of tumbler.

To change rotation of both fan & basket, reverse power leads L1 and L2.

To change rotation of fan only, reverse motor leads F1 and F2.

To change rotation of basket only, reverse motor leads B1 and B2.

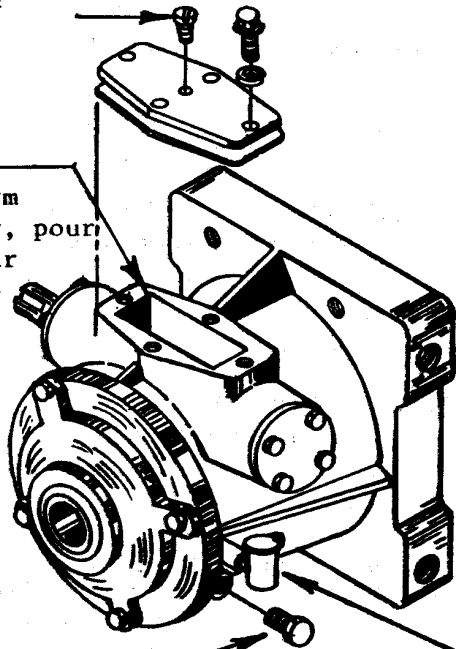
GEAR REDUCER INFORMATION

Vent: Important

Remove this screw before placing machine in operation

Oil Fill:

Remove worm gear cover, pour oil in gear reducer to oil level. (one-half depth of oil cup)



TU3465
Transmission Oil

Drain Plug

Oil Level Cup

Oil level one-half depth of cup. Do not overflow. Remove cork from oil level cup.

Before placing the dryer into operation, remove screw from vent in oil fill atop each gear reducer case. Remove the cork from the oil level inspection cup. If the oil level is correct, the oil level inspection cup will be half filled with oil. If not, add oil. Oil may be added to the gear reducer by removing the worm gear cover in the top rear of the gear reducer case. Do not operate a gear reducer unless the drain plug is tight, and the vent screw removed.

Each gear reducer is filled with one pint of Cissell transmission oil before leaving the factory. Change oil once every six months.

The Large Timken Bearings, which support the worm gear and basket load, must operate in a preloaded condition, that is the worm gear must not have end play. The gear reducer is assembled at the factory to provide a 5-8 inch lb. pre-load on the bearings.

The Small Timken Bearings, which carry the worm must operate in a pre-loaded condition, that is, the worm must not have end play. The gear reducer is assembled at the factory to provide a 2-4 inch lb. pre-load on these bearings.

Total torque 8-10 inch lb. on shaft for both gears.

REPLACING GEAR REDUCER SEALS

NOTE: On original equipment, the Cissell Gear Reducer is equipped with a Garlock Shaft Seal. If this seal requires replacement, it cannot be replaced with the same type of seal since the original seal would have seated in on the shaft. It must be replaced with a TU2166.

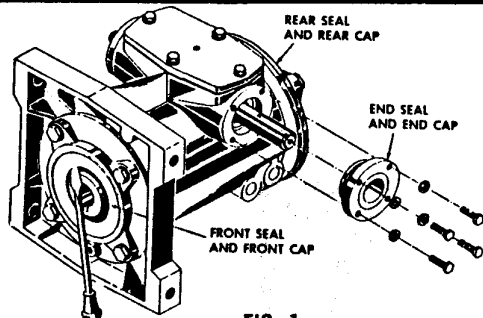


FIG. 1

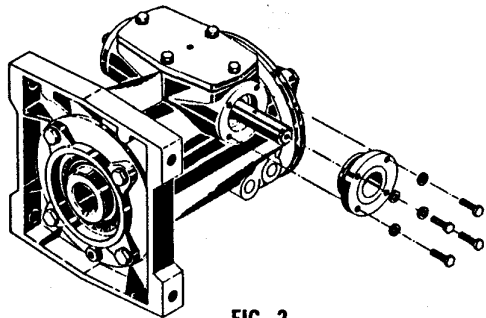


FIG. 2



FIG. 3

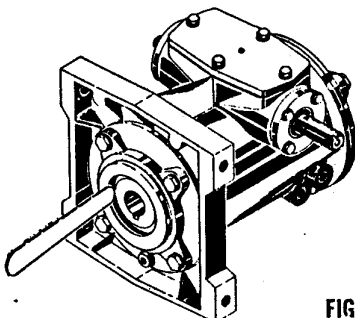


FIG. 4

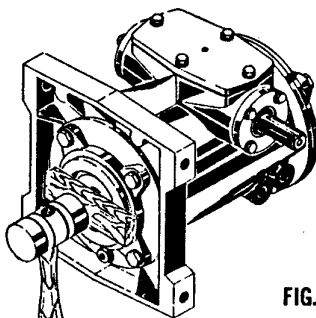


FIG. 5

CAUTION

Drain oil before removing seals; replace with NEW oil after installing new seals (See Cissell Gear Reducer Sheet).

Remove Gear Reducer from rear of dryer before removing seals.

TO REMOVE EXISTING FRONT AND REAR SEALS from front and rear caps on Gear Reducer (Fig. 1):

Slip end of screwdriver under seal (front seal illustrated); using end of Gear Shaft as a fulcrum, force seal out. Repeat operation at several different places until seals are removed from gear shaft.

TO REMOVE EXISTING END SEAL and END CAP from Gear Reducer (Fig. 1):

Remove four cap screws and slip end cap and seal from worm gear. Tap seal out of cap from inside.

Clean inside of front, rear, and end caps. Spread permatex evenly over area to receive seal. Clean outside end of large and small gear shafts. Spread vasoline evenly over area to receive seal, (Fig. 2).

Spread permatex evenly over outside rim area, (Fig. 3) of seal. Spread vasoline evenly over inside rim area of seal.

TO INSTALL NEW FRONT AND REAR SEALS:

Hold front (and rear) seal tightly in place over gear shaft with rubber seal in. Run edge of thin, dull instrument (such as wooden spatula, illustrated against front seal, Fig. 4) carefully around rubber wiping edge of seal and chamfer end of gear shaft so that seal is evenly installed all around gear shaft. DO NOT INJURE RUBBER WIPING EDGE.

TO INSTALL NEW END SEAL:

Slip seal in end cap. Hold cap and seal tightly in place over small shaft with rubber seal in. Run edge of wooden spatula carefully around rubber wiping edge of end seal and chamfer end of small shaft so that seal is evenly installed all around edge of shaft. DO NOT INJURE RUBBER WIPING EDGE.

AFTER SEALS ARE EVENLY INSTALLED ALL AROUND EDGES OF SHAFTS:

Place block of wood over front and rear seals and tap all around with a plastic faced mallet, (Fig. 5) until seal is flush into recess of front (or rear) cap.

Slip end seal and cap into position and tighten four bolts; then with a block of wood over end seal, gently tap with plastic faced mallet, until seal is flush into recess of end cap.

REINSTALL GEAR REDUCER ON REAR OF DRYER

IMPORTANT

While the sealing element or packing ring in a seal is not fragile, care must be taken to prevent damage to the wiping edge during mounting. Do not apply pressure to, nor hammer directly on, the sealing ring or spring: make sure that all mounting tools contact only the metal case of the seal.

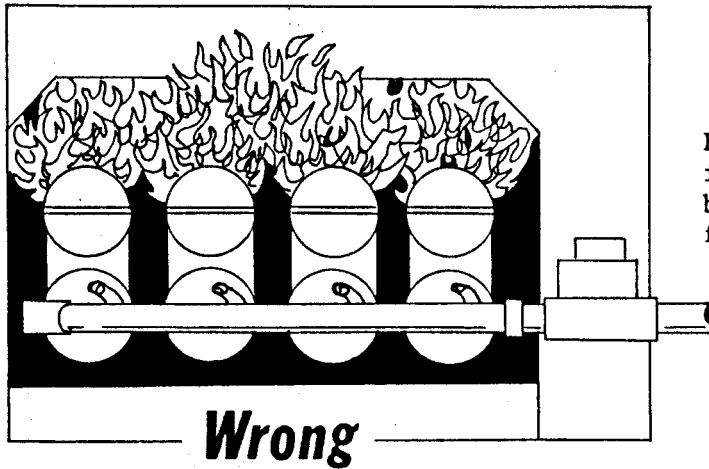
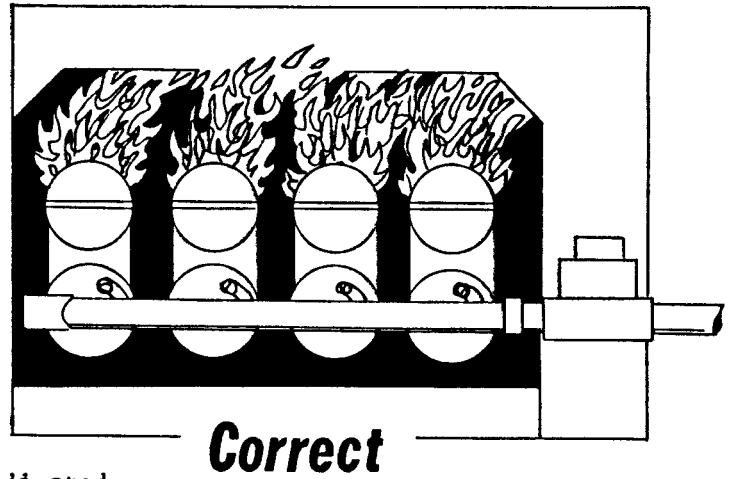
BURNER AIR INLET SHUTTERS ADJUSTMENT

TYPE OF GAS	BURNER AIR INLET SHUTTERS ADJUSTMENT
Natural Gas	1/2 Open
Liquid Petroleum	1/4 Open
Manufactured Gas	1/16 Open

Air Shutters Adjustment

Proper Method: Close air shutters to yellow tip, then open air shutters to blue flame tip. Orange tips are impurities in the air such as lint, dust, etc.

Burners air inlet shutters are correctly adjusted when flame is primarily blue.

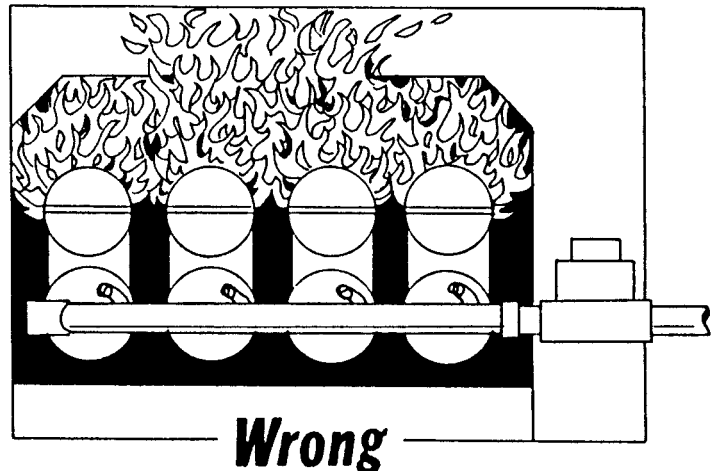


NEED TO ADJUST SHUTTER

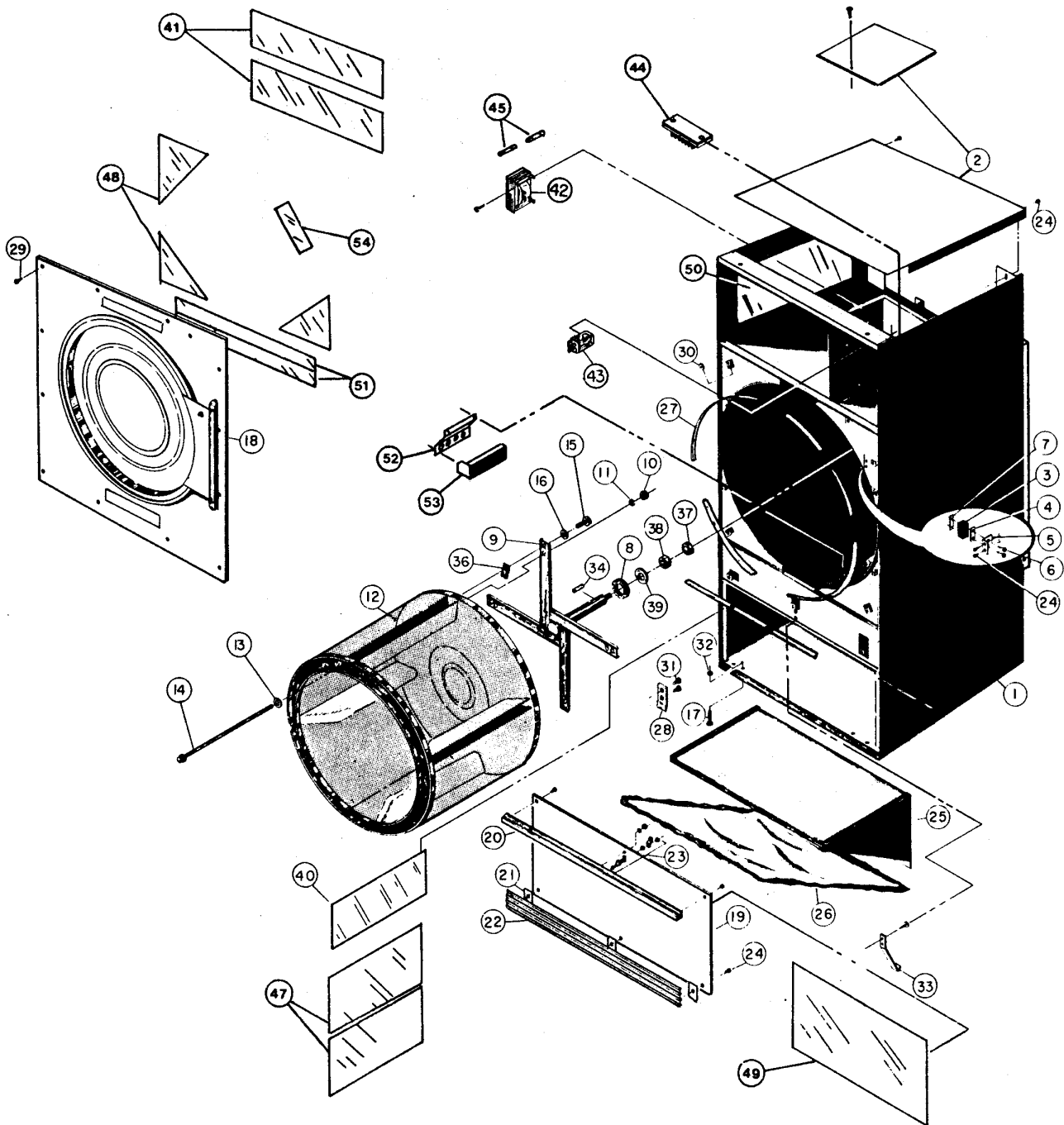
Burners Air Inlet Shutters are adjusted insufficient, air is admitted through the burner. Flame pattern is straight up and flame is yellow.

NEED TO PROVIDE CORRECT AIRFLOW THROUGH THE DRYER

This flame pattern indicates the Burner Air Inlet Shutters are correctly adjusted, but air through the dryer is insufficient. This condition indicates excessive lint in the lint compartment, lack of make-up air in the room, restricted exhaust duct, or a vacuum in the room caused by a exhaust fan.



FRONT VIEW of DRYER



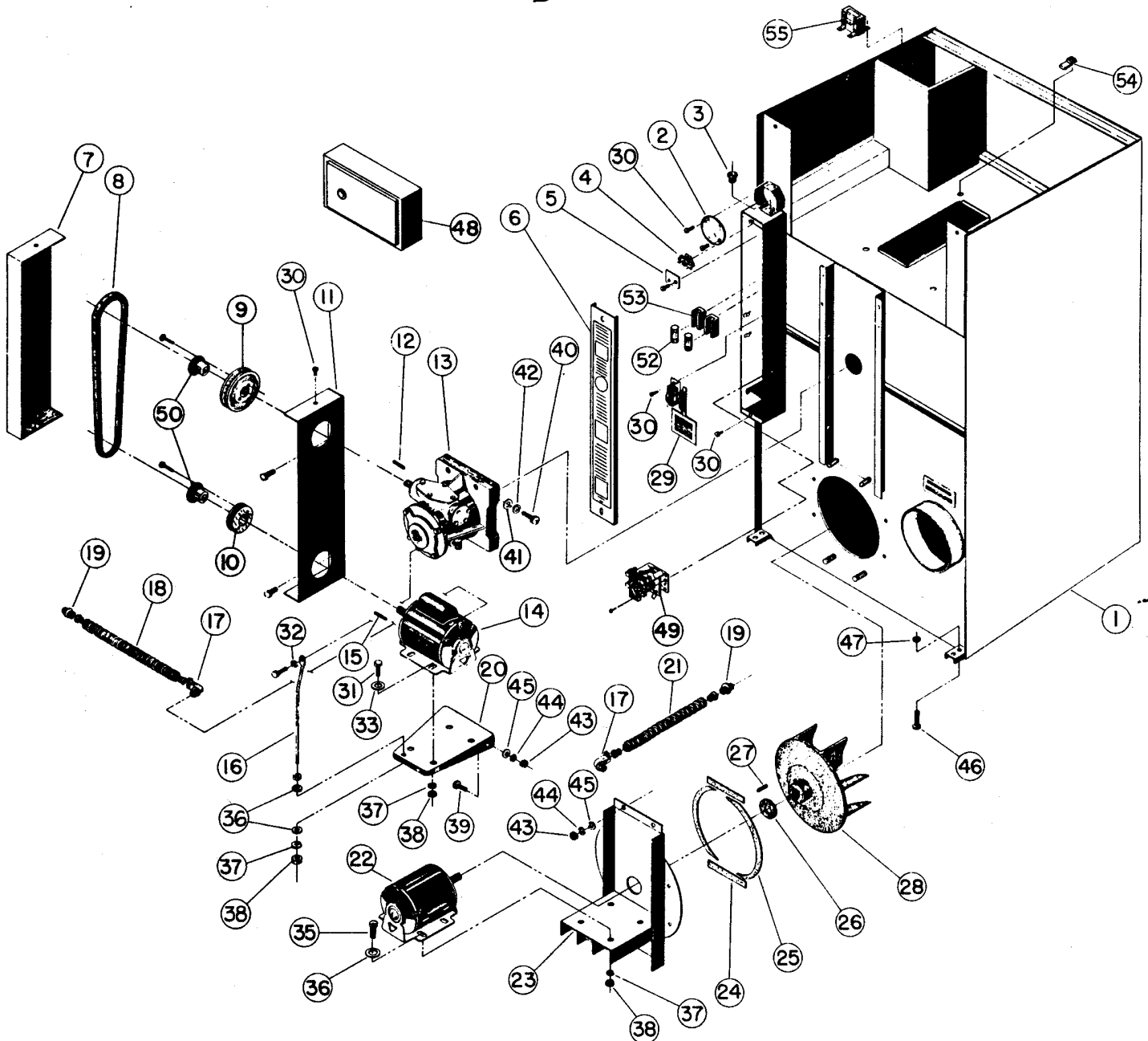
FRONT VIEW OF DRYER

Ref.No.	Part No.	Description
1	TU10934	Jacket - Steam or Electric Models
	TU8274	Jacket - Gas Models
2	TU8273	Solid Top (Gas Models)
	TU9274	Solid Top (Electric Models)
	TU10651	Mechanism Box Cover (Steam Dryer Only)
3	TU1979	Door Switch
4	TU1770	Insulator
5	TU2373	Door Switch Bracket
6	TU3219	#6 x 1" Sheet Metal Screw
7	TU1771	#6 Tinnerman Nut
8	TU108	Felt Seal-Double Motor Models Only
9	K369	Spider Replacement - Single Motor Models
	K108	Spider Replacement - Double Motor Models
	K350	Spider Replacement - Computerized Models
10	TU2882	1/2"-20 Hex Nut
11	TU2831	1/2" Split Lockwasher
12	TU8293	Basket Only- Single or Double Motor Models
	TU8296	Basket/Spider Assembly- Double Motor Models Only
	TU10952	Basket/Spider Assembly- Single Motor Models Only
	K388	Basket/Spider- Computerized Model Only
13	TU2883	1/2" Cut Washer
14	TU8297	Tie Rod
	TU7006	Shims
15	TU3210	5/16"-18 x 5/8" Hex Head Cap Screw
16	TU2814	5/16" Lockwasher
17	TU3211	3/8"-16 x 2-1/2" Leveling Bolt
18	TU6056	Front Panel & Door Assembly (See Separate Page)
19	TU5566	Lint Door Weldment
20	TU7473	Handle
21	TU2710	Trim Holder
22	TU2385	Trim
23	TUB1867	Lock & Key
24	TU7733	#8 x 1/2" Self-Drill Screw
25	TU8368	Lint Screen Housing
26	TU10362	Self-Cleaning Lint Screen Only
	TU5225	Lint Screen Frame Only
27	TU5876	Sweep Sheets Gasket
28	TU3206	Lock Plate
29	TU2878	#10 x 5/8" Sheet Metal Screw
30	TU2877	#10 Speed Nut
31	TU1978	#14 x 3/4" Sheet Metal Screw
32	TU4937	3/8" x 16 Jam Nut
33	TU8366	Lint Trap Front Support
34	TU5240	8" Large Shaft Key
36	TU8365	Tinnerman Nut
37	TU3536	Jam Nut-Double Motor Models Only
38	TU3537	Full Nut-Double Motor Models Only
39	TU2493	Shaft Retainer
40	TU7690	Side Insulation
41	TU7736	Front Panel Insulation
42	TU11622	Transformer w/fuses (208, 220, or 240V. Primary; 120V. Secondary)
43	TU8599	Relay, Igniter 120V.
44	TU8629	Terminal Board, Igniter
45	TU8738	Fuse
47	TU8152	Side Insulation, Energy-saver models
48	TU7735	Front Panel Insulation, Energy-saver models
49	TU8153	Lint Trap Door Insulation, Energy-saver models
50	TU7793	Upper Side Bonnet Insulation, Energy-saver models
51	TU8107	Insulation, Energy-saver models
52	TU10285	Thermostat Assembly
	TU12580	Thermistor Assembly- Computerized Models
53	TU8457	Thermostat Cover Weldment
54	TU8108	Insulation, Energy-saver models

75 LB. LAUNDRY DRYER (Double Motor Models)

MODELS: L36USD36
L36URD36
L36URP36
L36USP36

Gas, Steam, or
Electric

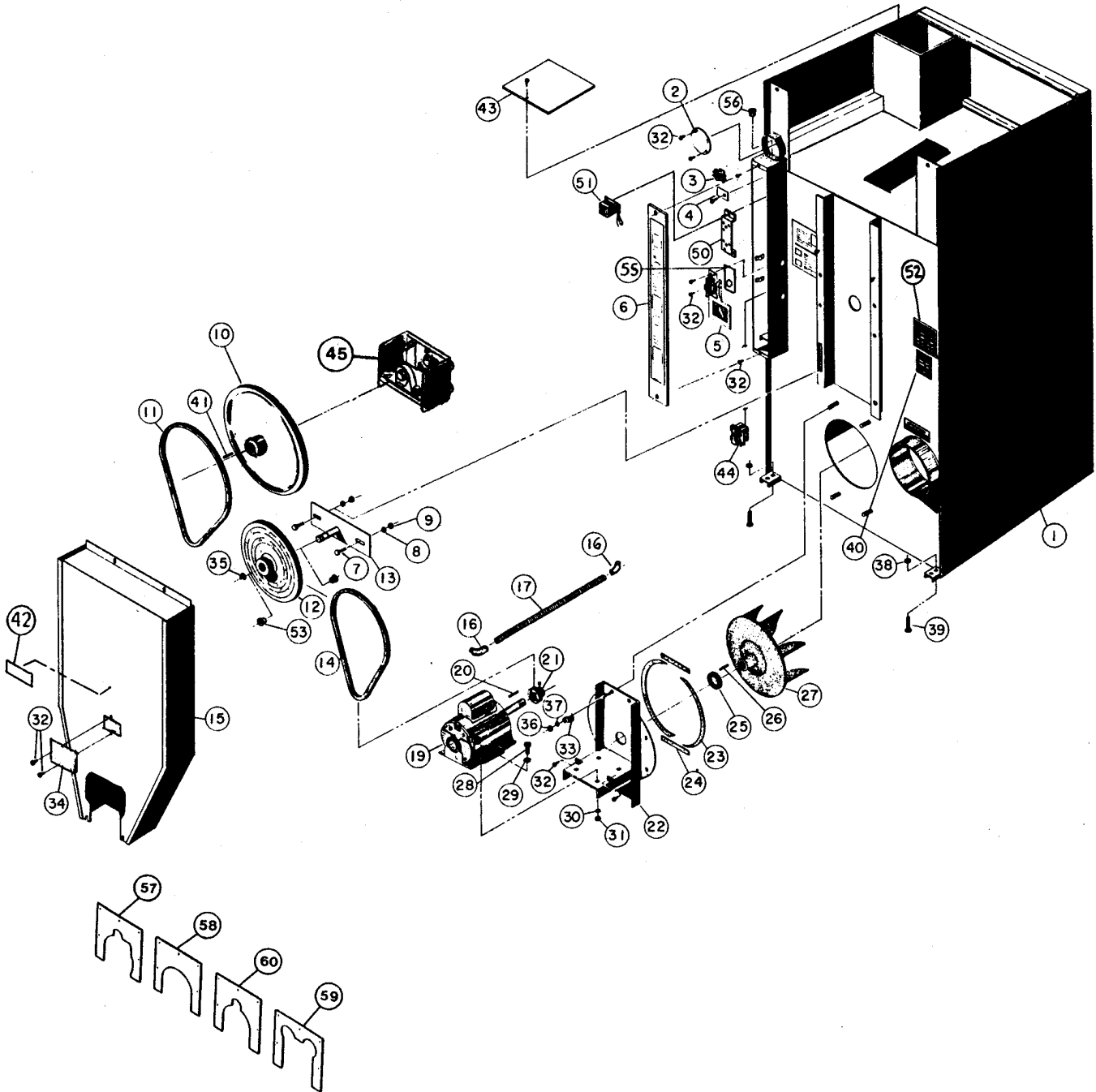


75 LB. LAUNDRY DRYER (Double Motor Models)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
I	TU10934	Jacket (Steam or Electric Models)	26	TU2476	Felt Seal
	TU8274	Jacket (Gas Models)	27	TU4684	Key
2	SB170	Junction Box Cover	28	TU8740	Fan Wheel W/Set Screws (50/60 Hz.)
3	TU2372	Snap Bushing	29	TU8206	Air Switch Assembly (see separate page)
4	M155	Wire Harness Clamp	30	TU7733	#8 X 1/2" Self-Drill Screw
5	TU2726	Strain Relief Plate	31	RC344	1/2-20 X 4" Cap Screw
6	TU5890	Control Box Cover	32	TU2846	1/2" Lockwasher
7	TU3857	Belt Guard Cover	33	TU2847	1/2" Cut Washer
8	TU2317	V-Belt (4L-380) 50/60 Hz.	34	TU4934	1/2"-20 Hex Nut
9	TU8502	60 Cy. Gear Sheave (AK49H) W/Bushing	35	TU5439	5/16"-18 X 3/4" Cap Screw
	510101040	50 Cy. Gear Sheave (AK46H) W/Bushing	36	VSB130	5/16" Cut Washer
10	TU7334	60 Cy. Motor Sheave (AK34H) W/Bushing	37	TU2814	5/16" Split Lockwasher
	510101041	50 Cy. Motor Sheave (AK39H) W/Bushing	38	C249	5/16"-18 Hex Nut
11	TU5254	Belt Guard Mounting	39	TU3124	3/8"-16 X 3/4" Cap Screw
12	TU5241	Shaft Key	40	RC347	1/2"-13 X 1-1/2" Cap Screw
13	TU8363	Small Gear Reducer (see separate page)	41	TU1851	1/2" Cut Washer
14	---	Basket Motor (See Motor List Page)	42	TU2831	1/2" Lockwasher
15	TU5241	Key	43	TU4787	3/8"-16 Hex Nut
16	TU8608	Belt Adjusting Rod	44	VSB134	3/8" Lockwasher
17	TU4791	Right Angle Connector	45	IBI40	3/8" Cut Washer
18	504641292	1/2" Greenfield Cable (Specify 17" Long)	46	TU3211	3/8"-16 X 2 1/2" Leveling Bolts
19	TU4790	Straight Connector	47	TU4937	3/8"-16 X 3/4" Cap Screw
20	TU33	Motor Drive Bracket (Specify 29" Long)	48	TU8539	Reversing Control Box (see separate page)
22	----	Fan Motor (See Motor List Page)	49	TU1984	Relay-120V/50/60Hz.
23	TU2376	Motor Mount Weldment		TU1985	Relay-240 or 208V/50/60Hz/1Ph
24	TU2474	Top & Bottom Gasket		TU3495	Relay-240V/50/60Hz/3Ph
25	TU2473	Side Gasket	50	TU2833	Bushing for Sheave
			51	TU9840	Housing Mounting Bracket
			52	TU8279	Fuses (Electric Heated Models)
			53	TU7505	Fuse Holders (Electric Heat)
			54	TU6760	Clip Nut
			55	TU9804	Transformer (480/60/3) Prompters
				TU4660	Transformer (480V)
			56	TU11025	Adapter Plate (Electric Model)

75 LB. LAUNDRY DRYER (Single Motor Models)

MODELS: L36USS36 } Gas, Steam, or
L36URS36 } Electric



75 LB. LAUNDRY DRYER (Single Motor Model)

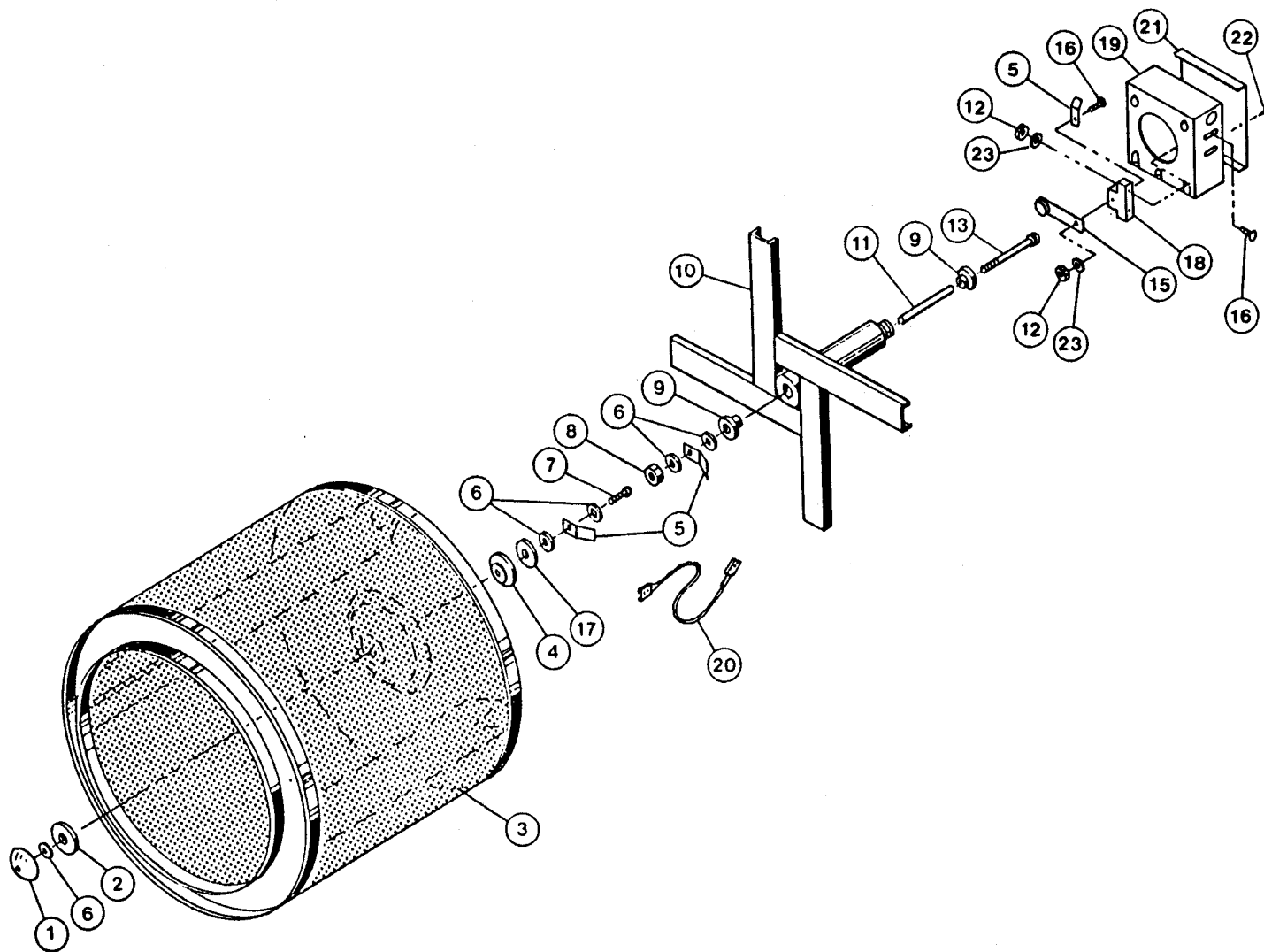
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU8274	Jacket (Gas/Electric)	29	VSB130	Cut Washer - 5/16"
	TU10934	Jacket (Steam Models Only)	30	TU2814	Split Lockwasher - 5/16"
2	SB170	Junction Box Cover	31	C249	Hex Nut - 5/16"
3	M155	Wire Harness Clamp	32	TU7733	Self-Drilling Screw
4	TU2726	Strain Relief Plate	33	TU6484	Cable Strap
5	TU8206	Air Switch Assembly- See Separate Page	34	TU11707	Cover Plate
6	TU5890	Control Box Cover	35	TU3247	Retaining Ring
7	TU12576	Carriage Bolt 3/8" - 16 x 1"	36	TU4787	Hex Nut - 3/8"
8	VSB134	3/8" Split Lockwasher	37	VSB134	Lockwasher - 3/8"
9	TU3188	3/8" Hex Nut - Nylok	38	TU4937	Jam Nut - 3/8"
10	TU12642	Basket Sheave W/Set Screws	39	TU3211	Leveling Bolt - 3/8"-16 x 21/2"
11	TU10888	V-Belt-50/60 Hz. AX64	40	F1116	Serial No. Plate
	TU10888	V-Belt-50/60 Hz. AX64	41	TU11019	Key
12	TU5217	Idler Sheave- 50/60 Hz.	42	TU10418	Lubrication Label
13	TU12803	Idler Bracket With Grease Fitting (Gas Dryers)	43	TU10930	Mechanism Box Cover (Steam Dryer Only)
14	TU6725	V-Belt-50/60 Hz.-4L-600	44	TU1984	Relay-120V. 2 Pole
15	TU12798	Rear Guard Complete		TU1985	Relay-240V. 2 Pole
	TU9294	Rear Guard Complete- for MTR202 only.		TU3495	Relay-240V. 3 Pole
16	TU4791	Right Angle Connector		TU3496	Relay-120V. 3 Pole
17	504641292	Cable - 42" Long		TU10795	Relay-480V. 4 Pole-Gas
18	TU4790	Straight Connector		TU10669	Relay-480V. 4 Pole-Steam/Electric
19	---	Motor *	45	-----	Cast Iron Bearings and Bracket Assembly- See separate page for Parts Breakdown
20	TU5241	Key	50	TU6220	Relay Plate
21	TU7603	Motor Sheave, 60 Hz., W/Set Screw	51	TU4659	Transformer (380/ 440/550V., 50/60 HZ.)
	TU12802	Motor Sheave, 50 Hz., W/Set Screw		TU4660	Transformer (240/ 480V., 60 HZ.)
22	TU11064	Motor Mount W/A	52	TU6783	Rating Plate - Electric Heat Only
23	TU2473	Side Gasket			
24	TU2474	Top & Bottom Gasket	53	TU7184	Bronze Bushing (2 ea.)
25	TU2476	Felt Seal	54	TU9600	Idler Pulley Label
26	TU4684	Key	55	TU9180	Air Switch Plate
27	TU8740	Fan Wheel - 50/60 Hz. with Set Screws	56	TU2372	Bushing
	TU3282	Round Set Screw Only	57	TU11662	Motor Adapter (MTR202 Only)
	F819	Square Set Screw Only	58	TU10359	Motor Adapter (3 Ph. Only)
28	TU5439	Hex Hd. Screw - 5/16"-18 x 3/4"	59	TU10360	Motor Adapter (G.E. 1Ph. Only)
			60	TU10361	Motor Adapter (Emerson 1 Ph. Only)

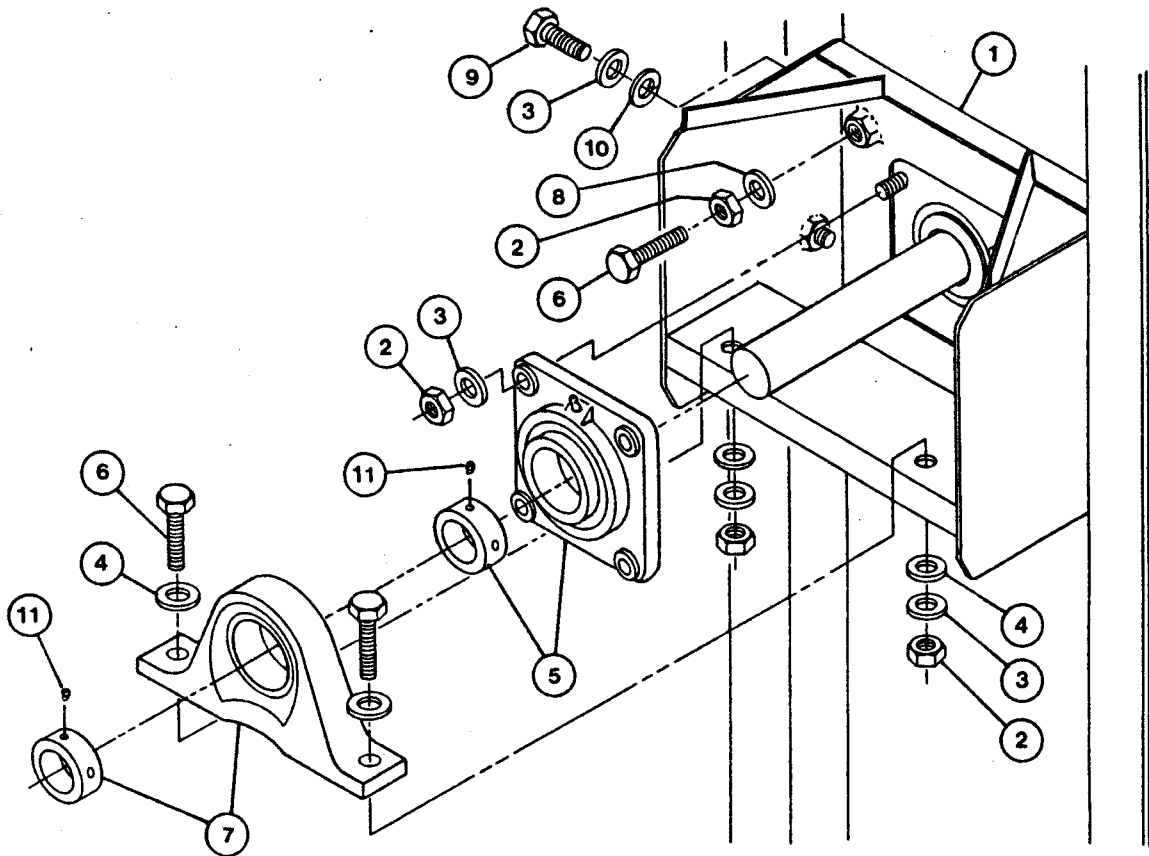
* See Motor List Page

BASKET & SENSOR ASSEMBLY- PROMPTER MODELS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU9616	Tip	12	TU3266	#8-32 Hex Nut
2	TU9618	Insulator Washer	13	TU9776	Conductor Rod
3*	TU9773	50 lb. Prompter Basket Asm.	14		
	TU9796	75 lb. Prompter Basket Asm.	15	TU9660	Wiper Strip Asm.
4	TU9617	Insulator Disc	16	RC353	Machine Screw
5	AT388	Terminal Connector	17	TU9944	Washer
6	TU9910	Ext. Tooth Lockwasher	18	TU10915	Wiper Insulator
7	TU9949	Machine Screw	19	TU10916	Wiper Housing
8	TU3400	#6-32 Brass Hex Nut	20	TU9628	Jumper Wire
9	TU9621	Rod Insulator	21	TU10917	Housing Cover
10	K350	Prompter Spider Weldment	22	TU7733	Self-Drill Screw
11	TU9782	Sleeve	23	M271	Int. Tooth Lockwasher

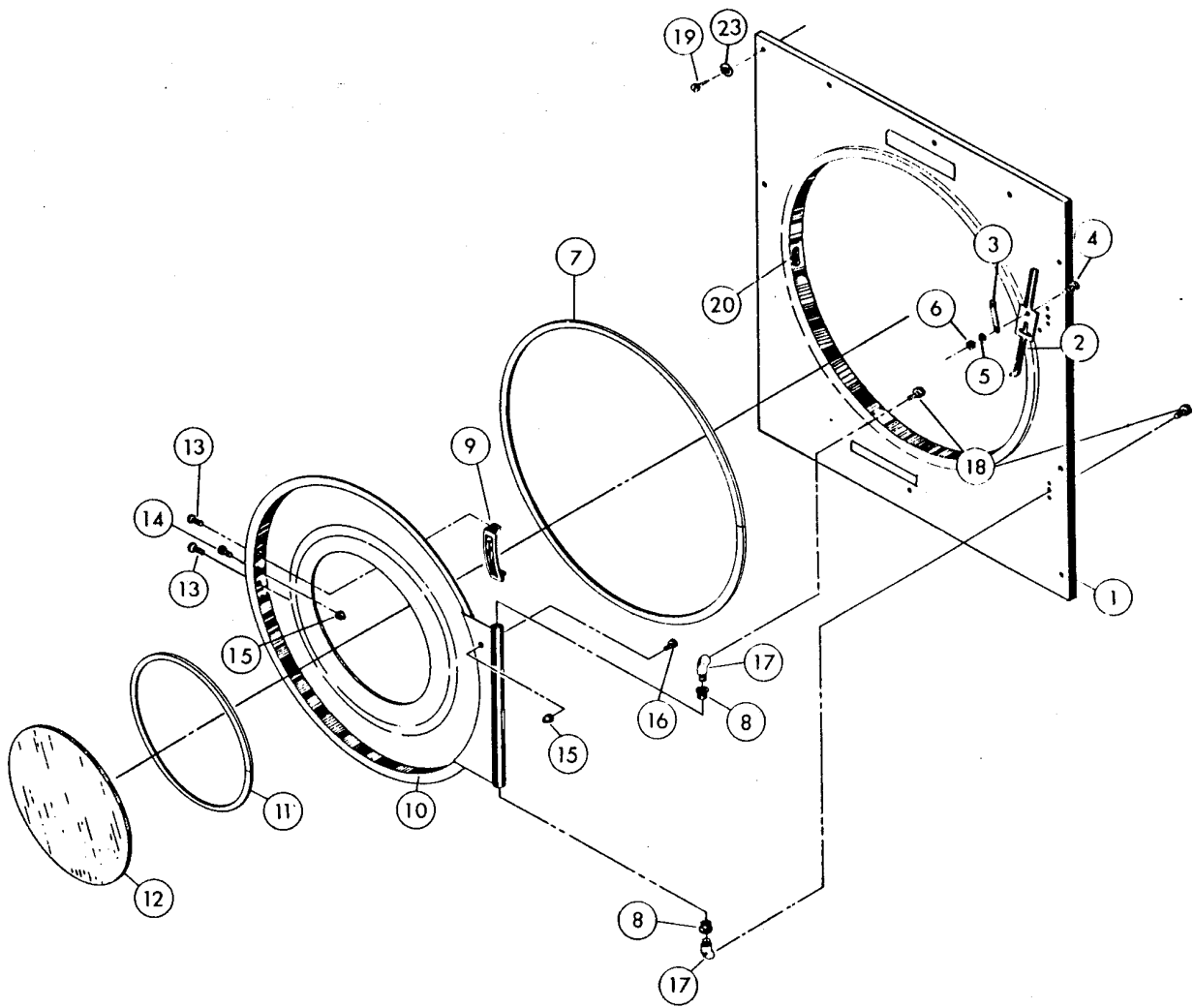
*See Separate Page for Exploded View





BEARINGS & RELATED PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU11093	Bearing Support Bracket
2	OP233	1/2" Hex Nut
3	TU2831	1/2" Lockwasher
4	TU2883	1/2" Flat Washer
5	TU10860	Flange Bearing W/Collar
6	TU2195	1/2 - 13 X 1 3/4 Cap Screw
7	TU10870	Pillow Block Bearing W/Collar
8	OP251	1/2" I.T. Lockwasher
9	RC347	1/2 - 13 1 1/4" Cap Screw
10	TU1851	1/2" X 1/4" Cut Washer
11	TU10644	3/8 - 16 X 1/2" Nylok Set Screw

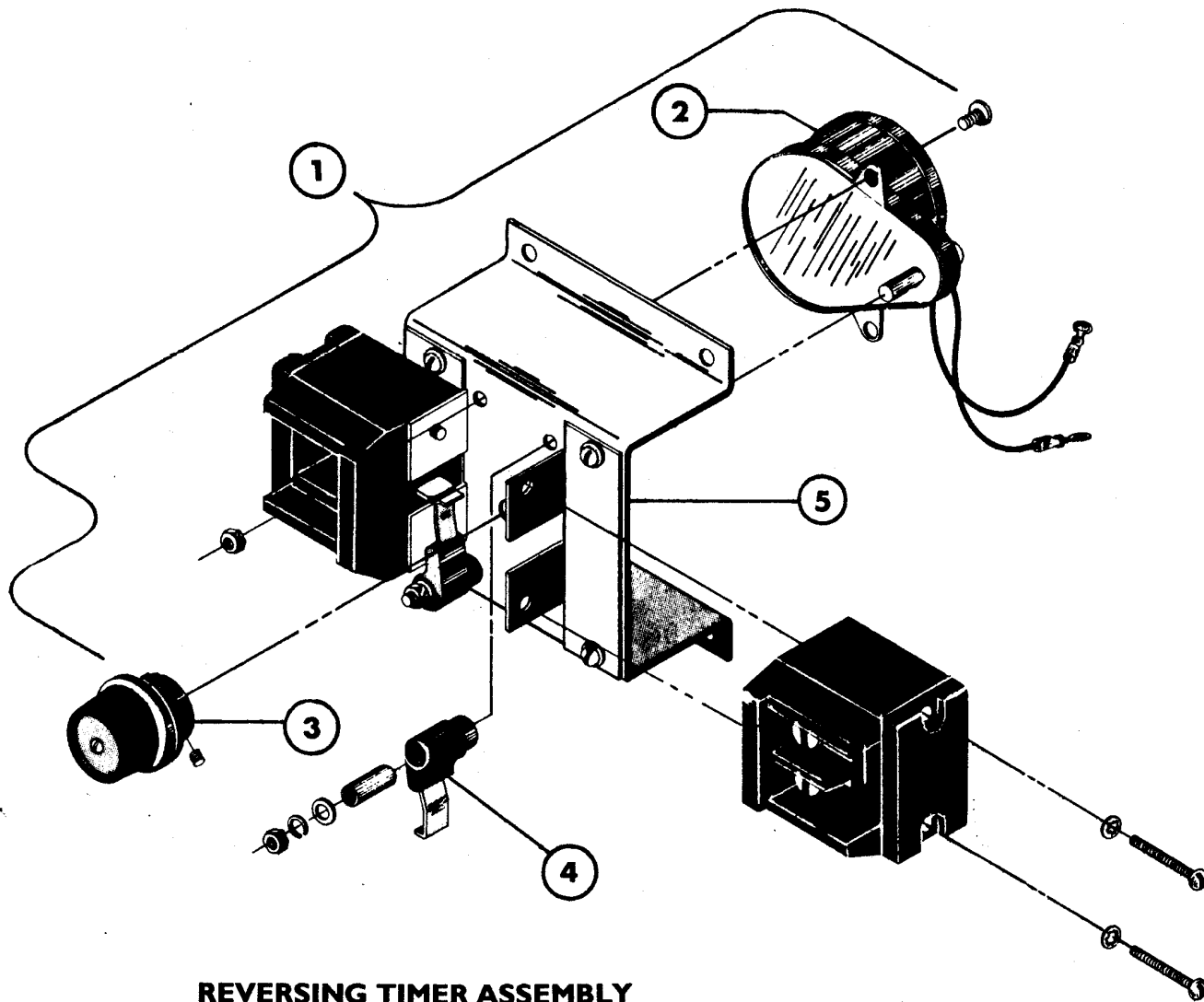


FRONT PANEL & DOOR ASSEMBLY - TU6056

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU6058	Front Panel	14	TU3163	Catch Pin
2	TU2194	Door Switch Actuator	15	TU4840	#10-32 Hex Crown Nut
3	TU2105	Actuator Spring	16	TU4839	#10-32x3/8" Screw
4	M262	#8-32 Tr. Hd. Screw	17	TU2236	Hinge Posts
5	FB187	#8 Split Lockwasher	18	TU2836	5/16" - 18 x 1/2 Hex Hd. Cap Screw
6	TU3266	#8-32 Hex Nut	19	TU2878	#10 x 5/8 S.M.S.
7	TU5288	Basket Door Seal	20	TU7456	Door Catch Asm. W/Rivets
8	PIF172	Delrin Bearing	21	TU7690	Insulation Foil (Not shown)
9	TU2874	Basket Door Handle	22	TU7736	Insulation Foil (Not shown)
10	TU5859	Basket Door	23	FB187	#10 Lockwasher
11	TU1692	Rubber Gasket			
12	TU217	Door Glass			
13	TU3215	#10-32x3/8 Taptite Screw			

TU4827- Actuator Asm. Consists of Ref.No.s 2,3,4,5,& 6.

TU5857- Basket Door Asm. Consists of Ref.No.s 7,8,9,10,11,12,13,14,15, & 16.



REVERSING TIMER ASSEMBLY

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1**	TU44131	Timer (Complete) 120 V., 60 Cy.
	TU44132	Timer (Complete) 240 V., 60 Cy.
	TU44133	Timer (Complete) 120 V., 50 Cy.
	TU44134	Timer (Complete) 240 V., 50 Cy.
2	TU17371	Timer Motor 120 V., 60 Cy.
	TU17372	Timer Motor 240 V., 60 Cy.
	TU17373	Timer Motor 120 V., 50 Cy.
	TU17374	Timer Motor 240 V., 50 Cy.
3	TU4424	Timer Cam
4	TU4426	Timer Lever
5	TU4425	Timer Frame
**	<u>TU7502</u>	Reversing Timer Complete Less Motor

REVERSING CONTROL BOX ASSEMBLY

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	TU9374	Control Box	12	TU6834	Box Cover Plate
2	TU6959	Mounting Plate	13	M263	#8 x 3/8" Sheet Metal Screw
3	---	Timer (see separate page)	15	FB189	1/4"-20 x 1" Hex Head Bolt
4	TU4659	Transformer (575 V.)	16	TU4934	1/4"-20 Hex Nut
	TU4660	Transformer (240/450 V.)	17	TU2846	1/4" Cut Washer
5	TU6965	Contactor* (120V./60 Hz.)	18	TU2847	1/4" Flat Washer
	TU6963	Contactor* (208-240./60 Hz.)	19	TU10596	Fuse Block
	TU8727	Contactor* (240V./50 Hz.)	20	TU10597	Fuse
6	TU7252	Rev.Contactor* (120V./60 Hz.)	21	TU12864	Anti-Dwell Switch
	TU6964	Rev.Contactor* (208-240V./60 Hz.)			
	TU8728	Rev.Contactor* (240V./50 Hz.)			
7	TU6774	Overload Unit (2 req.)			
8	----	Overload Heater** (Fan)			
9	----	Overload Heater** (Basket)			
10	P274	1/4"-20 x 3/4" Truss Screw			
11	TU6808	Reset Button Kit			

* TU7281 - Contactor Coil Only for 120V./60 Hz.
 TU7282 - Contactor Coil Only for 208-240V./60 Hz.
 TU8689 - Contactor Coil Only for 240V./50 Hz.
 ** To order Overload Heaters, see chart on next page.

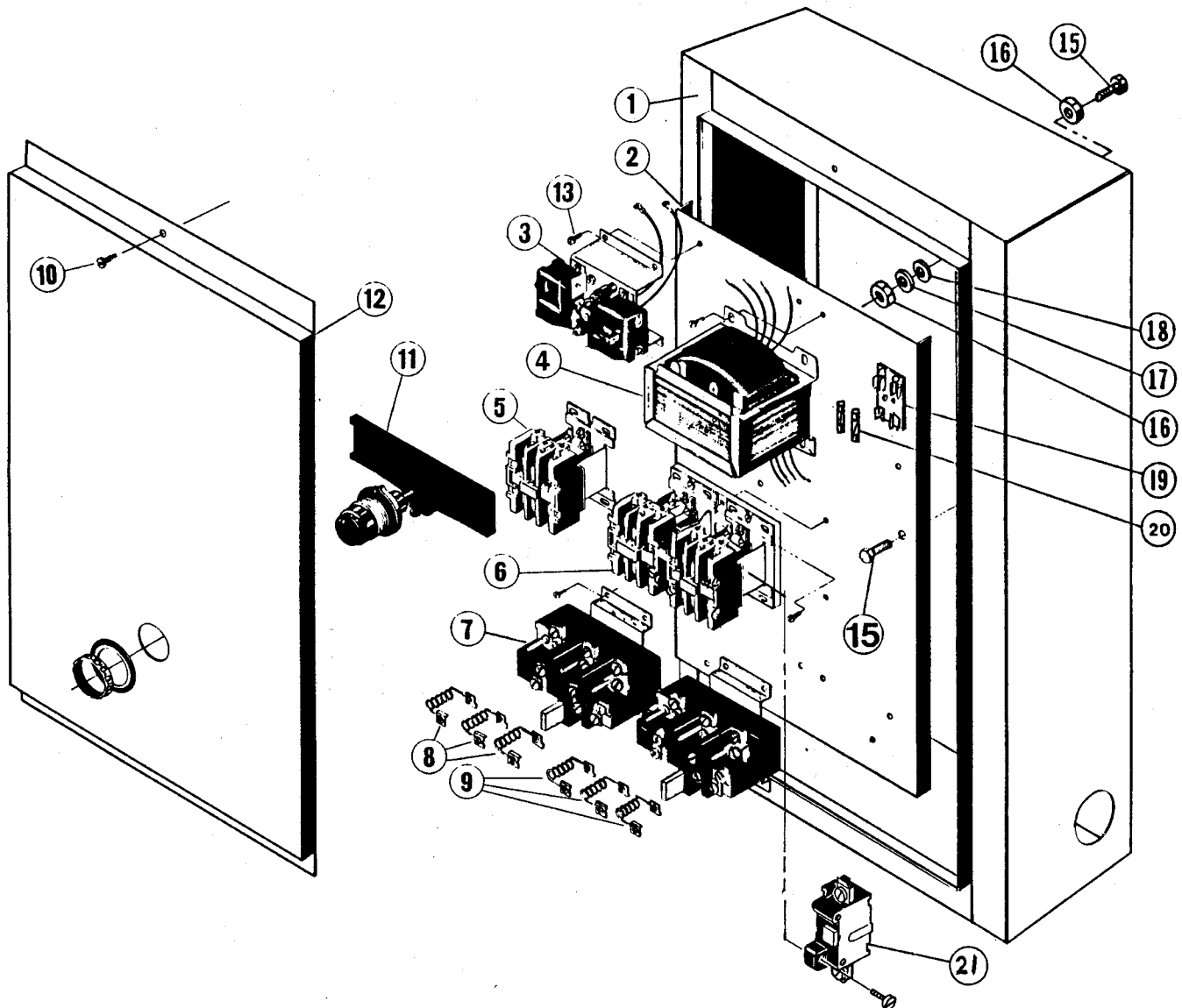


TABLE FOR ORDERING OVERLOAD HEATERS FOR OVERLOAD RELAYS

Properly sized overload heaters provide motor protection to the dryer. Improper heater size may allow the motor to be damaged, or could cause nuisance tripping.

Heater sizes are listed on the Overload Heater Table below. To use the table, refer to the motor rating plate and locate the Full Load Amps (FLA), the Service Factor (S.F.), and the Ambient Temperature (Amb.).

Example: Motor Rating Plate shows FLA = 3.8, S.F. =1.15, and 60 Deg.C Amb.
From the table, heater size is H-25. Order part number "TU267900 - H25".

CAUTION: Overload Relays do not provide protection from short circuits. Short circuit protection is provided by a device such as a breaker or wall disconnect.

OVERLOAD HEATER TABLE

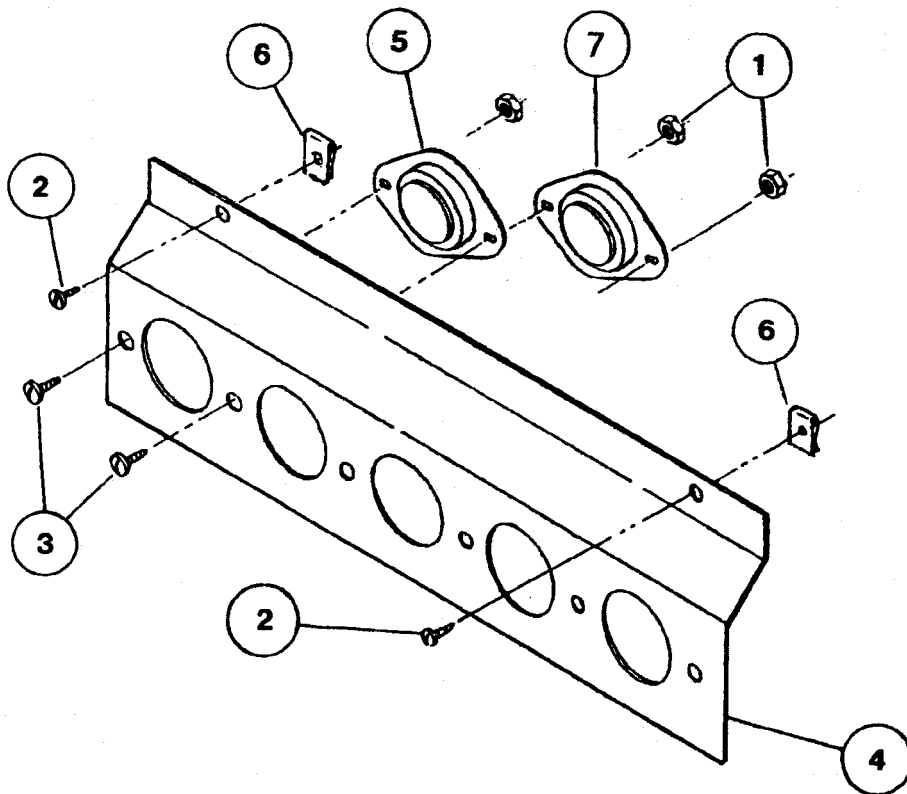
Motor Full Load Amps (FLA)

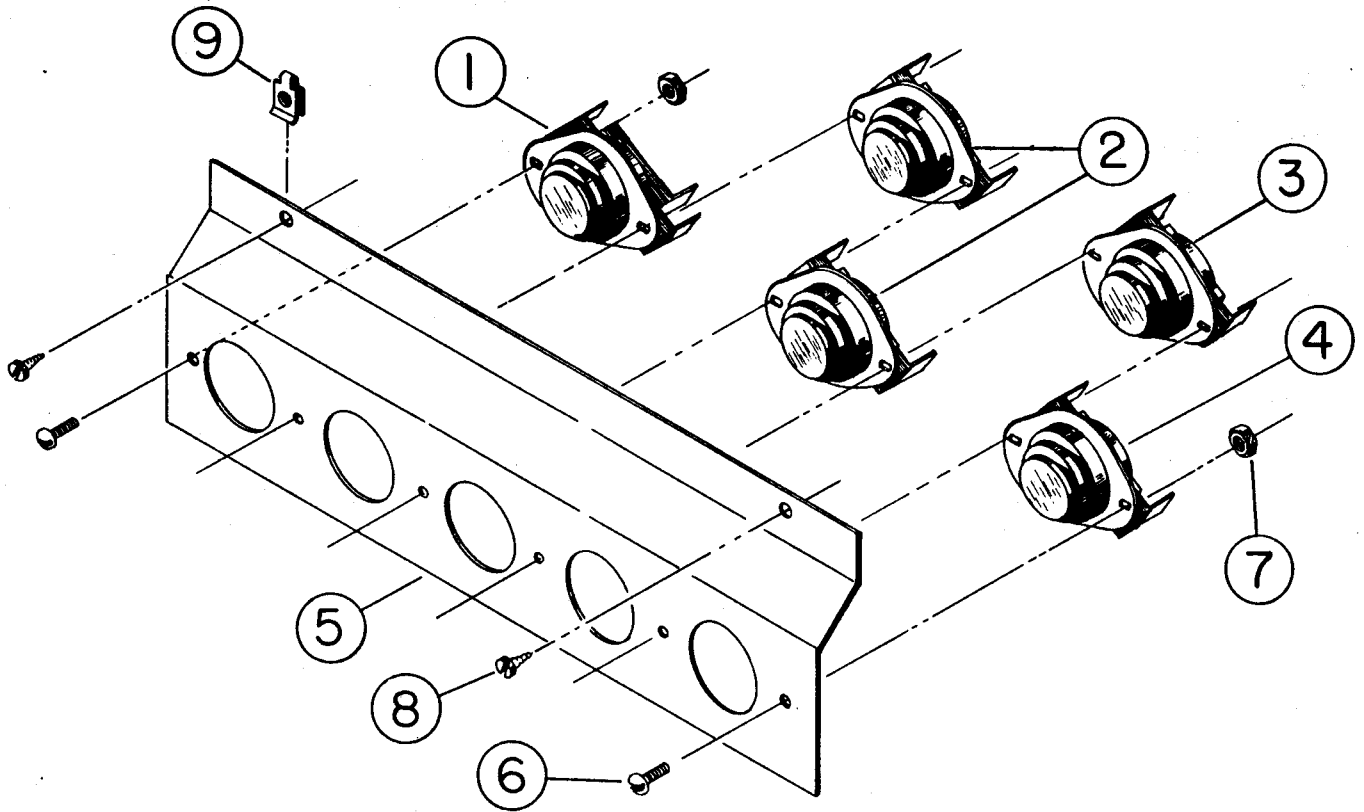
Heater Size	S.F. = 1.00		S.F. = 1.15		S.F. GREATER Than 1.15
	40 Deg. C Amb.	60 Deg. C Amb. or More	40 Deg. C Amb.	60 Deg. C Amb. or More	40. Deg C Amb. or More
H-6	.69- .76	.55- .60	.62- .68	.50- .54	.69- .74
H-7	.77- .82	.61- .66	.69- .74	.55- .59	.75- .83
H-8	.83- .92	.67- .74	.75- .83	.60- .66	.84- .93
H-9	.93-1.03	.75- .83	.84- .93	.67- .74	.94-1.02
H-10	1.03-1.13	.84- .91	.94-1.02	.75- .81	1.03-1.16
H-11	1.14-1.29	.92-1.03	1.03-1.16	.82- .93	1.17-1.31
H-12	1.30-1.46	1.04-1.16	1.17-1.31	.94-1.05	1.32-1.45
H-13	1.47-1.61	1.17-1.29	1.32-1.45	1.06-1.16	1.46-1.63
H-14	1.62-1.81	1.30-1.45	1.46-1.63	1.17-1.30	1.64-1.80
H-15	1.82-2.00	1.46-1.60	1.64-1.80	1.31-1.44	1.81-1.96
H-16	2.01-2.18	1.61-1.74	1.81-1.96	1.45-1.57	1.97-2.22
H-17	2.19-2.47	1.75-1.97	1.97-2.22	1.58-1.77	2.23-2.43
H-18	2.48-2.70	1.98-2.16	2.23-2.43	1.78-1.94	2.44-2.55
H-19	2.71-2.83	2.17-2.27	2.44-2.55	1.95-2.04	2.56-2.81
H-20	2.84-3.12	2.28-2.50	2.56-2.81	2.05-2.25	2.82-2.99
H-21	3.13-3.32	2.51-2.66	2.82-2.99	2.26-2.39	3.00-3.43
H-22	3.33-3.81	2.67-3.05	3.00-3.43	2.40-2.74	3.44-3.90
H-23	3.82-4.33	3.06-3.49	3.44-3.90	2.75-3.12	3.91-4.28
H-24	4.34-4.76	3.48-3.80	3.91-4.28	3.13-3.42	4.29-4.86
H-25	4.77-5.40	3.81-4.32	4.29-4.86	3.43-3.89	4.87-5.45
H-26	5.41-6.06	4.33-4.84	4.87-5.45	3.90-4.36	5.46-6.13
H-27	6.07-6.81	4.85-5.45	5.46-6.13	4.37-4.90	6.14-6.79
H-28	6.82-7.55	5.46-6.03	6.14-6.79	4.91-5.43	6.80-7.72
H-29	7.56-8.58	6.04-6.86	6.80-7.72	5.44-6.17	7.73-8.48
H-30	8.59-9.42	6.87-7.54	7.73-8.48	6.18-6.78	8.49-9.65
H-31	9.43-10.72	7.55-8.58	8.49-9.65	6.79-7.72	9.66-10.70
H-32	10.72-11.99	8.59-9.59	9.66-10.70	7.73-8.63	10.8-12.3

THERMISTOR ASSEMBLY - TU10407

Automatic Computer Control Models

Ref.No.	Part No.	Description
1	TU3400	#6-32 Hex Nut
2	TU7733	#8 x 1/2" Screw
3	TU3624	#6-32 x 1/4" Screw
4	TU5143	Mounting Bracket
5	TU11991	Thermistor
6	TU6067	Tinnerman Nut
7	TU3240	Safety Thermostat (185°F)



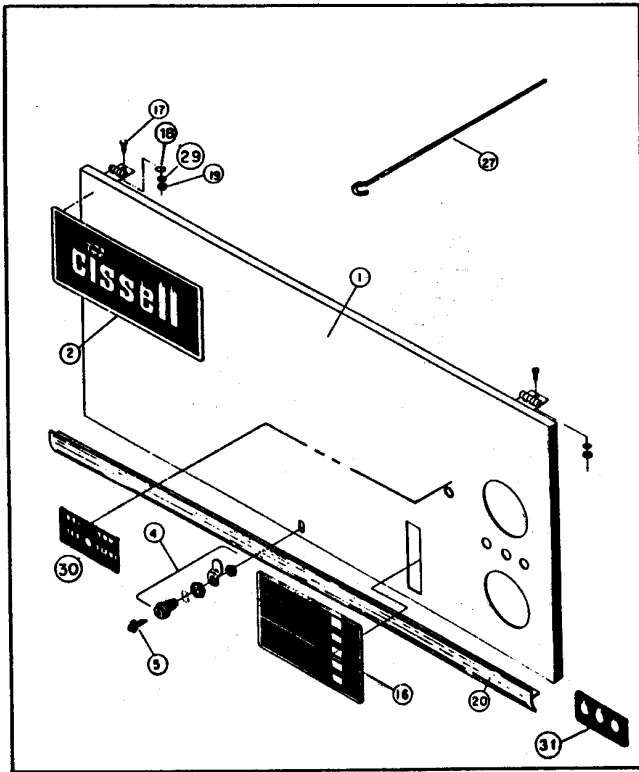


THERMOSTAT ASSEMBLY - TUI0285

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU2045	Thermostat (Cool-Down) Single Timer Models
2	TU3240	185°F. Thermostat (High Heat)
3	TU5150	150°F. Thermostat (Medium Heat)
4	TU7244	135°F. Thermostat (Low Heat)
5	TU5143	Mounting Bracket
6	TU3624	#6-32 x 1/4" Rd. Hd. Machine Screw
7	TU3400	#6-32 Hex Nut
8	TU7733	#8x1/2" Screw
9	TU6067	#8 Tinnerman Clip

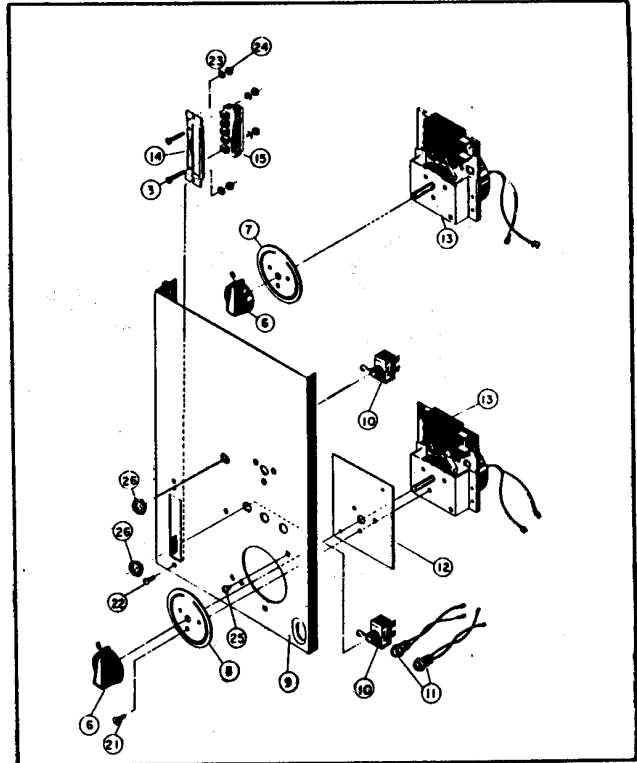
ACCESS DOOR

TU9370-Reversing
TU8133-Non-Rev.



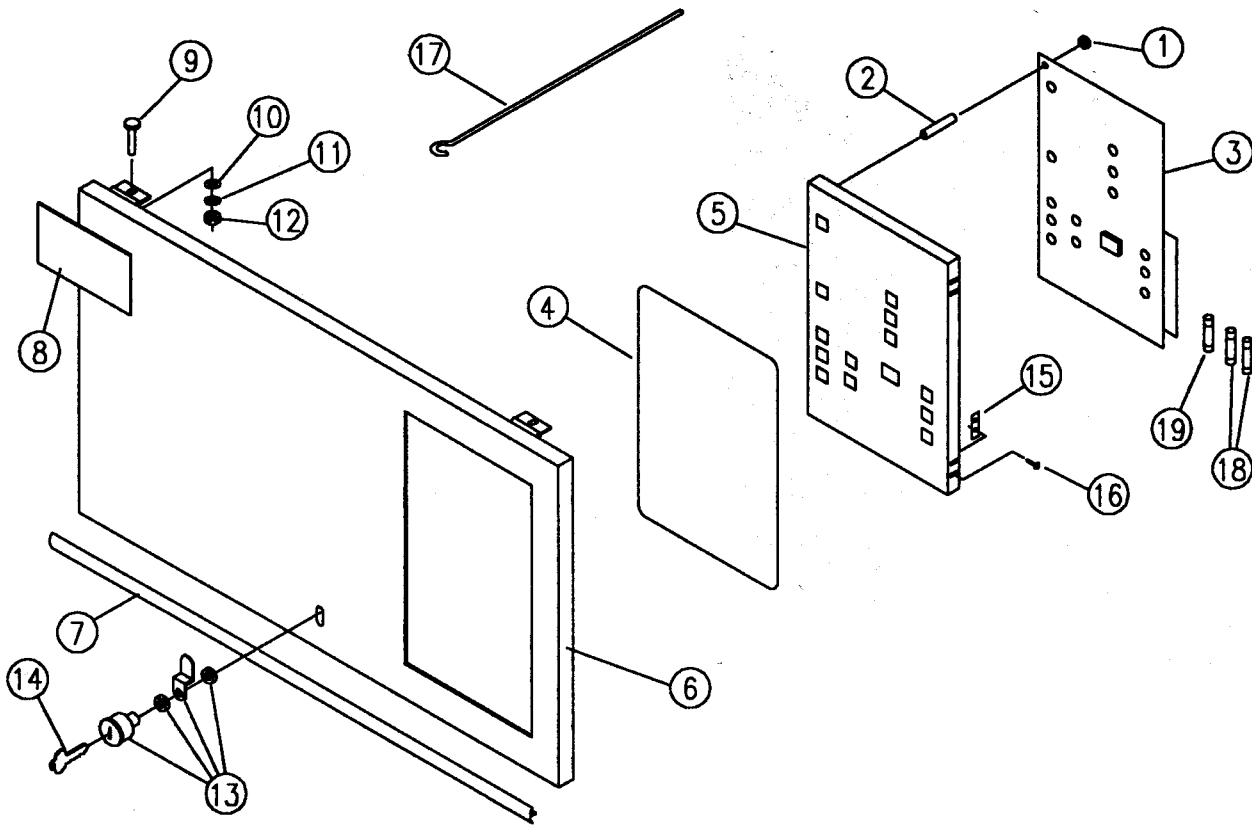
DOUBLE TIMER CONTROL PANEL

TU6021-120V/60/1 TU9372-120/60/1 REV.
TU6122-208-240/60/1 TU9361-240/60/1 REV.
TU6473-240/50/1 TU9362-240/50/1 REV.



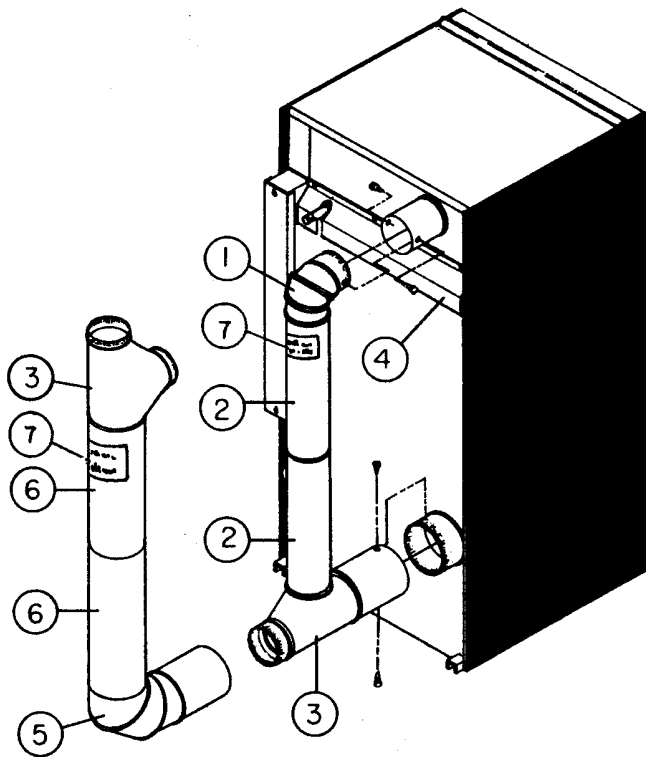
REF. NO.	PART NO.	DESCRIPTION
1	TU8131	Access Door W/A
	TU8132	Door W/Chrome Trim
	TU9368	Access Door W/Rev.
	TU9369	Door W/Trim - Rev.
2	TU8013	Cissell Nameplate
3	SV136	#6-32 x 15/16" Round Head Screw
4	TU4822	Lock #3186
5	TU2844	Key JWC2
6	TU2555	Knob Complete
7	TU5445	Dial 0-15 Min.
8	TU5444	Dial 0-60 Min.
9	TU8393	Control Panel W/A
10	FG147	Toggle Switch
11	TU5421	Pilot Light 120V.
	TU5639	Pilot Light 240V.
12	TU6019	Timer Mounting Plate 60 Cy.
13	TU6110	Timer 0-15 120/60 Cy.
	TU6109	Timer 0-60 120/60 Cy.
	TU5843	Timer 0-15 240/60 Cy.
	TU5842	Timer 0-60 240/60 Cy.
	TU6082	Timer 0-15 240/50 Cy.
	TU6083	Timer 0-60 240/50 Cy.

REF. NO.	PART NO.	DESCRIPTION
14	TU5153	Push Button Plate
15	TU5106	Push Button Switch
16	TU8351	Push Button Control Plate
17	TU3479	#10-32 x 7/16" Truss Head Screw
18	P104	1/2" Cut Washer
19	TU2842	#10-32 Hex Nut
20	TU7983	Upper Front Trim
21	LB68	#8-32 x 3/8" Flat Head Screw
22	TU3624	#6-32 x 1/4" Round Head Screw
23	M270	#6 Int. Tooth Lock Washer
24	TU3400	#6-32 Hex Nut
25	TU7241	#8 x 1/4" Sheet Metal Screw
26	TU3805	15/32"-32 Lock Nut
27	TU5739	Support Rod
28	TU8105	Insulation (not illustrated)
29	FB187	#10 Lockwasher
30	TU9382	Rev. Switch Label
31	TU8418	On/Off Label



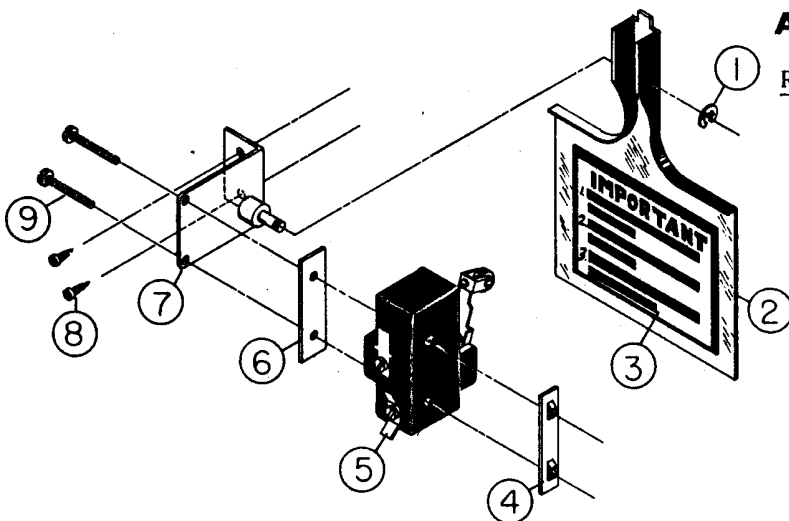
CONTROL PANEL & ACCESS DOOR ASSEMBLY
 50/75 LB. DRYERS REVERSING/NON-REVERSING

Ref.No.	Part No.	Description
1	TU3400	#6-32 Brass Nut
2	TU12254	Spacer
3	TU12105	Reversing Control Board
	TU12106	Non-Reversing Control Board
4	TU12195	Reversing Panel Label
	TU12196	Non-Reversing Panel Label
5	TU12835	Control Panel
6	TU12834	Access Door
7	TU7983	Trim
8	TU8013	Cissell Nameplate
9	TU3479	#10-32 Truss Head Screw
10	P104	1/4" Cut Washer
11	FB187	#10 Lockwasher
12	TU2842	#10-32 Hex Nut
13	TU4822	Lock Assembly
14	TU2844	Key (JWC2)
15	TU1771	Twin Clip Nut
16	TU9524	#6 x 5/16" Screw
17	TU5739	Support Rod
18	TU12863	Fuse (5 Amp)
19	ET235	Fuse (3/8 Amp)



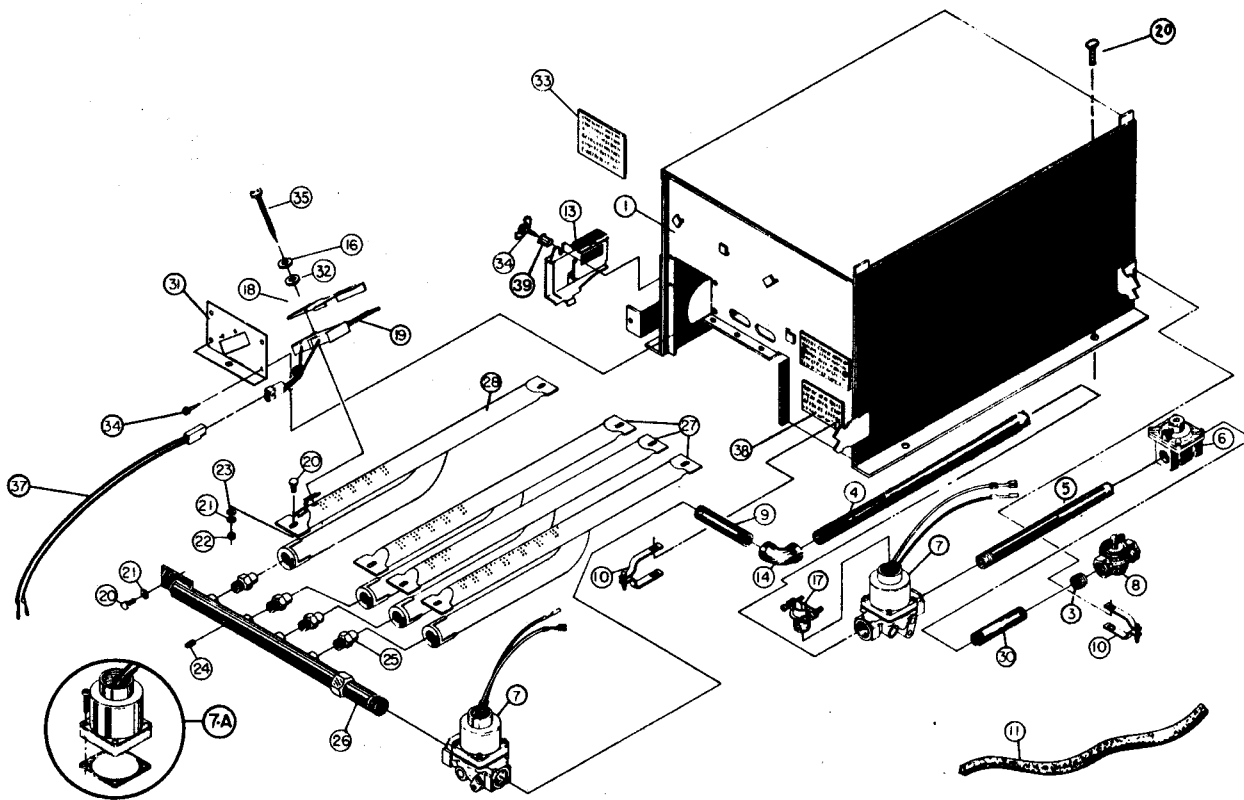
DUCT WORK ASSEMBLY

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8053	Duct Elbow
2	TU8055	Duct Long
3	TU8052	Duct Tee
4	TU8499	Rear Air Guide
5	TU7375	Extended Elbow
6	TU8177	Duct Short
7	TU8593	Installation Label



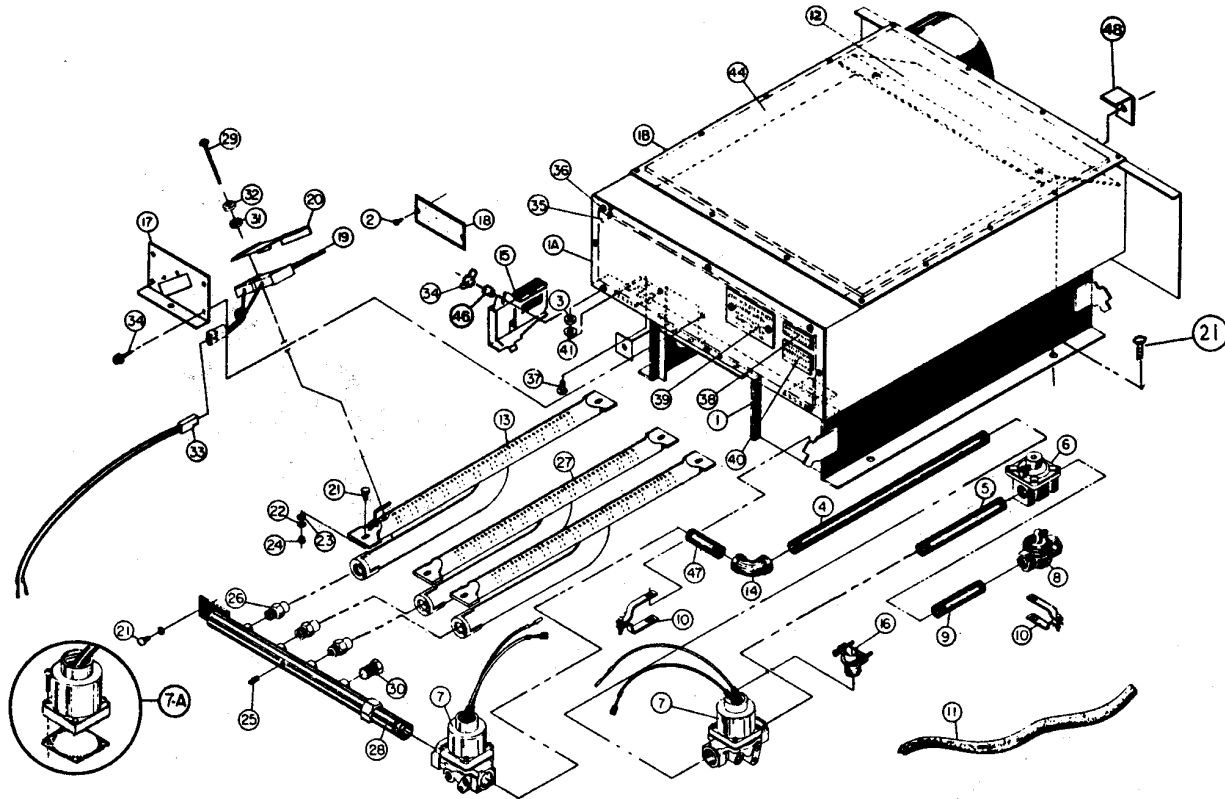
AIR SWITCH ASSEMBLY - TU8206

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	F888	"E" Ring
2	TU2463	Actuator Arm
3	TU3476	Air Switch Decal
4	TU1771	#6 Tinnerman Nut
5	TU8155	Air Switch
6	TU1770	Insulator
7	TU8171	Air Switch Bracket
8	TU7733	#8-18x1/2" Self-Drilling Screw
9	TU3219	#6x1" Round Hd. S.M.S



STANDARD GAS HEATING UNIT
 TU8672 (Natural Gas) TU8857 (L.P. Gas)

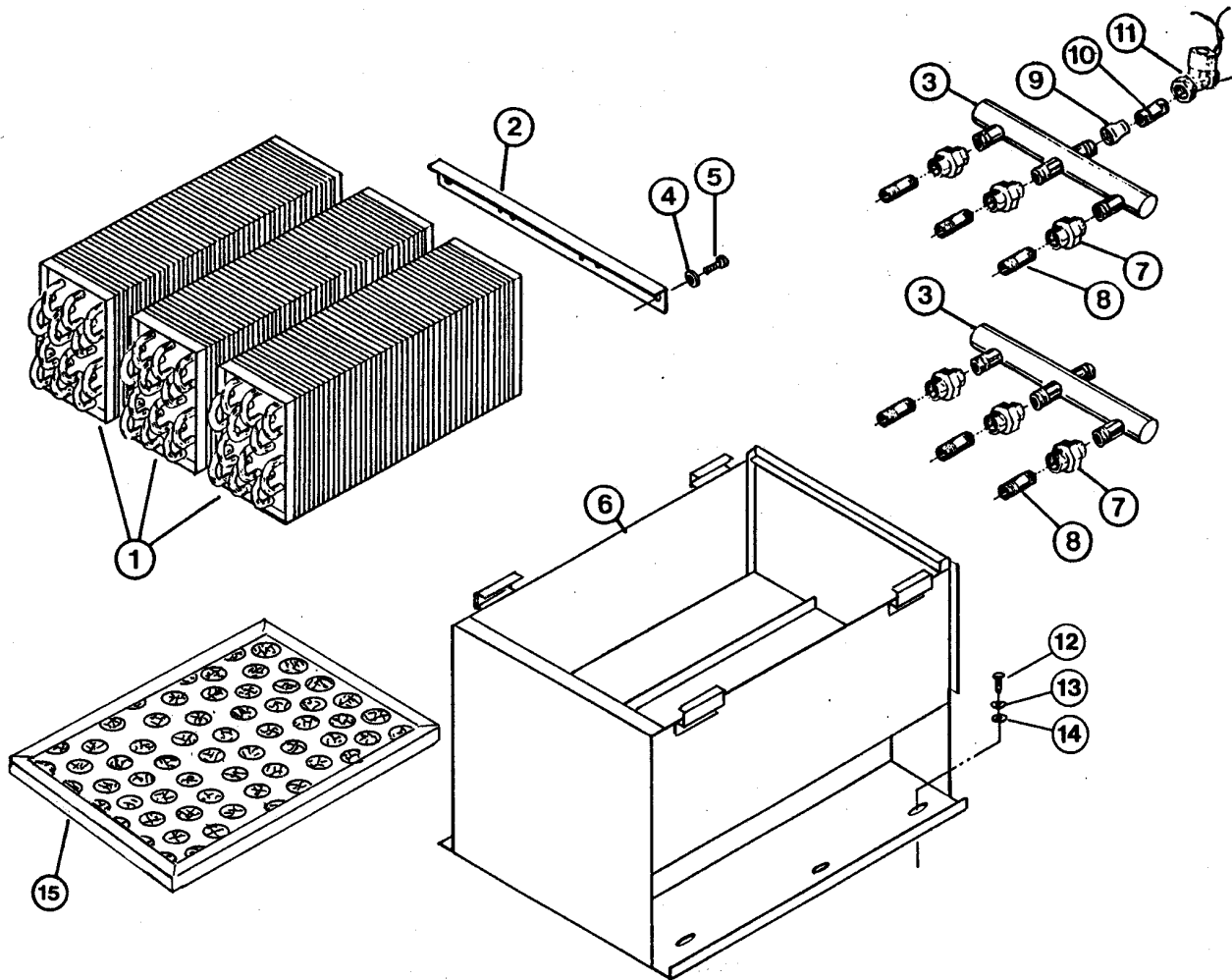
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8683	Bonnet Welded Assembly	21	TU2846	¼" Split Lock Washer
2	TU7733	#8-18x½" Self Drill Screw	22	TU4934	¼"-20 Hex Nut
3	TU6089	Pipe Bushing ¾" x 1/2"	23	TU2847	¼" Flat Washer
4	TU2724	½" Pipe Nipple 25"	24	TU2224	1/8" Pipe Plug
5	OP311	½" Pipe Nipple-12-3/4"	25	TU3539	Gas Burner Orifice (Specify Size)
6	TU7686	Regulator ½" x ½" (Natural Gas Only)	26	TU8288	Manifold Assembly
7	TU6557	Gas Valve	27	TU7840	Burner
7A	TU9208	Gas Valve Coil Assembly	28	TU8760	Ignition Burner
8	TU6773	Gas Cock ¾" x ¾"	29	TU8613	Norton Igniter Instructions
9	390401012	Pipe Nipple ½" x 3½"	30	OP290	Nipple ½" x 2" (Natural Gas Only)
10	TU2226	Manifold Mounting Bracket	31	TU8690	Norton Igniter Plate
11	136067752	Fiberglass Tubing	32	P104	¼" Cut Washer Brass
12	TU6089	Pipe Bushing	33	TU8645	Installation Instructions
13	TU8598	Radiant Sensor	34	TU10292	Wing Nut
14	390501053	½" Elbow	35	TU3416	#8x1¼" Screw
15	TU3266	#8-32 Hex Nut	36	SV332	#8-32 x 3/8" Round Head Screw
16	M271	Brass Lock Washer			Machine Screw
17	C1365	Connector T & B	37	TU8605	Molex Connector
18	TU9540	Heat Shield	38		Gas Rating Plate
19	TU8596	Norton Igniter	39	TU10286	Spacer
20	CB36	¼"-20 x ½" Hex Head Screw			



ENERGY-SAVER GAS HEATING UNIT

TU8673 (Natural Gas) TU8858 (L.P. Gas)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU8717	Bonnet Welded Assembly	23	TU2847	1/4" Flat Washer
1A	TU8561	Front Plate Hinge Assembly	24	TU4934	1/4"-20 Hex Nut
1B	TU8483	Top Panel	25	TU2224	1/8" Pipe Plug
2	TU7733	#8x1/2 Self Drill Screw	26	TU3539	Gas Burner Orifice (Specify Size)
3	TU2842	10-32 Hex Nut	27	TU7840	Burner Assembly
4	TU2724	Pipe Nipple 1/2" x 25"	28	TU8288	Manifold Assembly
5	OP311	Pipe Nipple 1/2"x12-3/4"	29	TU3416	#8x1 1/4" Screw
6	TU9177	Regulator (Nat'l. Gas Only)	30	X170	Manifold Plug
7	TU6557	Gas Valve	31	M271	Brass Lock Washer
7A	TU3832	Gas Valve Coil Assembly	32	P104	1/4" Cut Washer Brass
8	TU6321	Gas Cock	33	TU8605	Molex Connector
9	OP290	Pipe Nipple 1/2" x 2" (Natural Gas Only)	34	TU10292	Wing Nut
10	TU2226	Manifold Mount. Bracket	35	TU2877	#10 Tinnerman Nut
11	136067752	Fiberglass Tubing	36	TU2878	#10x5/8 Sheet Metal Screw
12	TU8484	Upper Rear Air Deflector	37	TU3479	10-32x7/16" Truss Hd. Screw
13	TU8760	Ignition Burner	38	TU8613	Norton Igniter Instructions
14	390501053	1/2" Elbow	39		Gas Rating Plate
15	TU8598	Radiant Sensor	40	TU8645	Installation Instructions
16	C1365	Connector T&B (Gas Valve)	41	P104	Cut Washer
17	TU8690	Igniter Mounting Plate	42	TU3266	#8-32 Hex Nut
18	TU7373	Clean Out Panel Nameplate	44	TU2853	Gasket
19	TU8596	Norton Igniter	45	SV332	#8-32x3/8" Round Head Machine Screw
20	TU9540	Heat Shield	46	TU10286	Spacer
21	CB36	1/4"-20x1/2" Hex Head Screw	47	390401012	Nipple 1/2" x 3 1/2"
22	TU2846	1/4" Split Lock Washer	48	TU11181	Burner Locator Angle



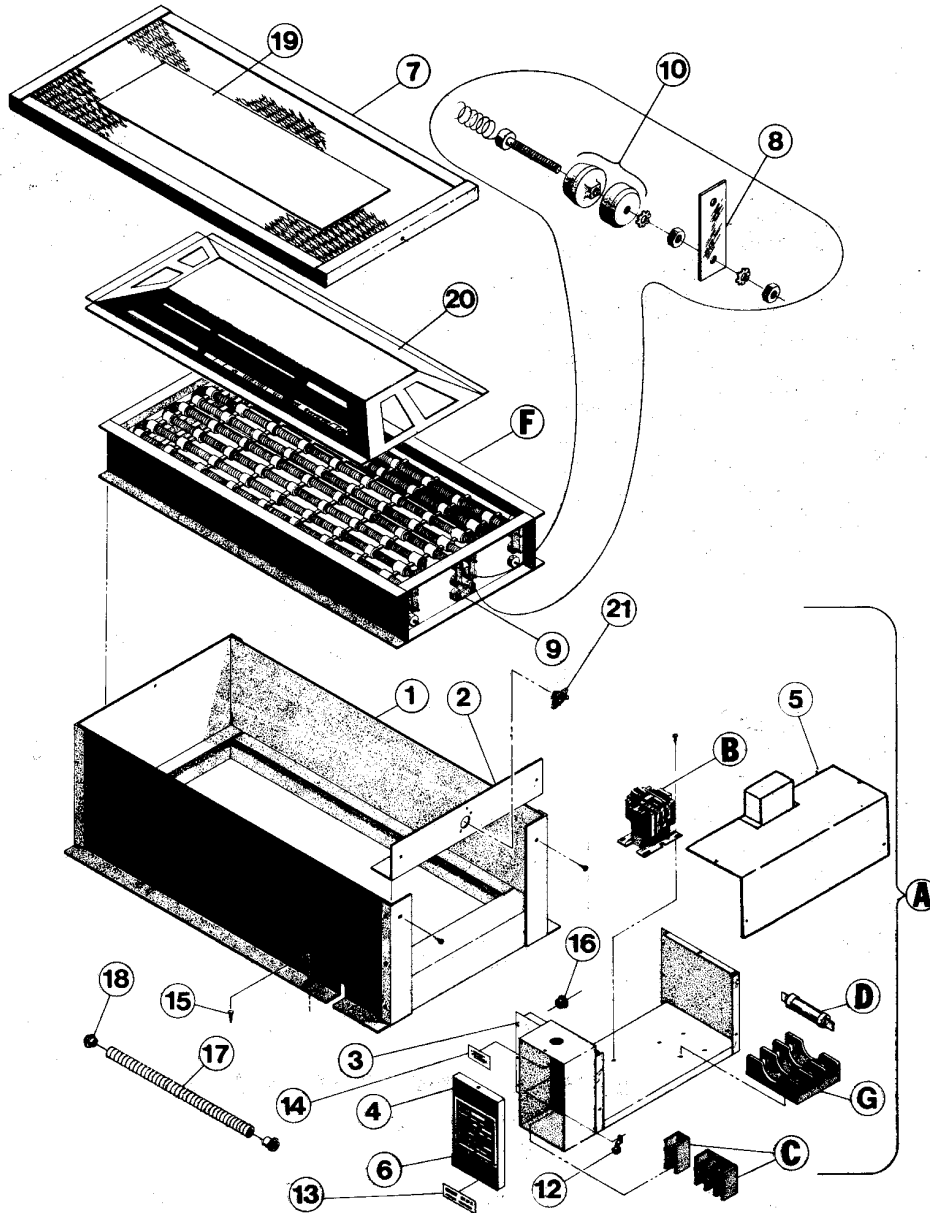
STEAM HEATING UNIT - 6 COIL

TU10999 - 120V.
TU10937 - 240V.

Ref. No.	Part No.	Description
1	TU3172	Steam Coil (6 Coil)
2	TU6683	Coil Holder
3	TU6679	Manifold
4	TU2846	1/4" Lock Washer
5	CB36	1/2 - 20 X 1/2 Screw
6	TU10929	Bonnet Weldment
7	TU4600	3/4" Union
8	TU4607	Nipple - 3/4" X 2 1/2"
9	TU2735	Reducer - 3/4" X 1"
10	TU4608	Nipple - 3/4" X 2"
11	TU5924	Solenoid Valve (240V.) *
	TU6041	Solenoid Valve (120V.) *
12	RC344	1/2-20 X 3/4" Screw
13	TU4827	1/4" Cut Washer
14	IB140	3/8" Cut Washer
15	TU9953	Air Filter (Not part of assembly)

* TU7151 - Replacement Coil (120 V. Valve)

* TU6763 - Replacement Coil (240 V. Valve)



ELECTRIC HEATING UNIT

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TU3103	Bonnet Weldment	17	504641292	1/2 Greenfield Cable
2	TU3102	Hold Down Plate	18	TU4790	Straight Connector
3	TU9402	Control Box W/A	19	TU10496	Cover
4	TU9398	Terminal Box W/A	20	TU10411	Air Baffle
5	TU12456	Top Cover	21	TU7244	135 deg. Thermostat
6	TU8519	Branch Circuit Label (Double Motor)	A	See Next Page	Control Box Less Wiring
7	TU3104	Air Inlet Cover	B	"	Contactor
8	TU3767	Contact Strap (4 ea.)	C	"	Terminal Block
9	TU3768	Contact Strap (1 ea.)	D	"	Fuse
10	TU3253	Insulators (Pkg. of 6)	E	"	Bonnet W/Elements
12	TU7738	Grounding Lug	F	"	Heater W/Elements
13	TU9254	High Voltage Label	G	"	Fuse Holder
14	TU9258	Grounding Label			
15	RC344	1/2-20 X 3/4" Screw			
16	TU5958	Bushing			

ELECTRIC HEATING UNIT

	A	B	C	D	E	F	G
COMPLETE BONNET ASSEMBLY	CONTROL BOX L/WIRING	CONTACTOR COIL VOLTAGE & AMPACITY	TERMINAL BLOCK	FUSES	BONNET W/ ELEMENTS	HEATER ELEMENT	FUSE HOLDER
TU11122 208V.	TU11125 40KW 208V. 3PH.	TU9140 240V. 40 AMP 2 Req.	TU9143 3 POLE	TU7224 40 AMP 6 Req.	TU9333 40KW 208V. 3PH.	HE10610 40KW 208V.	TU11096 2 Req.
TU11123 240V.	TU11126 40KW 240V. 3PH.	TU9140 240V. 40 AMP 2 Req.	TU9143 3 POLE	TU7223 35 AMP 6 Req.	TU9336 40 KW 240V. 3PH.	HE10810 40KW 240V.	TU11096 2 Req.
TU11124 240/415V	TU11127 40KW 240/415V. 3PH. 415V W/NEUTRAL	TU9140 240V. 40 AMP	TU9143* TU9142**	TU7223 35 AMP 6 Req.	TU9336 40KW 240V. 3 PH	HE10810 40KW 240V.	TU11096 2 Req.
TU9284 480V.	TU9245 40KW 480V, 3 PH	TU9140 240V. 40 AMP	TU8734 3 POLE	TU7071 35 AMP 3 Req.	TU9336 40KW SERIES 480V. 3PH	HE10810 40KW 240V. USED FOR 40KW 480V. SERIES	TU9141
TU9285 575V.	TU9245 40KW 575V. 3 PH	TU9140 240V. 40 AMP	TU8734 3 POLE	TU7071 35 AMP 3 Req.	TU9419 40KW SERIES 575V. 3 PH	HE11160 40KW 287.5V. USED FOR 40KW 575V. SERIES	TU9141

* 3 Pole ** 1 Pole (Neutral)

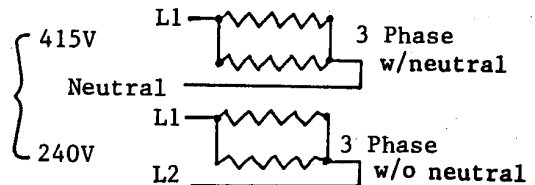
240V Or 208V
Parallel



480V Series
575V.



Dual Hookup
Available
240/415 V.
or
240/380 V.



75 LB. DRYER WITH SPECIAL 30KW ELECTRIC BONNET

Rated Heater Input - 30KW @ 240V./60 Hz./1 Ph.
Total Connected Amperes - 133 Amps
Minimum Size Power Wire - 0 AWG
Minimum Conduit Trade Size - 1½"

BONNET SERVICE PART NUMBERS

Complete Bonnet Assembly - TU12774
Control Box Less Wiring - TU12775
Contactor - TU9140
Terminal Block - TU9142
Fuses - TU11627 (6 req'd.) (30 Amp)
Bonnet with Elements - TU7590
Heater Element - TU6946
Fuse Holder - TU8201

WIRE SIZE OF POWER SUPPLY FOR ELECTRIC HEATING CIRCUIT
Double Motor Model

<u>Rated Heater Input</u>	<u>Total Connected Amperes at Rated Voltage</u>	<u>HZ.</u>	<u>Minimum Size Power Wire *</u>	<u>Minimum Conduit Trade Size</u>	<u>Branch Circuit Maximum Fuse Size</u>
40 KW @ 208V/3Ph.**	121.7 Amps	60	1 AWG	1½ in.	125
40 KW @ 208V/3Ph.	116.5 Amps	60	1 "	1½ in.	125
40 KW @ 240V/3Ph.**	106.7 Amps	60	2 "	1½ in.	110
40 KW @ 240V/3Ph.	101.5 Amps	60	2 "	1½ in.	110
40 KW @ 480V/3Ph.	52.7 Amps	60	6 "	1 in.	60
40 KW @ 240-415V/3Ph.	102/59 Amps	50	2/6 "	1½/1½ in.	110/60
40 KW @ 575V 3Ph.	45.7 Amps	60	6 "	1½ in.	50

WIRE SIZE OF POWER SUPPLY FOR ELECTRIC HEATING CIRCUIT
Single Motor Model

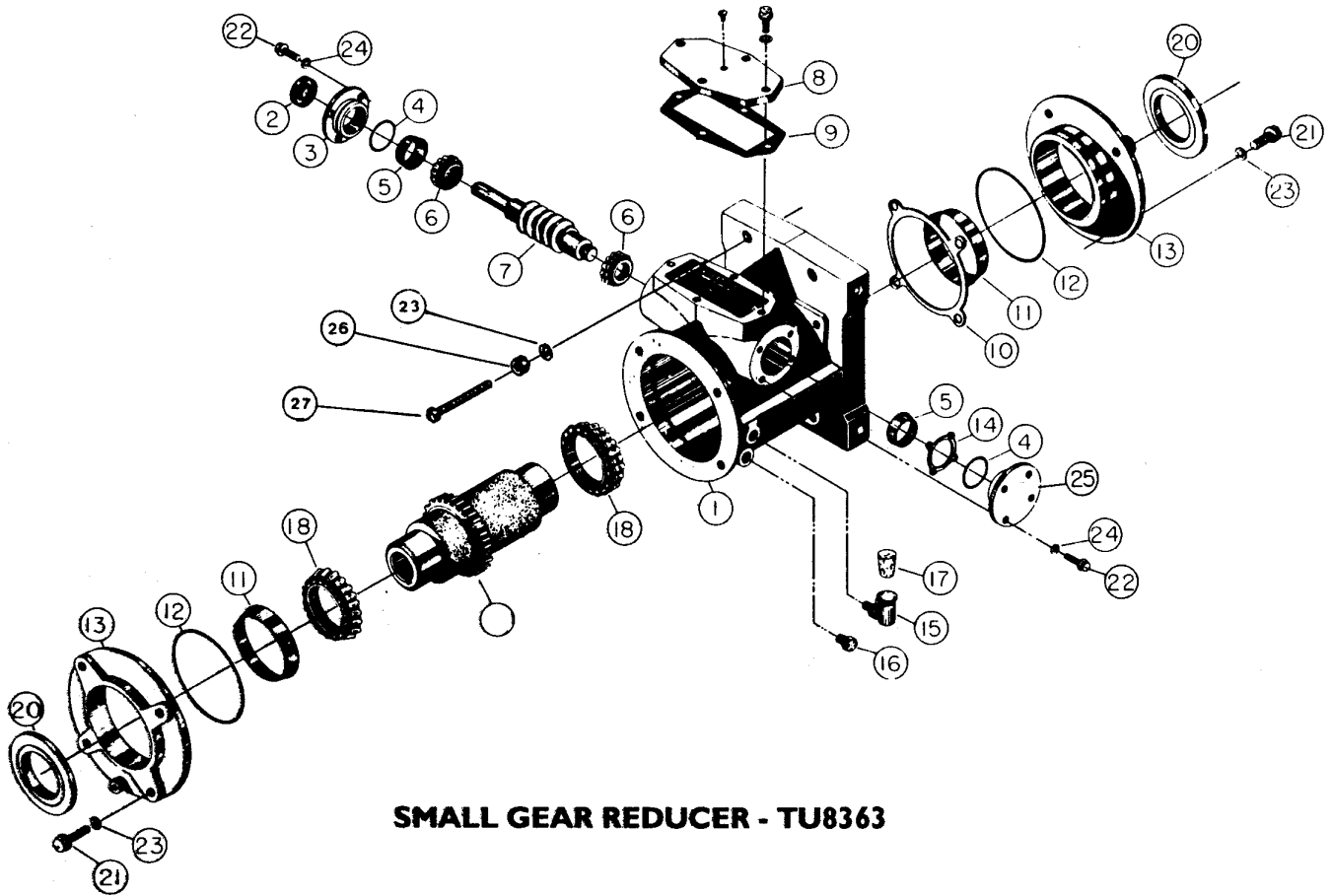
<u>Rated Heater Input</u>	<u>Total Connected Amperes at Rated Voltage</u>	<u>HZ.</u>	<u>Minimum Size Power Wire *</u>	<u>Minimum Conduit Trade Size</u>	<u>Branch Circuit Maximum Fuse Size</u>
40 KW @ 208V/3Ph.**	119.6 Amps	60	1 AWG	1½ in.	125
40 KW @ 208V/3Ph.	115 Amps	60	2 "	1½ in.	125
40 KW @ 240V/3Ph.**	104 Amps	60	2 "	1½ in.	110
40 KW @ 240V/3Ph.	100 Amps	60	3 "	1½ in.	110
40 KW @ 480V/3Ph.	51 Amps	60	6 "	1 in.	60
40 KW @ 240-415V/3Ph.	101/58 Amps	50	2/6 "	1½/1½ in.	110/60
40 KW @ 575V/3Ph.	44 Amps	60	8 "	3/4 in.	50

CAUTION: THIS MACHINE HAS ONE POWER SUPPLY CONNECTION POINT, Disconnect power before servicing dryer.

* Based On:

1. 75°C Copper Conductors
2. Ampacity of first Breaker/Disconnect/
Fused Disconnect of not more that 125%
of the connected load.
3. Wiring length from Breaker/Fused
Disconnect/ Disconnect less that 100 LF.

**Single Phase Motor



SMALL GEAR REDUCER - TU8363

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	TU8362	Housing
2	TU86	Small Klosure
3	TU25	Small Open End Cap
4	TU88	Small "O" Ring
5	TU91	Small Bearing Cup
6	TU90	Small Bearing Cone
7	TU12823	Worm & Worm Gear Set
8	TU8350	Worm Gear Cover Assembly
9	TU1796	Worm Gear Cover Gasket
10	TU1828	Large Shims (Set of 4) .005" and .007", 2 of each
11	TU93	Large Bearing Cup
12	TU1830	Large "O" Ring, 4-5/8"
13	TU26	Large End Cap
14	TU21	Small Shims (Set of 4)
15	TU70	Oil Cup
16	X170	1/4" Pipe Plug
17	TU3199	#8 Cork
18	TU92	Large Bearing Cone
19		
20	TU2166	Oil Seal Field Replacement
21	TU2623	Cap Screw 3/8" - 16" X 1-1/2"
22	TU2839	Cap Screw 1/4" - 20" X 7/8"
23	TU3243	3/8" Internal Tooth Lockwasher
24	RC349	1/4" Internal Tooth Lockwasher
25	TU24	Small Closed End Cap
26	TU4787	3/8"-16 Hex Nut
27	TU8448	3/8"-16 x 2 1/2" Screw