OWNER'S MANUAL

50 Lb. Laundry Dryer

MODELS

GAS		STEAM	ELECTRIC
L36USS30G	L36URD30G	L36URS30S	L36URS30E
L36USD30G	L36URS30G	L36URD30S	L36URD30E

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THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER.

MAN2050I 12/97 1C

D0644

IMPORTANT NOTICES--PLEASE READ

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

WARNING: For your safety, the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury, or loss of life.

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

- WHAT TO DO IF YOU SMELL GAS

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

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

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

WARNING: Wear Safety Shoes to prevent injuries.

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

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

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

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

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

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

WARNING: Do not operate without guards in place.

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

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

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

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

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

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

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

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

IPSO DRYER WARRANTY

Ipso U.S.A., Inc. (Ipso) 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 nondurable 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 Ipso equipment for which the two (2) year warranty period has expired, or for all new repair or replacement parts for equipment other than Ipso equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Ipso 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 Ipso, the warranty is limited to that provided by the respective manufacturer.

Ipso's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by Ipso's negligence or otherwise, shall be limited to Ipso repairing or replacing, at its option, any defective equipment or part returned f.o.b. Ipso's factory, transportation prepaid, within the applicable warranty period and found by Ipso to have been defective, and in no event shall Ipso 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 Ipso 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 Ipso 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 Ipso; operated or repaired with other than genuine Ipso replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of Ipso; 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 Ipso for repair or replacement without prior written authorization from Ipso. Charges for unauthorized repairs will not be accepted or paid by Ipso.

IPSO 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. IPSO 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 Ipso equipment or part was purchased. If the Distributor cannot be reached, contact Ipso.

IDENTIFICATION NAMEPLATE

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

TABLE OF CONTENTS
50 LB. LAUNDRY DRYER

SYMBOLS

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

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

SYMBOLS

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

UNPACKING

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

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

See outline clearance diagrams for correct dimensions.

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

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

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

GENERAL INSTALLATION (ALL DRYERS)

The construction of Ipso 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 combustible material is 0" ceiling clearance, 0" rear clearance, and 0" side clearance.

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

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

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

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

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

GENERAL INFORMATION

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

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

IPSO "COOL-DOWN" CYCLE

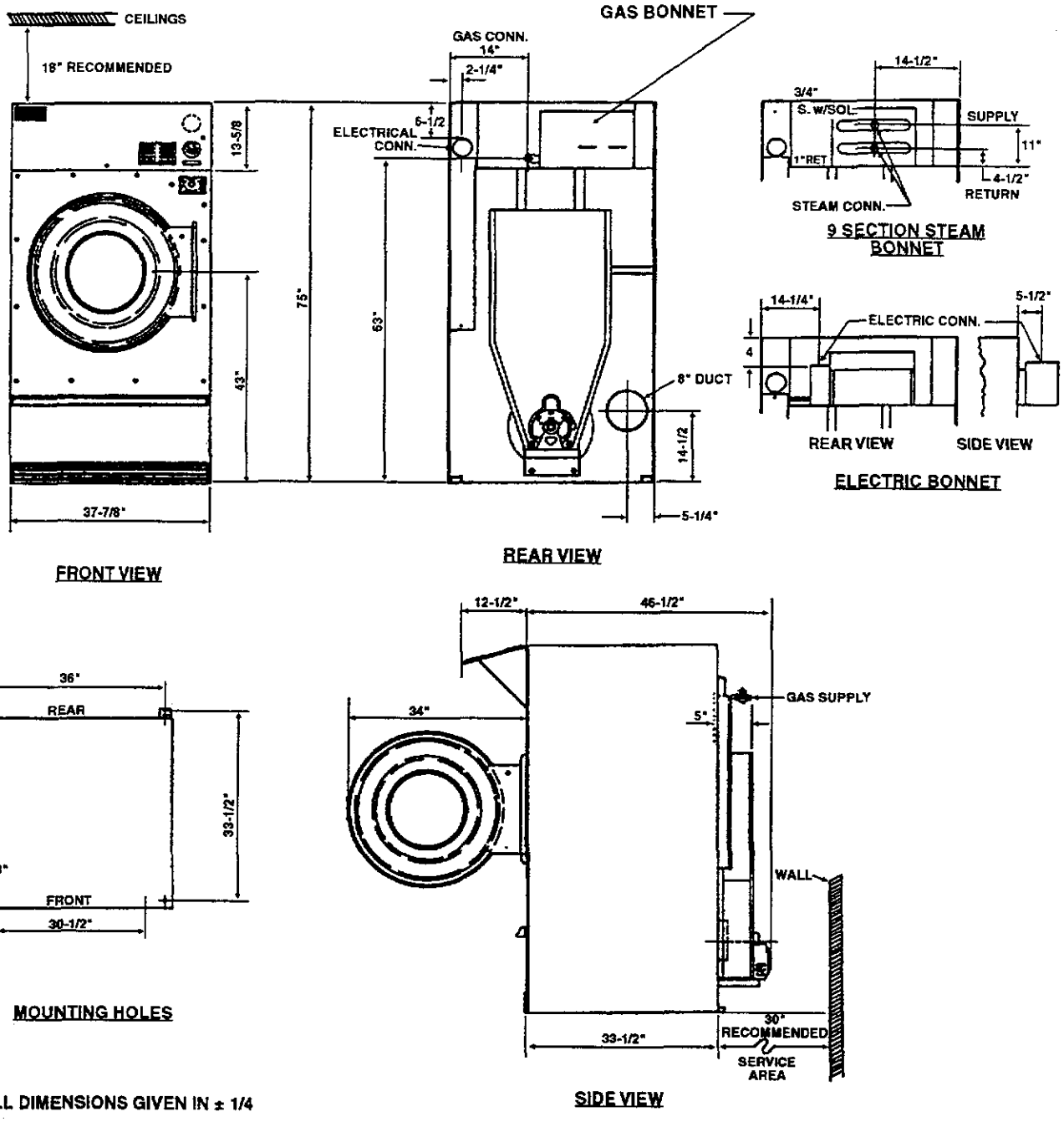
Permanent press, durable press and other modern day fabrics require the care that your Ipso Laundry Dryers now provide. At the end of the drying cycle, a timed "Cool-Down" control automatically takes over and continues the rotation of the fan and basket without heat until the garment load reaches a safe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

REPLACEMENT PARTS

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

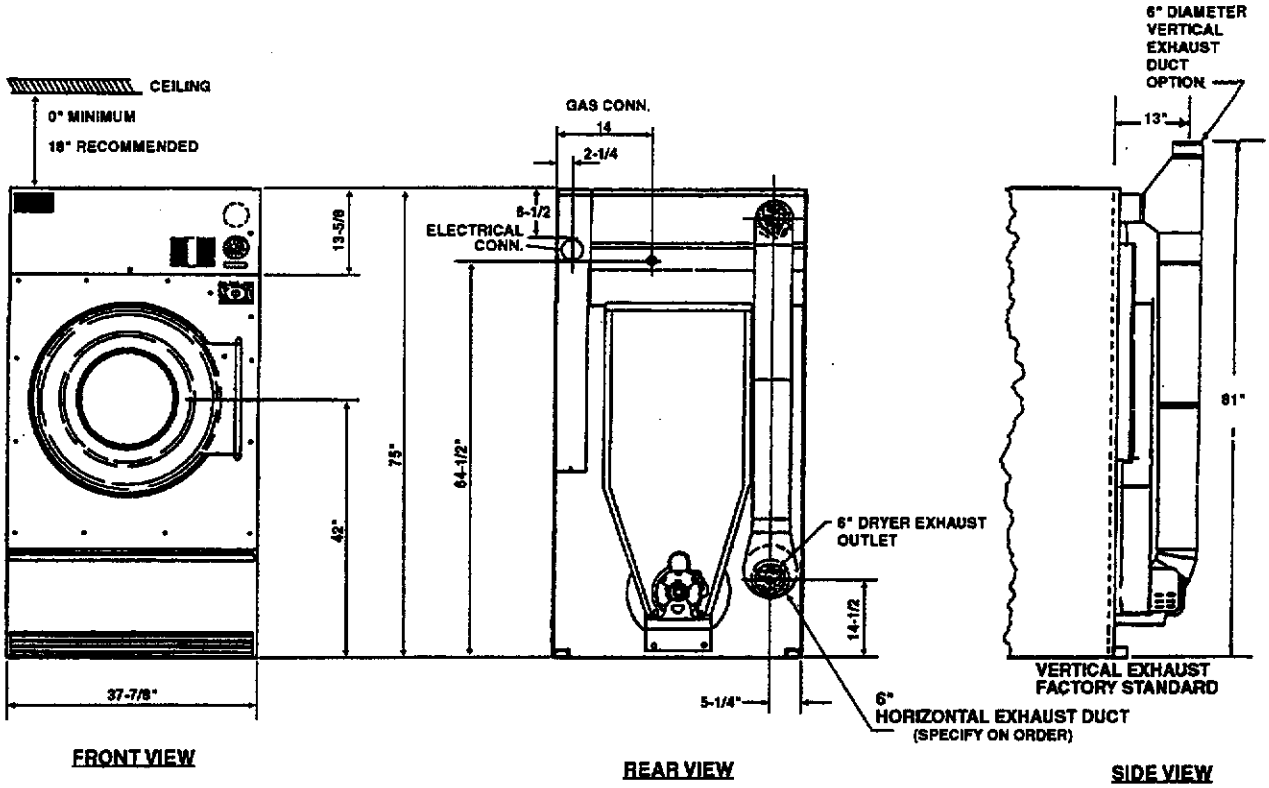
ONLY IPSO PARTS SHOULD BE USED.

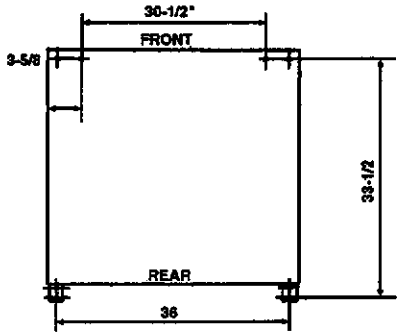
50 lb. Dryer Dimensions - Standard Gas, Steam and Electric Heated (Illustration)

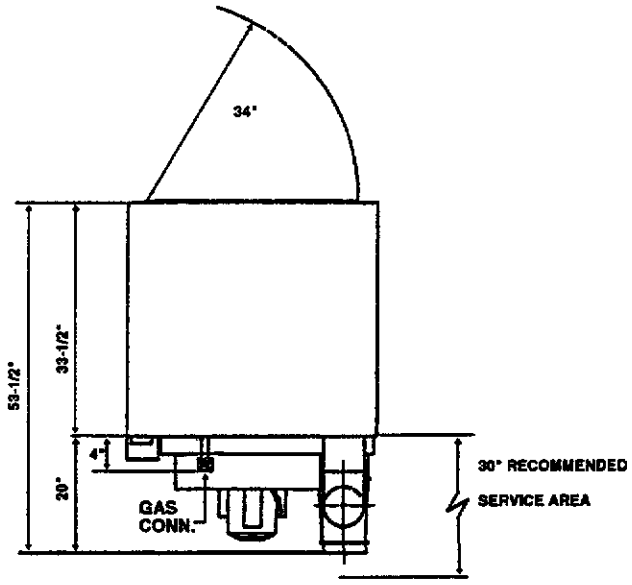


ALL DIMENSIONS GIVEN IN ± 1/4

50 lb. Dryer Dimensions - Gas Energy-Saver Model
(Illustration)







ALL DIMENSIONS GIVEN IN ± 1/4

GENERAL SPECIFICATIONS FOR 50 LB. LAUNDRY DRYERS (STANDARD GAS, STEAM, AND ELECTRIC HEATED MODELS)

Basket Load Capacity	50 lbs. (22.68 kg) Dry Weight
Floor Space (Double Motor)	75" (191 cm) H x 37-7/8" (96 cm) Wide x 47-1/2" (118 cm) Deep
Floor Space (Single Motor)	75" (191 cm) x 37-7/8" (96 cm) Wide x 47-1/2" (118 cm) Deep
Basket Size	36" (91 cm) Diameter x 30-1/4" (77 cm) Deep
Exhaust Duct	8" (20.3 cm) Diameter
Motor Size	See chart on page 16
Maximum Air Displacement	800 CFM (22.65 M^3/Min.)
Recommended Operating Range	630-730 CFM (17.84 - 20.67 M^3/Min.)
Basket RPM	Reversing - 42 - 3.2 reversals per minute
	Non-Reversing - 42
Export Cube	90.2 ft^3 (2.55 M^3)

For total amps, check Electrical Rating Plate on dryer.

1. Can be designed for any voltage
2. 50 Hz. or 60 Hz.
3. 1 or 3 Phase

Electrical wiring to dryer must comply with local electrical code requirements.

GENERAL SPECIFICATIONS FOR GAS FIRED LAUNDRY DRYERS

Gas Supply	1/2" (1.27 cm) Pipe Connection
Heat Input* (4 Burners)	130,000/BTU/H (Natural Gas)
	130,000/hBTU/H (Liquid Petroleum Gases)
Drying Time (Approx.)	10 lbs. (4.54 kg) Dry Weight (Indian Head) 100% moisture retention - 10 min.
Net Weight (Approx.)	545 lbs. (166 kg) Model with Single Motor
	599 lbs. (183 kg) Model with Double Motor
Domestic Shipping Weight (1 Carton)	580 lbs. (177 kg) Model with Single Motor
	634 lbs. (193 kg) Model with Double Motor
Export Shipping Weight (1 Carton)	586 lbs. (179 kg) Model with Single Motor
	671 lbs. (205 kg) Model with Double Motor
Export Shipping Dimensions	83" (211 cm) Long x 45" (114 cm) Wide x 55" (140 cm) High

* Input ratings as shown are for elevations up to 2,000 ft. (609.6 m). For higher elevations, ratings should be reduced 4% for each 1,000 ft. (304.8 m) above sea level.

ELECTRIC HEATED LAUNDRY DRYERS

Heater Input	30 Kw/Hr (25,812 K/Cal)
Drying Time (Approx.)	12 lbs. (5.44 kg) Dry Weight (Indian Head) 80% moisture retention - 12 min.
Net Weight (Approx.)	565 lbs. (172 kg) Model with Single Motor
	625 lbs. (191 kg) Model with Double Motor
Domestic Shipping Weight (1 Carton)	600 lbs. (183 kg) Model with Single Motor
	650 lbs. (198 kg) Model with Double Motor
Export Shipping Weight (1 Carton)	624 lbs. (190 kg) Model with Single Motor
	660 lbs. (201 kg) Model with Double Motor
Export Shipping Dimensions	83" (211 cm) Long x 45" (114 cm) Wide x 55" (140 cm) High

GAS ENERGY-SAVER DRYER SPECIFICATIONS

Basket Capacity	50 lbs. (22.68 kg) Dry Weight
Floor Space	75" (190.5 cm) High x 53-1/2" (135.89 cm) Deep x 37-7/8" (96.22 cm) Wide
Basket Size	36" (91.44 cm) Diameter x 30" (76.2 cm) Deep
Exhaust Duct*	6" (15.24 cm) Diameter
Exhaust Air Pressure	Max. 0.3" (0.76 cm) Static Pressure
Motor Size	See chart on page 16
Basket RPM	Reversing - 42 - 3.2 reversals per minute Non-Reversing - 42
Maximum Air Displacement	450 CFM (12.74 M^3/Min.)
Heat Input/BTU Input**	104,000 BTU/hour
Heat Input/K-Cal	26208 kcal/hour
Gas Supply	1/2" (1.27 cm) Pipe Connection
Drying Time (Approx.)	10 lbs. (4.54 kg) Dry Weight (Indian Head) 100% moisture retention - 10 min.
Net Weight (Approx.)	640 lbs. (290.3 kg) Model with Single Motor 690 lbs. (312.98 kg) Model with Double Motor
Domestic Shipping Weight (Approx.)	705 lbs. (319.78 kg) Model with Single Motor 755 lbs. (342.46 kg) Model with Double Motor
Export Shipping Weight (Approx.)	1180 lbs. (535.24 kg) Model with Single Motor 1230 lbs. (557.92 kg) Model with Double Motor

* For high altitude installation, remove the 5" (127mm) I.D. exhaust ring.

** Input ratings as shown are for elevations up to 2,000 ft. (609.6 m). For higher elevations, ratings should be reduced 4% for each 1,000 ft. (304.8 m) above sea level

Gas burners are set at the factory at 3.5" (89mm) W.C. regulated pressure (Natural Gas only).

Models can be equipped for use with natural gas or liquid petroleum gases (L.P.)

Electrical wiring to dryer must conform to local electrical code requirements.

GENERAL SPECIFICATIONS FOR STEAM HEATED LAUNDRY DRYERS

Maximum Air Displacement	800 CFM (22.63 M^3/Min.)
Recommended Operating Range	630-730 CFM (17.84 - 20.67 M^3/Min.)
Steam Supply Connection	3/4" (1.91 cm)
Steam Return Connection	3/4" (1.91 cm)
Operating Steam Pressure	Low Pressure - 7-15 PSIG (0.5 - 1 Bar) Maximum High Pressure- 100 PSIG (6.9 Bar)
Drying Time (Approx.)	25 lbs. (11.34 kg) Dry Weight (Indian Head) 80% moisture retention - 30 minutes low pressure, 22 minutes high pressure
Steam Consumption	2.9 BHP - 97.1 lbs. 22779 KCal/hour (57.70 kg)/hour with normal load - low pressure 3.8 BHP - 127.2 lbs. 28684 KCal/hour (44.04 kg)/hour with normal load - high pressure
Net Weight (Approx.)	595 lbs. (181 kg) Single Motor
	655 lbs. (200 kg) Double Motor
Export Shipping Weight (1 Carton)	630 lbs. (192 kg) Single Motor
	690 lbs. (210 kg) Double Motor
Export Shipping Weight (1 Box)	638 lbs. (194 kg) Single Motor
	698 lbs. (213 kg) Double Motor
Export Shipping Dimensions	83" (211 cm) Long x 45" (114 cm) Wide x 55" (140 cm) High

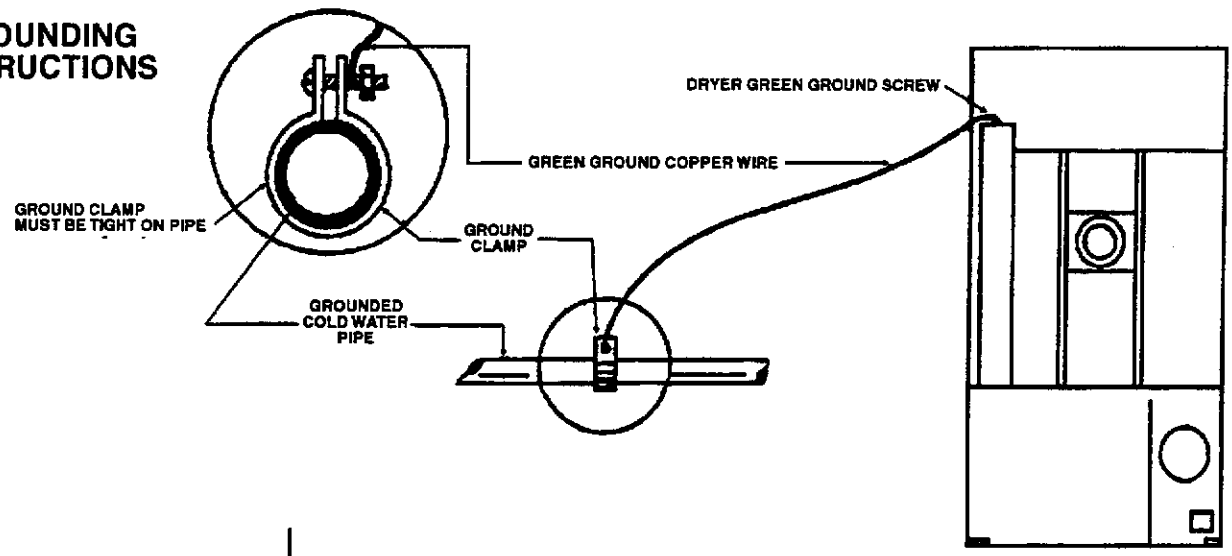
MOTOR NUMBER LIST FOR 50 LB. DOUBLE MOTOR MODELS

Motor No.	Voltage	Hz.	Phase	HP	KWATTS	Amps	Basket/Fan
MTR210	115/208-230	60	1	1/2	.373	5.6/2.8	B
MTR213	208-230/460	60	3	1/2	.373	1.9/.96	B
MTR138	120	50	1	1/2	.373	7.8	B
MTR139	240	50	1	1/2	.373	4.1	B
MTR184	240/415	50	3	1/2	.373	1.9/1.1	B
MTRIII	575	60	3	1/2	.373	.77	B
MTR273	220/380	50	3	1/2	.373	1.8/1.1	B
MTR273	220/380	60	3	1/2	.373	1.7/1.0	B
MTR273	220/346	50	3	1/2	.373	1.8/1.1	B
MTR184	220/380	60	3	1/3	.25	1.5/.80	F
MTR184	200/346	50	3	1/3	.25	1.5/.80	F
MTR209	115/208-230	60	1	1/3	.25	5.3/2.6	F
MTR17	110-220	50	1	1/3	.25	4.8/2.4	F
MTR184	240/415	50	3	1/3	.25	1.6/.9	F
MTR218	208/230/460	60	3	1/3	.25	1.7/.85	F
MTR101	575	60	3	1/3	.75	1.7	F
MTR184	220/380	50	3	1/3	.25	1.6/.90	F

MOTOR NUMBER LIST FOR 50 LB. SINGLE MOTOR MODELS

Motor No.	Voltage	Hz.	Phase	HP	KWATTS	Amps	Basket/Fan
MTR202	115/208-230	60	1	3/4	.56	7.2/3.6	B/F
MTR126	120	50	1	3/4	.56	12.0	B/F
MTR127	240	50	1	3/4	.56	6.0	B/F
MTR211	208-230/460	60	3	3/4	.56	2.6/1.3	B/F
MTR186	240/415	50	3	3/4	.56	2.4/1.4	B/F
MTR249	220/380	50	3	3/4	.56	2.9/1.7	B/F
MTR249	220/380	60	3	3/4	.56	2.8/1.6	B/F
MTR249	200/346	50	3	3/4	.56	2.6/1.5	B/F

GROUNDING INSTRUCTIONS



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. 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—Latest Edition**.

See wiring diagram furnished with dryer. Your Ipso 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 the 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.)

All panels must be in position before operation of dryer.

GAS PIPING INSTALLATION

1. The installation must conform with local codes, or in the absence of local codes with the National Fuel Gas Code as: ANSI Z223.1—(Latest Edition).

2. Check Identification Nameplate for type of gas for dryer.

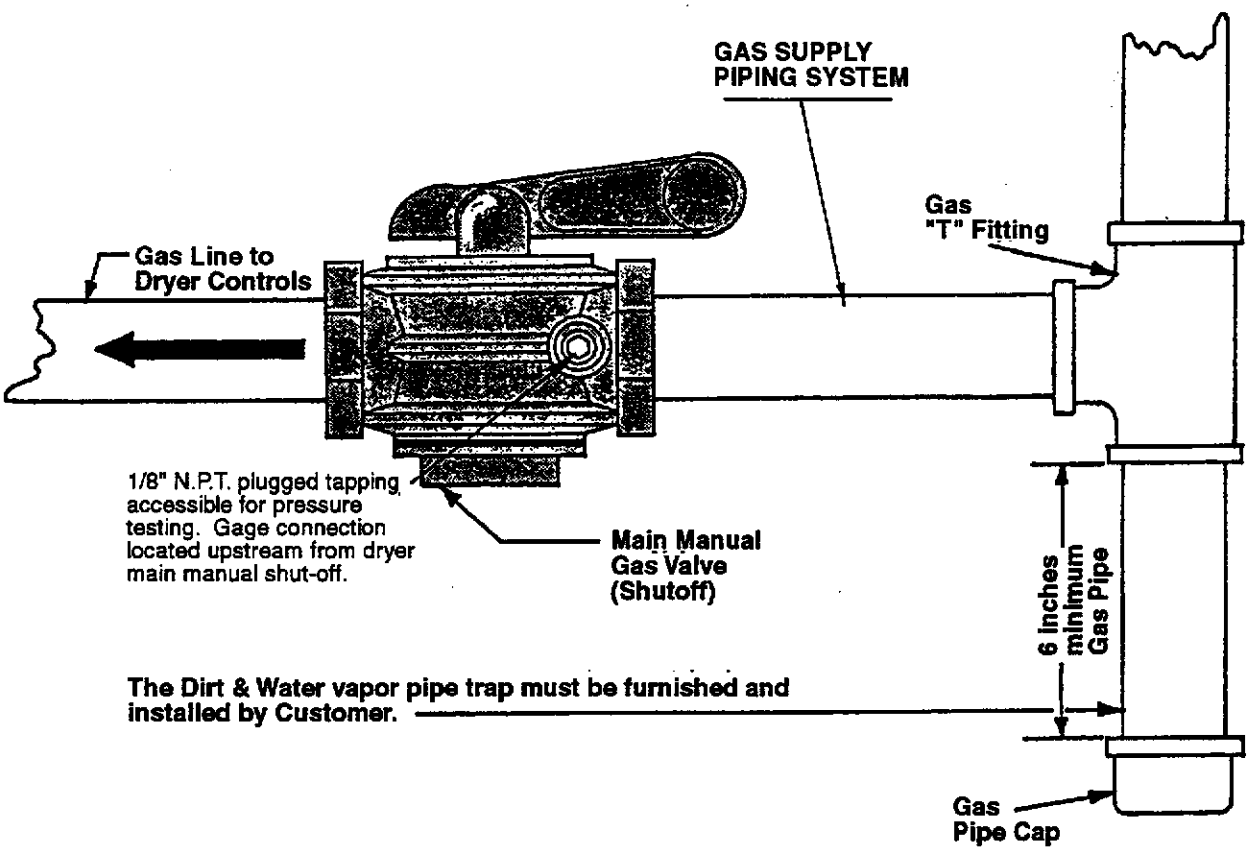
3. Check for altitude elevation of dryer.

4. Check with utilities company for proper gas pressure and gas supply line.

5. Natural Gas Only—Check the gas pressure inlet supply to dryer, 11 inches Water Column maximum. Manifold Pressure—3.5 inches Water Column pressure.

6. L.P. Gas Only—Manifold pressure—13 inches Water Column maximum.

CAUTION: Low gas pressure and intermittent gas will cause gas ignition problems and inadequate drying of laundry.



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 1/2 PSIG.

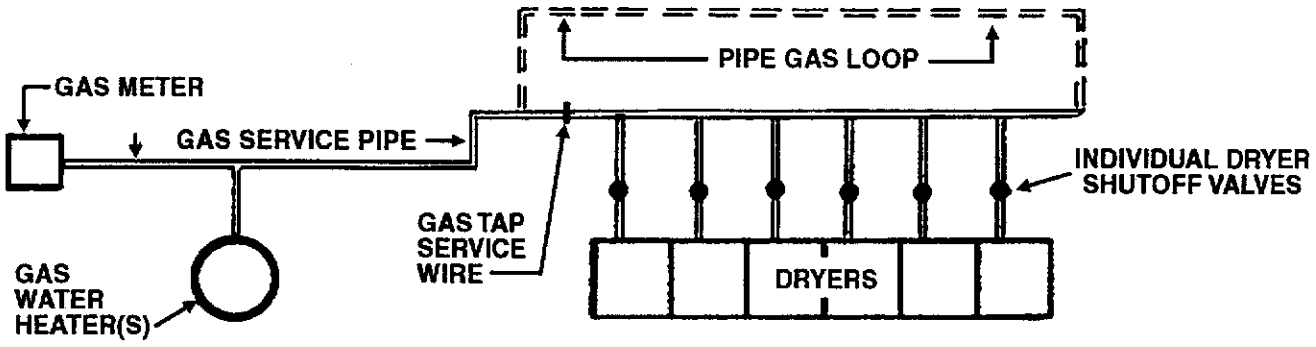
The dryer must be isolated from the gas supply piping system by closing it's individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG.

GAS SERVICE INSTALLATION INSTRUCTIONS

The size of the gas service pipe is dependent 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.

CAUTION: Gas loop piping must be installed as illustrated to maintain equal gas pressure for all dryers connected to a single gas service

Other gas-using appliances should be connected upstream from the loop.



WARNING:
LIQUIFIED PETROLEUM GASES ONLY !

GAS PRESSURE REGULATOR FOR LIQUIFIED PETROLEUM GASES

A Gas Pressure Regulator for Liquified Petroleum Gases is not furnished on Ipso Gas Heated Clothes Dryers. This regulator is normally furnished by the installer. In accordance with American Gas Association (AGA) 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.

Gas Pipe Size Chart

TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" (17.8 CM) W.C. PRESSURE In figuring total length of pipe, make allowance for tees and elbows.					
	HOUR	(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 ft.) 30,48 m	(125 ft.) 38,1 m	(150 ft.) 45,72 m
60,000	15000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	20000	3/4	3/4	3/4	1	1	1
100,000	25200	3/4	3/4	1	1	1	1
120,000	30200	3/4	1	1	1	1	1
140,000	35200	3/4	1	1	1	1	1 1/4
160,000	40300	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	45300	1	1	1	1 1/4	1 1/4	1 1/4
200,000	50400	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	75600	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	100800	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	126000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	151200	1 1/2	1 1/2	2	2	2	2
700,000	176400	1 1/2	2	2	2	2	2 1/2
800,000	202000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	230000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	250000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	270000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	300000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	330000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	350000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	380000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	400000	2	2 1/2	2 1/2	3	3	3
1,700,000	430000	2	2 1/2	2 1/2	3	3	3
1,800,000	450000	2 1/2	2 1/2	3	3	3	3
1,900,000	480000	2 1/2	2 1/2	3	3	3	3
2,000,000	504000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	550000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	605000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	650000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	705000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	750000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	806000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	850000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	907000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	960000	3	3 1/2	3 1/2	4	4	4
4,000,000	1000000	3	3 1/2	3 1/2	4	4	4

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" (30.5 cm) 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 bypass 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 3/4" union and 3/4" 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 (with built-in strainer) and check valve. For successful operation of dryer, install trap 18" (45.7 cm) 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

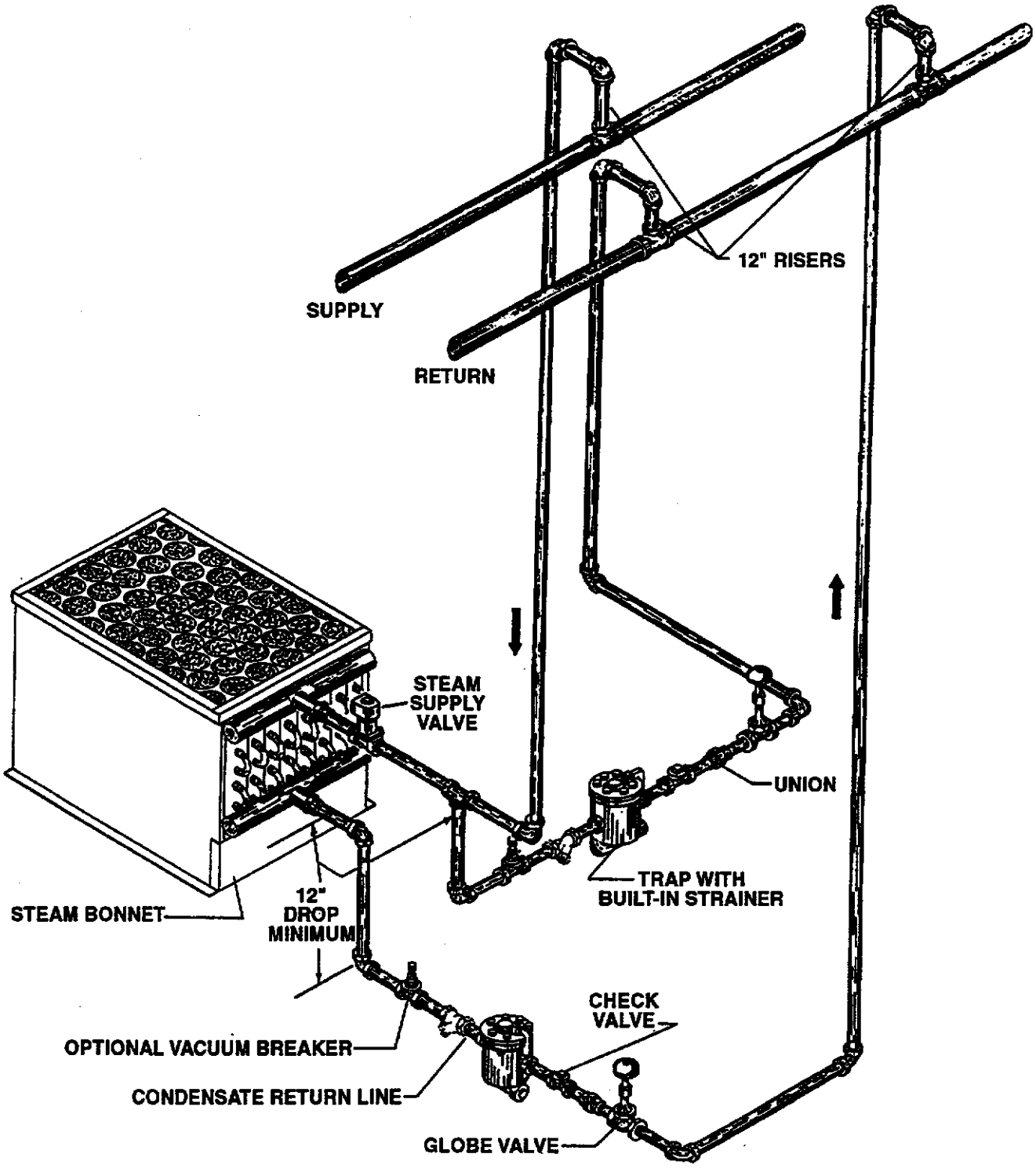
1. Trap each dryer individually. Always keep the trap clean and in good working condition.

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 bypass trap at end of line. If gravity returned to boiler, omit trap.

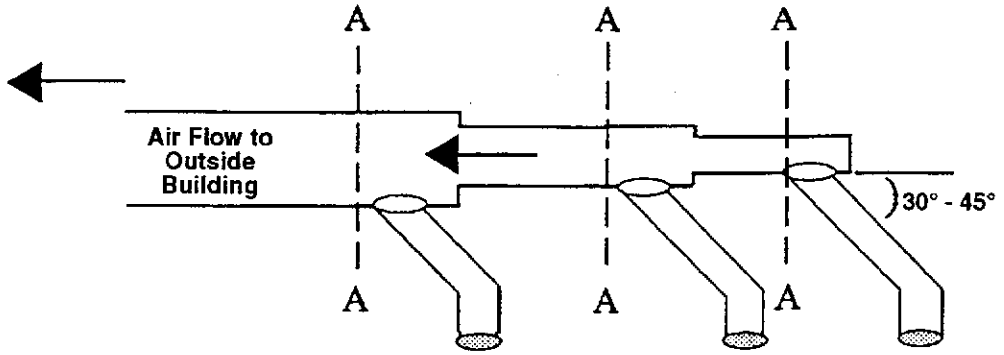
3. **Insulate steam supply and return line for safety of operator and safety while servicing dryer.**

4. Keep dryer in good working condition. Repair or replace any worn or defective parts.

Steam Piping Installation (Illustration)



For Exhaust Duct less than 14 feet and 2 elbows equivalent and less than 0.3 inches 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.*)

MODELS: L28FD30, L28US30, L36FD30, L36US30, L36US36, L44FD42

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
(in CM)	15	23	27	30	35	38	41	43	46	48	51	53	56	58	58	61	63	66	66	68	71	71	73	76

MODELS: L28CD30, L28UR30, L36CD30, L36UR30, L36UR36, L36AR36, L44FD42

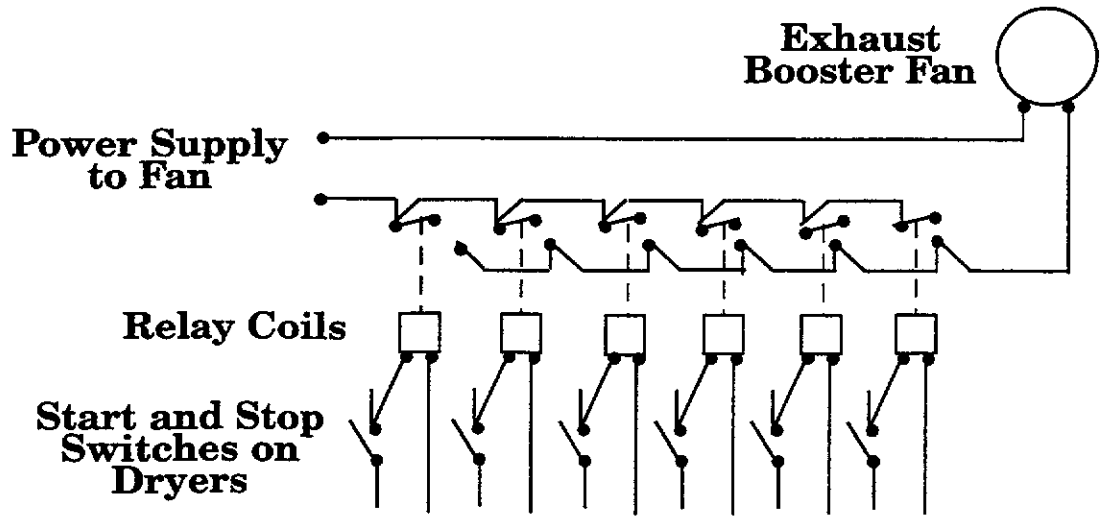
No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Duct Diameter (in inches)	8	12	14	16	18	20	22	23	24	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
(in CM)	20	30	25	41	46	51	56	58	61	66	68	71	73	76	78	81	84	86	89	91	94	97	99	100

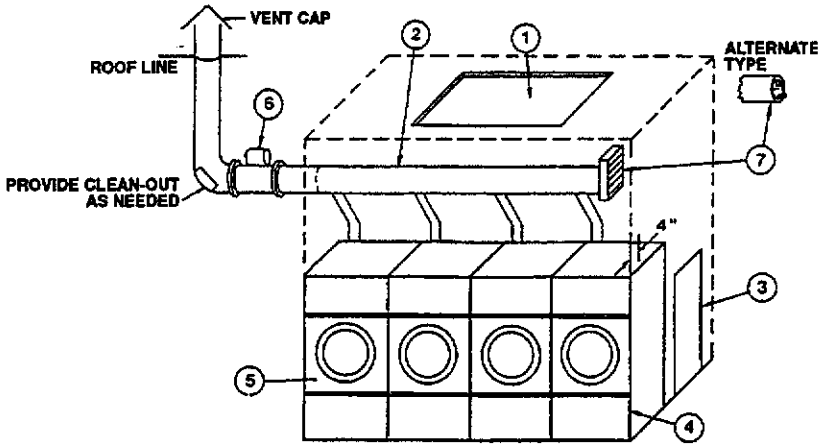
MODELS: L44CD42, L50CD42

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
(in CM)	30	43	53	61	68	76	81	86	91	97	100	106

AUTOMATIC ELECTRICAL CONTROL FOR EXHAUST FAN

For one or more dryers to start fan.





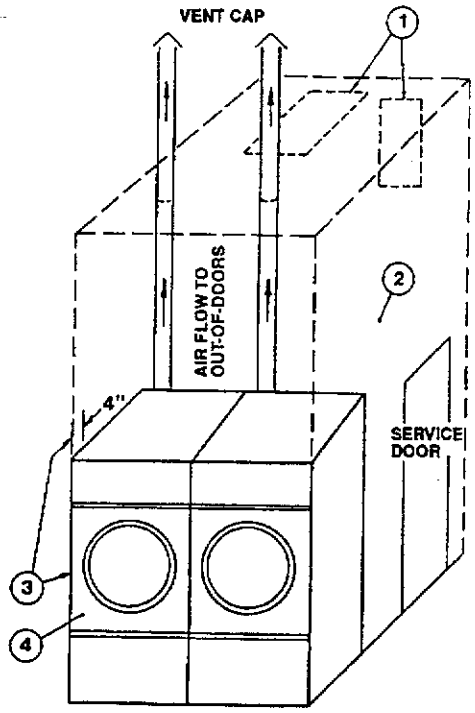
DRYER INSTALLATION WITH MULTIPLE EXHAUST

For Exhaust Duct more than 14 feet and 2 elbows equivalent and more than 0.3 inches static pressure.
(See illustration on next page.)

1. Make-up air from outside building may enter enclosure from top or side walls. Area of opening should be equal to 4 to 6 times the sum of dryer duct areas. Provide 1 square foot (.1m²) for each 6 inches (15.24 cm) diameter; 2 square feet (.2m²) for each 8 inches (20.3 cm) diameter; and 4 square feet (.4m²) for each 12 inches (30.5 cm) diameter.
2. Use constant diameter duct with area equal to the sum of dryer duct areas.
   EXAMPLE: 6-8 inches (20 cm) diameter duct = 1-19.6 inches (49.8 cm) diameter duct in area. Use 20 inches (50 cm) 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 BTU/HR (6.3 kcal/hr) for each cubic foot per minute (CFM) used.
4. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (100 mm) of front on top.
5. Heat loss into laundry room from dryer fronts *only* is about 60 BTU/HR per square foot (15 kcal/hr per 0.1m²).
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) (M³/min.) is equal to sum of dryer air flows, but static pressure (SP) is dependent on length of pipe and number of elbows.
7. **Barometric Bypass Damper**—Adjust to *closed flutter position* with all dryers and exhaust fan running. **Must be located within enclosure.**

CAUTION: *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.

CAUTION: *Never* exhaust dryers with other types of equipment.



DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

For ductwork less than 14 feet and 2 elbows equivalent and less than 0.3 inches 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 square foot (.1m²) for each 6 inches (15.24 cm) diameter; 2 square feet (.2m²) for each 8 inches (20.3 cm) diameter; and 4 square feet (.4m²) for each 12 inches (30.5 cm) 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 BTU/HR (6.3 kcal/hr) for each cubic foot per minute (CFM) (.03m³/min.) used.
3. Zero inches (mm) clearance to combustible material allowed on sides and at points within 4 inches (100 mm) of front on top.
4. Heat loss into laundry room from dryer front panels is about 60 BTU/HR per square foot (15 kcal/hr per 0.1m²).

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 (4-6 times the combined areas of the air outlet) and an exhaust duct, size and length of which allows flow through the dryer with no more than 0.3 inches water column static pressure in the exhaust duct.

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 (4.3 mm) of straight duct and maximum of two 90° bends.
2. Use 45° and 30° elbows wherever possible.
3. **Exhaust each dryer separately.**
4. Use 2 feet (0.6 m) 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 (7.6 mm) 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 inches (15 cm) diameter exhaust requires a 1 square feet (0.1 m^2) opening for make-up air.
   8 inches (20 cm) diameter exhaust requires a 2 square feet (0.2 m^2)opening for make-up air.
   12 inches (30 cm) diameter exhaust requires a 4 square feet (0.4 m^2)opening for make-up air.
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

OTHER RECOMMENDATIONS

Other Recommendations

To assure compliance, consult local building code requirements.

TROUBLESHOOTING

Troubleshooting

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**
   Never use drycleaning solvents: gasoline, kerosene, or other flammable liquids **in the dryer.** ***Fire and explosion will occur.***
   Never put fabrics treated with these liquids into the dryer.
   Never use these liquids near the dryer.
   Always keep the lint screen clean.
   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.
9. **The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.**

ENERGY-SAVING TIPS

1. Install dryer so that you can use short, straight venting. Turned elbows and long vent tubing tend to increase drying time. Longer drying 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 lightweight 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 the dryer as soon as it stops. This saves having to restart your dryer to remove wrinkles.

OPERATING INSTRUCTIONS—COIN METER MODELS

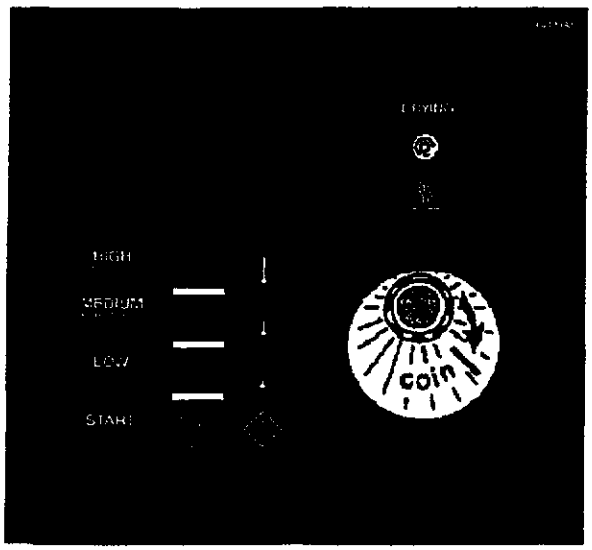
OPERATING INSTRUCTIONS—COIN METER MODELS

1. After loading the dryer with water washed clothes, close the loading door.

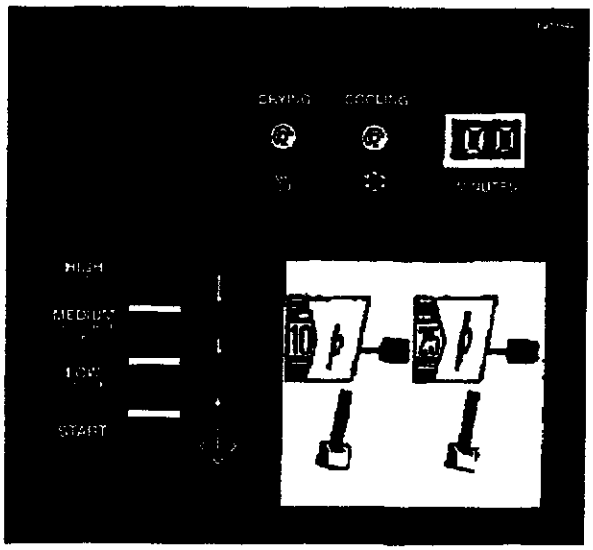
2. **ELECTRO-MECHANICAL COIN METER:** Insert proper coin(s) in slot and turn knob until it stops.
   COMPUTERIZED COIN METER: Insert coin. Amount of drying time will appear on the digital display. Maximum time is 99 minutes. Additional coins may be vended any time during the cycle.

3. Turn Temperature Fabric Selector to desired setting:
   HIGH—185° F exhaust temperature, *heavy fabrics and hard to dry, (cottons and linens).*
   MEDIUM—150°F exhaust temperature, *permanent press, synthetic blends.*
   LOW—135°F exhaust temperature, *delicate, sheer fabrics.*

4. Press the **"Start"** button to start the drying and cooling cycles.



ELECTRO-MECHANICAL COIN METER



COMPUTERIZED COIN METER

WHAT IS HAPPENING AFTER STEP 4:

1. Digital Display will count down time remaining in cycle (Computerized Coin Meter).

2. The fan motor and basket will revolve.

3. The heat source will be energized.

4. The heated air will mix with the wet clothes and evaporate the moisture.

5. The thermostats will operate at a safe temperature.

6. The heat will shut off and the cooling cycle will begin.

IMPORTANT

IMPORTANT

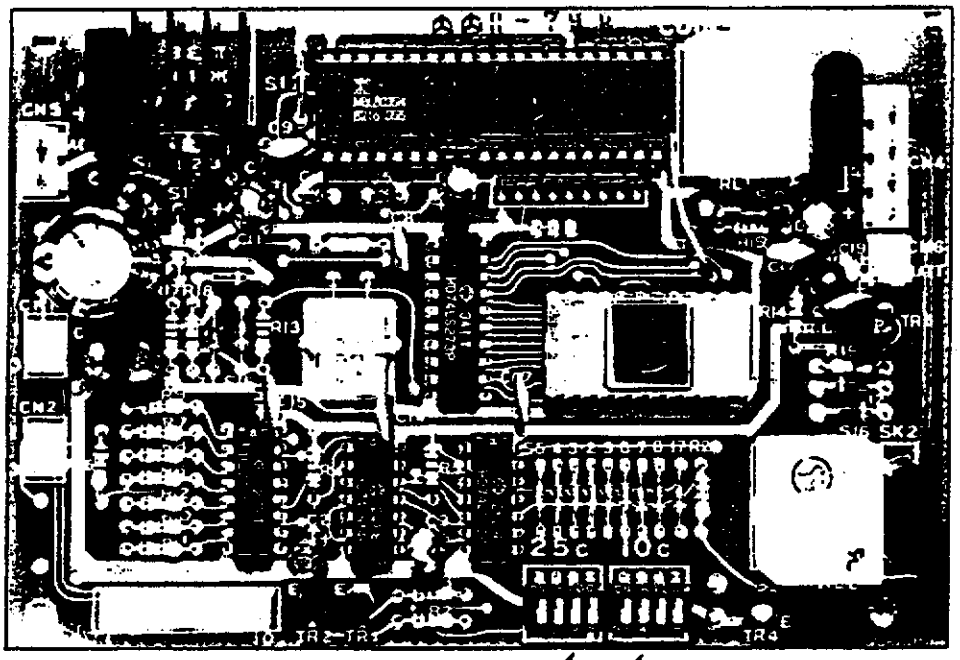
If the tumbler door is opened during the drying cycle, the fan and heat will shut off. Press **"START"** button to resume the cycle.

This dryer is designed for a capacity maximum load. Overloading it will result in longer drying time and damp spots on some of the load.

Maximum operating efficiency depends on proper air flow. The lint screen must be kept clean daily to insure proper circulation of air throughout the dryer.

This commercial dryer has keys for the lint door and access door to burners and controls. This is for the safety of the user.

INSTRUCTIONS FOR SETTING TIME ON "COMPUTERIZED COIN METER"

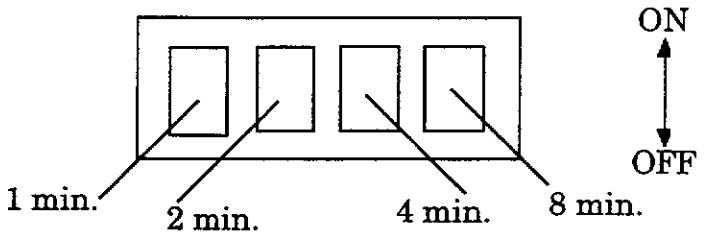


DIP Switch Banks are located here

INSTRUCTIONS FOR SETTING TIME ON COMPUTERIZED COIN METER

1. This dryer is equipped with a bank of four DIP switches.

2. Each DIP switch bank consists of 4 small switches each with a specified amount of time (minutes), as shown:

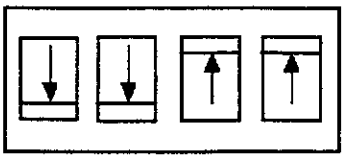


3. To set the time on the DIP bank simply set the appropriate switch to the **ON** (up) position to total the desired amount of time.

NOTE
There are three minutes built into the electronic coin board which should be included in the total time desired.

NOTE
OFF (down) position equals 0 minute.

EXAMPLE: 25¢ for 15 minutes



MINUTES: 0 + 0 + 4 + 8 + 3 (Built-In) = 15 min.

OPERATING INSTRUCTIONS—SINGLE TIMER MODELS

Step 1. After loading the dryer tumbler with the washed clothes load, proceed to close the loading door.

Step 2. Turn timer knob to the desired drying time.

Step 3. Turn *Temperature Fabric Selector* to desired setting.
"LOW" is for delicate, sheer, and easy dry fabrics 130°-140°F exhaust temperature.
"MEDIUM" is for synthetics and permanent press fabrics 155°-165°F exhaust temperature.
"HIGH" is for cottons, linens and heavy fabrics 170°-180°F exhaust temperature.

Step 4. Then **"ON/OFF"** toggle switch to **"ON"** and press **"START"** button, holding about 2 seconds, until dryer is running.
(To shut the dryer off at any time during the cycles, switch the **"ON/OFF"** switch to **"OFF"**.)

Step 5. *1)* The fan motor and basket will be energized and revolve.
2) The heat source will be energized (gas burners will operate).
3) The heated air will mix with the wet clothes and evaporate the moisture from the garments.
4) The thermostats will operate at a safe temperature.
5) The heat will shut off and the cooling cycle will begin (motor will operate only to cool the clothes load for desired handling temperature).
6) The light will stay on until the therm-o-cool thermostat cools below 135°F before the contacts open to shut off dryer.

IMPORTANT

IMPORTANT
If tumbler door is opened during the drying cycle, the fan and heat will shut off. Press "START" button to resume cycle.

This dryer is designed for a capacity maximum load. Overloading it will result in longer drying time and damp spots on some of the load.

Maximum operating efficiency depends on proper air flow. The lint screen must be kept clean daily to insure proper circulation of air throughout the dryer.

OPERATING INSTRUCTIONS—DOUBLE TIMER MODELS

OPERATING INSTRUCTIONS—DOUBLE TIMER MODELS

Step 1. After loading the dryer with water washed clothes, close the loading door.

Step 2. Turn the 60 minute drying (heat) timer to the desired time. The drying cycle light will be on.

Step 3. Turn the 15 minute cooling (air) to the desired time. The cooling light will come on after the drying finishes.

Step 4. Select the temperature desired:

High Heat
185° F exhaust temperature, heavy fabrics and hard to dry.

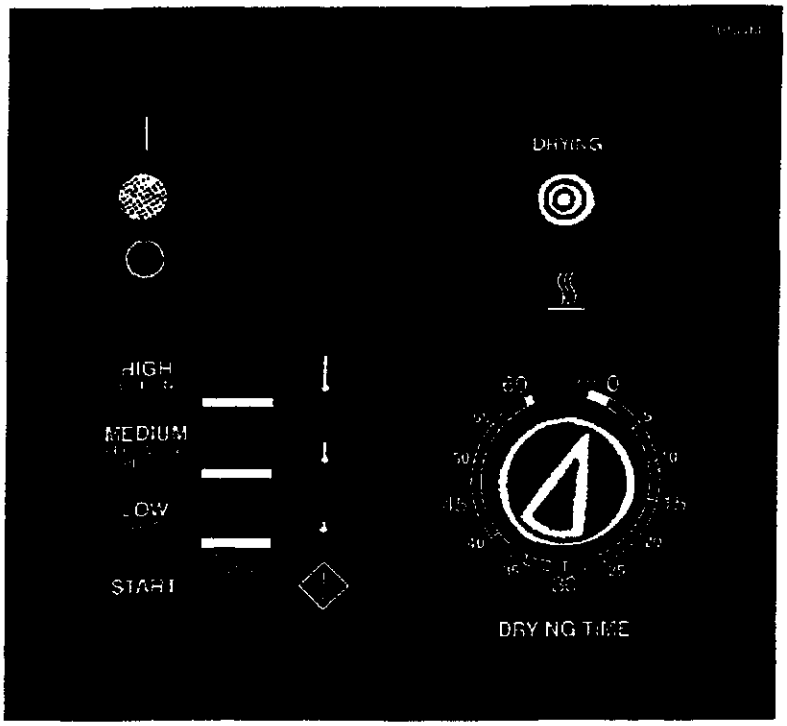
Normal
185° F exhaust temperature, cottons and linens.

Permanent Press
150° F exhaust temperature, synthetic blends.

Low Heat
135° F exhaust temperature, delicate, sheer fabrics.

Step 5. Turn **"on/off"** toggle switch to **"on"** and press the **"push to start"** button to start the drying and cooling cycles.

Step 6. To shut the dryer off at any time during the cycles, switch the **"on/off"** switch to **"off"**.



Single Timer Panel

Double Timer Panel

TROUBLESHOOTING

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

DRYER WON'T START

1. Is the door completely closed?
2. Are the controls set to the **"on"** position?
3. Did you push the **"start"** control?
4. Has a fuse blown or a circuit breaker tripped?
5. Are the fuses tight?
6. Check for low voltage.
7. Has the Bonnet thermostat (Gas only) tripped? If so, push to reset.

DRYER WON'T HEAT

DRYER WON'T HEAT

1. Is the dryer set for **"cooling time"** rather than **"drying time"**?
2. Are the gas valve in the dryer and the valve on the main gas line turned on?
3. Check for low or intermittent **gas pressure**.
4. Check Spark Ignition Module diagnostic light.

CLOTHES ARE NOT SATISFACTORILY DRY

CLOTHES ARE NOT SATISFACTORILY DRY

1. *Timed cycle*—Did you allow enough heating time before the cooldown 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.)*

GAS DRYER IGNITION

GAS DRYER IGNITION

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

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

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

TROUBLE	CAUSE	REMEDY
Dryer noisy or vibrating.	Not leveled.	Check manual for proper leveling procedures.
	Fan out of balance.	Accidental damage to the fan blade can change the dynamic balance. Damaged fans should be replaced.
	Basket rubbing.	Adjust basket clearance.
	V-Belt sheaves.	Tighten set screws. Make sure sheaves are in proper alignment.
	Belt.	Adjust belt tension.
	Foreign objects.	Occasionally screws, nails, etc., will hang in the basket perforations and drag against the sweep sheets surrounding the basket. Such foreign objects should be removed immediately.
Dryer runs, but no heat.	Incorrect voltage.	Check for correct control voltage - 120V.
	No voltage.	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Defective Gas Valve. Gas turned OFF.	Replace Coil Assembly. Turn Manual Gas Valve ON.
	Defective Door Switch.	Replace Door Switch.
	Air Switch not operating.	Clean out lint compartment daily. Check Back Draft Damper for foreign objects, lint accumulation or other causes that may prevent damper from operating. Check duct work for lint build-up. Check installation sheet to insure that duct work and make-up air openings are adequately sized. Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in winter. Never install a screen on the exhaust outlet. Vacuum within dryer drops to .09 inches or water column, or less, for normal operation of dryer, vacuum reading can be made with a Vacuum U-Gauge by removing a sheet metal screw in the front panel of dryer, and inserting the rubber tube of the vacuum gauge into screw opening.

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

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

DIRECT SPARK IGNITION OPERATION

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

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

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

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

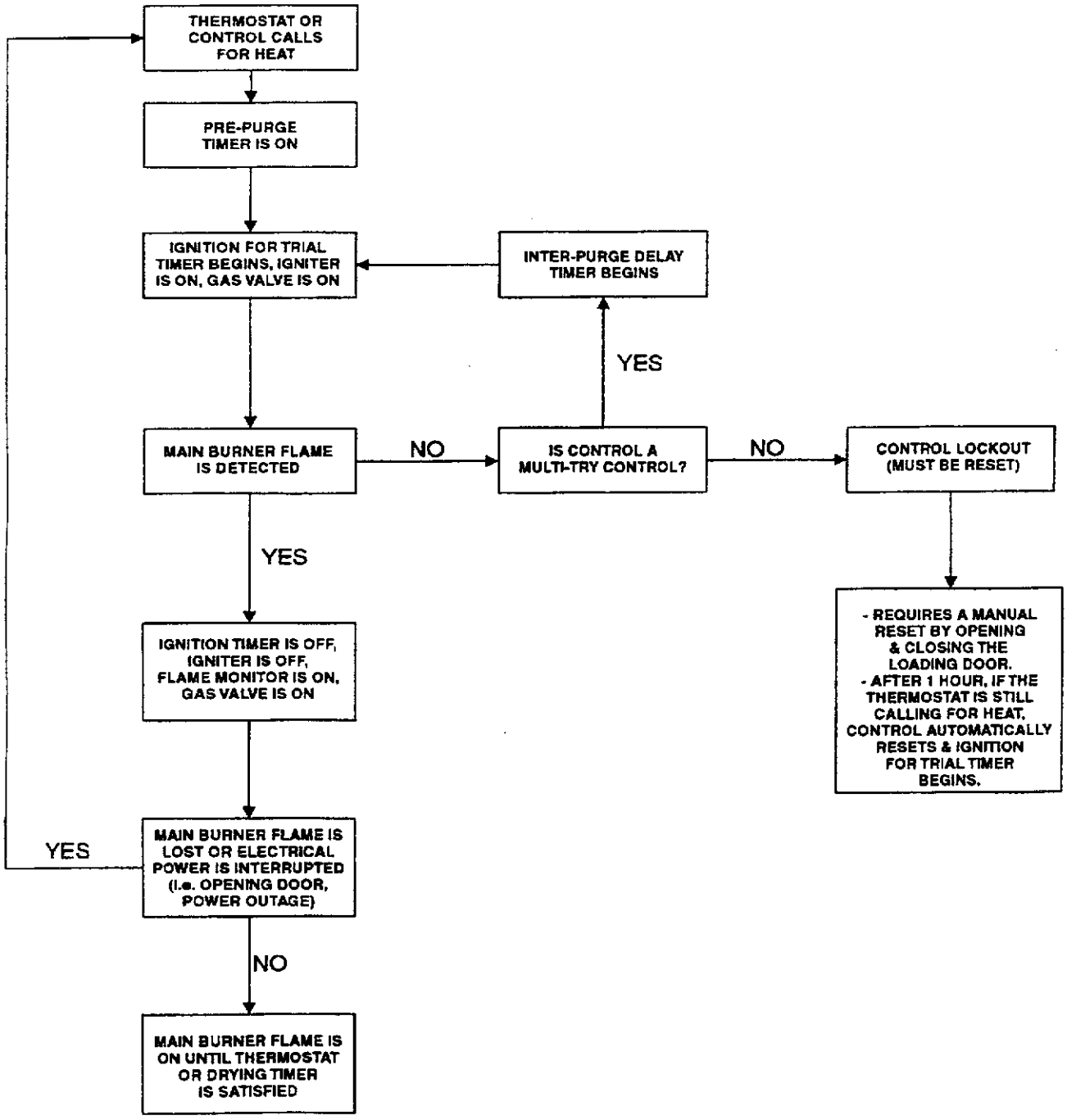
4. Recovery from safety lockout requires one of the following:
   a. A manual reset by opening and closing the loading door.
   b. After one hour if the Control Thermostat is still calling for heat, the module will automatically reset and the trial for ignition period will start over.

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

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

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

DIRECT SPARK IGNITION OPERATION FLOW CHART



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 over-grease.**

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.

   If motor overheats, check voltage and wiring. Low voltage, inadequate wiring and loose connections are the main cause of motor failures.

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.

GENERAL MAINTENANCE (continued)

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 burner 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 over-grease.**

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.

BURNER AIR INLET SHUTTERS ADJUSTMENT

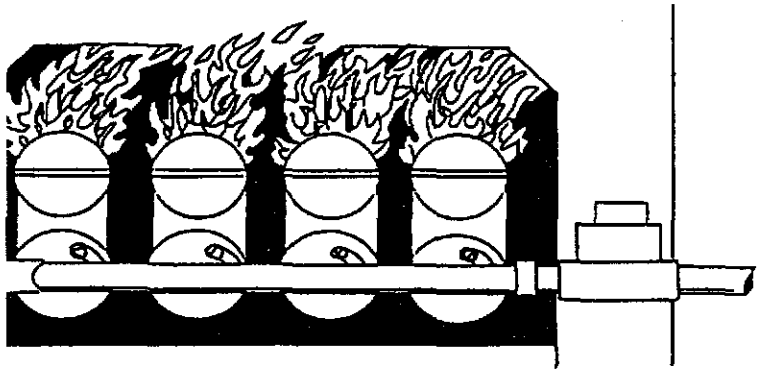
Burner Air Inlet Shutters are correctly adjusted when the flame is primarily blue.

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

Air Shutters Adjustment

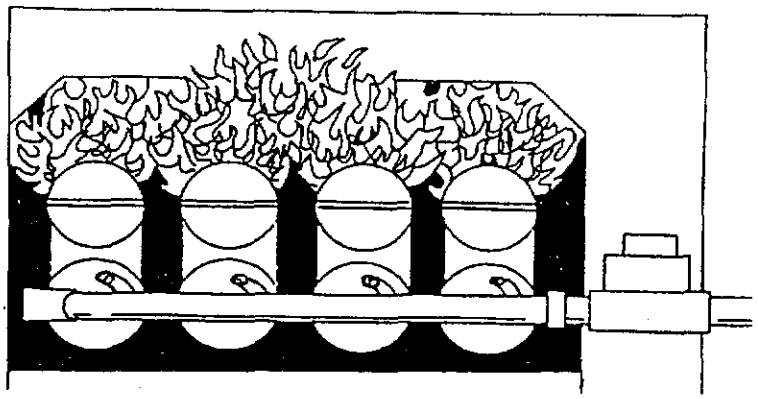
Proper Method
Close air shutters to yellow tip, then open air shutters to blue flame tip. Orange tips are impurities in the air such as lint, dust, etc.



CORRECT

NEED TO ADJUST SHUTTER

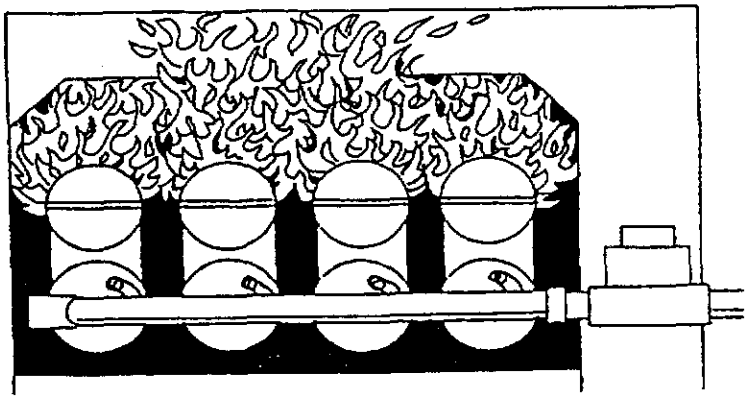
Need to Adjust Shutter
Burners Air Inlet Shutters are adjusted insufficient; air is admitted through the burner. Flame pattern is straight up and flame is yellow.



WRONG--NEED TO ADJUST SHUTTER

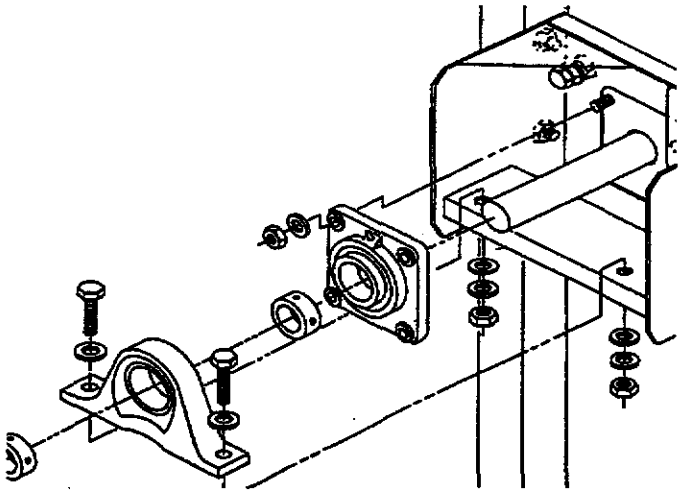
NEED TO PROVIDE CORRECT AIR FLOW THROUGH THE DRYER

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 an exhaust fan.



WRONG--NEED TO PROVIDE CORRECT AIRFLOW THROUGH THE DRYER

Operating Conditions	Grease Intervals
Clean	Every 6 months
Dirty	Every month
Moisture	Every week



REPLACING BEARINGS AND COLLARS INSTRUCTIONS

Step 1 Remove belt guard, V-belt, spacer 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.

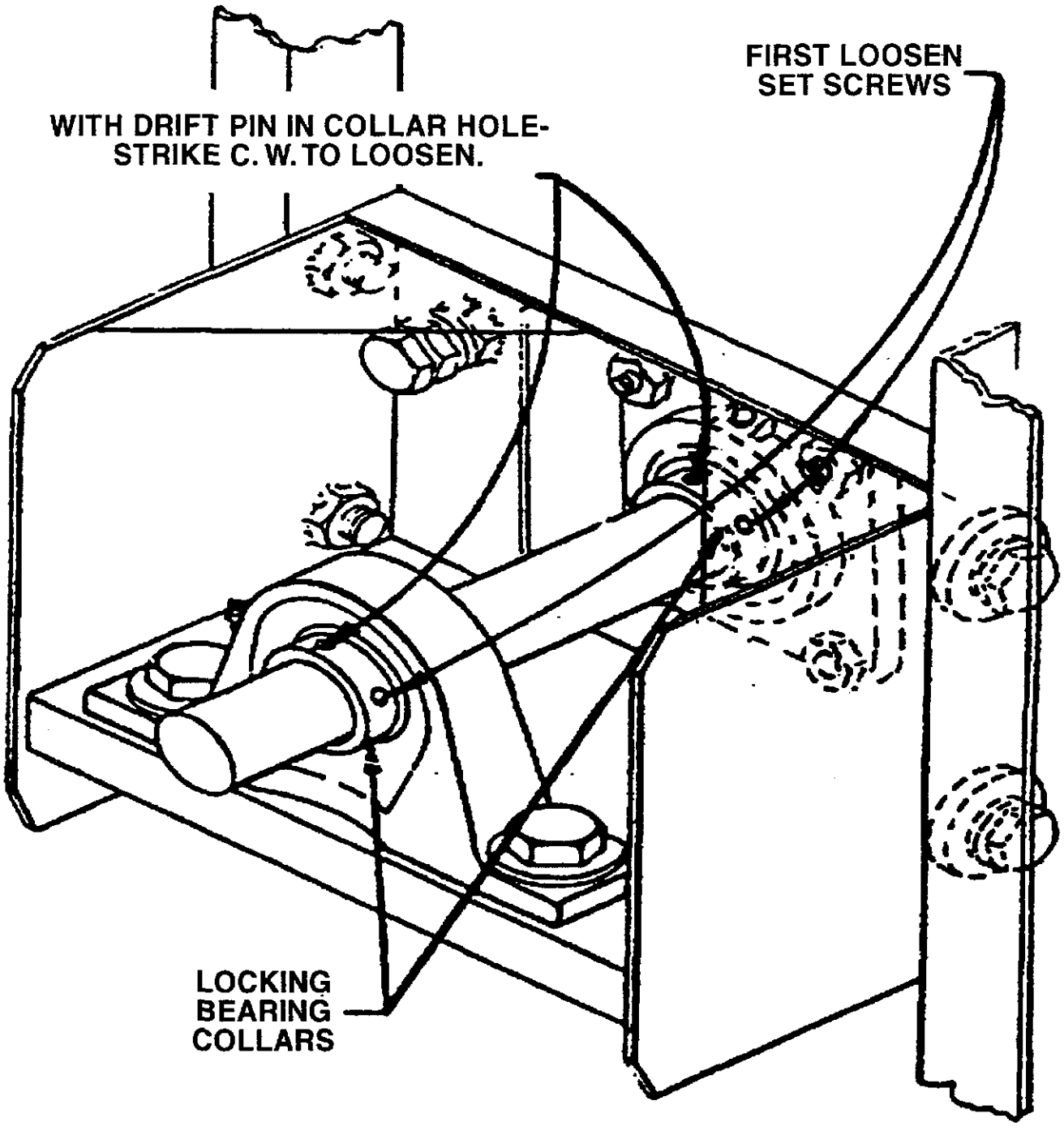
Step 3 Remove the two bolts holding the pillow block bearing and take it off the shaft.

Step 4 Remove the second locking collar in the same manner as in Step 2.

Step 5 Remove the three 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 on the following page. Use #42-032-6015 Lubriplate #310 1 lb. can or 14.5 oz. tube, Lubriplate #930-2 multipurpose 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.



REAR VIEW OF DRYER

TU13147

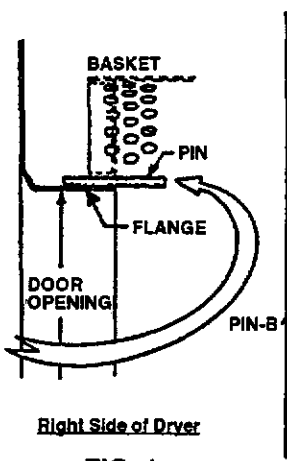
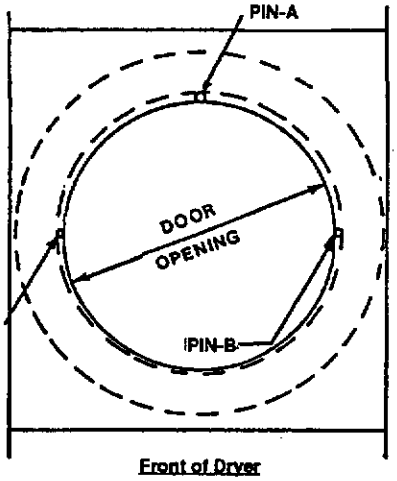


FIG. 1



PIN-A - 1/2 DIA.
PIN-B - 3/8 DIA.

FIG. 2

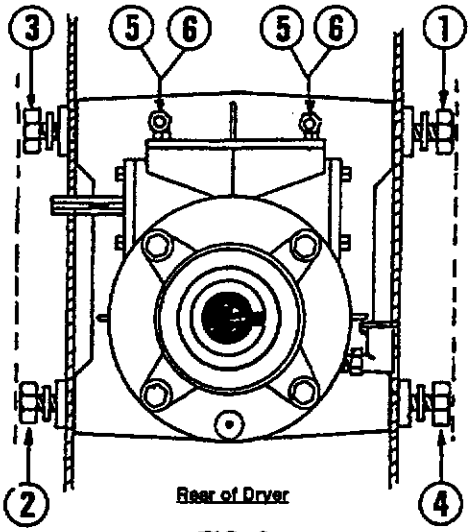


FIG. 3

BASKET ALIGNMENT— DOUBLE MOTOR MODEL

Step 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. (figure 3)

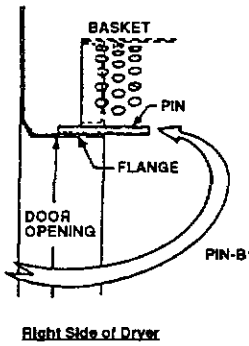
Step 2 Place one "A" and two "B" diameter pins inside the drying compartment between the rim of the basket opening and the rim of the door opening, in the positions shown in figure 1 and figure 2. Check the two "B" pins for equal clearance.

Step 3 With the pins in position, tighten the two "5" bolts until flush against back of dryer. Retighten gear reducer mounting bolts in the numerical order indicated in figure 3. Tighten lock nuts "6" to secure bolts "5" in position. Then remove pins.

Step 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.

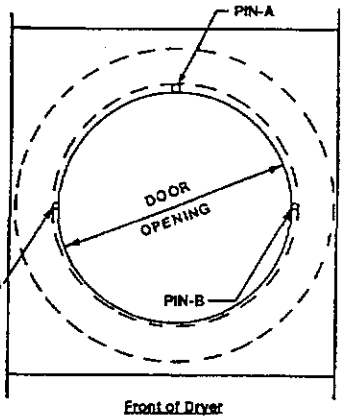
NOTE
Use short sections of round steel rod for pins, or drill bits may be used in place of round rod.

FIG. 1



Right Side of Dryer

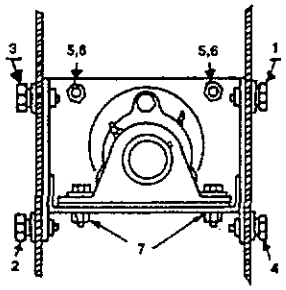
FIG. 2



Front of Dryer

PIN-A - 1/2 DIA.
PIN-B - 3/8 DIA.

FIG. 3



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 4 side bolts, "1, 2, 3, 4," on the basket bearing bracket. (see figure 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 figures 1 and 2. Check the two "B" pins for equal clearance.

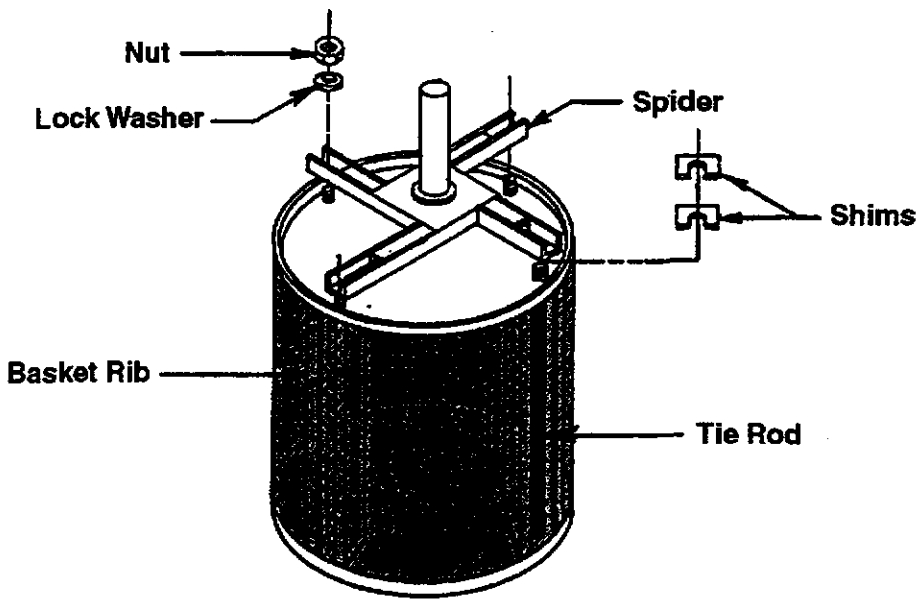
NOTE
Push the basket toward the rear.

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 okay, 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 SHIMMING INSTRUCTIONS

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

A. Align the basket as per instructions in the manual.

B. Rotate the basket to determine where the most out-of-round point is (where the basket scrapes or comes closest to scraping the sweep sheet).

C. Mark this position and the nearest rib to this position.

D. Remove the basket (do not loosen the alignment bolts).

E. 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)

F. Reinsert spider and basket assembly and recheck cylinder.

G. If at this point, basket is still out-of-round, procedure must be repeated starting with Step B.

Upon completion of shimming process, realignment of basket is necessary.

NOTE
If the point mentioned in *Step B* is between two ribs, both ribs might have to be shimmed.

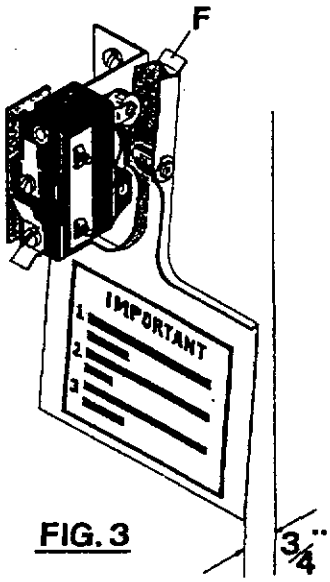


FIG. 3

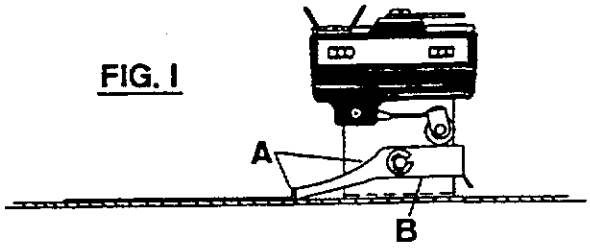


FIG. 1

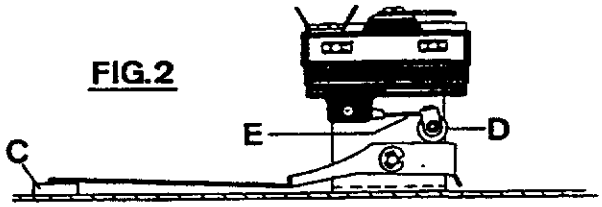


FIG.2

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" (figure 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" (figure 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" (figure 3). Bend tab "F" in or out to maintain this dimension.

5. Reinstall air switch assembly on rear of dryer.

6. Recheck operation of air blade. Switch must close before air blade engages face of opening and reopen before stop "F" engages.

OPERATION AND MAINTENANCE

OPERATION AND MAINTENANCE

After Start Up

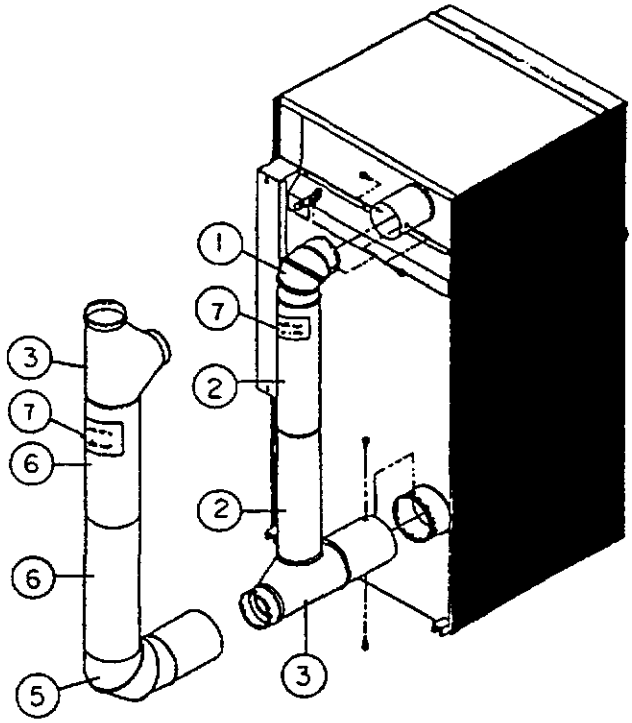
The Gear Box is shipped filled with oil to the right level and after two weeks or 100 hours of operation, drain the oil, and flush the Gear Box with a light flushing oil. The original oil can be used for refilling if it has been filtered; otherwise, new oil must be used. After this, change the oil every six months or 2500 hours of operation.

CAUTION

- **USE AGMA 8EP TYPE OIL; IPSO PART #TU3465 *ONLY*!!**
- **To fill with oil: Remove the Oil Level Plug, and add oil until oil is noted at the Oil Level Plug hole.**
- **Reinstall the Oil Level Plug and the Breather Plug in the Gear Reducer before operating.**

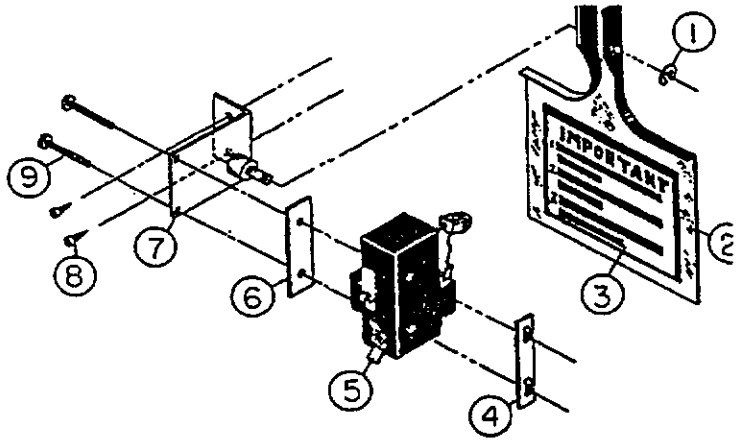
Duct Work Parts

1	TU8053	Duct Elbow
2	TU8055	Duct Long
3	TU8052	Duct Tee
5	TU7375	Extended Elbow
6	TU8177	Duct Short
7	TU9161	Installation Label



Air Switch Assembly
TU8206

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 - 18 x 1/2" Self Drilling Screw
9	TU3219	#6 x 1" Round Head S.M.S.



INSTRUCTIONS FOR DRYERS WITH REVERSING CONTROL TIMER

Instruction

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 the gear reducer.

Adjustment of Reversing Timer Dwell Time

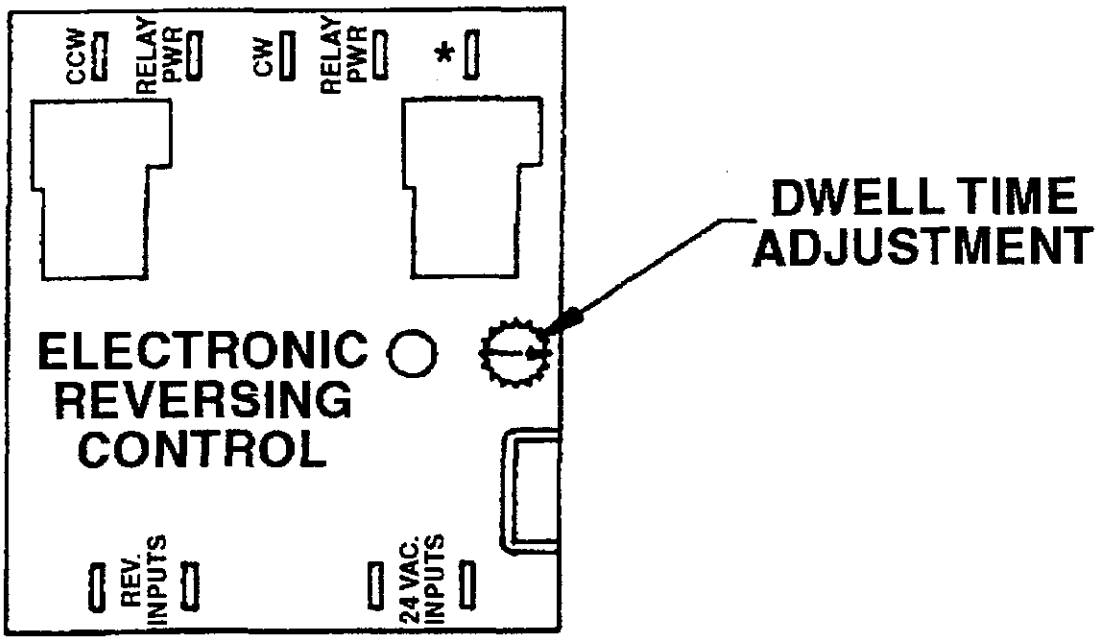
CAUTION
Dryer power supply must be shut off before adjusting timer.

The dwell time is the time from when the motor turns "off", to when it turns "on" again in the opposite direction.

Turning the dwell adjustment knob counterclockwise increases the dwell time and turning it clockwise decreases the dwell time.

Recommended dwell time for the basket to stop completely is 5 to 7 seconds. Minimum basket stopping time is 4 seconds.

NOTE:
Select non-reversing or reversing before starting dryer.



INSTRUCTIONS FOR DRYERS WITHOUT REVERSING CONTROL FAN AND BASKET ROTATION

Instructions

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

Basket rotates counterclockwise as viewed from back end of motor. See arrow on motor support.

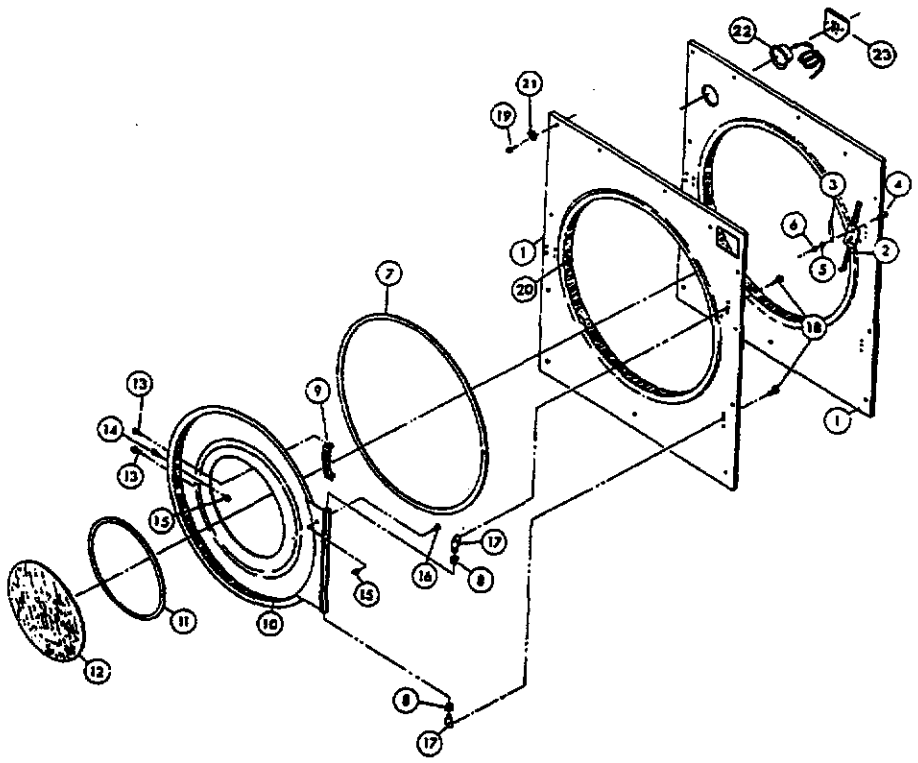
Basket rotates counterclockwise as viewed from front of tumbler.

To change rotation of both fan and 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.

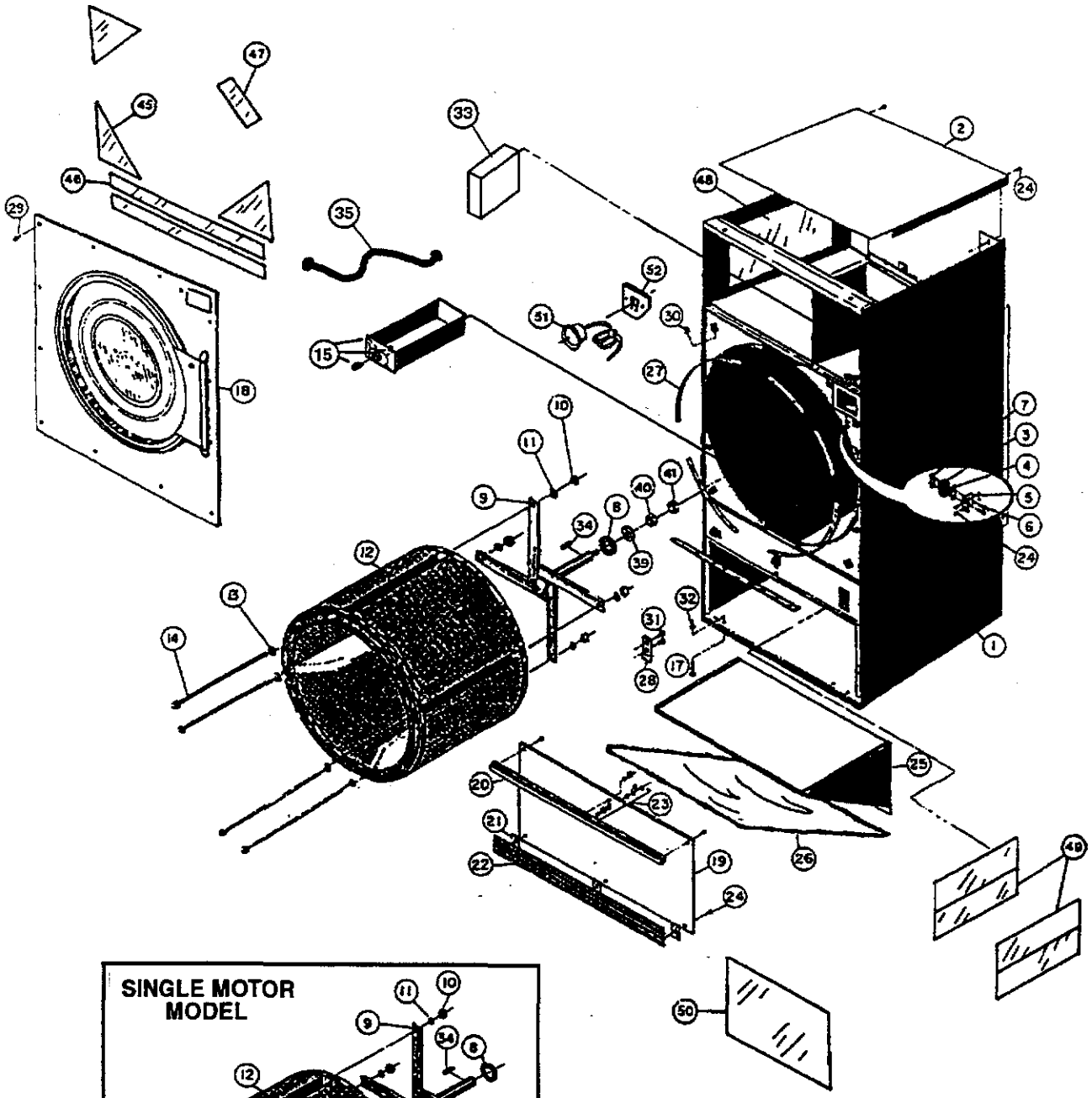
TU5810 Front Panel and Door Assembly (Coin Vault) (Specify Color)
TU6056 Front Panel and Door Assembly (Time and Temperature) (Specify Color)
TU7627 Front Panel and Door Assembly (Time and Temperature) with Thermometer

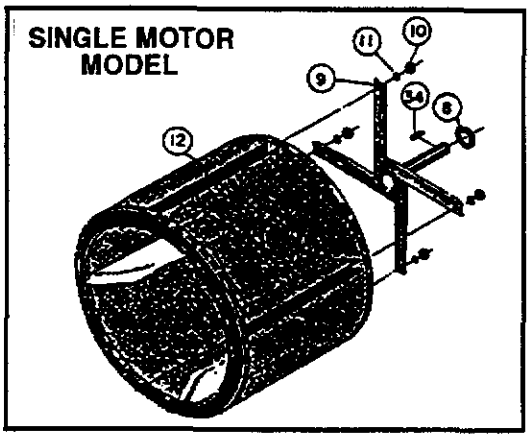


1	TU10784	Front Panel (for Coin Vault) (Specify Color)	13	TU3215	#10 - 32 x 3/8" Taptite Screw
1a	TU10785	Front Panel (for Time and Temp.) (Specify Color)	14	TU3163	Catch Pin
			15	TU4840	#10 - 32 Hex Crown Nut
			16	TU4839	#10 - 32 x 3/8" Machine Screw
	TU10787	Front Panel (for Thermometer) (Specify Color)	17	TU2236	Hinge Posts
			18	TU2836	5/16" - 18 x 1/2" Hex Head Cap Screw
2	TU2194	Door Switch Actuator			
3	TU2105	Actuator Spring	19	TU2878	#10 x 5/8" Sheet Metal Screw
4	M262	#8 - 32 Truss Head Screw	20	TU7456	Door Catch Asm. (w/rivets)
5	FB187	#8 Split Lockwasher	21	M271	#8 Internal Tooth Lockwasher
6	TU3266	#8 - 32 Hex Nut	22	TU3593	Thermometer (Optional)
7	TU5288	Basket Door Seal		TU3816	Lens Repl. (Texas Gage ONLY)
8	PIF172	Delrin Bearing		TU8475	Lens Repl. (Marshaltown Inst. ONLY)
9	TU2874	Basket Door Handle			
10	TU5859	Basket Door (Specify Color)		TU11193	Lens Repl. (Weiss)
11	TU1692	Rubber Gasket		TU13213	Lens Repl. (Weiss)
12	TU217C	Door Glass w/Logo	23	TU6766	Thermometer Mtg. Plate

TU4827—Actuator Assembly consists of
Ref. No.s 2, 3, 4, 5, & 6

TU5857—Basket Door Assembly consists of (Specify Color)
Ref. No's. 7, 8, 9, 10, 11, 12, 13, 14, 15, & 16





Grease to be applied to all bearing shafts. #42-032-6015 Grease Lubriplate #310- 1 lb. can OR 14.5 Oz. Tubes- Lubriplate No. 930-2 Multipurpose Grease #10098.

Parts—50 lb. Laundry Dryer—Front Exploded View

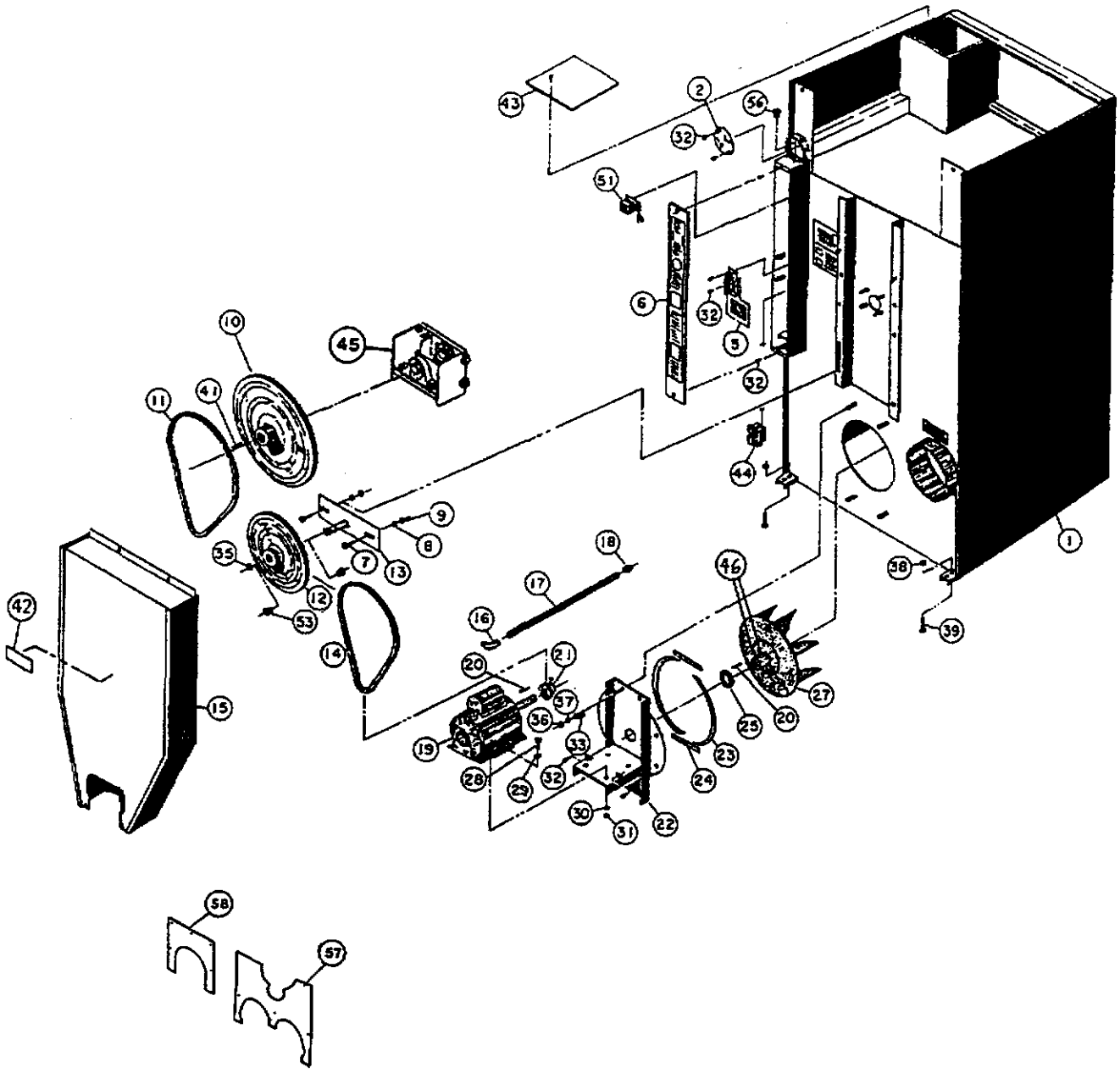
1	TU9594	Jacket - Timer - 2 Motor
	TU11660	Jacket - C/M - 2 Motor
	TU13935	Jacket - C/M - 1 Motor
	TU13924	Jacket - Timer - 1 Motor
2	TU2621	Solid Top (Gas)
3	TU1979H	Door Switch
4	TU1770	Insulator
5	TU2373	Door Switch Mounting Bracket
6	TU3219	#6 x 1" Sheet Metal Screw
7	TU1771	Tinnerman Twin Nut
8	TU108	Felt Seal
9	K21	Spider Welded Assembly (Single Motor Model)
	K108	Spider Welded Assembly (Double Motor Model)
10	TU2882	1/2" - 20 Hex Nut
11	TU2831	1/2" Split Lockwasher
12	TU6822	Basket Weldment
13	TU2883	1/2" Cut Washer
14	TU2313	Tie Rod
	TU5490	Shim (3 required) (See Instructions for Shimming)
15	TU9225	Coin Vault, Lock and Key
	TU6295	Key Only
	TU6294	Lock Only
17	TU3211	3/8" - 16 x 2-1/2" Leveling Bolt
18	TU5810	Front Panel and Door Assembly (For Coin Vault) (Specify Color)
	TU13947	Front Panel Assy. - Energy Saver
	TU6056	Front Panel and Door Assembly (For Time and Temperature) (Specify Color)
	TU13946	Front Panel Assy. - Energy Saver
19	TU5566	Lint Door Welded Assembly - C/M (Specify Color)
	TU13477	Lint Door Welded Assembly - Timer Models
20	TU7473	Handle
21	TU2710	Trim Holder
22	TU2385	Trim
23	TUB1867	Lock and Key - Coin Meter Models
	TU9509	Latch Assembly - Timer Models
24	TU7733	#8 x 1/2" Self Drill Screw
25	TU10290	Lint Trap Frame Assembly ONLY
26	TU5261	Self-Cleaning Lint Screen Assm.
	TU10362	Self-Cleaning Lint Screen ONLY
	TU5225	Lint Screen Frame ONLY
27	TU5876	Sweep Sheet Gaskets
28	TU3206	Lock Plate - Coin Meter Models
	TU13490	Latch Plate - Timer Models
29	TU2878	#10 x 5/8" S.M.S.
30	TU2877	#10 Speed Nut
31	TU3209	#14 x 5/8" Screw (Pkg. of 6)
32	TU4937	3/8" - 16 Jam Nut
33	TU13409	Spark Ignition Mount, 3-Trial (Gas Only)
	TU13627	Spark Ignition Mount, 1-Trial (Gas Only)
34	TU5887	Key - Single Motor
	TU5240	Key - Double Motor**
35	TU13629	Cable, Hi-Voltage DSI
39	TU14062	Flat Washer (2 each)**
40	TU3537	Full Nut**
41	TU3536	Jam Nut**
45	TU7735	Insulation (3 each)*
46	TU8107	Insulation (2 each)*
47	TU8108	Insulation (1 each)*
48	TU7793	Insulation (1 each)*
49	TU8152	Insulation (4 each)*
50	TU8153	Insulation (1 each)*
51	TU3593	Thermometer (Optional)
	TU3816	Lens Repl. (Texas Gage ONLY)
	TU8475	Lens Repl. (Marshaltown Inst. ONLY)
	TU11193	Lens Repl. (Weiss)
	TU13213	Lens Repl. (Weiss)
52	TU6766	Thermometer Mtg. Plate

* Used on Energy-Saver Models ONLY

** Double Motor Models ONLY

TU5808 Lint Door Assembly consists of 19-24 (C/M Models only)

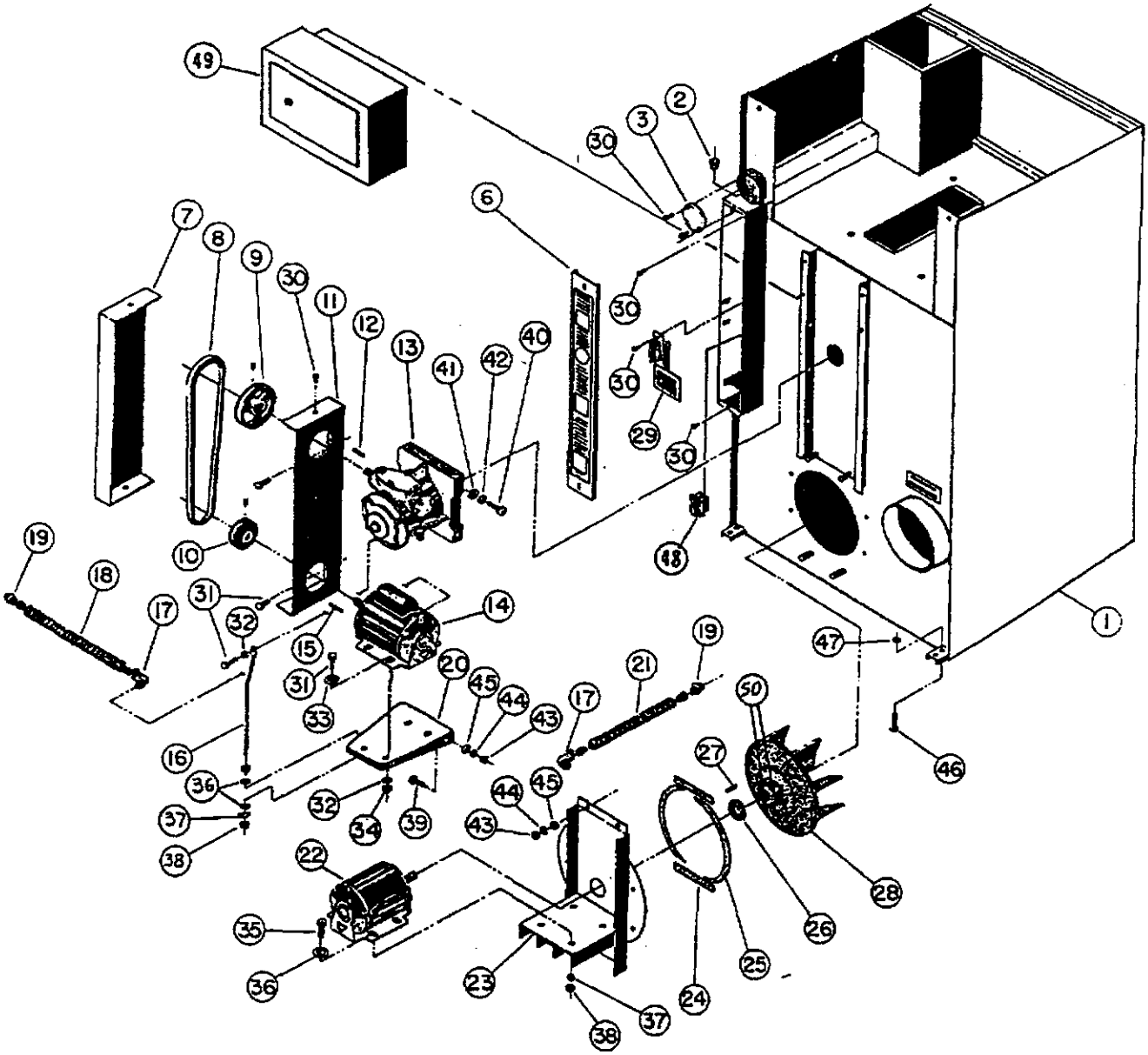
50 lb. Laundry Dryer - Single Motor Model - Rear View (Illustration)



50 lb. Laundry Dryer - Single Motor Model - Rear View

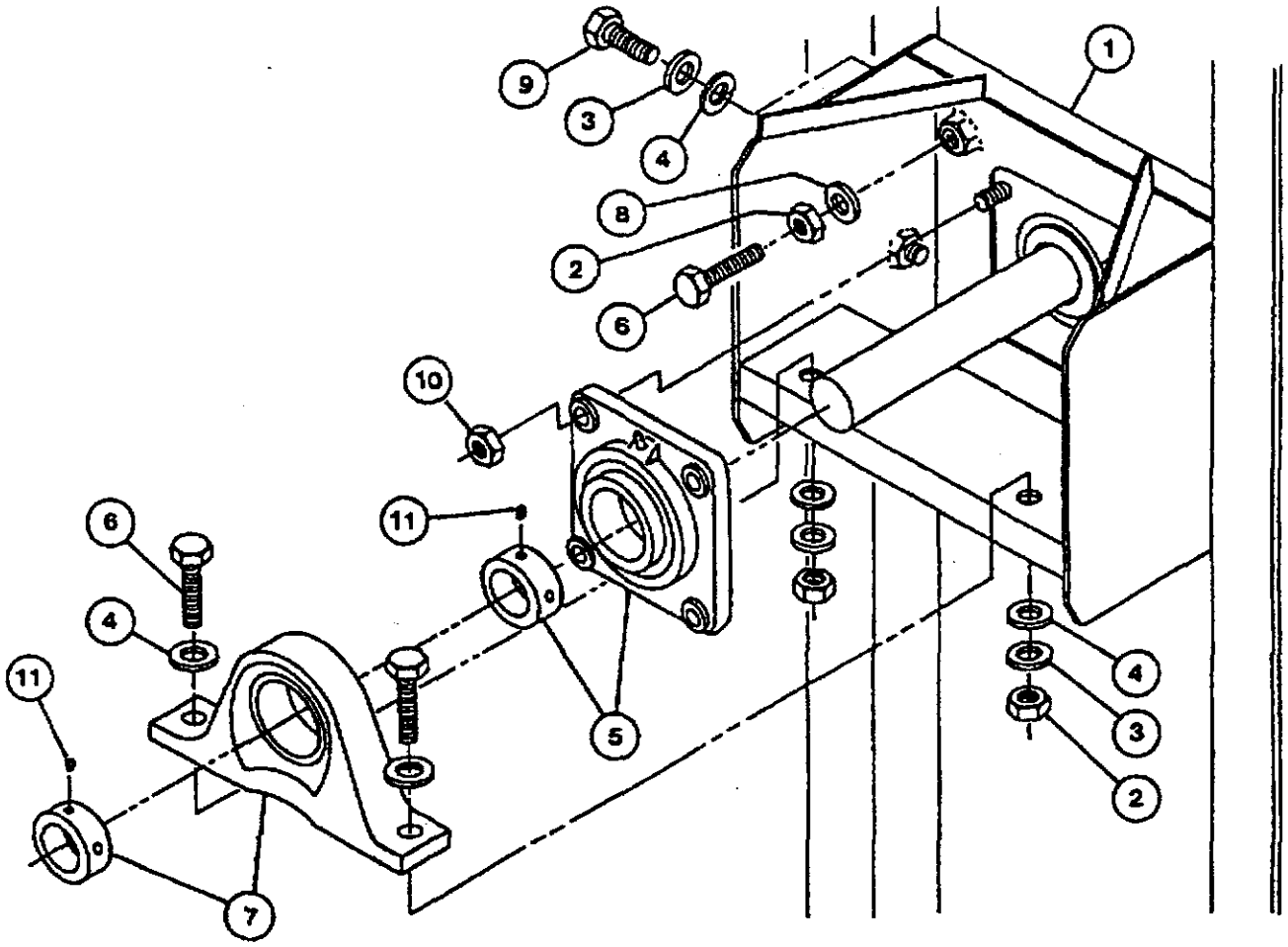
1	TU13935	Jacket (Coin Meter)
	TU13924	Jacket (Timer)
2	SB170	Junction Box Cover
5	TU8206	Air Switch Assembly (See Separate Page)
6	TU5890	Control Box Cover
7	TU12576	Carriage Bolt - 3/8" - 16 x 1"
8	VSB134	3/8" Split Lockwasher
9	TU4787	3/8" Hex Nut
10	TU5446	Basket Sheave - 50/60 Hz.
11	TU5447	V-Belt - 4L660 - 50/60 Hz.
12	TU5217	Idler Sheave - 50/60 Hz.
13	TU12803	Idler Bracket with Grease Fitting
14	TU6725	V-Belt (50 Hz.)
	TU4794	V-Belt (60 Hz.)
15	TU12799	Rear Guard with Cover Plate
16	TU4791	Right Angle Connector
17	CFB4200	Cable - 42" Long
18	TU4790	Straight Connector
19	-----	Specify Motor No., Voltage, Phase and Hz.
20	TU4684	Key
21	TU7603	Motor Sheave, 60 Hz. with Set Screw
	TU12802	Motor Sheave, 50 Hz. with Set Screw
22	TU5849	Motor Mount - 50/60 Hz.
23	TU2473	Side Gasket
24	TU2474	Top and Bottom Gasket
25	TU2476	Felt Seal
27	TU5874	Fan Wheel with Set Screws 60 Hz. Gas Models
	TU8740	Fan Wheel with Set Screws 50 Hz. Gas Models and 50/60 Hz. Steam, Electric
28	TU5439	Hex Head Screw - 5/16" - 18 x 3/4"
29	VSB130	Cut Washer - 5/16"
30	TU2814	Split Lockwasher - 5/16"
31	C249	Hex Nut - 5/16"
32	TU7733	Self Drilling Screw
33	PT196	Cable Strap
35	TU3247	Retaining Ring
36	TU4787	Hex Nut - 3/8"
37	VSB134	Lockwasher - 3/8"
38	TU4937	Jam Nut - 3/8"
39	TU3211	Leveling Bolt - 3/8" - 16 x 2-1/2"
41	TU5887	Key
42	TU10418	Lubrication Label
43	TU10651	Mechanism Box Cover (Steam Dryer ONLY)
44	TU13463	Relay - 9A, 3 Pole w/Aux.
	TU13516	Relay - 12A, 3 Pole w/Aux.
45	-----	Cast Iron Bearing and Bracket Assembly (See separate page for parts breakdown)
46	TU13408	Round Set Screw
51	TU13480	Transformer - 240V/24V
	TU13515	Transformer - 120V/24V
	TU13514	Transformer - 460V/24V
	TU13642	Transformer - 575V/24V
	TU13643	Transformer - 380-415V/24V
53	TU7184	Bronze Bushing (2 each)
56	TU2372	Bushing - 7/8"
57	TU13044	Motor Adapter Plate
58	TU10359	Motor Adapter - 3 Ph. ONLY

50 lb. Laundry Dryer - Double Motor Model - Rear View (Illustration)

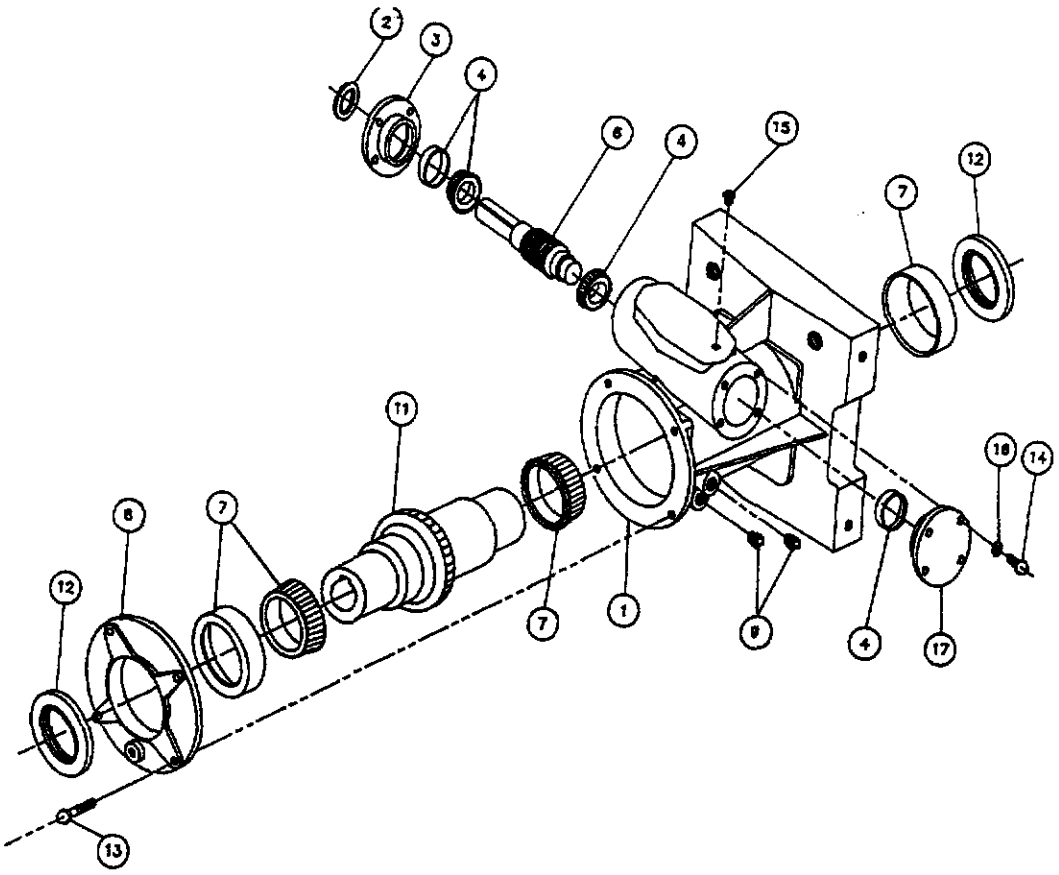


50 lb. Laundry Dryer - Double Motor Model - Rear View

1	TU11660	Jacket (Coin Meter Model)
	TU9594	Jacket (Timer Model)
2	TU2372	Bushing
3	SB170	Junction Box Cover
6	TU5890	Control Box Cover
7	TU3857	Belt Guard Cover
8	TU2317	V-Belt 46-380 - 50/60 Hz.
9	TU6722	Gear Sheave (AK-51H) with Set Screw, 60 Hz.
	510101040	Gear Sheave (AK-46H) with Set Screw, 50 Hz.
	TU2833	Bushing, H-5/8 for Sheave (not shown)
10	TU7334	Motor Sheave (AK-34H) with Set Screw, 60 Hz.
	510101041	Motor Sheave (AK-39H) with Set Screw, 50 Hz.
	TU2833	Bushing, H-5/8 for Sheave (not shown)
11	TU5254	Belt Guard Mounting
12	TU4684	Shaft Key
13	TM100	Small Gear Reducer
14		Basket Motor (Specify Motor Number and Voltage)
15	TU4684	Shaft Key
16	TU8608	Belt Adjusting Rod
17	TU4791	Right Angle Connector
18	CFB2000	1/2" Greenfield Cable - 20" Long
19	TU4790	Straight Connector
20	TU33	Motor Drive Bracket
21	CFB3000	1/2" Greenfield Cable - 30" Long
22		Fan Motor (Specify Motor Number and Voltage)
23	TU2376	Motor Mount (50/60 Hz.)
24	TU2474	Top and Bottom Gasket
25	TU2473	Side Gasket
26	TU2476	Felt Seal
27	TU4684	Key
28	TU5874	Fan Wheel with Set Screws 60 Hz. Gas Models
	TU8740	Fan Wheel with Set Screws 50 Hz. Gas Models and 50/60 Hz. Steam, Electric
29	TU8206	Air Switch Assembly (See separate page)
30	TU7733	8 x 1/2" Self Drill Screw
31	RC344	1/4" - 20 x 3/4" Cap Screw
32	TU2846	1/4" Lockwasher
33	TU2847	1/4" Cut Washer
34	TU4934	1/4" - 20 Hex Nut
35	TU5439	5/16" - 18 x 3/4" Cap Screw
36	VSB130	5/16" Flat Cut Washer
37	TU2814	5/16" Split Lockwasher
38	C249	5/16" - 18 Hex Nut
39	TU3124	3/8" - 16 x 3/4" Cap Screw
40	RC347	1/2" - 13 x 1/4" Cap Screw
41	TU1851	1/2" Cut Washer
42	TU2831	1/2" Lockwasher
43	TU4787	3/8" - 16 Hex Nut
44	VSB134	3/8" Lockwasher
45	IB140	3/8" Cut Washer
46	TU3211	3/8" - 16 x 2-1/2" Level Bolts
47	TU4937	3/8" - 16 x 3/4" Cap Screw
48	TU13463	Relay - 9A, 3 Pole w/Aux.
	TU13516	Relay - 12A, 3 Pole w/Aux.
49		Reversing Control Box (3 Ph. ONLY)
50	TU13408	Round Set Screw



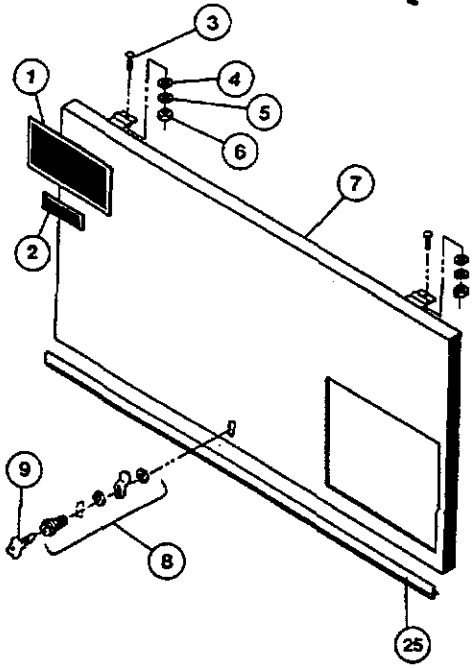
1	TU13147	Bearing Support Bracket
2	OP233	1/2" Hex Nut (pkg 6)
3	TU2831	1/2" Lockwasher (pkg 6)
4	TU2883	1/2" Flat Washer (pkg 6)
5	TU10850	Flange Bearing with Collar
6	TU2195	1/2" - 13 x 1-3/4" Cap Screw (pkg 6)
7	TU10676	Pillow Block Bearing with Collar
8	OP251	1/2" I.T. Lockwasher (pkg 6)
9	RC347	1/2" - 13 x 1-1/4" Cap Screw (pkg 6)
10	TU13372	1/2" Hex Nut - Nylok
11	TU10644	3/8" - 16 x 1/2" Nylok Set Screw (pkg 6)

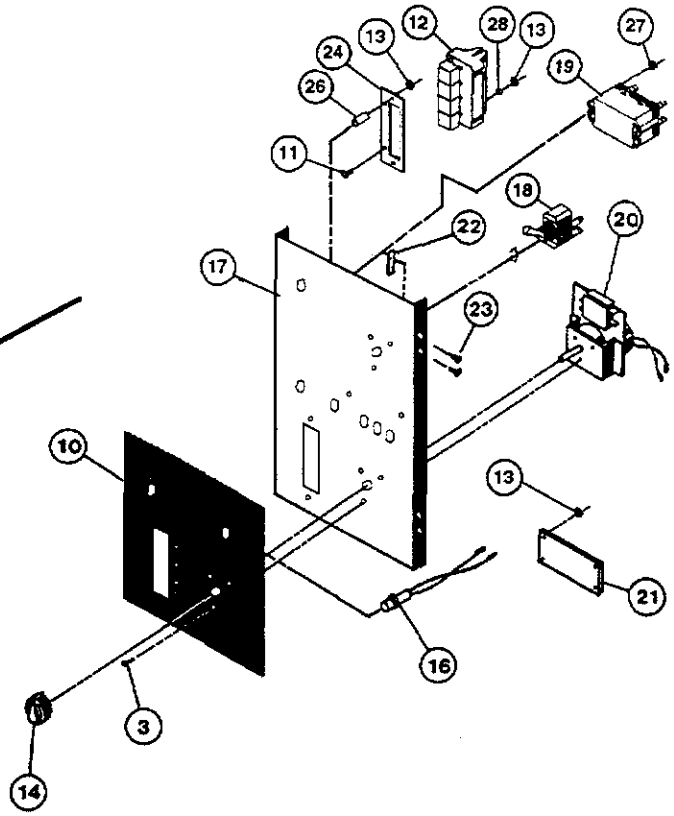


			Quantity
1	TM103	Housing	1
2	TM104	Small Seal	1
3	TM105	Small Open End Cap	1
4	TM107	Small Bearing Cup & Cone	2
6	TM101	Worm 1-1/2" x 7-1/8"	1
7	TM110	Large Bearing Cup & Cone	2
8	TM112	Large End Cap	1
9	TM115	1/4" Pipe Plug	1
11	TM102	Worm Gear	1
12	TM120	Oil Seal	2
13	TU2623	Cap Screw 3/8" - 16 x 1-1/2"	4
14	TU2839	Cap Screw 1/4" - 20 x 7/8"	8
15	TM121	Vent Plug 1/4" NPT	1
16	RC349	1/4" Internal Tooth Lockwasher	8
17	TM118	Small Closed End Cap	1

Access Door Assembly

Ref. Nos. 1-9, 16, 25
TU10481



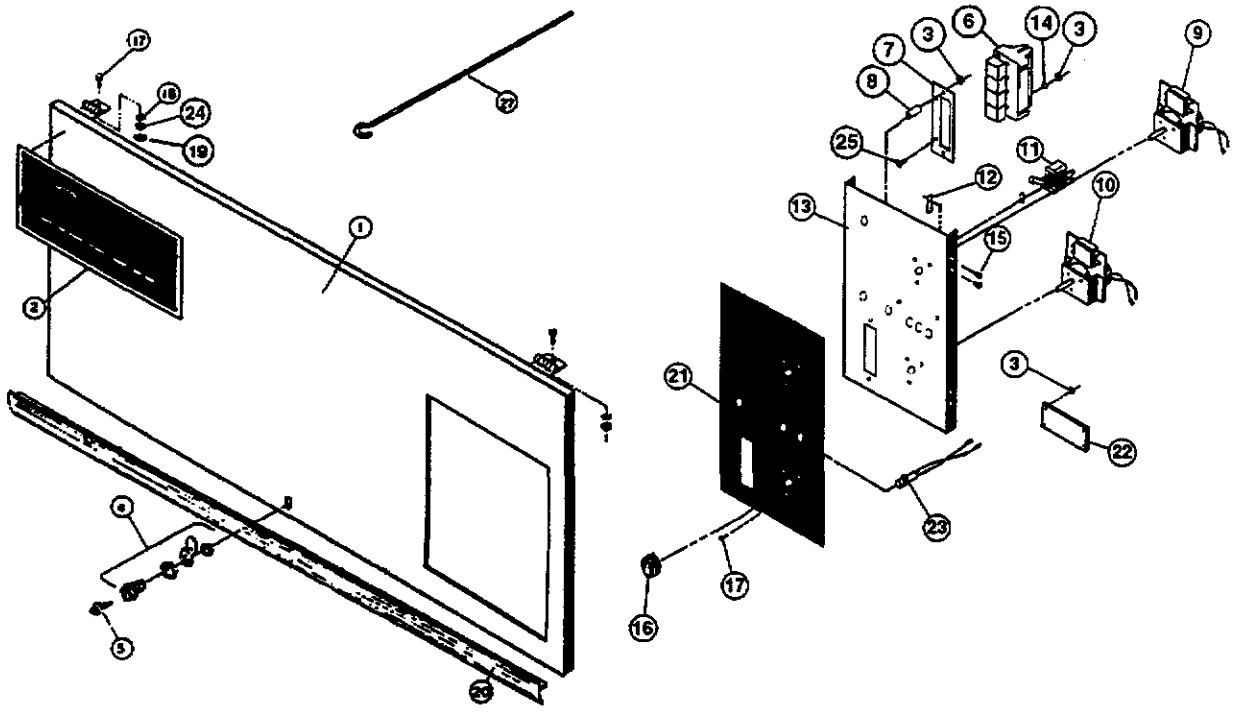


Control Panel Assembly

Ref. Nos. 3, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 23, 24
TU13657 - 24V 50/60 Hz. Gas
TU13844 - 24V 50/60 Hz. S/E
TU13712 - 24V 50-75 Hz. Gas
TU13846 - 24V 50-75 Hz. S/E

1	IPS104	Nameplate
2	TU8014	Therm-O-Cool Nameplate
3	TU3479	#10-32 x 7/16" Tr. Head Screw
4	P104	1/4" Cut Washer
5	FB187	#10 Lockwasher
6	TU2842	#10-32 Hex Nut
7	TU9391	Access Door W/A
8	TU9386	Lock Assembly JWC3
8A	TU8995	Cam
9	TU9387	Key JWC3
10	TU13813	Control Panel Nameplate (N/Rev.)
	TU13811	Control Panel Nameplate (Rev.)
11	SV136	#6-32 x 15/16" Truss Head Screw
12	TU11510	Push Button Switch
13	TU3400	Nut
14	TU2555	Timer Knob
15	TU5739	Support Rod
16	TUT316	Pilot Light—24V
17	TU13856	Control Panel Plate Asm.
18	FG147	Toggle Switch
19	F1300	Motor Relay
20	TU12932	Timer, 24V, 60 Hz.
21	TU8629	Terminal Board
22	TU1771	Twin Nut
23	TU9524	#6 x 5/16" Screw
24	TUT191A	Push Button Switch Plate
25	TU7959	Chrome Trim
26	TU13942	Spacer
27	TU3266	Nut
28	M271	#8 Int. Tooth Lockwasher

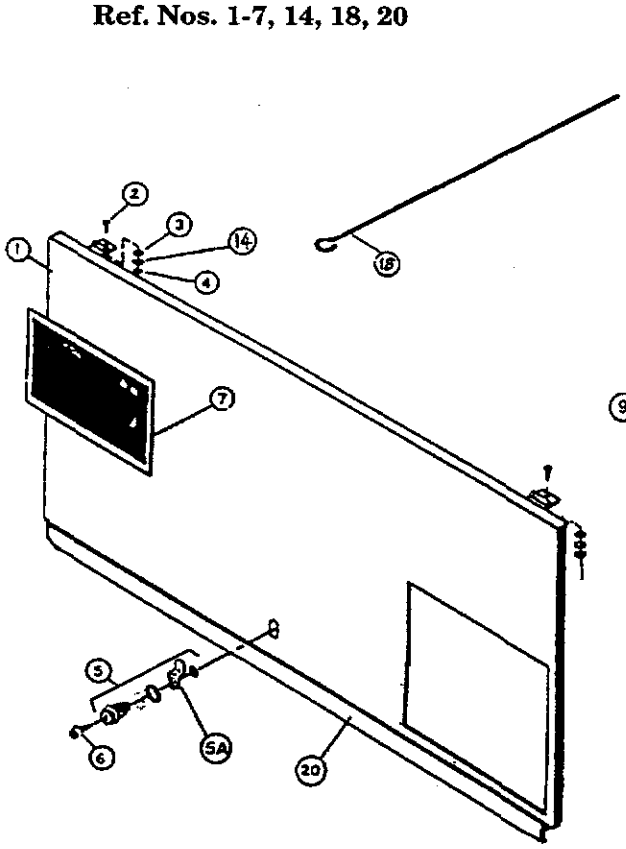
Control Panel and Access Door—Two Timer Model

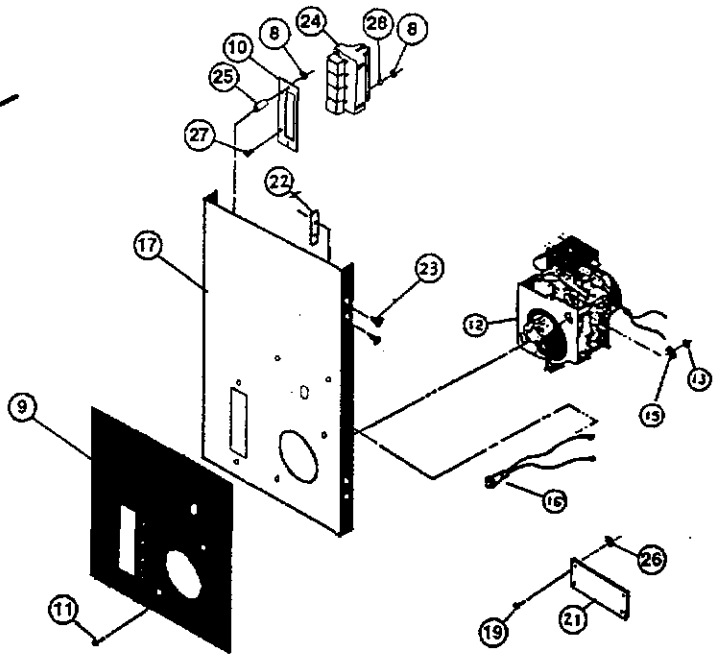


1	TU13940	Access Door W/A (Specify Color)	14	M271	#8 Int. Tooth Lockwasher
2	IPS104	Nameplate	15	TU9524	#6 x 5/16" Screw
3	TU3400	Nut	16	TU2555	Timer Knob
4	TU4822	Lock #3186	17	TU3479	#10 - 32 x 7/16" Truss Head Screw
5	TU2844	Key JWC2	18	P104	1/4" Cut Washer
6	TU11510	Push Button Switch	19	TU2842	#10 - 32 Hex Nut
7	TUT191A	Push Button Switch Plate	20	TU7983	Upper Front Trim
8	TU13942	Spacer	21	TU13814	Control Panel Nameplate (N/Rev.)
9	TU12933	Timer, 24V, 0-60 Seconds		TU13816	Control Panel Nameplate (Rev.)
10	TU12932	Timer, 24V, 0-15 Seconds	22	TU8629	Terminal Board
11	FG147	Toggle Switch	23	TUT316	Pilot Light - 24V
12	TU1771	Twin Nut	24	FB187	#10 Lockwasher
13	TU13856	Control Panel Plate Asm.	25	SV136	#6-32 x 15/16" Truss Head Screw

Access Door Assembly

Ref. Nos. 1-7, 14, 18, 20



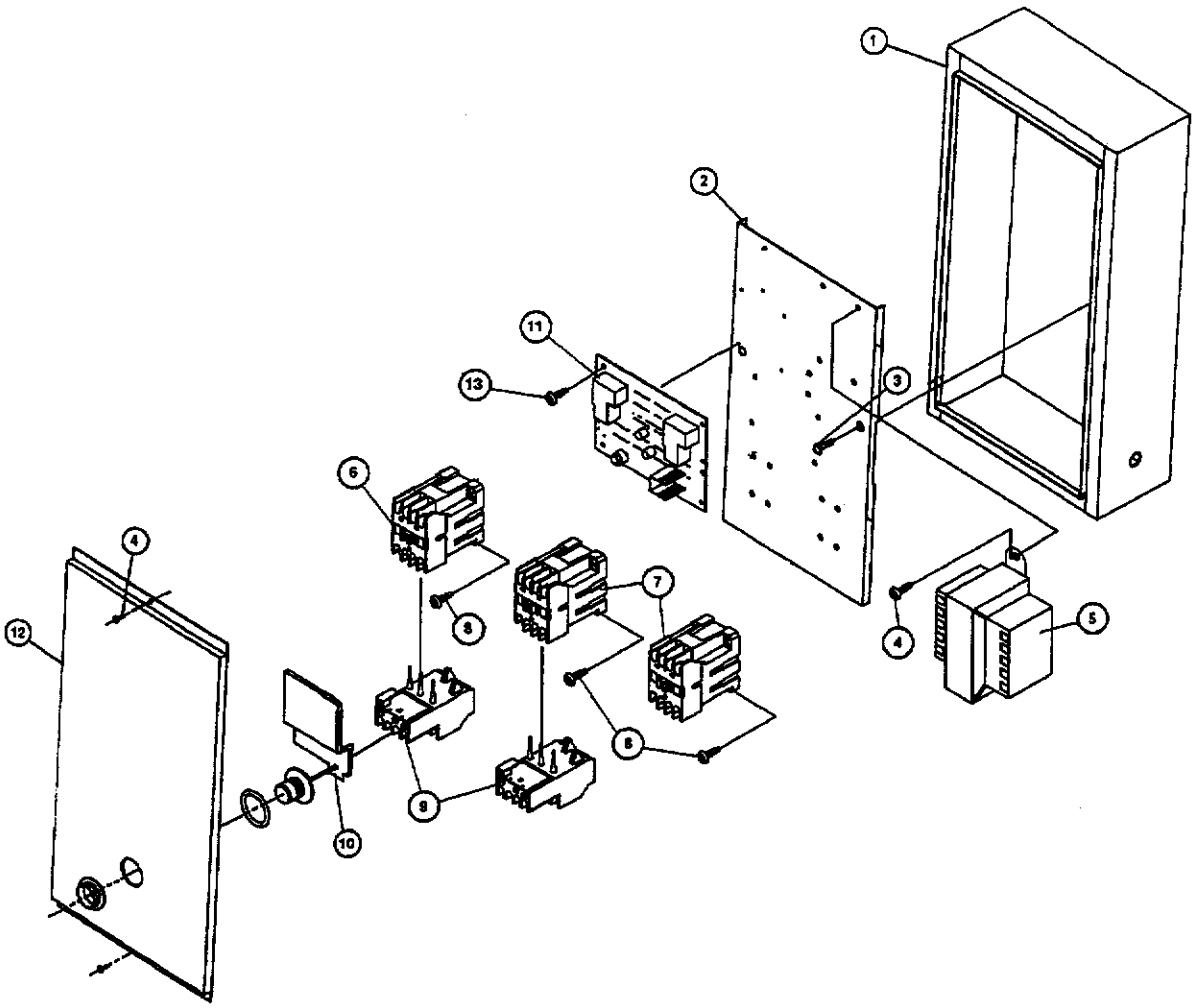


Control Panel Assembly

Ref. Nos. 9-17, 22-25
TU13721 - 24V 50/60 Hz. Gas
TU13847 - 24V 50/60 Hz. S/E

1	TU9391	Access Door Weldment
2	TU3479	#10-32 x 7/16" Truss Head Screw
3	P104	1/4" Cut Washer
4	TU2842	#10-32 Hex Nut
5	TU9386	Lock-JWC3
5A	TU8995	Cam
6	TU9387	Key - JWC3
7	IPS104	Nameplate
8	TU3400	Nut
9	TU13843	Control Panel Nameplate
10	TUT191A	Push Button Switch Plate
11	TU4958	#8-32 x 3/8" Machine Screw
12	-----	Coin Meter (Specify Voltage, Coin Denomination, Single or Double Slot)
13	TU3266	#8-32 x 11/32" Hex Nut
14	FB187	#10 Lockwasher
15	P104	1/4" Cut Washer
16	TUT316	Indicator Lamp—24V
17	TU13858	Control Panel Plate Asm.
18	TU5739	Support Rod
19	M262	Screw
20	TU7959	Chrome Trim
21	TU8629	Terminal Board
22	TU1771	Twin Clip
23	TU9524	#6 x 5/16" Screw
24	TU11510	Push Button Switch
25	TU13942	Spacer
26	TU3266	Nut
27	SV136	#6-32 x 15/16" Truss Head Scr.
28	M271	#8 - Int. Tooth Lockwasher

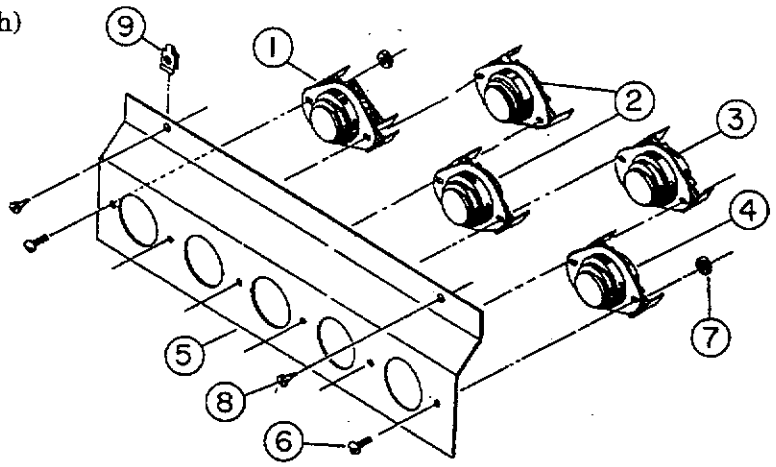
Reversing Control Box Assembly



1	TU9374	Reversing Control Box W/A
2	TU13700	Control Panel Plate
3	RC344	1/4" - 20 x 3/4" Hex Head Screw
4	TU7733	#8 - 18 x 1/2" Self Drill Screw (Pkg 6)
5	TU13480	Transformer, 200-240V/24V w/Reset
6	TU13516	Contactor, 24V
7	TU13526	Contactor Assembly, 24V
8	TU2793	#8 - 18 x 3/4" Self Drill Screw (Pkg 6)
9	TU13554	Overload, Adj. (1.0 - 1.6 A)
10	TU13703	Reset Button Kit
11	TU12874	Timer, Solid State Reversing
12	TU6834	Box Cover Plate
13	F540	#6 x 5/8" Phillips Head Screw

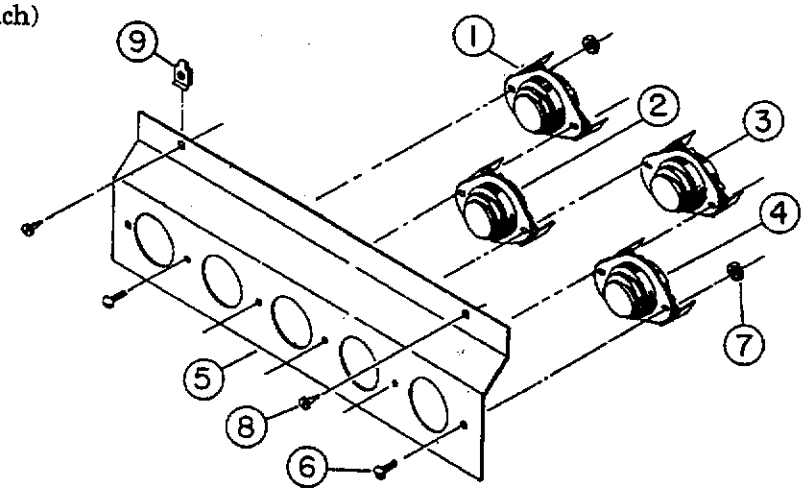
Parts—Thermostat Assembly (Timer Models) TU10285 (w/Illustration)

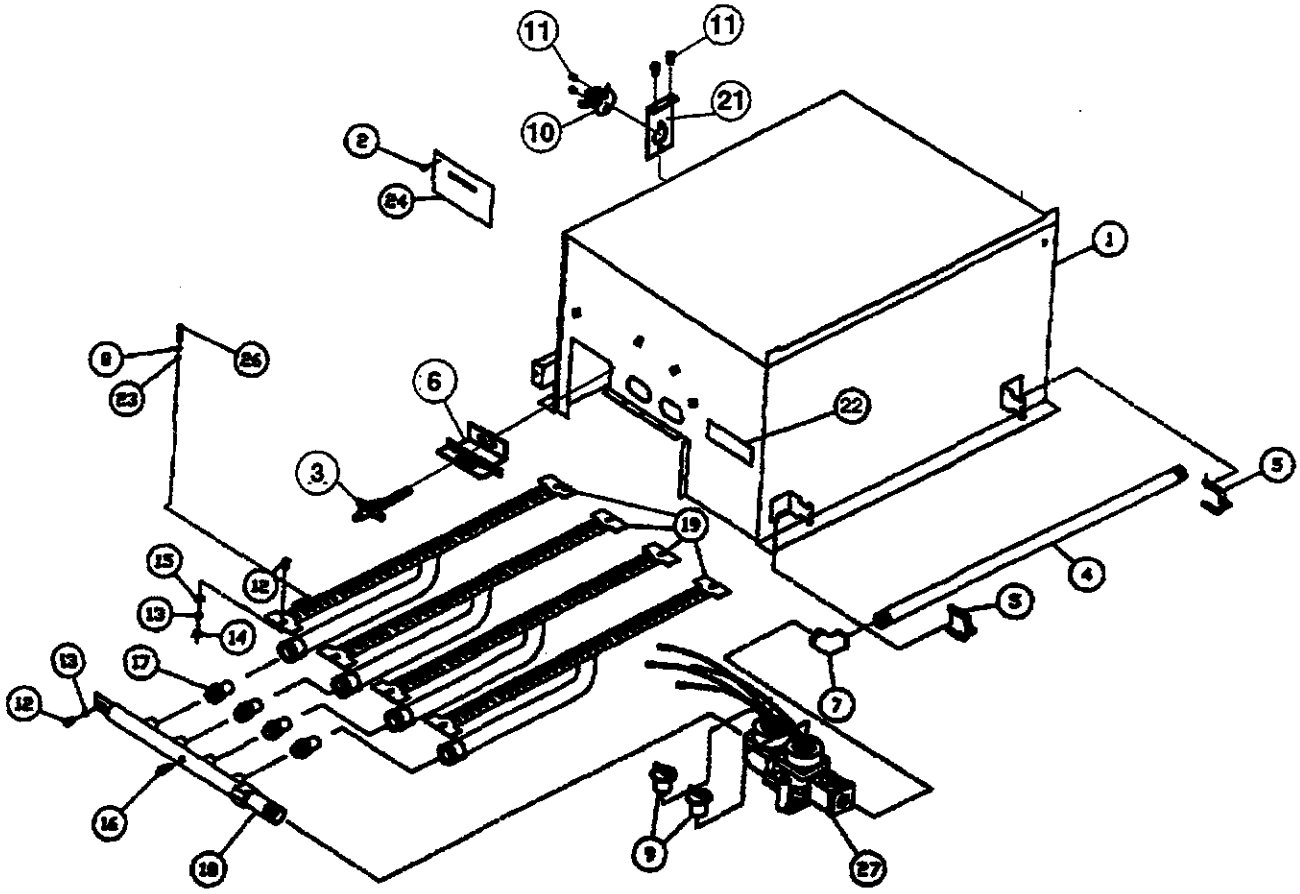
1	TU2045	Cool-Down Thermostat
2	TU3240	185°F Thermostat (2 each)
3	TU5150	150°F Thermostat
4	TU7244	135°F Thermostat
5	TU5143	Mounting Bracket
6	TU3624	#6-32 x 1/4" Round Head Screw (6 each)
7	TU3400	#6-32 Hex Nut
8	TU7733	#8 x 1/2" Self Drill Screw
9	TU6067	#8 Speed Nut (2 each)



Parts—Thermostat Assembly (Coin Meter Models) TU9111 (w/Illustration)

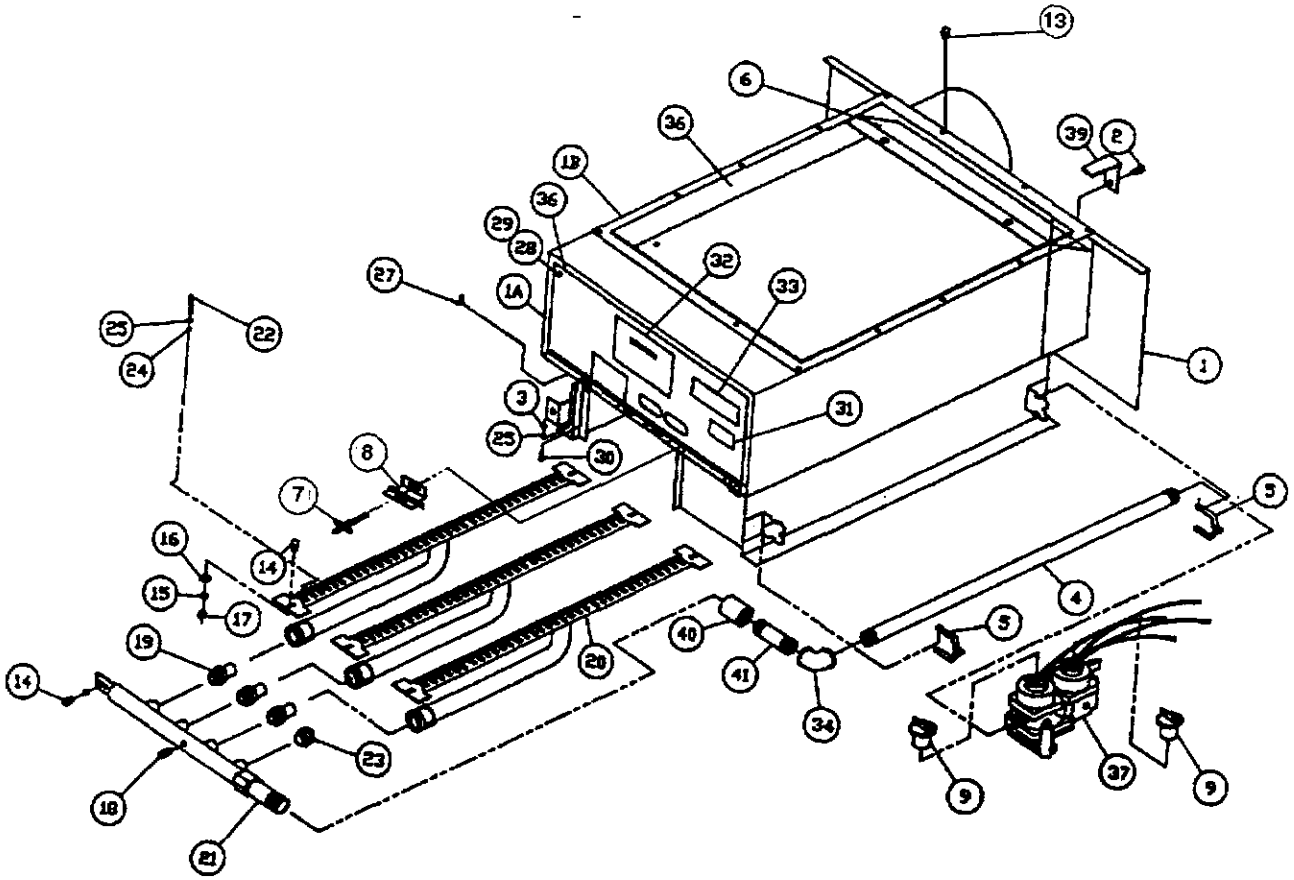
1	TU3240	Safety High Limit Thermostat
2	TU3240	185°F Thermostat
3	TU5150	150°F Thermostat
4	TU7244	135°F Thermostat
5	TU5143	Mounting Bracket
6	TU3624	#6-32 x 1/4" Round Head Screw (6 each)
7	TU3400	#6-32 Hex Nut
8	TU7733	#8 x 1/2" Self Drill Screw
9	TU6067	#8 Speed Clip (2 each)





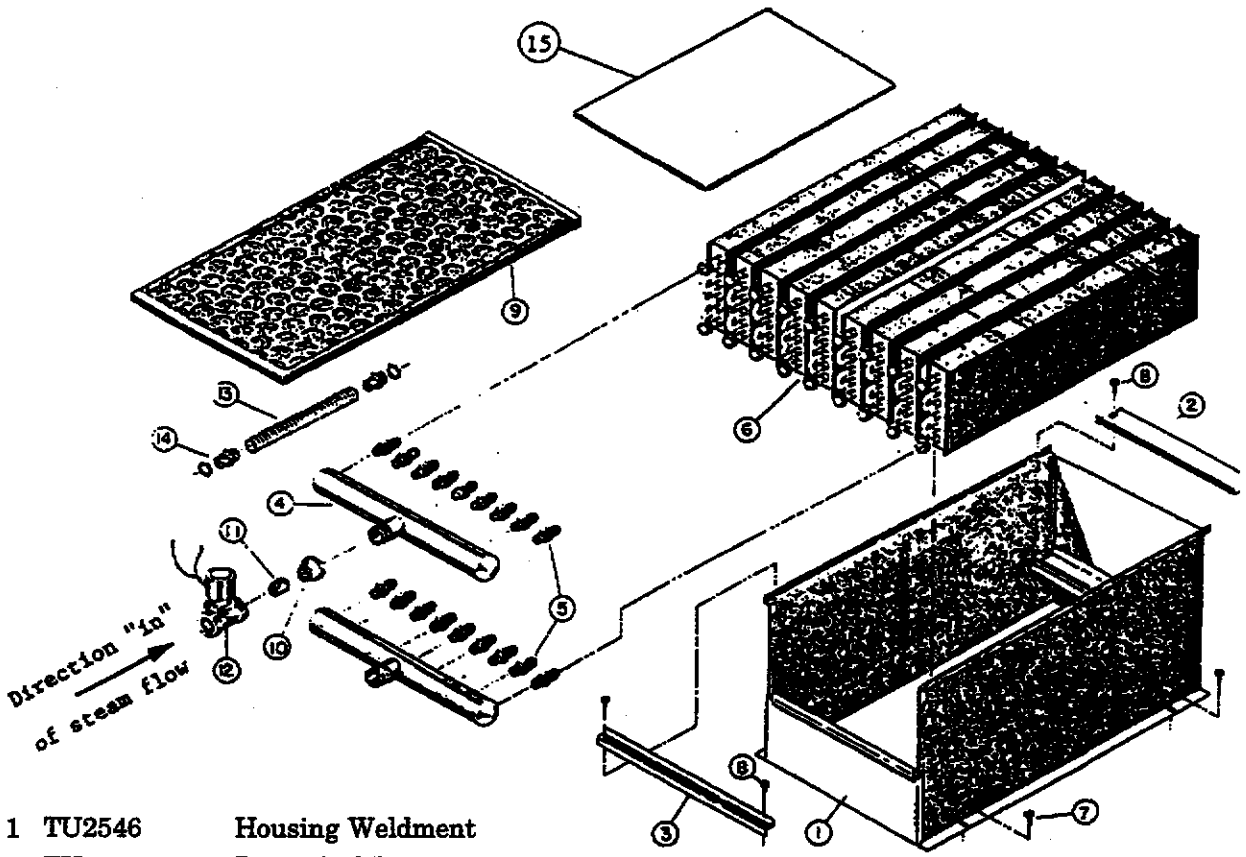
1	TU8683	Bonnet	15	TU2847	1/4" Flat Washer
2	TU7733	#8 - 18 x 1/2" Self Drill Screw (Pkg. of 6)	16	TU2224	1/8" Pipe Plug
3	TU13628	Electrode Spark Igniter	17	TU3539	Gas Burner Orifice (Specify Size)
4	TU13212	1/2" Pipe Nipple 24"	18	TU8288	Manifold Assembly
5	TU2226	Manifold Mounting Bracket	19	TU7840	Burner
6	TU13826	Electrode Spark Mounting Bracket	21	TU13695	Bonnet Thermostat Bracket
7	OP291	1/2" Elbow (Street)	22	----	Gas Rating Plate
8	M271	Lockwasher	23	P104	1/4" Cut Washer Brass
9	C1365	Connector T & B	24	TU8645	Installation Instructions
10	TU13678	Thermostat, Man. Reset 300°	26	TU3416	#8 x 1-1/4" Sheet Metal Scr.
11	TU7733	#8 Self Drill Scr. (Pkg. of 6)	27	TU13523	1/2" Combination Gas Valve (Natural Gas)
12	CB36	1/2" - 20 x 1/2" Hex Head Screw		TU13513	1/2" Combination Gas Valve (LP Gas)
13	TU2846	1/4" Split Lockwasher			
14	TU4934	1/4" - 20 Hex Nut			

ENERGY-SAVER GAS BONNET - TU13787 (Natural Gas)
ENERGY-SAVER GAS BONNET - TU13788 (LP Gas)



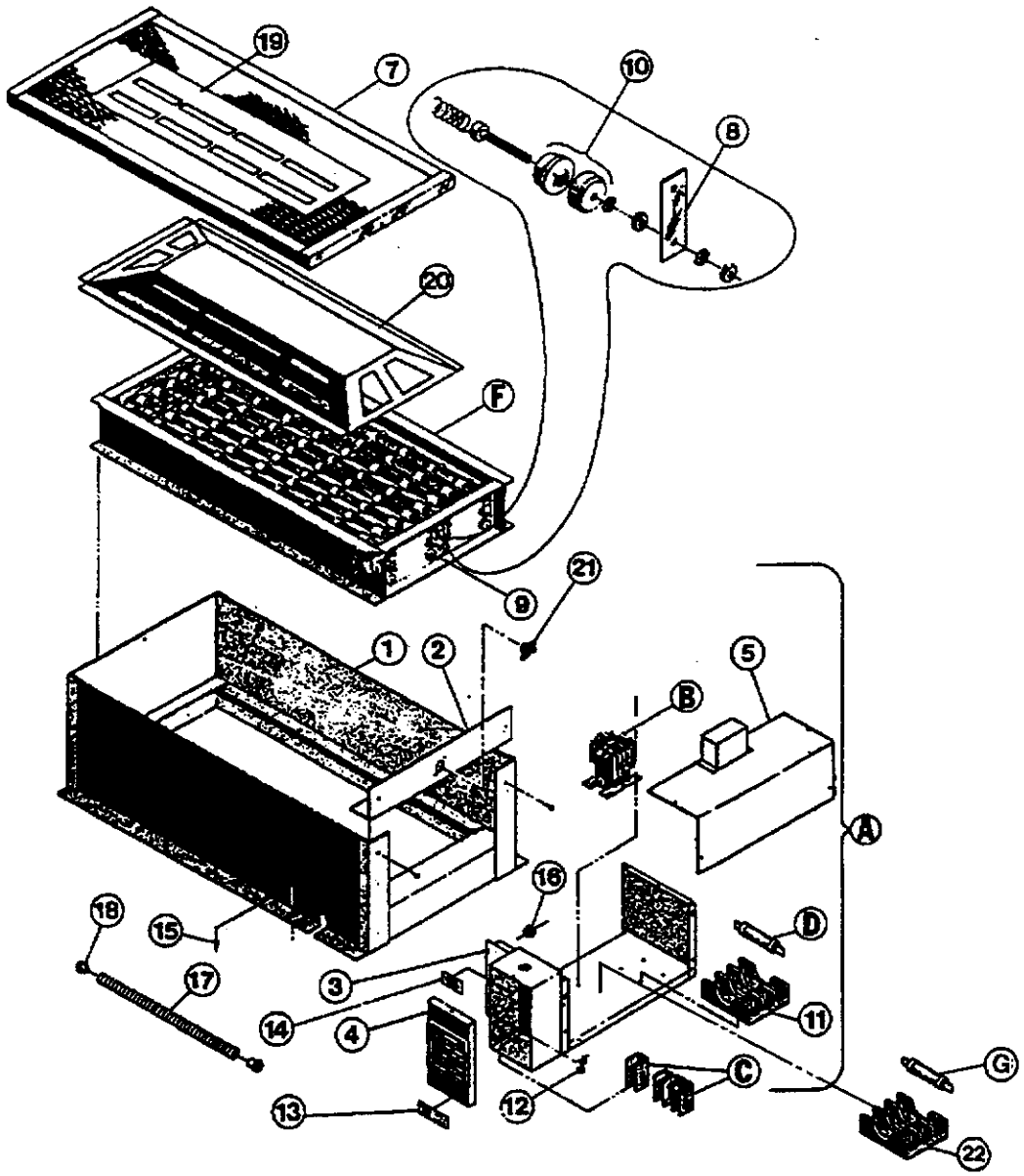
1	TU8697	"F" Bonnet	21	TU8288	Manifold Assembly
1A	TU8561	Front Plate Hinge	22	TU3416	#8 x 1-1/4" Sheet Metal Screw
1B	TU7787	Top Panel			
2	TU7733	#8 x 1/2" Self Drill Screw (Pkg. of 6)	23	TU10946	Plug
			24	M271	Lockwasher
3	TU2842	#10 - 32 Hex Nut	25	P104	1/4" Cut Washer Brass
4	TU13212	Pipe Nipple 1/2" x 24"	27	TU10292	Wing Nut
5	TU2226	Manifold Mount, Bracket	28	TU2877	#10 Tinnerman Nut
6	TU7294	Upper Rear Air Deflector	29	TU2878	#10 x 5/8" Sheet Metal Screw
7	TU13628	Electrode Spark Igniter			
8	TU13826	Electrode Spark Mounting Plate	30	TU3479	#10 - 32 x 7/16" Truss Head Screw
9	C1365	Connector T & B (Gas Valve)	32	TU13914	*Gas Rating Plate*
10	TU8690	Igniter Mounting Plate	33	TU8645	Installation Instructions
11	TU7373	Clean Out Panel Nameplate	34	390501053	1/2" Elbow
13	TU7733	#8 Self Drill Screw (Pkg. of 6)	35	TU3266	#8 - 32 Hex Nut
14	CB36	1/4" - 20 x 1/2" Hex Head Screw	36	TU2853	Gasket
15	TU2846	1/4" Split Lockwasher	37	TU13523	1/2" Combination Gas Valve (Natural Gas)
16	TU2847	1/4" Flat Washer			
17	TU4934	1/4" - 20 Hex Nut		TU13513	1/2" Combination Gas Valve (LP Gas)
18	TU2224	1/8" Pipe Plug			
19	TU3539	Gas Burner Orifice (Specify Size)	39	TU11181	Burner Locator Angle
			40	SC505	1/2" Coupling
20	TU7840	Burner	41	390401021	1/2" x 2-1/2" Nipple

TU13689—9 Section Steam Bonnet Assembly w/Solenoid Valve 24V



1	TU2546	Housing Weldment
2	TU2547	Front Coil Retainer
3	TU2548	Rear Coil Retainer
4	TU2413	Steam Coil Manifold
5	TU2414	3/4" - 16 x 3/8" Straight Connector
6	TU2405	Steam Coil (9 required) 7 3/4" W x 1 5/8" H x 26" L
7	CB36	#1/4 - 20 x 1/2" Hex Head Screw (Pkg. of 6)
8	TU7733	#8 x 1/2" S.M.S. (Pkg. of 6)
9	TU2598	Air Filter 16" x 25" x 1"
10	TU2735	1" x 3/4" Reducer
11	TU4608	3/4" x 2" Pipe Nipple
12	TU13517	Solenoid Valve 24V - 50/60 Hz.
13	CFB2100	Greenfield Cable, 1/2" (Specify 21" Long)
14	TU4790	1/2" Straight Conn. (2 required)
15	TU10651	Mechanism Box Cover

Electric Heating Unit (Illustration)

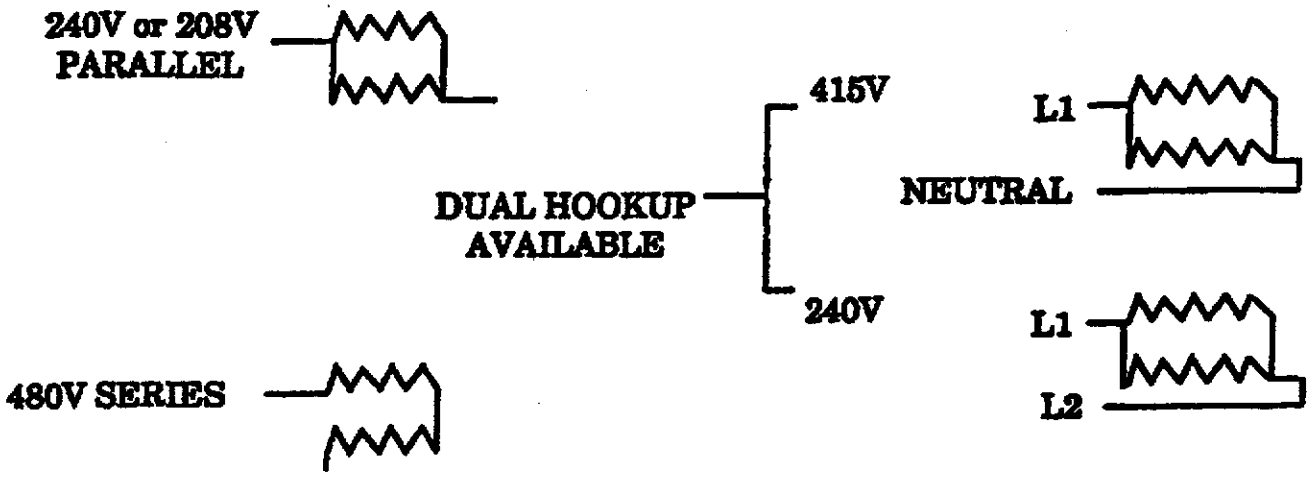


1	TU3103	Bonnet Weldment	16	TU5958	Bushing (2 required)
2	TU3102	Hold Down Plate	17	CFB0700	Cable—1/2" x 7" Lg.
3	TU9205	Control Box Weldment	18	TU4790	Straight Connector
4	TU9207	Terminal Box Cover			(2 required)
5	TU12454	Top Cover	21	TU7244	Thermostat—135°F
7	TU3104	Air Inlet Cover	22	TU13588	Motor Fuse Holder
8	TU3767	Contact Strap (4 required)			
9	TU3768	Contact Strap (1 required)			
10	TU3253	Insulators	A	see next page	Control Box Less Wiring
11	TU13866	Fuse Holder	B	"	Contactor
12	TU7738	Grounding Lug	C	"	Terminal Block
13	TU9254	High Voltage Label	D	"	Fuse
		for 415V Only	E	"	Bonnet with Elements
14	TU9258	Ground Label	F	"	Heater Elements
15	CB36	1/4"-20 x 1/2" Hex Screw	G	"	Motor Fuse
		(Pkg. of 6)			

A	B	C	D	E	F	G	H	I
Control Box Less Wiring	**Contactor (24V Coil)**	**Terminal Block**	**Heater Fuse Block**	**Heater Fuses**	**Bonnet with Elements**	**Heater Element**	**Motor Fuse Block**	**Motor Fuses**
TU13777 208V 3PH	TU13521 45/80 AMP	TU9143	TU11096	TU7074 60 AMPS 3 required	TU7589 - 30KW 208V 3PH	HE10810, 240V, 40KW Used for 208V, 30KW	TU8201	TU819710 10 AMPS 3 required
TU13778 240V 3PH	TU13521 45/80 AMP	TU9143	TU11096	TU7074 60 AMPS 3 required	TU7590 - 30KW 240V 3PH	HE11080, 240V, 30KW	TU8201	TU819710 10 AMPS 3 required
TU13779 240/415V 3PH	TU13521 45/80 AMP	TU9143* TU9142**	TU11096	TU7074 60 AMPS 3 required	TU10395 - 30 KW 240V or 415V 3PH	HE11080, 240V, 30KW	TU8200	TU819908 8 AMPS 3 required
TU13780 480V 3PH	TU13520 30/45 AMP	TU9143	TU9141	TU7072 40 AMPS 3 required	TU7590 - 30KW 480V 3PH	HE11080, 240V, 30KW Used for 480V, 30KW	TU8200	TU819908 8 AMPS 3 required
TU13898 200-220V/ 346-380V 3PH	TU13521 45/80 AMP	TU9143* TU9142**	TU11096	TU7074 60 AMPS 3 required	TU10395 - 220V or 380V 3PH	HE10810, 240V, 40KW Used for 346-380V, 30KW	TU8200	TU819908 8 AMPS 3 required
TU13903 240V 3PH w/1PH motor	TU13521 45/80 AMP	TU9143	TU11096	TU7074 60 AMPS 3 required	TU7590 - 30KW 240V 3PH	HE11080, 240V, 30KW	TU8201	TU819710 10 AMPS 2 required

* 3 Pole

** 1 Pole (Neutral)



Electric Heating Circuit - 50 Lb. Dryers, 30KW Heating Elements

Rated Heater Input	Heater Amperes, Motor Amperes, Control Amperes, Total Amperes at Rated Voltage	Minimum Size Supply Wire Based On 60° (C) (140° F) Insulated Copper Conductor	Two Motor Circuit Phase	One Motor Circuit Phase	Circuit Minimum Conduit Trade Size	Circuit Minimum Conduit Trade Size
208V/3 Ph/60 Hz	89 AMPS	2 AWG	1 Ph	---	1-1/4	60
208V/3 Ph/60 Hz	87 AMPS	2 AWG	---	1 Ph	1-1/4	60
208V/3 Ph/60 Hz	87 AMPS	2 AWG	3 Ph	---	1-1/4	60
208V/3 Ph/60 Hz	86 AMPS	2 AWG	---	3 Ph	1-1/4	60
240V/3 Ph/60 Hz	78 AMPS	3 AWG	1 Ph	---	1-1/4	60
240V/3 Ph/60 Hz	76 AMPS	3 AWG	---	1 Ph	1-1/4	60
240V/3 Ph/60 Hz	76 AMPS	3 AWG	3 Ph	---	1-1/4	60
240V/3 Ph/60 Hz	75 AMPS	3 AWG	---	3 Ph	1-1/4	60
240/415V/3 Ph/50 Hz	76/44 AMPS	3/6 AWG	3 Ph	---	1-1/4	50
240/415V/3 Ph/50 Hz	75/43 AMPS	3/6 AWG	---	3 Ph	1-1/4	50
480V/3 Ph/60 Hz	38 AMPS	8 AWG	3 Ph	---	1	35
480V/3 Ph/60 Hz	38 AMPS	8 AWG	---	3 Ph	1	35
575V/3 Ph/60 Hz	33.9 AMPS	8 AWG	3 Ph	---	1	35

24V Overloads

DRYER	VOLTAGE	BAS MTR	SFA	OVERLOAD	FAN MTR	SFA	OVERLOAD
50lb.	240/50/3	187	2	TU13553	187	2	TU13553
	415/50/3	187	1.2	TU13554	187	1.2	TU13554
	200-220/50/3	273	2.9	TU13552	187	1.8	TU13553
	346-380/50/3	273	1.7	TU13553	187	1.1	TU13554
	208-230/60/3	213	2.4	TU13552	218	1.7	TU13553
	460/60/3	213	1.3	TU13554	218	0.9	TU13554
	380/60/3	273	1.7	TU13553	187	1.1	TU13554