



OWNER'S MANUAL

30 lb. HD LAUNDRY DRYER



**Gas: Natural and LP
Steam
Electric**

**Technical specifications
Installation instructions
Operating instructions
Maintenance**

HD30.1

Cissell Manufacturing Co.

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THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER

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



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 death.

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

- WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliance.**
- **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 your 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.

**ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT
SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:**

AVERTISSEMENT. Assurez-vous de bien suivre les instructions donnees dans cette notice pour reduire au minimum le risque d'incendie ou d'explosion ou pour eviter tuot dommage materiel, toute blessure ou la mort.

— Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

— **QUE FAIRE SI VOUS SENTEZ UNE
ODEUR DE GAZ:**

- Ne pas tenter d'allumer d'appareil.
- Ne touchez a aucun interrupteur. Ne pas vous servir des telephones se trouvant dans le batiment ou vous vous trouvez.
- Evacuez la piece, le batiment ou la zone.
- Appelez immediatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

— l'installation et l'entretien doivent etre assures par un installateur ou un service d'entretien qualifie ou par le fournisseur de gaz.

**ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT
SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:**

POUR VOTRE SECURITE

Ne pas entreposer ni utiliser d' essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.



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 **Manufacturer's** 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: Do not place items exposed to cooking oils in your dryer. Items contaminated with cooking oils may contribute to a chemical reaction that could cause a load to catch fire.



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.



WARNING: To reduce the risk of electric shock, disconnect this appliance from the power supply before attempting any user maintenance other than cleaning the lint trap. Turning the controls to the OFF position does not disconnect this appliance from the power supply.

CISSELL DRYER WARRANTY

The Cissell Manufacturing Company (Cissell) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of three (3) years from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than three (3) years due to normal wear and tear, and with respect to all new repair or replacement parts for Cissell equipment for which the three (3) year warranty period has expired, or for all new repair or replacement parts for equipment other than Cissell equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Cissell in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

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

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

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

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

CISSELL MAKES NO OTHER EXPRESSED 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, EXPRESSED OR IMPLIED. CISSELL NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

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

IDENTIFICATION NAMEPLATE






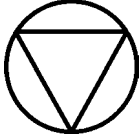






The identification nameplate is located on the rear wall of the dryer. It contains the dryer serial number, product number, model number, electrical specifications and other important data that may be needed when servicing and ordering parts, wiring diagrams, etc. Do not remove this nameplate.

<i>Safety Instructions</i>	2-4
<i>Cissell Dryer Warranty</i>	5
<i>Table of Contents</i>	6
<i>Symbols</i>	7
<i>Unpacking / General Installation</i>	8-9
<i>Technical Data and Dimensions</i>	10-11
<i>Electric Connections</i>	12
<i>Gas Connections</i>	13
<i>Gas Piping Installation</i>	14-15
<i>Gas service Installation Instructions</i>	16
<i>Gas Pipe Size Chart</i>	17
<i>Steam Piping Installation Instructions</i>	18-19
<i>Dryer Installation with Multiple Exhaust</i>	20-21
<i>Dryer Make-Up Air Requirements</i>	22
<i>Dryer Installation with Seperate Exhaust</i>	23
<i>Exhaust and Venting</i>	24
<i>Rules for Safe Operation of Dryer</i>	25
<i>Direct-Spark Ignition Operation</i>	26-27
<i>General Maintenance</i>	28-29
<i>Air Switch Adjustment</i>	30
<i>Operating Instruction for Double Timer</i>	31
<i>PARTS</i>	32-58

<i>Front View</i>	32	<i>Basket & Spider Assembly</i>	46
<i>Access Door Assembly</i>	33	<i>Rear View</i>	47
<i>Door Assembly</i>	34	<i>Air Switch Assembly</i>	48
<i>Front Panel Assembly - OPL</i>	35	<i>Basket Bearings/Sheave Assy</i>	49
<i>Front Panel Assembly - Coin</i>	36	<i>Motor & Fan Assembly</i>	50-51
<i>Thermostat Assembly</i>	37-38	<i>Idler Assembly</i>	52
<i>PRO/HC Sensor Assembly</i>	39	<i>Rear Control Box Asm-Gas</i>	53
<i>Mech. Coin Control Asm.</i>	40	<i>Rear Control Box Asm.-Elec.</i>	54
<i>DMP Coin Control Assembly</i>	41	<i>Nat. Gas Heating Unit Asm.</i>	55
<i>2 Timer Control Assembly</i>	42	<i>L.P. Gas Heating Unit Asm.</i>	56
<i>DMP OPL Control Assembly</i>	43	<i>Steam Heating Unit Asm.</i>	57
<i>PRO/HC Control Assembly</i>	44	<i>Electric Heating Unit Asm.</i>	58
<i>Lint Door Assembly</i>	45	<i>Recommended Spare Parts List</i> ...	59

SYMBOLS

The following symbols are used in this manual and/or on the machine.

Symbol	Description		Symbol	
	NOTE!	Rotation in two directions Rotation dans les deux sens Drehbewegung in zwei Richtungen Movimiento rotativo en los dos sentidos		
	Hot! Do Not Touch Heiß! Nicht Berühren Haute temperature! Ne pas toucher Caliente! no tocar	Direction of rotation Sens de mouvement continu De rotation Drehbewegung in Pfeilrichtung movimiento Giratorio o rotatorio en el sentido de la flecha		
	dangerous voltage tension dangereuse Gefährliche elektrische Spannung tension peligrosa	End of Cycle		
	On Marche Ein Conectado			
	Off Arrêt Aus Desconectado	Caution Attention Achtung Atencion; precaucion		
	Start Demarrage Start Arranque de un movimiento			
	Emission of heat in general Emission de chaleur en general Warmeabgabe allgemein Emisión de calor			
	Cooling Refroidissement Kühlen Enfriamiento			

Unpacking/General Installation (All Dryers)

UNPACKING	<p>Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.</p> <p>Upon locating permanent location of a unit, care should be taken in movement and placement of equipment.</p> <p>See outline clearance diagrams for correct dimensions.</p> <p>Remove all packing material such as: tape, manuals, skid, etc.</p> <p>Leveling: Use spirit level on top of dryer. Adjust leveling bolts on dryer (see adjustable leveling bolts in maintenance section).</p> <p>Check voltage and amperes on rating plate before installing the dryer.</p>
GENERAL INSTALLATION (ALL DRYERS)	<p>The construction of the dryers permits installation side-by-side to save space or to provide a wall arrangement. Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material is 0" ceiling clearance, 0" rear clearance, and 0" side clearance.</p> <p>Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.</p> <div data-bbox="560 1087 1433 1297">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.</div> <div data-bbox="560 1329 1433 1482">IMPORTANT This dryer is designed for a capacity maximum load. Overloading it will result in long drying times and damp spots on some clothes.</div> <div data-bbox="560 1514 1433 1698">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.</div> <div data-bbox="560 1730 1433 1843">IMPORTANT Provide adequate clearance for air opening into the combustion chamber.</div>

Unpacking/General Installation (All Dryers)

GENERAL INFORMATION

The dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stop. You can expect fast drying from the laundry dryer. Hot, dry air is properly and effectively moved through the basket and exhausted through a lint trap to the atmosphere. The 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 falls from the screen to the bottom of the dryer cabinet. The lint should be removed daily or as required to prevent an over-accumulation.



IMPORTANT

Provide adequate clearance for air openings into the combustion chamber.

DRYER “COOL-DOWN” CYCLE

Permanent press, durable press and other modern day fabrics require the care that your 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.

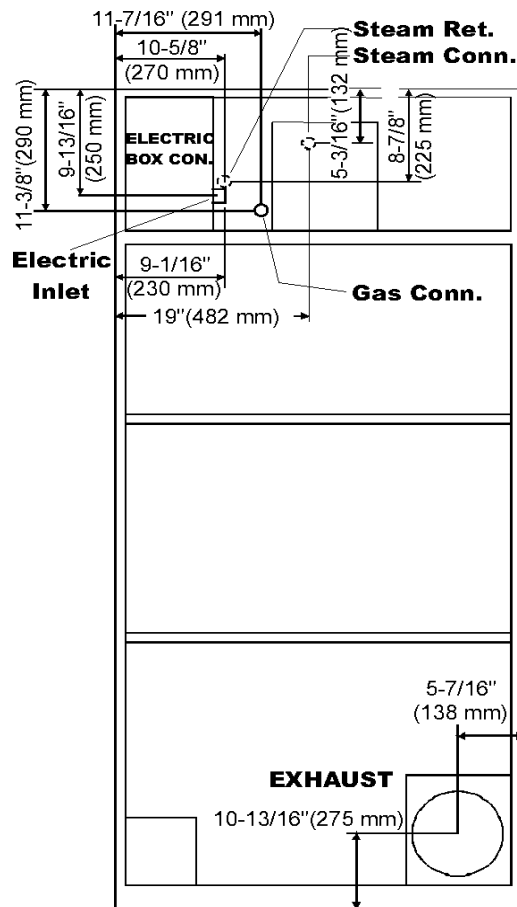
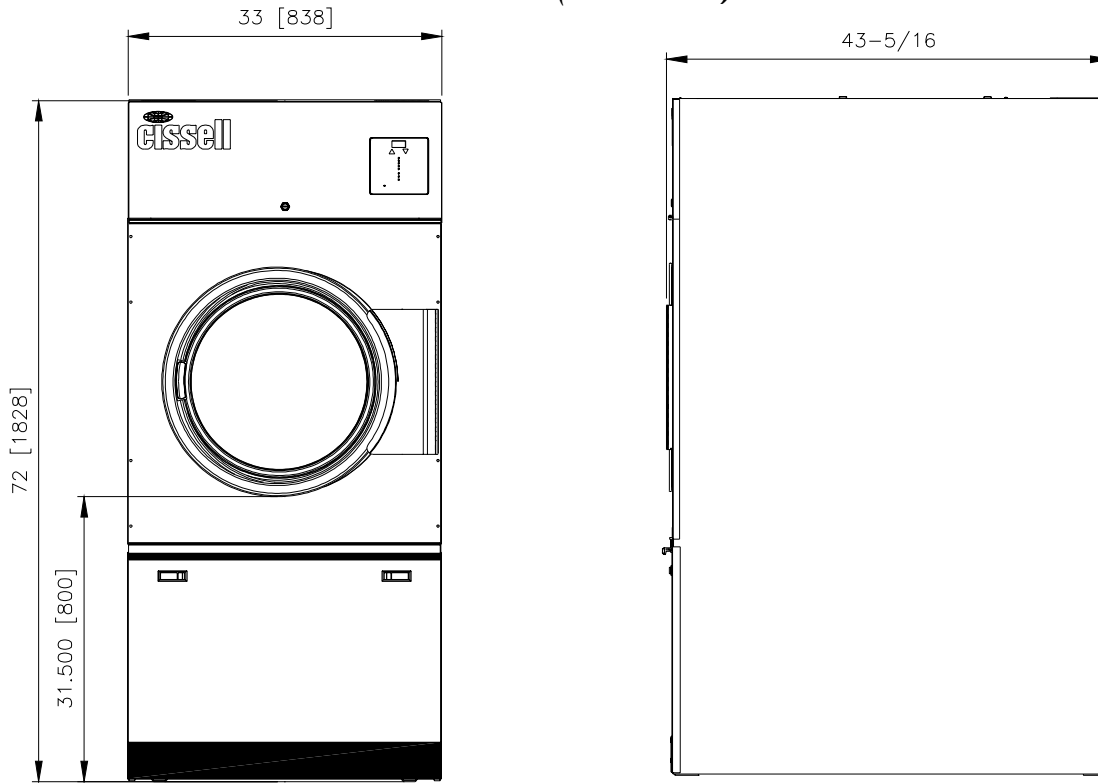
REPLACEMENT PARTS

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.

HD30.1 lb. Dryer Dimensions - Standard Gas, Steam and Electric Heated

Specifications	U.S. Measure	Metric Measure	
Capacity (Dry Linen)	30 lbs.	13.6 kg	
Basket			
Diameter	30 inches	762 mm	
Depth	29 inches	737 mm	
Volume	11.9 ft ³	336 liter	
Cabinet			
Height	72 inches	1828 mm	
Width	33 inches	838 mm	
Depth	43-5/16 inches	1100 mm	
Door Opening			
Diameter	22-5/8 inches	575 mm	
Loading height	31-1/2 inches	800 mm	
Temperature			
Minimum	100° F	38° C	
Maximum	185° F	85° C	
Motor			
Non-reversing	1/2 H.P.	0.37 kW	
Reversing - Drum	1/2 H.P.	0.37 kW	
Fan	1/2 H.P.	0.37 kW	
Exhaust			
Flow Rate	625 cfm	1062 m ³ /h	
Diameter	8 inches	203 mm	
Electric Conn. - Electric Dryers		Non-Reversing	Reversing
208 V	60 - 3 PH	67 A	68 A
220/240 V	50/60 - 3 PH	55/60 A	55/60 A
380/415 V	50 - 3 PH	34/37 A	33/36 A
480 V	60 - 3 PH	30 A	31 A
Electric Conn. - Steam, Gas Dryers		Non-Reversing	Reversing
115/208-240 V	50/60 - 1 PH	9.5 A	N/A
380/415 V	50/60 - 3 PH	1.4 A	4.3 A
480 V	50/60 - 3 PH	1.3 A	2.5 A
Power			
Electric	22.5 kW	19,350 kcal/h	
Gas	110,000 Btu/h	27,720 kcal/h	
Steam	4.5 B.H.P	38,000 kcal/h	
Steam connection			
Inlet	3/4"	DN20	
Outlet	1/2"	DN15	
Gas Connection			
Gas Connection	1/2"	DN15	
Gas Pressure	5" - 12"	12-30 mb	
Shipping Dimensions			
(H x W x D)	78 X 36 X 48 inches	1981 X 914 X 1219 mm	
Weight			
Gas/Elec. Net	617 lbs.	280 kg	
Gas/Elec. Gross	652 lbs.	296 kg	
Steam Net	665 lbs.	302 kg	
Steam Gross	700 lbs.	318 kg	

HD30.1 Dryer Dimensions - Gas
(Illustration)

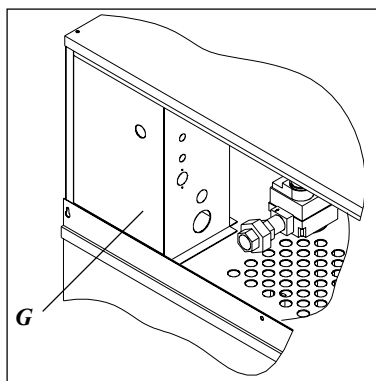


Electric connection

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, ANSI/NFPA 70 or the Canadian Electrical Code, CA C22.1.***

See wiring diagram furnished with 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.



The connection needs to be made in the wiring box at the back. Open the coverplate (G) in order to reach the connection clamps.

The connection cable needs to be brought in through the opening on the ***side of the wiring box.***



It is necessary to ***ground*** the dryer for your personal safety and to ensure a good operation.

115 and 208-240 V - 1 ph

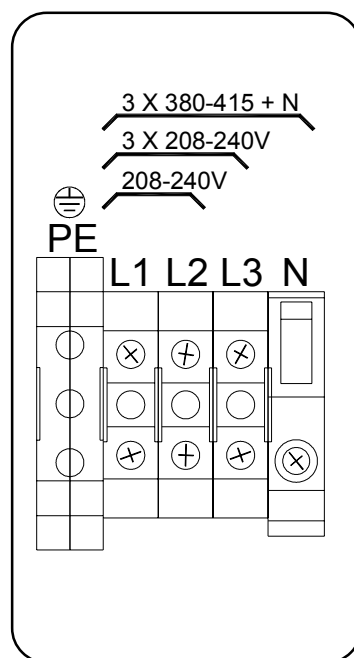
The mains wires (***L1***) and (***L2***) should be connected to the 2 left blocks and the ***yellow/green grounding wire (PE)*** should be connected to the grounding block.

208-240 and 480 V - 3 ph

The ***3 mains wires (L1), (L2) and (L3)*** should be connected to the 3 left blocks and the ***yellow/green grounding wire (PE)*** should be connected to the grounding block.

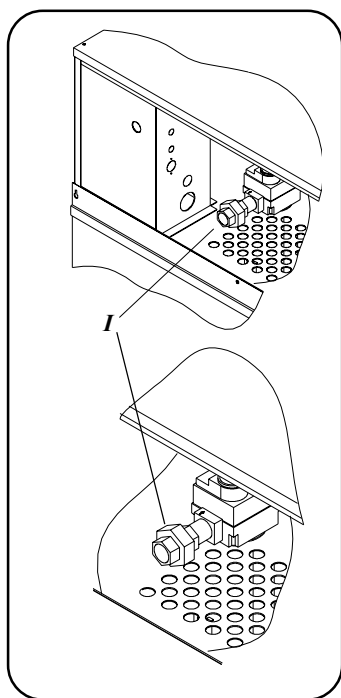
380-415V - 3 ph

The ***3 mains wires (L1), (L2) and (L3)*** should be connected to the 3 left blocks, the ***blue neutral (N)*** should be connected to the right block and the ***yellow/green grounding wire (PE)*** should be connected to the grounding block.



«Attention. Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne»

Gas connection



The gas supply pipe should be connected *to the union (I), which is on the right next to the wiring box on the back.*

It is very important to have the connections done by a qualified technician, in order to make sure that the installation is effected in accordance with the prevailing standards and instructions.

The dryer should be connected to the type of gas, which is indicated on the serial plate.

The use *of too small gas pipes* can result in insufficient gas supply, which can lead to a bad heating-up and a poor drying quality.

When the dryer is used in combination with a weighing platform, the gas supply pipe has to be made of flexible material to allow the weighing system to keep moving freely.



Test all connections for possible leaks by means of a soap solution, but ***never with a flame.***

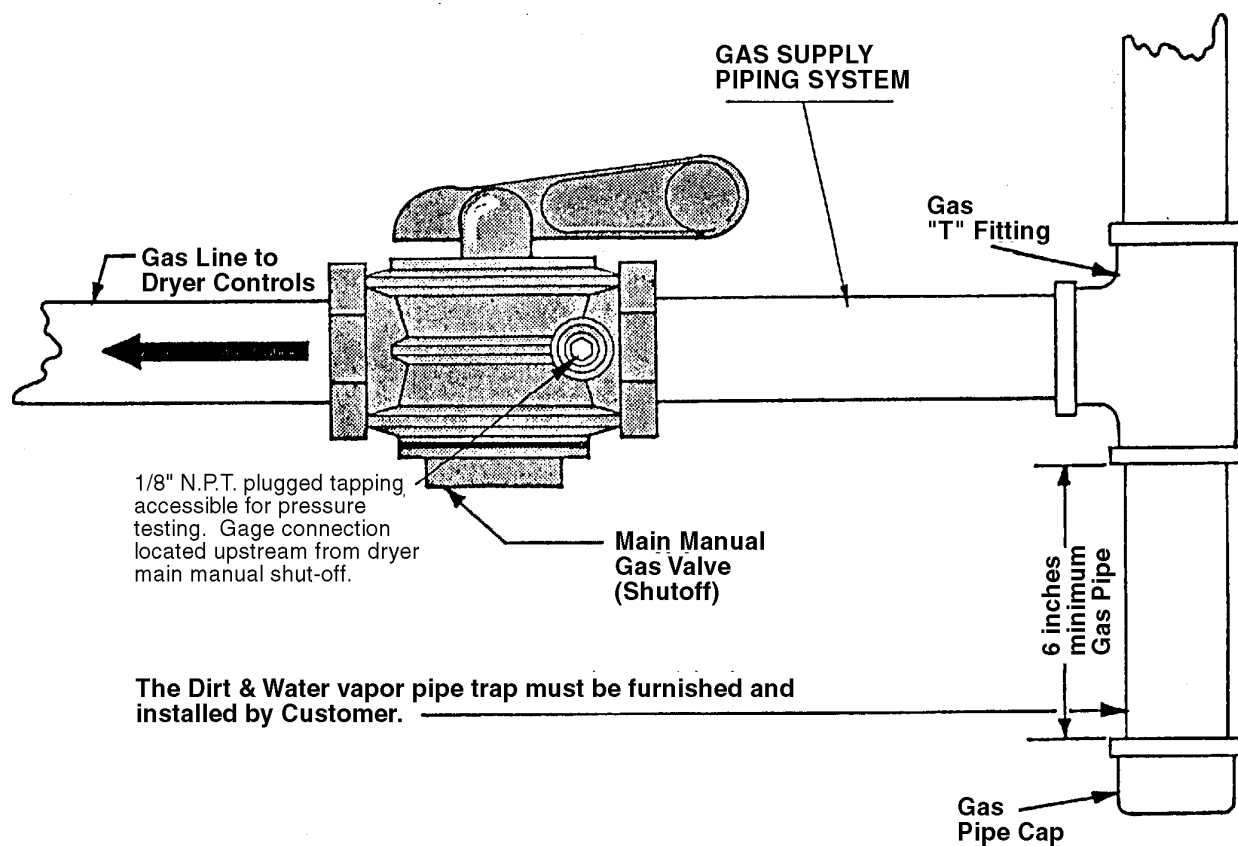
It is important to work with the right gas pressure (see technical remarks) in order to obtain a good ignition, heating and consequently a good operation in general.

After the gas supply has been connected, the gas tap in the dryer should be turned on (clockwise).

**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 or the CAN/CGA-B149, Installation Codes.*
2. Check identification nameplate for type of gas for dryer.
3. Check the altitude 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” water column (27.4 mbar) maximum. Manifold pressure—3.5” water column (8.8 mbar) pressure .
6. L.P. gas only—manifold pressure—13” water column (32.4 mbar) 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 psi (.04 bar).

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 psi (.04 bar).

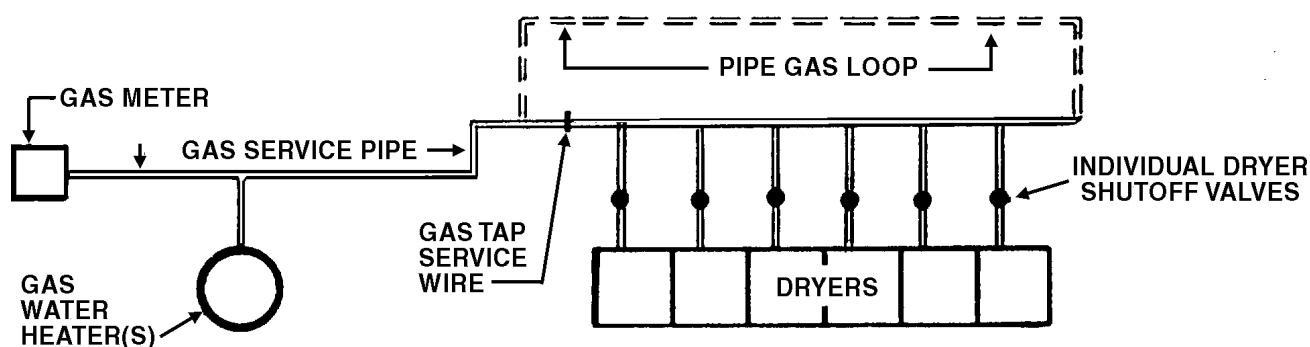
Gas Service Installation Instructions

GAS SERVICE INSTALLATION INSTRUCTIONS

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

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 the 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

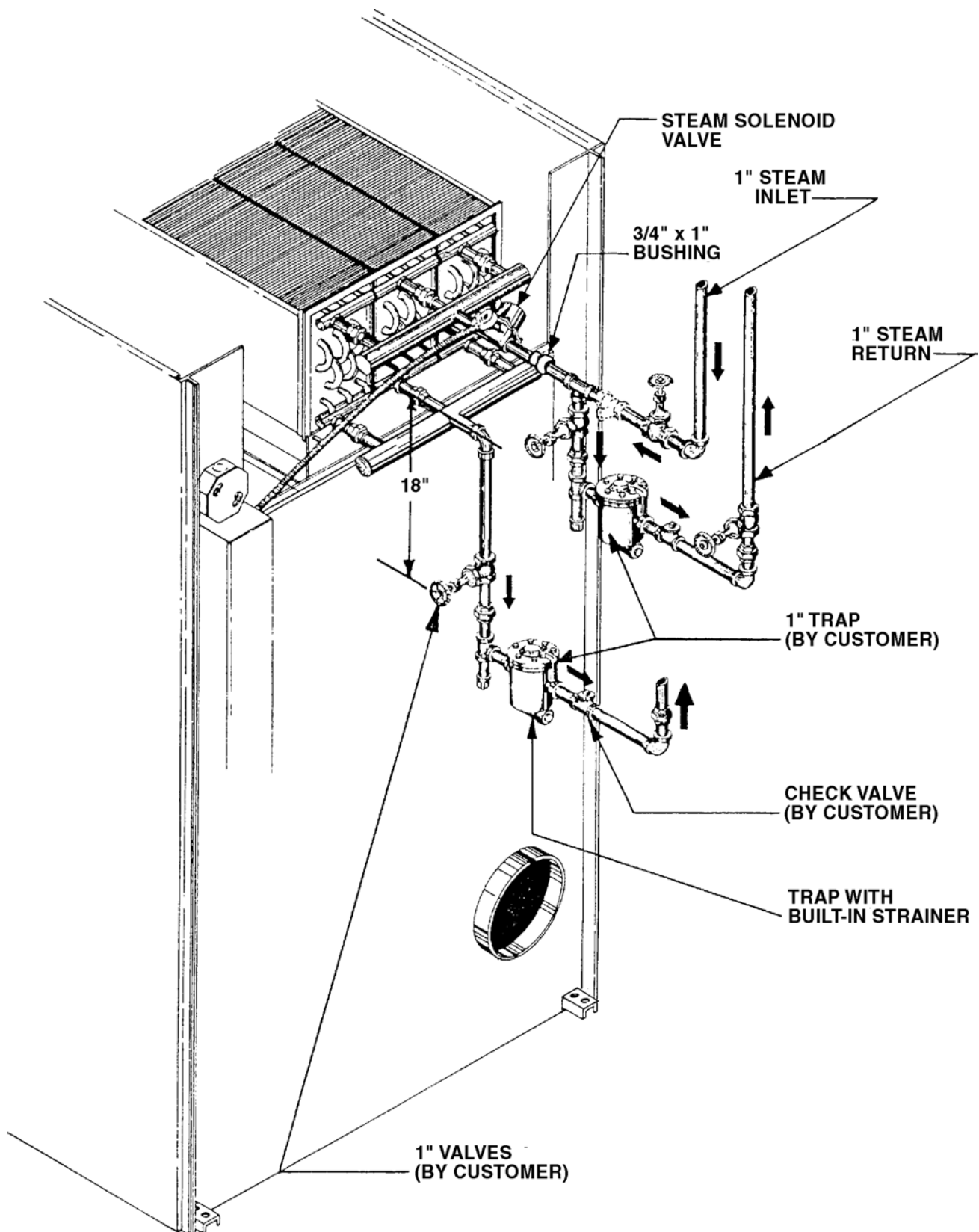
TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" (17.5 MM) W.C. PRESSURE					
		In figuring total length of pipe, make allowance for tees and elbows.					
		(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 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

STEAM PIPING INSTALLATION INSTRUCTIONS

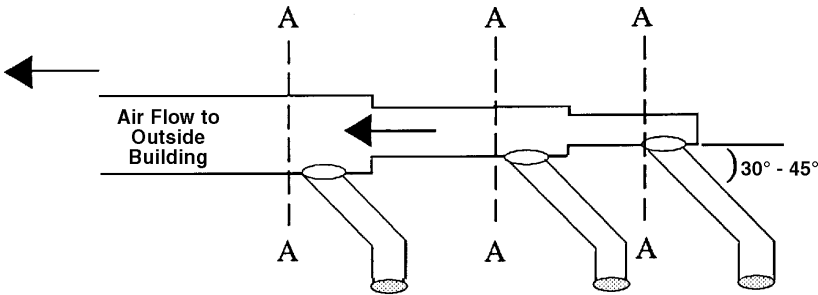
1. Set and anchor dryer in position. Machine should be level to assure proper steam circulation.
2. To prevent condensate draining from headers to dryer, piping should have a minimum 12" above respective header. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.
3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a by-pass trap to drain condensate from the low point in the steam supply header to the return.
4. In both steam supply and steam return line, it is recommended that each have a 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" 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.

Steam Piping Installation (Illustration)



Dryer Installation With Multiple Exhaust

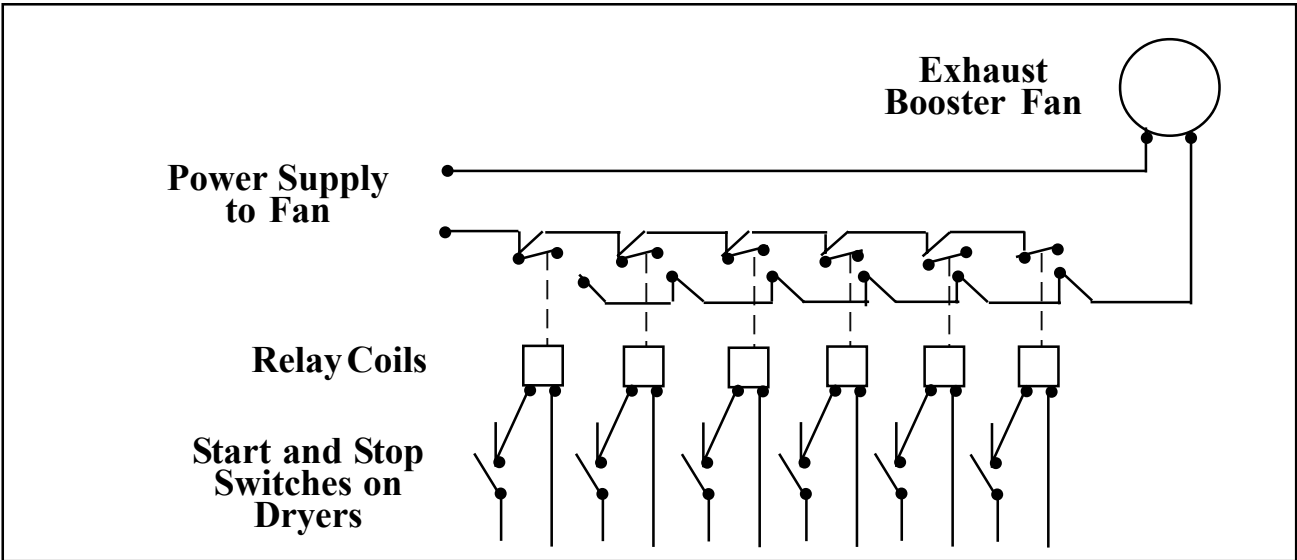
For Exhaust Duct less than 14 feet (5 m) and 2 elbows equivalent and less than 0.3 inches (.8 mbar)static pressure.



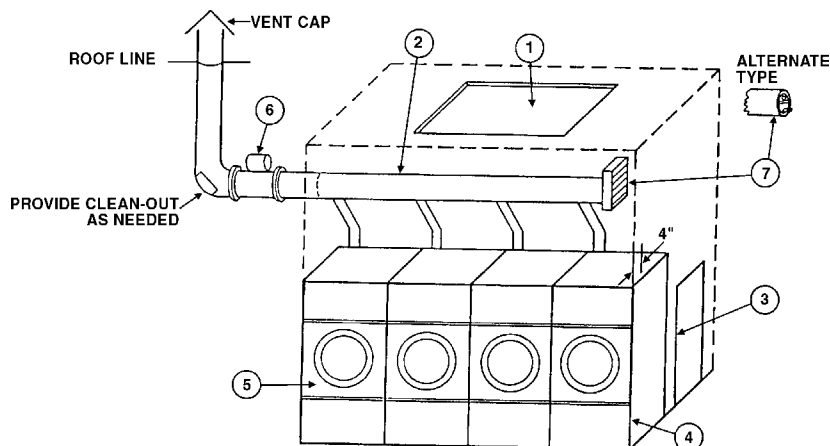
DRYER EXHAUSTS

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

		HD30																							
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	35	41	46	51	56	58	61	66	68	71	73	76	78	81	84	86	89	91	94	97	99	100



Dryer Installation with Multiple Exhaust



DRYER INSTALLATION WITH MULTIPLE EXHAUST

For Exhaust Duct more than 14 feet (5 m) and 2 elbows equivalent and more than 0.3 inches (.8 mbar) static pressure. (See illustration on page 21.)

1. Make-up air from outside building may enter enclosure from top or side walls. *(See Dryer Make-Up Air Chart on page 22)*
2. Use constant diameter duct with area equal to the sum of dryer duct areas.
EXAMPLE: Six 8 inch (204 mm) diameter ducts = one (1) 19.6 inch (498 mm) diameter duct in area. Use 20 inch (508 mm) 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/h (6.3 kcal/h) for each cubic foot per minute (cfm) used.
4. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (102 mm) of front on top.
5. Heat loss into laundry room from dryer fronts *only* is about 60 Btu/h per square foot (15 kcal/h 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.*

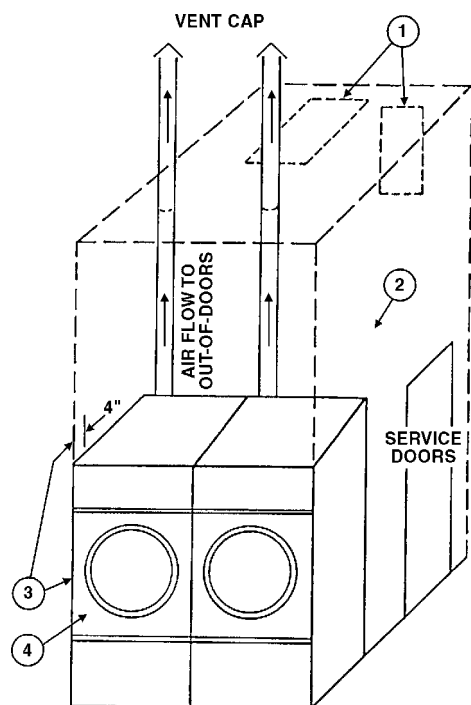
Suggested Minimum Dryer Make-up Air Requirements

Dryer Model	Dryer Pocket Capacity		Maximum Air Flow Rate per Pocket		Duct Size For Service Connection		Required Make-up Air Area per Pocket	
	lb	kg	cfm	m3/h	inch	mm	sq. inch	cm2
HD30 ST	30	13.6	450	765	6	153	87	561
HD75 ST	75	34	1000	1700	12	305	192	1240
HD110	110	50	2200	3740	12	305	422	2723
HD110 E/S	110	50	850	1445	8	203	163	1052
HD125	125	56.7	2000	3400	12	305	384	2477
HD150	150	68	2250	3825	12	305	432	2787
HD175	175	79.4	2780	4726	12	305	534	3445
HD190	190	86.2	3000	5100	12	305	576	3716
HD20.1	20	9.1	450	765	6	153	87	561
HD30SL	30	13.6	600	1020	8	203	116	748
HD30.1	30	13.6	625	1063	8	203	120	774
HD50.1	50	22.7	850	1445	8	203	164	1058
HD75.1	75	34	1000	1700	8	203	192	1240
HD80.1	80	36.3	1000	1700	10	254	192	1240

Notes:

- 1) The Model HD30 ST has 2 pockets per dryer, each pocket has the above listed characteristics; each pocket is exhausted separately with a 6" (153mm) duct.
- 2) The Model HD75 ST has 2 pockets per dryer, each pocket has the above listed characteristics; both pockets have one 8" (203mm) exhaust manifolded into one 12" (305mm) exhaust duct for exhaust connection.
- 3) For the HD30 ST and the HD75 ST Models, the Required Make-up Air Area shown in the table should be doubled since it is shown per pocket, only.

Dryer Installation With Separate Exhaust (Preferred)



DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)



For ductwork less than 14 feet (5 m) and 2 elbows equivalent and less than 0.3 inches (.8 mbar) 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. (*See Dryer Make-Up Air Chart on page 22*)
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/h (6.3 kcal/h) for each cubic foot per minute (cfm) (.03m³/min.) used.
3. The installation clearance from all combustible material is 0" ceiling clearance for the first 4" (102 mm) from the front of the dryer. After the first 4" (102 mm), the ceiling clearance required is 6" (153 mm). The rear clearance required is 0", and the side clearance is 0" .
4. Heat loss into laundry room from dryer front panels is about 60 Btu/h per square foot (15 kcal/h per 0.1m²).

Exhaust and Venting

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 and an exhaust duct, size and length of which allows flow through the dryer with no more than 0.3 inches water column (.8 mbar) static pressure in the exhaust duct. In some instances, special fans are required to supply make-up air, and/or booster exhaust fans are required.

EXHAUST DUCT

FOR BEST DRYING:

1. Exhaust duct maximum length 14 feet (5 mm) of straight duct and maximum of two 90° bends.
2. Use 45° and 30° elbows wherever possible.
3. Exhaust each dryer separately.
4. **Do not** install wire mesh or other restrictions in the exhaust duct.
5. Use clean-outs in the exhaust duct and clean periodically when needed.
6. **Never** exceed 0.3 inches water column (.8 mbar) static pressure in the exhaust duct.
7. Inside surface of the duct must be smooth.
8. Recommend pop rivets for duct assembly.

MAKE-UP AIR

FOR BEST DRYING:

1. Make-up air from outside the building may enter the enclosure from the top or side walls. See *Suggested Minimum Dryer Make-up Air Requirements* on page 20.
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

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 shut-down 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 light-weight fabrics separately from heavy fabrics. You will use less energy and get more even drying results by drying fabrics of similar weight together.
4. Clean the lint screen area daily. A clean lint screen helps give faster, more economical drying.
5. **Do not** open the dryer door while drying. You let warm air escape from the dryer into the room.
6. Unload the dryer as soon as it stops. This saves having to re-start your dryer to remove wrinkles.

Direct-Spark Ignition Operation

DIRECT SPARK IGNITION OPERATION

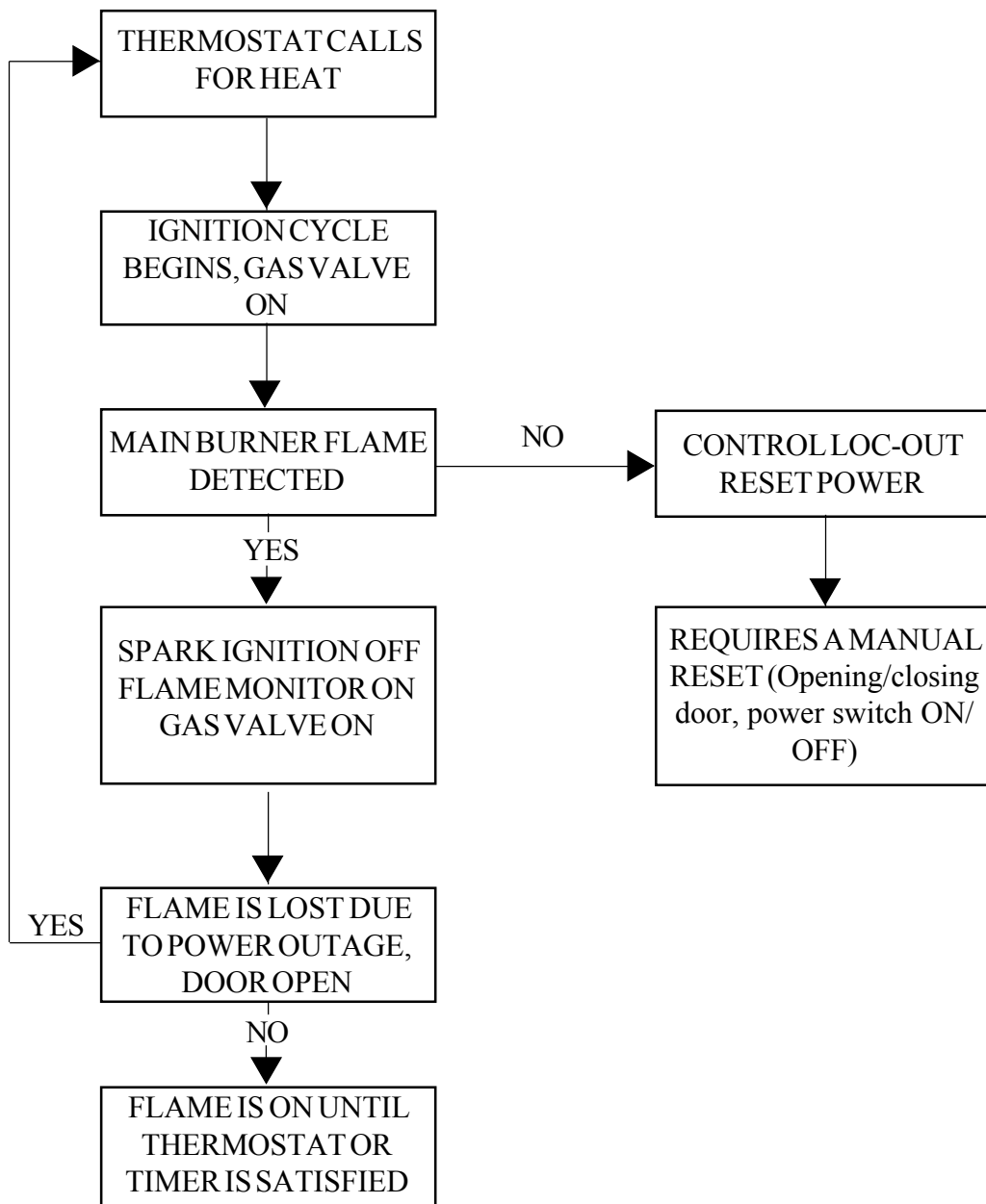
NOTE: All dryers manufactured are equipped with the DSI (direct spark ignition) modules. These are designed to increase dryer efficiency and to reduce dryer operating costs. The main burner is directly ignited from a spark electrode. A burning flame provides an electrical path for a small amount of sensing current to allow gas valve operation. If the main burner flame extinguishes for any reason (aside from the thermostatic control) sensing current will shut down the gas valve and the spark ignition circuit.

1. Once flame is established, the spark shuts off, and the main burner flame is then electronically monitored by means of a sensing spark probe which is located over the burner. The gas valve remains energized (open).
2. If no flame is detected within the first 11 seconds the DSI will go into a safety "lock-out". The gas valve is de-energized.
3. Recovery from a safety lockout requires one of the following:
 - A. Opening the main door thus interrupting power to the DSI module and allowing dryer diagnostic trouble shooting.
 - B. Disconnecting the entire dryer from a power source using a circuit breaker or a switch.
4. By closing the main door the ignition circuit will be restored for another trial of the ignition circuit.
5. Once the thermostatic control has been satisfied by reaching a pre-set temperature or the drying timer has been timed out, the ignition circuit will be de-energized thus extinguishing the flames.
6. The dryer will continue to run in a cool-down mode without heat. This process will cool the load to the touch and help to eliminate wrinkling.
7. The cool - down time is pre-set on some models and manually set on other dryer models. The cool-down cycle prevents fabric wrinkles by allowing clothes to reach room ambient temperature while still in a continuous tumbling state until clothes are ready to be folded or pressed.

***DIRECT SPARK
IGNITION OPERATION
FLOW CHART***

The DSI module is powered by a 24 volts AC supplied by a step-down transformer in series with eight safety interlocks:

- A. Timer switching device (1)
- B. Main door and lint door switches (2)
- C. Sail switch (1)
- D. Under basket and burner housing thermal safety switches (2)
- E. Variable thermostat (1)
- F. Push to start switch (1)



**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.
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.

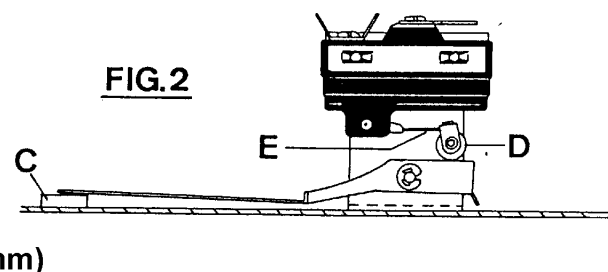
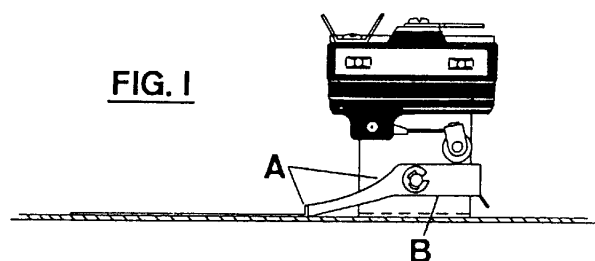
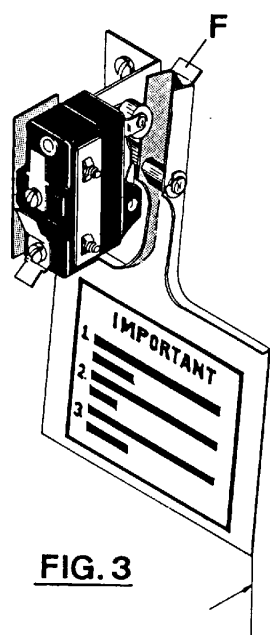
6. **Adjustable leveling bolts.** One at each corner permits accurate alignment of dryer.

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

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.



AIRSWITCH 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" (10 mm x 16 mm) 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" (20 mm) (figure 3). Bend tab "F" in or out to maintain this dimension.
5. Re-install air switch assembly on rear of dryer.
6. Re-check operation of air blade. Switch must close before air blade engages face of opening and re-open before stop "F" engages.

OPERATING INSTRUCTION - DOUBLE TIMER

OPERATING INSTRUCTIONS- DOUBLE TIMER MODELS



1. After loading the dryer with water washed clothes, close the loading door.
2. Turn the 60 minute drying (heat) timer to the desired time.
3. Turn the 15 minute cooling (air) to the desired time.
4. Select the temperature desired: Low, Medium, or High.

HIGHHEAT

175° F (80° C) exhaust temperature, heavy fabrics and hard to dry, such as cottons, towels, denim, etc..

PERMANENT PRESS (medium)

155° F (69° C) exhaust temperature, synthetic blends, including a mixed wash load.

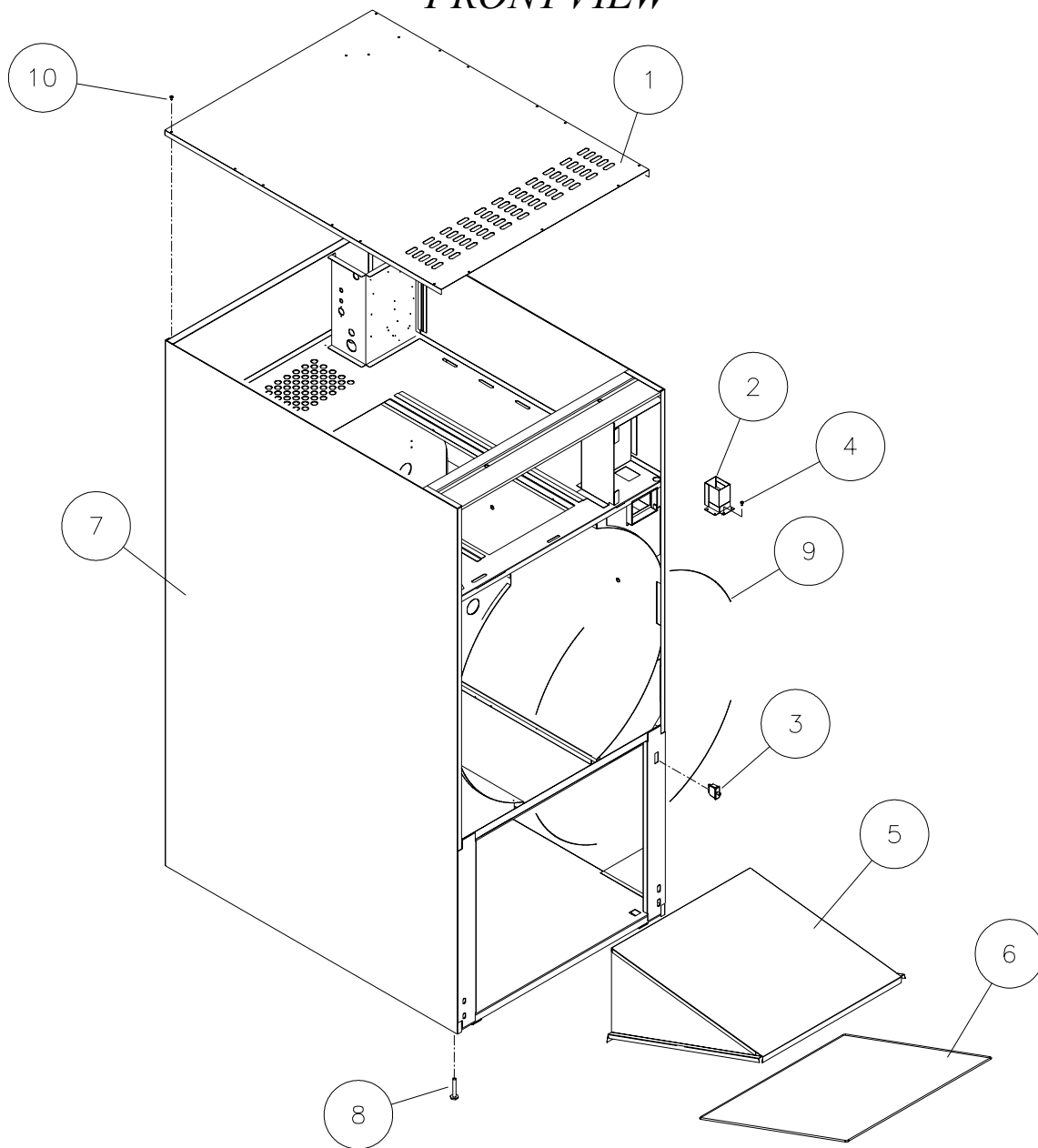
LOWHEAT

135° F (58° C) exhaust temperature, delicate, sheer fabrics.

5. Press the “push to start” button to start the drying cycle. The heat or drying light will stay on until the drying cycle is completed
6. At the end of the drying cycle, the cool down cycle will automatically count down until all time runs out. The cool down light will stay on until the end of the cycle.
7. Drying cycle will not start unless a few minutes of the cool-down cycle are set on the cool-down timer.
8. To shut the dryer off at any time during the cycles by opening the door.

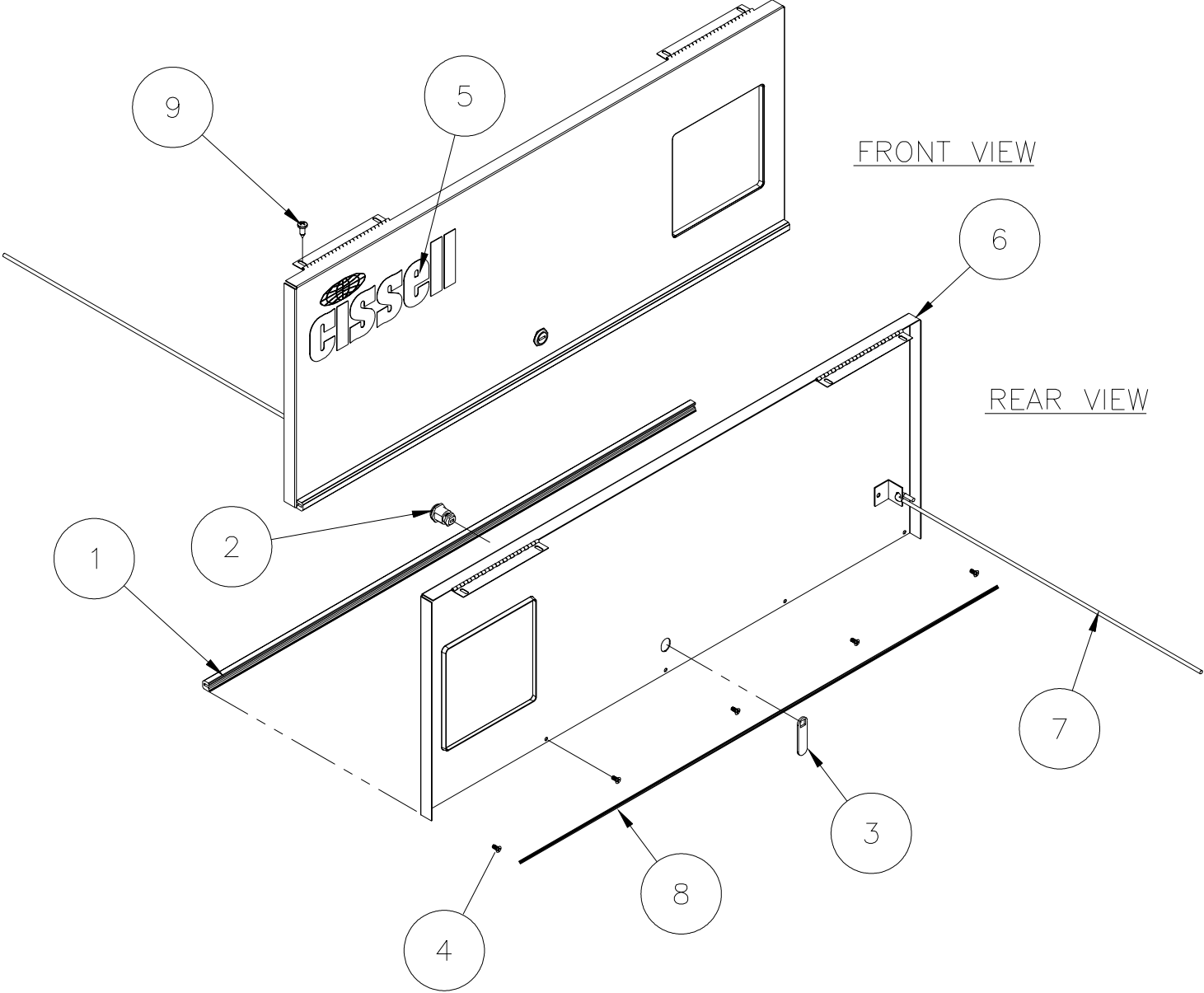
IMPORTANT

FRONT VIEW



Ref. No.	Part No.	Description
1	TU15228	Top
2	CSA-01435-0	Coin chute
	TUD0375	Coin Chute (Mechanical Coin only)
3	EA-11621-0	Microswitch door
4	SC404	Pop rivet
5	CSA-01528-0	Lint trap w/a
6	CA-13033-0	Lint Screen
	CA-10567-0	Lint screen frame
7	TU15200WHT	Jacket (white)
8	TU3211	Leveling bolt
9	430146179	Gasket, 5 feet
10	TU7733	Screw self drilling 8-18 X 1/2"

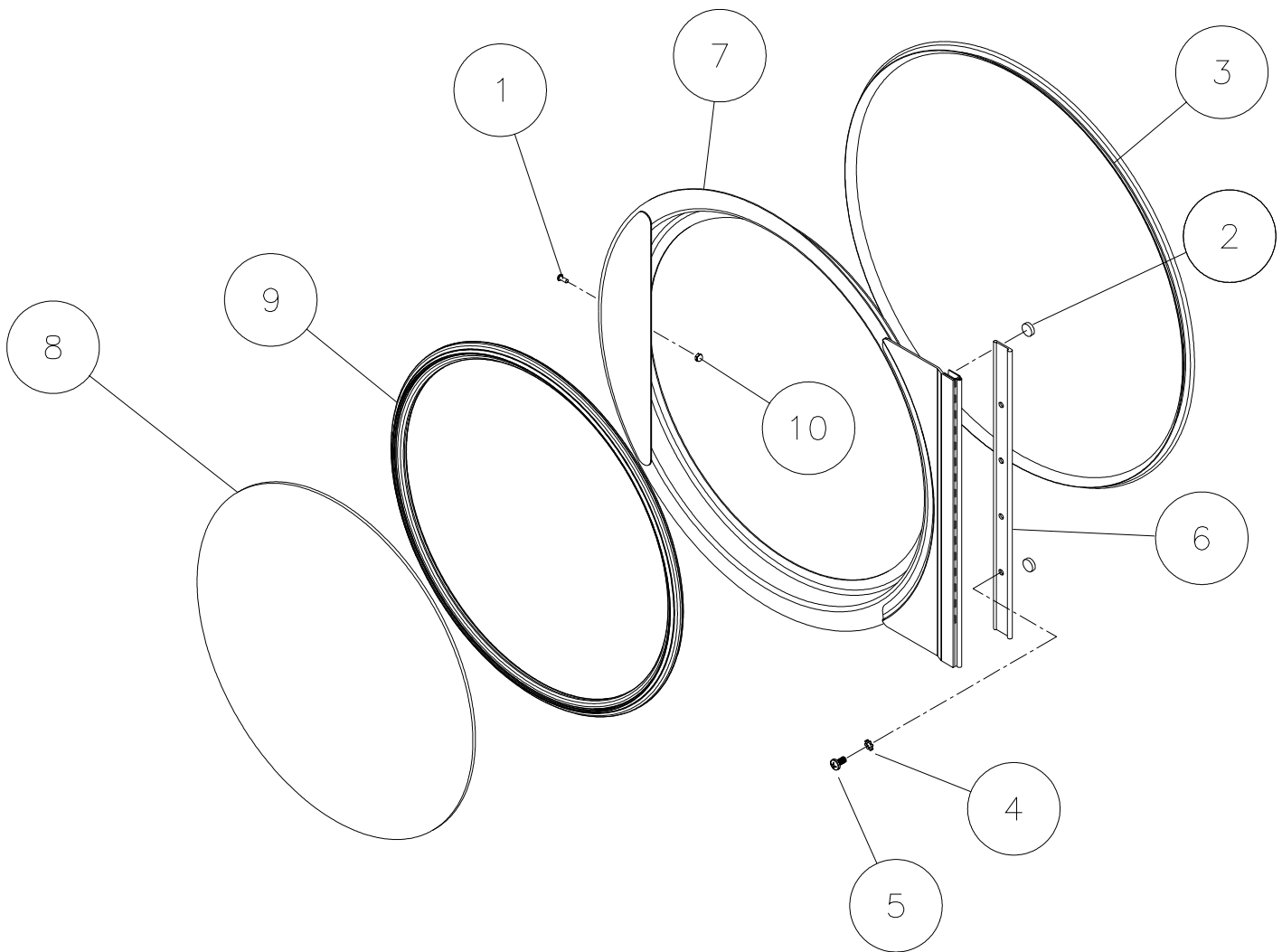
ACCESS DOOR ASSEMBLY



Ref. No.	Part No.	Description
CSA-01407* - Access Door Complete		
1	CA-00856-0	Trim - Control door
2	LA-00121-0	Lock - Control door
3	LA-11941-0	Cam lock-Control door
4	SB-00951-0	Screw -Phillips #8 X 7/16 flat hd.
5	TU14957	Logo
6	CSA-01408*	Panel - Welded asm.
7	TU15446	Support arm.
8	CA-13098-0	Door gasket
9	TU7733	Screw, #8-18 self drilling

* Specify Color

DOOR ASSEMBLY



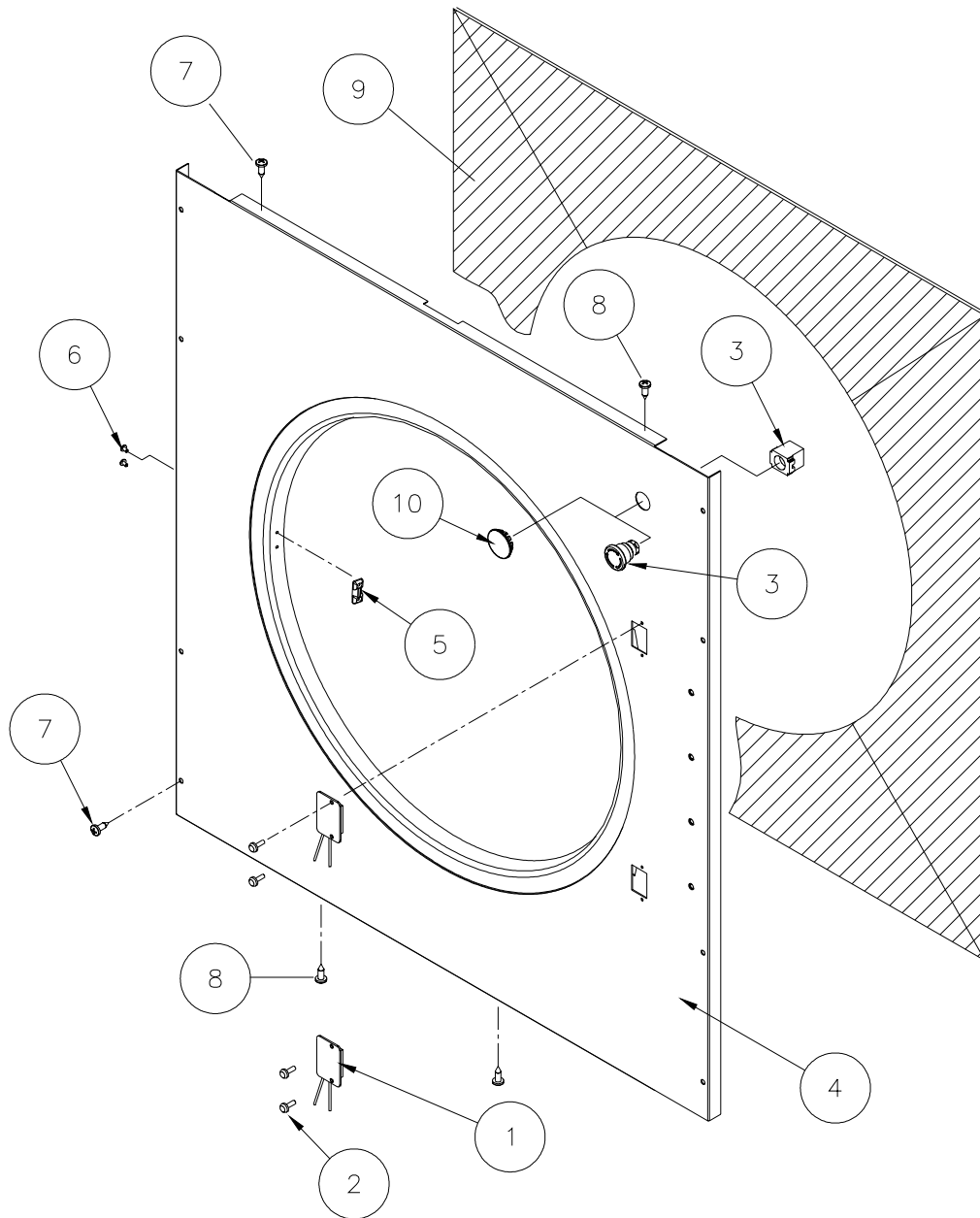
Ref.

No. Part No.

Description

	TU15110	Complete door assy
1	CA-13218	Catch pin
2	TU15536	Magnet - read switch
3	MD-00360-0	Gasket - door rim gasket
4	SB-00852-0	Washer 1/4" external starlucK
5	SB-00921-0	Screw 1/4"-20 round head
6	TU15073	Door hinge spacer
7	TU15076	Door rim w/a
8	TU15107	Door glass
9	TU15108	Door glass gasket
10	TU4840	#10-32 Crown nut

FRONT PANEL ASSEMBLY - OPL



Ref.

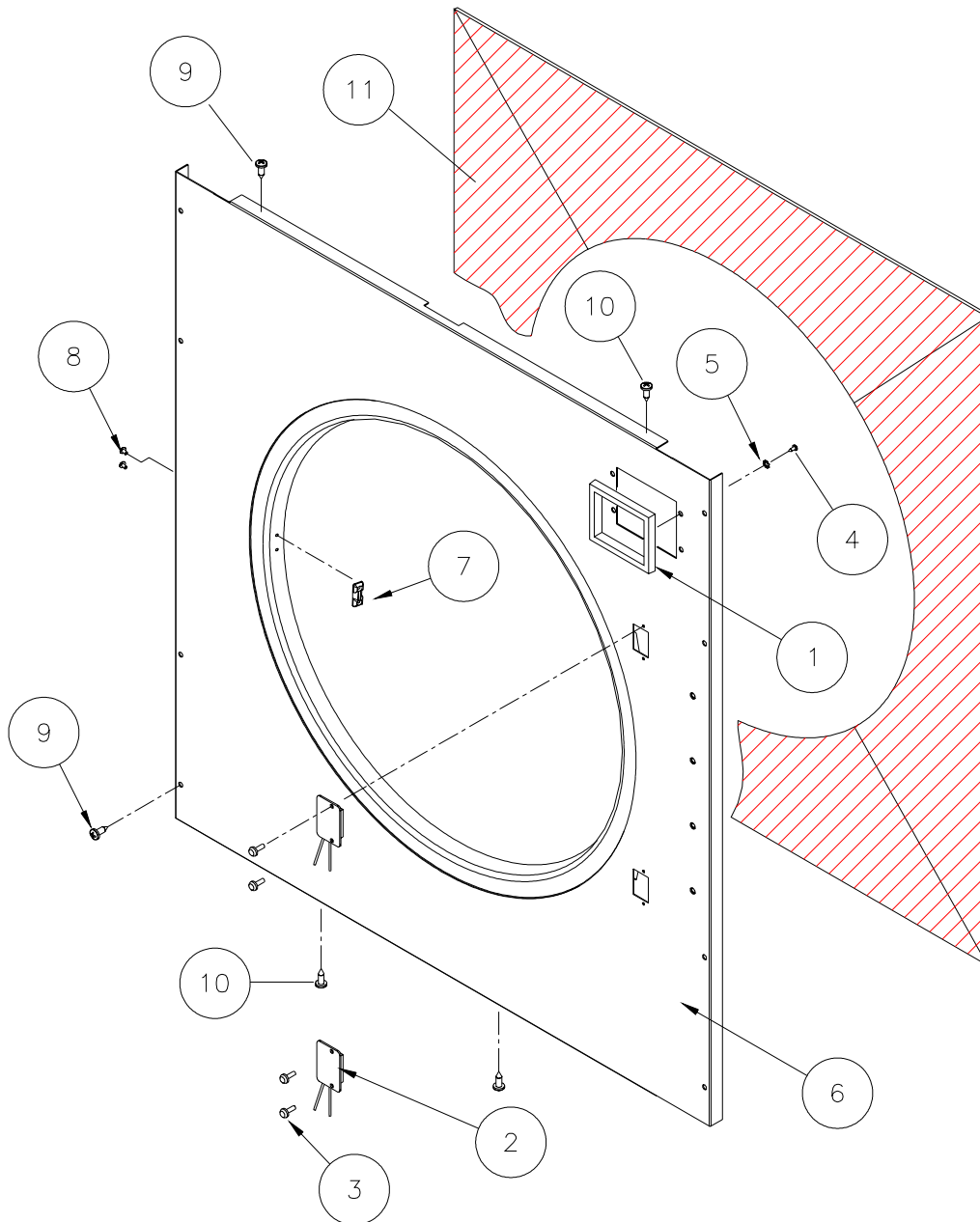
No.	Part No.	Description
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TU14546WHT - Front panel assembly complete (E-stop button)

TU15726WHT - Front panel assembly complete (with out E-stop button)

1	ESA-00862-0	Reed switch
2	SB-00975-0	#6-32 Screw
3	TU14435	Emergency stop
4	TU14544WHT	Front panel W/A - OPL
5	TU2876	Door catch
6	TU3213	Pop rivet
7	SB-00915-0	Screw, #10-16 selfdrilling
8	SB-00836-0	#10 Pancake screw
9	TU14992	Insulation
10	TU15724	Button plug

FRONT PANEL ASSEMBLY - COIN



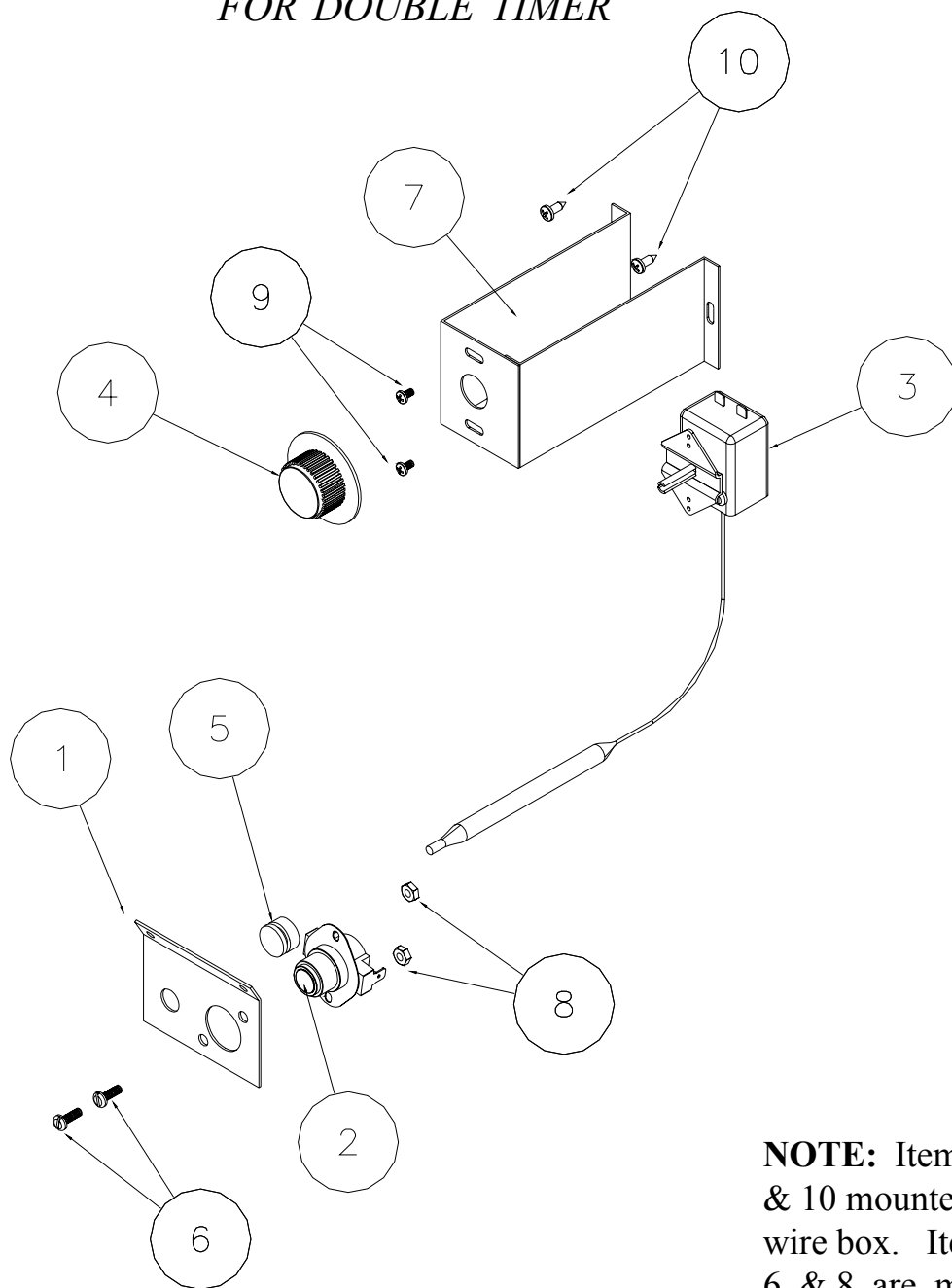
Ref.

No. Part No. Description

CSA-01572WH - Front panel assembly complete

1	CA-00699-0	Bezel - Coin box
2	ESA-00862-0	Reed switch
3	SB-00975-0	#6-32 Screw
4	SB-00924-0	4-40 x 3/8 Screw
5	SB-00938-0	#4 Ext. tooth lockwasher
6	CSA-01564WH	Front panel W/A - Coin
7	TU2876	Door catch
8	TU3213	Pop rivet
9	SB-00915-0	#10-16 Self drilling screw
10	SB-00836-0	#10 Pancake screw
11	TU14992	Insulation

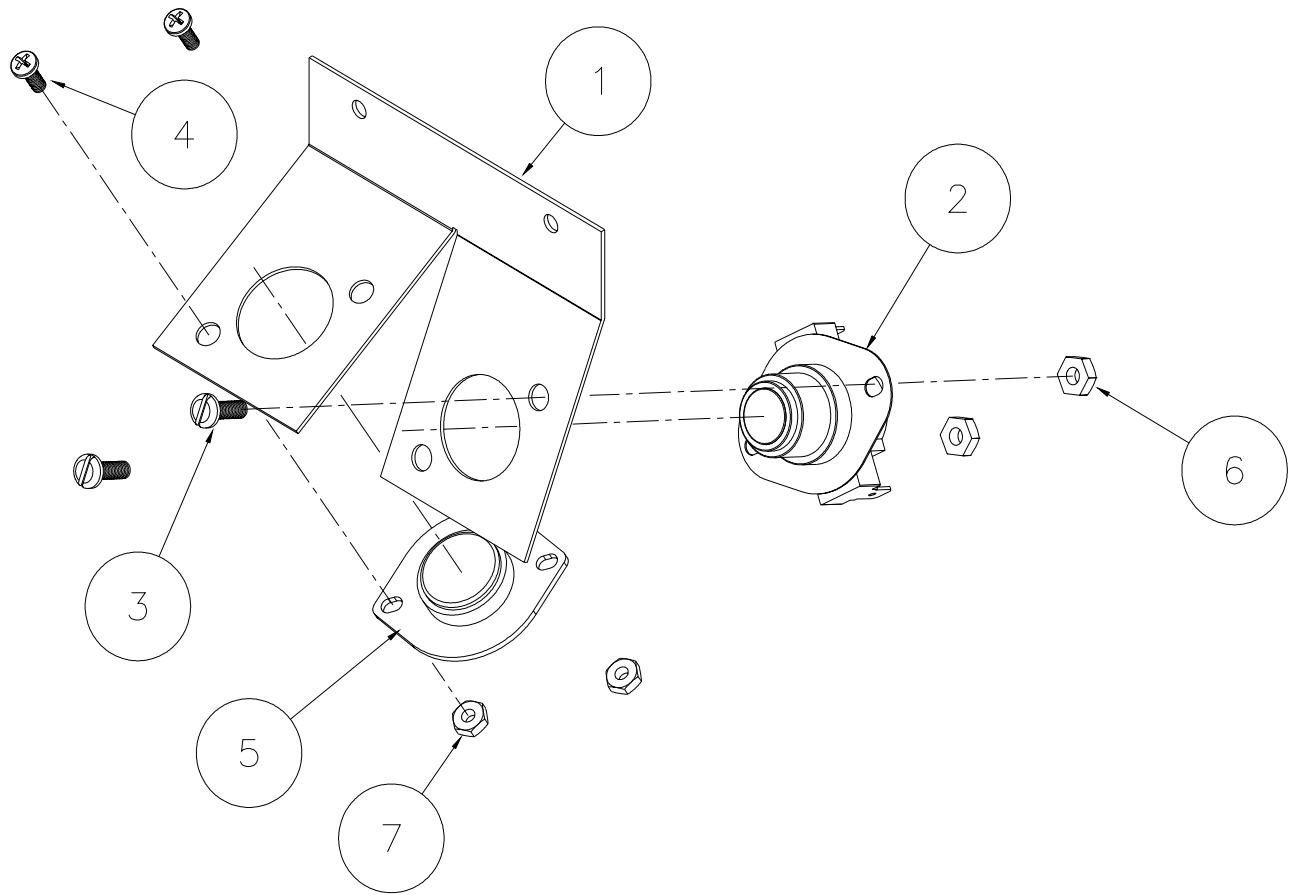
THERMOSTAT ASSEMBLY FOR DOUBLE TIMER



NOTE: Items 3, 4, 7, 9, & 10 mounted in front wire box. Items 1, 2, 5, 6, & 8 are mounted under the basket

Ref. No.	Part No.	Description
1	CA-13214-0	Plate
2	EA-00411-0	Switch - 220 Degree
3	EA-00606-0	Thermostat
4	EA-00607-0	Thermostat knob
5	EA-00608 - 0	Grommet / rubber
6	SB-00828-0	Screw 8-32 X 1/2"
7	TU15010	Thermostat bracket
8	TU3266	Nut-brass 8-32
9	TU3624	Screw 6 - 32 X 1/4"
10	TU7733	Screw - self drilling 8 - 18 X 1/2"

THERMOSTAT ASSEMBLY FOR DMP COIN & OPL



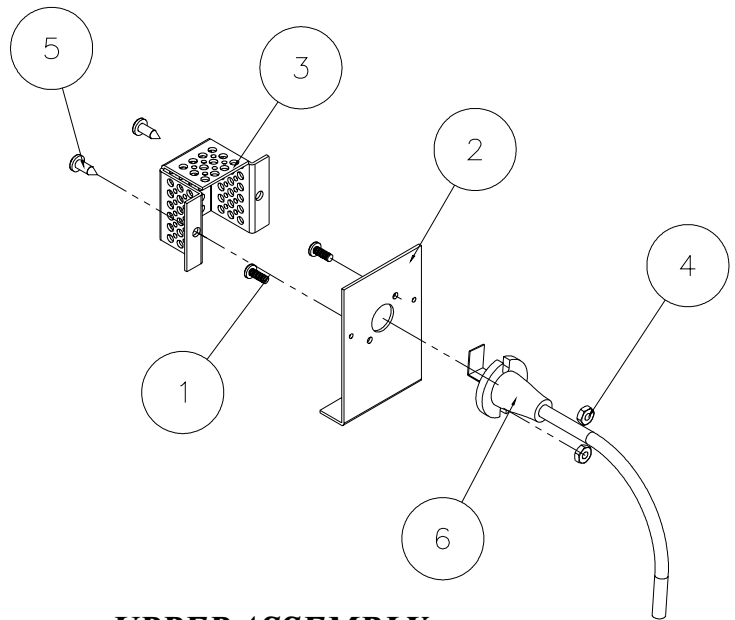
Ref. No.	Part No.	Description
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ESA-00961-0 - Complete Assmebly

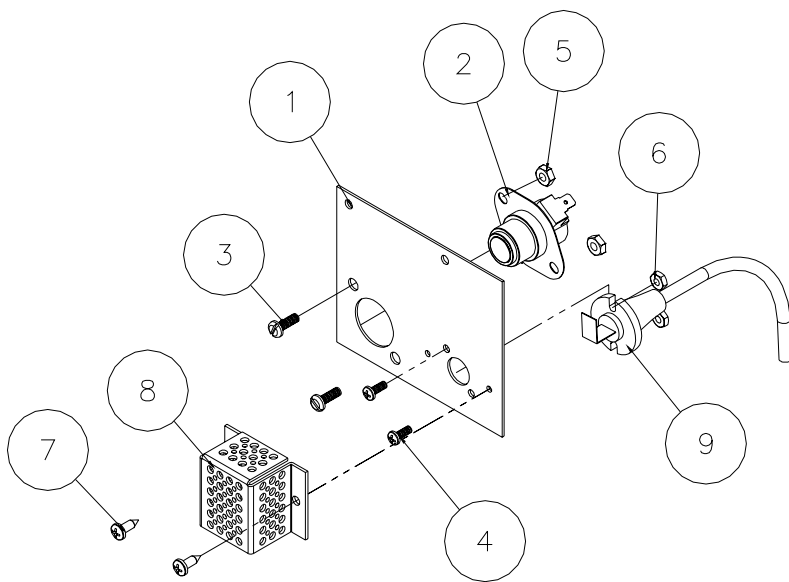
1	CA-13172	Mtg. bracket
2	EA-00411	Switch - 220 Degree
3	SB-00828	#8-32x1/2 Screw
4	SB-00952	#6-32x3/8 Screw
5	TU11991	Thermistor
6	TU3266	#8-32 Hex nut
7	TU3400	#6-32 Hex nut

PROHC SENSOR ASSEMBLY - UPPER and LOWER

Ref. No.	Part No.	Description
	TU14724	PROHC Sensor assembly (upper)
1	SB-00952-0	Screw, #6-32x 3/8" long
2	TU14693	Mounting plate upper probe
3	TU14694	Cover plate, probe
4	TU3400	Nut, #6-32
5	TU7733	Screw, self drill #8-18x 1/2" long
6	254/00060/00	Humidity sensor



UPPERASSEMBLY

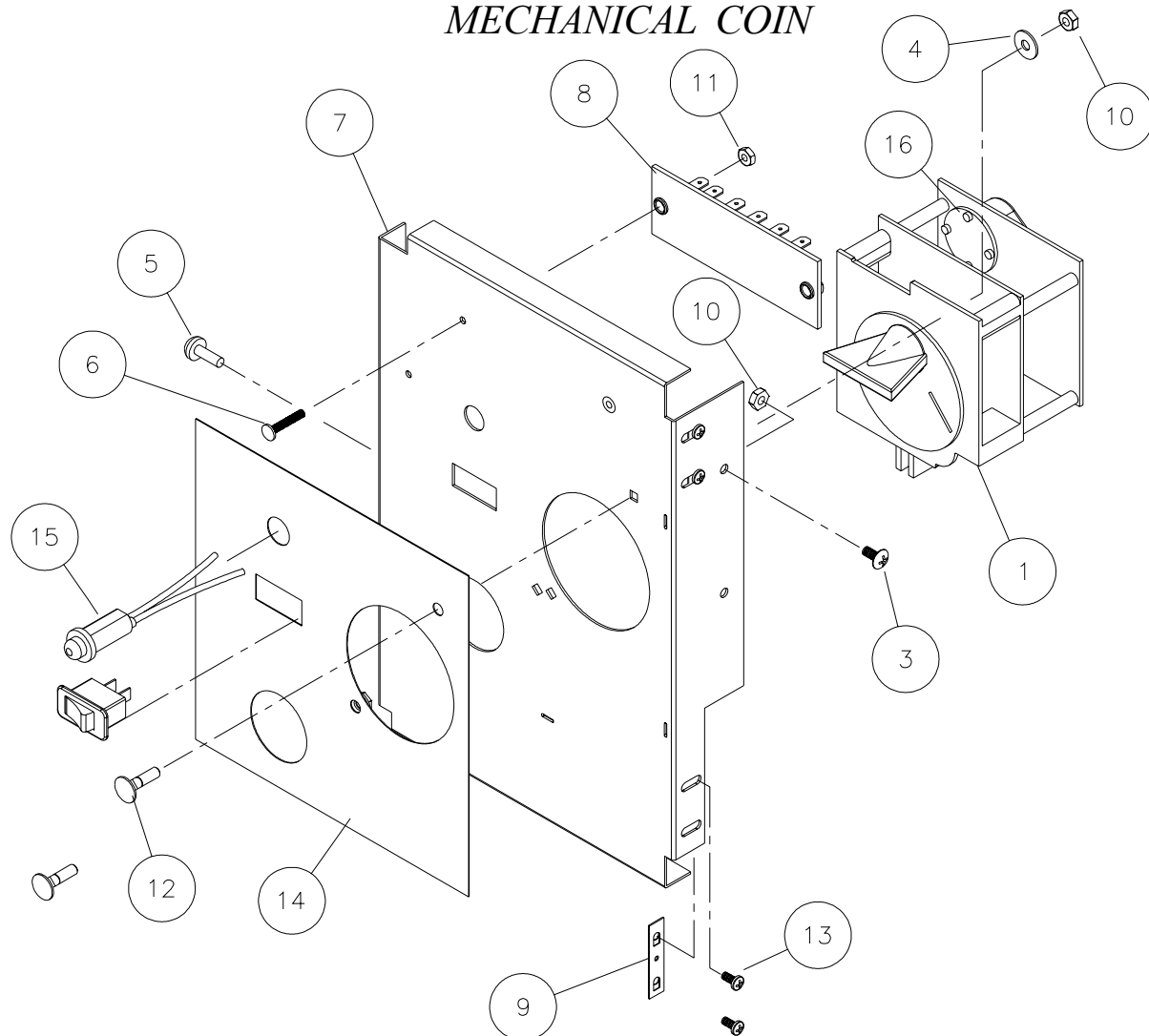


LOWERASSEMBLY

Ref. No.	Part No.	Description
	TU14723	PROHC Sensor assembly (lower)
1	CA-13067-0	Bracket (sensor)
2	EA-00411-0	Switch - 220 degrees
3	SB-00828-0	Screw, machine #8-32x 1/2" long
4	SB-00952-0	Screw, #6-32x 3/8" long
5	TU3266	Nut, hex brass #8-32
6	TU3400	Nut, hex brass #6-32
7	TU7733	Screw, self drill #8-18x 1/2" long
8	TU14694	Cover, plate
9	254/00060/00	Humidity sensor

CONTROL PANEL ASSEMBLY

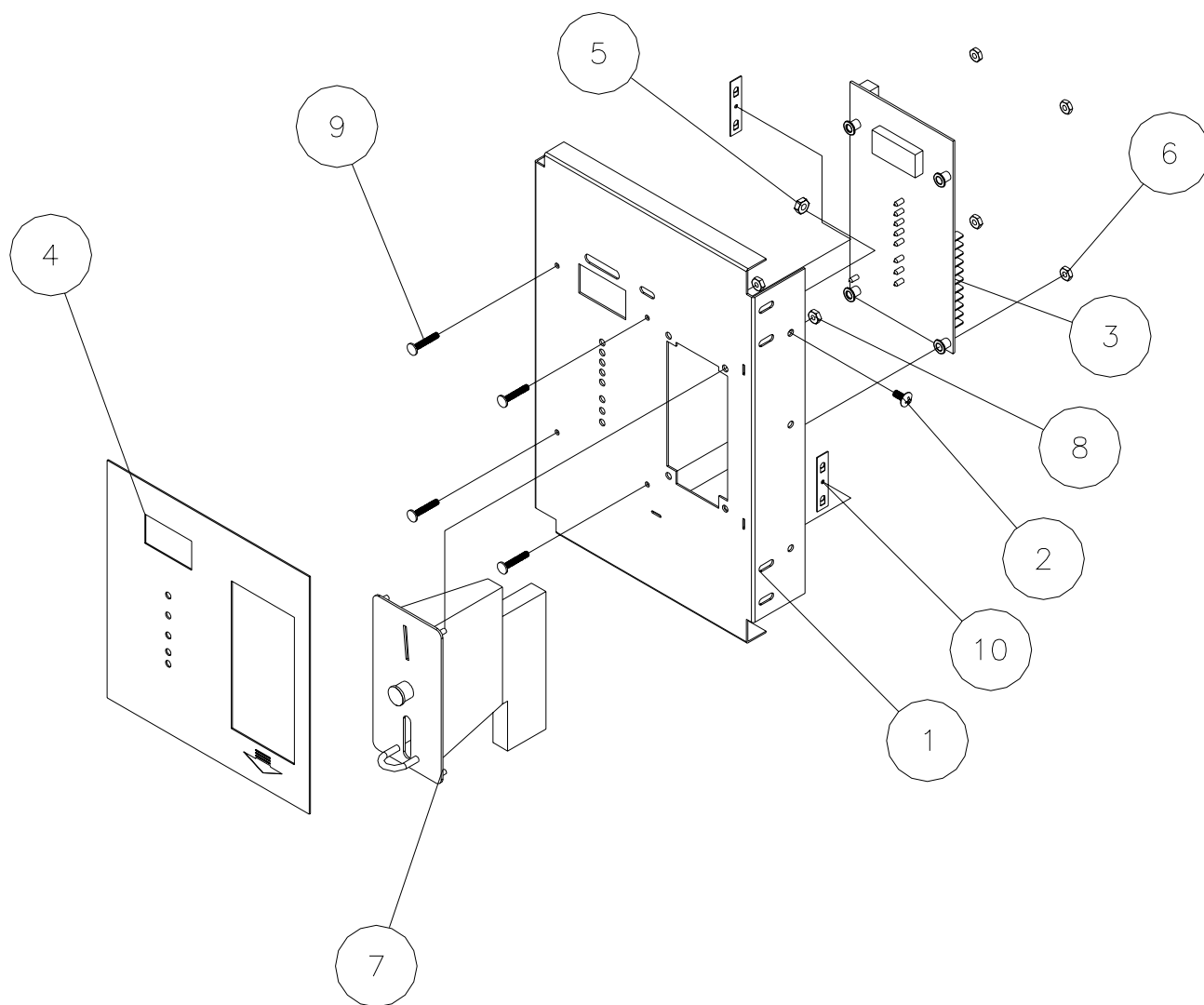
MECHANICAL COIN



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
	TU15251 - Complete Assembly		7	SB-00865-0	Screw, self drilling
1	TU15250	Control panel	8	SB-00868-0	Insulating bushing
2	CM7366	Coin meter 24V	9	TUT316	LED light 24V W 1/4 Q.C.
3	EA-00210-0	Terminal block	10	TUD0355	Overlay
4	EA-00619-0	Start switch	11	TU3266	#8-32 Hex nut
5	M262	#8-32 Screw	12	TU4958	#8-32 Carriage bolt
6	P104	1/4" Washer	13	SEE BELOW	

CISSELL PART NO.	VENDOR PART NO.	NO. OF PINS	TIMER MOTORS	
			30 MIN	60 MIN
TU3009	59-439-2	2	15	30
TU3010	59-439-3	3	10	20
TU3011	59-439-4	4	7-1/2	15
TU3012	59-439-5	5	6	12
TU3013	59-439-6	6	5	10
TU3014	59-439-8	8	3-3/4	7-1/2
TU3015	59-439-9	9	3-1/3	6-2/3
TU3016	59-439-10	10	3	6
TU3017	59-439-12	12	2-1/2	5

DMP COIN CONTROL ASSEMBLY

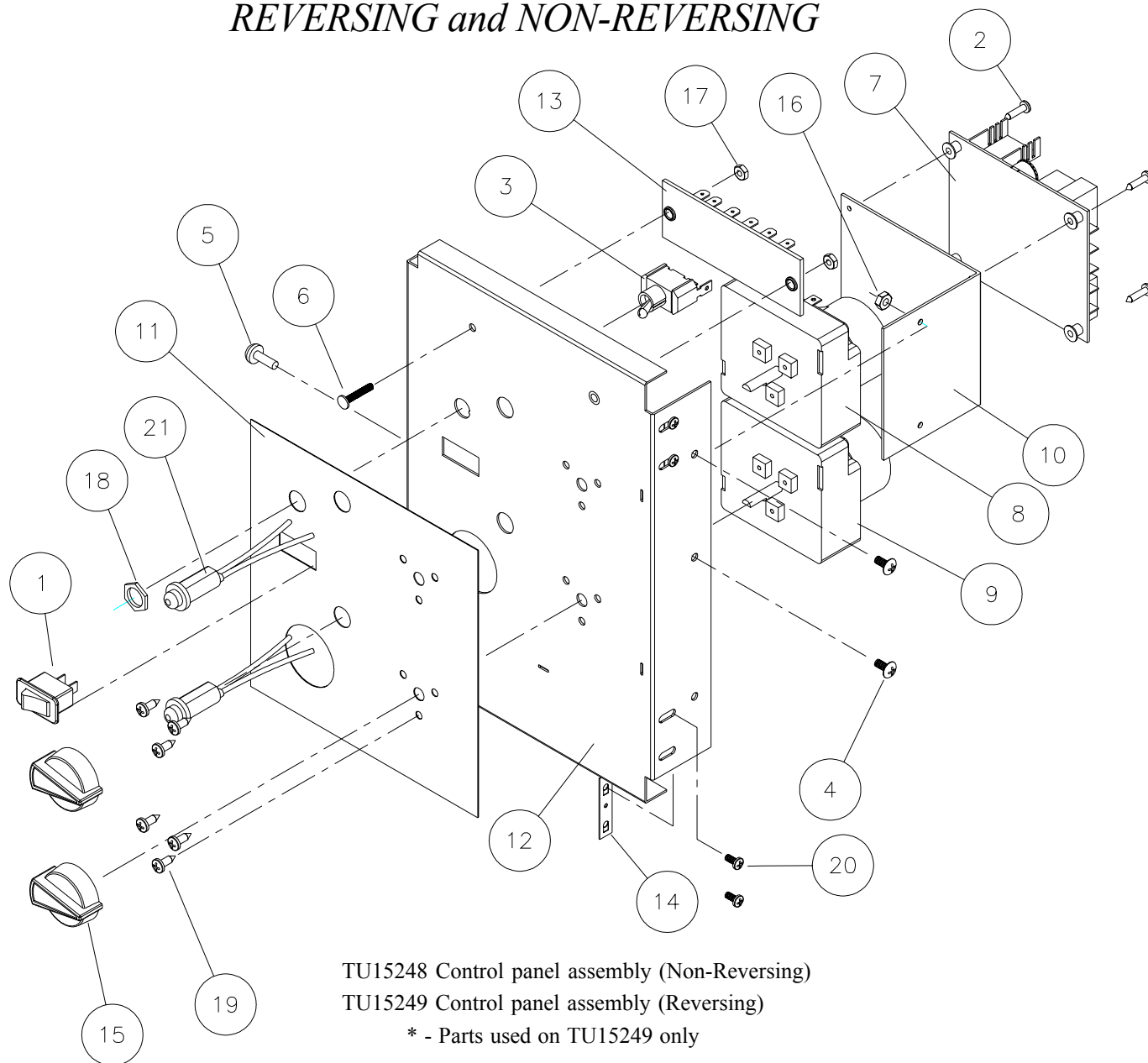


TU15256 - Complete Assembly

1	TU15255	Control panel w/a
2	M262	Screw, mach truss HD #8-32X3/8"
3	TU14404	Controller OPL/COIN board new
4	TU14406	Overlay
5	TU3266	Nut, hex-brass #8-32
6	TU3400	Nut, hex #6-32
7	TUD0336	Coin drop-handle
8	TUD0367	Nut, hex - #5-40 machine
9	TU12253	Stud, self clinch
10	TU1771	Nut, speed twin type

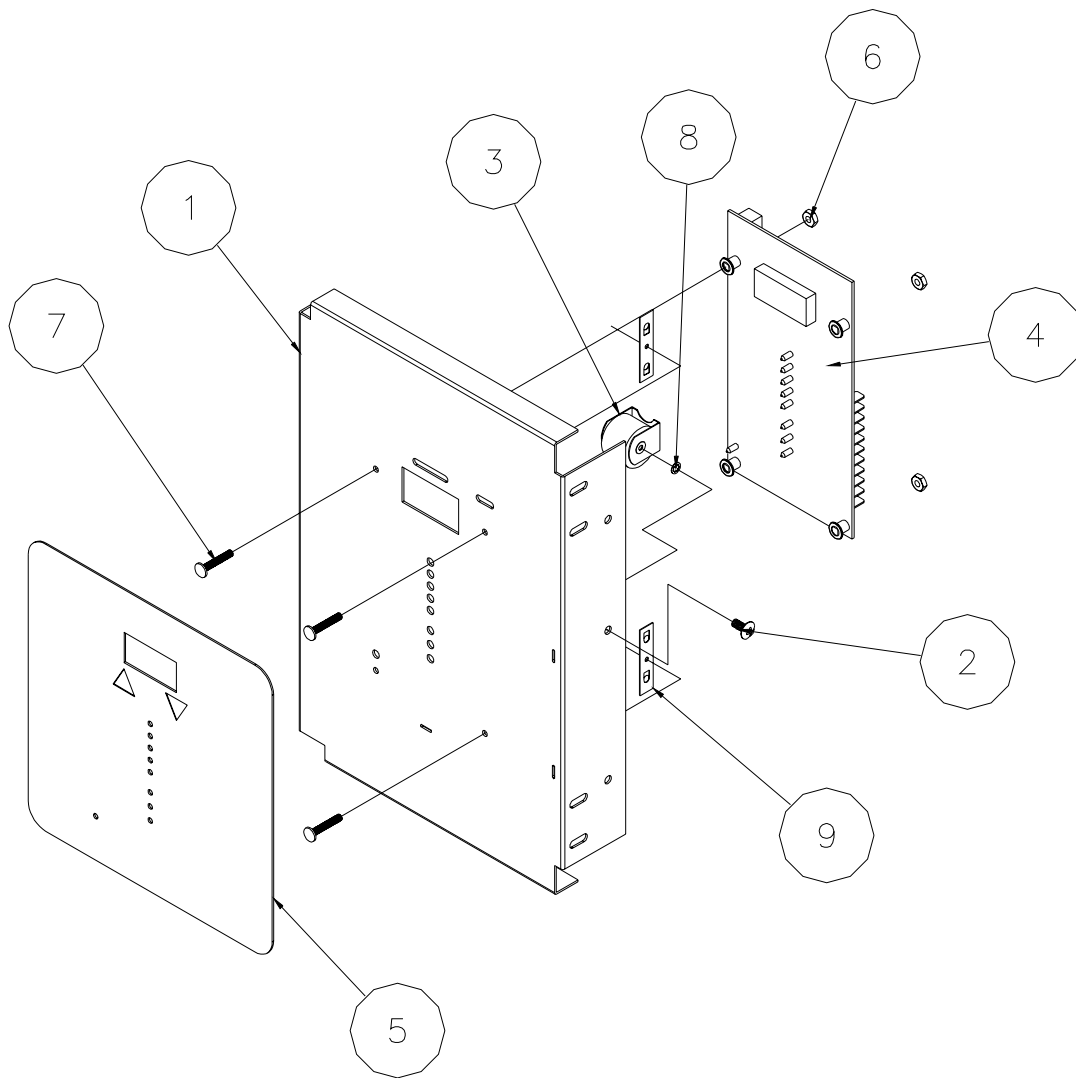
CONTROL PANEL ASSEMBLY (DUAL TIMER)

REVERSING and NON-REVERSING



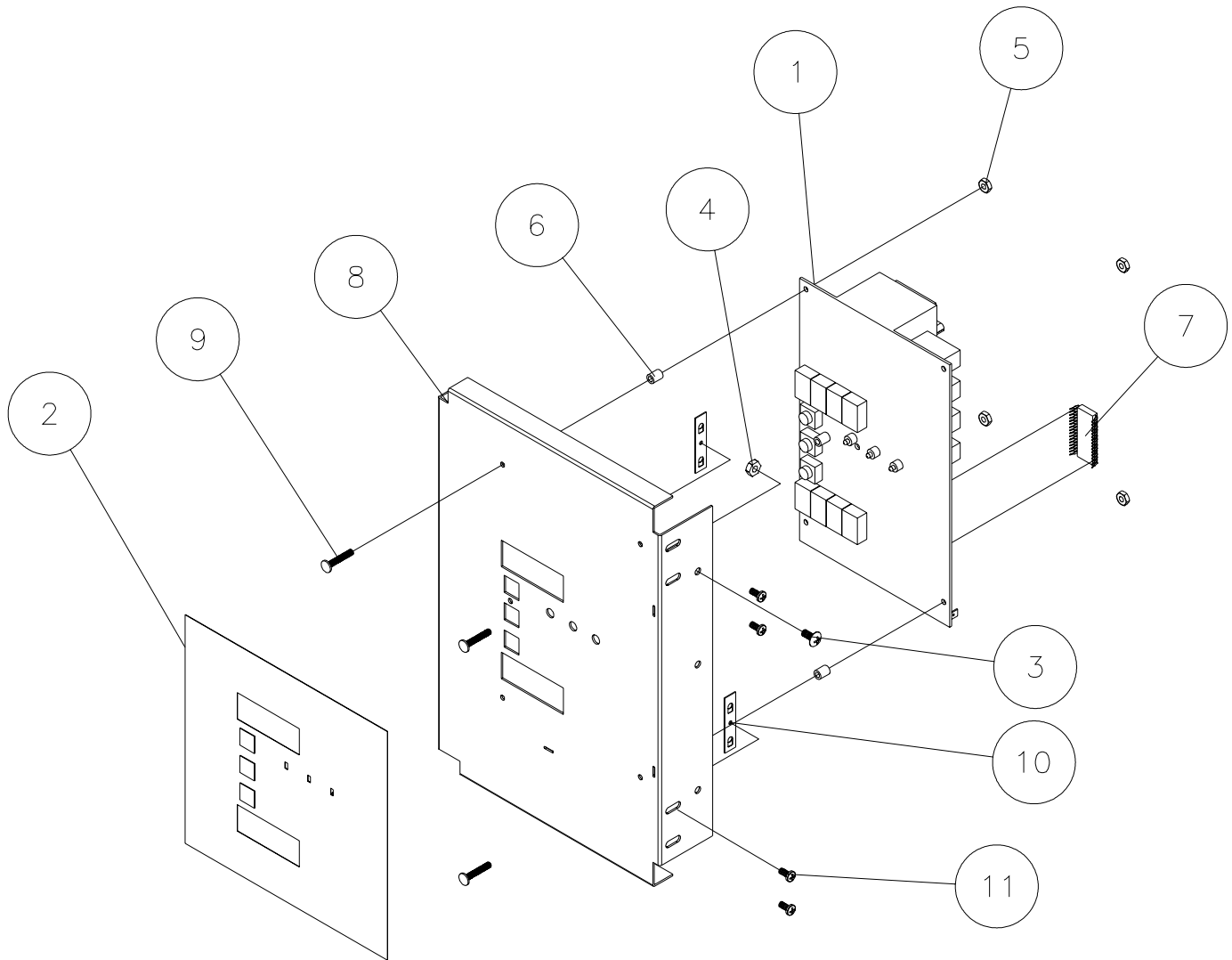
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	EA-00619-0	Switch - start	10	TU14931*	Bracket, mounting rev. board
2	FG147*	Toggle switch spst 2 position	11	TU14936	Overlay, non-reversing
3	F540*	Screw, sheet metal #6x 5/8" long		TU14937*	Overlay, reversing
4	M262	Screw, machine truss HD. #8-32	12	TU15247	Control panel
5	TUT316	Light, led 24V	13	TU15265	Terminal board
6	TU12253	#6-32 Screw	14	TU2555	Knob
7	TU12874*	Timer, solid state	15	TU3266	Nut, hex. brass #8-32
8	TU12932	Timer 0-60 sec.	16	TU3400	#6-32 Hex nut
9	TU12933	Timer 0-15 sec.	17	TU3805	Nut
			18	TU7733	Screw, self drill #8-18

DMP OPL CONTROL ASSEMBLY



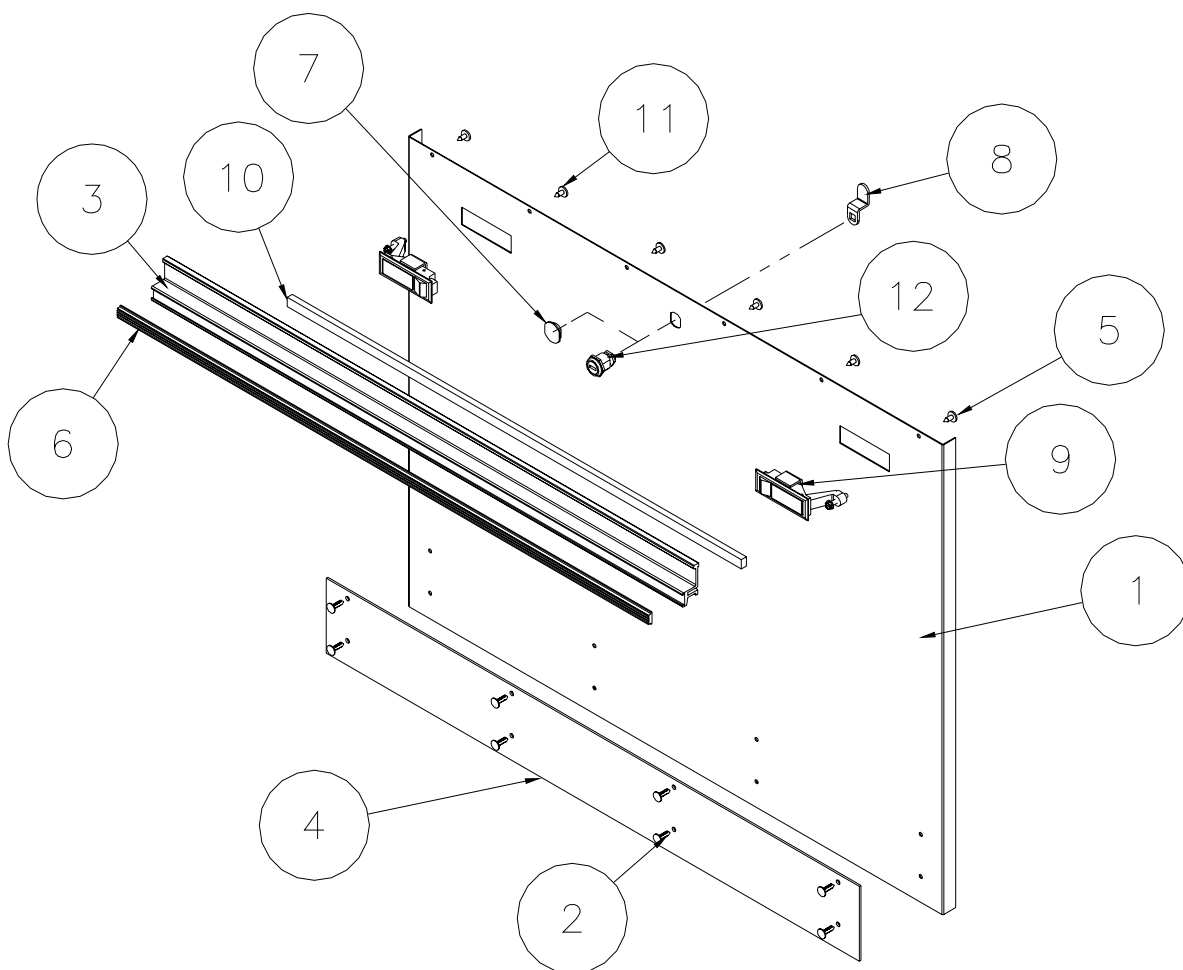
Ref. No.	Part No.	Description
TU15254 - Reversing Control Panel Complete		
1	TU15252	Control panel
2	M262	#8-32 Screw
3	TU14137	Buzzer 24V (Optional)
4	TU14404	DMP Control
5	TU15184	Overlay
6	TU3400	#6-32 Nut
7	TU12253	#6-32 Stud
8	M270	#6 Lockwasher
9	TU1771	Speed nut twin type

PROHC CONTROL PANEL ASSEMBLY



Ref.	Part No.	Description
TU15298		Reversing/Non Reversing Complete Assembly
1	254/00054/00	PCboard, professional
2	254/00018/00	Lable, PRO moisture controller
3	M262	Screw, machine truss #8-32x 3/8" long
4	TU3266	Nut, hex brass #8-32
5	TU3400	Nut, hex #6-32
6	TU14701	Spacer nylon 1/4" O.D. x 5/16" long
7	TU14452	Chip, EPROM, PROHC
8	TU15257	Wiring box welded assembly
9	TU12253	Stud, self clinch
10	TU1771	Nut, speed twin type
11	TU9524	Screw, #6 x 5/16

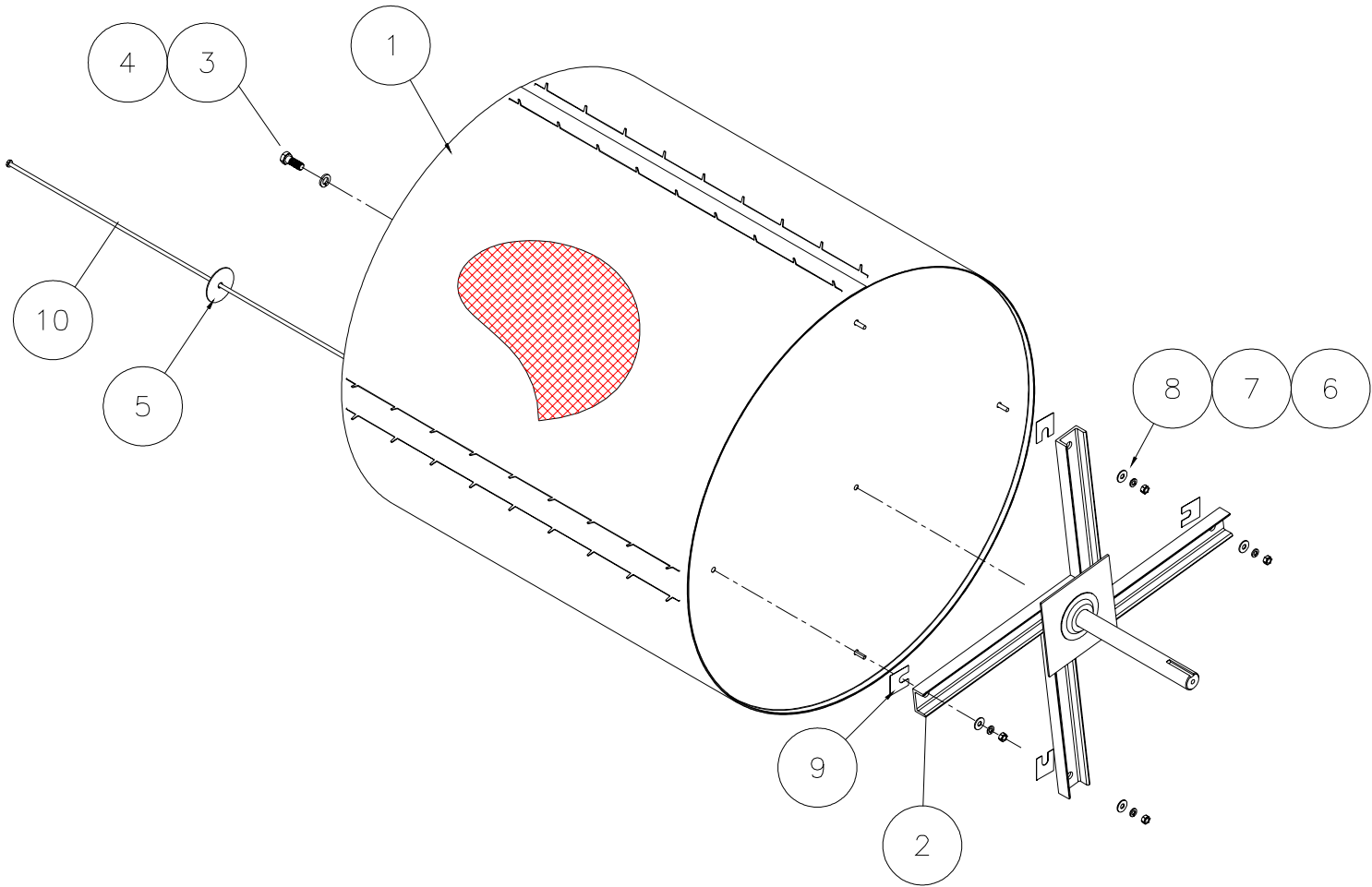
LINT DOOR ASSEMBLY



Ref. No.	Part No.	Description
	TU15665*	Lint door complete Assembly - OPL
	TU15661*	Lint door complete Assembly - Coin
1	TU15657*	Lint door W/a (OPL & Coin)
2	SB-00949-0	Fastener plastic kickplate
3	CA-00646-0	Lint door handle
4	CA-00833-0	Kickplate
5	SB-00836-0	Screw, Pancake #10
6	CA-00655-0	Trim, Rubrail - specify 33" Lg.
7	TUD0412	Plug (OPL Only)
8	LA-11359-0	Cam, Lock (Coin Only)
9	LA-00124-0	Latch
10	TU2853	Door Gasket - specify 33" Lg.
11	SB-00915-0	Screw, Roundhead #10
12	LA-00121-0	Lock (Coin Only)

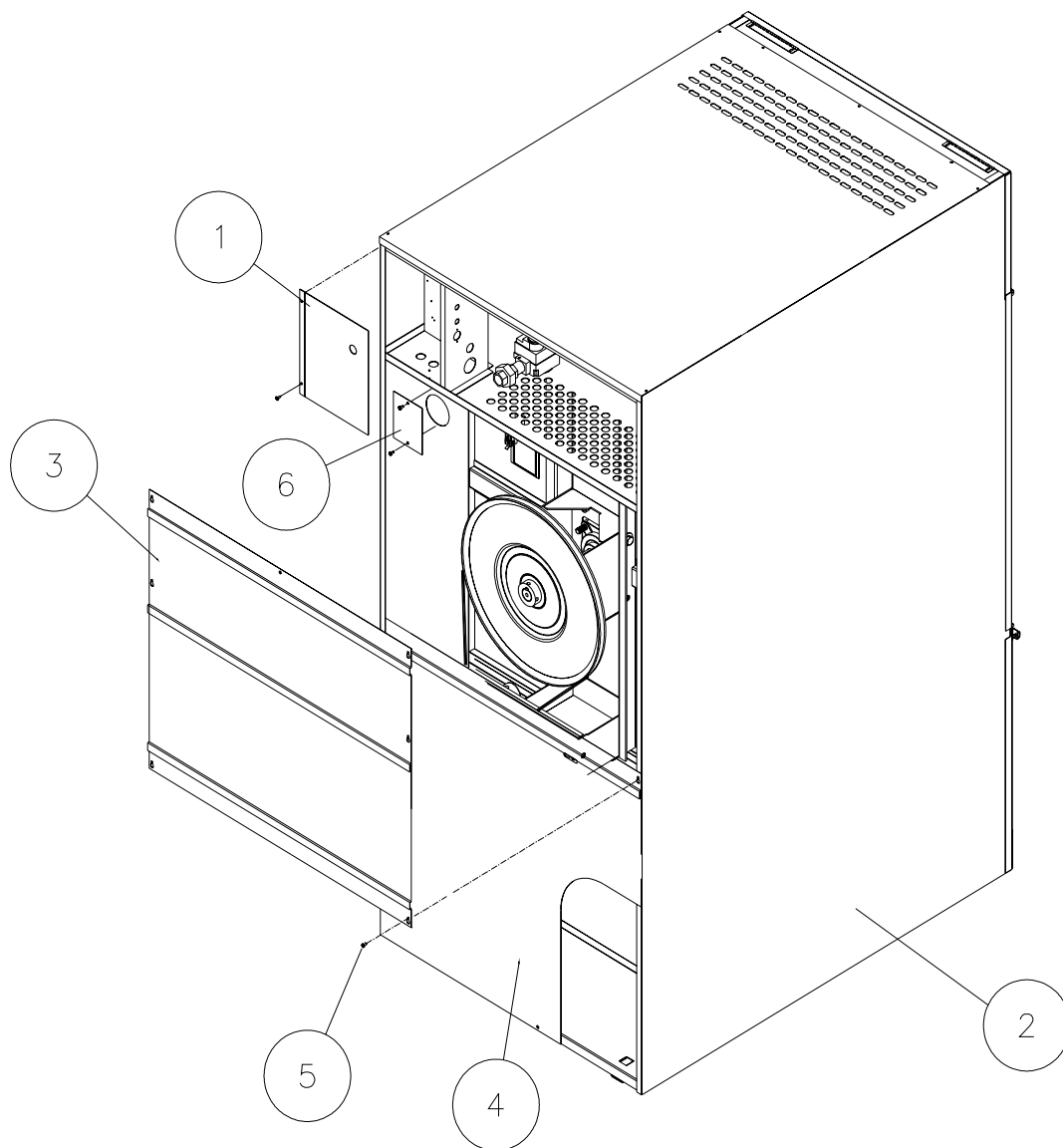
* Specify Color

BASKET & SPIDER ASSEMBLY



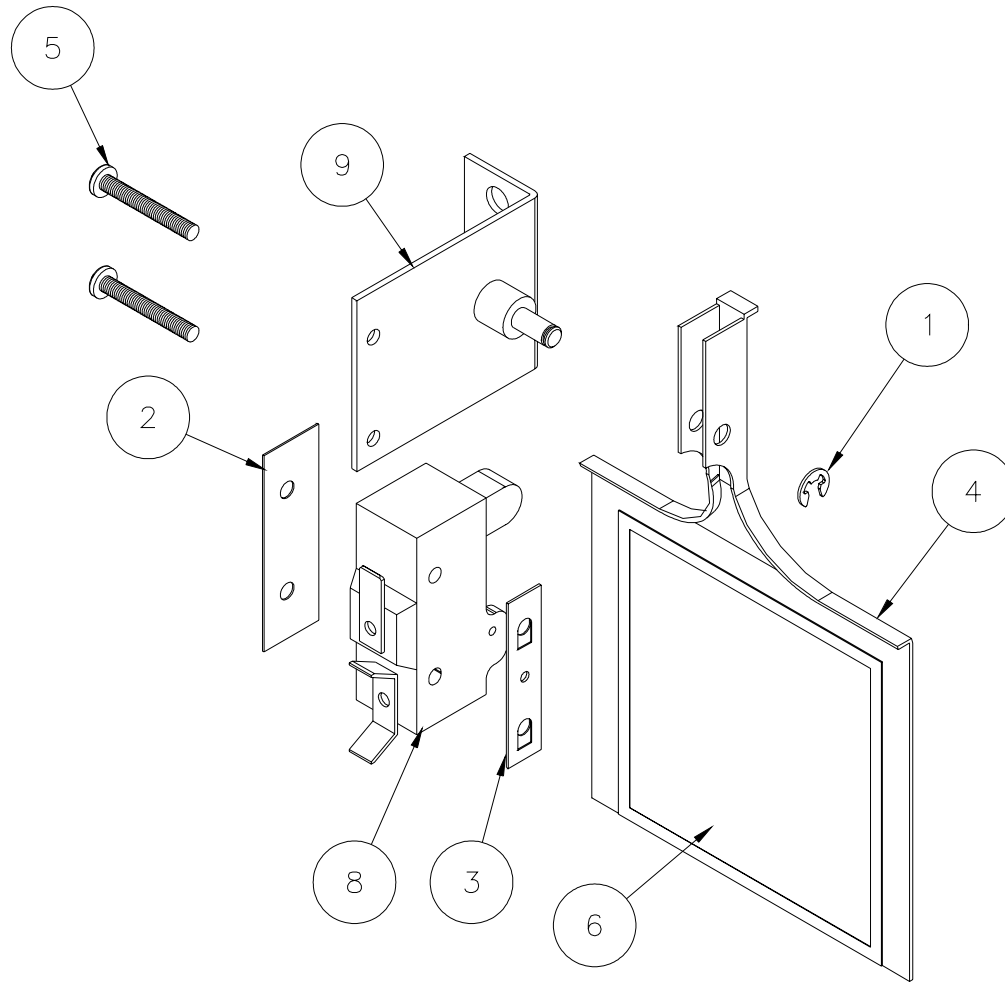
Ref.		
No.	Part No.	Description
	TUS15221	Basket & Spyder Asm. - S.S.
	TU15221	Basket & Spyder Asm. - Galv.
1	CSA-01538-0	Stainless steel basket assy.
1	CSA-01636-0	Galvanized basket assy.
2	TU15220	Spider assy.
3	SB-00965-0	Screw-button cap 5/16 - 18
4	TU2814	Lock washer 5/16"
5	SB-00843-0	Washer fender 3/8" X 1 1/2"
6	SB-00906-0	Nut 5/16" - 18 stover
7	TU2814	5/16" Lock washer
8	SB-00845-0	5/16" Flat washer
9	TU7006	Shim
10	DA-00445-0	Tie rod

REAR VIEW



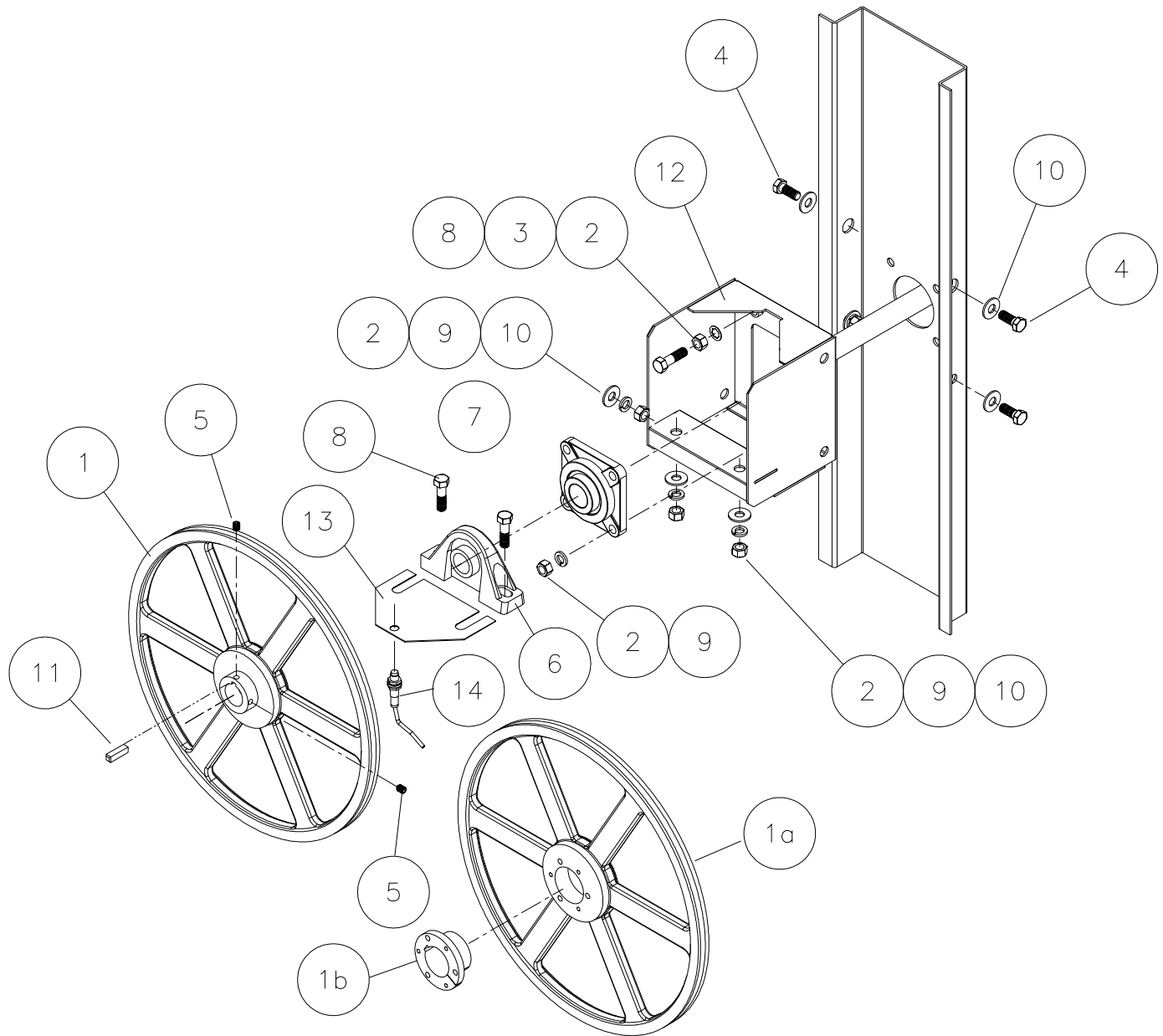
Ref. No.	Part No.	Description
1	TU14725	Cover plate
2	TU15200	Jacket (white)
3	TU15230	Upper rear cover
4	TU15231	Lower rear cover
5	TU7733	Screw self drilling 8-18 x 1/2"
6	TU15671	Air switch cover

AIR SWITCH ASSEMBLY - TU8206



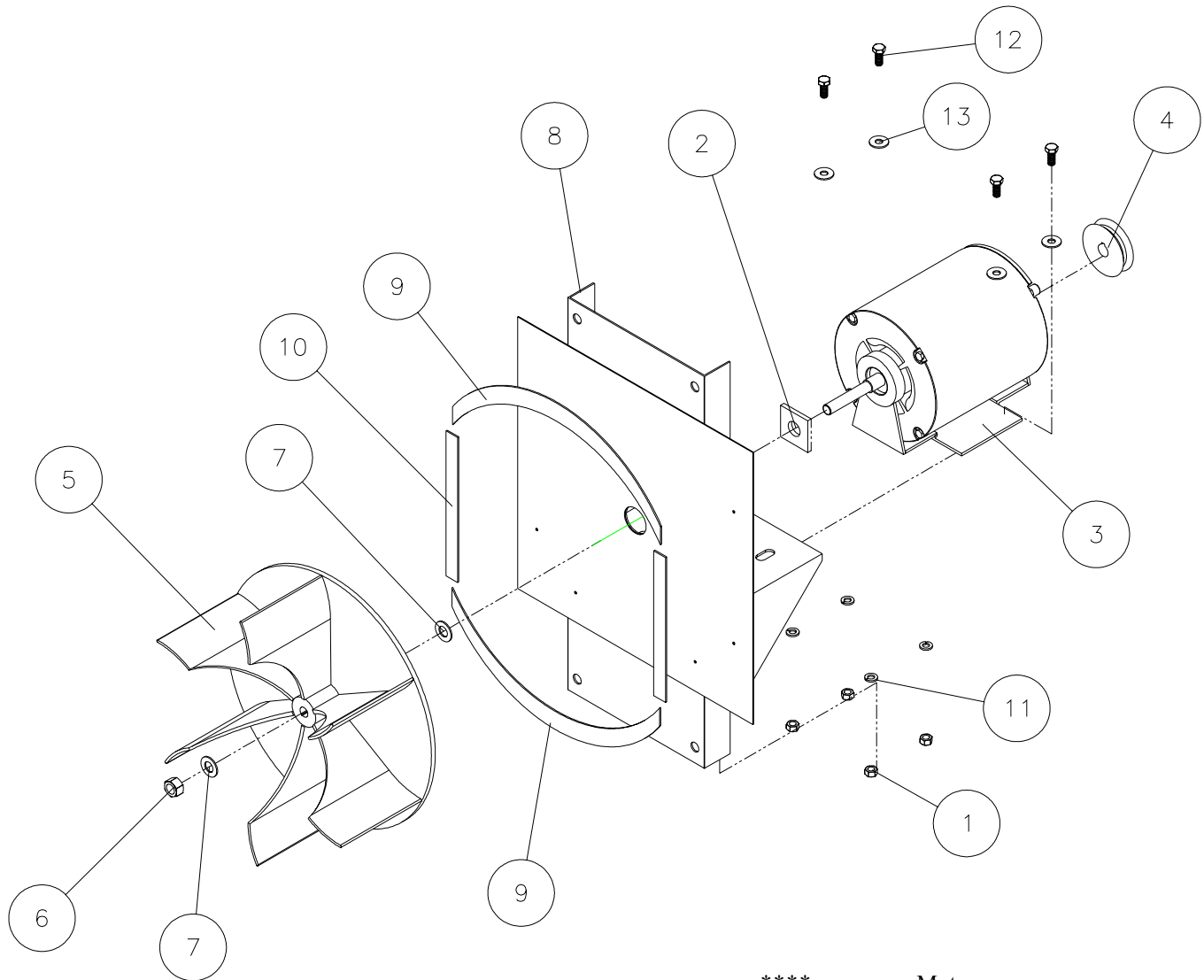
Ref No.	Part No.	Description
1	F888	E-Ring
2	TU1770	Insulator
3	TU1771	#6 Tinnerman Nut
4	TU2463	Actuator Arm
5	TU3219	#6 x 1 S.M.S.
6	TU3476	Decal
7	TU7733	#8 x 1/2 S.M.S.
8	TU8155	Micro Switch
9	TU8171	Bracket Asm.

BASKET BEARINGS, SUPPORT, AND SHEAVE



Ref No.	Part No.	Description	Ref No.	Part No.	Description
1	TU15173	18" Dia. Sheave (Non-reversing)	7	TU10850	1 1/4" Flange Bearing
1a	TU15157	18" Dia. Sheave (Reversing)	8	TU2195	1/2-13 x 1 3/4" H.H. Screw
1b	TU15153	1 1/4" Tapered Bushing	9	TU2831	1/2" Lockwasher
2	OP233	1/2-13 Jam nut	10	TU2883	1/2" Flatwasher
3	OP251	1/2" Int. tooth lockwasher	11	TU15304	1/4" Key
4	RC347	1/2-13 x 1 1/4" H.H. Screw	12	TU13147	Bearing box
5	TU10644	Set screw	13	TU15327	Rotation sensor brkt.
6	TU10676	1 1/4" Pillow block bearing	14	TU14414	Rotation sensor

MOTOR & FAN ASSEMBLY- NON-REVERSING



Motor

Voltage

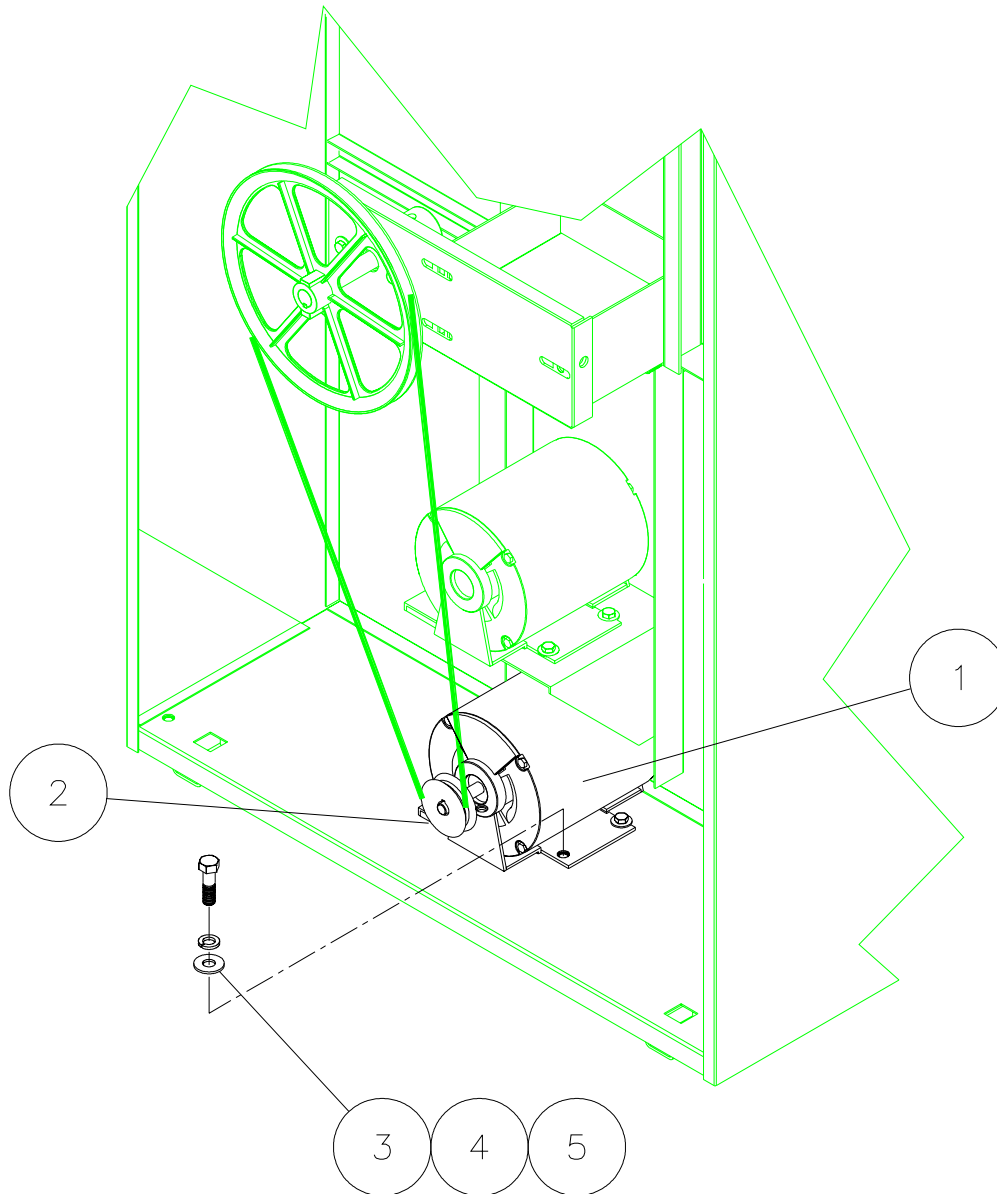
Part No.

Description

110-120/60/1	DA-00428-0	SINGLE MOTOR
	MTR314	FAN-DOUBLE MOTOR
	MTR315	BASKET-DOUBLE MOTOR
200-240/60/1	DA-00428-0	SINGLE MOTOR
	MTR314	FAN-DOUBLE MOTOR
	MTR315	BASKET-DOUBLE MOTOR
200-240/50/1	DA-00428-0	SINGLE MOTOR
	MTR314	FAN-DOUBLE MOTOR
	MTR315	BASKET-DOUBLE MOTOR
200-240/60/3	DA-00447-0	SINGLE MOTOR
	MTR313	FAN-DOUBLE MOTOR
	DA-11909-0	BASKET-DOUBLE MOTOR
440-480/60/3	DA-00447-0	SINGLE MOTOR
	MTR313	FAN-DOUBLE MOTOR
	DA-11909-0	BASKET-DOUBLE MOTOR
220-240/50/3	DA-00447-0	SINGLE MOTOR
	DA-11907-0	FAN-DOUBLE MOTOR
	DA-11909-0	BASKET-DOUBLE MOTOR
380-415/50/3	SAME AS 220-240/50/3	

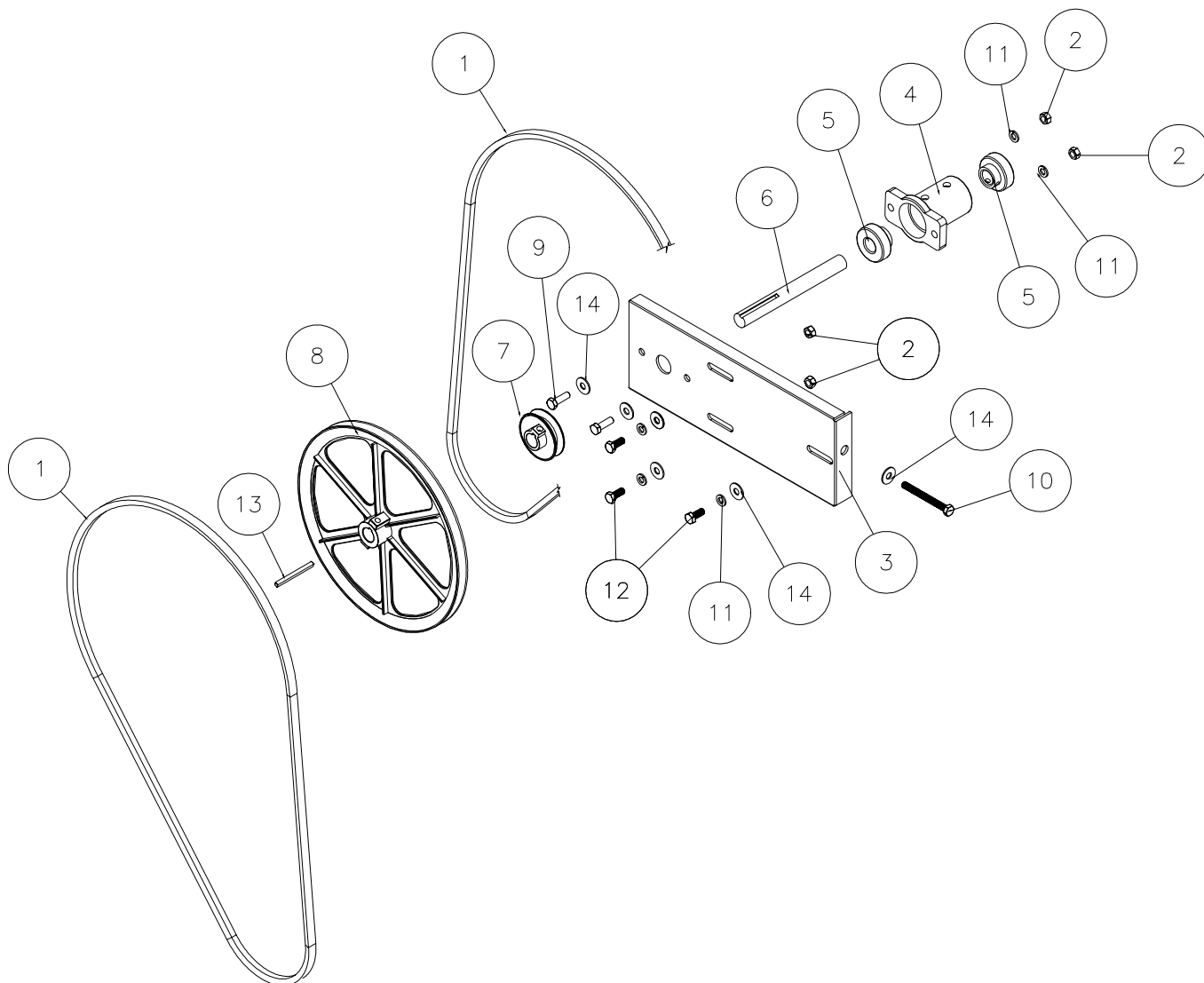
Ref. No.	Part No.	Description
1	C249	Nut, 5/16-18 (4 each)
2	DA-00460-0	Seal
3	****	Motor, see chart on page
4	DA-00516-0	Sheave, 2" dia. (60 Hz)
	TU14689	Sheave (50 Hz)
5	DSA-00772-0	Fan 11" machined (60 HZ)
	DSA-00773-0	Fan 12" machined (50 HZ)
6	SB-00813-0	Nut, 1/2-20 left hand rev. lock
7	SB-00847-0	Washer, 1" O.D. x .505 I.D. (2 each)
8	TU15227	Motor mount
9	TU2473	Gasket, curved (2 each)
10	TU2474	Gasket, cork 8" (2 each)
11	TU2814	Washer, lock 5/16" (4 each)
12	TU5439	Screw, cap HH 5/16-18 (4 each)
13	VSB130	Washer, cut 5/16" (4 each)

MOTOR ASSEMBLY- REVERSING



Ref. No.	Part No.	Description
1	DA-11909-0	1/2HP 200-415/50-60/3
2	TU11184	Sheave, 1.8" dia. (60 hz)
	TU14690	Sheave, 2.2" dia. (50 hz)
3	VSB130	Washer, cut 5/16"
4	TU2814	Washer, lock 5/16"
5	TU5439	Screw, cap HH 5/16-18

IDLER ASSEMBLY

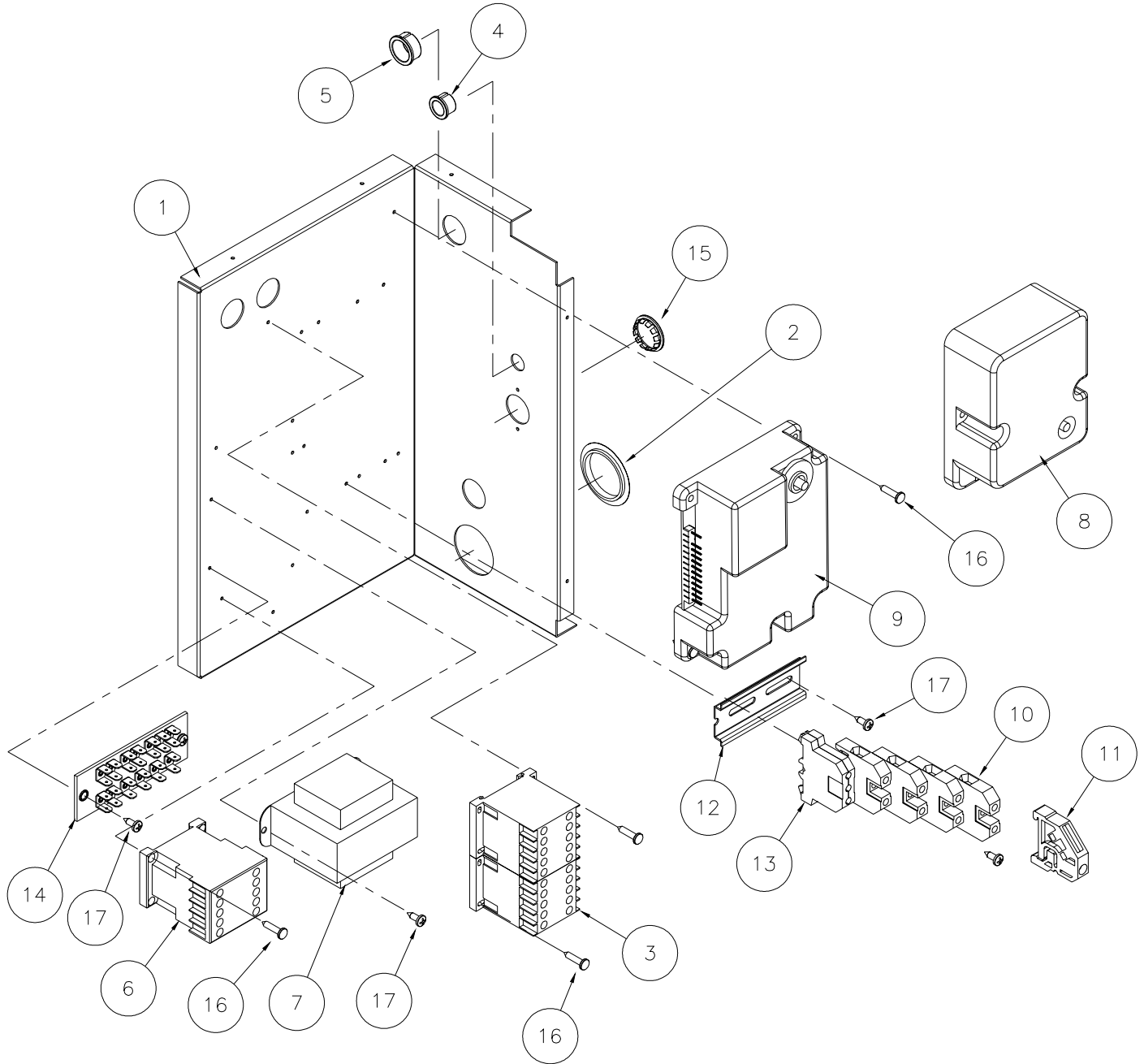


Ref. No.	Part No.	Description
Reversing		
1	DA-00523-0	Belt, upper (Basket)
1	DA-00523-0	Belt, lower (Motor)
Non-reversing		
1	DA-00523-0	Belt, upper (Basket)
1	DA-00525-0	Belt, lower (Motor)

Ref. No.	Part No.	Description
10	SB-00935-0	Screw 5/16-18x 3"
11	TU2814	Lock Washer 5/16"
12	TU5439	Screw 5/16-18x 1"
13	TUD0187	Key 3/16" square 2 1/2"
14	VSB130	Washer 5/16"

2	C249	Nut, Hex 5/16-18
3	CA-12059-0	Idler adjustment plate
4	DA-00517-0	Housing, idler bearing
5	DA-00518-0	Bearing
6	DA-11711-0	Idler shaft
7	TU14691	2.5" dia. pulley
8	TU15175	9" dia. idler pulley
9	FB124	Screw 5/16-18x 1"

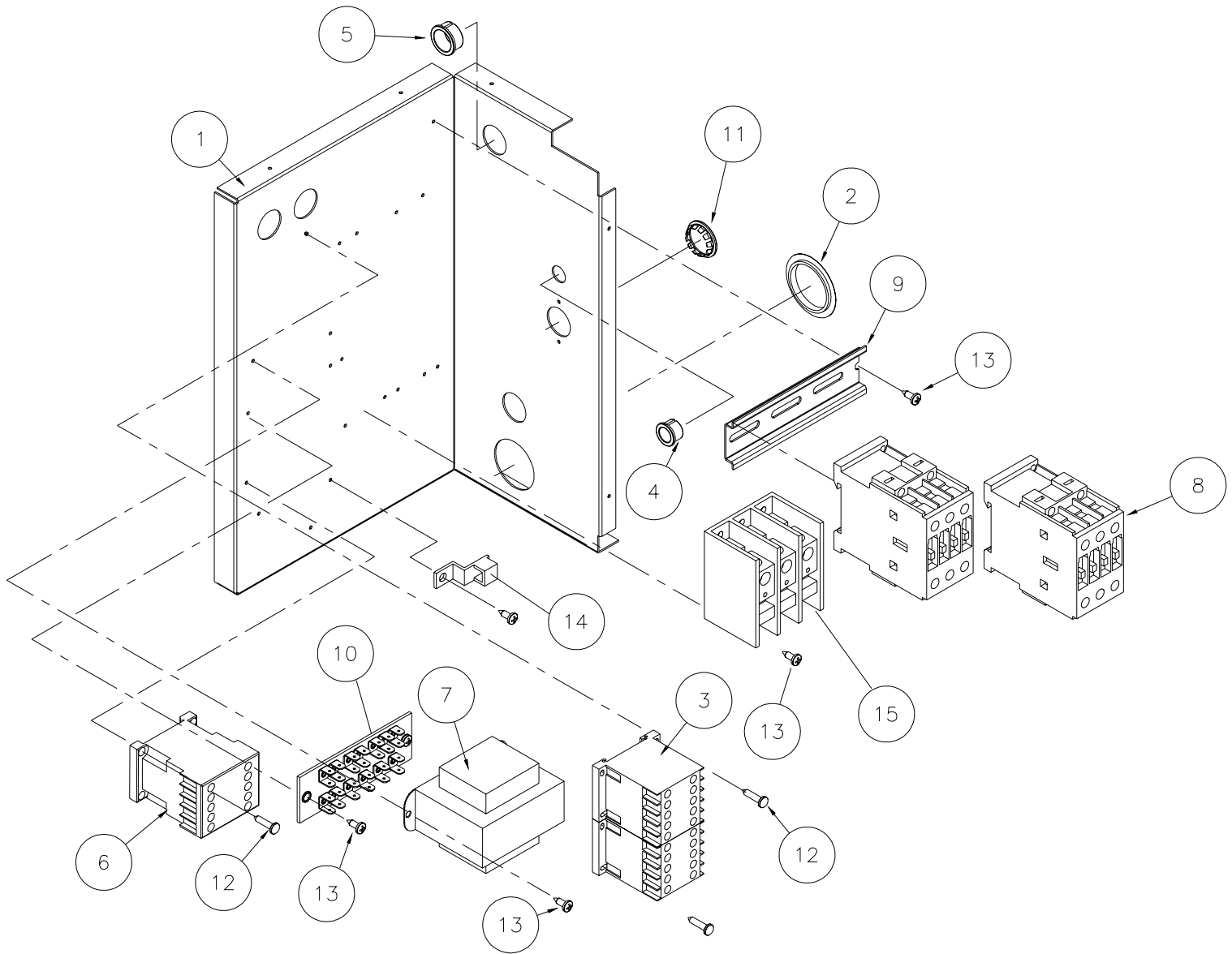
REAR CONTROL PANEL ASSEMBLY - GAS



Ref. No.	Part No.	Description
1	CA-11935-0	Rear wiring box
2	EA-00680-0	Plug knock out
3	EA-00685-0	Reverse control, 24V coil
4	SB-00865-0	Screw, phillips head
5	SB-00868-0	Bushing, insulating
6	TU13480	Transformer, 200-240V/24VA
7	TU15138	Contactor, 24VAC
8	GA-00765-0	Ignitor module 60Hz
9	GA-11007-0	Ignitor module 50Hz (C.E.)

Ref. No.	Part No.	Description
10	TU14958	T-Block
11	TU14959	T-Block end
12	TU14985	Din rail
13	TU15007	T-Block ground end
14	TU15265	Terminal Board
15	TU2490	Plug, button
16	TU2793	#8-18 Self-drilling screw
17	TU7733	#8-18 Self-drilling screw

REAR CONTROL PANEL ASSEMBLY - ELECTRIC



Ref.

No. Part No. Description

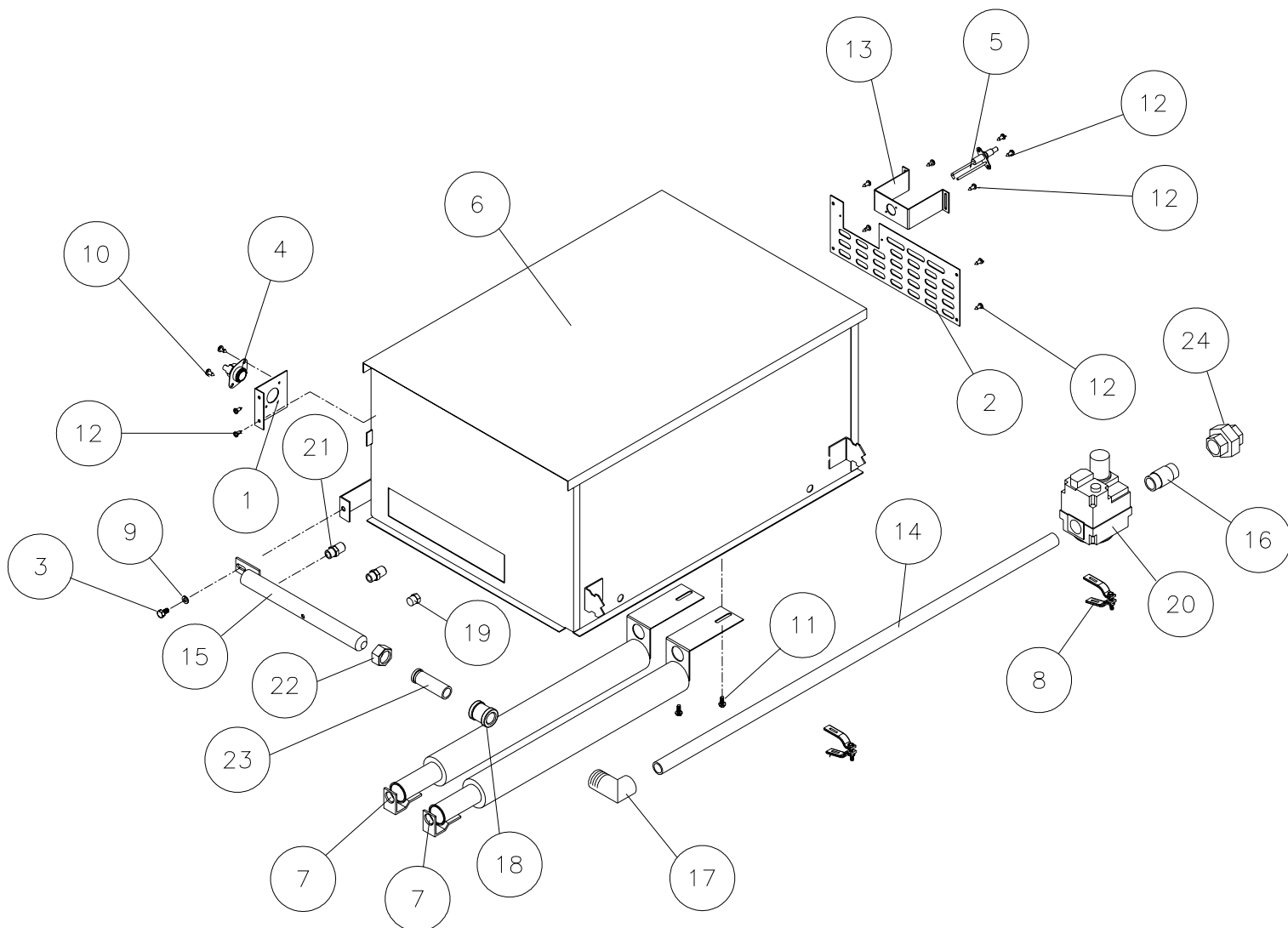
1	CA-11935-0	Rear wiring box
2	EA-00680-0	Plug knock out
3	EA-00685-0	Reverse control, 24V coil
4	SB-00867-0	Bushing, insulating
5	SB-00868-0	Bushing, insulating
6	TU13463	Contactor, 24VAC
7	TU13480	Transformer, 200-240V/24VA
8	TU13521	Contactor, 208-240V
	TU14684	Contactor, 346-600V

Ref.

No. Part No. Description

9	TU14986	Din rail
10	TU15265	Terminal Board
11	TU2490	Plug, button
12	TU2793	#8-18 Self-drilling screw
13	TU7733	#8-18 Self-drilling screw
14	TU7738	Ground lug
15	TU9143	Terminal Block

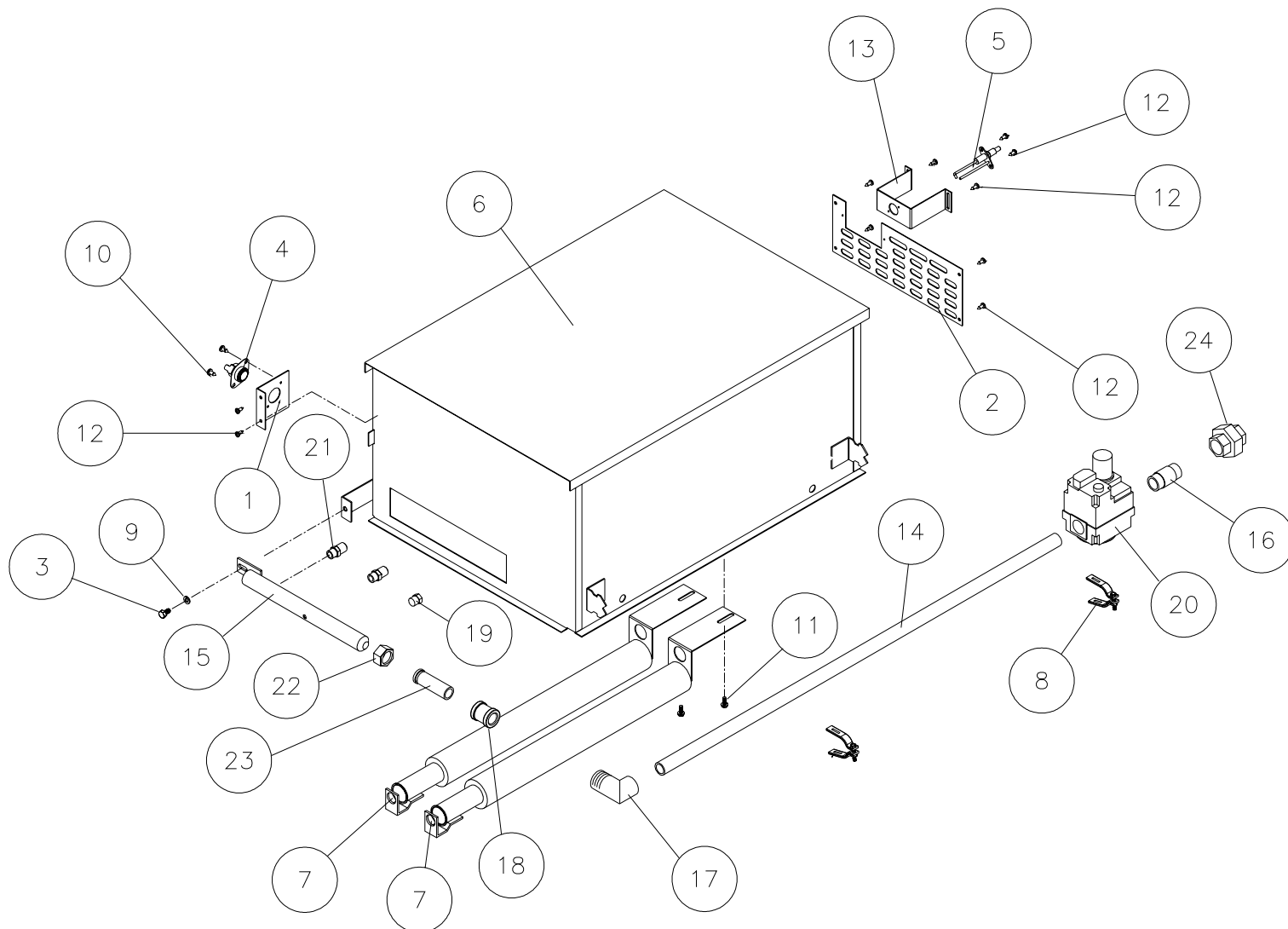
NATURAL GAS HEATING UNIT



Ref. No.	Part No.	Description
	TU15129 - Complete assembly	
1	CA-11028-0	Bracket, HI limit
2	TU15106	Burner cover plate
3	CB36	Screw, hex 1/4-20
4	EA-00245-0	Switch, 330 degree
5	GA-00764-0	Electrode / straight
6	TU15101	Burner box housing
7	TU15697	Burner w/bracket
8	TU2226	Bracket assembly
9	TU2846	Lock washer 1/4"
10	TU2878	#10-16 Sheet metal screw
11	TU6263	#10-24 Screw, hex

Ref. No.	Part No.	Description
12	TU7733	#8-12 Screw, self drilling
13	TU15693	Ignitor mtg. bracket
14	FG274	1/2" x 30#1g. Nipple
15	GA-11006-0	Manifold
16	OP290	1/2" x 2"lg. Nipple
17	OP291	1/2-90 Street elbow
18	SC505	1/2" Pipe coupling
19	TU10946	Plug, pipe
20	TU14178	Valve, 1/2" N.G.
21	TU3539	Orifice
22	TU6862	Nut, gas manifold
23	664946146	Pipe, tail
24	OP314	1/2" Union

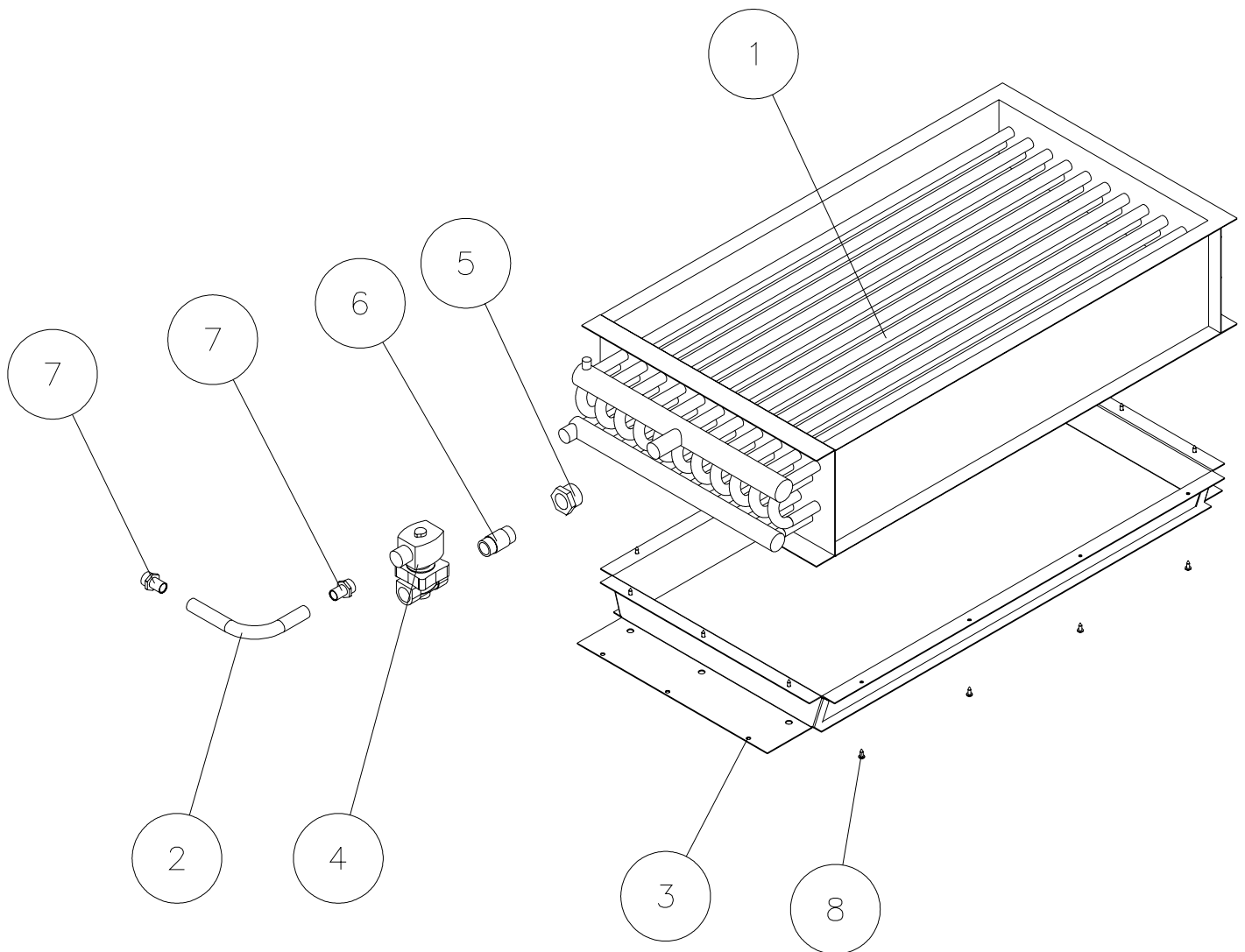
L.P. GAS HEATING UNIT



Ref. No.	Part No.	Description
	TU15222 - Complete assembly	
1	CA-11028-0	Bracket, HI limit
2	TU15106	Burner cover plate
3	CB36	Screw, hex 1/4-20
4	EA-00245-0	Switch, 330 degree
5	GA-00764-0	Electrode / straight
6	TU15101	Burner box housing
7	TU15697	Burner w/bracket
8	TU2226	Bracket assembly
9	TU2846	Lock washer 1/4"
10	TU2878	#10-16 Sheet metal screw
11	TU6263	#10-24 Screw, hex

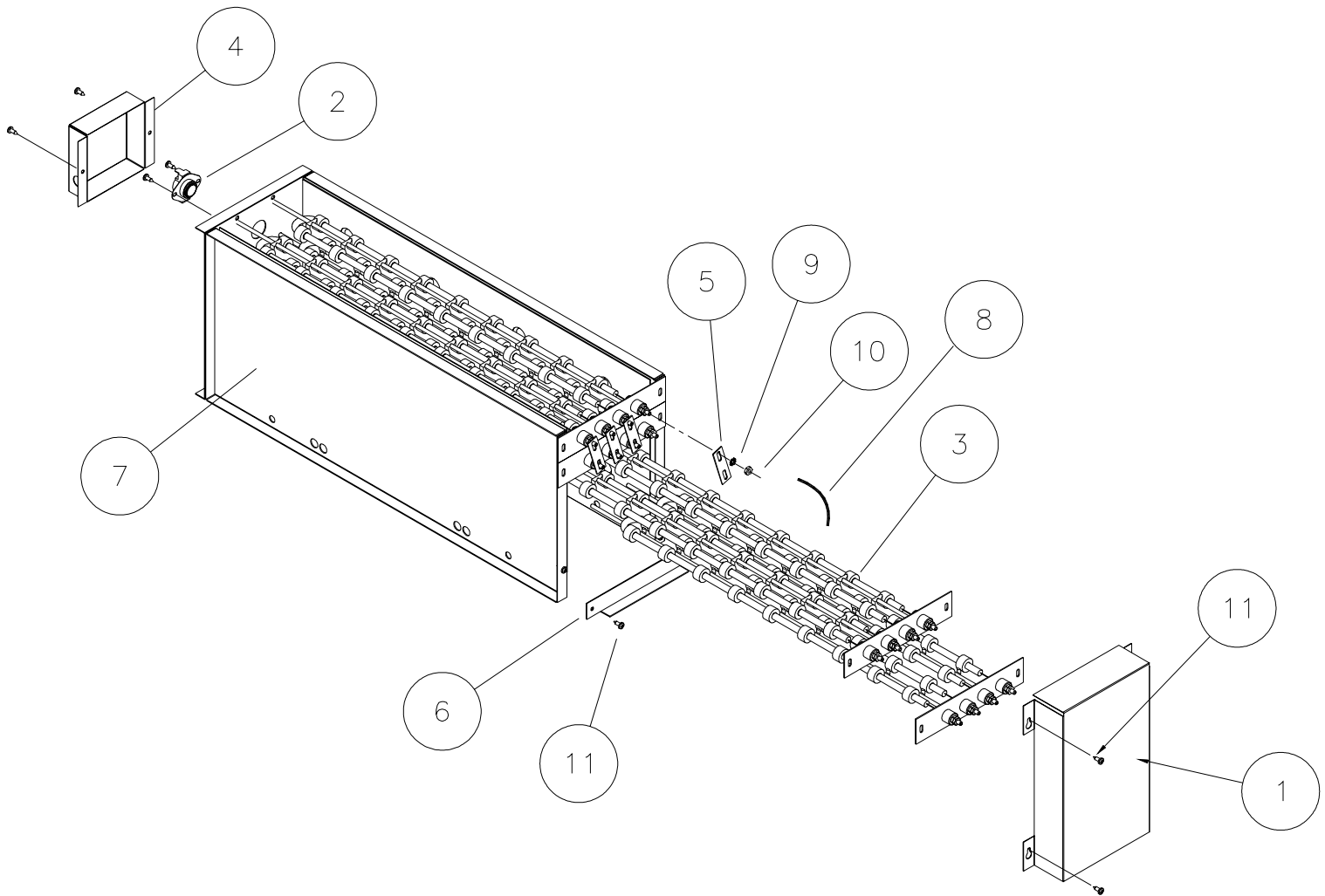
Ref. No.	Part No.	Description
12	TU7733	#8-12 Screw, self drilling
13	TUD0242	Ignitor mtg. bracket
14	FG274	1/2" x 30# lg. Nipple
15	GA-11006-0	Manifold
16	OP290	1/2" x 2" lg. Nipple
17	OP291	1/2-90 Street elbow
18	SC505	1/2" Pipe coupling
19	TU10946	Plug, pipe
20	TU14177	Valve, 1/2" LP
21	TU3539	Orifice
22	TU6862	Nut, gas manifold
23	664946146	Pipe, tail
24	OP314	1/2" Union

STEAM HEATING UNIT



Ref. No.	Part No.	Description
	CSA-01675-0	Complete assembly
1	CA-13220-0	Steam coil
2	CFB0900	Cable, GREENFIELD 1/2" X 9"
3	TU15246	Adaptor, w/a
4	TU13517	Valve, steam solenoid 3/4" 24V
5	TU14591	Bushing 1" to 3/4"
6	TU4608	Nipple, 3/4" x 2" black
7	TU4790	Connector
8	TU7733	Screw, self dr. #8-18 x 1/2"

ELECTRIC BONNET ASSEMBLY



No.	Part No.	Description
-----	----------	-------------

	TU15281	- 380-415/22.5KW Complete Asm.
	ESA-01054-0	- 440-480/22.5KW Complete Asm.
	ESA-01002-0	- 240V/22.5KW Complete Asm.
	ESA-01001-0	- 208V/22.5KW Complete Asm.

1	CA-11984-0	Rear heater box cover
2	EA-00243-0	Bonnet high limit switch
3	EA-00472-0	Heater element
	EA-00473-0	Heater element(208V)
4	EA-10232-0	Switch cover
5	EA-10417-0	Jumper bars
6	EA-10714-0	Heater box back
7	ESA-00610-0	Heater box housing
8	ESA-00948-0	Jumper
9	TU11613	#10 Ext. tooth washer
10	TU2842	#10-32 Hex nut
11	TU7733	Screw, self dr. #8-18 x 1/2"

RECOMMENDED SPARE PARTS LIST

EA-11621-0	LINT DOOR SWITCH
CA-13033-0	20-30# LINT SCREEN
TU5261	30SL, 50,75# LINT SCREEN
MD-00337-0	MAGNET-READ SWITCH
MD-00360-0	GASKET DOOR RIM
TU15108	DOOR GLASS GASKET
ESA-00862-0	READ SWITCH
TU7456	DOOR CATCH ASSY (W/RIVETS)
TU14435	EMERGENCY STOP
TU8155	SWITCH, SPST AIR SWITCH
EA-00685-0	REVERSING CONTROL, 24V COIL
TU13463	CONTACTOR, 24VAC
TU14176	C.E. IGNITOR MODULE
GA-00765-0	NON- C.E. IGNITOR MODULE
TU13521	CONTACTOR, 208-240V
TU14684	CONTACTOR, 346-600V
EA-00245-0	SWITCH, 330 DEGREE
GA-00764-0	ELECTRODE/STRAIGHT
TU13517	VALVE, STEAM SOLENOID 3/4" 24V
EA-00243-0	BONNET HIGH LIMIT SWITCH
EA-00472-0	HEATER ELEMENT
EA-004730-0	HEATER ELEMENT (208V)

DMP SPARE PARTS

EA-00594-0	SWITCH, 220 DEGREES
TU11991	THERMISTOR
TU14414	SENSOR
TU15184	OVERLAY (OPL)
TU14406	OVERLAY (COIN)
TU14137	BUZZER 24V

DOUBLE TIMER PARTS

EA-00606-0	THERMOSTAT/ROBERTSHAW
EA-00594-0	SWITCH, 220 DEGREES
EA-00619-0	START SWITCH
FG147	TOGGLE SWITCH 2 POSITION
TUT316	LIGHT, LED 24V
TU12874	TIMER, SOLID STATE REVERSING
TU12932	TIMER, MODEL N407 0-60
TU12933	TIMER, MODEL N407 0-15
TU2555	KNOB, W/PLATE-LOCK-SCR-SET SCREW

MECHANICAL COIN

EA-00606-0	THERMOSTAT/ROBERTSHAW
EA-00619-0	START SWITCH
TUT316	LIGHT, LED 24V
SEE CAM CHART ON PAGE 40	

BELTS

DA-00533-0	NON-REV UPPER BELT 20/30SL
TU15206	NON-REV LOWER BELT 20/30SL
DA-00533-0	REV UPPER BELT 20/30SL
DA-00522-0	REV LOWER BELT 20/30SL
DA-00523-0	NON-REV UPPER BELT 30 LB.
DA-00494-0	NON-REV LOWER BELT 30 LB.
DA-00523-0	REV UPPER BELT 30 LB.
DA-00533-0	REV LOWER BELT 30 LB.
DA-00497-0	NON-REV UPPER BELT 50 LB.
DA-00521-0	NON-REV LOWER BELT 50 LB.
DA-11917-0	REV UPPER BELT 50 LB.
DA-00523-0	REV LOWER BELT 50 LB.
DA-00497-0	NON-REV UPPER BELT 75 LB.
DA-00525-0	NON-REV LOWER BELT 75 LB.
DA-11917-0	REV UPPER BELT 75 LB.
DA-11908-0	REV LOWER BELT 75 LB.
EA-00245-0	SWITCH, 330 DEGREE
GA-00764-0	ELECTRODE/STRAIGHT
TU13517	VALVE, STEAM SOLENOID 3/4" 24V
EA-00243-0	BONNET HIGH LIMIT SWITCH
EA-00472-0	HEATER ELEMENT
EA-004730-0	HEATER ELEMENT (208V)

PROHC

TU14452	CHIP/PROHC/EPROM/#10VWX1450
254/00060/00	HUMIDITY/TEMP SENSOR
EA-00594-0	EA-00594-0 SWITCH, 220 DEGREES