



DEXTER[®]
LAUNDRY

**USE THE BLUE TABS LOCATED ON THE
RIGHT AND LEFT SIDES OF THE FOLLOWING
DOCUMENT TO ADVANCE TO EACH SECTION.**



DEXTER
LAUNDRY



OPL Stack Dryer
DN20X2

Service and Parts Data

Equipment Safety Warnings Symbols and Terminology Used in this Equipment

	Indicates an imminently hazardous situation, which if not avoided, will result in death or serious injury.
	Indicates a potentially hazardous situation, which if not avoided could result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. Minor burns, pinch points that result in bruises and minor chemical irritation.
	Indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.
	This is the user caution symbol. It indicates a condition where damage to the equipment resulting in injury to the operator could occur if operational procedures are not followed. TO REDUCE THE RISK OF DAMAGE OR INJURY, refer to accompanying documents; follow all steps or procedures as instructed.
	This is the electrical hazard symbol. It indicates that there are DANGEROUS HIGH VOLTAGES PRESENT inside the enclosure of this product. TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, do not attempt to open the enclosure or gain access to areas where you are not instructed to do so. REFER SERVICING TO QUALIFIED SERVICE PERSONEL ONLY
	Caution! There are sharp edges on various sheet metal parts internal to the enclosure. Use safety consciousness when placing or moving your hands while working in the interior of this equipment.
	Caution! To reduce the risk of damage to the Water Inlet Valve, do not supply inlet water with a temperature that exceeds 70° C.
	Caution! To reduce the risk of fire or explosion, do not operate this equipment in any hazardous classified (ATEX) environment.

Equipment Safety Warnings Symbols and Terminology Used in this Equipment



Warning! Do not operate equipment if door glass is damaged in any way.



Warning! Keep clear of rotating parts.



Prohibited! Do not enter this equipment or space.



Prohibited! Do not step or stand on this equipment.



Prohibited! Do not operate without all guards and covers in place.










Prohibited! Do not operate without all guards and covers in place.



Prohibited! Do not wash or Dry clothing impregnated with flammable liquids (petrochemical).



Prohibited! Do not allow children to play in or around equipment.

	Indicates an imminently hazardous situation, which if not avoided, <u>will result</u> in death or serious injury.
	Indicates a potentially hazardous situation, which if not avoided <u>could result</u> in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, <u>may result</u> in minor or moderate injury. It may also be used to alert against unsafe practices. Minor burns, pinch points that result in bruises and minor chemical irritation.
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	Caution! To reduce the risk of fire or explosion, do not operate this equipment in any hazardous classified (ATEX) environment.



WARNING



- All Dryers must be installed in accordance to all applicable electrical, plumbing and all other local codes.
- These installation and operation instructions are for use by qualified personnel only. To avoid injury and electrical shock, do not perform any servicing other than that contained in the installation and operation instructions, unless qualified.



Do not install Equipment in an explosive atmosphere.



- Care must be stressed with all foundation work to ensure a stable unit installation, eliminating possibilities of excessive vibration.
- Foundation must be level within 13 mm to ensure proper washer operation.



Do not operate washer or Dryer if door glass is damaged in any way.



Do not wash or Dry clothing impregnated with flammable liquids (petrochemical).



WARNING



Children should be supervised to ensure they do not operate or play in or around equipment.






Keep all panels in place to protect against electrical shock and injury and add rigidity to washer.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

A washer should not be allowed to operate if any of the following occur:

- Excessive high water level.
- Machine is not connected to a properly earthed circuit.
- Door does not remain securely locked during the entire cycle.
- Vibration or shaking from an inadequate mounting or foundation

	Warning! Do not operate equipment if door glass is damaged in any way.
	Warning! Keep clear of rotating parts.
	Prohibited! Do not enter this equipment or space.
	Prohibited! Do not step or stand on this equipment.
	Prohibited! Do not operate without all guards and covers in place.
	Prohibited! Do not operate without all guards and covers in place.
	Prohibited! Do not wash or Dry clothing impregnated with flammable liquids (petrochemical).
	Prohibited! Do not allow children to play in or around equipment.

	Prohibited! Do not attempt to open, touch, or proceed before referring to the manual or unless qualified.
	Mandatory! Read all supporting documentation before operating or maintaining equipment.
	Mandatory! Disconnect power before servicing equipment.
	Mandatory! Lock out and tag out before servicing this equipment.
	Mandatory! Children should be supervised to ensure they do not operate equipment.

Notes

Dexter Safety Guidelines

! 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.

IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch: do not use any telephone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's telephone.
- 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.

Dry only fabrics washed in water to avoid the risk of fire, including spontaneous combustions, do not dry:

- Items containing foam rubber, or any similarly textured rubber-like materials.
- Any items on which you have used a cleaning solvent or which contain flammable liquids or solids, such as naptha, gasoline, or other oils or waxes.

To activate your warranty, be sure to return your red warranty form to the factory. Please have serial number and model ready when calling for assistance.

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Section 1:

Specifications

Express Stack Dryer Specifications

Model	DN20X2ND-15
Capacity:	
Dry Weight Capacity - lb (kg)	2 x 20 (2 x 9.1)
Cylinder Volume (per tumbler) - cu ft (L)	7 (198.2)
Speed:	
Tumbler Speed - RPM	51
Motor Size (per tumbler) - hp (kW)	0.3 (0.25)
Airflow (per tumbler):	
60 Hz Model - cfm (M3/min)	370 (10.5)
50 Hz Model - cfm (M3/min)	300 (8.5)
Dimensions:	
Cabinet Height - in (cm)	68 1/2 (174)
Cabinet Width - in (cm)	27 (68.6)
Cabinet Depth - in (cm)	44 5/8 (113.3)
Door Opening - in (cm)	18 1/8 (46)
Floor to Lower Door Bottom - in (cm)	8 1/2 (21.6)
Floor to Upper Door Bottom - in (cm)	42 (106.7)
Cylinder Diameter - in (cm)	25 1/2 (64.8)
Cylinder Depth - in (cm)	24 (61)
Lint Screen Area (per tumbler) - sq in (sq cm)	285 (1839)
Weight:	
Net Weight - lb (kg)	615 (279)
Shipping Information:	
Shipping Weight - lb (kg)	650 (295)
Shipping Height - in (cm)	74 (188)
Shipping Width - in (cm)	31.5 (80)
Shipping Depth - in (cm)	49 (124.5)
Gas Requirements (Gas Models Only):	
Gas Supply Connection - in (mm)	1/2 (12.7)
Natural Gas Supply (Water Column) - in (cm)	5-8 (12.7 - 20.3)
LP Gas Supply (Water Column) - in (cm)	11 1/2-14 (29.2-35.6)
Gas Usage (Gas Models Only):	
60Hz Model (per tumbler) - BTU/hr (kW)	56,000 (16.4)
50Hz Model (per tumbler) - BTU/hr (kW)	47,000 (13.8)

Electrical Requirements:

Gas Models (per stack dryer):

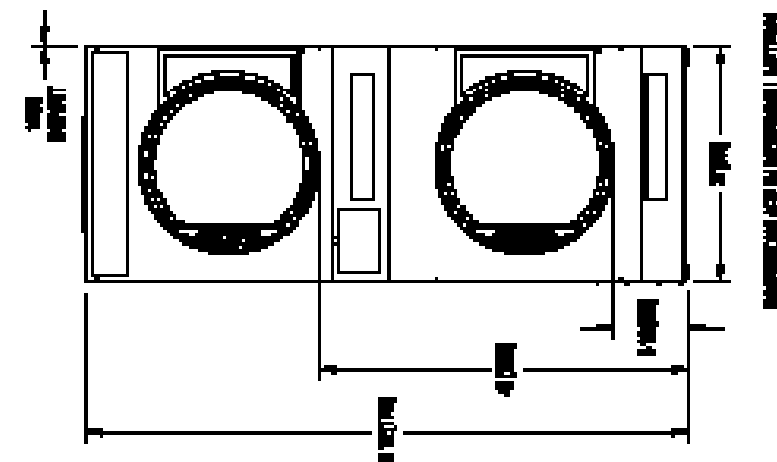
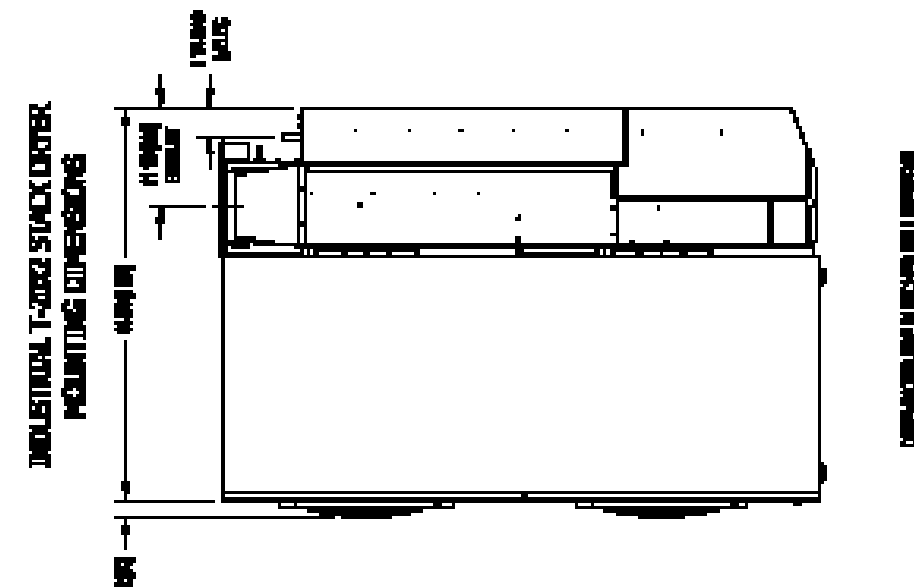
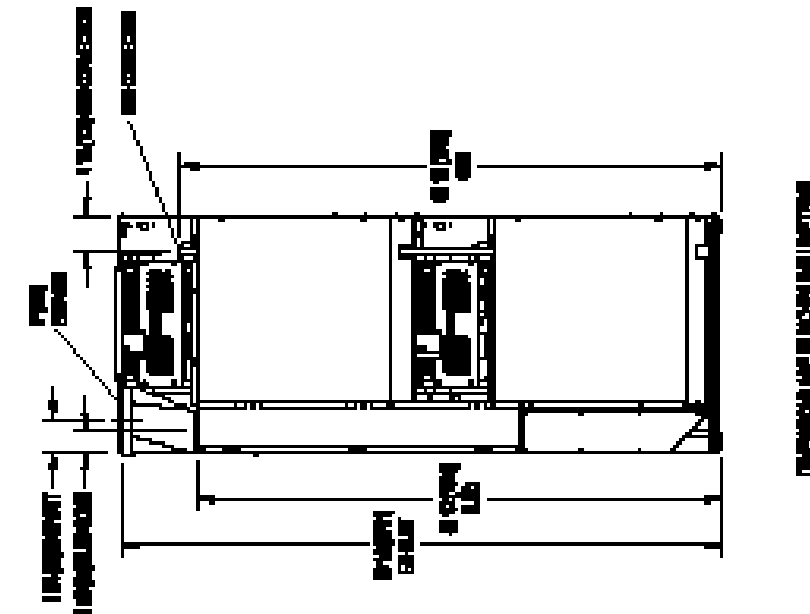
Model	Volts / Hz / Phase / Wiring	Circuit Breaker Amps / Running Amps / Wire Size
-15	208-240 / 60 / 1 / 2 wire + ground	15 / 3.8 / #12
-15	120 / 60 / 1 / 2 wire + ground	15 / 7.8 / #12
-39	230 / 50 / 1 / 2 wire + ground	15 / 3.8 / 3.5 mm ²
-59	230 / 50 / 1 / 2 wire + ground	15 / 3.8 / 3.5 mm ²

Electric Models (per tumbler):

Model	kW / Volts / Hz / Phase / Wiring	Circuit Breaker Amps / Running Amps / Wire Size
-82	15 / 400 / 50 / 3 / 4 wire + ground	30 / 30 / 8.4 mm ²
-84	15 / 208 / 60 / 3 / 4 wire + ground	60 / 55 / #4
-85	15 / 240 / 60 / 3 / 4 wire + ground	50 / 50 / #4

Installation Recommendations:

Minimum Clearance Between Machines - in (cm)	0 (0)
Minimum Clearance Behind Machines - in (cm)	18 (45.7)
Make-Up Air Required (per stack dryer) - sq ft (sq cm)	1 (929)
Exhaust Size - in (cm)	8 (20.3)
Max. Exhaust Back Pressure (Water Column) - in (mm)	0.3 (7.6)
Recommended Exhaust Length - ft (m) & 2 elbows	14 (4.3)



Section 2: Installation & Operation

DRYER INSTALLATION

1. CODE CONFORMITY: All commercial dryer installations must conform with local codes, or in the absence of local codes, with the latest edition of the National Fuel Gas Code ANSI Z223.1. Canadian installations must comply with the current Standard CAN/CGA-B149 (.1 or .2) Installation Code for Gas Burning Appliances or Equipment, and local codes if applicable. Australian installations must meet installation requirements and pipe sizing requirements of AS/NZA 5601. The appliance, when installed, must be electrically grounded in accordance with the latest edition of the National Electric Code, ANSI/NFPA70, or, when installed in Canada, with Standard CSA C22.1 Canadian Electrical Code Part 1.

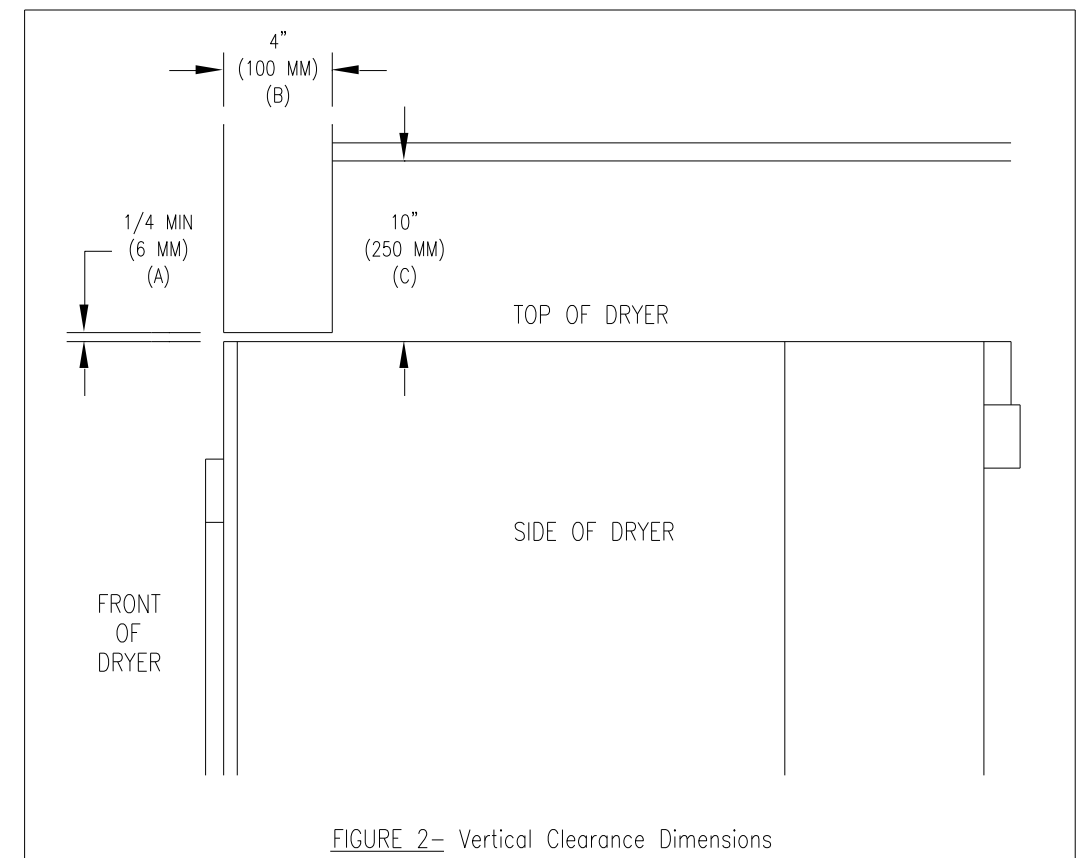
2. INSTALLATION CLEARANCES: This unit may be installed at the following alcove clearances:

- I. Left Side 0"
- II. Right Side 0"
- III. Back 18" (457 mm) (Certified for 6" (150 mm) clearance; however, 18" (457 mm) clearance is necessary behind the motors to allow servicing and maintenance.)
- IV. Front 48" (1220 mm) (to allow use of dryer)
- V. Top Refer to figure labeled "Vertical Clearance Dimensions".
AB. Certification allows 0" clearance at the top 4" (100 mm) back from the front.
However, a 1/4" (6 mm) clearance should be allowed in case the dryer needs moving.
C. A 10" (250 mm) clearance is required from top at all other points.
- VI. Floor This unit may be installed upon a combustible floor.

Do not obstruct the flow of combustion and ventilation air.

Maintain minimum of 1" (25 mm) clearance between duct and combustible material.

Refer to the label attached to the Belt Guard on the rear of the dryer for other installation information and start-up instructions.



3. MAKE-UP AIR: Adequate make-up air must be supplied to replace air exhausted by dryers on all types of installations. Refer to specifications for the minimum amount of make-up air opening to outside for each dryer. This is a net requirement of effective area. Screens, grills or louvers, which will restrict the flow of air, must be considered. Consult the supplier to determine the free area equivalent for the grill being used. The source of make-up air should be located sufficiently away from the dryers to allow an even airflow to the air intakes of all dryers. Multiple openings should be provided.

The sources of all make-up air and room ventilation air movement to all dryers must be located away from any dry cleaners. This is necessary so that solvent vapors will not be drawn into the dryer inlet ducts. Dry cleaner solvent vapors will decompose in contact with open flame such as the gas flame present in clothes dryers. The decomposition products are highly corrosive and will cause damage to the dryer(s) ducts and clothes loads.

4. ELECTRICAL REQUIREMENTS. The electrical power requirements necessary to operate the unit satisfactorily are listed on the serial plate located on the back panel of each dryer and in the specifications section of this manual. The electrical connection should be made to the terminal board, on the rear of the unit. It is absolutely necessary that the dryer be grounded to a known ground. Individual circuit breakers for each stacked dryer are required. Dryer -15 models are adjusted for 120V as shipped. They can be converted to 208-240V as required. Instructions for this conversion are located in the schematic section of this manual.

5. GAS REQUIREMENTS. The complete gas requirements necessary to operate the dryer satisfactorily are listed on the serial plate located on the back panel of the dryer and in the specifications section of this manual. The inlet gas connection to the unit is 1/2-inch pipe thread. However, the size of the piping to supply the dryer should be determined by reference to the National Fuel Gas Code ANSI Z223.1A and consultation with the local gas supplier. An individual gas shutoff valve is recommended for each dryer and may be required by local code (not supplied). A joint compound resistant to the action of liquefied petroleum gases should be employed in making pipe connections. A 1/8-inch NPT plugged tapping, accessible for test gage connection, must be installed immediately upstream of the gas supply connection to the dryer. A drip tee is provided in the unit gas piping to catch dirt and other foreign articles. All pipe connections should be checked for leakage with soap solution. Never check with an open flame. For altitudes above 2,000 feet (610m), it is necessary to derate the BTU input. Contact your local distributor for instructions. L.P. gas conversion kits are available for this dryer. Contact your local distributor.

CAUTION: The dryer must be disconnected from the gas supply piping system during any pressure testing of that system. Do not expose the dryer's gas control valve to testing pressure.

Burner Set-Up

All gas burner manifolds should be checked for proper gas pressure while burning. Stack dryer burners should be set at 3.5 W.C. while burner operating.

6. EXHAUST INSTALLATION. (Refer to Figure 3) Exhausting of the dryer(s) should be planned and constructed so that no air restrictions occur. Any restriction due to pipe size or type of installation can cause slow drying time, excessive heat, and lint in the room. From an operational standpoint, incorrect or inadequate exhausting can cause a cycling of the high limit thermostat, which shuts off the main burners and results in inefficient drying.

The exhaust duct connection near the top of the dryer will accept an 8" (200 mm) round duct. Individual exhausting of the dryers is recommended. All heat, moisture, and lint should be exhausted outside by attaching a pipe of the proper diameter to the dryer adapter collars and extending it out through an outside wall. This pipe must be very smooth on the inside, as rough surfaces tend to collect lint, which will eventually clog the duct and prevent the dryer from exhausting properly. All elbows must be smooth on the inside. All joints must be made so the exhaust end of one pipe is inside the next one downstream. The addition of an exhaust pipe tends to reduce the amount of air the blower can exhaust. This does not affect the dryer operation if held within practical limits. For the most efficient operation, it is recommended that no more than 14 ft. (4.25 m) of straight 8 in. diameter pipe with two right angle elbows be used for each cylinder.

Maintain a minimum of 1" (25mm) clearance between duct and combustible material.

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

This type of installation should have a means provided to prevent rain and high winds from entering the exhaust when the dryer is not in use. A hood with a hinged damper can be used for this purpose. Another method would be to point the outlet end of the pipe downward to prevent entrance of wind and rain. In either case, the outlet should be kept clear, by at least 24 in. (610 mm) of any objects, which would cause air restriction.

Never install a protective screen over the exhaust outlet.

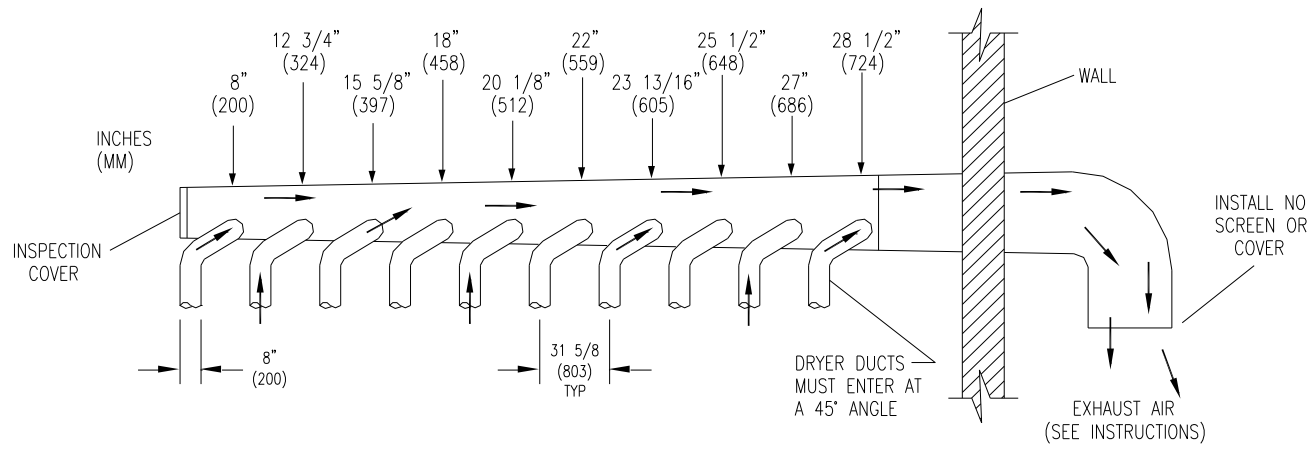
When exhausting a dryer straight up through a roof, the overall length of the duct has the same limits as exhausting through a wall. A rain cap must be placed on top of the exhaust and must be of such a type as to be free from clogging. The type using a cone shaped "roof" over the pipe is suitable for this application.

Exhausting the dryer into a chimney or under a building is not permitted. In either case there is a danger of lint buildup, which can be highly combustible.

Installation of several dryers, where a main discharge duct is necessary, will need the following considerations for installation (see Figure 3). Individual 8" (200 mm) exhaust ducts from each dryer should enter main discharge duct at a 45-degree angle in the direction of discharge airflow.

NOTE: Never install the individual ducts at a right angle into the main discharge duct. The individual ducts from the dryers can enter at the sides or bottom of the main discharge duct. Figure 3 indicates the various round main duct diameters to use with the individual dryer ducts. The main duct can be rectangular or round, provided adequate airflow is maintained. The total exhausting (main discharge duct plus duct outlet from the dryer) should not exceed the equivalent of 14 ft. (4.25 m) and two elbows. The diameter of the main discharge duct at the last dryer must be maintained to exhaust end.

NOTE: STATIC BACK PRESSURE should be a maximum of 0.3 in. w.c (7.6 mm w.c) at the rear exhaust outlet of the dryer. If multiple dryers are connected to the common duct, ensure the back draft damper is installed properly.



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

7. DRYER IGNITION (SOLID STATE IGNITION): The solid-state ignition system lights the main burner gas by spark. The gas is ignited and burns only when the gas-relay (in the electronic controller) calls for heat. The procedure for first-time starting of a dryer is as follows.

- I. First review and comply with the "Warnings About Use and Operation" found on the inside front cover of this manual. Be sure electrical power is connected correctly. The dryer must be properly grounded.
- II. Make sure all gas supply lines are purged of air. Close the main gas shut-off valve and wait for five minutes before turning it back on.
- III. Turn on the main electrical power switch. The dryer may be started by following the "Operating Instructions" found later in this manual.
- IV. Natural gas and LPG fired dryers operate in the same manner. When the gas valve relay contacts are closed (indicating a demand for heat), the solid-state ignition control will automatically supply energy to the redundant gas valve. Sparking will continue until a flame is detected by the sensing probe, but not longer than ten seconds. If the gas fails to ignite in 10 seconds, the gas valve closes and the gas system pauses to allow gas to purge from the inside of the dryer. After the pause, the ignition control repeats the ignition trial cycle twice more. If the gas system fails to detect ignition after the three attempts, the system will "lock out". No further attempts will be performed automatically. To reset the ignition control electrical power to the ignition control must be interrupted. This can be done by opening the dryer door (stopping the dryer) for 15 seconds. Closing the door and pushing the "Start" button will repeat the ignition trial cycle.

8. MAIN BURNER ADJUSTMENT. The primary air shutter of each main burner must be properly adjusted for the correct air-gas ratio. Loosen the shutter locking screw. Adjust the shutter by closing it sufficiently to give a blue flame with a yellow tip. Next open the shutter until the yellow tips are at a minimum. After adjustment securely lock each shutter in position by tightening the shutter locking screws.

9. DRYER SHUTDOWN. To render the dryer inoperative, turn off the main gas shut off valve and disconnect the electrical supply to the dryer.

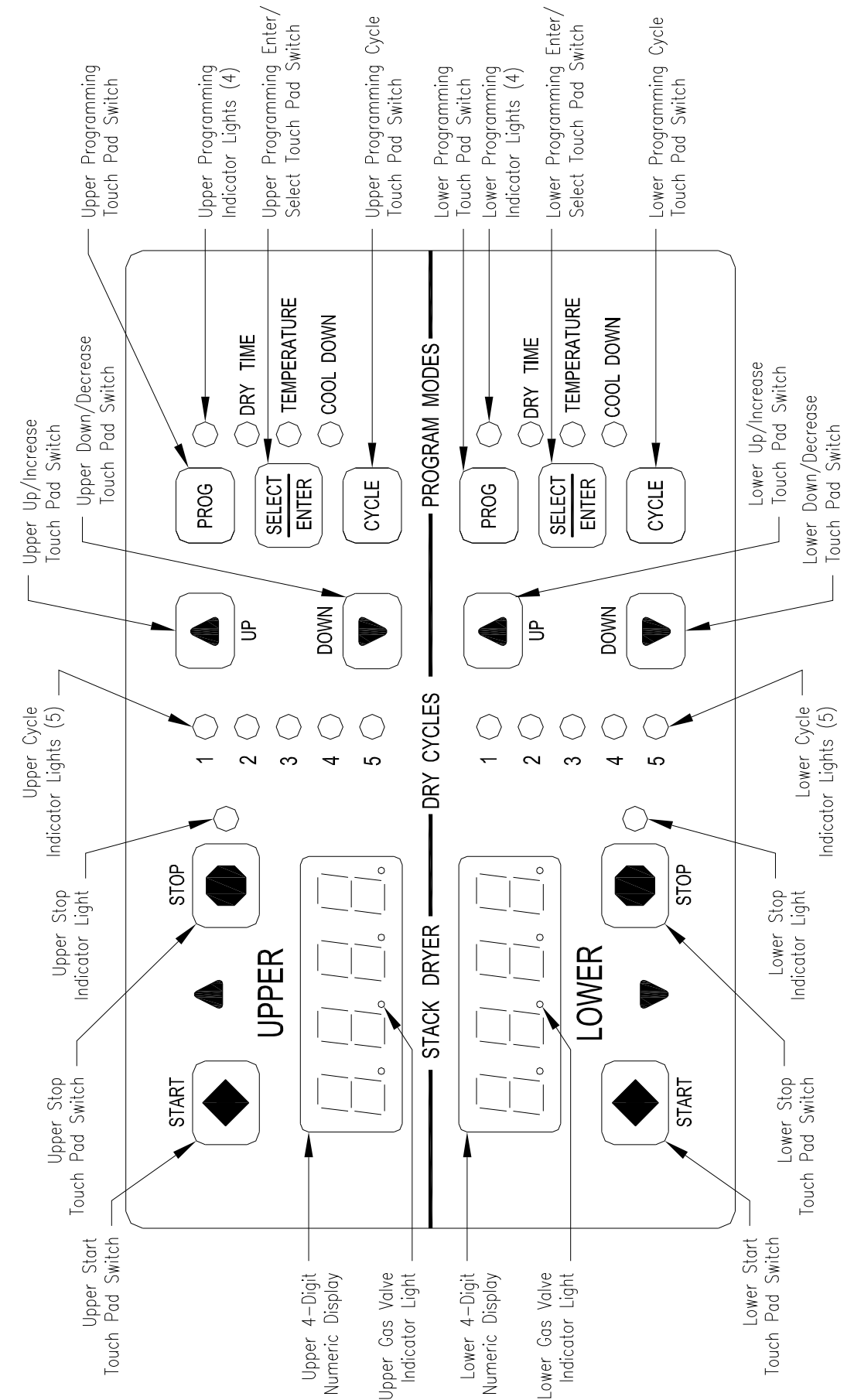


Figure 4: Non-Reversing Dryer Controller Interface

Touch Pad Description

Description


These L.E.D.s are on solid when a particular cycle is chosen for operation or programming.


This L.E.D. is part of the 4-digit numeric display and will be on solid during the drying part of a cycle when the gas valve does not need to be on. The L.E.D. will be blinking when the gas valve needs to be on. The L.E.D. will not be on solid or blinking (off) if the cycle is stopped, complete, in cool down, or terminated.

These L.E.D.s are on solid as they are selected during the programming of the dryer controller.


This L.E.D. is on solid when either the stop button is pressed once or the door is opened during an operating cycle.

Description


 This touch pad switch will increment (increase) dry time, cool down time, and drying temperature. It will also scroll upwards when selecting a dry cycle.


 This touch pad switch will decrement (decrease) dry time, cool down time and drying temperature. It will also scroll downwards when selecting a dry cycle.

 This touch pad switch allows the dryer controller to enter the permanent programming mode.

 This touch pad switch will select one of the three variable parts of the dry cycle (dry time, temperature, or cool down) by sequencing through them. Once one of the variable parts of the dry cycle is chosen and changed, this touch pad switch will enter the new (changed) value into the dry cycle program.

 This touch pad switch allows the dryer controller to enter the temporary programming mode.

 This touch pad switch will stop the dryer during a dry cycle without clearing the present drying cycle if pressed once. If pressed and released twice, consecutively, the present dry cycle will be cleared.

Start  This touch pad switch will start the operation of a dry cycle if pressed and released once. Pressing and holding this touch pad switch will display the current temperature of the dryer heat sensor as long as it is held in the depressed position.

Message

Description

LOAD This message is displayed after a dry cycle is complete and the dryer loading door has been opened or the STOP touch pad key on the dryer controller has been pressed and released twice.

donE This message blinks immediately after completion of the dry cycle and continues to blink until the stop key on the dryer controller touch pad is pressed or the dryer loading door is opened.

Prog This message is displayed when entering the permanent programming mode.

.15 This message appears while the dryer is in the heating time of a dry cycle. The decimal point will blink if the output for the gas valve is on, or remain on constantly if the output for the gas valve is not on. The number represents the total time left in the dry cycle (includes cool down time).

C02 This message appears when the cool down time of the dry cycle is reached. The letter "C" represents the cool down (non-heating) part of the dry cycle. The number(s) after the letter "C" represent(s) the total time remaining in the dry cycle.

F5 This message appears if there is a dryer fault. The letter "F" indicates a fault and the number after the "F" represents the specific fault that has occurred. There are five different faults that can appear (F1 through F5).

Operating Instructions

To dry a load of items, you must choose one of the five-programmed dry cycles. Each of these five dry cycles may be modified in two different ways to match your load. Please refer to the "Permanent Dryer Controller Programming" or "Temporary Dryer Controller Programming" section of this manual.

There are two parts to each dry cycle. The first part is the heating time, which is when the gas valve is cycled on and off according to the temperature setting in the dry cycle program. The second part is the cool down time, which is after the heating part of the dry cycle, and is when the cylinder continues to tum, but no heat is applied.

There will always be at least two minutes of cool down time for each dry cycle. The maximum amount of cool down time is 60 minutes.

The default value of the five dry cycles is shown in the "Dryer Controller Factory Default Program Settings" table in this manual.

To improve the drying capabilities of this dryer, you should always separate (untangle) the individual articles in your load before using the dryer.

In the following instruction steps, things that are displayed on the 4-digit numerical display will be in "quotation marks" and any keys on the dryer controller touch pad that physically need to be pressed will be in **CAPITAL AND BOLD LETTERS**.

1. Place your untangled load into the dryer cylinder and close the dryer loading door. Notice that the dryer controller 4-digit numerical display should show the word "LOAD". If it does not show this word, then press and release the **STOP** touch pad key on the dryer controller twice.
2. Press and release the **UP** or **DOWN** arrow touch pad key on the dryer controller to select a dry cycle.
3. Once the desired dry cycle is selected, press and release the **START** touch pad key.

4. After the dryer controller **START** touch pad key is pressed, the dryer cylinder will start rotating and the two-digit total dry cycle time, along with a decimal point, will appear on the dryer controller display.

The time shown on the dryer controller display will count down to the programmed cool down time. At that time, the display will change from the decimal point and two-digit number to a letter "C" and two digits.

The letter "C" represents the cool down portion of the dry cycle. The two digits represent the amount of time remaining in the dry cycle. The two-digit time, shown on the dryer controller display, will count down to zero.

When the time decrements to zero, the dryer controller display will flash the word "donE" and the end of cycle tone will sound.

At that point, the wrinkle free cycle will automatically begin. This cycle will wait two minutes, if the door is not opened or the **STOP** touch pad key on the dryer controller is not pressed, and then rotate the cylinder for 10 seconds and stop. This idle time of two minutes and tumble time of 10 seconds will repeat a total of 10 times, at which time the wrinkle free cycle stops. The cylinder will not rotate again until a new dry cycle is started.

During the wrinkle free cycle the gas valve will not be operated and there will be no heat applied to the load. The word "donE" will also continue to flash and do so even after the wrinkle free cycle is finished. When the dryer loading door is opened, or the STOP touch pad key is pressed, the word "donE" will change to the word "LOAD" on the dryer controller display. The dryer will then be ready for another dry cycle.

During the dry cycle, either pressing the STOP touch pad key on the dryer controller or opening the dryer loading door, will stop the dry cycle and not clear it. If you press the STOP touch pad key on the controller and then open the dryer loading door the dry cycle will not be cleared. However, if you open (or open and close) the dryer loading door and then press the STOP touch pad key on the dryer controller, the present dry cycle will be cleared and the word "LOAD" will appear on the dryer controller display.

There are two jumpers and one push button on the component side of the dryer controller printed circuit board.

The jumper located at the back right side of the each circuit board controls whether the controller display shows and operates in the Fahrenheit or Celsius mode. This jumper is labeled as TEMP SELECT and has three pins. The back and middle pins are for Celsius and the front and middle pins are for Fahrenheit, which is indicated by the letter C for Celsius and the letter F for Fahrenheit.

The other jumper, located at the back middle side of each circuit board controls, is used for choosing either a reversing or non-reversing type of dryer. This jumper is labeled as REV and NON-REV. This jumper must be in the non-reversing position, which are the front and middle pins. If the jumper is in the reversing position, the heating part of the dry cycle will not operate properly. The dryer will not reverse direction either.

The push button, which is located at the middle center of each circuit board controls, is used to reset all five of the dry cycles to the factory default settings. It is labeled as DEFAULT SETTINGS. Even the dry cycles that have been modified using the permanent programming procedure will be changed back to the factory default settings when using this push button. This push button must be pressed and held for at least three seconds with power applied to the dryer controller circuit board.

If changing a jumper, remove power before moving jumper and then move jumper. Before restoring power, press and hold the DEFAULT SETTINGS pushbutton. Then, restore power and release the DEFAULT SETTINGS pushbutton after three seconds of restoring power.

Temporary Dryer Controller Programming

The temporary programming mode will allow the change of the stored dry cycle settings in the dryer controller for one complete dry cycle. After the dry cycle is complete, the default settings that existed before the temporary change are restored. The temporary dry cycle can be stopped and cleared at any time during the dry cycle operation.

To temporarily change a dryer controller cycle, follow the procedures below. Things that are displayed on the 4-digit numeric display will be in "quotation marks". Keys on the dryer controller touch pad that physically need to be pressed will be in **CAPITAL AND BOLD LETTERS**.

If, at any time, you want to escape the temporary programming mode while changing the program settings, you can press the STOP key on the dryer controller touch pad if the 4-digit numeric display is not flashing. The **SELECT/ENTER** key on the dryer controller touch pad can be pressed and released to enter the flashing value shown on the 4-digit numeric display and allow you to escape.

If you press and release the **STOP** key on the dryer controller touch pad, when the 4-digit numeric display is not flashing, the temporary changes to the dry cycle program will be cancelled. The stored dry cycle settings that existed before the temporary change will then be restored.

If, at any time, you want to start the temporary dry cycle during the temporary programming mode, press and release the START key on the dryer controller touch pad if the 4-digit numeric display is not flashing. The **SELECT/ENTER** key on the dryer controller touch pad can be pressed and released to enter the flashing value shown on the 4-digit numeric display and allow you to start the temporary dry cycle. If you start the temporary dry cycle, the 4-digit numerical display will change to the total dry time and count down to 0 as the dry cycle progresses.

Procedure

1. Make sure the dryer is not in a dry cycle. The 4-digit numeric display on the dryer controller will show "LOAD" when the dryer is not in a dry cycle.
2. Press and release the UP or DOWN arrow keys on the dryer controller touch pad to choose the dry cycle that you want to change (dry cycle 1 through 5). The dry cycle L.E.D. will illuminate to indicate which dry cycle you are choosing. If you press either arrow key and hold it down, the controller will sequence through the five dry cycles.
3. Press and release the CYCLE key on the dryer controller touch pad once you have chosen the dry cycle you want to change. After you press this key, the programming L.E.D. and the dry time L.E.D. will illuminate. The dry cycle L.E.D. will remain illuminated. The total dry time will also be displayed on the 4-digit numeric display.
4. Press and release the UP or DOWN arrow keys to change the total cycle time. Once either of the arrow keys is pressed, the dry time L.E.D. and the total dry time on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) through the total dry times available (1 through 60 minutes). This displayed dry time includes the cool down time along with the heated time. To not change the total dry time, do not press the arrow keys to change the total dry time.
5. Press and release the SELECT/ENTER key. Once this key is pressed and released, the dry time L.E.D. will switch off, the dry cycle L.E.D. and programming L.E.D. will remain on, and the temperature L.E.D. will illuminate. The drying temperature will also be shown on the 4-digit numeric display.
6. Press and release the UP or DOWN arrow keys to change the drying temperature. Each press and release of the arrow keys will either increase or decrease the temperature by five degrees Fahrenheit or three degrees Celsius, depending on how your dryer controller is set up. Once either of the arrow keys is pressed, the temperature L.E.D. and the drying temperature on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) your way through the available drying temperatures (10So Fahrenheit or 40° Celsius, up to 19So Fahrenheit or 9(Celsius). If you do not want to change the drying temperature, do not press the arrow keys. Go to the next step.
7. Press and release the SELECT/ENTER key. Once this key is pressed and released, the temperature L.E.D. will switch off, the dry cycle L.E.D. and programming L.E.D. will remain on, and the cool down L.E.D. will illuminate. The cool down time will also be shown on the 4-digit numeric display. 8) Press and release the UP or DOWN arrow keys to change the cool down time. Once either of the arrow keys is pressed, the cool down L.E.D. and the cool down time on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) through the cool down times available (2 through 60 minutes). To not change the cool down time, do not press the arrow keys. Go to the next step.
8. Press and release the SELECT/ENTER key. Once this key is pressed and released, the cool down L.E.D. and the programming L.E.D. will switch off, and the dry cycle L.E.D. will remain on. The flashing cool down time on the 4-digit display will stop flashing and remain.
9. At this point, you have two choices. 1) You can perform the modified dry cycle by pressing and releasing the START key on the dryer controller touch pad, or 2) You can clear the modified dry cycle program by pressing and releasing the STOP key once. If you start the modified cycle, the total dry time will appear on the 4-digit numeric display and it will count down to 0 as the dry cycle progresses. If you choose to clear the modified dry cycle, the 4-digit numeric display will change to "LOAD".

Temporary Dryer Controller Programming Example

Requirements: Dry a load with 40 minutes of actual heat at 18SoF and five minutes of cool down.

The following procedure will show you how to temporarily modify the existing dry cycle 1 program for one cycle of drying. It is based on the assumption that the factory defaults have not been permanently changed. If they have been changed, the steps of this procedure will be the same, but the values that are displayed will be different. The amount of times that the dryer controller touch pad UP or DOWN keys must be pressed and released may also be different.

If you want the change to be permanent, go to the "Permanent Dryer Controller Programming" section of this manual.

Procedure

1. After the load has been placed in the dryer, press and release the UP or DOWN touch pad key on the dryer controller until the L.E.D. for dry cycle 1 is illuminated.
2. Press and release the CYCLE key on the dryer controller touch pad. You will see the number "35" on the dryer controller display. The programming L.E.D. and dry time L.E.D. will be illuminated.
3. Press and release the UP arrow key on the dryer controller touch pad 10 times so the display will show a flashing "45". When the UP arrow touch pad key is pressed the first time, the number "36" will be flashing on the dryer controller display. Each number after that will also flash.
4. Now, press and release the SELECT/ENTER touch pad key on the dryer controller. The number "45" will stop flashing and the dry time L.E.D. will switch off. The dryer controller display will now show "180", the temperature L.E.D. will illuminate, and the programming L.E.D. and dry cycle 1 L.E.D. will remain on.
5. Press and release the UP arrow key on the dryer controller touch pad one time so the controller display will show a flashing "185". Each press of the UP arrow key will increment the temperature by five degrees.
6. Now, press and release the SELECT/ENTER touch pad key on the dryer controller. The number "185" will stop flashing and the temperature L.E.D. will switch off. The dryer control display will now show a number "5", the cool down L.E.D. will illuminate, and the programming L.E.D. and dry cycle 1 L.E.D. will remain on.
7. Press and release the SELECT/ENTER key on the dryer controller touch pad, since the desired cool down time is five minutes. After you press the SELECT/ENTER touch pad key on the controller, the cool down L.E.D. and programming L.E.D. will switch off. The controller display will remain at "5" and the cycle 1 L.E.D. will remain on.

You are now ready to start the new dry cycle. This new dry cycle will be in effect for one dry cycle only. After the dry cycle is done, or if the STOP touch pad key on the dryer controller is pressed and released twice, consecutively, the cycle 1 program will revert to the factory default settings. If you press the START touch pad key on the dryer controller, the controller display will change from the number "5" to the number "45" and dry cycle 1 will begin.

Permanent Dryer Controller Programming

The permanent programming mode will allow the change of the stored dry cycle settings in the dryer controller until the operator physically changes them again. The factory default settings can be restored in the dryer controller by pressing the default settings pushbutton on the back (component) side of the dryer controller circuit board. It is labeled and located at the lower middle side of the printed circuit board, as you face the component side of the board. It must be pressed and held down for at least three seconds.

To permanently change a dryer controller cycle, follow the procedure below. Things that are displayed on the 4-digit numeric display will be in "quotation marks". Keys on the touch pad that physically need to be pressed will be in CAPITAL AND BOLD LETTERS.

If, at any time, you want to escape the permanent programming mode while changing the settings, you can press the STOP key on the dryer controller touch pad if the 4-digit numeric display is not flashing. The SELECT/ENTER key on the dryer controller touch pad can be pressed and released to enter the flashing value shown on the 4-digit numeric display and allow you to escape.

Procedure

1. Make sure the dryer is not in a dry cycle. The 4-digit numeric display on the dryer controller will show "LOAD" when the dryer is not in a dry cycle.
2. Press and release the PROG key on the dryer controller touch pad.
3. Press and release the UP arrow key on the dryer controller touch pad. The programming L.E.D. will illuminate and the 4-digit numeric display on the dryer controller will change to "Prog".
4. Press and release the UP or DOWN arrow keys to choose the dry cycle you want to change (dry cycle 1 through 5). The dry cycle L.E.D. will illuminate to indicate which dry cycle you are choosing. If you press either arrow key and hold it down, the controller will sequence through the five dry cycles.
5. Press and release the SELECT/ENTER key once you have chosen the dry cycle you want to change. After you press this key, the dry time L.E.D. will illuminate. The dry cycle L.E.D. and the programming L.E.D. will remain illuminated. The total dry time will also be displayed on the 4-digit numeric display.
6. Press and release the UP or DOWN arrow keys to change the total dry time. Once either of the arrow keys is pressed, the dry time L.E.D. and the total dry time on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) through the total dry times available (1 through 60 minutes). This displayed dry time includes the cool down time along with the heated time. To not change the total dry time, do not press the arrow keys. Go to the next step.
7. Press and release the SELECT/ENTER key. Once this key is pressed and released, the dry time L.E.D. will switch off, the dry cycle L.E.D. and programming L.E.D. will remain on, and the temperature L.E.D. will illuminate. The drying temperature will also be shown on the 4-digit numeric display.

Press and release the UP or DOWN arrow keys to change the drying temperature. Each press and release of the arrow keys will either increase or decrease the temperature by five degrees Fahrenheit or three degrees Celsius, depending on how your dryer controller is set up. Once either of the arrow keys is pressed, the temperature L.E.D. and the drying temperature on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) your way through the available drying temperatures (1050 Fahrenheit or 400 Celsius, up to 1950 Fahrenheit or 9(Celsius). If you do not want to change the drying temperature, do not press the arrow keys. Go to the next step.

Press and release the SELECT/ENTER key. Once this key is pressed and released, the temperature L.E.D.

will switch off, the dry cycle L.E.D. and programming L.E.D. will remain on, and the cool down L.E.D. will illuminate. The cool down time will also be shown on the 4-digit numeric display.

Press and release the UP or DOWN arrow keys to change the cool down time. Once either of the arrow keys is pressed, the cool down L.E.D. and the cool down time on the 4-digit numeric display will flash. If you press and hold either arrow key down, you will increment (UP arrow) or decrement (DOWN arrow) through the cool down times available (2 through 60 minutes). To not change the cool down time, do not press the arrow keys. Go to the next step.

Press and release the SELECT/ENTER key. Once this key is pressed and released, the cool down L.E.D. will switch off, the dry cycle L.E.D. and programming L.E.D. will remain on, and the 4-digit numeric display will change to "Prog".

Press and release the STOP key to save the cycle program and escape the programming mode. If you

want to change the same dry cycle program again, press the SELECT/ENTER key and continue at step 6 of this procedure. If you want to modify another dry cycle program, go to step 4 of this procedure and continue.

If you pressed the STOP key to escape the programming mode, you may now start the dry cycle by pressing the START key.

Permanent Dryer Controller Programming Example

Requirements: Dry a load with 50 minutes of actual heat at 1950 F and three minutes of cool down. The following procedure will show you how to permanently modify the existing dry cycle 1 program for one cycle of drying. It is based on the assumption that the factory defaults have not been permanently changed. If they have been changed, the steps of this procedure will be the same, but the values that are displayed will be different. The amount of times that the dryer controller touch pad UP or DOWN keys must be pressed and released may also be different.

If you want the change to be temporary (for only one dry cycle), go to the "Temporary Dryer Controller Programming" section of this manual.

Procedure

1. After the load has been placed in the dryer, press and release the UP or DOWN touch pad key on the dryer controller until the L.E.D. for dry cycle 1 is illuminated.
2. Press and release the PROG touch pad key on the dryer controller. The dryer controller display will not change.
3. Immediately, press and release the UP arrow key on the dryer controller touch pad. The controller display will change from "LOAD" to "Prog". You have now entered the permanent programming mode. The dry time L.E.D. will remain on and the programming L.E.D. will illuminate.
4. Press and release the SELECT/ENTER touch pad key once. The dry time L.E.D. and programming L.E.D. will remain on and the dry time L.E.D. will illuminate. The dryer controller will also show the number "35".
5. Press the UP arrow touch pad key 18 times until the dryer controller display shows the number "53".
6. Press and release the SELECT/ENTER touch pad key once. The dry time L.E.D. and programming L.E.D. will remain on and the dry time L.E.D. will switch off. The temperature L.E.D. will illuminate and the dryer controller display will show the number "180".

7. Press and release the UP arrow touch pad key three times until the dryer controller display shows the number "195".
8. Press and release the SELECT/ENTER touch pad key. The dry time L.E.D. and the programming L.E.D. will remain on and the temperature L.E.D. will switch off. The cool down L.E.D. will illuminate and the dryer controller display will show the number "5".
9. Press and release the DOWN arrow touch pad key twice until the dryer controller display shows the number "3".
10. Press and release the SELECT/ENTER touch pad key. The dry time L.E.D. and the programming L.E.D. will remain on and the cool down L.E.D. will switch off. The dryer controller display will change to "Prog".
11. Press and release the STOP touch pad key. The dry time L.E.D. will remain on and the programming L.E.D. will switch off. The dryer controller display will change to the word "LOAD".

The dryer is now ready for the new modified dry cycle to start. This modified dry cycle 1 program will remain in the dryer controller memory until the default settings push button is pressed. This default settings push button is located on the component side of the dryer controller printed circuit board at the middle center side of each circuit board controls.

TRANSIENT VOLTAGE SURGE SUPPRESSORS

Like most electrical equipment your new machine can be damaged or have its life shortened by voltage surges due to lightning strikes which are not covered by factory warranty. Local power distribution problems also can be detrimental to the life of electrical components. We recommend the installation of transient voltage surge suppressors for your new equipment. These devices may be placed at the power supply panel for the complete installation and don't require an individual device for each machine.

These surge protectors help to protect equipment from large spikes and also from small ongoing spikes in the power that occur on a day to day basis. These smaller surges can shorten overall life of electrical components of all types and cause their failure at a later date. Although they can't protect against all events, these protective devices have a good reputation for significantly lengthening the useful life of electronic components.

Electronic Components are helped to have a longer useful life when they are supplied with the clean stable electrical power they like.

We are including the following names and links to a few suppliers of these devices for those who don't currently have a source.

MANUFACTURER	LINK
MCG Surge Protection	mcgsurge.com
Eaton Corporation	eaton.com/us/en-us
Schneider Electric	se.com/us/en
Asco Power Technologies	ascopower.com/us/en
Emerson Electric Co.	emerson.com/en-us

Section 3:

Wiring Schematics

60HZ Wiring Schematic Dryer Idle - No Coins Added

Top Dryer Used For This Example

110 VAC 60Hz is supplied to the main power terminal block, L1 power, N=neutral, plus ground. BLK/Red coming off of L1 and BLK/BLU coming from N power the R1, and R2 motor relays. Red wire from L1 and the blue wire from N supply power and neutral to the step down transformer. After the stepdown transformer the control is protected by a 2.5 Amp fuse in the black wire. When there is power to the dryer the Computer Board will be powered and the display lighted from the 24 VAC secondary side of Control Step Down Transformer. 24 VAC from here is also on one side of the door switch on a black wire. Closing the loading door allows 24 VAC to pass on to the Computer Board on two blue wires. One blue wire makes 24 VAC available to one side of the Motor Run Relay on Computer Board. The other blue wire provides a 24 VAC signal to the Computer Board telling it that the door is closed and door light on the computer board should be illuminated.

Coins Added - Motor Starting and Running

Top Dryer Used For This Example

As each coin is added the Coin Switch closes and completes a circuit to the Computer Board. The Computer Board counts these signals and registers them against time. The time will display once the Start Button for Upper or Lower is pushed. When the Start Button is pushed again the Computer Board Motor Run Relay closes on the computer. With this Relay closed, 24 VAC is supplied to the Motor Control Relay (R1) on the red wire and also a violet wire going down to motor. The motor LED on the computer board should be illuminated anytime the computer calls for the motor to operate. With (R1) engaged and 110 VAC at motor the Motor Start Switch in motor is drawn in to the start position. In this position the incoming power 110 VAC is supplied directly to the main run winding and through the Start Capacitor to the Auxiliary Winding (start winding). As the Motor comes up to speed, the centrifical switch inside motor opens the circuit to the Start Winding and closes the circuit to allow 24 VAC to pass to the Gas Relay on the Computer Board on the other violet wire. The heat circuit in the dryer can not operate if the motor is not running. The gas LED on the computer board will be illuminated when Computer Board calls for the heat after Motor Centrifical Switch has closed.

Heat Circuit

Top Dryer Used For This Example

With the Drive Motor running and 24 VAC provided to the Computer Board Gas Relay, it will close if Computer Board senses programmed temperature is needed. The violet wire changes to an orange wire out of the Computer Board Gas Relay. When this relay closes it provides 24 VAC to the High Limit Thermostat. The High Limit Thermostat is normally closed. (It will open, turning off the heat circuit, if the dryer can't move enough air from problems such as an exhaust restriction or other problems.) 24 VAC now goes through to the normally open Air Switch (Sail Switch) on the brown wire. This switch is closed only if the dryer is running and has the correct air flow. With the dryer running and the Air Switch closed, 24 VAC is supplied to the normally closed upper manual reset Overtemp Thermostat on the gray wire and changes to the black wire out of switch and then changes to red wire and goes to the 1.5 amp in-line fuse that protects the Upper Ignition Controller(GREY BOX). With 24 VAC now supplied to the Upper Ignition Controller (GREY BOX) it will then send high voltage to the Spark Ignition Electrode via the High Voltage Lead Wire (this lead looks like an automotive spark plug wire). The Ignition Control Module (GREY BOX) simultaneously sends 24VAC to the Gas Valve Coil which open the Gas Valve and allows gas to pass through to the main burner. When ignition occurs the high voltage sparking stops and if Ignition Control Module (GREY BOX) gets a flame sense signal it will allow gas valve coil to remain energized and continue burner operation. If ignition does not occur, the Ignition Control Module (GREY BOX) will spark for 10 seconds before locking out.

Manual Reset Safety Shutoff Over-Temperature Thermostat

Top Dryer Used For This Example

This thermostat is manually reset by pushing in the red button. The Over Temperature Thermostat is a safety backup for the entire Heat Circuit and located in the recirculation chamber area on the side of the burner housing. If the dryer overheats this Over Temperature Thermostat it opens the line to turn off the heat but leaves the Computer Board lighted and the drive motor powered and turning so the basket will cool down.

Cool Down

Top Dryer Used For This Example

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

End of Cycle

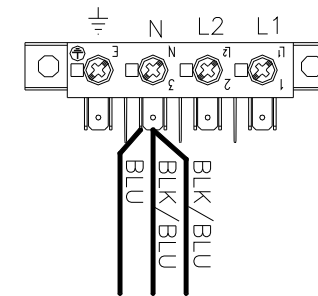
Top Dryer Used For This Example

At the end of the cool down, the Computer Board opens the Upper Run Relay, which removes power from the Motor Control Relay (R1) and also removes power to the Drive Motor. The motor light on the computer board should no longer be illuminated. The Drive Motor and tumbler stops and the Computer Board display now flashes until the dryer loading door is opened. Once the dryer loading door is opened to remove the clothing the display goes back to vend price.

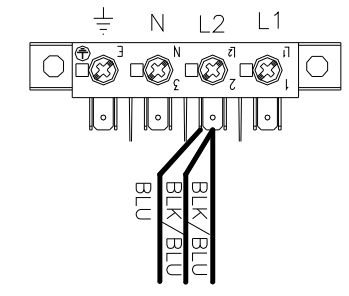
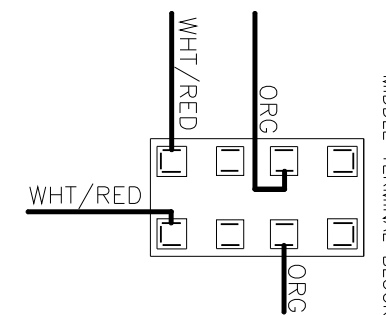
Instructions - Convert a Dual Voltage Stack Dryer from 120V to 208-240V (No Neutral Required)

1. Remove incoming power from the dryer. Use a known working voltmeter to check power.
2. Remove the cover of the control box assembly from the dryer using a 5/16" wrench.
3. Move the black/blue wire AND the blue wire from the N position of the main power terminal block to the L2 position of the main power terminal block in the upper control box assembly. See figure below.
4. Move the white/red wire of the upper motor harness to an upper inner left terminal in the middle terminal block in the lower control box assembly. See figure below.
5. Move the orange wire of the upper motor harness to an upper inner left terminal in the middle terminal block in the lower control box assembly. See figure below.
6. Move the white/red wire of the lower motor harness to a lower inner left terminal in the middle terminal block in the lower control box assembly. See figure below.
7. Move the orange wire of the lower motor harness to a lower inner left terminal in the middle terminal block in the lower control box assembly. See figure below.

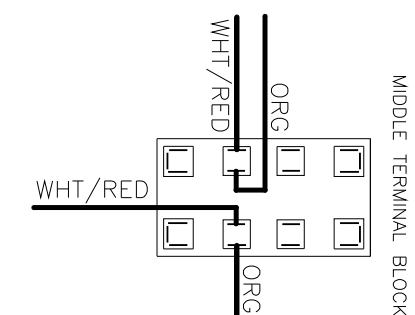
Conversion instructions continued on next page.



110-120V (L1, N)



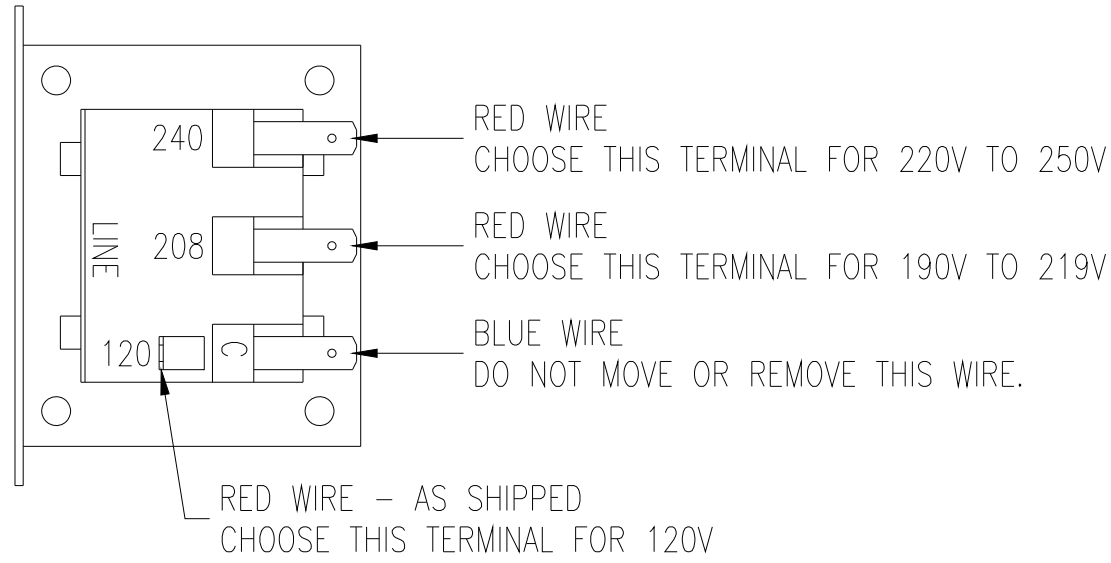
208-240V (L1, L2)



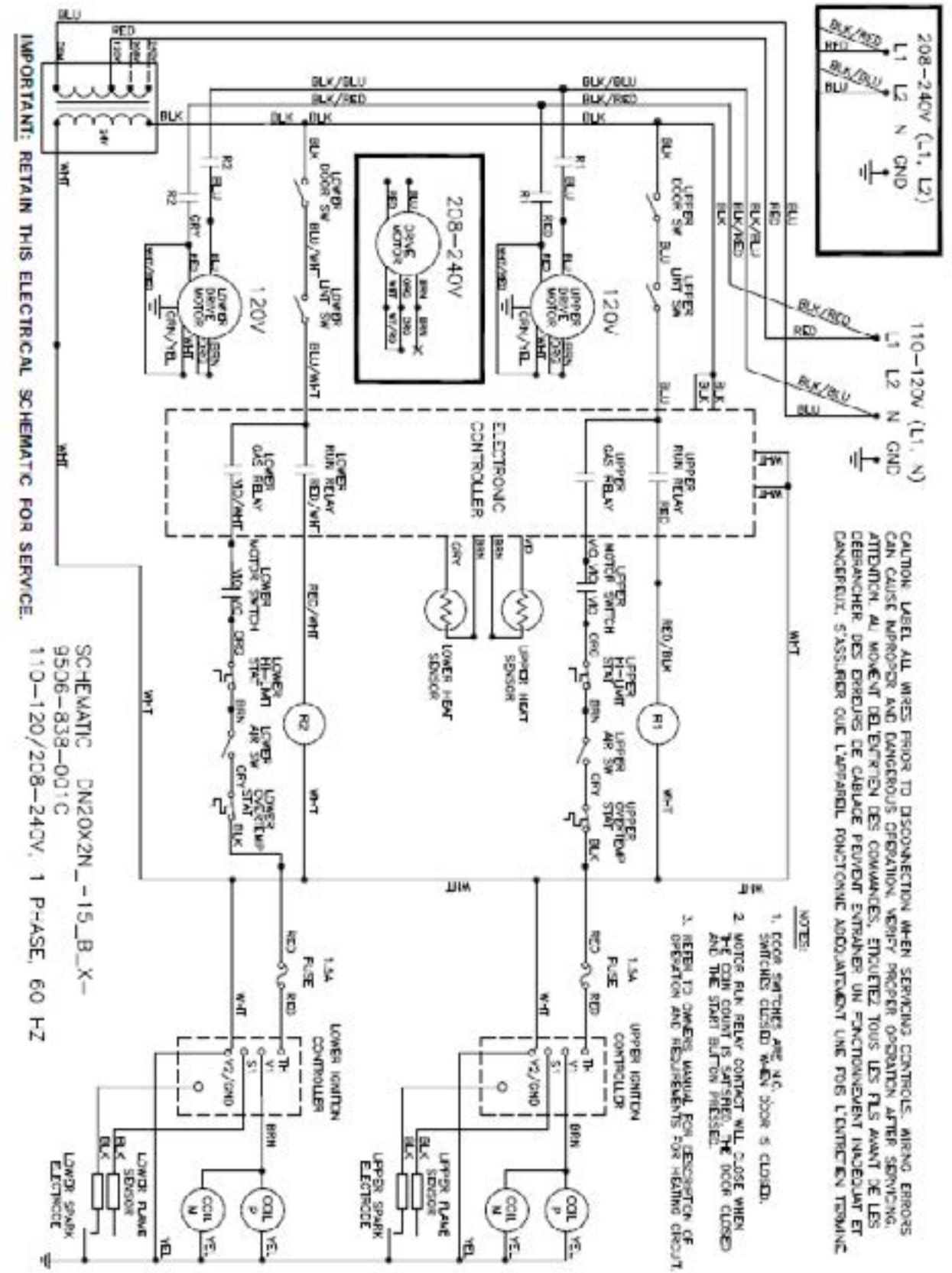
8514-259-001 REV B PAGE 30

8. Move the red wire from the 120V tap on the transformer found in the bottom of control box to the required voltage tap based on actual supply voltage measurement. See figure below.

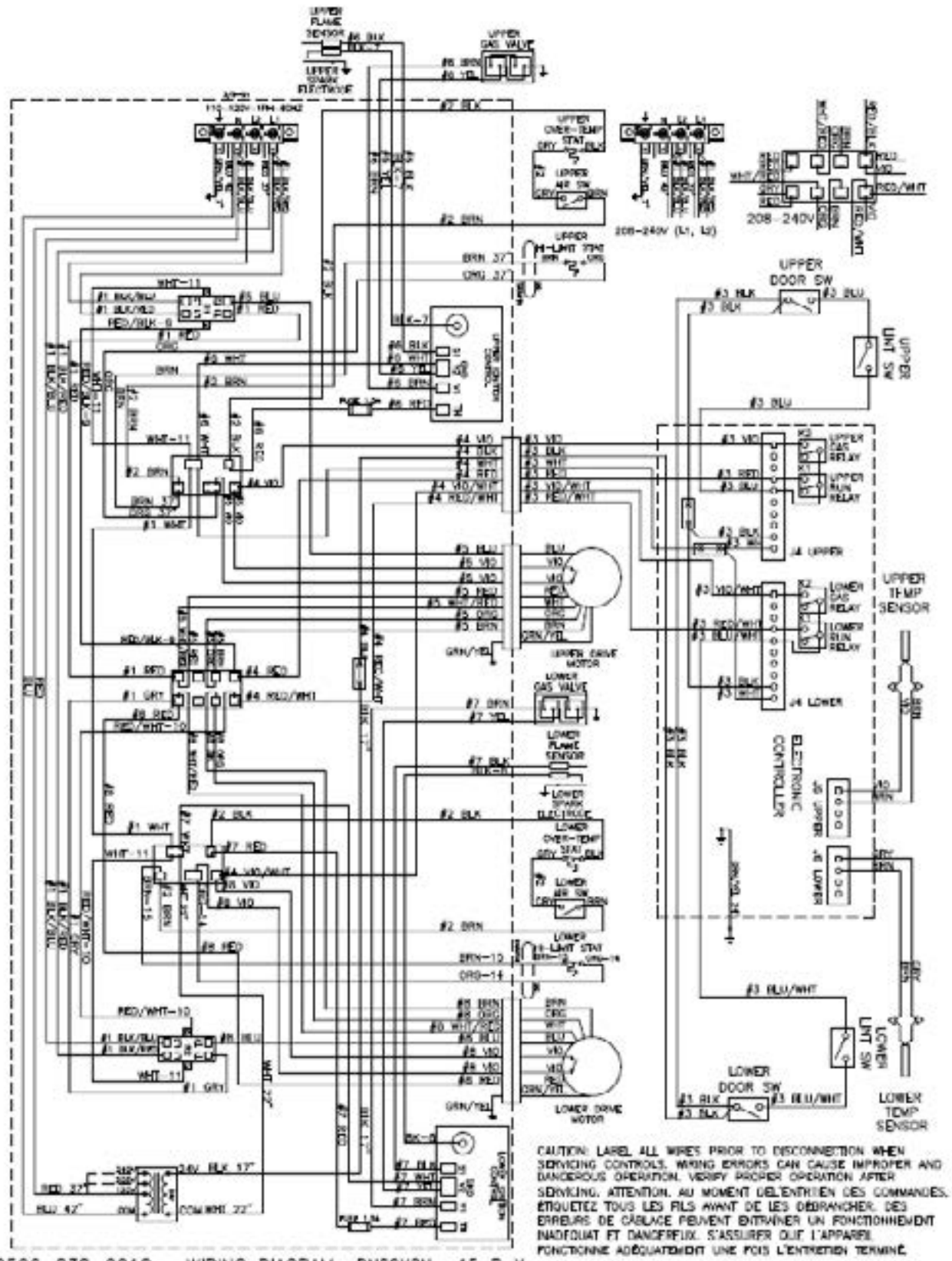
CONTROL TRANSFORMER CONNECTIONS
AS VIEWED FROM SIDE OF TRANSFORMER



9. Reconnect power to the dryer and test to ensure proper operation; one line voltage to L1, one line voltage to L2 and the earth ground to E.
10. Reinstall the cover of the control box assembly on the dryer using a 5/16" wrench.



Notes



9500-B38-001C WIRING DIAGRAM DN20X2N-15_B_X-

IMPORTANT: RETAIN THIS ELECTRICAL DIAGRAM FOR SERVICE.

Section 4:

Service Procedures

Service Procedures

Clothes Door Removal

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

NOTE: the spacer between the bottom of the door and the hinge.

Clothes Door Latch Adjustment

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

Door Switch Removal And Installation

1. Each door switch is located directly behind the hinge plate of the loading door assembly.
2. The entire switch can now be pulled from the front panel opening.
3. The switch has two clips that hold it in place on the rear of the switch.
4. With the panel removed, you can now squeeze the two clips and allow switch to be pushed back through panel and grasped from the front and switch removed.

Installation Of Clothes Door Window And Gasket

1. Place the clothes door, with its face down, on a solid surface.

NOTE: Prewarming the gasket makes the installation much easier.

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

High Limit Thermostat Locations And Functions

- A. Burner Housing-** This hi-limit is located on the back side of each burner housing.
1. The thermostat opens the circuit to the main burners in the event of malfunction in the gas control area or temperature control. This thermostat will open quickly if there is a significant loss of air flow over the burner area.
 2. It is covered by a guard and is held in place by two screws. There are spacers between the thermostat and bracket which must be used to give proper operation.

B. Manual Reset Over temperature Safety Thermostats- The second hi-limit thermostat is located on the right side of each burner housing as you view from the back of the machine. It is just above the gas valve and covered by a guard with a small access hole.

1. The manually resettable thermostat limits the operating temperature a dryer can reach should some abnormal situation occur.
2. Should one of the thermostats be tripped, that particular tumbler will cease to heat until the thermostat is reset. Once the dryer cools, the thermostat may be reset by inserting a pencil or stick through the opening in the thermostat cover.

REMOVAL: To remove either the hi-limit thermostat on the rear of the burner housing or the over-temperature thermostat on the right side of the burner housing, remove the mounting screws holding its respective guard. Next, remove the terminal of each wires attached to the thermostat. Lastly, remove the mounting screws holding the thermostat to the burner.

Pressure Regulator Adjustment

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

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

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

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

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

Heat Sensor

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

Electronic Control Removal

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

Membrane Switch Replacement

The control buttons are an adhesive membrane switch assembly which may be replaced separately. Slide the control out to gain access to disconnect the ribbon connector. The ribbon connector must be pushed solidly and squarely into its connector when connecting a new membrane switch.

Temperature Sensor Testing

If either tumbler display shows an F1 or F2, that is an indication of possible temperature sensor problems for that tumbler. Before replacing a sensor, check the wires and connections of the sensor for damage. The sensor lead wires are very small and care should be used in routing and connecting them. The sensors are located under the tumblers and may be viewed by removing the lint screen. The temperature sensor should have 10,000 ohms resistance at room temperature if okay.

Temperature Testing

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

20Lb Stack Temperature Sensor Removal

UPPER - Remove front panel, see front panel removal procedure, in the Control area remove the two gray wire nuts connecting the Temp sensor harness. Remove cap plug and slide Temperature probe into the control compartment area, be careful not to loose the retainer clip (9486-137-002) that is on the Temp probe inside the lint tray area. Reinstall in reverse operation.

LOWER - Remove Lower Panel, see lower panel removal procedure, in the left lower cavity remove the two gray wire nuts connecting the Temperature Sensor harness. Slide the Temperature Probe to the left cavity area to remove, be careful not to loose the retainer clip (9486-137-002) that is on the Temp probe inside the lint tray area. Reinstall in reverse operation.

20Lb Stack Upper Front Panel Removal

UPPER - To remove the front panel the door assembly must be removed. First remove control and lint screen, next remove Door hinge upper special screw, 9545-052-001 3/16 allen wrench, and remove door. Next remove the four hinge strap torque screws, T20, and the upper right torque screw, and the three torque screws on the left hand side. Now the panel is loose. Next you must disconnect the door switch wires before you can remove the panel.

LOWER - To remove the Lower front panel the Control and upper lint screen plus the door must be removed. The front panel has to be loosened by removing the two lower torque screws (T20) on the upper door hinge and the left lower torque screw to loosen the front panel. The lower lint screen must be removed. Next remove Door hinge lower special screw, 9545-052-001 3/16 allen wrench, and remove door. Next remove the four hinge strap torque screws, T20, and the two torque screws on the left hand side. Now the panel is loose. Next you must disconnect the door switch wires before you can remove the panel.

NOTE: Always remove power from the machine before performing maintenance on the machine.

Final Drive Belt Replacement

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

Motor Drive Belt Replacement

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

NOTE: All drive belts are self adjusting.

Tumbler Pulley Removal And Installation

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

Intermediate Pulley And Tension Arm Removal

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

Tension Arm Support Assembly Adjustment

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

Motor Blower Assembly Removal And Installation

1. Remove Belts
2. Disconnect Motor harness connector.
3. Remove Tumbler pulley. Remove 3/4" bolt, Next remove pulley using "T" bar puller (needed two 3/8"-16 UNC bolts).
4. Remove Idler pulley. Using snap ring pliers, remove snap ring and pulley.
5. Remove Blower back plate (Motor attached). Remove 1 5/16" harness clamp bolt, then remove nine 3/8" nuts and then tilt blower fan to remove.
6. Blower fan is held in place with 2 square headed set screws. Upon reassembly, one blower set screw should fit in the counter sink and the other should mount on the flat side of the shaft. Use red locktite on the set screws and torque to 165 in/lbs.
7. The Motor is mounted with 4 bolts to the motor mounting bracket on the rear of the dryer.
8. Reassemble in reverse order.

Air Flow Switch Operation And Adjustment

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

Ignition Transformer Fuse

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

Ignition Control Transformer

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

Electronic Ignition Module

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

1. The electronic ignition module for each tumbler is located inside the electrical box. This is the metal box on the back of each tumbler area directly to the right of the final drive pulleys.
2. The red wire from the transformer traveling thru the 1.5 amp fuse and into the module supplies the 24VAC required to operate the entire direct ignition system.

3. The black colored hi-voltage wire (spark plug type) plugs onto the post connector on the module, and the multi-wire plug fits into the side of the module.

Spark Ignition Module Removal

If the ignition modules are mounted on a bracket, see section A. Otherwise, see section B.

A: With mounting bracket

Remove the connector housing of the wiring harness attached to the ignition module. Then, remove the terminal of the hi-voltage cable attached to the ignition module. Next, remove the mounting screws holding the ignition module mounting bracket in the rear control box. Lastly, remove the nuts holding the ignition module on its mounting bracket.



B: Without mounting bracket

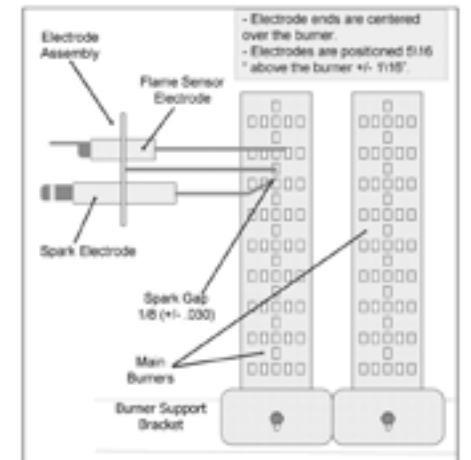
Remove all of the terminals of the wiring harness attached to the ignition module. Then, remove the terminal of the hi-voltage cable attached to the ignition module. Lastly, remove the mounting screws holding the ignition module in the control box. If there is no spark or intermittent spark, check black hi-voltage lead wire for damage

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

Ignition System-Function & Sequence

During normal dryer operation, the following occurs:

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



Ignition System-Checkout

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

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

Spark Electrode Assembly-Removal

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

Gas Valve Removal (shut off manual gas valve to stop gas flow before removing gas control valve)

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

Main Burner Orifice Removal

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

Main Burner Removal

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

Recirculation Chamber Inspection

1. Remove Resettable manual overtemp sensor and remove inspection plate in burner chamber between main burners and rear back panel of dryer.

Cylinder Removal

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

Adjustment Of Cylinder Assembly With Front Panel Removed

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

Tumbler Through Bolt Access Cover

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

Bearing Housing Removal

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

Notes

Lined area for notes on page 54.

Notes

Lined area for notes on page 55.

Section 5:

Troubleshooting

Trouble Shooting

Electronic Control Diagnostic Lights

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

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

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

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

Electronic Control Test Cycle

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

Trouble Shooting Fault Codes

- F1 Shorted sensor or shorted sensor wire harness
- F2 Open sensor or sensor wire harness disconnected
- F3 EEPROM corrupted. Dryer will not start and "F3" appears on the 4-digit display. The power to the dryer must be cycled to reset the controller. Fault should only occur when starting a dry cycle.
- F4 Gas valve on fault. The drying temperature did not increase 1°F. in 15 minutes. "F4" will flash on the display and the dry cycle will finish without calling for heat (energizing gas valve). Opening the door or pressing the STOP key will reset the fault and clear the remaining time in the dry cycle.
- F5 Temperature fault. The drying temperature is at least 25°F. above the temperature setting. "F5" will flash on the 4-digit display and the dry cycle will finish without calling for heat (energizing the gas valve). The power to the dryer must be cycled to reset the controller.

Troubleshooting Tips

Symptom	Probable Cause	Suggested Remedy
Tumbler does not turn	Drive belts	Check both drive belts. Replace if failed.
	Drive motor	Check capacitor and motor. Replace if failed
	Door switch	Check door switch contacts and adjustment. Adjust or replace the door switch
	Electronic Control	Is electronic control closing motor relay to power drive motor? Check for motor light on electronic control. If no light change control. If light is on, check voltage and wiring to motor.

Symptom	Probable Cause	Suggested Remedy
Tumbler turns but no spark at burner	Glass fuse	Check small glass control fuse in back of dryer. Replace if failed.
	Temperature Sensor	The temperature sensor should have between 30,000 ohms and 60,000 ohms resistance at room temperature if okay. Replace if not in this range.
	Ignition	Check for 24VAC output from transformer.
	Transformer	Replace if have 120V between black & white and no 24V between red and yellow.
	Over temperature	Check to see if manually resettable thermostat. Thermostat is kicked out. Reset by pushing red reset button.
	Ignition control	Check for 24VAC coming into the control on the at burner red wire. If voltage, then check for 24VAC out on the brown wire. Also check for spark at the ignitor. If no 24VAC output or no spark to the ignitor, replace ignition control.
	Air Flow Switch	Check air flow switch to be sure it closes when dryer is running. If not, adjust or replace switch.
	Hi-limit	Check for continuity. Should be 0 ohms resistance when cold. If not, replace thermostat.
Gas supply	No gas can cause system lockout	
Electronic Control	Is electronic control closing gas relay to power Control heat circuit? Check for gas light on electronic control. If no light change control. If light is on, check voltage and components in heat circuit at transformer at rear of unit.	

Symptom	Probable Cause	Suggested Remedy
Tumbler turns, ignition sparks, no flame	Gas supply	Make sure gas supply is working.
	Gas pressure	Make manometer check of gas pressure. Adjust if necessary.
	Spark Electrode Sensor	Check for damage to electrode or mounting. Replace if necessary.
	Gas valve	Check coil continuity, replace valve if failed.
	Ignition Control	Check for 24VAC to gas valve coils. If no voltage replace ignition control.
Burner Lights, but goes on and off	Electrodes	Check low voltage harness for possible wire break or cuts to allow no signal back to ignition control

Symptom	Probable Cause	Suggested Remedy
Erratic display	Initial Start-up	If erratic on initial start-up, leave power on for approximately one hour and check machine operation again.
	Grounding	Machine must be grounded by separate conductor back to neutral bar in breaker box.
	Program	Check program and make corrections if necessary.
	Voltage spike	Power down machine for 20 seconds and repower. If no improvement, replace control.
	Manual overtemp Tripping Frequently	Recirculating chamber Lint Accumulation
Exhaust ducting Excessive lint buildup		Remove exhaust duct at rear of dryer and inspect for excessive lint build up in complete duct from dryer to where duct exits building.
Clean lint of of top heat air chamber above tumbler		Remove front panel completely. Be careful of any wiring attached. Remove heated air chamber cover and clean above tumbler back to burner housing.

Kits, Assemblies, & Common Parts

Description	T 20x2
LP to Natural Conversion Kit for White Rodgers	9732-142-004
Kit - A to C series Conversion, Black, 24v	9732-307-004
Temperature Probe	9501-006-002
Controls	9857-187-003
Ignition Control Box	9857-251-001
Electrode Assembly, Ignition	9875-002-003
Thermostat, Hi-Limit	9576-203-002
Thermostat, Overtemp	9576-207-006
Fuseholderassembly	9200-001-002
Fuse-1.5a,fast,1/4x1-1/4	8636-018-001
Fuse-2.5a,fast,1/4x1-1/4	8636-018-004
Motor Run Relay	5192-299-002
Transformer, Ignition	8711-013-001
Lint Screen Assembly (No Front)	9805-036-002
Air Flow Switch	9536-461-009
Motor Belt	9040-076-012
Tumbler Belt	9040-073-013
Tension Arm Complete	9861-022-001
Spider/Trunnion	9568-018-001
Door Handle	9244-092-001

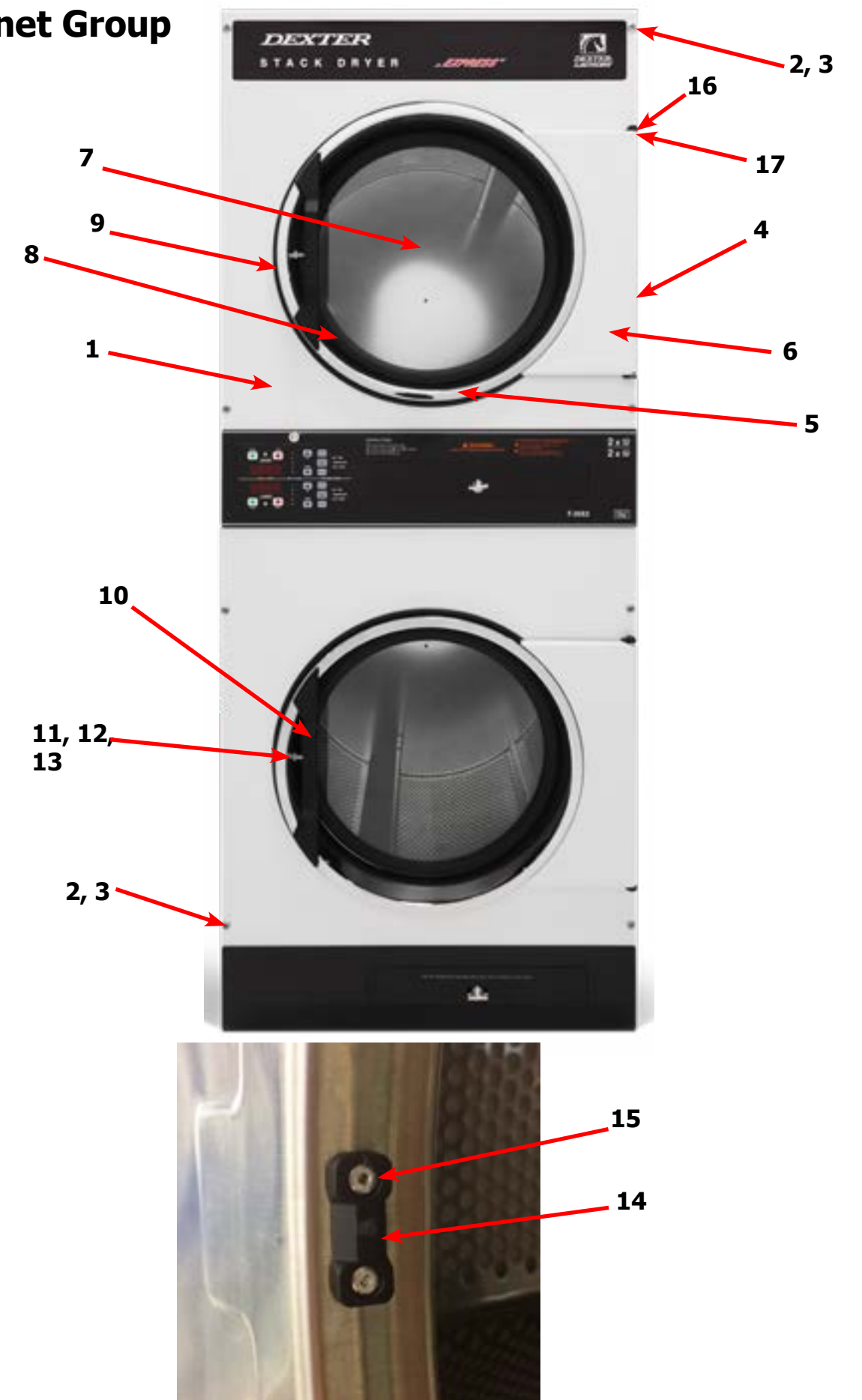


Section 6: Parts Data

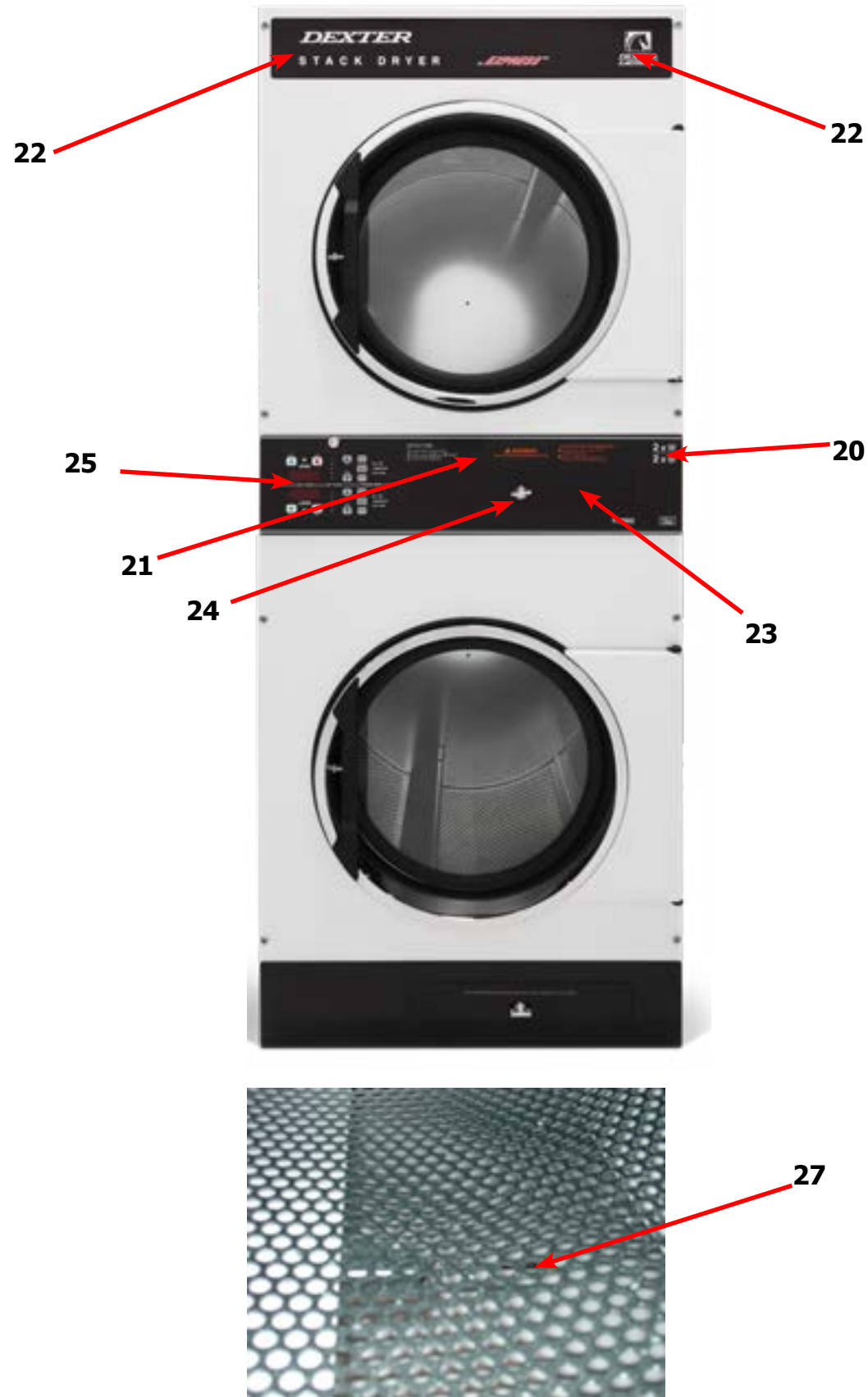
Dryer Cabinet Group

	Description	T-20X2	QTY
1	Panel Assy., Front- Upper (SS)	9989-610-004	1
*	Insulation Front Panel, half moon (top)	9277-064-001	1
*	Insulation Front Panel, half moon (bottom)	9277-064-002	1
2	Screw, FLHDCR, 10B x- 1 3/4	9545-008-014	4
3	Washer, Finish, #10	8641-585-001	4
*	Nut, Spring	8640-399-001	4
*	Hinge ,Backup Plate	9982-392-001	1
*	Screw, Countersink, 10-32X 1/2	9545-012-003	2
4	Strap, Hinge (SS/Black)	9544-074-002	2
*	Screw, Hinge to Panel	9545-012-028	4
*	Door Assy., Loading Complete-Chrome/BLK/SS	9960-315-002	1
5	Door Assy., Loading-Chrome(ring only)	9960-314-003	2
5	Door Assy, Loading-Blk (Ring Only) (after serial D1.22290.005)	9960-314-004	2
6	Plate Assy., Hinge (SS)	9982-393-001	1
*	Screw, Hinge to Door	9545-012-015	4
*	Nut, Hinge to Door	8640-413-002	4
*	Cover, Hinge Plate	9074-377-002	1
*	Screw, Phillips-10B x 3/8	9545-008-010	2
7	Glass, Door	9212-002-005	1
8	Gasket, Glass Black	9206-413-003	1
*	Support, Door Glass	9548-117-000	1
*	Tool Install Dryer Door Gasket	8545-064-001	1
9	Gasket, Outer Rim Black	9206-420-006	1
10	Handle, Loading Door	9244-092-001	1
*	Screw, Handle 1/4-20 x 3/8	9545-018-017	2
11	Stud, Door Catch, 3/4	9531-033-002	1
12	Nut, Hex	8640-413-001	1
13	Nut, Acorn	8640-413-003	1
14	Catch, Loading Door	9086-015-002	1
15	Pop Rivet for mtg. catch	8638-190-009	2
16	Screw, Door to Hinge Strap (Special Black Type)	9545-052-001	1
17	Washer, Fiber	8641-436-003	1
*	Cabinet Touch Up Paint (White)	9472-001-013	1

Cabinet Group



Dryer Cabinet Group

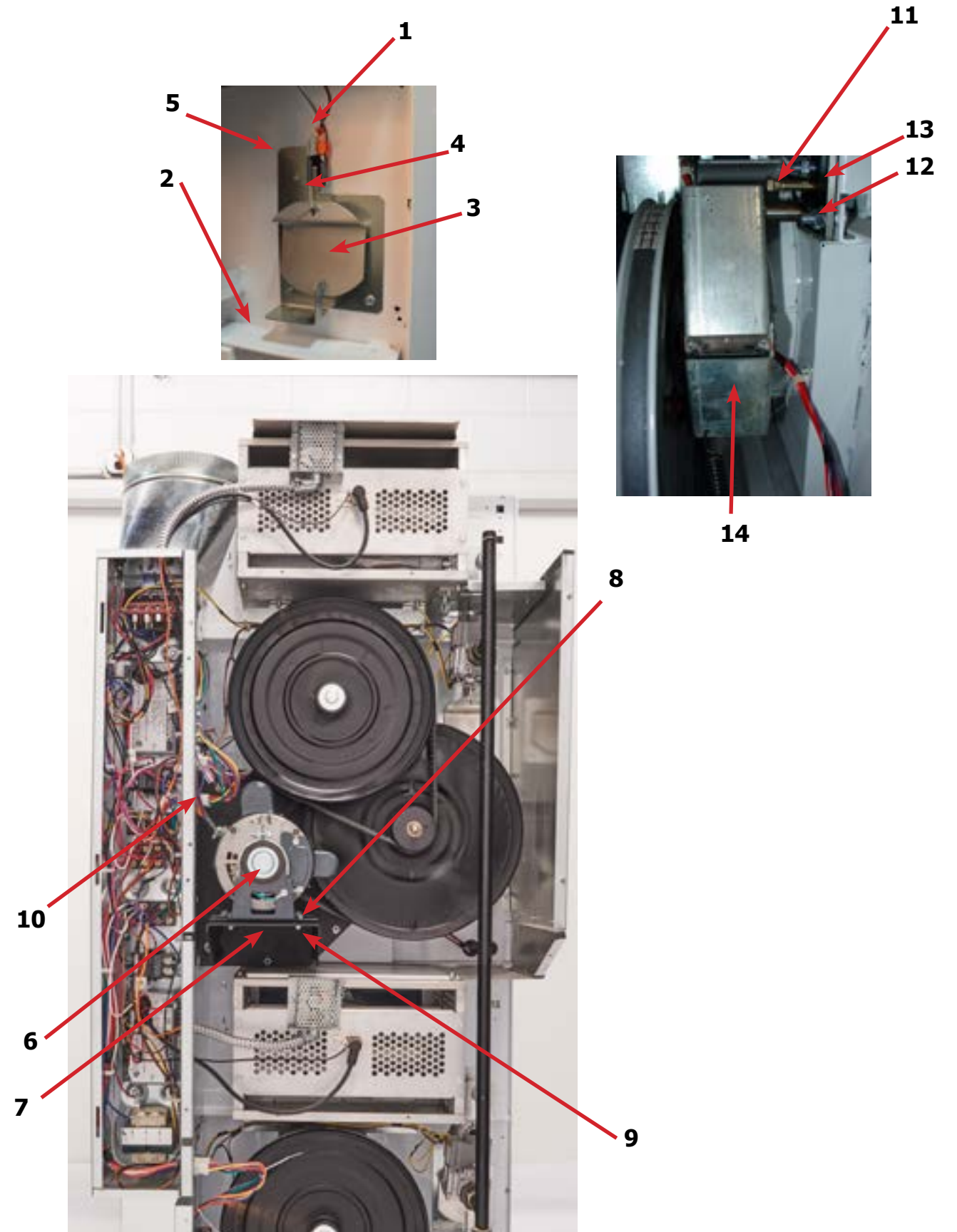


Cabinet Group Continued

Key	Description	T-20X2	QTY
20	Escutcheon	9994-044-001	1
21	Trim, Overlay-Upper Black	9435-059-001	1
*	Screw, #4-40 x 3/16	9545-020-009	12
22	Nameplate Stack Dryer Express Black	9412-251-001	1
*	Lint Drawer Assembly Black	9866-008-005	1
*	Drawer, Front PTD	9974-016-002	1
*	Washer, Flat, #10	8641-581-006	2
*	Washer, Curved-Spring	8641-569-004	2
*	Nut, 10-32	8640-413-007	2
23	Overlay Trim, Lint Drwr-Black	9435-053-003	1
*	Felt Seal (back of lint screen assembly)	9532-074-004	1
*	Lint Screen Assembly ONLY (no front)	9805-036-002	1
*	Replaceable Lint Screen Only	9555-057-011	1
24	Lock-Door Service Thumb Turn	8650-026-002	1
*	Cam, Lock	9095-044-001	1
*	Lint Screen Strap Hold Down Screws 10Bx 1/4	9545-008-001	32
25	Controls Assy, 24VAC, Black	9857-187-003	1
*	Harness, Electronic Control	9627-885-003	1
*	Control Board	9471-017-001	1
*	Harness, Heat Sensor	9627-886-001	1
*	Wire Nut Connector Grey	8640-276-002	2
*	Membrane Switch	9801-105-001	1
27	Sensor Temp/Bracket Control	9501-006-002	2
*	Cover, Cabinet (Top)	9074-374-001	1
*	Insulation Cabinet Cover	9277-041-028	1
*	Screw-hxwshrundrcuthd,10abx3/8	9545-008-024	14
*	Stack Dryer Trunion Puller	9732-243-001	1
*	Leg, Leveling 1/2"	8544-006-001	4
*	Leveling Leg Wrench	8545-061-002	1

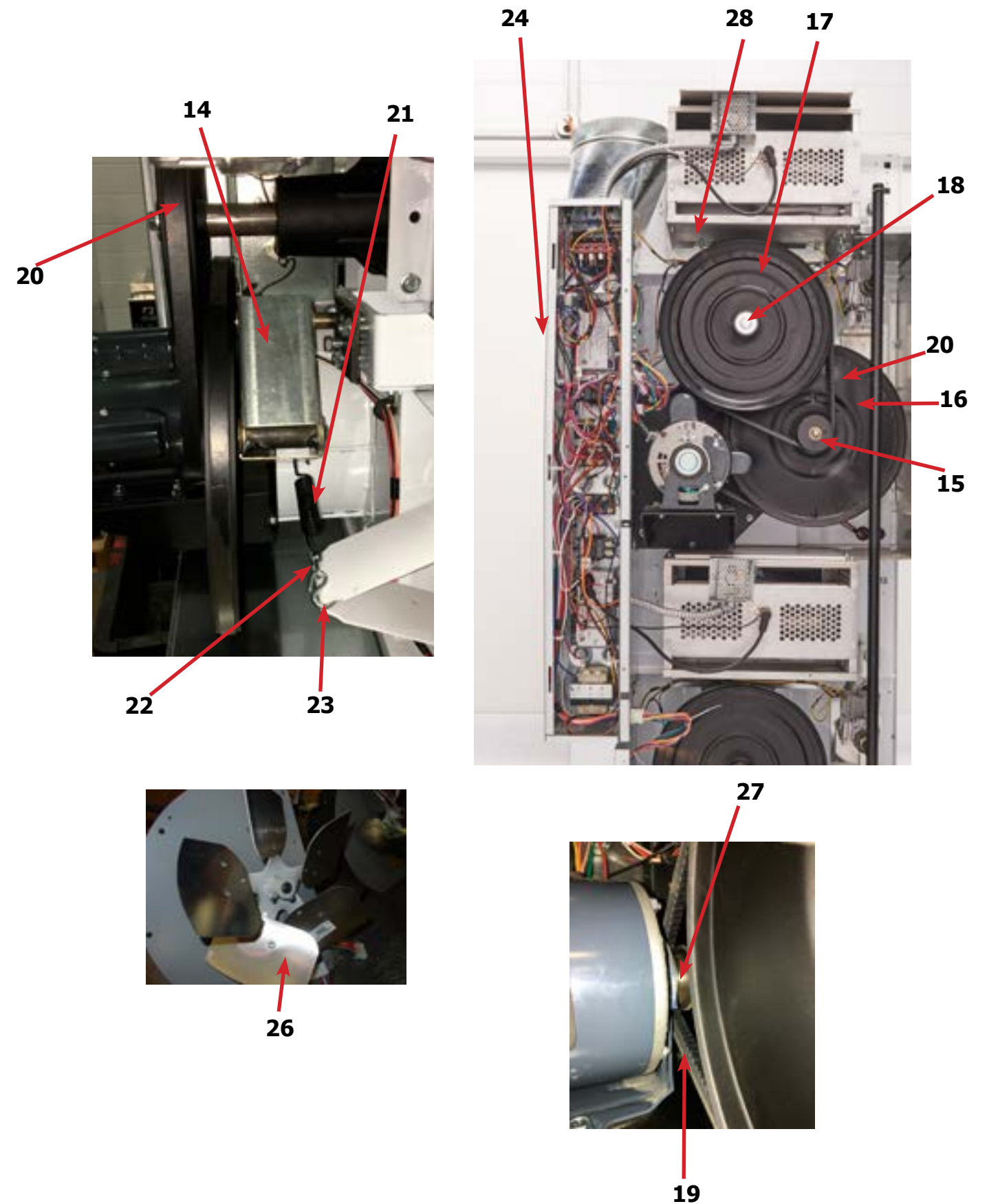
	Description	T-20X2	QTY
*	Switch Assy, Air Flow	9801-095-001	1
1	Switch, Air Flow	9539-461-009	1
2	Bracket, Switch- Air Flow	9029-174-001	1
3	Actuator, Switch	9008-007-001	1
4	Pin, Cotter	9451-169-002	1
5	Screw 4-40 x 5/8"	9545-020-001	2
*	Nut, Special Twin .#4-40	8640-401-001	1
*	Shield, Switch	9550-169-003	1
*	Screw 10 Bx 1/4"	9545-008-001	3
6	Motor, Drive	9376-332-001	2
*	Run Capacitor	5191-108-004	2
*	Start Capacitor	5191-109-004	2
*	Pulley-motor,60hz	9453-185-001	1
*	Screw-set,5/16-18x1/2	9545-028-013	1
*	Impeller (W/Setscrew)	9278-045-001	1
7	Plate, Motor Mtg	9982-390-002	1
*	Bolt 3/8" - 16 x 3/4"	9545-029-008	1
*	Lockwash Spring 3/8	8641-582-003	1
8	Screw, Motor to Plate Screw-hxflgwhzlk,5/16-18x5/8	9545-014-004	4
*	Nut-hextwinwhzlk,5/16-18	8640-400-003	4
9	Nut 1/4x20 Motor Plate to Cabinet	8640-414-007	7
10	Clamp-cable,3/4	8654-125-004	2
*	Screw-hxhdsltdmach,12abx1/2	9545-048-001	2
11	SupportAssy, Intermed. Pulley	9991-053-002	1
12	Bolt, Rd Hd 3/8-16 x 1 1/4	9545-029-010	3
13	Bolt, 3/8-16 x 1 1/2	9545-029-012	1
12	Nut Flange Wizioc 3/8" - 16	8640-415-004	3
*	Washer, Flat	8641-581-035	1
14	Arm Assy-Tension, Complete	9861-022-001	1
*	Washer, Flat	8641-581-035	1

Rear View Photos

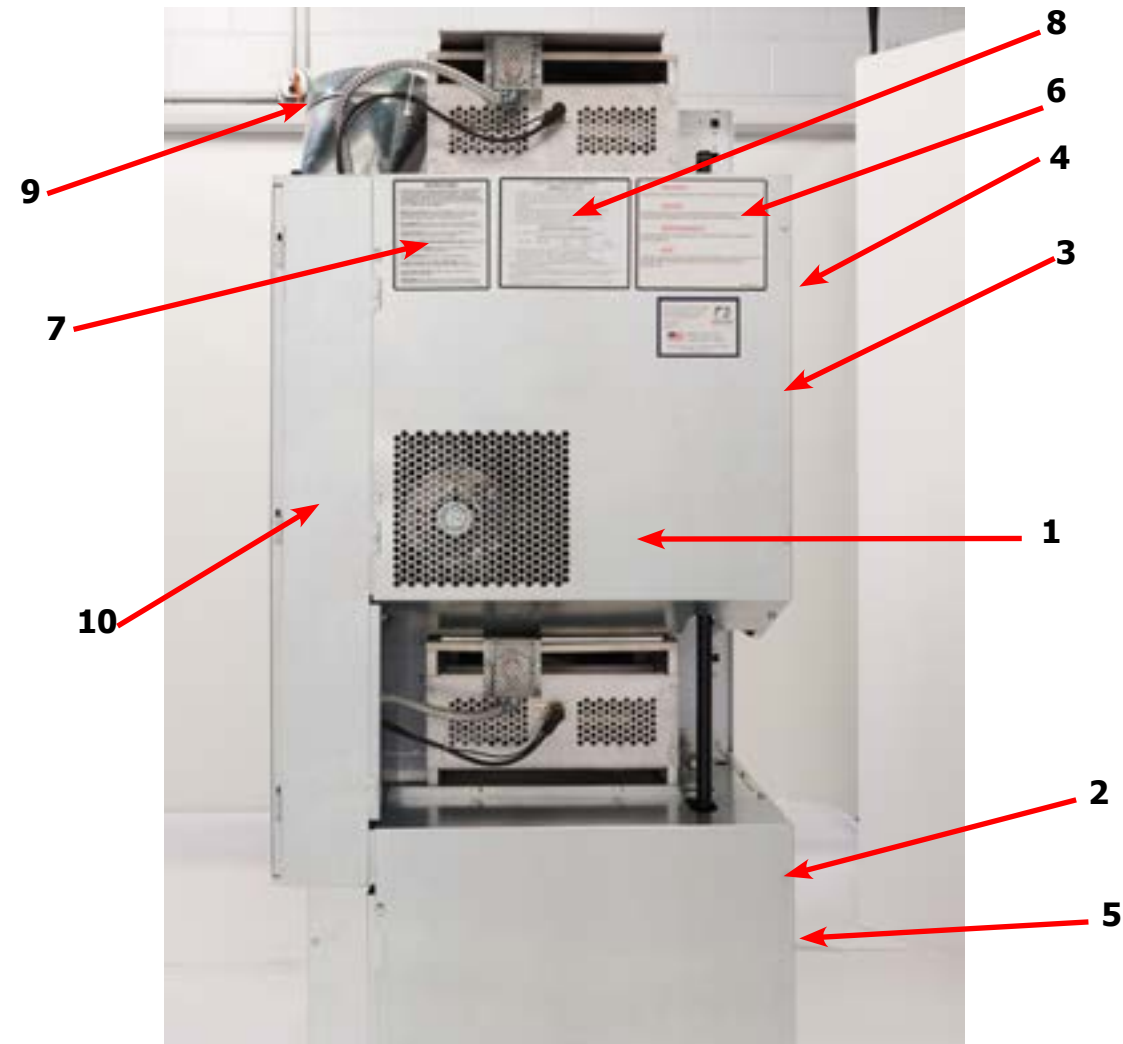


	Description	T-20X2	QTY
14	Arm Assy-Tension, Complete	9861-022-001	1
*	Washer, Flat	8641-581-035	1
15	Ring-Retaining	9487-200-003	1
16	Pulley Assy, Intermediate with bronze flange bearing	9908-053-003	1
*	Bearing - Bronze Flange	9036-145-002	1
*	Spacer-Shaft (See Tumbler Group for Expanded View)	9538-164-001	1
*	Tolerance Ring	9487-234-005	1
17	Pulley, Driven	9908-052-002	1
18	Washer -Flat	8641-581-026	1
18	LockWasher - IntTooth, 1/2"	8641-582-016	1
18	Screw, 1/2-13x1 1/4	9545-017-009	1
19	Belt, Drive- Motor	9040-076-012	1
20	Belt, Drive- Tumbler	9040-073-013	1
21	Spring, Tension	9534-319-002	1
22	Chain, Tension	9099-012-011	1
23	Hook, Tension	9248-022-002	1
*	Damper Inside Duct Exhaust	9125-009-001	1
24	Pin, Damper Hinge	9451-146-007	1
*	Box-duct.lower	9041-113-001	1
*	Nut, Spring	8520-141-000	1
*	Screw #10B x 1/2	9545-008-026	3
*	Cover Duct Upper	9074-382-001	1
*	Base Duct	9047-121-001	1
*	Screw 10ABx 3/8"	9545-008-024	40
26	Impeller, W/Set Screws	9278-045-001	1
27	Pulley, Motor	9453-185-001	1
28	Bracket for Wire Harness Under Burner Housing	9029-305-001	1

Rear View Photos

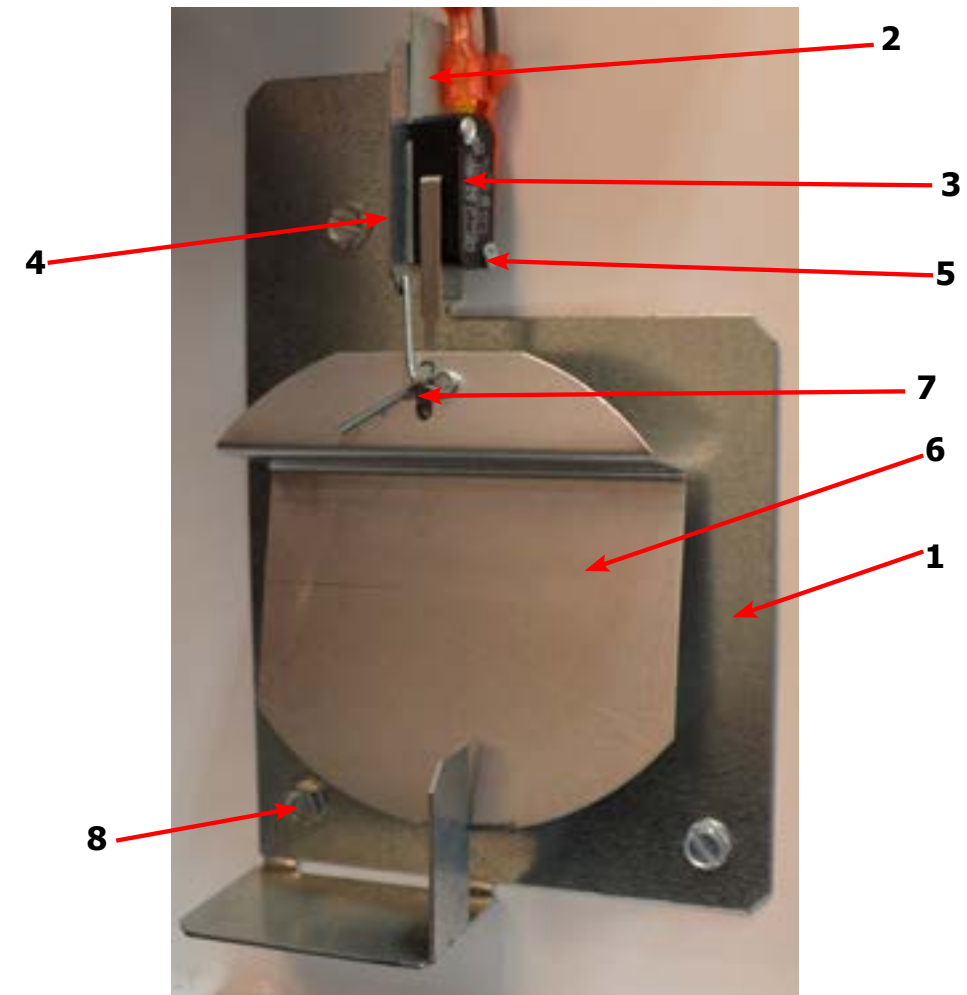


Dryer Back Panels and Guards



Key	Description	Part Number	Qty
1	Guard, Drive	9208-144-001	1
2	Screw, 10AB x 3/8	9545-008-024	20
3	Panel, Drive Guard,	9208-131-001	1
4	Guard-Small, upper	9208-134-001	1
5	Guard-side,lower	9208-132-001	1
6	Warning, Label	8502-763-001	1
7	Label, Instructions	8502-645-001	1
8	Lighting and Clearance, Label	8527-112-001	1
9	Duct, Transition	9109-127-001	1
10	Door, Cover-Control Box	9108-146-001	1
*	Cabinet, Cover	9074-374-001	1
*	Insulation	9277-041-028	1
*	Screw, 10AB x 3/8	9545-008-024	10
*	Wiring Diagram & Schematic	9506-838-001	1
*	8" Slide Open Clean Out Duct (Optional)	9973-034-001	1

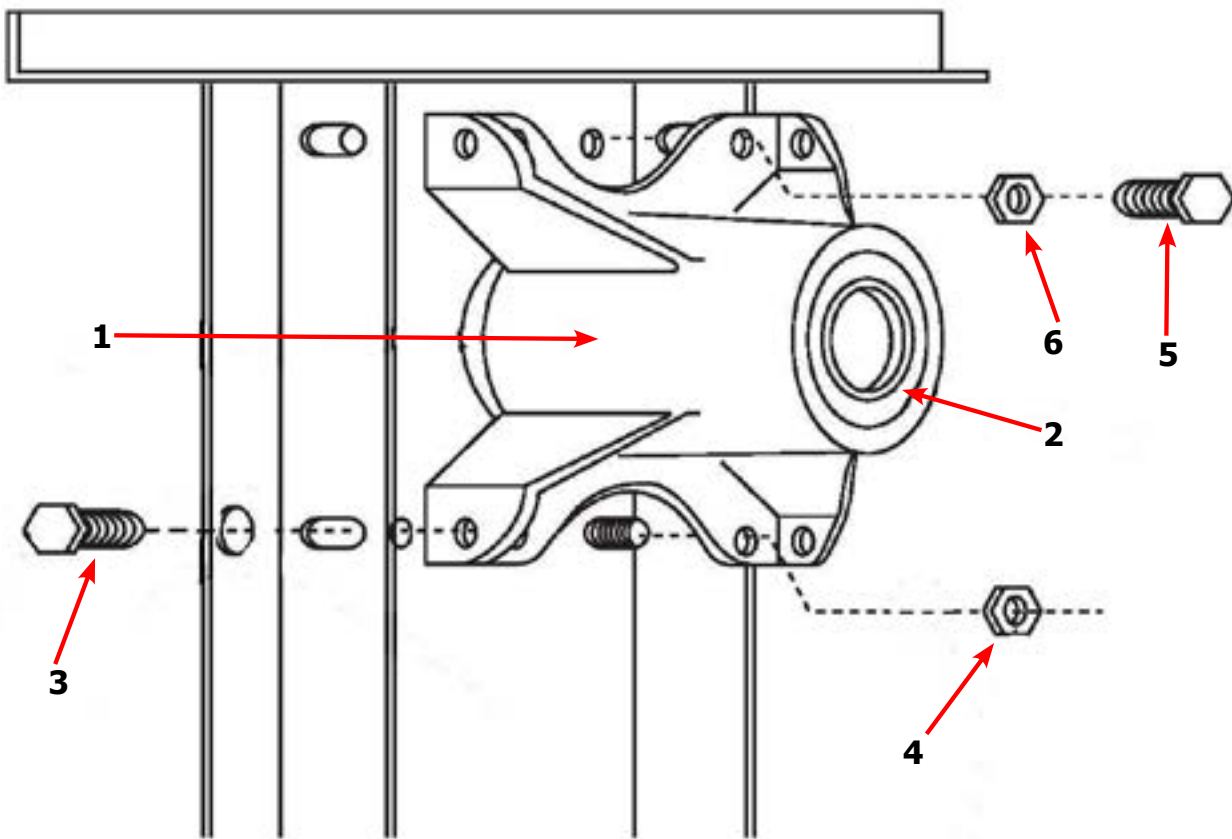
Air Flow Switch Assembly



Key	Description	T-20X2	QTY
*	Air Flow switch Assy	9801-095-001	2
1	Bracket-Airflow switch	9029-174-001	2
2	Shield-Switch	9550-169-003	2
3	Switch-Micro	9539-461-009	2
4	Nut-Twin, 4-40	8640-401-001	2
5	Screw-.625, 4-40	9545-020-001	2
6	Actuator-Air Flow Switch	9008-007-001	2
7	Pin-Cotter, .09375x.75	9451-169-002	2
8	Screw, 10BX x 1/4	9545-008-001	3
*	Harness Assembly, Overtemp/Airflow	9627-861-002	1

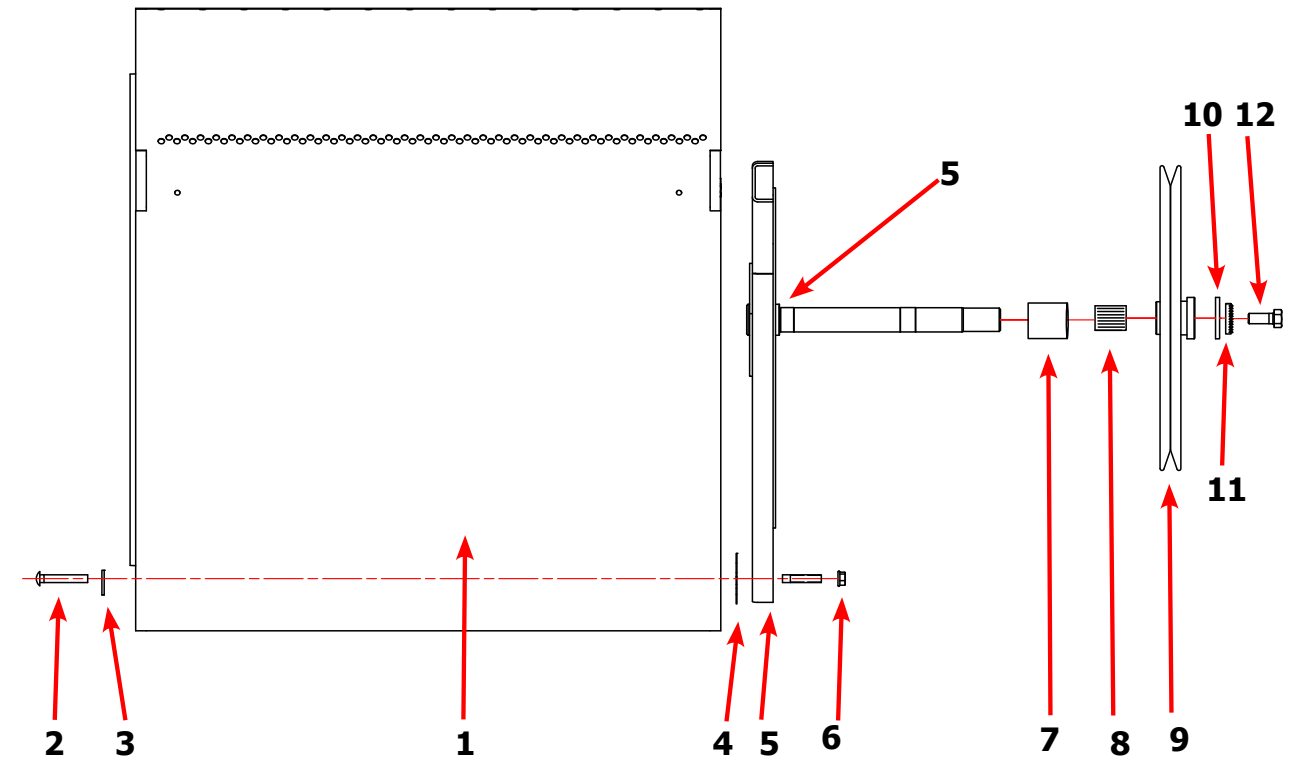
Bearing Housing Group

Key	Description	T-20X2	QTY
	Bearing Housing Complete Assy (Includes bearings & Spacer)	9803-160-003	1
1	Housing, Bearing	9241-161-002	1
*	Spacer, Bearing	9538-139-002	1
2	Bearing, Ball, Front & Rear	9036-130-001	2
3	Screw-Wizlock, 3/8-24x3/4	9545-049-002	4
4	Nut, 5/16-18	8640-400-002	4
5	Screw, 3/8-24x1	9545-049-001	2
6	Nut, 3/8-24	8640-415-002	2



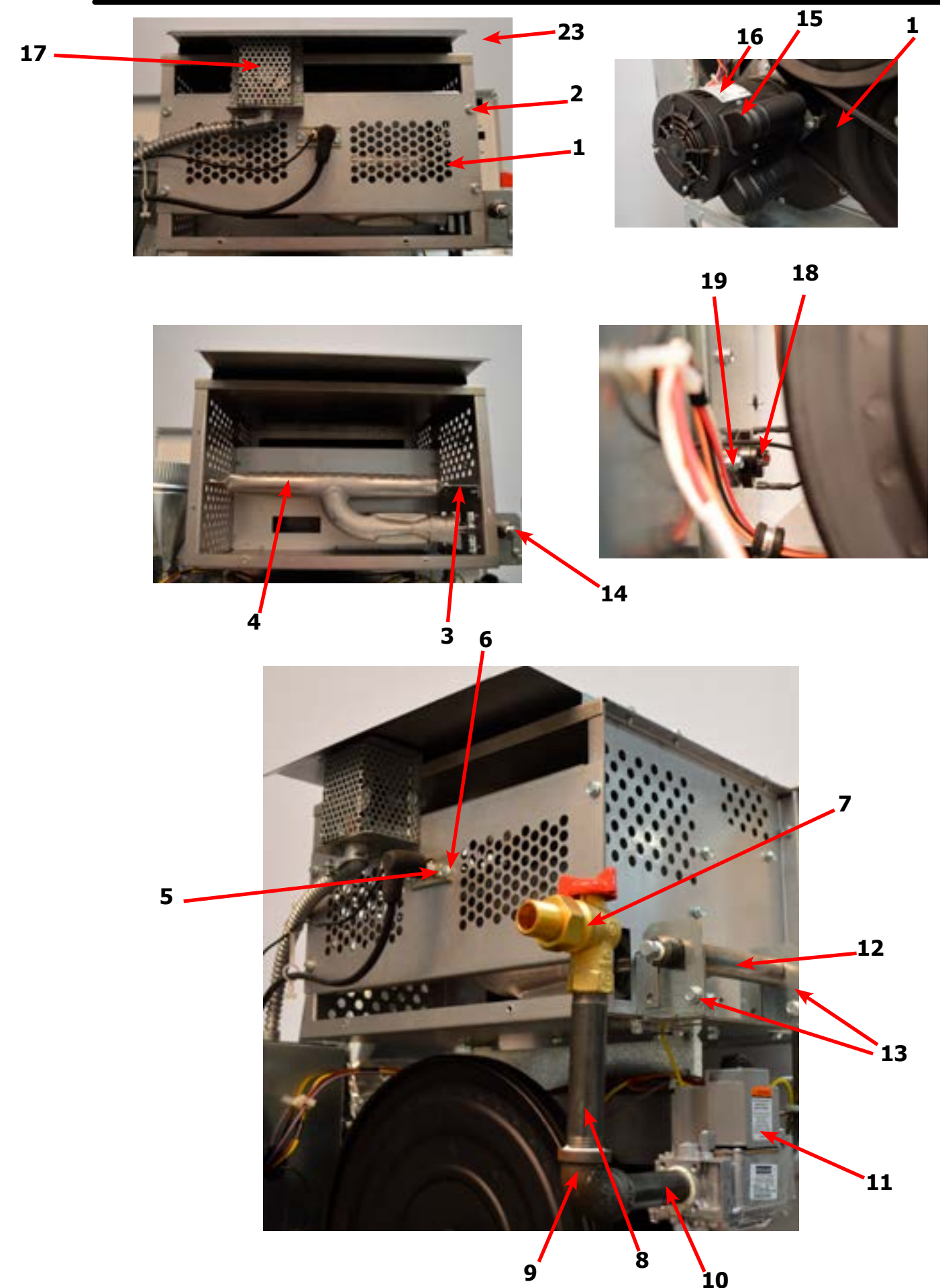
Tumbler Group

Key	Description	T-20X2	QTY
*	Tumbler Assy Complete W/Spider (GALV)	9848-156-001	1
1	Tumbler Assy (Galvanized)	9848-155-001	1
2	Rod, Tumbler	9497-019-004	3
3	Washer, Special	8641-554-001	3
4	Shim	9552-013-003	AR
5	Spider Assy	9568-018-001	1
6	Nut, Wiz Lock	8640-415-004	3
7	Spacer-Shaft	9538-164-001	1
8	Tolerance Ring	9487-234-005	1
9	Pulley, Driven	9908-052-002	1
10	Washer -Flat 1/2	8641-581-026	1
11	LockWasher - IntTooth, 1/2	8641-582-016	1
12	Screw, 1/2-13x1 1/4	9545-017-009	1
*	Belt, Drive	9040-073-013	1
*	Belt, Driven (Motor)	9040-076-012	1

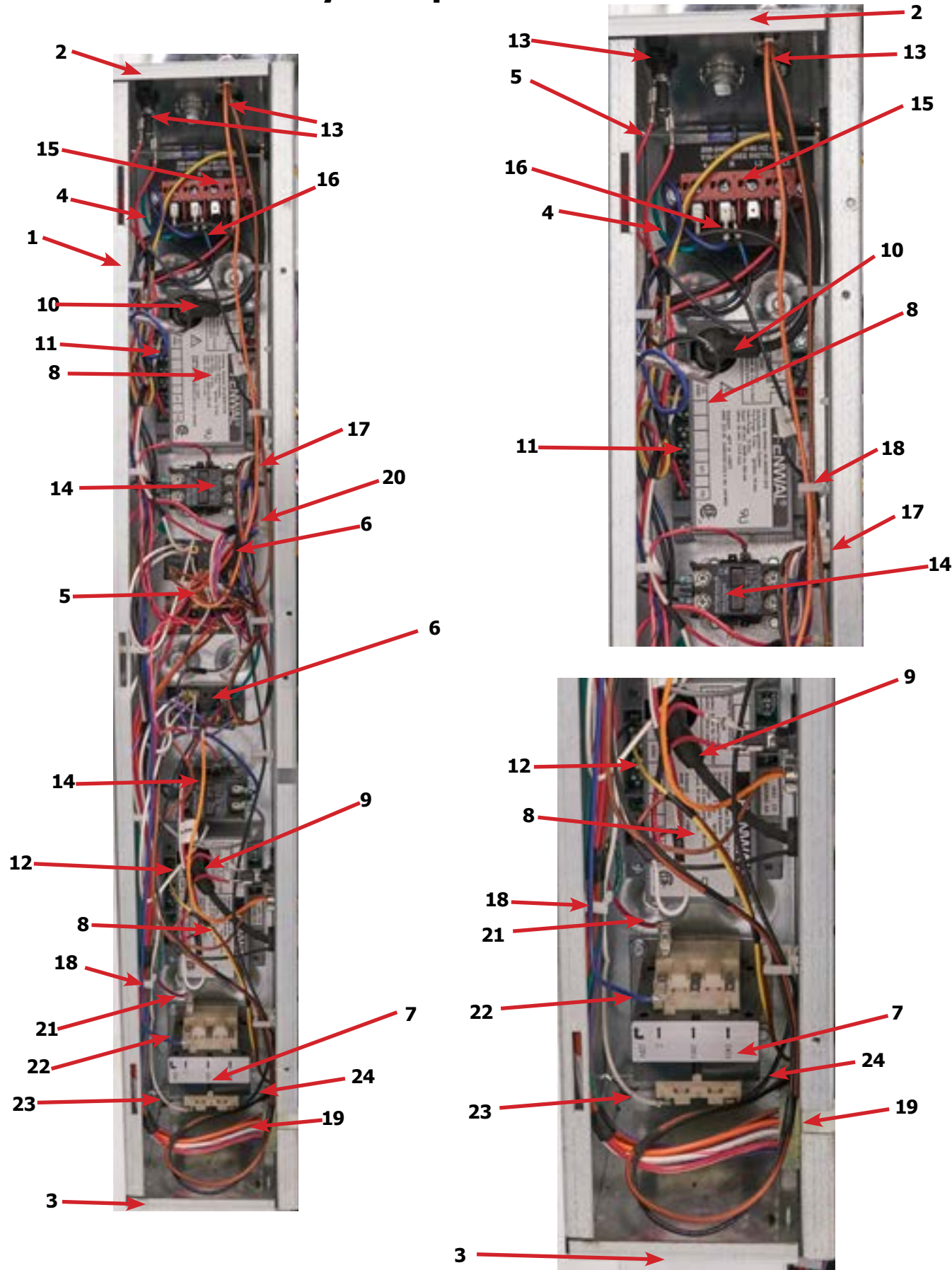


Dryer Burner Housing Group

Key	Description	T-20X2	QTY
*	Housing Assembly, Burner (All sheet metal parts not listed)	9803-221-001	1
1	Panel, Back Burner Housing	9454-949-001	1
2	Screw, 10B X 1/4"	9545-008-001	4
3	Angle, Burner Support	9003-220-001	1
*	Screw, 10AB x 3/8"	9545-008-024	2
4	Burner, Main	9048-023-001	2
*	Screw 10AB x 3/8"	9545-008-006	2
5	Electrode-ignition	9875-002-003	1
6	Screw, Electrode Mtg 8B x 1/4"	9545-045-001	2
7	Valve, Gas Shut Off (Optional)	9379-196-001	1
8	Pipe Assembly	9838-018-004	1
*	Gas Pipe Assembly Replacement Kit	9732-360-001	1
8	Gas Pipe Assembly (After Serial)	9838-023-001	1
*	Fitting - 1/2 NPT Union Adapter	8615-120-001	1
11	Control Assy, Gas (Honeywell)	9857-134-001	1
11	Control Assy, Gas (White Rodgers)	9857-192-001	1
*	Wireasy-yel,47/8"	8220-001-466	1
12	Manifold, Assy	9381-012-001	1
*	Orifice, Burner-Natural #40	9425-069-030	2
*	Orifice, Burner-LP #54	9425-069-031	2
13	Bracket, Manifold	9029-306-001	2
14	Pipe Plug in end of Burner Manifold	9456-054-001	1
*	Screw, 10AB x 3/8"	9545-008-006	2
15	Bracket, High Limit Thermostat	9029-192-001	1
16	Thermostat, Hi-Limit	9576-203-002	1
*	Spacer, Hi-Limit	9538-142-001	2
*	Screw 8B x 3/4"	9545-045-007	2
17	Cover, Hi-Limit Stat	9074-329-001	1
*	Screw, 10AB x 3/8"	9545-008-006	2
18	Thermostat, Safety Shutoff	9576-207-006	1
19	Screw, 10AB x 3/8"	9545-008-006	2
*	Control, Ignition Fenwall (3 trybox)	9857-251-001	1
*	Kit, LP Conversion (Honeywell)	9732-102-038	1
*	Kit, LP Conversion (White Rodgers)	9732-102-043	1



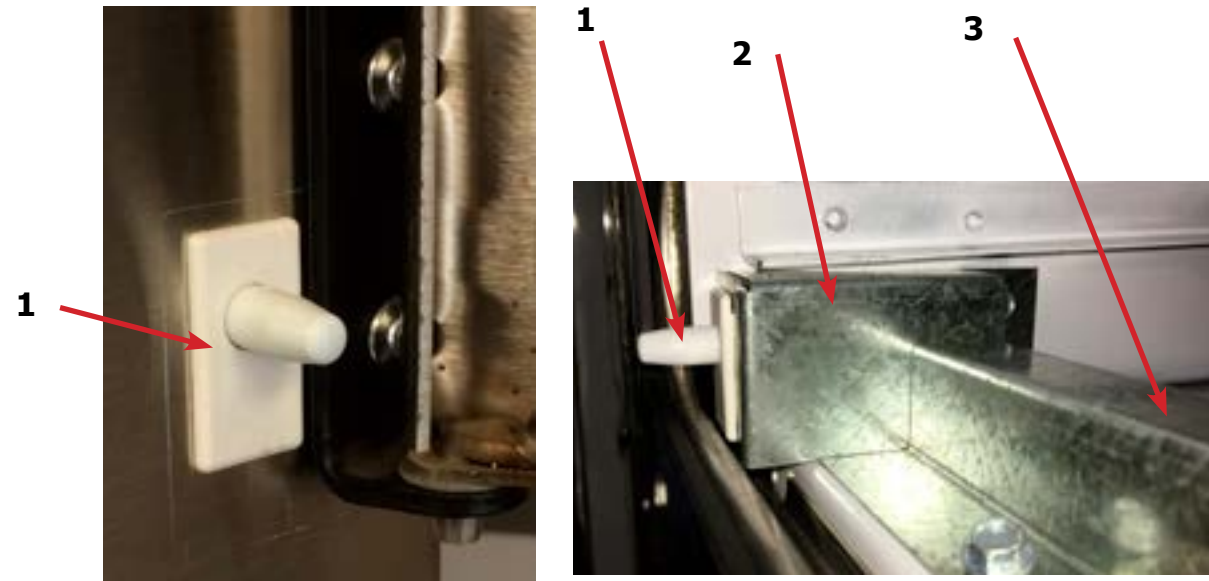
Control Assembly Group



Key	Description	T-20X2	QTY
*	Control, Rear	9857-250-001	1
1	Wrapper-controlbox	9636-219-001	1
2	Panel-upper,controlbox	9454-974-001	1
3	Panel-lower,controlbox	9454-973-001	1
*	Screw-hxwshrundrcuthd,10abx3/8	9545-008-024	6
4	Wireasy-grn/yel,7"	8220-137-002	1
*	Screw-hxwshrdsl,10-32tx1/2grn	9545-008-027	1
*	Lockwasher-exttooth,#10	8641-582-006	1
5	Terminalblockassembly-power	9897-026-002	1
6	Terminalblockassembly-power	9897-026-001	2
*	Screw-panhdcr,#8abx1/2	9545-045-012	6
7	Transformer	8711-013-001	1
*	Screw-hxwshrundrcuthd,10abx3/8	9545-008-024	4
8	Controlsassy-ignition	9857-182-001	2
*	Screw-hxwshd,10abx3/4	9545-008-018	4
9	Wireasy-highvoltage,#8,181/2"	9631-403-008	1
10	Wireasy-highvoltage,#7,291/4"	9631-403-009	1
11	Wiringharness-ignitioncontrol Upper	9627-867-005	1
12	Wiringharness-ignitioncontrol lower	9627-867-006	1
*	Plug-plastic,7/8"	9456-041-006	2
*	Bushing-wire,7/8	9053-067-002	4
*	Connector-conduit,3/8",str	8653-068-003	1
13	Fuseholderassembly	9200-001-002	3
*	Fuse-1.5a,fast,1/4x1-1/4	8636-018-001	2
*	Fuse-2.5a,fast,1/4x1-1/4	8636-018-004	1
14	Relay-motor,30amp,24vac	5192-299-002	2
*	Screw-panhdcr,#8abx1/2	9545-045-012	4
*	Wireasy-red/blk,#9,14"	8220-062-036	1
*	Wireasy-red/wht,#10,14"	8220-062-037	1
*	Wireasy-wht,#11,14"	8220-062-038	2
15	Bracket-powerblock	9029-202-001	1
*	Screw-hxwshrundrcuthd,10abx3/8	9545-008-024	2
*	Terminalblockasy-power,4pole	9897-035-001	1
*	Screw-hxwshrundrcuthd,10abx3/8	9545-008-024	2
*	Strip-marker,terminal	9558-029-003	1
16	Wiringharness-power,main,fork	9627-859-003	1
17	Wiringharness-mainextension	9627-863-001	1
18	Standoff-wiresaddlew/arrowhead	9527-007-001	22
19	Wiringharness-motorext,w/fork Lower	9627-864-006	1
20	Wiringharness-motorextension Upper	9627-864-011	1
*	Screw-pnhdcr,6bx3/8	9545-031-005	4
*	Screw-hxwshrdsl,10-32tx1/2grn	9545-008-027	2
*	Lockwasher-exttooth,#10	8641-582-006	2
21	Wireasy-red,37"	8220-095-011	1
22	Wireasy-blu,42"	8220-095-012	1
23	Wireasy-wht,22"	8220-095-048	1
24	Wireasy-blk,#30,45"	8220-095-046	1

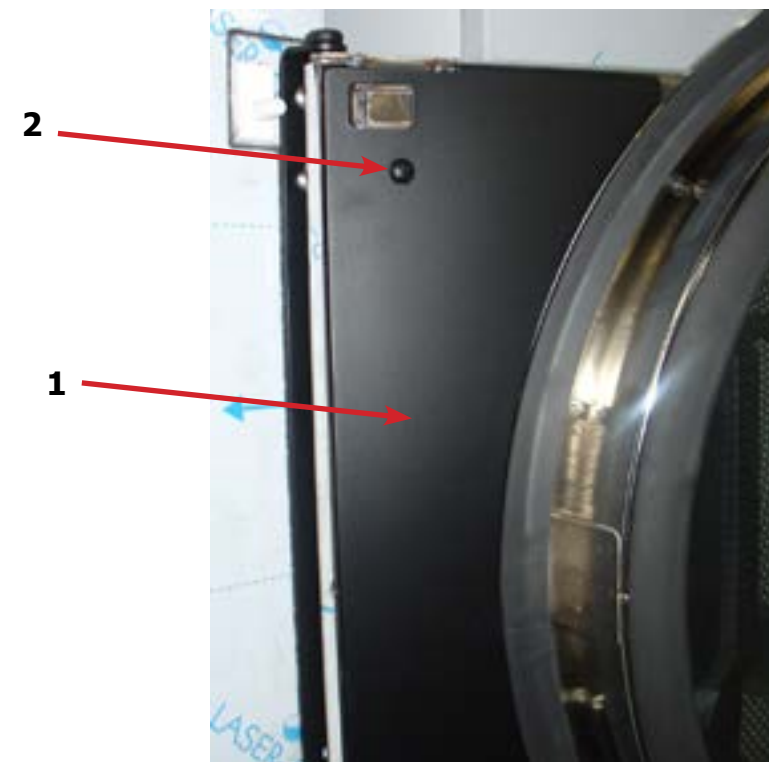
Door Switch Group

Key	Description	T-20X2	QTY
1	Door Switches	9539-487-001	2
2	Bracket-Mounting lint tray switch	9029-297-001	1
3	Conduit-Wire	6068-049-001	1
*	Grommet Wire 1/2 i.d.	9029-089-001	1



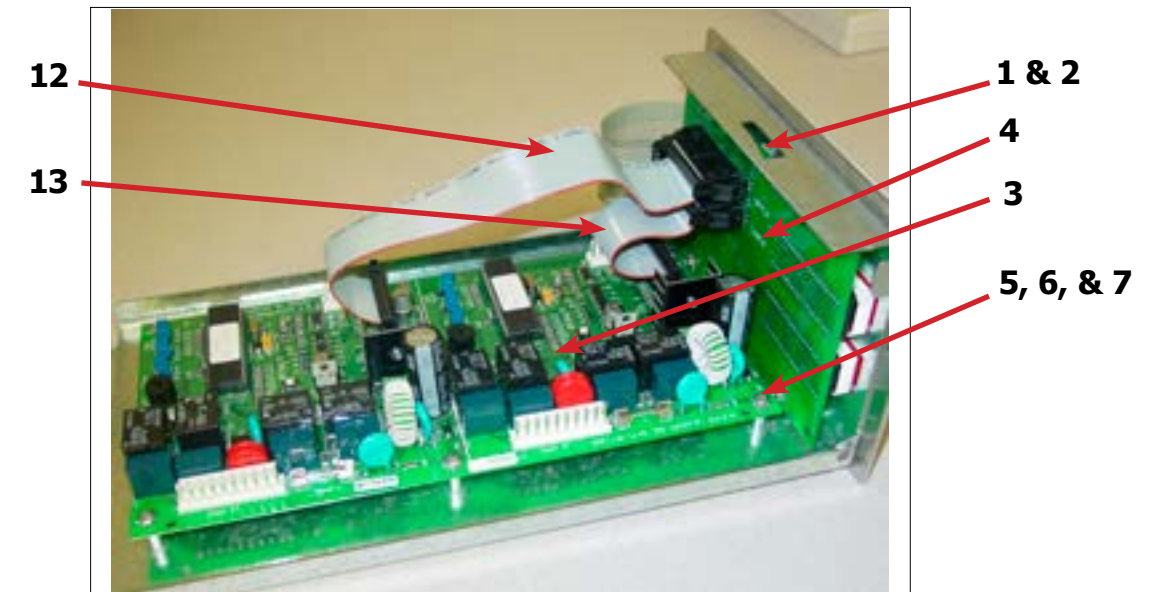
Hinge Plate Cover

Key	Description	T-20X2	QTY
1	Cover-Hinge, Black	9074-377-002	1
2	Screw-TRHDCR, 10B x 3/8, Black	9545-008-010	2



Control Group

Key	Description	T-20X2	QTY
1	Control Assembly	9857-187-003	1
2	Tray Assembly	9826-006-001	1
3	PCB Assembly Control	9471-017-001	1
4	PCB Assembly Display	9471-018-001	1
5	Screw-panhdcr, #6-32x1/2(ss)	9545-044-010	10
6	Lockwasher-exttooth, #6	8641-582-005	10
7	Washer-flat, nylon (black)	8641-589-001	1
8	Membrane Switch Assembly	9801-105-001	1
9	Terminal-Grounding	8652-130-038	1
10	Screw-hxwshdsl, 10Bx1/4	9545-008-001	2
11	Spring-flat, control assembly	9534-365-001	1
12	Ribbon-cable, control-upper	9500-007-001	1
13	Ribbon-cable, control-lower	9500-007-002	1

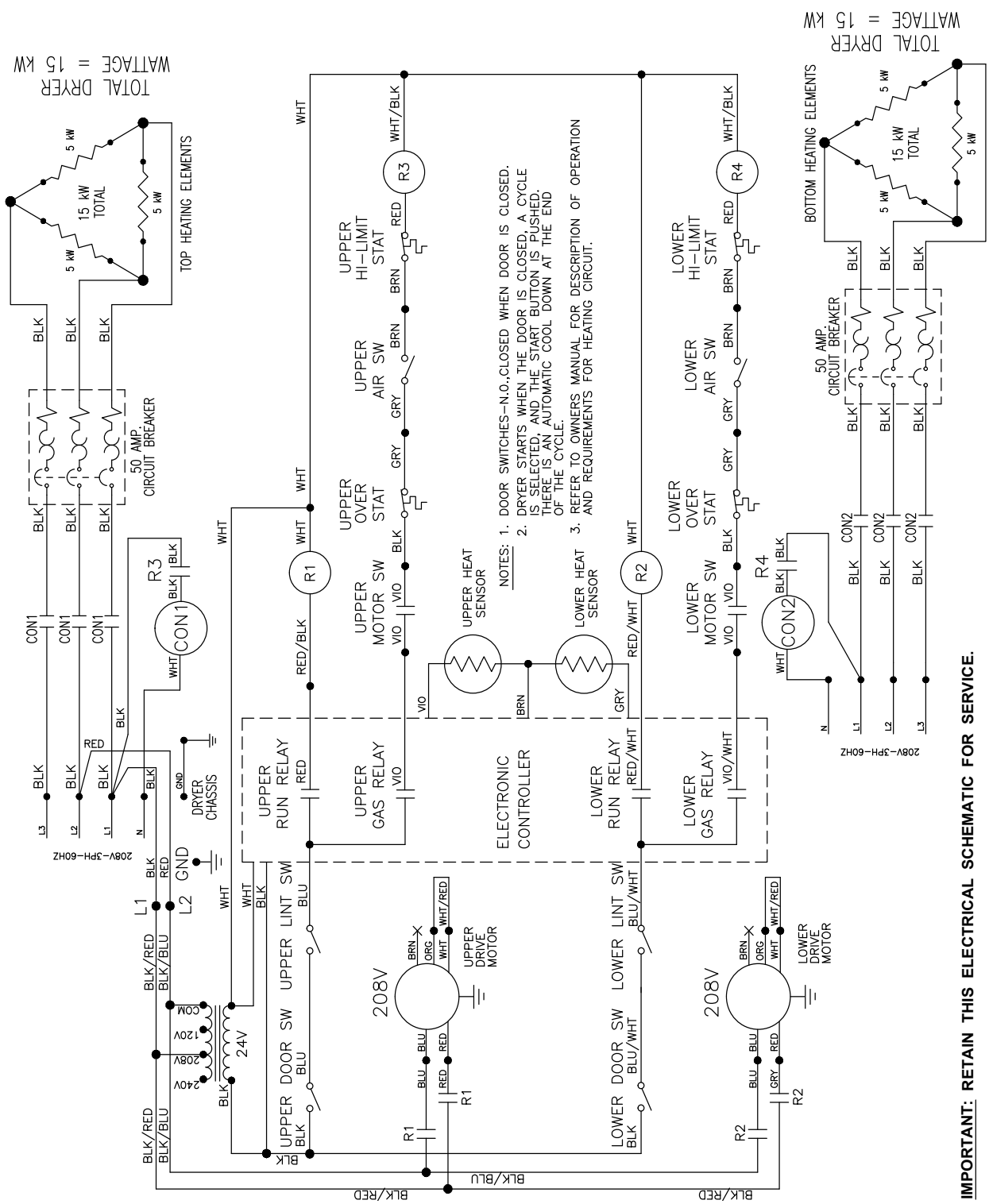


DN20X2 -84

Key	Description	T-20X2	QTY
	Wire-BLK, 26"	8220-078-024	2
	Wire-BLK, 8"	8220-057-015	6
	Wire-WHT, 5.5", 18 AWG	8220-057-021	2
	Wire-BLK, 9.5", 10 AWG	8220-057-023	12
	Wire-BLK, 36", 12 AWG	8220-057-031	1
	Wire-RED, 36", 12 AWG	8220-057-032	1
	Wire-BLK, 17", 10 AWG	8220-061-011	12
	Wire-WHT/BLK, 65", 18 AWG	8220-063-020	1
	Wire-BLK, 22", 18 AWG	8220-078-014	2
	Wire-BRN, 54", 18 AWG	8220-095-023	2
	Wire-RED, 19", 18 AWG	8220-103-002	2
	Wrapper-Housing, Heater	9636-217-001	2
	Screw-10B x 1/4	9545-008-001	6
	Side-Housing, Heater, Right Hand	9551-063-001	2
	Side-Housing, Heater, Left Hand	9551-064-001	2
	Side Control Heater	9551-040-001	4
	Deflector-Bottom Housing	9114-052-001	2
	Screw-10AB x 3/8	9545-008-024	6
	Bottom-Housing, Heater	9058-029-001	2
	Screw-10AB x 3/8	9545-008-024	22
	Deflector-Wrapper, Housing	9114-053-001	2
	Screw-10AB x 3/8	9545-008-024	8
	Baffle-Housing, Heater	9049-116-001	2
	Wrapper-Control, Heater	9636-218-001	2
	Cover-Plate, Heater	9074-376-001	2
	Side-Control, Heater	9551-040-001	4
	Screw-10AB x 3/8	9545-008-024	16
	Cover-Control, Heater	9074-375-001	2
	Thermostat-Overtemp, Manual Reset	9576-207-006	2
	Rail-Din, 35 x 15mm	9488-011-002	2
	Relay	5192-285-004	2
	Relay, Heatings Element	5192-291-001	2
	Varister-Coil Supressor	9377-003-001	2
	Circuit Breaker, 3-Pole	5198-213-004	4
	Terminal-Lug, Solderless	8652-134-002	4
	Heater Element, 10KW 208V	9870-093-002	6
	Jumper-Formed	9295-004-002	4
	Jumper-Straight	9295-005-002	8

DN20X2 -84

Key	Description	T-20X2	QTY
	Block-Power, 3-Pole	9897-037-001	2
	Block-Power, 1-Pole	9897-038-001	2
	Wiring-Diagram/Schematic	9506-858-001	1
	Booklet-Owners	8514-265-001	1

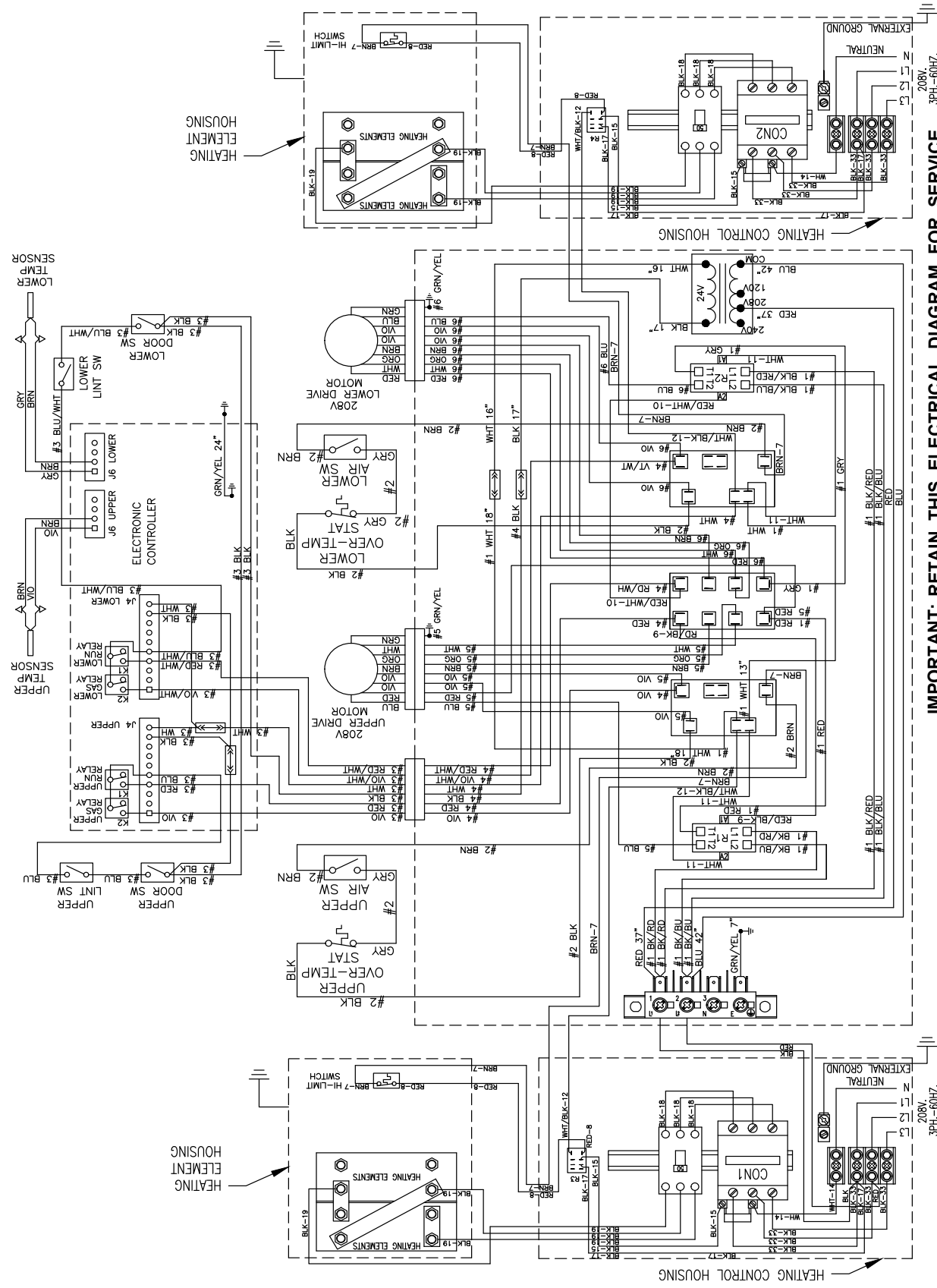


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9506-858-001PR

SCHEMATIC

DN20X2E_-84_B_X_-__X



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9506-858-001PR

WIRING DIAGRAM

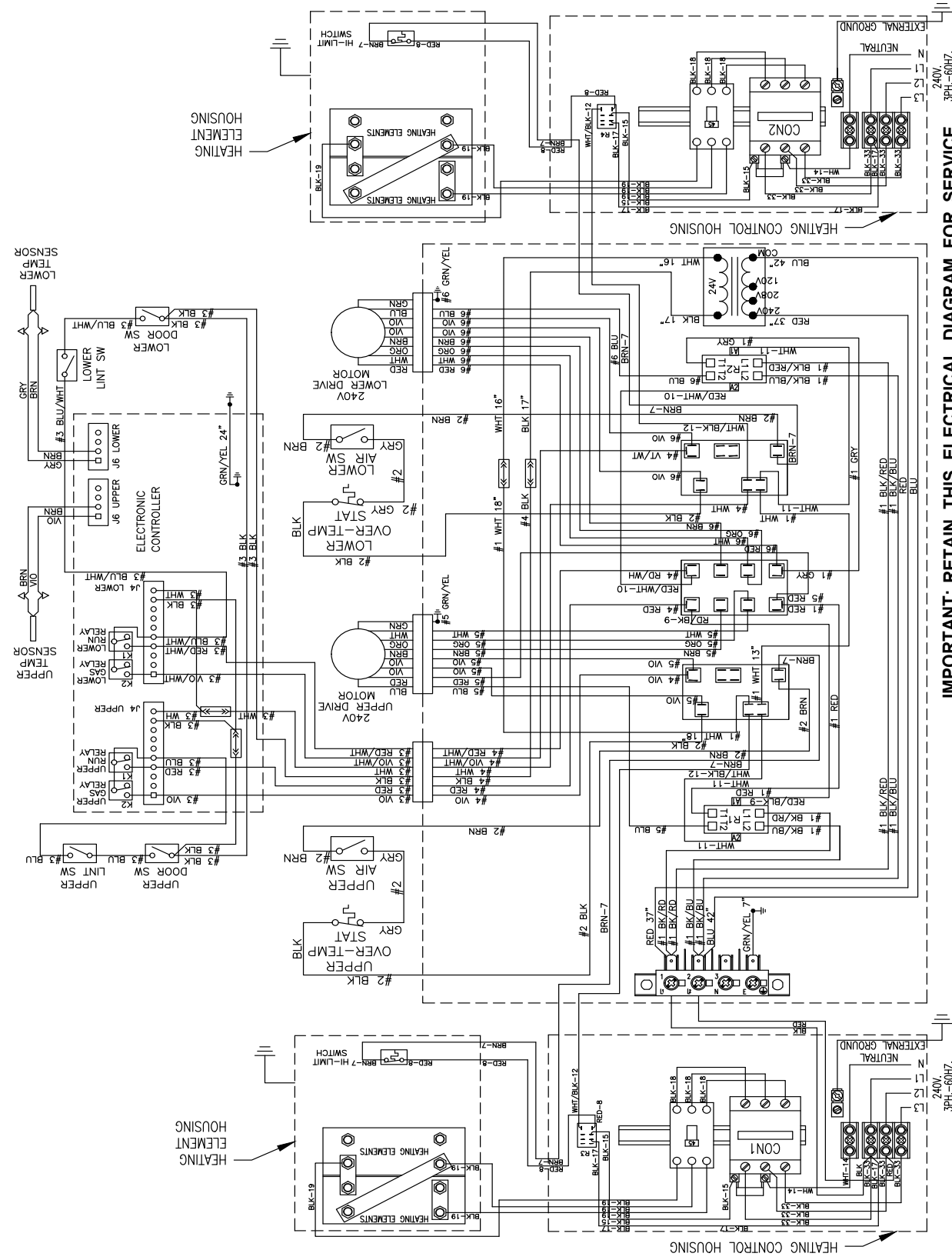
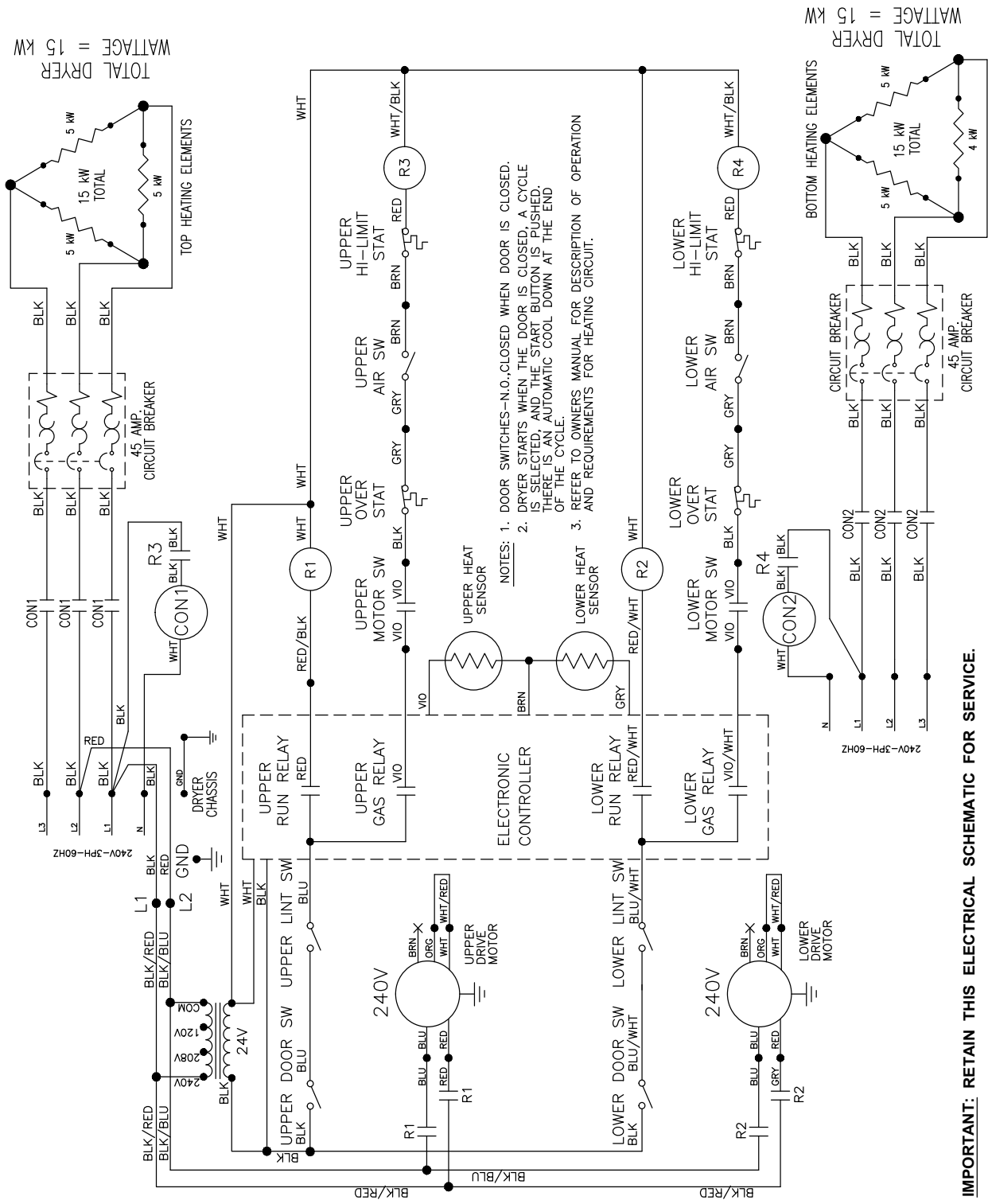
DN20X2E_-84_B_X_-__X

DN20X2 -85

Key	Description	T-20X2	QTY
	Wire-BLK, 26"	8220-078-024	2
	Wire-BLK, 8"	8220-057-015	6
	Wire-WHT, 5.5", 18 AWG	8220-057-021	2
	Wire-BLK, 9.5", 10 AWG	8220-057-023	12
	Wire-BLK, 36", 12 AWG	8220-057-031	1
	Wire-RED, 36", 12 AWG	8220-057-032	1
	Wire-BLK, 17", 10 AWG	8220-061-011	12
	Wire-WHT/BLK, 65", 18 AWG	8220-063-020	1
	Wire-BLK, 22", 18 AWG	8220-078-014	2
	Wire-BRN, 54", 18 AWG	8220-095-023	2
	Wire-RED, 19", 18 AWG	8220-103-002	2
	Wrapper-Housing, Heater	9636-217-001	2
	Screw-10B x 1/4	9545-008-001	6
	Side-Housing, Heater, Right Hand	9551-063-001	2
	Side-Housing, Heater, Left Hand	9551-064-001	2
	Side Control Heater	9551-040-001	4
	Deflector-Bottom Housing	9114-052-001	2
	Screw-10AB x 3/8	9545-008-024	6
	Bottom-Housing, Heater	9058-029-001	2
	Screw-10AB x 3/8	9545-008-024	22
	Deflector-Wrapper, Housing	9114-053-001	2
	Screw-10AB x 3/8	9545-008-024	8
	Baffle-Housing, Heater	9049-116-001	2
	Wrapper-Control, Heater	9636-218-001	2
	Cover-Plate, Heater	9074-376-001	2
	Side-Control, Heater	9551-040-001	4
	Screw-10AB x 3/8	9545-008-024	16
	Cover-Control, Heater	9074-375-001	2
	Thermostat-Overtemp, Manual Reset	9576-207-006	2
	Rail-Din, 35 x 15mm	9488-011-002	2
	Relay	5192-285-004	2
	Relay, Heatings Element	5192-291-001	2
	Varister-Coil Supressor	9377-003-001	2
	Circuit Breaker, 3-Pole	5198-213-003	4
	Terminal-Lug, Solderless	8652-134-002	4
	Heater Element, 10KW 240V	9870-093-001	6
	Jumper-Formed	9295-004-002	4
	Jumper-Straight	9295-005-002	8

DN20X2 -85

Key	Description	T-20X2	QTY
	Block-Power, 3-Pole	9897-037-001	2
	Block-Power, 1-Pole	9897-038-001	2
	Wiring-Diagram/Schematic	9506-859-001	1
	Booklet-Owners	8514-265-001	1

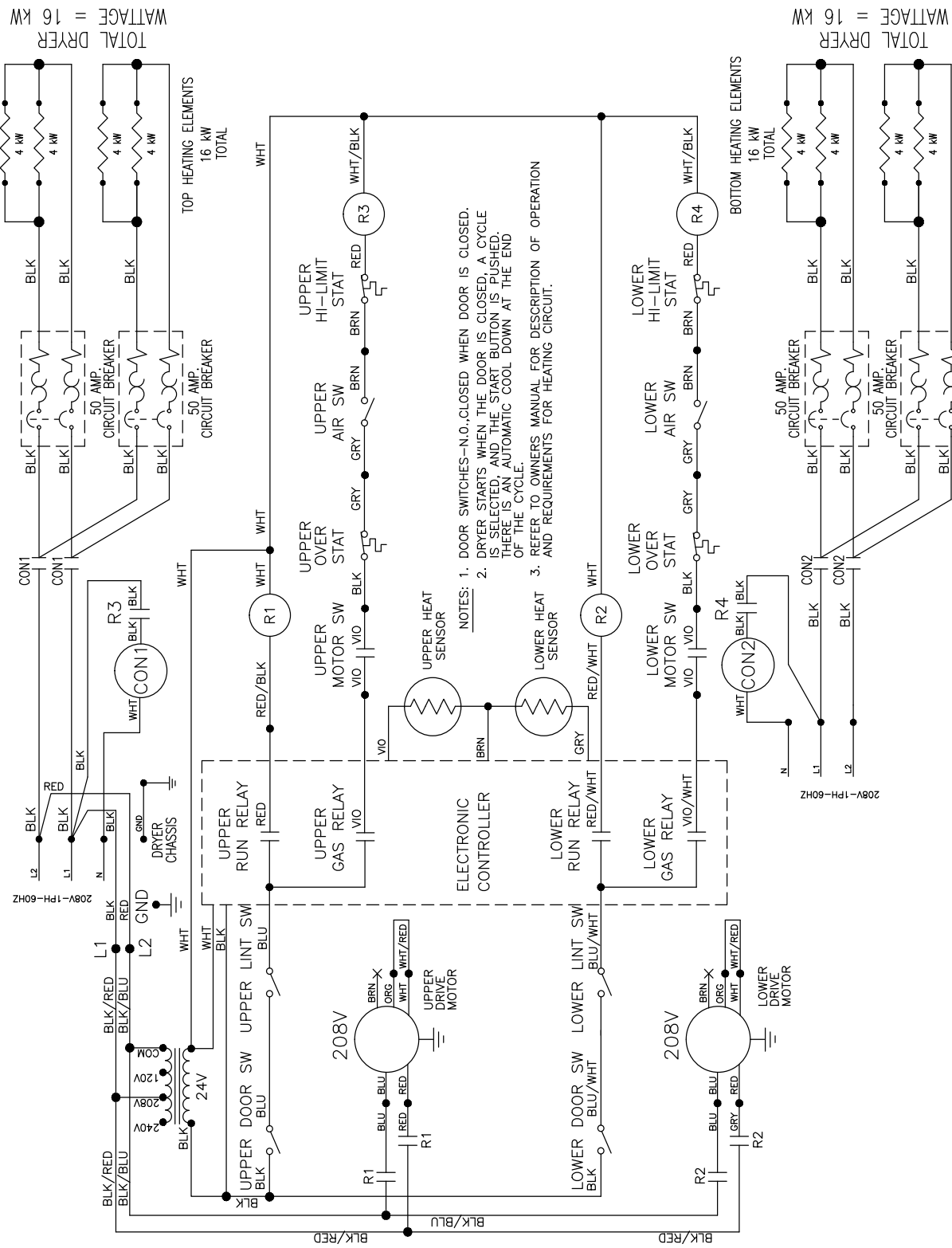


DN20X2 -86

Key	Description	T-20X2	QTY
	Wire-BLK, 26"	8220-078-024	2
	Wire-BLK, 8"	8220-057-014	6
	Wire-WHT, 5.5", 18 AWG	8220-057-021	2
	Wire-BLK, 9.5", 10 AWG	8220-057-023	12
	Wire-BLK, 36", 12 AWG	8220-057-031	1
	Wire-RED, 36", 12 AWG	8220-057-032	1
	Wire-BLK, 17", 10 AWG	8220-061-011	12
	Wire-WHT/BLK, 65", 18 AWG	8220-063-020	1
	Wire-BLK, 22", 18 AWG	8220-078-014	2
	Wire-BRN, 54", 18 AWG	8220-095-023	2
	Wire-RED, 19", 18 AWG	8220-103-002	2
	Wrapper-Housing, Heater	9636-217-001	2
	Screw-10B x 1/4	9545-008-001	6
	Side-Housing, Heater, Right Hand	9551-063-001	2
	Side-Housing, Heater, Left Hand	9551-064-001	2
	Side Control Heater	9551-040-001	4
	Deflector-Bottom Housing	9114-052-001	2
	Screw-10AB x 3/8	9545-008-024	6
	Bottom-Housing, Heater	9058-029-001	2
	Screw-10AB x 3/8	9545-008-024	22
	Deflector-Wrapper, Housing	9114-053-001	2
	Screw-10AB x 3/8	9545-008-024	8
	Baffle-Housing, Heater	9049-116-001	2
	Wrapper-Control, Heater	9636-218-001	2
	Cover-Plate, Heater	9074-376-001	2
	Side-Control, Heater	9551-040-001	4
	Screw-10AB x 3/8	9545-008-024	16
	Cover-Control, Heater	9074-375-001	2
	Thermostat-Overtemp, Manual Reset	9576-207-006	2
	Rail-Din, 35 x 15mm	9488-011-002	2
	Relay	5192-285-004	2
	Relay, Heatings Element	5192-294-001	2
	Varister-Coil Supressor	9377-003-001	2
	Circuit Breaker, 2-Pole	5198-214-002	4
	Terminal-Lug, Solderless	8652-134-002	4
	Heater Element, 8KW 208V	9870-093-004	6
	Jumper-Straight	9295-005-002	8

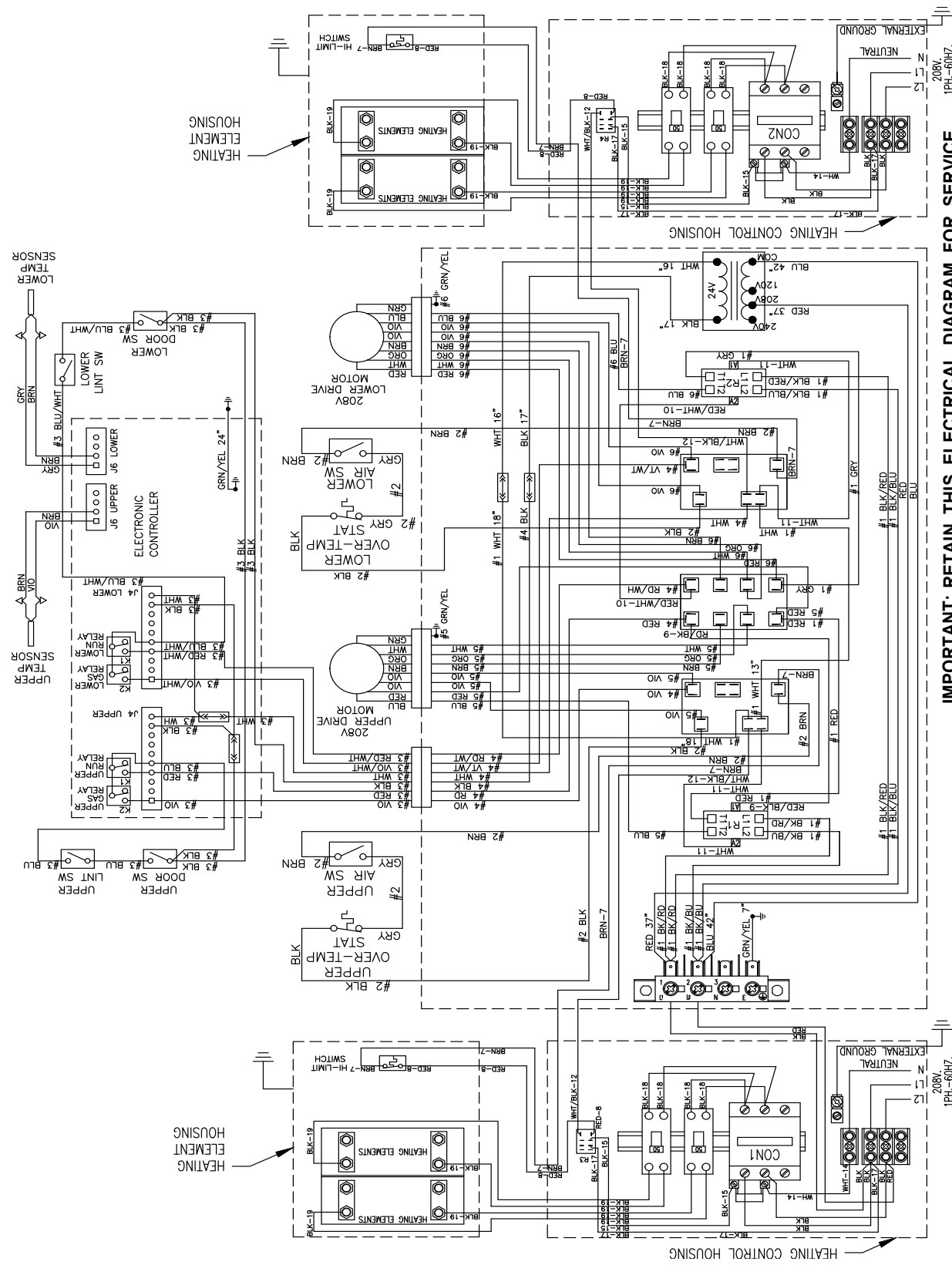
DN20X2 -86

Key	Description	T-20X2	QTY
	Block-Power, 3-Pole	9897-037-001	2
	Block-Power, 1-Pole	9897-038-001	2
	Wiring-Diagram/Schematic	9506-860-001	1
	Booklet-Owners	8514-265-001	1



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9506-860-001PR SCHEMATIC DN20X2E_-86_B_X-__X



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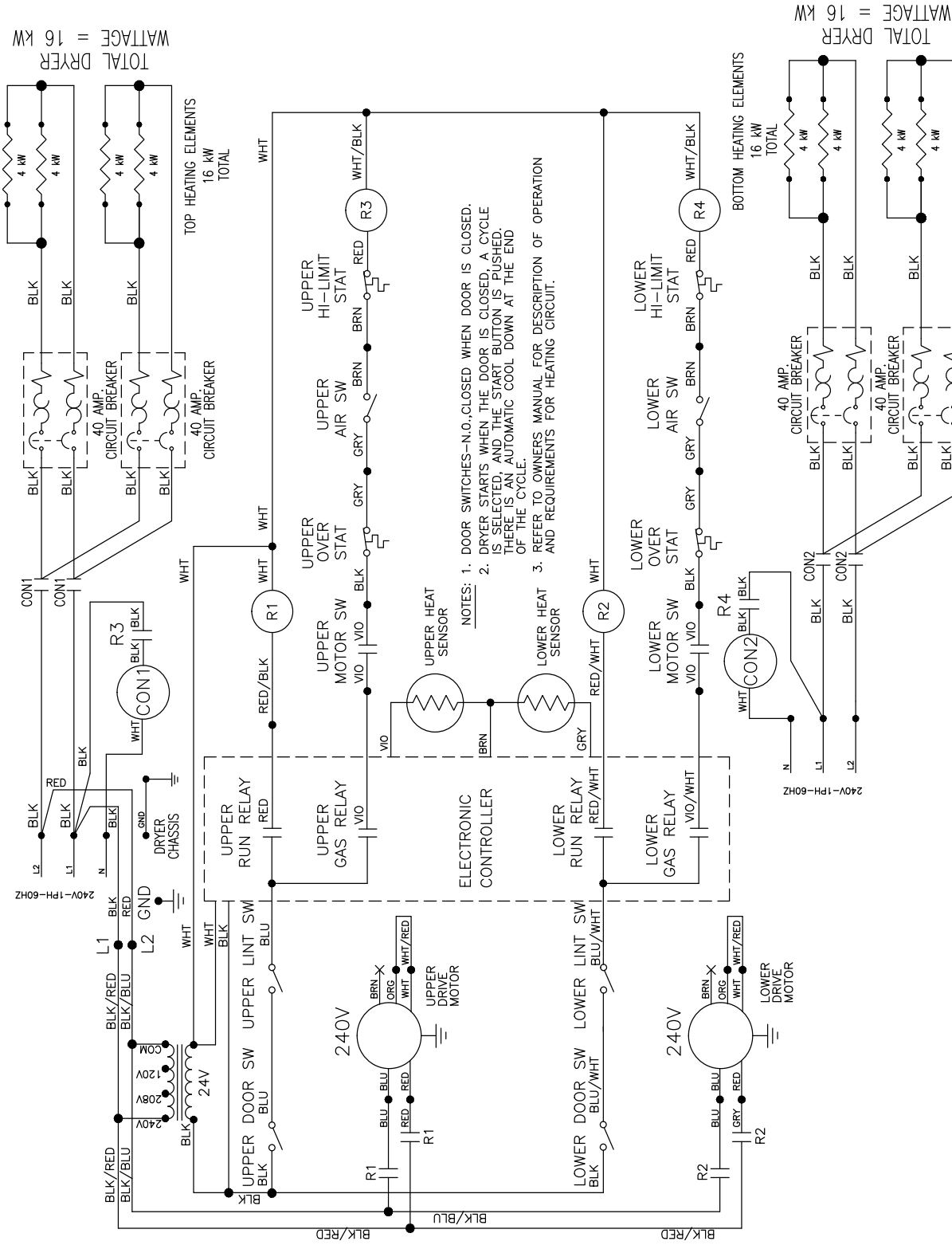
9506-860-001PR WIRING DIAGRAM DN20X2E_-86_B_X-__X

DN20X2 -87

Key	Description	T-20X2	QTY
	Wire-BLK, 26"	8220-078-024	2
	Wire-BLK, 8"	8220-057-016	6
	Wire-WHT, 5.5", 18 AWG	8220-057-021	2
	Wire-BLK, 9.5", 10 AWG	8220-057-023	12
	Wire-BLK, 36", 12 AWG	8220-057-031	1
	Wire-RED, 36", 12 AWG	8220-057-032	1
	Wire-BLK, 17", 10 AWG	8220-061-011	12
	Wire-WHT/BLK, 65", 18 AWG	8220-063-020	1
	Wire-BLK, 22", 18 AWG	8220-078-014	2
	Wire-BRN, 54", 18 AWG	8220-095-023	2
	Wire-RED, 19", 18 AWG	8220-103-002	2
	Wrapper-Housing, Heater	9636-217-001	2
	Screw-10B x 1/4	9545-008-001	6
	Side-Housing, Heater, Right Hand	9551-063-001	2
	Side-Housing, Heater, Left Hand	9551-064-001	2
	Side Control Heater	9551-040-001	4
	Deflector-Bottom Housing	9114-052-001	2
	Screw-10AB x 3/8	9545-008-024	6
	Bottom-Housing, Heater	9058-029-001	2
	Screw-10AB x 3/8	9545-008-024	22
	Deflector-Wrapper, Housing	9114-053-001	2
	Screw-10AB x 3/8	9545-008-024	8
	Baffle-Housing, Heater	9049-116-001	2
	Wrapper-Control, Heater	9636-218-001	2
	Cover-Plate, Heater	9074-376-001	2
	Side-Control, Heater	9551-040-001	4
	Screw-10AB x 3/8	9545-008-024	16
	Cover-Control, Heater	9074-375-001	2
	Thermostat-Overtemp, Manual Reset	9576-207-006	2
	Rail-Din, 35 x 15mm	9488-011-002	2
	Relay	5192-285-004	2
	Relay, Heatings Element	5192-296-001	2
	Varister-Coil Supressor	9377-003-001	2
	Circuit Breaker, 2-Pole	5198-214-003	4
	Terminal-Lug, Solderless	8652-134-002	4
	Heater Element, 8KW 240V	9870-093-003	6
	Jumper-Straight	9295-005-002	8

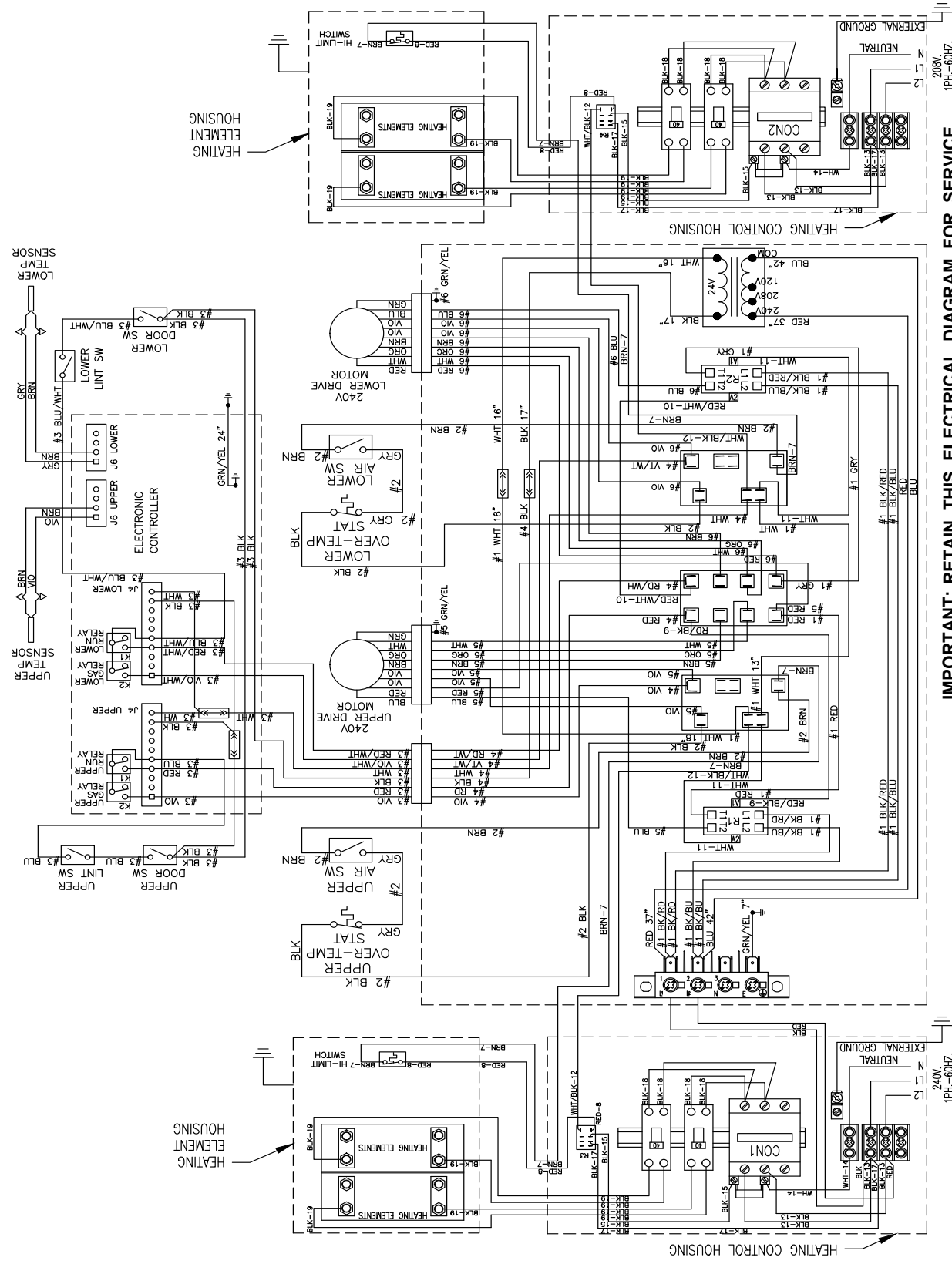
DN20X2 -87

Key	Description	T-20X2	QTY
	Block-Power, 3-Pole	9897-037-001	2
	Block-Power, 1-Pole	9897-038-001	2
	Wiring-Diagram/Schematic	9506-861-001	1
	Booklet-Owners	8514-265-001	1



IMPORTANT: RETAIN THIS ELECTRICAL SCHEMATIC FOR SERVICE.

9506-861-001PR SCHEMATIC DN20X2E_-87_B_X_-_-X



IMPORTANT: RETAIN THIS ELECTRICAL DIAGRAM FOR SERVICE.

9506-861-001PR WIRING DIAGRAM DN20X2E_-87_B_X_-_-X

Notes

Horizontal lines for notes.

Section 9:

50 Hz

Electric Heated

Preventative Maintenance

Daily

- Step 1:** Clean the lint screen free of lint and other debris. Use a soft brush and Hot water if necessary.
- Step 2:** Check the lint screen for tears. Replace if necessary.
- Step 3:** Clean lint from the lint screen compartment.
- Step 4:** Inspect felt seal on lint screen assembly, replace if needed.

Monthly

- Step 1:** Remove lint accumulation from the end bells of the motor.
- Step 2:** Remove lint accumulation from front control area.
- Step 3:** Remove lint and dirt accumulation from the top of the dryer and all areas above, below, and around the burners and burner housing. Failure to keep this portion of the dryer clean can lead to a build-up of lint creating a fire hazard.
- Step 4:** Remove and clean coin acceptors. (Vended Models Only)

Quarterly

- Step 1:** Check the belts for looseness, wear, or fraying.
- Step 2:** Inspect the gasket of the door glass for excessive wear.
- Step 3:** Check tightness of all fasteners holding parts to support channel.
- Step 4:** Check tightness of all set screws.
- Step 5:** Remove the air flow switch assembly and check the tumbler thru-bolts for tightness.
- Step 6:** Apply a few drops of oil to pivot pins and the tension arms where in contact with each other.

Semi-Annually

- Step 1:** Remove and clean the main burners.
- Step 2:** Remove all orifices and examine for dirt and hole obstruction.
- Step 3:** Remove all lint accumulation. Remove the front panel and the lint screen housing and remove lint accumulation.

Annually

- Step 1:** Check the intermediate pulley bearings for wear.
- Step 2:** Check and remove any lint accumulation from the exhaust system including recirculation chambers if applicable.
- Step 3:** Grease the bearings and the shaft of the intermediate pulley. Use an Alemite grease gun and Molykote BR2-S grease. (Where applicable)