OWNER'S MANUAL

DMC

Calc-u-DRYER

MODELS 75 & 100

DAVID MANUFACTURING COMPANY

1600 12th Street NE, Mason City, Iowa 641-424-7010

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DMC Calc-u-DRYER

You have chosen the newest technology in automated grain drying. This unit will provide many years of efficient and dependable service. Thank you for choosing a DMC Calc-u-DRYER.

READ THESE INSTRUCTIONS BEFORE INSTALLATION AND OPERATION.
SAVE FOR FUTURE REFERENCE

WARRANTY

DMC has a standard 12 month limited warranty on Calc-u-DRYERS. The warranty is limited to defects in material and workmanship. The only obligation to DMC is to repair or replace components which have been submitted and found to be defective. DMC's liability shall not include consequential damages or special costs or exceed the selling price of the product.

This warranty does not cover damage caused by negligent use, misuse, alterations to the dryer or accident. DMC reserves the right to make design or specification changes at any time, without any contingent obligations to purchasers of products already sold.

OPERATING PRECAUTIONS

- Read and understand the operation manual before operating this unit.
- Keep untrained people away from the dryer at all times.
- All guards, safety decals, and shields must be kept in place for safe operation.
- Do not jump or bypass any safety devices on the dryer.
- Always lock out the main power supply before performing any maintenance work.
- Never operate the dryer if any gas leak is detected.
- Use caution in working around the dryer because automatic equipment may start.

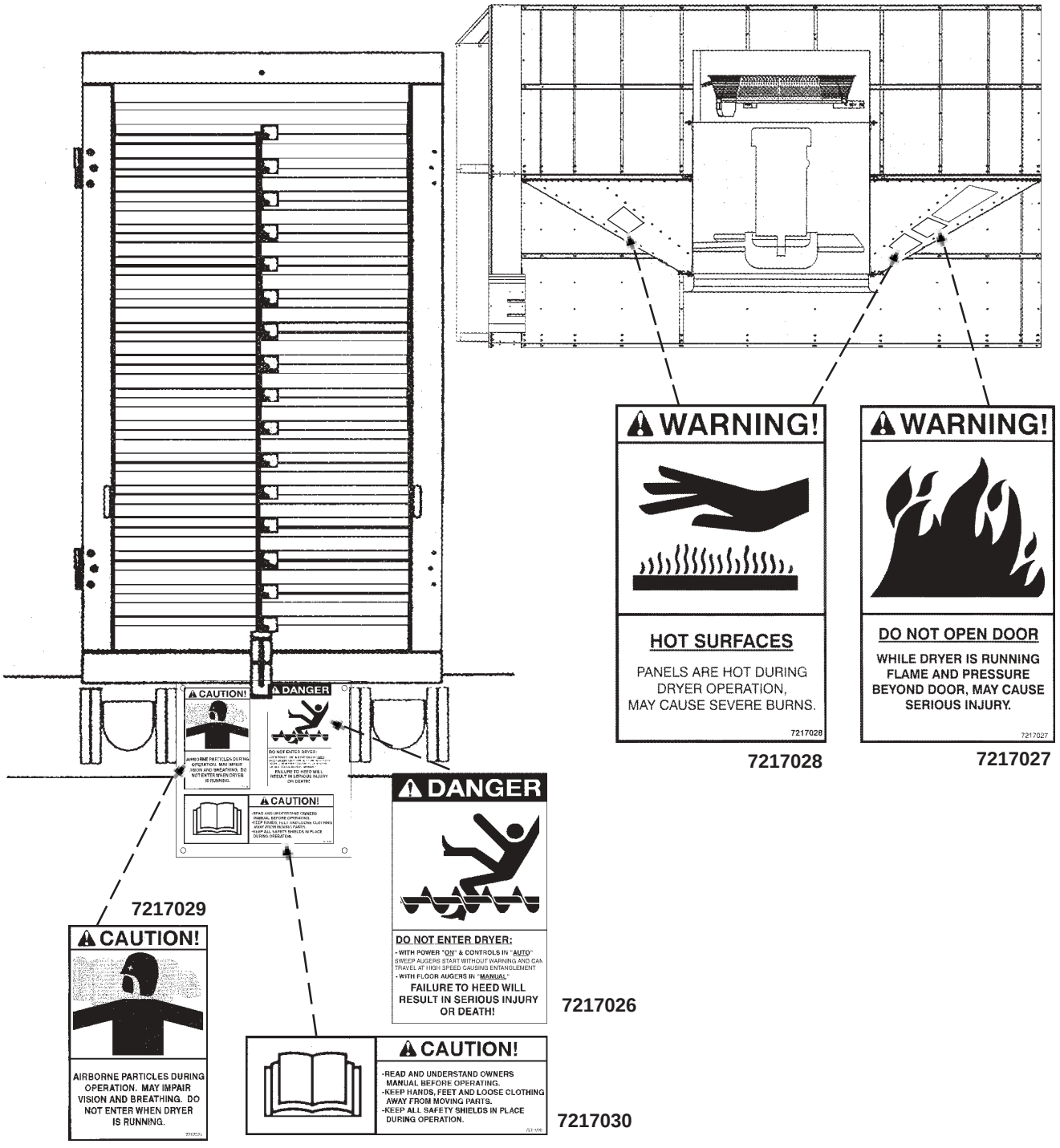
THE DECALS ON THESE PAGES MUST BE DISPLAYED AS SHOWN

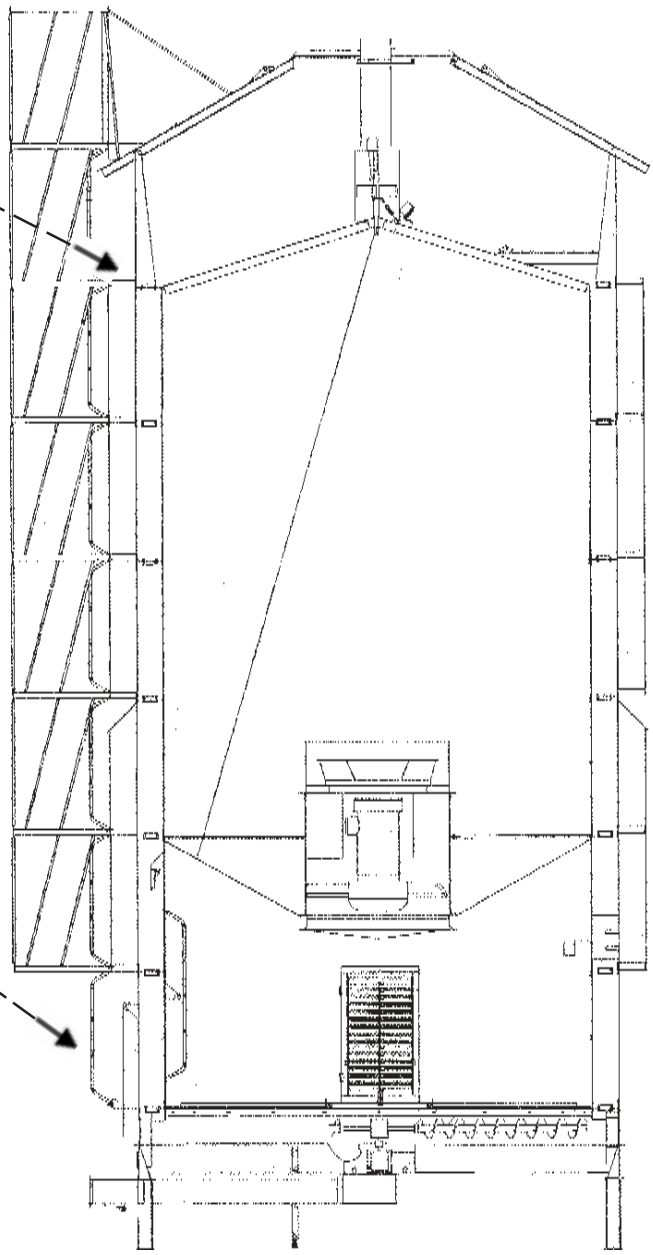
REPLACEMENTS ARE AVAILABLE UPON REQUEST

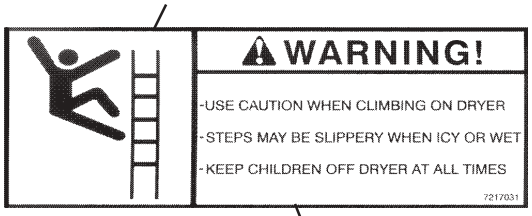
Write to: DMC
1600 12th Street NE
Mason City, IA 50401

Or call: 515/423-6182

Please note:
1. The decals on the page are not actual size.
2. Keep decals clean at all times.
3. All decals must be replaced if they are destroyed, missing, painted over, or can no longer be read.







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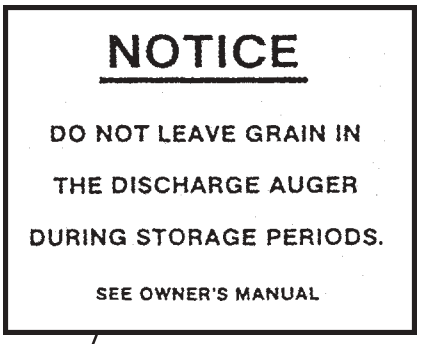

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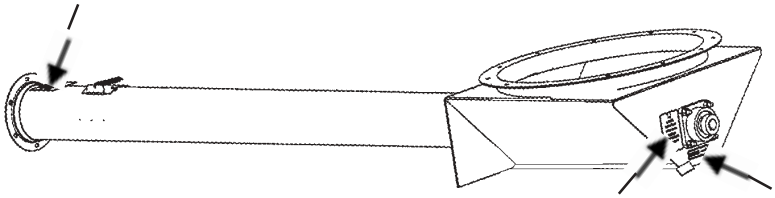

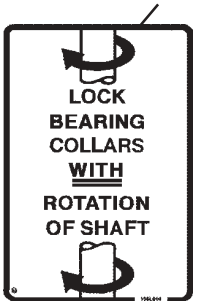

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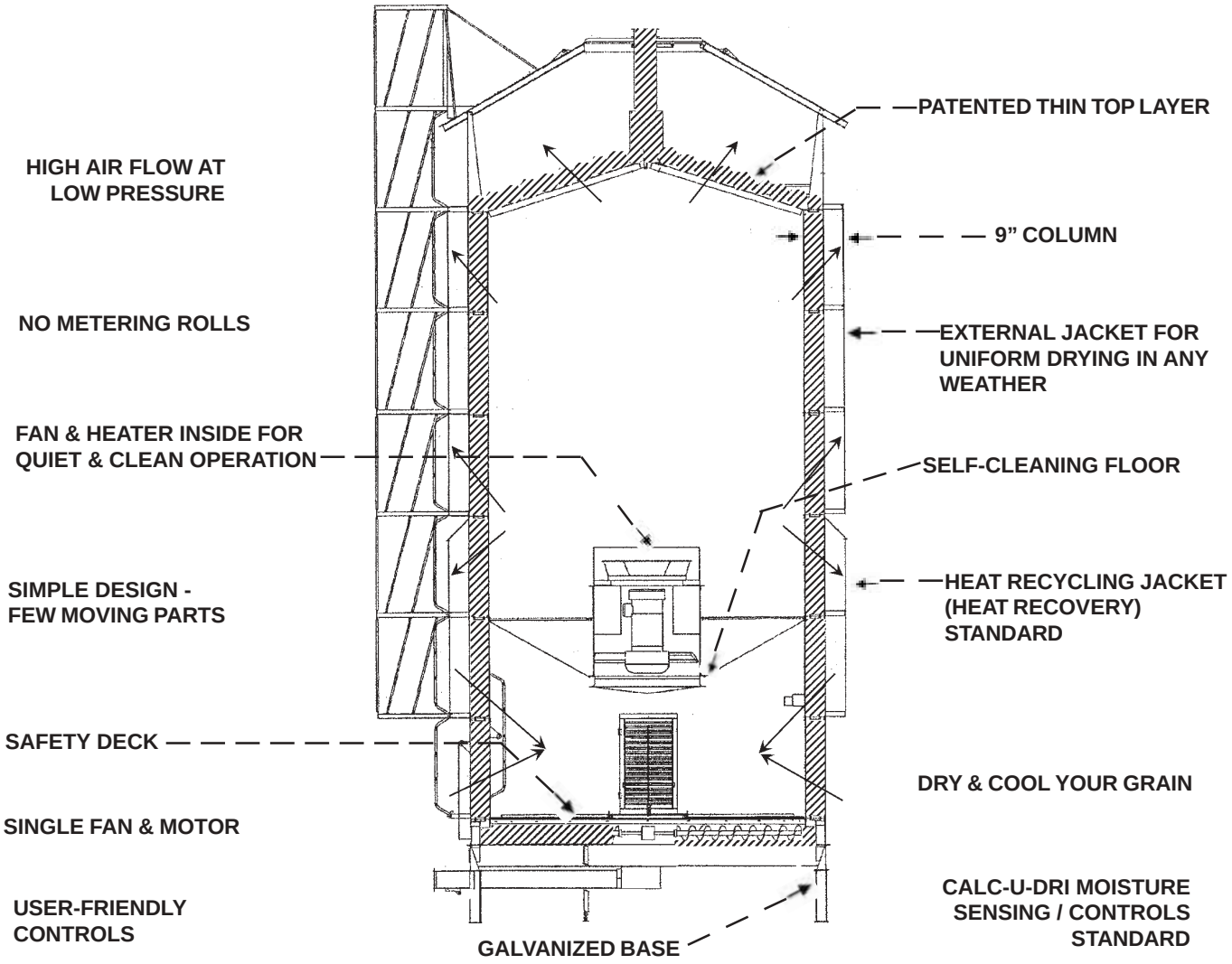
FUNDAMENTALS OF CONTINUOUS FLOW DRYER OPERATION



In the DMC Calc-u-DRYER, grain enters at the top center peak of the perforated cone and flows across the perforated roof cone. The grain depth on the roof is adjustable and easily adaptable to the varying conditions from one year to another. The heated air passes easily through this grain, taking away surface moisture quickly and easily because of the thinner layer and the fact that there is no second screen to pass through. This process also uses the initial heat to warm the grain entering the columns, thereby reducing the chance of condensation forming on the outside of the dryer.

The drying procedure is also protected from the wind by an outer weather shield, allowing a more uniform drying process to take place. The grain continues down the column, drying as it goes. The transition from heat area to cooling allows steeping and then cooling. The grain is then pulled across the floor and out of the dryer by the sweep augers. These augers control the amount and the rate at which the grain is removed from the dryer.

The unloading system is controlled by the Calc-U-Dri Commander, which measures the moisture level of the grain being discharged to control the unloading rate. The grain column throughout the dryer column is only 9" thick, which enables the dryer to maintain a low static pressure with a high air flow. Air in the dryer is drawn through the lower section, cooling the grain as it passes through. This cooling effect is regulated by adjusting the louvers on the doors. The air then passes through the burner, picking up the heat which is then pushed through the upper section of the grain column. The air that passes through the lower portion of the heating chamber is then directed back through the grain in the lower section by the use of a recycling jacket. By doing this the cooling process is started with warm air reducing the stress on the grain. The fan and burner are located inside the dryer and thus the noise level outside the dryer is very low. The air leaks at the base of the plenum cone control the build up of fines above the floor by allowing them to blow through the leaks.

Calc-u-DRYER SPECIFICATIONS - *MODELS 75 & 100*

CAPACITY CHART

Moisture Removed	100 Heat Rise	125 Heat Rise	150 Heat Rise	175 Heat Rise	200 Heat Rise
MODEL 75					
5 pts.	1100	1375	1650	1925	2200
7 pts.	860	1075	1290	1505	1720
10 pts.	710	888	1065	1243	1420
13 pts.	505	631	757	883	1010
MODEL 100					
5 pts.	1362	1702	2042	2383	2723
7 pts.	1064	1330	1596	1862	2128
10 pts.	878	1098	1318	1537	1757
13 pts.	625	781	937	1093	1249

All above capacities are calculated in wet bushels per hour for shelled corn at 65% ambient relative humidity. Your actual capacities may vary with humidity, corn variety, and other factors.

Holding Capacity	**Bushels** 75	100
Heat	803	1048
Cool	417	417
Total	1220	1465

Dryer Dimensions	**75**	**100**
Inside Diameter	18 ft.	18 ft.
Outside Diameter	21 ft.	21 ft.
Column Width	9 in.	9 in.
Column Height	32 ft.	40 ft.
Dryer Height	44.5 ft.	52.5 ft.

Fan	**75**	**100**
Diameter	66 in.	66 in.
Horsepower	75	100
RPM	1175	1175
CFM	114,000	136,000

Number of Rings

	75	100
Heating	5	7
Cooling	3	3

Fan Electrical Requirements

	75	**100**
460 Volt, 3 Phase,	100 Amp	133 Amp

Concrete Pad

Diameter 21' 8"

Pour in compliance with DMC specifications

Sweep Auger **75 & 100**

Motor 2 HP DC

Augers 9 inch

Fuel Line Size	**75**	**100**
Liquid Propane:	1/2 in.	3/4 in.
Vaporizer Size:	1-1/4 in.	3/4 in.
Orifice Size (Std.):		
LP	7/16 in.	9/16 in.
NG	9/16 in.	9/16 in.
BTU per Hour:	20 million	25 million
Nat. Gas Line Size:		
	1-1/4 in. @ 15 PSI	2 in. @ 15 PSI

Approximate Weight:

75	**100**
25,000 pounds	30,000 pounds

Discharge Auger 75 & 100: 8 inches

TYPE: Energy efficient, continuous flow, automatic grain dryer.
FAN: Heavy-duty axial, internally mounted, with adjustable pitch blades.
HEATER: Single octagon style burner with transformer ignition system and flame sensing.
TEMPERATURE: Controlled by a Honeywell Controller with a Maxon valve.
MOISTURE CONTROL: DMC Calc-U-Dri Commander with moisture sensing and SCR drive for the sweep augers.
DRY GRAIN: Make sure your unloading system has the capacity to handle 3000 bu./hr.
WET GRAIN: Your wet fill system should have at least 3000 bu./hr. capacity.

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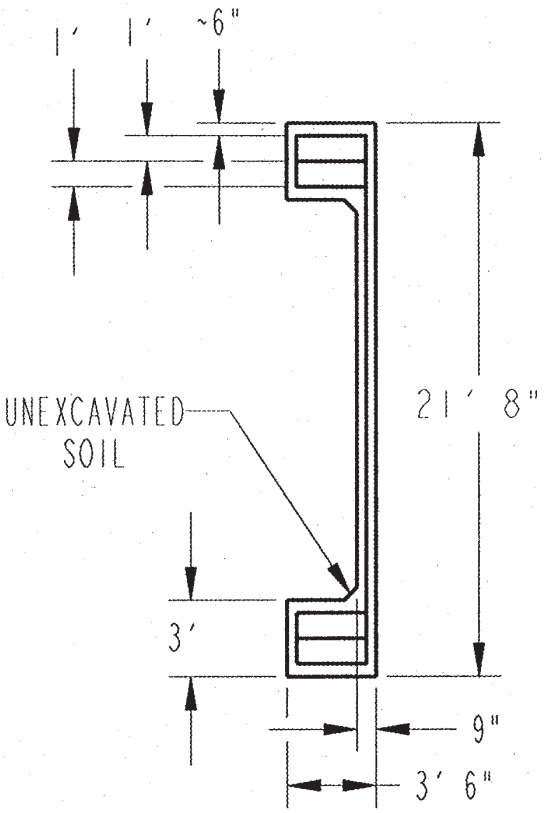
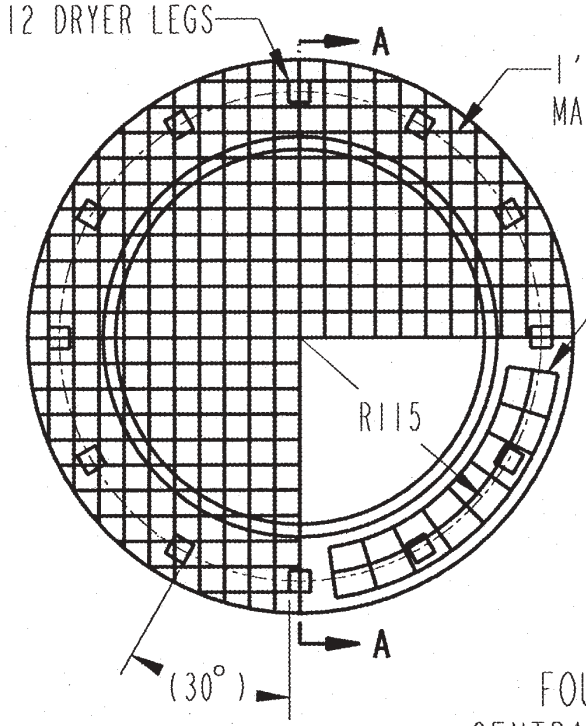




FOUNDATION FOR CENTRAL UNITED STATES

- 21'-8" DIA PAD. 9" THICK WITH THE OUTER 36" A TOTAL OF 42" THICK.
- 28 CU. YDS.
- #4 REINF. RODS ON 1'-0" CENTERS BOTH DIRECTIONS IN SLAB AND BOTTOM OF FOOTING.
- #4 REBAR.

CONCRETE SPECIFICATIONS

COMPRESSIVE STRENGTH @ 28 DAYS -- 4000 PSI
MINIMUM CEMENT CONTENT -- 6 SACKS/YARD
MAXIMUM SLUMP -- 4" ./ - 1"

REF	EXPLANATION	ECO NO	BY	DATE
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

CONCRETE- SPECIFICATIONS

MODEL 75 & 100 DRYER

UNLESS OTHERWISE SPECIFIED
ALL TOL. ±.030
ANGLES ±.5°

SCALE 0.012 | 0.000 LBS

DMC
DAVID MFG CO
MASON CITY, IA

GAR DR BY | 9-Jun-98 DATE | 7310245

INSTALLATION CHECKLIST

After your dryer has been installed the operator should verify that everything has been installed properly and quality workmanship has been maintained. This should be done mainly to ensure that the dryer will operate properly.

1. Do a general walk-around check, observing general appearance of the dryer. (look for damaged sheets, loose bolts, etc.)

2. Ensure that the filling and take-away components will be adequate to handle the needs of the dryer.

3. Make sure the ladder and safety cage sections are properly and firmly attached.

4. Verify all safety shields and protective devices are present and properly installed.

5. Ensure that the proper electrical wiring has been installed to provide adequate power to the dryer.

6. Verify that the dryer has been properly anchored down, according to the specifications.

7. Check the fuel system supply lines to the dryer for proper sizing and check the system for leaks.

8. Check the fluid levels in all gear boxes and lubrication points, verifying that proper lubricants are present. Refer to the maintenance section if necessary.

START-UP PROCEDURES

General Practices

Before attempting to fill the dryer for the first time, it is recommended that the dryer be inspected for cleanliness and/or damage. Before starting the dryer the second or subsequent day, the plenum chamber area should be inspected for foreign material, and this material removed. Be sure to close the doors to the plenum before starting fan.

When filling the dryer for the initial fill, it is recommended that dry grain be used whenever possible. Using this process eliminates recycling grain back through the dryer, which would have to be done if wet grain were used. Also, whenever wet grain is used to start the dryer, deposits of wet grain will always be present on the floor and in the bottom outside of the grain column throughout the season. Over time these deposits will accelerate the deterioration of the dryer components.

!WARNING! *- BEFORE TURNING ON MAIN POWER TO THE DRYER, MAKE SURE THAT ALL SWITCHES ARE IN THE* ***"OFF"*** *POSITION OR UNWANTED START-UP OF EQUIPMENT MAY OCCUR. BE SURE EVERYONE IS CLEAR OF THE EQUIPMENT AND THAT ALL DOORS ON THE DRYER ARE CLOSED!.*

1. Switch main breaker, in the dryer control box, to the **"ON"** position.
2. Place the control power switch down in the **"MANUAL"** position.
3. Place the fan switch down in the **"MANUAL"** position, at which time the fan will start.

NOTE: The fan must be running in order for the grian to flow over the 18 degree perforated roof of the dryer.

4. If filling equipment is being run out of the dryer control box, place the wet fill and wet bin switches doen in the **"MANUAL"** position. If not, start appropriate equipment at this time.
5. When the dryer is full, place **ALL** switches in the **"OFF"** position and turn off any other equipment being used.

Before starting dryer, remove and reinstall all drain plugs in gas train to release moisture and other foreign material from the line. Be sure there is adequate wet grain available to avoid unnecessary shut down occurring. Turn on the main fuel supply valve at the tank and make sure the dryer gas hand valve is open, and turn on any necessary breakers for auxiliary augers.

1. Verify dryer is completely full of grain and the wet fill auger has grain available to keep the perforated roof covered with grain, and the take-away auger is ready.
2. Place all switches up in the **"AUTO"** position, except the Commander Box, which should be set in the **"MANUAL"** position.

   Set the temperature control to **"MANUAL"** and have the valve about 30% open (P30). Leave the control in **"MANUAL"**position until the plenum is warmed up close to the desired plenum temperature, then switch it to **"AUTOMATIC".** Check the **"AUTO"** set point and have it at the desired temperature (see definitions for operation instructions on Pg. 16). If 30% open does not reach desired temperature, adjust as needed.

!WARNING! *BE SURE EVERYONE IS CLEAR OF THE EQUIPMENT AND THAT ALL DOORS ON THE DRYER ARE CLOSED.*

Check the operating temperature setting if you are drying with low temperature or grain other than corn (see Pg. 16).

NOTE: At this point nothing will start until the start switch is pushed.

!WARNING! *WHEN THE START SWITCH IS PUSHED, EQUIPMENT WILL START AUTOMATICALLY. CARE SHOULD BE TAKEN TO AVOID CONTACT WITH ANY OF THIS EQUIPMENT.*

3. At this time push the "START" button.

4. After approximately 10 seconds the gas solenoids will open and the spark plug will spark. Check the pressure gauges to see if they are increasing.

5. When ignition occurs, check the fuel pressure gauge. The pressure should be no higher than 20 PSI. If the reading is higher, the regulator should be turned down (counter-clockwise) to lower the pressure.

6. When the operating temperature has been reached in the plenum chamber, the unload system of the dryer will start.

7. Continue to monitor the dryer until dryer temperature has been stabilized to the desired temperature.

8. Calibrate the wet and dry grain sensors while the dryer is stabilizing. Calibration is accomplished by:
   a) Push down on the "DISPLAY SWITCH" and observe the calibration being displayed.
   b) Turn the calibration adjustment knob until the value is zero.
   c) Compare the moisture value displayed with the moisture content determined by averaging several samples tested with a reliable tester (See Chart I).
   d) Subtract the average of the displayed moisture readings from the average of the tested samples. This value is the calibration needed for the Commander to make the displayed moisture match the actual moisture content. (NOTE: The calibration can either be a positive or negative number.)
   e) Push the "DISPLAY SWITCH" down and turn the calibration adjustment knob until the value being displayed matches the calibration determined in step "d".
   f) This completes the calibration. Record the calibrations for the wet and dry grain sensors in the back of this manual for future reference.

9. Grain samples should be taken on a daily basis to ensure that the electronic equipment is functioning correctly. Use a quality moisture tester that will provide repeatable accuracy.

10. Use the following guidelines for safe and reliable sampling:

!CAUTION! *USE A SAFE SAMPLING PROCEDURE. DO NOT SAMPLE FROM A HOPPER WITH AN UNGUARDED AUGER. KEEP HANDS, FEET AND CLOTHING AWAY FROM ROTATING PARTS.*

a) Take the samples when the displayed moisture is not changing rapidly.

b) Take several samples and record the moisture being displayed when each sample was taken as well as the tested moisture content of each sample.

c) Take several samples as close to the moisture sensor as possible to ensure that the sensor is displaying the moisture from the same batch of grain that you are sampling.

CHART I

Example of Grain Moisture Sampling

This chart shows grain moisture readings of samples as they should be taken to obtain reliable averages of moisture values.

Time	Calc-U-Dri		Dole		Elevator
	Temp.	Moisture	Temp.	Moisture	Moisture
9:33 a.m.	112	14.4%	109	14.7%	
9:36 a.m.	112	14.4%	111	14.4%	
9:38 a.m.	108	16.0%	107	17.5%	
9:40 a.m.	110	14.6%	109	14.7%	
9:43 a.m.	108	15.9%	104	17.3%	
9:50 a.m.	111	14.5%	107	15.0%	
TOTAL		89.8%		93.6%	
AVERAGE		15.0%		15.6%	15.3

QUESTION: Where would you set the moisture offset, +0.3 or +0.6?
ANSWER: Most would want to set it to +0.3 which would make it match the point of sale's reading.

A. The Commander uses the comparison between the control moisture being displayed and the control set point to vary the speed of the sweep augers. This displayed control moisture can be the average of: 1) wet, dry and column sensors; 2) wet and dry sensors; 3) dry and column sensors, or 4) just the dry grain sensor. The toggle switches used to select the sensor combination are inside the box on the left-hand side of the back panel.

Adjust the main speed until the discharged grain is at the desired moisture. The control mode should be in "MANUAL". This is best done while the incoming wet grain is at a consistent moisture level. Remember to allow enough time for the wet grain to flow through the dryer between any speed changes.

You have found the proper main speed when the dryer has stabilized and the discharge moisture is at or very close to the desired moisture. At this time look at the control moisture displayed. This is the average moisture of all three sensors. Adjust the control set point to this value.

B. Switch the control mode switch to "AUTO" and the Commander will start to control the speed of the dryer metering rolls. The dryer will run in "HIGH SPEED" when the control moisture is .3% or more drier than the set point. It will run in "MAIN SPEED" when it is within + (plus) or - (minus) .3%. It will run in "LOW SPEED" when the control moisture is .3% or more wetter than the set point.

C. The amount of speed change from "MAIN SPEED" to either "HIGH SPEED" or "LOW SPEED" can be varied by turning the high and low speed adjustment screws found on the front panel. A speed change of approximately 15% should give good performance under most conditions. However, some adjustments may be required for different drying situations. For example, a wider speed range may be required to accomodate wet grain with inconsistent moisture content.

D. ***NOTE:*** if the main speed is changed, some readjustment of the low and high speeds may be required to maintain the 15% speed change.

STARTING AFTER A SHUT-DOWN PERIOD

When starting the dryer after it has been shut down, the same basic procedures are listed on the preceeding pages. However, the reason for an automatic shut down should be investigated.

OPERATING PROCEDURES

Getting Desired Plenum Temperature **(See page16 for additional instructions)**

Plenum temperature is controlled by the Honeywell Temperature Controller. The temperature controller signals the Honeywell Modutrol Motor which drives the Maxon Control Valve. The temperature sensor is located at the top of the dryer inside the plenum chamber.

The temperature controller works in either “MANUAL” or “AUTOMATIC” mode. Change to the “MANUAL” mode by pushing the “MAN/AUTO” key. The top display reads temperature and the lower display reads percentage open. For example: “P 60” means that the control valve is 60% open.

Change to “AUTOMATIC” mode by again pushing the “MAN/AUTO” key. The top display reads temperature and the lower display reads set point. The controller will automatically change the control valve to maintain the temperature at the set point. To change set point, press the “SETUP” key and then the up arrow or down arrow until the desired set point is displayed. Press the “SETUP” key again. The controller will maintain this new set point.

The plenum temperature should be set to the grain type, quality and moisture. To get the maximum capacity out of the dryer, a higher temperature can be used, but the susceptibility to cracks (quality) will also increase. The orifice can be reduced if low temperature drying is desired. For more information contact DMC.

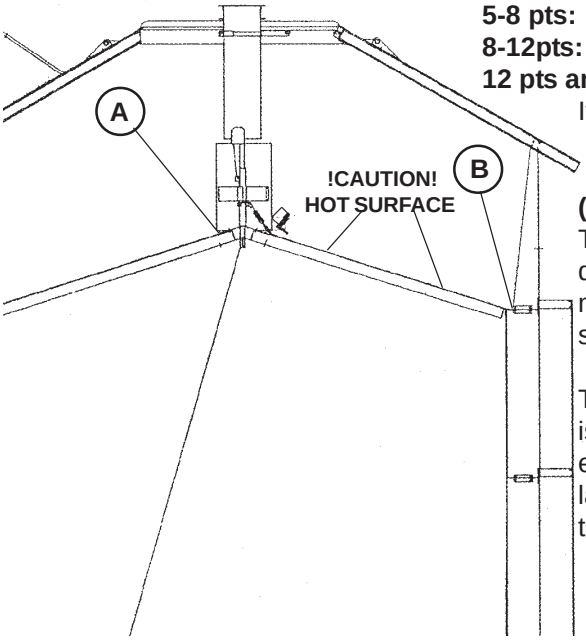
The supply pressure to the modulating valve should never exceed 30 PSI or damage to the valve may result. The pressure regulator on the dryer has been preset to 20 PSI and should not be altered. It is recommended that the orifice be changed instead, to change the operating temperature range, if necessry.

Other Dryer Ajustments

GRAIN DEPTH

The grain depth on the perforated roof of the dryer is adjusted through the use of a chain and hook assembly for garner bins. The depth is adjustable in order to fine-tune the dryer’s performance through a wide variety of conditions. The depth to start with is 6 inches. If the roof option was installed, the skirt can be adjusted from the ground with the adjusting lever. When the incoming grain is above 25% moisture, reduce the grain depth on the perforated roof. The grain entering the column should be about 100 degrees F, but not above 140 degrees F. This will minimize the amount of condensation on the outer perforated sheet.

SKIRT ADJUSTMENT is directly related to the amount of moisture needed to be removed. The following tips will serve as a skirt adjustment guide to assist you in obtaining the maximum performance from your DMC Calc-u-DRYER: **Moisture Points To Be Removed-(Refer to Drawing Point A. Measure at skirt).:**



0-5 pts: Fully open or 8 to 10 inches.
5-8 pts: Skirt should be half open or 4 to 6 inches.
8-12pts: 3 to 5 inches open at skirt.
12 pts and up: 2 to 3 inches open without bubbling.
If grain dances or bubbles directly below skirt, thicken grain by opening skirt one inch.

(Refer to Drawing Point B. Check temperature of grain).:
The grain entering the column should be warm, just above 100 degrees F, but should never exceed 140 degrees F. This will minimize the amount of condensation on the outer perforated sheet.

The principle behind the perforated cone on the Calc-u-DRYER is to preheat the grain and remove the surface moisture before entering the columns. When grain is 25% or wetter, a thinner layer of grain will aid the drying process. When grain is drier than 25%, a thicker layer will help the drying process.

Louvers On Doors

The louvers on the doors are used to regulate the amount of air pulled through the grain in the cooling section. Increasing the amount of air through the column increases the cooling effect on the grain. When the louvers are closed to increase cooling you will notice a reduction in performance, due to the fact that less air is flowing through the dryer. When the louvers are fully opened maximum air flow through the dryer can be obtained, but this will reduce the amount of cooling of the grain before being discharged. To adjust, loosen louver assembly, adjust to desired setting, and tighten securely.

Sweep Augers

The sweep augers can be moved closer or further away from the outside wall of the dryer. This is done to adjust to the differences in incoming grain qualities, moisture and types. Adjustments are intended to enable the operator tomaximize the efficiency of the unloading system. After the dryer's sweep system has been adjusted upon installation future adjustments may not be necessary. To adjust, remove bolt holding flighting tube to the gear box, adjust in or out, and replace bolt back in appropriate hole and tighten. A nominal distance from the support channel is 1-1/2 inch. If the sweep augers are running in "HIGH" speed the majority of the time, and if speed adujstment on the Comander is not possible, move the auger closer to the column. If the sweep augers are running in "LOW" speed the majority of the time, and if speed adjustment on the Commander is not possible,move the auger away from the wall.

Shut-Down Procedures

Temporary or Overnight Shut-Down

When shutting down temporarily, push the "STOP" button and allow the dryer to shut down automatically. After the flame goes out, shut off the hand valve which supplies fuel to the dryer.

!CAUTION! *IF YOU ARE GOING TO ENTER THE DRYER, MAKE SURE THAT THE PLENUM TEMPERATURE IS COOL ENOUGH TO ENTER THE DRYER SAFELY, AND ALSO LOCK OUT THE MAIN POWER TO THE DRYER.*

To shut down the dryer overnight, follow the instructions above. It is also recommended that main power switches and breakers on the dryer be shut off. It is not necessary to cool the grain in the dryer down completely unless it will be idle for several days.

MAINTENANCE

LUBRICATION

ITEM	LUBRICANT	INTERVAL
SWEEP GEAR BOXES	80 - 90 GEAR OIL	*CHECK EVERY 200 HOURS AND / OR EACH SEASON
SPEED REDUCER	SYNTHETIC GEAR LUBE	*CHECK EVERY 200 HOURS AND / OR EACH SEASON *CHANGE EVERY 800 HOURS
FAN	ELECTRIC MOTOR GREASE	*1-2 PUMPS PER BEARING MAX AT BEGINNING OF SEASON

PRE-SEASON MAINTENANCE

1. ***Be sure the main breaker is shut off in the dryer control box.***
2. Visually inspect dryer for any noticeable damage which may have occurred in the off season.
3. Inspect and clean plenum chamber and cooling chamber, ensuring leak area around fan barrel is free from debris.
4. Clear out gearbox sump and auger.
5. Inspect moisture sensors for cleanliness and / or damage.
6. Check fluid levels in gear boxes and speed reducer. The fluid should reach to the bottom of the side hole in the boxes.
7. Grease motors and other devices, using the lubrication chart above as a reference.
8. Tighten all large lugs on the starters, distribution block, and circuit breaker. Make sure supply power is turned off.

DAILY MAINTENANCE

SHUT DOWN DRYER AND LOCK OUT ELECTRICAL BOX BEFORE ENTERING THE DRYER!

The primary daily maintenance required is to check and clean out theplenum chamber. When cleaning the plenum, pay special attention to the leak area, ensuring that there are no plugged openings. Also, during operation, pay attention to any irregular sights or sounds around the dryer which could indicate a problem occurring or about to occur.

END OF SEASON MAINTENANCE

After the dryer has been cleaned out at the end of theyear the following procedures should be followed:

1. Lightly grease the sweep auger flight to prevent rusting in the off season.
2. Support ends of sweep auger to prevent bowing during off season.
3. Ensure fuel supply is shut off and the line is drained off.
4. Remove the filter plug from the fuel line strainer and clean, then re-install, using pipe sealant.
5. Remove cap from moisture trap, drain as necessary, then re-install, using pipe sealant.
6. Cover the burner.
7. Clean sensors and remove discharge sensor, if necessary.

End of Season Operation

Options for Final Grain Drying

To finish drying the final wet grain in the dryer, do either of the following:

1. Add dry corn to the dryer until the wet corn has passed through the heating section of the dryer.

2. The dryer may be shut off hot, allowed to steep for a short time and then turn on the fan to finish the cooling.

Unloading Dryer and Final Cleanup

1. Ensure that all switches are in the **"OFF"** position and main power switch is in the **"MANUAL"** position.

2. Place the fan switch in the **"MANUAL"** position - this will start the fan. It is necessary to run the fan to aid in the grain flowing off the roof and to avoid sweeping.

3. Start the take-away components at this time. If running out of the dryer control box, place the appropriate switches in the **"MANUAL"** position.

4. Place the discharge switch and the sweep auger switch in the **"MANUAL"** position and set speed tothe system at a reasonable rate.

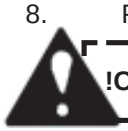
5. When the roof has cleared, the fan switch may be placed in the **"OFF"** position.

6. Continue running the sweep system until all the grain, that can be, is removed.

7. When sweeps have removed all possible grain, place the sweep auger in the **"OFF"** position and run only the discharge.

NOTE: If the discharge system is not used, shut off the main breaker in the dryer control box.

8. Place the discharge switch in the "MANUAL" position.



!CAUTION! Make sure the sweep system is not operating before entering the dryer.

9. Before cleaning the floor of the dryer it is recommended that the perforated cone, plenum chamber, and walls of the dryer be cleaned first. It is also suggested that the upper moisture sensors be checked for foreign material. By doing the cleaning in this order, a second cleaning of the floor can be prevented.

10. Run the discharge system until all material, that can be, is emptied from the auger.

11. When finished, place the discharge switch and main power switch in the **"OFF"** position.

12. Shut off the main breaker in the dryer control box.

13. Clean out discharge hopper by opening slide gate underneath.

14. Remove moisture sensor from discharge tube, clean off sensor and clean out tube. Mount sensor back in the discharge tube.

15. 

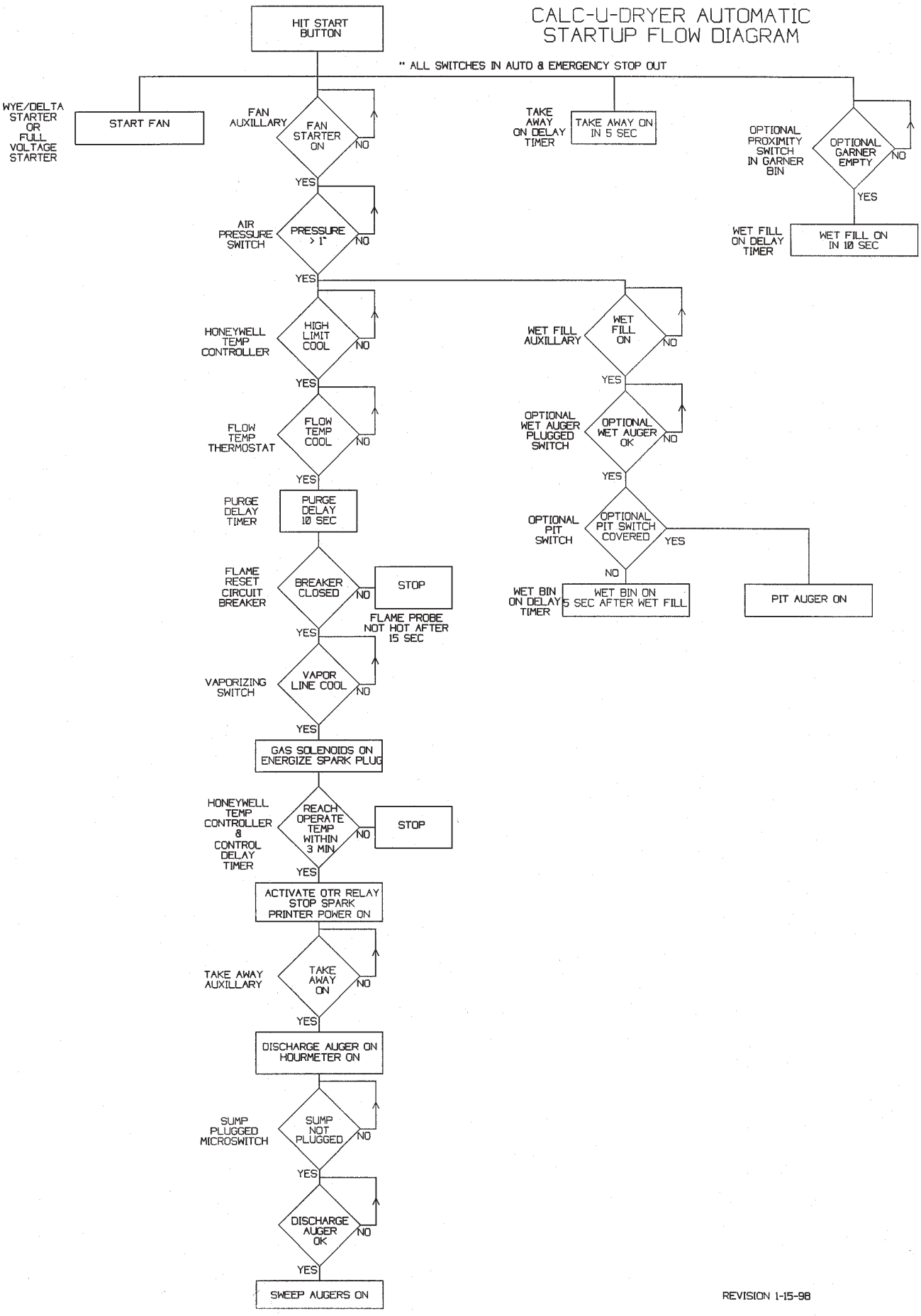
!CAUTION! SHUT OFF THE MAIN BREAKER IN THE CONTROL BOX BEFORE CLEANING THE INSIDE OF THE BOX.

When the main breaker in the control box has been shut off, clean out foreign material both inside and outside box.

Final Shut Down

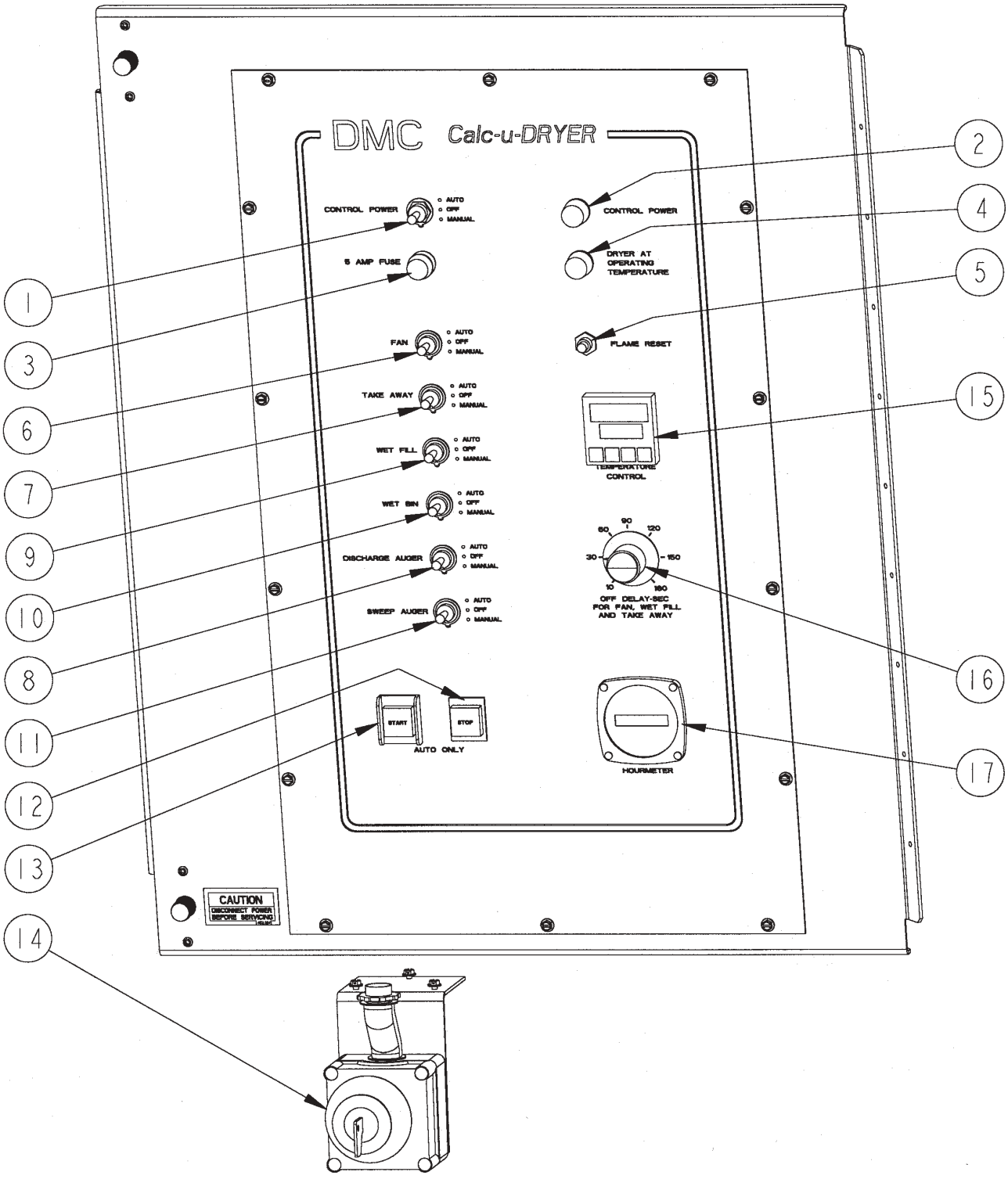
When shutting down the dryer in the off season, it is recommended that the main disconnect for the dryer be shut off. It is suggested that the control box be locked to prevent unauthorized entry. All fuel supply lines should be shut off at the source, as well as on the dryer.

CALC-U-DRYER AUTOMATIC STARTUP FLOW DIAGRAM



REVISION 1-15-98

Calc-u-DRYER
CONTROL MODULE



Calc-u-DRYER CONTROL DEFINITIONS

1. CONTROL POWER SWITCH: This switch controls the 115 volts AC power that is required for the Calc-u-DRYER control. The switch must be in the **"MANUAL"** mode to enable any of the other functions to run in the **"MANUAL"** mode. The **"AUTOMATIC"** mode provides power for normal drying operations. ***NOTE:*** Turning this switch **"OFF"** will immediately shut down all functions.

2. CONTROL POWER INDICATOR: This lamp will be **"ON"** whenever the power switch is in **"AUTO"** or **"MANUAL"** and there is 115 volts AC present.

3. FIVE AMP FUSE: Use only AGC 5A fuses. ***DO NOT OVERSIZE!***

4. OPERATING TEMPERATURE INDICATOR: This lamp will be **"ON"** when the plenum chamber has reached operating temperature. The operating temperature is factory-set at 120.

5. FLAME RESET:This button wil pop out when the dryer no longer is sensing a flame during operation, and will shut down the system. See page 16.

6. FAN SWITCH: This switch allows the fan to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning the switch**"OFF"** will immediately stop the fan.

7. TAKE-AWAY SWITCH: This switch allows the take-away equipment to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning the switch **"OFF"** will immediately stop the take-away equipment.

8. DISCHARGE AUGER SWITCH: This switch allows the discharge auger to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning this switch **"OFF"** will immediately stop the discharge auger.

9. WET FILL SWITCH: This switch allows the equipment filling the dryer to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning this switch **"OFF"** will immediately stop the wet fill equipment.

10. WET BIN SWITCH: This switch allows the equipment feeding the wet fill system to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning this switch **"OFF"** will immediately stop the wet fill equipment.

11. SWEEP AUGERS SWITCH: This switch allows the sweep augers to run in **"AUTOMATIC"** or **"MANUAL"** mode. Turning this switch **"OFF"** will immediately stop the sweep augers.

12, STOP SWITCH: This switch will stop the dryer and allow the fan, take-away, and wet fill equipment to run for the "OFF DELAY" period before shutting down completely.

13. START SWITCH: This switch starts the dryer in the **"AUTOMATIC"** mode when the power switch is in the **"AUTO"** position and will need to be reactivated to restart the dryer after any shutdown. ***NOTE:*** This switch does not need to be activated for compenents to run in the **"MANUAL"** mode.

14, EMERGENCY STOP: This switch is located externally and will immediately stop the dryer and all connected equipment when the **"STOP"** button is pushed in. ***NOTE:*** The dryer can not be restarted until the button is unlocked with the switch key and pulled back out to its original position.

15. TEMPERATURE CONTROL: This module controls the plenum temperature by regulating the modulating valve that provides gas to the burner. The controller will automatically regulate the modulating valve to maintain a desired plenum temperature in the **"AUTO"** mode. The plenum temperature is displayed in the top window of this module and the desired plenum temperature is set in the lower window. The modulating valve can be manually regulated with this controller in the **"MANUAL"** mode. The top window will display the plenum temperature and the lower window will show the percent that the valve is open.
    - -To adjust the temperature in **"AUTO"** press the 'setup' key and then the ↑ or ↓ keys to adjust the set point. Then push 'setup' again.
    - -To adjust the temperature in **"MANUAL"** mode, simply push the ↑ or ↓ keys.

16. OFF DELAY/ADJUSTMENT: This adjustment varies the off-delay period (the time that equipment will run after an automatic shutdown) for 10 to 180 seconds.

17. HOURMETER:The hourmeter displays the accumulated time that the discharge auger has discharged grain.

CONTROL BOX OPERATION

CONTROL ON-DELAY TIMER:

The purpose of the on delay timer is to give the dryer enough time during startup to reach operating temperature. This is typically factory set at about two (2) minutes. The timer basically bypasses all of the sensors that would normally shut the dryer down during operation. Once this time has elapsed, the dryer may automatically shut down at any time. This can be lengthened if more time is required to reach operating temperature by simply turning the knob clockwise.

ON-DELAY TIMERS, AUXILIARY EQUIPMENT

The Wet Bin, Wet Fill and Take-Away equipment have individual on-delay timers. This allows you to stagger start all of the equipment to reduce the peak amperage draw. Each is adjustable from zero (0) to twenty (20) seconds.

FLOW TEMP THERMOSTAT

The purpose of the flow thermostat and thermocouple is to detect when there is no longer grain being fed into the dryer. The thermocouple is placed just above the grain on the perforated cone. When the thermocouple is cool, the dryer will be allowed to run. If the grain entering the dryer has stopped, an opening will occur through the perforated roof. This will allow more hot air to escape at the top and will heat the thermocouple. Once the thermocouple temperature has risen above the thermostat setting, the dryer will shut down.

The flow temp setting needs to be above ambient temperature and the operating temperature, and yet below the plenum temperature. Plenum temperature is displayed on the temperature controller. Thermostate is factory set at 170°.

TYPICAL DRYING SITUATIONS

GRAIN	PLENUM TEMPERATURE	OPERATING TEMPERATURE	FLOW TEMPERATURE	AMBIENT TEMPERATURE
CORN	250°	120°	170°	50°
RICE	105°	95°	100°	85°
WHEAT	150°	110°	130°	70°

It is recommended to test the setting by shutting off the incoming grain. The dryer should shut down automatically and the FLOW TEMP light on the shutdown indicator should be on.

PURGE DELAY TIMER

The purge delay timer will allow the fan to run for ten (10) seconds during startup before the gas solenoids open and ignition occurs.

OFF DELAY TIMER

The off delay timer will keep the fan, wet fill and take-away equipment on for the set time after the dryer has been signaled to stop. This will occur after the stop button on the control panel has been pushed or during an automatic shutdown. When the emergency stop button has been pushed, the off delay timer is not used, and all equipment will shut down immediately.

DISCHARGE STARTER

The discharge starter consists of a circuit breaker, contactor and overload protection all housed in one unit. The overload setting is made by way of the adjusting screw on the starter's front panel. This setting should equal the discharge motor's full load rating. The control switch should be in the AUTO position. If the breaker or overload should trip, then this switch will rotate to the OFF position. The dryer will shut down and the shut down indicator's discharge light will be on. To reset, first rotate the switch to RESET then to AUTO.

FAN STARTER

On 40 HP and larger dryers a Wye-Delta starter is used with the fan motor so as to reduce the inrush amperage. During startup the contactors will connect the motor in a wye configuration resulting in a 67% reduction in starting amperage. After approximately ten (10) seconds, the contactors will switch to the standard delta configuration. This time period should be maintained at about ten (10) seconds by way of the adjusting screw found on the time delay relay.

SCR DRIVE

The SCR drive is an electronic device that controls the sweep auger DC motor. It receives a speed signal from the Commander control box based upon grain moisture. The 230 VAC input power is protected by way of the two SCR fuses located above the SCR. The output is protected by way of the armature fuse located on the right-hand side of the SCR. The output varies from 0 to 180 VDC and is displayed on the Commander's DC VOLTMETER.

SHUTDOWN INDICATOR

The shutdown indicator will help to determine why the dryer automatically shut down. During startup it is common for a light to turn on such as the air sail light. All lights will reset when the dryer reaches operating temperature. Only after the operating temperature has been reached is the shutdown indicator ready to sense a shutdown. If the dryer shuts down before this due to the control on delay expiring, the proper light may not be lit!

FLAME RESET SWITCH

The flame reset switch is a circuit breaker that is connected directly to the normally closed flame probe above the burner. If the flame probe is closed due to being cold, the flame reset switch would take roughly 20 seconds to trip. This would cause the black pin to pop out. The switch must have time to cool down before resetting. Reset by simply pushing the pin back in place.

TEMPERATURE CONTROLLER

The temperature controller maintains the plenum temperature, provides a signal when the operating temperature has been reached and provides the high limit signal. It receives a temperature signal from the RTD sensor located at the top of the plenum. This is the hottest area in the plenum and the best place for stable control. The controller outputs a 4 to 20 mA signal to the modulating gas valve to maintain the plenum temperature near the set point.

While in automatic mode the top number displayed is the plenum temperature and the lower number is the set point. The set point can be changed by pushing the Set Up key and then push the ↑or ↓arrow keys as required. Press the Set Up key again once or twice to get back to the original display.

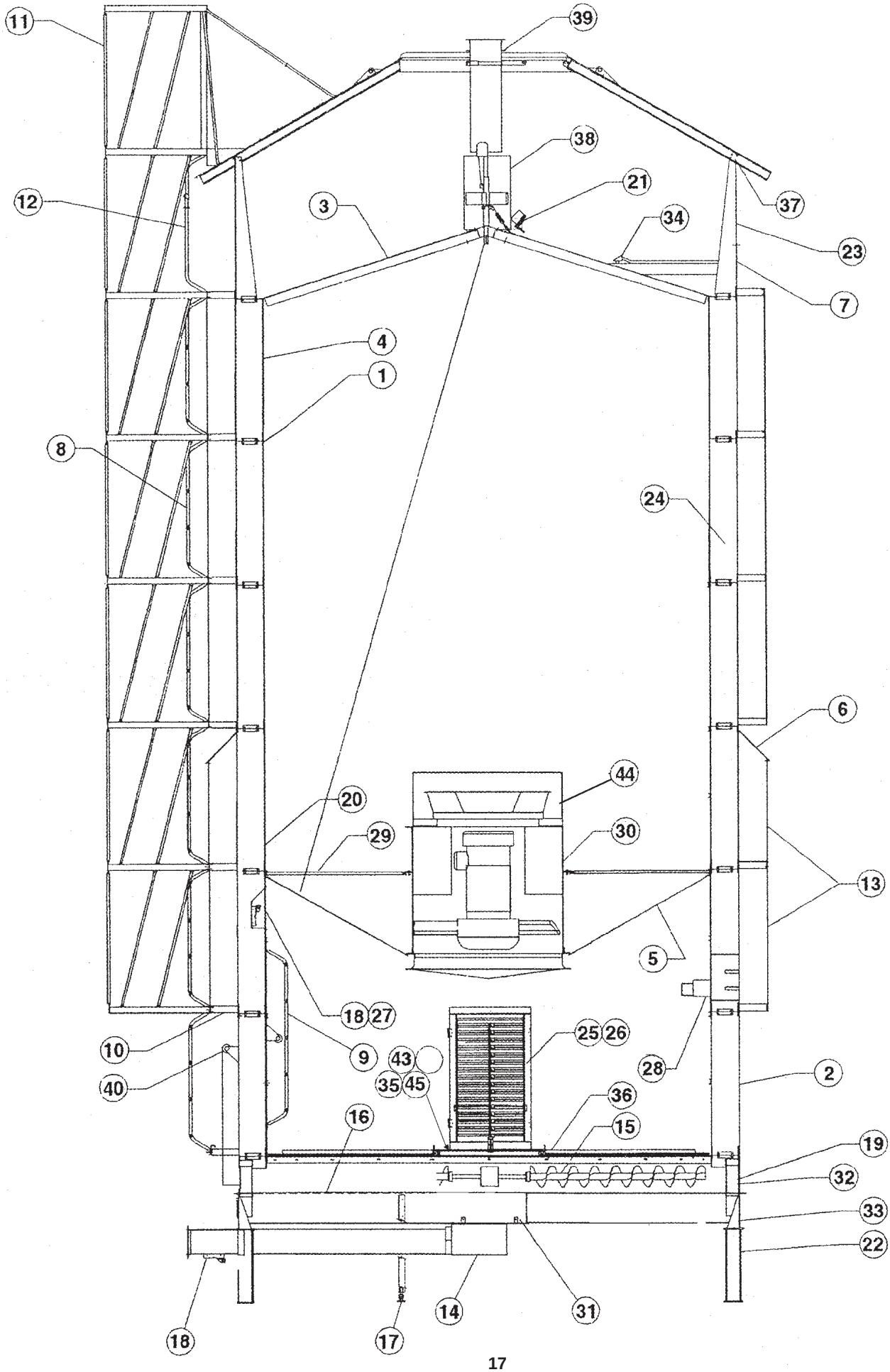
Press the Manual/Auto key to switch from auto to manual and vice versa. While in manual the SET light will blink and the lower number is the percentage open of the modulating valve. For example: "P 30" means that the modulating valve is 30% open. This opening can be manually adjusted by pressing the ↑or ↓arrow keys.

The purpose of the operating temperature is to allow the dryer time to warm up before discharging grain. The operating temperature is preset at 120 °. See the Honeywell Temperature Controller Programming section on page 32 for changing this value if necessary. This value must be lower than the set point for proper operation. If the set point is lowered below 125 °, then the operating temperature should be lowered accordingly. It is okay to have the operating temperature lower than the ambient air temperature, however, there will be no warm-up time after startup.

When the operating temperature has been reached, the following events occur:

1) Discharge auger turns on
2) Sweep augers turn on
3) OPERATING TEMPERATURE light turns on
4) ALM light on temperature controller blinks
5) Spark plug stops sparking
6) Shutdown indicator lights are reset
7) Optional Printer or Chart Recorder turns on

If the plenum temperature dips below operating temperature, the dryer will shut down.
The high limit is preset at 300 ° . If the plenum temperature exceeds the high limit, the dryer will shut down.


11
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DMC Calc-u-DRYER MODELS 75 & 100 PARTS LIST

1

7210070	CHANNEL-RING SUPPORT
7210121	SPLICE SUPPORT RING

2

7310069	OUTSIDE PERF. PANEL-GALV .078
7310230	OUTSIDE PERF. PANEL-STNLSS.078

3

7310180	PERF. CONE PANEL -.094
7310232	PERF. CONE PANEL -.078
7220019	TOP/BOTTOM CENTER CONE
7220010	CENTER CONE PIPE ASSY

4

7210174	INSIDE PERF. PANEL - .094
7210258	INSIDE PERF. PANEL - .078

5

7310155	PANEL, CONE FAN SUPPORT
7210296	SUPPORT, FAN CONE
7310188	PANEL, CONE-INSIDE ACCESS
7310162	PANEL, CONE-OUTSIDE ACCESS
7310184	DOOR-ACCESS, CONE, RIGHT
7310165	DOOR-ACCESS, CONE, LEFT
7210295	BRACKET-FAN CONE
7310189	CONE - WITH SLOT

6

7310075	VISOR RECYCLING SEAL
7210186	VISOR-STANDOFF

7

7310071	PANEL SIDE BOARD
7210221	STEP-SIDEBOARD

8

7210156	LADDER-4 STEP

9

7210166	LADDER-5 STEP

10

7210231	STANDOFF JACKET/LADDER
7210136	BRACE-INNER STANDOFF
7210137	BRACE-OUTER STANDOFF

11

7210361	LADDER-SECTION ROOF
7210183	HOOP-LADDER CAGE
7210184	STRAP-TOP LADDER
7210185	TUBE-CAGE, SHORT
7210155	TUBE-CAGE, LEFT
7210182	TUBE-CAGE-RIGHT
7220014	SUPPORT-LADDER RIGHT
7220021	SUPPORT-LADDER LEFT
7210225	LADDER EXTENSION

12

7210452	LADDER-3 STEP

13

7310073	JACKET-EXTERNAL
7310074	JACKET-EXTERNAL SHORT
7210189	JACKET STANDOFF

14

	7310198	DSCHG. AUGER ASSEMBLY
A	7310031	TUBE-DSCHG. - W/C
B	7210280	HOPPER-DSCHG.
C	7310028	AUGER-DSCHG.
D	7210388	STUB SHAFT-DSCHG.
E	104B2056	SPRING-EXTEN W/LOOPS
F	1FH0738	NUT-LOCK, 1/2-13 2-WAY
G	1FH0997	NUT-LOCK,FLG,3/8-16
H	205C0002	CLAMP-BAND 8”
I	2FH0486	SCREW-HX HD #10-16X3/4
J	2FH0983	SCREW-FLG. WZ. LK. 3/8-16 x 1
K	2FH5335	BOLT-HEX,STD 1/2-13 x 1-1/2
L	603B001	PLATE SUMP CLAMP
M	603C010	SAMPLER COVER, 8”
N	603C012	SAMPLER SLIDE GATE, 8”
O	PT0116	BEARING-W/HOUSING 1-1/4”
P	7210505	CHANNEL SUPPORT 8”
Q	7210531	CLIP-HOPPER MOUNT
R	7210353	COVER-SLIDE CLEANOUT

15

7310065	SWEEP AUGER 7” ASSY.

16

7310097	FLOOR PANEL
7310148	RADIAL

17

7210101	LEG-INSIDE 32”
7210351	PAD-LEG ADJUST.

18

602E020	SENSOR STD

DMC Calc-u-DRYER 1998 MODELS 75 & 100 PARTS LIST (cont'd.)

19		
	7310119	PANEL-DUMP
	7210072	SLIDE-DUMP
	7310208	PANEL-DUMP-DOOR

20		
	7210071	PANEL-PERF. INSIDE STEEP.-.094
	7210377	PANEL-PERF. INSIDE STEEP.-.078

21		
	7210378	PROBE FLOW TEMP - A/C
A	7210390	BRKT-THERMOCOUPLE
B	1EL0324	COVER-OUTLET BX
C	1FH0995	NUT-LK. FLG. 1/4-20 WZ.LK.
D	2EL0230	THERMOCOUPLE TUBE/WIRE
E	2EL0231	THERMOCOUPLE MOUNTING
F	2FH0981	SCREW-MF FLG WZ.LK.1/4-20X3/4
G	601E0044	BOX-OUTLET DRILLED

22		
	7210104	LEG-DRYER 24"
	7210542	PAD - LEG

23		
	7210422	Z-BAR ROOF

24		
	7210177	Z-BAR STD
	7210175	Z-BAR SCAB PLATE
	7210178	THREE HOLE NUT

25		
	7210313	DOOR FRAME ASSY
	MS5382	HINGE

26		
	7210311	DOOR - ASSY
	7210039	LOUVER W/O ADJUST BRKT
	7210129	SHAFT-LOUVER PIVOT
	7210327	DOOR FRAME

27		
	602E287	COLUMN SENSOR BRKT

28		
	7210474	TRANS. & JUNCT.ASSY
A	774695	AIR SWITCH SCREEN
B	851790	IGNITION-TRANSFORMER
C	7210357	BRKT-TRANSFORMER
D	7210439	JUNCTION BOX, DRILLED
E	1EL0324	COVER, OUTLT BX, 4X2, FS
F	1EL0433	CONNCT.-EMT, COMPRES.,1/2"
G	1EL0459	NIPPLE-3/4"OFFSET1/2"D.CAST
H	1FH0725	NUT-LK.#8-32,NYLON LK.
I	1FH0995	NUT-LK.FLG.1/4-20 WZ.LK.
J	2FH0772	SCREW,MACH,#8-32
K	2FH0981	SCREW,MF FLG WZ.LK.,1/4-20
L	4FH0576	FIT-COUPLER,AUTO-LK 1/4" TUBE
M	4FH0973	FIT-NIPPLE HEX (BRASS)1/8x1/8
N	D03-0167	SWITCH-PRESSURE
O	MS0801	TUBE 1/4" - BLACK

29		
	7310083	TUBE BURN. SUPP. BRACE
	7210064	END BURN.SUPP.WLDMNT

30		
	7310199	FAN/BURN. 75 HP 3 PH ASSY
	7320003	FAN/BURN. 100 HP 3 PH ASSY
	7310201	BARREL-BURN ASSY LP
	7310202	BARREL-BURN ASSY NG
	7310183	TUNNEL ASSY
	3EL5139	MOTOR 40HP 3PH
	3EL5168	MOTOR 60HP 3PH

31		
	7310221	SUMP-WLDMNT- PLT
	7210510	GEARBOX SUPP.-PLT

32		
	7210109	Z-BAR SUPPORT

33		
	7310010	CHANNEL-BASE

34		
	2EL0221	RTD SENSOR
	7210404	BRKT - RTD

35

36A

SAFETY DECK ASSEMBLY 3 DOOR MODEL 75

A	7210345	PANEL-DCK, CORRUGATED
B	7210346	PANEL-DCK, CORRUGATED
C	7210561	PANEL-DCK, CORRUGATED
D	7210563	CHNLSAFE.DCK.12gvX2.39"X45"
E	7310173	PANEL-DCK, CORRUGATED
F	7310174	PANEL-DCK, CORRUGATED
G	7310175	PANEL-DCK, CORRUGATED
H	7310176	ANG-SUPP. DCK 211" WLDMNT
I	7310177	ANG-SUPP.DCK 86" WLDMNT
J	7310178	ANG-SUPP.DCK 64" WLDMNT
K	7310179	ANG-SUPP.DCK 64" WLDMNT
L	7310186	PANEL-DCK, CORRUGATED
M	7310187	PANEL-DCK, CORRUGATED
N	7310220	PANEL-DCK, CORRUGATED
O	7310246	PANEL-DCK, CORRUGATED

36B

SAFETY DECK ASSEMBLY 4 DOOR MODEL 100

A	7210345	PANEL-DCK, CORRUGATED
B	7210346	PANEL-DCK, CORRUGATED
C	7210563	CHNLSAFE.DCK.12gvX2.39"X45"
D	7310174	PANEL-DCK, CORRUGATED
E	7310175	PANEL-DCK, CORRUGATED
F	7310176	ANG-SUPP. DCK 211" WLDMNT
G	7310177	ANG-SUPP.DCK 86" WLDMNT
H	7310178	ANG-SUPP.DCK 64" WLDMNT
I	7310179	ANG-SUPP.DCK 64" WLDMNT
J	7310186	PANEL-DCK, CORRUGATED
K	7310187	PANEL-DCK, CORRUGATED
L	7310220	PANEL-DCK, CORRUGATED
M	7320014	PANEL-DCK, CORRUGATED

37

	7310167	RING-ROOF SUPPORT
	CRP-4698	STD BIN ROOF - 15'
	CRP-4703	SAFETY RING - 15'

38

	7220075	SKIRT FEED IN ASSY
	7220007	SKIRT FEED IN
A	3FH1240	CLEVIS PIN 5/16X1-3/8
B	3FH0712	COTTER PIN 1/8 X 3/4
C	7220054	CENTER PIPE W/C
D	5FH0088	CABLE(CLAMP)U-BOLT
E	7220050	HUB SKIRT
F	6FH0005	TURNBUCKLE 5/16 X 4-1/2
G	7220053	SKIRT ALIGNMENT
H	7220056	BRKT-SKIRT TURNBUCKLE
I	7220010	CENTER CONE A/C
J	5FH0117	SHEAVE DELRIN

39

A	7210421	COVER-ROOF, FEED-IN ASSY
B	7210339	ANGLE-MNTG, TAB ZINC PLT
C	7210419	ALIGNMENT RING
D	7310229	FEED-IN TUBE 8"
E	6FH0005	TURNBUCKLE- 5/16 X 4-1/2

40

	PT0550	PULLEY HOT HOUSE

41

A	7210415	MOUNT-MTR, DC DR WLDMNT
B	7210366	ROD-ARM LIMIT SWITCH
C	2EL0343	SWITCH-LMT TYP C PLG IN UNIT
D	2EL0344	SWITCH-LMT TYPC PLUG IN RECP
E	2EL0345	SWITCH-LMT TYP C HEAD ONLY

42

A	7210375	BRKT-PLUMBING LONG
B	PT1407	REG-(0-30 PSI)-3/8" ORF
C	4FH0593	FIT-UNION 1-1/4" FPT, (SCH 80)
D	2EL0208	MODUTROL MOTOR-HNYWLL
E	2EL0222	CRANK ARM-FOR MOD.MTR.
F	2EL0232	THERMOSTAT-FIXED TEMP.
G	PT1309	GAUGE-PRESS. 2-1/2"(O-200 PSI)
H	PT1525	VALVE-COIL, 115V
I	7210395	ORIFICE-NIPPLE, 2"
J	PT1524	VALVE-(GAS SOLENOID) 1-1/4"
K	PT1520	VALVE-CONTROL, 1-1/4"
L	MS0802	COPPER-TUBE 1/4" SOFT
M	PT1310	GAUGE (PRESS.) 4-1/2 (0-30 PSI)

43

	7210374	GAS TRAIN-INLET LP-MODEL75 ONLY
	7320007	GAS TRAIN-INLET LP-MODEL 100 ONLY
A	4FH0591	FIT-UNION 1/2 FPT, (SCH 80)
	4FH0592	FIT-UNION 3/4 FPT, (SCH 80)
B	4FH0685	FIT-STRAINER,(7P-1/2)
	4FH0686	FIT-STRAINER,(7P-3/4)
C	PT1319	VALVE-(RELIEF) 1/2 NPT
D	PT1504	VALVE-BALL,FULL PORT 1/2 NPT
	PT1507	VALVE-BALL,FULL PORT 3/4 NPT
E	PT1513	VALVE-SOLENOID-1/2"
	PT1514	VALVE-SOLENOID-3/4"

44

A	556605	SPARK PLUG(IGNITION)
B	749812	FLAME PROBE-NORM CLOSE
C	7310125	*BRKT-VAPORIZER SHORT
D	7310041	*BRKT-VAPORIZER SUPP.
E	7310076	*VAPORIZER- 1-1/4" x 66"
F	7310149	BURNER-OCTAGON 66" ASSY
G	7210292	BRKT-BURNER
H	7210299	BRKT-FLAME PROBE
I	7310106	BARREL-BURN.EXT. WLDMT
J	1FH0751	NUT-JAM, 3/8-24
K	1FH0995	NUT-LK, FLG, 1/4-20 WZ.LK.
L	2FH0980	SCREW- FLG WZ.LK. 1/4-20x1/2

* LP ONLY

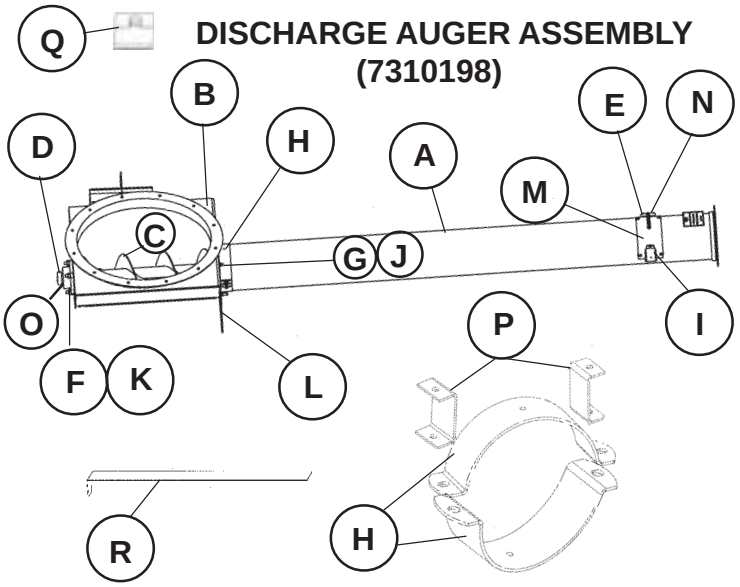
45

A	7210375	BRKT-PLUMB.,LG 12GVx6.75"x48.25"
B	7210395	ORIFICE-GAS LINE, 2" WLDMNT
C	MS0802	COPPER-TUBE 1/4" SOFT
D	2EL0208	MODUTROL MOTOR
E	2EL0222	CRANK ARM FOR MOD. MOTOR
F	2FH0401	BOLT-5/16x1.75x2.68-U W/PLT
G	4FH0564	FIT-CONNECT.,MALE 1/4"x1/2" NPT
H	4FH0593	FIT-UNION, 1-1/4 FPT
I	4FH0660	FIT-COUPLER, 2 FPT x 1-1/4
J	PT1309	GAUGE-(PRESS.)-2-1/2" 0-200 PSI
K	PT1520	VALVE-CONT. 1-1/4 CV SERIES
L	PT1524	SOLENOID-GAS,1-1/4
M	PT1310	GAUGE (PRESS.) 4-1/2 (0-30 PSI)

46

A	7210511	EYEBOLT - CABLE
B	7210517	BRACKET - CABLE ADJ
C	MS5411	HANDLE
D	1FH0765	NUT- HEX 3/8x16
E	5FH0088	CLAMP - CABLE
F	5FH0092	CABLE - 3/16

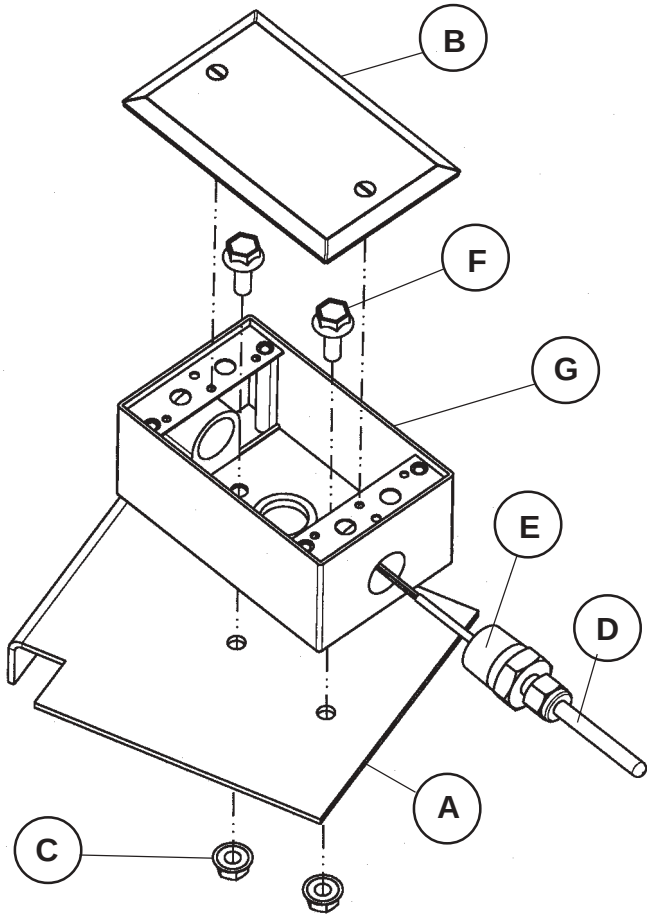
DISCHARGE AUGER ASSEMBLY (7310198)



	7310198	DSCHG. AUGER ASSEMBLY
A	7310031	TUBE-DSCHG. - W/C
B	7210280	HOPPER-DSCHG.
C	7310028	AUGER-DSCHG.
D	7210388	STUB SHAFT-DSCHG.
E	104B2056	SPRING-EXTEN W/LOOPS
F	1FH0738	NUT-LOCK, 1/2-13 2-WAY
G	1FH0997	NUT-LOCK,FLG,3/8-16
H	205C0002	CLAMP-BAND 8"
I	2FH0486	SCREW-HX HD #10-16X3/4
J	2FH0983	SCREW-FLG. WZ. LK. 3/8-16 x 1
K	2FH5335	BOLT-HEX,STD 1/2-13 x 1-1/2
L	603B001	PLATE SUMP CLAMP
M	603C010	SAMPLER COVER, 8"
N	603C012	SAMPLER SLIDE GATE, 8"
O	PT0116	BEARING-W/HOUSING 1-1/4"
P	7210505	CHANNEL SUPPORT 8"
Q	7210531	CLIP-HOPPER MOUNT
R	7210353	COVER-SLIDE CLEANOUT

14

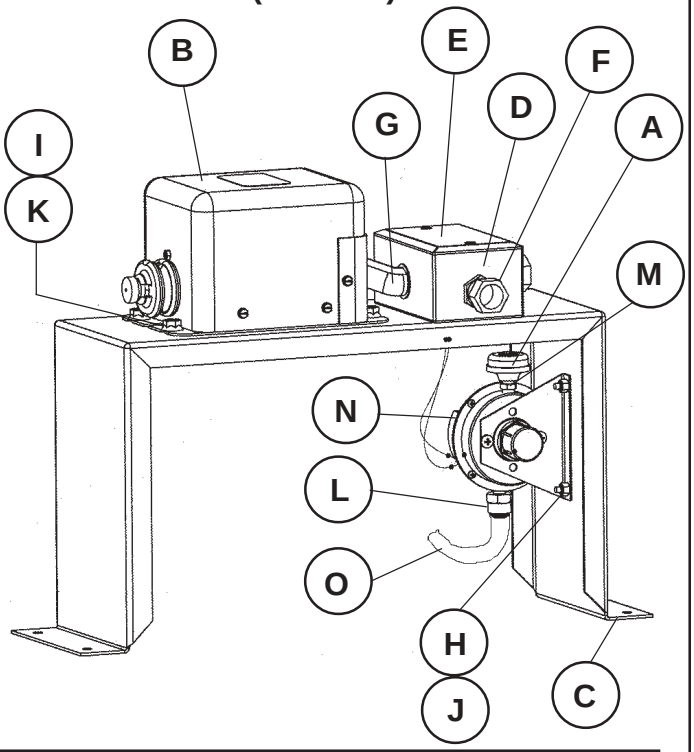
FLOW TEMP. - THERMOCOUPLE ASSEMBLY (7210378)



	7210378	PROBE FLOW TEMP - A/C
A	7210390	BRKT-THERMOCOUPLE
B	1EL0324	COVER-OUTLET BX
C	1FH0995	NUT-LK. FLG. 1/4-20 WZ.LK.
D	2EL0230	THERMOCOUPLE TUBE/WIRE
E	2EL0231	THERMOCOUPLE MOUNTING
F	2FH0981	SCREW-MF FLG WZ.LK.1/4-20X3/4
G	601E0044	BOX-OUTLET DRILLED

21

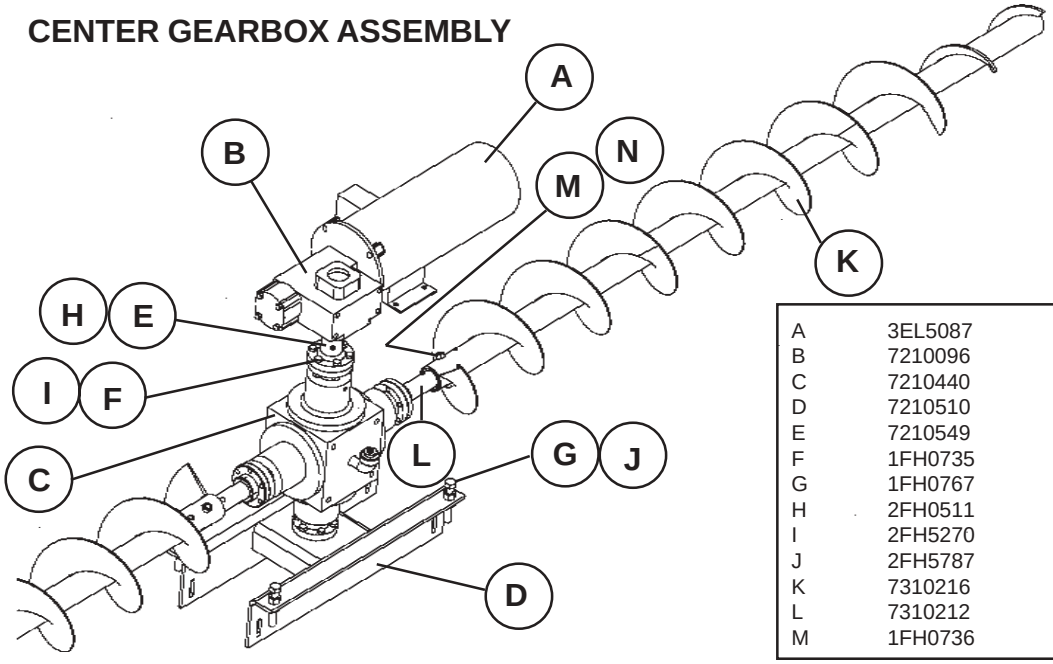
TRANSFORMER & JUNCTION ASSEMBLY (7210474)



	7210474	TRANS. & JUNCT.ASSY
A	774695	AIR SWITCH SCREEN
B	851790	IGNITION-TRANSFORMER
C	7210357	BRKT-TRANSFORMER
D	7210439	JUNCTION BOX, DRILLED
E	1EL0324	COVER, OUTLT BX, 4X2, FS
F	1EL0433	CONNCT.-EMT, COMPRES.,1/2"
G	1EL0459	NIPPLE-3/4"OFFSET1/2"D.CAST
H	1FH0725	NUT-LK.#8-32,NYLON LK.
I	1FH0995	NUT-LK.FLG.1/4-20 WZ.LK.
J	2FH0772	SCREW,MACH,#8-32
K	2FH0981	SCREW,MF FLG WZ.LK.,1/4-20
L	4FH0576	FIT-COUPLER,AUTO-LK 1/4" TUBE
M	4FH0973	FIT-NIPPLE HEX (BRASS)1/8x1/8
N	D03-0167	SWITCH-PRESSURE
O	MS0801	TUBE 1/4" - BLACK

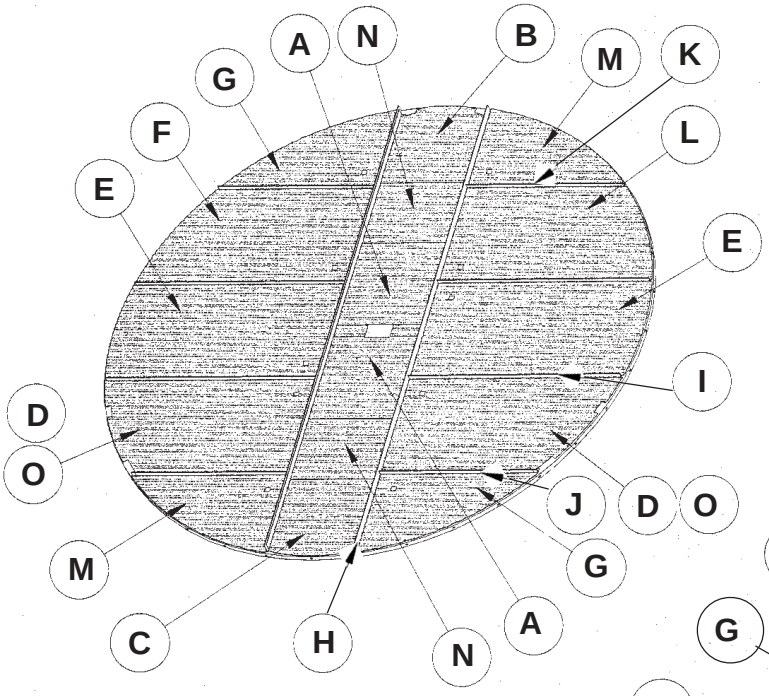
28

CENTER GEARBOX ASSEMBLY



A	3EL5087	2 HP DC MOTOR
B	7210096	WORM GEAR REDUCER
C	7210440	GEARBOX-SINGLE 1.5-1
D	7210510	SUPP.GEARBOX DRIVE
E	7210549	HUB-WORMGEAR REDUCER
F	1FH0735	NUT-LK,5/16-18 2-WAY
G	1FH0767	NUT-HEX,1/2-13 FINISHED
H	2FH0511	SCREW-SET-SOCKET HEAD
I	2FH5270	BOLT-HEX,5/16-18
J	2FH5787	BOLT-HEX,1/2-13X
K	7310216	AUGER-SWEEP 7" WLDMNT
L	7310212	SHAFT-SWEEP AUGER,STUB
M	1FH0736	NUT-LK-3/8-16UNC2-WAY

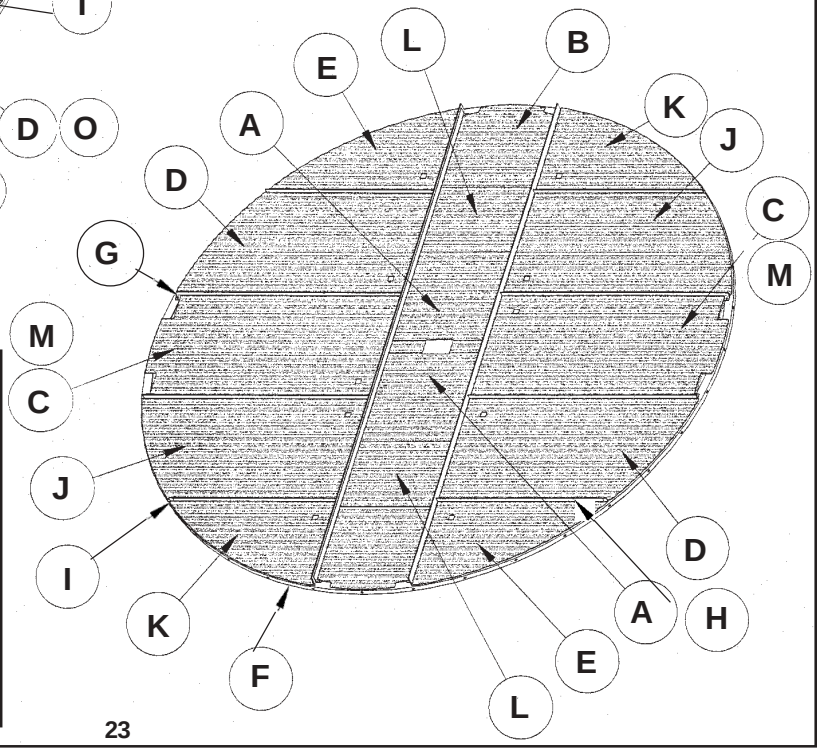
DECK-SAFETY ASSY 3 DOOR MODEL 75



36A SAFETY DECK ASSEMBLY 3 DOOR MODEL 75

A	7210345	PANEL-DCK, CORRUGATED
B	7210346	PANEL-DCK, CORRUGATED
C	7210561	PANEL-DCK, CORRUGATED
D	7210563	CHNLSAFE.DCK.12gvX2.39"X45"
E	7310173	PANEL-DCK, CORRUGATED
F	7310174	PANEL-DCK, CORRUGATED
G	7310175	PANEL-DCK, CORRUGATED
H	7310176	ANG-SUPP. DCK 211" WLDMNT
I	7310177	ANG-SUPP.DCK 86" WLDMNT
J	7310178	ANG-SUPP.DCK 64" WLDMNT
K	7310179	ANG-SUPP.DCK 64" WLDMNT
L	7310186	PANEL-DCK, CORRUGATED
M	7310187	PANEL-DCK, CORRUGATED
N	7310220	PANEL-DCK, CORRUGATED
O	7310246	PANEL-DCK, CORRUGATED

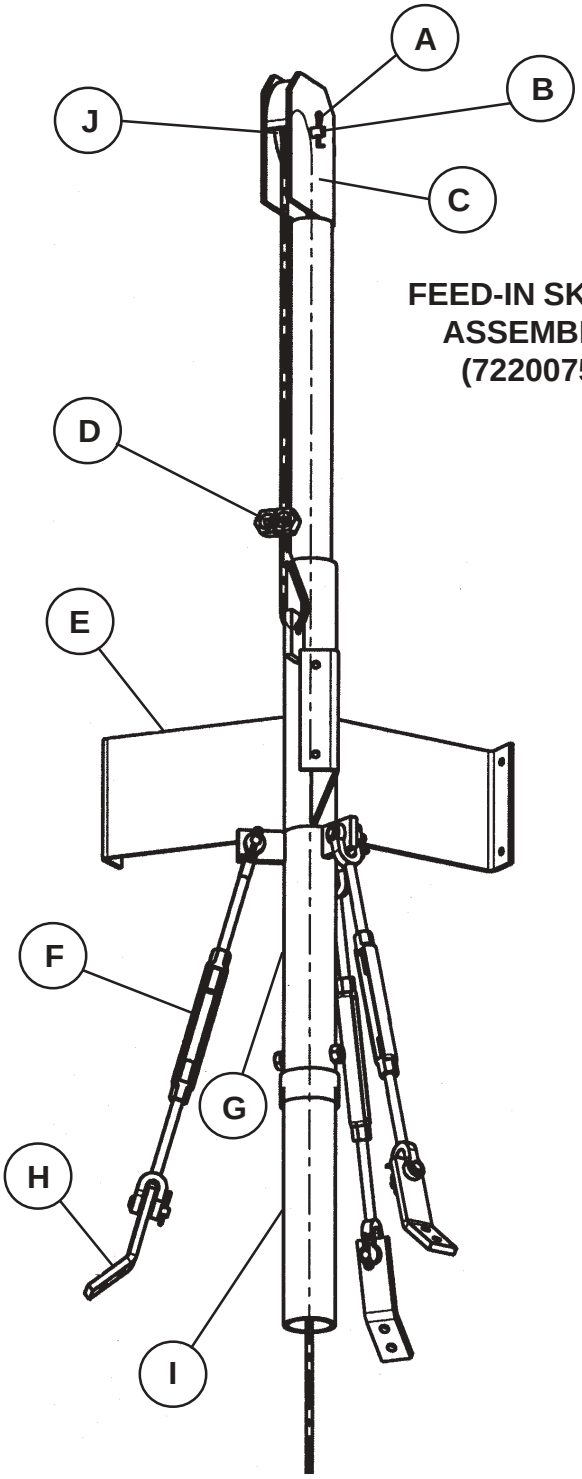
DECK-SAFETY ASSY 4 DOOR MODEL 100



36B SAFETY DECK ASSEMBLY 4 DOOR MODEL 100

A	7210345	PANEL-DCK, CORRUGATED
B	7210346	PANEL-DCK, CORRUGATED
C	7210563	CHNLSAFE.DCK.12gvX2.39"X45"
D	7310174	PANEL-DCK, CORRUGATED
E	7310175	PANEL-DCK, CORRUGATED
F	7310176	ANG-SUPP. DCK 211" WLDMNT
G	7310177	ANG-SUPP.DCK 86" WLDMNT
H	7310178	ANG-SUPP.DCK 64" WLDMNT
I	7310179	ANG-SUPP.DCK 64" WLDMNT
J	7310186	PANEL-DCK, CORRUGATED
K	7310187	PANEL-DCK, CORRUGATED
L	7310220	PANEL-DCK, CORRUGATED
M	7320014	PANEL-DCK, CORRUGATED

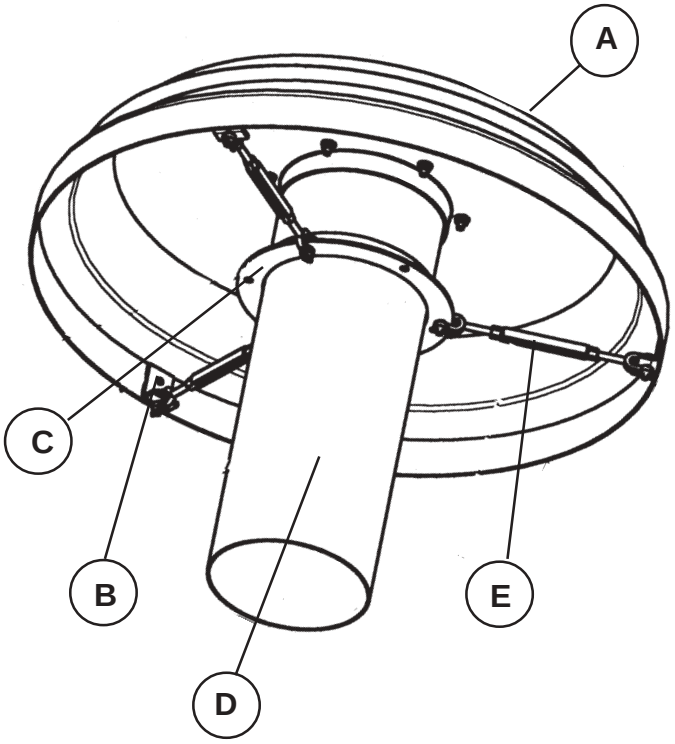
FEED-IN SKIRT ASSEMBLY (7220075)



	7220075	SKIRT FEED IN ASSY
	7220007	SKIRT FEED IN
A	3FH1240	CLEVIS PIN 5/16X1-3/8
B	3FH0712	COTTER PIN 1/8 X 3/4
C	7220054	CENTER PIPE W/C
D	5FH0088	CABLE(CLAMP)U-BOLT
E	7220050	HUB SKIRT
F	6FH0005	TURNBUCKLE 5/16 X 4-1/2
G	7220053	SKIRT ALIGNMENT
H	7220056	BRKT-SKIRT TURNBUCKLE
I	7220010	CENTER CONE A/C
J	5FH0117	SHEAVE DELRIN

38

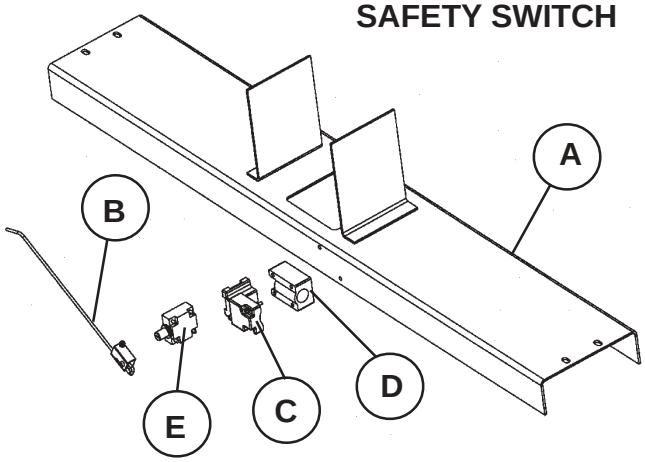
FEED-IN TUBE & LID



A	7210421	COVER-ROOF, FEED-IN ASSY
B	7210339	ANGLE-MNTG, TAB ZINC PLT
C	7210419	ALIGNMENT RING
D	7310229	FEED-IN TUBE 8”
E	6FH0005	TURNBUCKLE- 5/16 X 4-1/2

39

SAFETY SWITCH



A	7210415	MOUNT-MTR, DC DR WLDMNT
B	7210366	ROD-ARM LIMIT SWITCH
C	2EL0343	SWITCH-LMT TYP C PLG IN UNIT
D	2EL0344	SWITCH-LMT TYPC PLUG IN RECP
E	2EL0345	SWITCH-LMT TYP C HEAD ONLY

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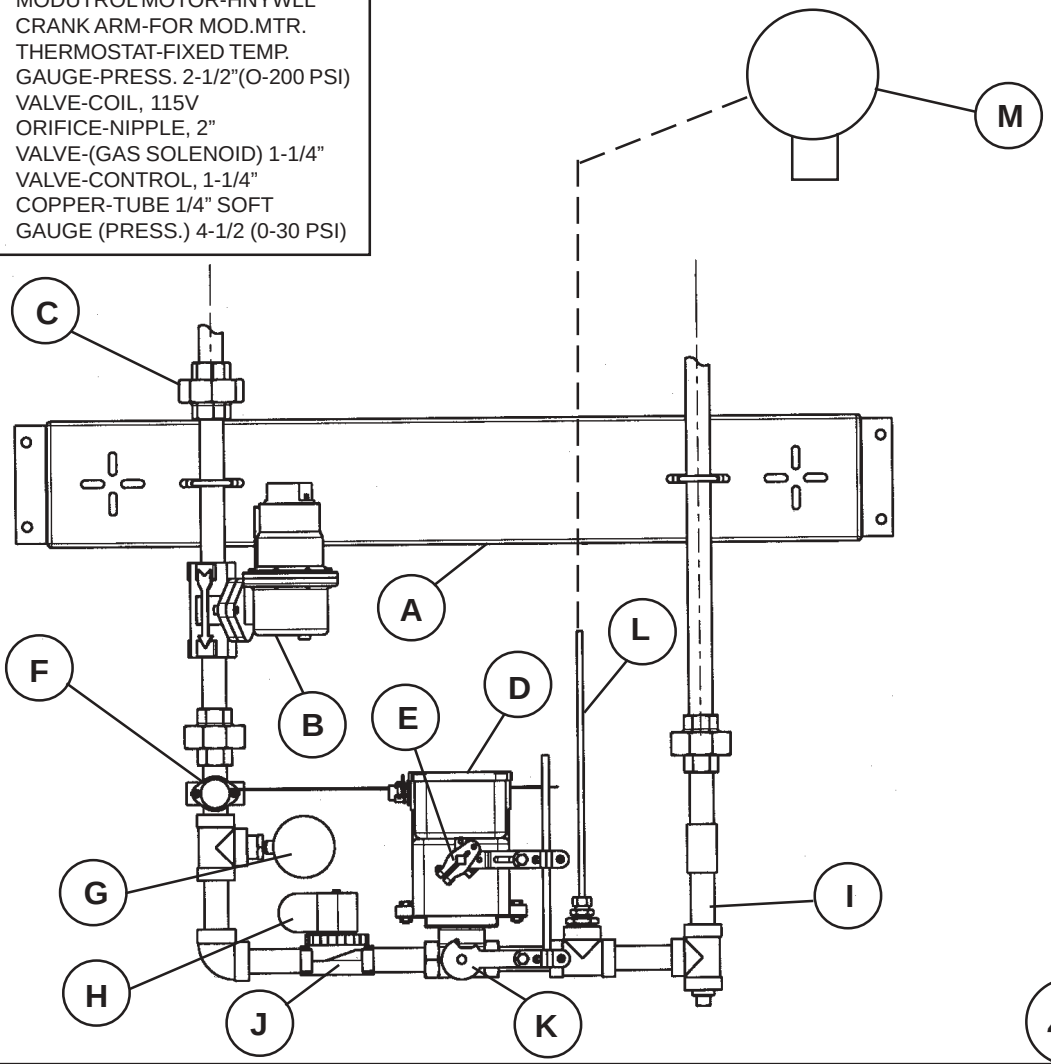
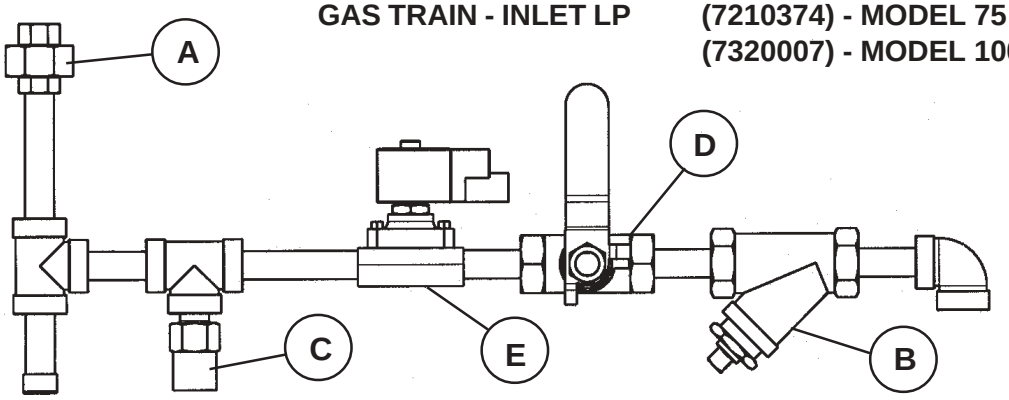
GAS TRAIN - MODULATING LP

A	7210375	BRKT-PLUMBING LONG
B	PT1407	REG-(0-30 PSI)-3/8" ORF
C	4FH0593	FIT-UNION 1-1/4" FPT, (SCH 80)
D	2EL0208	MODUTROL MOTOR-HNYWLL
E	2EL0222	CRANK ARM-FOR MOD.MTR.
F	2EL0232	THERMOSTAT-FIXED TEMP.
G	PT1309	GAUGE-PRESS. 2-1/2"(O-200 PSI)
H	PT1525	VALVE-COIL, 115V
I	7210395	ORIFICE-NIPPLE, 2"
J	PT1524	VALVE-(GAS SOLENOID) 1-1/4"
K	PT1520	VALVE-CONTROL, 1-1/4"
L	MS0802	COPPER-TUBE 1/4" SOFT
M	PT1310	GAUGE (PRESS.) 4-1/2 (0-30 PSI)



42

GAS TRAIN - INLET LP (7210374) - MODEL 75 (7320007) - MODEL 100



	7210374	GAS TRAIN-INLET LP-MODEL75 ONLY
	7320007	GAS TRAIN-INLET LP-MODEL 100 ONLY
A	4FH0591	FIT-UNION 1/2 FPT, (SCH 80)
	4FH0592	FIT-UNION 3/4 FPT, (SCH 80)
B	4FH0685	FIT-STRAINER,(7P-1/2)
	4FH0686	FIT-STRAINER,(7P-3/4)
C	PT1319	VALVE-(RELIEF) 1/2 NPT
D	PT1504	VALVE-BALL,FULL PORT 1/2 NPT
	PT1507	VALVE-BALL,FULL PORT 3/4 NPT
E	PT1513	VALVE-SOLENOID-1/2"
	PT1514	VALVE-SOLENOID-3/4"

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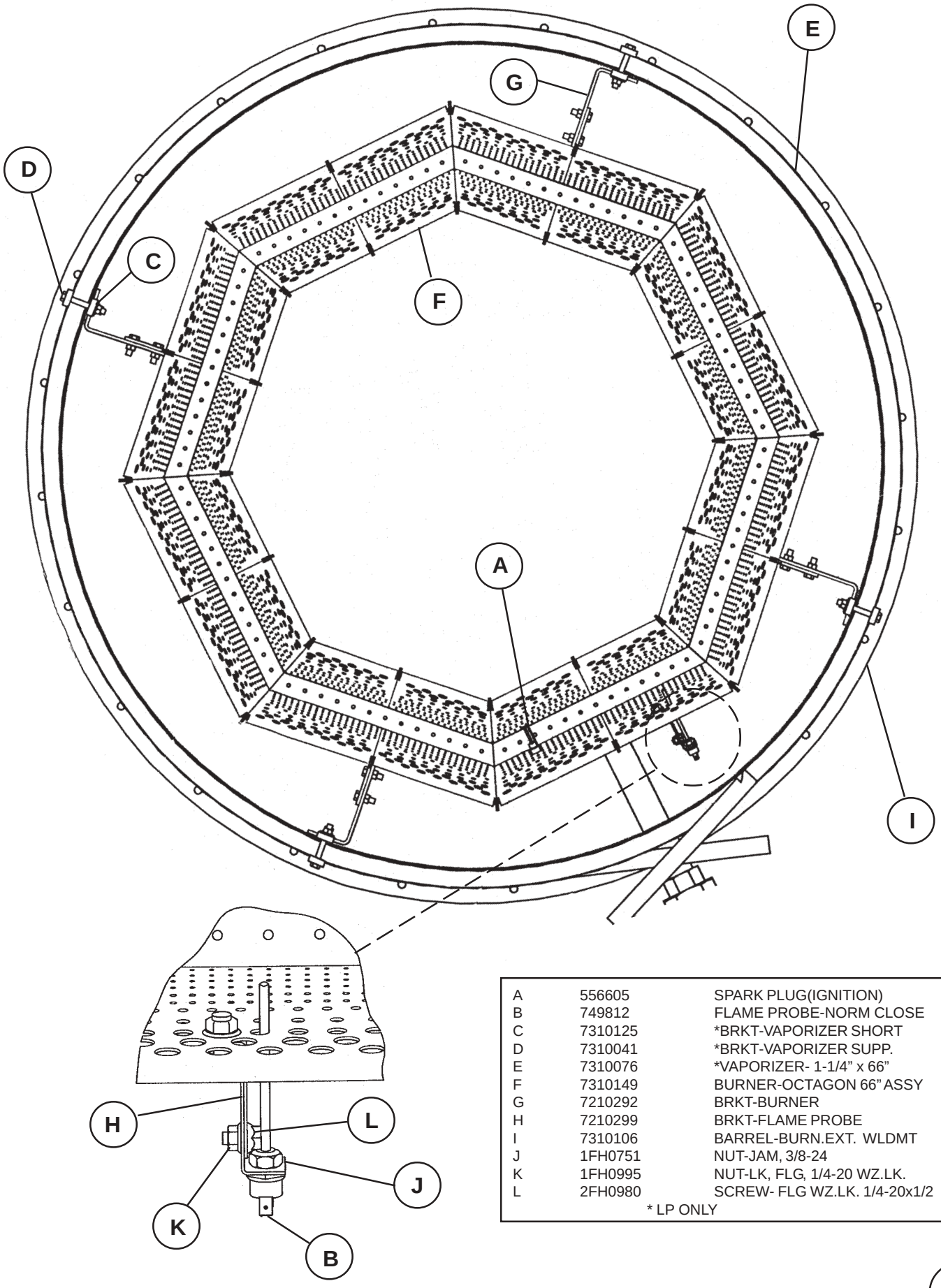
BARREL & BURNER ASSEMBLY (LP SHOWN)

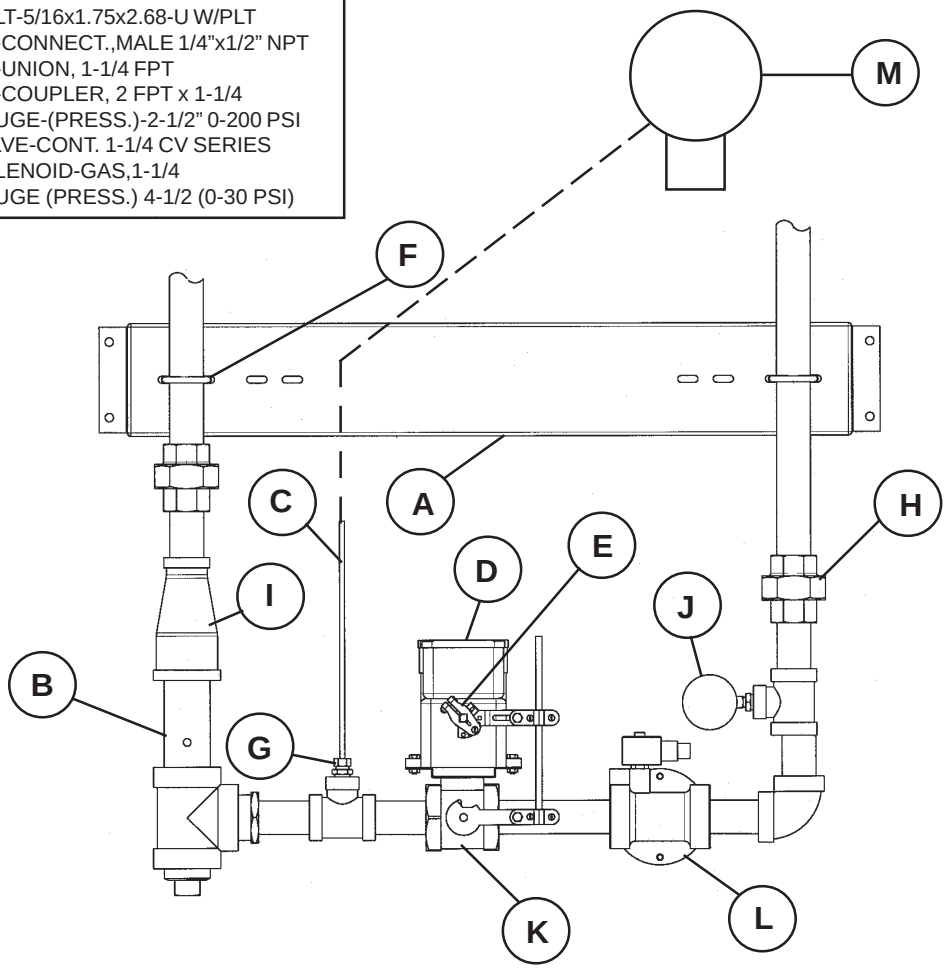


A	556605	SPARK PLUG(IGNITION)
B	749812	FLAME PROBE-NORM CLOSE
C	7310125	*BRKT-VAPORIZER SHORT
D	7310041	*BRKT-VAPORIZER SUPP.
E	7310076	*VAPORIZER- 1-1/4" x 66"
F	7310149	BURNER-OCTAGON 66" ASSY
G	7210292	BRKT-BURNER
H	7210299	BRKT-FLAME PROBE
I	7310106	BARREL-BURN.EXT. WLDMT
J	1FH0751	NUT-JAM, 3/8-24
K	1FH0995	NUT-LK, FLG, 1/4-20 WZ.LK.
L	2FH0980	SCREW- FLG WZ.LK. 1/4-20x1/2

* LP ONLY

A	7210375	BRKT-PLUMB.,LG 12GVx6.75”x48.25”
B	7210395	ORIFICE-GAS LINE, 2” WLDMNT
C	MS0802	COPPER-TUBE 1/4” SOFT
D	2EL0208	MODUTROL MOTOR
E	2EL0222	CRANK ARM FOR MOD. MOTOR
F	2FH0401	BOLT-5/16x1.75x2.68-U W/PLT
G	4FH0564	FIT-CONNECT.,MALE 1/4”x1/2” NPT
H	4FH0593	FIT-UNION, 1-1/4 FPT
I	4FH0660	FIT-COUPLER, 2 FPT x 1-1/4
J	PT1309	GAUGE-(PRESS.)-2-1/2” 0-200 PSI
K	PT1520	VALVE-CONT. 1-1/4 CV SERIES
L	PT1524	SOLENOID-GAS,1-1/4
M	PT1310	GAUGE (PRESS.) 4-1/2 (0-30 PSI)

GAS TRAIN - 1-1/4 NATURAL GAS



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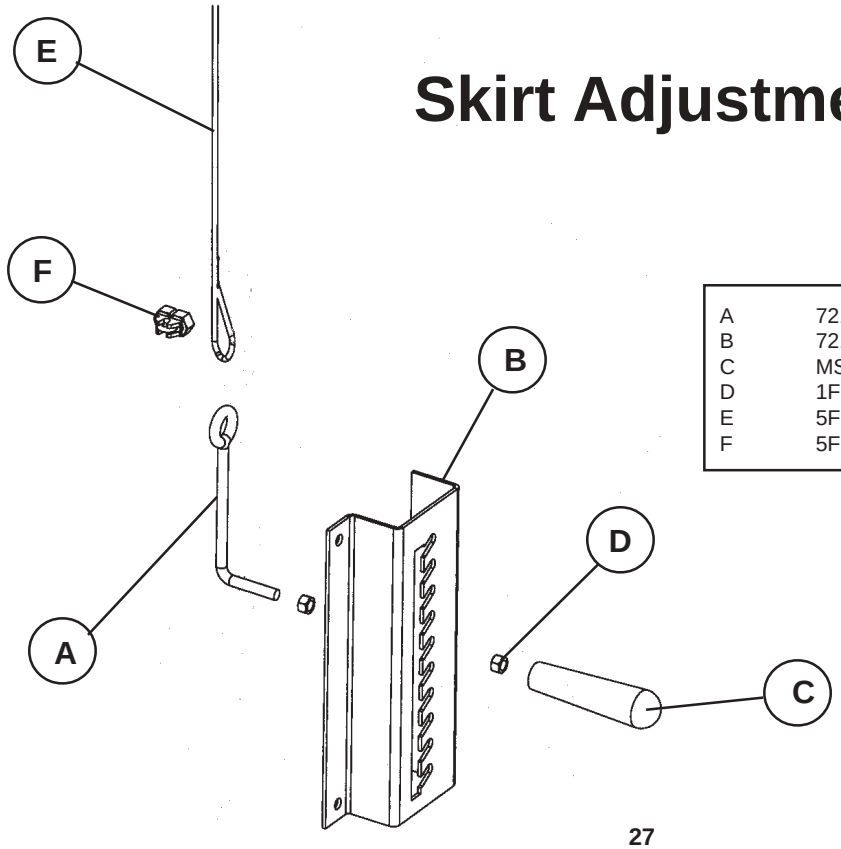
Skirt Adjustment Bracket



A	7210511	EYEBOLT - CABLE
B	7210517	BRACKET - CABLE ADJ
C	MS5411	HANDLE
D	1FH0765	NUT- HEX 3/8x16
E	5FH0088	CLAMP - CABLE
F	5FH0092	CABLE - 3/16

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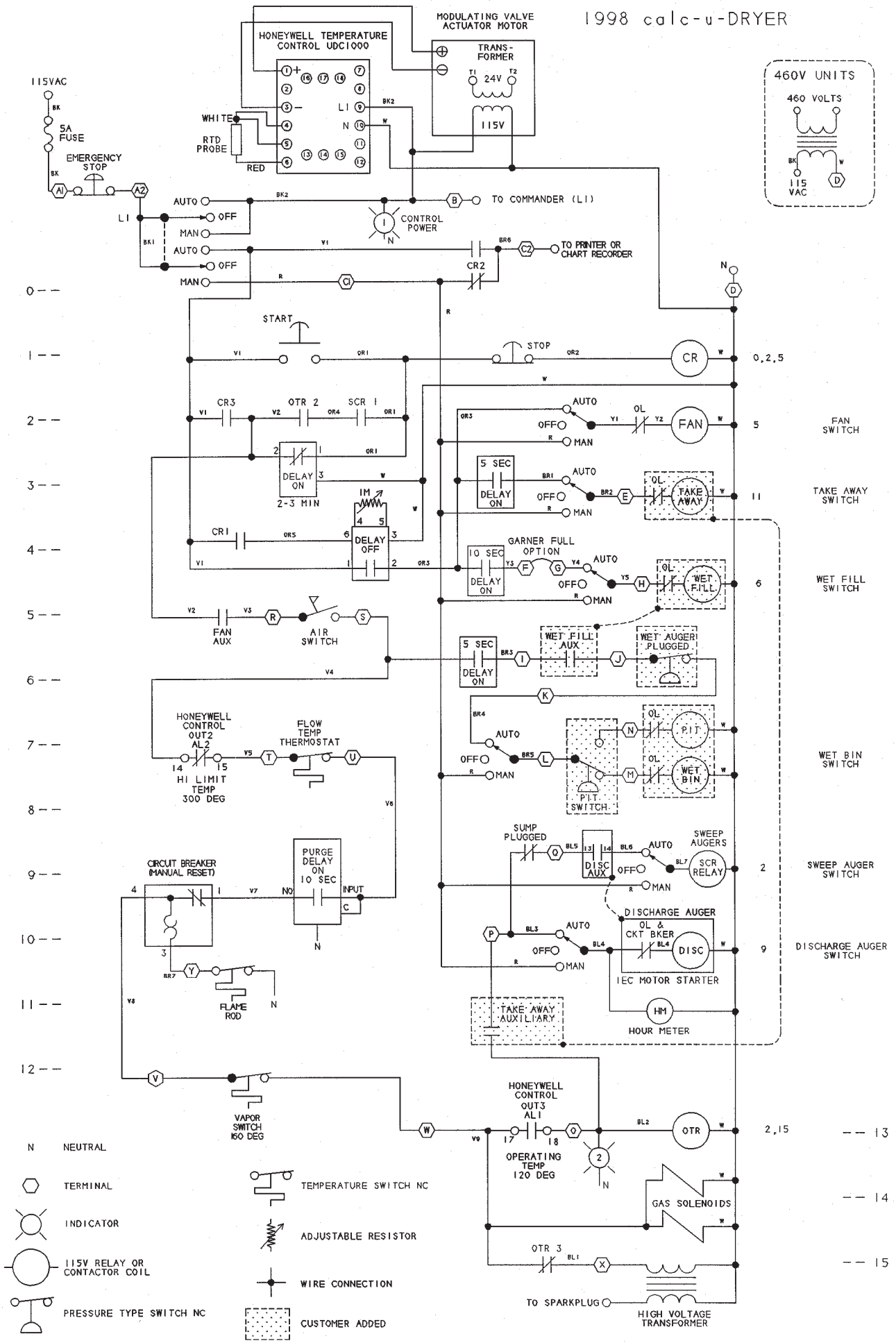
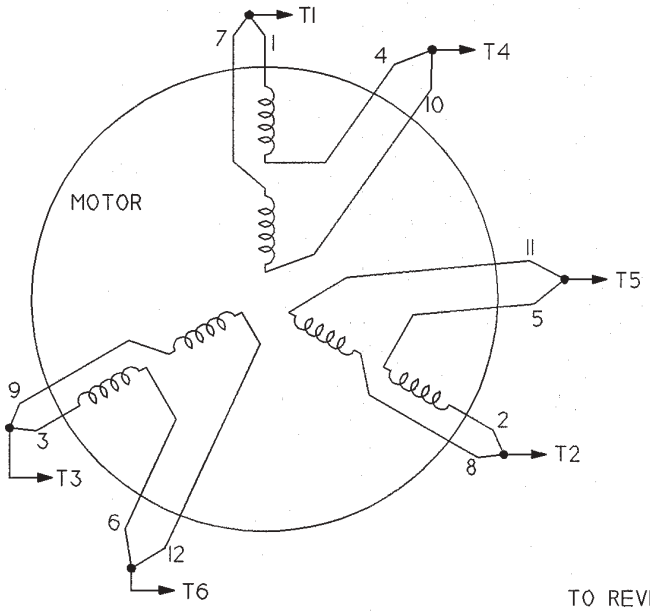
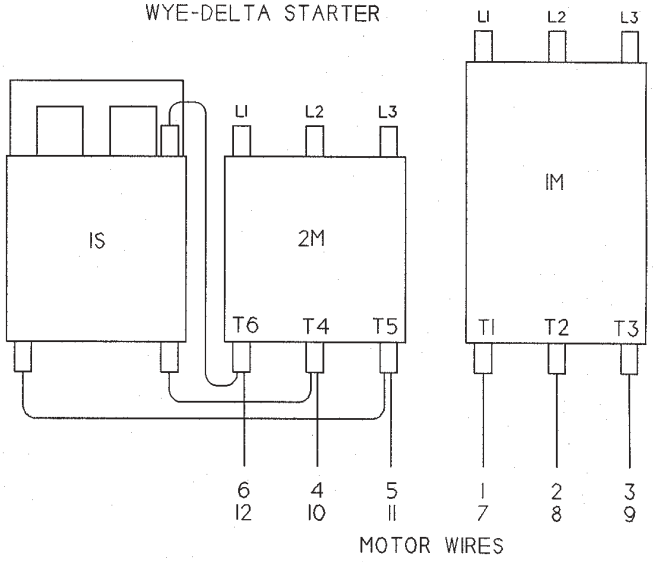

1998 calc-u-DRYER
MODULATING VALVE ACTUATOR MOTOR
HONEYWELL TEMPERATURE CONTROL UDC1000
TRANS-FORMER
T1 24V T2
115V
460V UNITS
460 VOLTS
115 VAC
115VAC
5A FUSE
EMERGENCY STOP
WHITE
RTD PROBE
RED
BK2
TO COMMANDER (L1)
CONTROL POWER
AUTO
OFF
MAN
TO PRINTER OR CHART RECORDER
CR2
START
STOP
CR
0,2,5
CR3
OTR 2
SCR 1
DELAY ON
2-3 MIN
FAN
5
FAN SWITCH
5 SEC
DELAY ON
OL
TAKE AWAY
11
TAKE AWAY SWITCH
IM
DELAY OFF
CR1
GARNER FULL OPTION
10 SEC
DELAY ON
WET FILL
6
WET FILL SWITCH
FAN AUX
AIR SWITCH
WET FILL AUX
WET AUGER PLUGGED
HONEYWELL CONTROL OUT2 AL2
HI LIMIT TEMP 300 DEG
FLOW TEMP THERMOSTAT
PIT
PIT SWITCH
WET BIN
WET BIN SWITCH
SUMP PLUGGED
DISC AUX
SCR RELAY
SWEEP AUGERS
2
SWEEP AUGER SWITCH
CIRCUIT BREAKER (MANUAL RESET)
PURGE DELAY ON 10 SEC
INPUT
FLAME ROD
DISCHARGE AUGER
OL & CKT BKER
DISC
IEC MOTOR STARTER
9
DISCHARGE AUGER SWITCH
TAKE AWAY AUXILIARY
HM
HOUR METER
VAPOR SWITCH 150 DEG
HONEYWELL CONTROL OUT3 AL1
OPERATING TEMP 120 DEG
OTR
2,15
GAS SOLENOIDS
OTR 3
TO SPARKPLUG
HIGH VOLTAGE TRANSFORMER
0 -- 1 -- 2 -- 3 -- 4 -- 5 -- 6 -- 7 -- 8 -- 9 -- 10 -- 11 -- 12 --
-- 13
-- 14
-- 15
N NEUTRAL
TERMINAL
INDICATOR
115V RELAY OR CONTACTOR COIL
PRESSURE TYPE SWITCH NC
TEMPERATURE SWITCH NC
ADJUSTABLE RESISTOR
WIRE CONNECTION
CUSTOMER ADDED

FAN MOTOR AND WYE-DELTA STARTER WIRING DIAGRAMS 40 HP AND LARGER

230 VAC



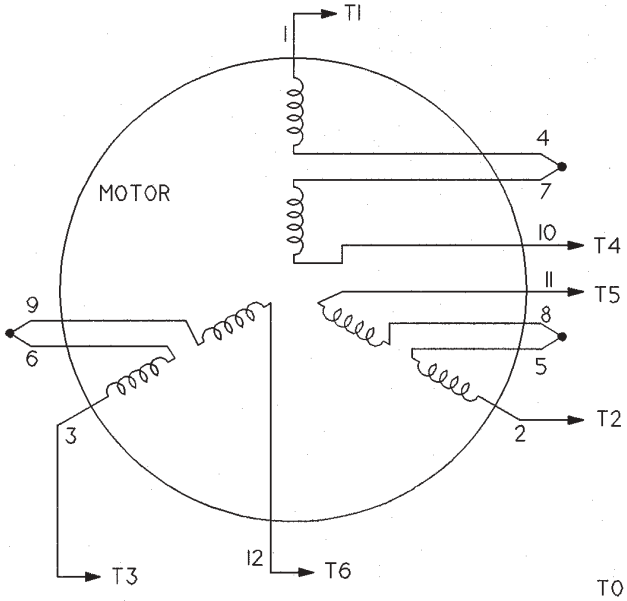
WYE-DELTA STARTER



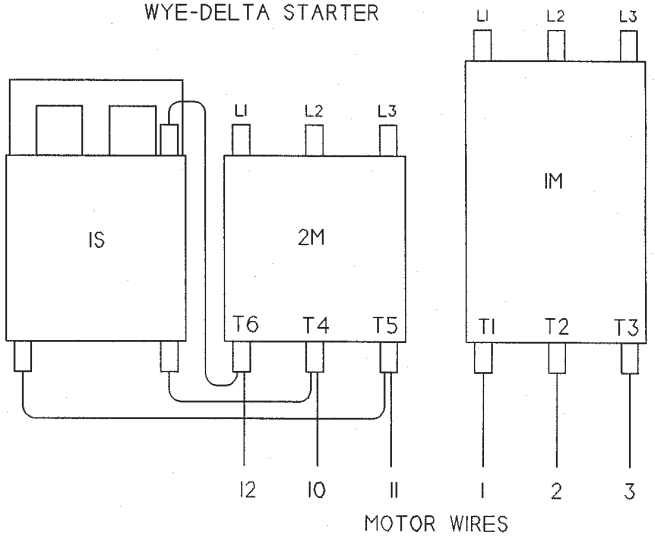
TO REVERSE DIRECTION
INTERCHANGE LEADS
BETWEEN T1 & T2
AND BETWEEN T4 & T6

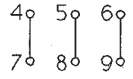
LOW VOLTAGE

460 VAC



WYE-DELTA STARTER





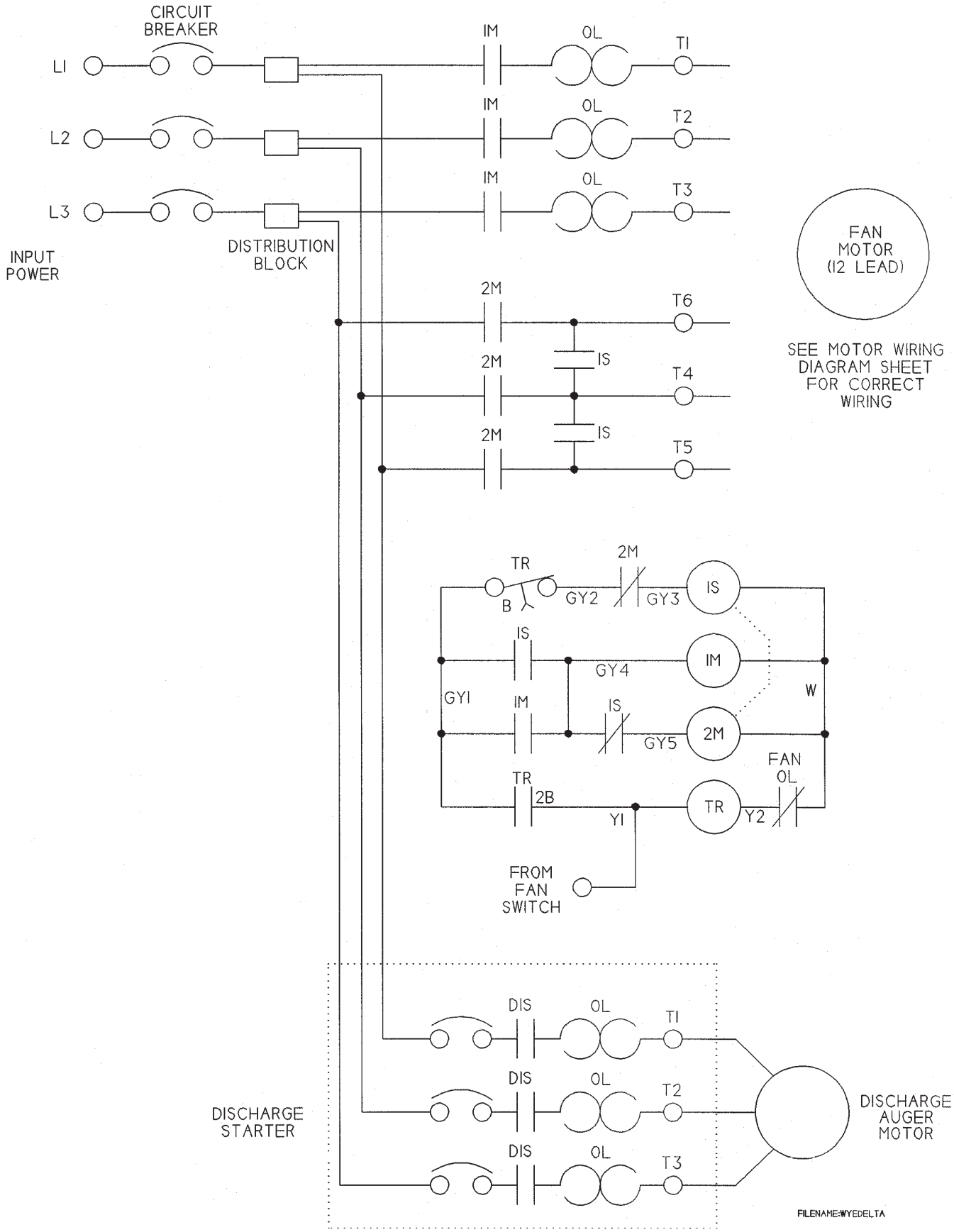
JOIN MOTOR LEADS

TO REVERSE DIRECTION
INTERCHANGE LEADS
BETWEEN T1 & T2
AND BETWEEN T4 & T6

HIGH VOLTAGE

FILENAME:WD40

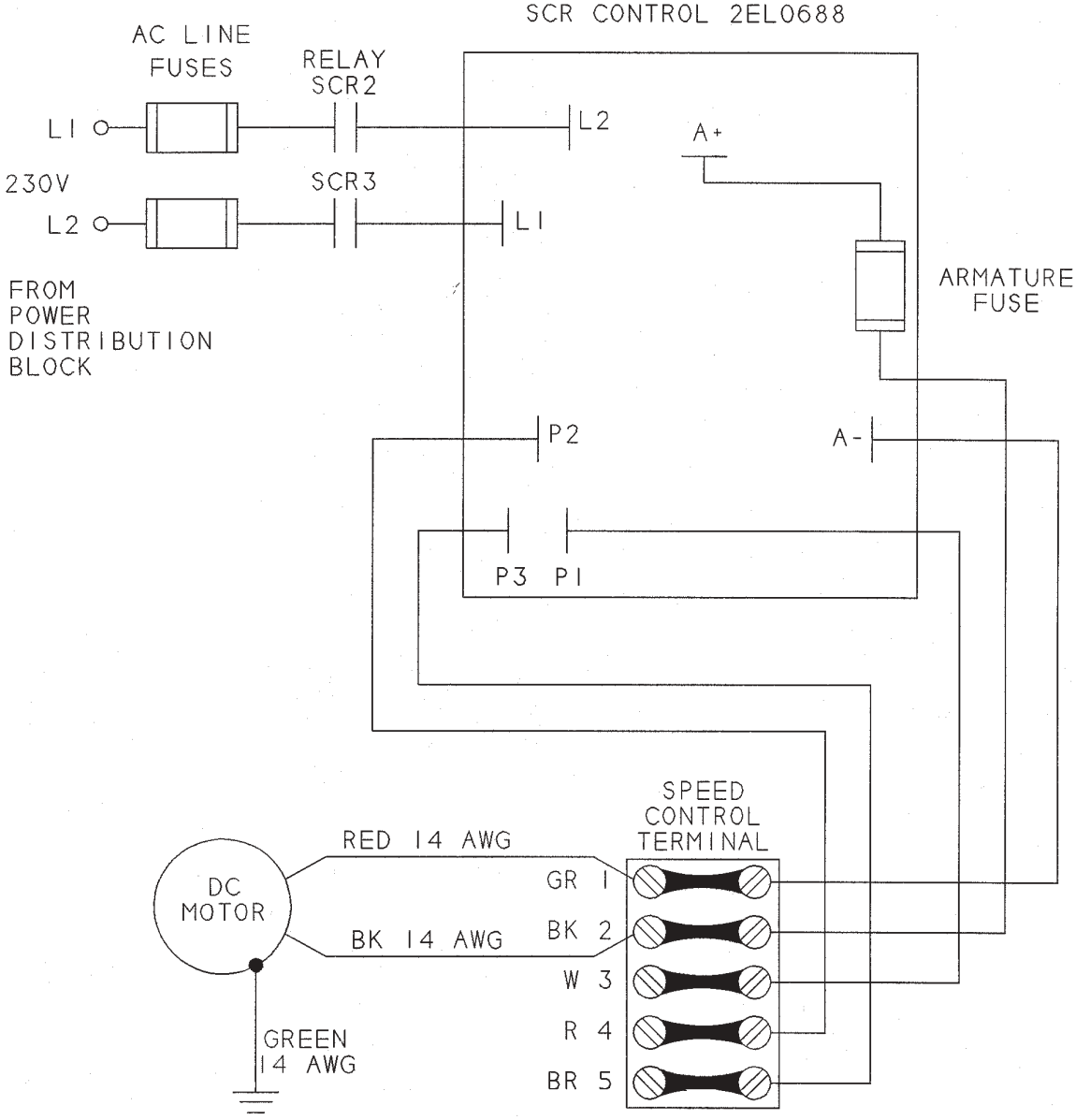
WYE-DELTA STARTER WIRING DIAGRAM
230 OR 460 VOLT



SCR MOTOR CONTROL WIRING DIAGRAM

230 VAC

SCR CONTROL 2EL0688



DRYER SIZE	25	40	60	75	100
DC MOTOR (HP)	1.5	1.5	1.5	2	2
AC LINE FUSES (A)	12	12	12	20	20
ARMATURE FUSE (A)	12	12	12	15	15

460 VAC SCR MOTOR CONTROL WIRING

1. USE A 230 VAC 20A TAP IF AVAILABLE
2. IF 230 VAC IS NOT AVAILABLE INSTALL A 5 KVA TRANSFORMER TO SUPPLY THE SCR CONTROL
3. HOOK THE 230 VAC DIRECTLY TO THE FUSE BLOCK. L1 AND L2

HONEYWELL TEMPERATURE CONTROLLER PROGRAMMING

OPERATING TEMPERATURE ADJUSTMENT

The operating temperature can be adjusted.

1) Enter Set Up mode by pressing the Raise and Set Up keys at the same time.
2) Change the “Uloc” to the proper code. The factory default code is 10.
3) Press the Set Up key. The “filt” parameter will be displayed. If the display returned to the original temperature display then you have entered the wrong code. To find out the correct code, follow the unlock codeinstructions below.
4) Press the Set Up key until the “h_A1” parameter is displayed.
5) Use the ↑ or ↓ key to adjust operating temperature.
6) Press the Raise and Set Up keys at the same time to return to the original temperature display.

DETERMINING THE UNLOCK CODE

1) Switch power on and within 30 seconds of power-up, hold down the Raise and Set Up keys simultaneously for approximately five seconds.
2) Press the Set Up key until the lower display reads “Loc”. The upper display will indicate the current Loc value. Record for future use.
3) Press the Raise and Set Up keys simultaneously to return to the original temperature display.

The following controller parameters are programmed by DMC for use in your Calc-u-DRYER:

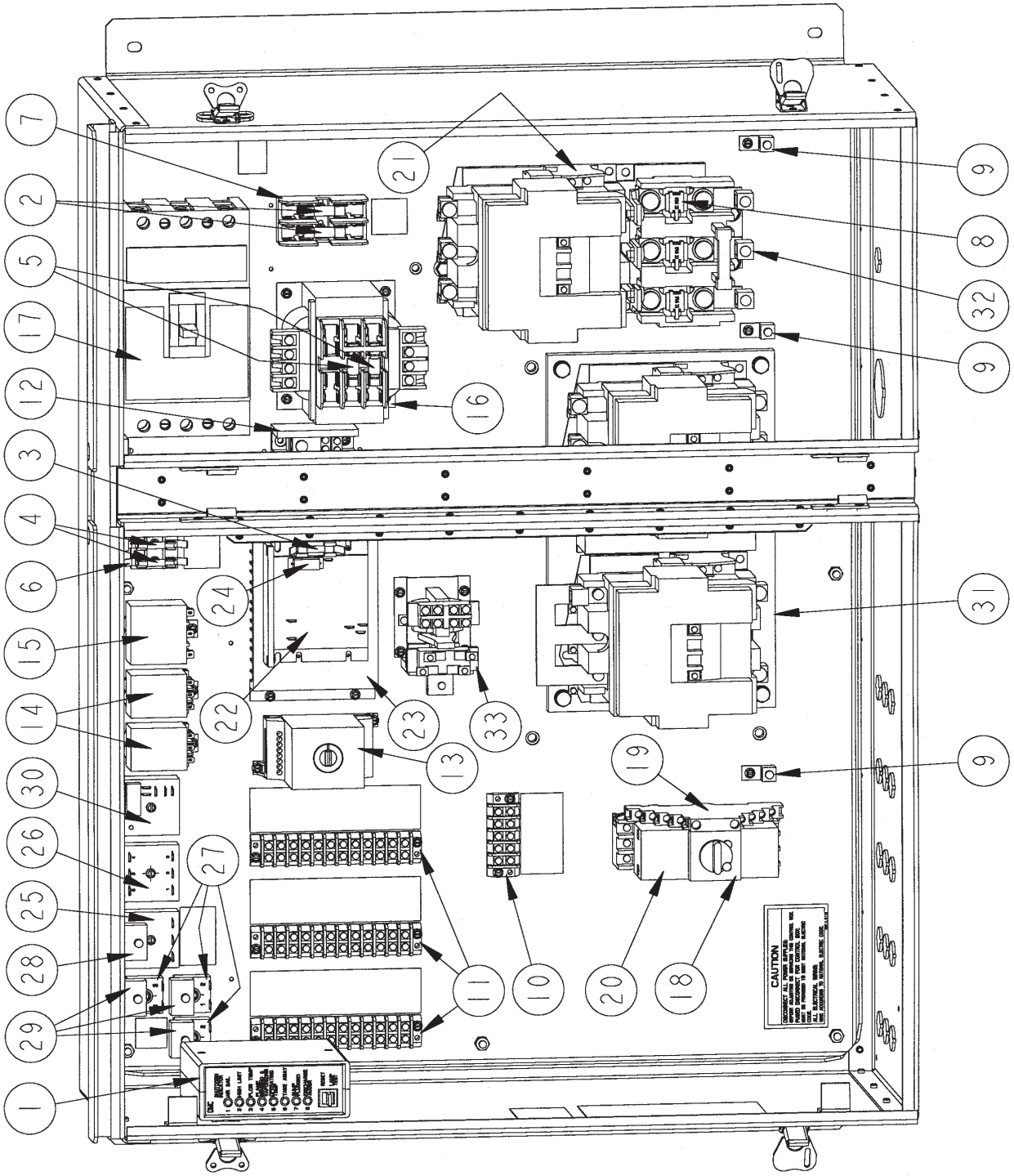
CONFIGURATION MODE:

InPt = 2298
ALA2 = P_hi

SET UP MODE:

PB1 = 7.0
rSEt = 0.20
rAtE = 0.05
h_A1 = 120
h_A2 = 300
PoEn = 1

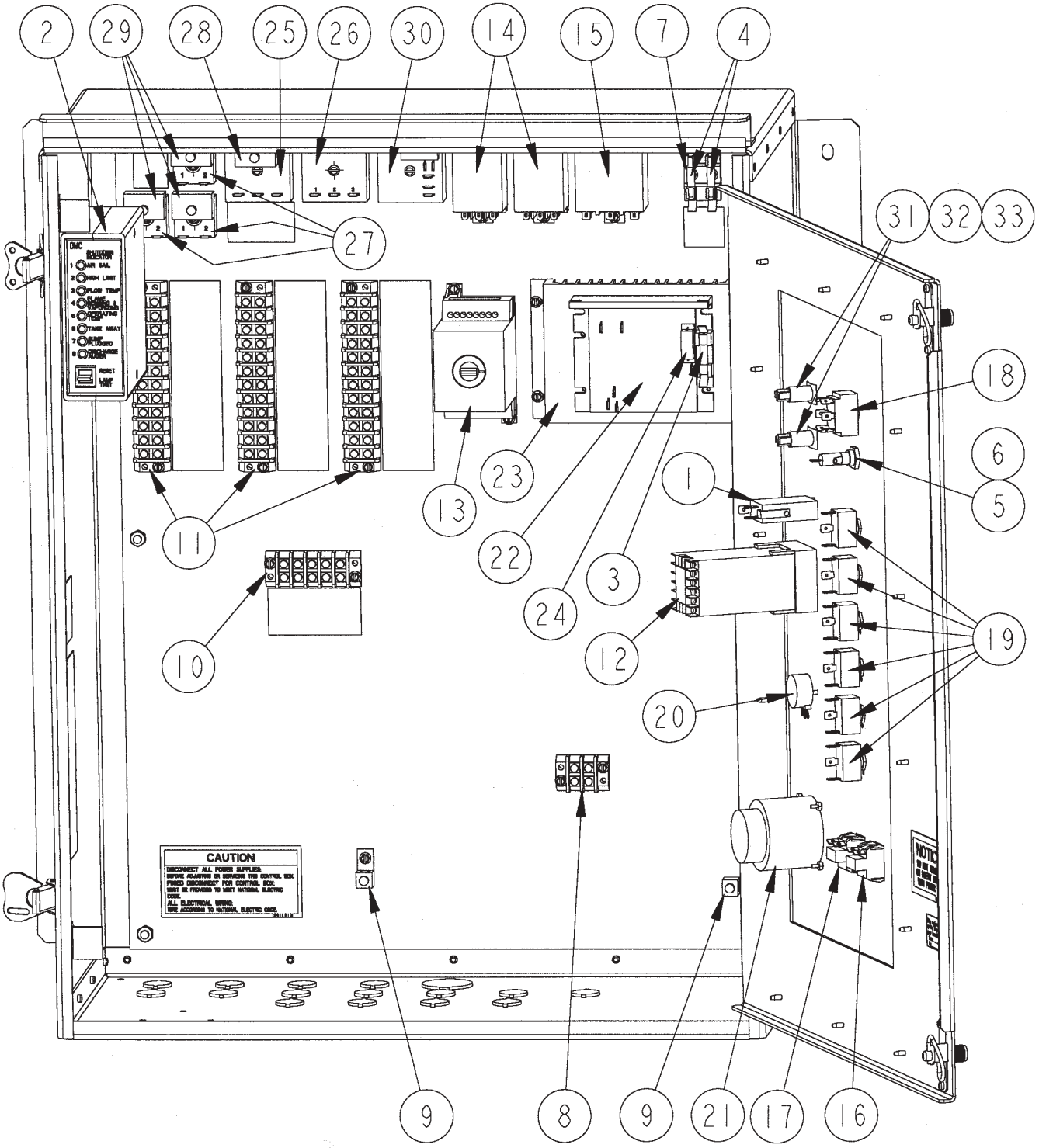
Calc-u-DRYER CONTROL BOX
460V, MODEL 75



Calc-u-DRYER CONTROL BOX 460 Volt, MODEL 75

1	5041218	SHUTDOWN INDICATOR ASSY
2	1EL0701	FUSE-FLQ, CART. 15A, 500 V
3	1EL0714	FUSE-ABCM CART, 15A, 250V
4	1EL0715	FUSE-ABC, CART. 20 A, 250 V
5	1EL0752	FUSE-CLASS CC TIME DELAY, 1.5 A
6	1EL0831	FUSEHOLDER-2 POLE, 1/4
7	1EL0839	FUSEHOLDER-BLK, 2 POLE, 30 A 600V
8	1EL0864	THERM. UNIT-TYPE CC, #CC 94.0
9	1EL0891	LUG-GRND(CSA)600V,#2-14WIRE
10	1EL0898	TERM.BLCK-DBL(CSA) 5 TERM.
11	1EL0900	TERM.BLCK-DBL(CSA) 12 TERM.
12	1EL0911	PWR DIST. BLK(CSA) 3 CIRCUIT, 600V
13	2EL0228	TEMP LIMIT CONTROLLER
14	2EL0273	RELAY-GEN.(CSA)3PDT,5A,120V
15	2EL0279	RELAY-3 POLE,30A,375 SERIES
16	2EL0367	TRANSFORMER-CLSS 9070, 240/480
17	2EL0282	CIRCUIT BREAKER
18	2EL0395	OVRLD PROTEC. MOD. W/2.5-4A OVRLD
19	2EL0398	STARTER AUX CONTACT
20	2EL0400	STARTER W/O OVRLD 120V COIL
21	2EL0667	CONTACT-AUXILIARY
22	2EL0688	SCR CONT.,1-1/2 & 2HP
23	2EL0689	SCR CONTROL HEAT SINK
24	2EL0694	SCR CONTROL RESISTOR(0.01 OHM)
25	2EL1219	TIMER-.1-10 MIN.
26	2EL1220	TIMER-10-1000 SEC.
27	2EL1221	TIMER-.5-60 SEC. (CSA)
28	2EL1222	TIMER-MODULE, 1-10 MIN.
29	2EL1223	TIMER-MODULE, .5-20 SEC.
30	2EL1224	TIMER-ON DEL., .5-10 SEC.
31	2EL0394A	STARTER-TWO CONTACTORS
32	2EL0394B	STARTER-CONTACTOR & RELAY
33	2EL0394C	STARTER-TIMING RELAY

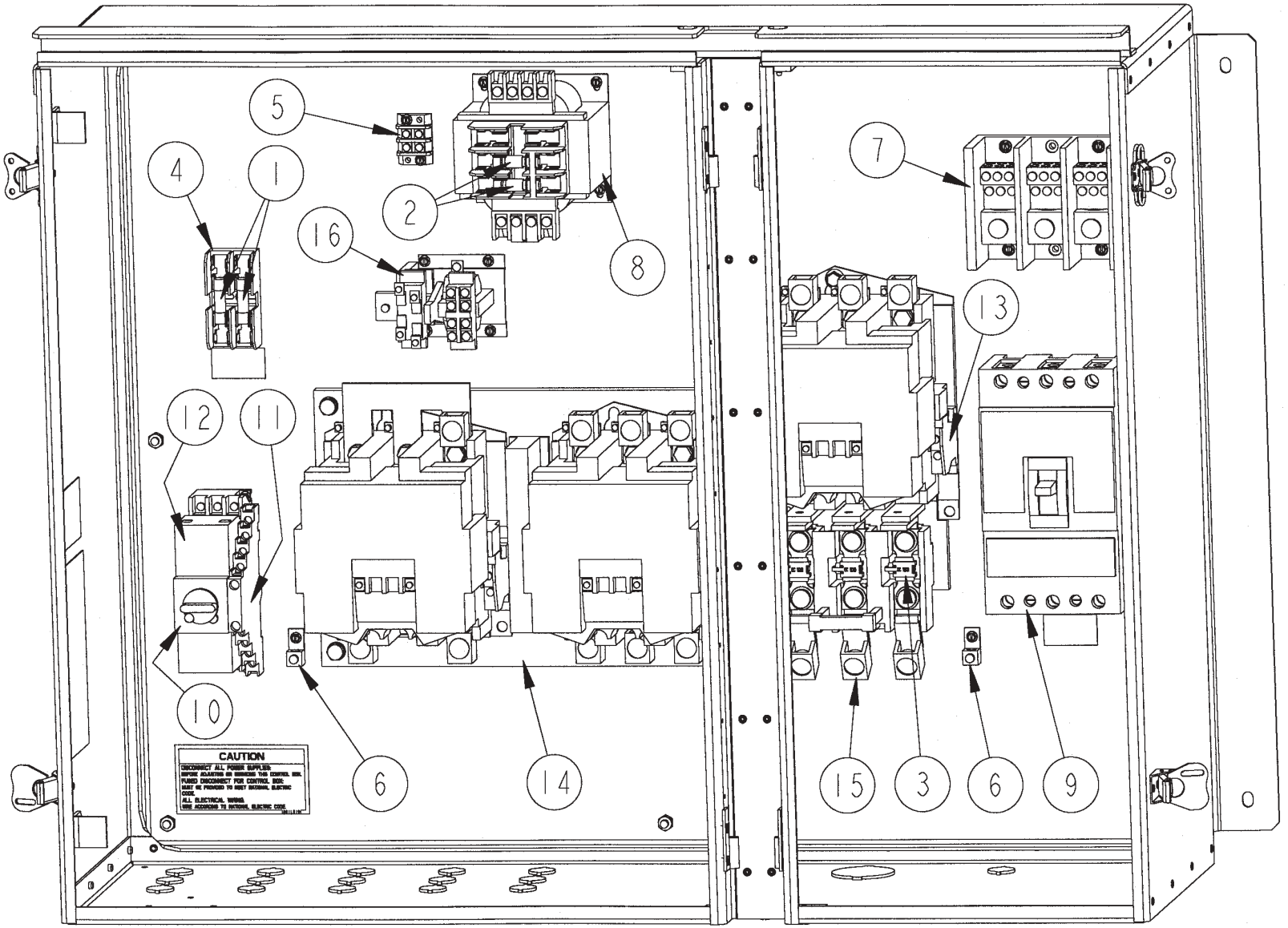
Calc-u-DRYER CONTROL BOX
460V, MODEL 100 (SINGLE)



Calc-u-DRYER CONTROL BOX 460 Volt, MODEL 100 (Single)

1	851808	SWITCH-TIME DELAY, E.T.A.
2	5041218	SHUTDOWN INDICATOR ASSY
3	1EL0714	FUSE-ABCM CART, 15A, 250V
4	1EL0715	FUSE-ABC, CART. 20 A, 250 V
5	1EL0754	FUSE-AGC, CART. (CSA) 5A, 32V
6	1EL0826	FUSEHOLDER-PAN MNT(CSA)30A,250V
7	1EL0831	FUSEHOLDER-2 POLE, 1/4
8	1EL0879	TERM.BLK-DBL(CSA) 2TERM, 30A,250V
9	1EL0891	LUG-GRND(CSA)600V,#2-14WIRE
10	1EL0898	TERM.BLCK-DBL(CSA) 5 TERM.
11	1EL0900	TERM.BLCK-DBL(CSA) 12 TERM.
12	2EL0207	TEMP. CONTROL
13	2EL0228	TEMP LIMIT CONTROLLER
14	2EL0273	RELAY-GEN.(CSA)3PDT,5A,120V
15	2EL0279	RELAY-3 POLE,30A,375 SERIES
16	2EL0618	SWITCH-PUSHB,SPST(CSA) GRN
17	2EL0619	SWITHC-PUSHB,SPST(CSA) RED
18	2EL0627	SWITCH-TOGGLE,DPDT 15A QUICK
19	2EL0632	SWITCH-TOGGLE,SPDT(CSA) TAB
20	2EL0677	POTENTIOMETER-IM OHM
21	2EL0686	HOUR METER
22	2EL0688	SCR CONT.,1-1/2 & 2HP
23	2EL0689	SCR CONTROL HEAT SINK
24	2EL0694	SCR CONTROL RESISTOR(0.01 OHM)
25	2EL1219	TIMER-.1-10 MIN.
26	2EL1220	TIMER-10-1000 SEC.
27	2EL1221	TIMER-.5-60 SEC. (CSA)
28	2EL1222	TIMER-MODULE, 1-10 MIN.
29	2EL1223	TIMER-MODULE, .5-20 SEC.
30	2EL1224	TIMER-ON DEL., .5-10 SEC.
31	2EL1258	SOCKET-MINIATURE LAMP
32	2EL1259	LAMP-120V
33	2EL1260	LAMP CAP - RED

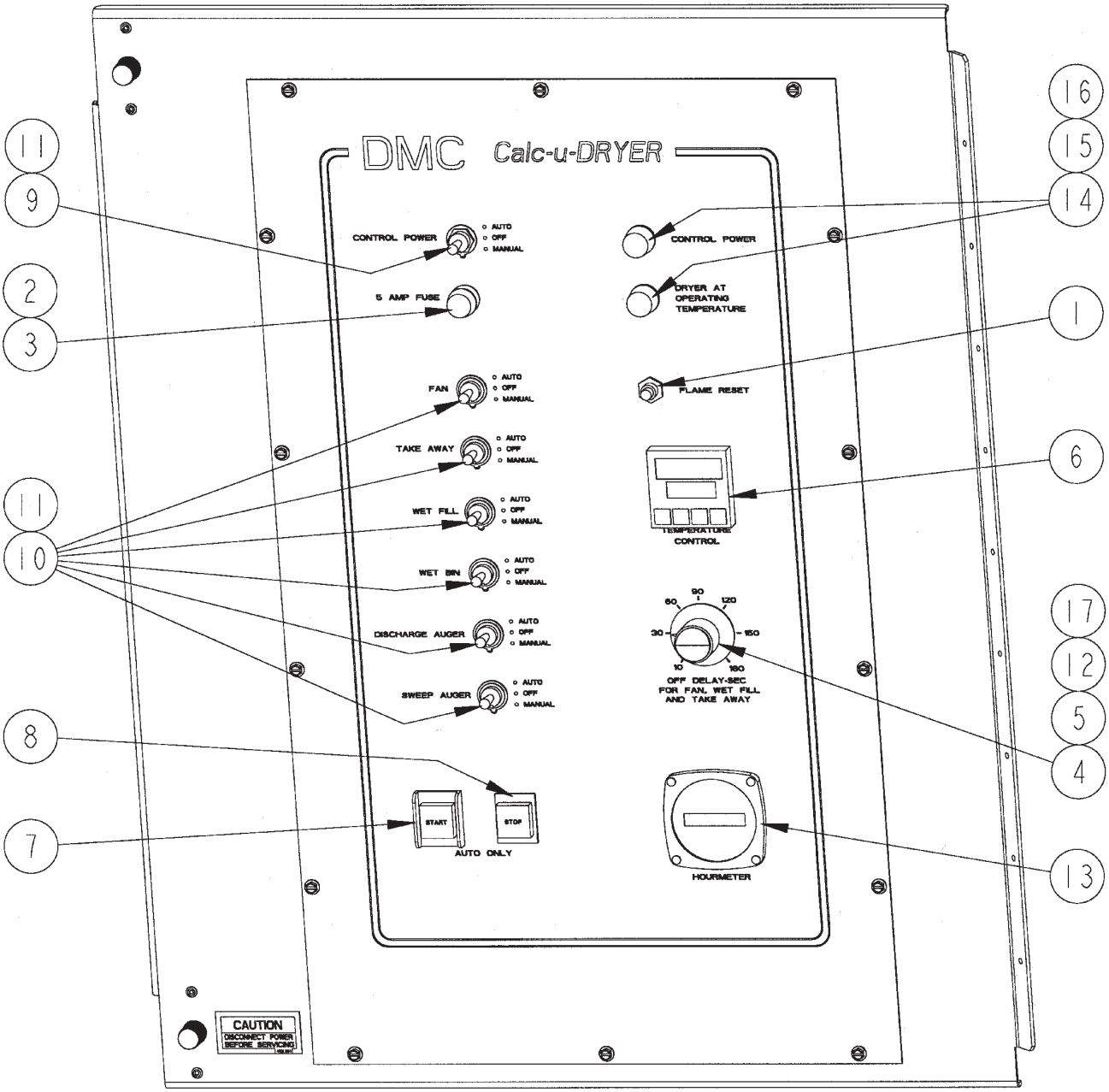
Calc-u-DRYER CONTROL BOX
460V, MODEL 100 (DOUBLE)



Calc-u-DRYER CONTROL BOX 460 Volt, MODEL 100 (Double)

1	1EL0701	FUSE-FLQ, CART. 15A, 500 V
2	1EL0752	FUSE-CLASS CC TIMEDELAY 1.5A
3	1EL0800	THERMAL UNIT - TYPE CC
4	1EL0839	FUSEHOLDER-BLK, 2-POLE,30A,600V
5	1EL0879	TERM.BLK-DBL(CSA) 2TERM, 30A,250V
6	1EL0891	LUG-GRND(CSA)600V,#2-14WIRE
7	1EL0912	PWR DIST.BLK-(CSA) 3 CIR.,600V,760A
8	2EL0367	TRANSFORMER-CL9070, 240/480-120V
9	2EL0383	CIRCUIT BREAKER
10	2EL0395	OVRLD PROTEC.MOD. W/2.5-4A OVRLD
11	2EL0398	STARTER AUXILIARY CONTACT
12	2EL0400	STARTER-W/O OVRLD, 120 V COIL
13	2EL0667	CONTACT-AUXILIARY
14	2EL0389A	STARTER- TWO CONTACTORS
15	2EL0389B	STARTER- CONTACTOR & RELAY
16	2EL0389C	STARTER- TIMING RELAY

Calc-u-DRYER
CONTROL MODULE



Calc-u-DRYER CONTROL MODULE

1	851808	SWITCH-TIME DELAY, E.T.A.
2	1EL0754	FUSE-AGC, CART.(CSA) 5A, 32V
3	1EL0826	FUSEHOLDER-PAN MNT(CSA)30A,250V
4	1EL0852	KNOB-CNTRL,BLACK 1 DIAM. FOR 1/4 SHFT
5	1EL2042	GROMMET-RUBBER .62OD x .38ID x .15T
6	2EL0207	TEMPERATURE CONTROL
7	2EL0618	SWITCH-PUSHB, SPST(CSA) GRN
8	2EL0619	SWITCH-PUSHB, SPST(CSA) RED
9	2EL0627	SWITCH-TOGGLE, DPDT, 15A, QUICK
10	2EL0632	SWITCH-TOGGLE, SPDT(CSA) TAB
11	2EL0643	SWITCH-LOCK. RING FOR .47" BUSH,.72"OD
12	2EL0677	POTENTIOMETER- IM OHM
13	2EL0686	HOUR METER
14	2EL1258	SOCKET-MINIATURE LAMP
15	2EL1259	LAMP - 120V
16	2EL1260	LAMP CAP - RED
17	3FH0963	WASHER FLT.-.500 OD x .283 ID x .062

SHUTDOWN INDICATOR TROUBLESHOOTING GUIDE FOR .CALC-U-DRYER

The shutdown indicator will help determine what has shut the dryer down.During the dryer start up procedure, some of the lights will turn on. Once the dryer has exceeded operating temperature, the shut down indicator will automatically reset, turning off all lights. At this point it will be ready to determine one of eight possible shut downs. The chart below will help explain why a particular light may be on.

INDICATOR	POSSIBLE PROBLEM	SOLUTION
1 AIR PRESSURE SWITCH	BAD PRESSURE SWITCH FAN FAILED	REPLACE PRESSURE SWITCH CHECK CONDITION OF FAN BLADE
2 HIGH LIMIT	TOO MUCH GAS THROUGH BURNER INCORRECT TEMP READINGS	CHECK OPERATION OF MODULATION VALVE AND PRESSURE REGULATOR VERIFY ACCURACY OF TEMPERATURE CONTROLLER & RTD SENSOR
3 FLOW TEMP	OUT OF GRAIN GRAIN INLET RATE TOO LOW SWEEP AUGERS STOPPED INCORRECT TEMP READING OF FLOW TEMP THERMOCOUPLE	LOAD GRAIN AND RESTART DRYER INCREASE INLET RATE TO KEEP UP WITH HIGH SPEED FLOW OR REDUCE PLENUM TEMP. CHECK SCR LINE FUSES & SCR ARMATURE FUSE. CHECK SWEEP AUGER DRIVE. MAKE SURE GRAIN IS BEING DRAWN TO THE CENTER OF DRYER. REPLACE THERMOCOUPLE
4 FLAME SENSING & VAPORIZING	FLAME QUIT BAD FLAME PROBE FLAME PROBE NOT HOT ENOUGH VAPORIZING LINE TOO WARM	CHECK GAS SUPPLY REPLACE FLAME PROBE RELOCATE FLAME PROBE INSPECT VAPORIZING SWITCH AND GAS LINE
5 OPERATING TEMP	NOT ENOUGH GAS FLOW TO HEAT PLENUM INCORRECT TEMPERATURE READING	CHECK GAS SUPPLY AND MODULATING VALVE OPERATION VERIFY ACCURACY OF TEMPERATURE CONTROLLER & RTD SENSOR.
6 TAKE AWAY	TAKE AWAY SYSTEM SHUT DOWN	CHECK OPERATION OF TAKE AWAY SYSTEM
7 SUMP PLUGGED	DISCHARGE AUGER STOPPED	CHECK DISCHARGE MOTOR AND DISCHARGE AUGER DRIVE CHECK CHAIN DRIVE ON DISCHARGE
8 DISCHARGE	DISCHARGE AUGER DOOR OPENED BECAUSE TAKE AWAY BACKED UP	CHECK DISCHARGE AUGER MOTOR AND OPERATION OF TAKE AWAY SYSTEM. RESET DISCHARGE STARTER.

!CAUTION!
DO NOT SERVICE OR ENTER DRYER WITH POWER "ON"

PROBLEMS	ITEMS TO CHECK FOR SOLUTION
Power light does not light	* Main circuit breaker tripped * Main power "OFF" * Control fuse blown (5A 250V AGC fuse) * Control switch turned "OFF" * Emergency button pushed in (need key to unlock before pulling out)
Fan does not start	* Tripped thermal overloads
Dryer shuts down before the start-up is complete	* On delay timer set too short of time * Burner not producing enough heat to reach operating temperature * Operating temperature set too high or defective
Burner will not light	* Gas tank empty or turned "OFF" * Bad spark plug * Bad transformer * Gas solenoids (two) must be open * Mod valve not adjusted properly * Ignition wire shorting out to ground * Manual valve not open
Burner shuts off	* High limit tripping due to: a) High temperature b) Out of adjustment c) Defective temp controller * Grain flow temperature tripping due to: a) Out of grain b) Temperature set too low c) Positioned too close to the roof * Flame probe is not positioned correctly to sense flame * The spark plug ground may be loose or broken * Regulated gas pressure set too low * Modulating valve not adjusted correctly
Plenum will not reach set temperature	* One of the gas valves not completely open * Regulator not adjusted correctly * Orifice too small for temperature setting * Gas line plugged or screens dirty or LP tank too cold to hold pressure. * Modulator not opening completely due to linkage adjustment * RTD sensor faulty
Dryer shuts down and shutdown indicator has no lights on	* Momentary loss of AC power.

Calc-u-DRYER

MODELS 75 & 100

OWNER'S MANUAL

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PNEG-1144
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