

Owner's Manual
for
Canadian Top Dry Crop Dryer Units

7/13/90

WARRANTY

GRAIN SYSTEMS, INC. warrants all products manufactured by GRAIN SYSTEMS, INC. to be free of defects in materials and workmanship under usual and customary service. GRAIN SYSTEMS, INC. only obligation is to repair or replace products returned on a prepaid basis within 12 months after retail sale, and, in our opinion, found to be defective due to material of workmanship. If defective, the product will be repaired or replaced without charge, F.O.B. factory, this constituting and fulfilling our warranty obligation. Expenses incurred without authorization of GRAIN SYSTEMS, INC. shall be the sole responsibility of the bearer. Under no circumstances will GRAIN SYSTEMS, INC. be liable for any kind of special or consequential damages, nor will the liability ever exceed the selling price of the product.

This warranty does not cover products or parts which have been damaged by negligent use, misuse, alteration or accident. All products supplied by outside manufacturers are warranted separately by the respective manufacturer. This warranty is exclusive and in lieu of all other warranties, expressed or implied. GRAIN SYSTEMS, INC. reserves the right to make design or specification changes at any time, without an contingent obligation to purchasers or products already sold.

All instructions shall be construed as recommendations only; because the actual installation may vary according to local conditions and GRAIN SYSTEMS, INC. assumes no liability for results arising from the use of such recommendations.

GRAIN SYSTEMS, INC. assumes no responsibility for field modifications or erection defects which create structural or storage quality problems. If any field modifications are necessary which are not specifically covered by the contents of this manual, contact GRAIN SYSTEMS, INC. for recommendations and approval. Any unauthorized modification or erection defect which effects the structural integrity of the G.S.I. bin will be cause for immediate nullification of the G.S.I. bin warranty.

ROOF DAMAGE WARNING

GRAIN SYSTEMS, INC. cannot warrant any roof damages due to excessive vacuum or internal pressure caused by fans or other air moving systems. Adequate ventilation and/or "make-up air" devices should be provided for all powered air handling systems. GRAIN SYSTEMS, INC. does not recommend the use of downward flow systems (suction). Severe roof structural damage can result from any blockage of air passages. Running of fans during certain high humidity/cold weather conditions can cause freezing over of air exhaust or intake ports.

THIS EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT INSTALLATION CODES FOR GAS BURNING APPLIANCES AND EQUIPMENT, CAN1-B149.1 AND B149.2, OR APPLICABLE PROVINCIAL REGULATIONS WHICH SHOULD BE CAREFULLY FOLLOWED IN ALL CASES. AUTHORITIES HAVING JURISDICTION SHOULD BE CONSULTED BEFORE INSTALLATIONS ARE MADE.

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GENERAL SPECIFICATIONS

	24"	28"	36"	42" 10-16HP	42" 30HP
Length	49"	49 1/2"	56 5/8"	61 3/4"	61 3/4"
Weight (in pounds)*	244/218	553/513	852/825	943/913	1143
Fan H.P.	7.5-10	10-14	15	15	30
Motor Speed (RPM)	3500	3500	1750	1750	1750
Full Load Amps (240 Volt 1 Phase)	39	57	53	53	--
Full Load Amps (208 Volt 3 Phase)	25	32	46	46	85
Full Load Amps (575 Volt 3 Phase)	6.8	12	16	16	30
Minimum Wiring Conductor Size**					
50 ft. run	10/12	8/10	6/8	6/8	2
100 ft. run	6/10	4/6	2/4	2/4	2
200 ft. run	4/6	3/4	1/3	1/3	1
300 ft. run	2/4	1/3	0/2	0/2	0
Fuse Size for Motor Branch					
Circuit Protection (Time Delay)	60/30	125/60	150/90	150/90	150
BTU Rating	2000000	3000000	4000000	5000000	5000000
Liquid	Max Fuel Flow (GPH)	21	32	43	59
	Orifice Size	0.188	0.234	0.265	0.312
	Min Operating Pressure	1	1	1	1
	Models				
Models	Max Operating Pressure	20	20	20	20
	Min Line Size (Inches)	3/8	3/8	1/2	1/2
Vapor	Max Fuel Flow (CU FT/HR)	800	1185	1590	--
	Orifice Size	0.188	0.234	0.265	--
	Min Operating Pressure	1	1	1	--
	Models				
Models	Max Operating Pressure	20	20	20	--
	Min Line Size (Inches)	3/4	1	1	--
Nat Gas	Max Fuel Flow (CU FT/HR)	2100	3000	4200	5300
	Orifice Size	0.312	0.375	0.437	0.500
	Min Operating Pressure	1	1	1	1
	Models				
Models	Max Operating Pressure	7	7	7	7
	Min Line Size (Inches)	1	1.25	1.50	2

GSI recommends that you contact your local power company and have a representative survey your installation so your wiring will be compatible with their system and so that you will have adequate power supplied to your unit.

* First value given is for single phase units and the second value is for three phase units.

** Values given are for copper wire, if aluminum is used increase wire sizes by 2.

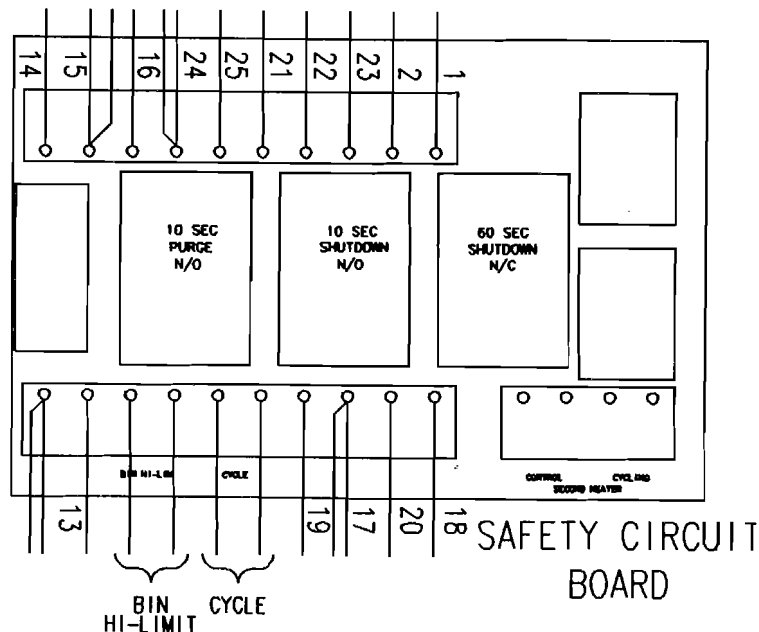
FAN PERFORMANCE SPECIFICATIONS

Air Volume (CFM) at Indicated Static Pressure

	0.50"	1.00"	1.50"	2.00"	2.50"	3.00"	3.50"	4.00"	4.50"	5.00"	5.50"
24"	14850	14350	13800	13200	12400	11450	10150	7500	5350	4350	4000
28"	18250	17300	16500	15600	14500	13600	12400	11100	9550	7350	5700
36"	27000	36000	24400	22600	20600	17100	12600	10700	8000	6700	5800
42" 10-16HP	38000	35000	32000	28500	24000	17500	14000	11000	8500	5000	2000
42" 30HP	44500	43000	42000	40000	39000	37000	34500	31000	36200	17500	8000

INSTALLATION

- 1.0 The Top Dry Crop Dryer Unit series is designed to be installed on Top Dry system, but they are suitable for many other drying application.
 - 2.0 Install the Crop Dryer Unit per the instructions in the Top Dry Construction Manual. Consult the factory or your dealer prior to installing the unit in a different application.
 - 3.0 Connect appropriate power supply to the unit. NOTE: Be sure the proper wire size is used. Undersized wiring may cause overheating and decrease the motor life. See the General Specifications to establish the proper wire size. A qualified electrician should make all electrical installations.
 - 4.0 Connect the fuel supply line to the Crop Dryer Unit. Be sure to use the appropriate fuel supply line size. Improper supply line may cause the unit to operate irregular. A qualified gas service person should inspect the installation to ensure compliance with local codes and ordinances
- IMPORTANT:** DO NOT USE PROPANE TANKS THAT HAVE BEEN USED PREVIOUSLY FOR AMMONIA UNLESS THEY HAVE BEEN PURGED ACCORDING TO NATIONAL L.P. ASSOCIATION PROCEDURES. EXAMINE THE FUEL SUPPLY SYSTEM TO ENSURE COMPLIANCE WITH THE LOCAL CODES FOR L.P. GAS INSTALLATIONS.
- 5.0 LP models are designed to run on liquid propane only, with liquid draw from the propane tank. Avoid using propane supply tanks that have been used for vapor draw for long time periods. When using liquid draw systems, any moisture in the tank or lines may freeze in cold weather. The normal precaution to avoid freezing of the lines is to purge the system with methanol.
 - 6.0 Check all connections for leaks upon completion of fuel line installation.
 - 7.0 Install the Hi-Lo thermostat per the instructions provided on the bin sidewall.
 - 8.0 Connect the High-Limit thermostat wires and Cycling thermostat wires into the appropriate terminal location provided on the Crop Dryer Safety Circuit Board. See Figure 1.



OPERATION

- 1.0 On initial start up of fan, the fan should be run momentarily to ensure proper blade rotation and the air flow is correct.
- 2.0 Open all manual shut-off valves on and to the heater unit.
- 3.0 If air flow and blade rotation is correct, start the fan and allow it to get up to full speed.
- 4.0 Switch the heater on by flipping the On-Off switch up.
- 5.0 After 10 seconds, the Low flame light will light up indicating that the ignition board is receiving power. The High flame light will light if the plenum temperature is set less than the setting on the cycling thermostat.
- 6.0 The heater should be lit. If not, check to see if gas is on and proper wire connections. NOTE: If the heater does not ignite within 60 seconds, the entire crop dryer unit will shut off. If this occurs, allow the fan blade to completely stop prior to start up.
- 7.0 Turn the cycling thermostat dial to its highest setting so the heater is in high flame.
- 8.0 Open the ball valve.
- 9.0 Turn the cycling thermostat dial to its lowest setting so the heater is in low flame.
- 10.0 Adjust the ball valve to obtain the desired low flame pressure.
- 11.0 Turn the cycling thermostat dial to its highest setting so the heater is in high flame. Then, slowly turn the thermostat back until the heater cycles back to low flame.
- 12.0 The low flame should be adjusted so that the temperature slowly drops until the heater cycles back to high flame.
- 13.0 Observe the plenum temperature while the unit cycles a few times to ensure proper operation.
- 14.0 Refer to the Top Dry Manual Control Center manual for further instructions on drying with a Top Dry system.

MAINTENANCE

All Top Dry Crop Dryer Units are constructed of durable, weather-resistant materials, so a minimum amount of service should be required. However, general inspection should be performed prior to operating the unit. Any damaged parts should be repaired or replaced prior to operation.

- 1.0 All power should be shut off and locked out. Remove the cover to the electrical box and inspect all components for moisture, damage, and loose connections. Any foreign material should be removed. Replace any damaged parts or wiring.
- 2.0 Remove grill guard and inspect the blade for freedom of rotation and uniform tip clearance. Inspect inside of hub for accumulated

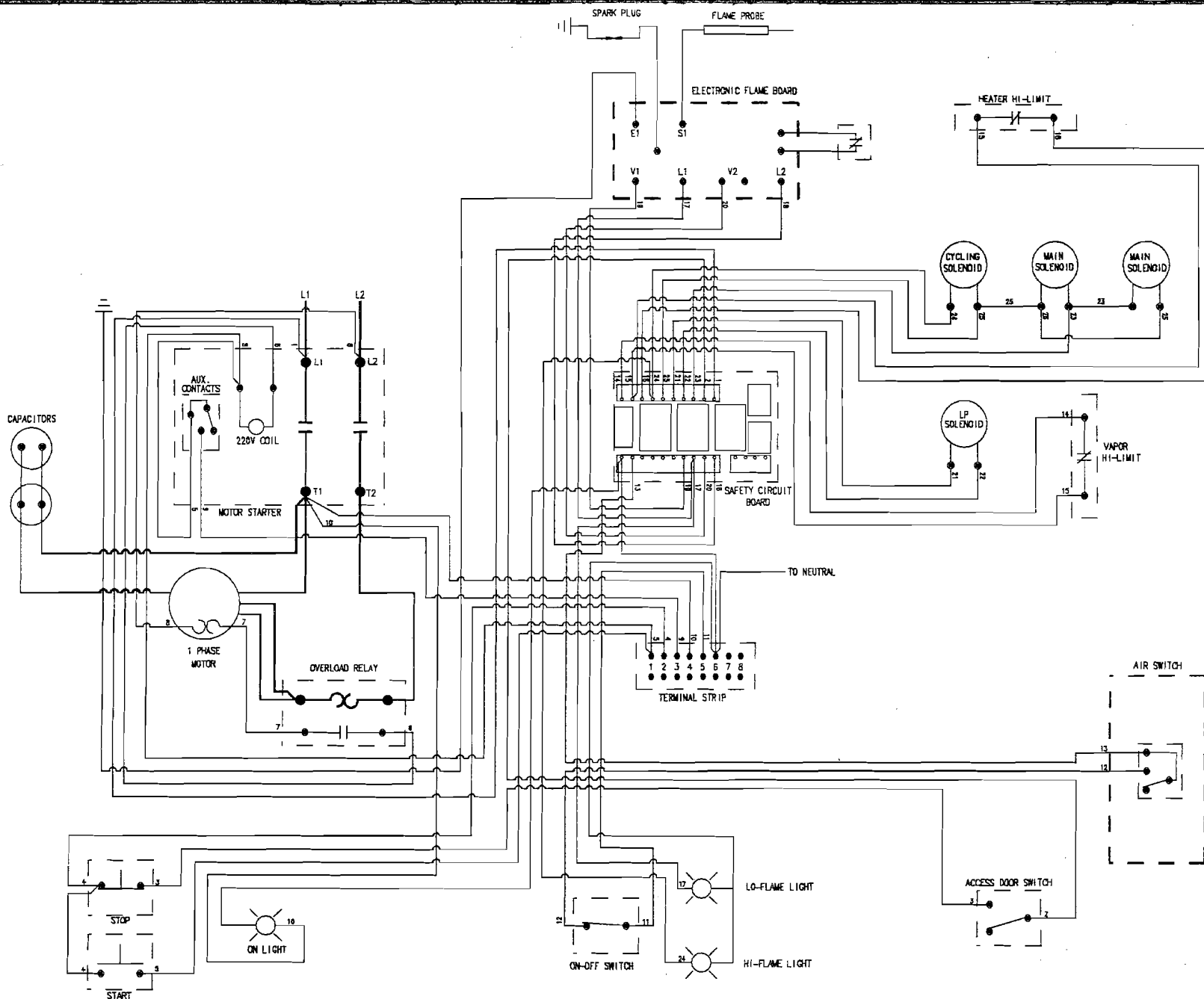
dirt or insect nests that may seriously affect the balance of the blade and cause extreme vibration.

- 3.0 Check blade for free side play. any side play is an indication of defective motor bearings that should be replaced to prevent complete motor failure.

- 4.0 Motor bearings should be greased periodically depending upon usage. Under normal conditions, the motor should be serviced at an authorized service center every three to four seasons.

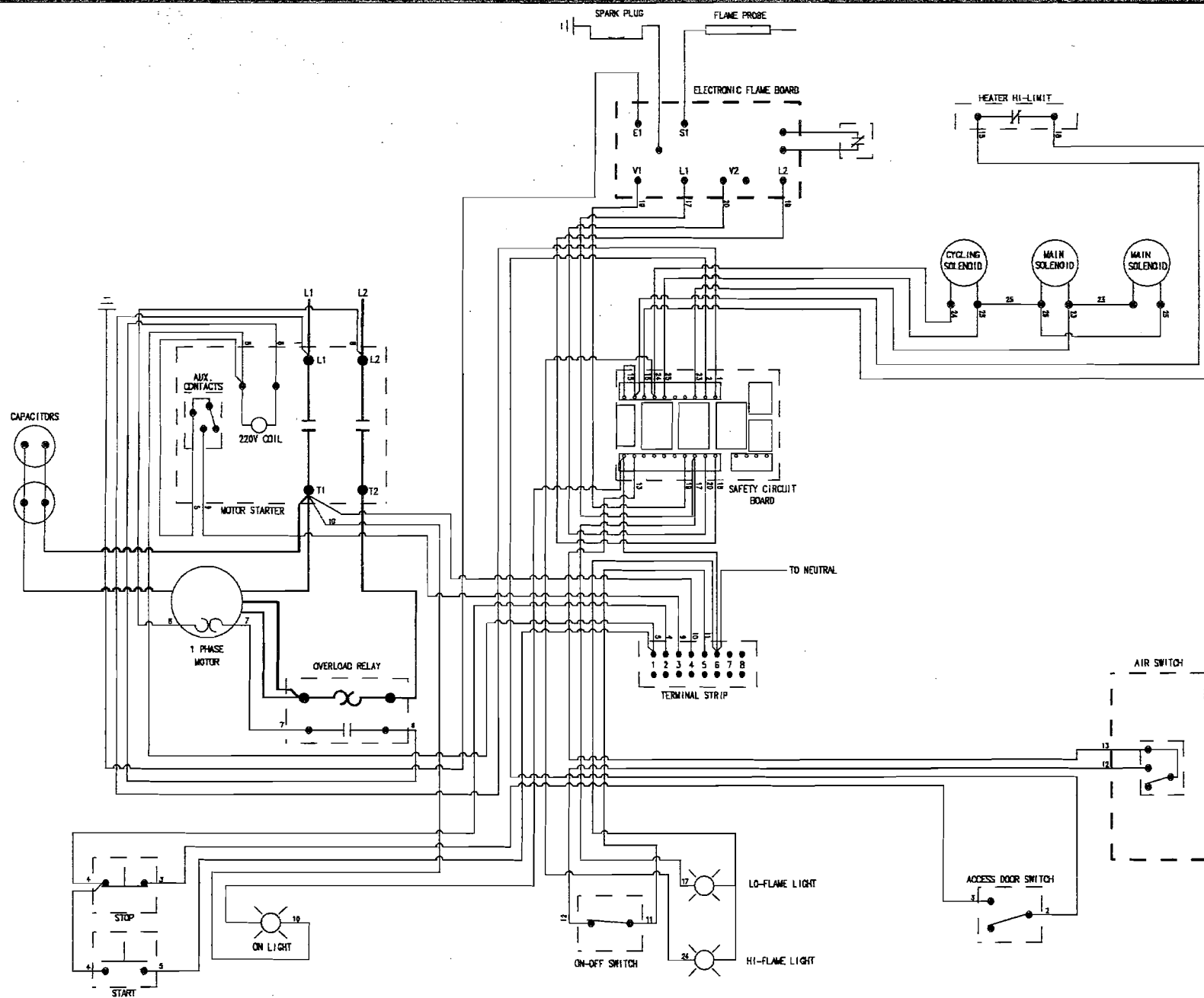
IMPORTANT: Motor bearings should be greased with high quality motor gearing grease available from an authorized service center.

- 5.0 Inspect the magnetic starter for dirt and/or other corrosion on the contact points. If points show signs of wear, replacement is recommended.
- 6.0 Remove the burner orifice tube and inspect for dirt or foreign material. Clean out if necessary.
- 7.0 Remove the burner cup from the burner gun and inspect ports for dirt or foreign material. Clean out if necessary. Any foreign material may hinder the performance of the heater.
- 8.0 Check the spark plug and flame probe for corrosion and/or damage. Clean or replace if necessary.



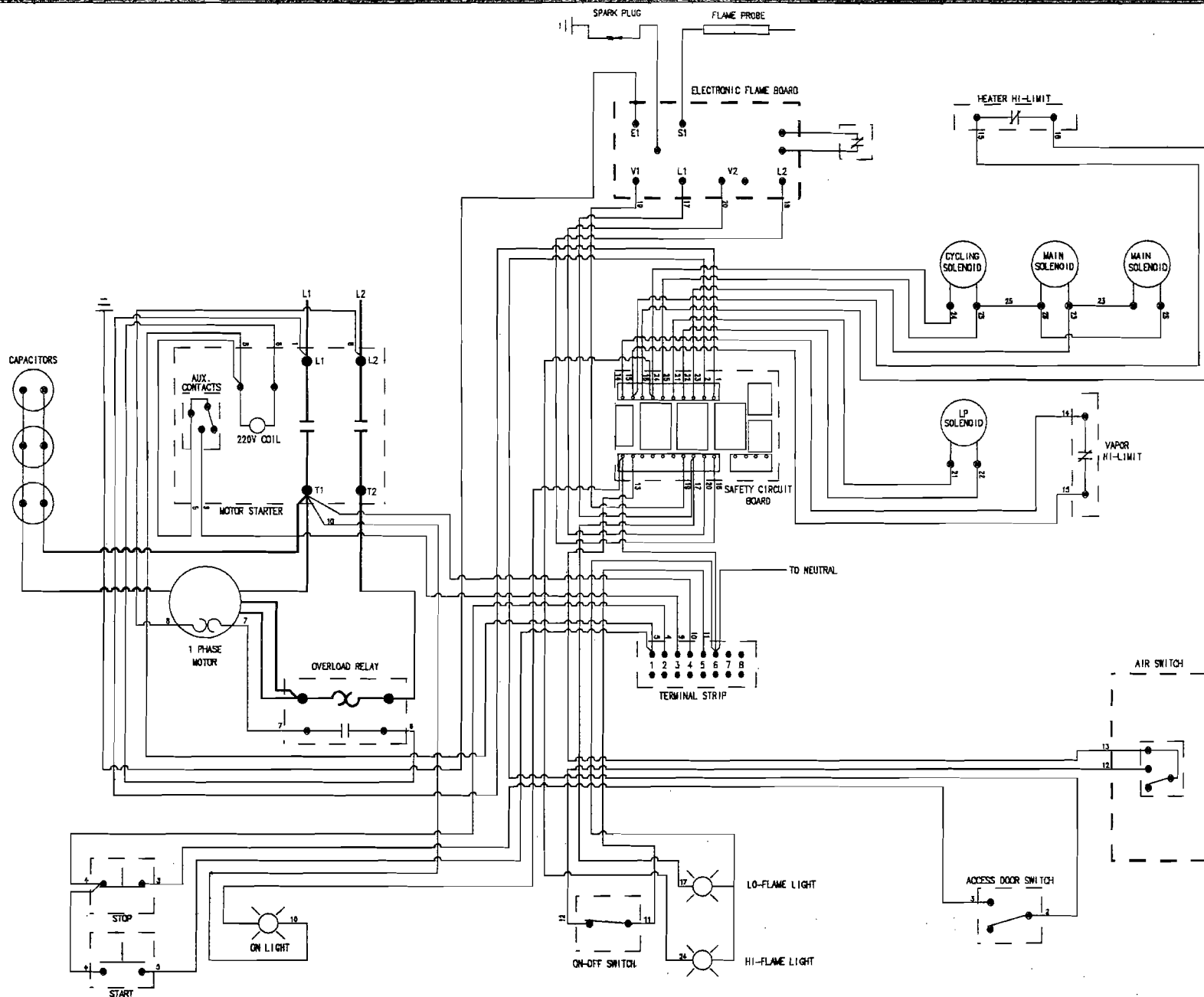
**240 VOLT 1 PHASE LIQUID PROPANE
CGA TOP DRY 24" CROP DRYER UNIT**





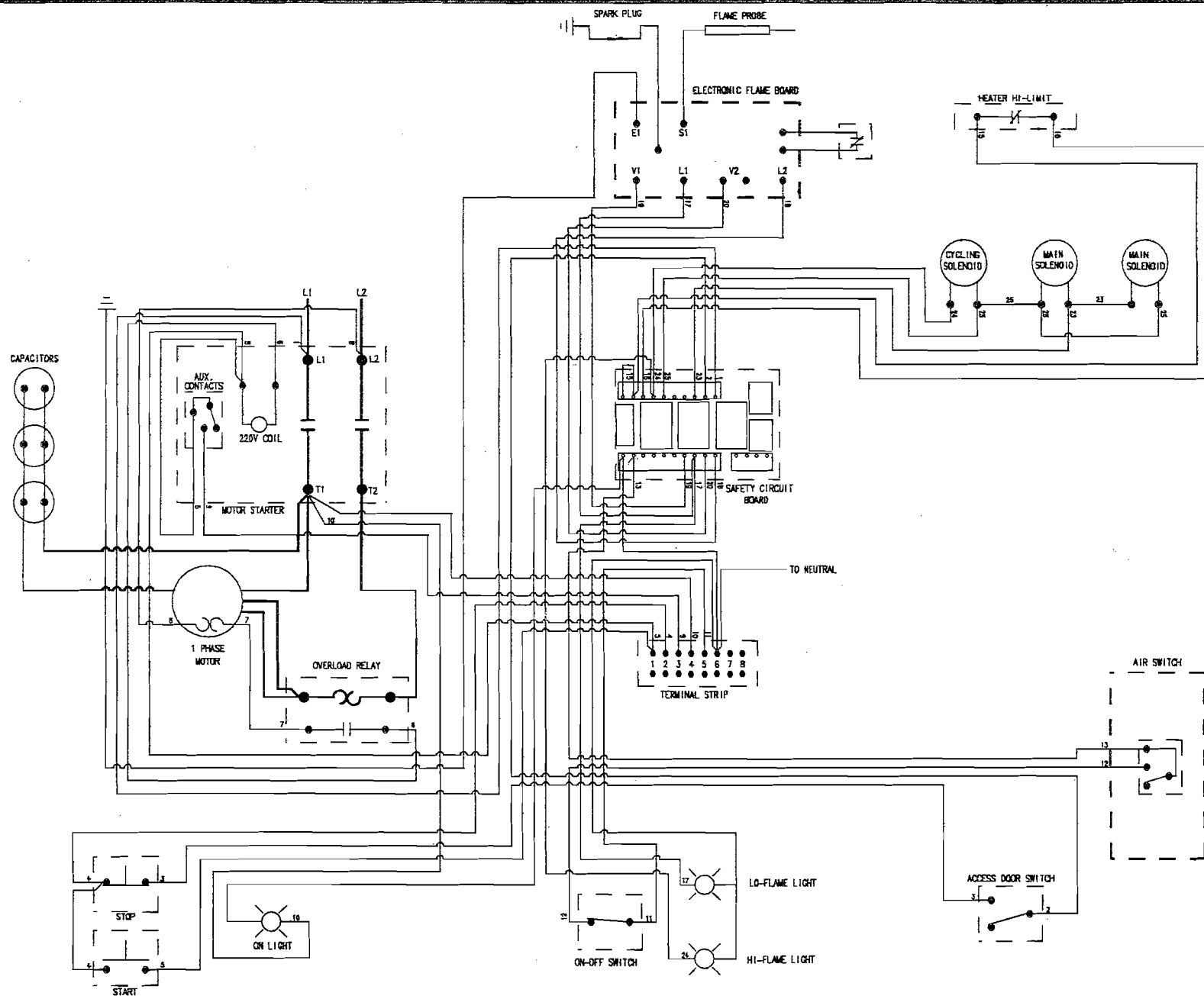
**240 VOLT 3 PHASE NATURAL GAS/PROPANE VAPOR
CGA TOP DRY 24" CROP DRYER UNIT**





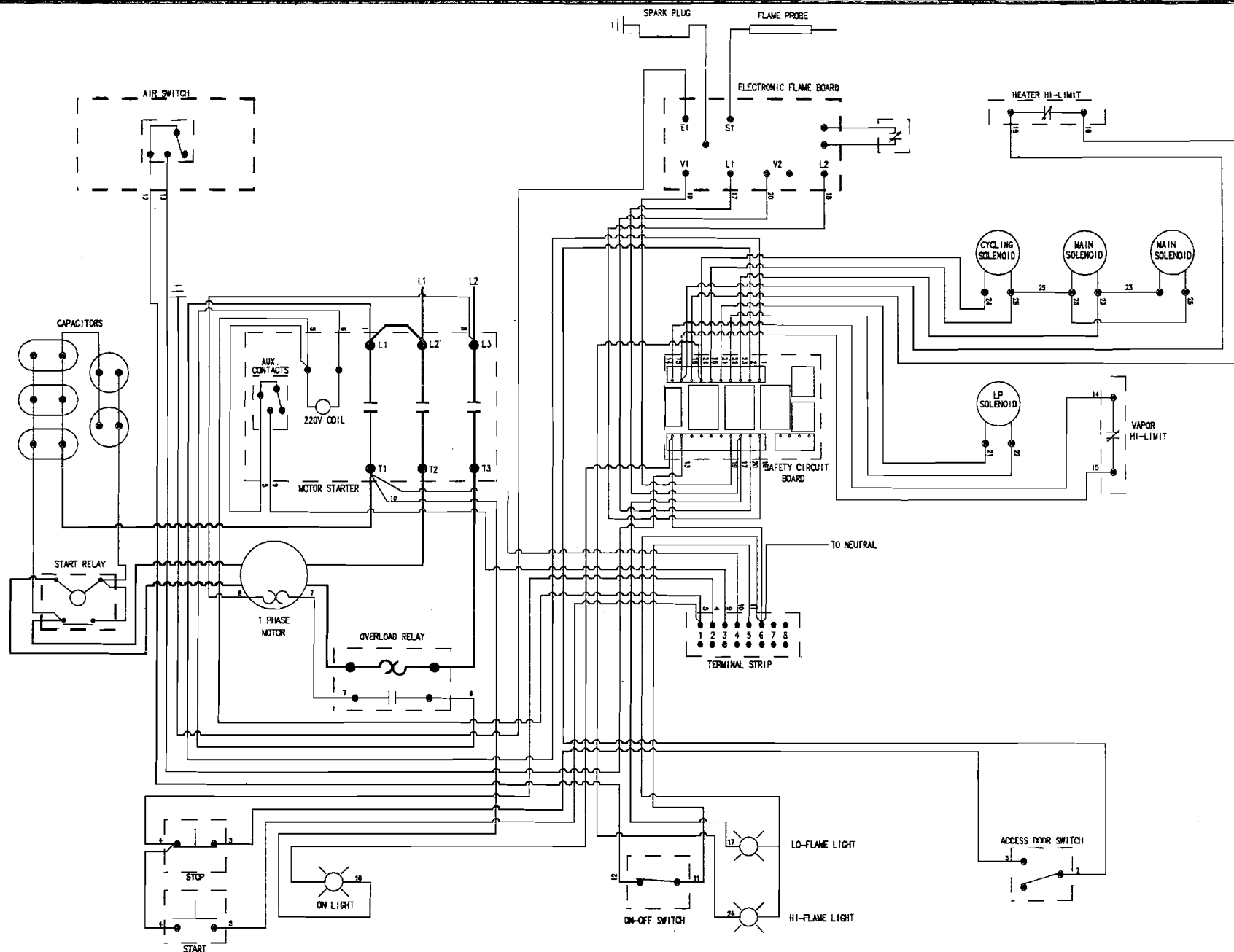
**240 VOLT 1 PHASE LIQUID PROPANE
CGA TOP DRY 28" CROP DRYER UNIT**





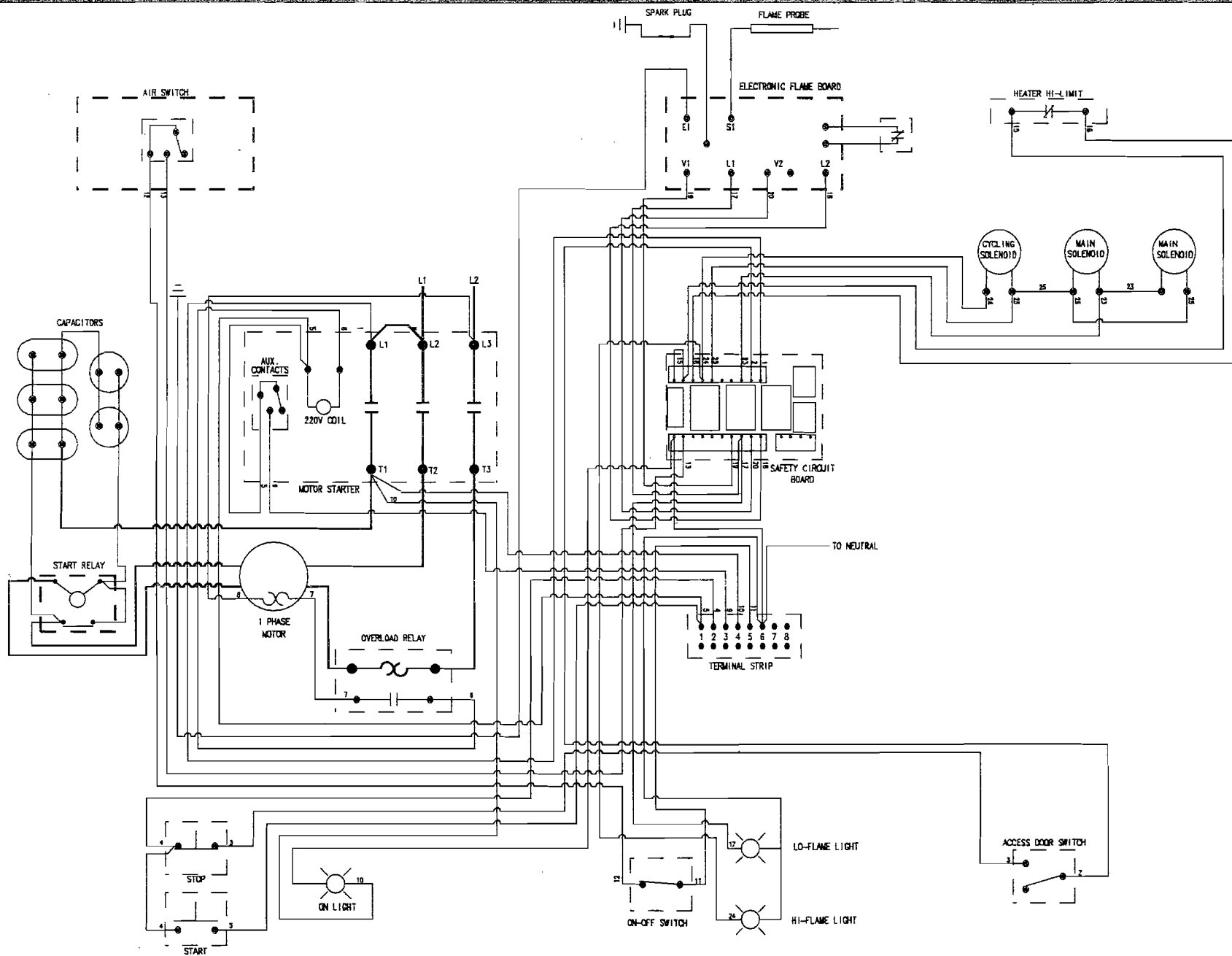
240 VOLT 3 PHASE NATURAL GAS/PROPANE VAPOR
CGA TOP DRY 28" CROP DRYER UNIT





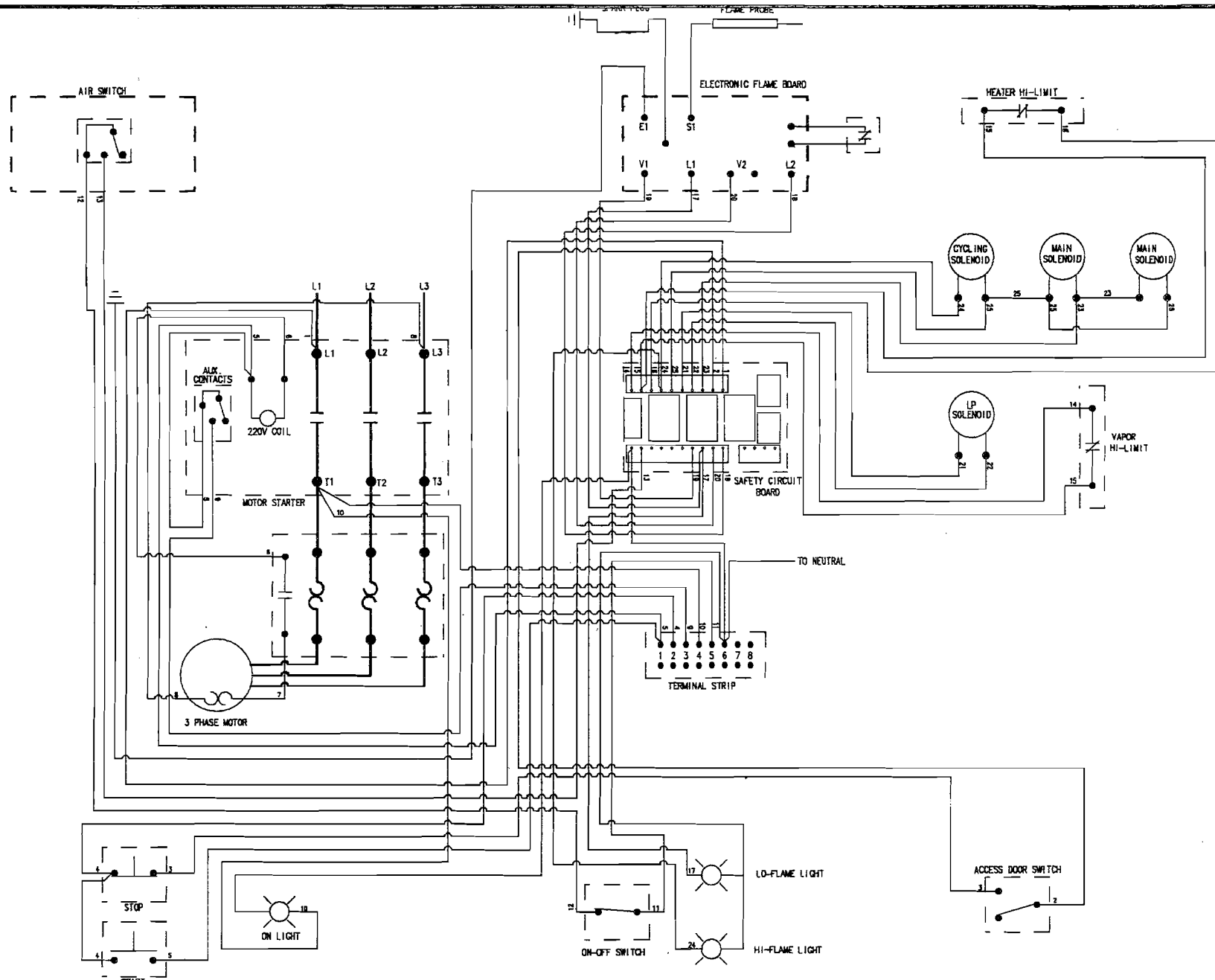
240 VOLT 1 PHASE LIQUID PROPANE
CGA TOP DRY 36'-42' 10-16 HP CROP DRYER UNIT.





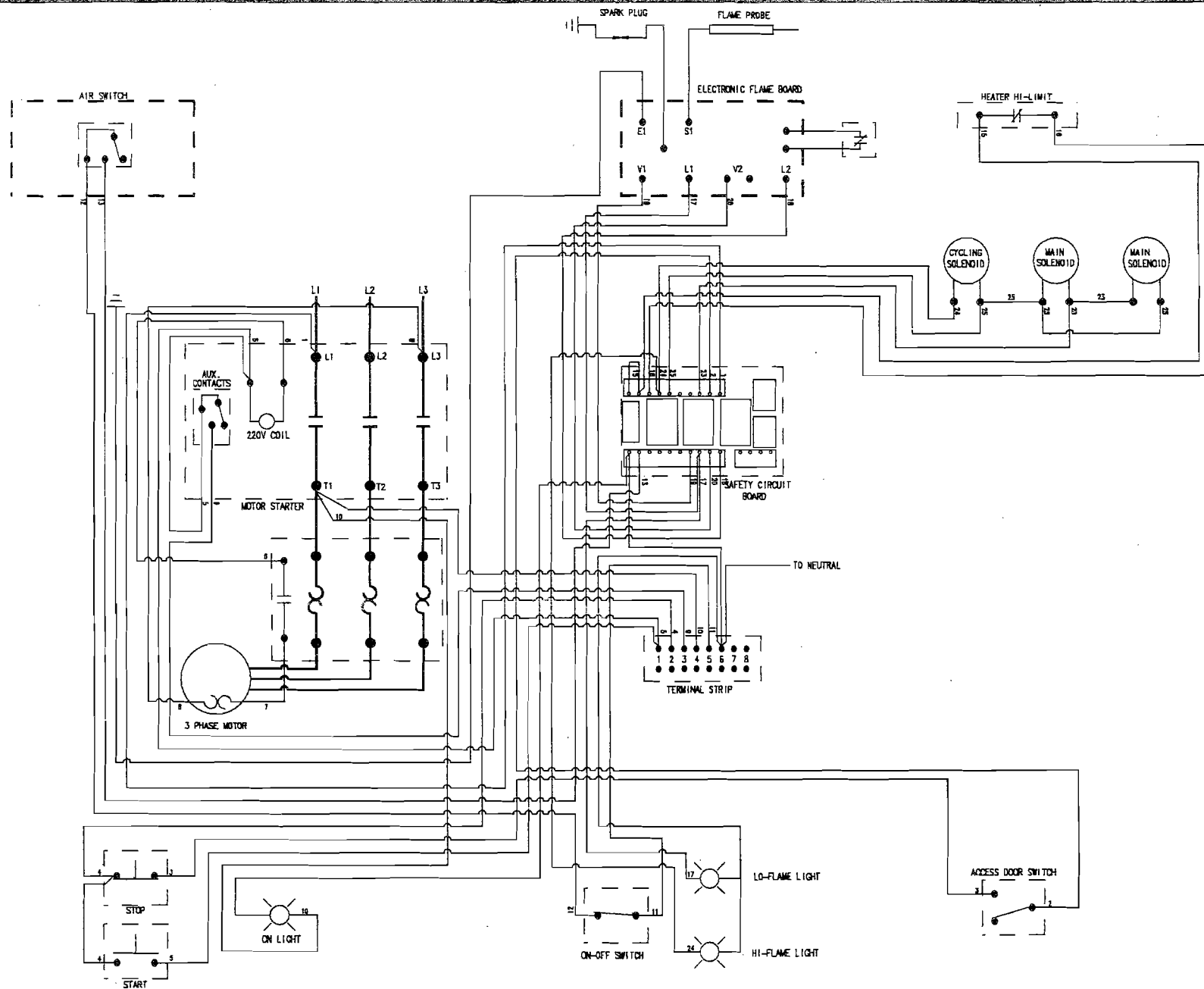
240 VOLT 1 PHASE NATURAL GAS/PROPANE VAPOR
CGA TOP DRY 36"-42" 10-16 HP CROP DRYER UNIT





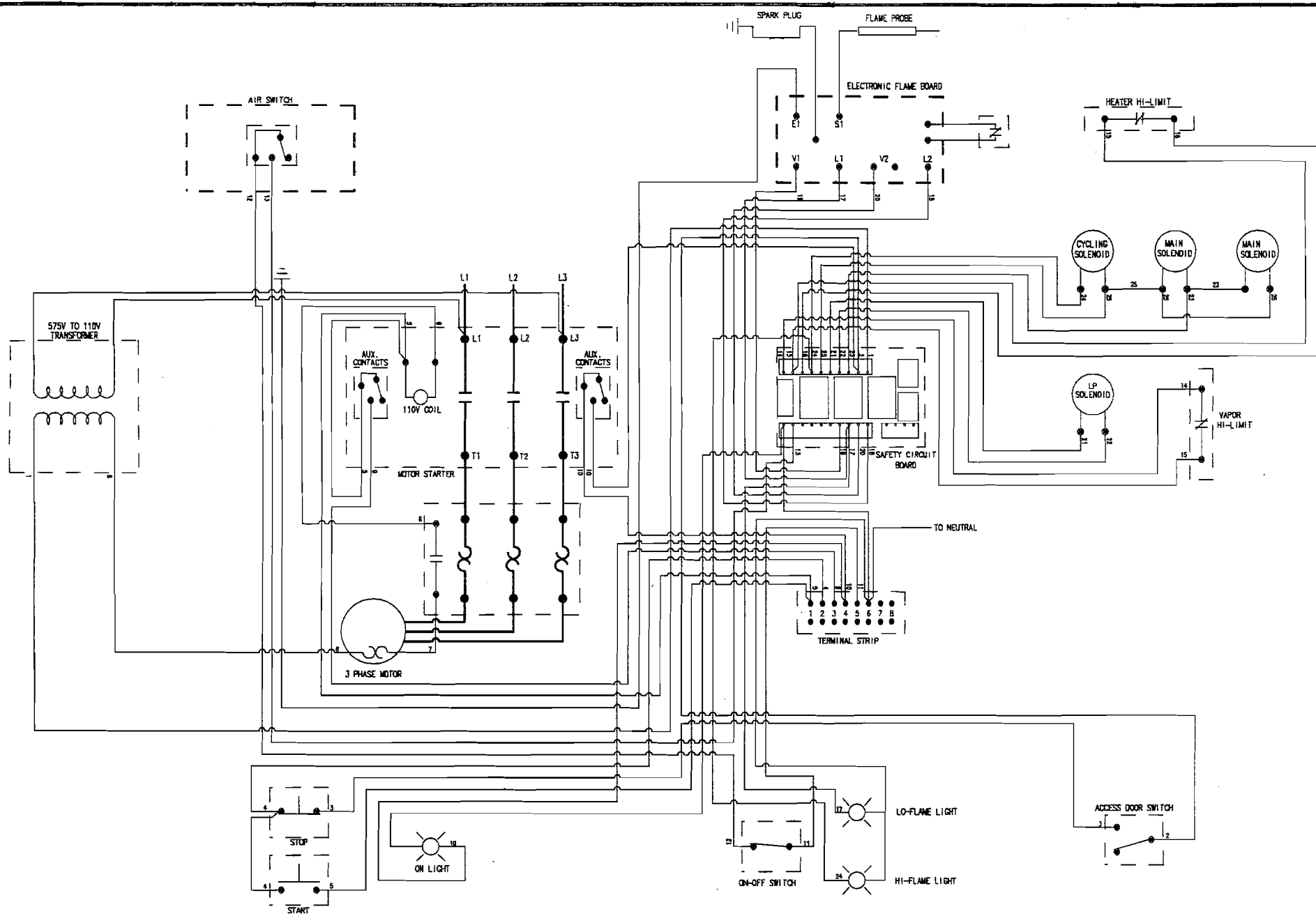
**208 VOLT 3 PHASE LIQUID PROPANE
CGA TOP DRY CROP DRYER UNIT**





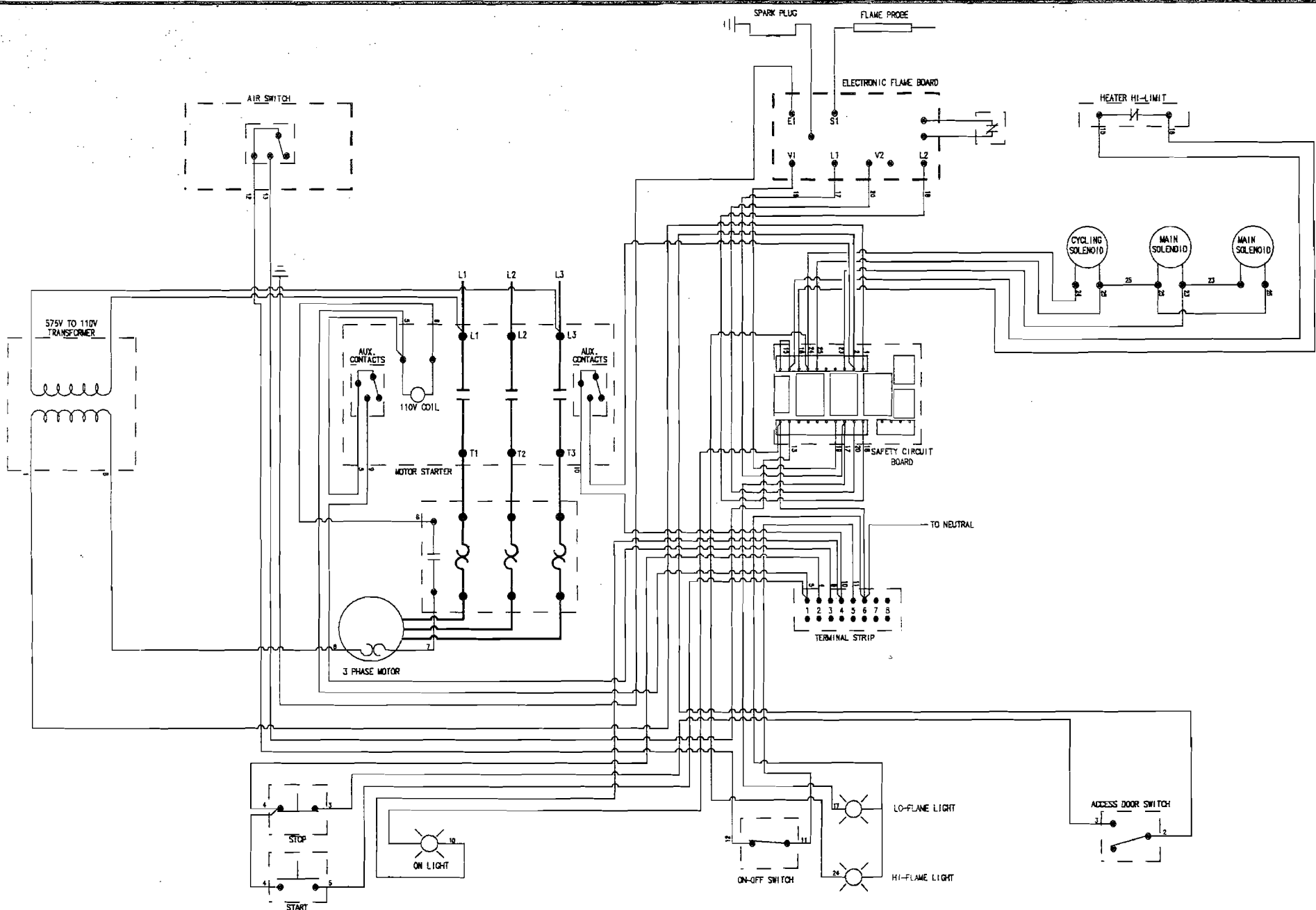
**208 VOLT 3 PHASE NATURAL GAS/PROPANE VAPOR
CGA TOP DRY CROP DRYER UNIT**





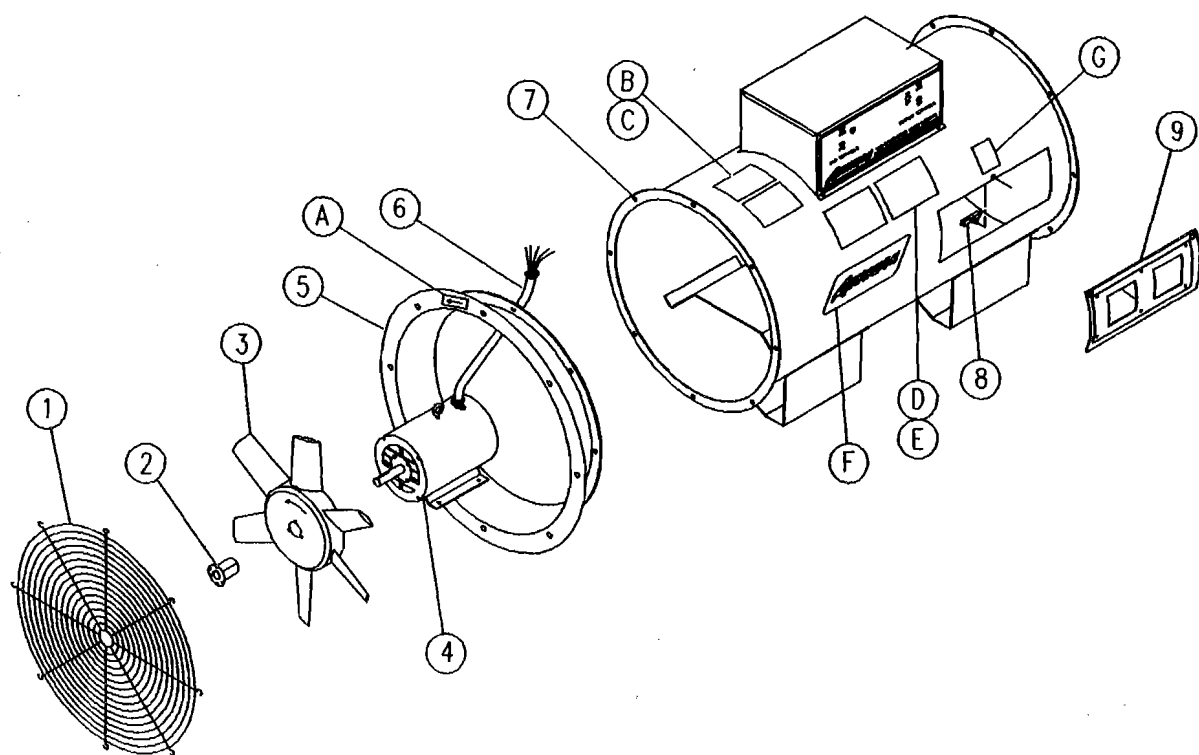
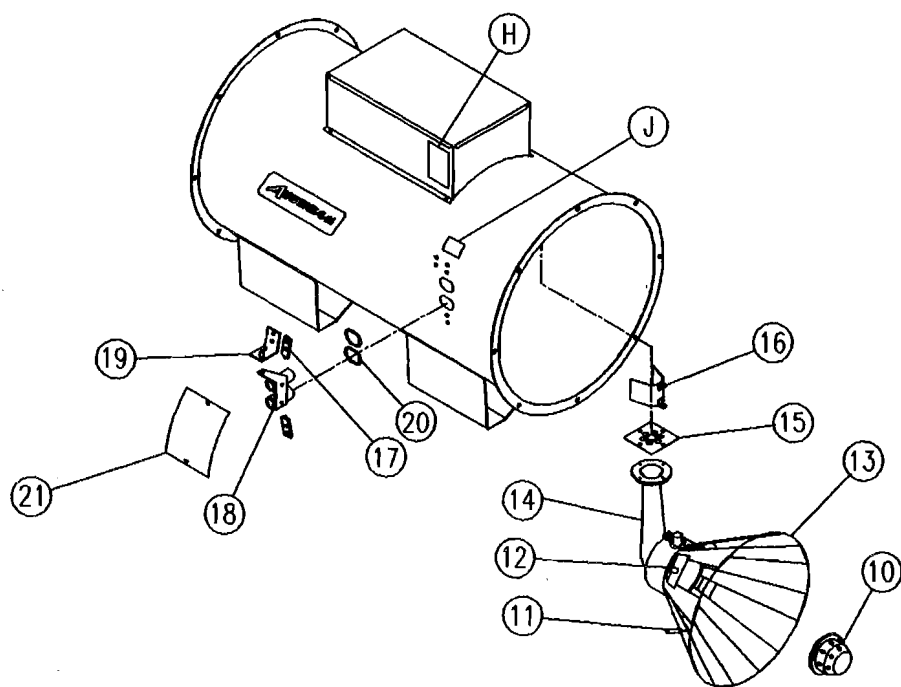
575 VOLT 3 PHASE LIQUID PROPANE CGA TOP DRY CROP DRYER UNIT





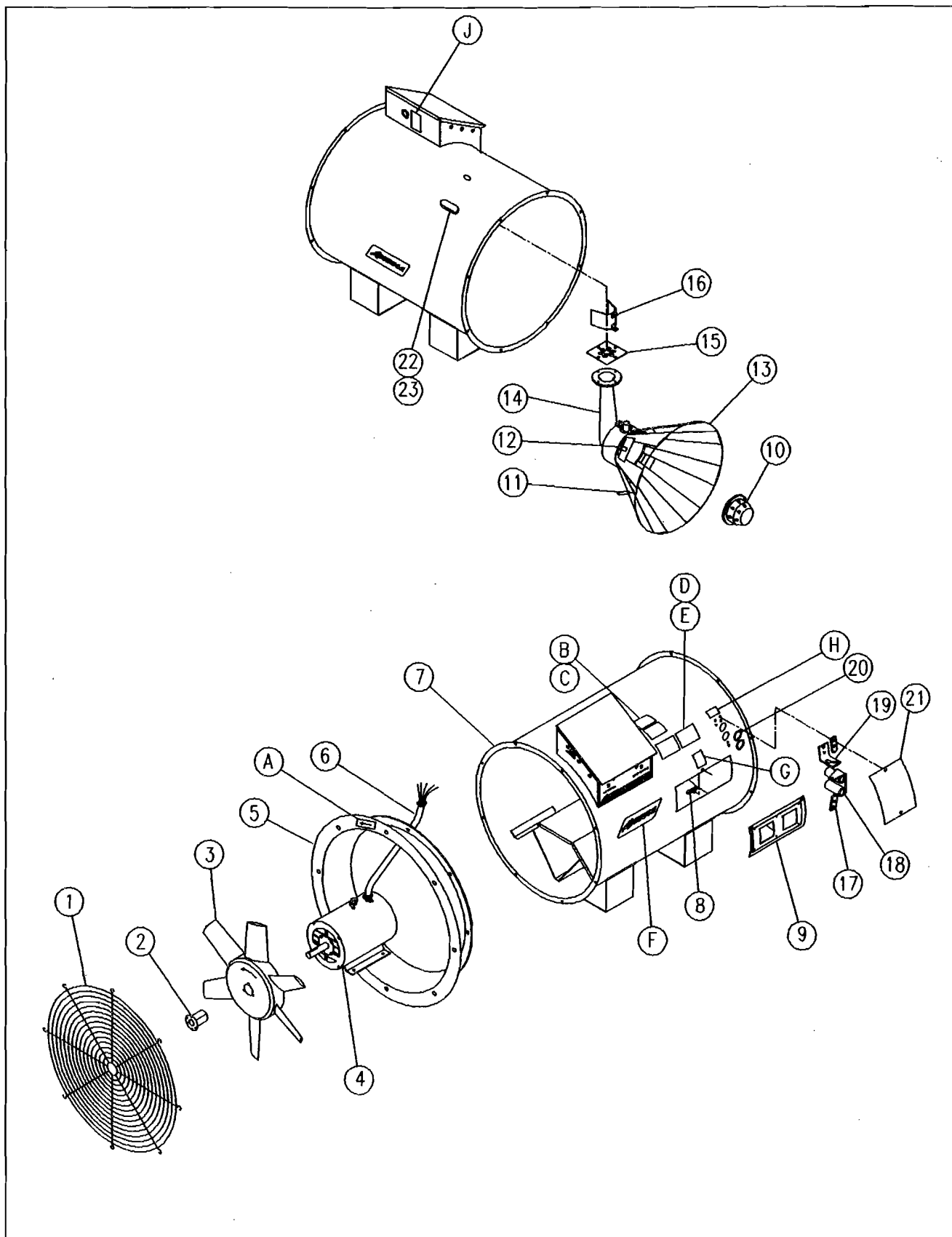
575 VOLT 3 PHASE NATURAL GAS/PROPANE VAPOR
CGA TOP DRY CROP DRYER UNIT





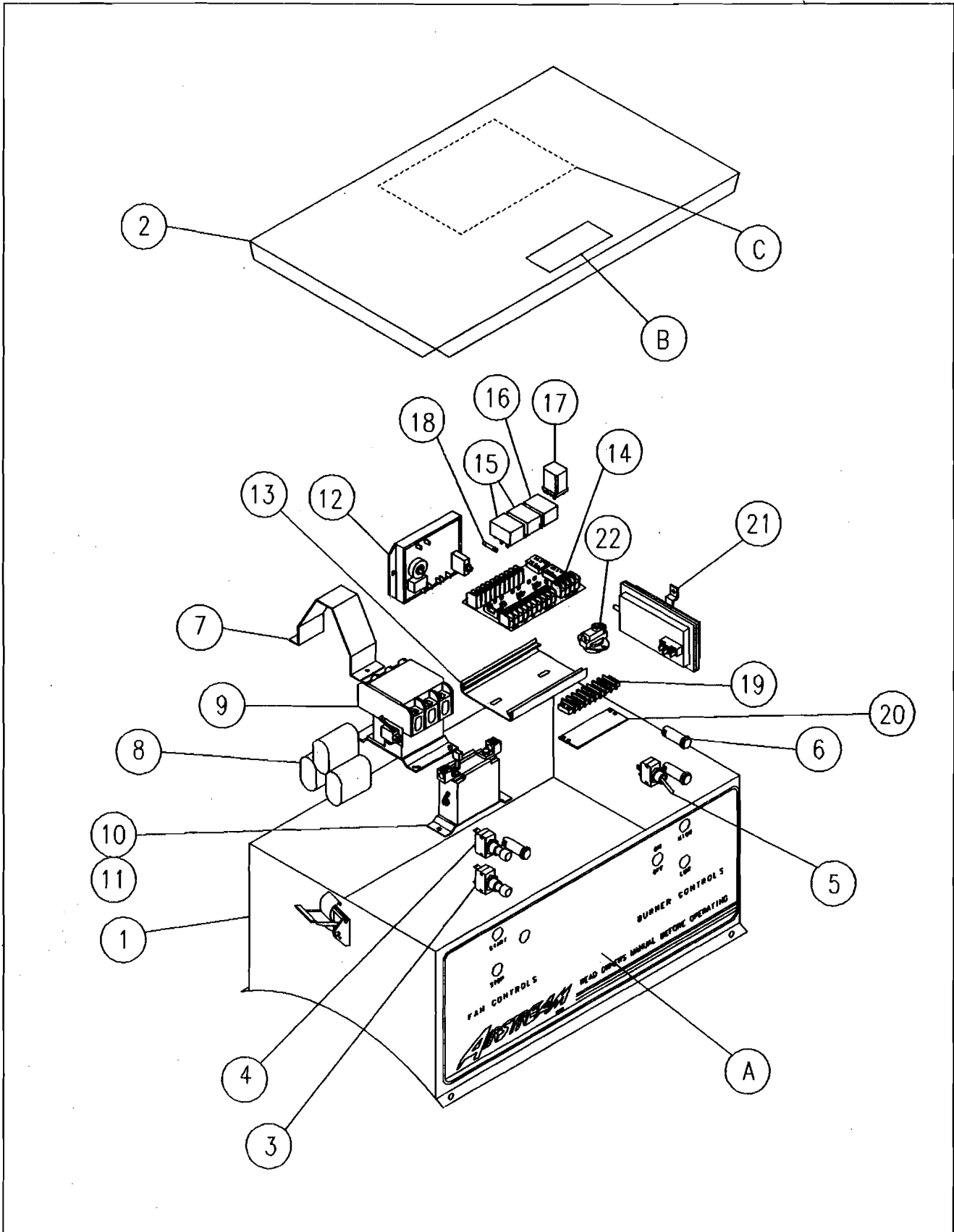
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
			24 "	28 "
1	TFH-2015	24" GRILL GUARD	1	
	TFH-2007	28" GRILL GUARD		1
2	FH-1009	P1 X 1 3/8" BORE HUB	1	
	FH-1119	SPLIT TAPER BUSHING, P1 1 1/8" BORE		1
3	F-4737	24" FINISHED FAN BLADE	1	
	TF-1102	28" FINISHED FAN BLADE		1
4	FH-5647	7.5-10 HP MOTOR, 240 VOLT 1 PHASE	1	
	FH-5648	7.5-10 HP MOTOR, 208 VOLT 3 PHASE	1	
	TFH-2070	7.5-10 HP MOTOR, 575 VOLT 3 PHASE	1	
	FH-5649	10-15 HP MOTOR, 240 VOLT 1 PHASE		1
	TFH-2071	10-15 HP MOTOR, 208 VOLT 3 PHASE		1
	TFH-2072	10-15 HP MOTOR, 575 VOLT 3 PHASE		1
5	TFH-2016	24" VENTURI	1	
	TFH-2006	28" VENTURI		1
6	FH-6563	3/4" SEALTITE, CSA APPROVED	FT	FT
	FH-1007	3/4" SEALTITE CONNECTOR,	2	2
7	TF-1235	24" CROP DRYER WRAPPER	1	
	TF-1231	28" CROP DRYER WRAPPER		1
	F-6856	MOTOR MOUNT, 24" & 28"	1	1
	F-6855	MOUTOR MOUNT ADAPTER		1
	F-6857	24", 26", 28" BASE LEG	2	2
	F-6859	24", 26" STRAIGHTENING VANE	6	
	F-6858	28" STRAIGHTENING VANE		6
8	00147220	DOOR SAFETY SWITCH	1	1
9	HF-6062	HEATER ACCESS PANEL	1	1
	HF-6063	ACCESS PANEL LATCH	2	2
	HF-2025	HEATER COVER PLATE	1	1
	HH-2020	PLASTIC COVER PLATE	1	1
	TFH-2046	SPRING LATCH W/ BLACK KNOB	2	2
10	HH-1179	24" & 26" FLAME SPREADER	1	
	THF-3144	28" BURNER CUP		1
11	HF-4625	FLAME PROBE FOR IGNITION BOARD	1	1
	HF-4485	FLAME PROBE MOUNTING BRACKET	1	1
12	HH-1650	SPARK PLUG	1	1
	HF-1810	SPARK PLUG NUT	1	1
13	HF-1516	FLAME DIVERTER - 24" & 26"	1	
	HF-981	24" & 26" FLAME DIVERTER	8	
	HF-982	24" & 26" DIVERTER COLLAR	1	
	HF-990	24" & 26" DIVERTER RING	1	
	THF-3109	28" FLAME DISPERSER WRAPPER		1
	THF-3110	28" FLAME DIVERTER		9
	THF-3111	28" FLAME DIVERTER BRACKET W/ HOLE		1
	THF-3113	28" FLAME DIVERTER BRACKET		3
	THF-3114	28" WIRE RING		1
14	HH-3934	24" & 26" BURNER GUN	1	
	THF-3141	28" BURNER GUN		1
15	HF-978	COLLECTOR PLATE	1	
	THF-3101	28" BURNER SUPPORT PLATE		1
16	HF-983	18", 24", & 28" COLLECTOR	1	1
17	HF-7056	VAPORIZER PIVOT BRACKET (LP MODELS)	2	2
18	HF-7060	VAPORIZER SUPPORT WELDMENT (LP MODELS)	1	1
19	HF-7057	VAPORIZER ADJUSTMENT BRACKET (LP MDL)	1	1
20	HH-7016	RUBBER GROMMENTS (LP MODELS)	2	2
21	THF-3237	VAPORIZER HOLE COVER (NG & PV MODELS)	1	1
A	DC-219	RED ROTATION DECAL	1	1
B	DC-371	U.S. INSTRUCTIONS	1	1
C	DC-372	FRENCH INSTRUCTIONS	1	1
D	DC-428	U.S. OPERATION INSTRUCTIONS	1	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
			24 "	28 "
E	DC-429	FRENCH OPERATION INSTRUCTIONS	1	1
F	DC-452	GALV. FAN/HTR 24-28" DECAL	2	2
G	DC-465	HEATER !DANGER DECAL	1	1
H	DC-466	FAN !DANGER DECAL	2	2
J	DC-535	24" & 28" VAPORIZER ADJUSTMENT DECAL	1	1

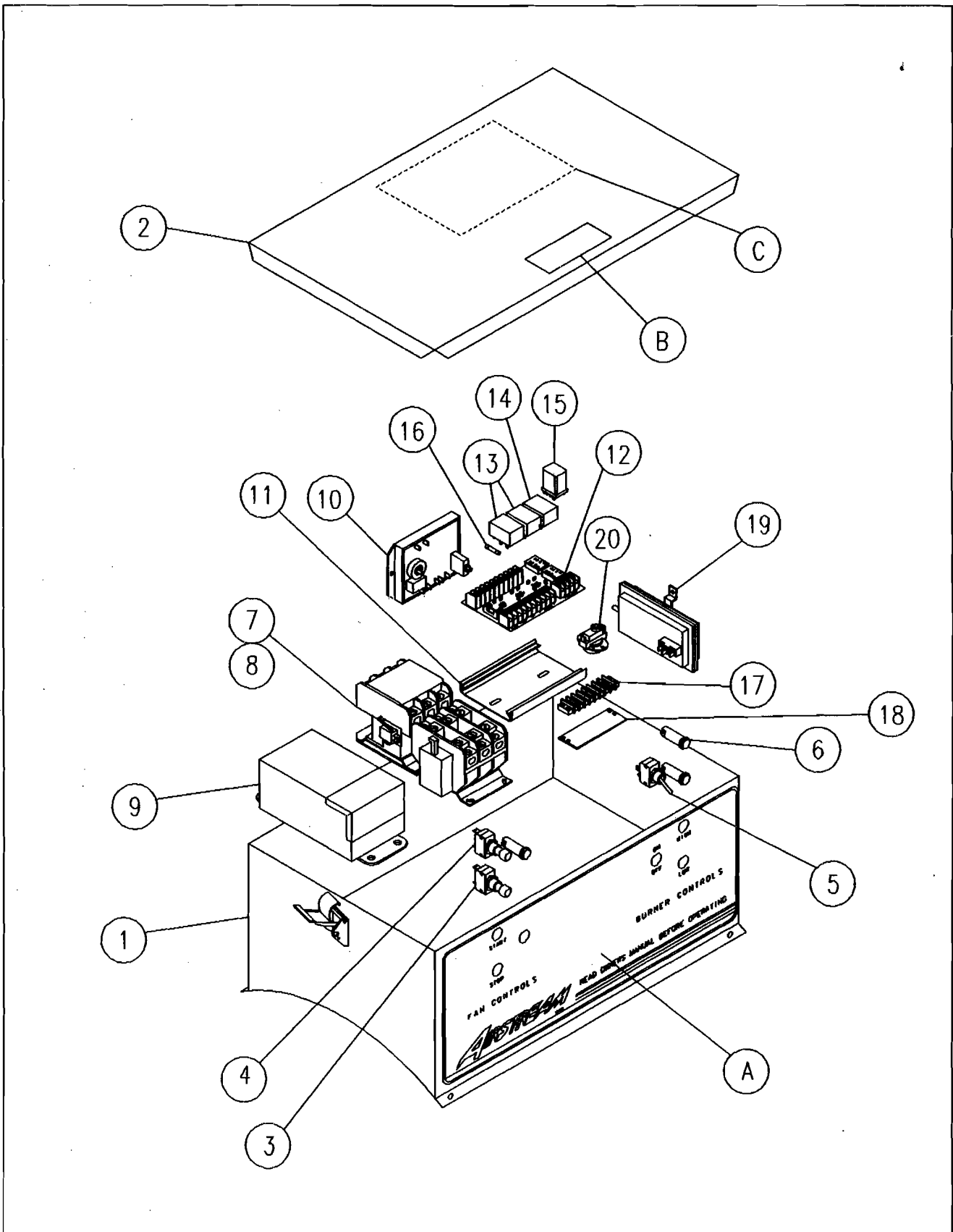


ITEM NO.	PART NUMBER	DESCRIPTION	36"	QUANTITY	
				42" 10-16HP	42" 30HP
1	TFH-2002	36" GRILL GUARD	1		
	TFH-2003	42" GRILL GUARD		1	1
2	TFH-2022	P2 X 1 3/8" HUB	1	1	
	TFH-2036	Q2 X 1 7/8" HUB			1
3	TF-1031	36" FAN BLADE FINISHED	1		
	TF-1090	42" 10-16 HP FAN BLADE FINISHED		1	
	TF-1240	42" 10-16 HP FAN BLADE HUB CAP		1	
	TF-1030	42" 30 HP FAN BLADE FINISHED			1
4	TFH-2054	10-16 HP MOTOR, 240 VOLT 1 PHASE	1	1	
	TFH-2068	15 HP MOTOR, 208 VOLT 3 PHASE	1	1	
	TFH-2066	15 HP MOTOR, 575 VOLT 3 PHASE	1	1	
	TFH-2073	30 HP MOTOR, 208 VOLT 3 PHASE			1
	TFH-2074	30 HP MOTOR, 575 VOLT 3 PHASE			1
5	TFH-2004	36" VENTURI	1		
	TFH-2005	42" VENTURI		1	1
6	FH-6564	1" SEALTITE, CSA APPROVED	FT	FT	FT
	TFH-2029	1" 90 DEG. SEALTITE FITTING	2	2	2
7	CD-0068	MOTOR MOUNT, 36" FAN/HEATER	1		
	CD-0101	MOTOR MOUNT BRACE, 36" FAN	1		
	CD-0104	36" & 40" STRAIGHTENING VANE	6		8
	TF-1228	36" CROP DRYER WRAPPER	1		
	TF-1229	BASE LEG FOR 36" CROP DRYER	2		
	TF-1207	42" CROP DRYER WRAPPER		1	1
	TF-1209	42" 10-16 HP MOTOR MOUNT		1	
	TF-1208	42" 30 HP MOTOR MOUNT			1
	TF-1210	BASE LEG FOR 42" CROP DRYER		2	2
	TF-1211	MOTOR MOUNT SUPPORT FOR 42"		1	1
	TF-1212	42" 10-16 HP STRAIGHTENING VANE		8	8
	TF-1216	BURNER SUPPORT BRACKET FOR 42"		1	1
8	00147220	DOOR SAFETY SWITCH	1	1	1
9	HF-6062	HEATER ACCESS PANEL	1	1	1
	HF-6063	ACCESS PANEL LATCH	2	2	2
	HF-2025	HEATER COVER PLATE	1	1	1
	HH-2020	PLASTIC COVER PLATE	1	1	1
	TFH-2046	SPRING LATCH W/ BLACK KNOB	2	2	2
10	THF-3057	BURNER CUP, 36" & 42"	1	1	1
11	HF-4625	FLAME PROBE FOR IGNITION BOARD	1	1	1
	HF-4485	FLAME PROBE MOUNTING BRACKET	1	1	1
12	HH-1650	SPARK PLUG	1	1	1
	HF-1810	SPARK PLUG NUT	1	1	1
13	THF-3026	FLAME DIVERTER 36" & 42"	8	8	8
	THF-3038	DIVERTER BRACKET	3		
	THF-3039	DIVERTER BRACKET W/ HOLE	1		
	THF-3027	FLAME DISPERSER WRAPPER		2	2
	THF-3045	36" WIRE RING	1		
	THF-3025	42" WIRE RING		1	1
14	THF-3051	HEATER GUN, 36" & 42"	1	1	1
15	CD-0105	BURNER SUPPORT PLATE	1		
16	CD-0102	36" COLLECTOR & BURNER SUPPORT	1		
	CD-0103	36" BURNER SUPPORT PIPE	4		
	TF-1217	BURNER COLLECTOR CUP FOR 42"		1	1
17	HF-7056	VAPORIZER PIVOT BRACKET (LP MODELS)	2	2	2
18	HF-7060	VAPORIZER SUPPORT WELDMENT (LP MDL)	1	1	1
19	HF-7057	VAPORIZER ADJUSTMENT BRACKET (LP)	1	1	1
20	HH-7016	RUBBER GROMMENTS (LP MODELS)	2	2	2
20	THF-3237	VAPORIZER HOLE COVER (NG & PV MDL)	1	1	1
21	THH-4064	UNILET TYPE LRL CONDUIT BOX	1	1	1
22	THH-4020	200 DEG. HI-LIMIT	1	1	1

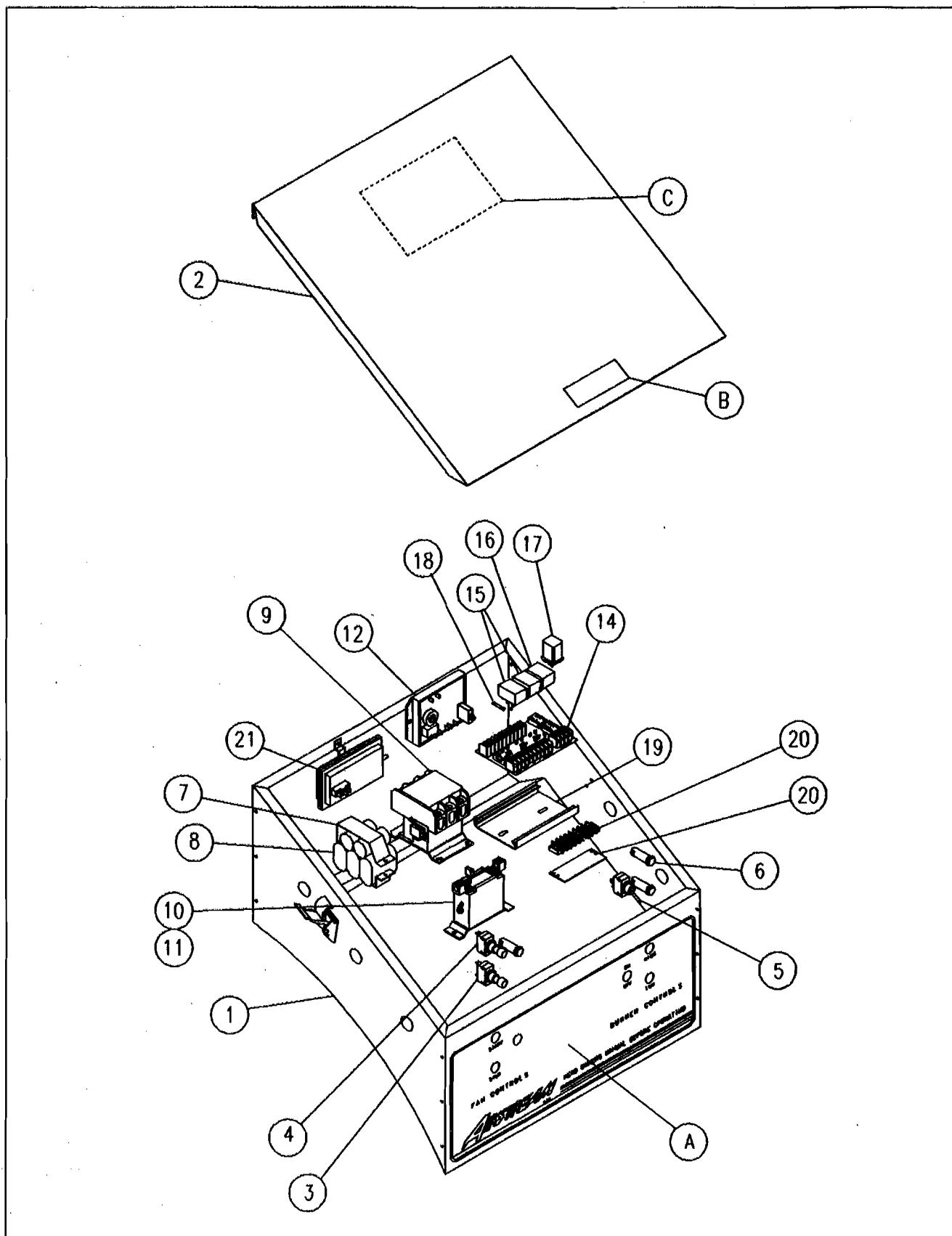
ITEM NO.	PART NUMBER	DESCRIPTION	36 "	QUANTITY	
				42 " 10-16HP	42 " 30HP
A	DC-219	RED ROTATION DECAL	1	1	1
B	DC-371	U.S. INSTRUCTIONS	1	1	1
C	DC-372	FRENCH INSTRUCTIONS	1	1	1
D	DC-428	U.S. OPERATION INSTRUCTIONS	1	1	1
E	DC-429	FRENCH OPERATION INSTRUCTIONS	1	1	1
F	DC-452	GALV. FAN/HTR 24"-28" DECAL	2	2	2
G	DC-465	HEATER !DANGER DECAL	1	1	1
H	DC-466	FAN !DANGER DECAL	2	2	2
J	DC-527	VAPORIZER ADJUSTMENT DECAL	1	1	1



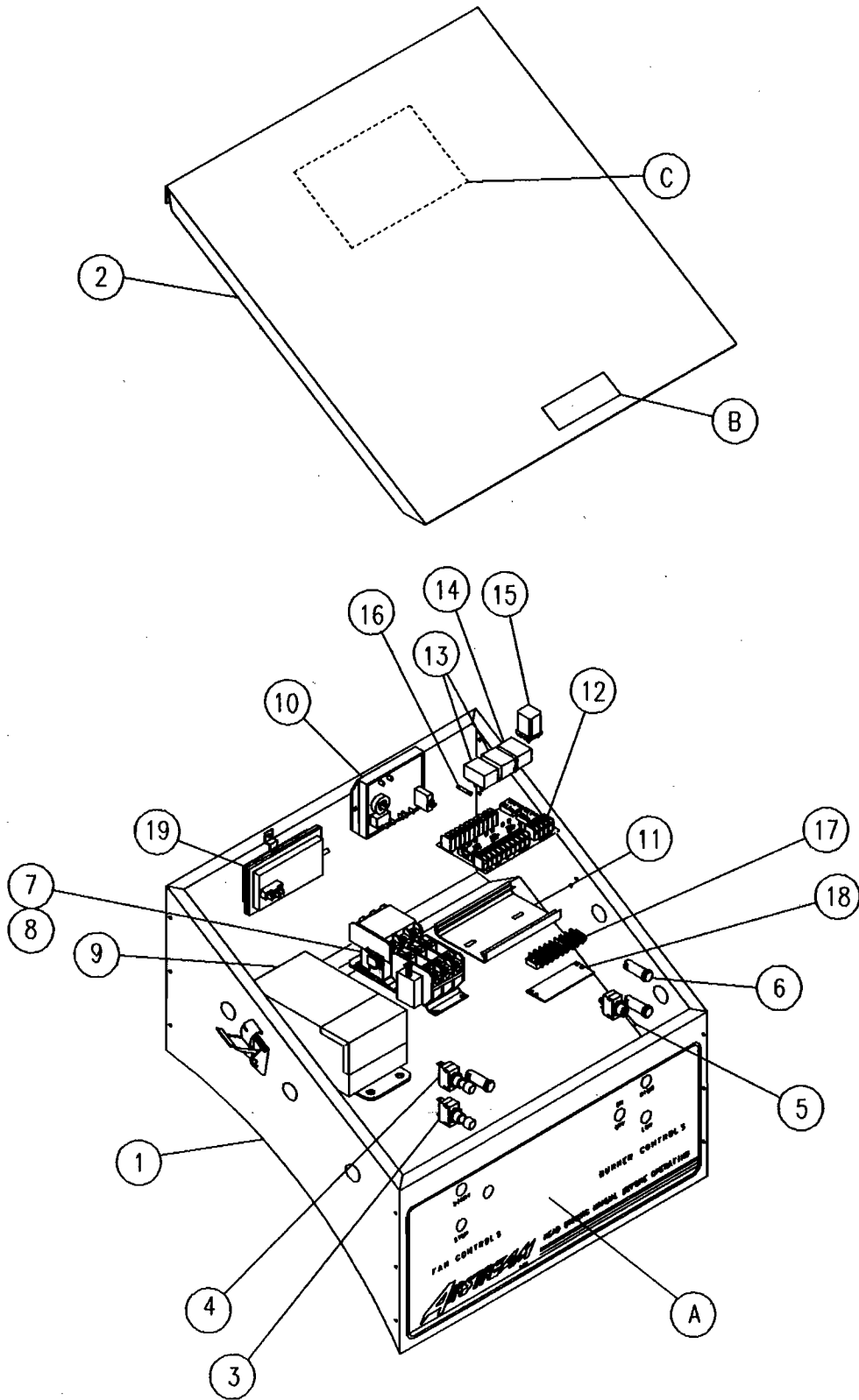
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
			24 "	28 "
1	TF-1236	24" CONTROL BOX WRAPPER	1	
	TF-1232	28" CONTROL BOX WRAPPER		1
	TF-1233	24" & 28" CONTROL BOX BOTTOM	1	1
	FH-4429-1	CONTROL BOX LATCH	2	2
2	TF-1234	24" & 28" CONTROL BOX LID	1	1
3	TFC-0028	STOP SWITCH	1	1
	FH-5260	RED RUBBER BOOT FOR STOP SWITCH	1	1
4	TFC-0029	START SWITCH	1	1
	FH-5261	BLACK RUBBER BOOT FOR START SWITCH	1	1
5	TFC-0016	SPST TOGGLE SWITCH	1	1
6	TFC-0012	RED LIGHT	3	3
7	F-747	CAPACITOR RETAINER (DOUBLE)	1	
	TF-1238	10-15 HP CAPACITOR CLAMP, 28"		1
8	-	MOTOR CAPACITORS	AR	AR
9	FH-2721	50 AMPERE 2 POLE CONTACTOR	1	
	CH-1038	60 AMPERE 2 POLE CONTACTOR		1
10	FH-6335	90 AMPERE SINGLE-POLE OVERLOAD RELAY	1	1
11	FH-5450	F487B HEATER STRIP	1	
	FH-5452	F614B HEATER STRIP		1
12	HF-4624	ELECTRONIC FLAME IGN/DECT BOARD	1	1
13	HH-7015	SNAP TRACK	6"	6"
14	TF-1241	CROP DRYER SAFETY CIRCUIT BOARD	1	1
15	TFC-0005	10 SEC. N.O. TIME DELAY RELAY	2	2
16	TFC-0077	60 SEC. N.C. TIME DELAY RELAY	1	1
17	TFC-0078	DPDT RELAY	1	1
18	TFC-0011	5 AMP FUSE	1	1
19	TFC-0018	8 CONDUCTOR TERMINAL STRIP	1	1
20	TFH-2052	8 CONDUCTOR TERMINAL STRIP MARKER	1	1
21	TFC-0009	AIRFLOW SWITCH	1	1
22	TFC-0004	HEATER HI-LIMIT SWITCH, 200 DEG.	1	1
A	DC-503	TOP DRY CONTROL PANEL DECAL	1	1
B	DC-373	CAUTION DO NOT OPEN BOX DECAL	1	1
C	DC-516	24" 240 VOLT 1 PHASE LP WIRING DECAL	1	
	DC-519	24" 240 VOLT 1 PHASE NG/PV WIRING DCL	1	
	DC-517	28" 240 VOLT 1 PHASE LP WIRING DECAL		1
	DC-520	28" 240 VOLT 1 PHASE NG/PV WIRING DCL		1



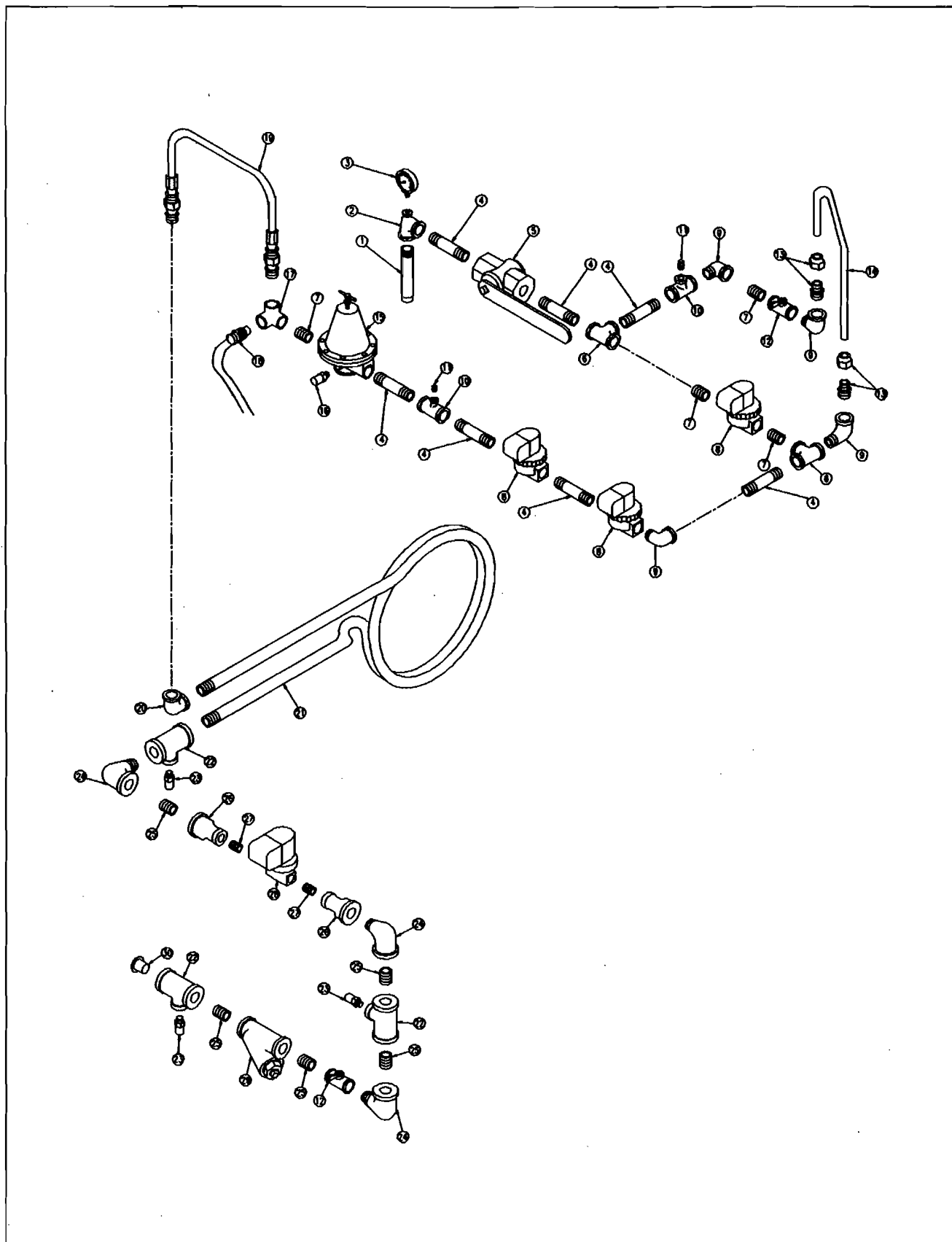
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
			24 "	28 "
1	TF-1236	24" CONTROL BOX WRAPPER	1	
	TF-1232	28" CONTROL BOX WRAPPER		1
	TF-1233	24" & 28" CONTROL BOX BOTTOM	1	1
	FH-4429-1	CONTROL BOX LATCH	2	2
2	TF-1234	24" & 28" CONTROL BOX LID	1	1
3	TFC-0028	STOP SWITCH	1	1
	FH-5260	RED RUBBER BOOT FOR STOP SWITCH	1	1
4	TFC-0029	START SWITCH	1	1
	FH-5261	BLACK RUBBER BOOT FOR START SWITCH	1	1
5	TFC-0016	SPST TOGGLE SWITCH	1	1
6	TFC-0012	RED LIGHT	3	3
7	CH-1151	30 AMPERE MOTOR STARTER	1	
	CH-1149	40 AMPERE MOTOR STARTER (208 V ONLY)		1
	CH-1151	30 AMPERE MOTOR STARTER (575 V ONLY)		1
	FH-5565	AUXILIARY POINTS (575 VOLT ONLY)	1	1
	FH-5567	120 VOLT COIL (575 VOLT ONLY)	1	1
8	FH-5456	C330B HEATER STRIP (208 VOLT ONLY)	3	
	FH-5440	C163B HEATER STRIP (575 VOLT ONLY)	3	3
	FH-5448	C366B HEATER STRIP (208 VOLT ONLY)		3
9	TFH-2067	575-120 VOLT TRANSFORMER (575 V ONLY)	1	1
10	HF-4624	ELECTRONIC FLAME IGN/DECT BOARD	1	1
11	HH-7015	SNAP TRACK	6"	6"
12	TF-1241	CROP DRYER SAFETY CIRCUIT BOARD	1	1
13	TFC-0005	10 SEC. N.O. TIME DELAY RELAY	2	2
14	TFC-0077	60 SEC. N.C. TIME DELAY RELAY	1	1
15	TFC-0078	DPDT RELAY	1	1
16	TFC-0011	5 AMP FUSE	1	1
17	TFC-0018	8 CONDUCTOR TERMINAL STRIP	1	1
18	TFH-2052	8 CONDUCTOR TERMINAL STRIP MARKER	1	1
19	TFC-0009	AIRFLOW SWITCH	1	1
20	TFC-0004	HEATER HI-LIMIT SWITCH, 200 DEG.	1	1
A	DC-503	TOP DRY CONTROL PANEL DECAL	1	1
B	DC-373	CAUTION DO NOT OPEN BOX DECAL	1	1
C	DC-522	208 VOLT 3 PHASE LP WIRING DECAL	1	
	DC-523	208 VOLT 3 PHASE NG/PV WIRING DECAL	1	
	DC-524	575 VOLT 3 PHASE LP WIRING DECAL		1
	DC-525	575 VOLT 3 PHASE NG/PV WIRING DECAL		1



ITEM NO.	PART NUMBER	DESCRIPTION	QUANTITY	
			36 "	42 " 10-16HP
1	TF-1213	36" & 42" CONTROL BOX WRAPPER	1	1
	TF-1230	36" CONTROL BOX SIDE	2	
	TF-1214	42" CONTROL BOX SIDE		2
	FH-4429-1	CONTROL BOX LATCH	2	2
2	TF-1215	36" & 42" CONTROL BOX LID	1	1
3	TFC-0028	STOP SWITCH	1	1
	FH-5260	RED RUBBER BOOT FOR STOP SWITCH	1	1
4	TFC-0029	START SWITCH	1	1
	FH-5261	BLACK RUBBER BOOT FOR START SWITCH	1	1
5	TFC-0016	SPST TOGGLE SWITCH	1	1
6	TFC-0012	RED LIGHT	3	3
7	TF-1237	10-16 HP CAPACITOR CLAMP, 36" & 42"	1	1
8	-	MOTOR CAPACITORS	AR	AR
9	TFH-2018	75 AMPERE 3 POLE CONTACTOR	1	1
10	FH-6335	90 AMPERE SINGLE-POLE OVERLOAD RELAY	1	1
11	FH-5451	F567B HEATER STRIP	1	1
12	HF-4624	ELECTRONIC FLAME IGN/DECT BOARD	1	1
13	HH-7015	SNAP TRACK	6 "	6 "
14	TF-1241	CROP DRYER SAFETY CIRCUIT BOARD	1	1
15	TFC-0005	10 SEC. N.O. TIME DELAY RELAY	2	2
16	TFC-0077	60 SEC. N.C. TIME DELAY RELAY	1	1
17	TFC-0078	DPDT RELAY	1	1
18	TFC-0011	5 AMP FUSE	1	1
19	TFC-0018	8 CONDUCTOR TERMINAL STRIP	1	1
20	TFH-2052	8 CONDUCTOR TERMINAL STRIP MARKER	1	1
21	TFC-0009	AIRFLOW SWITCH	1	1
A	DC-503	TOP DRY CONTROL PANEL DECAL	1	1
B	DC-373	CAUTION DO NOT OPEN BOX DECAL	1	1
C	DC-518	36" & 42" 240 VOLT 1PH LP WIRING DC	1	1
	DC-521	36" & 42" 240V 1PH NG/PV WIRING DCL	1	1

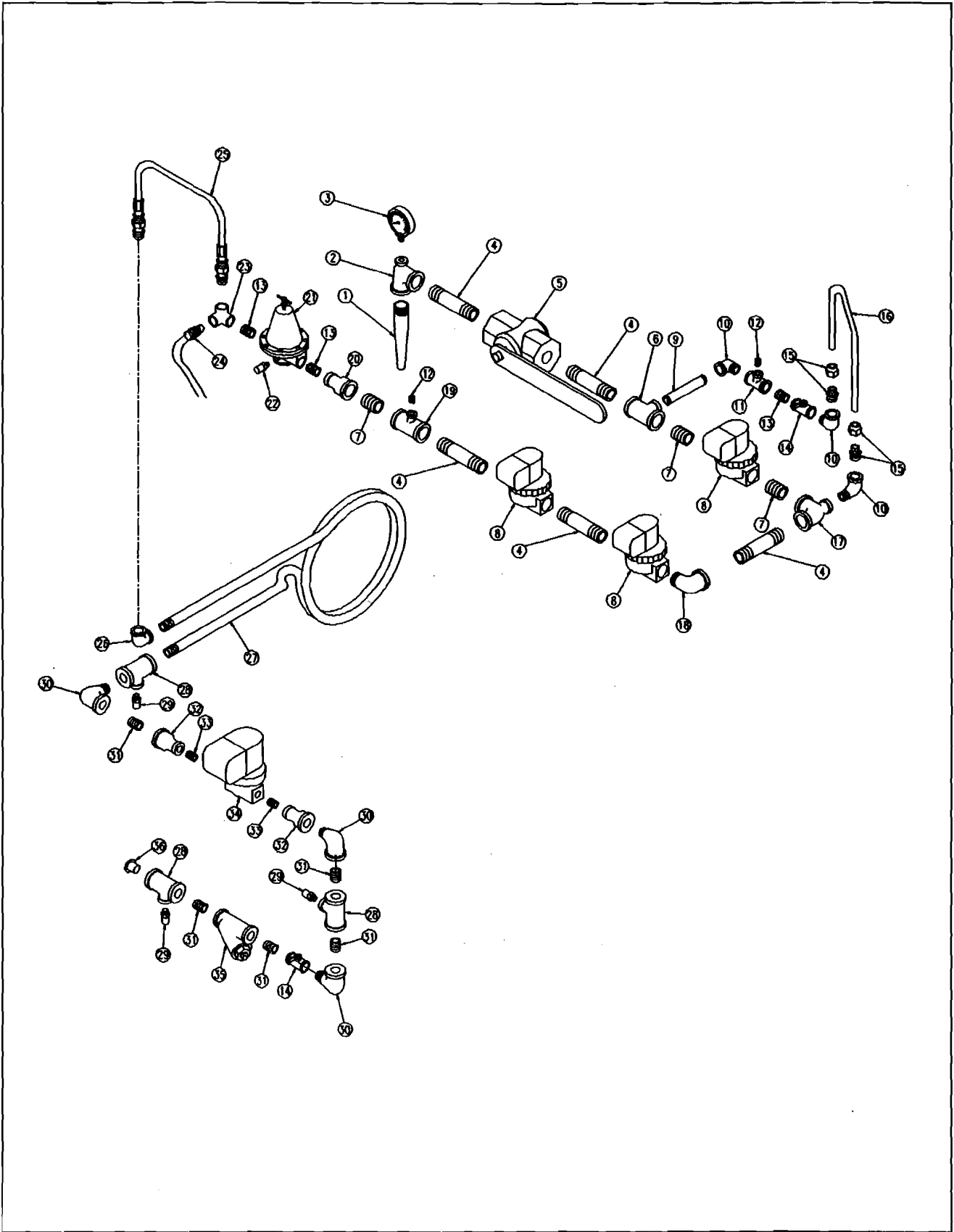


ITEM NO.	PART NUMBER	DESCRIPTION	QUANTITY		
			36 "	42 " 10-16HP	42 " 30HP
1	TF-1213	36 " & 42 " CONTROL BOX WRAPPER	1	1	1
	TF-1230	36 " CONTROL BOX SIDE	2		
	TF-1214	42 " CONTROL BOX SIDE		2	2
	FH-4429-1	CONTROL BOX LATCH	2	2	2
2	TF-1215	36 " & 42 " CONTROL BOX LID	1	1	1
3	TFC-0028	STOP SWITCH	1	1	1
	FH-5260	RED RUBBER BOOT FOR STOP SWITCH	1	1	1
4	TFC-0029	START SWITCH	1	1	1
	FH-5261	BLACK RUBBER BOOT FOR START SWITCH	1	1	1
5	TFC-0016	SPST TOGGLE SWITCH	1	1	1
6	TFC-0012	RED LIGHT	3	3	3
7	CH-1150	50 AMPERE MOTOR STARTER (208V ONLY)	1	1	
	CH-1151	30 AMPERE MOTOR STARTER (575V ONLY)	1	1	
	HH-2056	75 AMPERE MOTOR STARTER (208V ONLY)			1
	CH-1149	40 AMPERE MOTOR STARTER (575V ONLY)			1
	FH-5565	AUXILIARY POINTS (575V ONLY)	1	1	1
	FH-5567	120 VOLT COIL (575 VOLT ONLY)	1	1	1
8	FH-5448	C366B HEATER STRIP (208 VOLT ONLY)	3	3	
	FH-5445	C250B HEATER STRIP (575 VOLT ONLY)	3	3	
	FH-5738	F914B HEATER STRIP (208 VOLT ONLY)			3
	FH-5739	C400B HEATER STRIP (575 VOLT ONLY)			3
9	TFH-2067	575-120 VOLT TRANSFORMER (575V ONLY)			
10	HF-4624	ELECTRONIC FLAME IGN/DECT BOARD	1	1	
11	HH-7015	SNAP TRACK	6 "	6 "	
12	TF-1241	CROP DRYER SAFETY CIRCUIT BOARD	1	1	
13	TFC-0005	10 SEC. N.O. TIME DELAY RELAY	2	2	
14	TFC-0077	60 SEC. N.C. TIME DELAY RELAY	1	1	
15	TFC-0078	DPDT RELAY	1	1	
16	TFC-0011	5 AMP FUSE	1	1	
17	TFC-0018	8 CONDUCTOR TERMINAL STRIP	1	1	
18	TFH-2052	8 CONDUCTOR TERMINAL STRIP MARKER	1	1	
19	TFC-0009	AIRFLOW SWITCH	1	1	
A	DC-503	TOP DRY CONTROL PANEL DECAL			
B	DC-373	CAUTION DO NOT OPEN BOX DECAL			
C	DC-522	208 VOLT 3 PHASE LP WIRING DECAL	1	1	1
	DC-523	208 VOLT 3 PHASE NG/PV WIRING DECAL	1	1	1
	DC-524	575 VOLT 3 PHASE LP WIRING DECAL	1	1	1
	DC-525	575 VOLT 3 PHASE NG/PV WIRING DECAL	1	1	1



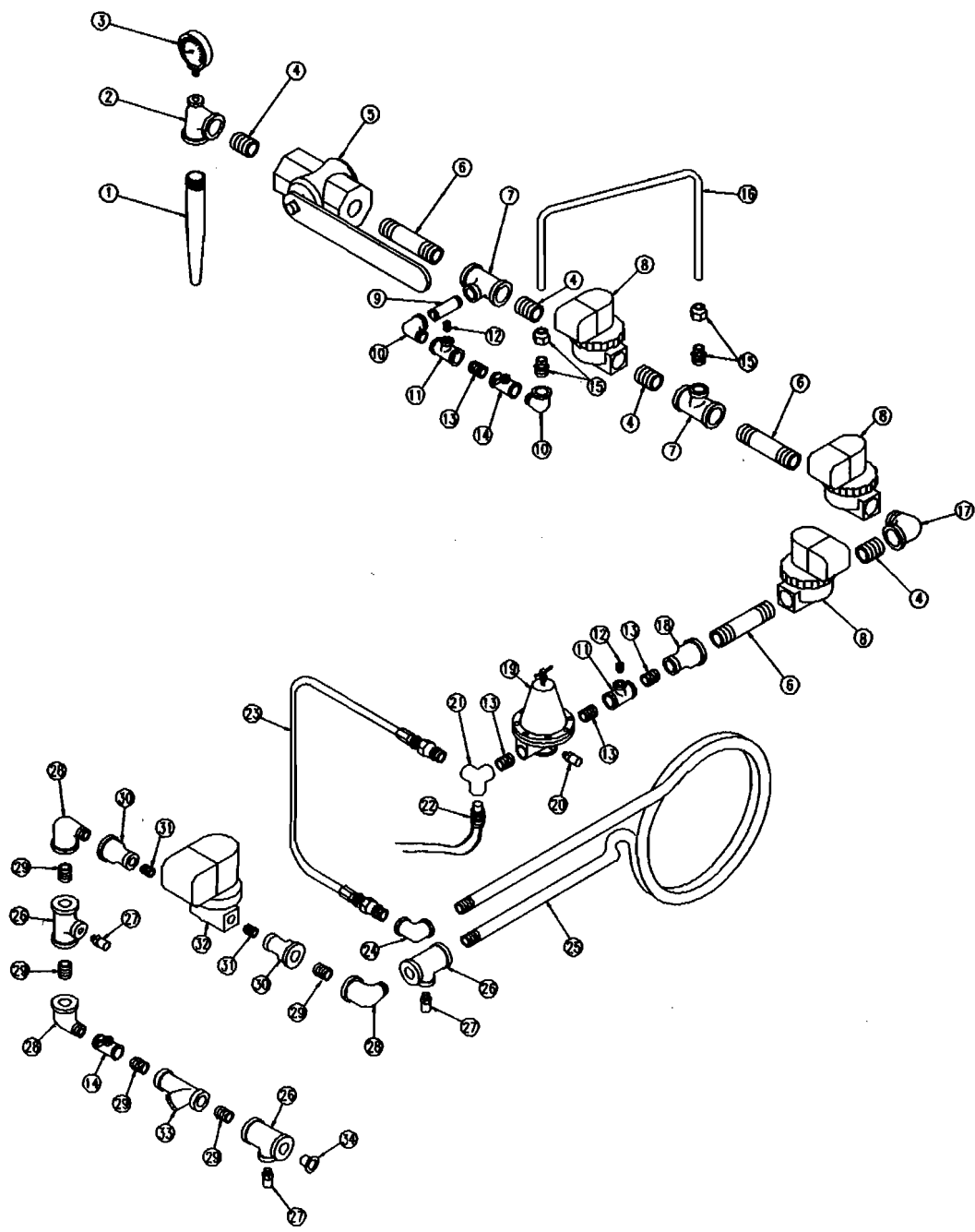
24" CGA LIQUID PROPANE PIPETRAIN PARTS

ITEM	PART NO.	QTY.	DESCRIPTION
1	THF-3157	1	24" PROPANE ORIFICE TUBE, .188
	HH-1083	1	1/2" X 5 1/2" NIPPLE, SCH. 80
2	S-3853	1	1/2" X 1/4" X 1/2" TEE, SCH. 40
3	HH-2984	1	0-30 PSI PRESSURE GAUGE, BOTTOM MOUNT
4	THH-4129	7	3/4" X 5" NIPPLE, SCH. 40
5	TFC-0026	1	1/2" FIRING VALVE
6	D07-0026	2	1/2" X 1/2" X 1/2" TEE, SCH. 40
7	S-534	3	1/2" CLOSE NIPPLE, SCH. 40
8	HH-1081	3	1/2" SOLENOID VALVE, 120 VOLT COIL
9	D07-0022	4	1/2" 90 DEG. STREET ELBOW, SCH. 40
10	S-535	2	1/2" X 1/2" X 1/4" TEE, SCH. 40
11	THH-4126	2	1/4" SOLID PIPE PLUG
12	TFC-0030	2	1/2" BALL VALVE
13	THH-4147	2	1/2" PIPE - 1/2" FLARE FTG. -STEEL
14	THF-3217	1	1/2" STEEL TUBING
15	TFC-0023	1	1/2" REGULATOR
16	THH-4111	1	1/4" 50 PSI RELIEF VALVE
17	THH-4175	1	1/2" SIDE OUTLET ELBOW, SCH. 40
18	HH-7013	1	160 DEG. SCREW-IN VAPOR HI-LIMIT
19	THH-4156	1	1/2" LP VAPORIZER HOSE ASSEMBLY
20	S-540	1	1/2" 90 DEG ELBOW, SCH. 40
21	HF-3758	1	VAPORIZER COIL (24" & 28" UNITS)
22	HH-4846	3	1/2" X 1/2" X 1/4" TEE, SCH. 80
23	TFC-0027	3	1/4" 250 PSI RELIEF VALVE
24	HH-1082	3	1/2" 90 DEG. STREET ELBOW, SCH 80
25	THH-4113	5	1/2" CLOSE NIPPLE, SCH. 80
26	THH-4143	2	1/2" TO 3/8" BELL REDUCER, SCH. 80
27	THH-4105	2	3/8" CLOSE NIPPLE, SCH. 80
28	TFC-0019	1	3/8" LIQUID SOLENOID VALVE, 120V COIL
29	HH-1251	1	1/2" FUEL STRAINER, SCH. 80
30	D07-0008	1	1/2" CAP PLUG



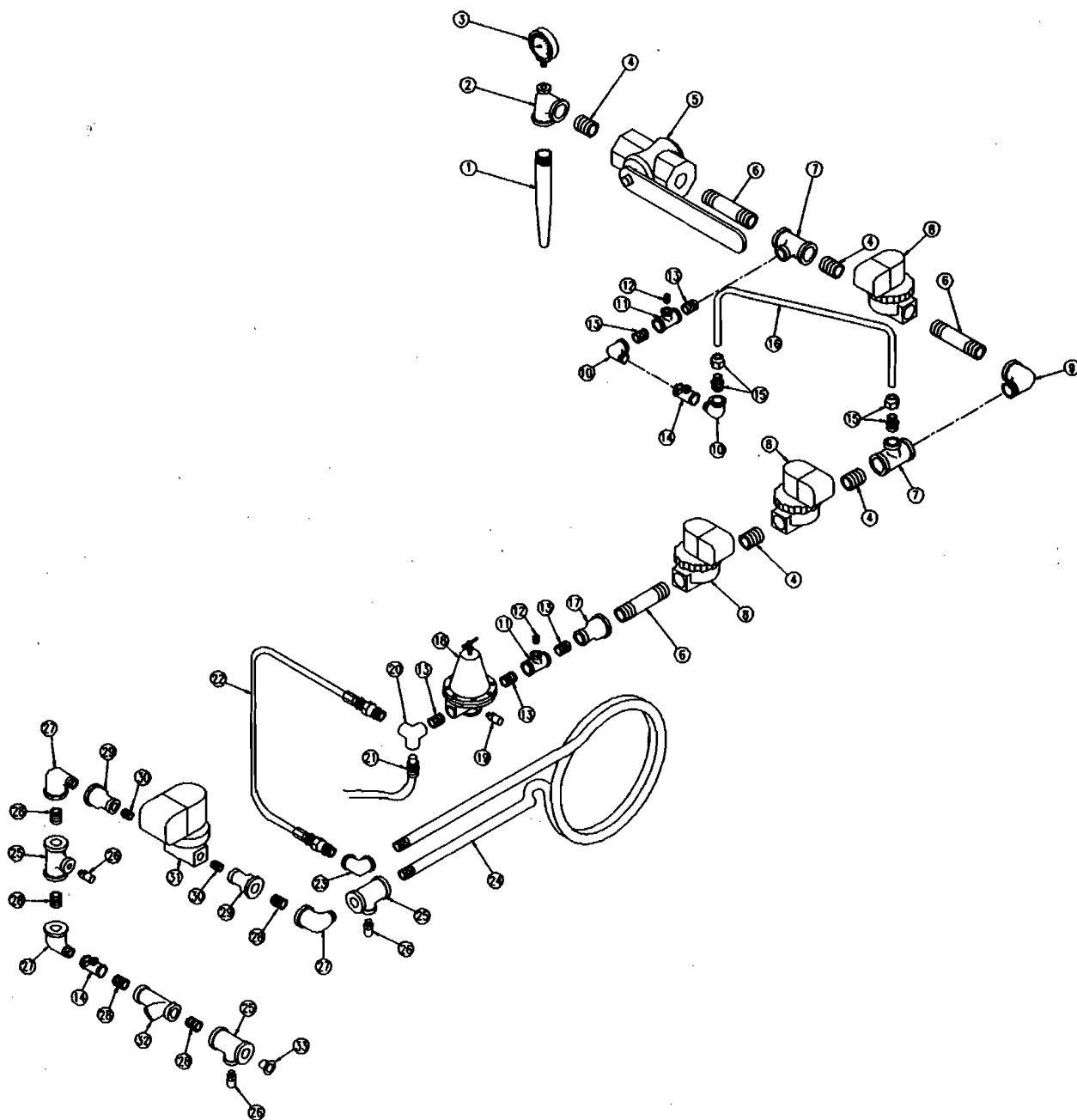
28" CGA LIQUID PROPANE PIPETRAIN PARTS

ITEM	PART NO.	QTY.	DESCRIPTION
1	THF-3139	1	28" PROPANE ORIFICE TUBE, .234
2	THH-4158	1	3/4" X 1/4" X 3/4" TEE, SCH. 40
3	HH-2984	1	0-30 PSI PRESSURE GAUGE, BOTTOM MOUNT
4	THH-4122	5	3/4" X 4 1/2: NIPPLE, SCH. 40
5	TFC-0024	1	3/4" FIRING VALVE
6	THH-4174	1	3/4" X 3/4" X 1/2" TEE, SCH. 40
7	THH-4121	2	3/4" CLOSE NIPPLE, SCH. 40
8	TFC-0033	3	3/4" SOLENOID VALVE, 120 VOLT COIL
9	THH-4129	1	1/2" X 5" NIPPLE, SCH. 40
10	D07-0022	2	1/2" 90 DEG. STREET ELBOW, SCH. 40
11	S-535	2	1/2" X 1/2" X 1/4" TEE, SCH. 40
12	THH-4126	2	1/4" SOLID PIPE PLUG
13	S-534	3	1/2" CLOSE NIPPLE, SCH. 40
14	TFC-0030	2	1/2" BALL VALVE
15	THH-4147	2	1/2" PIPE - 1/2 FLARE FTG. -STEEL
16	THF-3217	1	1/2" STEEL TUBING
17	D18-0002	1	3/4" X 1/2" X 3/4" TEE, SCH. 40
18	D07-0021	1	3/4" 90 DEG. STREET ELBOW, SCH. 40
19	THH-4154	1	3/4" X 3/4" X 1/4" TEE, SCH. 40
20	THH-4141	1	3/4" X 1/2" BELL REDUCER, SCH. 40
21	TFC-0023	1	1/2" REGULATOR
22	THH-4111	1	1/4" 50 PSI RELIEF VALVE
23	THH-4175	1	1/2" SIDE OUTLET ELBOW, SCH. 40
24	HH-7013	1	160 DEG. SCREW-IN VAPOR HI-LIMIT
25	THH-4156	1	1/2" LP VAPORIZER HOSE ASSEMBLY
26	S-540	1	1/2" 90 DEG ELBOW, SCH. 40
27	THF-3008	1	VAPORIZER COIL (36" & 42" UNITS)
28	HH-4846	3	1/2" X 1/2" X 1/4" TEE, SCH. 80
29	TFC-0027	3	1/4" 250 PSI RELIEF VALVE
30	HH-1082	3	1/2" 90 DEG. STREET ELBOW, SCH 80
31	THH-4113	5	1/2" CLOSE NIPPLE, SCH. 80
32	THH-4143	2	1/2" TO 3/8" BELL REDUCER, SCH. 80
33	THH-4105	2	3/8" CLOSE NIPPLE, SCH. 80
34	TFC-0019	1	3/8" LIQUID SOLENOID VALVE, 120V COIL
35	HH-1251	1	1/2" FUEL STRAINER, SCH. 80
36	D07-0008	1	1/2" CAP PLUG



36" CGA LIQUID PROPANE PIPETRAIN PARTS

ITEM	PART NO.	QTY	DESCRIPTION
1	THF-3060	1	36" PROPANE ORIFICE TUBE, .265
2	THH-4158	1	3/4" X 1/4" X 3/4" TEE, SCH. 40
3	HH-2984	1	0-30 PSI PRESSURE GAUGE, BOTTOM MOUNT
4	THH-4121	4	3/4" CLOSE NIPPLE, SCH. 40
5	TFC-0024	1	3/4" FIRING VALVE
6	THH-4136	3	3/4" X 3" NIPPLE, SCH. 40
7	THH-4174	2	3/4" X 3/4" X 1/2" TEE, SCH. 40
8	TFC-0033	3	3/4" SOLENOID VALVE, 120 VOLT COIL
9	THH-4128	1	1/2" X 2" NIPPLE, SCH. 40
10	D07-0022	2	1/2" 90 DEG. STREET ELBOW, SCH. 40
11	S-535	2	1/2" X 1/2" X 1/4" TEE, SCH. 40
12	THH-4126	2	1/4" SOLID PIPE PLUG
13	S-534	4	1/2" CLOSE NIPPLE, SCH. 40
14	TFC-0030	2	1/2" BALL VALVE
15	THH-4147	2	1/2" PIPE - 1/2" FLARE FTG. -STEEL
16	THF-3217	1	1/2" STEEL TUBING
17	D07-0021	1	3/4" 90 DEG. STREET ELBOW, SCH. 40
18	THH-4141	1	3/4" TO 1/2" BELL REDUCER, SCH. 40
19	TFC-0023	1	1/2" REGULATOR
20	THH-4111	1	1/4" 50 PSI RELIEF VALVE
21	THH-4175	1	1/2" SIDE OUTLET ELBOW, SCH. 40
22	HH-7013	1	160 DEG. SCREW-IN VAPOR HI-LIMIT
23	THH-4156	1	1/2" LP VAPORIZER HOSE ASSEMBLY
24	S-540	1	1/2" 90 DEG ELBOW, SCH. 40
25	THF-3008	1	VAPORIZER COIL (36" & 42" UNITS)
26	HH-4846	3	1/2" X 1/2" X 1/4" TEE, SCH. 80
27	TFC-0027	3	1/4" 250 PSI RELIEF VALVE
28	HH-1082	3	1/2" 90 DEG. STREET ELBOW, SCH 80
29	THH-4113	5	1/2" CLOSE NIPPLE, SCH. 80
30	THH-4143	2	1/2" TO 3/8" BELL REDUCER, SCH. 80
31	THH-4105	2	3/8" CLOSE NIPPLE, SCH. 80
32	TFC-0019	1	3/8" LIQUID SOLENOID VALVE, 120V COIL
33	HH-1251	1	1/2" FUEL STRAINER, SCH. 80
34	D07-0008	1	1/2" CAP PLUG



42" CGA LIQUID PROPANE PIPETRAIN PARTS

ITEM	PART NO.	QTY.	DESCRIPTION
1	THF-3058	1	42" 10-16 HP PROPANE ORIFICE TUBE, 0.313
	THF-3235	1	42" 30 HP PROPANE ORIFICE TUBE, 0.328
2	THH-4163	1	1" X 1/4" X 1" TEE, SCH. 40
3	HH-2984	1	0-30 PSI PRESSURE GAUGE, BOTTOM MOUNT
4	THH-4117	4	1" CLOSE NIPPLE, SCH. 40
5	TFC-0025	1	1" FIRING VALVE
6	THH-4151	3	1" X 3" NIPPLE, SCH. 40
7	THH-4162	2	1" X 1" X 1/2" TEE, SCH. 40
8	TFC-0031	3	1" SOLENOID VALVE, 120 VOLT COIL
9	THH-4164	1	1" 90 DEG. STREET ELBOW
10	D07-0022	2	1/2" 90 DEG. STREET ELBOW, SCH. 40
11	S-535	2	1/2" X 1/2" X 1/4" TEE, SCH. 40
12	THH-4126	2	1/4" SOLID PIPE PLUG
13	S-534	5	1/2" CLOSE NIPPLE, SCH. 40
14	TFC-0030	2	1/2" BALL VALVE
15	THH-4147	2	1/2" PIPE - 1/2" FLARE FITTING - STEEL
16	THF-3217	1	1/2" STEEL TUBING
17	THH-4138	1	1" TO 1/2" BELL REDUCER, SCH. 40
18	TFC-0023	1	1/2" REGULATOR
19	THH-4111	1	1/4" 50 PSI RELIEF VALVE
20	THH-4175	1	1/2" SIDE OUTLET ELBOW, SCH. 40
21	HH-7013	1	160 DEG. SCREW-IN VAPOR HI-LIMIT
22	THH-4156	1	1/2" LP VAPORIZER HOSE ASSEMBLY
23	S-540	1	1/2" 90 DEG. ELBOW, SCH. 40MBLY
24	THF-3008	1	VAPORIZER COIL (36" & 42" UNITS)
25	HH-4846	3	1/2" X 1/2" X 1/4" TEE, SCH. 80
26	TFC-0027	3	1/4" 250 PSI RELIEF VALVE
27	HH-1082	3	1/2" 90 DEG. STREET ELBOW, SCH. 80
28	THH-4113	5	1/2" CLOSE NIPPLE, SCH. 80
29	THH-4143	2	1/2" TO 3/8" BELL REDUCER, SCH. 80
30	THH-4105	2	3/8" CLOSE NIPPLE, SCH. 80
31	TFC-0019	1	3/8" LIQUID SOLENOID VALVE, 120 VOLT COIL
32	HH-1251	1	1/2" FUEL STRAINER, SCH. 80
33	D07-0008	1	1/2" CAP PLUG