Top Dry Fan And Heater

Service Manual

PNEG-378

AIRSTREAM
a division of
THE GSI GROUP

AIRSTREAM

1994 TOPDRY

FAN AND HEATER WIRING

GENERAL SPECIFICATIONS

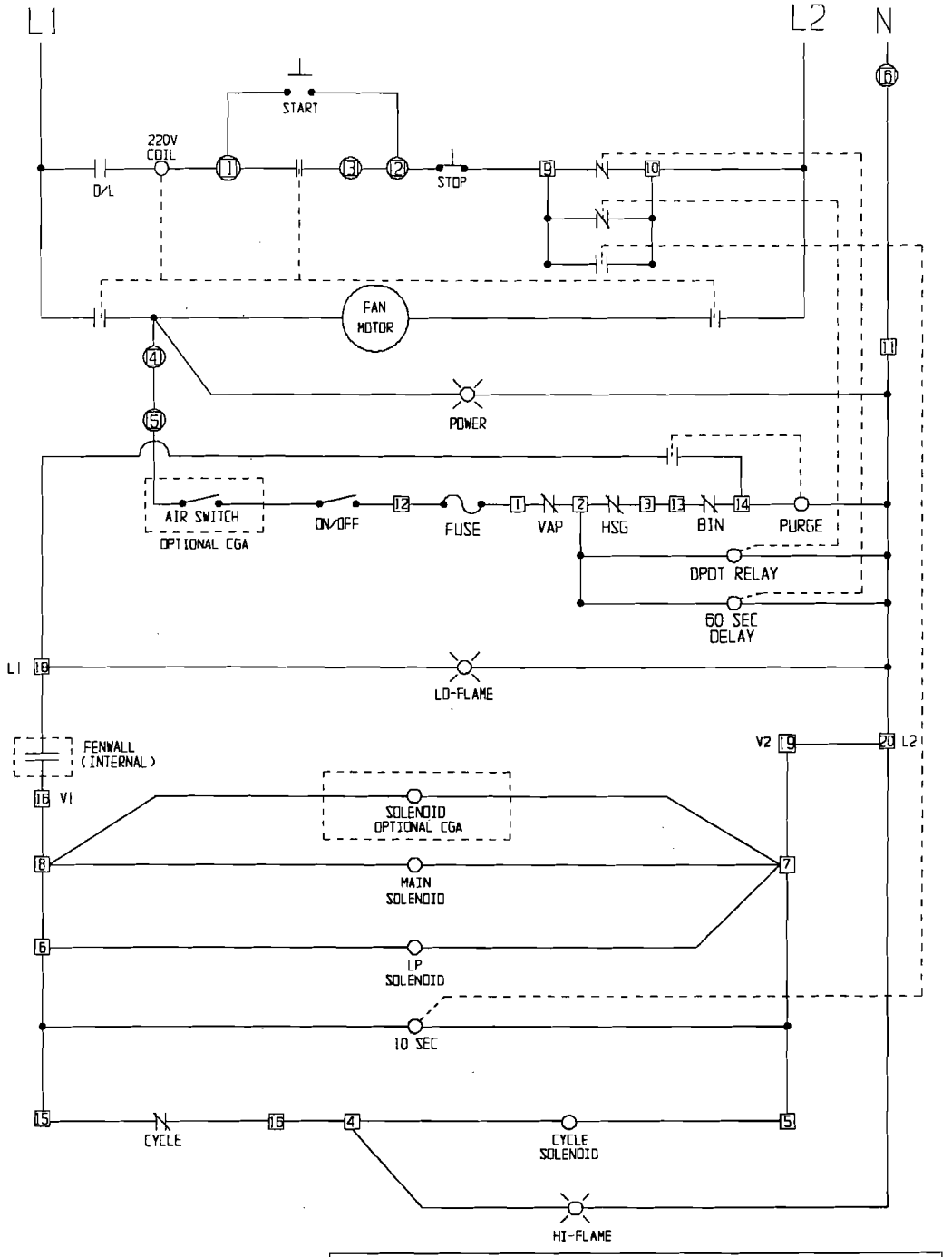
	24"	28"	36"	42" 10-16HP	42" 30HP
Length	49"	49.1/2"	56.5/8"	61.3/4"	61.3/4"
Weight (in pounds)*	244/218	553/513	852/825	943/913	1143
Fan H.P.	7.5-10	10-14	15	15	30
Motor Speed (RPM)	3500	3500	1750	1750	1750
Full Load Amps (240 Volt 1 Phase)	39	57	83	83	--
Full Load Amps (240 Volt 3 Phase)	25	38	42	42	74
Full Load Amps (480 Volt 3 Phase)	13	19	21	21	37
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	2.2M	3.0M	5.0M	5.5M	7.5M
Max Fuel Flow (GPH)	21	32	43	54	59
Liquid					
Orifice Size	7/32"	1/4"	21/64"	11/32"	7/16"
Min Operating Pressure	1	1	1	1	1
Models					
Max Operating Pressure	20	20	20	20	20
Min Line Size (Inches)	3/8	3/8	1/2	1/2	1/2
Max Fuel Flow (CU FT/HR)	800	1185	1590	--	--
Vapor					
Orifice Size	7/32"	1/4"	21/64"	--	--
Min Operating Pressure	1	1	1	--	--
Models					
Max Operating Pressure	20	20	20	--	--
Min Line Size (Inches)	3/4	1	1	--	--
Max Fuel Flow (CU FT/HR)	2100	3000	4200	5300	5300
Nat Gas					
Orifice Size	21/64"	3/8"	1/2"	33/64"	19/32"
Min Operating Pressure	1	1	1	1	1
Models					
Max Operating Pressure	7	7	7	7	7
Min Line Size (Inches)	1	1.25	1.50	2	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.

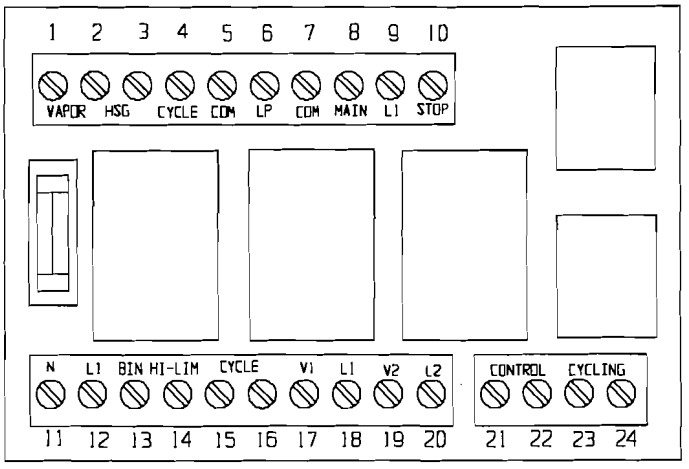
**Values given are for copper wire, if aluminum is used increase wire sizes by 2.

TOP DRY FAN AND HEATER SCHEMATIC
220 VOLT 1 PHASE



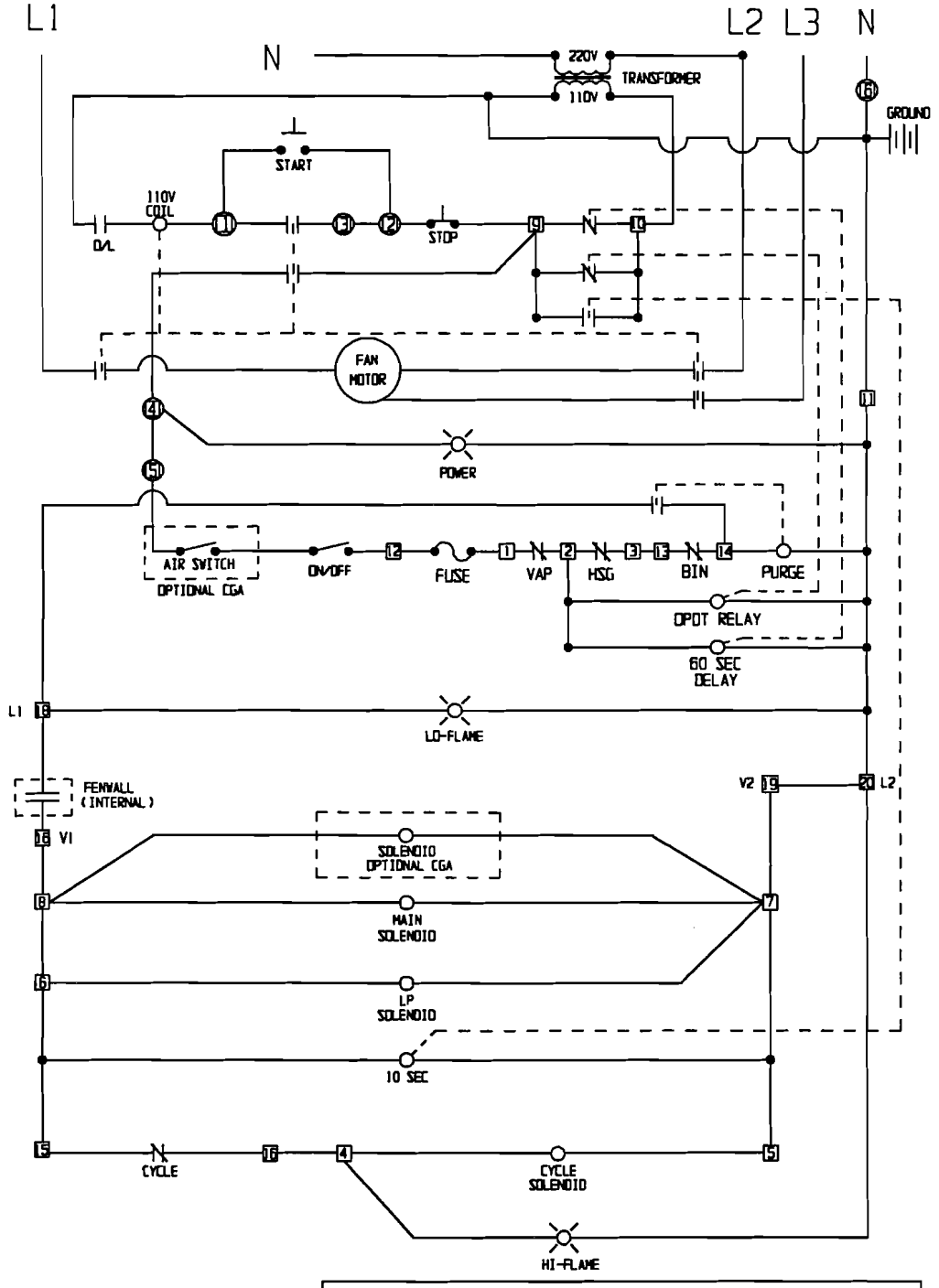
11 8 POS TERMINAL STRIP

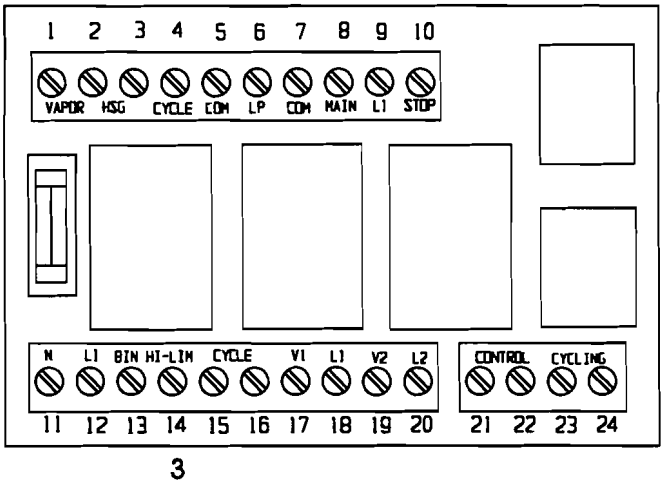
19 TF-1241 CONTROL BOARD TERMINAL



TOP DRY FAN AND HEATER SCHEMATIC

380 VOLT 3 PHASE (4 WIRE)



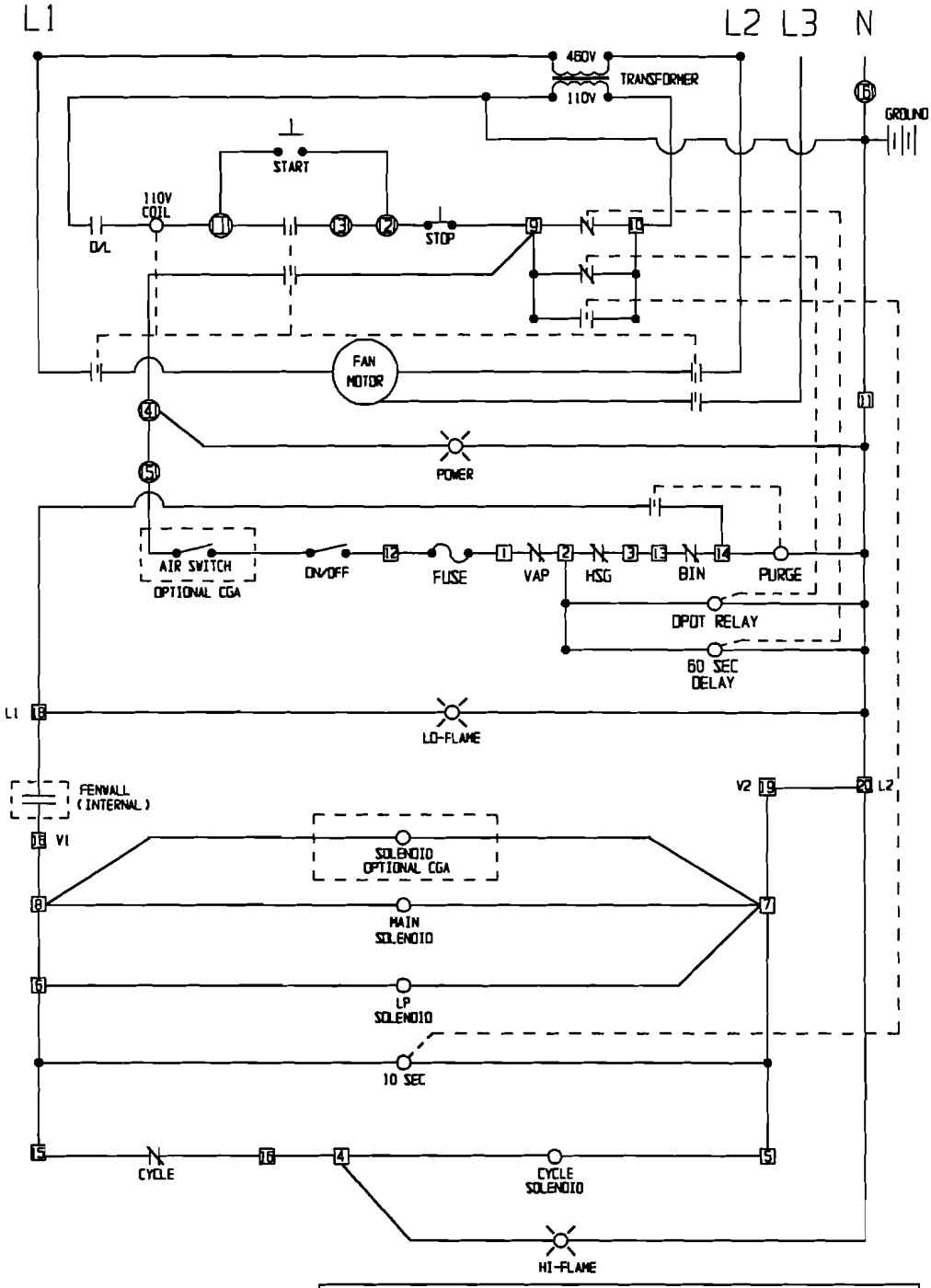


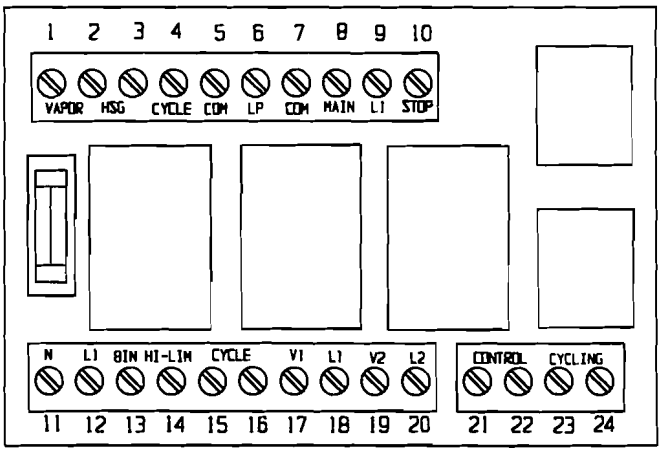
11 8 POS TERMINAL STRIP

19 TF-1241 CONTROL BOARD TERMINAL

TOP DRY FAN AND HEATER SCHEMATIC

460 VOLT 3 PHASE



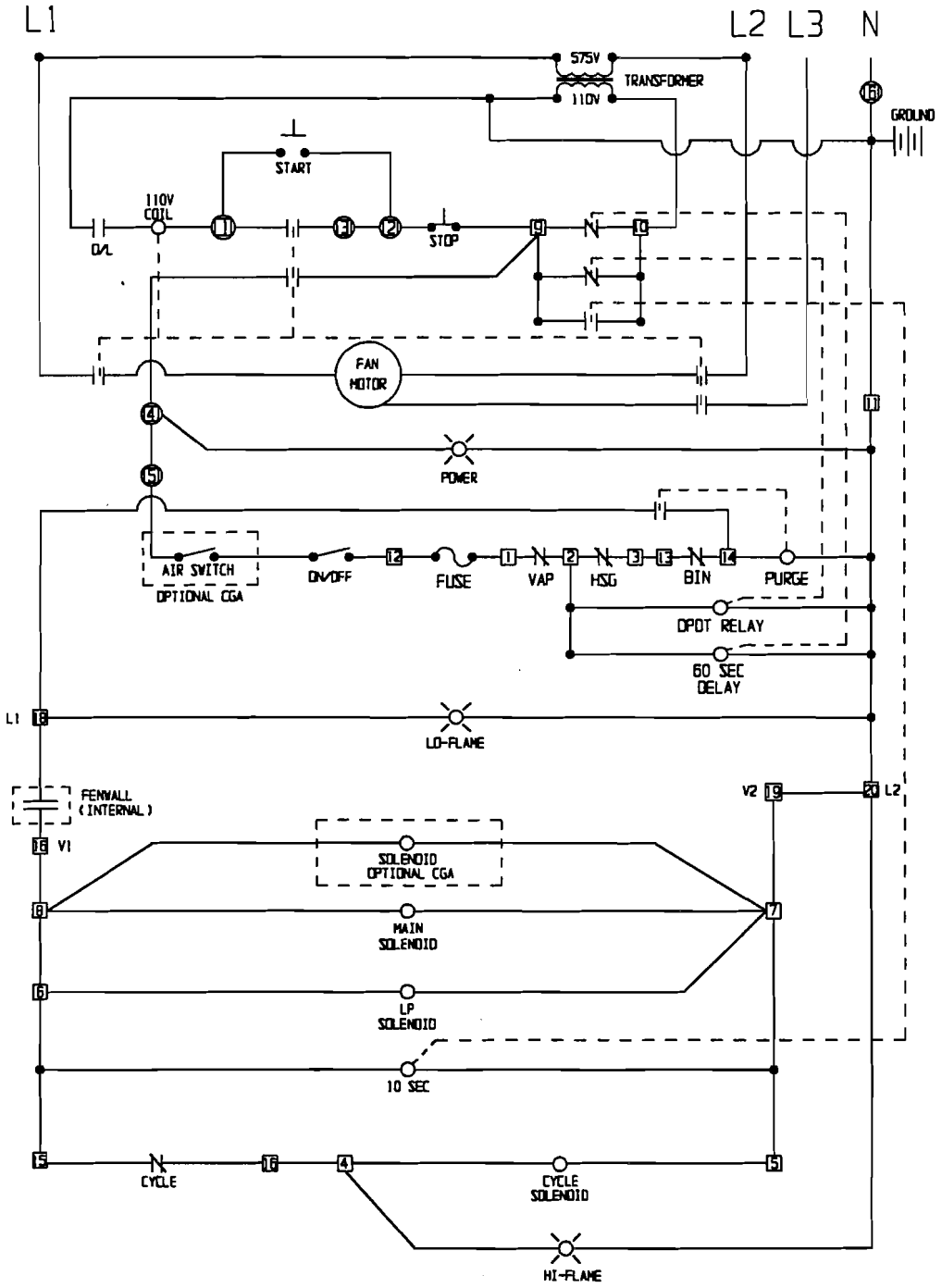


11 8 POS TERMINAL STRIP

19 TF-1241 CONTROL BOARD TERMINAL

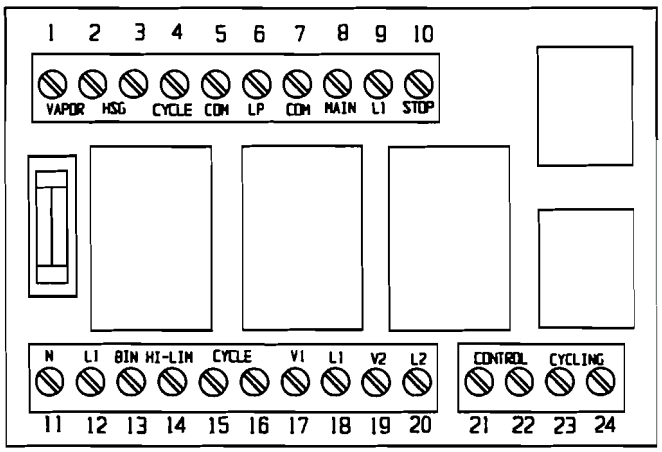
TOP DRY FAN AND HEATER SCHEMATIC

575 VOLT 3 PHASE

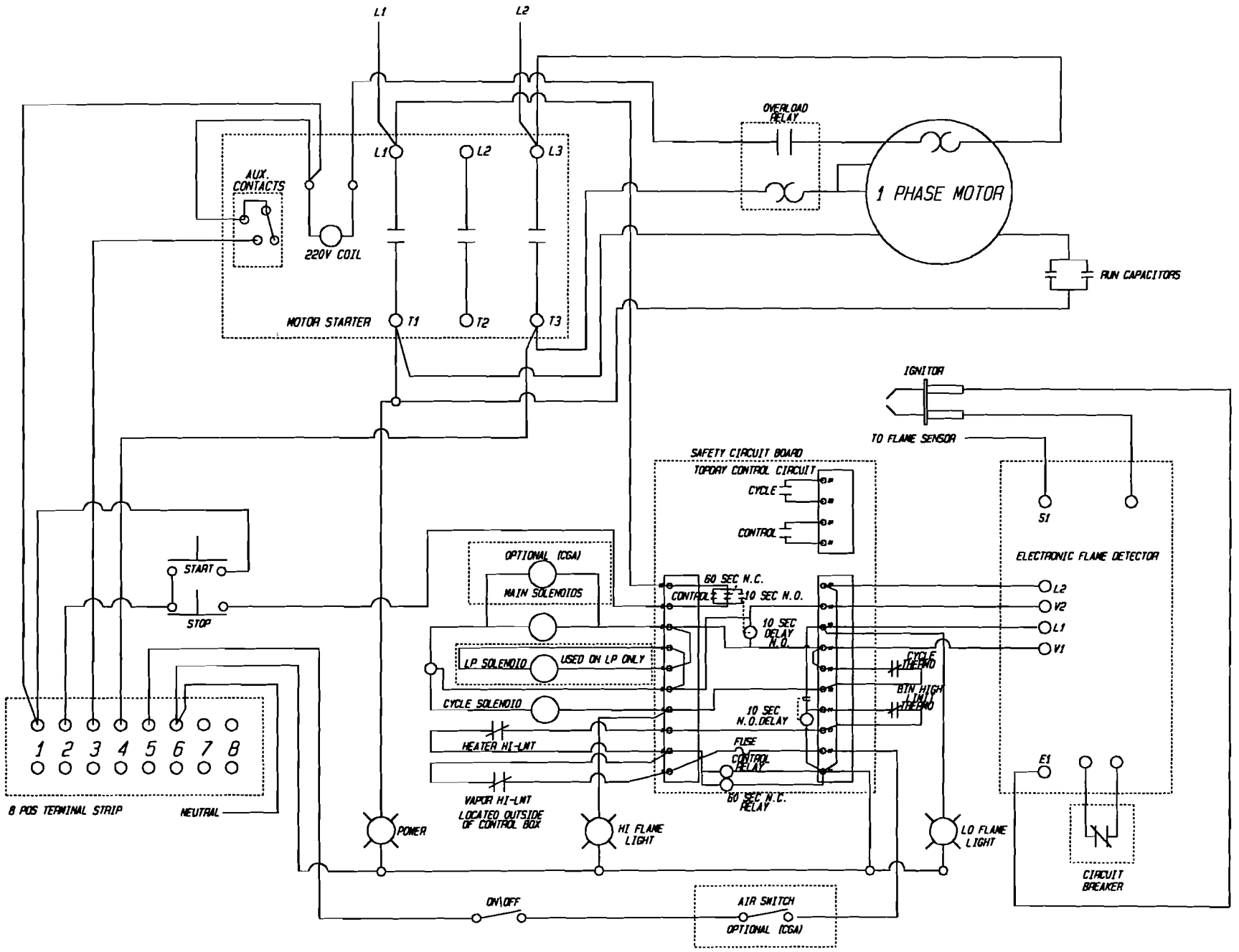


11 8 POS TERMINAL STRIP

19 TF-1241 CONTROL BOARD TERMINAL

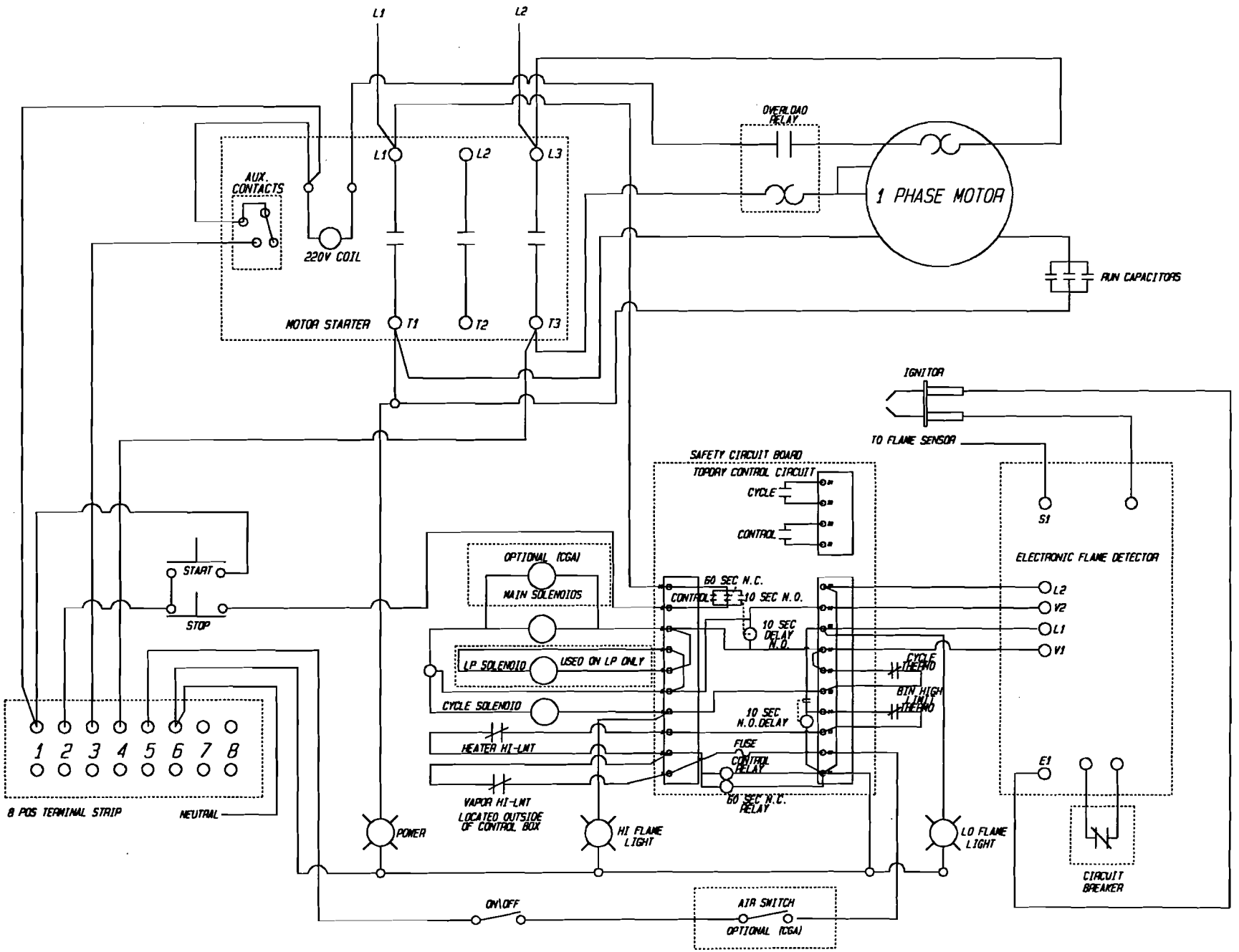


10HP 1PH 24" WIRING DIAGRAM



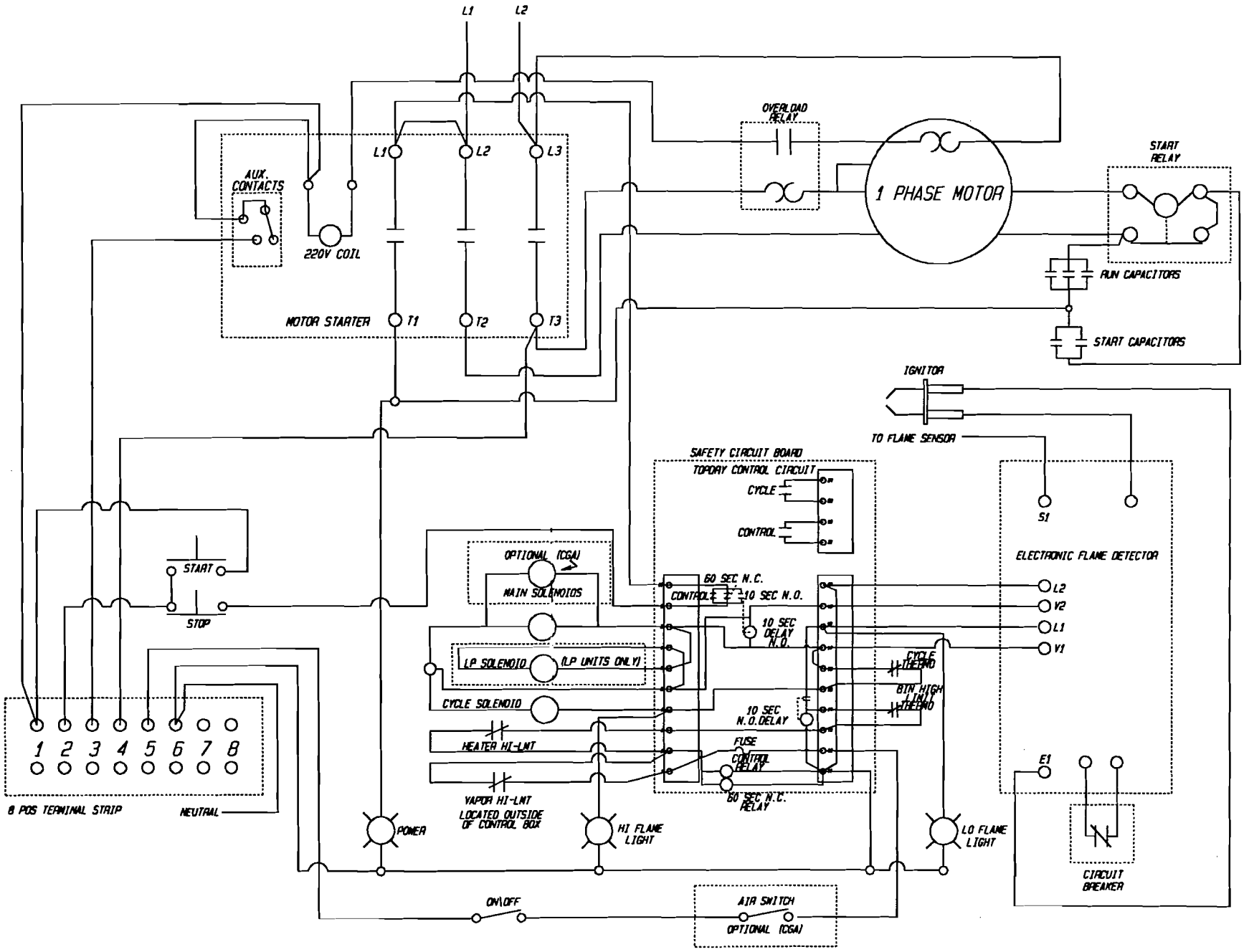
DC-506

15HP 1PH 28" WIRING DIAGRAM



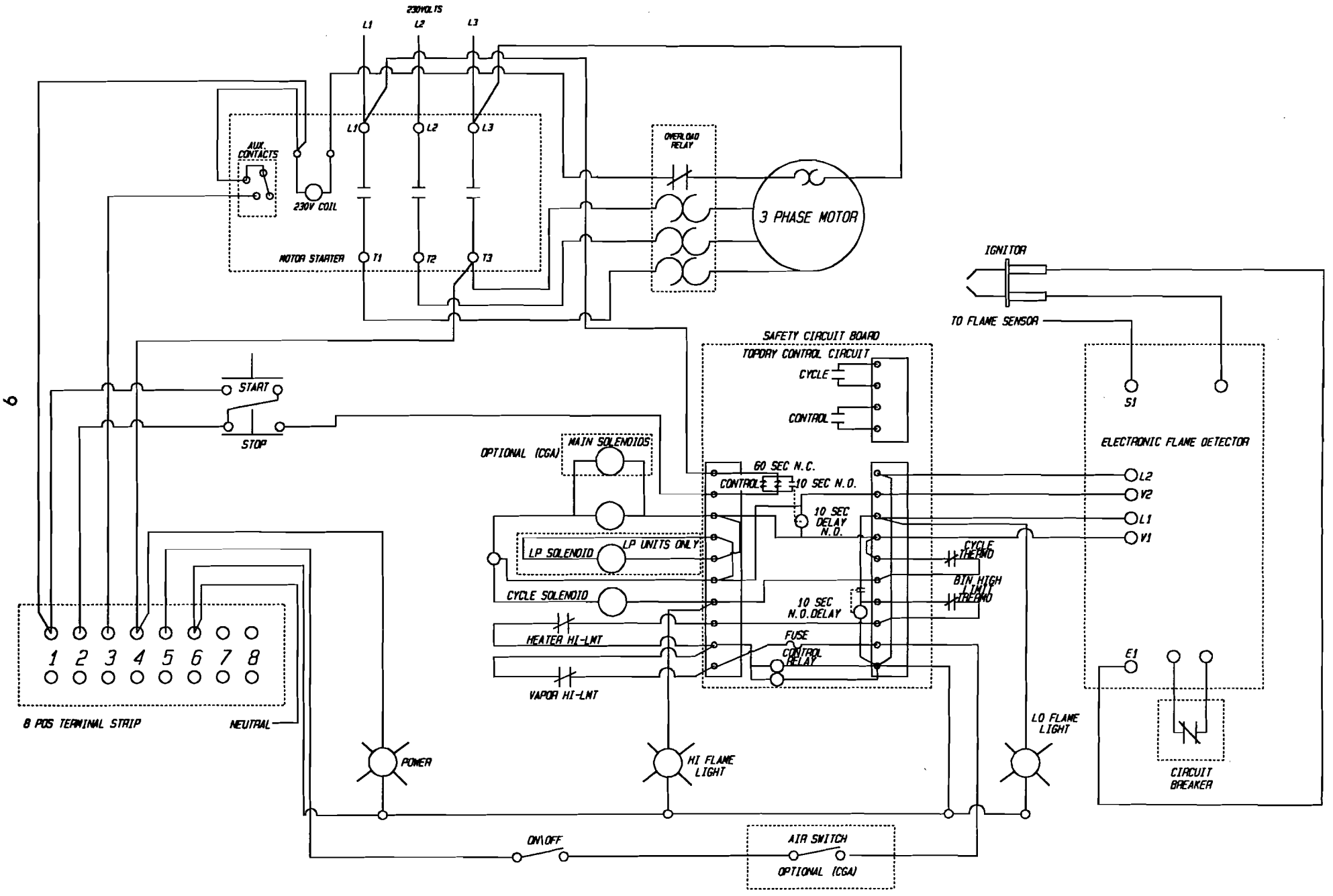
DC-507

10-16HP 1PH 36 AND 42" WIRING DIAGRAM



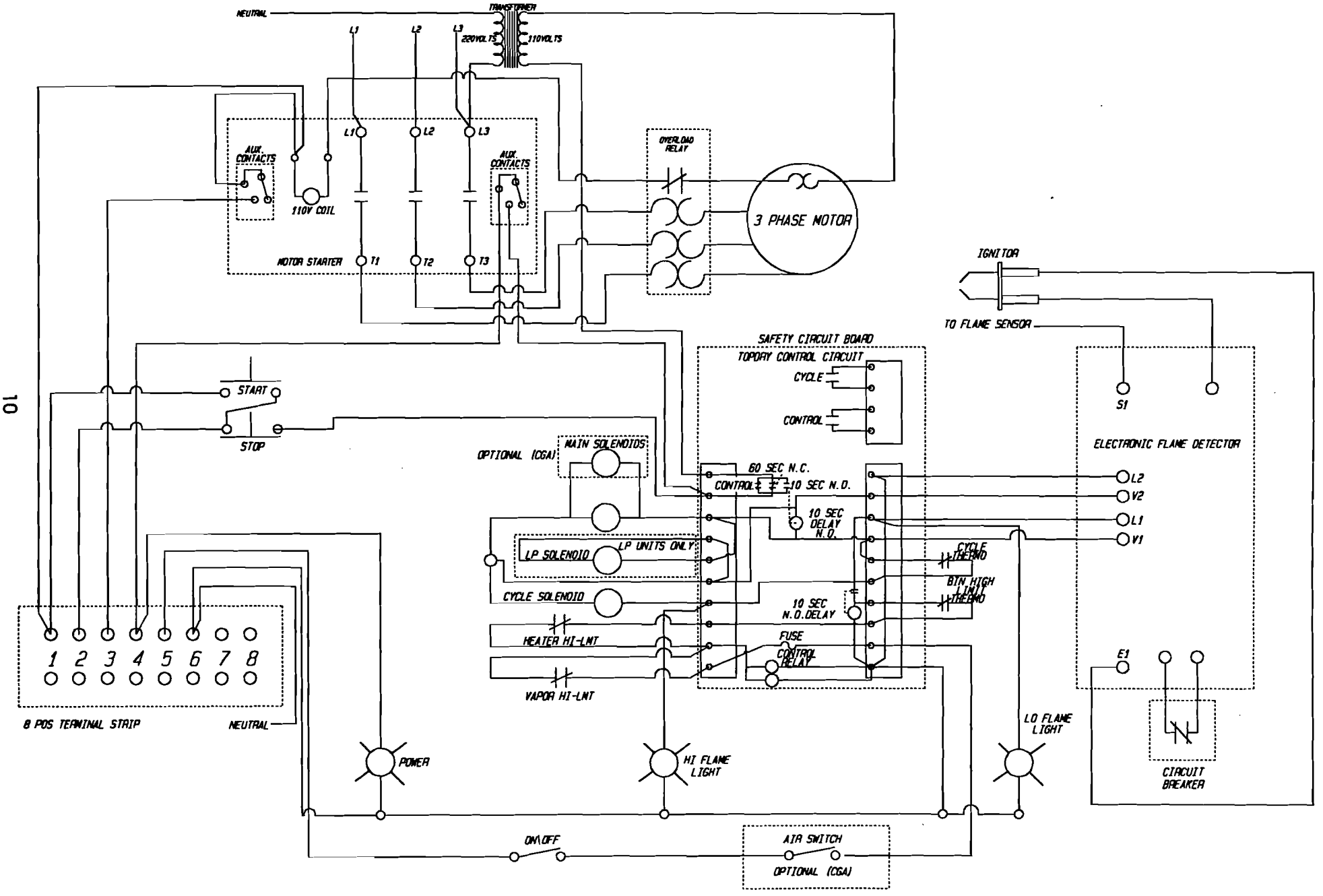
DC-508

230VOLT 3PH WIRING DIAGRAM



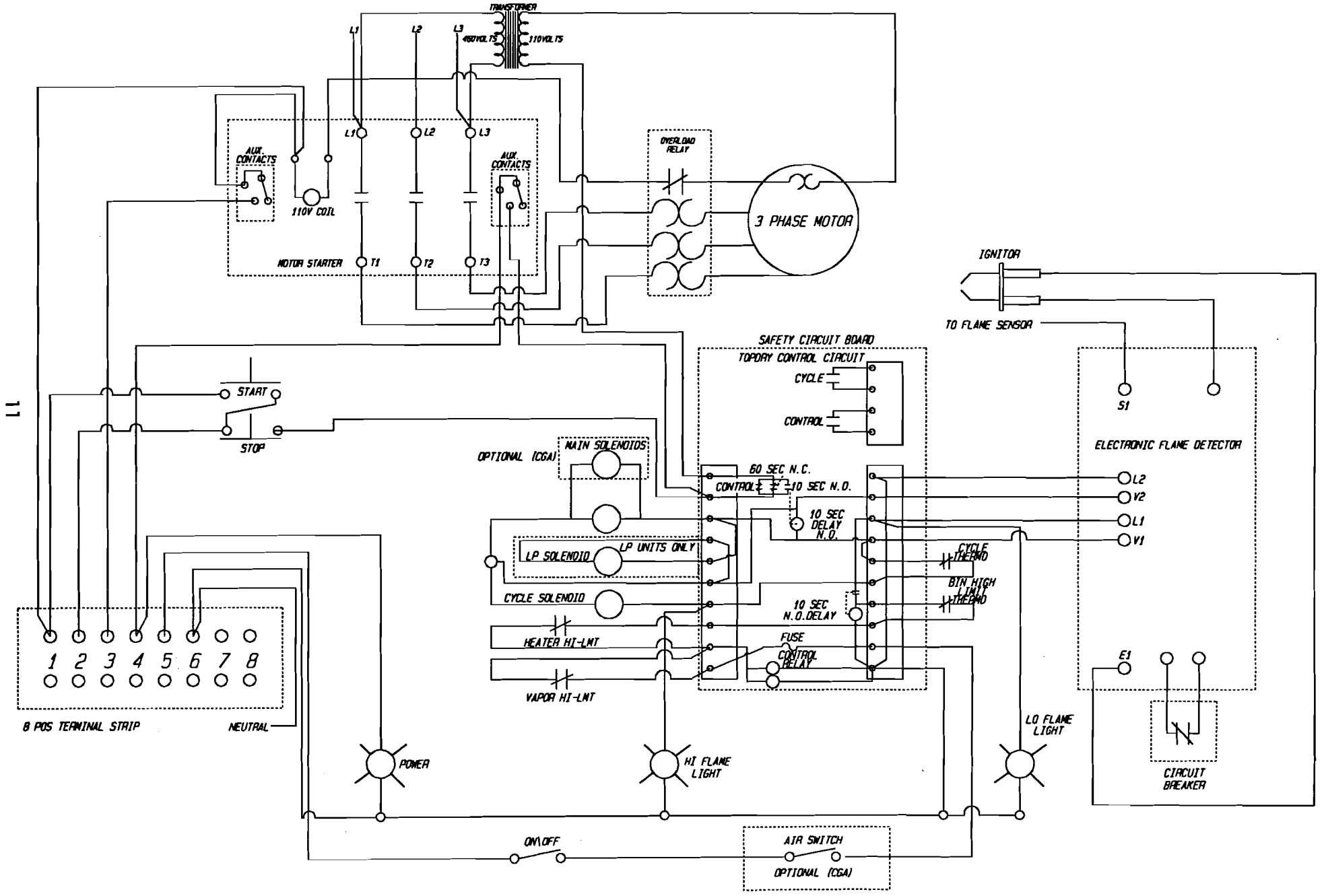
DC-512

380VOLT 3PH WIRING DIAGRAM



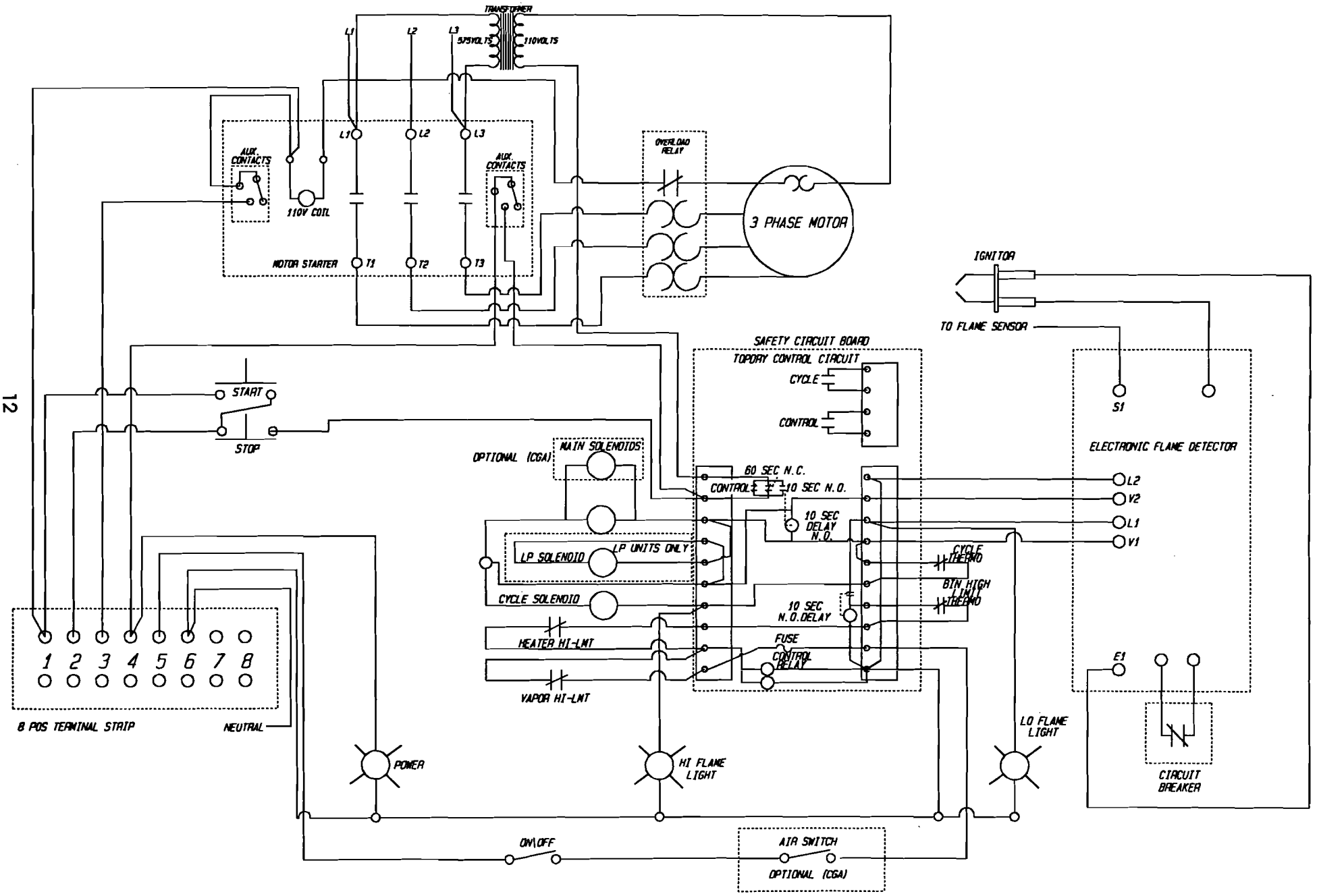
DC-644

460VOLT 3PH WIRING DIAGRAM



DC-514

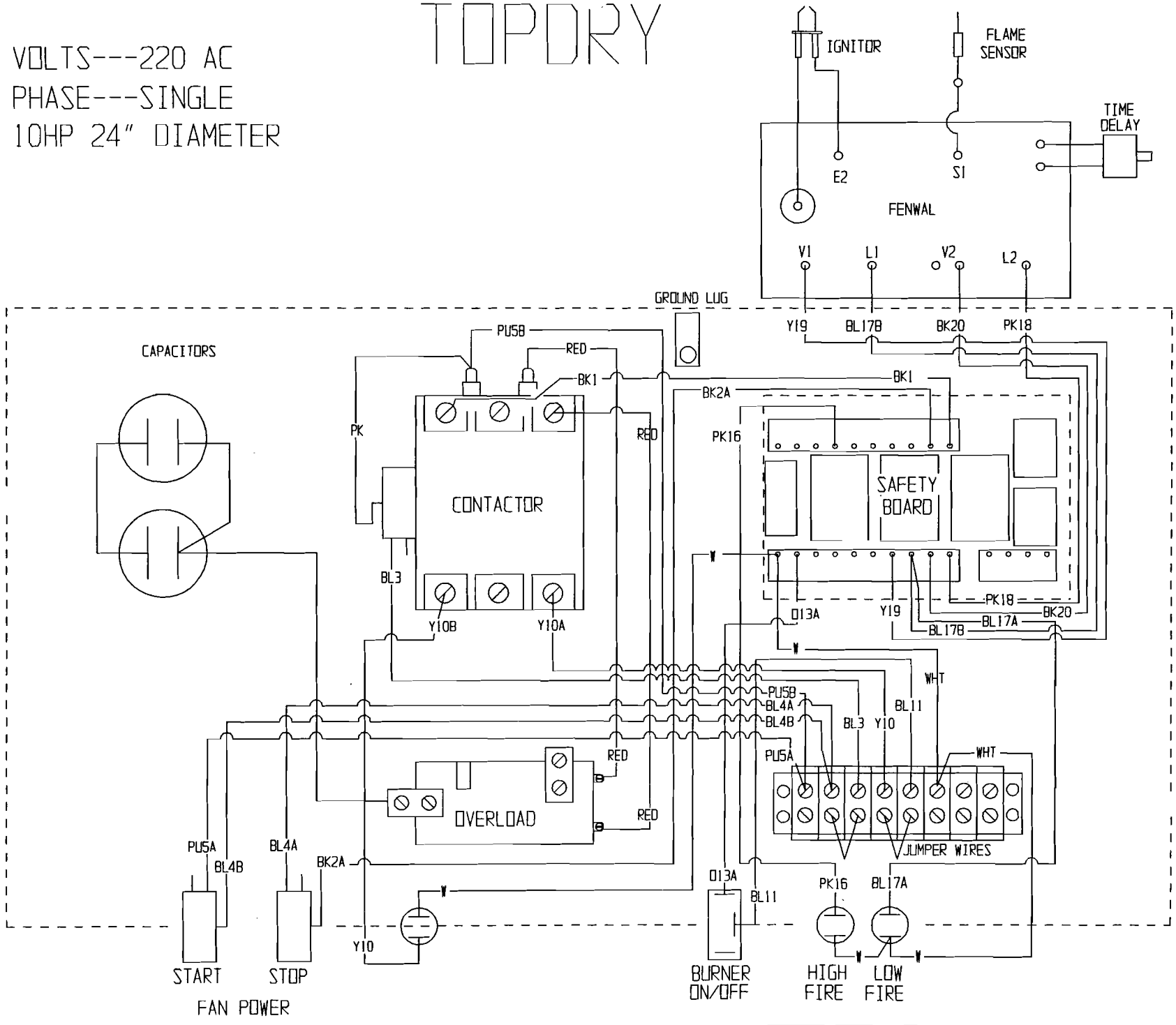
575VOLT 3PH WIRING DIAGRAM



DC-524

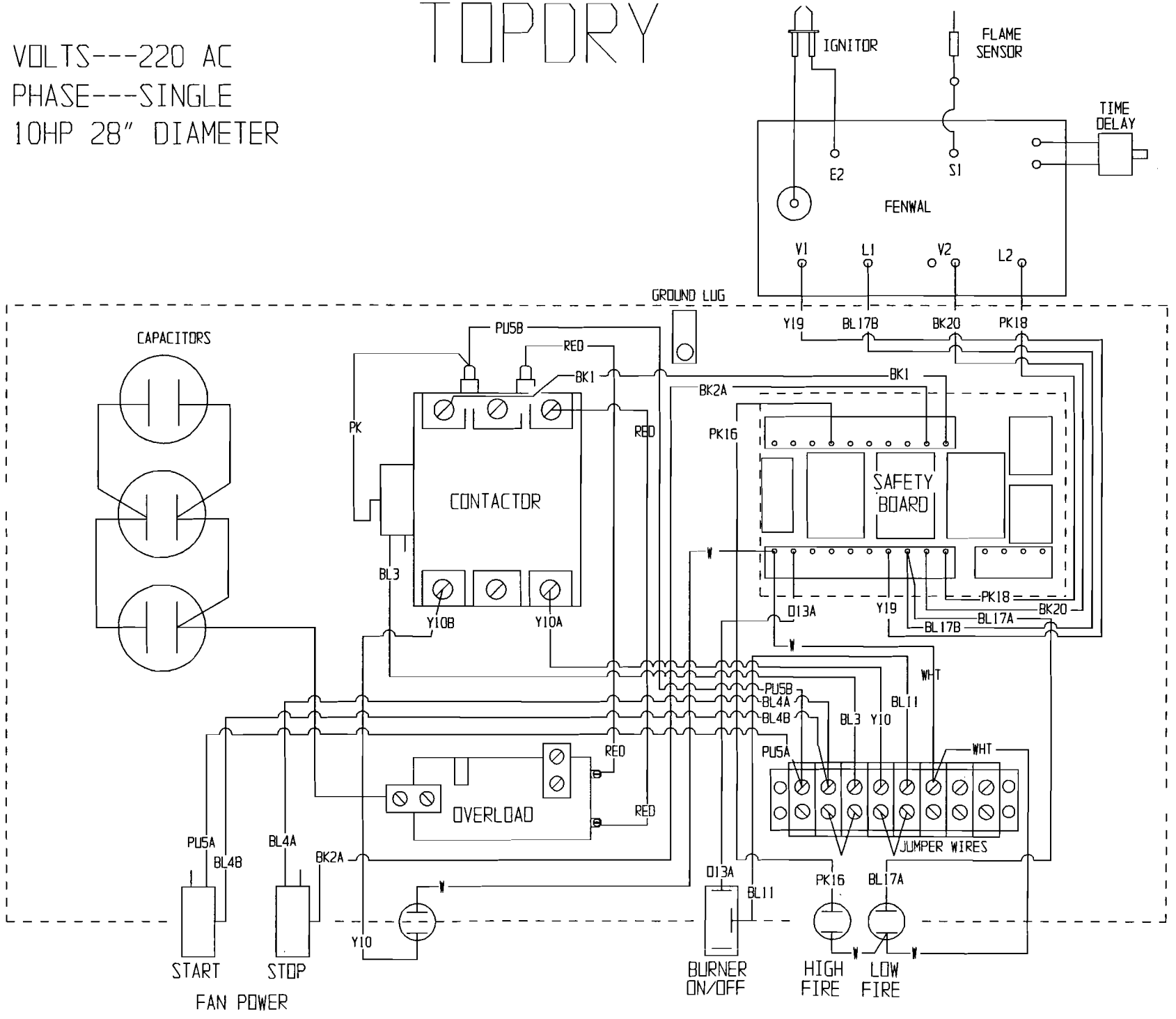
TOPDRY

VOLTS---220 AC
PHASE---SINGLE
10HP 24" DIAMETER



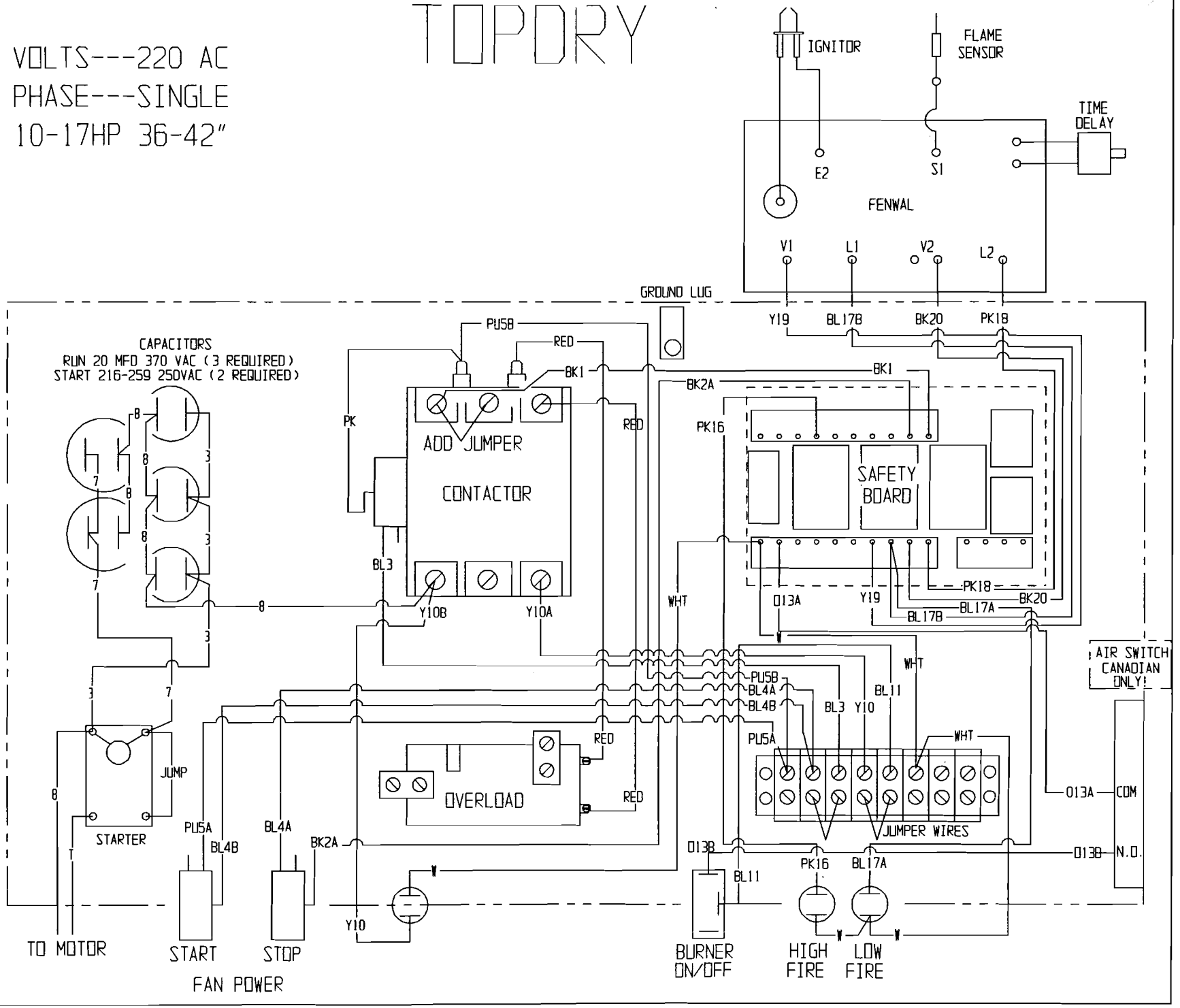
TOPDRY

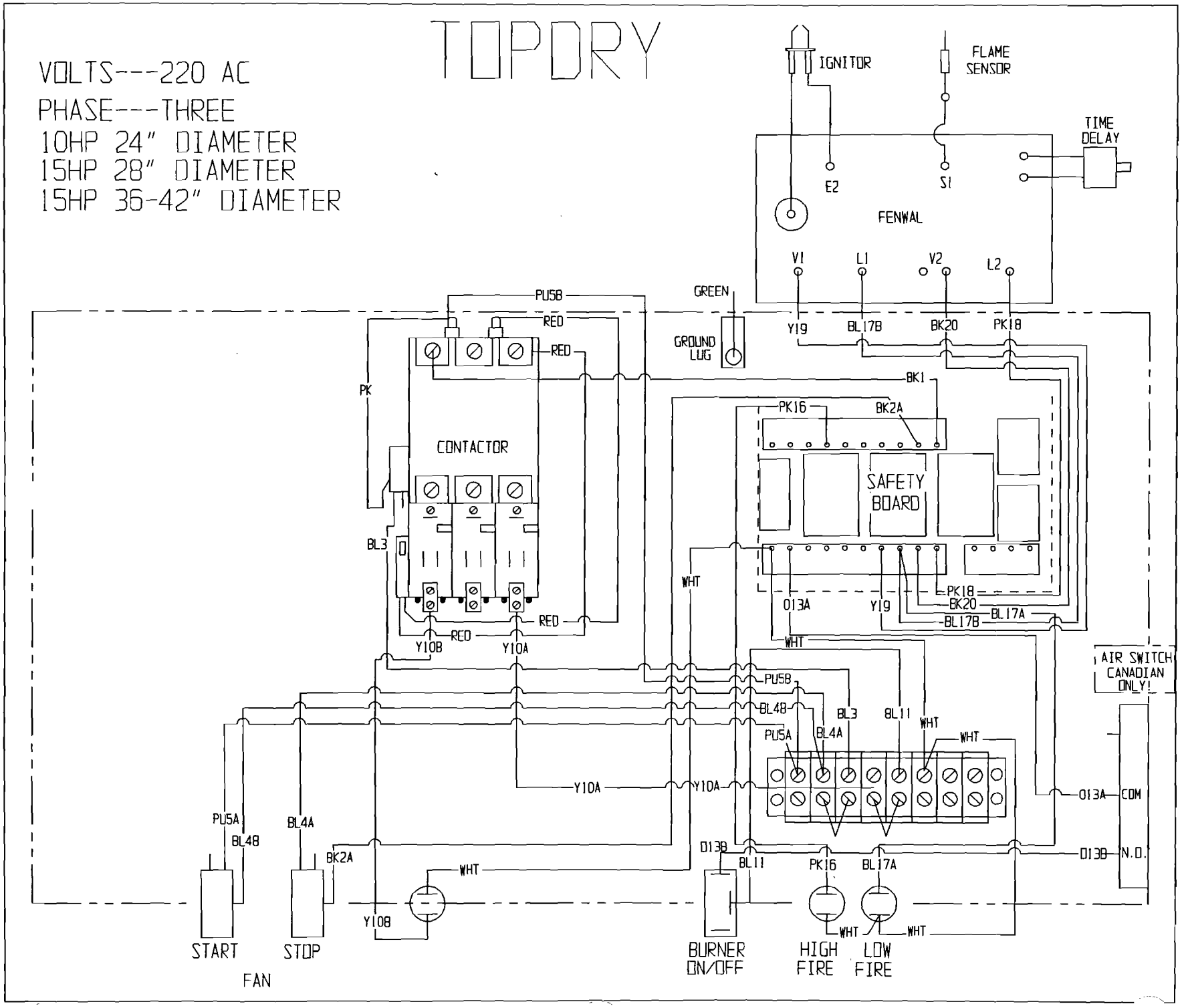
VOLTS---220 AC
PHASE---SINGLE
10HP 28" DIAMETER



TOPDRY

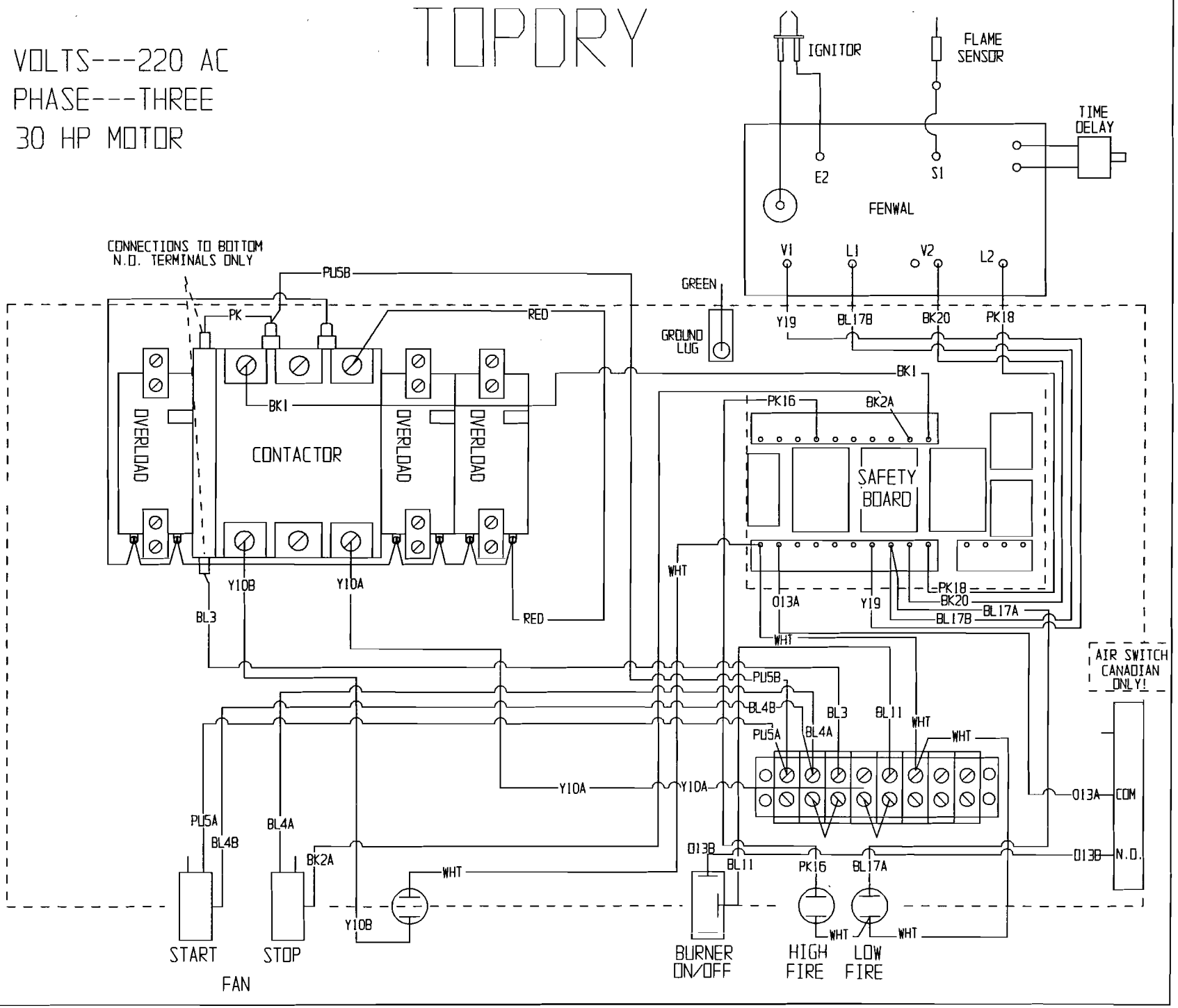
VOLTS---220 AC
PHASE---SINGLE
10-17HP 36-42"

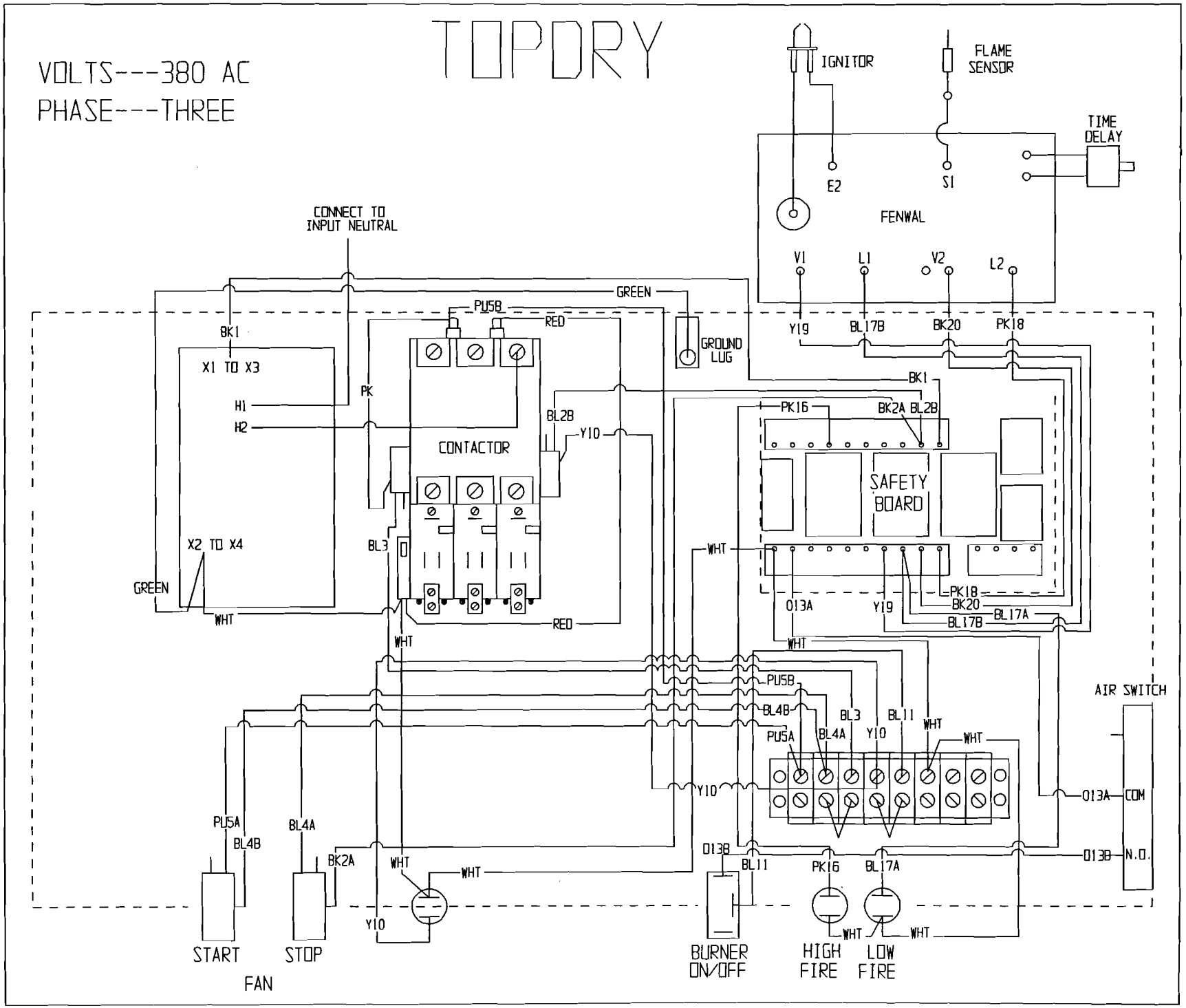


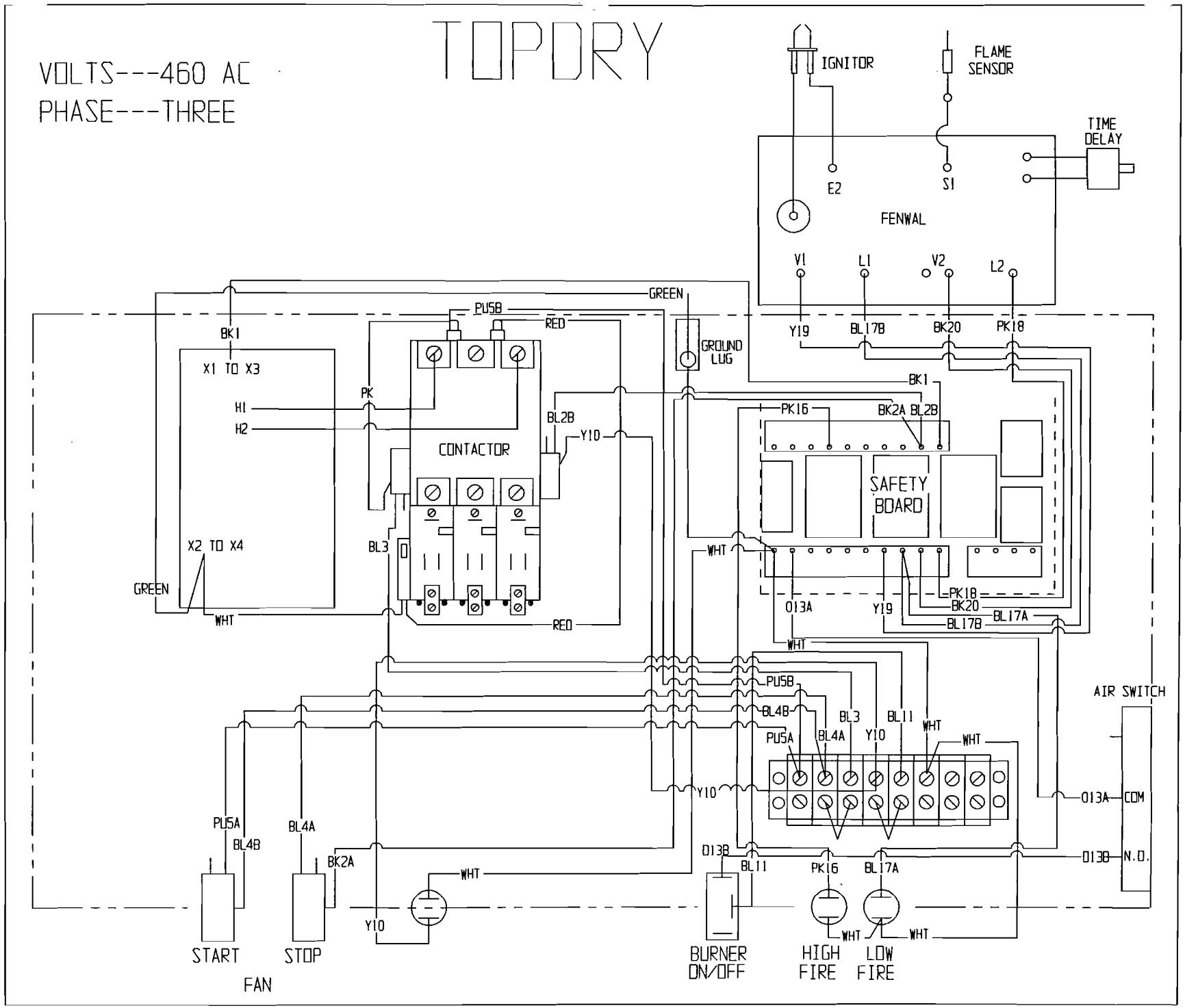

TOPDRY
VOLTS---220 AC
PHASE---THREE
10HP 24" DIAMETER
15HP 28" DIAMETER
15HP 36-42" DIAMETER
IGNITOR
FLAME SENSOR
TIME DELAY
E2
S1
FENWAL
V1
L1
V2
L2
Y19
BL17B
BK20
PK18
GREEN
GROUND LUG
PU5B
RED
PK
CONTACTOR
BK1
PK16
BK2A
SAFETY BOARD
BL3
WHT
013A
BL17A
Y10B
Y10A
AIR SWITCH CANADIAN ONLY!
BL4B
BL11
PU5A
BL4A
COM
N.O.
013B
START
STOP
FAN
BURNER ON/OFF
HIGH FIRE
LOW FIRE

TOPDRY

VOLTS---220 AC
PHASE---THREE
30 HP MOTOR

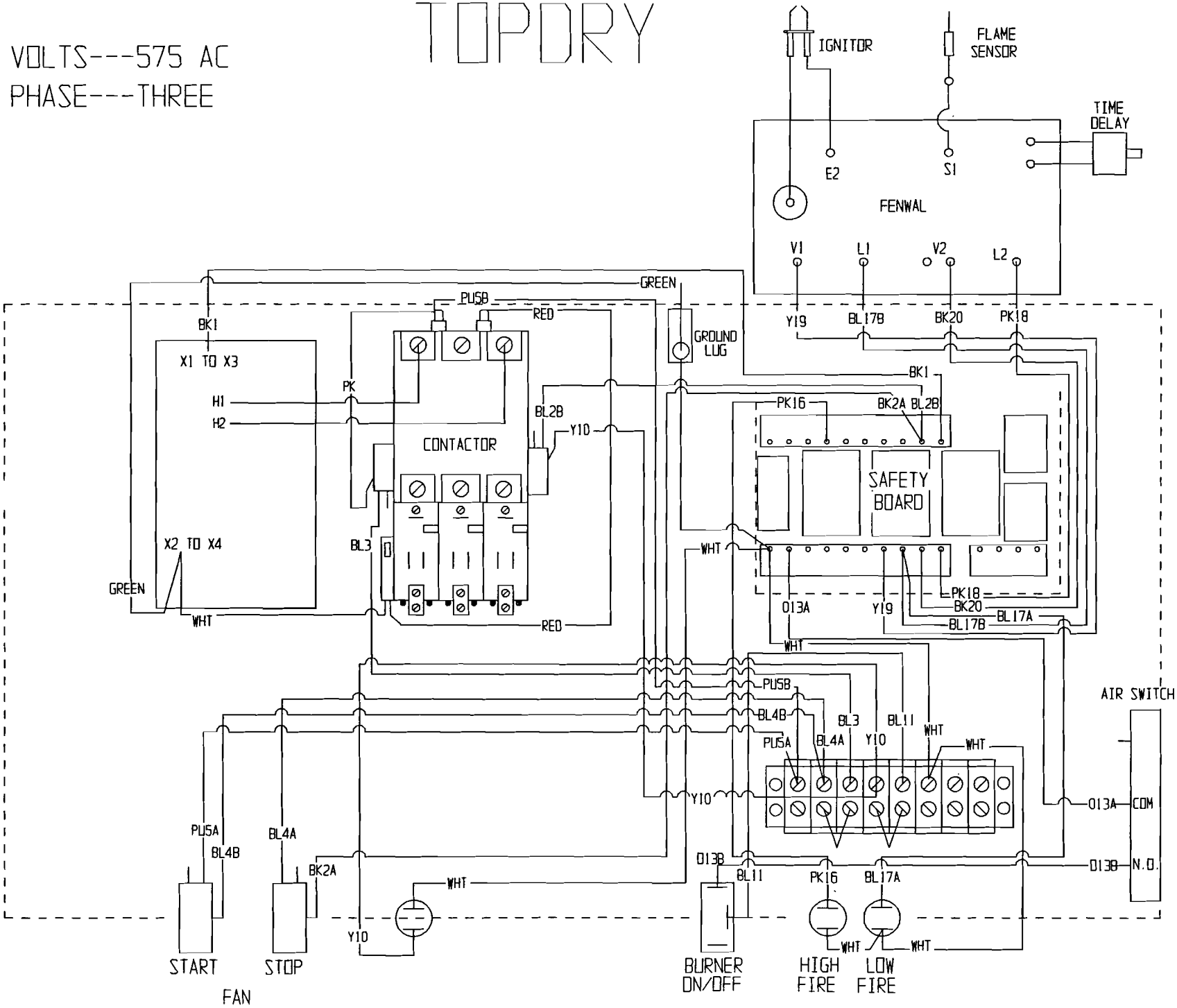



TOPDRY
VOLTS---380 AC
PHASE---THREE
IGNITOR
FLAME SENSOR
TIME DELAY
E2
S1
FENWAL
V1
L1
V2
L2
Y19
BL17B
BK20
PK18
CONNECT TO INPUT NEUTRAL
GREEN
PU5B
RED
GROUND LUG
BK1
X1 TO X3
H1
H2
PK
CONTACTOR
BL2B
Y10
PK16
BK2A
SAFETY BOARD
X2 TO X4
BL3
WHT
GREEN
O13A
BL17A
AIR SWITCH
BL4B
BL11
PU5A
BL4A
COM
N.O.
O13B
BK2A
START
STOP
FAN
BURNER ON/OFF
HIGH FIRE
LOW FIRE


TOPDRY
VOLTS---460 AC
PHASE---THREE
IGNITOR
FLAME SENSOR
TIME DELAY
E2
S1
FENWAL
V1
L1
V2
L2
Y19
BL17B
BK20
PK18
GREEN
PU5B
RED
BK1
X1 TO X3
PK
H1
H2
CONTACTOR
BL2B
Y10
GROUND LUG
PK16
BK2A
SAFETY BOARD
X2 TO X4
BL3
WHT
GREEN
RED
O13A
BL17A
AIR SWITCH
PU5A
BL4B
BL4A
BL11
COM
N.O.
O13B
START
STOP
FAN
BURNER ON/OFF
HIGH FIRE
LOW FIRE

TOPDRY

VOLTS---575 AC
PHASE---THREE



AIRSTREAM

1994 TOPDRY

CONTROL CENTER WIRING

MULTIPLE CROP DRYER CONNECTION (220V)

FAN CIRCUIT (220 VOLT)

Fan 1 Connections

1. Run and mark 6 wires between Fan 1 and Control Center.
2. Connect Fan 1 to Control Center Term 1 to Term 1, Term 2 to Term 2, etc.
3. **BE SURE TO CONNECT TERM 6 TO NEUTRAL FOR 110V SUPPLY TO HEATER**
4. Remove jumper wires from terms 2 and 3 and terms 4 and 5 in Fan 1.
5. Run and mark 9 wires between Fan 1 and Fan 2.
6. Remove wire that goes from terminal 9 on Fan 1 to the stop switch.
7. Remove wire that goes from overload contacts in Fan 1 to contactor coil.
8. Connect wire 1 to terminal 9 in Fan 1.
9. Connect wire 2 to stop switch in Fan 1 where previous wire was removed (2).
10. Connect wire 3 to Contactor term T3 in Fan 1.
11. Connect wire 4 to overload contacts in Fan 1 where previous wire was removed.
12. Connect wire 5 to contactor coil in Fan 1 where previous wire was removed.

Fan 2 connections

1. Run and mark 2 wires from Fan 2 to Control Center.
2. **BE SURE TO CONNECT TERM 6 TO NEUTRAL FOR 110V SUPPLY TO HEATER**
3. Remove wire that runs from terminal 9 to stop switch in Fan 2.
4. Remove wire that runs from terminal 10 to Contacter term L1 in Fan 2.
5. Remove wire that goes from overload contacts in Fan 2 to contactor coil.
6. Remove wire that goes from Contactor term L3 in Fan 2 to overload contacts.
7. Connect wire 1 to terminal 10 on Fan 2.
8. Connect wire 2 to terminal 9 on Fan 2.
9. Connect wire 3 to contactor coil where previous wire was removed (3).
10. Connect wire 4 to overload contacts in Fan 2 where previous wire was removed (3).
11. Connect wire 5 to overload contacts in Fan 2 where previous wire was removed (4).
12. Remove wire that runs from Stop Switch on Fan 2 to Term 2 on 8 Terminal Strip.
13. Connect wire 10 to Term 1 on 8 Terminal Strip.
14. Connect wire 11 to Stop Switch on Fan 2 where wire was previously removed (10).
15. Connect wire from Term 2 on 8 Terminal Strip to Stop Switch where wire was previously removed (2).

HEATER CONTROL CIRCUIT

Heater 1 connections

1. Connect wire 6 to terminal 21 on Fan 1.
2. Connect wire 7 to terminal 22 on Fan 1.
3. Connect wire 8 to terminal 23 on Fan 1.
4. Connect wire 9 to terminal 24 on Fan 1.

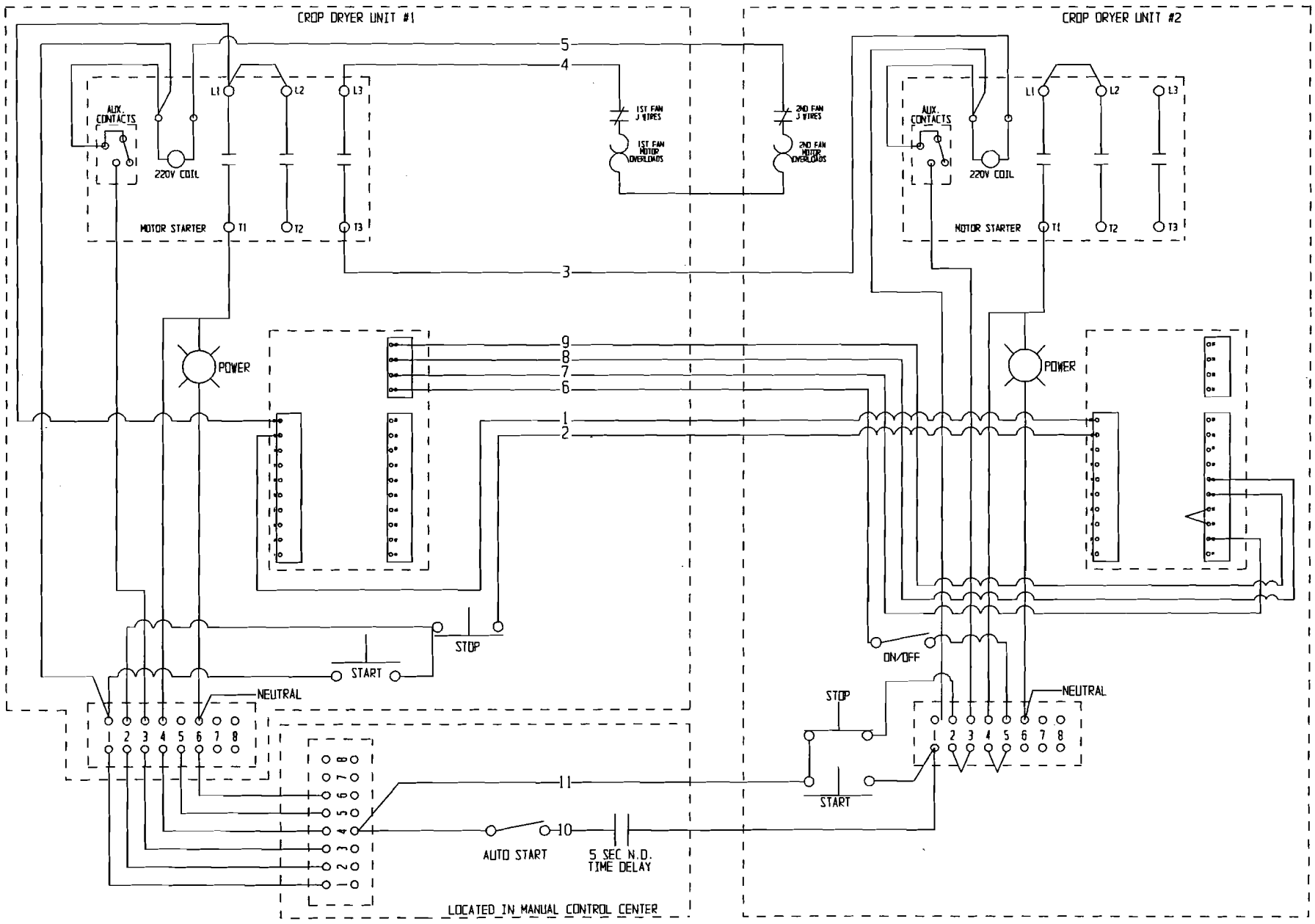
Heater 2 Connections

1. Remove wire that goes between on/off toggle switch and terminal 12 on Fan 2.
2. Connect terminals 13 and 14 with a jumper wire.
3. Connect wire 6 to on/off toggle switch where wire was removed previously (1).
4. Connect wire 7 to terminal 12 on Fan 2 where wire was removed previously (1).
5. Connect wire 8 to terminal 15 on Fan 2.
6. Connect wire 9 to terminal 16 on Fan 2.

Control Center Connections

1. Install toggle switch for auto-start in Control Center Sub-panel.
2. Install 220 Volt 5 Second Delay on Control Center back panel.
3. Run wire from Term 4 on 8 Terminal Strip to toggle switch.
4. Run wire from other side of toggle switch to 5 Second Delay.
5. Connect wire 10 to other side of 5 Second Delay.
6. Connect wire 11 to Term 4 on 8 Terminal Strip.

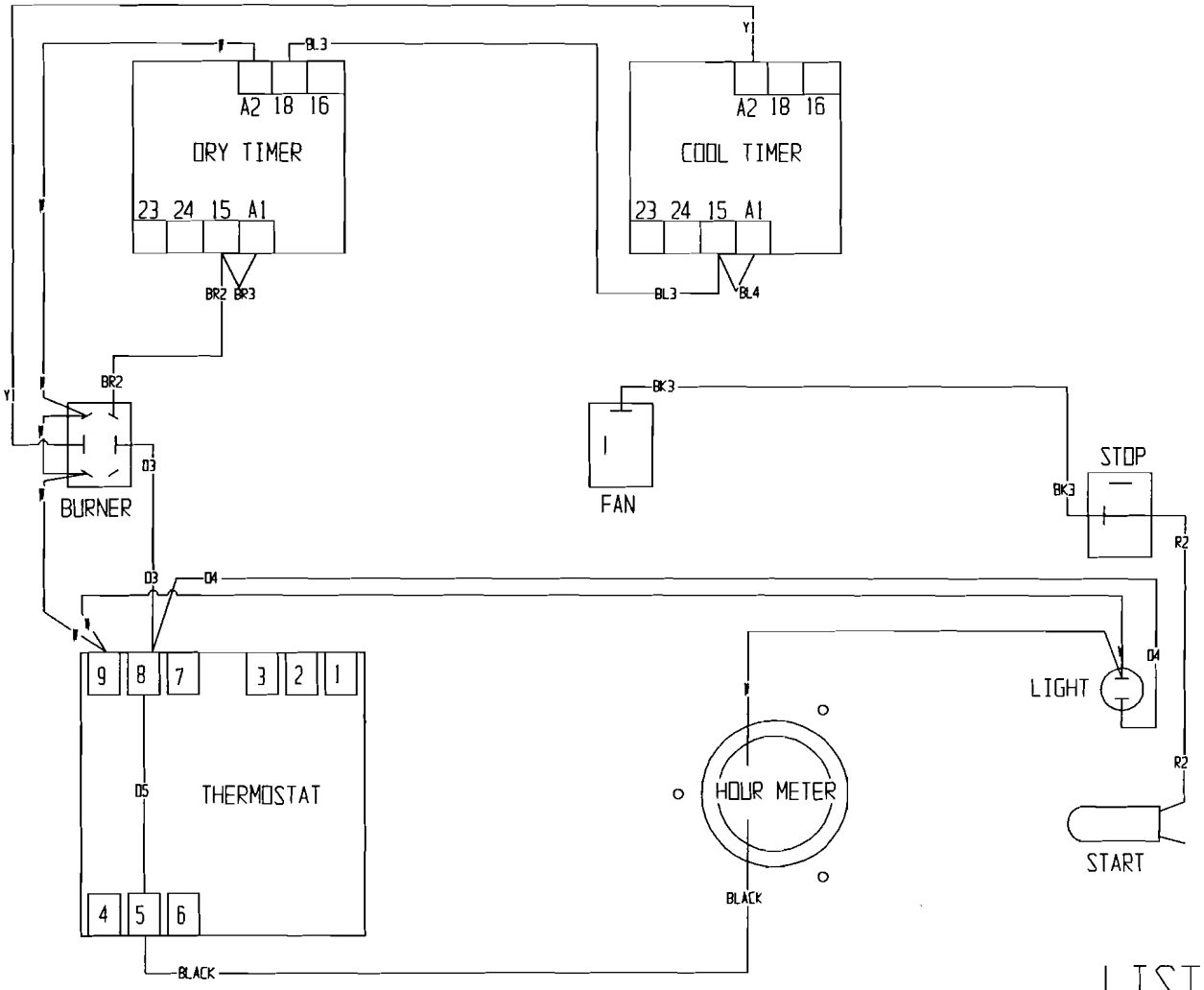
MULTIPLE CROP DRYER CONTROL WIRING DIAGRAM



RHODES

APRIL 93

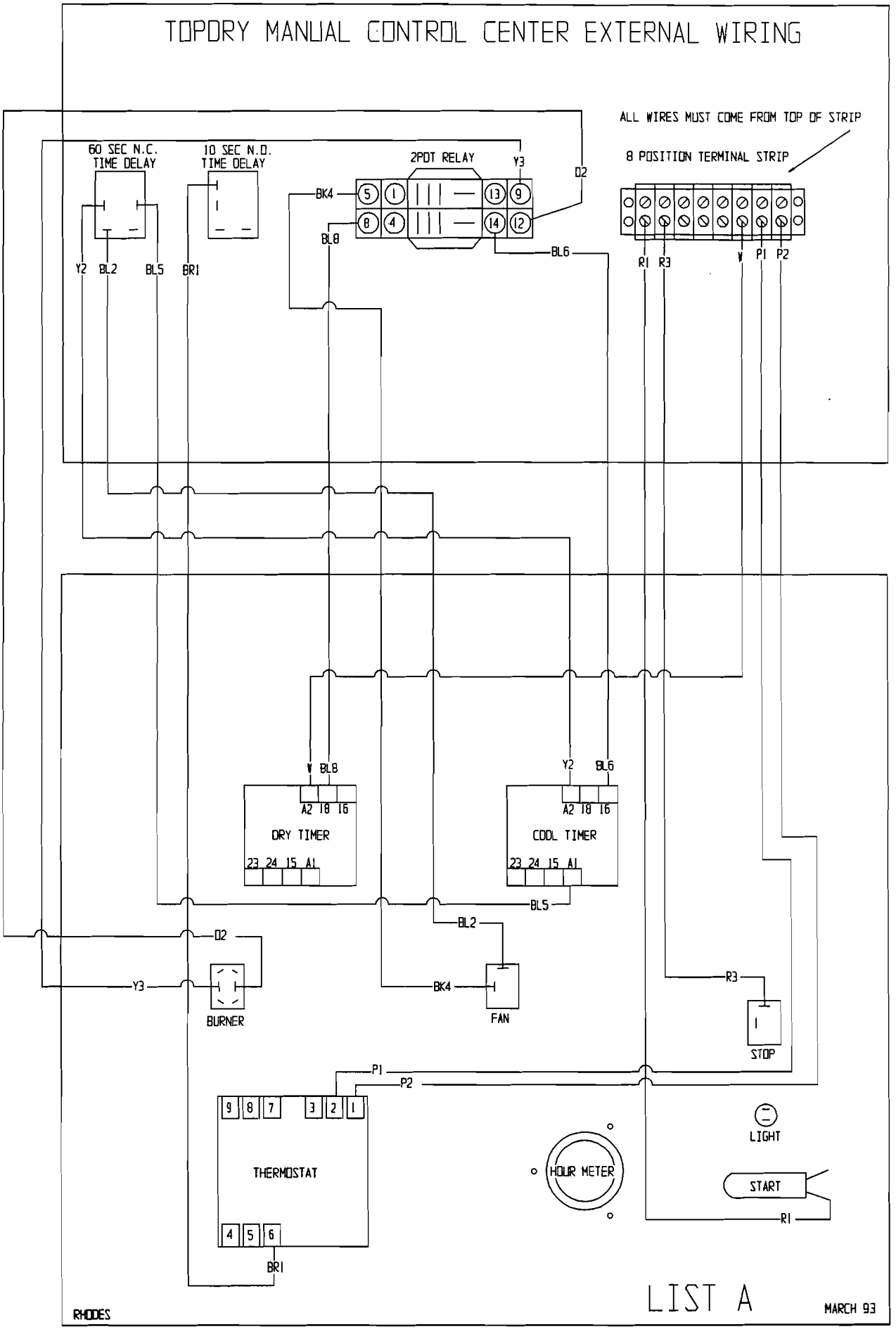
TOPDRY MANUAL CONTROL CENTER FRONT PANEL INTERIOR WIRING



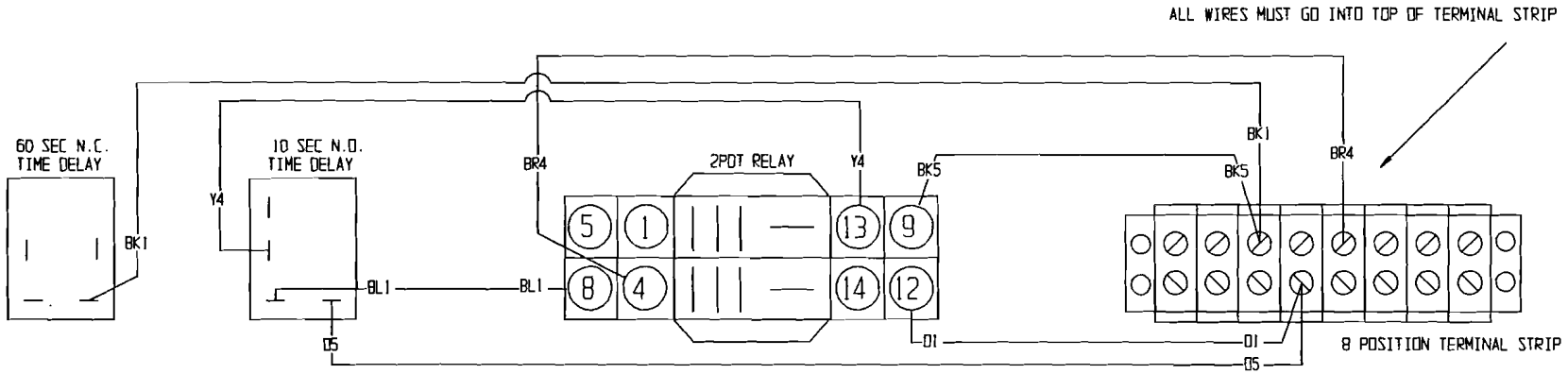
LIST A

RHODES

MARCH 93

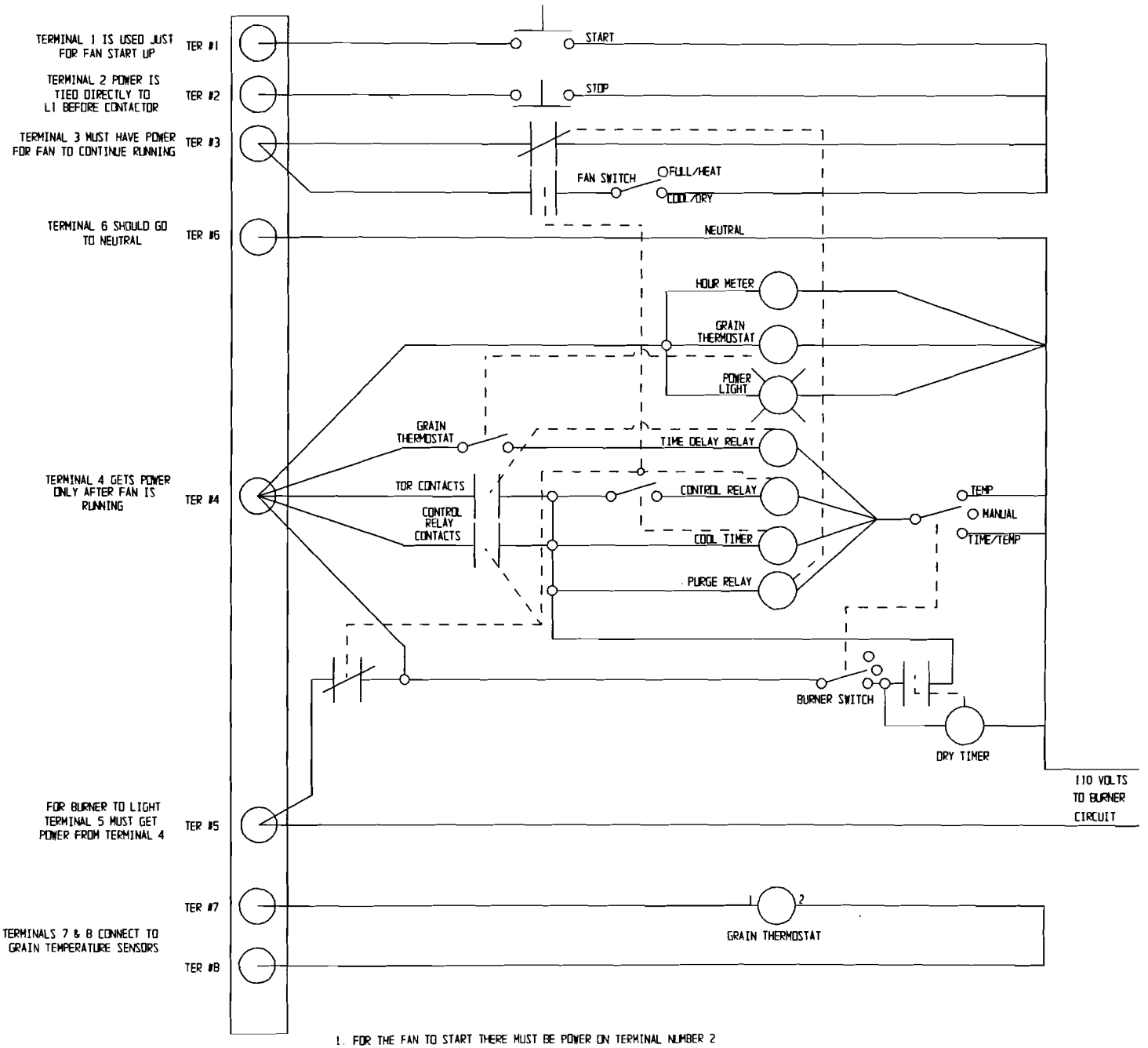

TOPDRY MANUAL CONTROL CENTER EXTERNAL WIRING
ALL WIRES MUST COME FROM TOP OF STRIP
8 POSITION TERMINAL STRIP
60 SEC N.C. TIME DELAY
10 SEC N.O. TIME DELAY
2PDT RELAY
Y3
D2
BK4
BL8
BL6
Y2
BL2
BL5
BR1
R1
R3
W
P1
P2
DRY TIMER
COOL TIMER
A2 18 16
23 24 15 A1
BURNER
FAN
STOP
LIGHT
HOUR METER
START
THERMOSTAT
9 8 7 3 2 1
4 5 6
LIST A
MARCH 93
RHODES

TOPDRY MANUAL CONTROL CENTER BACK PANEL INTERIOR WIRING



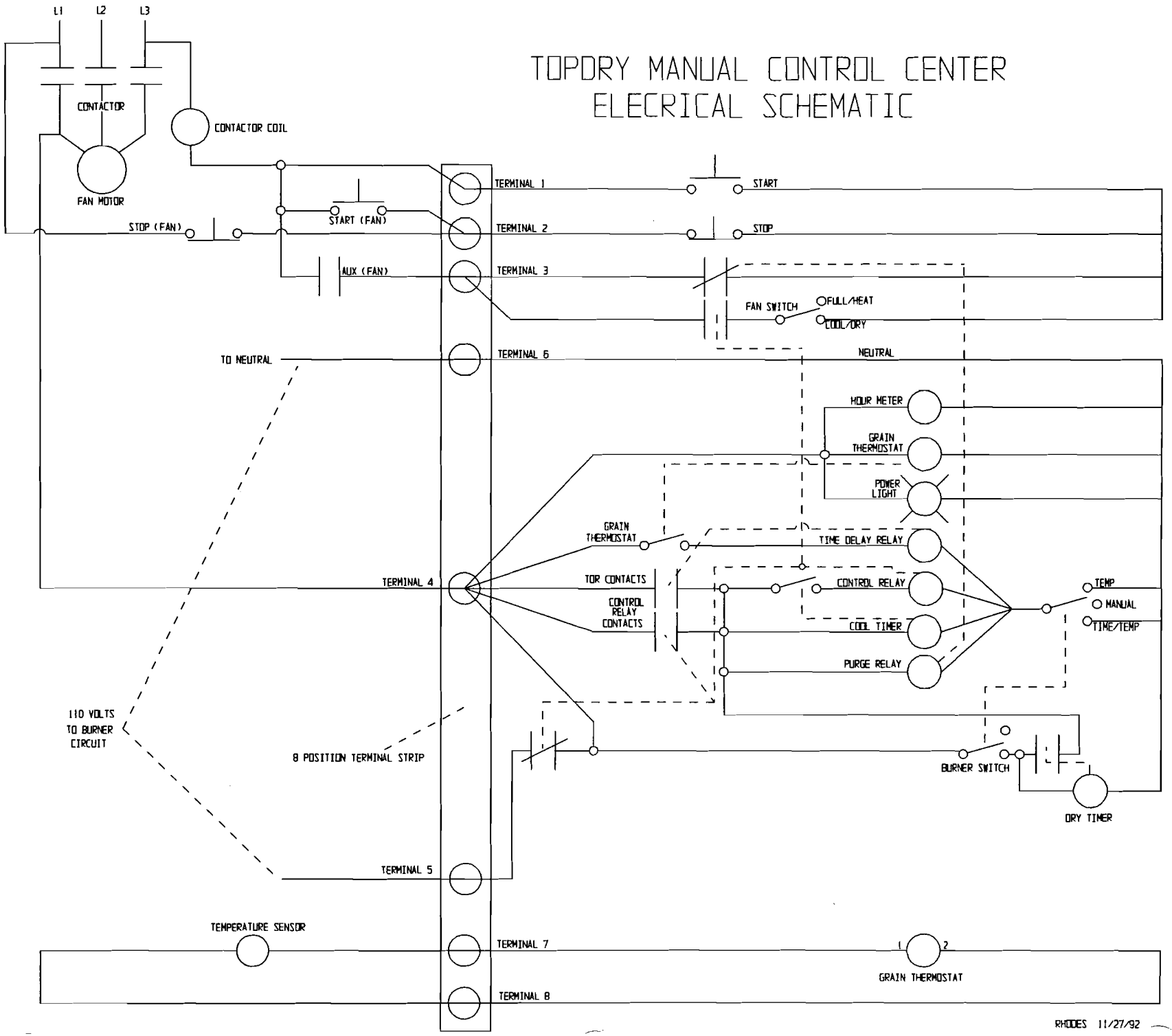
LIST A

TOPDRY MANUAL CONTROL CENTER
ELECRICAL SCHEMATIC



1. FOR THE FAN TO START THERE MUST BE POWER ON TERMINAL NUMBER 2
2 FOR THE BURNER TO LIGHT THERE MUST BE POWER ON TERMINAL NUMBER 4

11-27-92 RHODES


TOPDRY MANUAL CONTROL CENTER
ELECRICAL SCHEMATIC
L1
L2
L3
CONTACTOR
CONTACTOR COIL
FAN MOTOR
STOP (FAN)
START (FAN)
AUX (FAN)
TERMINAL 1
TERMINAL 2
TERMINAL 3
TERMINAL 6
TERMINAL 4
TERMINAL 5
TERMINAL 7
TERMINAL 8
START
STOP
FAN SWITCH
FULL/HEAT
COOL/DRY
TO NEUTRAL
NEUTRAL
HOUR METER
GRAIN THERMOSTAT
POWER LIGHT
TIME DELAY RELAY
TOR CONTACTS
CONTROL RELAY
CONTROL RELAY CONTACTS
COOL TIMER
PURGE RELAY
TEMP
MANUAL
TIME/TEMP
110 VOLTS TO BURNER CIRCUIT
8 POSITION TERMINAL STRIP
BURNER SWITCH
DRY TIMER
TEMPERATURE SENSOR
GRAIN THERMOSTAT
RHODES 11/27/92

AIRSTREAM

PRE-1989 TOPDRY

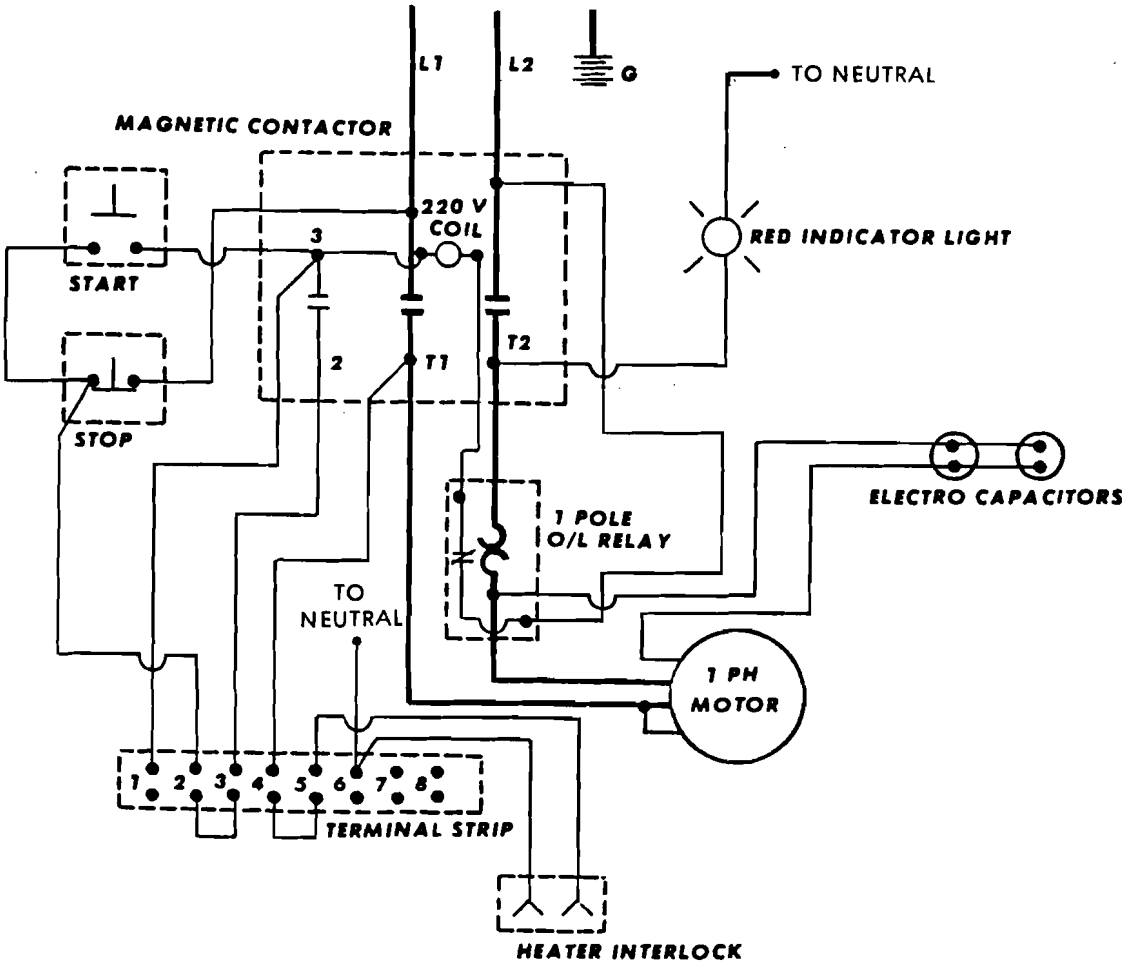
FANS, HEATERS AND CONTROLS

TROUBLESHOOTING CHART

TROUBLE	PROBABLE CAUSE	CHECK-OUT PROCEDURE AND CORRECTION
Motor starter chatters or does not close	Power supply	Check supply voltage across terminals L1 and L2 on single phase and L3 on three phase units. It should be within 10% of that shown on the motor nameplate. Inspect power for blown fuses etc. Call the power company.
	Start or stop switch or auxiliary contacts	Run an insulated jumper wire from terminals L1 to 3 on the motor starter. If contactor closes then problem is probably in the start or stop switch or the auxiliary contacts. Replace necessary parts.
	Open overload relay	push red or green reset button(s) on relay
	Overload relay	Run an insulated jumper wire from terminal L2 to pull in coil. Wire must go to the side of the coil that is connected to the overload relay. If contactor does close when start button is pressed then trouble is in the overload relay. Replace overload if defective.
	Motors with internal thermostat	Run an insulated jumper wire from L2 to the the overload relay Wire must go to the side of the overload relay that DOES NOT go the pull in coil. If contactor does not close trouble is in the motor internal protection. Replace defective part.
	Motor contactor	Connect power supply leads directly to motor leads, if motor runs properly the problem must be in the contactor. Replace necessary parts or complete contactor if defective.
Starter closes but fan runs slow and blows fuses or will not run at all.	Power supply	If fuses continue to blow during starting, check size and type. Use time delay type fuses. See "Specifications" for proper size.
	Power supply	Check voltage across terminals T1 and T2 on single phase and T3 on three phase after pushing start button. It should be within 10% of that shown on nameplate. Check wiring to unit to insure adequate voltage during starting.
	Contacts or contactor	If voltage is not as specified, but checked out all right on line side, then problem is probably in contacts or contactor. Replace defective parts.
	Motor connections	Check motor lead connections with that shown on the motor nameplate. Correct lead connection.
	Capacitors 1 phase	Check for evidence of capacitor overheating. Replace capacitors. Check for adequate starting voltage.
	Motor	Check for freedom of rotation and excessive bearing noise by turning fan blade by hand. Take motor to authorized service station.
Fan runs backwards	Wiring	Compare rotation with arrow on fan blade. Make certain motor lead connections are as shown on motor nameplate.
	Wiring	Compare rotation with arrow on fan blade. Interchange any two power leads (three phase motors only)
Fan vibrates	Mounting	Be sure fan is mounted securely to platform or pad.
	Fan blade	Check for dirt deposits or other irregularities that may cause fan to run out of balance. Correct problem or install new blade.
	Motor shaft	Check for bent motor shaft. If shaft is bent then take motor to authorized service center or replace motor.

220 VOLT 1 PHASE WIRING DIAGRAM

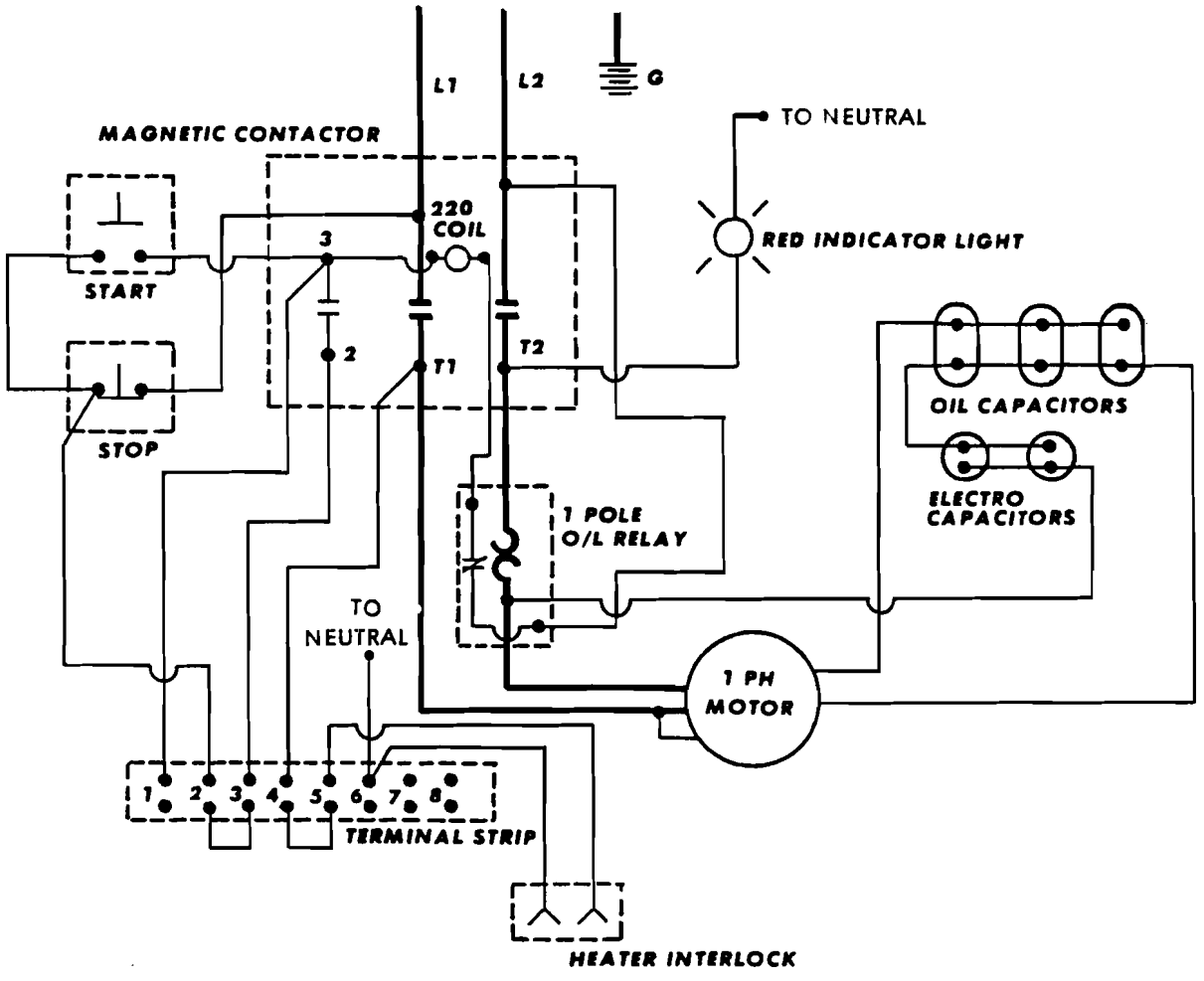
24" TOP DRY FAN
(9.75 H.P. 3400 RPM BALDOR MOTOR)



NOTE: POSITIVE GROUND IS REQUIRED FOR PROPER OPERATION.

220 VOLT 1 PHASE WIRING DIAGRAM

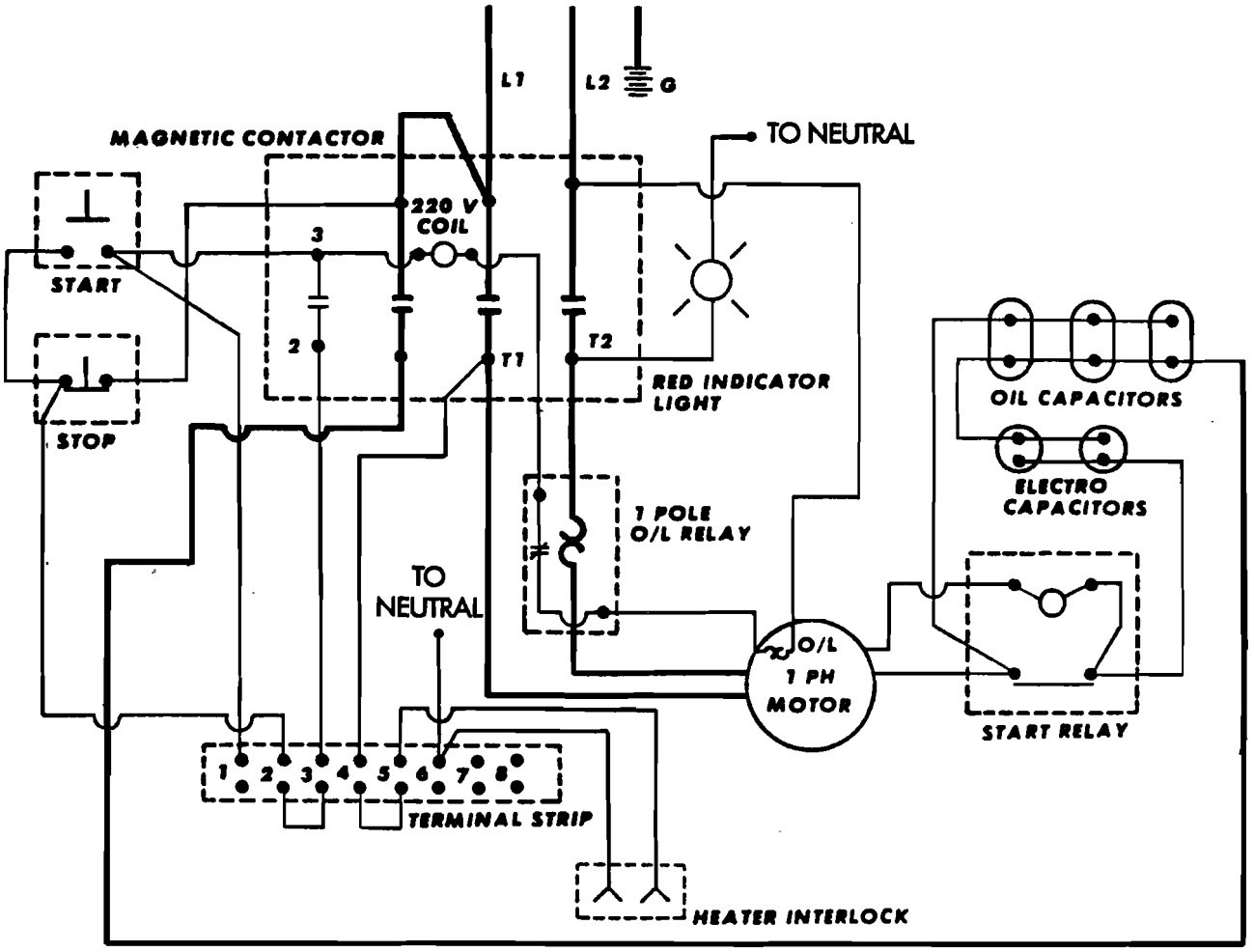
28" TOP DRY FAN
(10-15 H.P. 3400 RPM BALDOR MOTOR)



NOTE: POSITIVE GROUND IS REQUIRED FOR PROPER OPERATION.

220 VOLT 1 PHASE WIRING DIAGRAM

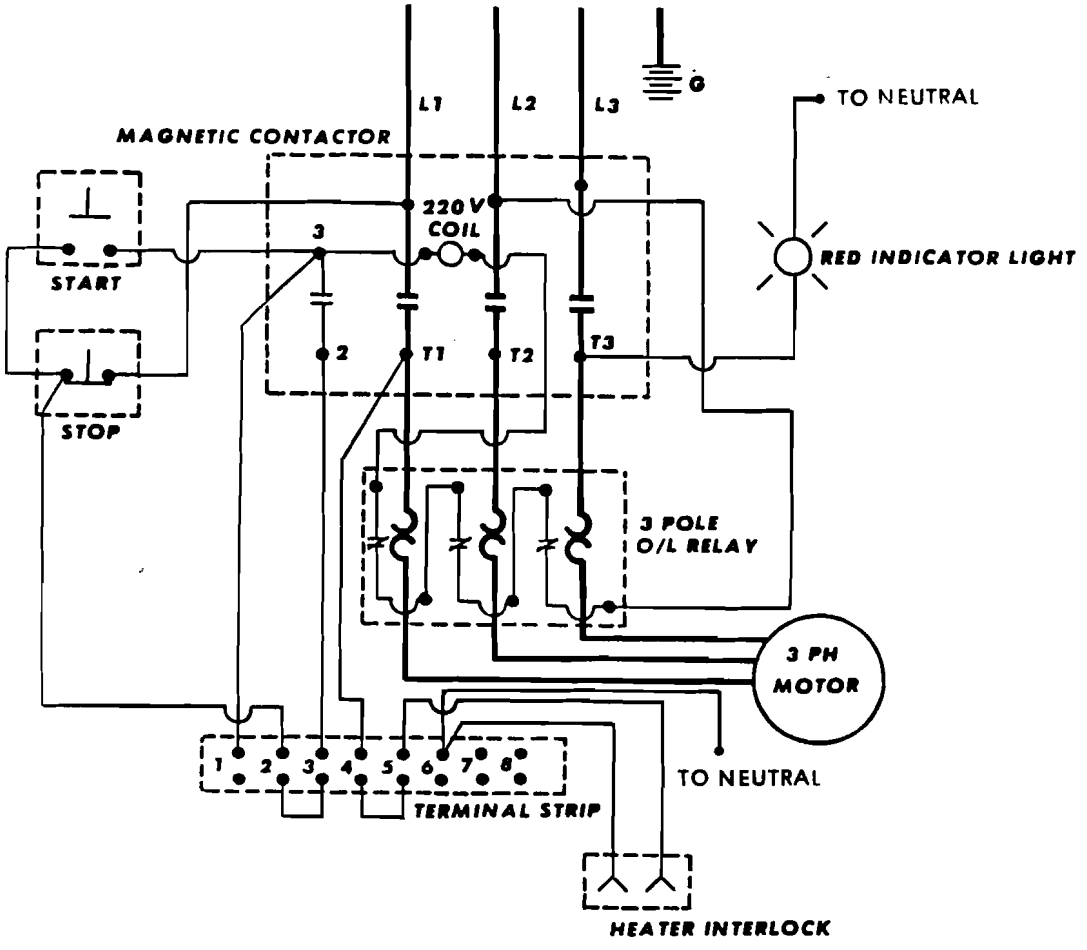
36" & 42" TOP DRY FANS
(10-16 H.P. 1725 RPM BALDOR MOTOR)



NOTE: POSITIVE GROUND IS REQUIRED FOR PROPER OPERATION.

220 VOLT 3 PHASE WIRING DIAGRAM

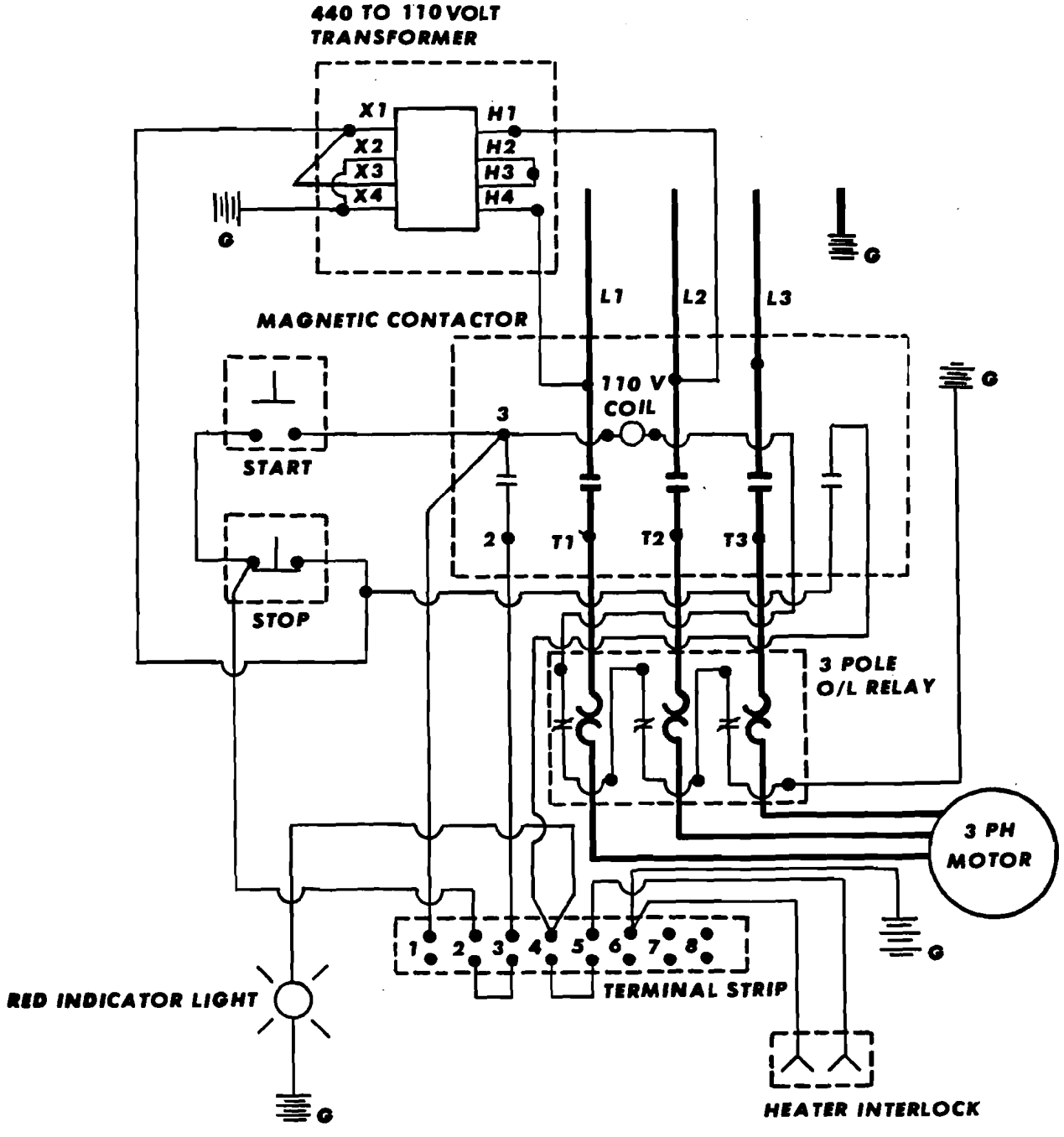
24", 28", 36" & 42" TOP DRY FANS
(BALDOR MOTORS)



NOTE: POSITIVE GROUND IS REQUIRED FOR PROPER OPERATION.

440 VOLT 3 PHASE WIRING DIAGRAM

24", 28", 36" & 42" TOP DRY FANS (BALDOR MOTORS)



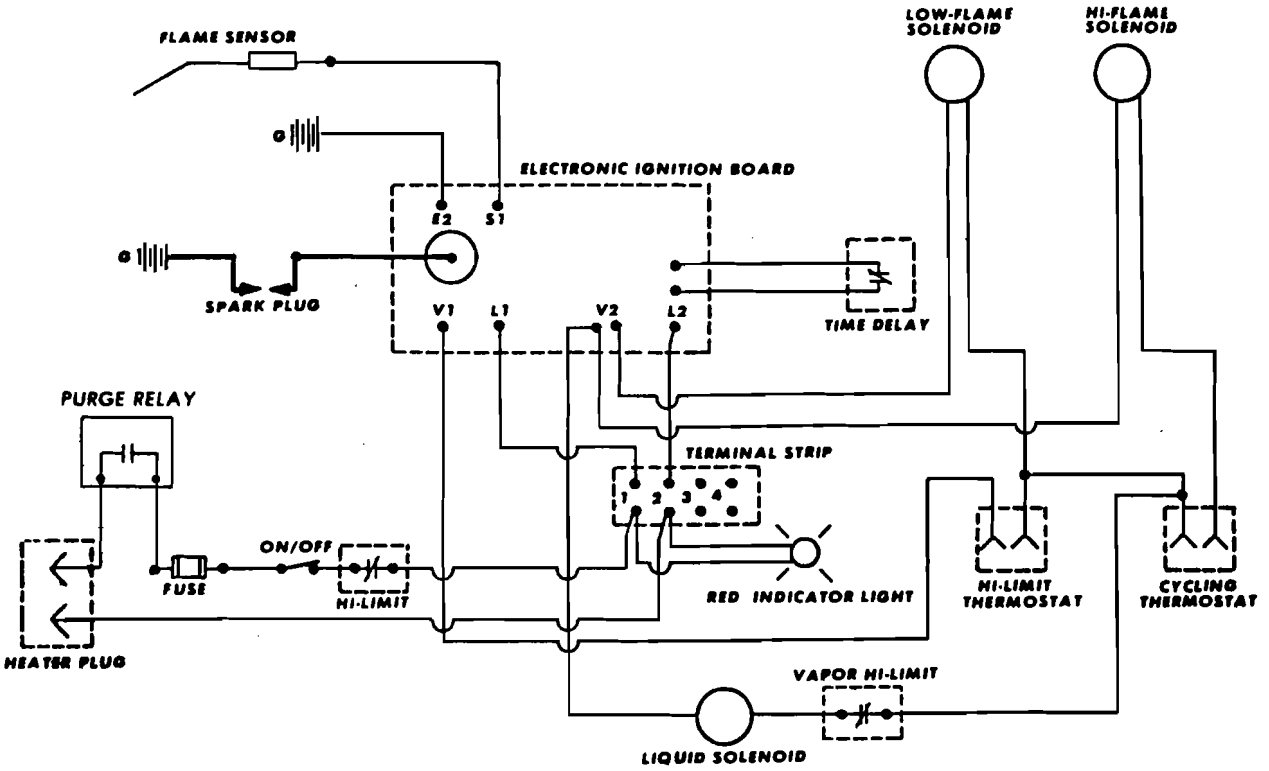
NOTE: POSITIVE GROUND IS REQUIRED FOR PROPER OPERATION.

TROUBLESHOOTING CHART

TROUBLE	PROBABLE CAUSE	CHECK-OUT PROCEDURE AND CORRECTION
Burner will not fire no gas pressure to orifice after 30 seconds of fan operation. (Red light does not come on at all.)	Heater not plugged in.	Plug heater cord into fan conmtrol box.
	Purge relay	Remove wires from purge relay and tie them together. If purge relay was bad red light should come on immediately after pressing on/off switch. If purge relay is bad replace
	Blown fuse	Check fuse visually or with ohm meter if bad replace.
	High limit (heater housing)	Press red reset button on hi-limit if this does not correct situation check hi-limit with ohm meter. If hi-limit shows open circuit then replace. (Remove wires before checking.)
	Fan and Heat unit not grounded properly.	Fan and Heat unit must be grounded for proper operation.
Burner will not fire, no gas pressure to orifice. (Red light comes on after 15 seconds of operation.)	Hi-limit reset on HI-LO thermostat	Depress red button on HI-LO thermostat. If this does not correct sitiuation jump around thermostat to determine whether thermostat is bad.
	Vapor Hi-limit	Jump around the Hi-limit and if this corrects situation replace Hi-limit.
	Time Delay Reset (on control box)	Reset button
	Liquid solenoid valve	Feel top of valve to see if it clicks this would indicate that valve is working electrically. If valve does not click, connect 110 volts to valve if this causes valve to click open then valve should be okay. If not replace valve or valve coil.
	Lo-flame solenoid valve	Check out the same as liquid solenoid valve.
	Electronic ignition board	Remove wires from V1 and V2. Push start switch on heater after red light comes on there should be 110 volts between V1 and V2 for 4 seconds. If this is true then board should be okay. If not check power supply to board to make sure that is okay. If power supply checks out replace board.
	Obstruction in line	Remove obstruction.
Gauge shows gas pressure but unit will not fire.	Spark plug	Remove plug wire from spark plug. Carefully holding plug wire by insulation try to get an arc between end of wire and heater housing. HIGH VOLTAGE - STAY CLEAR OF END OF IGNITION WIRE. If spark is present replace or clean plug.
	Spark plug wire	If no spark was present after checking spark plug then problem may be faulty spark plug wire. Remove spark plug from ignition board Ground one end of a screwdriver to frame then bring the shaft of the screwdriver to within 1/8 inch of terminal on board. Turn power on to unit. If arc is established then replace spark plug wire. If arc is not established then replace board.
Heater starts properly but shuts after 10 seconds or solenoids cycle rapidly.	Flame sensor not in proper position.	Move flame probe into flame.
	Flame probe in bad condition.	Replace flame probe wire.
	Flame probe wire bad	Replace flame probe wire.
Lines freeze while starting.	Moisture in fuel	Call qualified gas serviceman to check tank
Cooling coil gets very hot and heater shuts off.	Vaporizer getting too hot.	Adjust vaporizer out of flame. Move small amount at a time and allow heater to run for a few minutes before checking cooling coil.

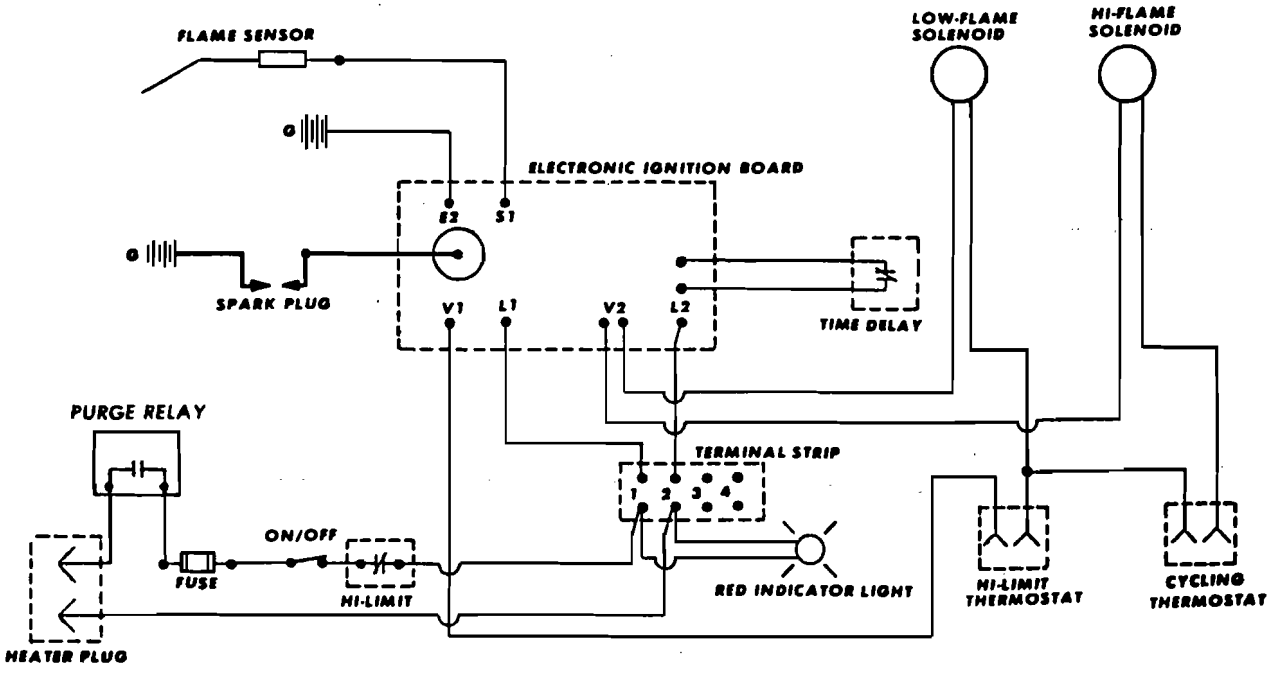
24", 28", 36" & 42" TOP DRY HEATER WIRING DIAGRAM

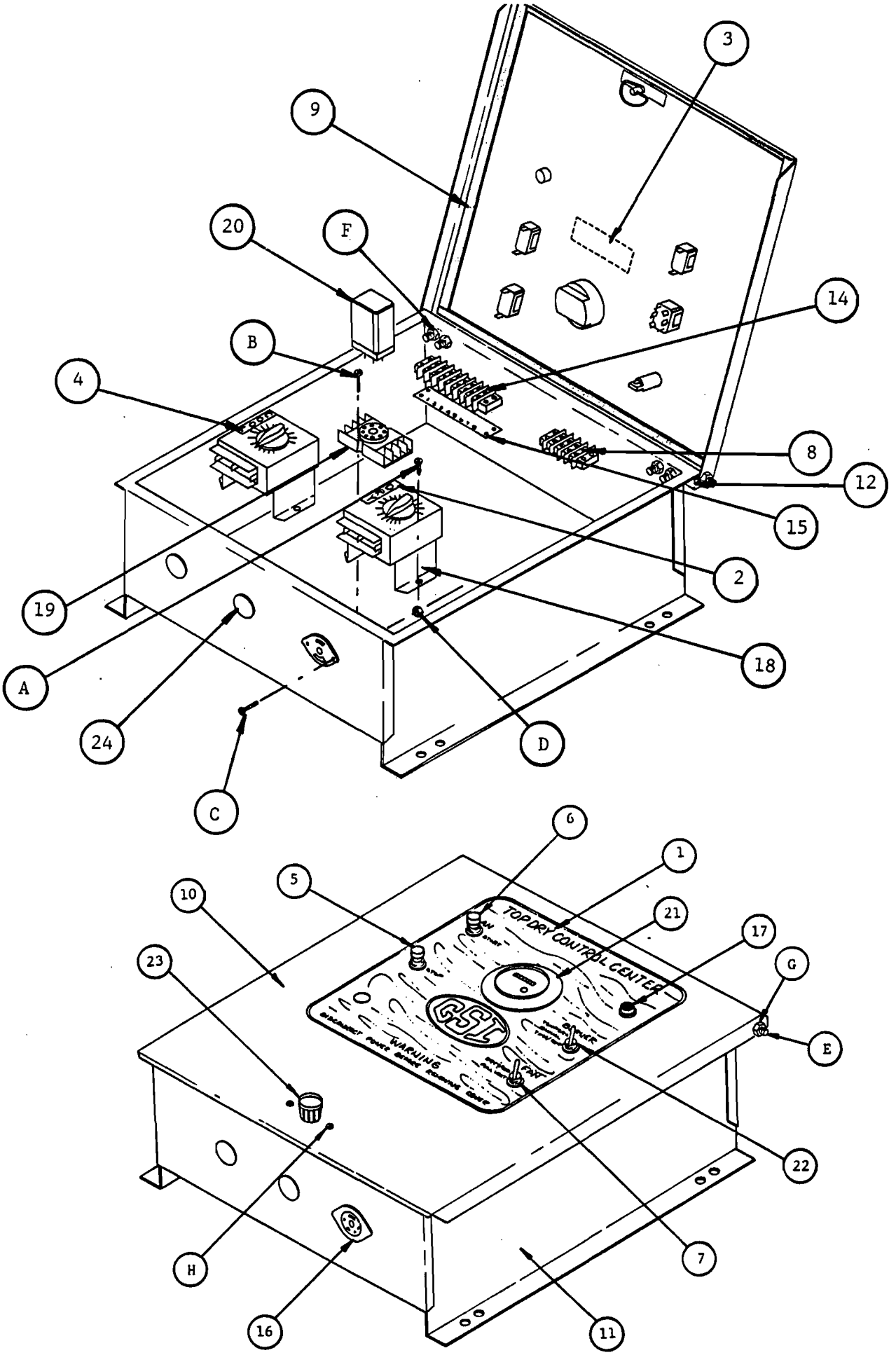
LIQUID PROPANE



24", 28", 36" & 42" TOP DRY HEATER WIRING DIAGRAM

NATURAL GAS & VAPOR




3
9
20
F
14
B
4
8
12
15
2
19
18
A
24
D
C
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H
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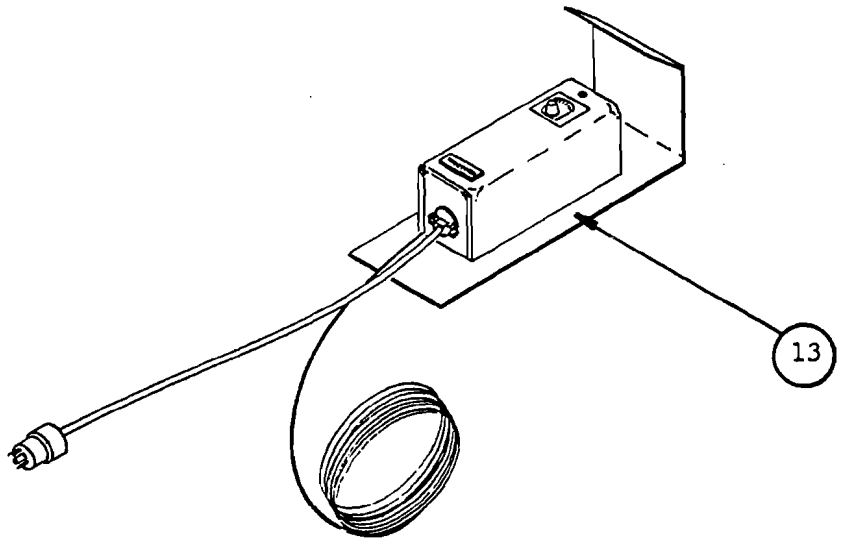
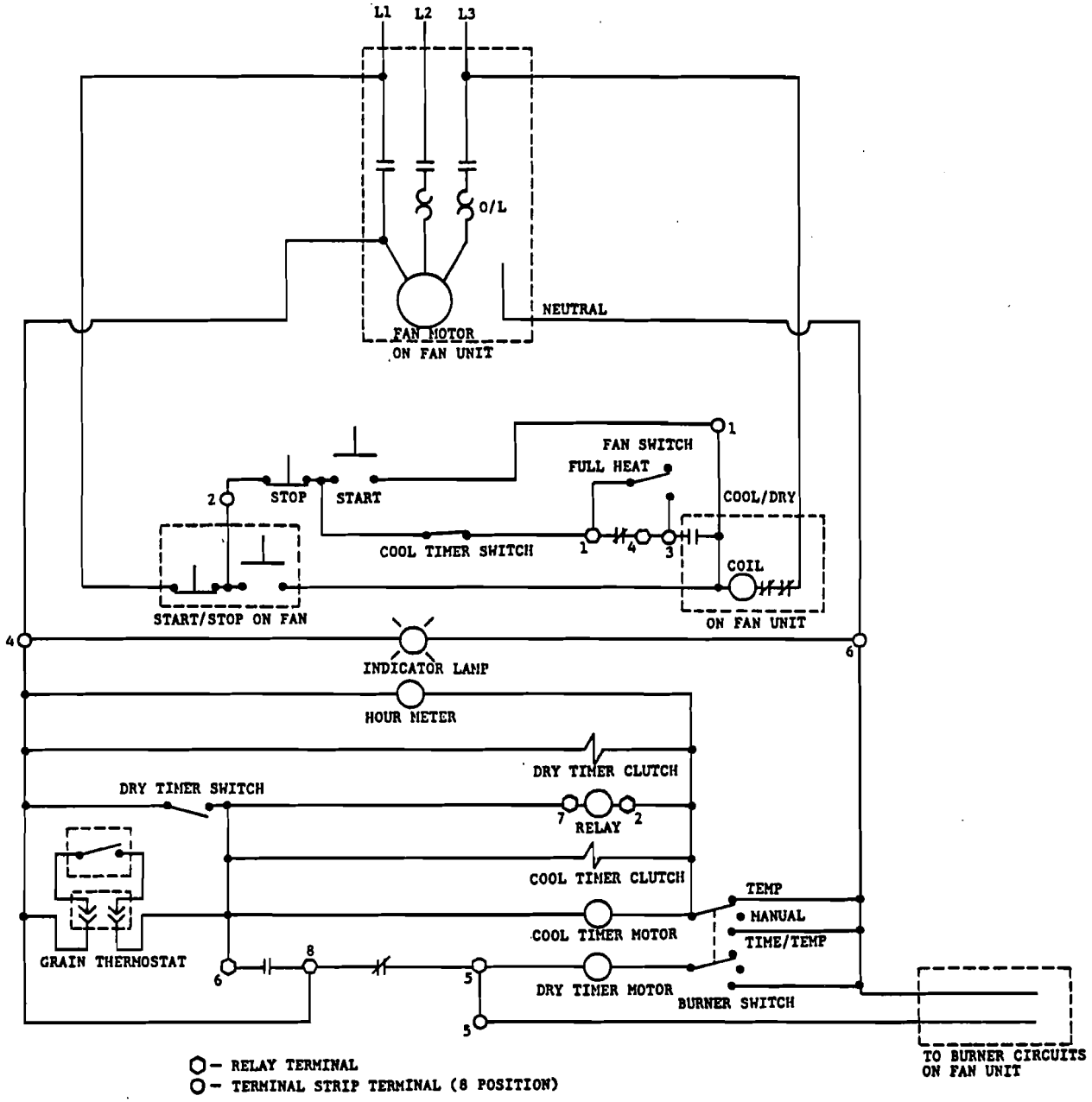
11
TOP DRY CONTROL CENTER
GST
WARNING

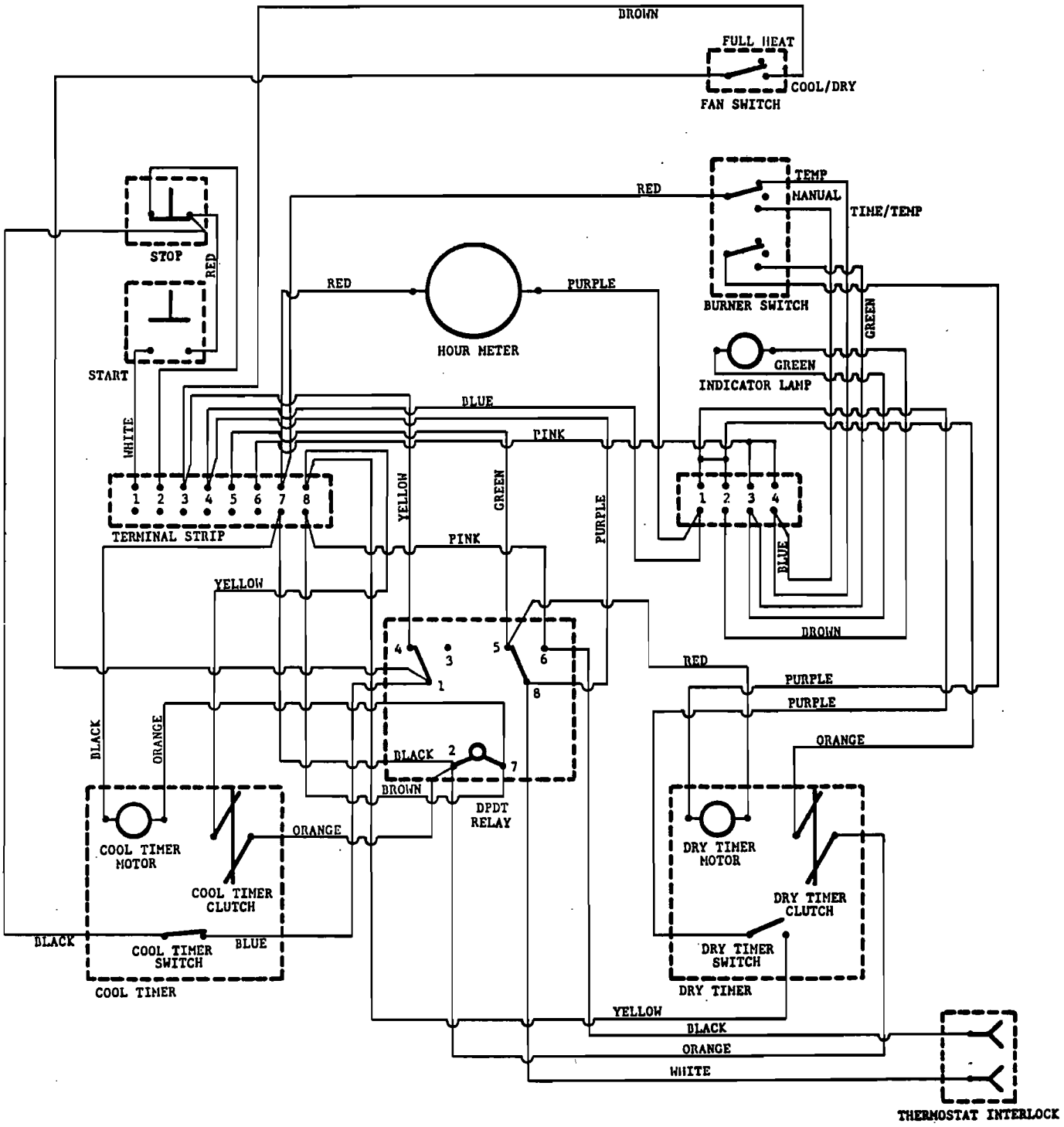


TOP DRY CONTROL CENTER PARTS

ITEM	PART NO.	DESCRIPTION	QUANTITY
1	DC-328	TOP DRY CONTROL CENTER DECAL.	1
2	DC-343	DRY DECAL	1
3	DC-345	WIRING DIAGRAM DECAL.	1
4	DC-346	COOL DECAL.	1
5	FH-1000	STOP SWITCH	1
6	FH-999	START SWITCH.	1
7	HH-1442	SPST TOGGLE SWITCH.	1
8	HH-1994	4 CONDUCTOR TERMINAL BLOCK.	1
9	S-2052	WEATHER STRIPPING	AR
10	TF-1057	CONTROL CENTER LID.	1
11	TF-1059	CONTROL CENTER BOX WELDMENT	1
12	TF-1094	HINGE BRACKETS.	2
13	TF-1130	GRAIN THERMOSTAT ASSEMBLY	1
14	TFH-2013	8 CONDUCTOR TERMINAL STRIP.	1
15	TFH-2052	8 CONDUCTOR TERMINAL STRIP MARKER	1
16	TFH-2014	THERMOSTAT RECEPTACLE	1
17	TFH-2021	RED INDICATOR LIGHT	1
18	TFH-2040	12 HOUR TIMER	2
19	TFH-2042	8 PIN RELAY BASE.	1
20	TFH-2043	DPDT CONTROL RELAY.	1
21	TFH-2044	HOUR METER.	1
22	TFH-2025	DPDT TOGGLE SWITCH.	1
23	TFH-2046	SPRING LATCH.	1
24	TFH-2048	7/8" HOLE PLUG.	1
		STANDARD HARDWARE ITEMS (PURCHASE LOCALLY)	
A	S-1040	8-32 X 1/4" SHEET METAL SCREW	4
B	FH-2609	8-32 X 5/8" SHEET METAL SCREW	6
C	HH-1505	5-40 X 1/2" PAN HD MACH SCREW	5
D	HH-1506	5-40 NUT.	5
E	S-4336	5/16" X 1" RD. HD. BOLT	6
F	S-3611	5/16" FLANGED NUT	4
G	S-4763	5/16" LOCK NUT.	2
H	S-4752	6-32 X 3/4" SHEET METAL SCREW	4



TOP DRY CONTROL CENTER SCHEMATIC DIAGRAM



TOP DRY CONTROL CENTER WIRING DIAGRAM

DC-345

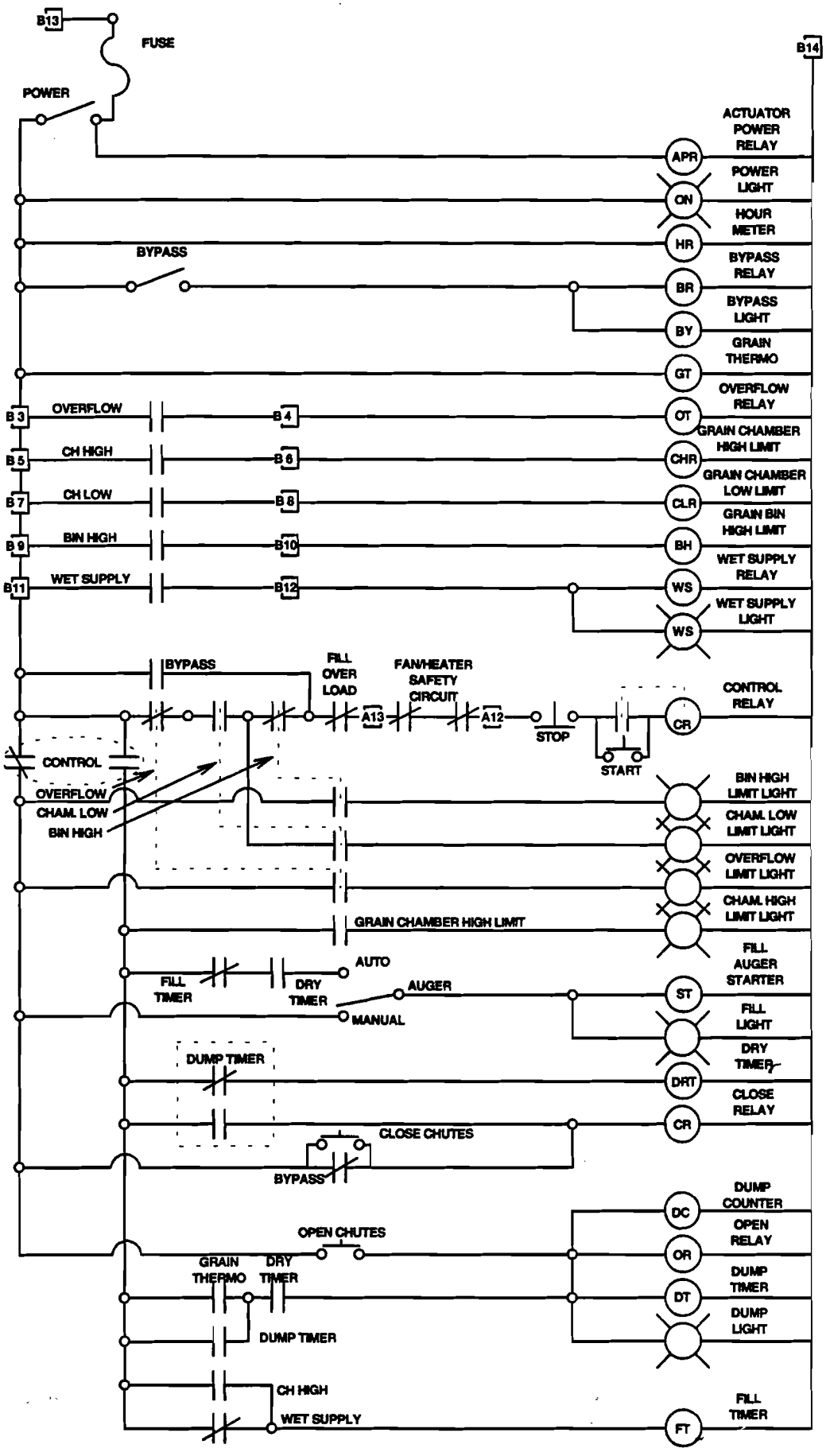
AIRSTREAM

1991-93 TOPDRY

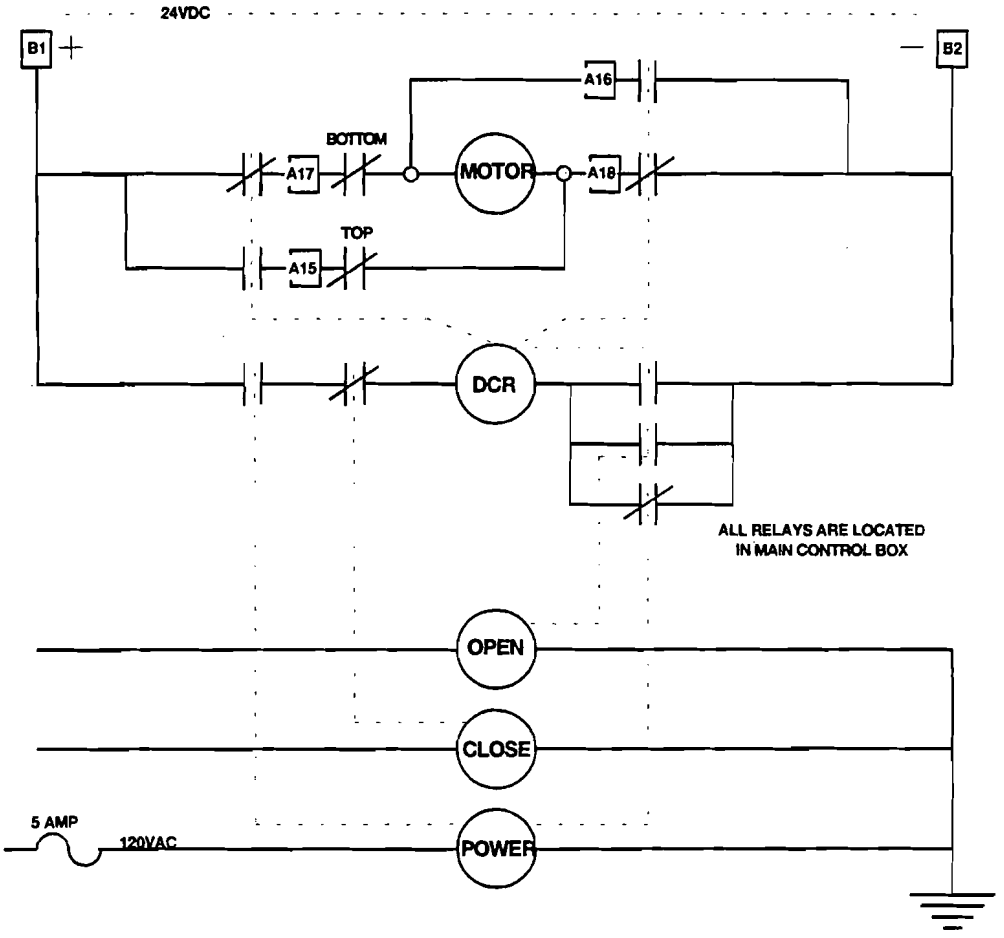
AUTOFLOW SYSTEM

Continuous Flow Controls comparison

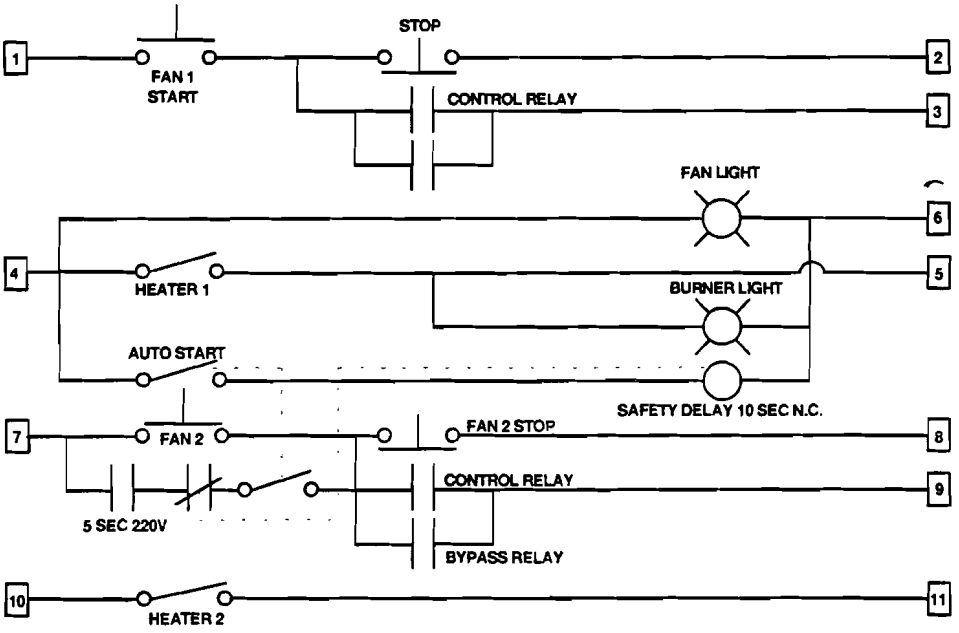
		KA-610	GSI
1	Automatic shutdown in event of fill switch failure	no	yes
2	Ability to dry and cool in batch mode	no	yes
3	Ability to run batch or continuous flow	cont. only	yes
4	All safety and timing functions on backlit LCD display	no	yes
5	Number of sensors for grain moisture averaging (more sensors better accuracy)	2	4
6	Automatic starting of fans and heaters	no	yes
7	Bypass switch required for starting	yes	no
8	All controlled devices indicated on front panel	no	yes
9	Staged starting of fans and heaters	no	yes
10	Aeration fan control	no	yes
11	Shuts down as soon as wet supply is empty (after auger clean out)	no	yes
12	Completely driven by software (easy to upgrade)	no	yes
13	Power loss automatic chute closing	no	yes
14	Auger fill delay	no	yes
15	Control of 2 auger systems (for systems without wet hopper tank)	no	yes
16	Motor Starter for main fill auger	no	yes
17	Monitors all fan and heater safeties (8) and indicates which shut unit down	no	yes
18	Grain temperature hi-limit protection	no	yes
19	Plenum Hi-temperature protection	no	yes
20	Hour meter	no	yes
21	Keeps track of time and date and what shut unit down (saves last 25)	no	yes
22	Totally microprocessor based (no moving parts)	no	yes
23	Total system manufactured by one company	no	yes


B13
FUSE
B14
POWER
ACTUATOR POWER RELAY
APR
POWER LIGHT
ON
HOUR METER
HR
BYPASS
BYPASS RELAY
BR
BYPASS LIGHT
BY
GRAIN THERMO
GT
OVERFLOW RELAY
OT
B3
OVERFLOW
B4
GRAIN CHAMBER HIGH LIMIT
CHR
B5
CH HIGH
B6
GRAIN CHAMBER LOW LIMIT
CLR
B7
CH LOW
B8
GRAIN BIN HIGH LIMIT
BH
B9
BIN HIGH
B10
WET SUPPLY RELAY
WS
B11
WET SUPPLY
B12
WET SUPPLY LIGHT
WS
BYPASS
FILL OVER LOAD
FAN/HEATER SAFETY CIRCUIT
A13
A12
STOP
START
CONTROL RELAY
CR
CONTROL
OVERFLOW
CHAM. LOW
BIN HIGH
BIN HIGH LIMIT LIGHT
CHAM. LOW LIMIT LIGHT
OVERFLOW LIMIT LIGHT
CHAM. HIGH LIMIT LIGHT
GRAIN CHAMBER HIGH LIMIT
FILL TIMER
AUTO
DRY TIMER
AUGER
MANUAL
FILL AUGER STARTER
ST
FILL LIGHT
DRY TIMER
DUMP TIMER
DRT
CLOSE RELAY
CR
CLOSE CHUTES
BYPASS
DUMP COUNTER
DC
OPEN CHUTES
OPEN RELAY
OR
GRAIN THERMO
DRY TIMER
DUMP TIMER
DT
DUMP LIGHT
DUMP TIMER
CH HIGH
WET SUPPLY
FILL TIMER
FT

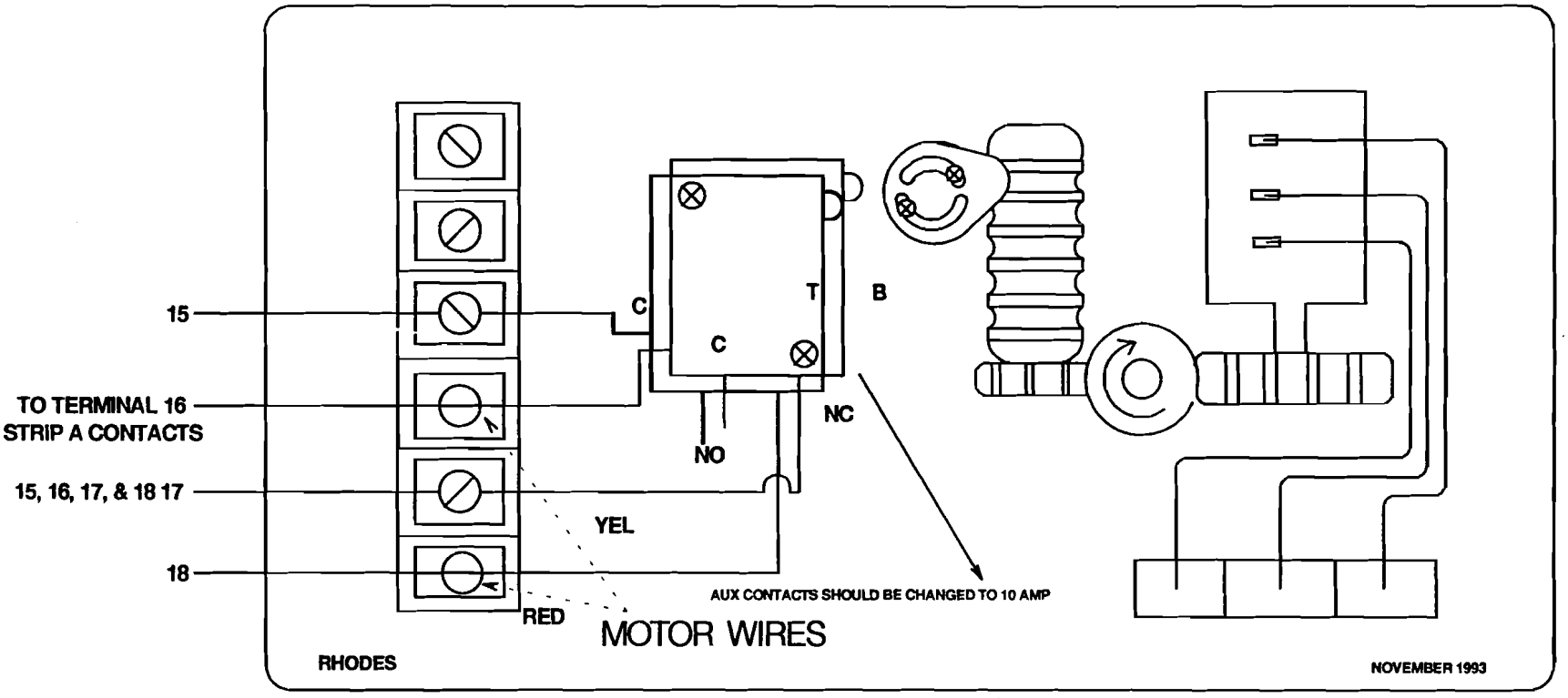
ACTUATOR CIRCUIT SCHEMATICS



FAN/HEATER CONTROL SCHEMATICS



24 VOLT DC ACTUATOR WIRING



INSTALLATION OF ROOF-MOUNTED LEVEL SWITCHES

Note: Single vane paddle is used on LOW level switch.

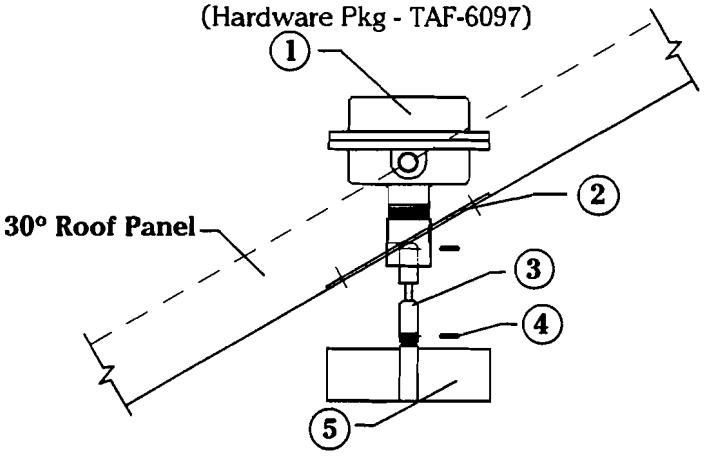
Drill 2" diameter holes through roof panels at locations shown on page _. Use a mounting plate as a pattern and drill (4) 3/8" holes through roof panels at each switch location so the plate can be bolted to the roof.

Attach flex-coupling to the power-pak. Apply teflon tape or pipe sealant (not included) to power-pak pipe threads and thread power-pak into mounting plate coupling. Conduit opening in power-pak should be at right angles to roof rib or face toward eave.

Caulk underside of mounting plate above and both sides of 2" hole. Bolt to roof panel.

Attach shaft extension. Use teflon tape or pipe sealant (not included) on shaft guard and thread to underside of mount plate coupling. Add 1/4" drilled coupling and paddle.

OverFlow Level Switch
TAF-6103
(Hardware Pkg - TAF-6097)

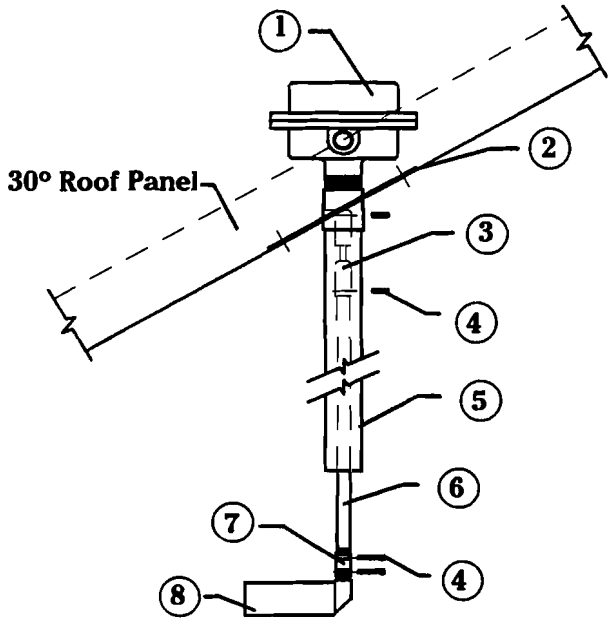


Key	Part No.	Description	Qty.	Wt.
1	TD-100076	Rotary Switch Power-Pak	1	3.50
2	TD-100627	Roof Mount Coupling Weldment	1	2.14
3	TD-100075	Flex-Coupling	1	.50
4	S-7241	1/8" x 1.14" Cotter Pin	2	.00
5	TAF-6086	3-Vane Paddle	1	.75
*	TAF-6097	Hardware Pkg	1	.98
-	PNEG-300	Rotary Switch Instructions	1	.04
-	S-275	5/16"-18 x 3/4" Bin Bolt	6	.16
-	S-3651	Tube Seal	1	.71
-	S-396	5/16"-18 Hex Nut	6	.06
-	S-7241	1/8" x 1.1/4" Cotter Pin	2	.00

* Hardware Package not shown

\- Included in Hardware Package

Low Limit Rotary Switch Assembly
18'/36' - TAF-6100
(Hardware Pkg - TAF-6097)



Key	Part No.	Description	Qty.	Wt.
1	TD-100076	Rotary Switch Power-Pak	1	3.50
2	TD-100627	Roof Mount Coupling Weldment	1	2.14
3	TD-100075	Flex-Coupling	1	.50
4	S-7241	1/8" x 1.14" Cotter Pin	2	.00
5	TAF-6087	18'-24' Shaft Guard 12"	1	.00
	TAF-6089	27'-30'Shaft Guard 15"	1	.00
	TAF-6091	36' Shaft Guard 8"	1	.00
6	TAF-6088	18'-24' Shaft Extension	1	.54
	TAF-6090	27'-30' Shaft Extension	1	.675
	TAF-6092	36' Shaft Extension	1	.0
7	TAF-6107	1/4" Drilled Coupling	1	.00
8	TAF-6085	1-Vane Low Limit Paddle	1	.75
*	TAF-6097	Hardware Pkg	1	.98
-	PNEG-300	Rotary Switch Instructions	1	.04
-	S-275	5/16"-18 x 3/4" Bin Bolt	6	.16
-	S-3651	Tube Seal	1	.71
-	S-396	5/16"-18 Hex Nut	6	.06
-	S-7241	1/8" x 1.1/4" Cotter Pin	2	.00

Note: Single vane paddle is used on LOW level switch.

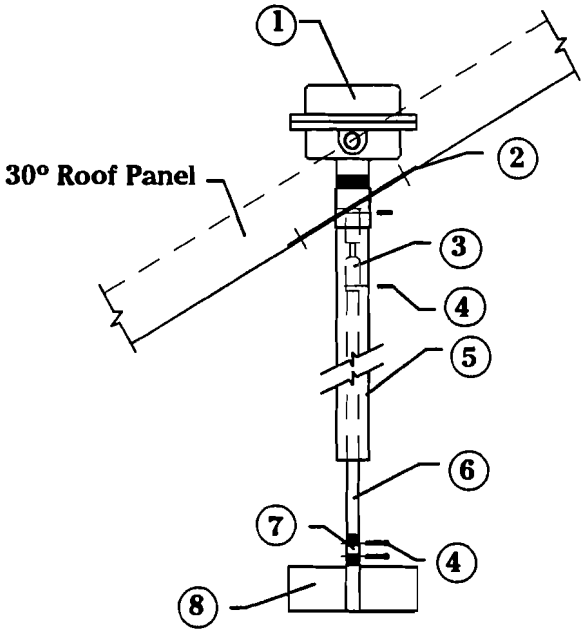
* Hardware Package not shown

\- Included in Hardware Package

Note: Single vane paddle is used on LOW level switch.

High Limit Rotary Switch Assembly

18'/24' - TAF-6099
27'/30' - TAF-6101
36' - TAF-6103
(Hardware Pkg - TAF-6097)



Key	Part No.	Description	Qty.	Wt.
1	TD-100076	Rotary Switch Power-Pak	1	3.50
2	TD-100627	Roof Mount Coupling Weldment	1	2.14
3	TD-100075	Flex-Coupling	1	.50
4	S-7241	1/8" x 1.14" Cotter Pin	2	.00
5	TAF-6087	18'-24' Shaft Guard 12"	1	.00
	TAF-6089	27'-30'Shaft Guard 15"	1	.00
	TAF-6091	36' Shaft Guard 8"	1	.00
6	TAF-6088	18'-24' Shaft Extension	1	.54
	TAF-6090	27'-30' Shaft Extension	1	.675
	TAF-6092	36' Shaft Extension	1	.0
7	TAF-6107	1/4" Drilled Coupling	1	.00
8	TAF-6086	3-Vane High Limit Paddle	1	.75
*	TAF-6097	Hardware Pkg	1	.98
-	PNEG-300	Rotary Switch Instructions	1	.04
-	S-275	5/16"-18 x 3/4" Bin Bolt	6	.16
-	S-3651	Tube Seal	1	.71
-	S-396	5/16"-18 Hex Nut	6	.06
-	S-7241	1/8" x 1.1/4" Cotter Pin	2	.00

* Hardware Package not shown

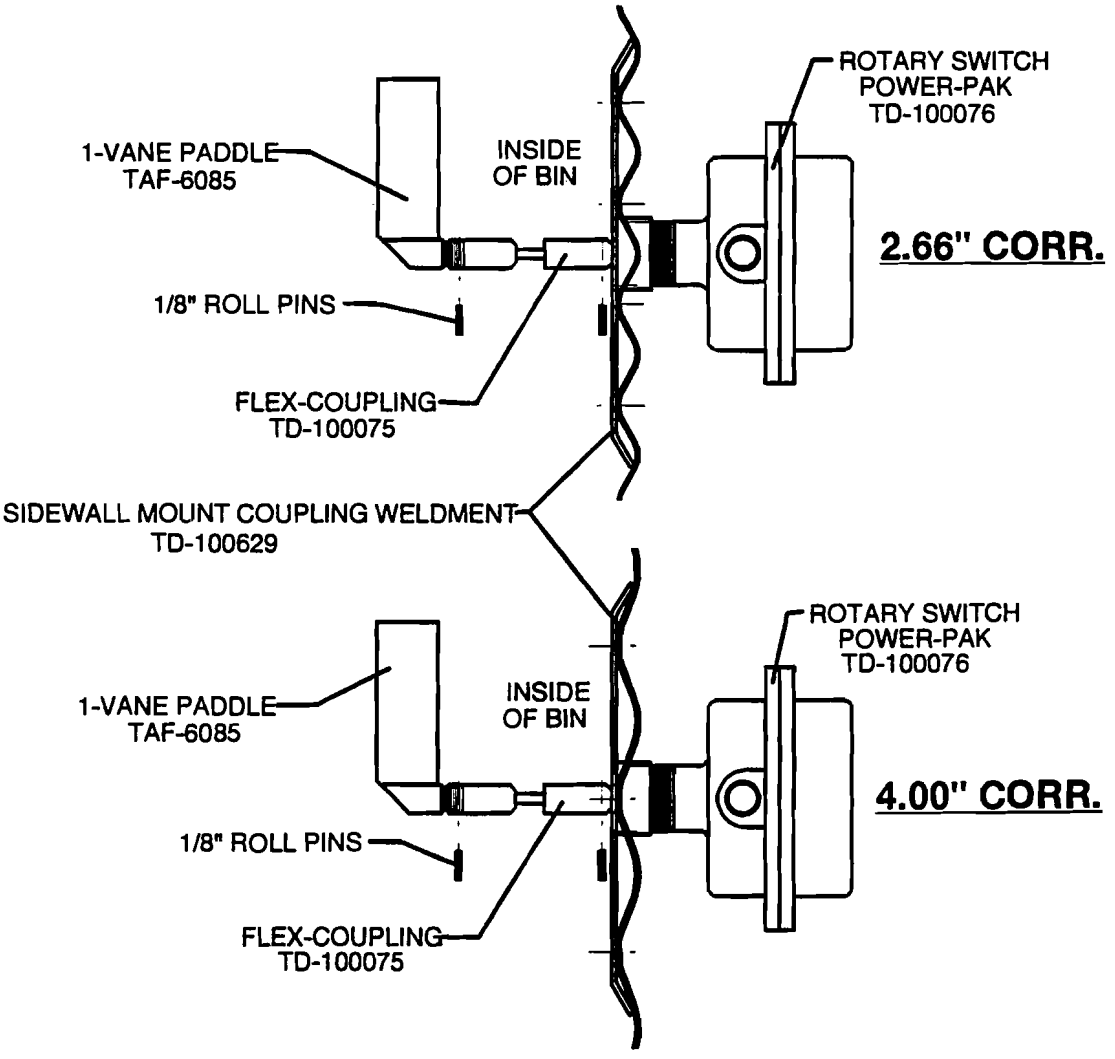
\- Included in Hardware Package

INSTALLATION OF WALL MOUNTED LEVEL SWITCH

Drill 2" hole through wall at desired location. If bin is 2.66" corrugation, hole should be centered on outside hill. If bin is 4.00" corrugation, hole should be centered on outside valley.

Position mount plate as desired (from inside), mark and drill 3/8" holes. Caulk coupling abundantly where it passes thru wall. Add foam weather strip around top and sides of plate then bolt to bin wall. Caulk coupling to wall seam from outside.

Attach flex coupling to power-pak. Add teflon tape or pipe sealant (not provided) to power-pak pipe threads and thread into coupling. Conduit opening should be horizontal or down. Add one-vane paddle. (Paddle may be added to flex coupling before power-pak is threaded into coupling if desired.)



AIRSTREAM GRAIN CONDITIONING SYSTEMS

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