wiring diagrams

SINGLE PACKAGE ROOFTOP ELECTRIC COOLING UNITS

558F
036-150
3 to 12 1/2 Tons

Cancels: New

WD 558F.36.1
11/15/00

DIAGRAM INDEX

UNIT LABEL DIAGRAM				
Unit 558F	**Voltage-Phase-Hertz**	**Type**	**Label Diagram**	**Figure No.**
036,048	208/230-1-60	Schematic/Component Arrangement	50DK508524	1
	208/230-3-60	Schematic/Component Arrangement	50DK508526	2
	460-3-60	Schematic/Component Arrangement	50DK508529	3
	575-3-60	Schematic/Component Arrangement	50DK508531	4
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	208/230-3-60	Schematic/Component Arrangement	50DK508527	6
	460-3-60	Schematic/Component Arrangement	50DK508530	7
	575-3-60	Schematic/Component Arrangement	50DK508532	8
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ACCESSORY WIRING		
Description	**Unit Size**	**Fig. No.**
Motormaster® I Control	036-150	13
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Time Guard® II Device	036-150	16
Solid-State Enthalpy Control	036-150	17
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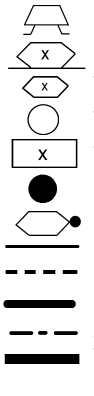
LEGEND

AHA — Adjustable Heat Anticipator
AWG — American Wire Gage
C — Contactor, Compressor
CAP. — Capacitor
CB — Circuit Breaker
CC — Cooling Compensator
COMP — Compressor Motor
D — Diode
EC — Enthalpy Control
ECON — Economizer
EPS — Emergency Power Supply (Nine-Volt Battery)
EQUIP — Equipment
ER — Economizer Relay
FPT — Freeze-Up Protection Thermostat
FU — Fuse
GND — Ground
HC — Heater Contactor (Strip Heat)
HPS — High-Pressure Switch
IFC — Indoor-Fan Contactor
IFM — Indoor-Fan Motor
IFMOVL — Indoor-Fan Motor Overload
IFR — Indoor-Fan Relay
LPS — Low-Pressure Switch
LSM — Limit Switch (Manual Reset)
MTR — Motor
OAT — Outdoor-Air Thermostat
OFC — Outdoor-Fan Contactor
OFM — Outdoor-Fan Motor
OLR — Overload Relay
P — Plug
PL — Plug Assembly
QT — Quadruple Terminal
R — Relay
SAT — Supply-Air Thermostat
SEN — Sensor
ST — Start Thermistor
SW1 — Switch Fully Open
SW2 — Switch Fully Closed
SW3 — Switch Minimum Vent Position
SW4 — Switch Maximum Vent Position
TB — Terminal Block
TC — Thermostat, Cooling
TDR — Time-Delay Relay
TH — Thermostat, Heating
TRAN — Transformer



NOTES FOR FIG. 1, 2, 5, 6, 9

1. If any of the original wire furnished must be replaced, it must be replaced with Type 90 C wire or its equivalent.
2. Three-phase motors are protected under primary single-phasing conditions.
3. Thermostat:
   HH07AT170, 172, 174, and P272-2783
   Subbase:
   HH93AZ176, 178, and P272-1882, 1883
4. Set heat anticipator at 1 amp.
5. Use copper conductors only.
6. Use copper, copper-clad aluminum or aluminum conductors.
7. For 208/230-3-60 v units: TRAN is wired for 230-v unit. If unit is to be run with 208-v power supply, disconnect BLK wire from 230-v tap (RED) and connect to 208-v tap (BLU). Insulate end of 230-v tap.

NOTES FOR FIG. 3, 4, 7, 8, 10

1. If any of the original wire furnished must be replaced, it must be replaced with Type 90 C wire or its equivalent.
2. Three-phase motors are protected under primary single-phasing conditions.
3. Thermostat:
   HH07AT170, 172, 174, and P272-2783
   Subbase:
   HH93AZ176, 178, and P272-1882, 1883
4. Set heat anticipator at 1 amp.
5. Use copper conductors only.
6. Use copper, copper-clad aluminum or aluminum conductors.

NOTES FOR FIG. 11

1. If any of the original wire furnished must be replaced, it must be replaced with Type 90 C wire or its equivalent.
2. Three-phase motors are protected under primary single-phasing conditions.
3. Thermostat:
   HH07AT170, 172, 174, and P272-2783
   Subbase:
   HH93AZ176, 178, and P272-1882, 1883
4. Set heat anticipator at 1 amp.
5. Use copper conductors only.
6. Use copper, copper-clad aluminum or aluminum conductors.
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8.

CIRCUIT BREAKER	VOLTS	MFG. PT. NO.		MUST TRIP AMPS
CB	24 V	**Potter & Brumfield**		
		W2BX-1024-3.2		3.2
CB1 150	460-3-60	**Heinemann**	**Airpax**	
		CF3-Z228-4	219-3-2600-486	8.5

NOTES FOR FIG. 12

1. If any of the original wire furnished must be replaced, it must be replaced with Type 90 C wire or its equivalent.
2. Three-phase motors are protected under primary single-phasing conditions.
3. Thermostat:
   HH07AT170, 172, 174, and P272-2783
   Subbase:
   HH93AZ176, 178, and P272-1882, 1883
4. Set heat anticipator at 1 amp.
5. Use copper conductors only.
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CIRCUIT BREAKER	VOLTS	MFG. PT. NO.		MUST TRIP AMPS
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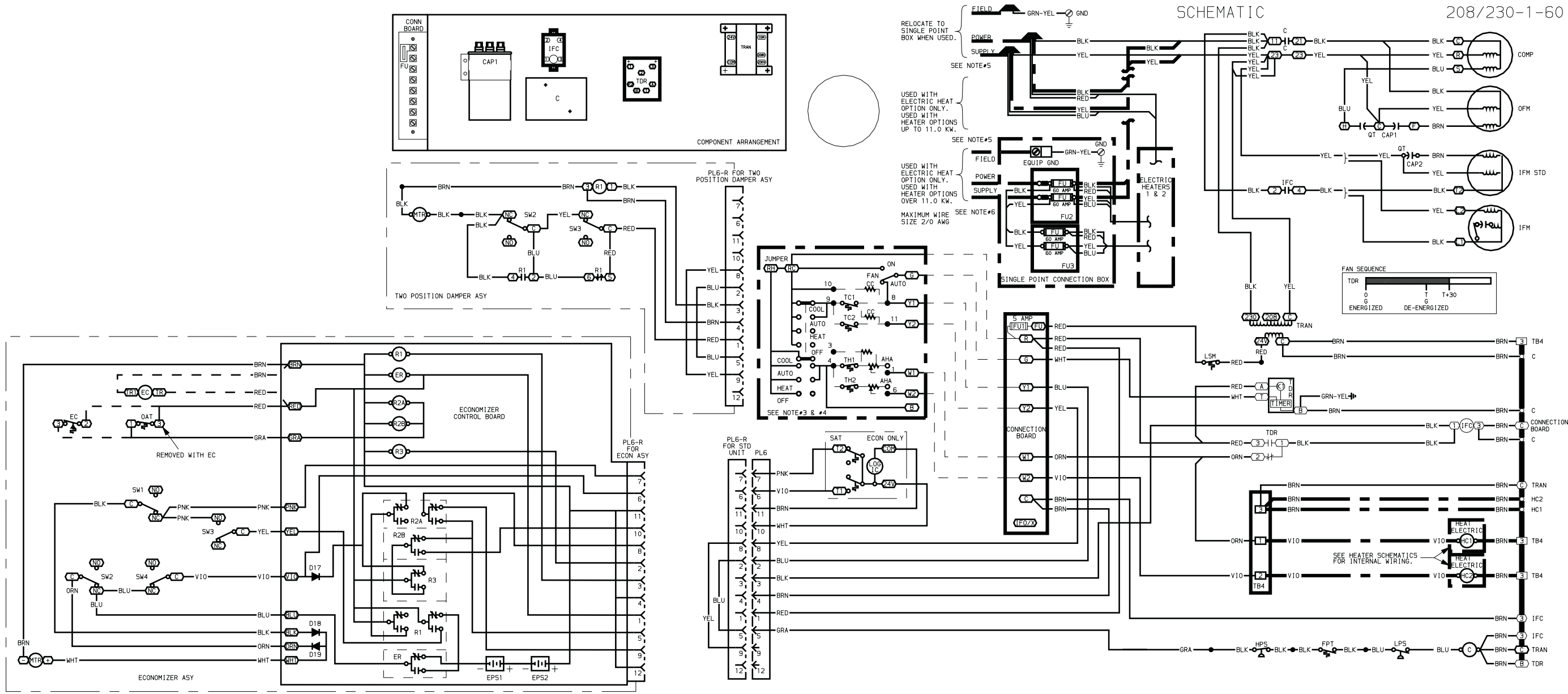


Fig. 1 — Schematic/Component Arrangement; 558F036,048; 208/230-1-60

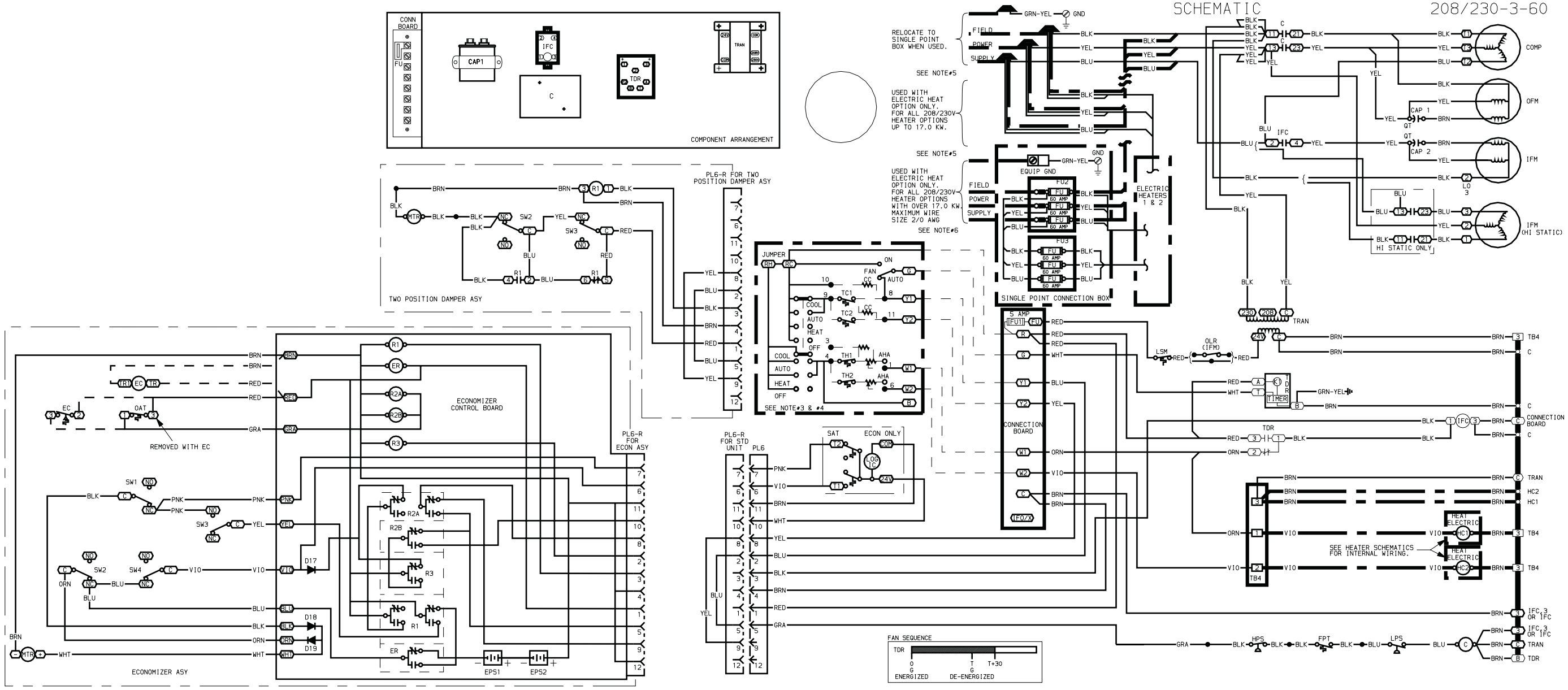
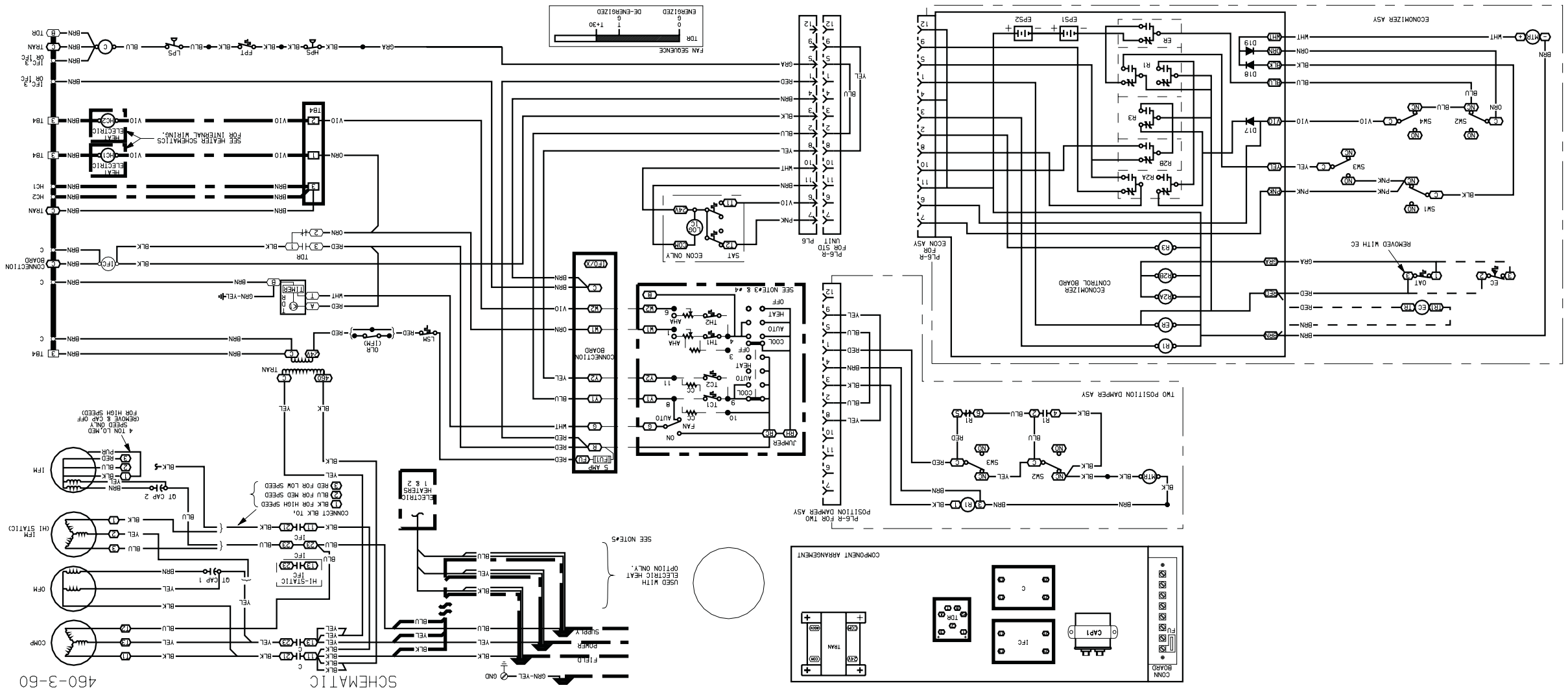


Fig. 2 — Schematic/Component Arrangement; 558F036,048; 208/230-3-60

Fig. 3 — Schematic/Component Arrangement; 558F036,048; 460-3-60



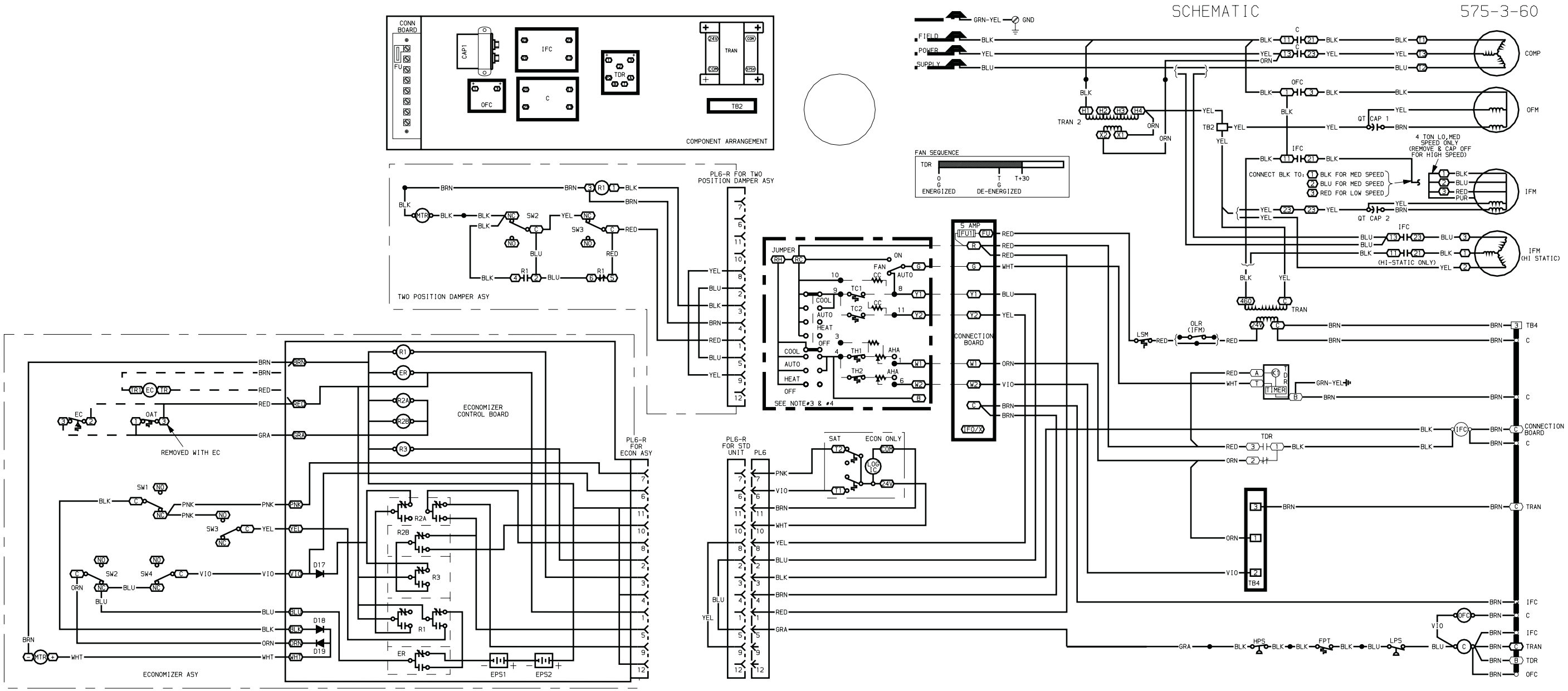


Fig. 4 — Schematic/Component Arrangement; 558F036,048; 575-3-60

Fig. 5 — Schematic/Component Arrangement; 558F060; 208/230-1-60

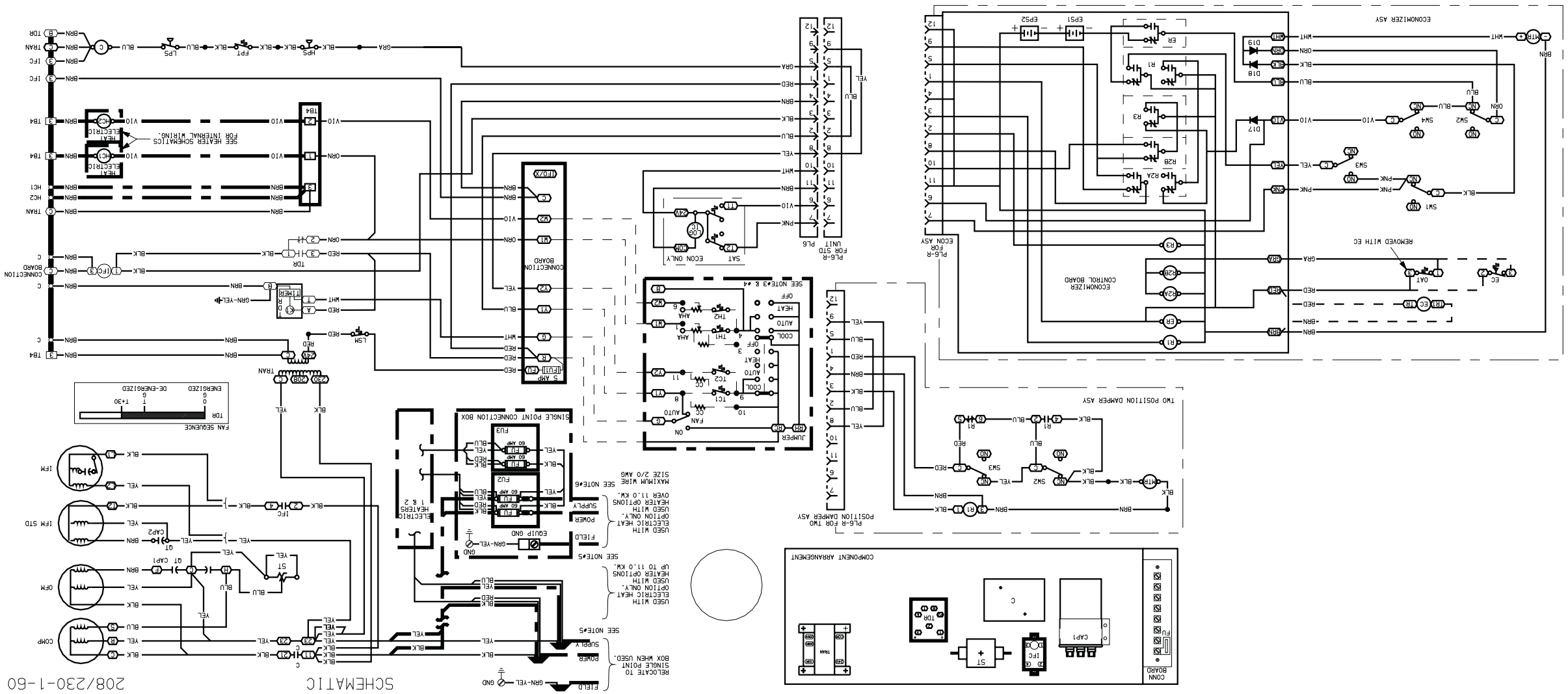
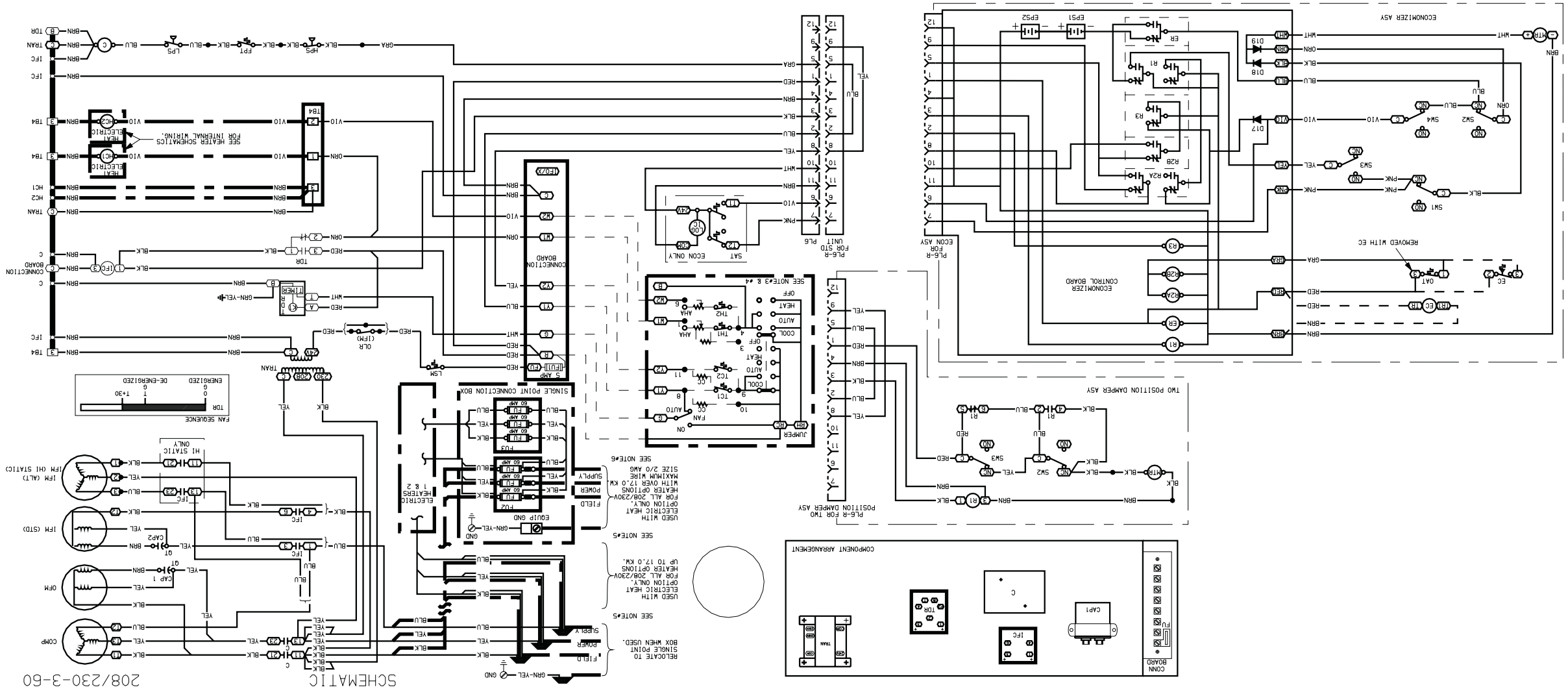


Fig. 6 — Schematic/Component Arrangement; 558F060; 208/230-3-60



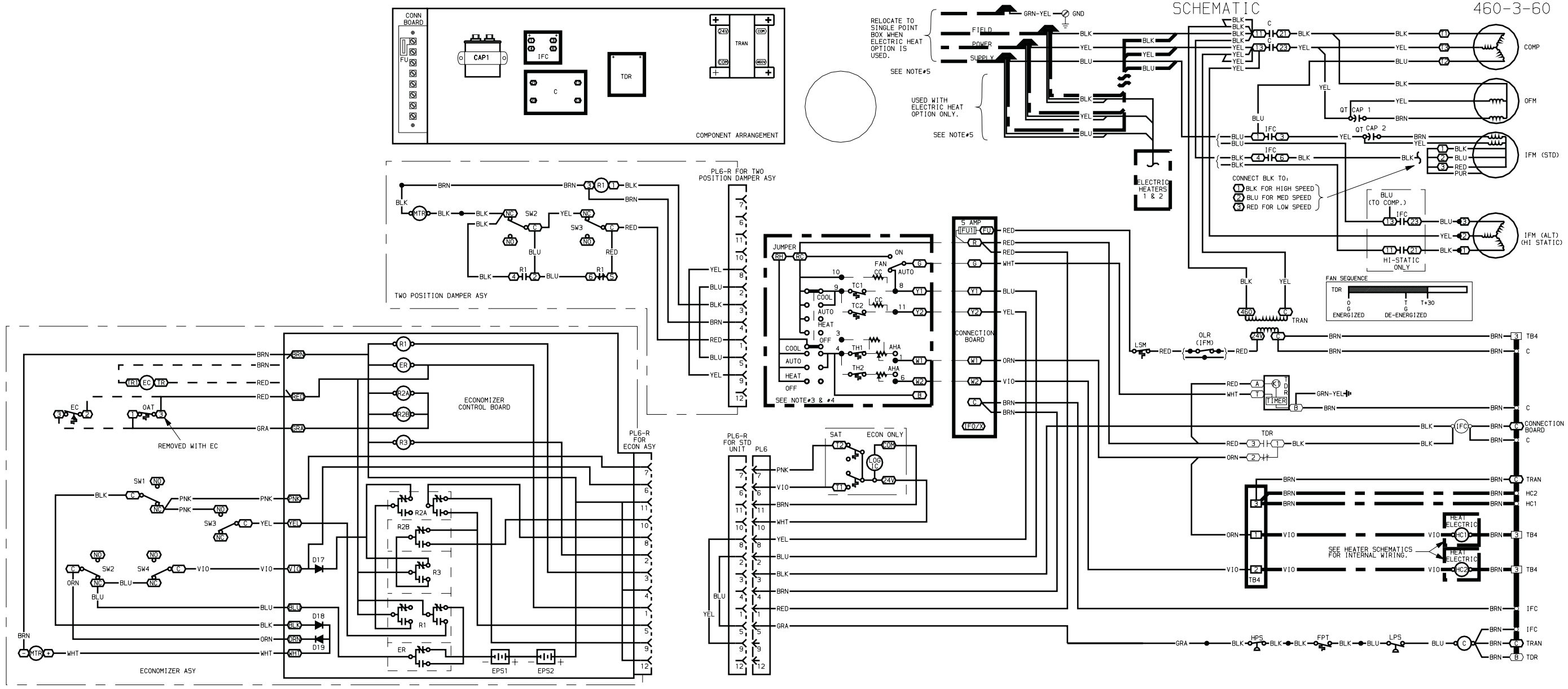


Fig. 7 — Schematic/Component Arrangement; 558F060; 460-3-60

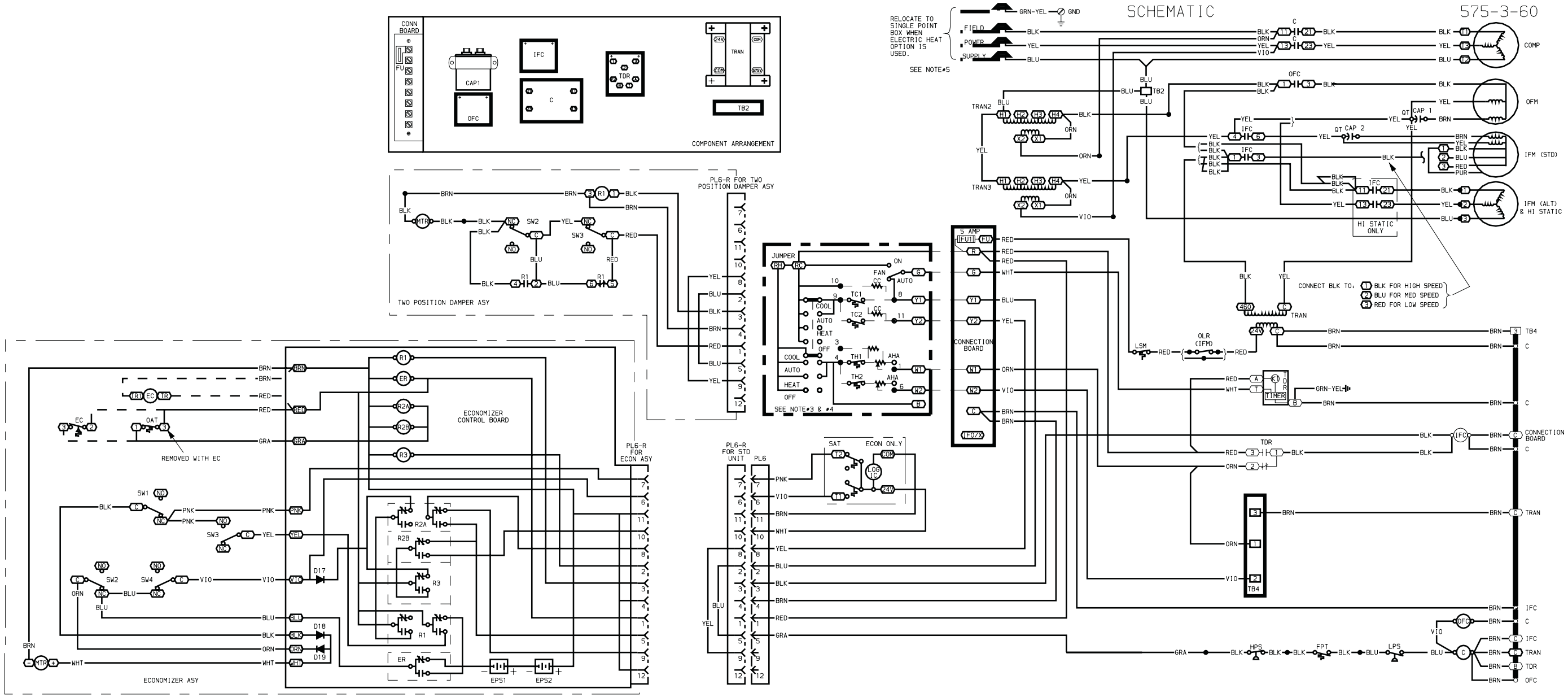
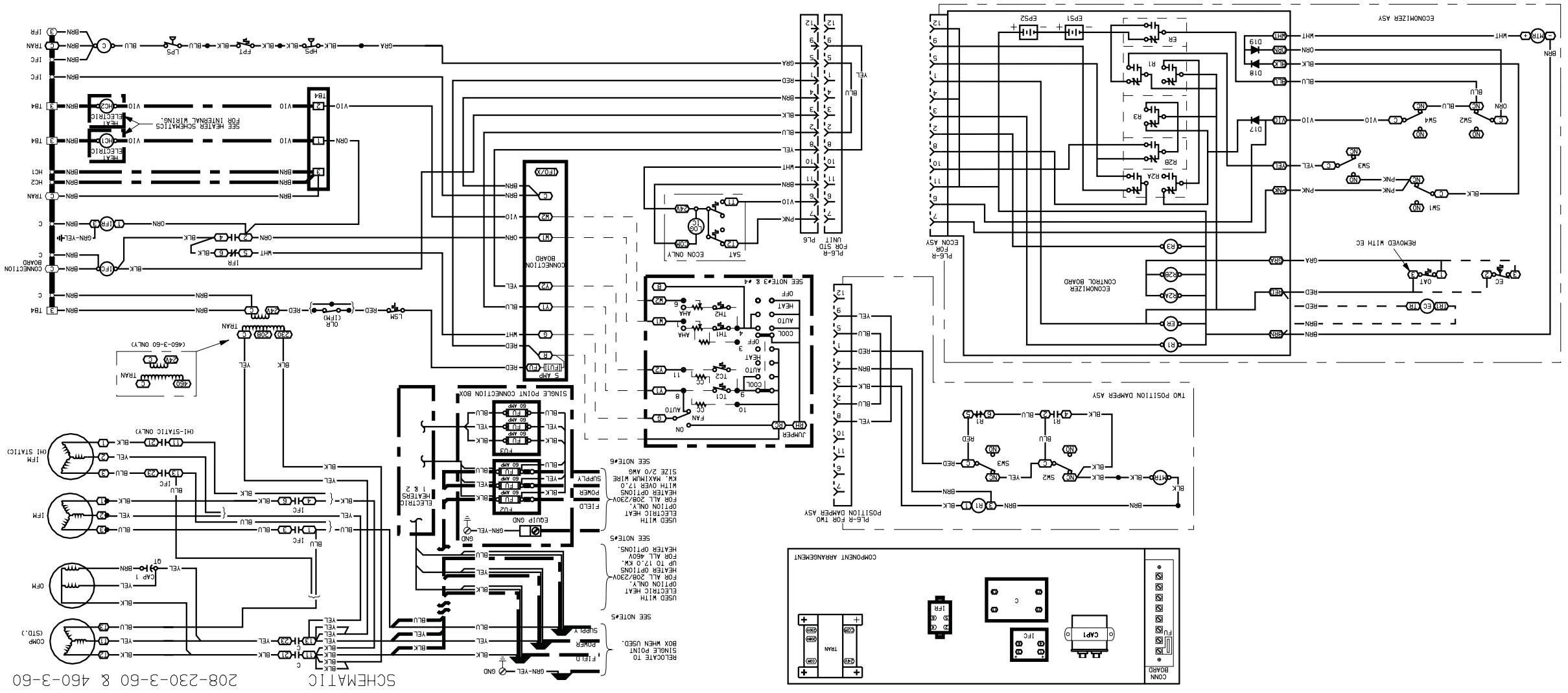


Fig. 8 — Schematic/Component Arrangement; 558F060; 575-3-60

Fig. 9 — Schematic/Component Arrangement; 558F072; 208/230-3-60 and 460-3-60



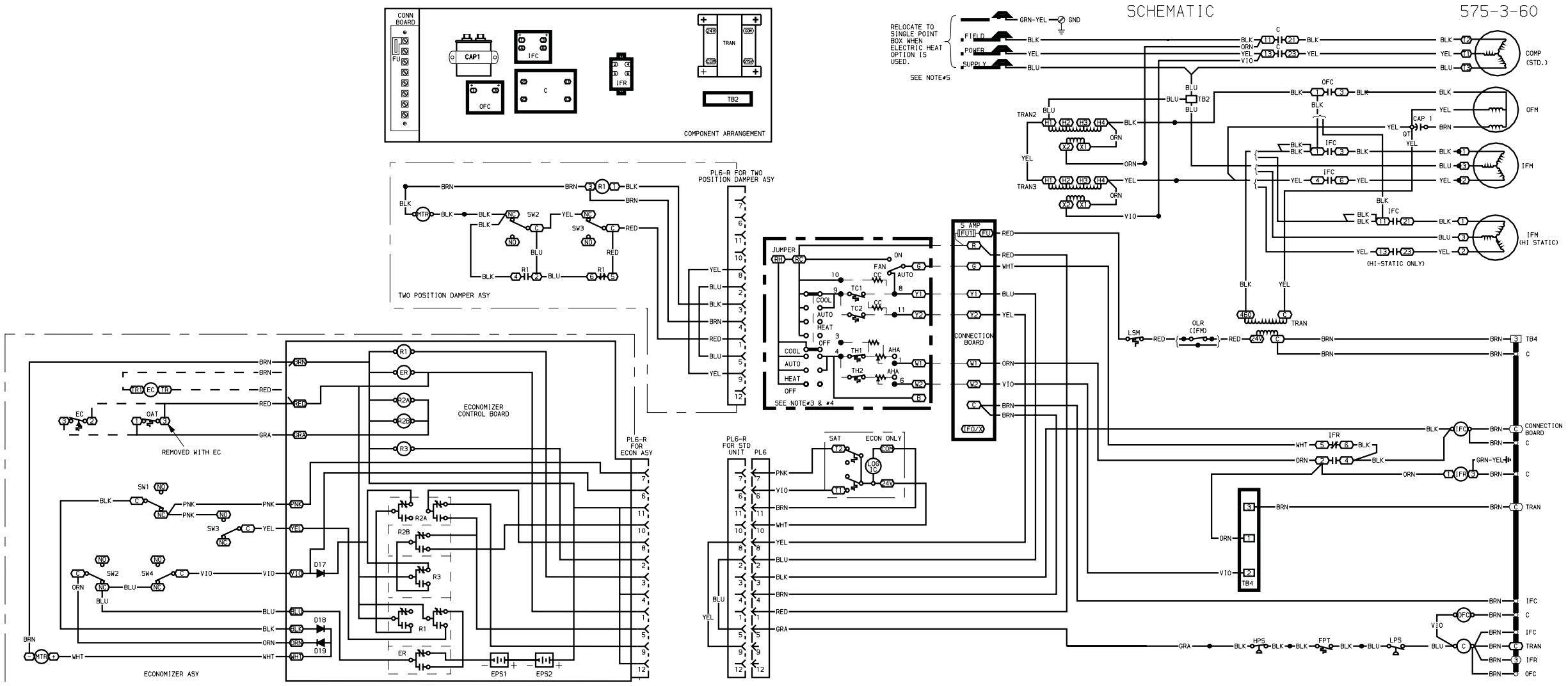


Fig. 10 — Schematic/Component Arrangement; 558F072; 575-3-60

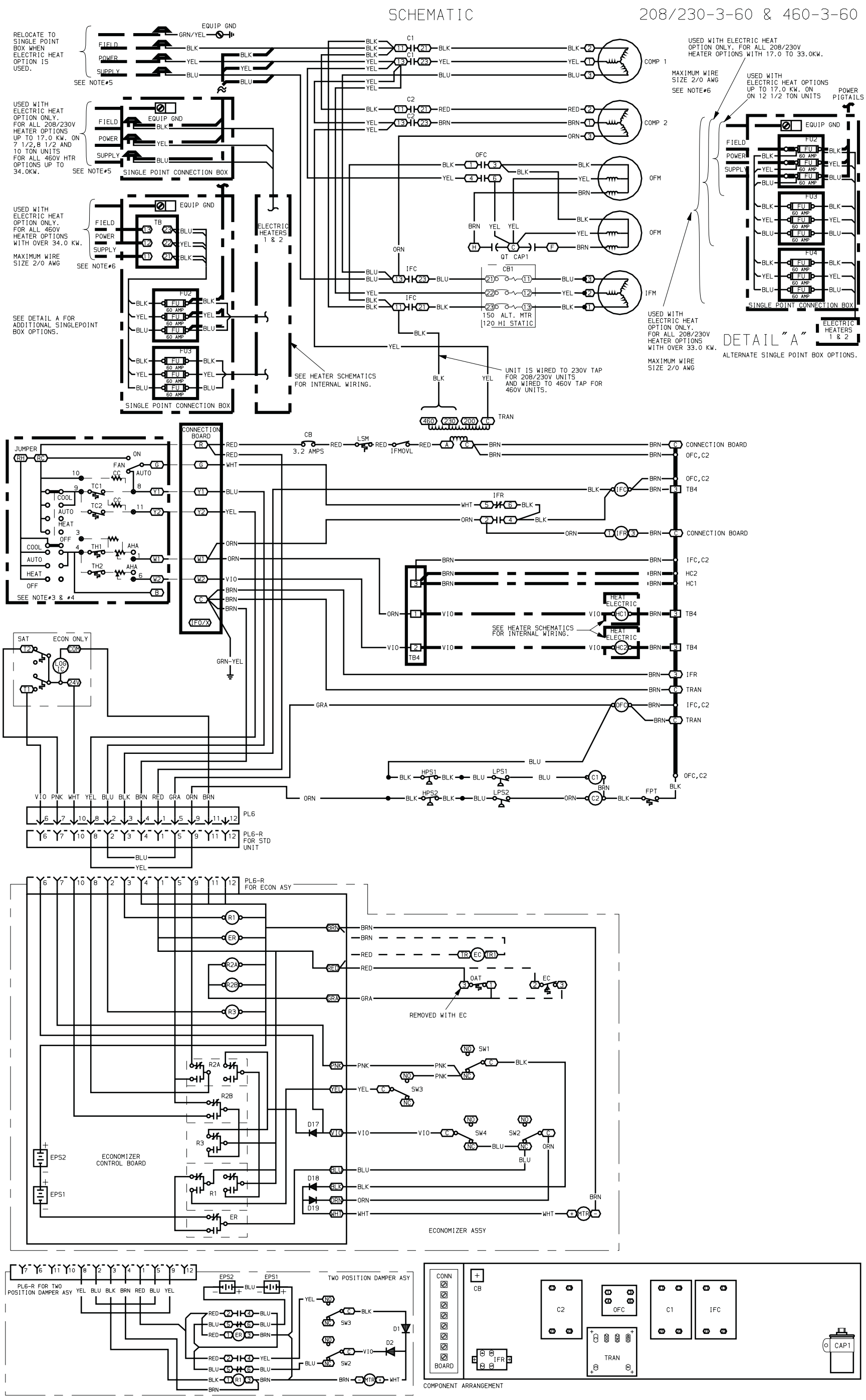


Fig. 11 — Schematic/Component Arrangement; 558F090-150; 208/230-3-60 and 460-3-60

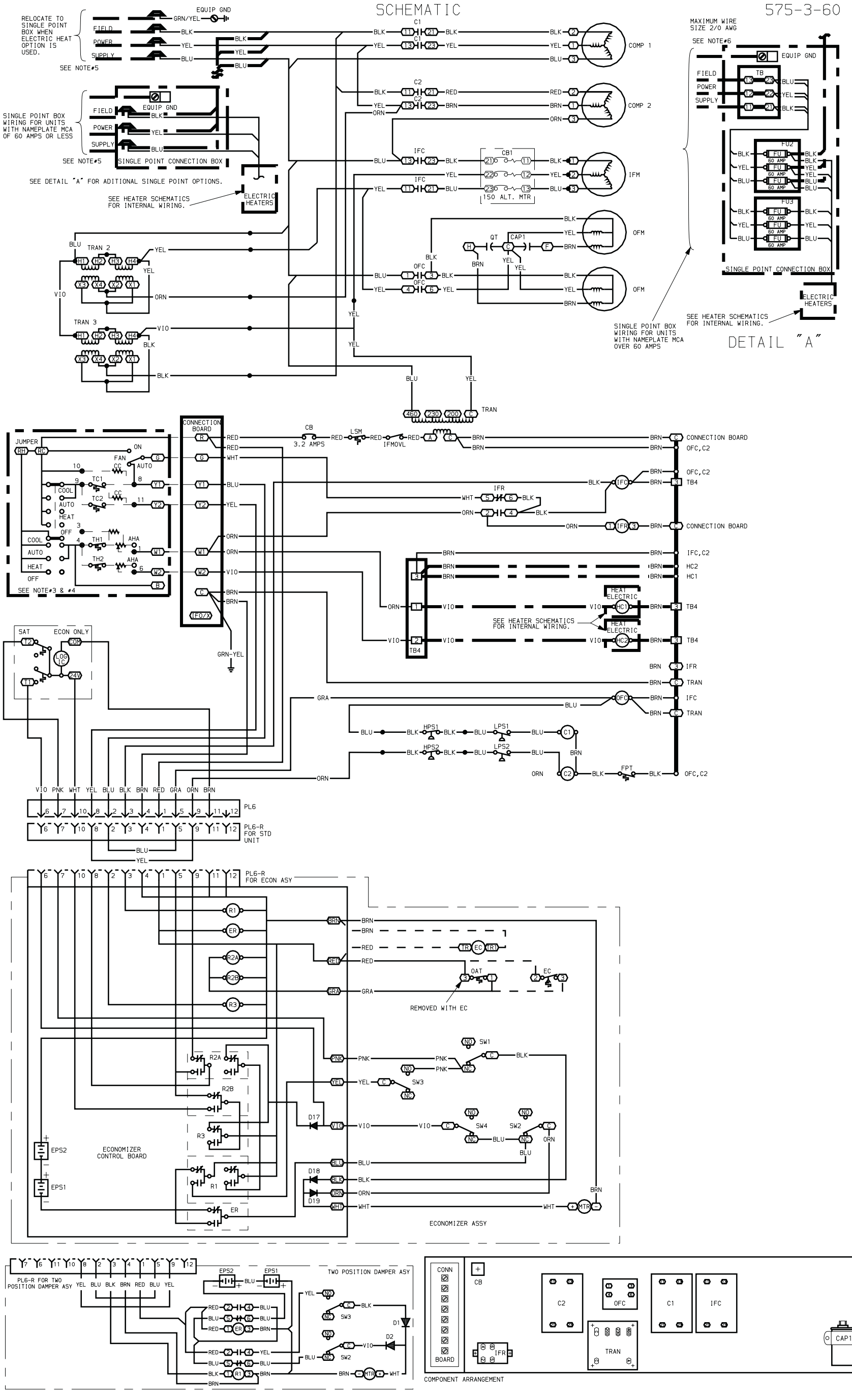
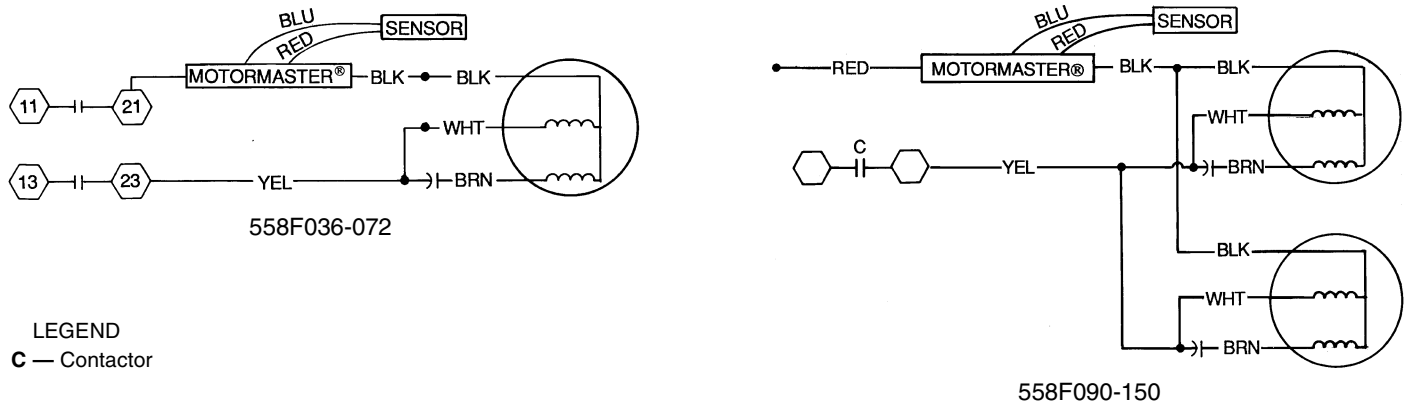
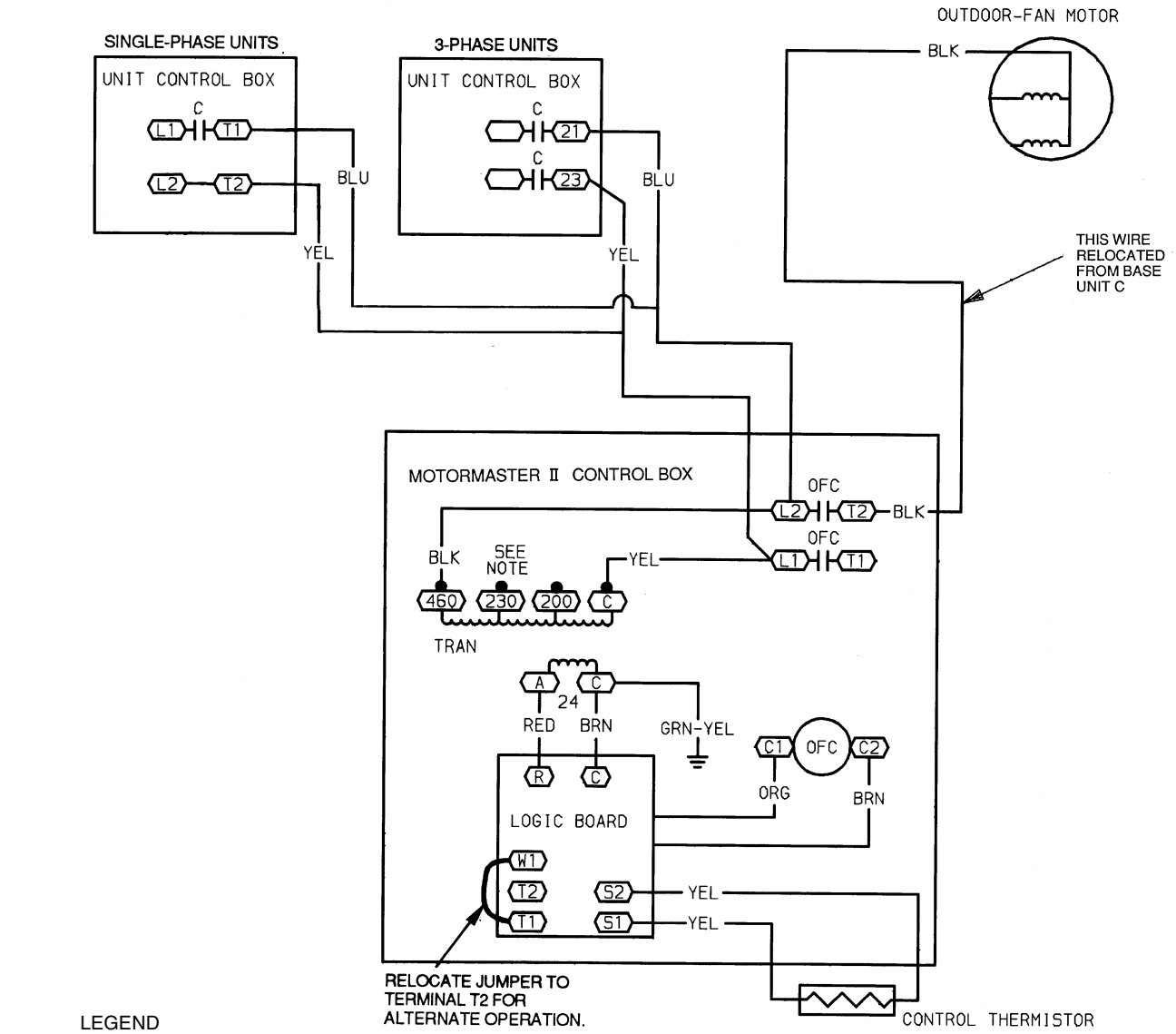


Fig. 12 — Schematic/Component Arrangement; 558F090-150; 575-3-60



LEGEND
C — Contactor

Fig. 13 — Motormaster® I Wiring Details

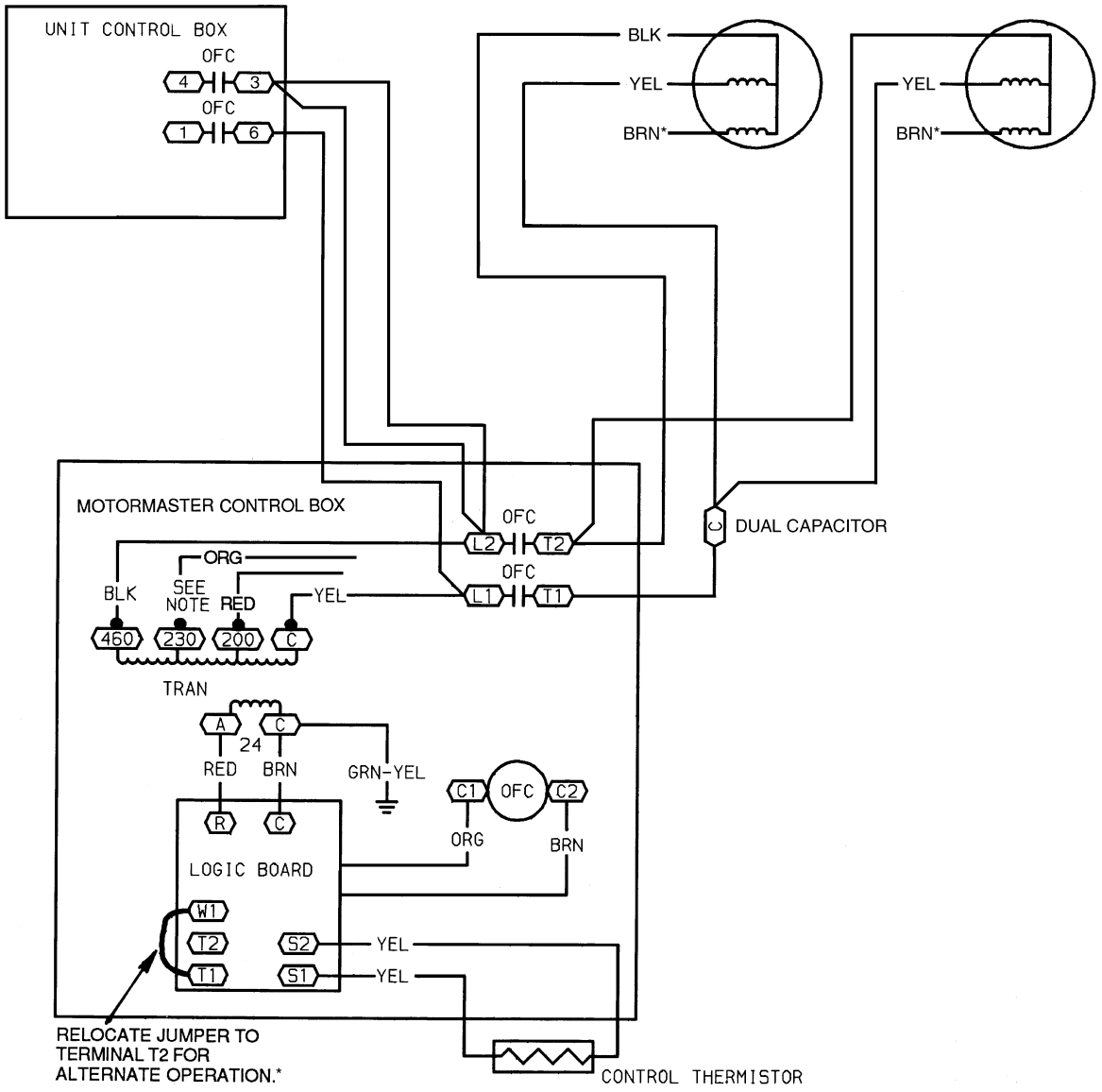


LEGEND

C — Contactor
OFC — Outdoor-Fan Contactor
TRAN — Transformer

NOTE: Motormaster II transformer is wired for 460-v supply; it must be rewired for 208/230-v application. Be sure to insulate unused tap. Refer to color code.

Fig. 14 — Motormaster II Wiring Schematic; 558F036-072



LEGEND

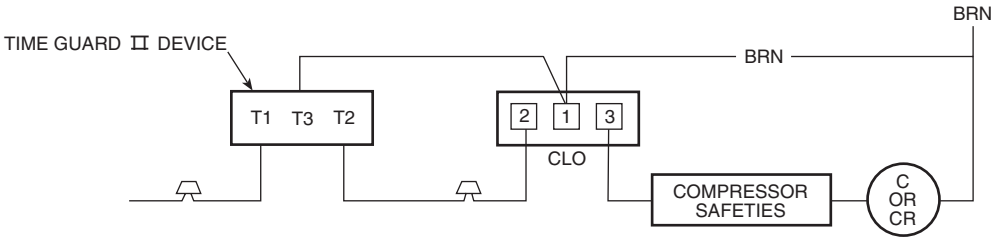
C — Contactor
OFC — Outdoor-Fan Contactor
TRAN — Transformer

*The Motormaster II head pressure controller is equipped with an alternate operating mode. When this mode is selected, the controller shifts the fan cycle sequence to effectively raise the average condensing temperature approximately 20 F higher than the standard operating mode. In this alternate mode, the outdoor fan begins cycling at higher outdoor ambient temperatures. This mode should only be used if the evaporator coil shows signs of frosting at low outdoor ambient temperatures.

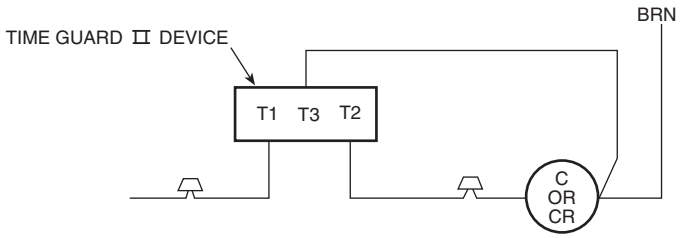
To select the alternate operating mode, move the jumper wire on the Motormaster II control board from reset T1 to reset T2.

NOTE: Motormaster® II transformer is wired for 460-v supply; it must be rewired for 208/230-v application. Be sure to insulate unused tap. Refer to color code.

Fig. 15 — Motormaster II Wiring Schematic; 558F090-150



HIGH EFFICIENCY 3 TO 12$^1/_2$ TON ROOFTOP UNITS

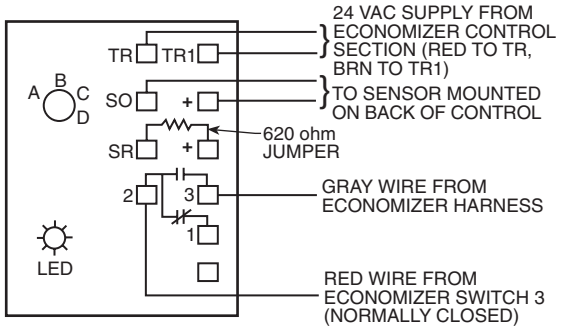


STANDARD EFFICIENCY 3 TO 12$^1/_2$ TON ROOFTOP UNITS

LEGEND

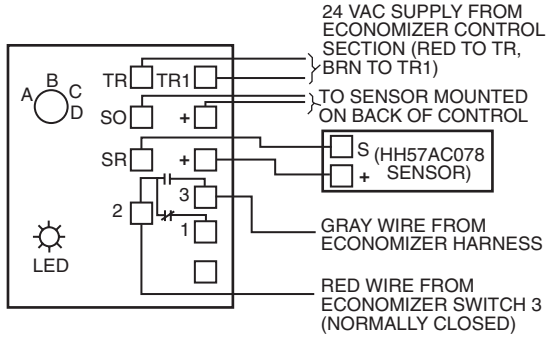
C — Contactor
CLO — Compressor Lockout
CR — Control Relay

Fig. 16 — Time Guard® II Device; 558F036-150



NOTE: Switches shown in high enthalpy state. Terminals 2 and 3 close on enthalpy decrease.

Fig. 17 — Wiring Connections for Solid-State Enthalpy Control (HH57AC077)



NOTES:
1. Remove factory-installed jumper across SR and + before connecting wires from HH57AC078 sensor.
2. Switches shown in high outdoor-air enthalpy state. Terminals 2 and 3 close on low outdoor air enthalpy relative to indoor air enthalpy.

Fig. 18 — Wiring Connections for Differential Enthalpy Control (HH57AC077 and HH57AC078)

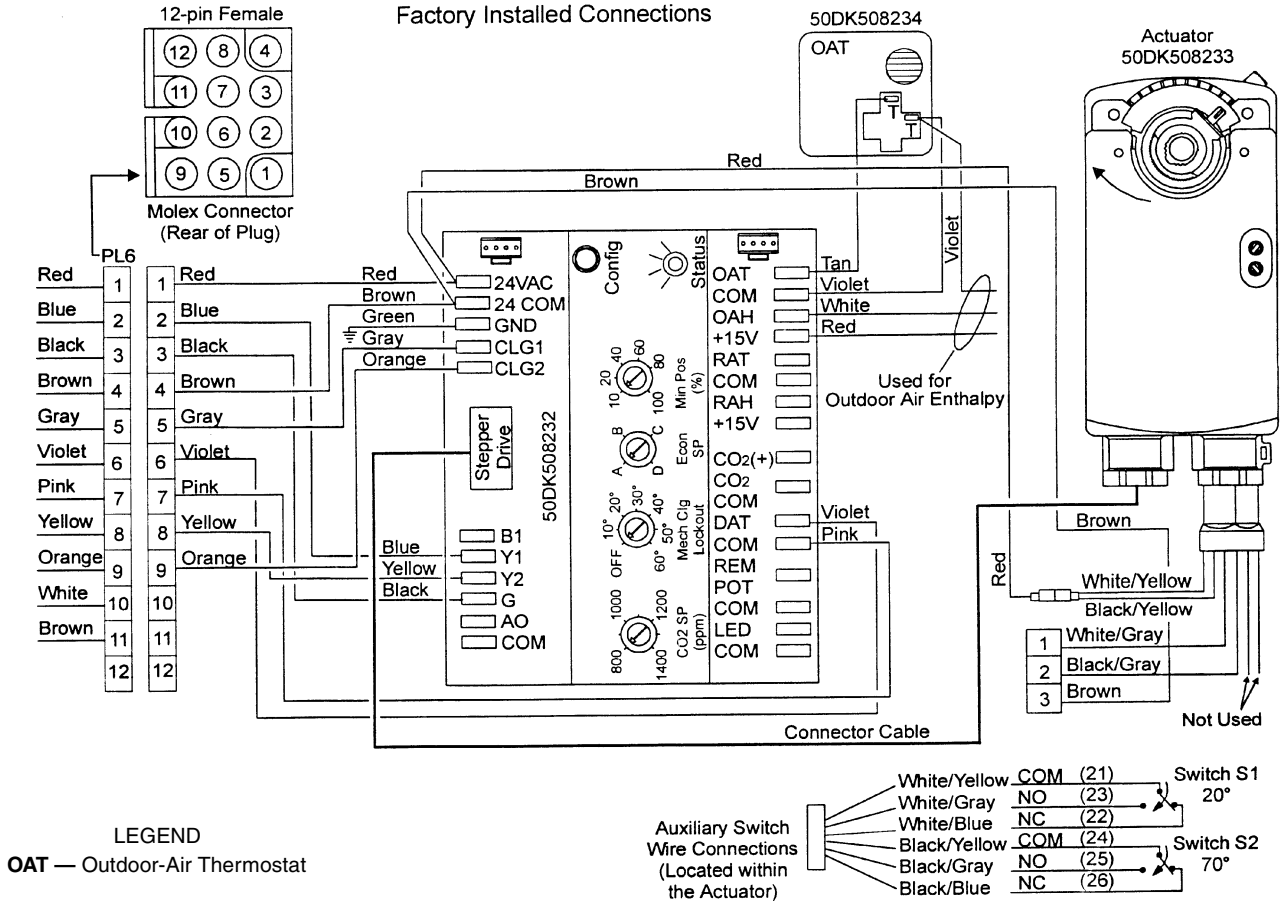


Fig. 19 — EconoMi$er Wiring

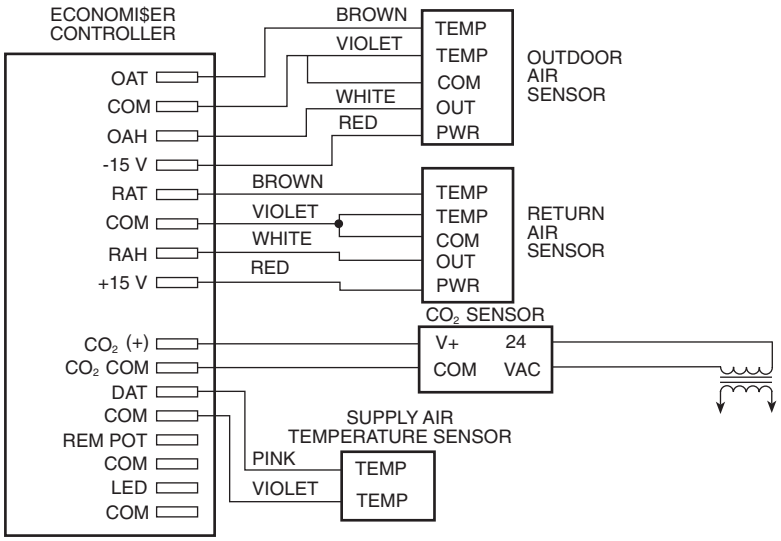


Fig. 20 — EconoMi$er Sensor Wiring; 558F036-150

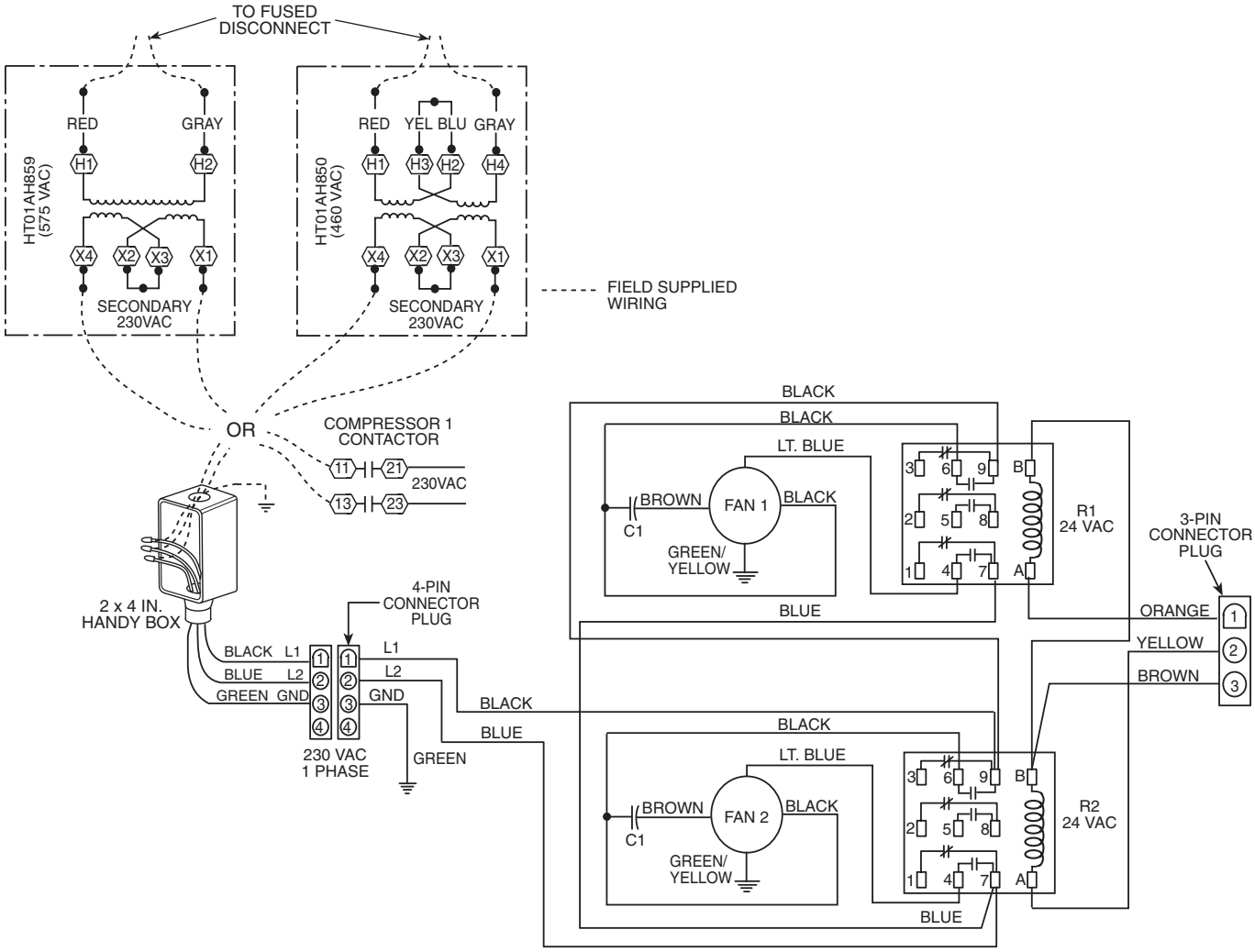


Fig. 21 — Wiring Diagram for Power Exhaust System