Carrier
HEATING & COOLING

48H,L Series 006,008 Combination Heating/Cooling Units

Wiring Diagrams

INDEX

Timer Sequence Chart ..... Fig 1

UNIT	VOLTAGE	LABEL DIAGRAM 48CH-	FIG. NO.	
			Schematic	Component Arrangement
48HV006	230-1-60	502224 Rev. D	3	2
	208/230-3-60, 460-3-60	502234 Rev. D	4	5
48HZ006	208/230-3-60, 460-3-60	502254 Rev. C	7	6
48HV,LV008	208/230-3-60, 460-3-60	501834 Rev E	8	9
48HZ,LZ008	208/230-3-60, 460-3-60	501874 Rev D	11	10

Motormaster® Control Installation
Control Location ..... Fig 12
Sensor Location ..... Fig 13,14
Wiring ..... Fig. 15-17
Wind Baffle ..... Fig 18
Remote Control Field Wiring Schematic ..... Fig 19

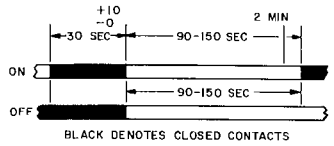


Fig. 1 — Timer Sequence Chart

NOTES

1. Compressor and fan motors are thermally protected Three-phase motors are protected against primary single-phasing conditions
2. If any original wires furnished must be replaced, replace with 90 C wire or its equivalent.
3. Numbers indicate the line location of used contacts A bracket over (2) numbers signifies a single-pole, double-throw contact An underlined number signifies a normally closed contact. Plain (no line) number signifies a normally open contact.
4. Must use thermostat HH07AT172 or 174 with subbase HH93AZ177.
5. Set heat anticipator at 1 2 amp for first stage (230; 208/230 v); and 1.0 amp (460 v).
6. Factory connected to 230-v or 460-v lead, per unit rated voltage. If 208-v power supply is used, connect to 200 v and insulate 230-v lead.
7. CB must trip amps are equal to or less than 140% FLA.

LEGEND

AHA — Adjustable Heat Anticipator
Assy — Assembly
C — Contactor Compressor
Cap. — Capacitor
CB — Circuit Breaker
CC — Cooling Compensator
CH — Crankcase Heater
CLO — Compressor Lockout
CLS — Cooling Lockout Switch
Comp — Compressor Motor
CR — Control Relay
CS — Centrifugal Switch
DM — Damper Motor
DR — Damper Relay
EC — Enthalpy Control
ECT — Economizer Thermostat
Equip. — Equipment
FCS — Fan Cycling Temperature Switch
Fu — Fuse
Gnd — Ground
HPS — High-Pressure Switch
I — Ignitor Electrode
IDM — Induced Draft Motor
IDR — Induced Draft Relay
IFC — Indoor Fan Contactor
IFM — Indoor Fan Motor
IFR — Indoor Fan Relay
IP — Internal Protector
IPP — Ignitor Power Pack
L — Light
LPS — Low-Pressure Switch
LS — Limit Switch
MAT. — Mixed Air Thermostat
MGV — Main Gas Valve
Mtr — Motor
NS — Night Switch
OAT. — Outdoor Air Thermostat
OFC — Outdoor Fan Contactor
OFM — Outdoor Fan Motor
PGV — Pilot Gas Valve
PI — Plug Assembly
PS — Pilot Sensor
QT — Quadruple Terminal
RC — Run Capacitor
RLC — Rotor Locking Circuit
RS — Rollout Switch
ST — Start Thermistor
Std — Standard
Sw — Switch
TC — Thermostat-Cooling
TDR — Time-Delay Relay
TH — Thermostat-Heating
Tran — Transformer
TB — Terminal Block
U — Unloader

Marked Wire

⊗ Denotes Connection Point Between Subbase and Thermostat
Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Field Splice
Splice (Marked)
Factory Splice
Factory Wiring
Internal Connection
Accessory or Optional Wiring
Field Control Wiring
Field Power Wiring
To Indicate Common Potential Only, Not To Represent Wiring

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Book 1 4 | Tab 1a 6a | PC 111 | Catalog No 534-874 | Printed in U S A | Form 48H,L-5W | Pg 1 | 8-86 | Replaces: New

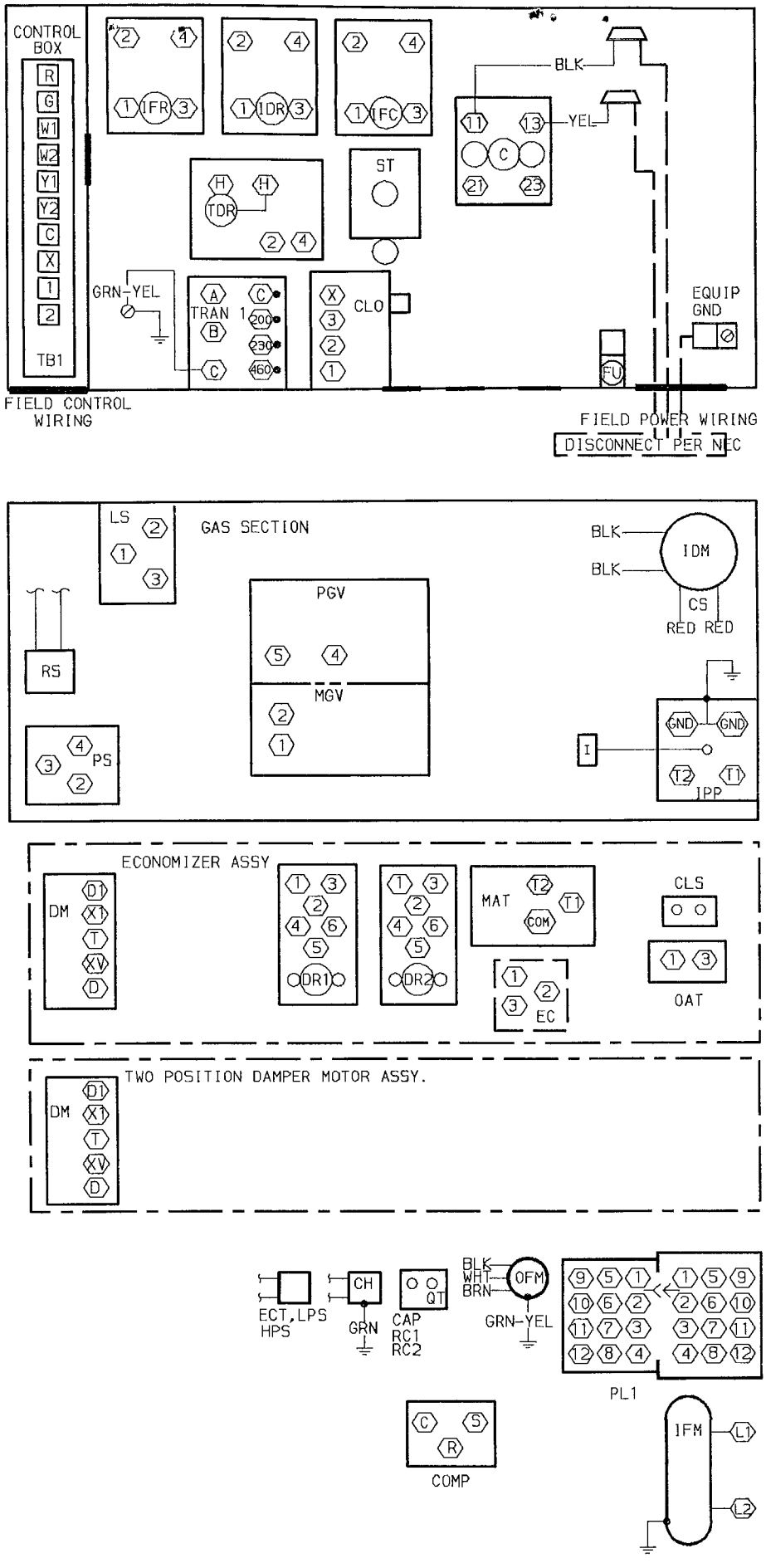
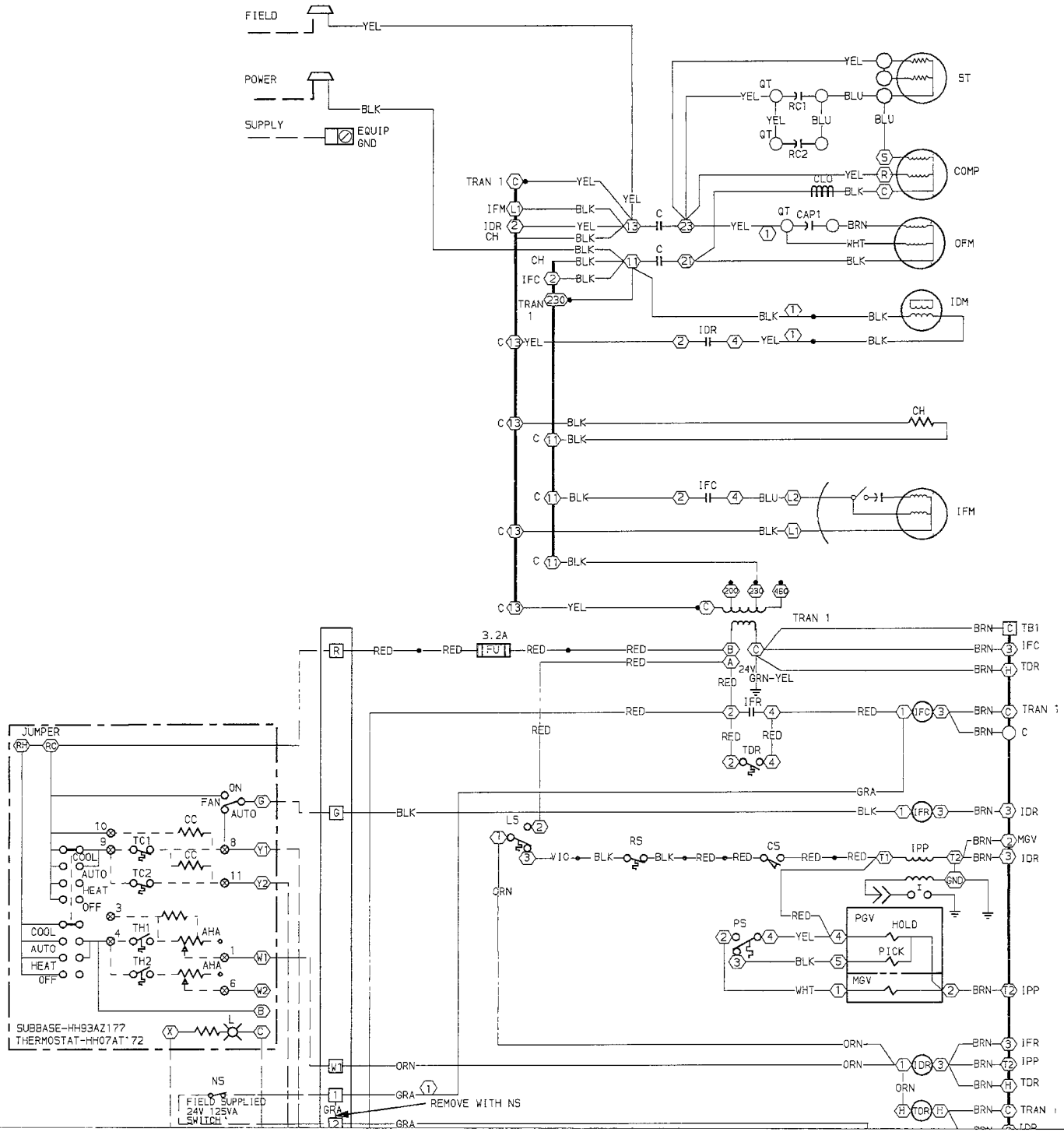


Fig. 2 — Label Diagram, Component Arrangement; 48HV006; 230-1-60


FIELD
POWER
SUPPLY
EQUIP GND
BLK
YEL
ST
COMP
OFM
IDM
IFM
CH
TRAN 1
IFC
IDR
CAP1
QT
RC1
RC2
CLO
RED
BLU
BRN
WHT
GRN-YEL
ORN
GRA
3.2A
IFU
24V
IFR
TDR
IPP
MGV
PS
PGV
HOLD
PICK
LS
RS
CS
JUMPER
FAN
ON
AUTO
COOL
HEAT
OFF
CC
TC1
TC2
TH1
TH2
AHA
SUBBASE-HH93AZ177
THERMOSTAT-HH07AT*72
NS
FIELD SUPPLIED
24V 125VA
SWITCH
REMOVE WITH NS
TB1
TRAN 1

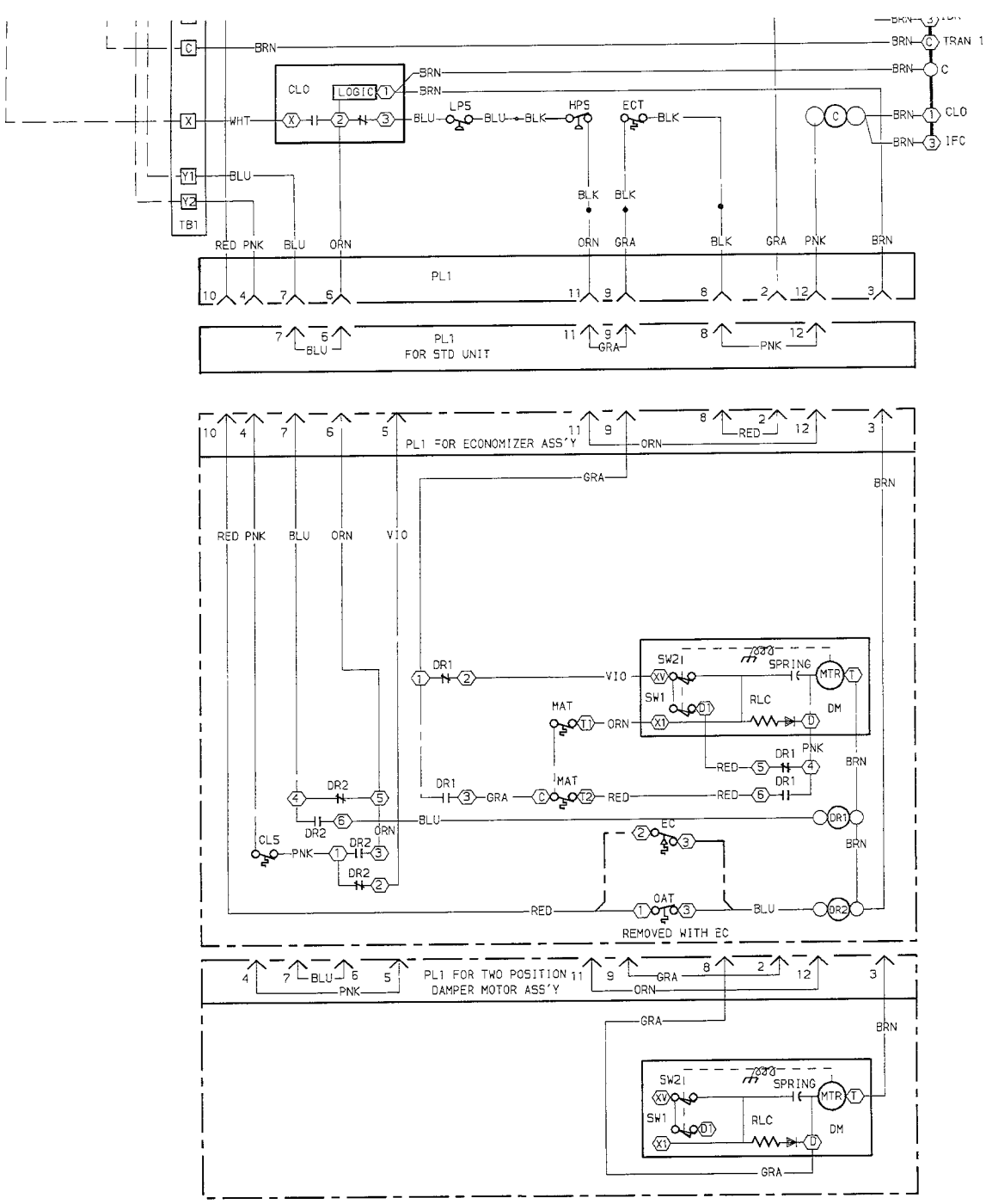
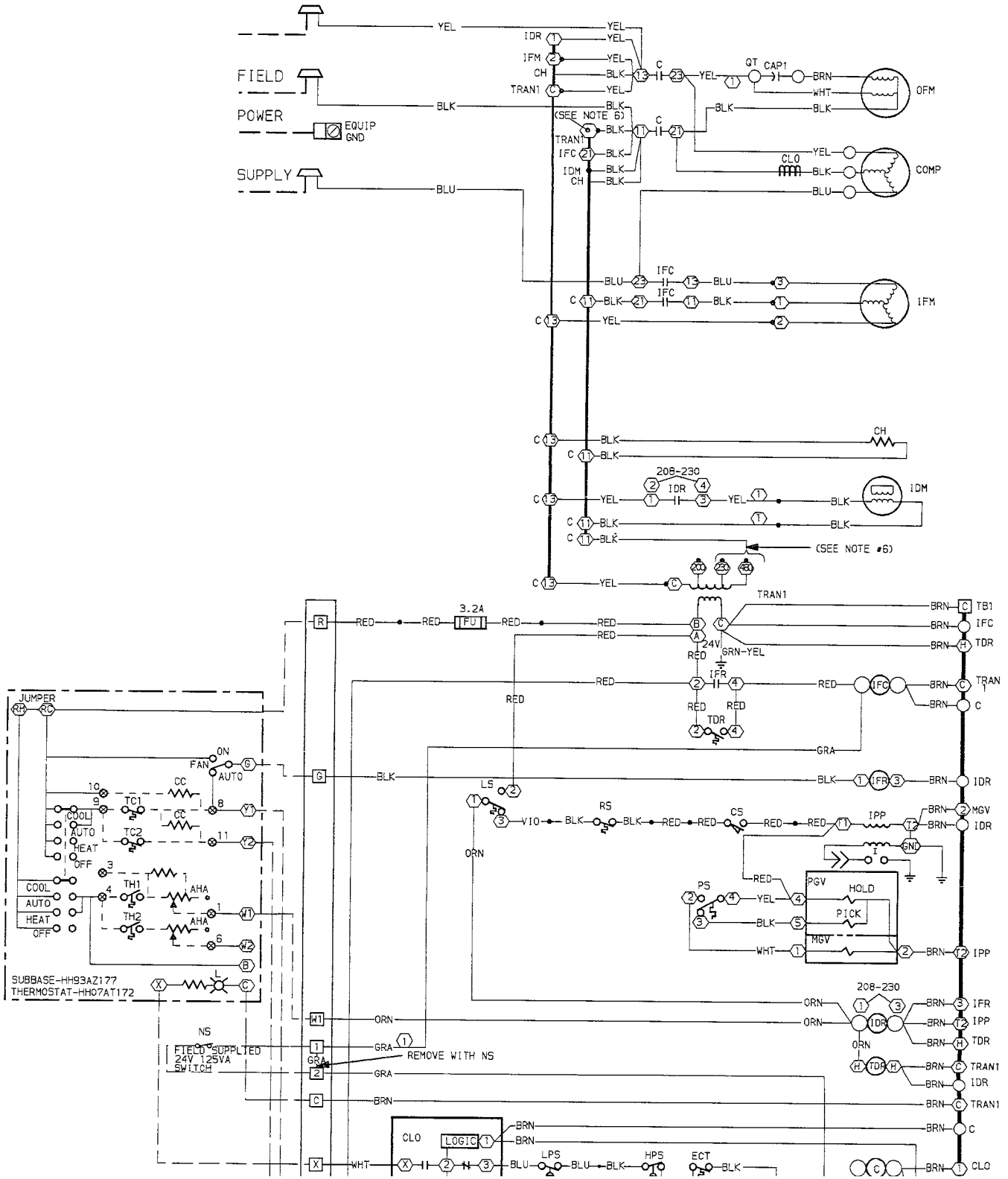


Fig. 3 — Label Diagram, Schematic; 48HV006; 230-1-60


FIELD
POWER
EQUIP GND
SUPPLY
YEL
BLK
BLU
IDR
IFM
CH
TRAN1
(SEE NOTE 6)
IFC
IDM
C
QT
CAP1
OFM
COMP
CLO
IFM
CH
208-230
IDM
(SEE NOTE #6)
TRAN1
3.2A
FU
24V
GRN-YEL
IFR
TDR
TB1
TRAN1
JUMPER
RH
RC
FAN
ON
AUTO
COOL
HEAT
OFF
CC
TC1
TC2
TH1
TH2
AHA
SUBBASE-HH93AZ177
THERMOSTAT-HH07AT172
LS
RS
CS
IPP
PGV
HOLD
PICK
MGV
PS
MGV
NS
FIELD SUPPLIED 24V 125VA SWITCH
REMOVE WITH NS
CLO
LOGIC
LPS
HPS
ECT
ORN
RED
GRA
BRN
WHT
VIO

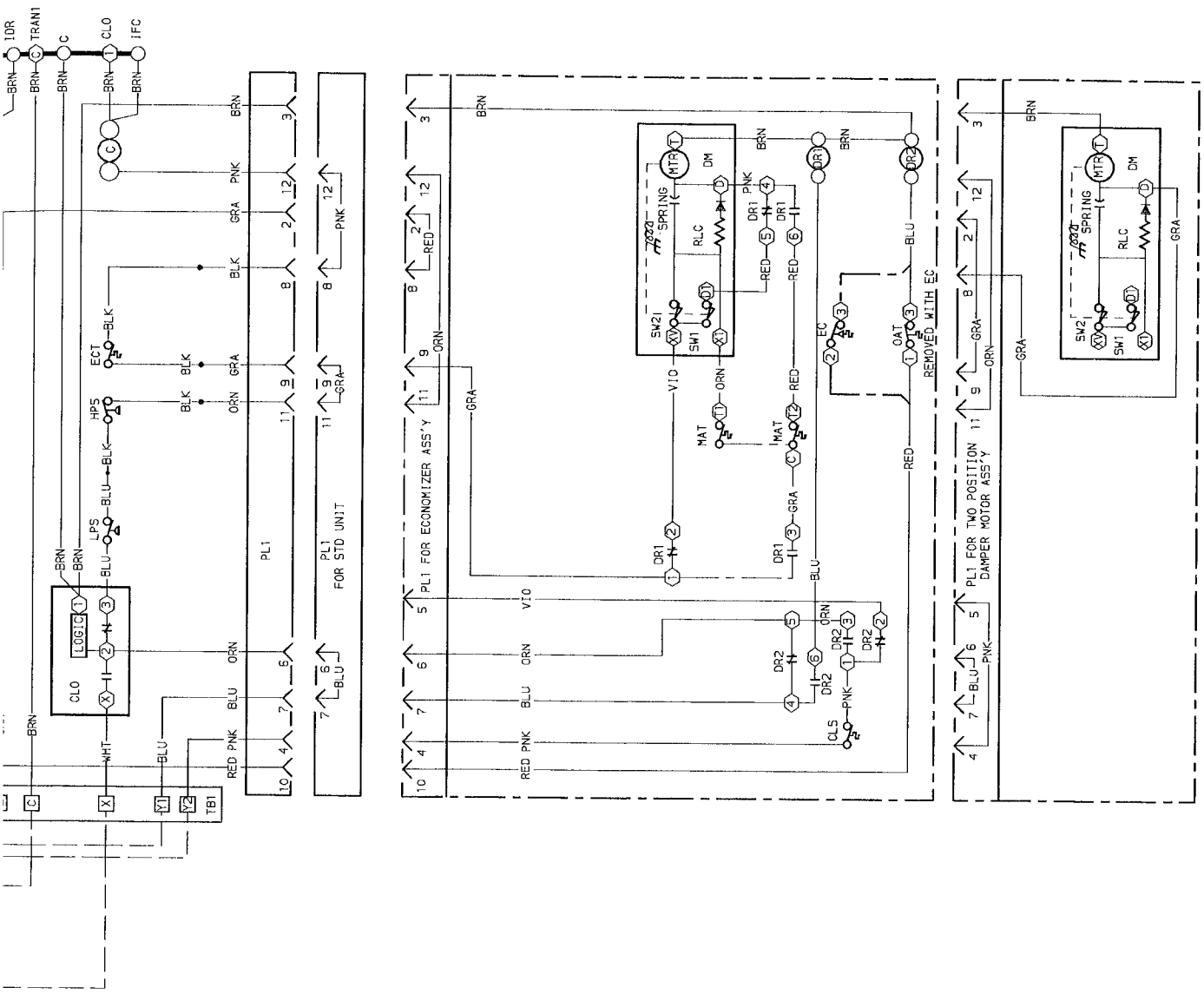


Fig. 4 — Label Diagram, Schematic; 48HV006; 208/230-3-60 and 460-3-60

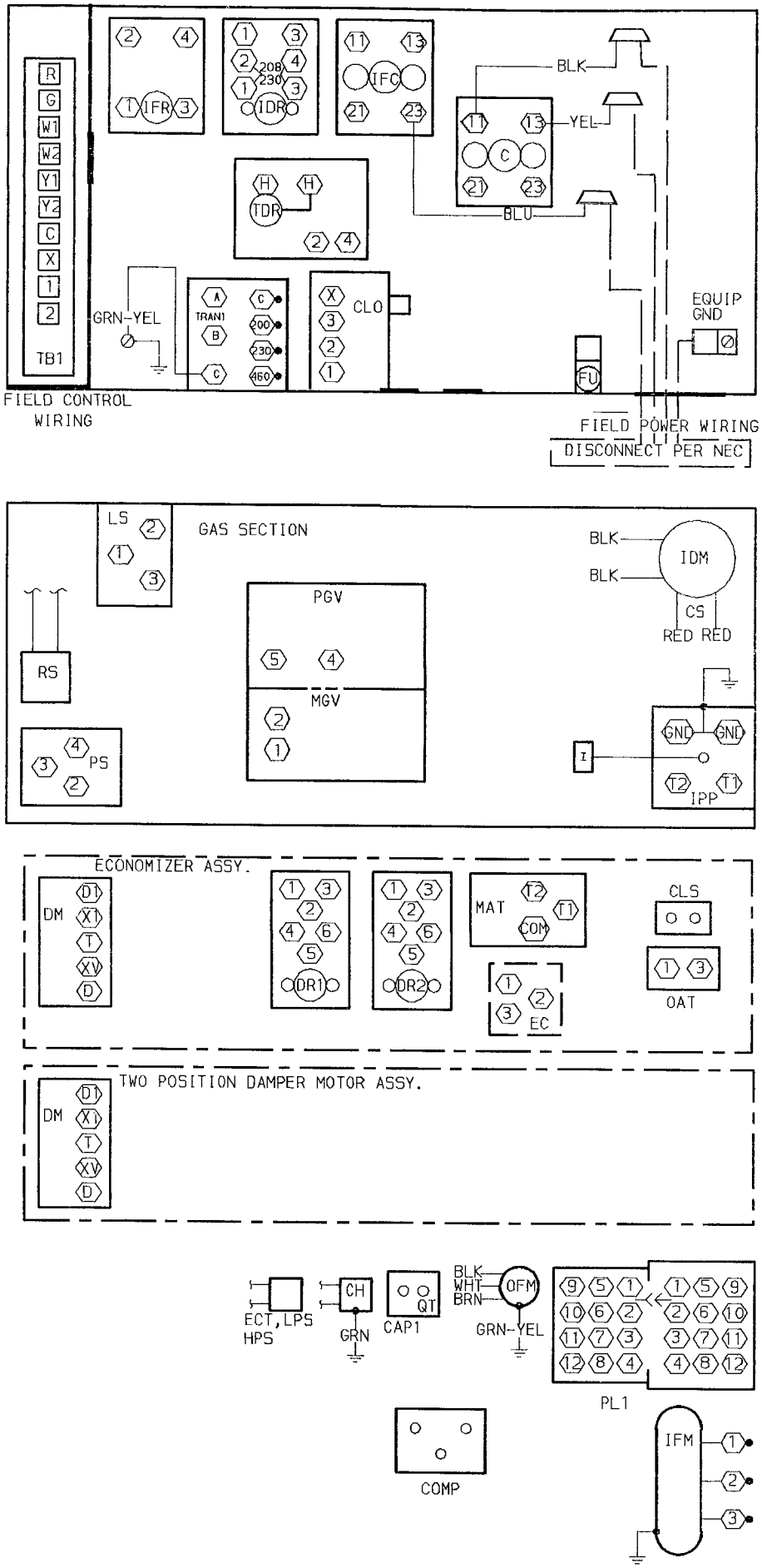
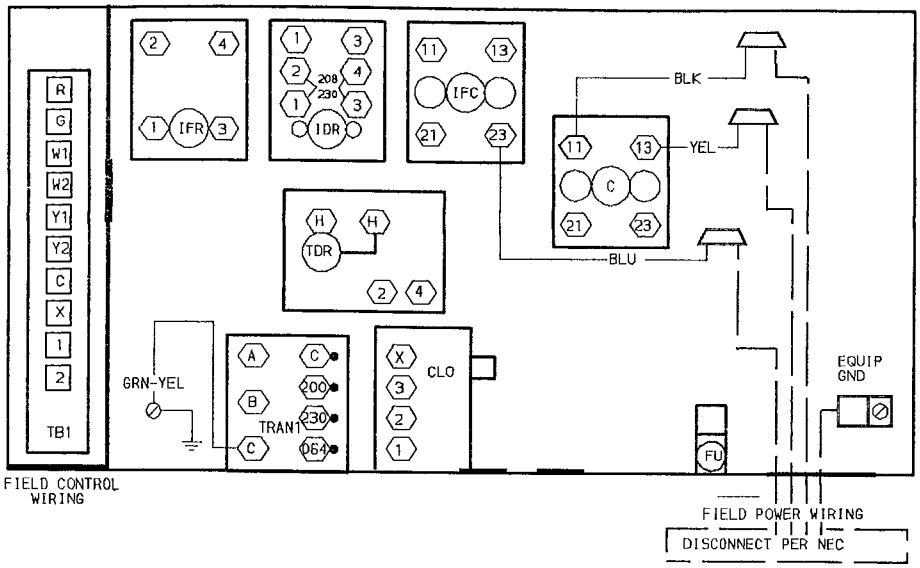
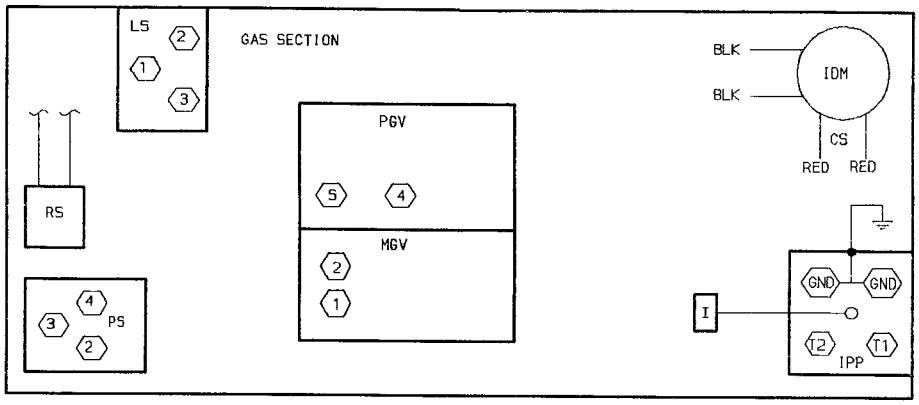


Fig. 5 — Label Diagram, Component Arrangement; 48HV006; 208/230-3-60 and 460-3-60





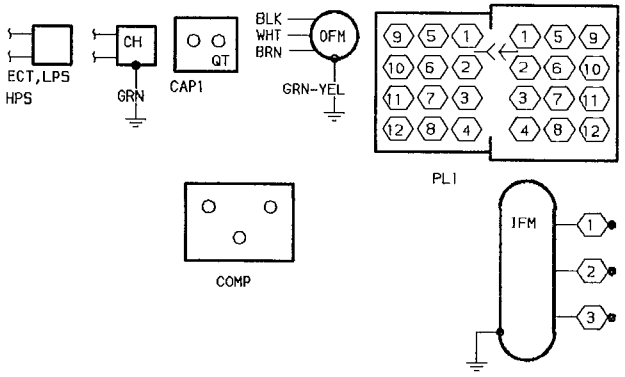
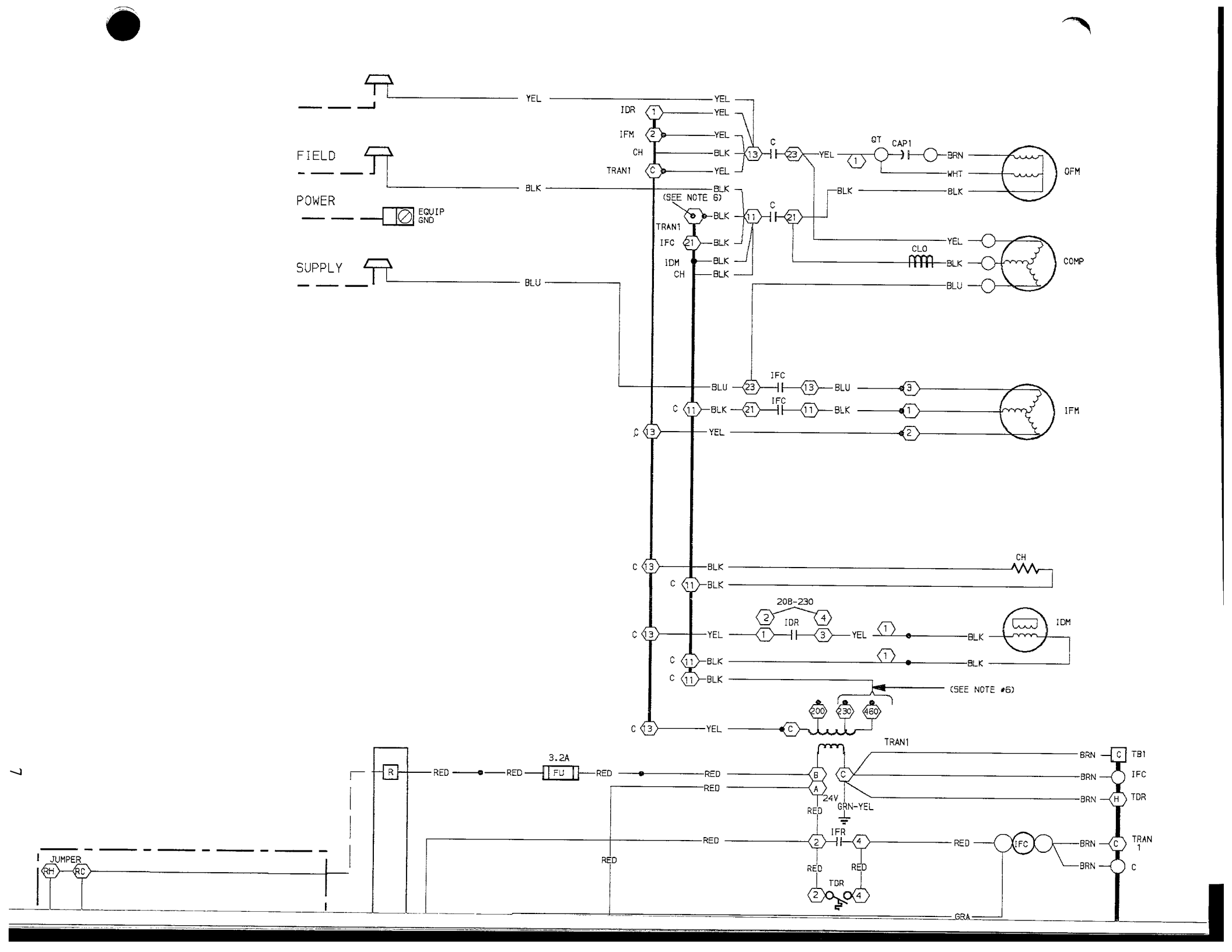


Fig. 6 — Label Diagram, Component Arrangement; 48HZ006; 208/230-3-60 and 460-3-60


FIELD
POWER
SUPPLY
EQUIP GND
YEL
BLK
BLU
IDR
IFM
CH
TRAN1
(SEE NOTE 6)
IFC
IDM
C
OT
CAP1
BRN
WHT
OFM
CLO
COMP
CH
208-230
IDM
(SEE NOTE #6)
200
230
460
TRAN1
3.2A
FU
R
RED
24V
GRN-YEL
IFR
TDR
TB1
TRAN 1
JUMPER
RH
RC
GRA

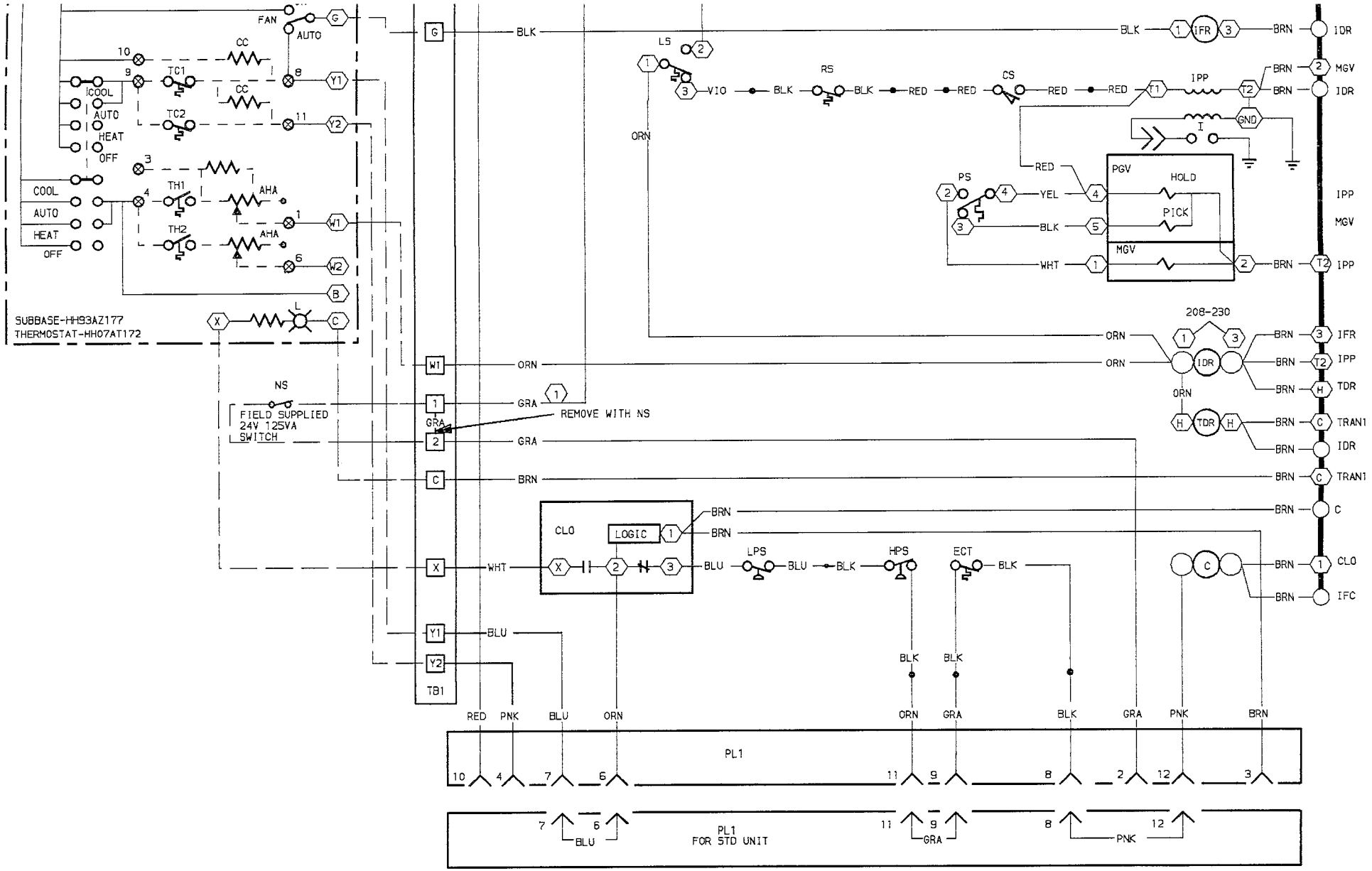
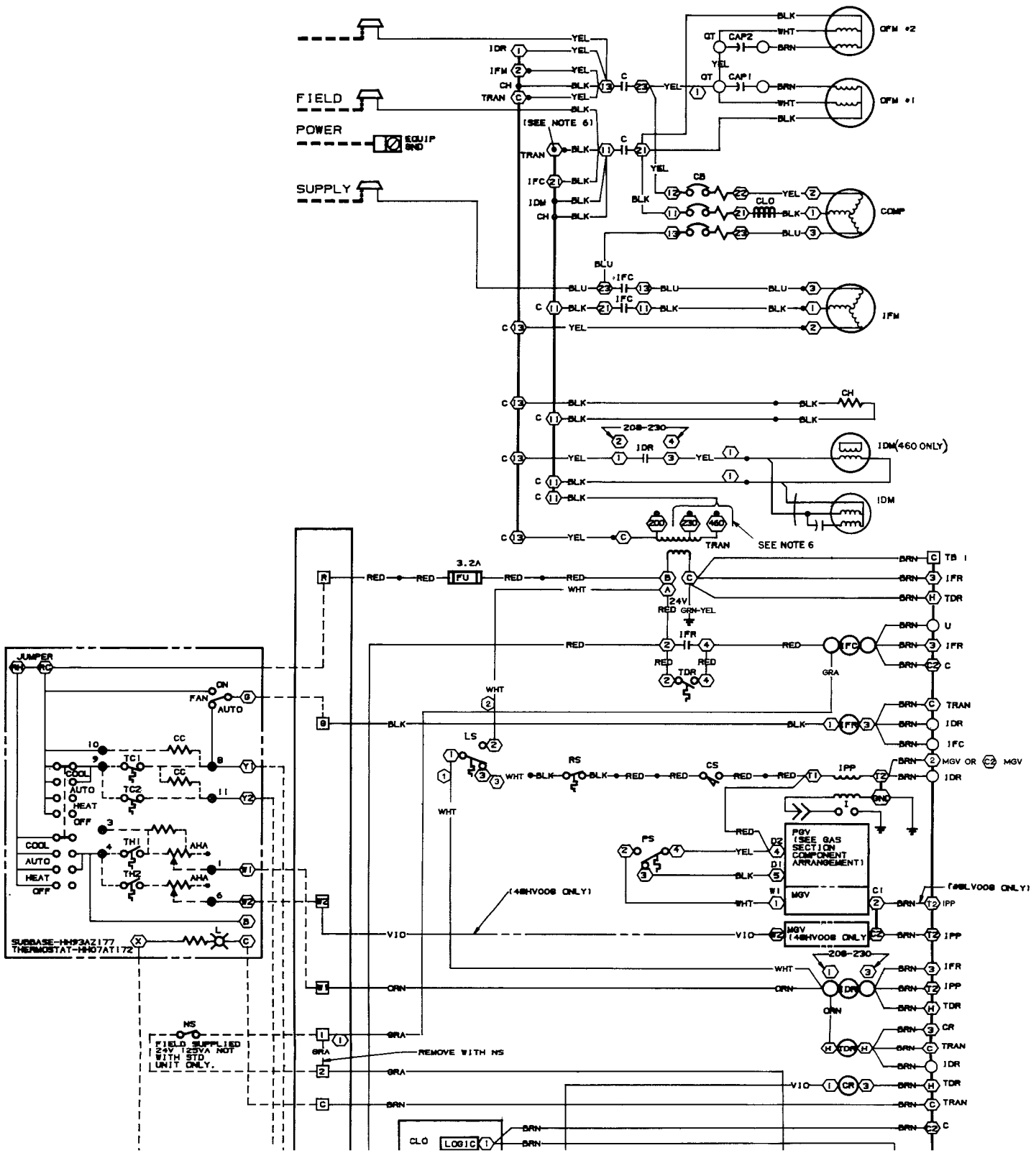


Fig. 7 — Label Diagram, Schematic; 48HZ006; 208/230-3-60 and 460-3-60


FIELD
POWER
SUPPLY
EQUIP GND
IDR
IFM
CH
TRAN
(SEE NOTE 6)
IFC
IDM
OFM #2
OFM #1
COMP
IFM
CH
IDM(460 ONLY)
IDM
TRAN
SEE NOTE 6
208-230
CAP2
CAP1
CB
CLO
3.2A
FU
24V
IFR
TDR
JUMPER
FAN
ON
AUTO
COOL
HEAT
OFF
CC
TC1
TC2
TH1
TH2
AHA
SUBBASE-HH93AZ177
THERMOSTAT-HH07AT172
LS
RS
CS
IPP
PS
PGV
(SEE GAS SECTION COMPONENT ARRANGEMENT)
MGV
(48HVO08 ONLY)
MGV OR
NS
FIELD SUPPLIED 24V 125VA NOT WITH STD UNIT ONLY.
REMOVE WITH NS
CLO
LOGIC
TB 1
U
C
TRAN
IDR
IFC
MGV OR
IPP
CR

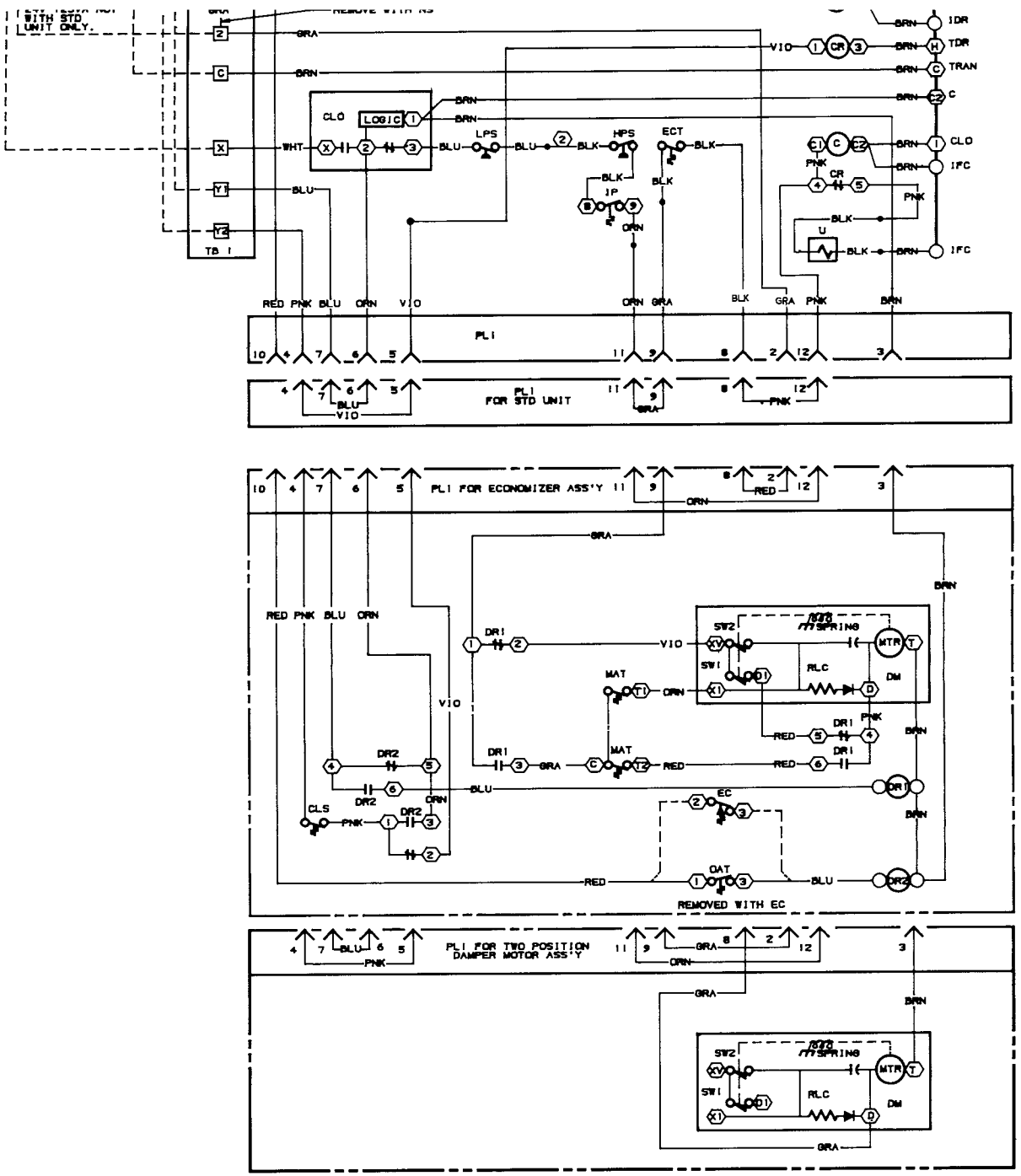


Fig. 8 — Label Diagram, Schematic; 48HV,LV008; 208/230-3-60 and 460-3-60

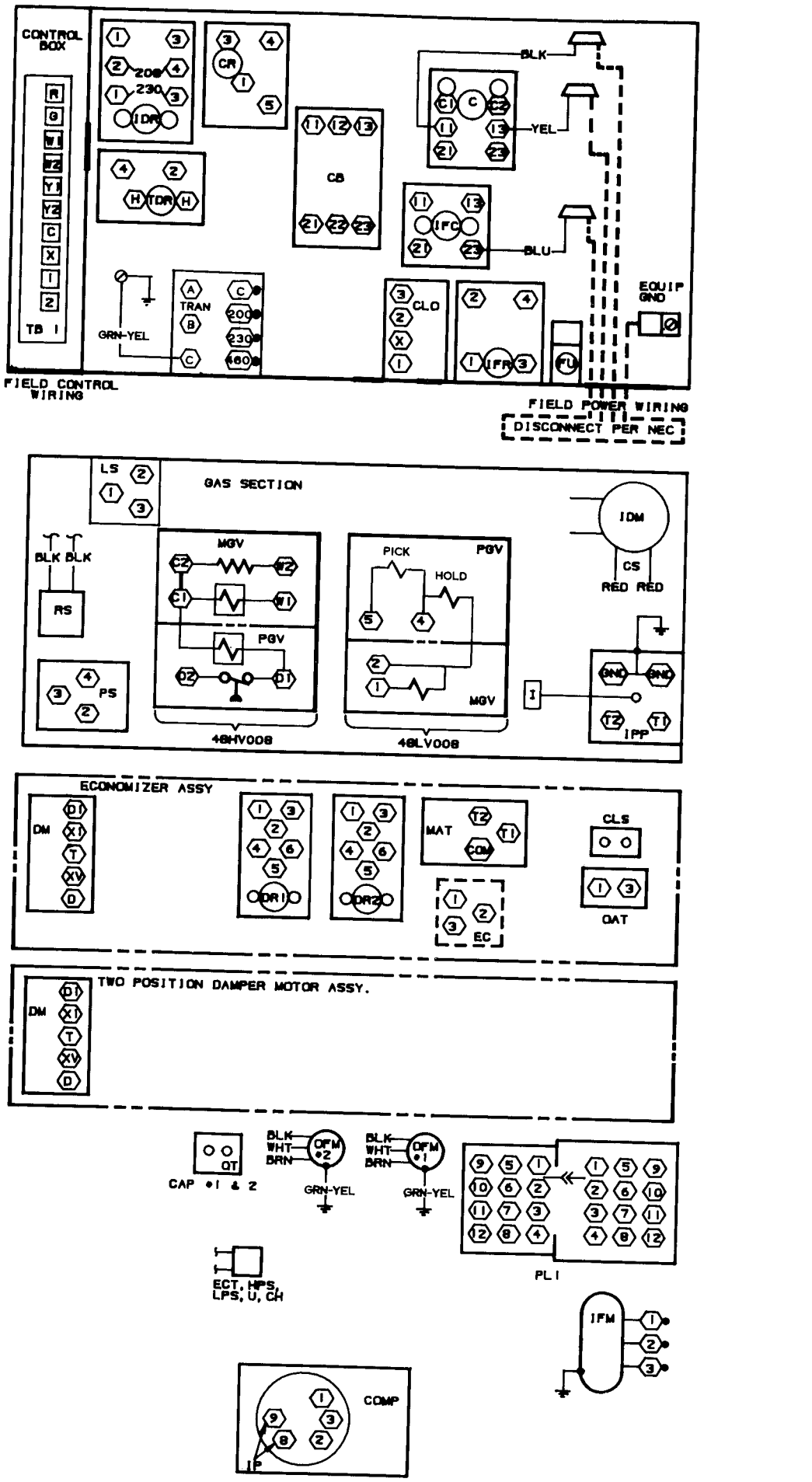


Fig. 9 — Label Diagram, Component Arrangement; 48HV,LV008; 208/230-3-60 and 460-3-60

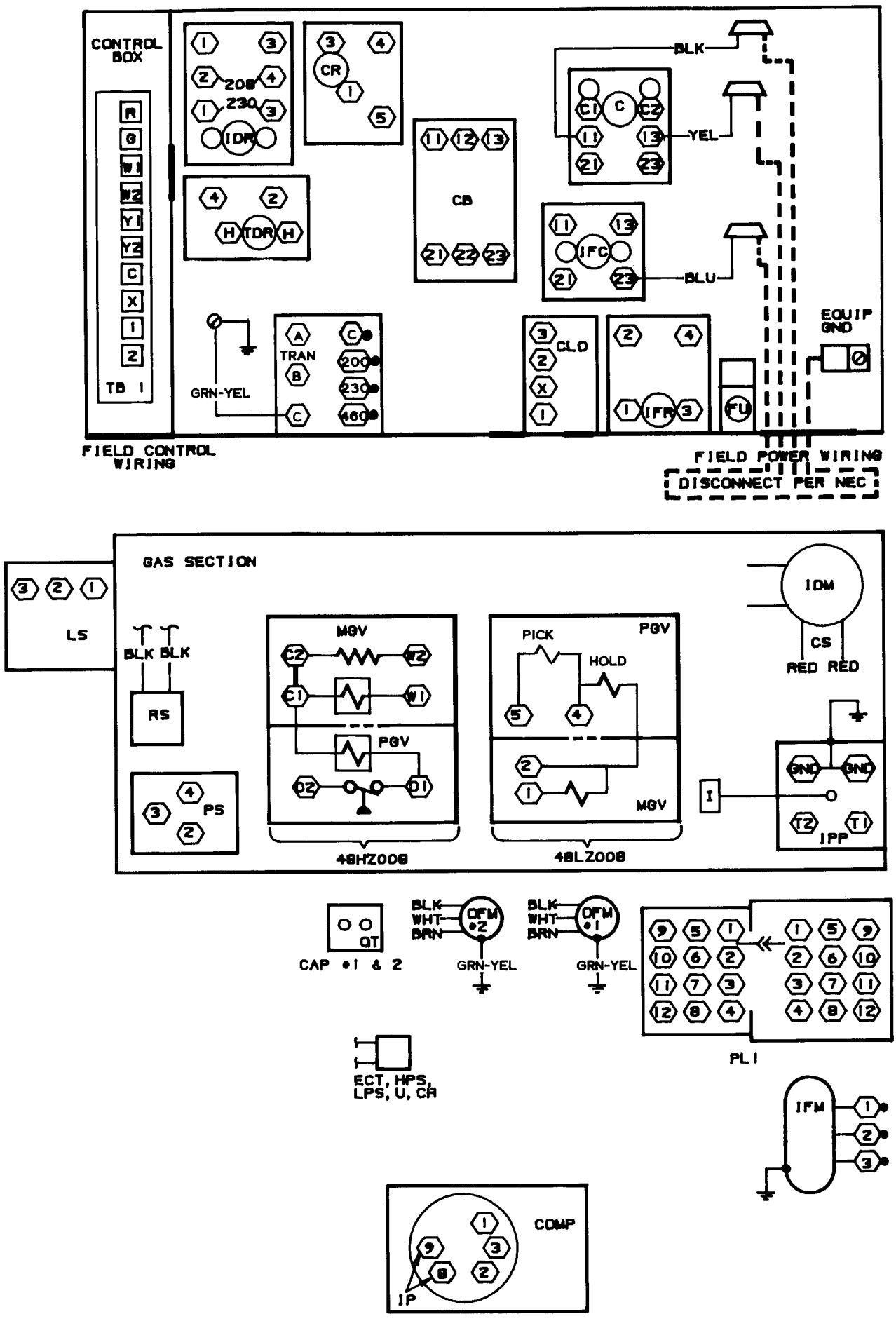
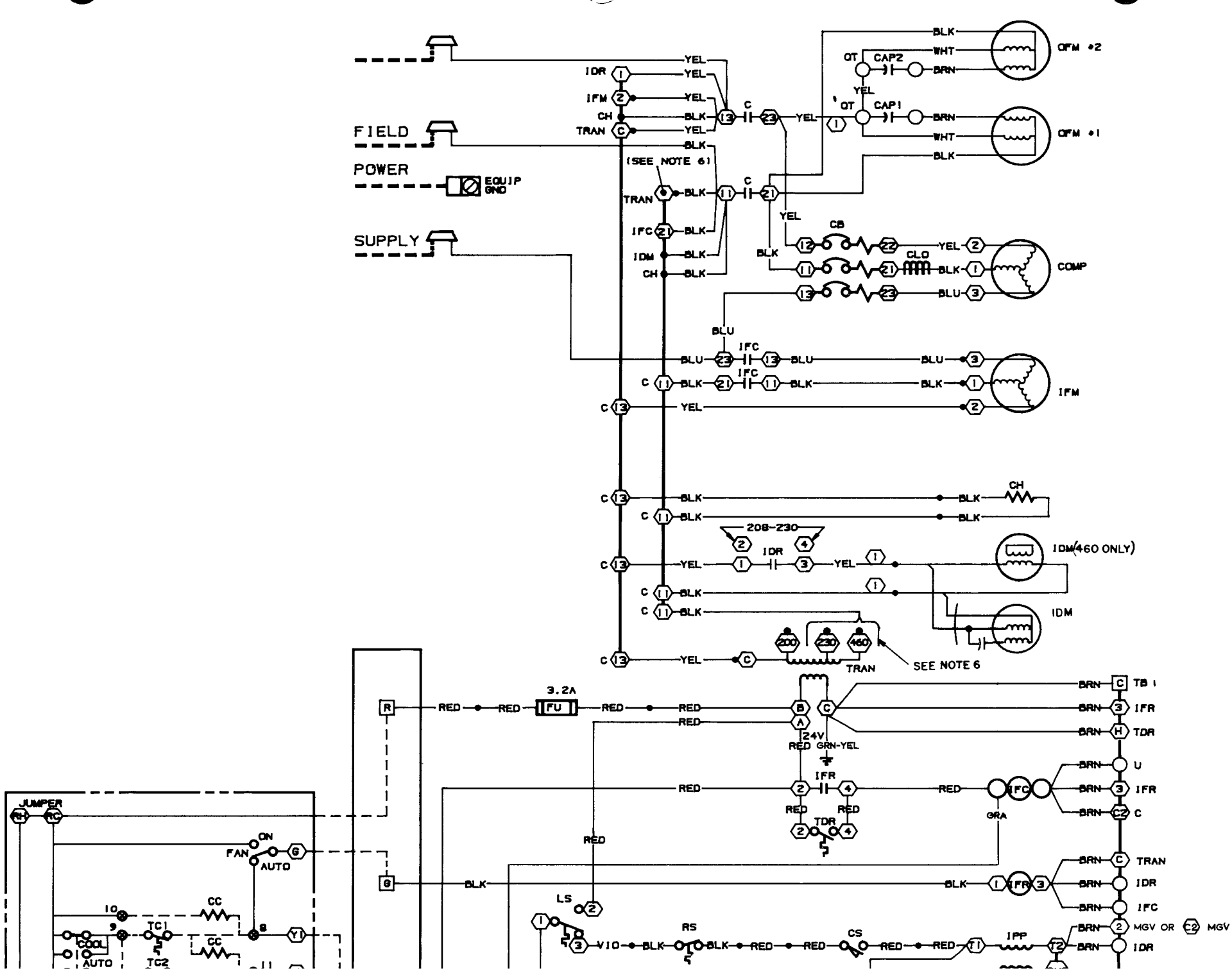


Fig. 10 — Label Diagram, Component Arrangement; 48HZ,LZ008; 208/230-3-60 and 460-3-60


FIELD
POWER
SUPPLY
EQUIP GND
(SEE NOTE 6)
TRAN
IDR
IFM
CH
IFC
IDM
OFM #2
OFM #1
COMP
CAP2
CAP1
OT
CB
CLO
IFM
CH
208-230
IDM(460 ONLY)
IDM
200
230
460
SEE NOTE 6
3.2A
FU
24V
IFR
TDR
IFC
GRA
TB 1
U
C
TRAN
IDR
IFC
MGV OR MGV
JUMPER
FAN
ON
AUTO
CC
TC1
TC2
COOL
LS
RS
CS
IPP
T1
T2
R
G
Y
RED
BLK
YEL
BLU
BRN
WHT
GRN-YEL
VIO

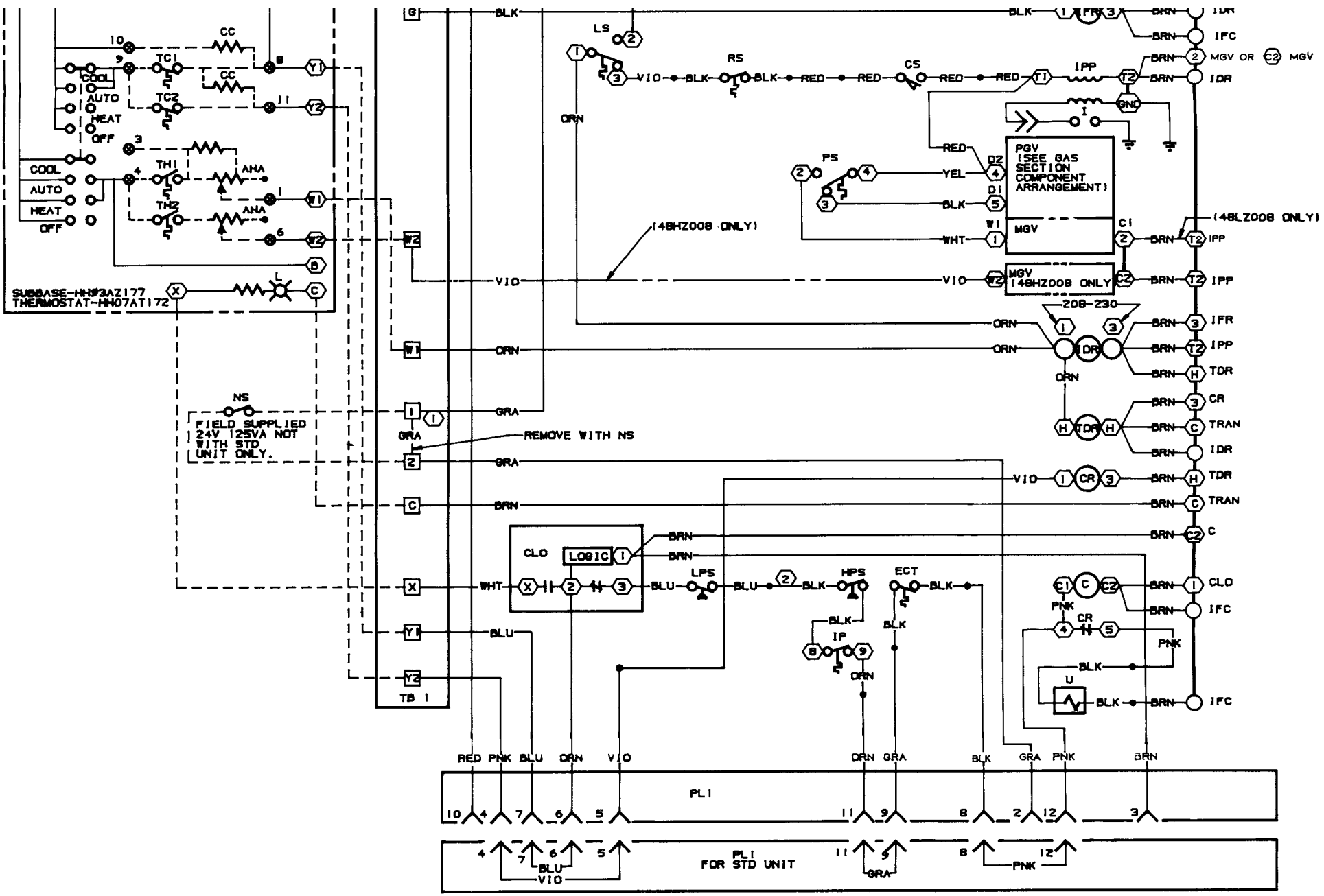
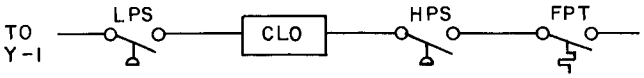


Fig. 11 — Label Diagram, Schematic; 48HZ,LZ008; 208/230-3-60 and 460-3-60

MOTORMASTER® CONTROL INSTALLATION

Installation of Model 32LT Motormaster control in these units requires special unit modifications. See Table 1. Follow the instructions shipped with the control and install the device as shown in Fig. 12. Locate sensor as shown in Fig. 13 and 14. Wire as in Fig. 15-17. Provide field-fabricated wind baffle as shown in Fig. 18.

For winter start, replace the existing low-pressure switch in the suction line with Carrier Part No. HK02ZB038. Wire outside of CLO circuit as shown below. On side supply duct units, add freeze protection thermostat, Part No. HH22JB026 on any of the 3/8-in. tubes entering the indoor coil header. Wire in series with the high-pressure switch.



Winter Start Wiring (all units)

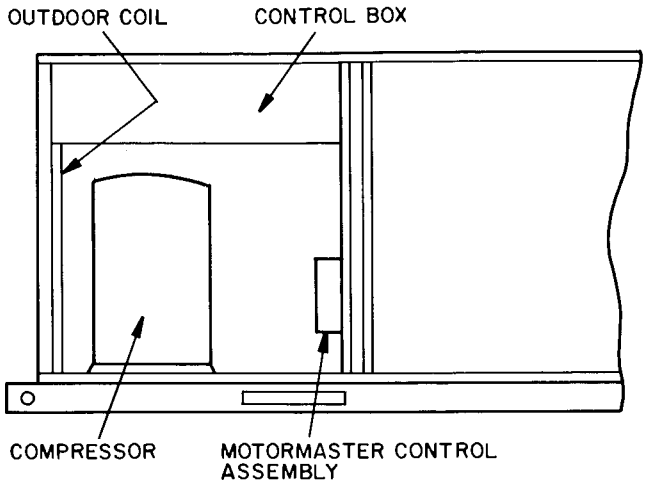


Fig. 12 — Motormaster® Control Location

Table 1 — Unit Modifications

UNIT 48	VOLTAGE	REPLACEMENT PART NO.					
		Motor	Transformer	LPS	FPT†	OFC	FCS
HV,HZ006	208/230	HC44VL604	—	HK02ZB038	HH22JB026	—	—
	460		HT01AH852			HN61KA011	
LV,LZ,HV,HZ008	208/230	HC44VL604*	—			—	HH22HB075
	460		HT01AH852			HN61KA011	

*Change No 1 motor only
†Required only on side supply (horizontal) units. Factory supplied on downshot units

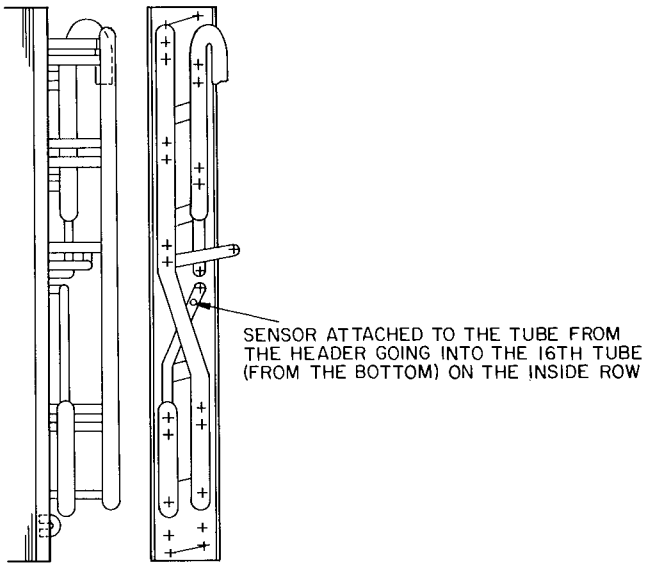


Fig. 13 — Motormaster® Sensor Location; Units 48HV,HZ006

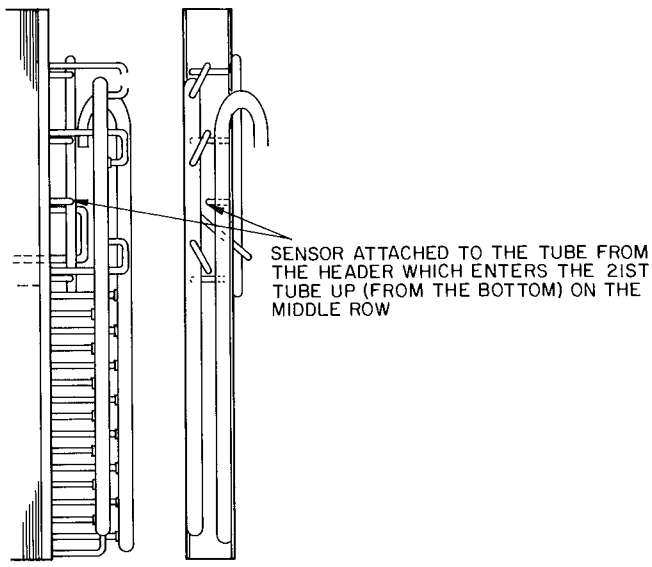
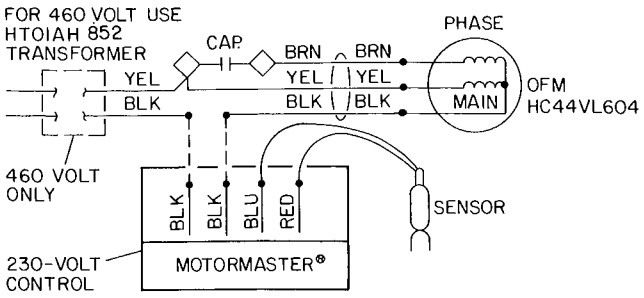
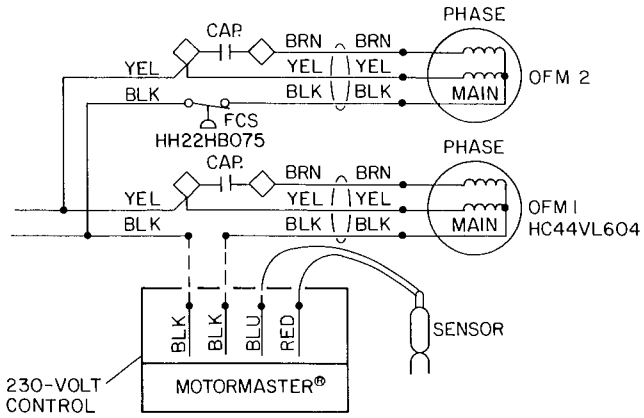


Fig. 14 — Motormaster® Sensor Location; Units 48LV,LZ,HV,HZ008



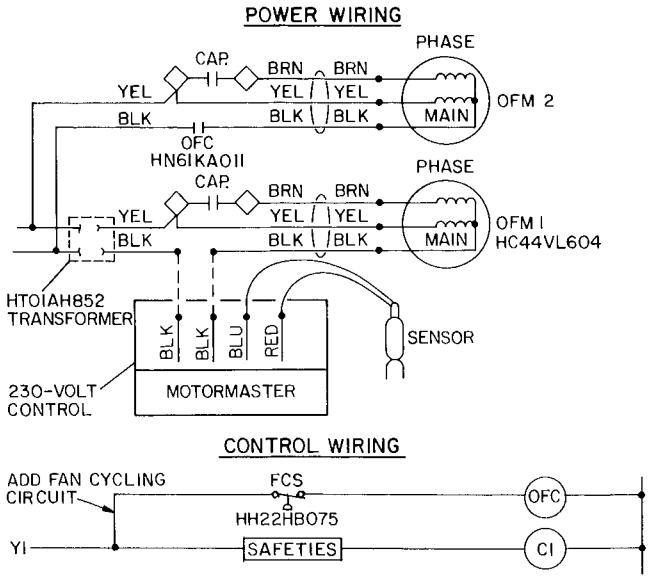
NOTES:
1 Use 230-volt Motormaster device only to control replacement motor HC44VL604 as shown
2 Use transformer HT01AH852 (460 to 230 volt) as shown for 460-volt application.

Fig. 15 — Motormaster® Wiring; Units 48HV,HZ006



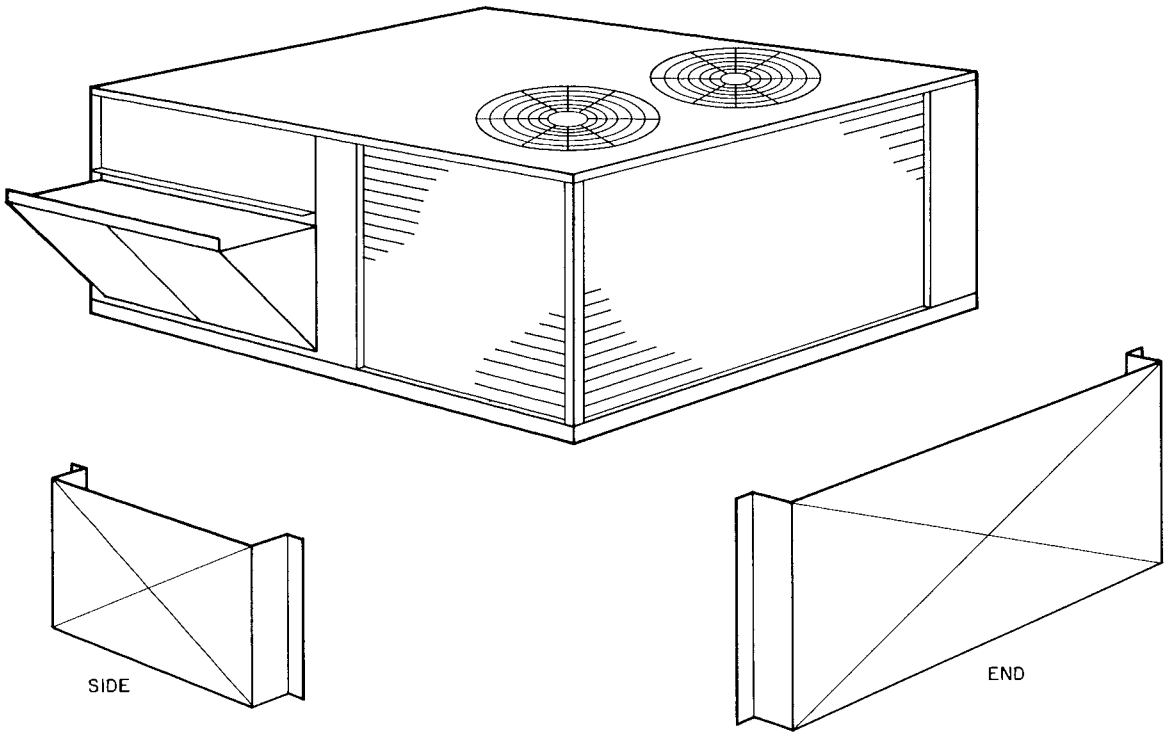
NOTES:
1 For 230-volt units with 2 OFM's, install fan cycling switch HH22HB075 in the OFM 2 circuit as shown
2. Install 230-volt Motormaster control in the OFM 1 circuit as shown

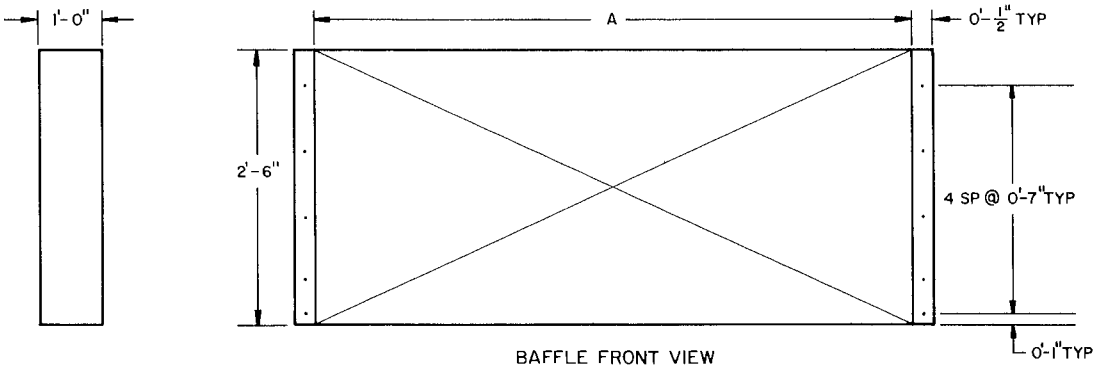
Fig. 16 — Motormaster® Wiring; Units 48LV,LZ,HV,HZ008; 208/230 Volt



NOTES:
1 Install OFC HN61KA011 in OFM 2 power wiring as shown (See also control wiring.)
2 Use transformer HT01AH852 (460 to 230 volt) and replacement motor HC44VL604 as shown
3 Install 230-volt Motormaster control in OFM 1 circuit as shown

Fig. 17 — Motormaster® Wiring; Units 48LV,LZ,HV,HZ008; 460 Volt

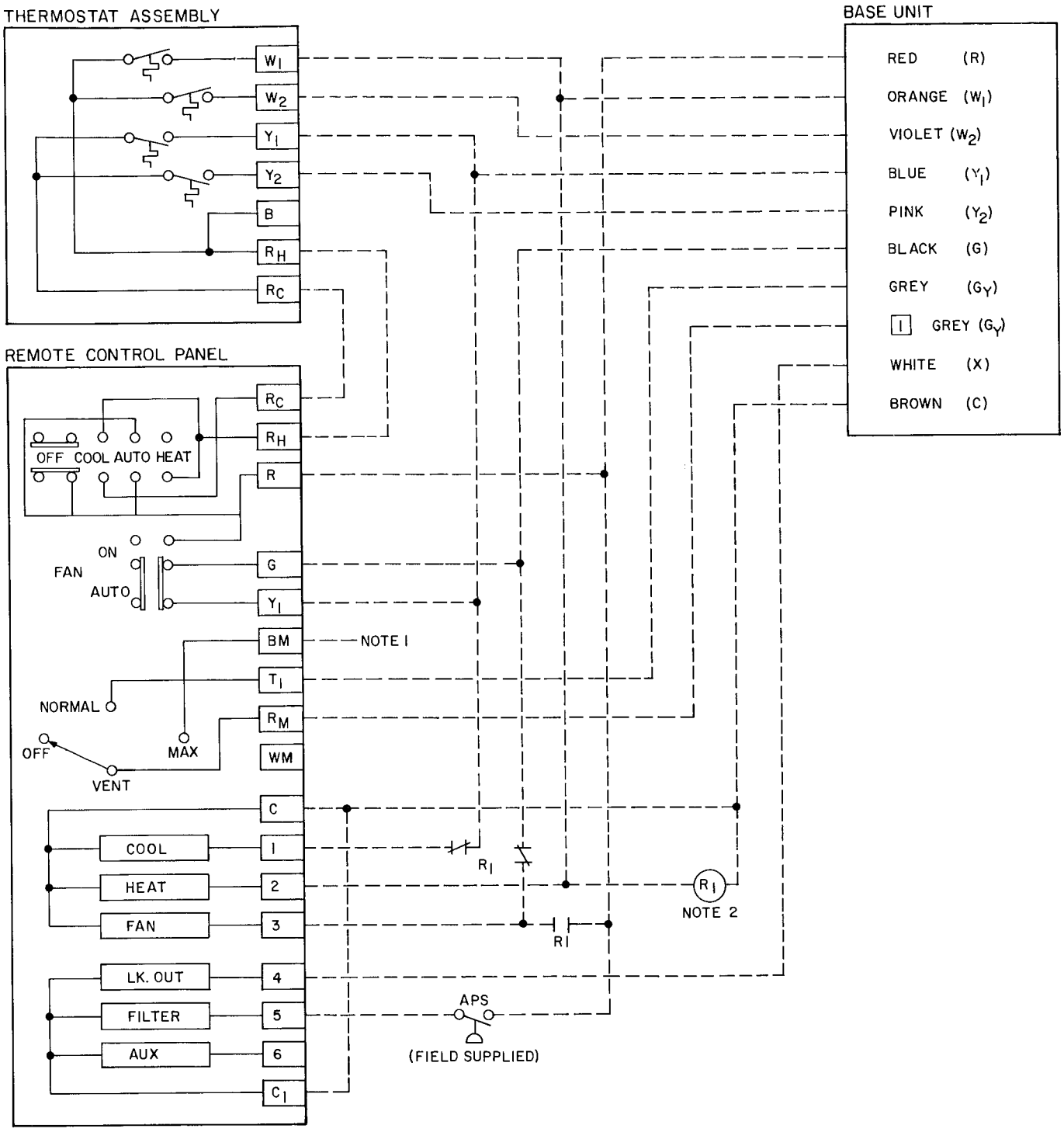




"A" DIMENSIONS (ft-in.)

BAFFLE LOCATION	48HV,HZ006	48LV,LZ,HV,HZ008
SIDE	2- 1¾	2-1¾
END	3-10¾	4-8¾

Fig. 18 — Wind Baffle



APS — Air Pressure Switch
_____ Factory Wiring
– – – – Field Wiring
—●— Field Splice

NOTES
1 Connect terminal [BM] to DR1 ⟨4⟩ of economizer.
2. Relay R1 is field supplied (HN61KK040)

Fig. 19 — Remote Control Center Connections

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.