Carrier
HEATING & COOLING

48H,L Series 008,009 Combination Heating/Cooling Units

Wiring Diagrams

INDEX

Timer Sequence Chart, Sizes 008 . . . . . Fig. 1
Timer Sequence Chart, Sizes 009 . . . . . Fig. 2

UNIT 48	LABEL DIAGRAM 48CH	FIG. NO.	
		Schematic	Component Arrangement
HD,LD008	500784 Rev E	4	3
HH,LH008	501184 Rev D	5	6
HDD,LDD008	503604 Rev C	8	7
HHD,LHD008	505074 Rev D	9	10
HD009	507184 Rev. B	12	11
HH009	507004 Rev A	13	14

Motormaster® Control Installation
Control Location . . . . . Fig 15
Sensor Location . . . . . Fig 16-18
Wiring . . . . . Fig. 19-21
Wind Baffle . . . . . Fig 22
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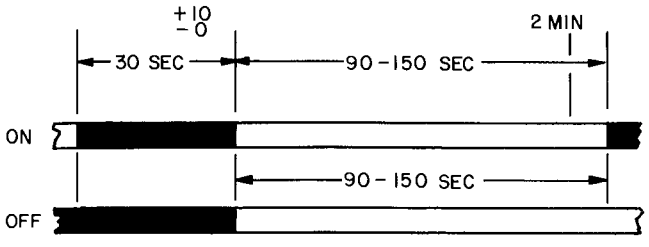
NOTES

1. Compressor and fan motors are thermally protected — 3-phase motors are protected against primary single-phase conditions.
2. If any original wires must be replaced, use 90 C wire or 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 anticipators at 1 amp (208/230-3-60), units sizes 008. Set heat anticipators at 1.2 amp (460-3-60), units sizes 008. Set heat anticipators at 0.9 amp for first stage and at 0.3 amp for second stage, units sizes 009.
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 lead and insulate 230-v lead.

LEGEND

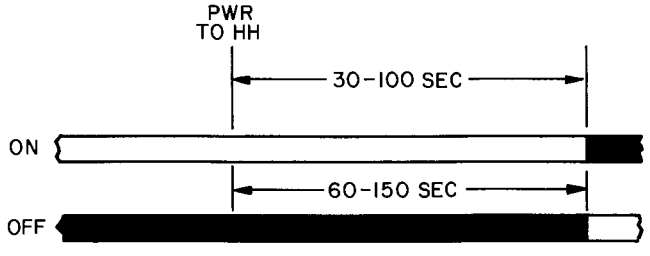
AHA — Adjustable Heat Anticipator
Assy — Assembly
C — Contactor Compressor
Cap. — Capacitor
CC — Cooling Compensator
CH — Crankcase Heater
CLO — Compressor Lockout
CLS — Cooling Lockout Switch
Comp — Compressor Motor
CS — Centrifugal Switch
DM — Damper Motor
DR — Damper Relay
EC — Enthalpy Control
ECT — Economizer Thermostat
Equip. — Equipment
FCS — Fan Cycling Temperature Switch
FPT — Freeze Protection Thermostat
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
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 Setback 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
RLC — Rotor Locking Circuit
RS — Rollout Switch
Std — Standard
Sw — Switch
TB — Terminal Block
TC — Thermostat-Cooling
TDR — Time-Delay Relay
TH — Thermostat-Heating
Tran — Transformer

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



BLACK DENOTES CLOSED CONTACTS

Fig. 1 — Timer Sequence Chart; Units 48HD,LD,HH,LH,HDD,LDD,HHD,LHD008



BLACK DENOTES CLOSED CONTACTS

Fig. 2 — Timer Sequence Chart; Units 48HD,HH009

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

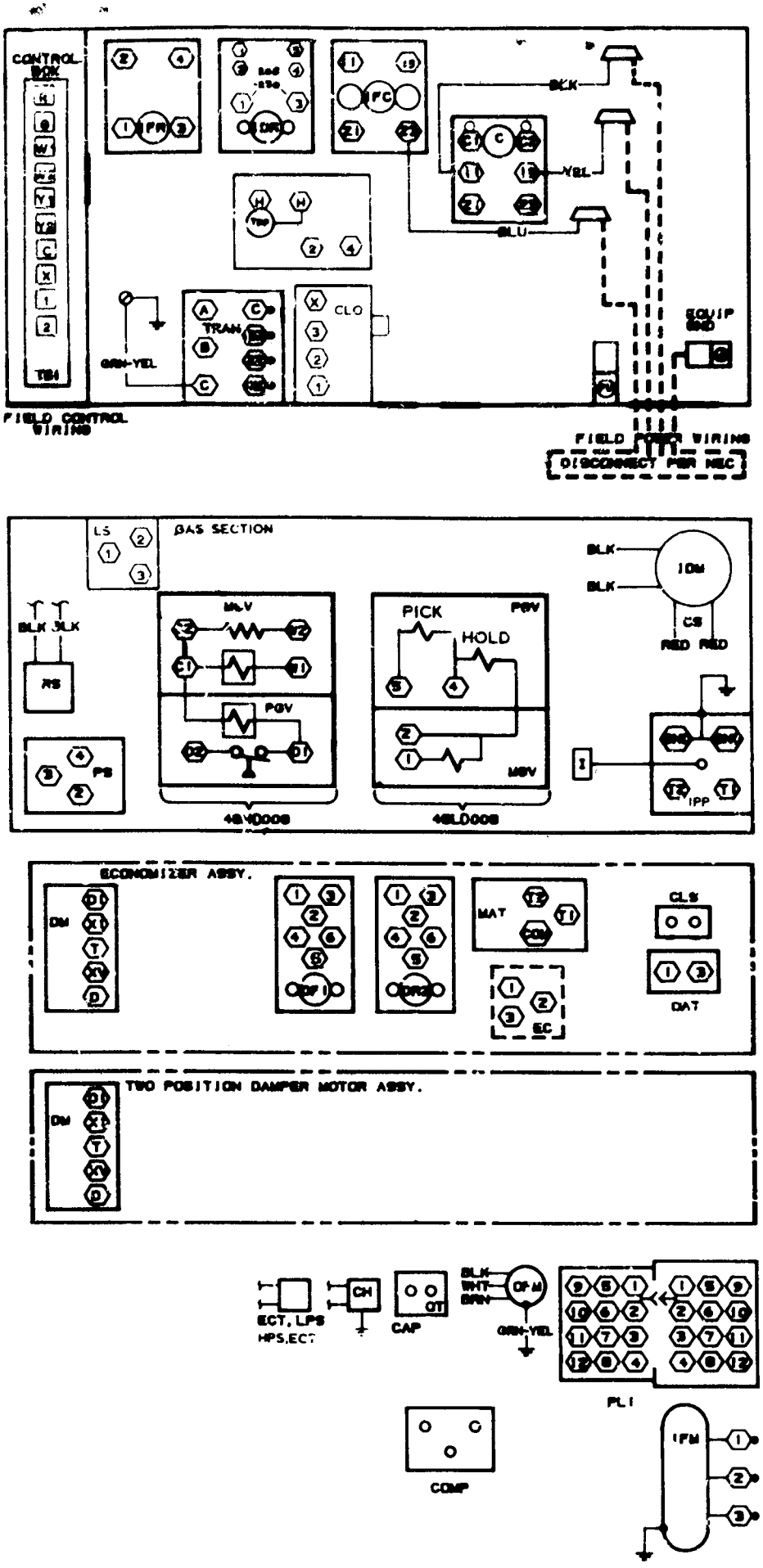
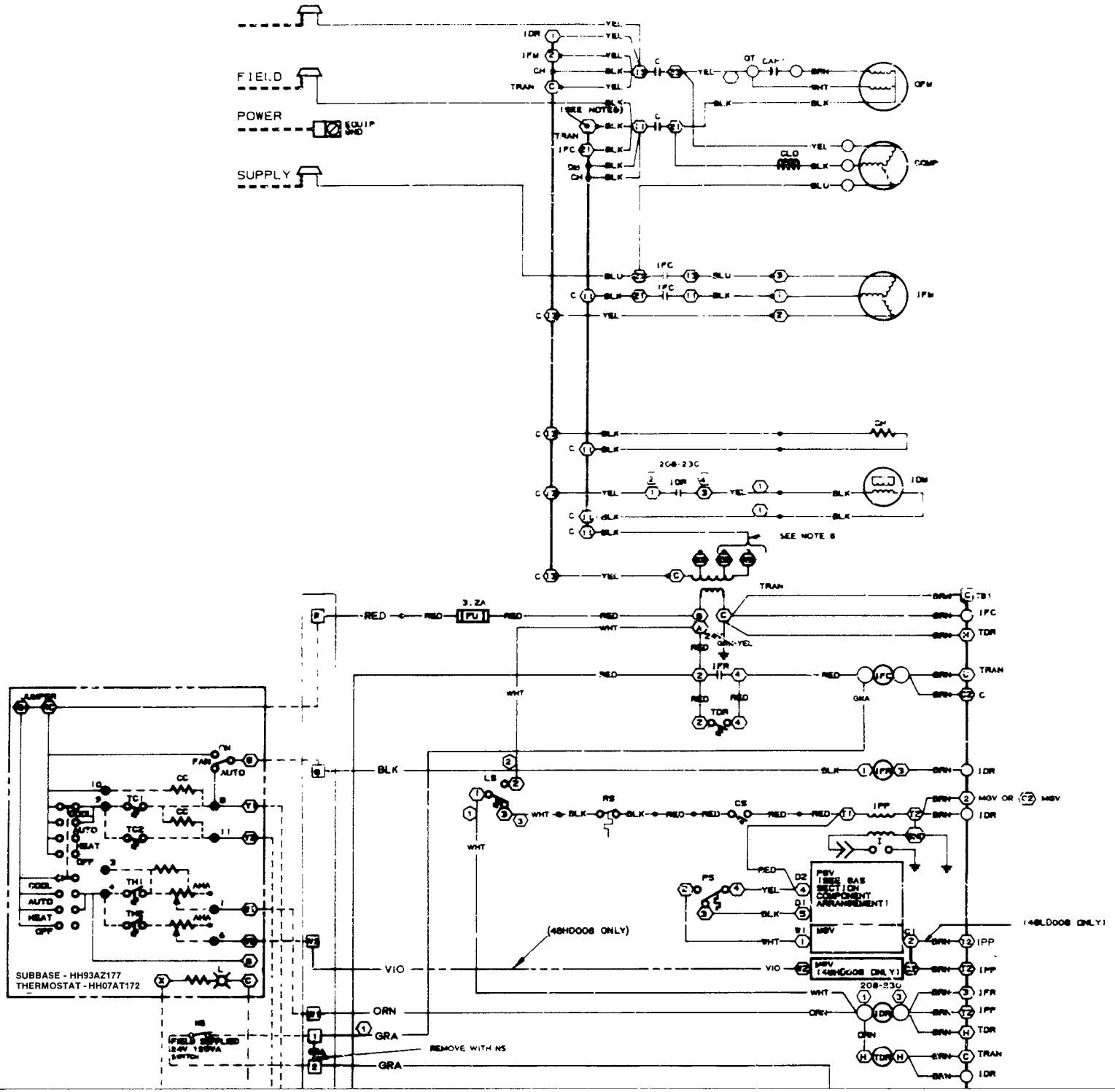


Fig. 3 — Label Diagram, Component Arrangement; Units 48HD,LD008


FIELD
POWER
SUPPLY
EQUIP GND
SEE NOTE 6
208-230
SEE NOTE 8
FAN
AUTO
HEAT
OFF
SUBBASE - HH93AZ177
THERMOSTAT - HH07AT172
RED
BLK
VIO
ORN
GRA
WHT
GRA
REMOVE WITH NS
(48HD008 ONLY)
(48LD008 ONLY)
MGV OR
MGV

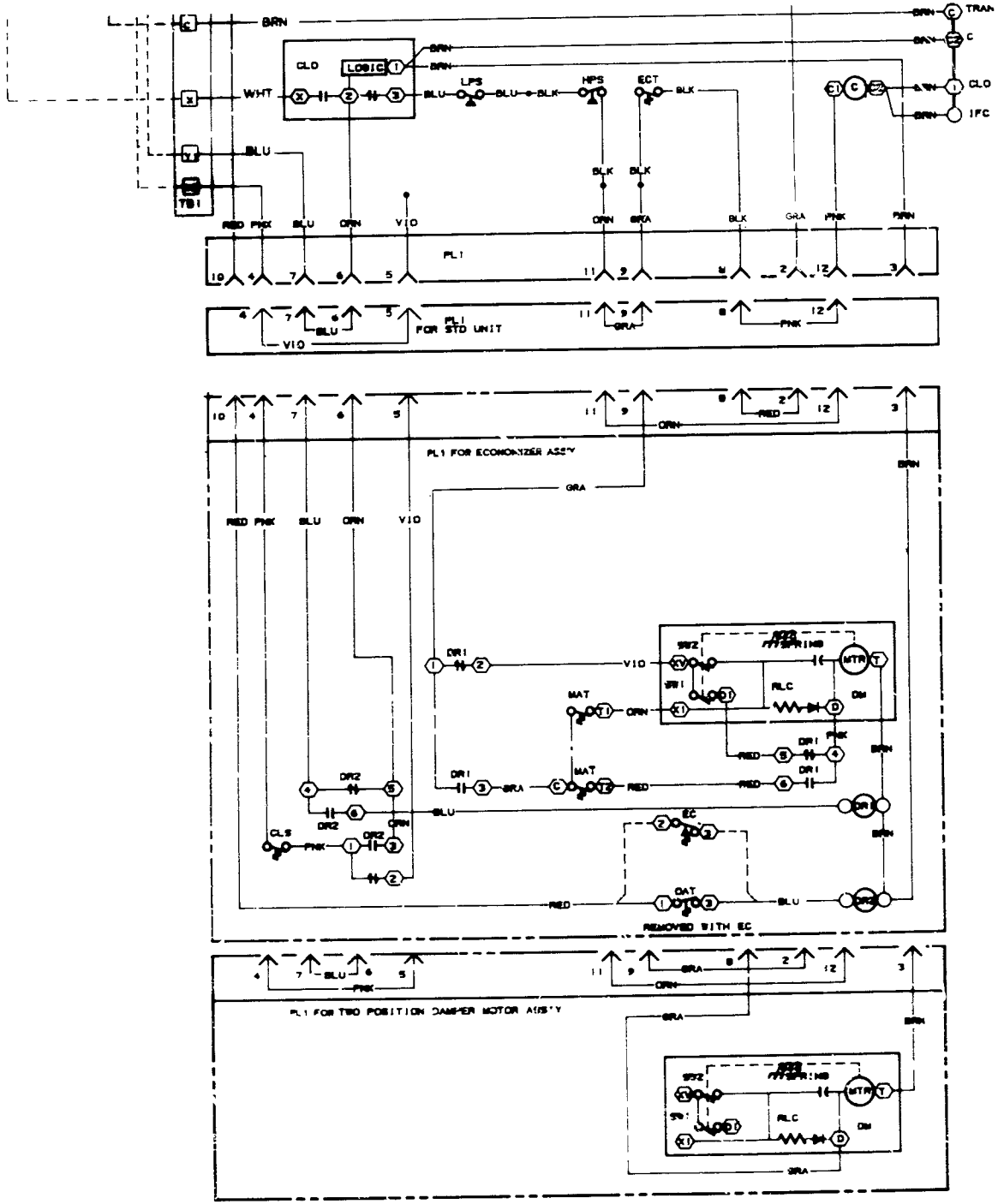
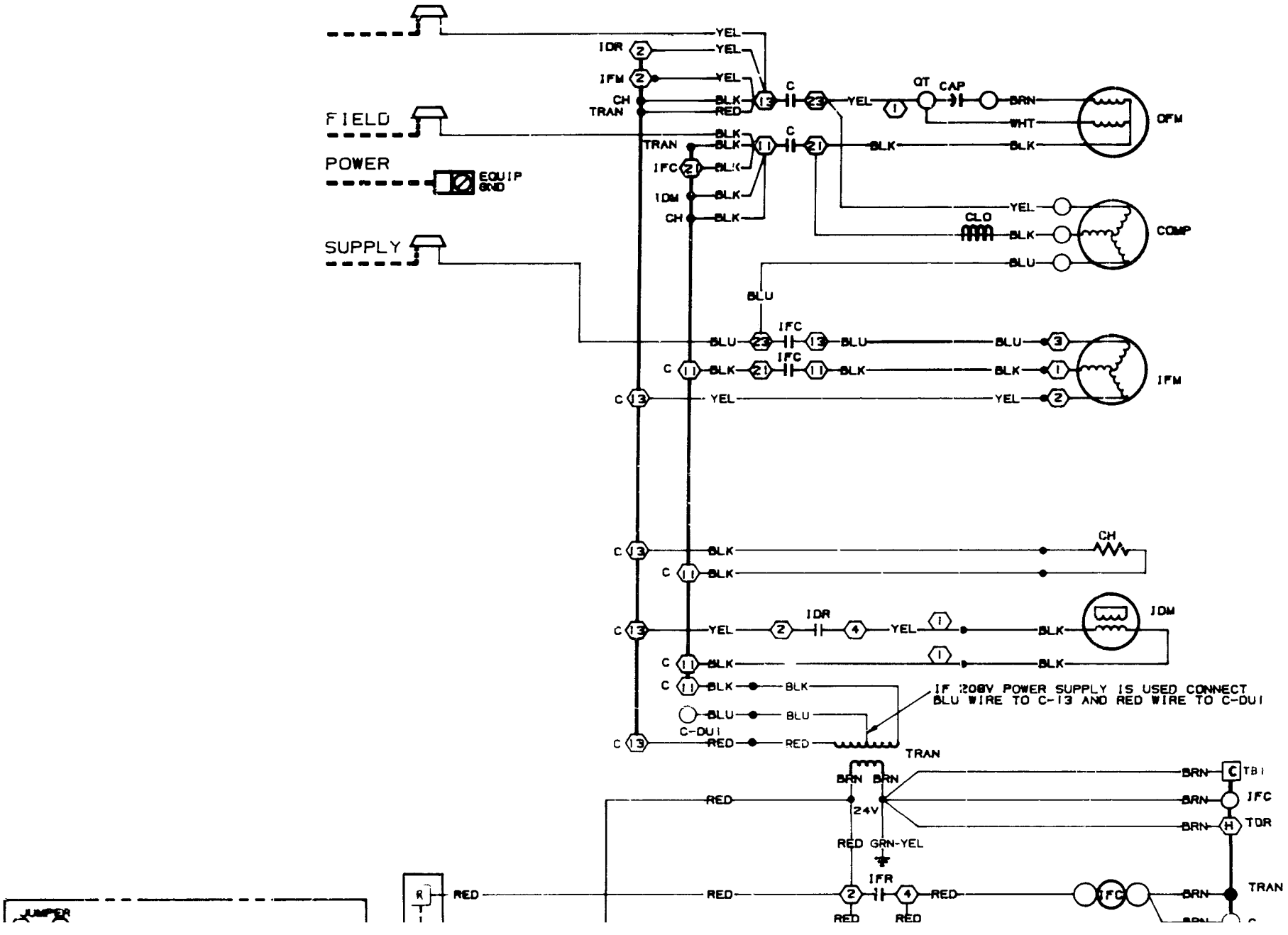


Fig. 4 — Label Diagram, Schematic; Units 48HD,LD008


FIELD
POWER
EQUIP GND
SUPPLY
IDR
IFM
CH
TRAN
IFC
IDM
C
QT
CAP
OFM
COMP
CLO
IFC
IDR
CH
IDM
IF 208V POWER SUPPLY IS USED CONNECT BLU WIRE TO C-13 AND RED WIRE TO C-DU1
C-DU1
TRAN
24V
TB1
IFC
TDR
IFR
TRAN
JUMPER

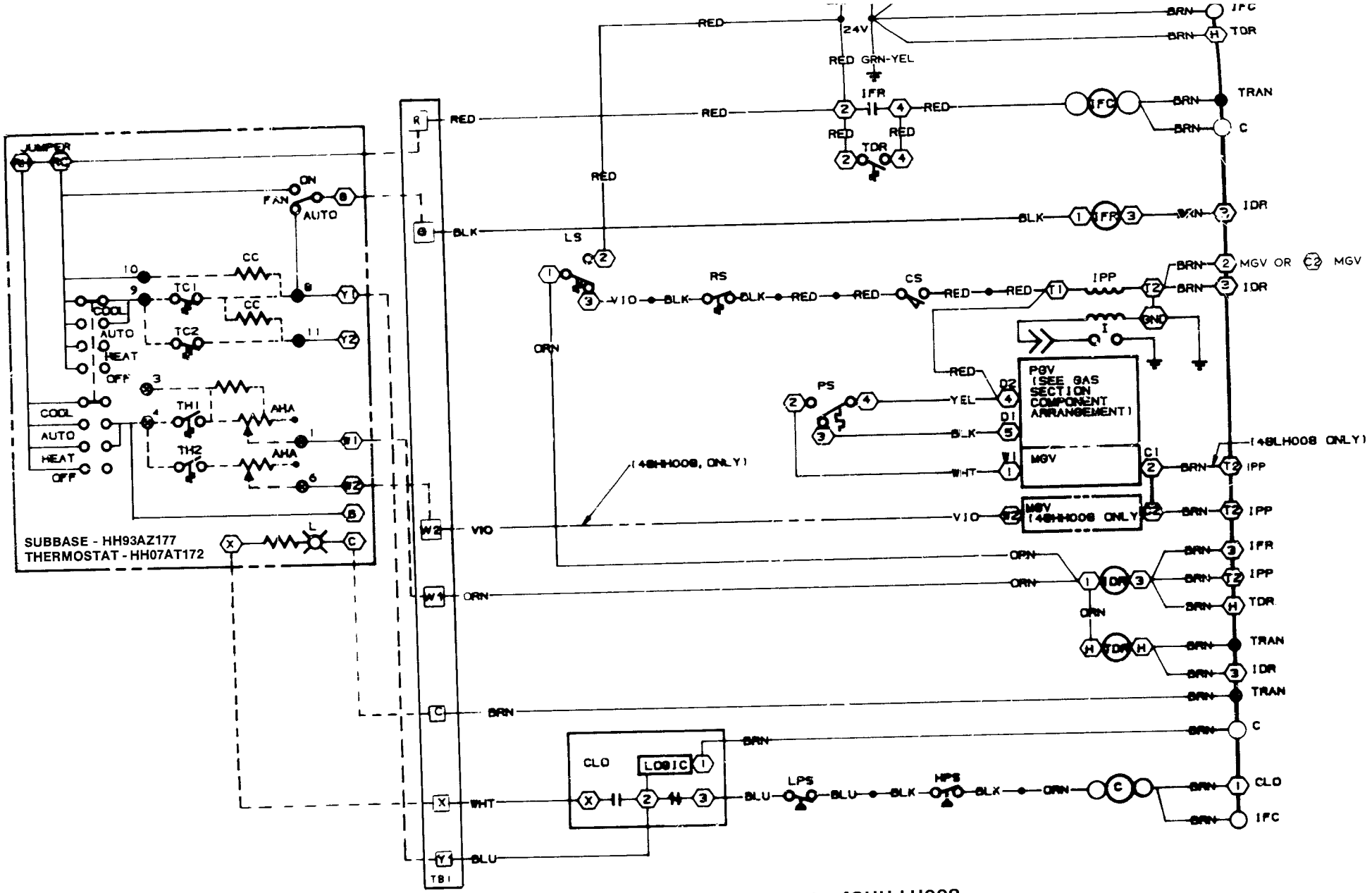


Fig. 5 — Label Diagram, Schematic; Units 48HH,LH008

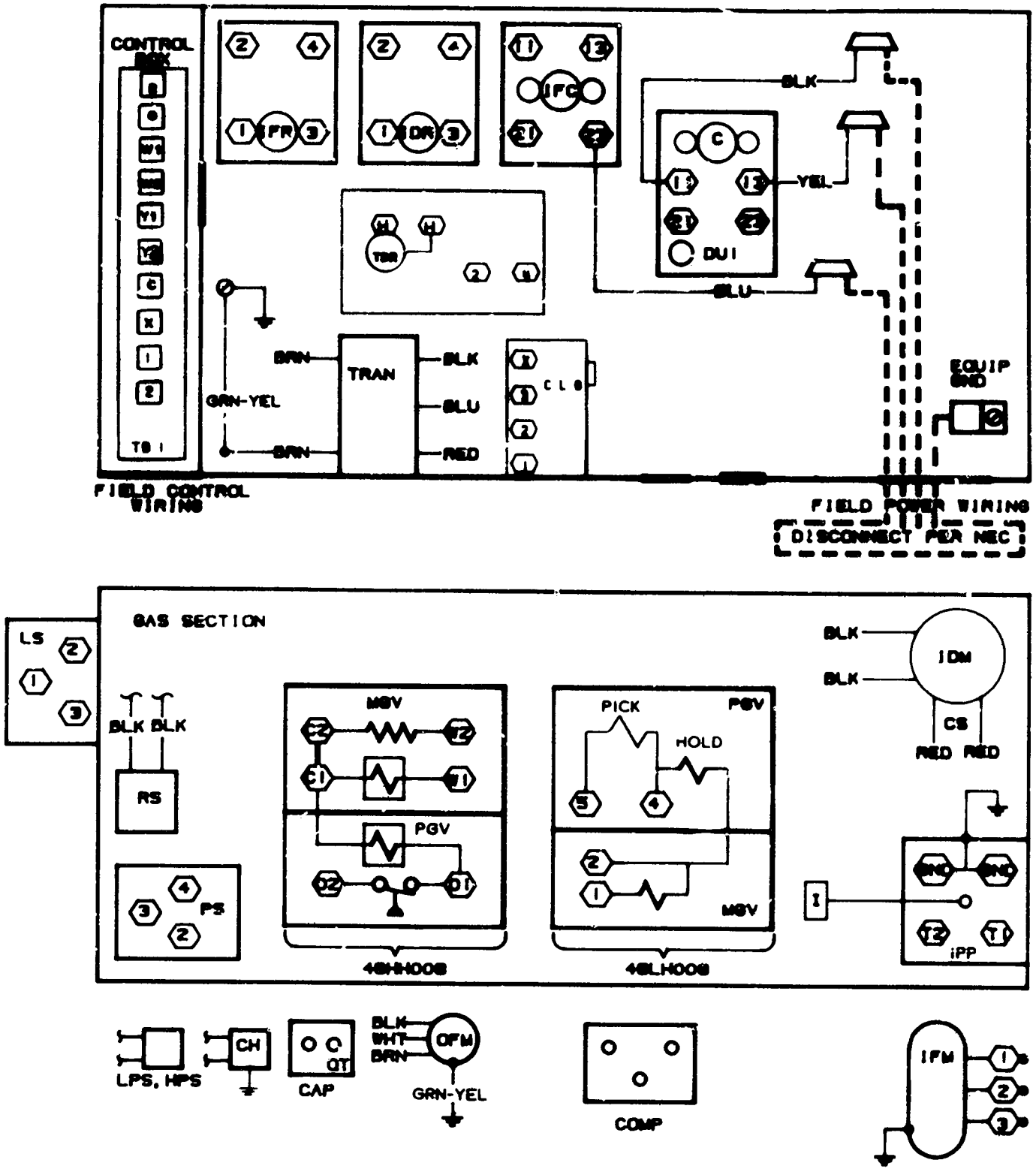


Fig. 6 — Label Diagram, Component Arrangement; Units 48HH,LH008

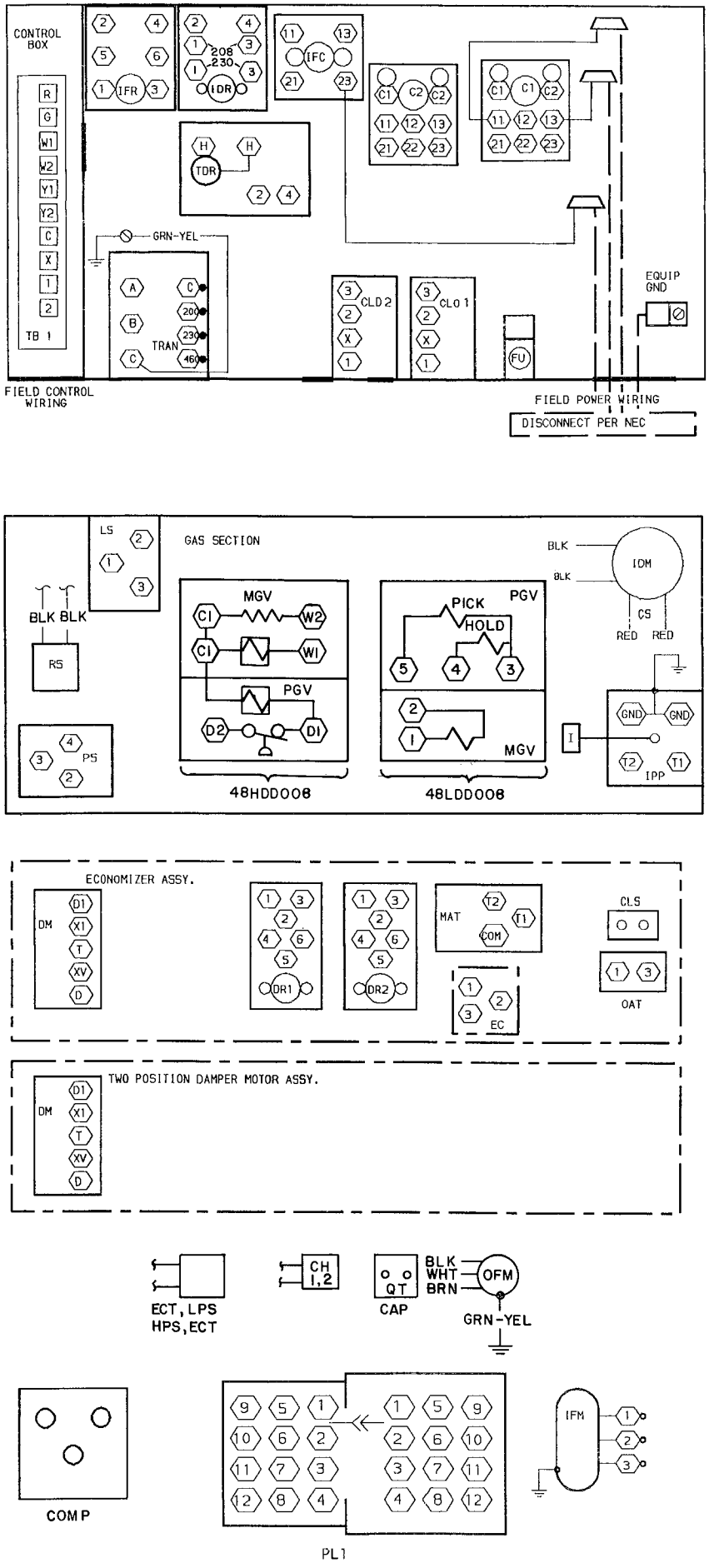
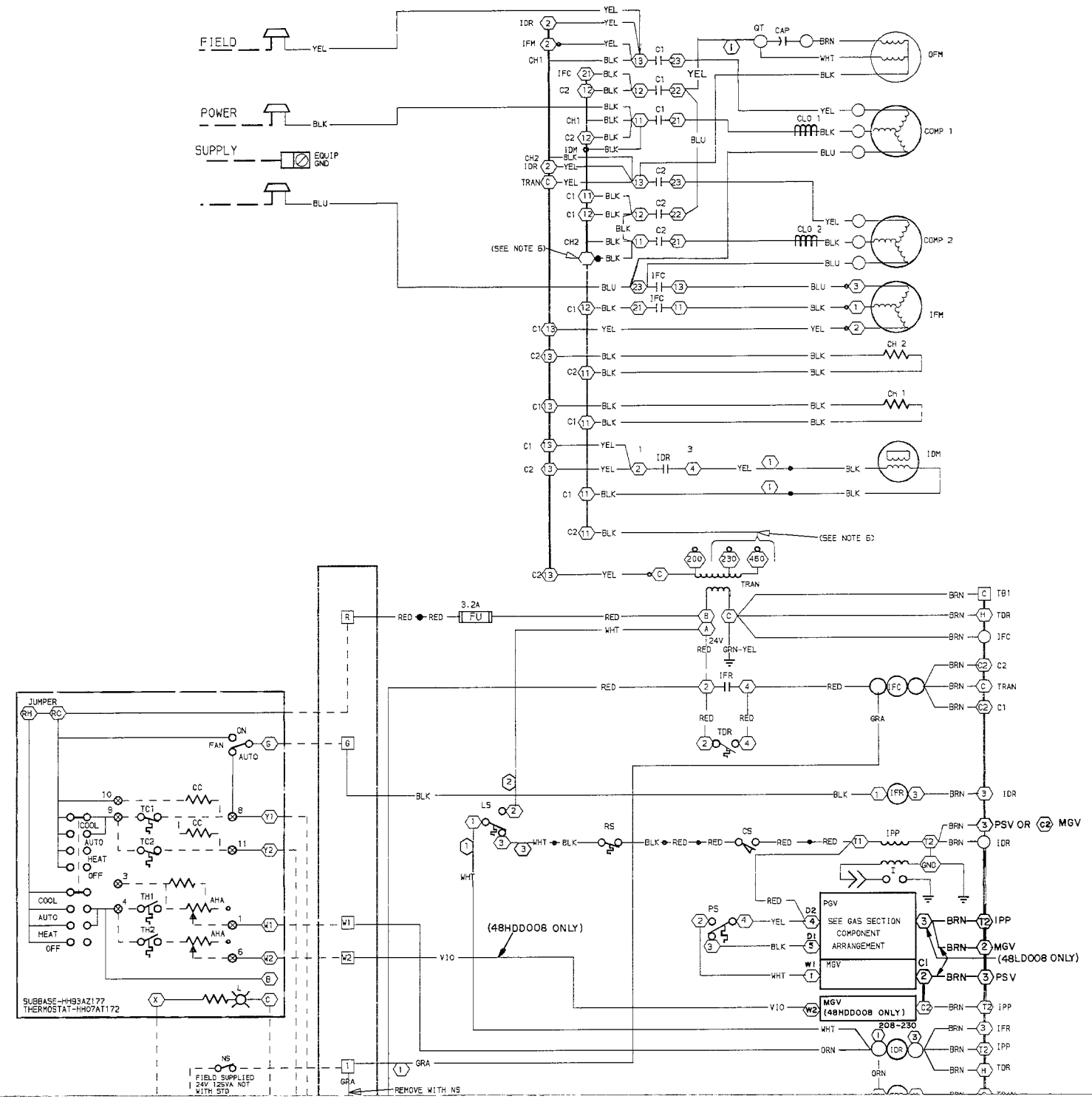


Fig. 7 — Label Diagram, Component Arrangement; Units 48HDD,LDD008


FIELD
POWER
SUPPLY
EQUIP GND
YEL
BLK
BLU
IDR
IFM
CH1
IFC
C2
CH2
TRAN
C1
(SEE NOTE 6)
QT
CAP
BRN
WHT
OFM
CLO 1
COMP 1
CLO 2
COMP 2
IFM
CH 2
CH 1
IDM
(SEE NOTE 6)
200
230
460
TRAN
3.2A
FU
RED
24V
GRN-YEL
IFR
TDR
GRA
TB1
TDR
IFC
C2
TRAN
C1
IDR
PSV OR C2 MGV
IPP
MGV (48LD008 ONLY)
PSV
JUMPER
RH
RC
FAN
ON
AUTO
COOL
HEAT
OFF
CC
TC1
TC2
TH1
TH2
AHA
Y1
Y2
W1
W2
B
X
L
SUBBASE-HH93AZ177
THERMOSTAT-HH07AT172
LS
RS
CS
WHT
VIO
ORN
(48HDD008 ONLY)
PS
PSV
SEE GAS SECTION COMPONENT ARRANGEMENT
MGV
MGV (48HDD008 ONLY)
208-230
GND
NS
FIELD SUPPLIED 24V 125VA NOT WITH STD
REMOVE WITH NS

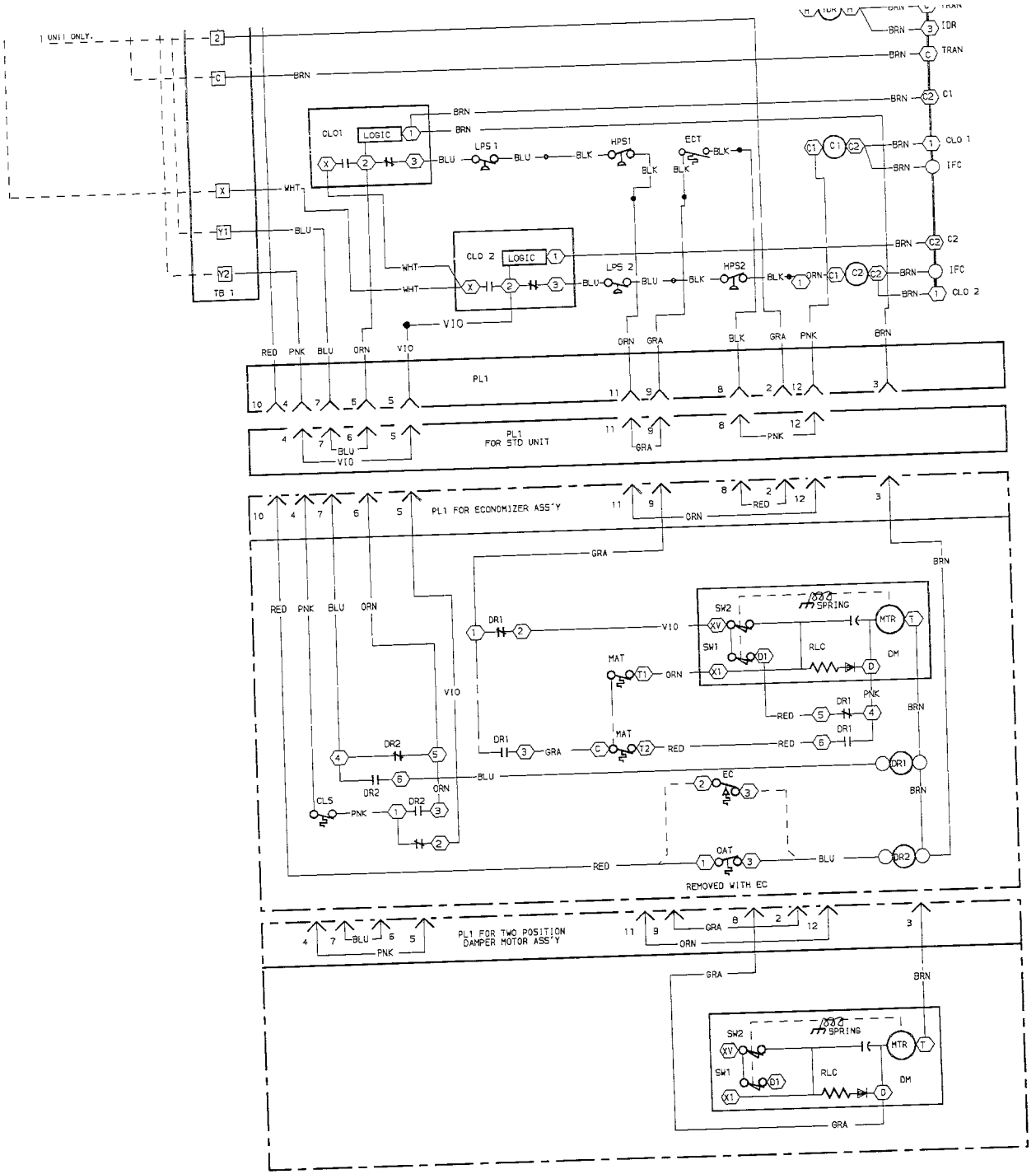
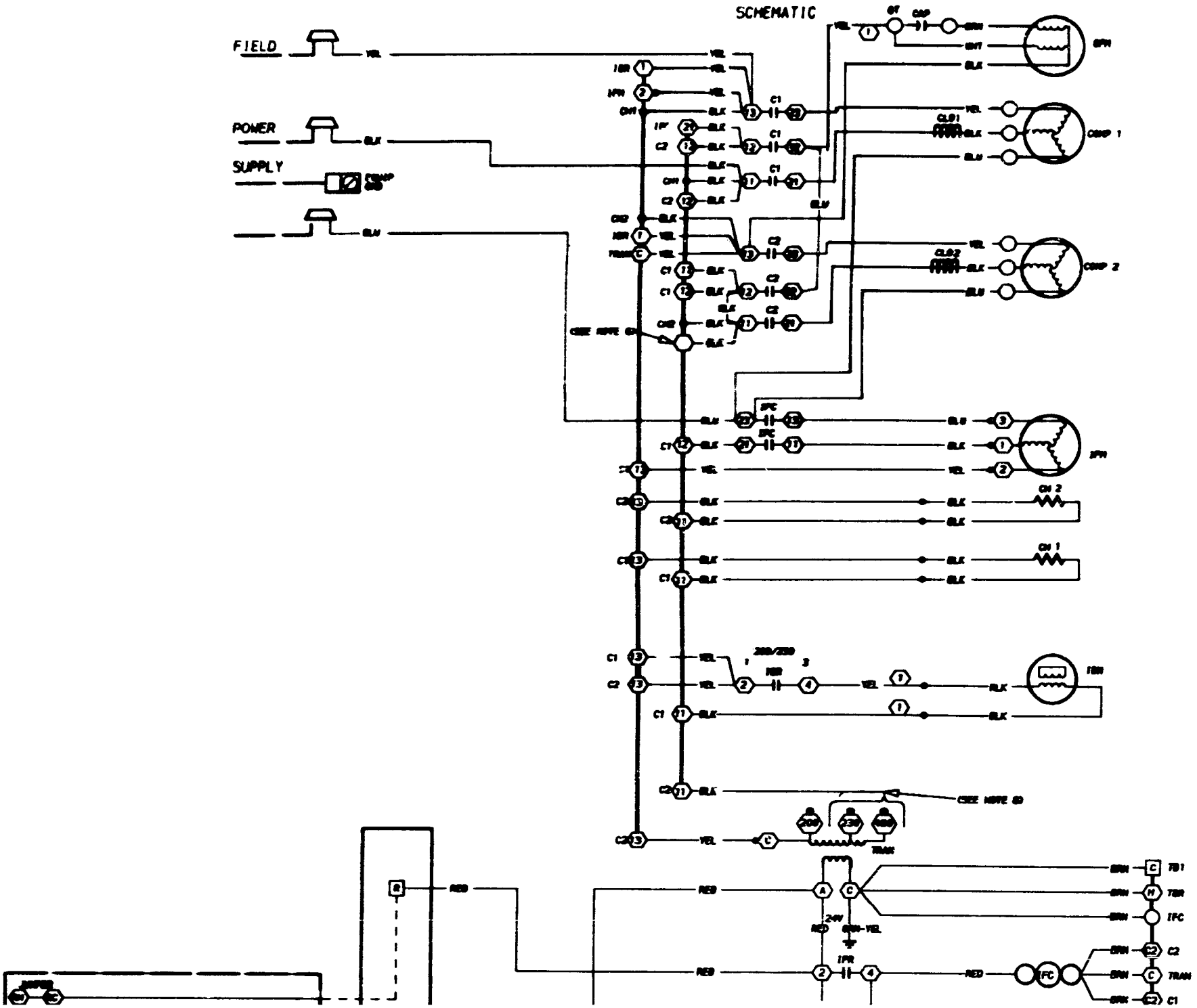


Fig. 8 — Label Diagram, Schematic; Units 48HDD,LDD008


SCHEMATIC
FIELD
POWER
SUPPLY
RED
BLK
YEL
BRN
BLU
24V
TRAN
TB1
TBR
TFC
C2
C1
IFC
IPR
IBR
IPF
IPC
CR1
CR2
CR 1
CR 2
TBR
IFC

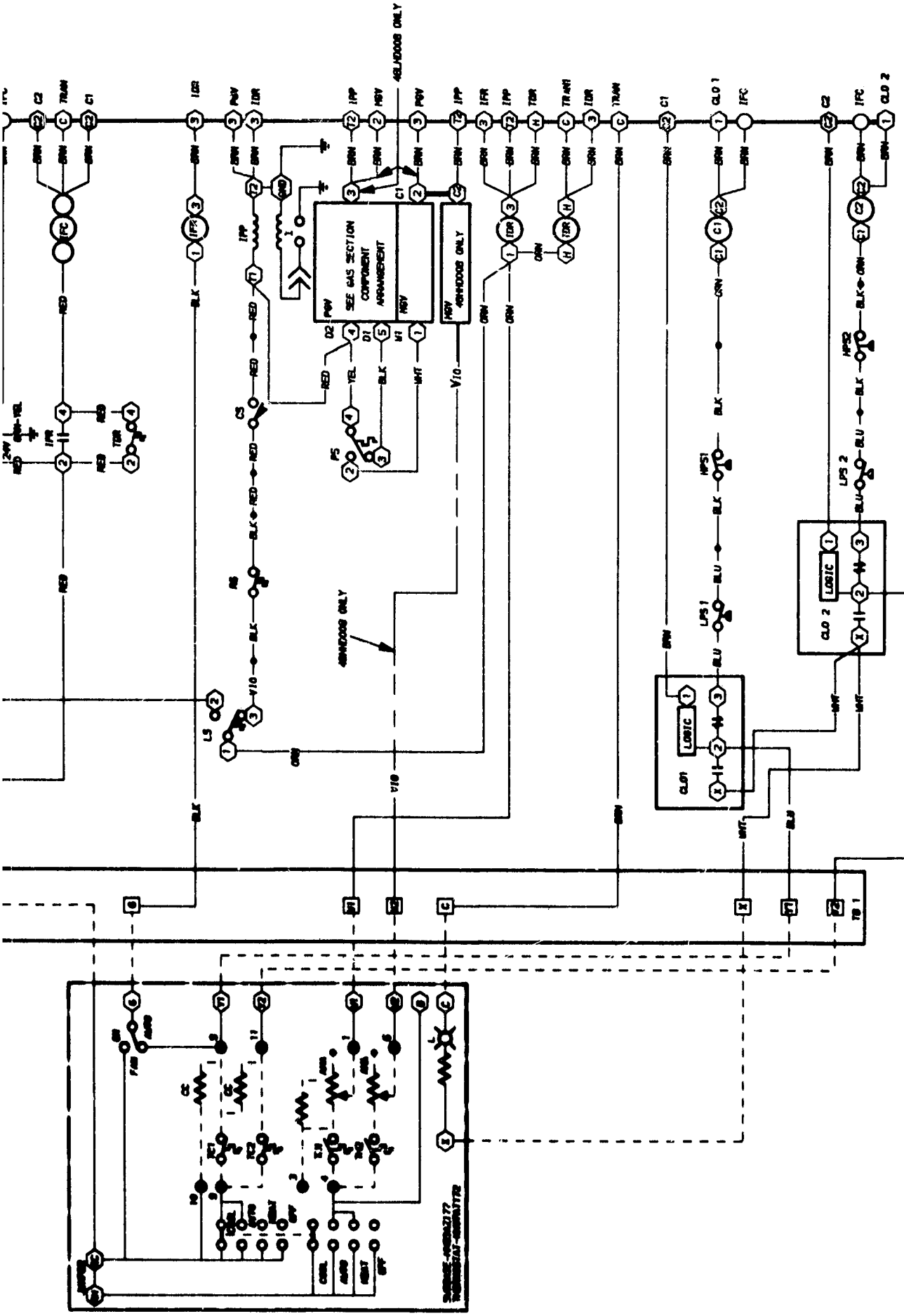
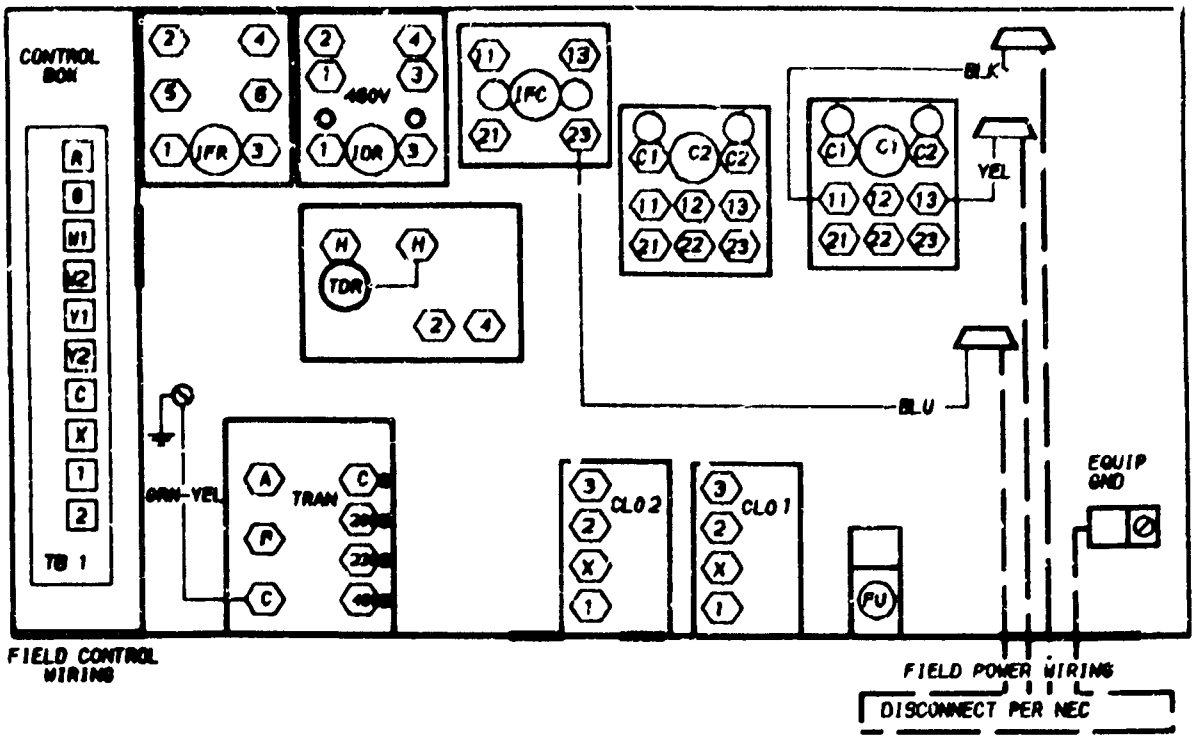
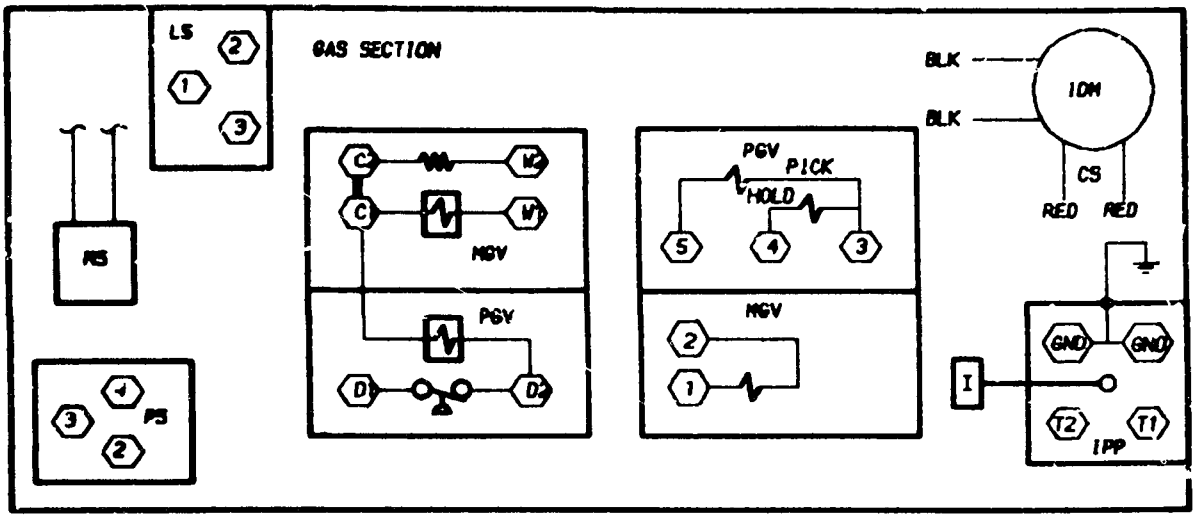
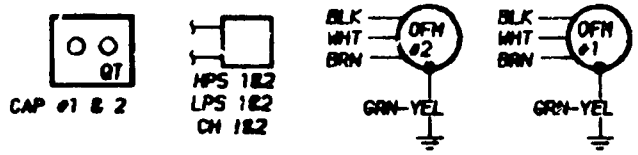
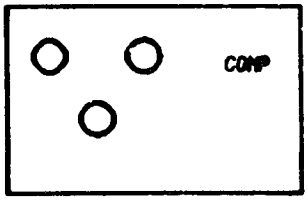


Fig. 9 — Label Diagram, Schematic; Units 48HHD,LHD008









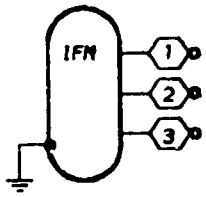
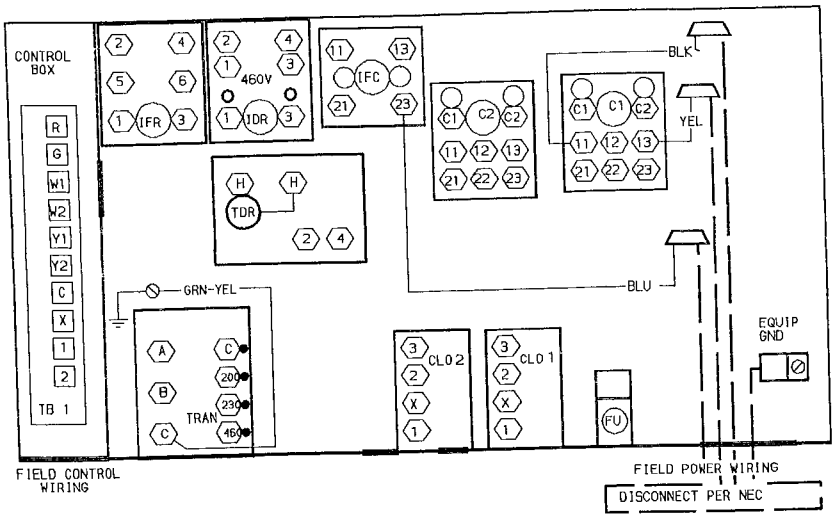
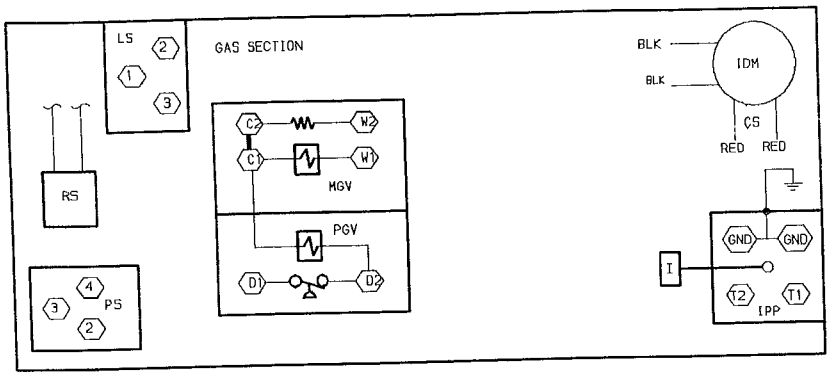
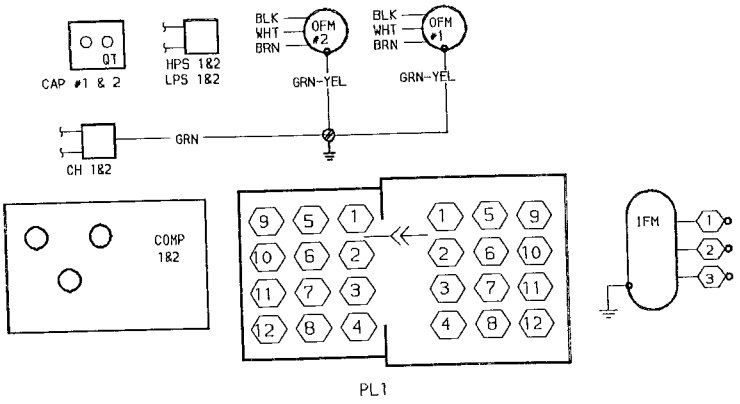


Fig. 10 — Label Diagram, Component Arrangement; Units 48HHD,LHD008







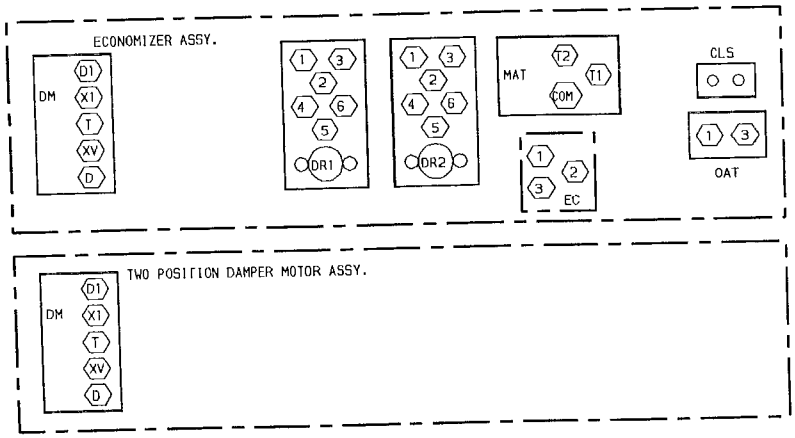
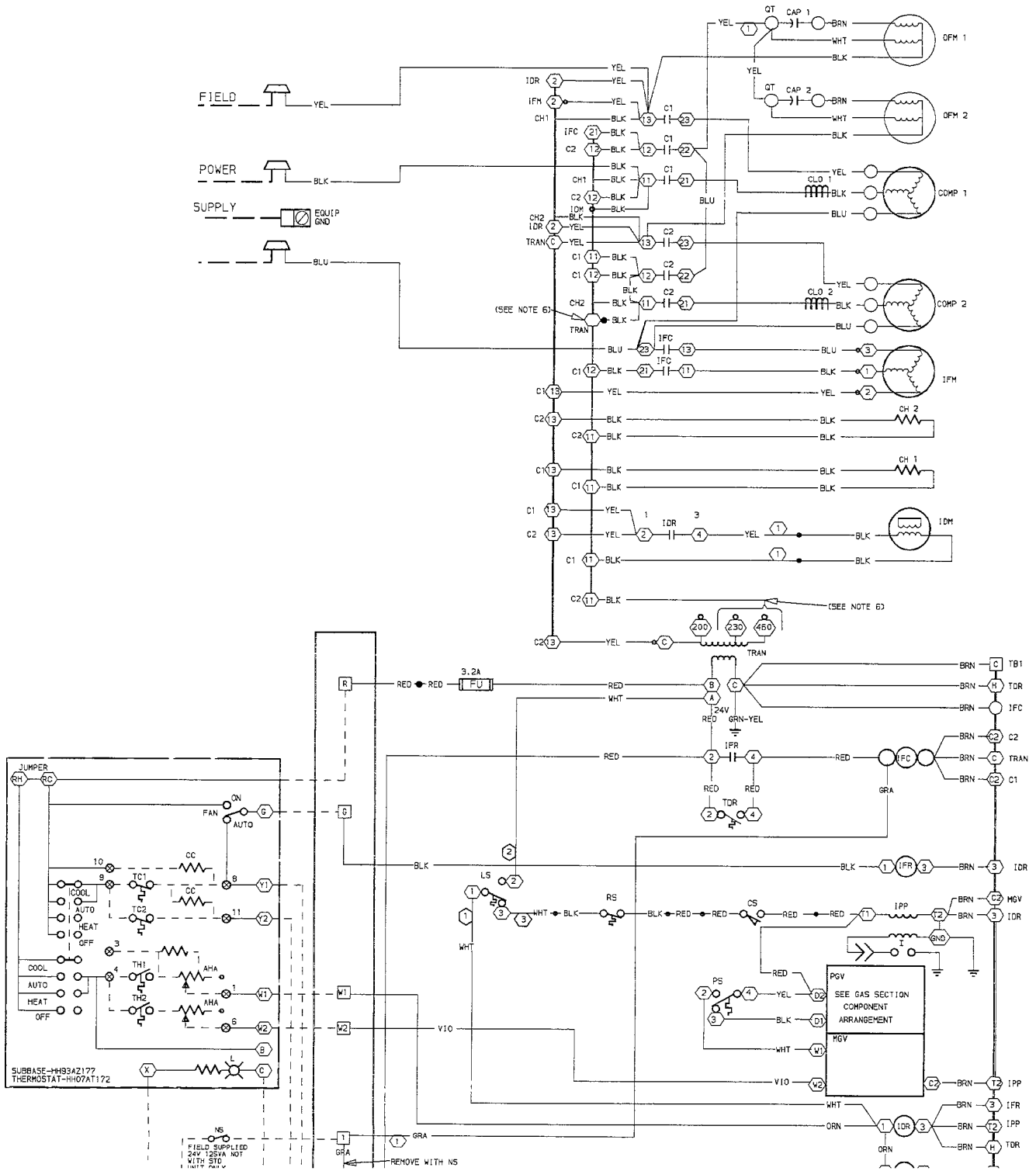


Fig. 11 — Label Diagram, Component Arrangement; Units 48HD009


FIELD
POWER
SUPPLY
EQUIP GND
YEL
BLK
BLU
QT
CAP 1
CAP 2
OFM 1
OFM 2
COMP 1
COMP 2
CLO 1
CLO 2
IFM
IDM
IDR
IFC
IFR
TRAN
CH 1
CH 2
(SEE NOTE 6)
200
230
460
3.2A
FU
24V
GRN-YEL
TB1
TDR
MGV
IPP
LS
RS
CS
PS
PGV
SEE GAS SECTION COMPONENT ARRANGEMENT
JUMPER
FAN
ON
AUTO
COOL
HEAT
OFF
CC
TC1
TC2
TH1
TH2
AHA
SUBBASE-HH93AZ177
THERMOSTAT-HH07AT172
N5
FIELD SUPPLIED 24V 125VA NOT WITH STD UNIT ONLY
REMOVE WITH N5

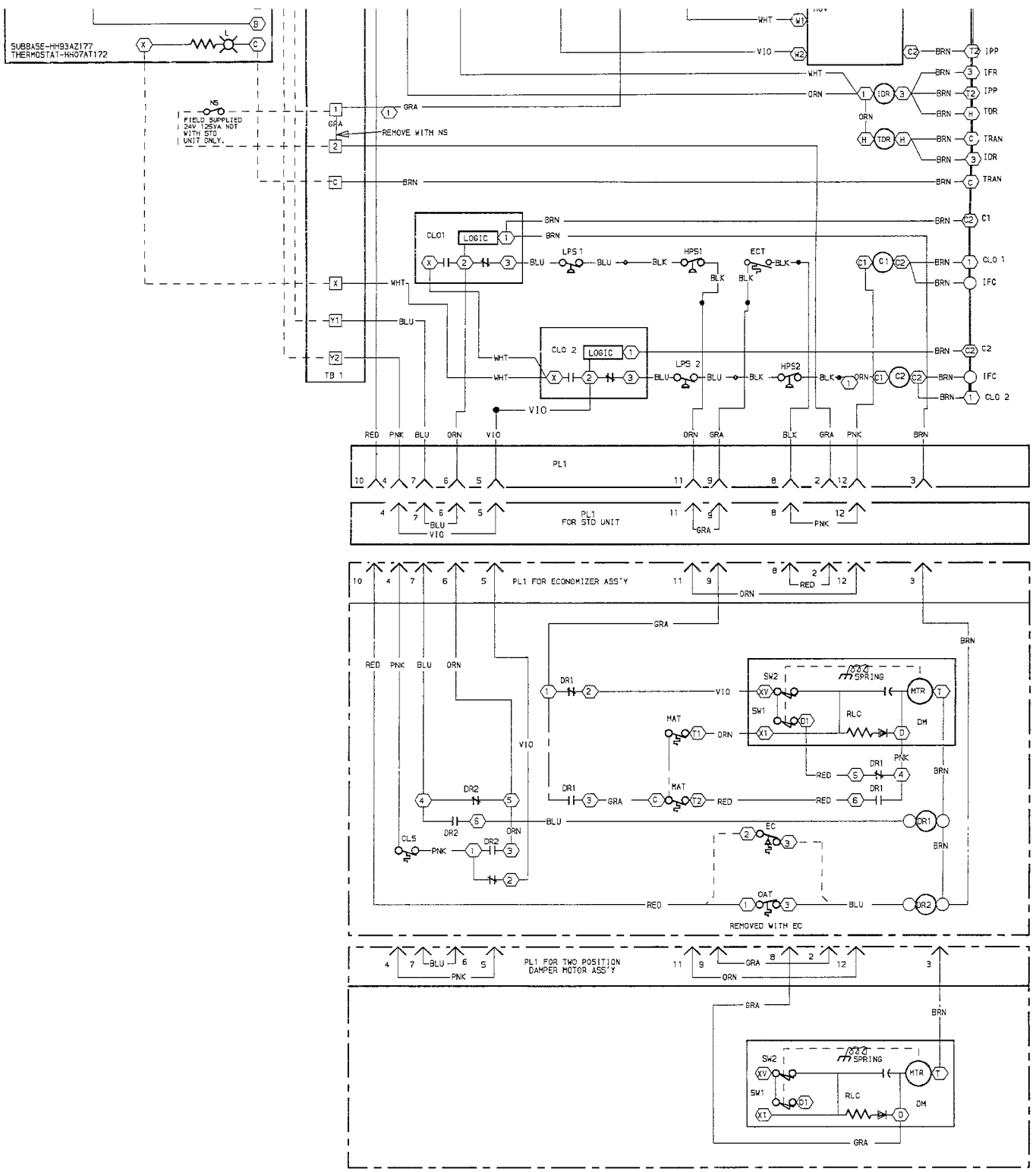


Fig. 12 — Label Diagram, Schematic; Units 48HD009

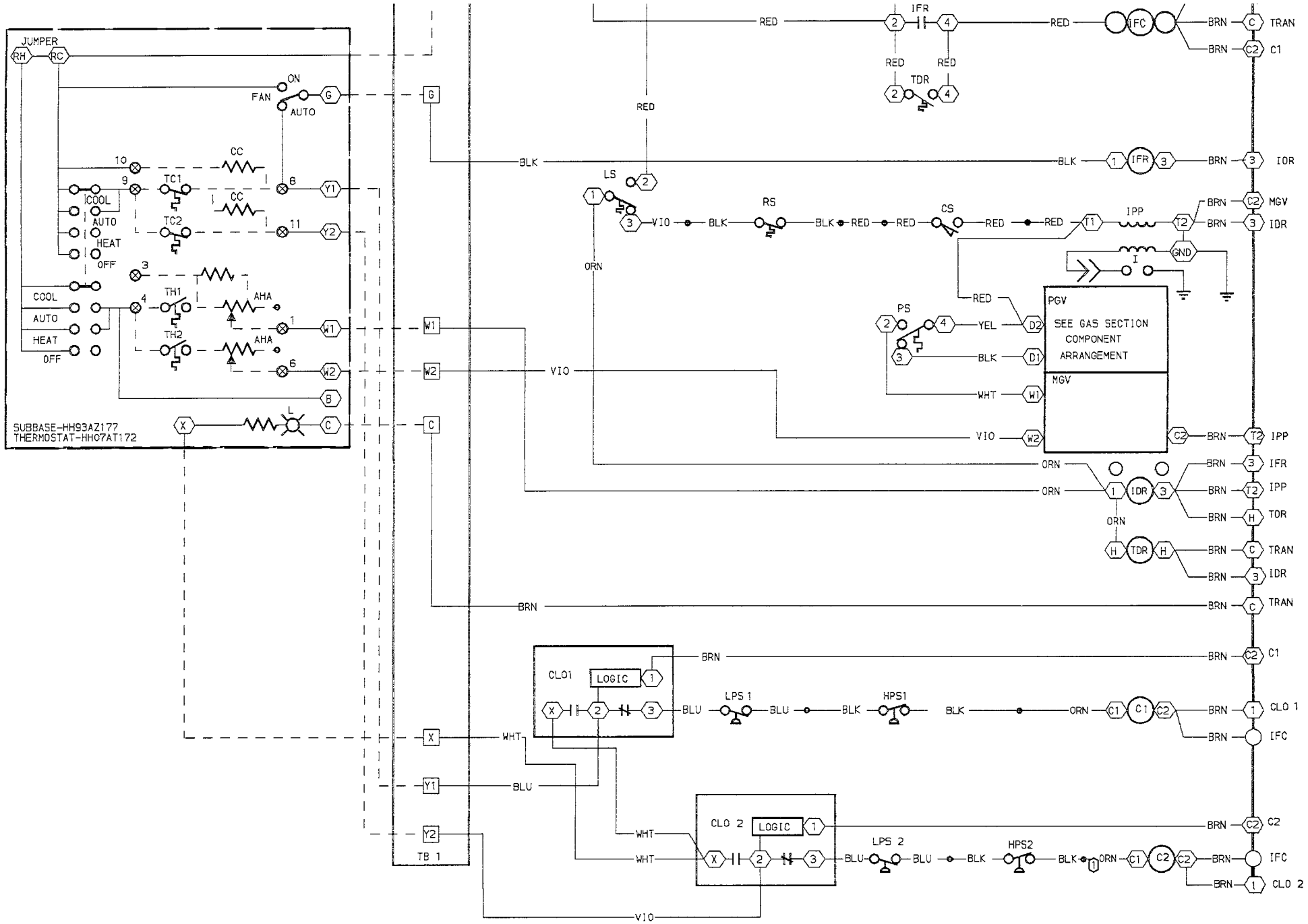
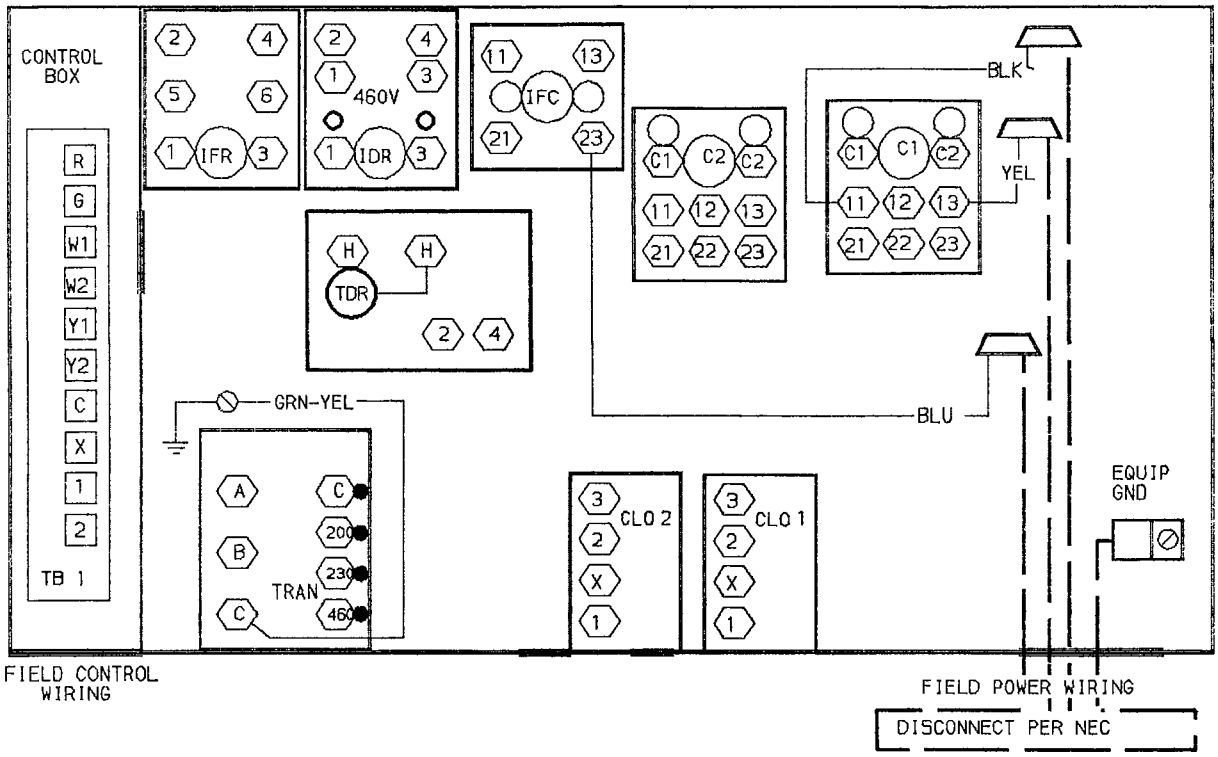
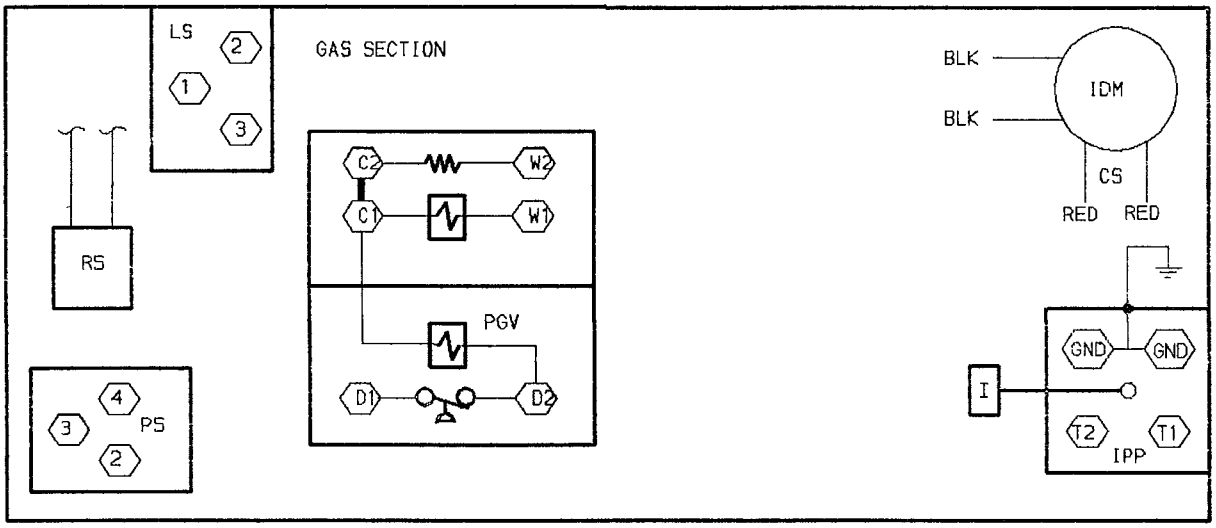
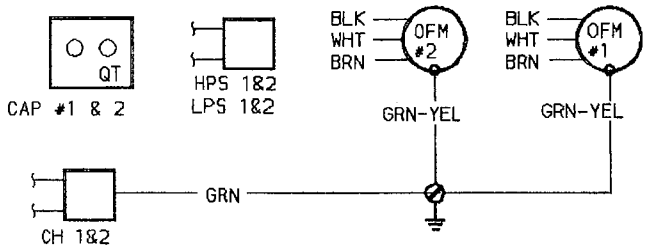
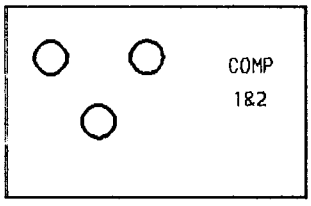


Fig. 13 — Label Diagram, Schematic; Units 48HH009









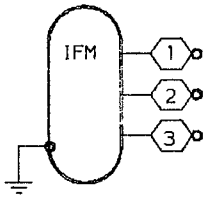


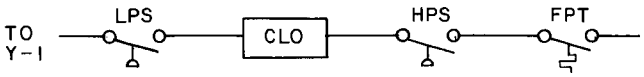
Fig. 14 — Label Diagram, Component Arrangement; Units 48HH009

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. 15. Locate sensor as shown in Fig. 16, 17 and 18. Wire as in Fig. 19, 20 and 21. Provide field-fabricated wind baffle as shown in Fig. 22.

For winter start on units 48LD,HD,LH,HH008 and 48HD,HH009, 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.

For winter start on units 48LDD,HDD,LHD, and HHD008, replace the existing low-pressure switch in the circuit no. 1 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 lower indoor coil header. Wire in series with the high-pressure switch.



Winter Start Wiring (All Units)

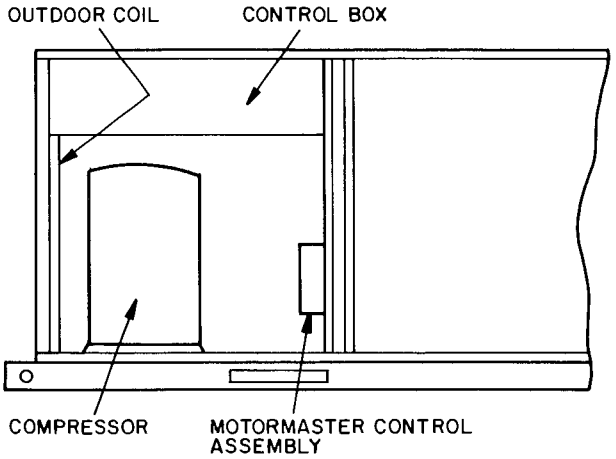


Fig. 15 — Motormaster® Control Location

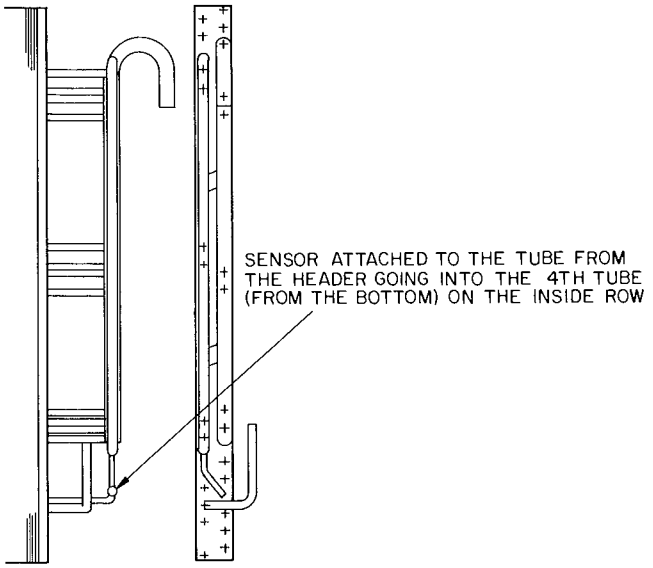


Fig. 16 — Motormaster® Control Sensor Location; Units 48LD,HD,LH,HH008

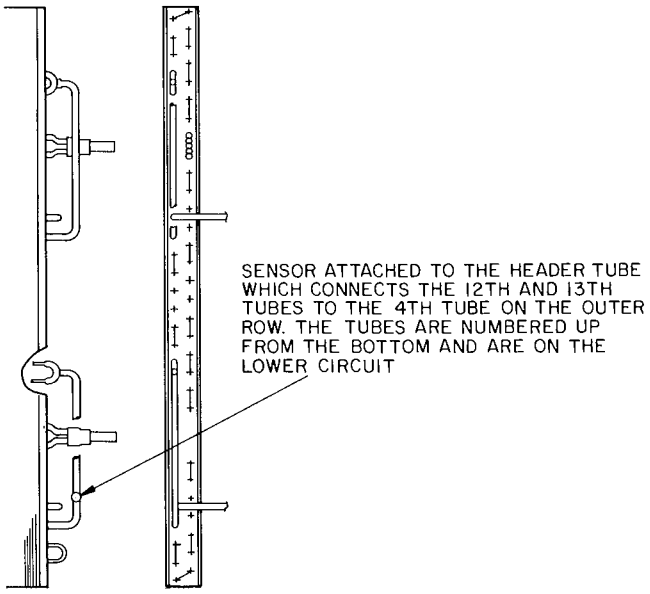


Fig. 17 — Motormaster® Control Sensor Location; Units 48LDD,HDD,LHD,HHD008

Table 1 — Unit Modifications

UNIT 48	VOLTAGE	REPLACEMENT PART NO.					
		Motor	Transformer	LPS	FPT	OFC	FCS
LD,HD,LH,HH008	208/230	HC44VL604	—	HK02ZB038	—	—	—
	460		HT01AH852			HN61KA011	
LDD,HDD,LHD,HHD008	208/230	HC44VL604	—		HH22JB026	—	—
	460		HT01AH852			HN61KA011	
HD,HH009	208/230	HC44VL604*	—		—	—	HH22HB075
	460		HT01AH852			HN61KA011	

*Change No. 1 motor only.

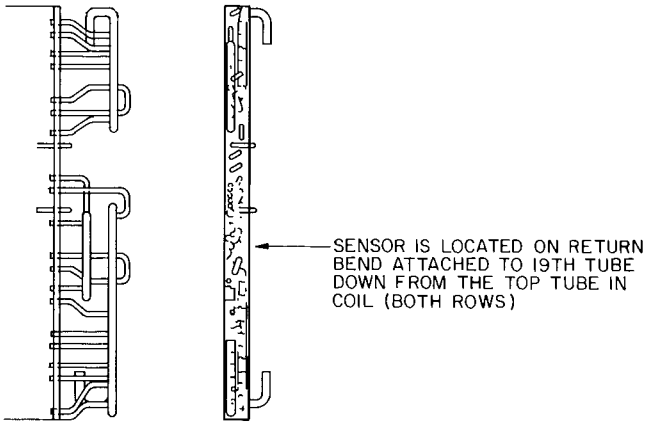
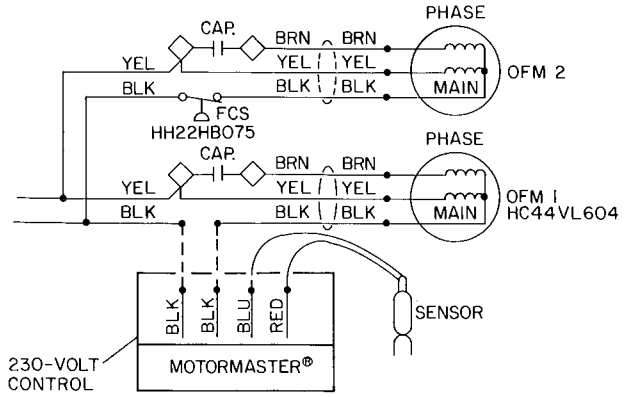
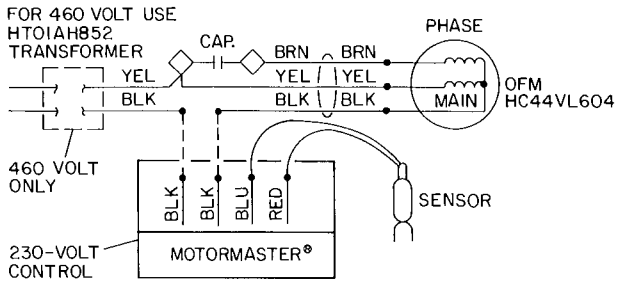


Fig. 18 — Motormaster® Control Sensor Location; Units 48HD,HH009



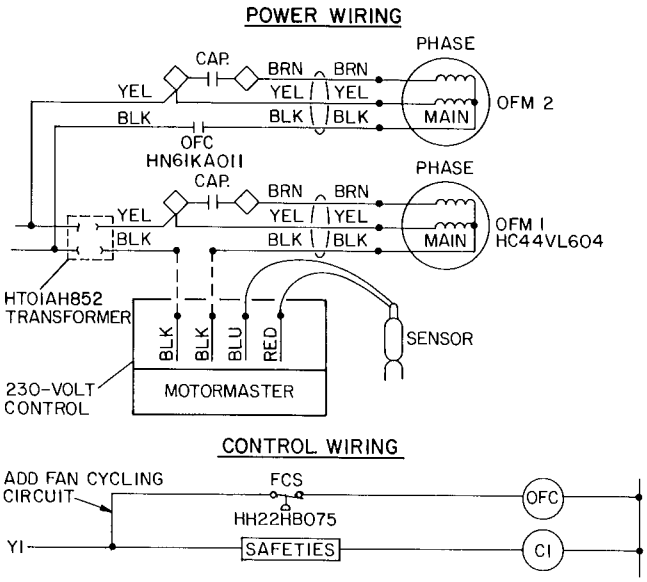
NOTES
1. For 230-volt units with 2 OFM's, install fan cycling switch HH22HB075 in the OFM 2 circuit as shown
2. Install 230-volt Motormaster control in the OFM 1 circuit as shown

Fig. 20 — Motormaster® Control Wiring; Units 48HD,HH009; 208/230 volt



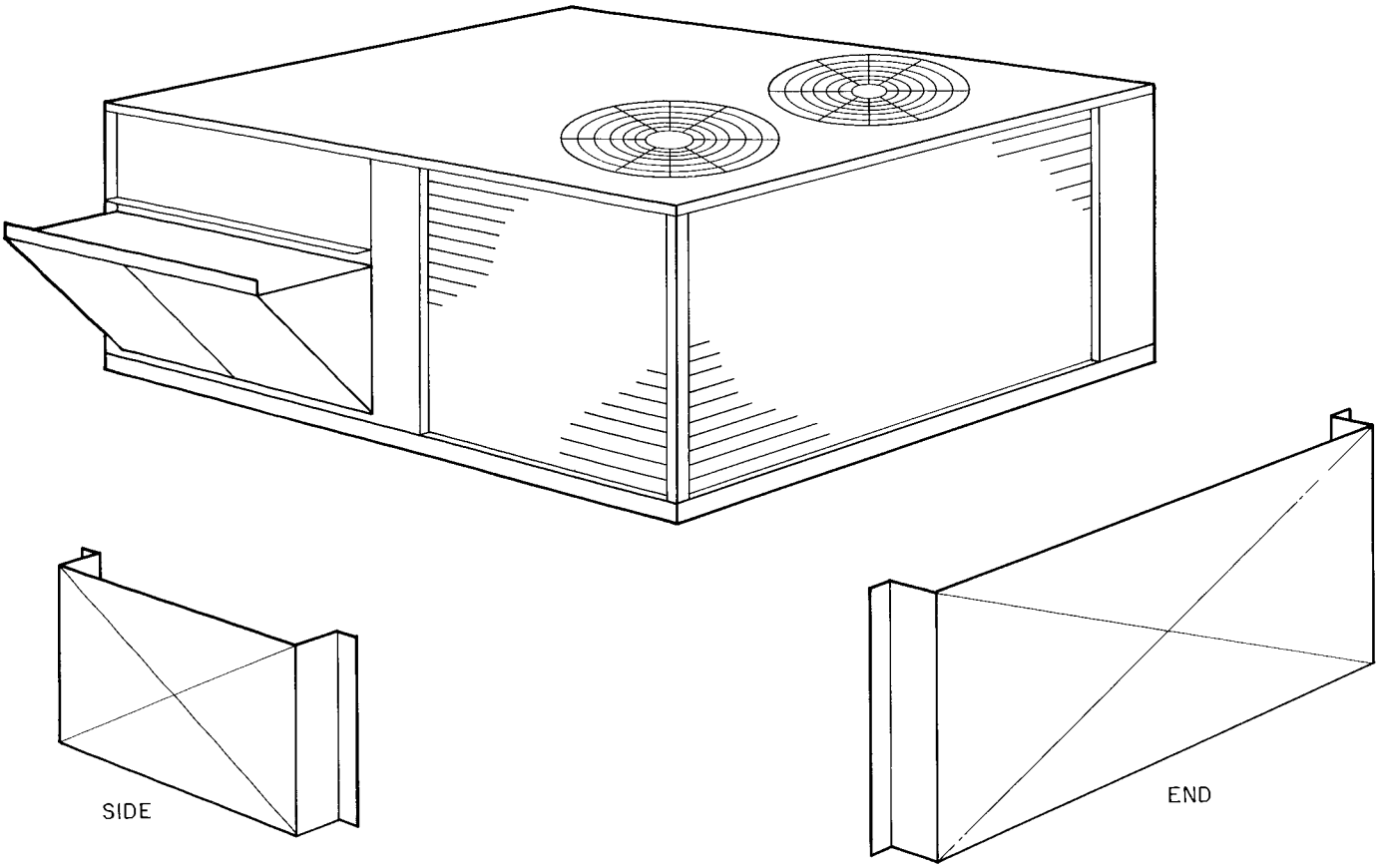
NOTES.
1. Use 230-volt Motormaster device only to control replacement motor HC44VL604 as shown
2 Use transformer HT01AH852 (460 to 230 volt) as shown for 460-volt application

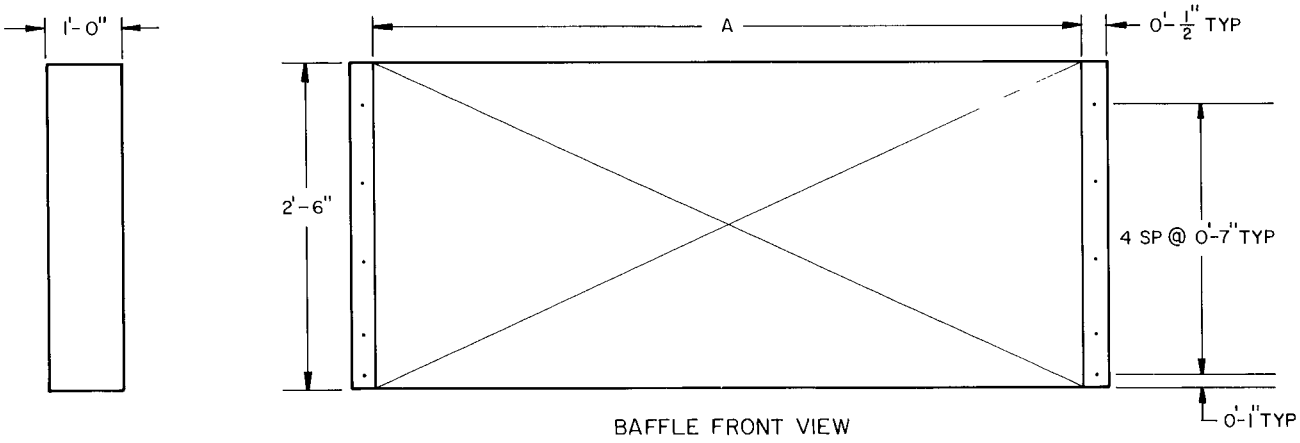
Fig. 19 — Motormaster® Control Wiring; Units 48LD,HD,LH,HH008; 48LDD,HDD,LHD,HHD008



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. 21 — Motormaster® Control Wiring; Units 48HD,HH009; 460 volt

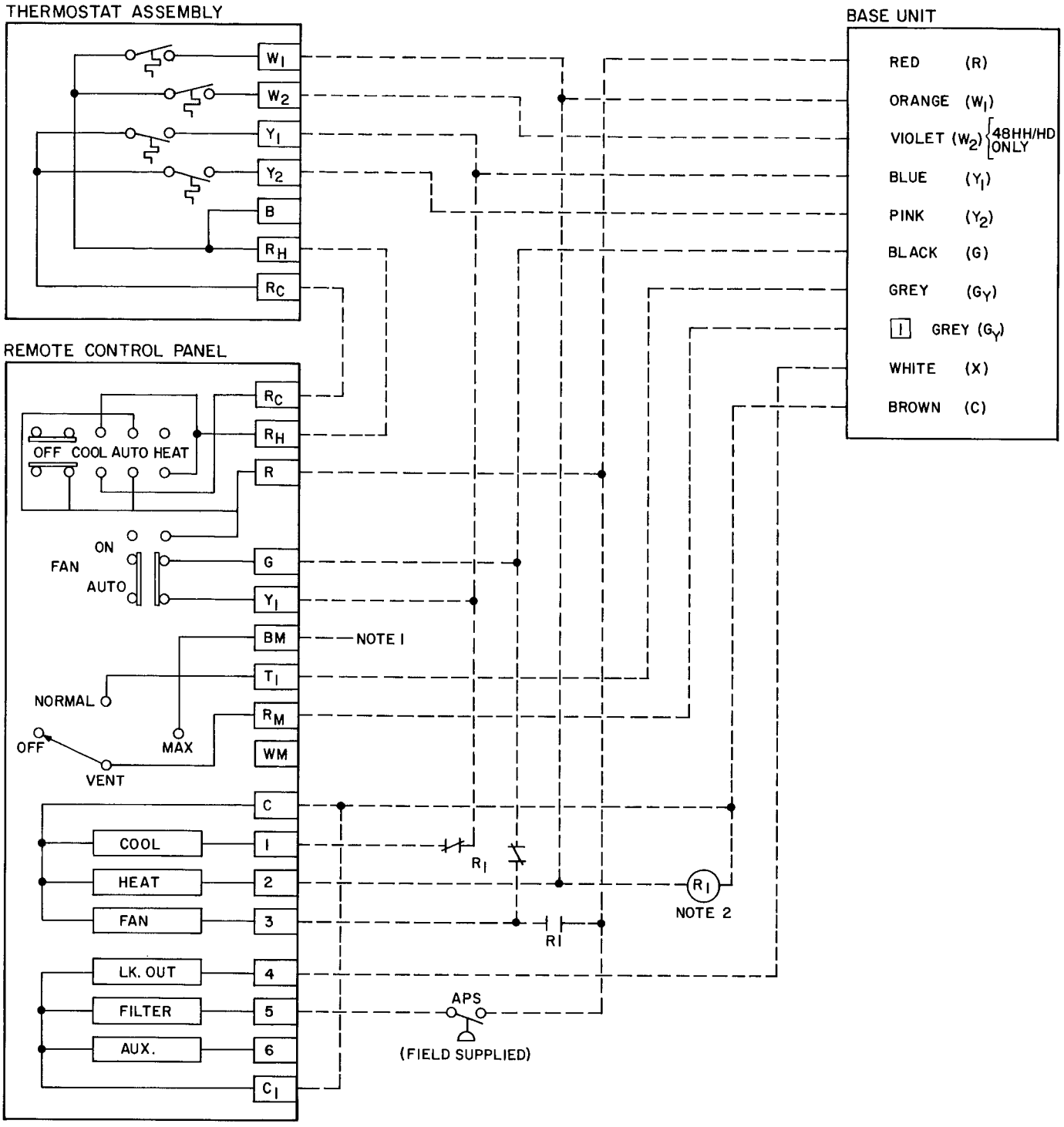




"A" DIMENSION (ft-in.)

BAFFLE LOCATION	48LD,LH,HD,HH008	48LDD,HDD,LHD,HHD008; 48HD,HH009
SIDE	2- 1¾	2-1¾
END	3-10¾	4-8¾

Fig. 22 — 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. 23 — Remote Control Field Wiring Schematic