17221E R2 03-94

DWG NO R25019 | SH CONTD

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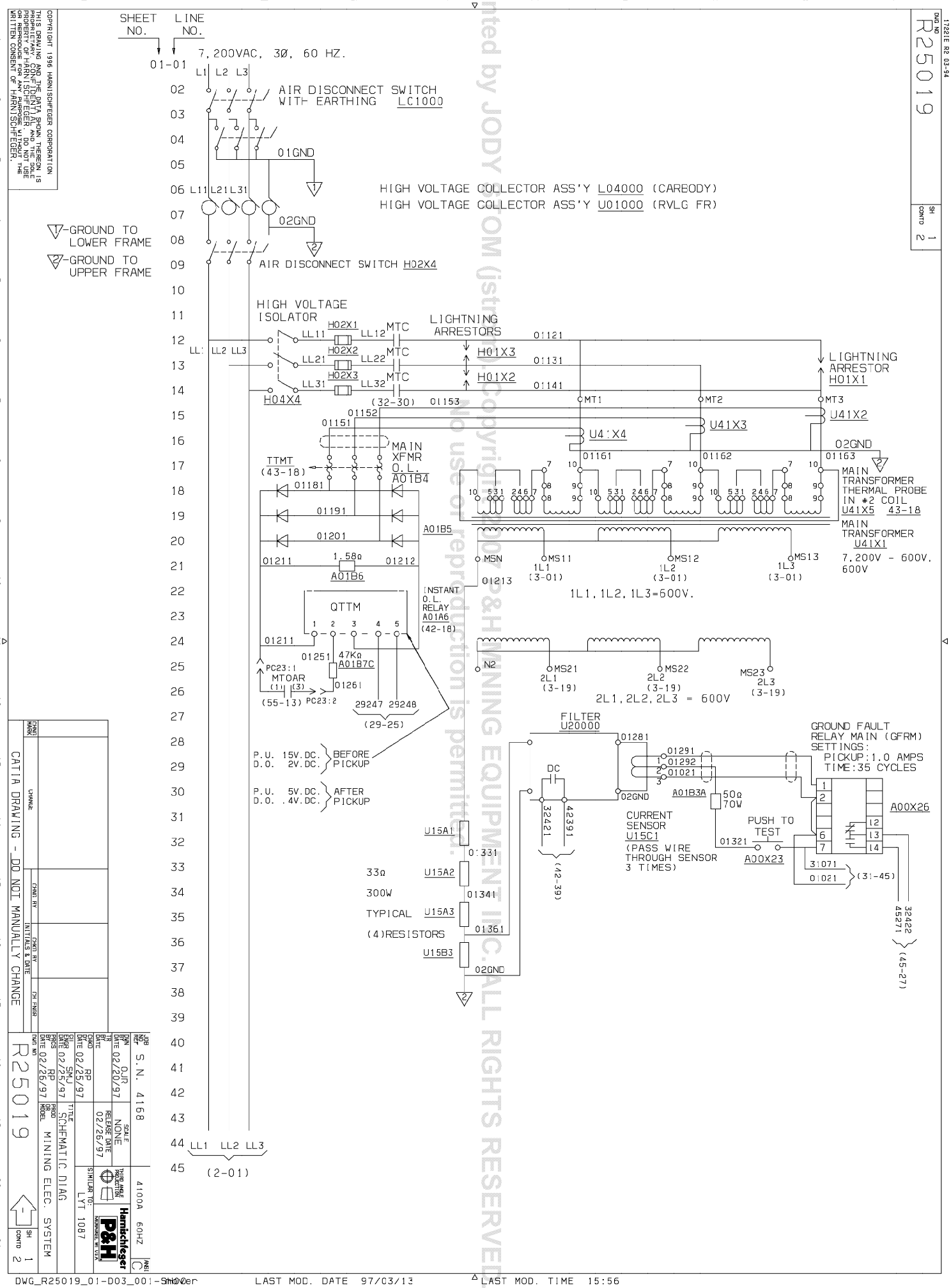
CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO REF	S.N. 4168	4100A 60HZ	SHEET C
DWN BY DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PDCS BY DATE	RP 02/26/97	PROD OR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019		SH CONTD

LAST MOD. TIME 15:51 LAST MOD. DATE 97/03/13 DWG_R25019_01-D03_000-Shover

mover FRAME 1 mars 13,1997 15.51.15


SHEET NO.
LINE NO.
01-01
7,200VAC, 3Ø, 60 HZ.
L1 L2 L3
AIR DISCONNECT SWITCH WITH EARTHING LC1000
01GND
L11 L21 L31
HIGH VOLTAGE COLLECTOR ASS'Y L04000 (CAREODY)
HIGH VOLTAGE COLLECTOR ASS'Y U01000 (RVLG FR)
02GND
1-GROUND TO LOWER FRAME
2-GROUND TO UPPER FRAME
AIR DISCONNECT SWITCH H02X4
HIGH VOLTAGE ISOLATOR
H02X1
H02X2
H02X3
LL11 LL12 LL21 LL22 LL31 LL32
MTC
LIGHTNING ARRESTORS
H01X3
H01X2
H04X4
LL1 LL2 LL3
01121
01131
01141
LIGHTNING ARRESTOR H01X1
(32-30) 01153
MT1 MT2 MT3
U41X2
U41X3
U4:X4
01152
01151
MAIN XFMR O.L. A01B4
TTMT (43-18)
01161 01162 01163
02GND
MAIN TRANSFORMER THERMAL PROBE IN #2 COIL U41X5 43-18
01181
01191
01201
A01B5
MAIN TRANSFORMER U41X1
7,200V - 600V, 600V
01211 1.58Ω 01212
A01B6
M5N MS11 MS12 MS13
1L1 (3-01) 1L2 (3-01) 1L3 (3-01)
01213
1L1, 1L2, 1L3=600V.
INSTANT O.L. RELAY A01A6 (42-18)
QTTM
01211
01251 47KΩ A01B7C
PC23:1 MTOAR (1) (3) PC23:2
(55-13)
01261
29247 29248
(29-25)
N2 MS21 MS22 MS23
2L1 (3-19) 2L2 (3-19) 2L3 (3-19)
2L1, 2L2, 2L3 = 600V
FILTER U20000
01281
GROUND FAULT RELAY MAIN (GFRM) SETTINGS: PICKUP:1.0 AMPS TIME:35 CYCLES
P.U. 15V.DC. D.O. 2V.DC. BEFORE PICKUP
P.U. 5V.DC. D.O. .4V.DC. AFTER PICKUP
DC
01291 01292 01021
02GND
A01B3A
50Ω 70W
A00X26
32421 42391
(12-39)
CURRENT SENSOR U15C1 (PASS WIRE THROUGH SENSOR 3 TIMES)
PUSH TO TEST
01321
A00X23
U15A1
01331
33Ω 300W TYPICAL (4)RESISTORS
U15A2
01341
U15A3
01361
U15B3
02GND
31071 01021
(31-45)
32422 45271
(45-27)
LL1 LL2 LL3
(2-01)
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CATIA DRAWING - DO NOT MANUALLY CHANGE
CHANGE MARK
CHANGE
CHNGD BY
CHKD BY
INITIALS & DATE
CH. ENGR
R25019
MINING ELEC. SYSTEM
SCHEMATIC DIAG
S.N. 4168
SCALE NONE
RELEASE DATE 02/26/97
LYT 1087
4100A 60HZ
Harnischfeger
P&H
MILWAUKEE, WI, U.S.A.
DWG R25019
SH 1 CONTD 2
1722LE R2 03-94
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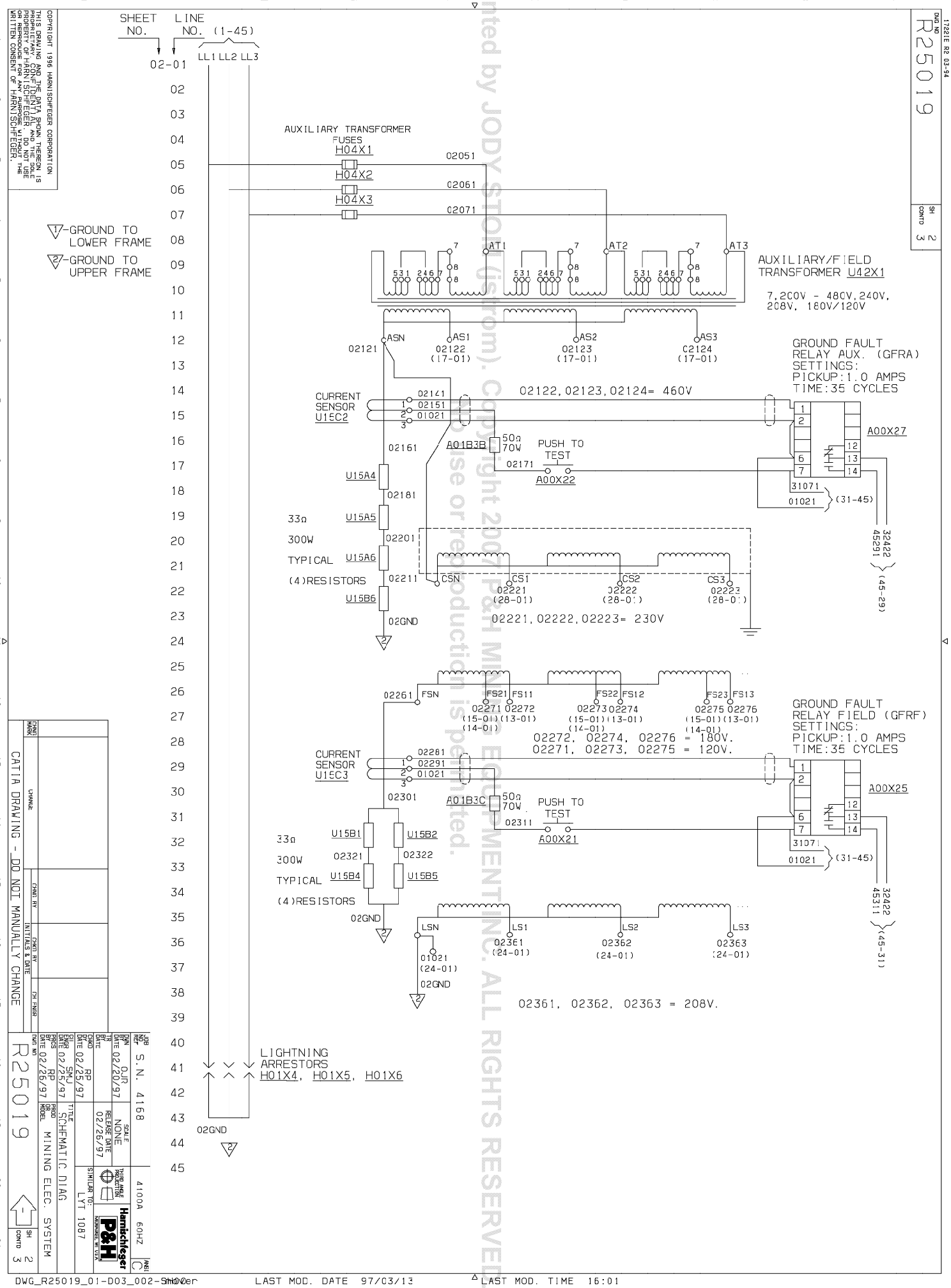

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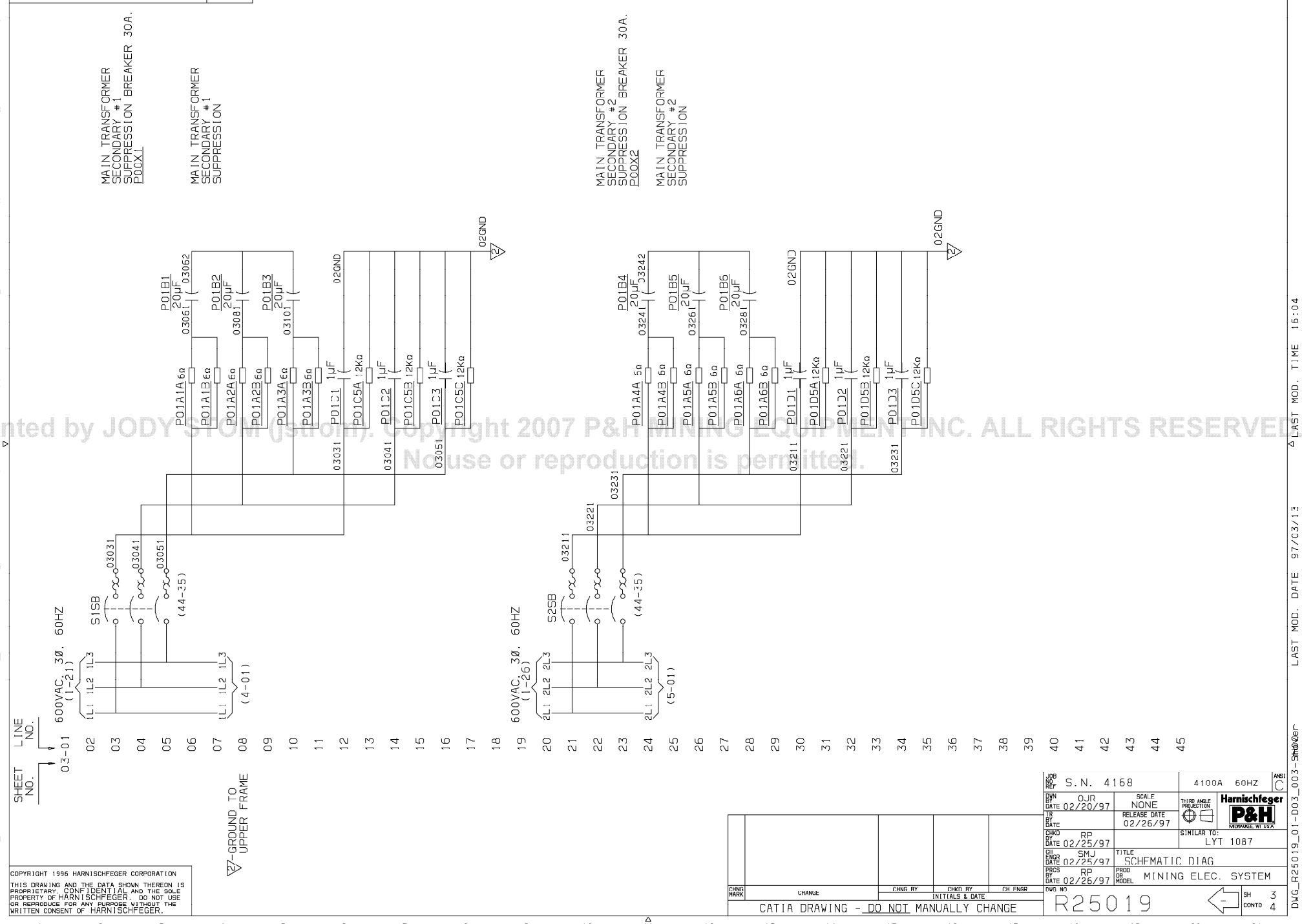
DWG NO R25019 | SH 3 | CONTD 4



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		INITIALS & DATE		

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TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
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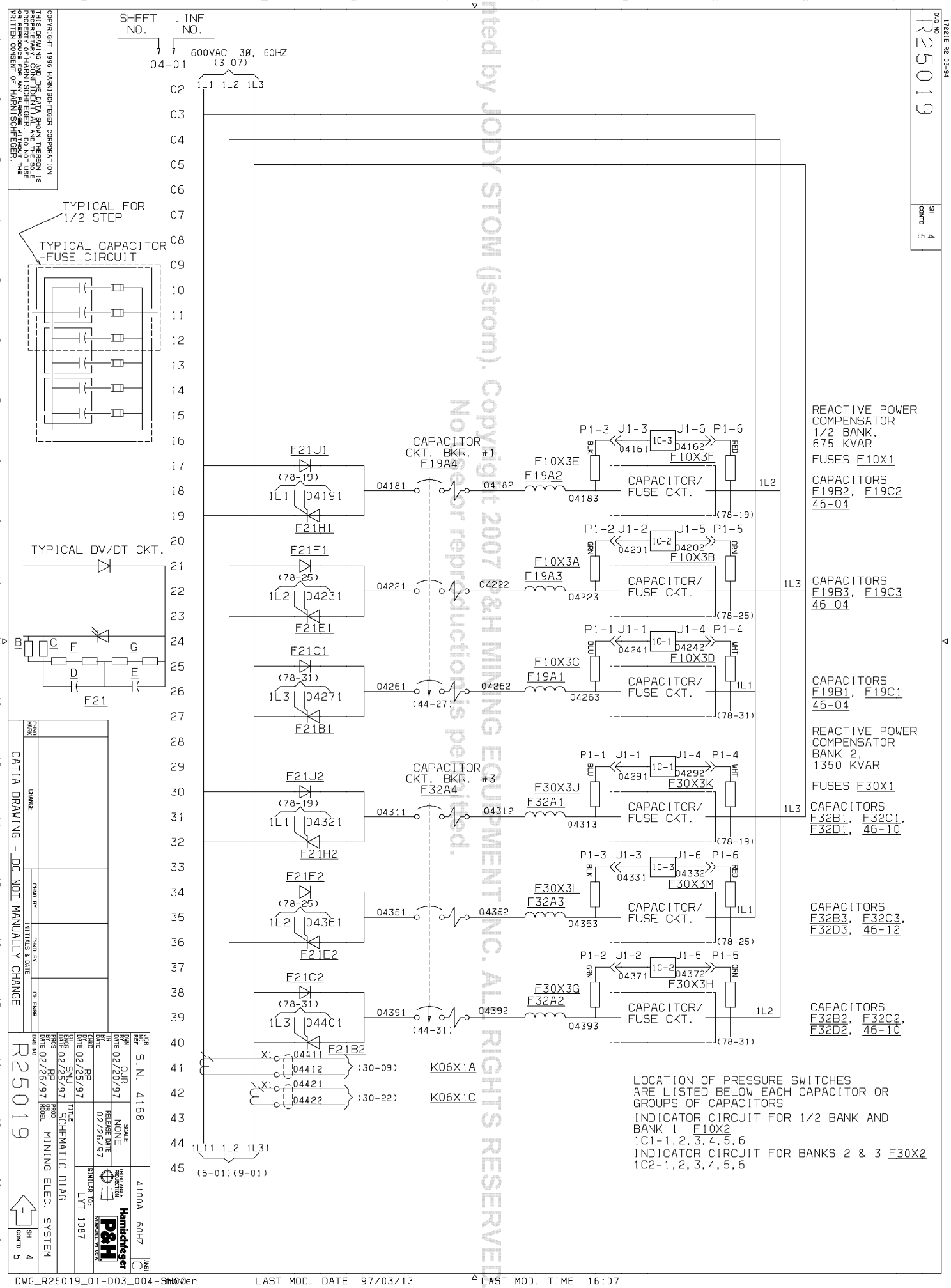
PDCS BY DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 3 CONTD 4	

LAST MOD. DATE 97/03/13 LAST MOD. TIME 16:04



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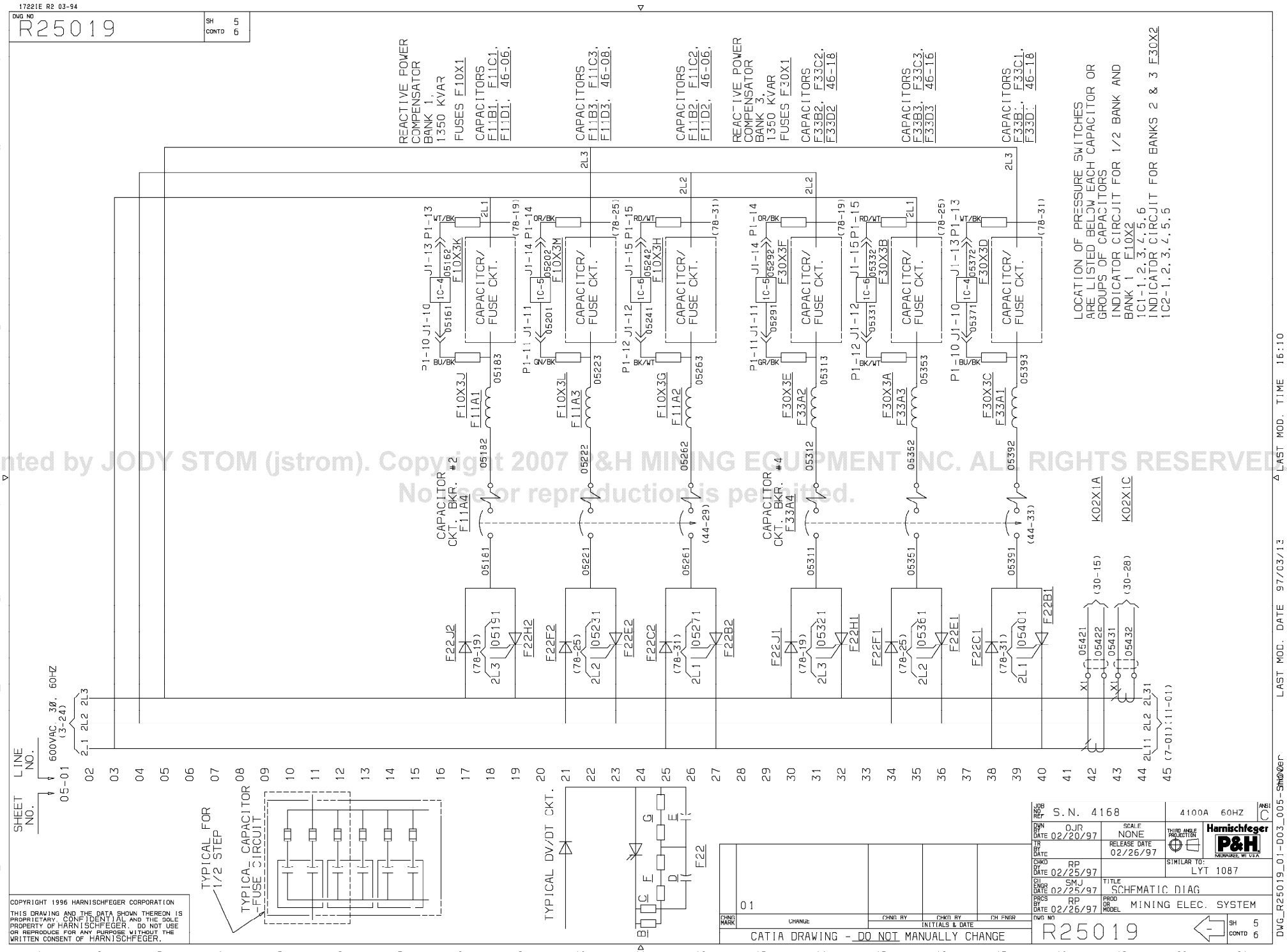

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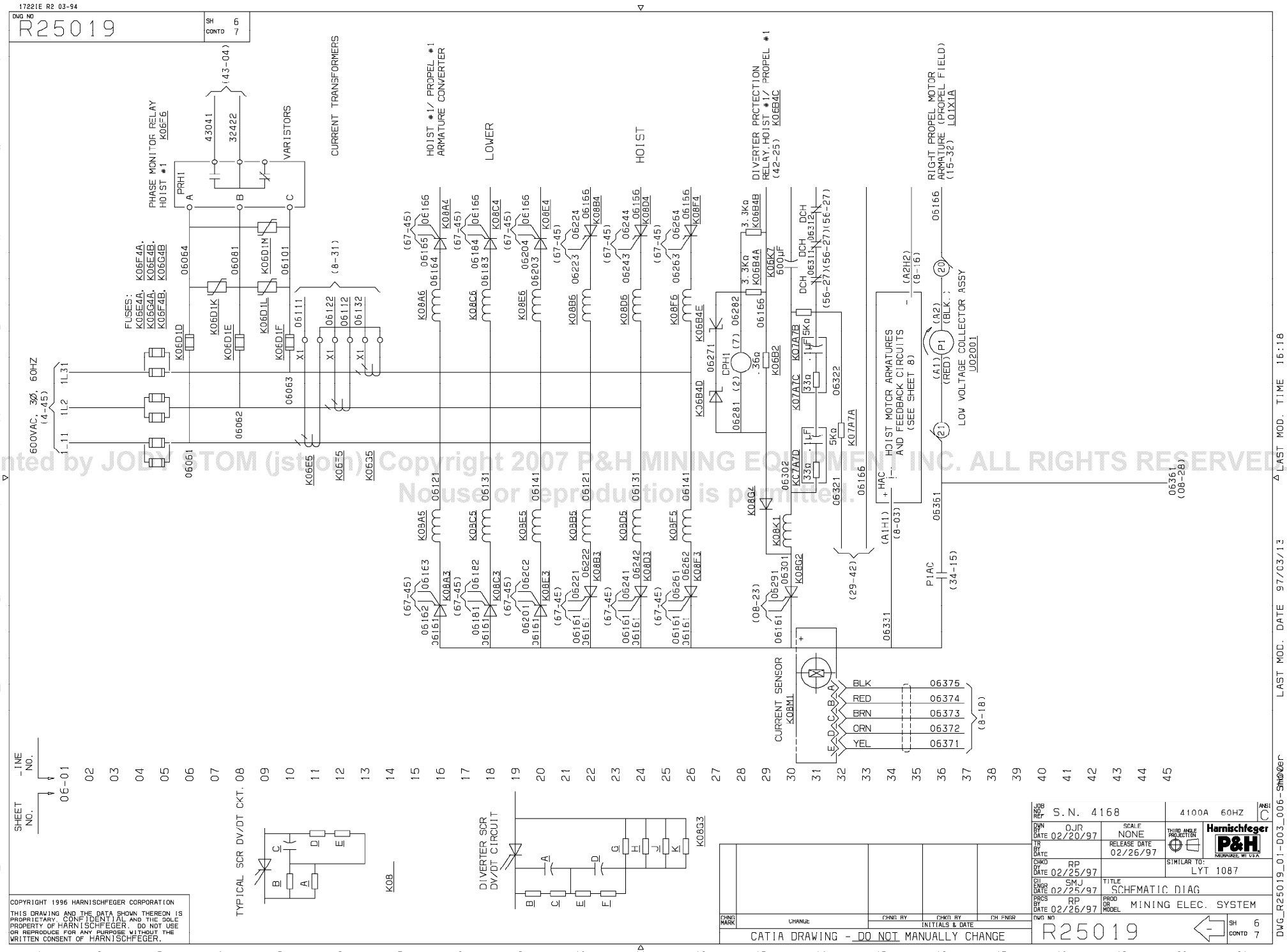

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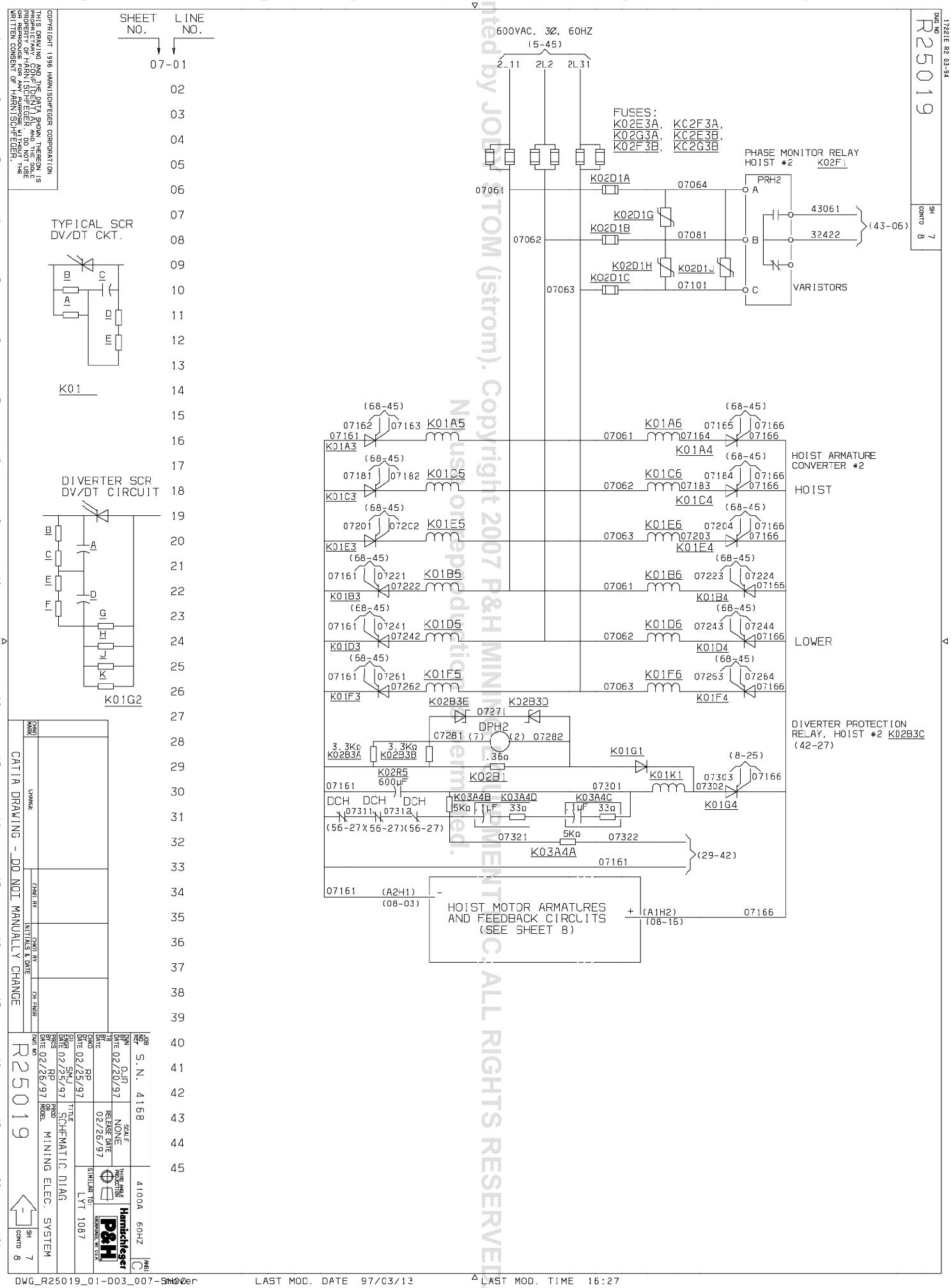

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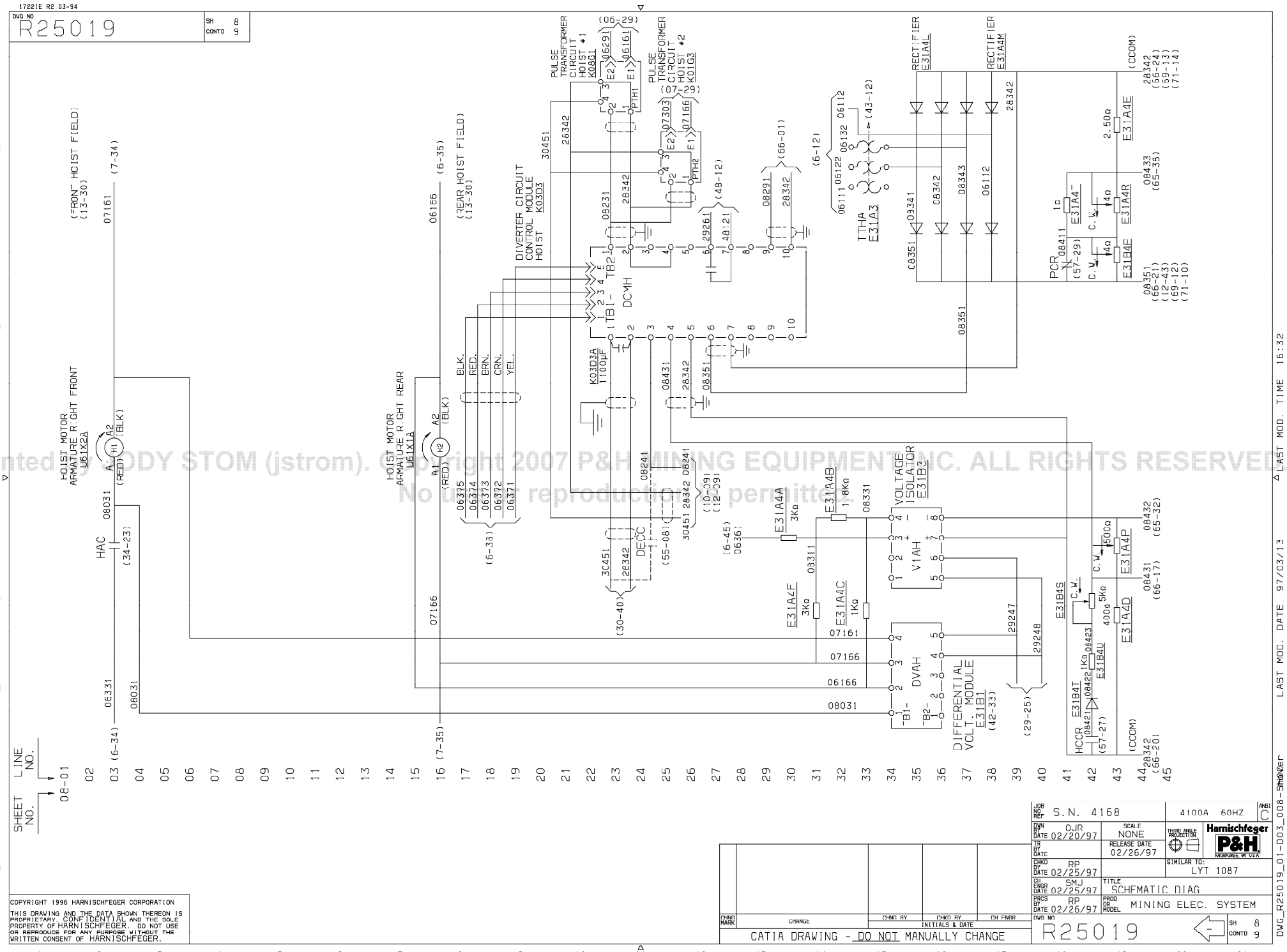

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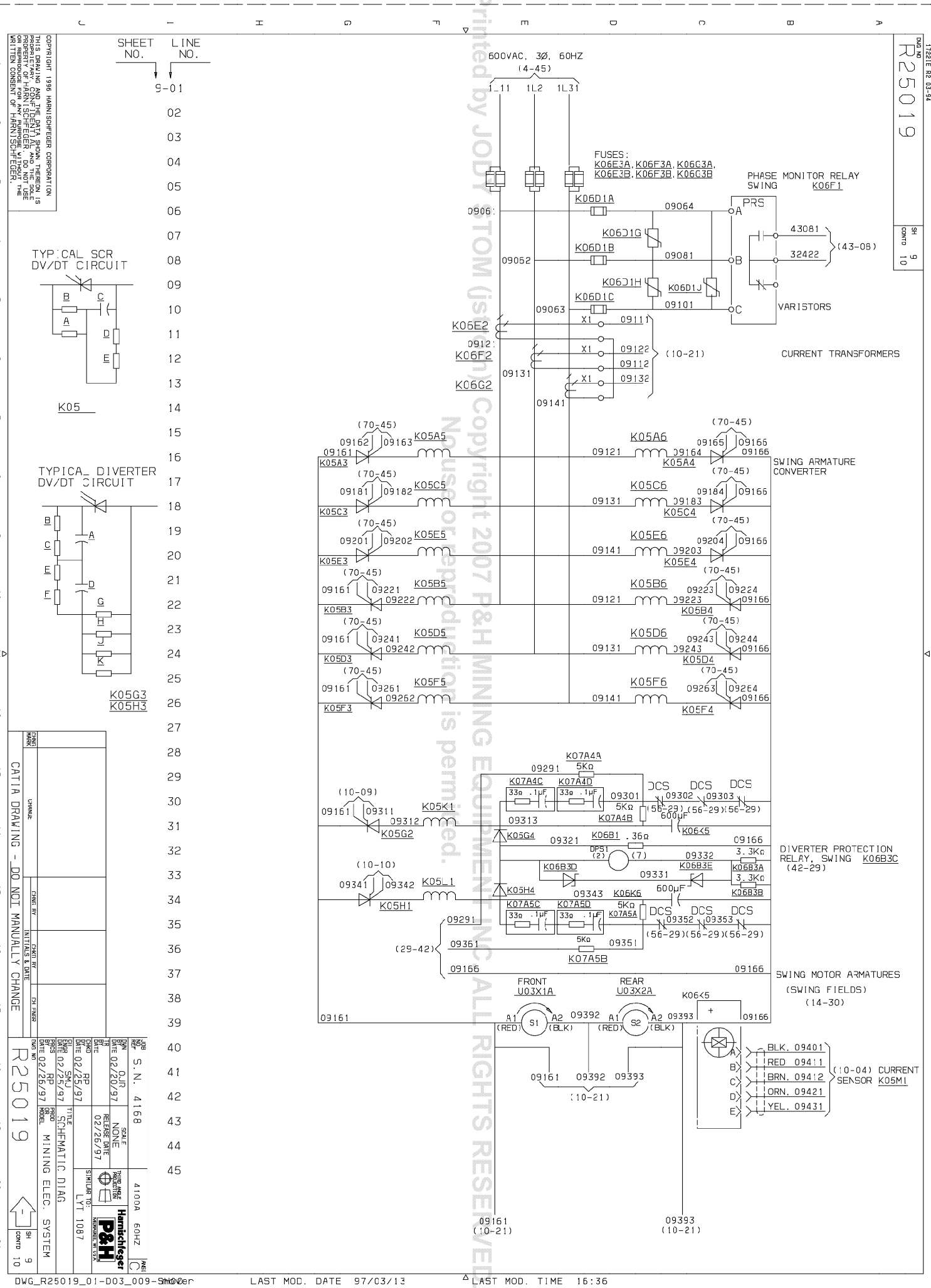
SHEET NO. LINE NO.
600VAC, 3Ø, 60HZ
(4-45)
1L1 1L2 1L31
FUSES:
K06E3A, K06F3A, K06G3A,
K06E3B, K06F3B, K06G3B
PHASE MONITOR RELAY
SWING K06F1
PRS
K06D1A
K06D1G
K06D1B
K06D1H
K06D1J
K06D1C
09064
09081
09101
09052
09063
43081
32422
(43-08)
VARISTORS
K06E2
K06F2
K06G2
09111
09122
09112
09132
09131
09141
(10-21)
CURRENT TRANSFORMERS
TYPICAL SCR
DV/DT CIRCUIT
K05
TYPICAL DIVERTER
DV/DT CIRCUIT
K05G3
K05H3
K05A5
K05A6
K05A3
K05A4
K05C5
K05C6
K05C3
K05C4
K05E5
K05E6
K05E3
K05E4
K05B5
K05B6
K05B3
K05B4
K05D5
K05D6
K05D3
K05D4
K05F5
K05F6
K05F3
K05F4
SWING ARMATURE
CONVERTER
K07A4A
5KΩ
K07A4C
K07A4D
K07A4B
K07A5C
K07A5D
K07A5A
K07A5B
K05K1
K05G2
K05G4
K06B1 .36Ω
DPS1
K06B3D
K06B3E
K06B3A
K06B3B
K06K5
K06K6
K05H4
K05H1
DIVERTER PROTECTION
RELAY, SWING K06B3C
(42-29)
SWING MOTOR ARMATURES
(SWING FIELDS)
(14-30)
FRONT
U03X1A
REAR
U03X2A
S1
S2
A1 (RED)
A2 (BLK)
09392
09393
09161
(10-21)
BLK. 09401
RED 09411
BRN. 09412
ORN. 09421
YEL. 09431
(10-04) CURRENT
SENSOR K05M1
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CATIA DRAWING - DO NOT MANUALLY CHANGE
S.N. 4168
4100A 60HZ
NONE
02/26/97
LYT 1087
SCHEMATIC DIAG
MINING ELEC. SYSTEM
R25019
Harnischfeger
P&H
MILWAUKEE, WI. U.S.A.
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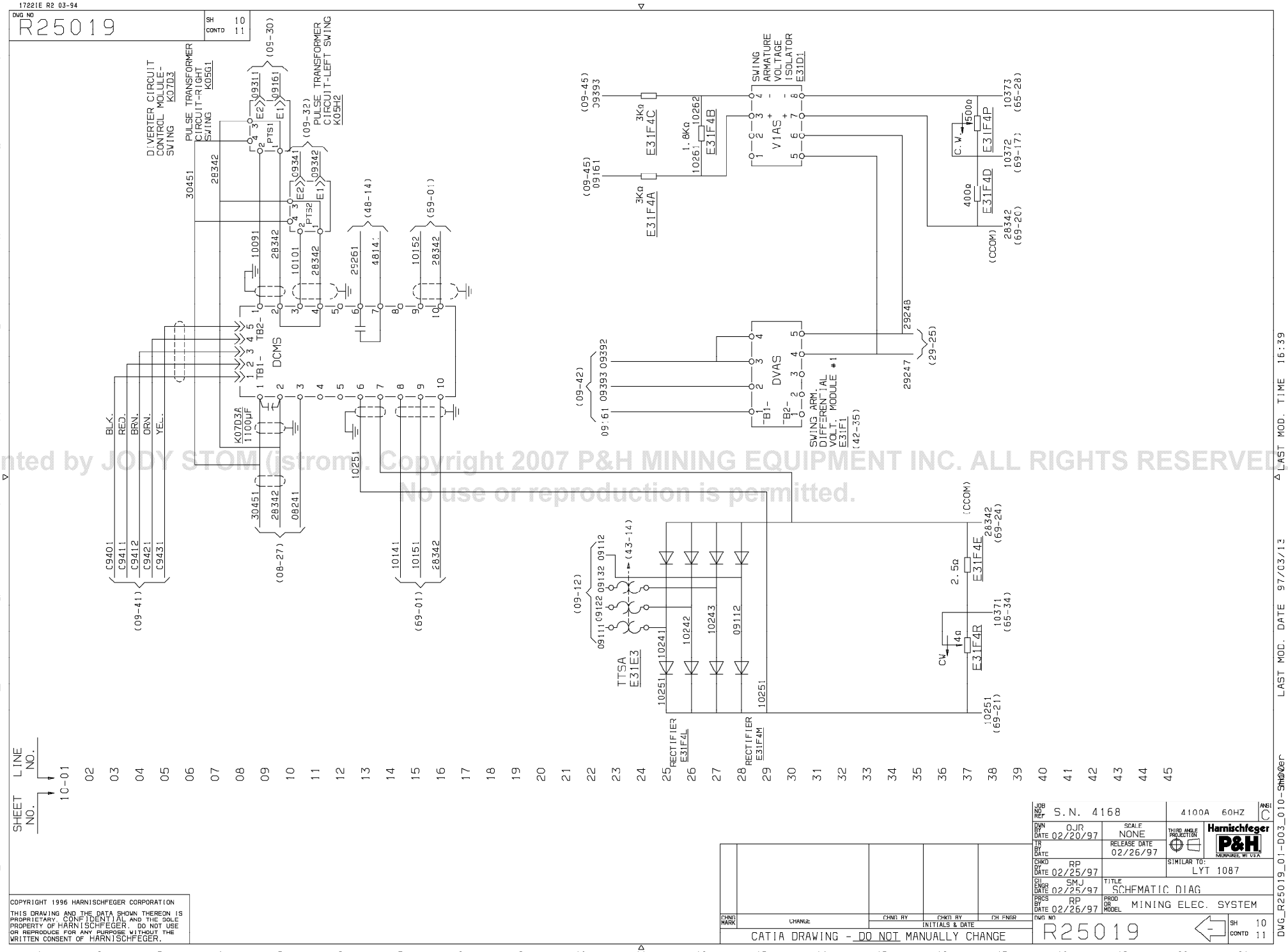

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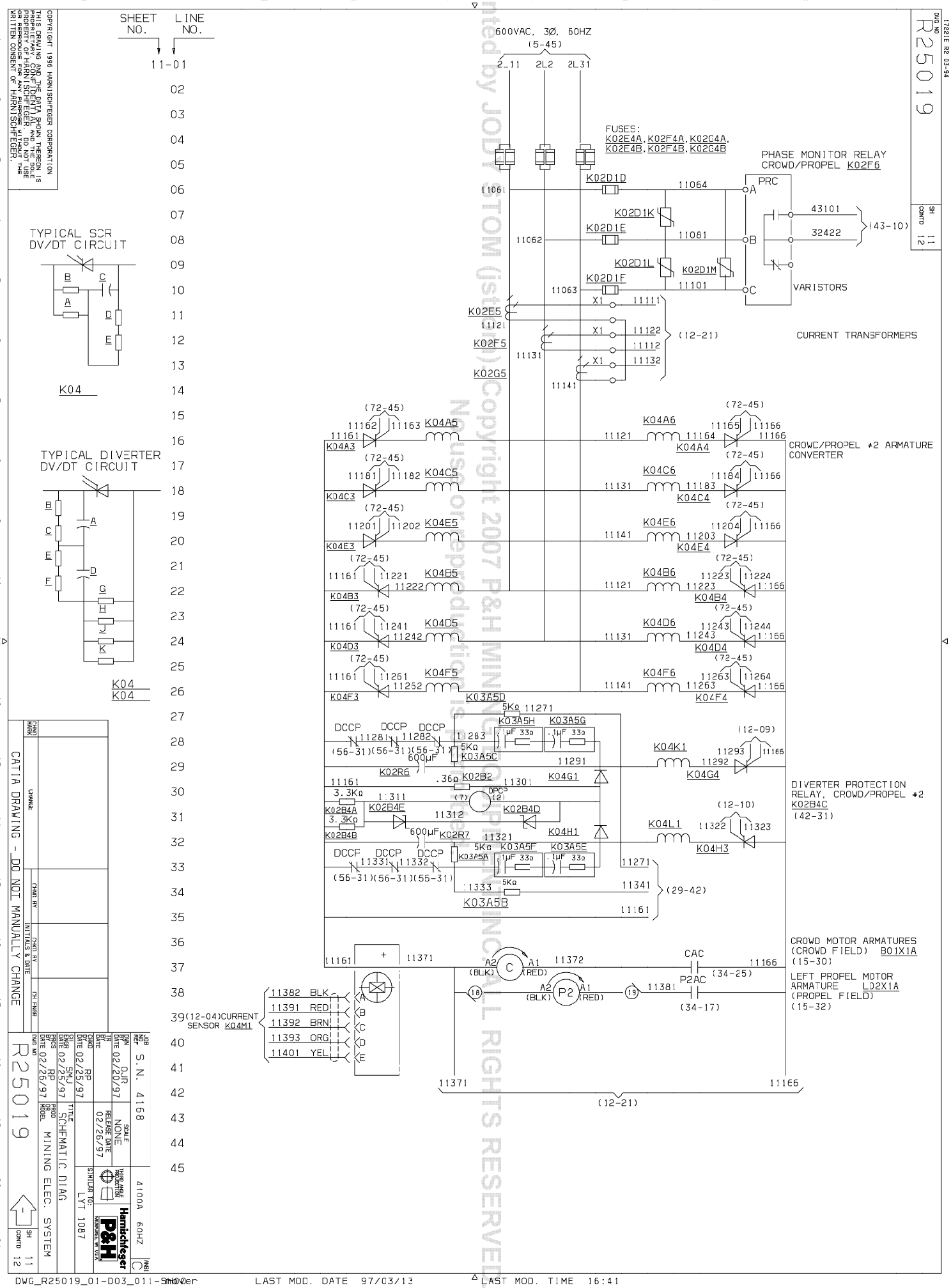

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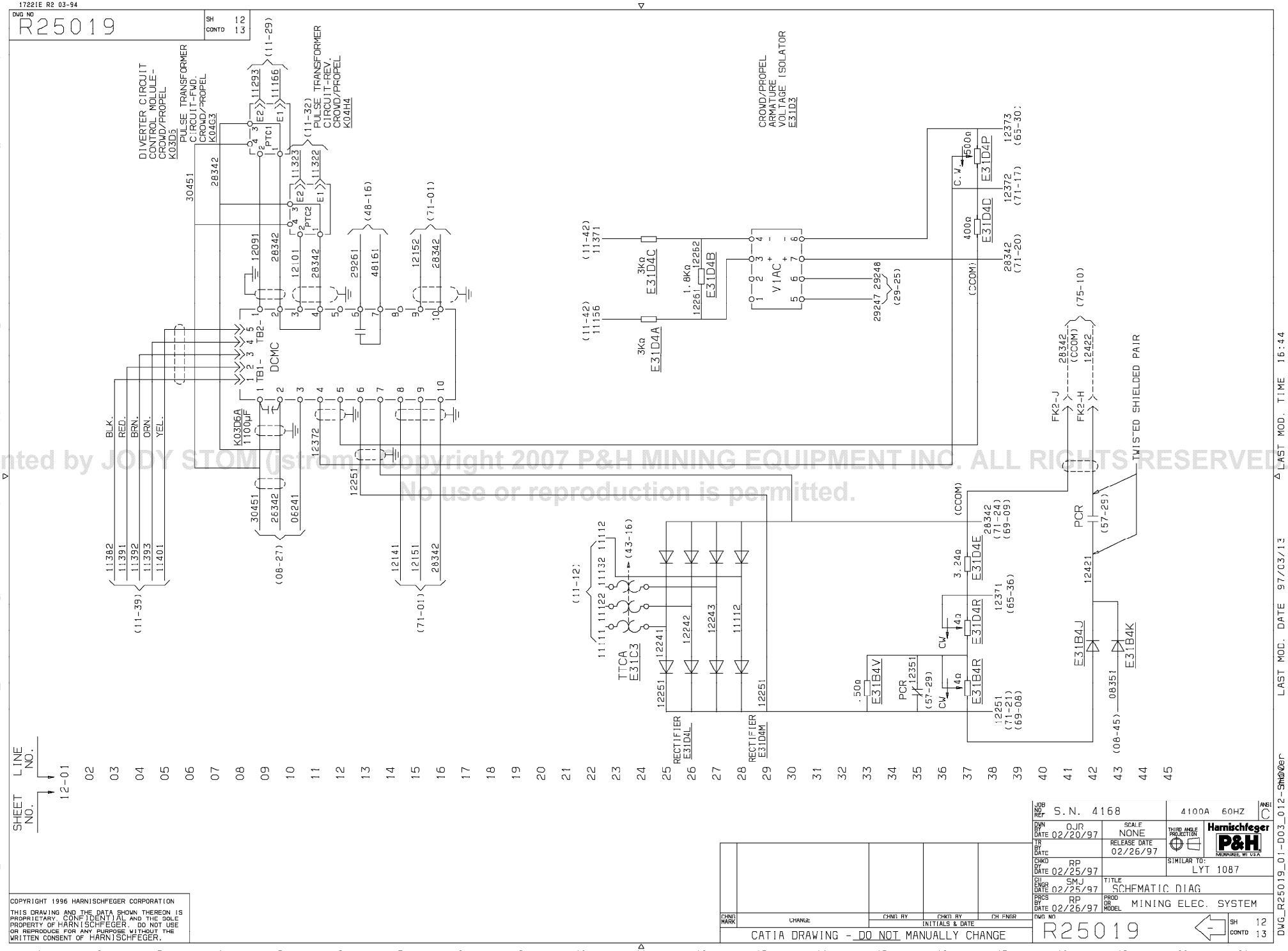

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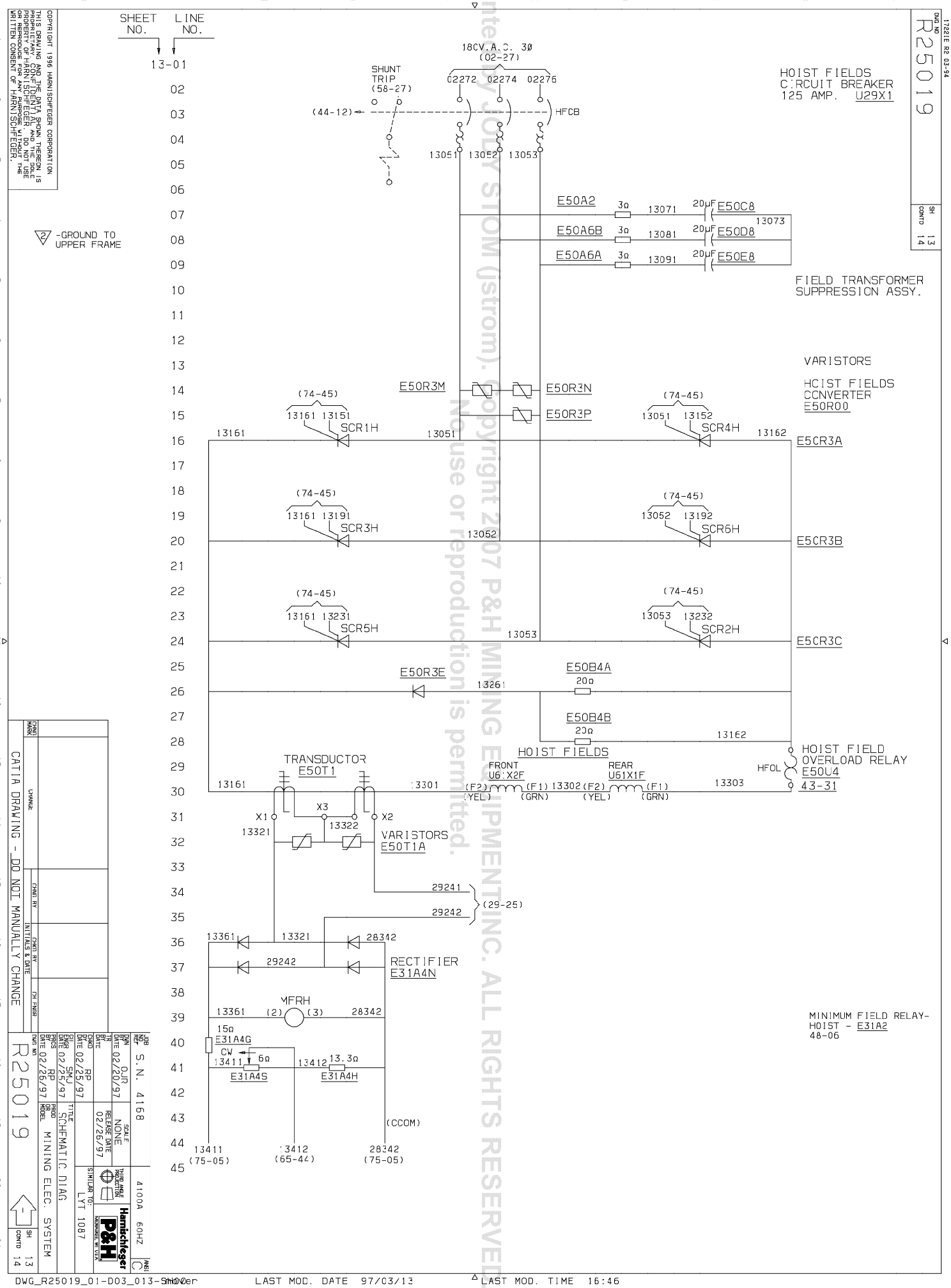

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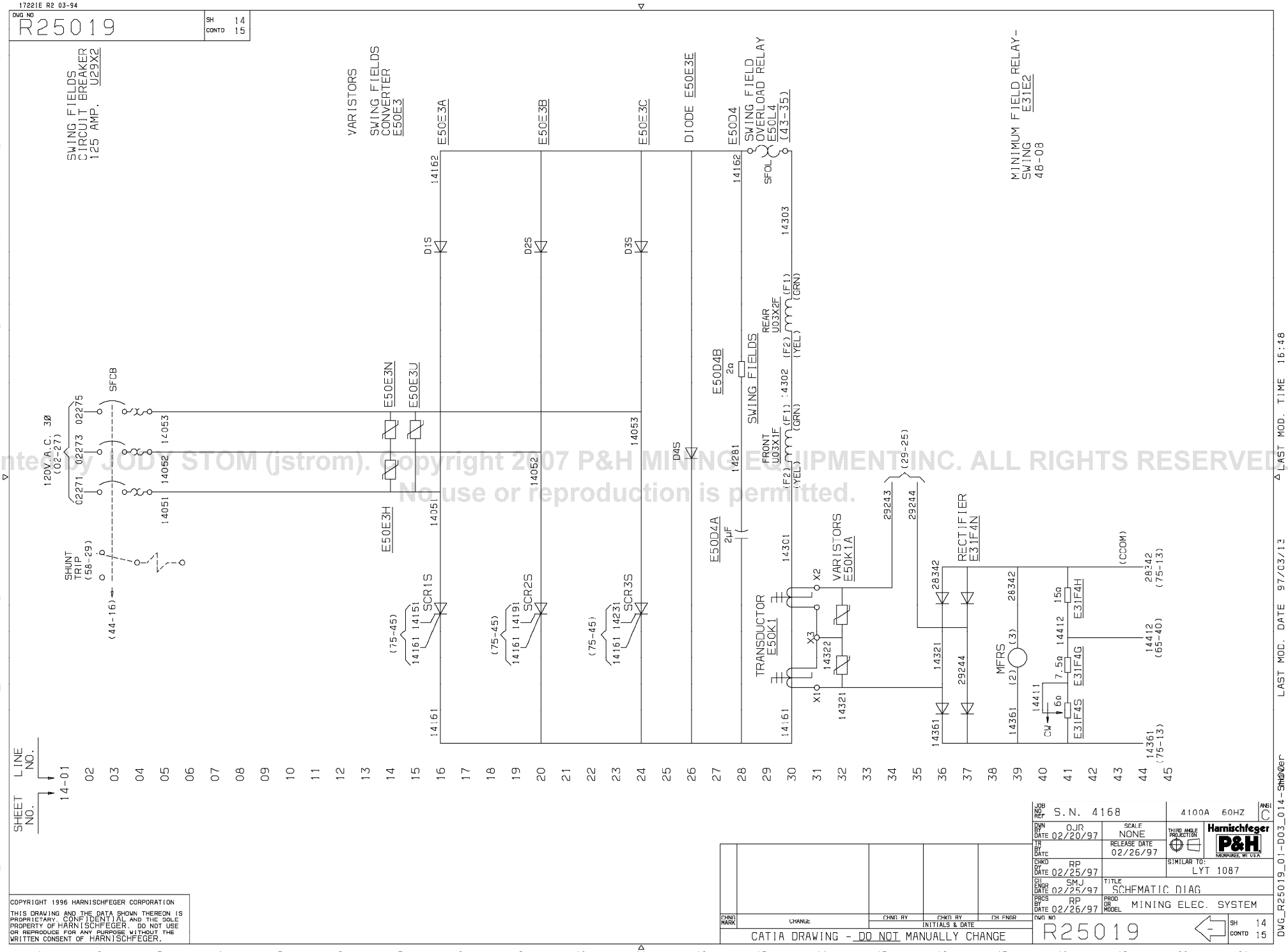

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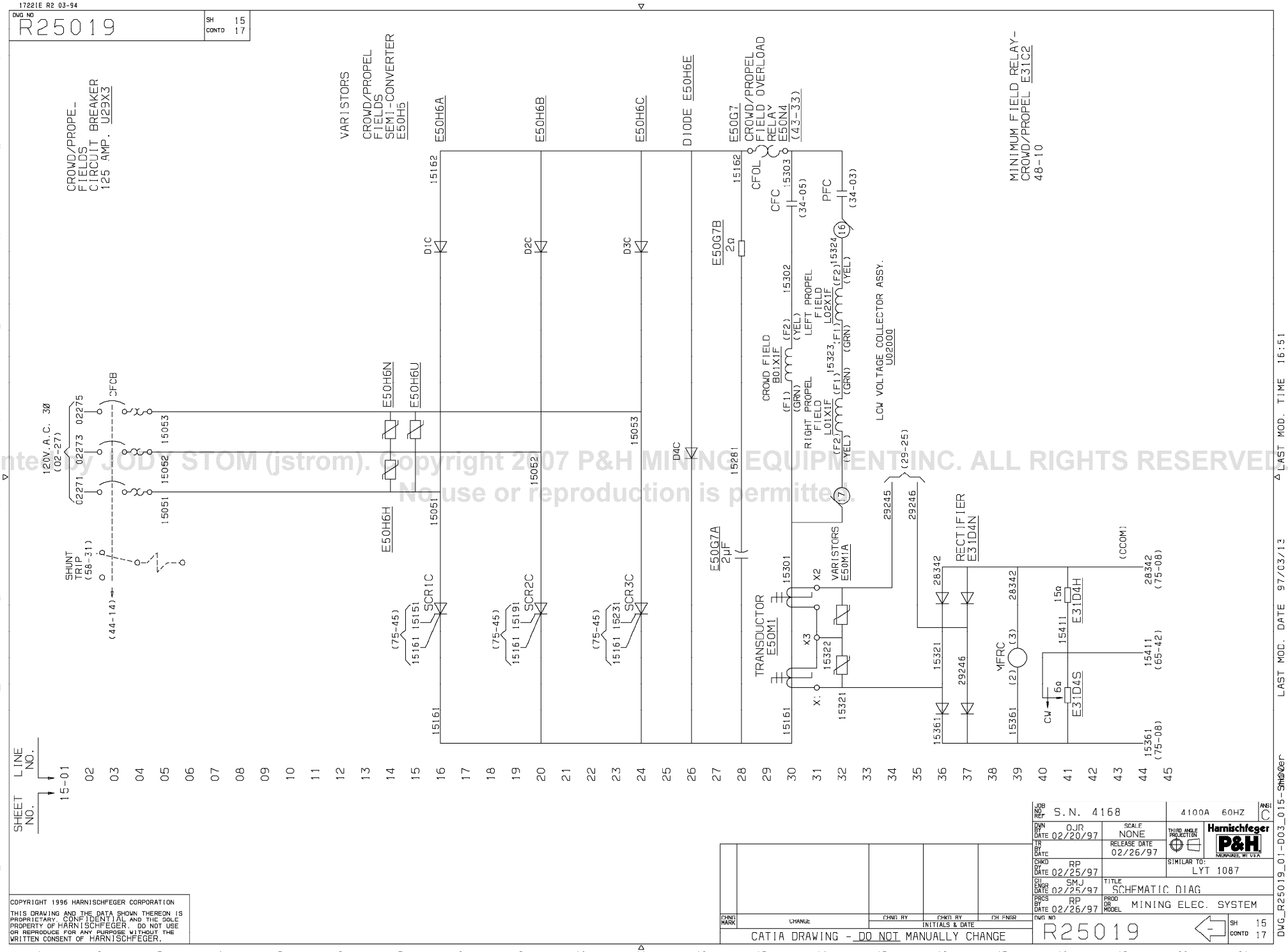

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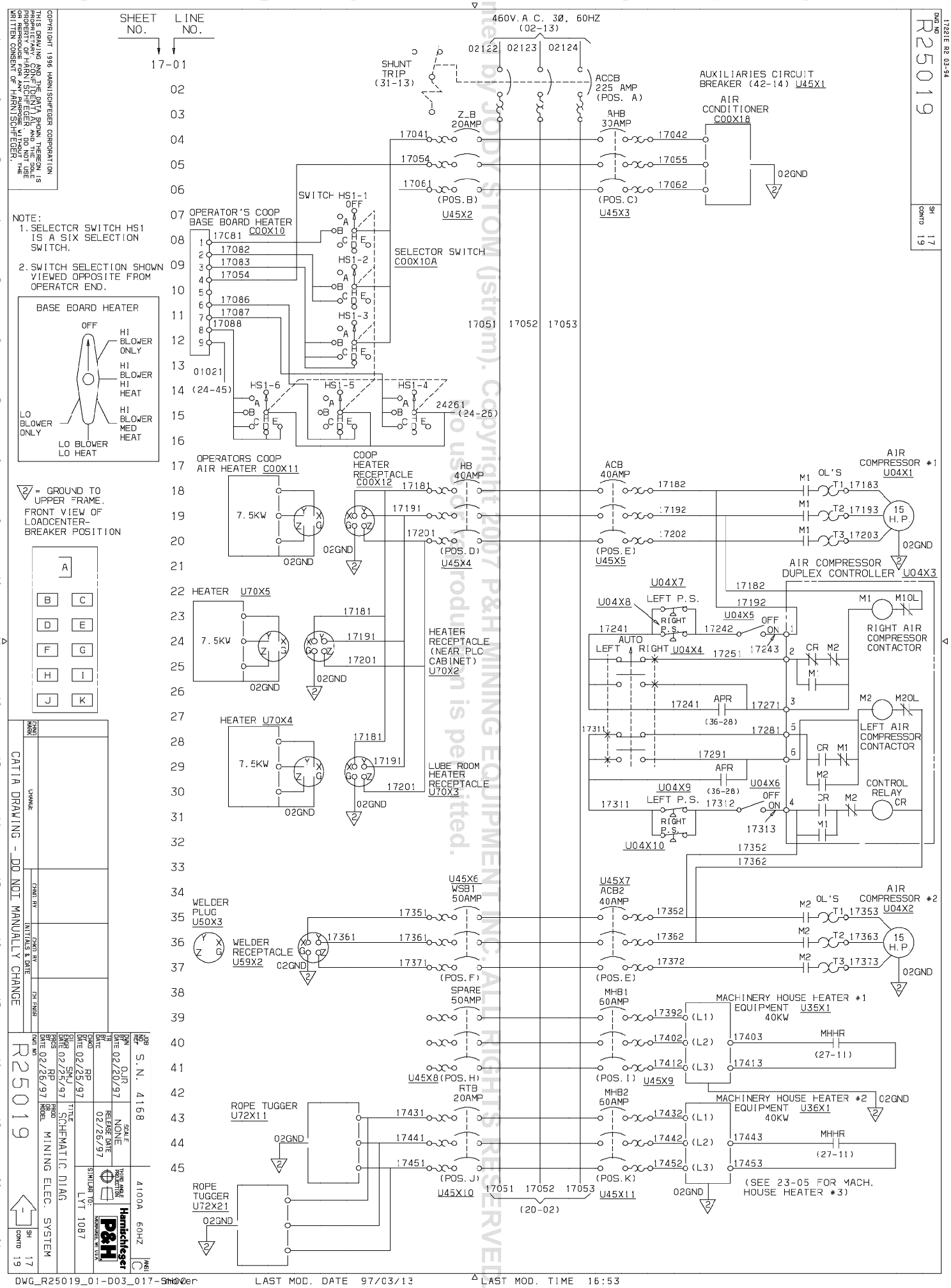
SHEET NO.
LINE NO.
17-01
460V.A.C. 3Ø, 60HZ (02-13)
02122 02123 02124
SHUNT TRIP (31-13)
ACCB 225 AMP (POS. A)
AUXILIARIES CIRCUIT BREAKER (42-14) U45X1
AIR CONDITIONER C00X18
Z_B 20AMP
AHB 30AMP
17041 17042
17054 17055
17061 17062
(POS.B) U45X2
(POS.C) U45X3
02GND
SWITCH HS1-1 OFF
HS1-2
HS1-3
HS1-4
HS1-5
HS1-6
SELECTOR SWITCH C00X10A
OPERATOR'S COOP BASE BOARD HEATER C00X10
17081 17082 17083 17054 17086 17087 17088
01021 (24-45)
24261 (24-26)
17051 17052 17053
NOTE:
1. SELECTOR SWITCH HS1 IS A SIX SELECTION SWITCH.
2. SWITCH SELECTION SHOWN VIEWED OPPOSITE FROM OPERATOR END.
BASE BOARD HEATER
OFF
HI BLOWER ONLY
HI BLOWER HI HEAT
HI BLOWER MED HEAT
LO BLOWER LO HEAT
LO BLOWER ONLY
OPERATORS COOP AIR HEATER C00X11
7.5KW
COOP HEATER RECEPTACLE C00X12
HB 40AMP
17181 17191 17201
(POS.D) U45X4
ACB 40AMP
17182 17192 17202
(POS.E) U45X5
AIR COMPRESSOR #1 U04X1
OL'S
15 H.P.
AIR COMPRESSOR DUPLEX CONTROLLER U04X3
U04X7 LEFT P.S.
U04X8 RIGHT P.S.
U04X5 OFF ON
AUTO LEFT RIGHT U04X4
RIGHT AIR COMPRESSOR CONTACTOR
CR M2
APR (36-28)
LEFT AIR COMPRESSOR CONTACTOR
M2 M2OL
U04X9 LEFT P.S.
U04X6 OFF ON
U04X10 RIGHT P.S.
CONTROL RELAY CR
17352 17362
HEATER U70X5
HEATER RECEPTACLE (NEAR PLC CABINET) U70X2
HEATER U70X4
LUBE ROOM HEATER RECEPTACLE U70X3
WELDER PLUG U50X3
WELDER RECEPTACLE U59X2
U45X6 WSB1 50AMP
17351 17361 17371
(POS.F)
U45X7 ACB2 40AMP
17352 17362 17372
(POS.E)
AIR COMPRESSOR #2 U04X2
17353 17363 17373
SPARE 50AMP
U45X8 (POS.H)
MHB1 60AMP
17392 17402 17412
(POS.I) U45X9
MACHINERY HOUSE HEATER #1 EQUIPMENT 40KW U35X1
17403 17413
MHHR (27-11)
RTB 20AMP
MHB2 60AMP
17431 17441 17451
(POS.J) U45X10
(POS.K) U45X11
MACHINERY HOUSE HEATER #2 EQUIPMENT 40KW U36X1
17432 17442 17452
17443 17453
(SEE 23-05 FOR MACH. HOUSE HEATER #3)
ROPE TUGGER U72X11
ROPE TUGGER U72X21
(20-02)
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= GROUND TO UPPER FRAME.
FRONT VIEW OF LOADCENTER-BREAKER POSITION
A B C D E F G H I J K
CATIA DRAWING - DO NOT MANUALLY CHANGE
R25019
S.N. 4168
NONE
4100A 60HZ
SCHEMATIC DIAG
MINING ELEC. SYSTEM
LYT 1087
Harnischfeger P&H
17221E R2 03-94
DWG NO R25019
SH 17 CONTD 19
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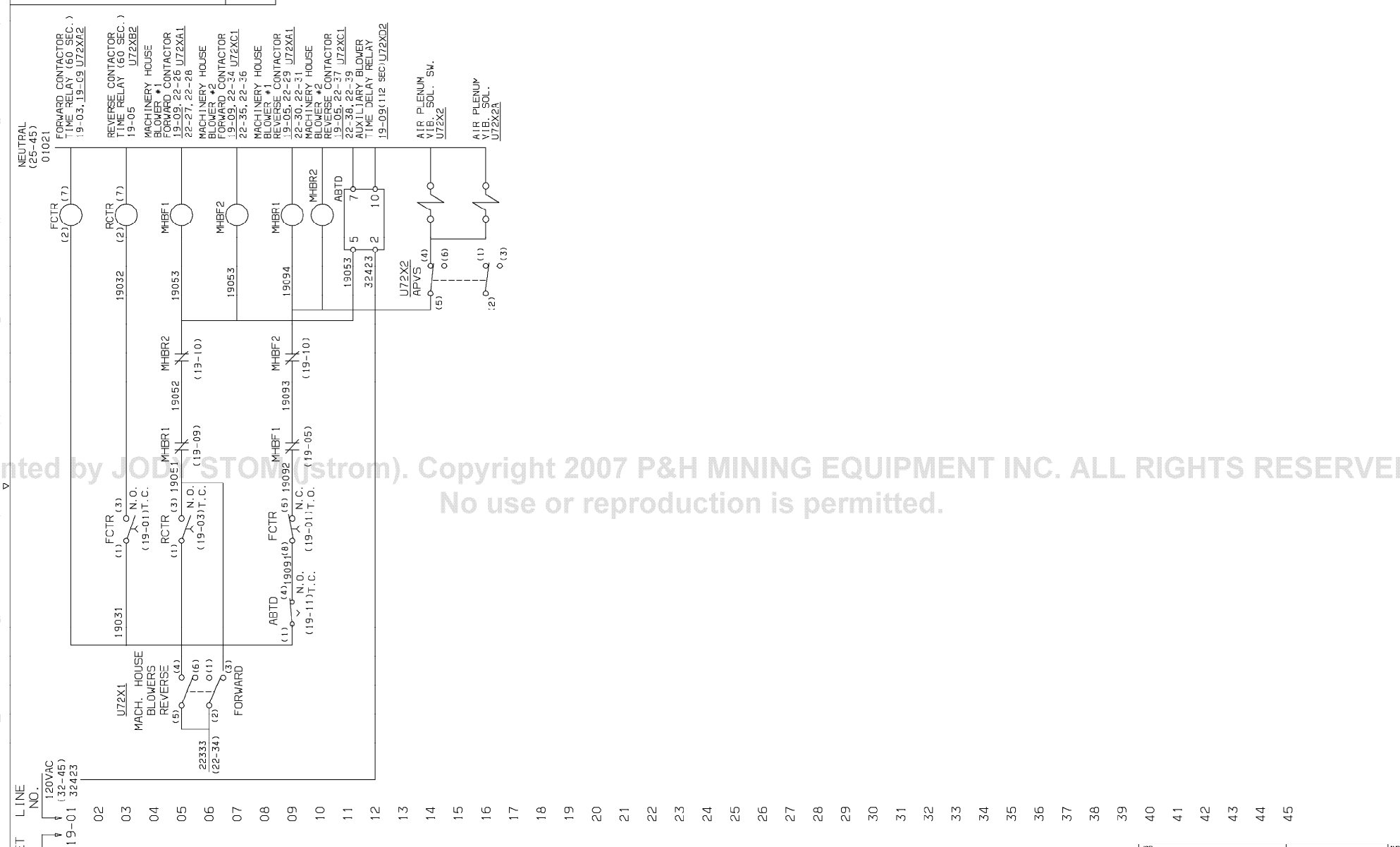
DWG NO R25019 | SH 19 | CONTD 20



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TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
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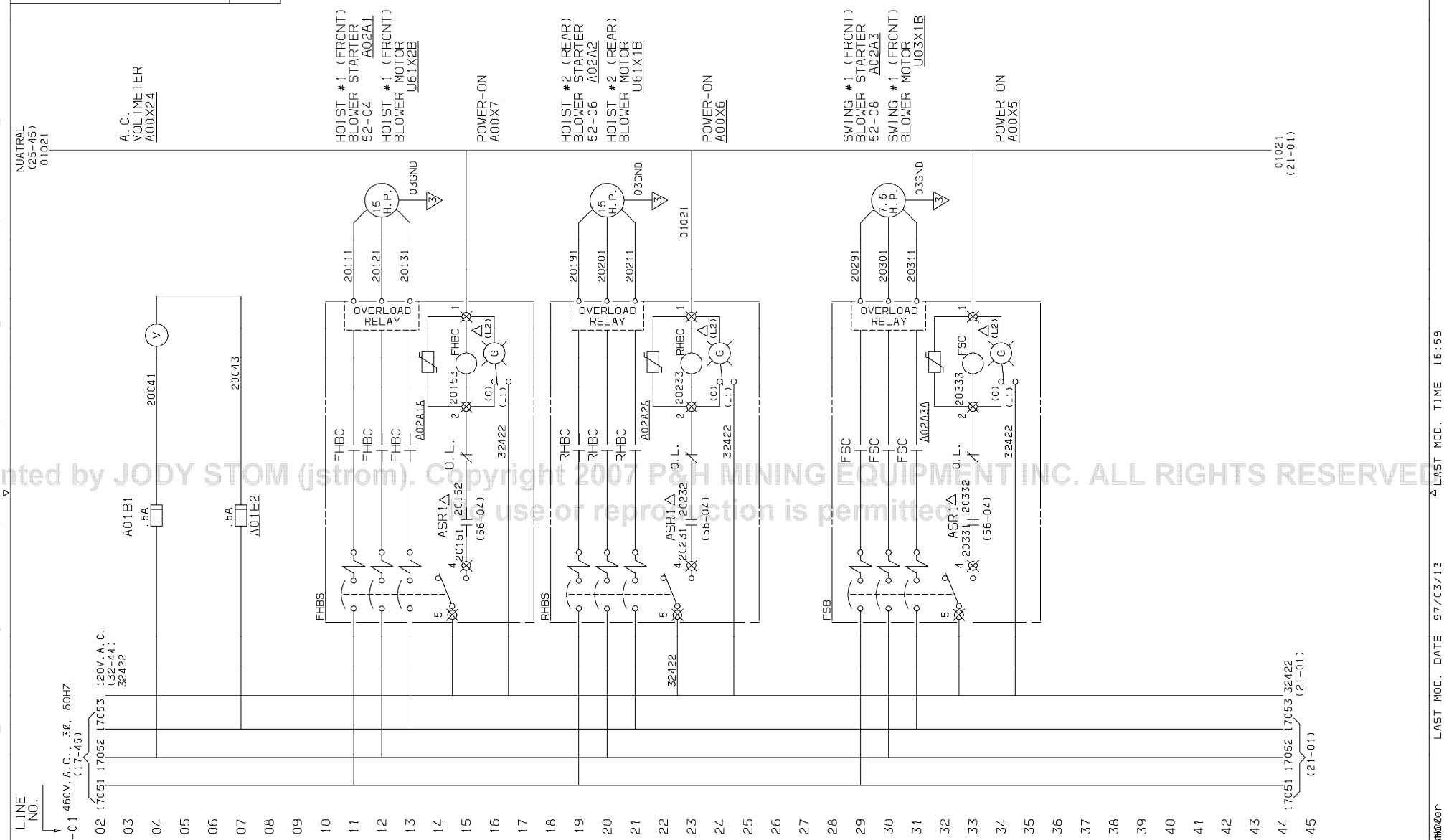
DWG NO	R25019	SH 19 CONTD 20	

DWG NO R25019 | SH 20 | CONTD 21



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01		INITIALS & DATE		

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TR BY DATE | RELEASE DATE 02/26/97
CHKD BY RP DATE 02/25/97 | SIMILAR TO: LYT 1087
CH ENGR SMJ DATE 02/25/97 | TITLE SCHEMATIC DIAG
PGCS BY RP DATE 02/26/97 | PROD OR MODEL MINING ELEC. SYSTEM
DWG NO R25019 | SH 20 CONTD 21

Harnischfeger P&H MILWAUKEE, WI USA

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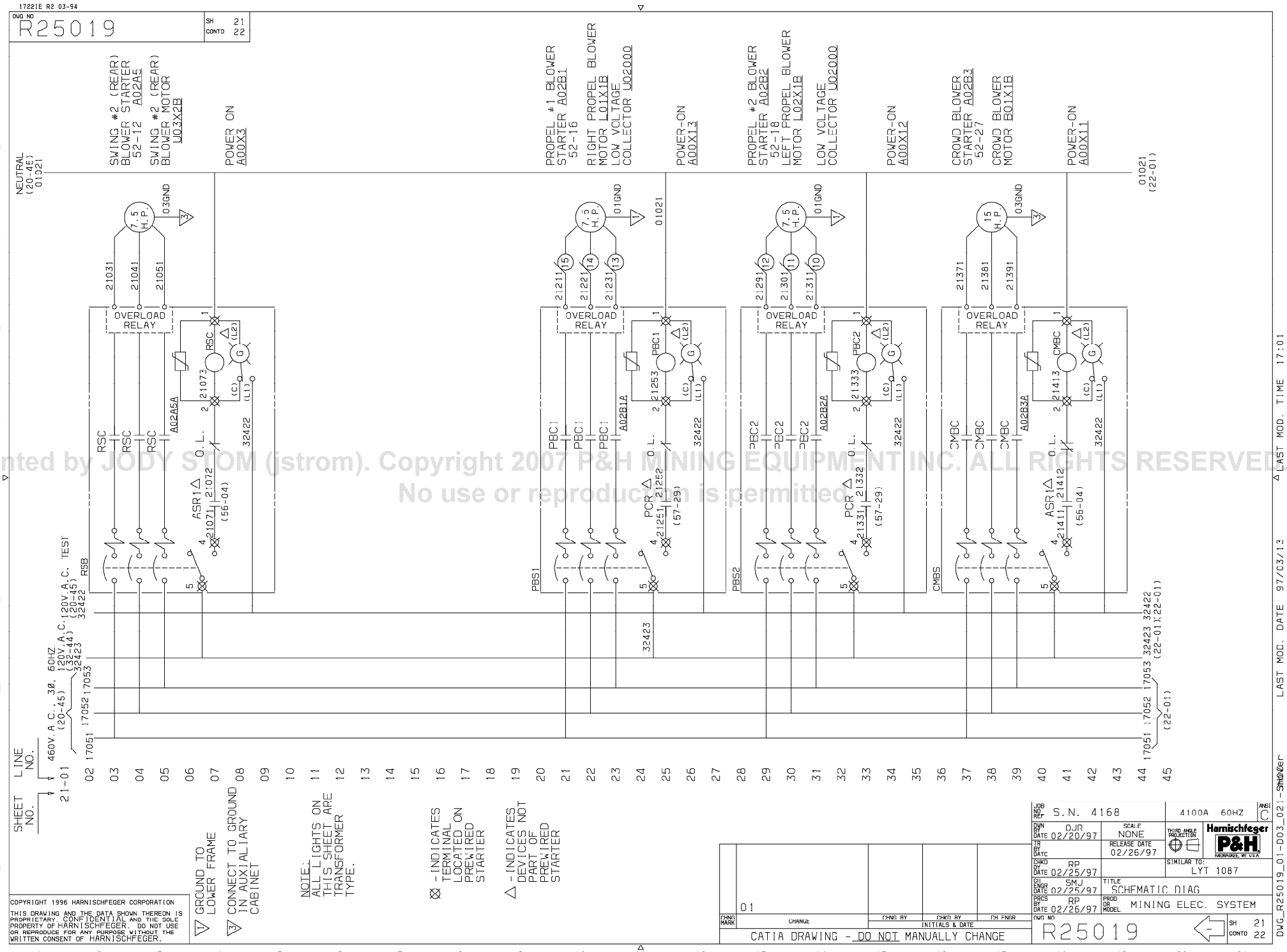

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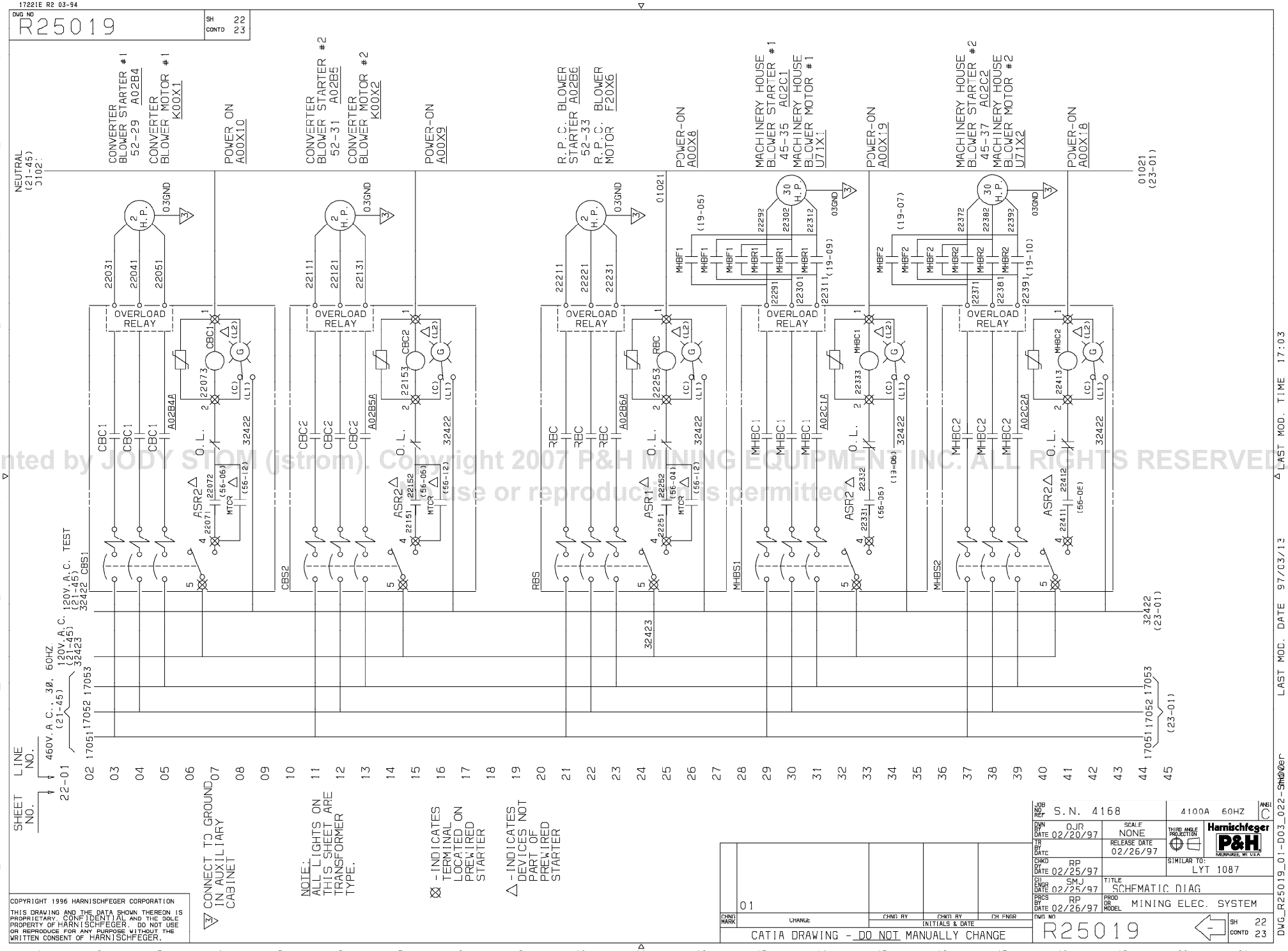

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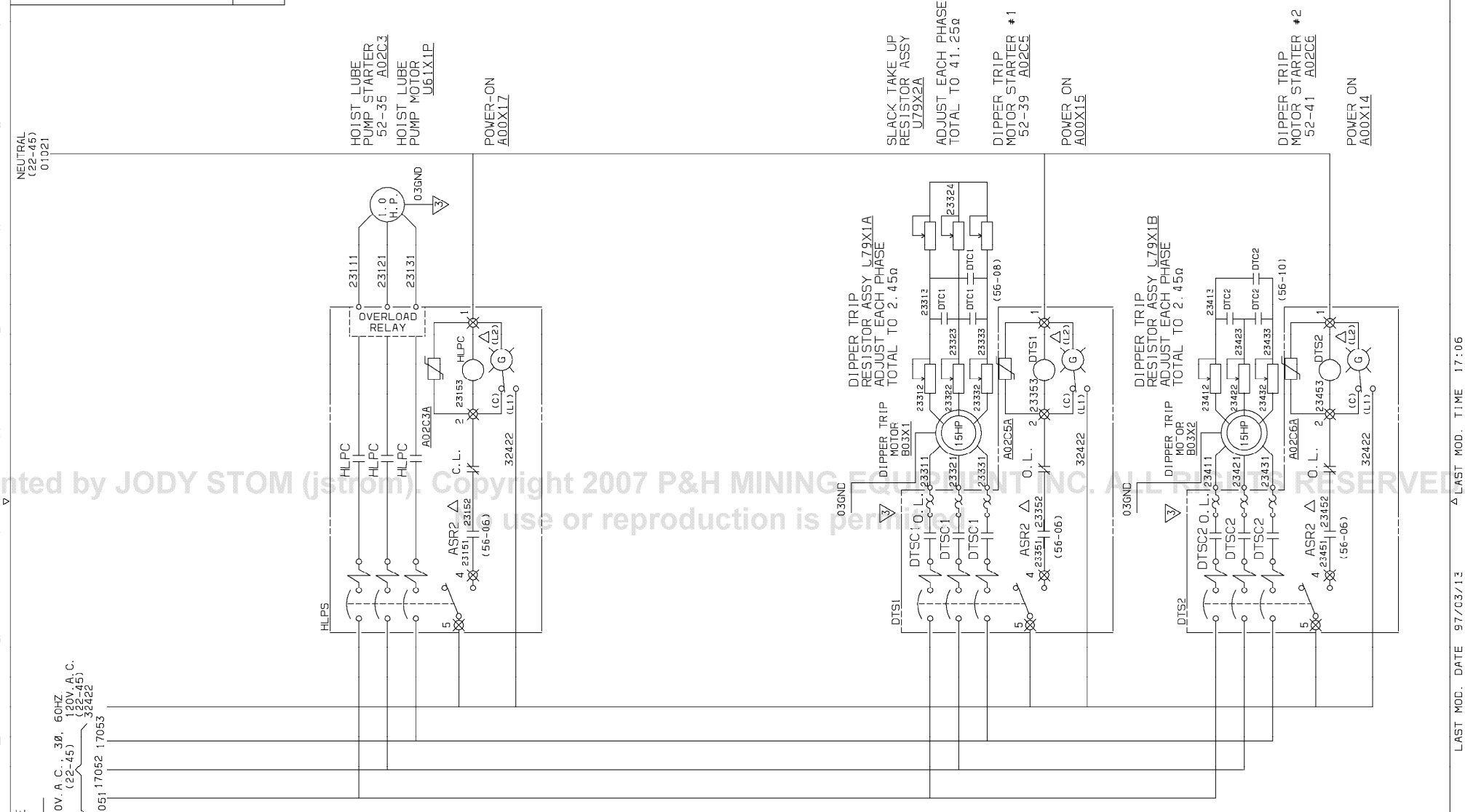
17221E R2 03-94

DWG NO R25019 | SH 23 | CONTD 24



CONNECT TO GROUND IN AUXILIARY CABINET

GROUND TO UPPER FRAME

NOTE: ALL LIGHTS ON THIS SHEET ARE TRANSFORMER TYPE.

⊠ - INDICATES TERMINAL LOCATED ON PREWIRED STARTER

△ - INDICATES DEVICES NOT PART OF PREWIRED STARTER

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CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
01				

INITIALS & DATE

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO. S.N. 4168 | 4100A 60HZ | SHEET C

DWN BY OJR DATE 02/20/97 | SCALE NONE | RELEASE DATE 02/26/97

TR BY DATE

CHKD BY RP DATE 02/25/97

CH ENGR SMJ DATE 02/25/97

PRCS BY RP DATE 02/26/97

THIRD ANGLE PROJECTION

Harnischfeger P&H MILWAUKEE, WI USA

SIMILAR TO: LYT 1087

TITLE SCHEMATIC DIAG

PROD OR MODEL MINING ELEC. SYSTEM

DWG NO R25019 | SH 23 | CONTD 24

LAST MOD. DATE 97/03/13 LAST MOD. TIME 17:06

DWG_R25019_01-D03_023-SH00er

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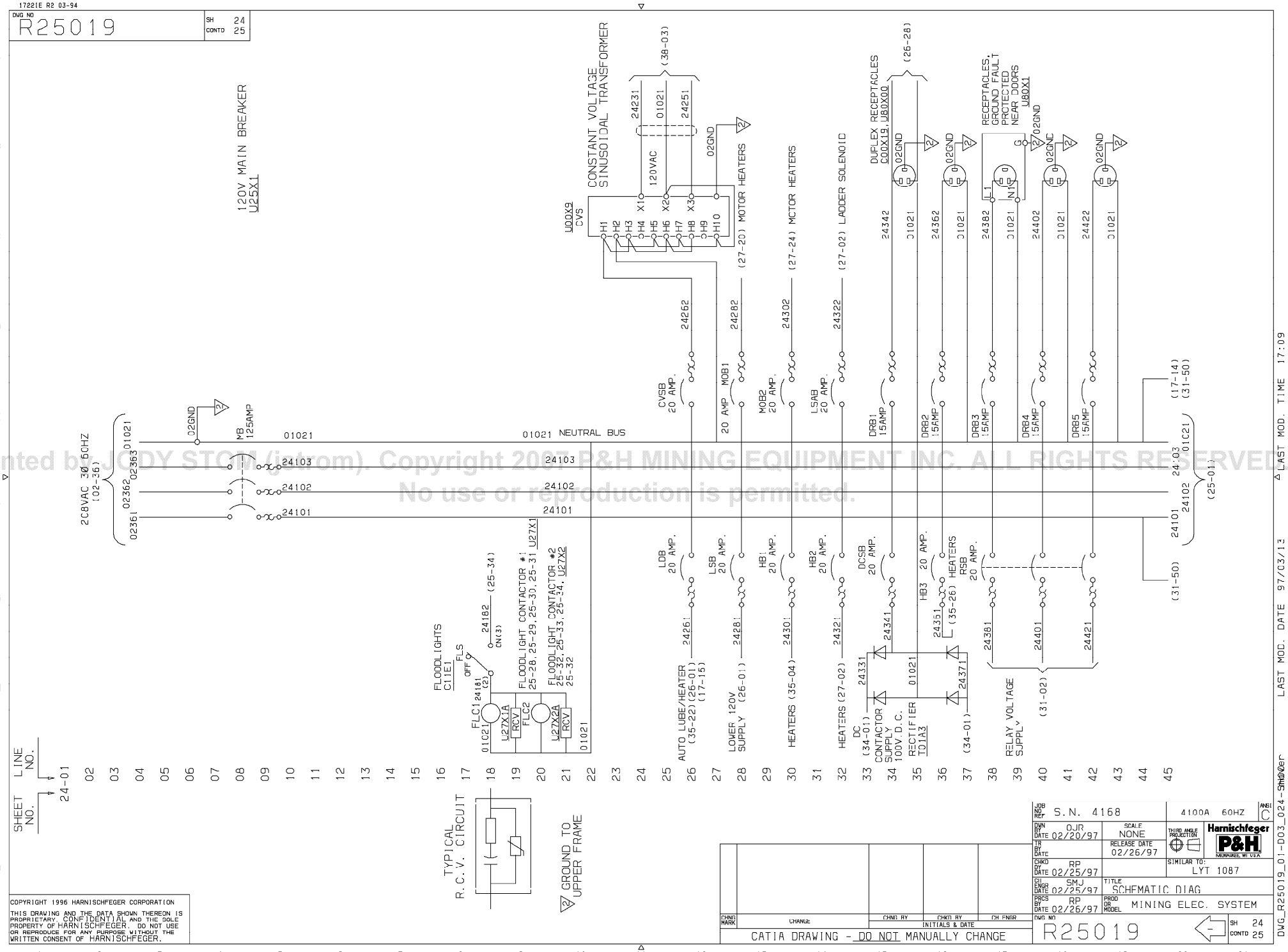
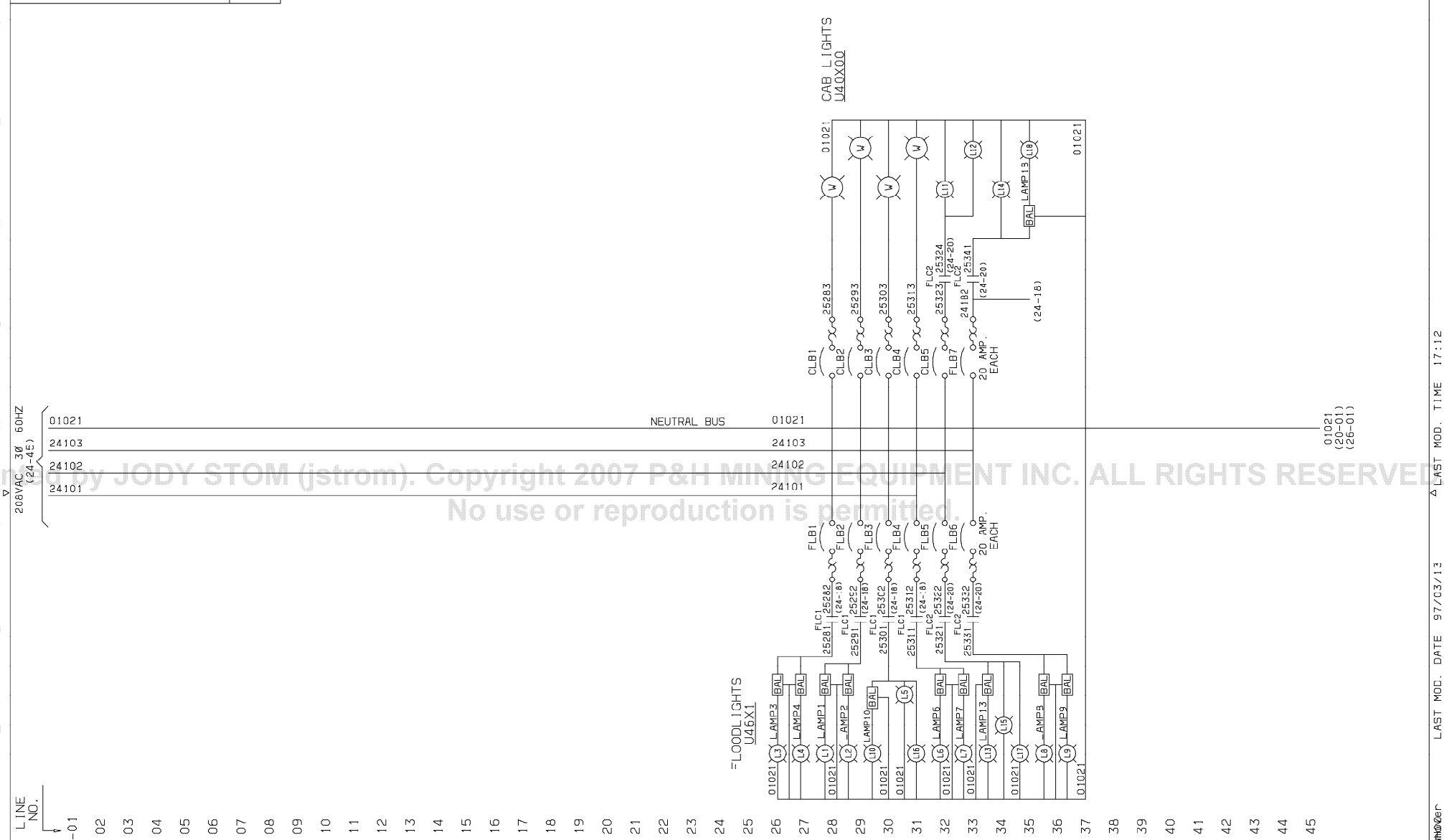


17221E R2 03-94

DWG NO R25019 | SH 25 | CONTD 26



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CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

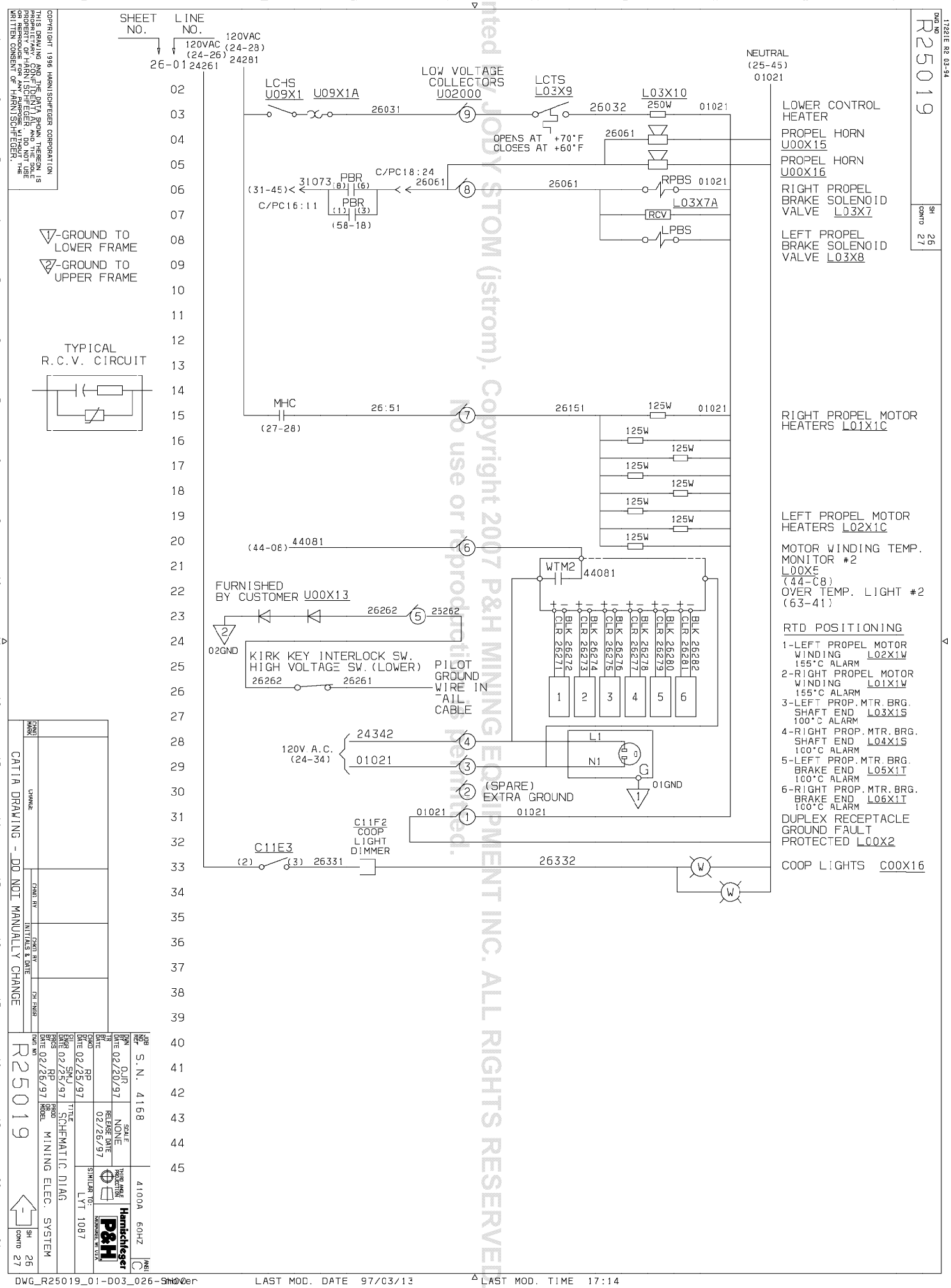
CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	AWG C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 25 CONTD 26	

LAST MOD. DATE 97/03/13 LAST MOD. TIME 17:12

DWG_R25019_01-D03_025-Shower

mover FRAME 1 mars 13,1997 17.12.17



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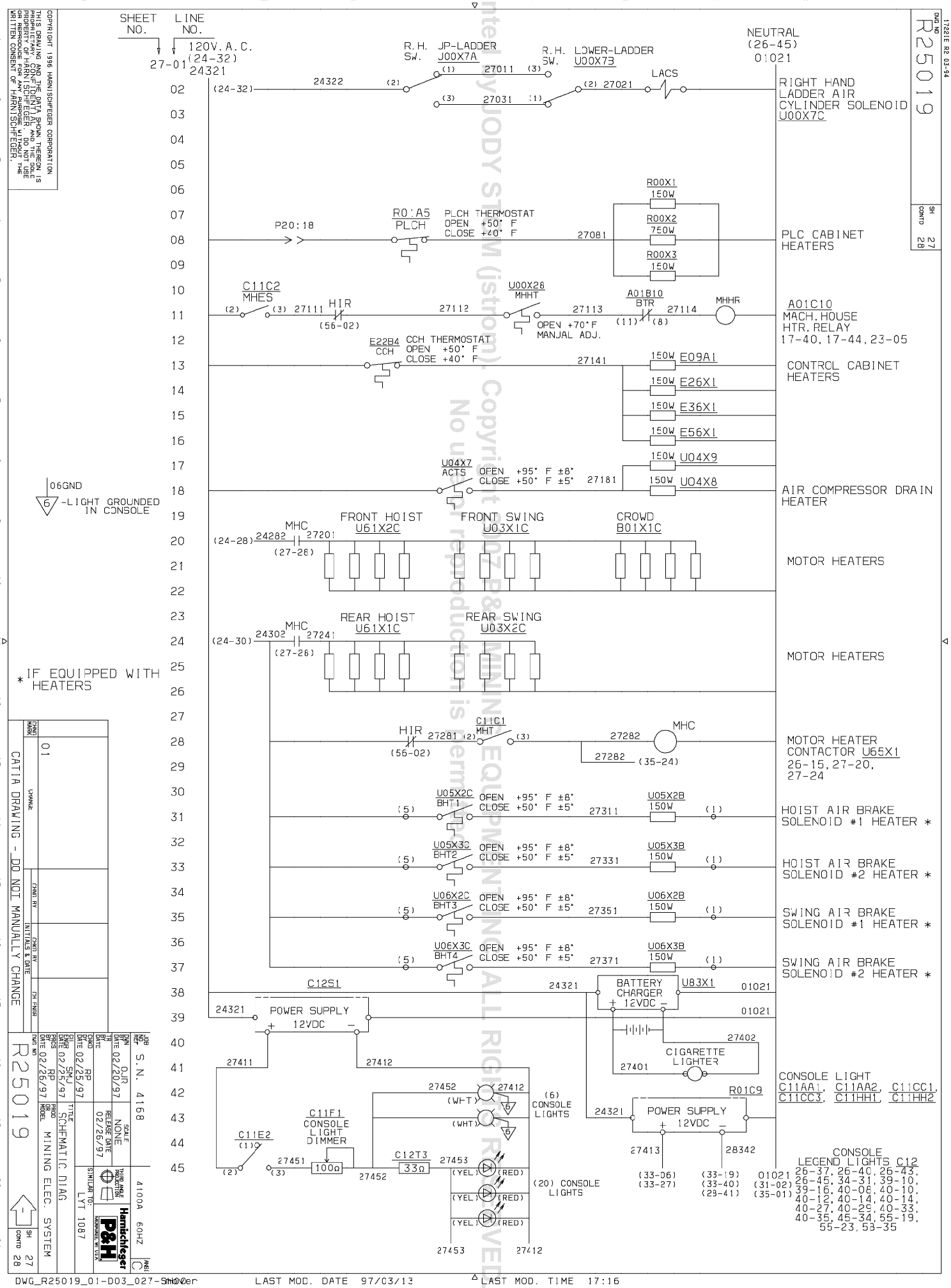
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LINE NO.
27-01
120V.A.C.
(24-32)
24321
R.H. SW.
JP-LADDER
J00X7A
R.H. SW.
LOWER-LADDER
U00X7B
NEUTRAL
(26-45)
01021
LACS
RIGHT HAND LADDER AIR CYLINDER SOLENOID U00X7C
R00X1 150W
R00X2 750W
R00X3 150W
R01A5 PLCH
PLCH THERMOSTAT
OPEN +50° F
CLOSE +40° F
P20:18
PLC CABINET HEATERS
C11C2 MHES
HIR (56-02)
U00X28 MHHT
OPEN +70°F MANUAL ADJ.
A01B10 BTR
MHHR
A01C10 MACH. HOUSE HTR. RELAY 17-40, 17-44, 23-05
E22B4 CCH
CCH THERMOSTAT
OPEN +50° F
CLOSE +40° F
150W E09A1
150W E26X1
150W E36X1
150W E56X1
CONTROL CABINET HEATERS
150W U04X9
150W U04X8
U04X7 ACTS
OPEN +95° F ±8°
CLOSE +50° F ±5°
AIR COMPRESSOR DRAIN HEATER
06GND
-LIGHT GROUNDED IN CONSOLE
MHC
FRONT HOIST U61X2C
FRONT SWING U03X1C
CROWD B01X1C
MOTOR HEATERS
REAR HOIST U61X1C
REAR SWING U03X2C
MOTOR HEATERS
* IF EQUIPPED WITH HEATERS
C11C1 MHT
MOTOR HEATER CONTACTOR U65X1 26-15, 27-20, 27-24
U05X2C BHT1
U05X2B 150W
HOIST AIR BRAKE SOLENOID #1 HEATER *
U05X3C BHT2
U05X3B 150W
HOIST AIR BRAKE SOLENOID #2 HEATER *
U06X2C BHT3
U06X2B 150W
SWING AIR BRAKE SOLENOID #1 HEATER *
U06X3C BHT4
U06X3B 150W
SWING AIR BRAKE SOLENOID #2 HEATER *
C12S1
POWER SUPPLY 12VDC
BATTERY CHARGER 12VDC
U83X1
CIGARETTE LIGHTER
R01C9
POWER SUPPLY 12VDC
CONSOLE LIGHT C11AA1, C11AA2, C11CC1, C11CC3, C11HH1, C11HH2
(6) CONSOLE LIGHTS
C11F1 CONSOLE LIGHT DIMMER
100Ω
C11E2
C12T3 33Ω
(20) CONSOLE LIGHTS
CONSOLE LEGEND LIGHTS C12
26-37, 26-40, 26-43, 26-45, 34-31, 39-10, 39-16, 40-08, 40-10, 40-12, 40-14, 40-14, 40-27, 40-29, 40-33, 40-35, 45-34, 55-19, 55-23, 53-35
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CATIA DRAWING - DO NOT MANUALLY CHANGE
S.N. 4168
SCHEMATIC DIAG
MINING ELEC. SYSTEM
R25019
Harnischfeger P&H
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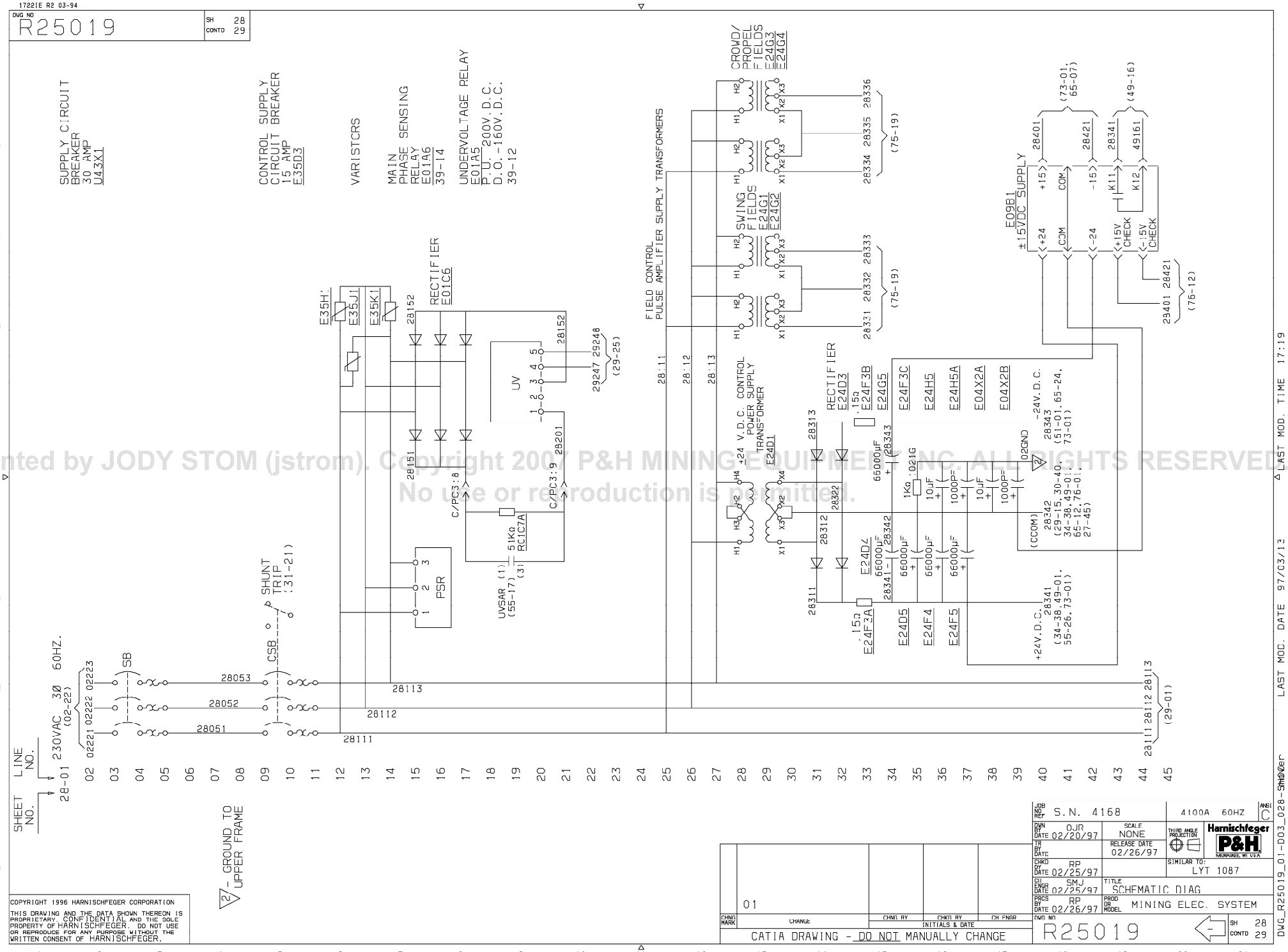

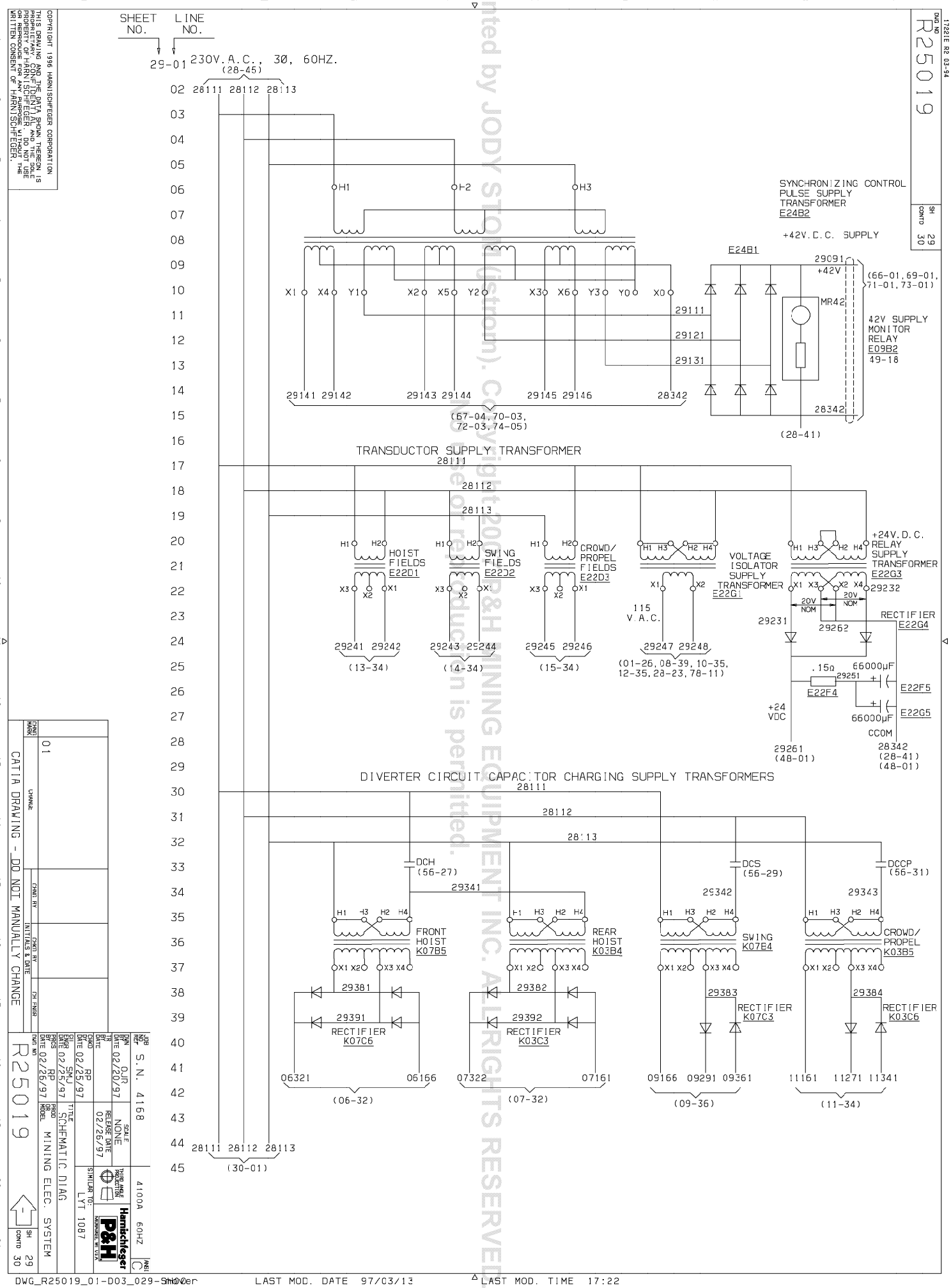

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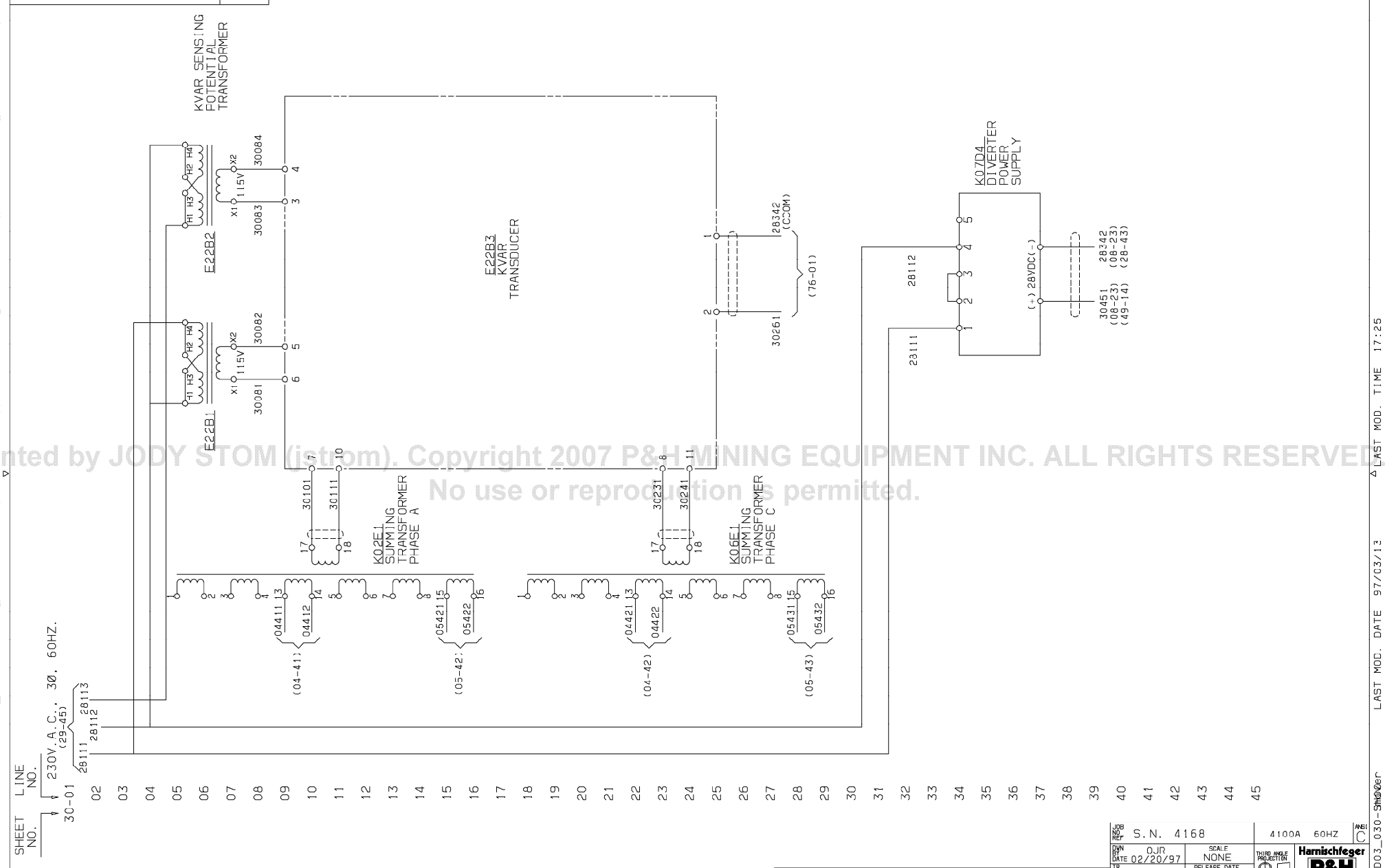
DWG NO R25019 | SH 30 | CONTD 31



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CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

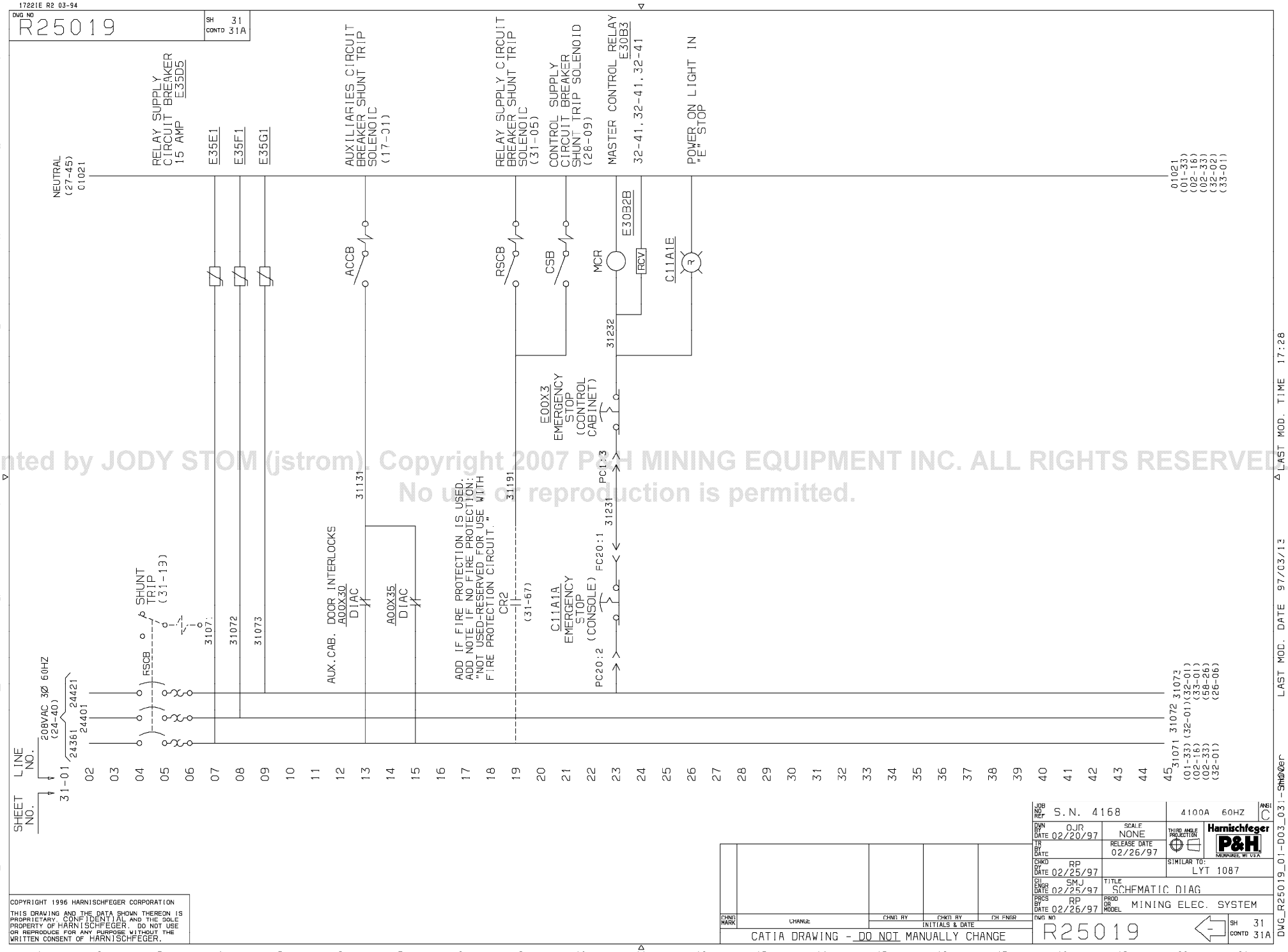
CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	SIZE C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 30 CONTD 31	

LAST MOD. TIME 17:25 LAST MOD. DATE 97/03/13

DWG_R25019_01-D03_030-Shovel

mover FRAME 1 mars 13,1997 17.25.32



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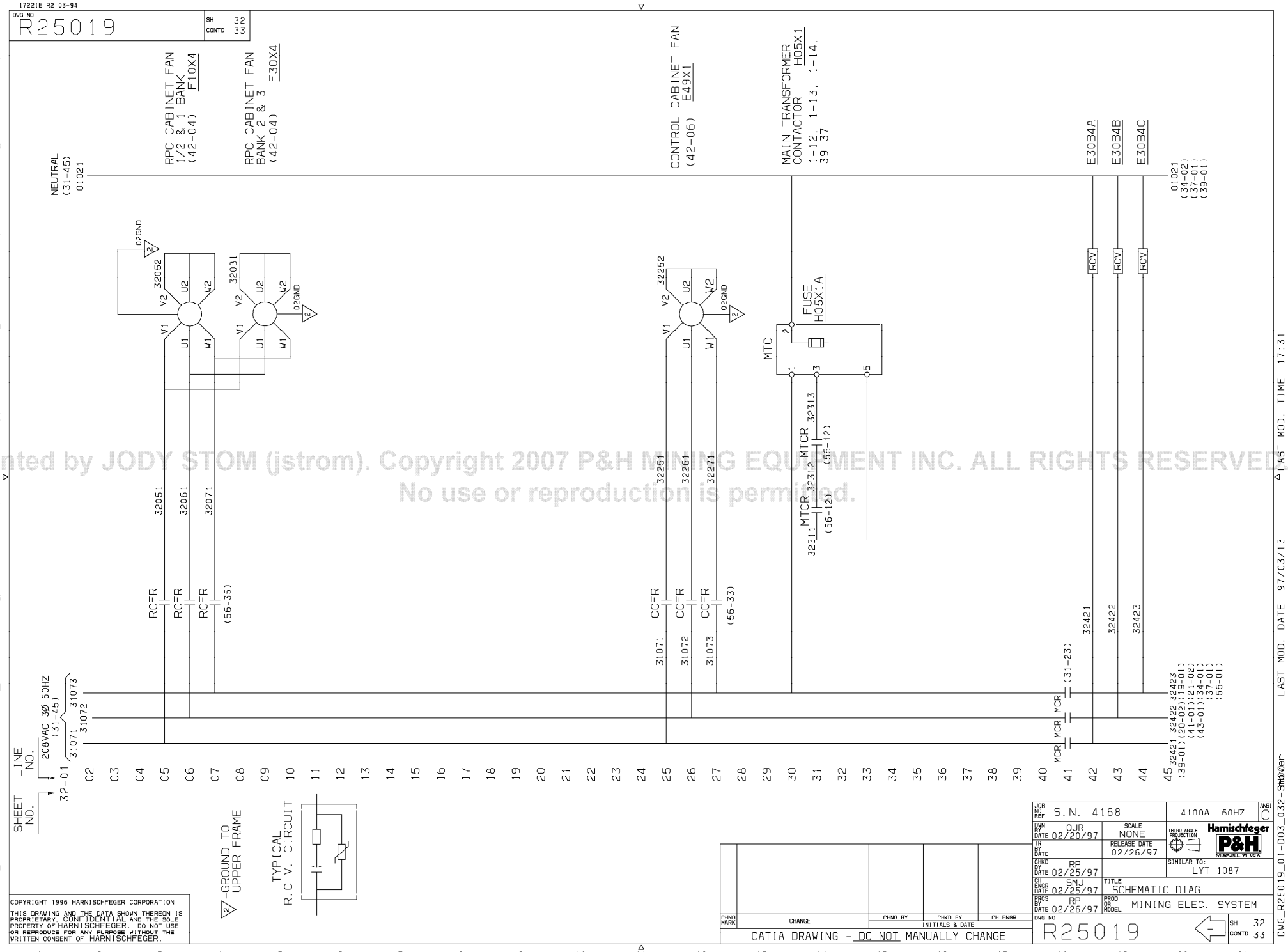
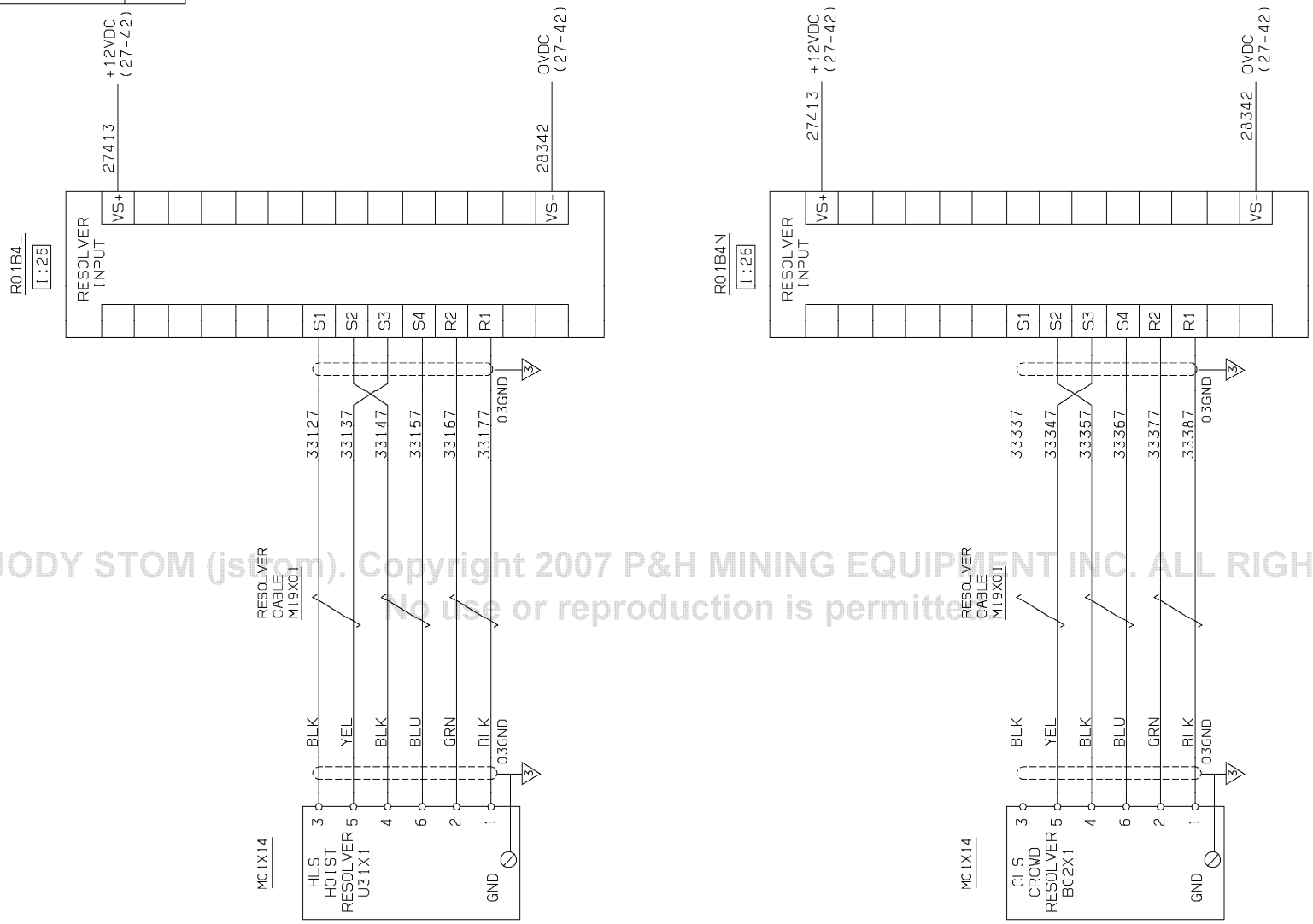


DWG NO R25019 | SH 33 | CONTD 34



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SHEET NO. LINE NO. 33-01

3 -CONNECT TO GROUND IN CABINET

INDICATES TWISTED PAIR

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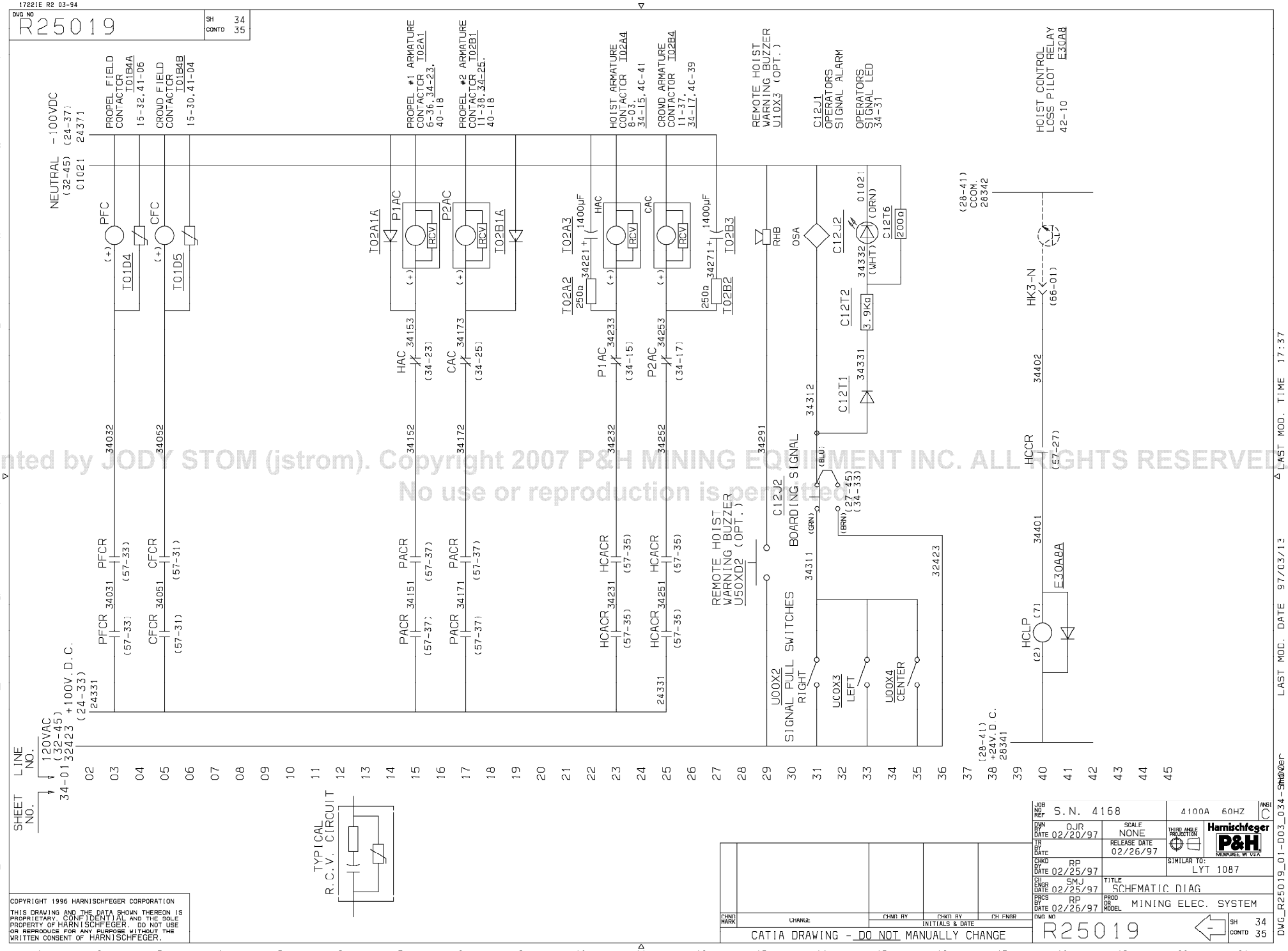
CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
01		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	SHEET C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PDCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 33 CONTD 34	



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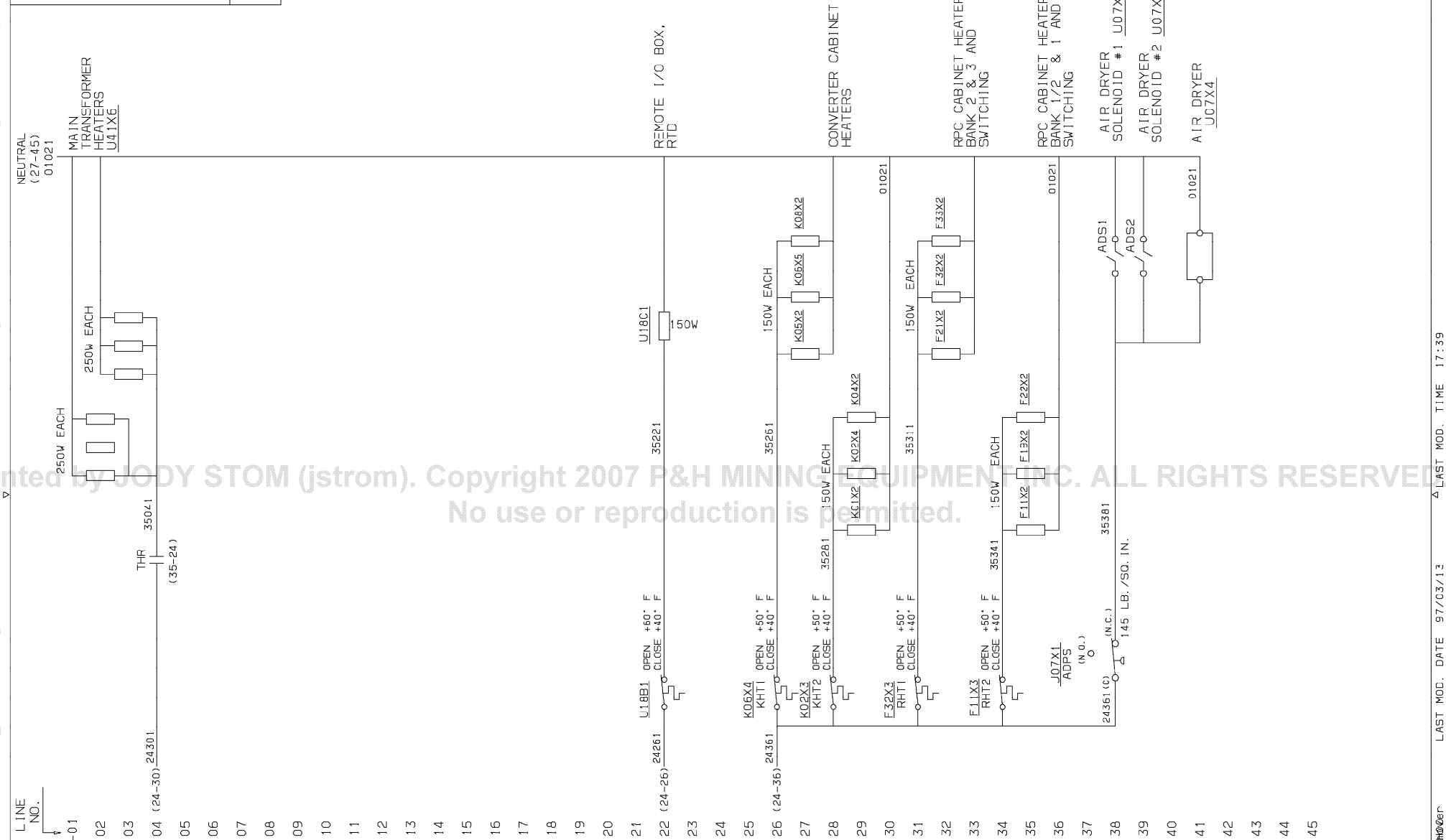
DWG NO R25019 SH 35 CONTD 36



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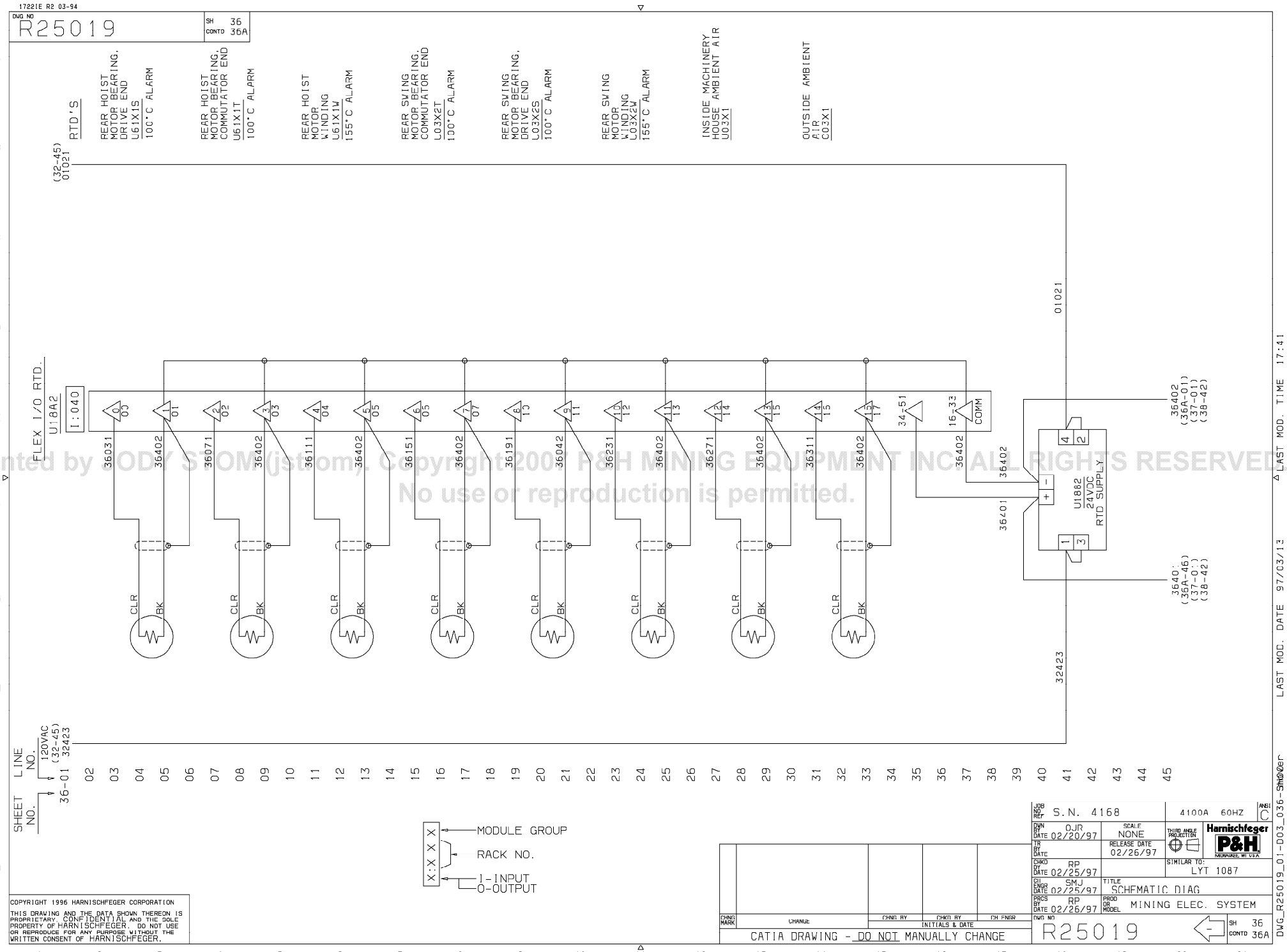
CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	AWG C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 35 CONTD 36	



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DWG NO R25019 | SH 37 | CONTD 38

RTD'S

CROWD MOTOR BEARING, DRIVE END E01X1S 100°C ALARM

CROWD MOTOR BEARING, COMMUTATOR END E01X1T 100°C ALARM

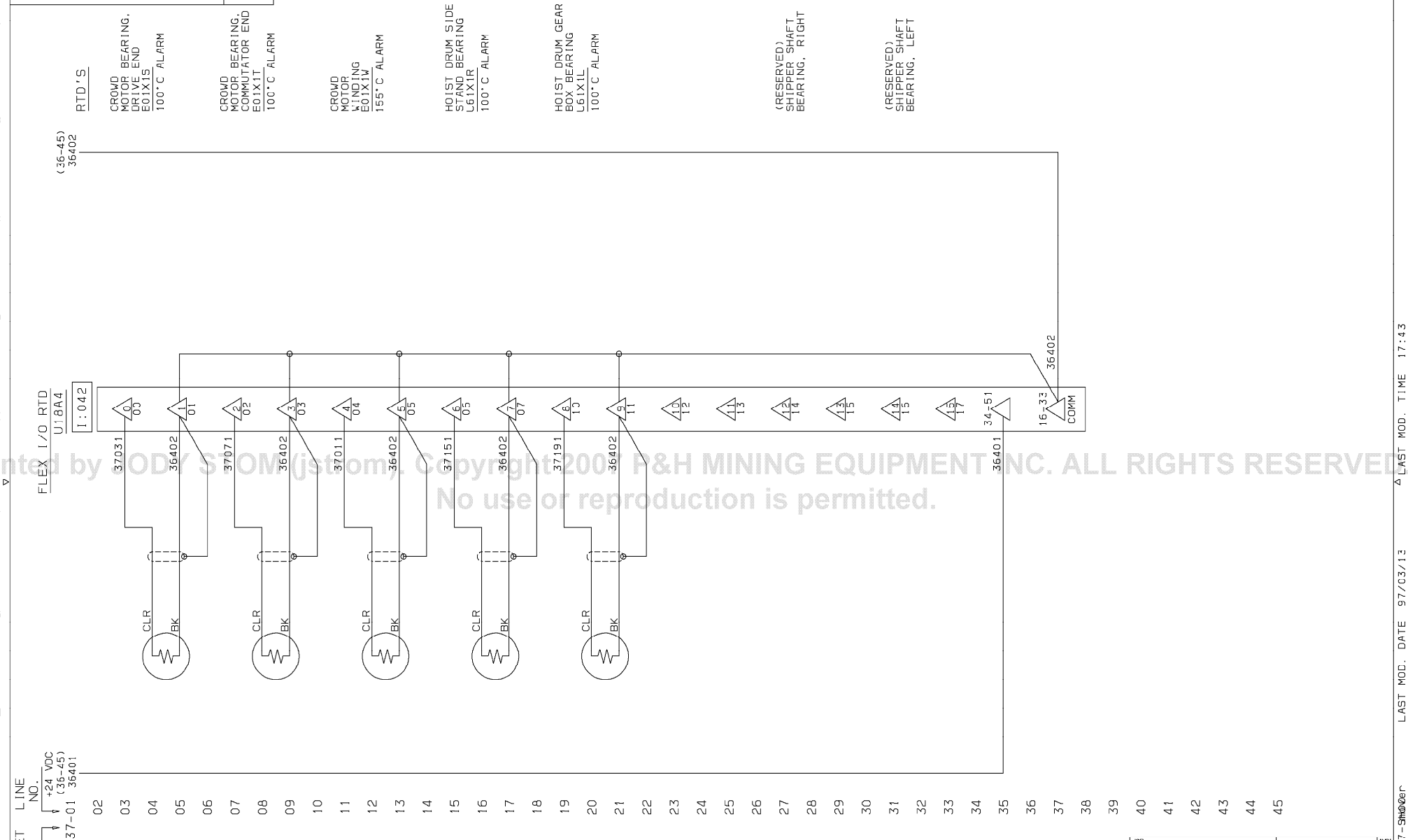
CROWD MOTOR WINDING E01X1W 155°C ALARM

HOIST DRUM SIDE STAND BEARING L61X1R 100°C ALARM

HOIST DRUM GEAR BOX BEARING L61X1L 100°C ALARM

(RESERVED) SHIPPER SHAFT BEARING, RIGHT

(RESERVED) SHIPPER SHAFT BEARING, LEFT



X:X X X
MODULE GROUP
RACK NO.
I-INPUT
O-OUTPUT

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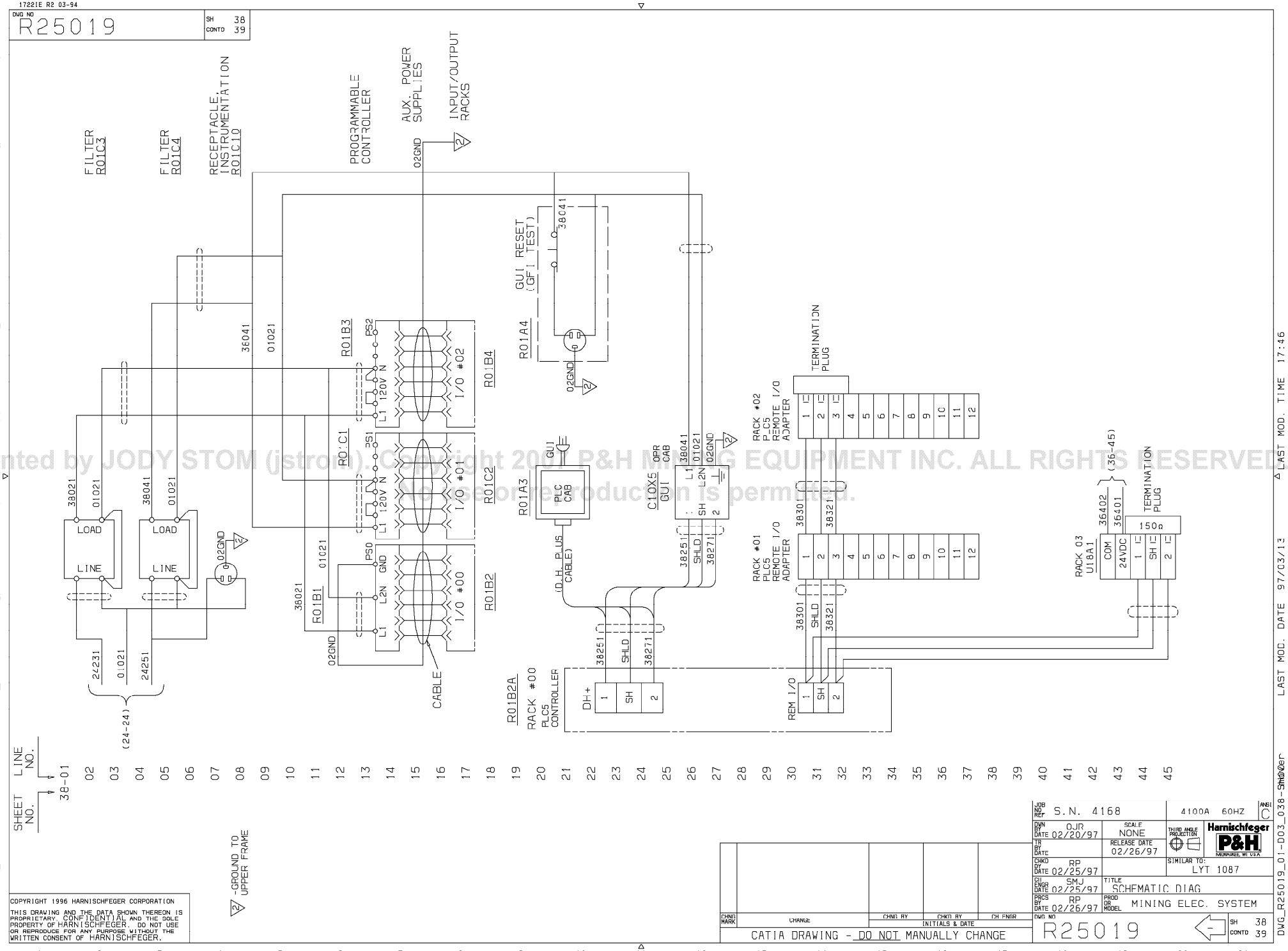
CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	AWG C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PDCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 37 CONTD 38	

LAST MOD. TIME 17:43
LAST MOD. DATE 97/03/13
DWG_R25019_01-D03_037-Show0er



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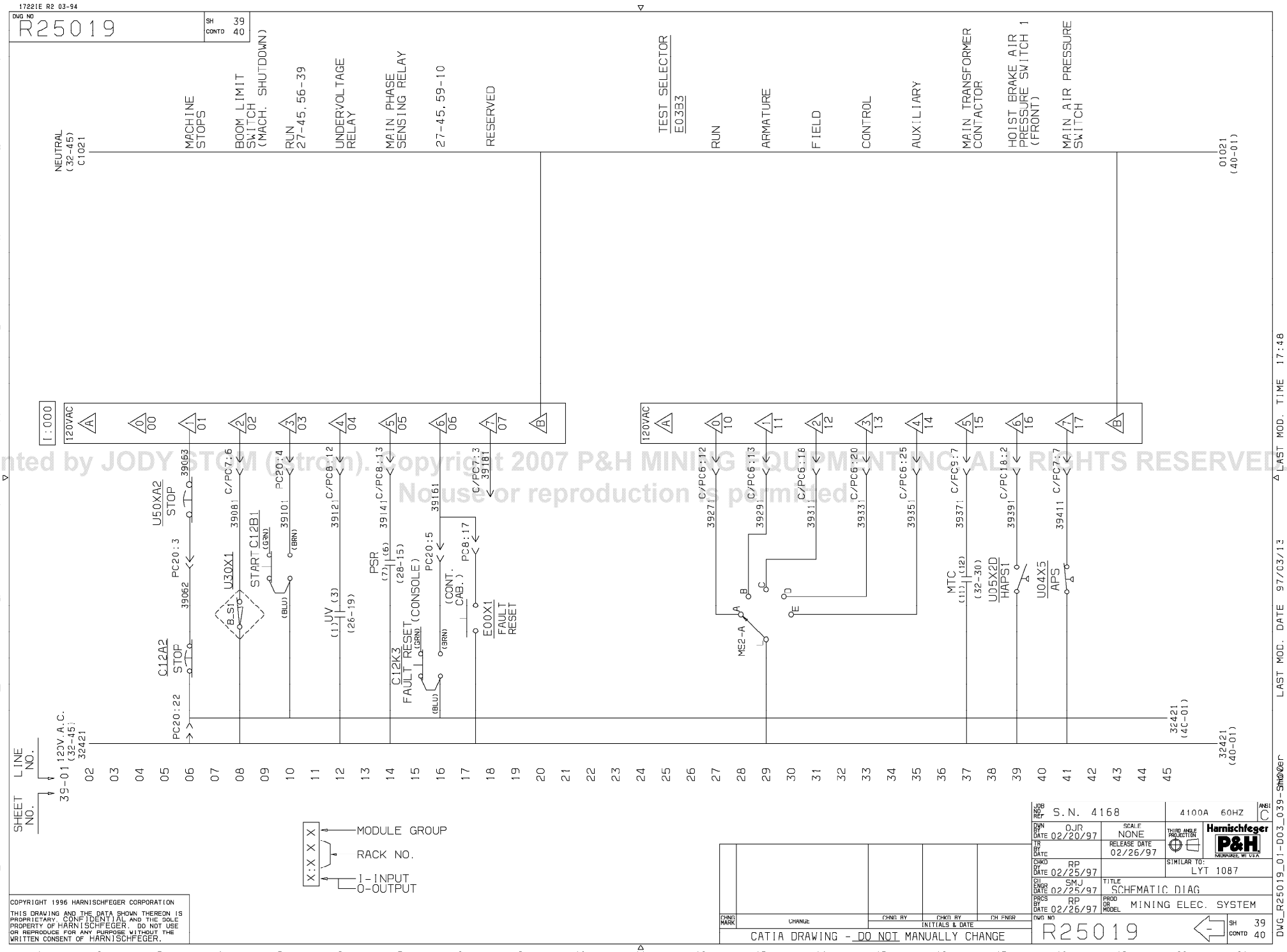

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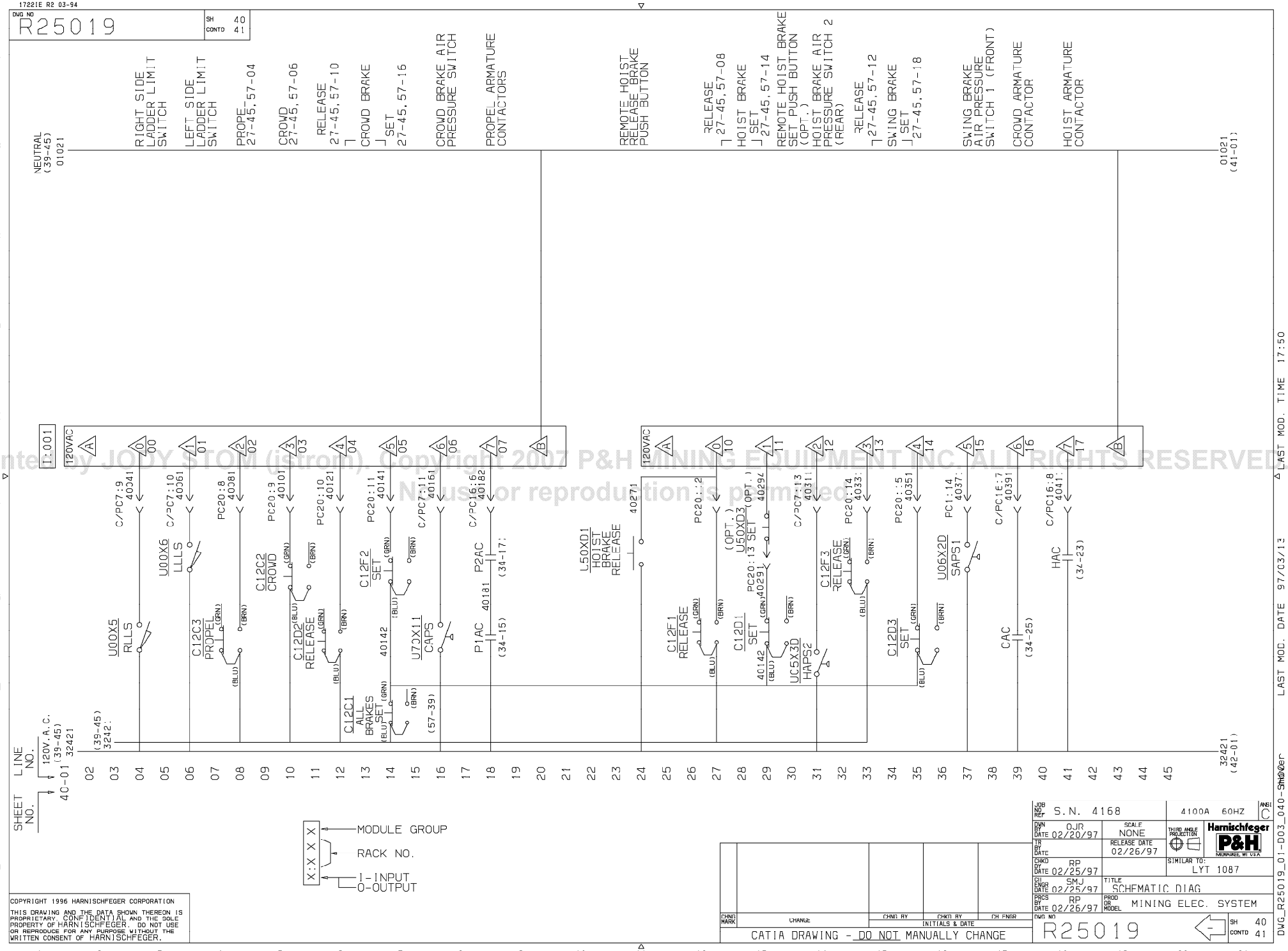

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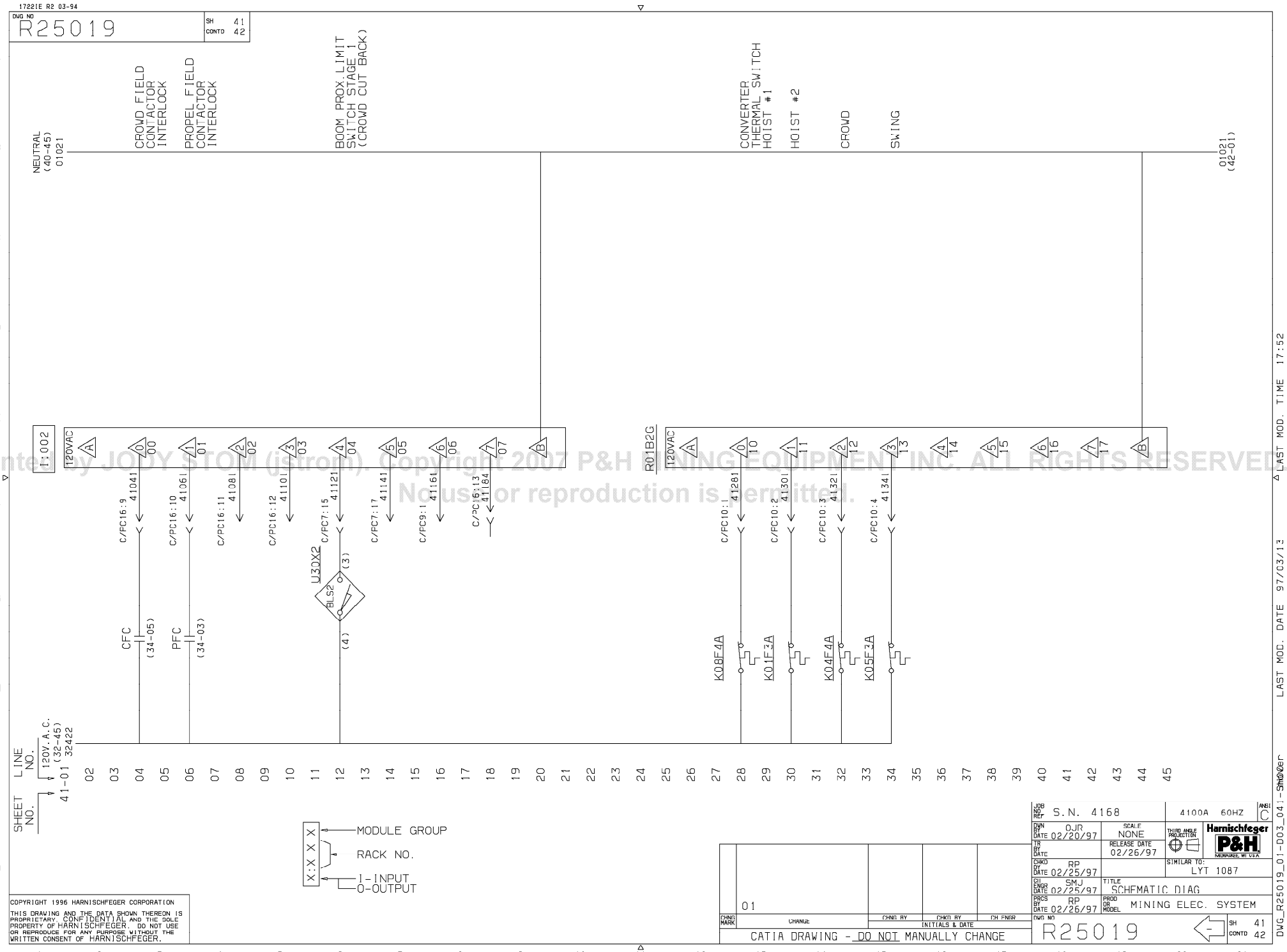

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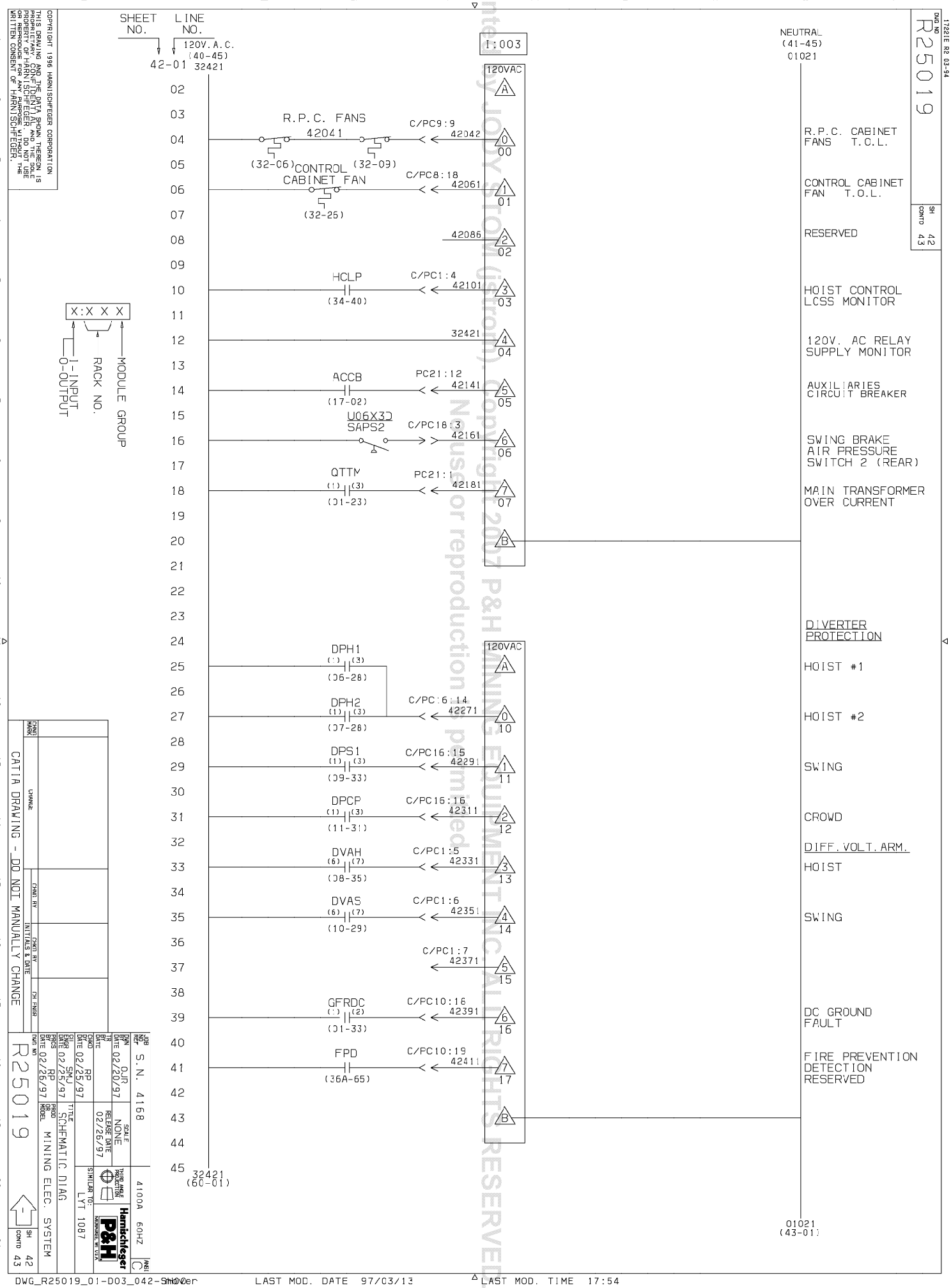
SHEET NO.
LINE NO.
120V.A.C. (40-45)
42-01 32421
I:003
120VAC
NEUTRAL (41-45) 01021
R.P.C. FANS 42041
C/PC9:9 42042
(32-06) (32-09)
CONTROL CABINET FAN
C/PC8:18 42061
(32-25)
42086
HCLP
C/PC1:4 42101
(34-40)
32421
ACCB
PC21:12 42141
(17-02)
U06X30 SAPS2
C/PC18:3 42161
QTTM
PC21:1 42181
(01-23)
DPH1
(06-28)
DPH2
C/PC16:14 42271
(07-28)
DPS1
C/PC16:15 42291
(09-33)
DPCP
C/PC16:16 42311
(11-31)
DVAH
C/PC1:5 42331
(08-35)
DVAS
C/PC1:6 42351
(10-29)
C/PC1:7 42371
GFRDC
C/PC10:16 42391
(01-33)
FPD
C/PC10:19 42411
(36A-65)
32421 (60-01)
X:X X X
I-INPUT O-OUTPUT
RACK NO.
MODULE GROUP
R.P.C. CABINET FANS T.C.L.
CONTROL CABINET FAN T.O.L.
RESERVED
HOIST CONTROL LCSS MONITOR
120V. AC RELAY SUPPLY MONITOR
AUXILIARIES CIRCUIT BREAKER
SWING BRAKE AIR PRESSURE SWITCH 2 (REAR)
MAIN TRANSFORMER OVER CURRENT
DIVERTER PROTECTION
HOIST #1
HOIST #2
SWING
CROWD
DIFF. VOLT. ARM.
HOIST
SWING
DC GROUND FAULT
FIRE PREVENTION DETECTION RESERVED
01021 (43-01)
R25019
SH 42 CONTD 43
1722IE R2 03-94
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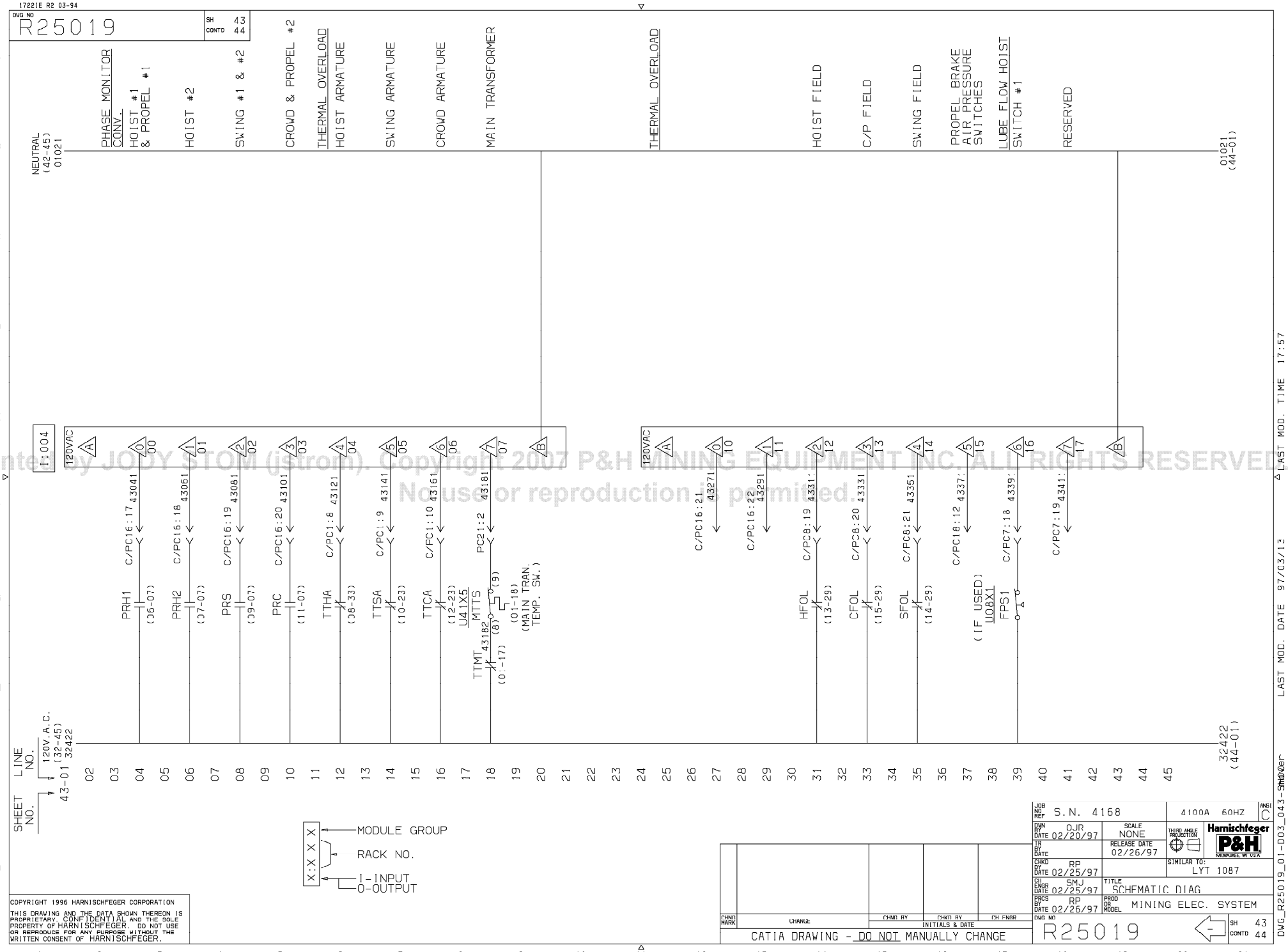
CHANGE MARK
CHANGE
CHNG BY
CHKD BY
INITIALS & DATE
CH FNGR
DWN O.J.R. DATE 02/20/97
CHKD RP DATE 02/25/97
DWN SKV DATE 02/25/97
PRKS RP DATE 02/26/97
SCALE NONE
RELEASE DATE 02/26/97
TITLE SCHEMATIC DIAG
PROD OR MODEL MINING ELEC. SYSTEM
DWG NO R25019
SH 42 CONTD 43
SIMILAR TO: LYT 1087
Harnischfeger P&H
S.N. 4168
4100A 60HZ
AREI C
DWG_R25019_01-D03_042-Show2
LAST MOD. DATE 97/03/13
LAST MOD. TIME 17:54



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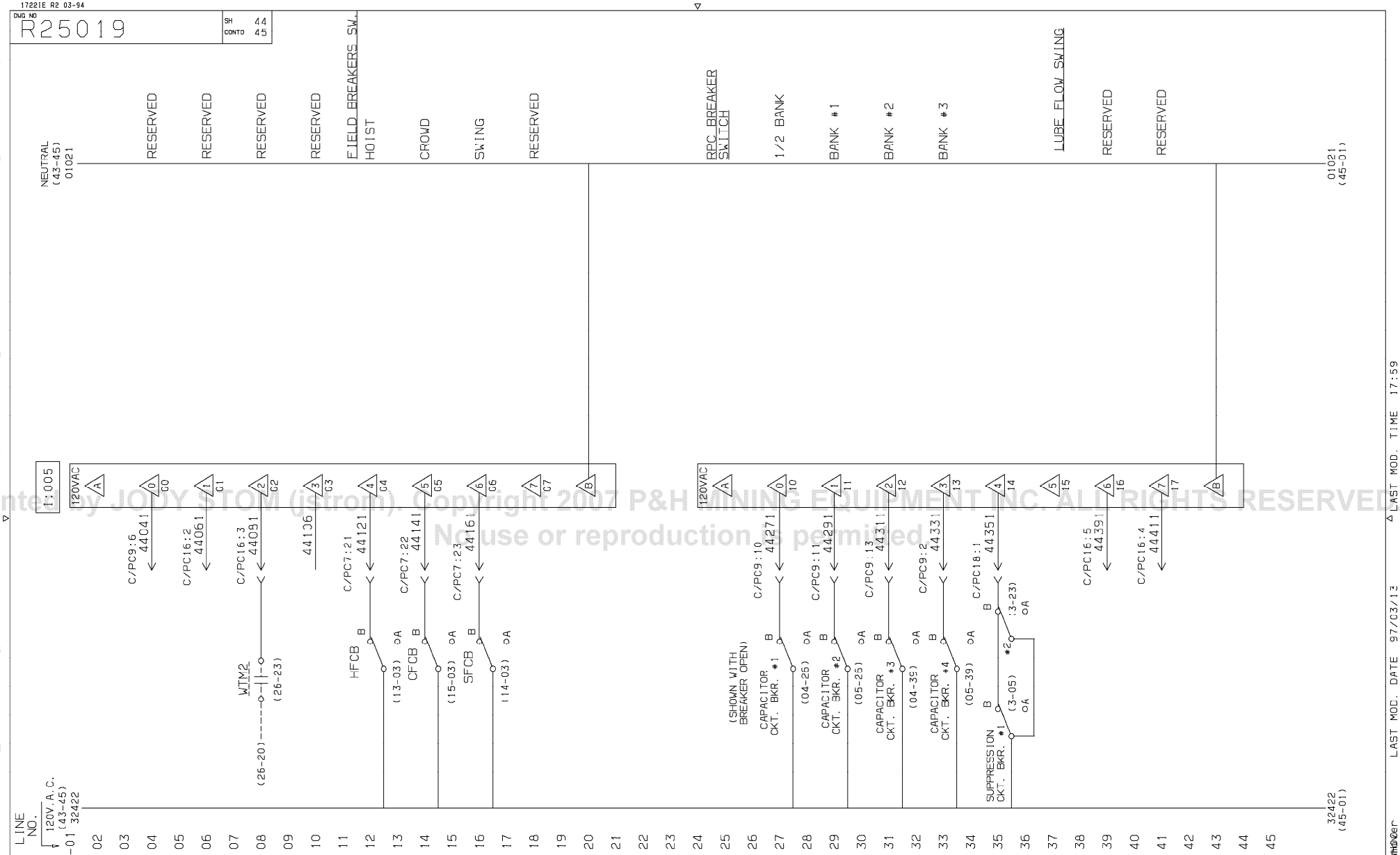

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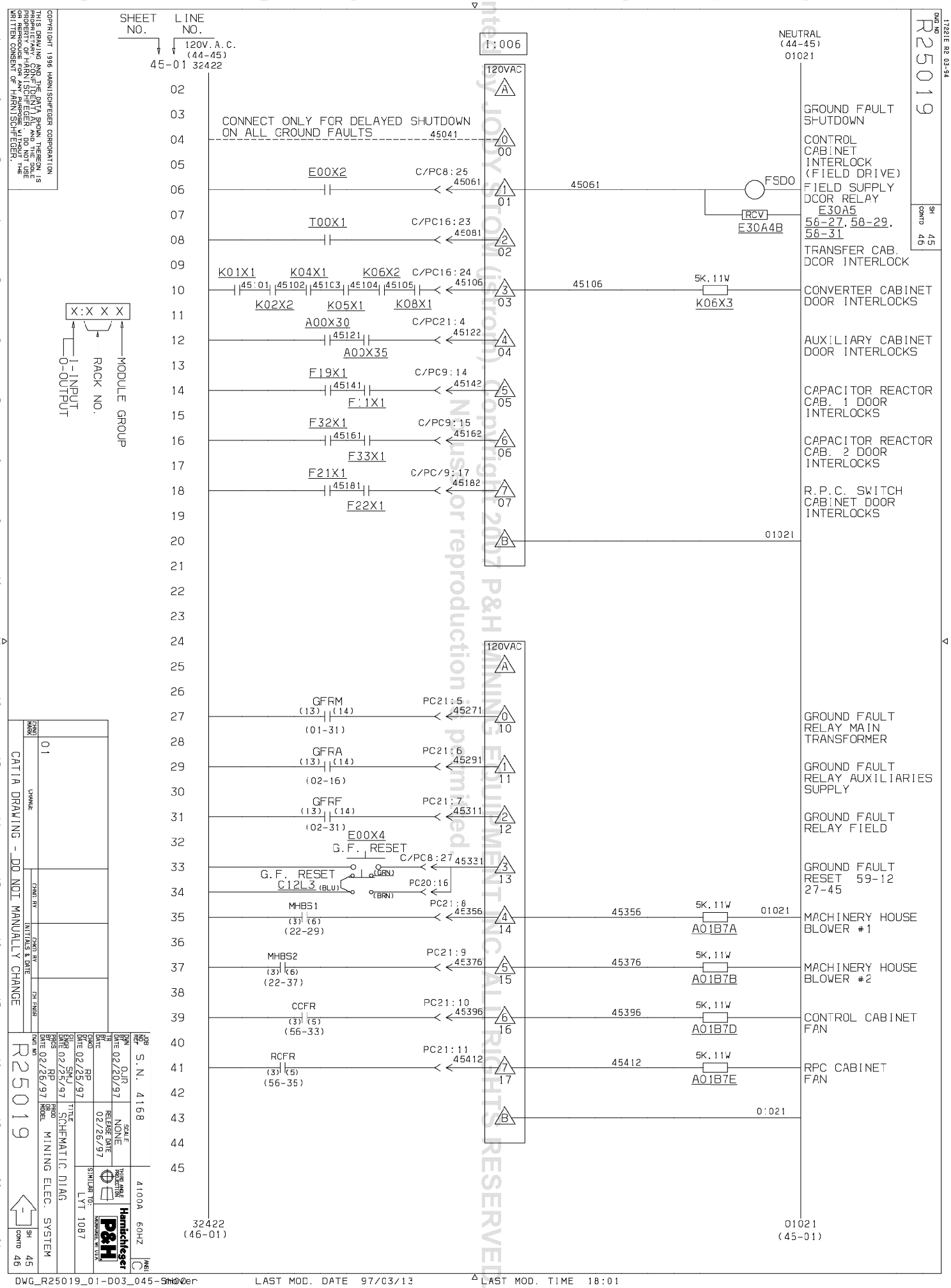
CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO REF	S.N. 4168	4100A 60HZ	SIZE C
DWN BY DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 44 CONTD 45	



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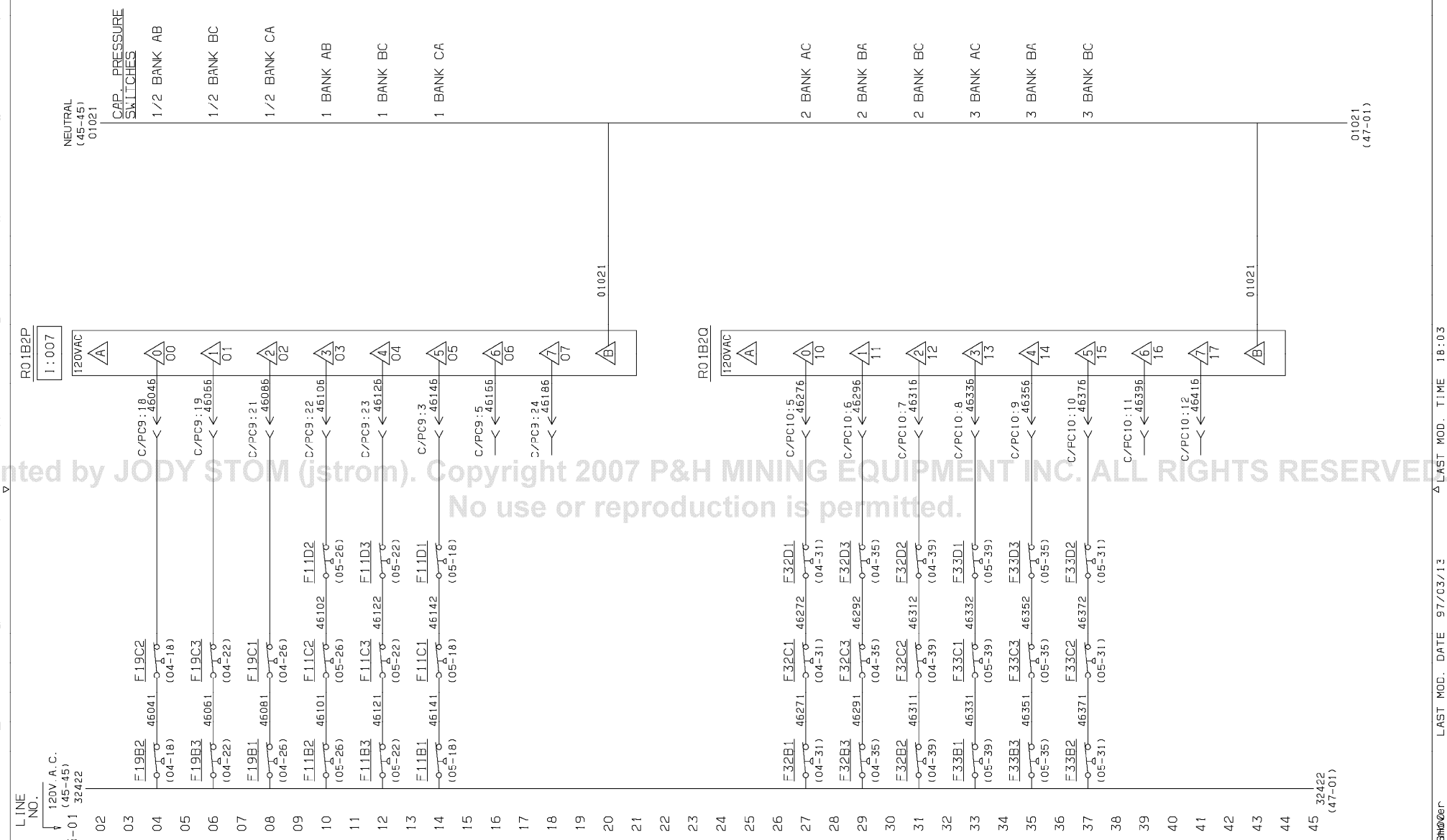

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		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	SHEET C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 46 CONTD 47	

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DWG NO R25019 | SH 47 | CONTD 48

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CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	SIZE C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 47 CONTD 48	

LAST MOD. TIME 18:05 LAST MOD. DATE 97/03/13 DWG_R25019_01-D03_047-Shover

mover FRAME 1 mars 13,1997 18.05.49

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DWG NO R25019 | SH 48 | CONTD 49

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		INITIALS & DATE		

CATIA DRAWING - DO NOT MANUALLY CHANGE

JOB NO / REF	S.N. 4168	4100A 60HZ	SIZE C
DWN BY / DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
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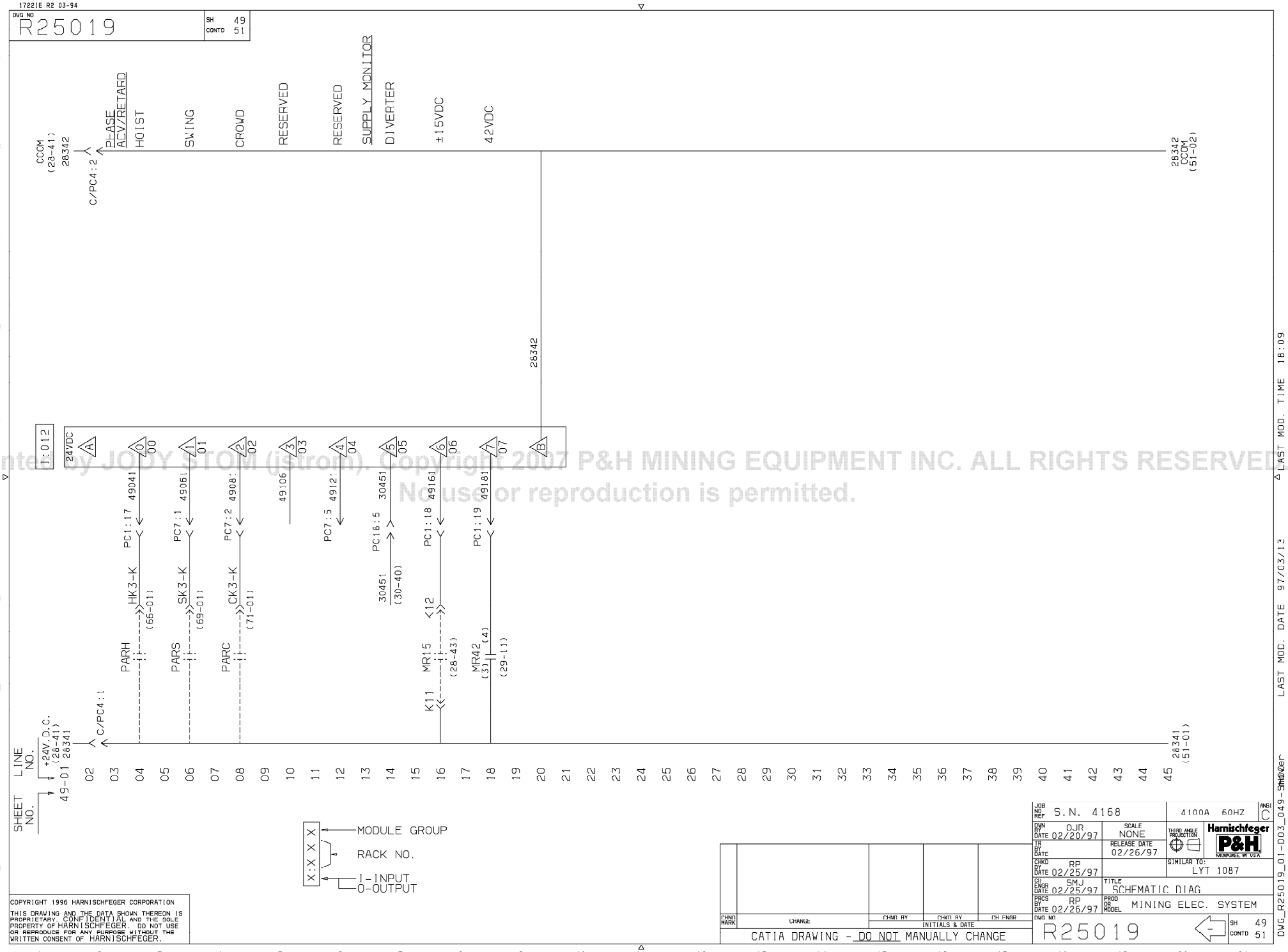

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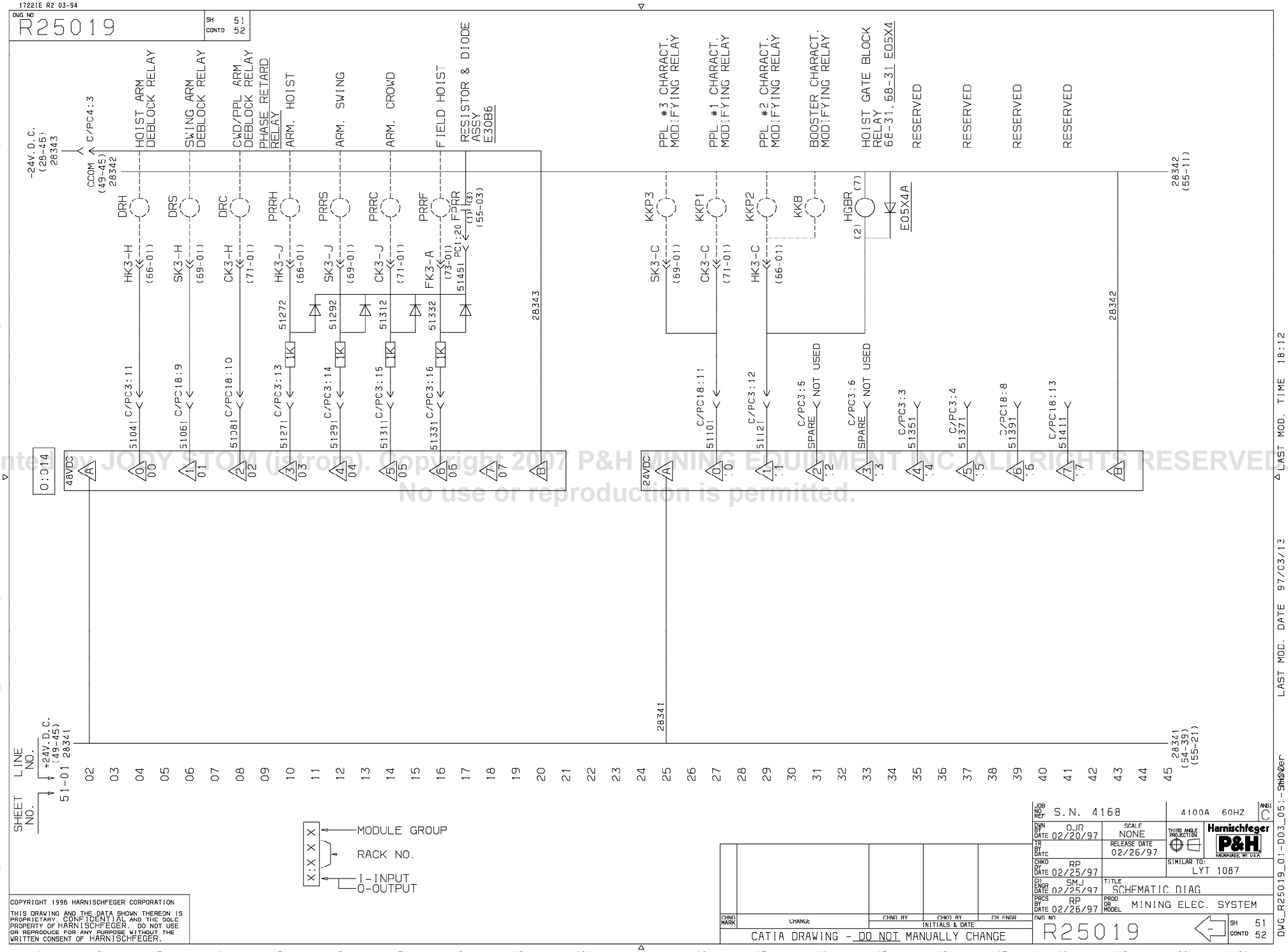

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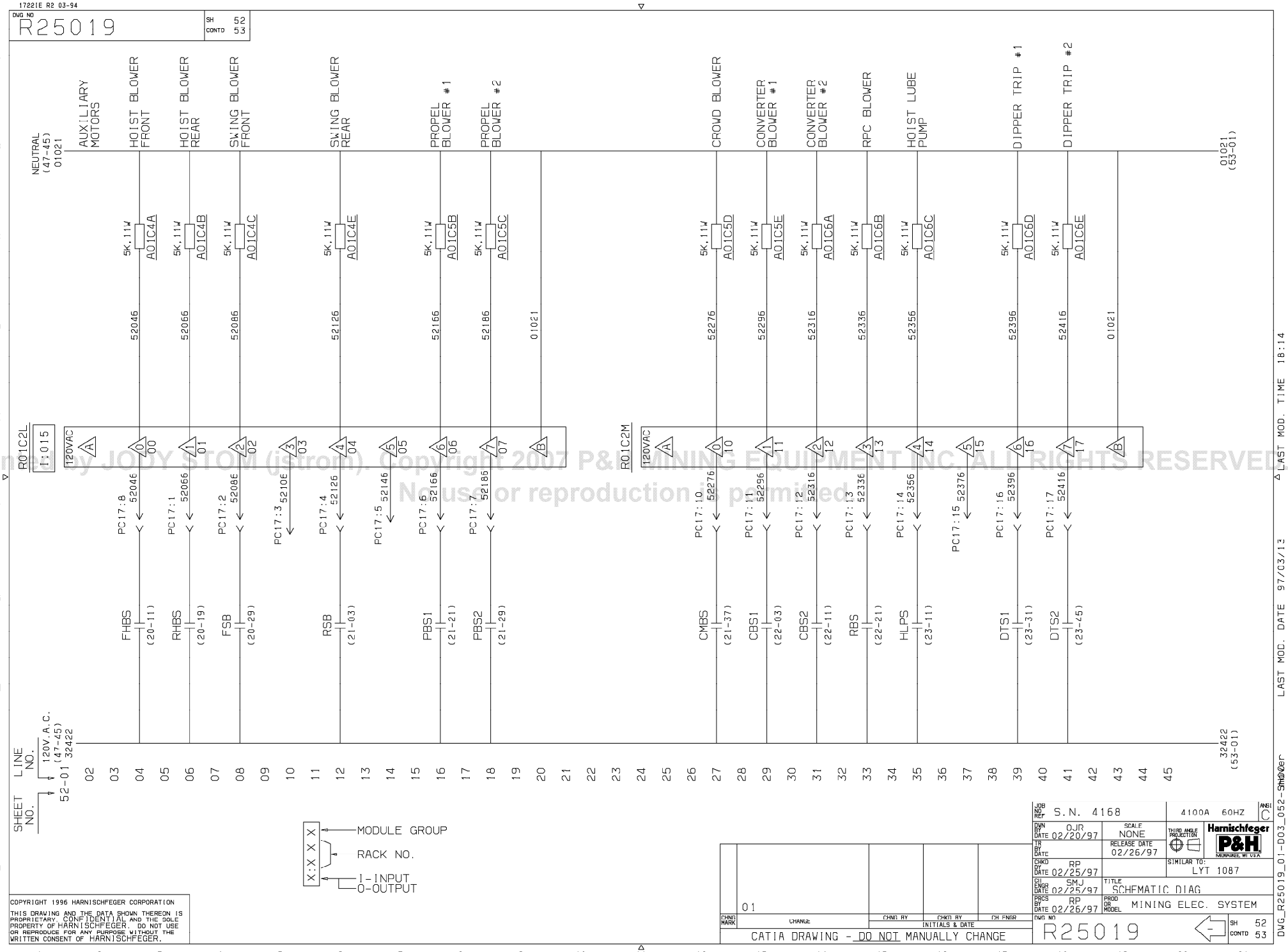

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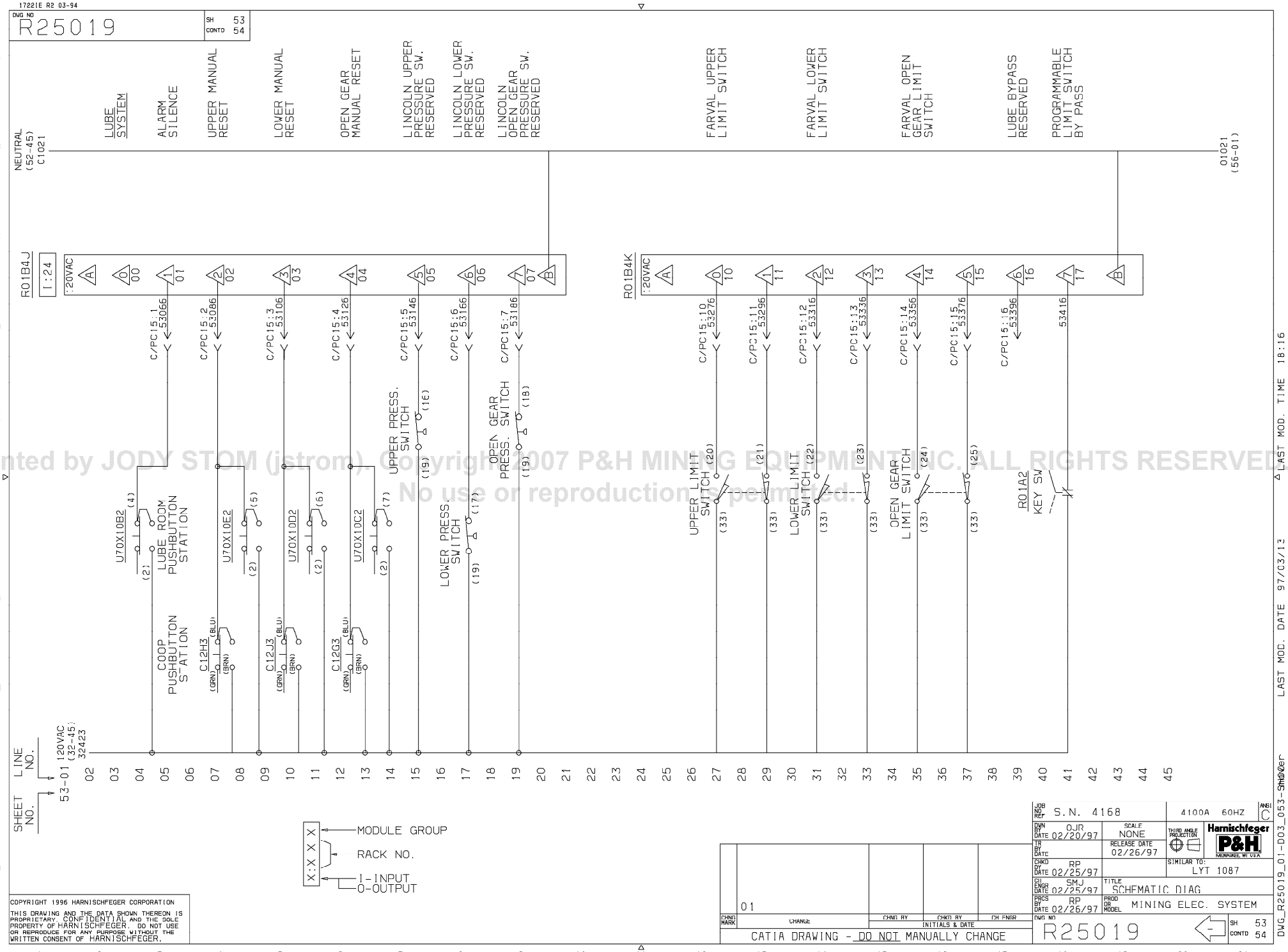

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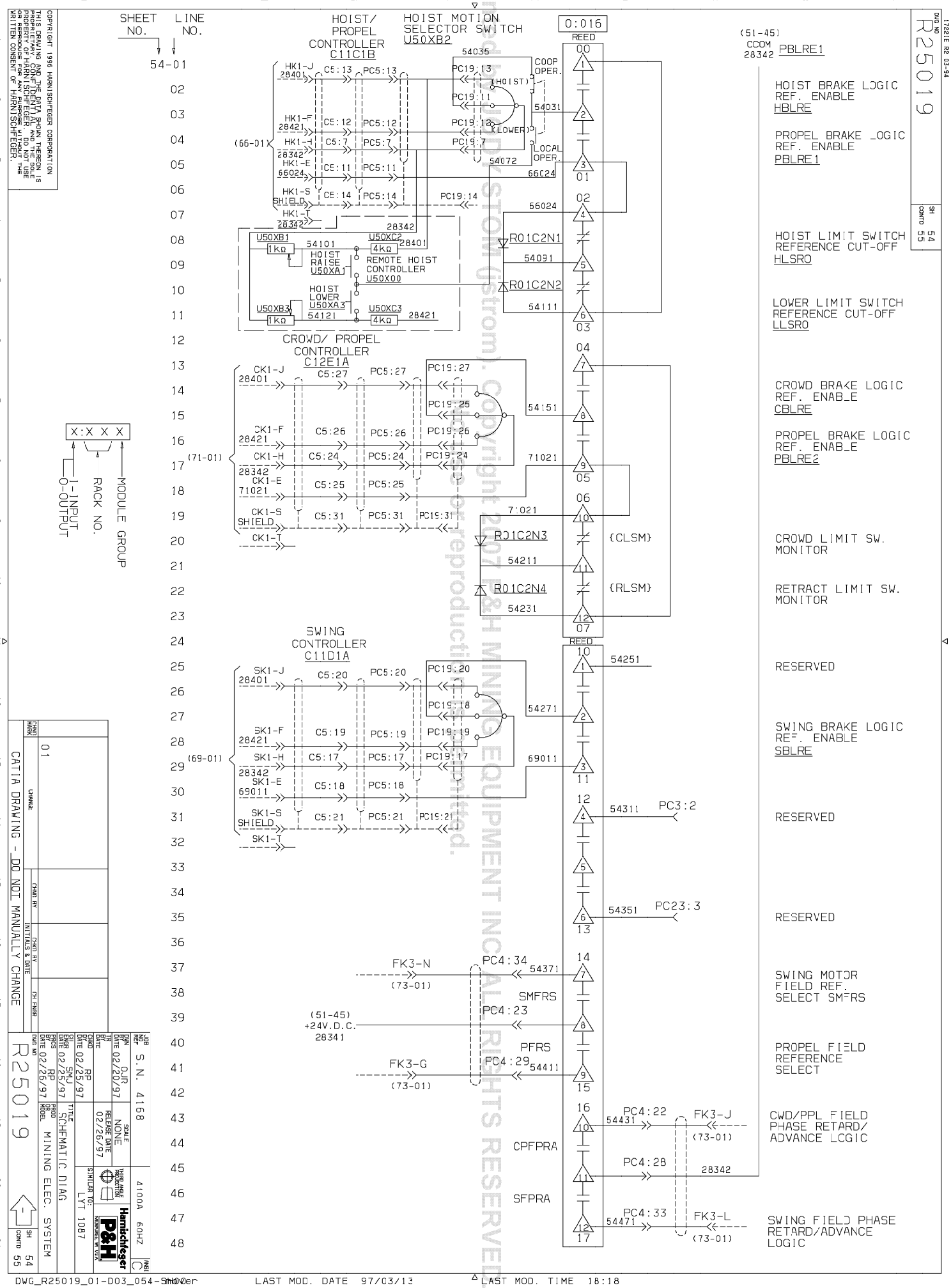

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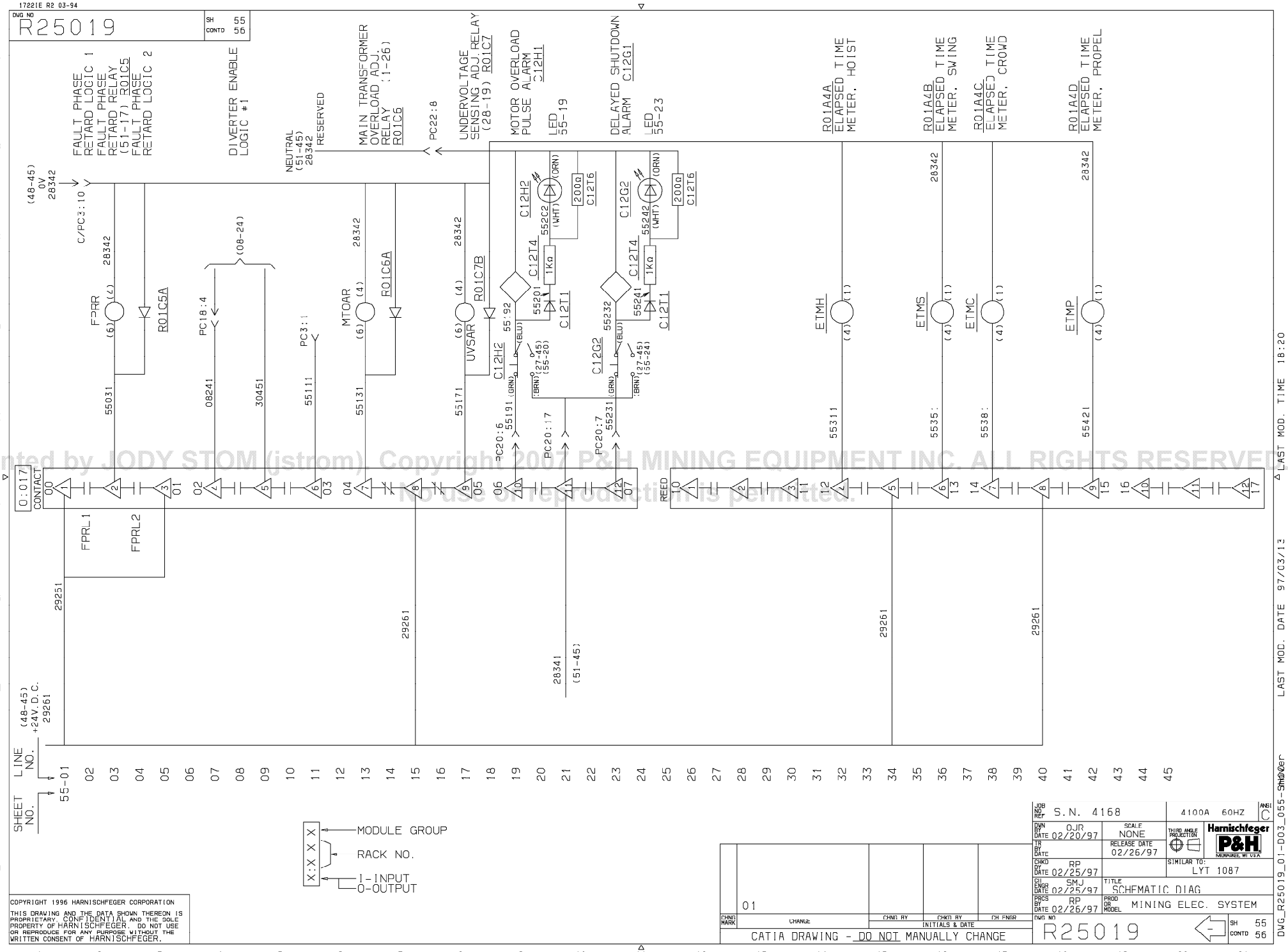

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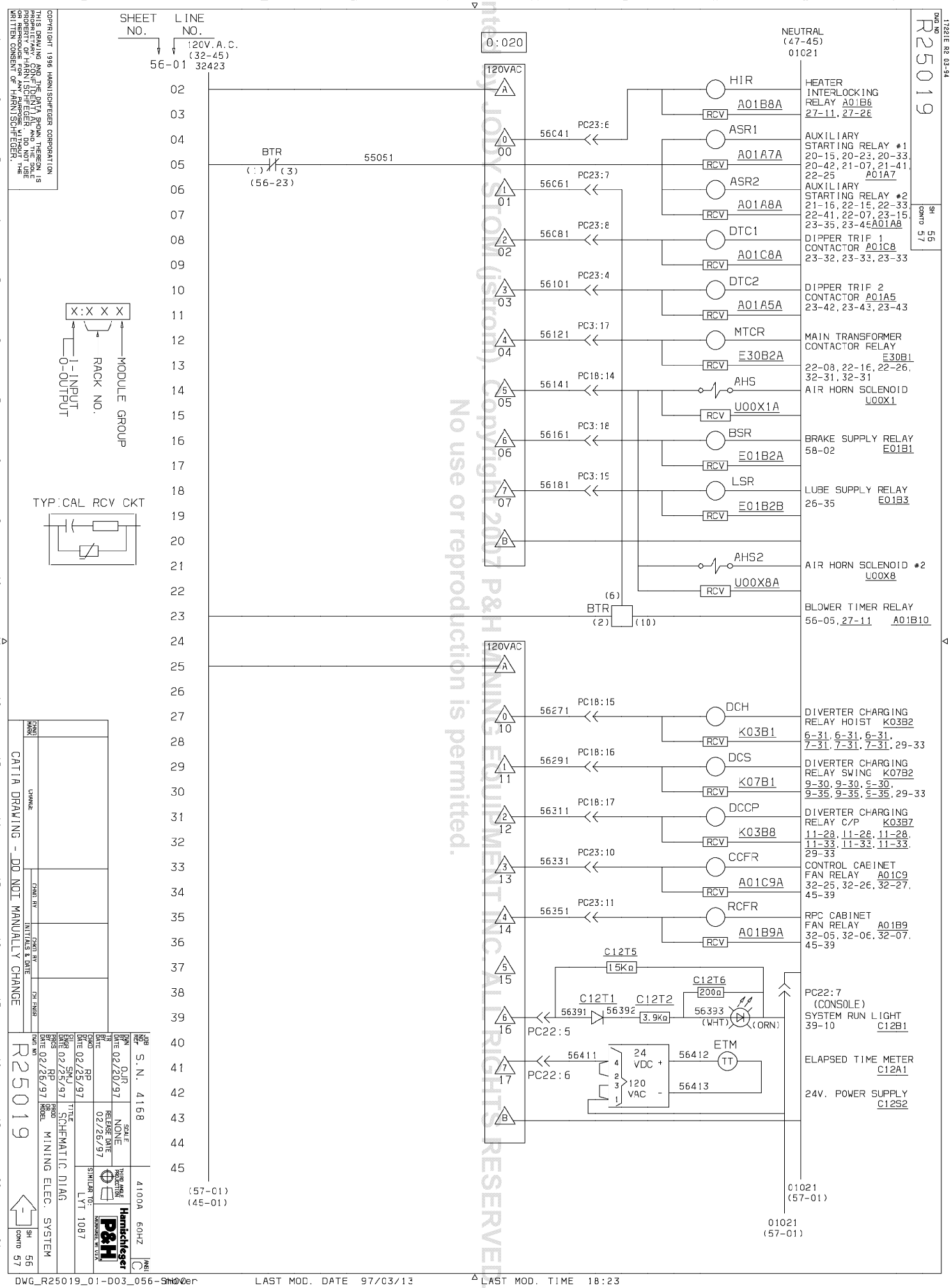

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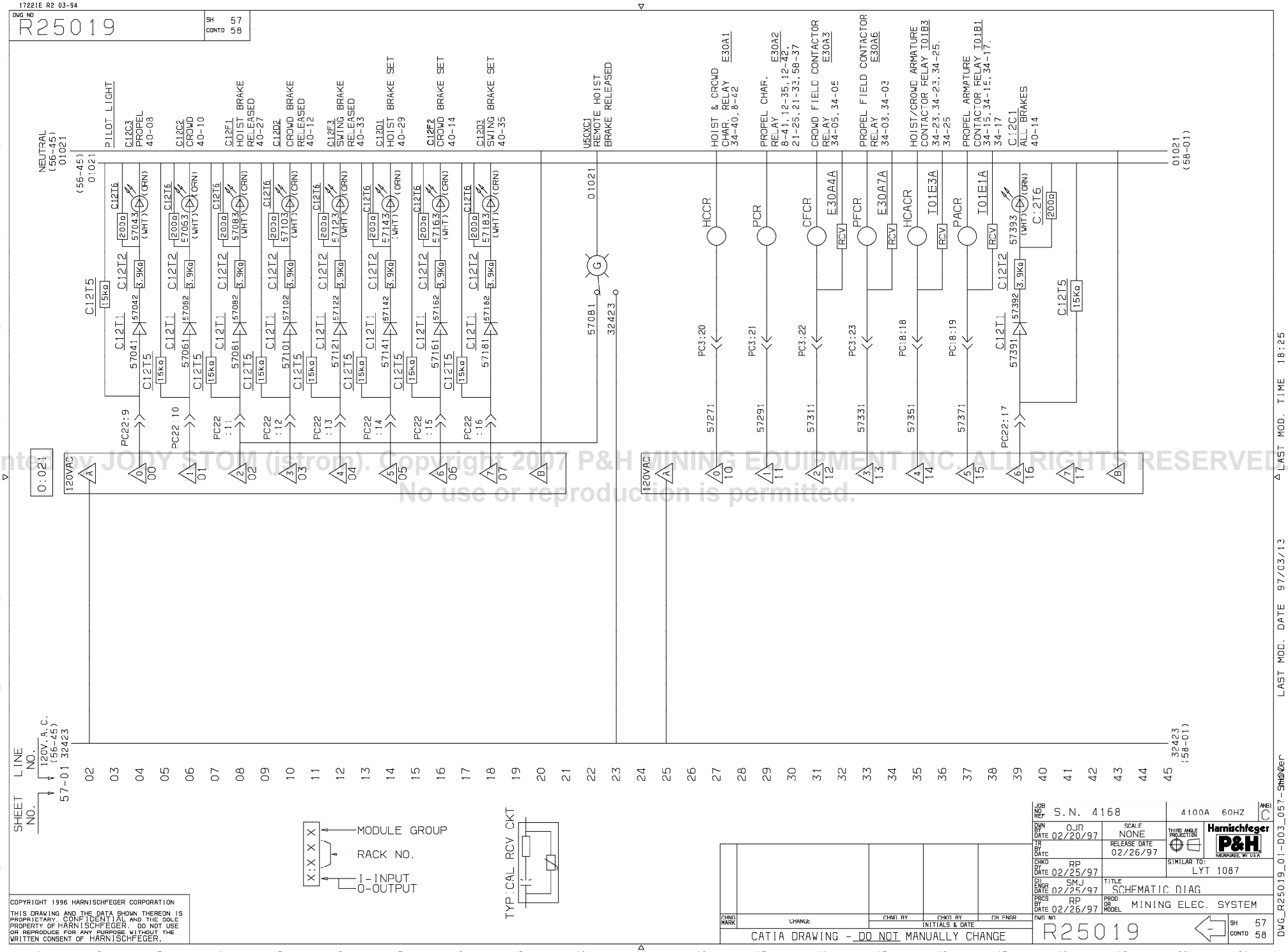

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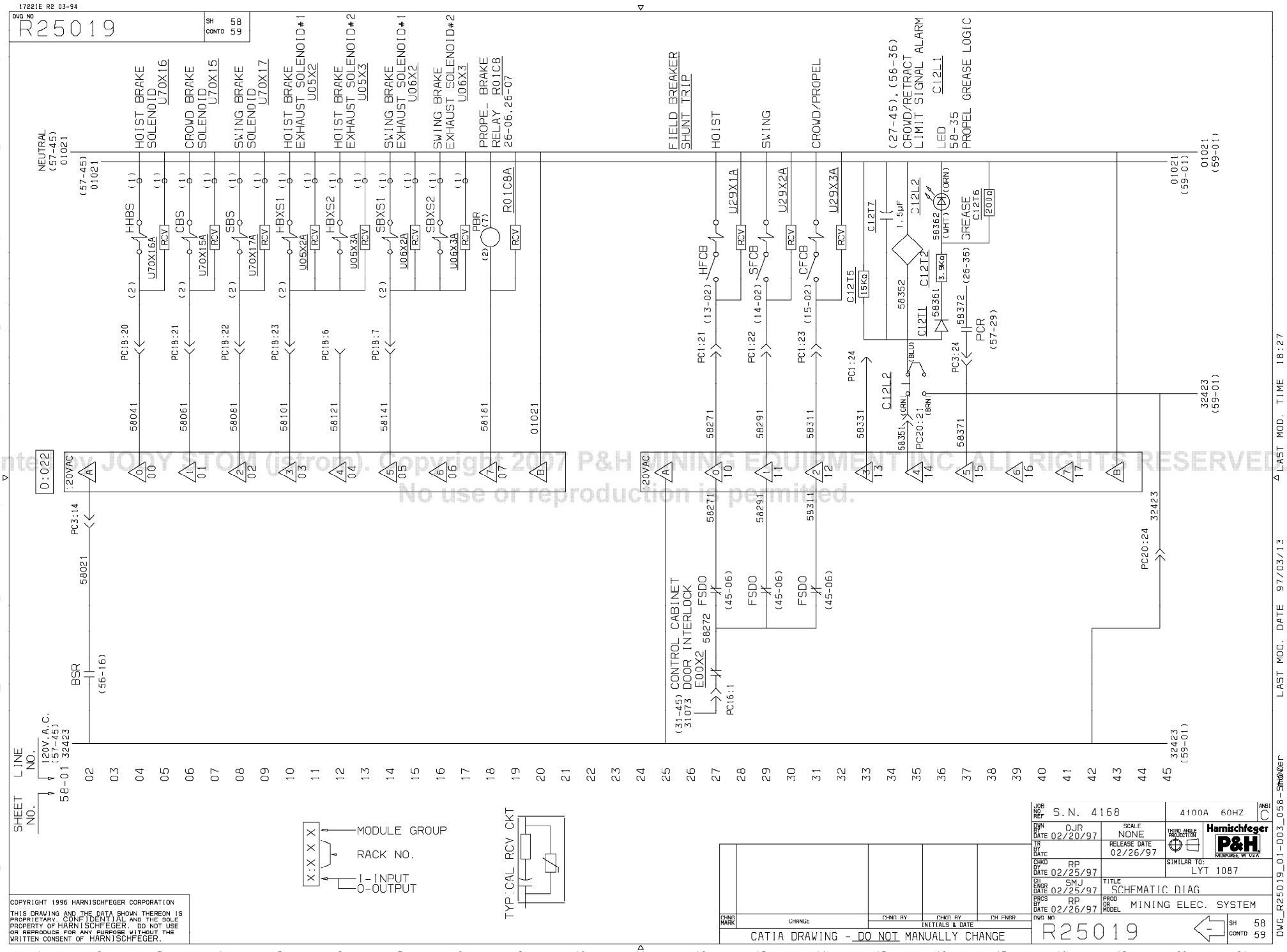

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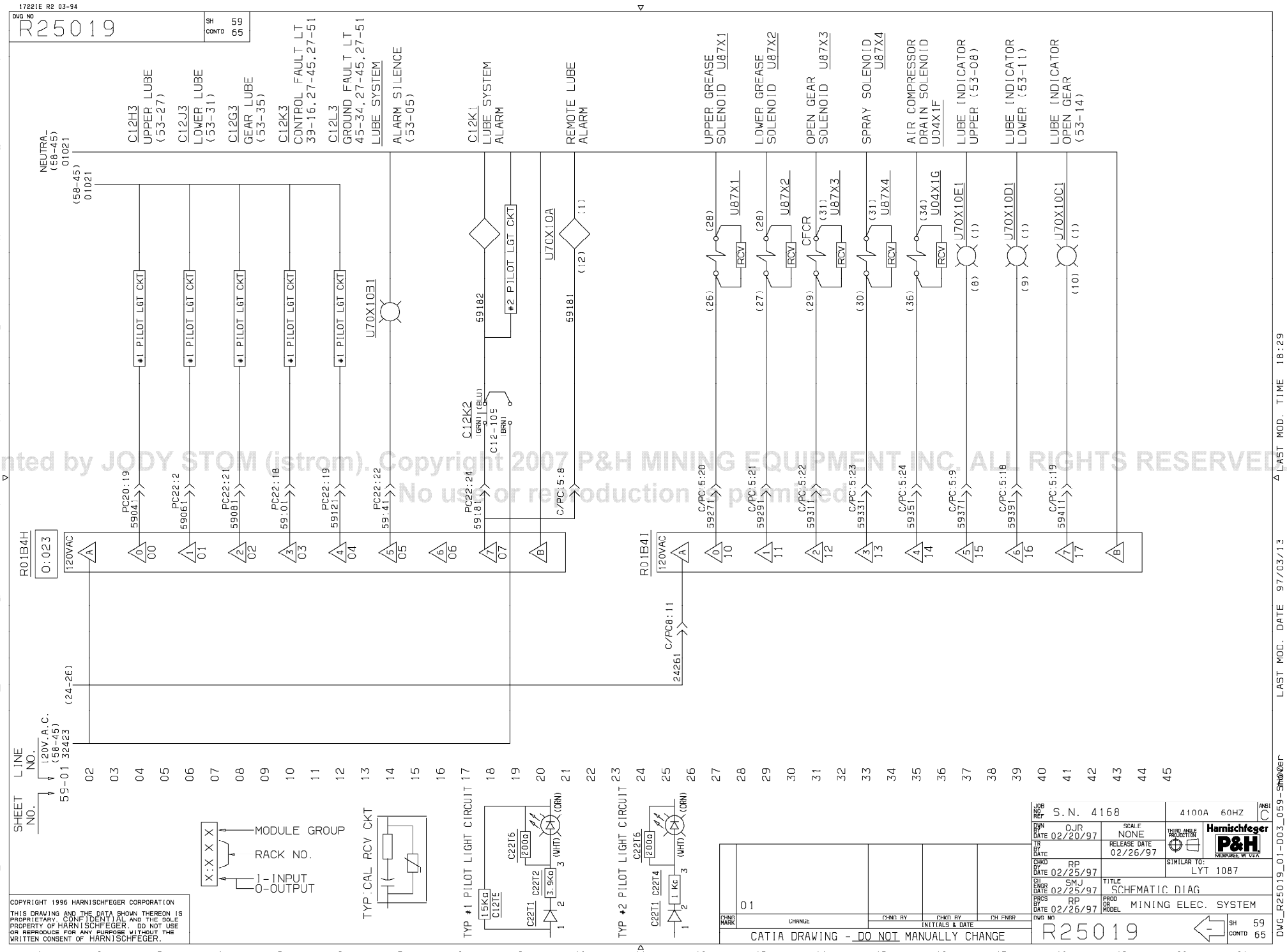

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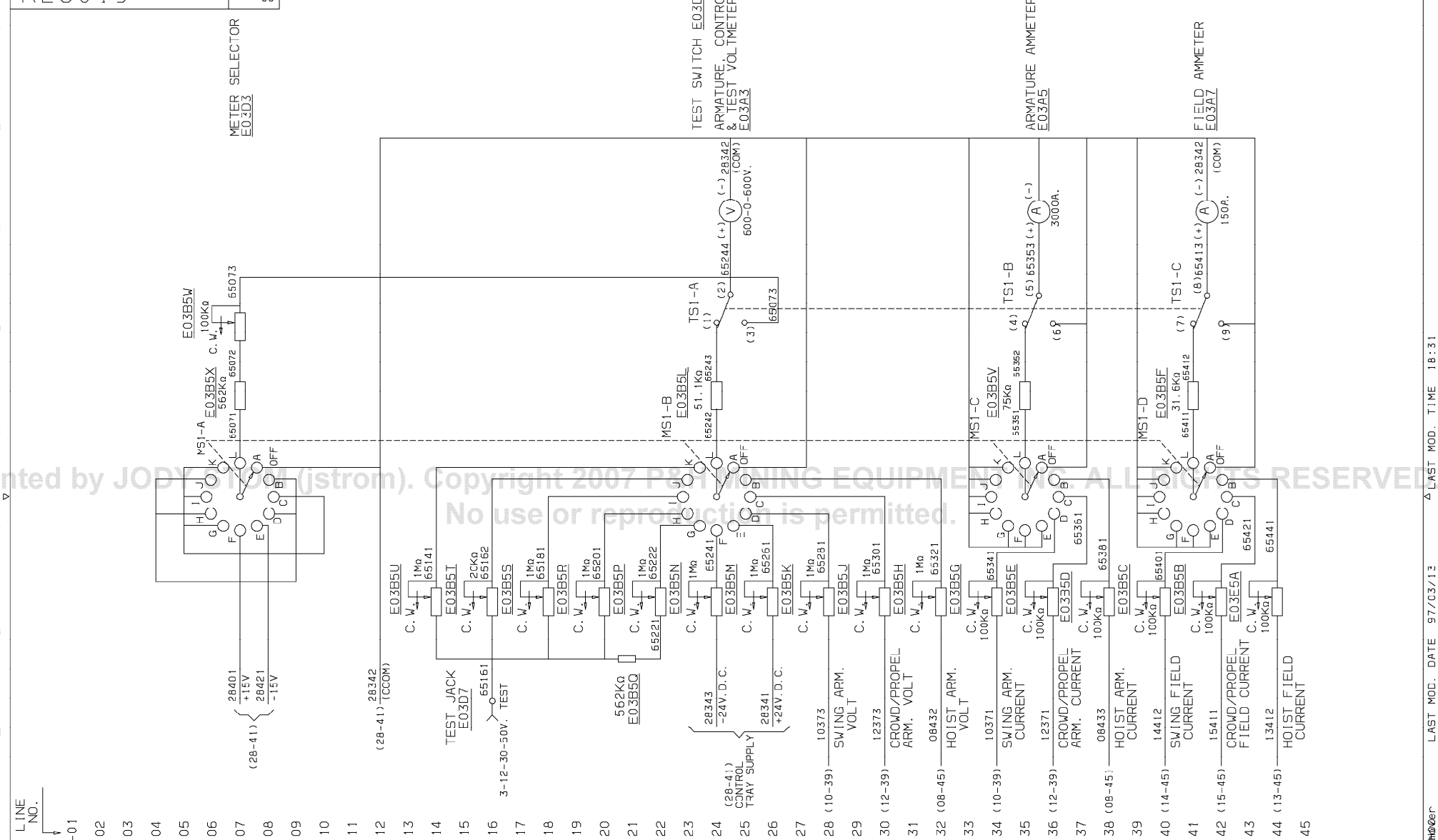
DWG NO R25019 SH 65 CONTD 66



NOTE:

1. SELECTOR SWITCH MS1 IS A SIX SECTION SWITCH (MS1-E & F ARE NOT USED)
2. SWITCH SECTION SHOWN VIEW D FROM OPERATOR END.
3. MS1-A FURTHEST FROM OPERATOR

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CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

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DWN BY DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PDCS BY DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 65 CONTD 66	

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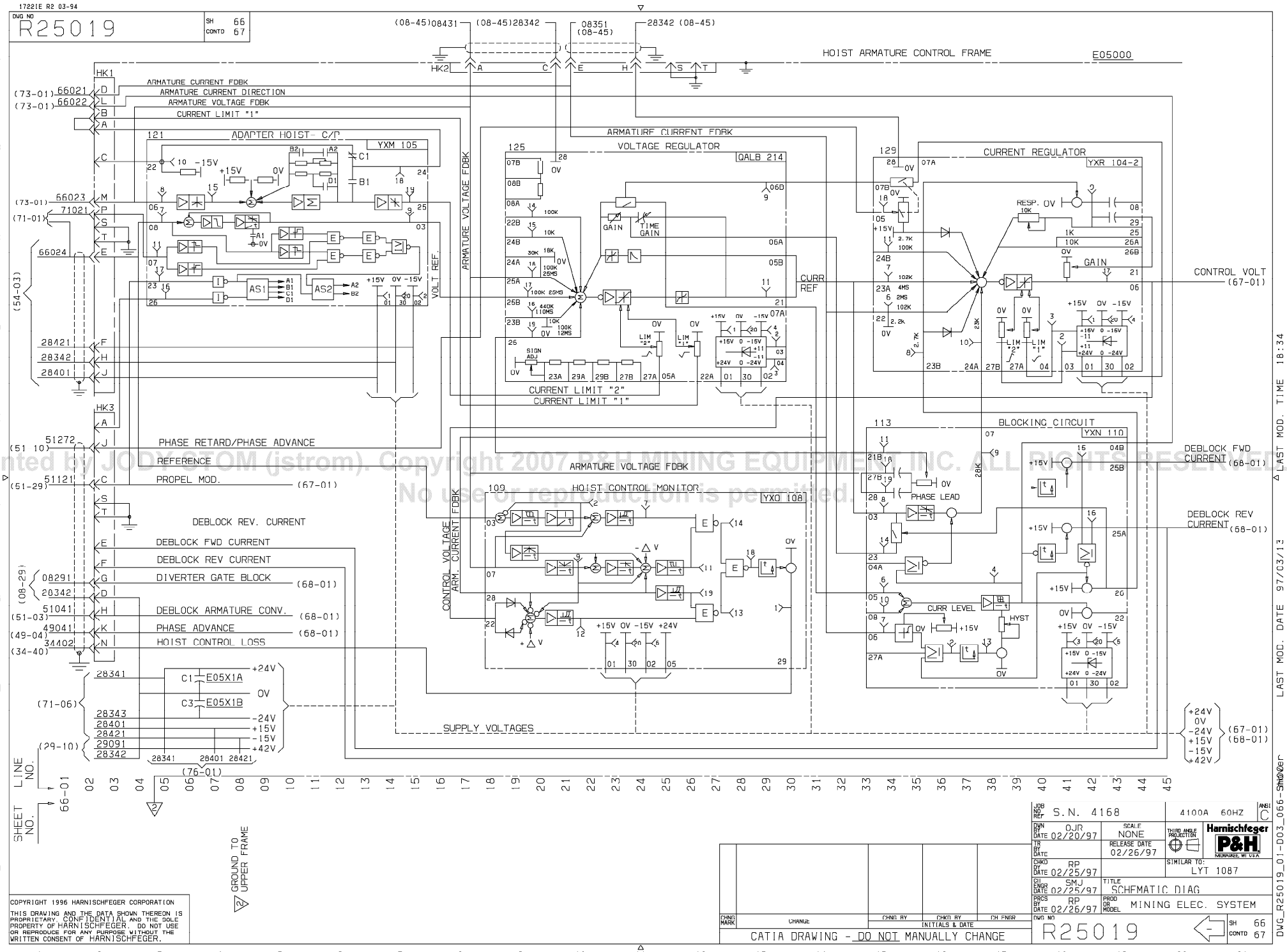

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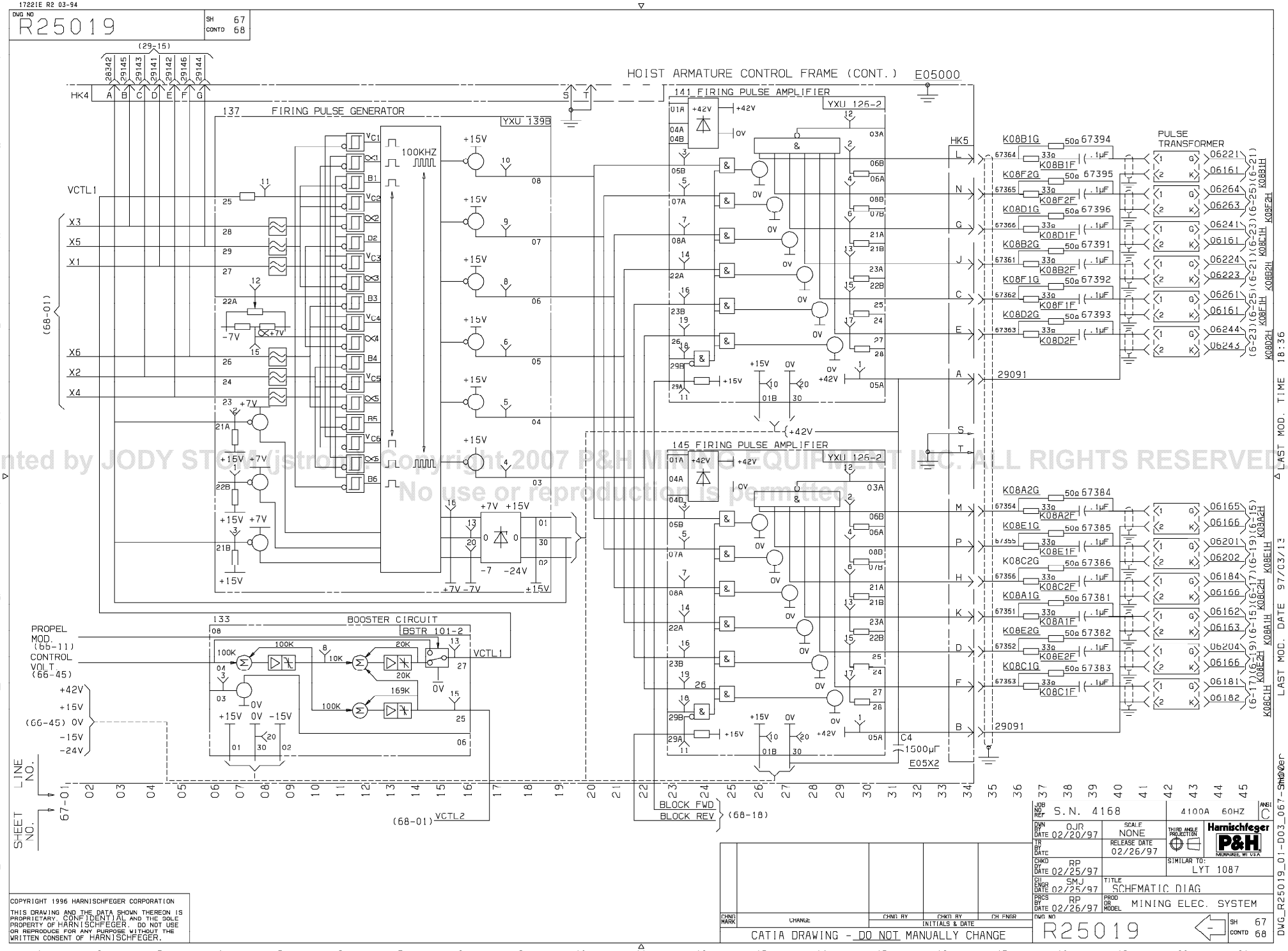

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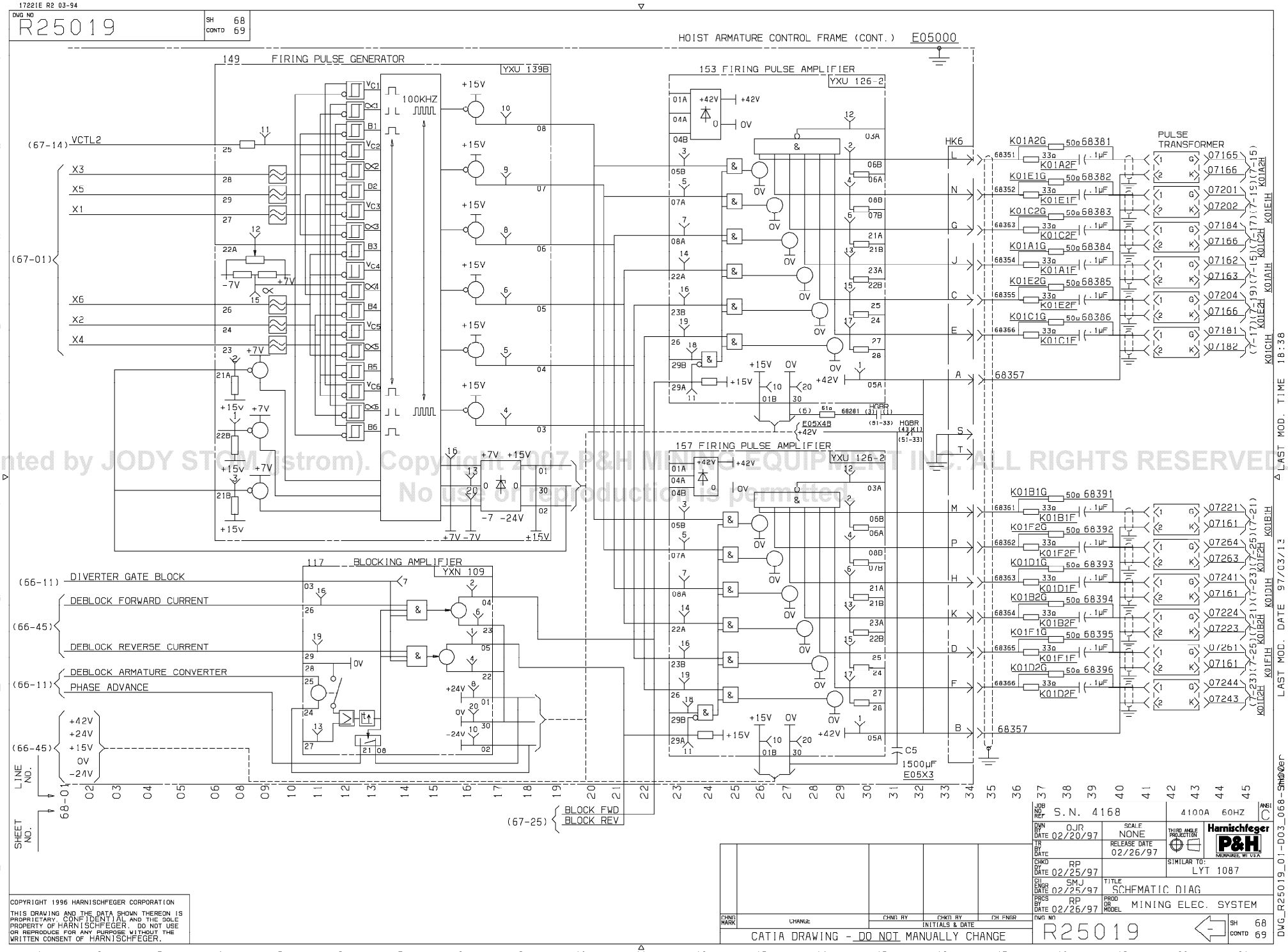

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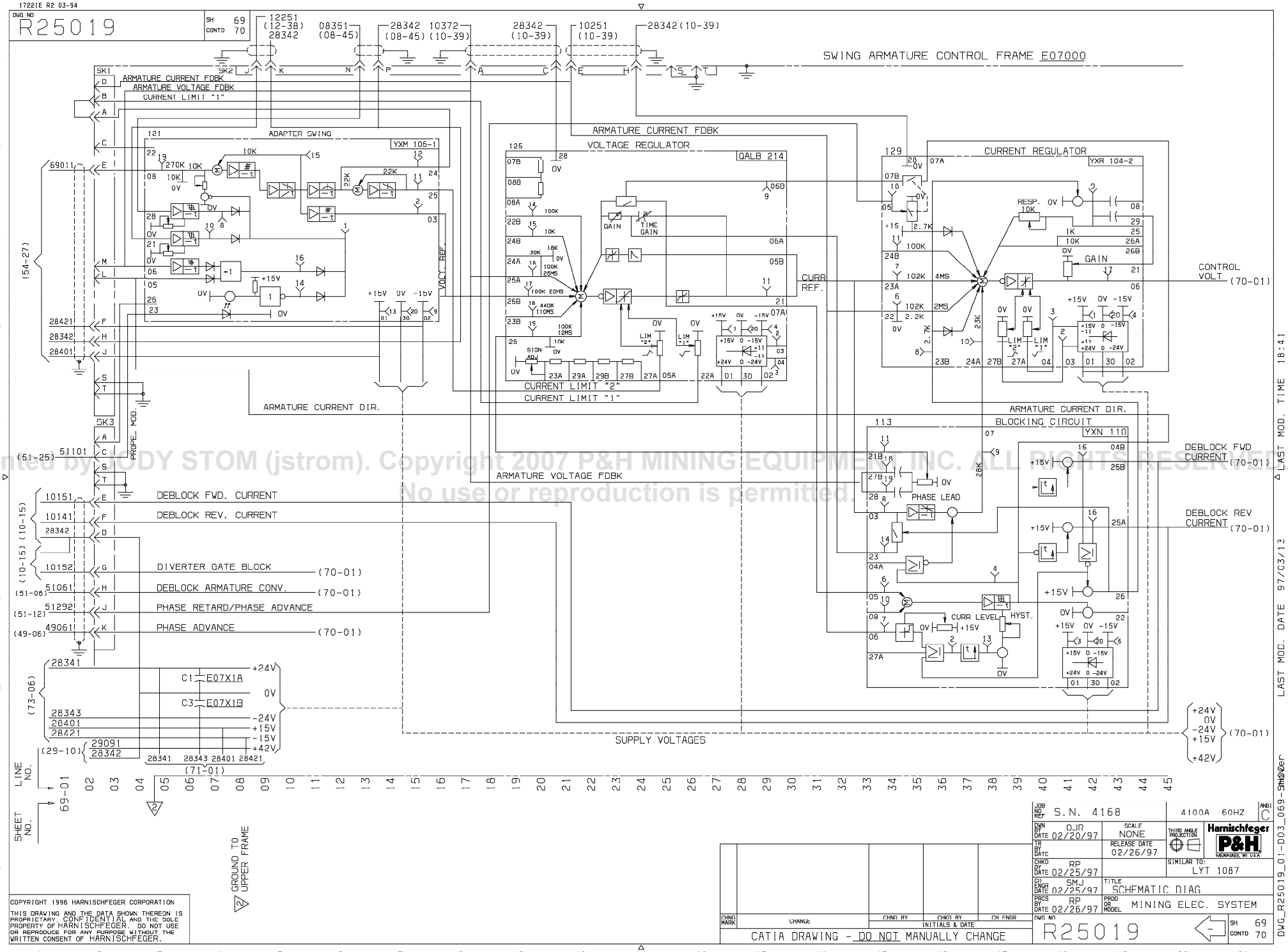

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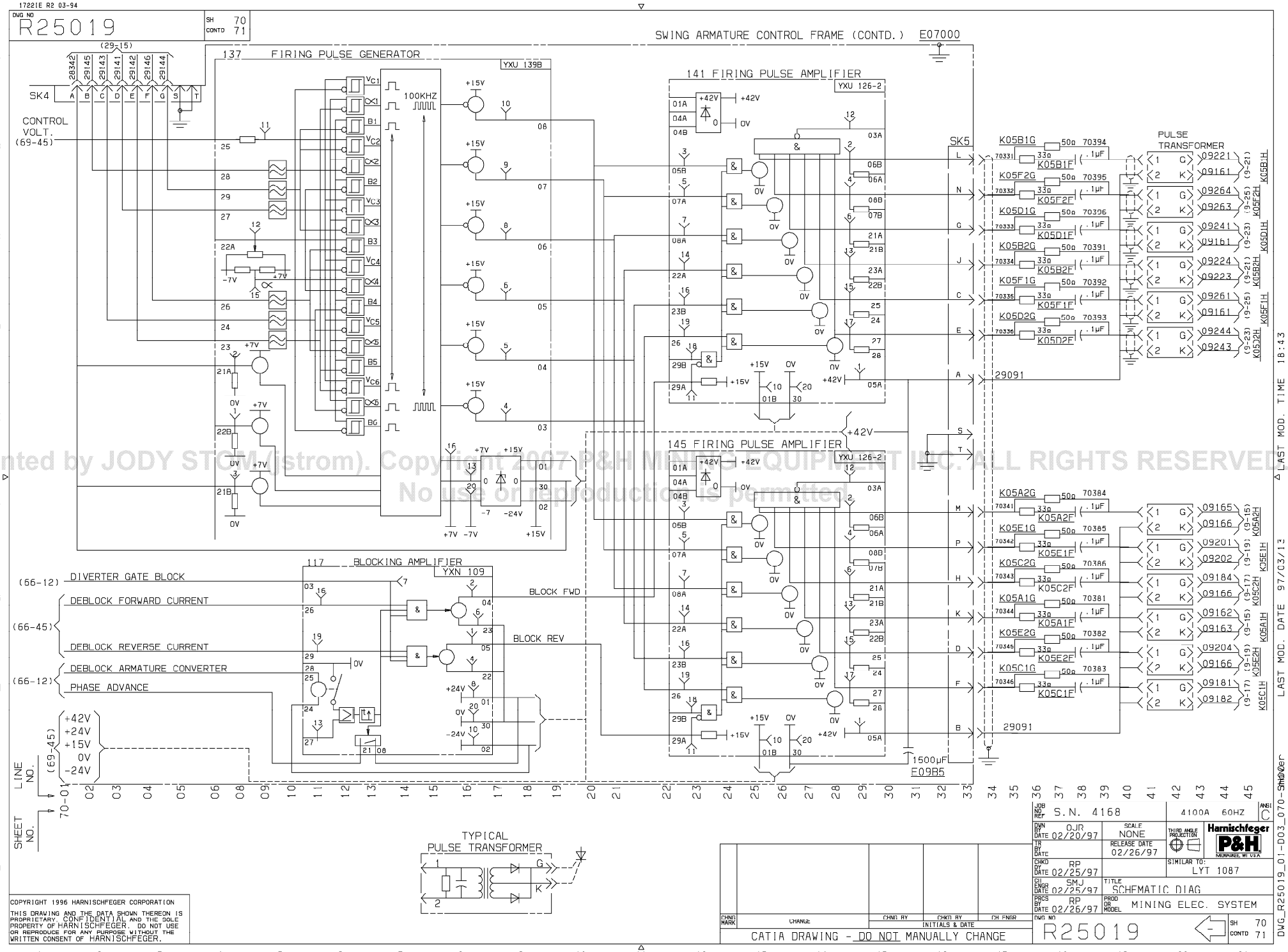

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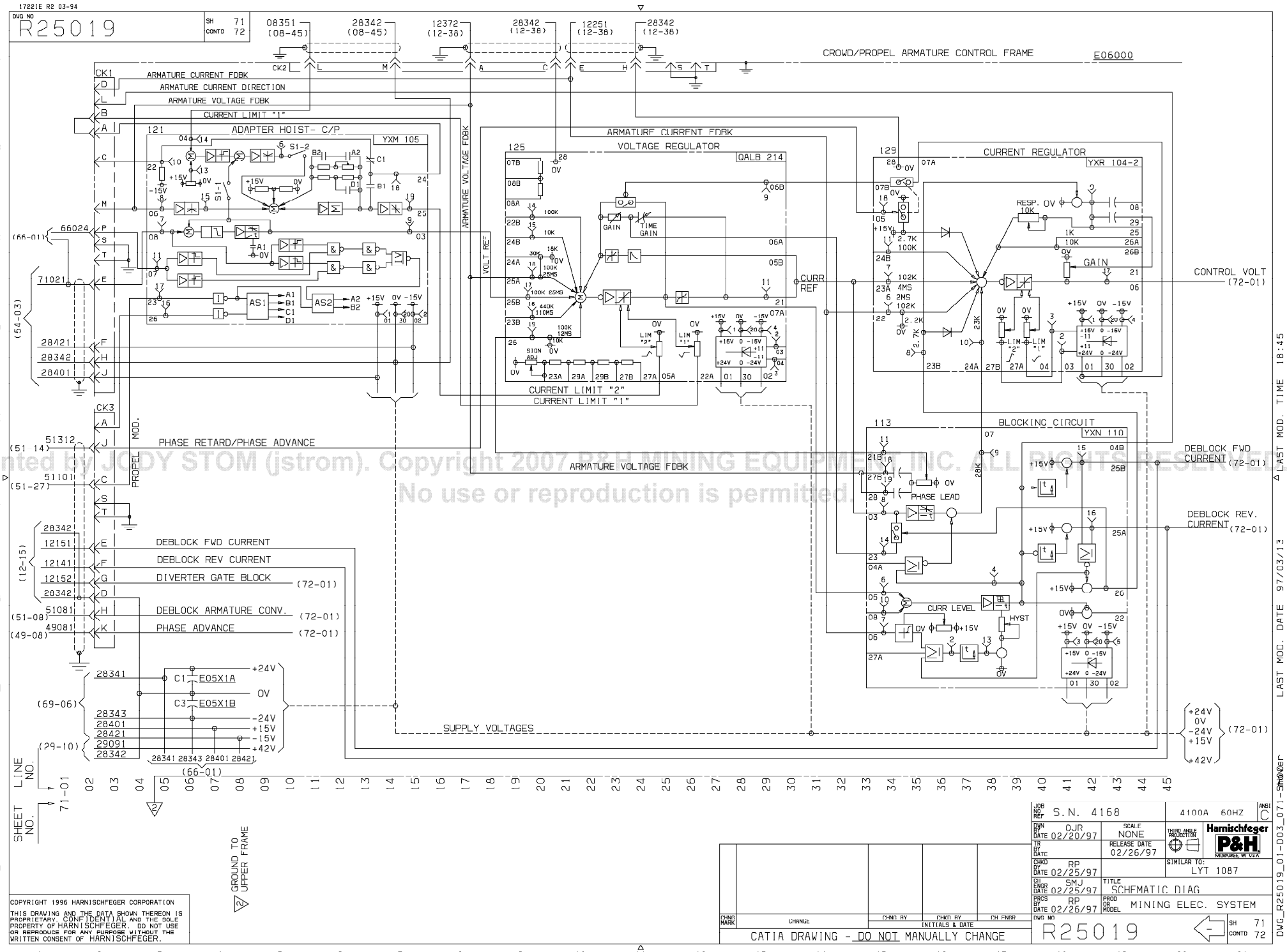

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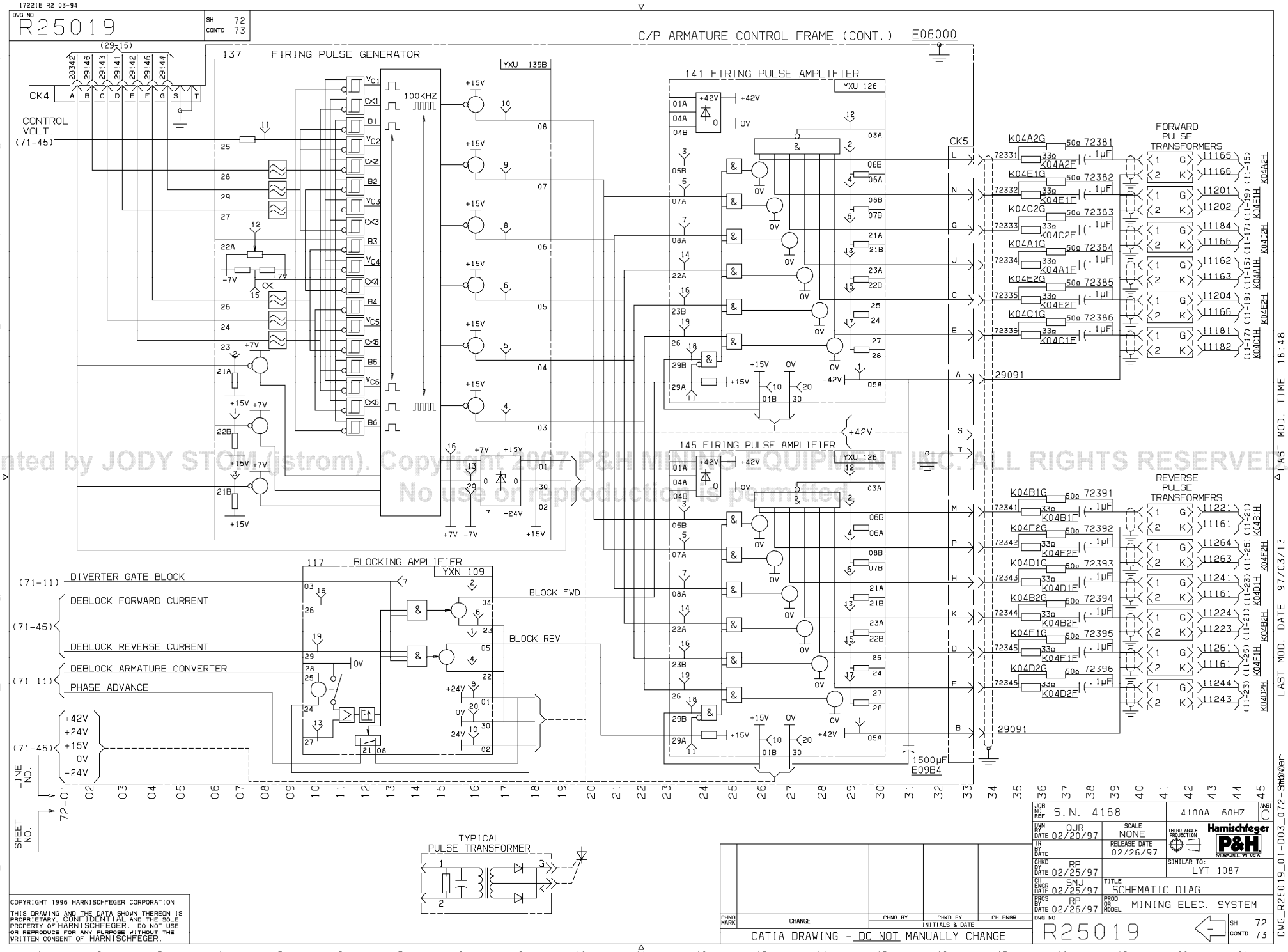

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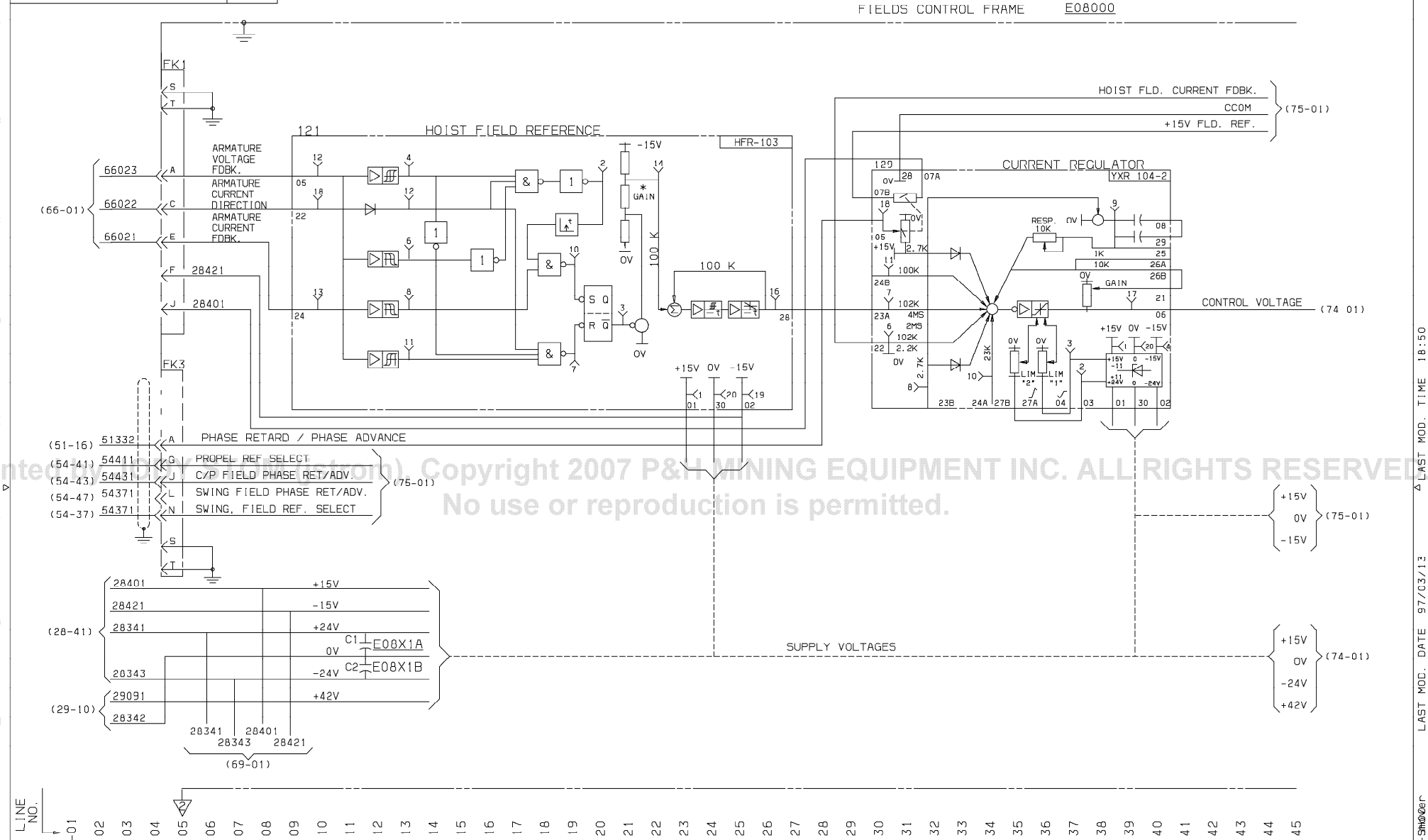

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* HOIST FIELD REFERENCE (HFR-103)

"GAIN" SWITCH POSITION	1	2	3	4	5	6	7
WEAK/STRONG FLD RATIO	*3	.36	.4	.42	.46	.5	.57

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CHNG MARK | CHANGE | CHNG BY | CHKD BY | CH ENGR | INITIALS & DATE

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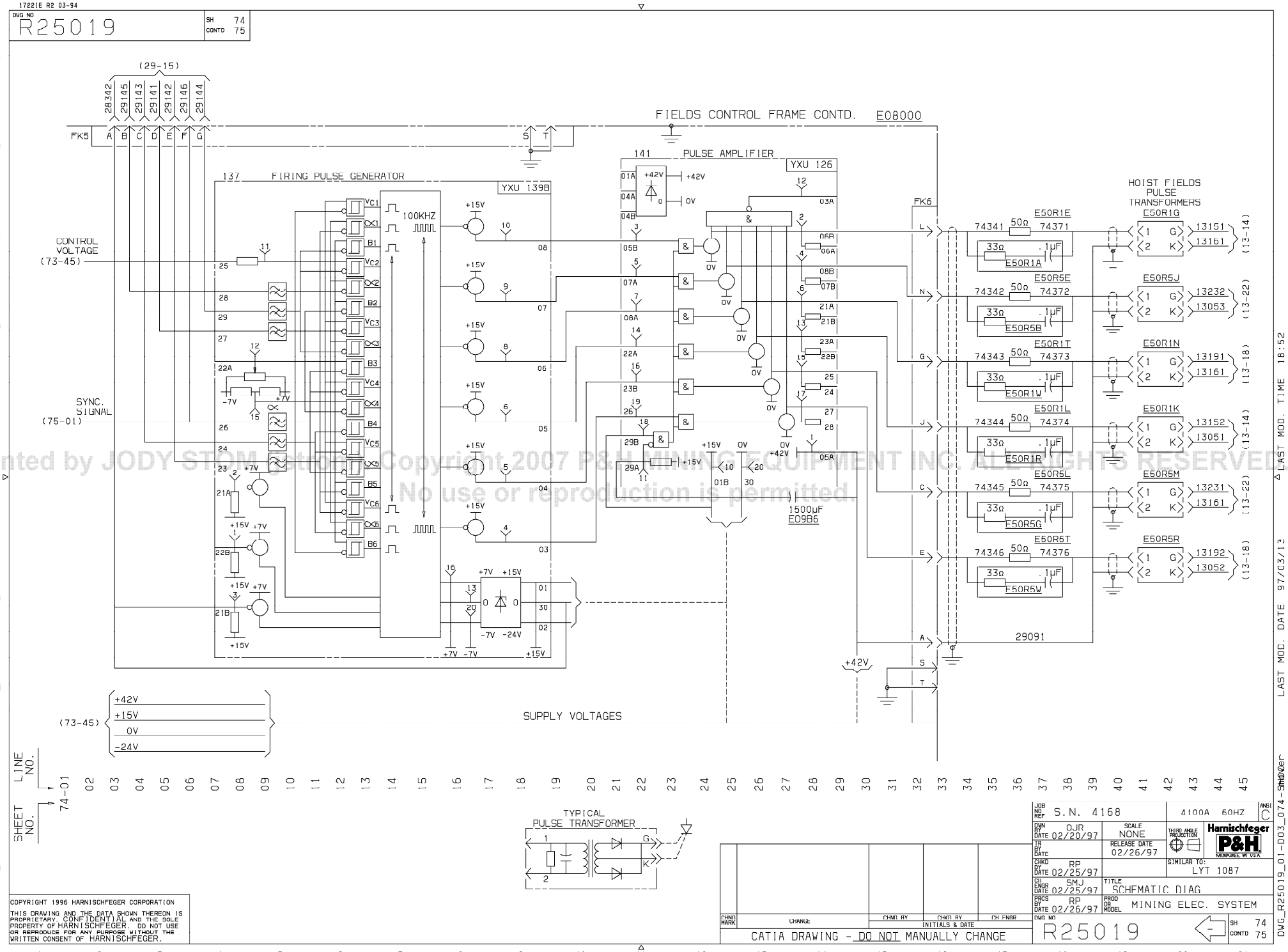
JOB NO REF	S.N. 4168	4100A 60HZ	SIZE C
DWN BY DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PDCS BY DATE	RP 02/26/97	PROD OR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 73 CONTD 74	



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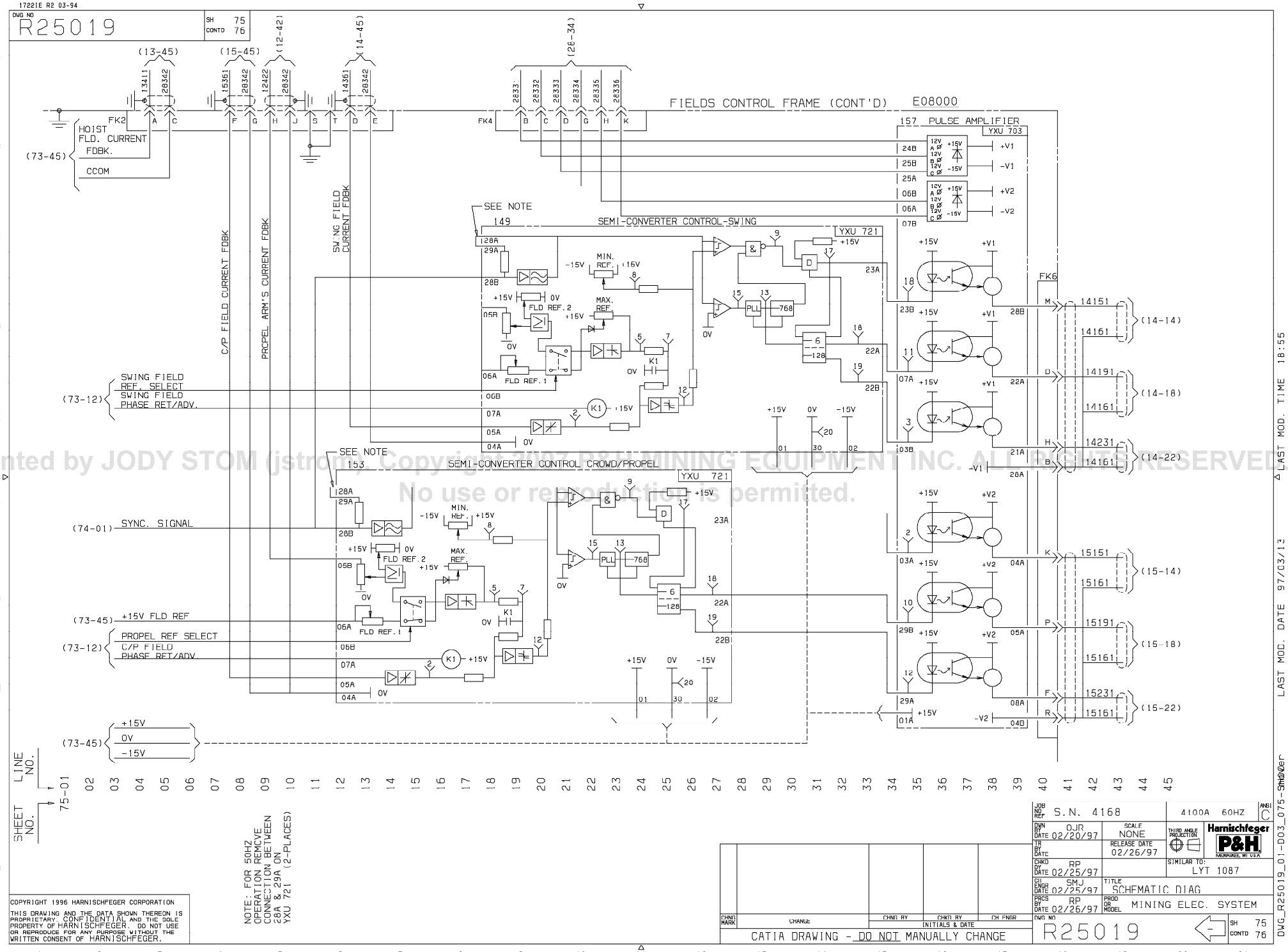

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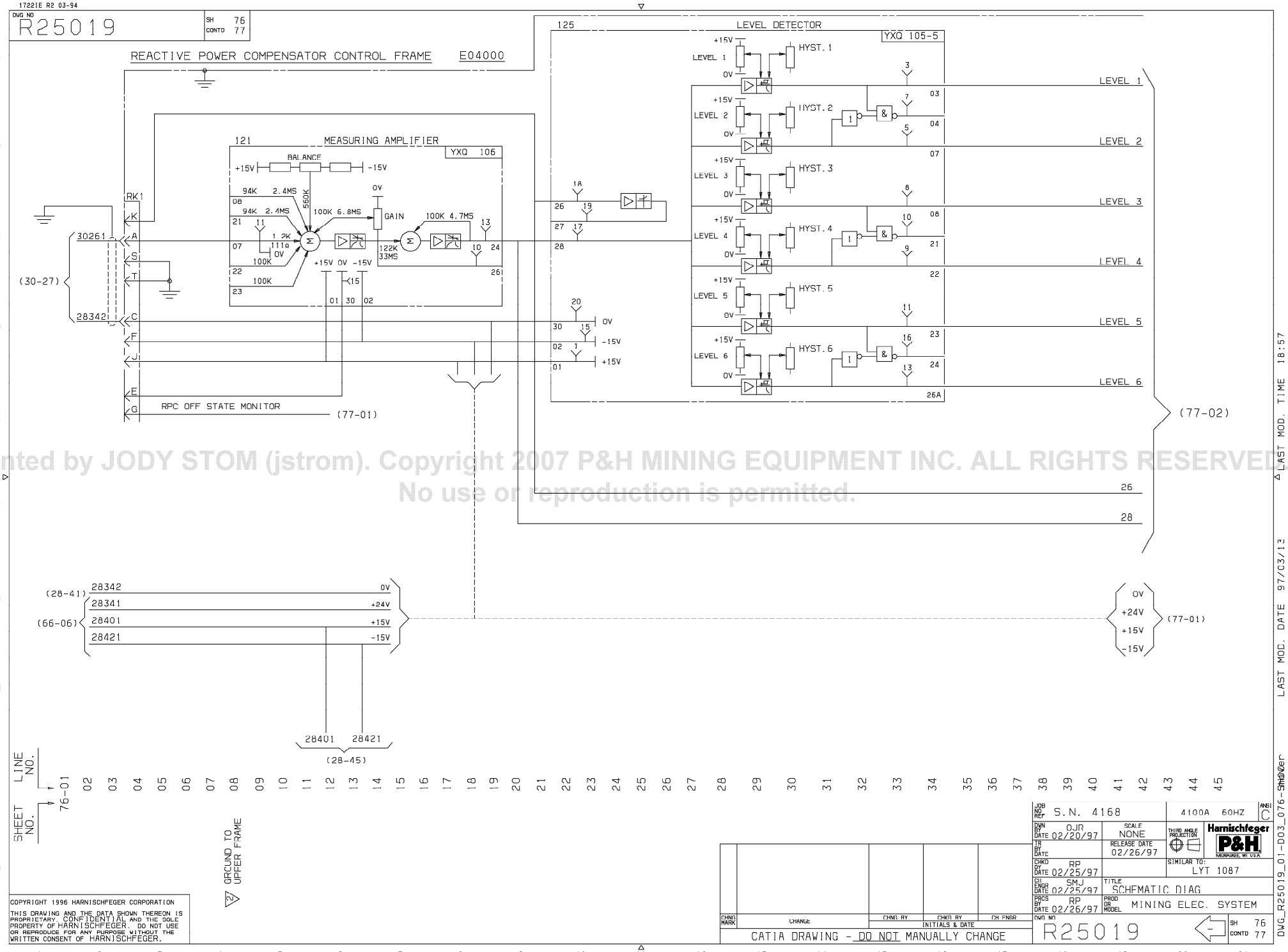

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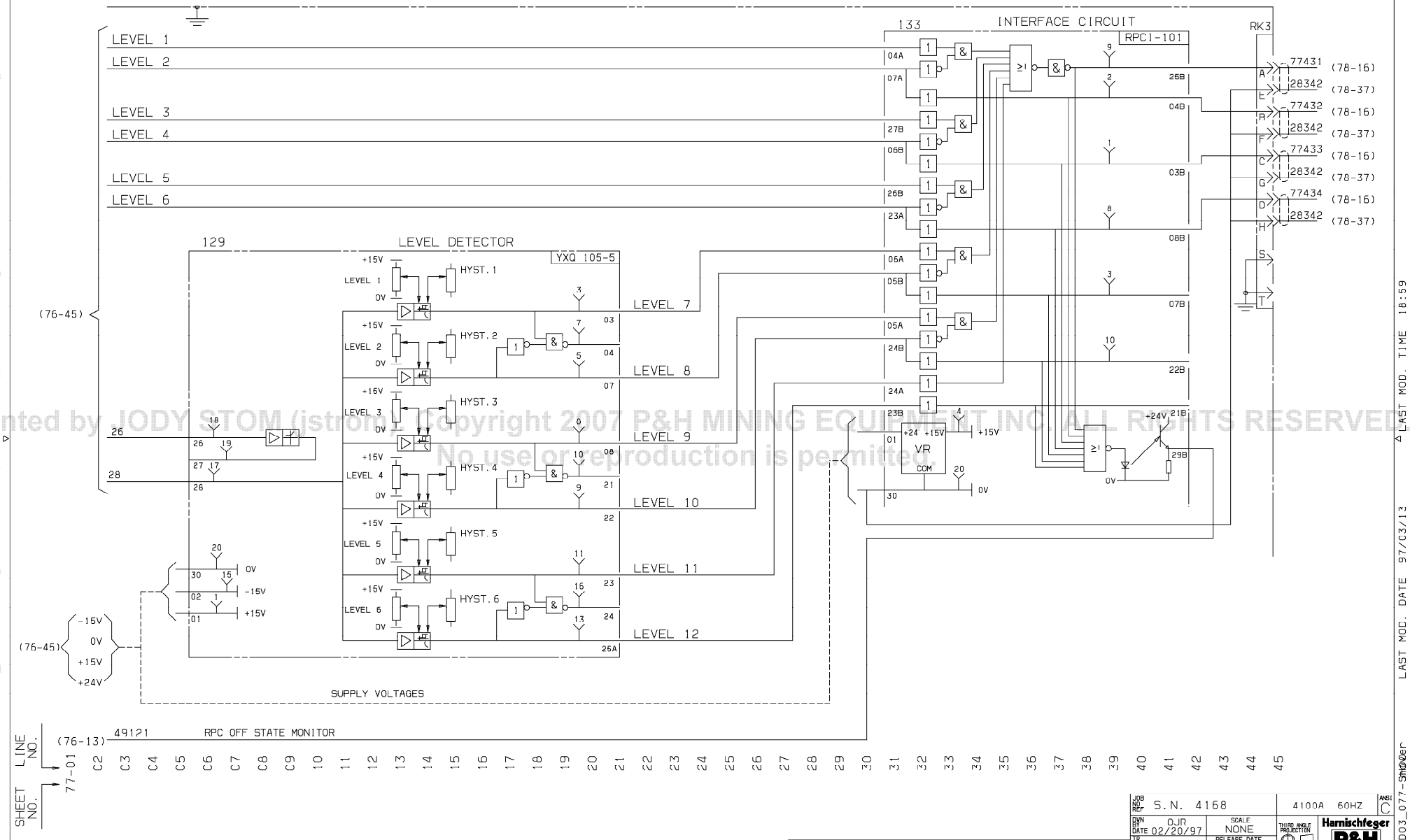
REACTIVE POWER COMPENSATOR CONTROL FRAME (CONT'D)



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LINE NO. 77-01 C2 C3 C4 C5 C6 C7 C8 C9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

SHEET NO.

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DWN BY DATE	OJR 02/20/97	SCALE NONE	THIRD ANGLE PROJECTION
TR BY DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY DATE	RP 02/25/97		SIMILAR TO: LYT 1087
CH ENGR DATE	SMJ 02/25/97	TITLE	SCHEMATIC DIAG
PDCS BY DATE	RP 02/26/97	PROD OR MODEL	MINING ELEC. SYSTEM
DWG NO	R25019		SH 77 CONTD 78

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		INITIALS & DATE		

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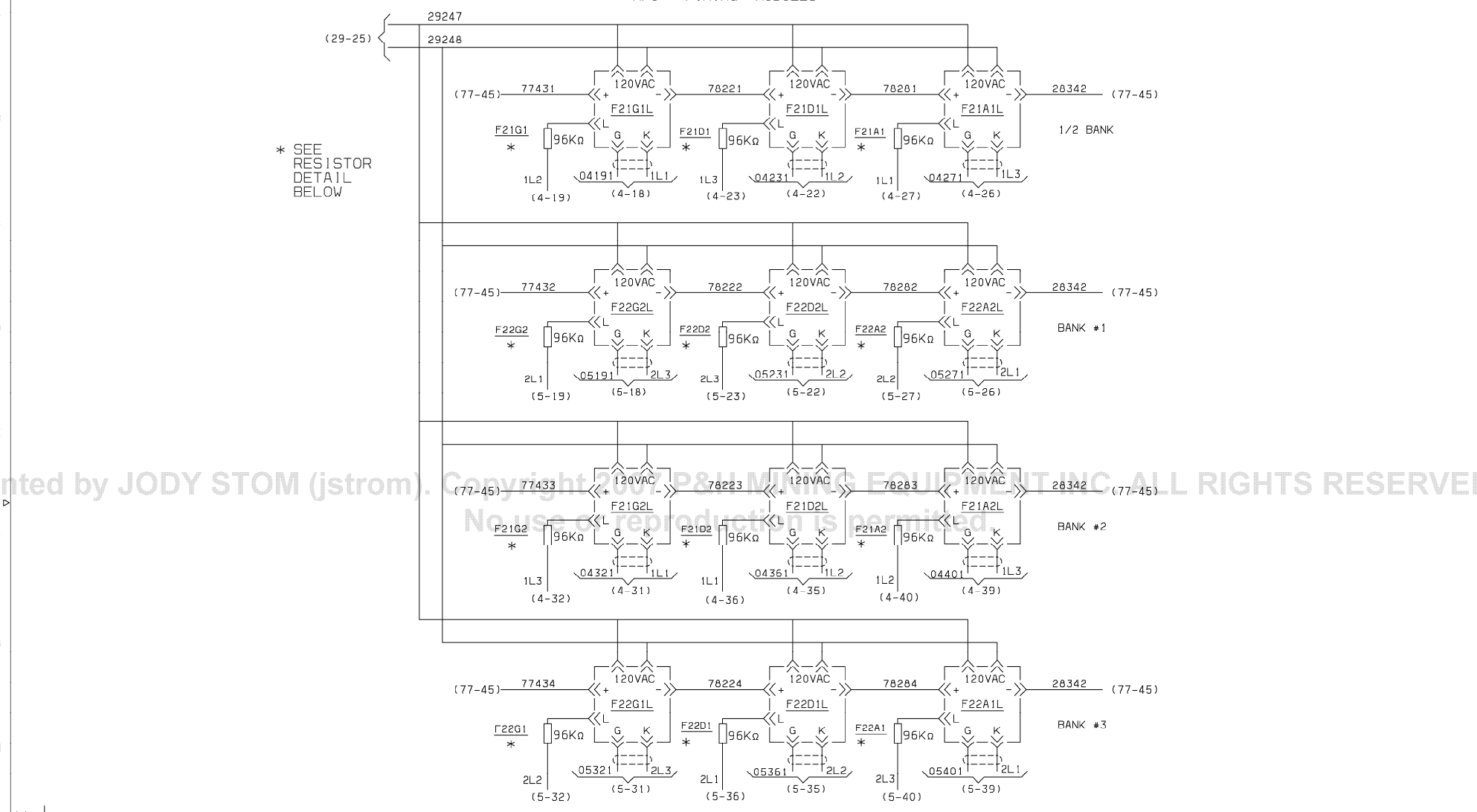
DWG NO R25019 | SH 78 | CONTD --

RPC FIRING MODULES



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TR BY / DATE		RELEASE DATE 02/26/97	Harnischfeger P&H MILWAUKEE, WI USA
CHKD BY / DATE	RP 02/25/97	SIMILAR TO: LYT 1087	
CH ENGR / DATE	SMJ 02/25/97	TITLE SCHEMATIC DIAG	
PGCS BY / DATE	RP 02/26/97	PROD GR MODEL MINING ELEC. SYSTEM	
DWG NO	R25019	SH 78 CONTD --	

CHNG MARK	CHANGE	CHNG BY	CHKD BY	CH ENGR
		INITIALS & DATE		

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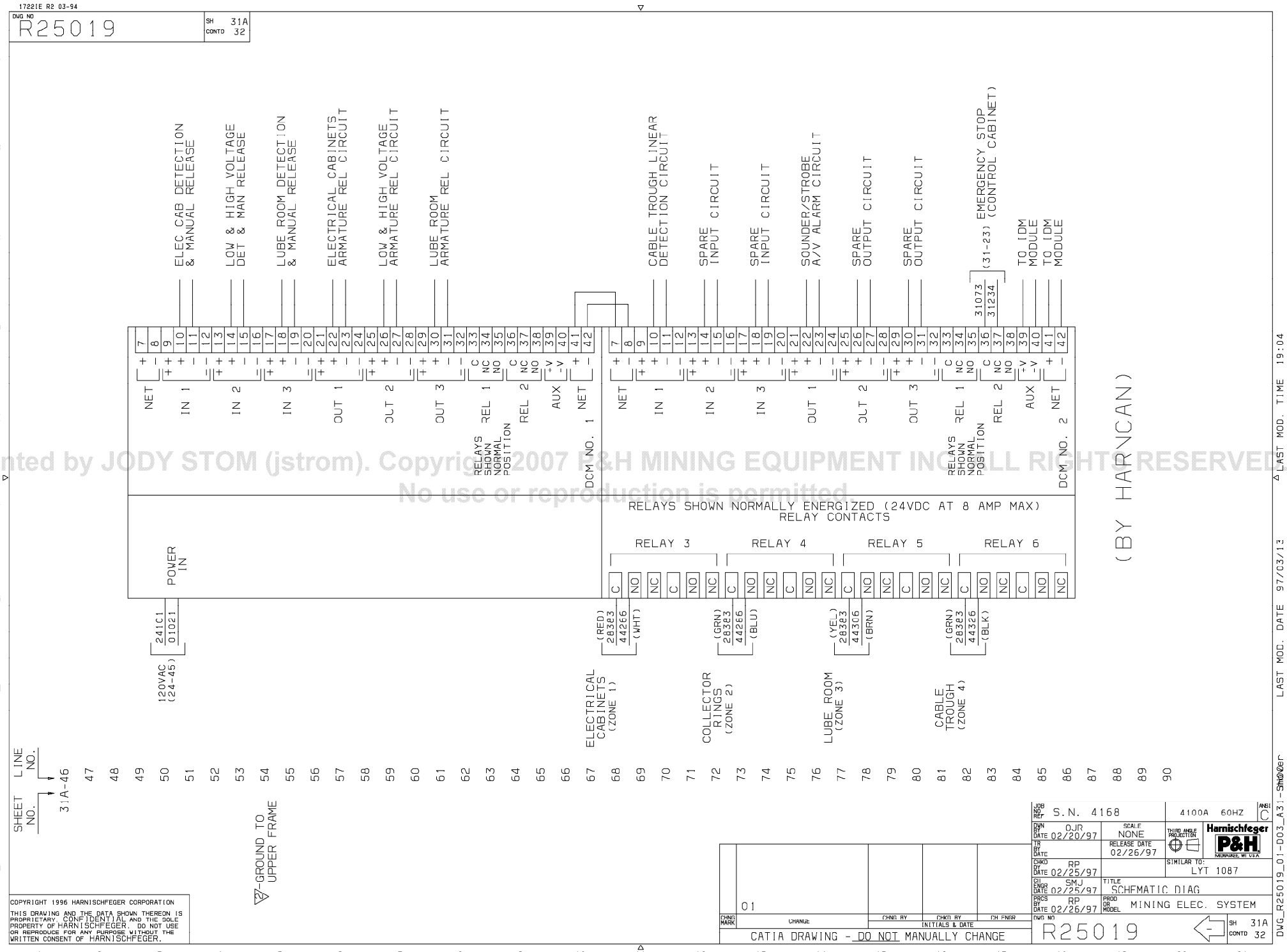
LAST MOD. TIME 19:01 LAST MOD. DATE 97/03/13 DWG_R25019_01-D03_078-Shower

FRAME 1 mars 13,1997 19.01.59 mover



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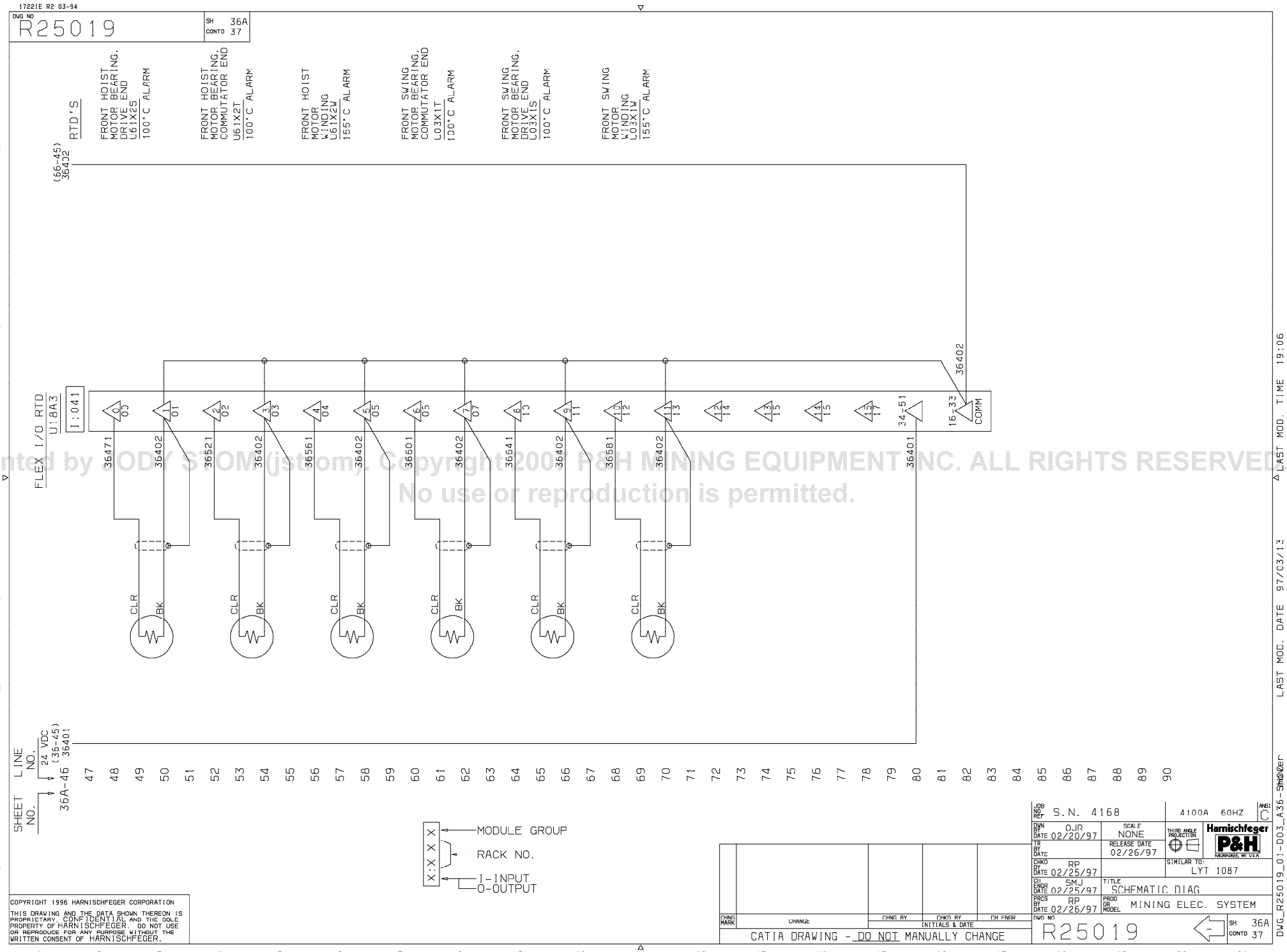

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DWG NO R25019 SH I CONTD II

SCHEMATIC DIAGRAM INDEX

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RECORD OF CHANGES

VER. MARK	CHANGE CODE	KIT NO.	SHEETS AFFECTED	NAME DATE
01	ERN 6439.		1,5,20,21,22,23, 27,28,29,31A,33, 41,45,52,53,54, 55,59	OJR 3/5/97

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FORDING RIVER MINE

JOB NO. S.N. 4168 — 4100A 60HZ — ANSI C

DWN BY OJR DATE 02/20/97 — SCALE NONE — THIRD ANGLE PROJECTION — Harnischfeger P&H MILWAUKEE, WI USA

TR BY DATE — RELEASE DATE 02/26/97

CHKD BY RP DATE 02/25/97 — SIMILAR TO: LYT 1087

CH ENGR SMJ DATE 02/25/97 — TITLE SCHEMATIC DIAG

PDCS BY RP DATE 02/26/97 — PROD OR MODEL MINING ELEC. SYSTEM

DWG NO R25019 — SH I CONTD II

LAST MOD. TIME 19:08 — LAST MOD. DATE 97/03/13 — DWG_R25019_01-D03_01-Shadover

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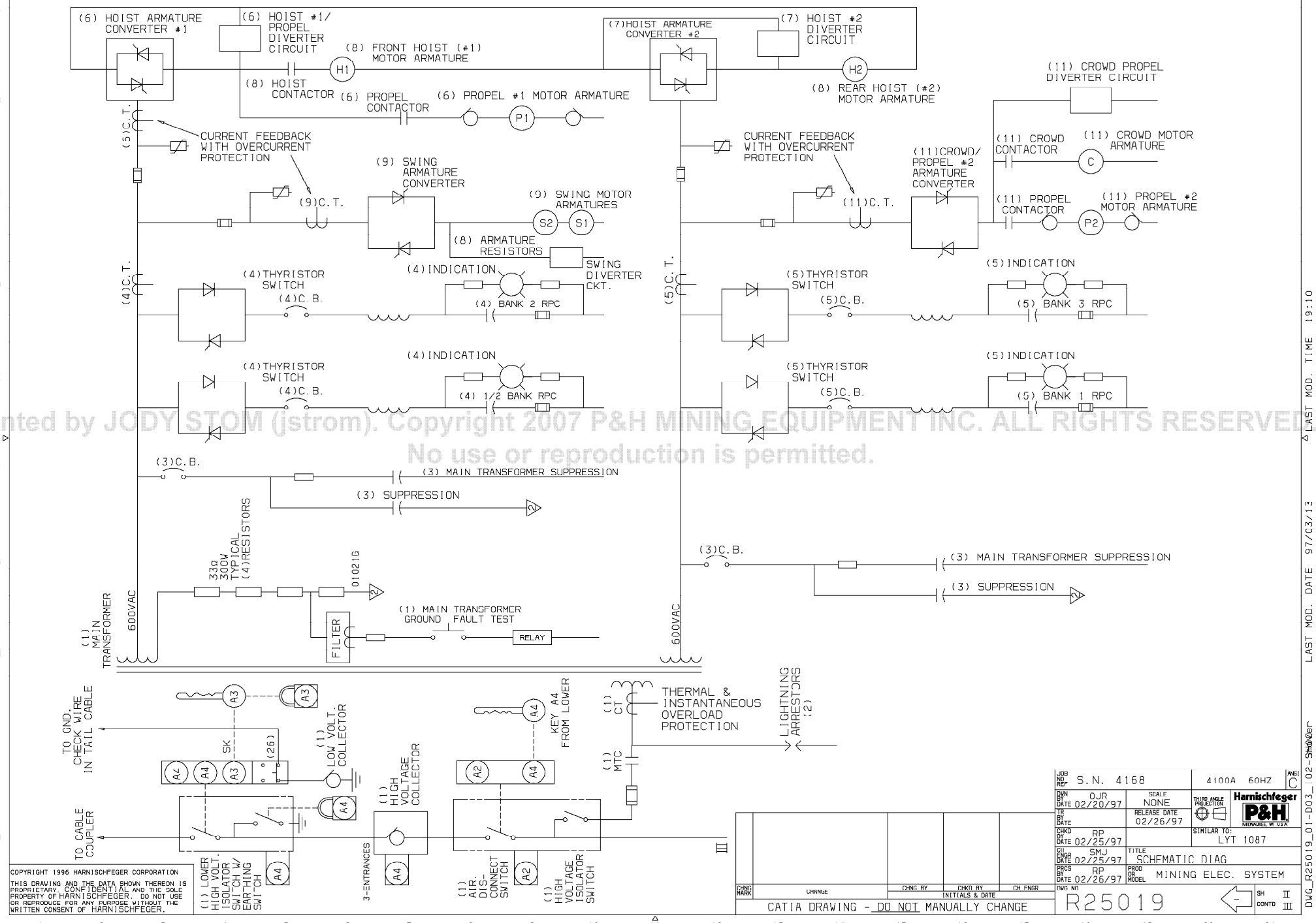
DWG NO R25019 SH II CONTD III



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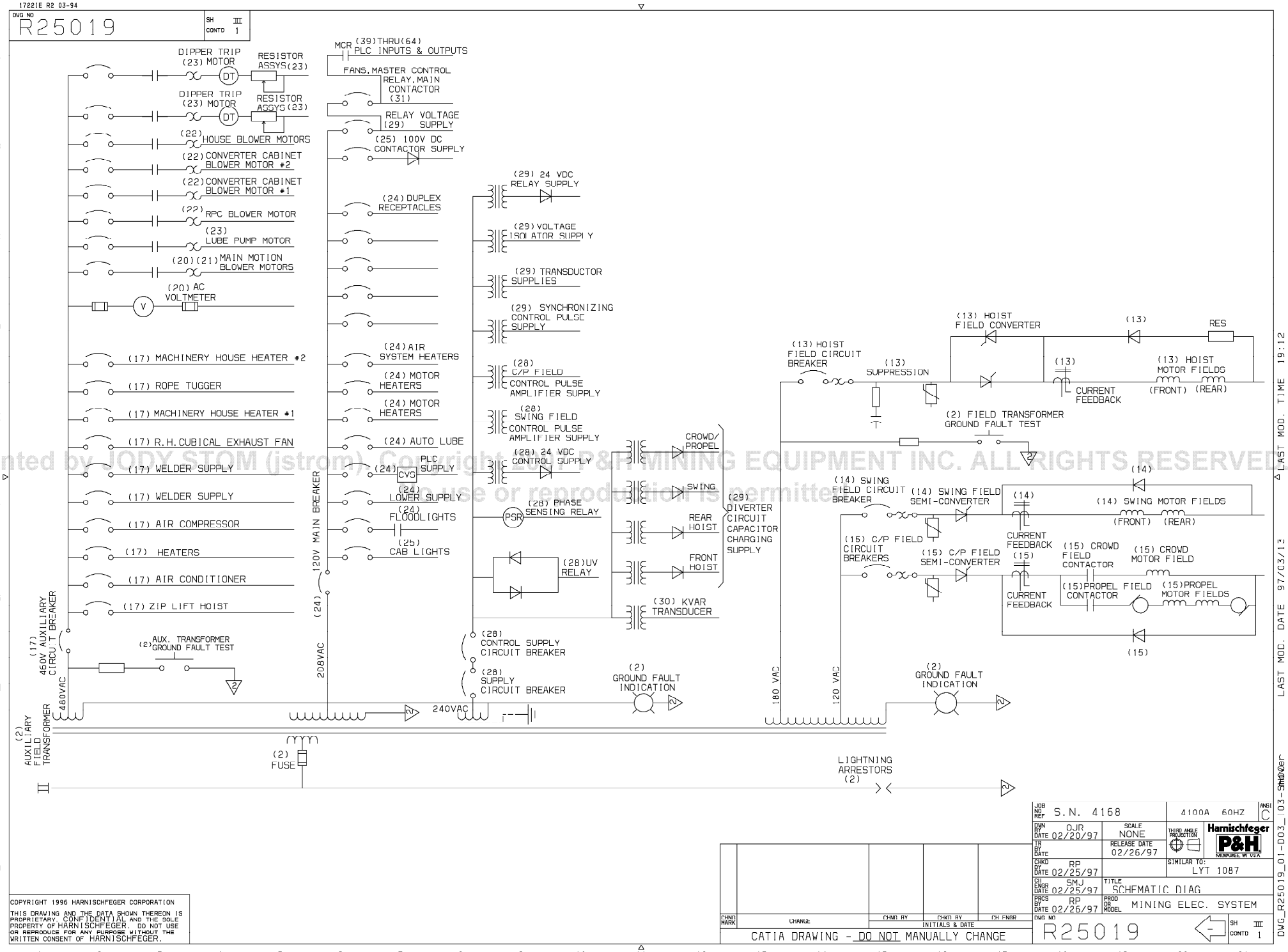

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