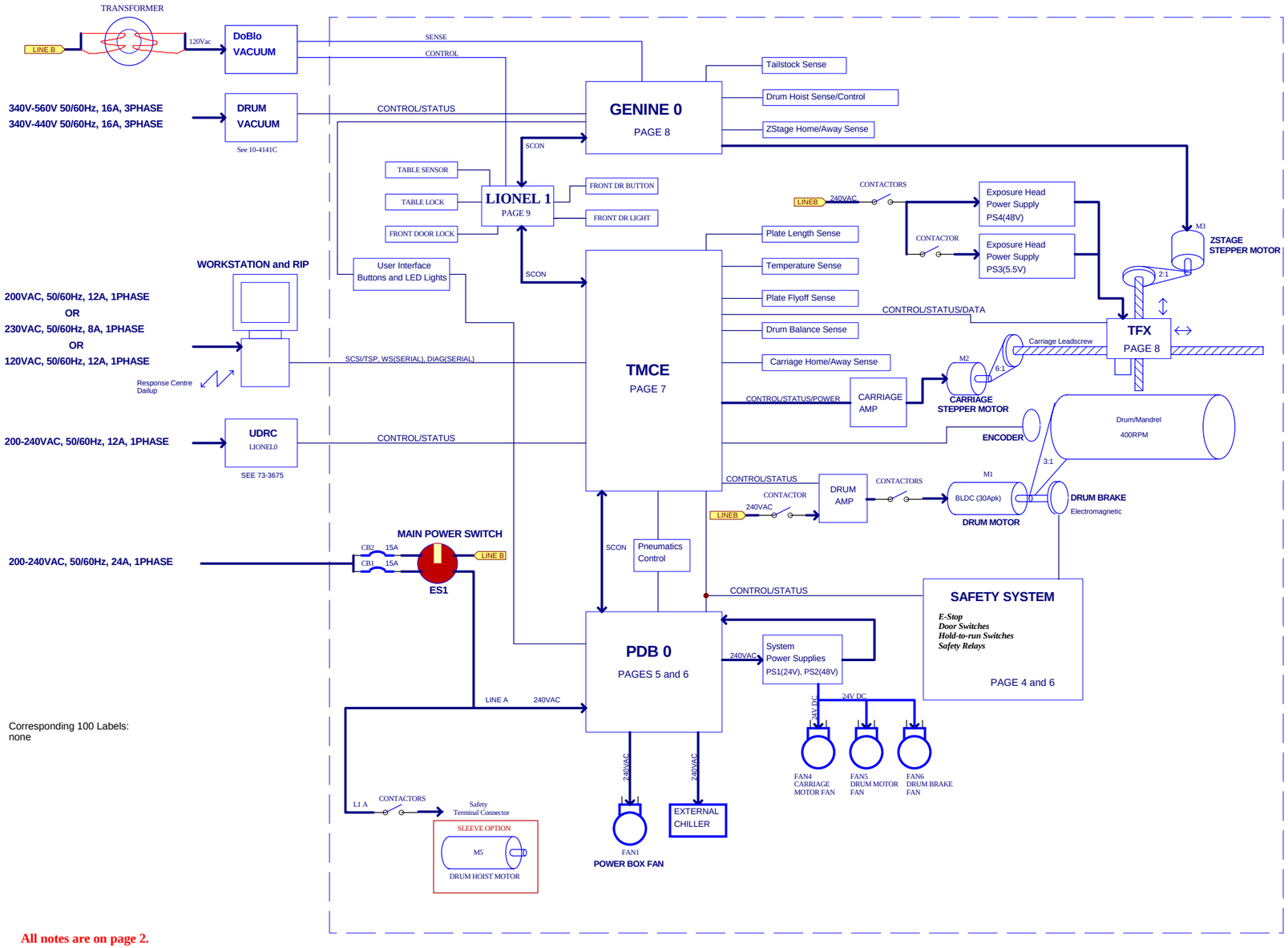
THERMOFLEX II ELECTRICAL SYSTEM BLOCK DIAGRAM



Corresponding 100 Labels:
none

All notes are on page 2.

Thermoflex II Safety Block Diagram
Page02_EP_Safety_Loop_BD.sch
PAGE 2
SAFETY SYSTEM BLOCK DIAGRAM

Thermoflex II TMCE Wiring
Page07_EP_MCE_Wiring.sch
PAGE 7
TURBOMCE WIRING

Thermoflex II Safety Circuit Diagram
Page03_EP_Safety_Loop_Circuit.sch
PAGE 3
SAFETY SYSTEM CIRCUIT DIAGRAM

Thermoflex II GENINE0 Wiring
Page08_EP_GENINE_Wiring.sch
PAGE 8
GENINE0 WIRING

Thermoflex II Safety Control Module Wiring
Page04_EP_SCM_Wiring.sch
PAGE 4
SAFETY CONTROL MODULE(SCM) WIRING

Thermoflex II LIONEL1 Wiring
Page09_EP_LIONEL1_Wiring.sch
PAGE 9
LIONEL1 WIRING

Thermoflex II Safety Loop Wiring
Page05_EP_PDB_Wiring.sch
PAGE 5
PDB0 WIRING (1/2)

Thermoflex II HEAD Wiring
Page10_EP_HEAD_Wiring.sch
PAGE 10
EXPOSURE HEAD WIRING

Thermoflex II PDB Wiring
Page06_EP_Safety_Loop_Wiring.sch
PAGE 6
PDB0 WIRING (2/2) SAFETY SYSTEM WIRING

Thermoflex II DRUM AMP & MOTOR Wiring
Page11_EP_DM-AMP_Wiring.sch
PAGE 11
DRUM AMP & MOTOR WIRING

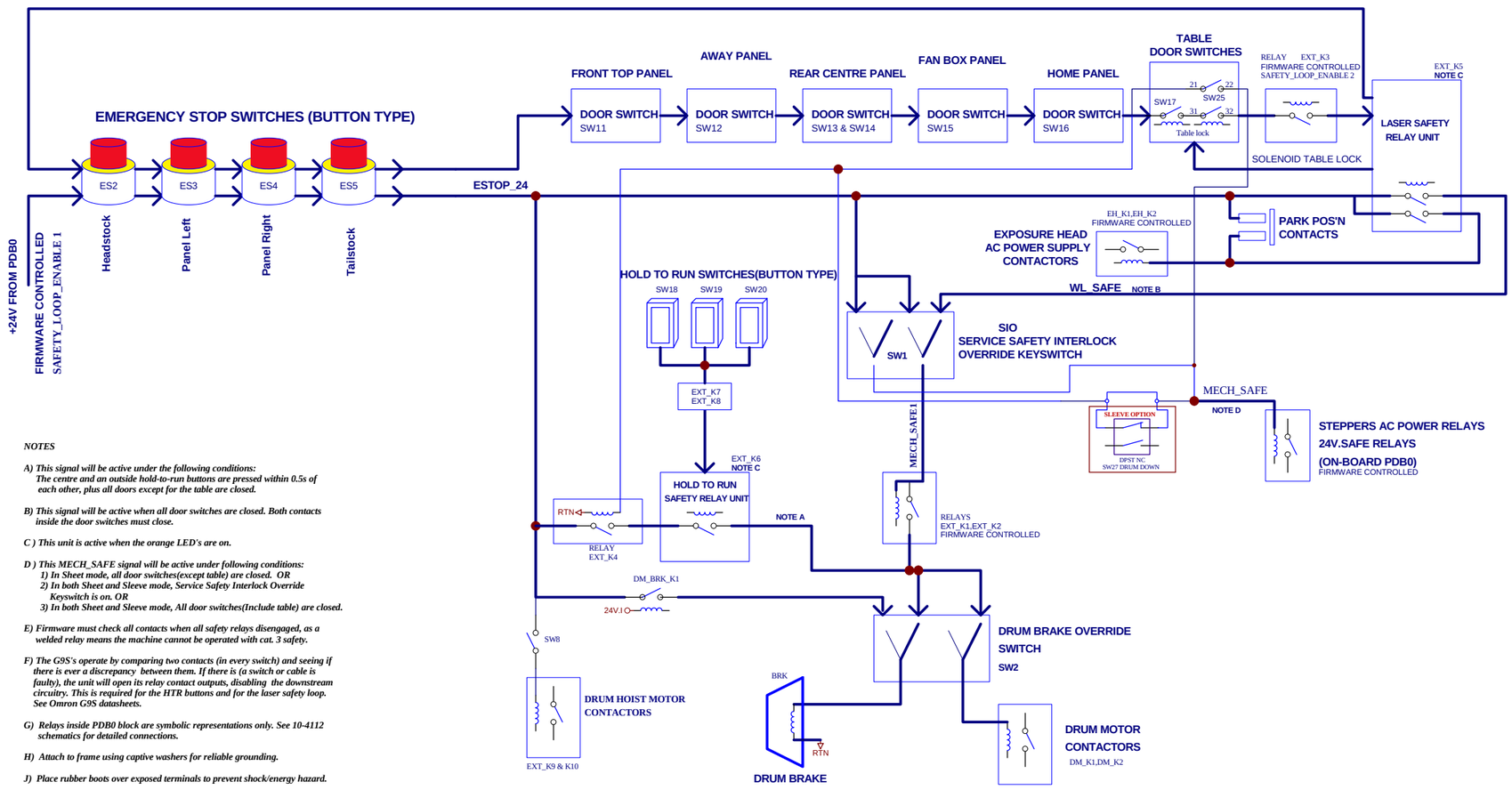
creo

THERMOFLEX II SYSTEM BLOCK DIAG.

C:\Sleeve_EP_Doblo_Wiring.ddb - Documents\Page01_EP_Wiring_Diagram.prj

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
J. MALM	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
J. MALM	M. ZHANG	B.DALL
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
DEC 04 2001	AUG. 9, 2004	1 of 11

THERMOFLEX II SAFETY SYSTEM BLOCK DIAGRAM



NOTES

A) This signal will be active under the following conditions:
The centre and an outside hold-to-run buttons are pressed within 0.5s of each other, plus all doors except for the table are closed.

B) This signal will be active when all door switches are closed. Both contacts inside the door switches must close.

C) This unit is active when the orange LED's are on.

D) This MECH_SAFE signal will be active under following conditions:
1) In Sheet mode, all door switches(except table) are closed. OR
2) In both Sheet and Sleeve mode, Service Safety Interlock Override Keyswitch is on. OR
3) In both Sheet and Sleeve mode, All door switches(Include table) are closed.

E) Firmware must check all contacts when all safety relays disengaged, as a welded relay means the machine cannot be operated with cat. 3 safety.

F) The G9S's operate by comparing two contacts (in every switch) and seeing if there is ever a discrepancy between them. If there is (a switch or cable is faulty), the unit will open its relay contact outputs, disabling the downstream circuitry. This is required for the HTR buttons and for the laser safety loop. See Omron G9S datasheets.

G) Relays inside PDB0 block are symbolic representations only. See 10-4112 schematics for detailed connections.

H) Attach to frame using captive washers for reliable grounding.

J) Place rubber boots over exposed terminals to prevent shock/energy hazard.

K) Service Override Tool 15-3526

L) Both PS1 and PS2 are adjustable power supplies(Creo Part # 13-5094), make sure PS1 is set at 24V and PS2 is set at 48V, before put them into machine's Power Box and make connections.

M) TFX logic power is on the WL safety loop because of the focus laser.

N) Unused connector blocked with mating connector secured with tie-ups.

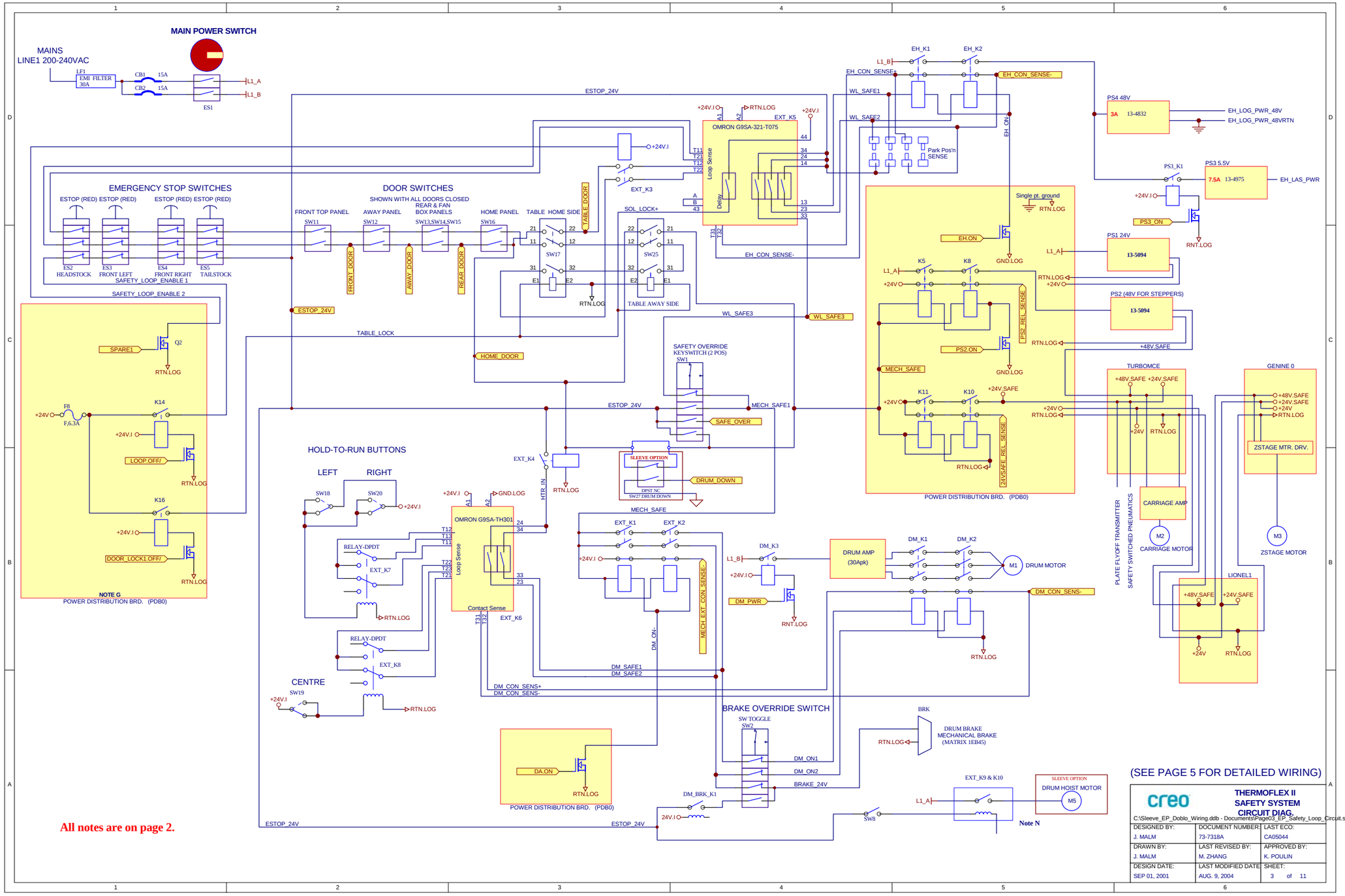
(SEE PAGE 5 FOR DETAILED WIRING)

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THERMOFLEX II
SAFETY SYSTEM
BLOCK DIAG.

C:\Sleeve_EP_Doblo_Wiring.ddb - Documents\Page02_EP_Safety_Loop_BD.sch

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
J. MALM	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
J. MALM	M. ZHANG	K. POULIN
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
DEC 04 2001	AUG. 9, 2004	2 of 11


MAIN POWER SWITCH
MAINS
LINE1 200-240VAC
LF1
EMI FILTER
30A
CB1 15A
CB2 15A
L1_A
L1_B
ES1
ESTOP_24V
EMERGENCY STOP SWITCHES
ESTOP (RED) ESTOP (RED)
ESTOP (RED) ESTOP (RED)
ES2 HEADSTOCK
ES3 FRONT LEFT
ES4 FRONT RIGHT
ES5 TAILSTOCK
SAFETY_LOOP_ENABLE 1
SAFETY_LOOP_ENABLE 2
DOOR SWITCHES
SHOWN WITH ALL DOORS CLOSED
REAR & FAN BOX PANELS
FRONT TOP PANEL
AWAY PANEL
HOME PANEL
TABLE HOME SIDE
SW11
SW12
SW13,SW14,SW15
SW16
TABLE_DOOR
FRONT_DOOR
AWAY_DOOR
REAR_DOOR
SW17
SW25
TABLE AWAY SIDE
RTN.LOG
SOL_LOCK+
EXT_K3
+24V.I
RTN.LOG
EXT_K5
OMRON G9SA-321-T075
Loop Sense
Delay
Park Pos'n SENSE
EH_K1
EH_K2
L1_B
EH_CON_SENSE
EH_CON_SENSE-
WL_SAFE1
WL_SAFE2
EH_ON
Single pt. ground
RTN.LOG
EH.ON
GND.LOG
PS4 48V
3A 13-4832
EH_LOG_PWR_48V
EH_LOG_PWR_48VRTN
PS3_K1
PS3 5.5V
7.5A 13-4975
EH_LAS_PWR
PS3_ON
RNT.LOG
PS1 24V
13-5094
L1_A
RTN.LOG
+24V
K5
K8
PS2 (48V FOR STEPPERS)
13-5094
PS2_REL_SENSE
PS2.ON
+48V.SAFE
MECH_SAFE
K11
K10
+24V.SAFE
24VSAFE_REL_SENSE
POWER DISTRIBUTION BRD. (PDB0)
TURBOMCE
+48V.SAFE +24V.SAFE
GENINE 0
+48V.SAFE
+24V.SAFE
+24V
RTN.LOG
ZSTAGE MTR. DRV.
M3
ZSTAGE MOTOR
CARRIAGE AMP
M2
CARRIAGE MOTOR
PLATE FLY/OFF TRANSMITTER
SAFETY SWITCHED PNEUMATICS
LIONEL1
+48V.SAFE
+24V.SAFE
+24V
RTN.LOG
SAFETY OVERRIDE KEYSWITCH (2 POS)
SW1
SAFE_OVER
MECH_SAFE1
WL_SAFE3
TABLE_LOCK
HOME_DOOR
SPARE1
Q2
F8
F,6.3A
K14
LOOP.OFF/
K16
DOOR_LOCK1.OFF/
NOTE G
POWER DISTRIBUTION BRD. (PDB0)
HOLD-TO-RUN BUTTONS
LEFT
RIGHT
SW18
SW20
CENTRE
SW19
RELAY-DPDT
EXT_K7
EXT_K8
EXT_K4
HTR_IN
SLEEVE OPTION
DPST NC
SW27 DRUM DOWN
DRUM_DOWN
OMRON G9SA-TH301
Contact Sense
EXT_K6
GND.LOG
MECH_SAFE
EXT_K1
EXT_K2
DM_ON-
MECH_EXT_CON_SENSE-
DM_K3
DM_PWR
DRUM AMP
(30Apk)
DM_K1
DM_K2
M1
DRUM MOTOR
DM_CON_SENS-
DM_SAFE1
DM_SAFE2
DM_CON_SENS+
BRAKE OVERRIDE SWITCH
SW TOGGLE
SW2
DM_ON1
DM_ON2
BRAKE_24V
BRK
DRUM BRAKE
MECHANICAL BRAKE
(MATRIX 1EB45)
DA.ON
DM_BRK_K1
24V.I
SW8
EXT_K9 & K10
SLEEVE OPTION
DRUM HOIST MOTOR
M5
Note N
(SEE PAGE 5 FOR DETAILED WIRING)
All notes are on page 2.
creo
THERMOFLEX II
SAFETY SYSTEM
CIRCUIT DIAG.
C:\Sleeve_EP_Doblo_Wiring.ddb - Documents\Page03_EP_Safety_Loop_Circuit.sch
DESIGNED BY: J. MALM
DOCUMENT NUMBER: 73-7318A
LAST ECO: CA05044
DRAWN BY: J. MALM
LAST REVISED BY: M. ZHANG
APPROVED BY: K. POULIN
DESIGN DATE: SEP 01, 2001
LAST MODIFIED DATE: AUG. 9, 2004
SHEET: 3 of 11

SELV
NON-SELV

SLEEVE OPTION--EXTERNAL, PRODUCTION HUB

REC PLUG
PANEL MOUNT
220-00408A
BRN 14 120V
BLU 14 0V
G/Y 14 GND
CB4
182-00019
7A
BRN 14
LF3
162-00003
FILTER
BLK 16
BLK 16
378-00005
VACUUM MOTOR
M6
120Vac
GND
G/Y 14
500-01446A
VACUUM VALVE HUB ASSEMBLY
M6 SCREW ON THE HUB
M6 SCREWS ON THE HUB
220-00565A

CB3
15-3215
6A
BRN 14
RED 18
GND
G/Y 14
BLU 14
TB2
16-3665
ORG 18
GRY 18
BLK 18
WHT 18
VIO 18
BRN 18
T1
13-4726
120V 3
104V 2
0V 1
120V 6
104V 5
0V 4
8 120V
1380VA
7 0V
YEL 14
RED 14
M6 STUD
Transformer Box
YEL 14 120V
RED 14 0V
BLU 14 0V
BRN 14 120V
BLU 14 0V
BRN 14 120V
15-3249
DBL_VAC_K1
Note J
RNT
+24V
DBL_VAC_DRV
[9]
220-00407A

SLEEVE OPTION-- INSIDE FAN BOX

FROM MCE J7 [7]
SCON1
10-5195A
10-9063A
LED BOARD
J1
PLUG
RED 22 +24V
ORG 22
WHT(RED PAIR)22
WHT(ORG PAIR)22
REC/PLUG
GRN
BLU
YEL
220-00134A
TO 10-5175A [8]
10-5167A
TO EXT_K3 [6]
10-4339A
R1 120R
R3 2K
SAT +48SAFE
SAT -48SRTN
SAT -24SAFE
SAT -24SRTN
SAT +24V
CAN_H
CAN_SHIELD
TERM_DET
SAT +24RTN
CHASSIS
BRD_LOC1-
BRD_LOC3-
BRD_LOC2-
BRD_LOC0-
(7) RED 22 +24V1
(9) BLK 22 +24RTN
(1) +24V
(2)GRN LEDS-
(4)
(6)
(8)+24V
(5)
RED 18
GRN 22
BLU LEDS-
YEL LEDS-
RED 22
+24V RED 22
BLU 22
WHT 22
J13
MINIFIT 2X5 CAN
SCON1
J14
MINIFIT 2X8 CAN
SCON2
J37
UMNL2X8
SPARE
+24V RTN
+24V
+48V SAFE
+48V SAFE RTN
J10
MOLEX 1X3
GND
+24V
J6
MOLEX 2X3
GND
+48V
J4
MATE 1X4
Key
10-5205A
+24VRTN BLK 14
+24V RED 14
10-5206A
+48V.SAFE BRN 16
+48V.SAFE.RTN BLK 16
10-5210A
G/Y 14
M6 BOLT
EBOX FRAME
M6 BOLT
POWER SUPPLY TRAY
L1A
L2A/N
GND
BRN OR BLK 14
BLU OR WHT 14
G/Y 14
10-5209A
PS2
POWER SUPPLY
SWITCHED
200-240V
13-5094
(Adjust to 48V)
Notes J, L
48V S
48V R
RED 14
BLK 14
220-00063A
FEED THROUGH
FILTER
10-5208A
PS1
POWER SUPPLY
UNSWITCHED
200-240V
13-5094
(Adjust to 24V)
Notes J,L
24V S
24V R
RED 14
BLK 14
220-00136A
REC PLUG
RED 18
BLK 18
M & L
10-5161A
PLUG REC
RED 22
BLK 22
10-4521A FAN6 15-3382
DRUM BRK FAN
10-4521A
FAN4 15-3382
CARRIAGE MTR FAN
FAN5 376-00001
220-00023A
DRUM MTR FAN
Finger guard 18-3357
PLUG
50-2388A
DEHUMIDIFIER
220-00138A

F/W CTRL
K5,K8
9A Max, Note C
L1A
K4,K7
9A Max, Note C
K2,K3
9A Max, Note C
J5
MATE 1X4
J3
MATE 1X4
PS3
NC
J2
MATE1X5
DA_PWR

VAC FUSE
10-4841A
JUMPER
BLK 14
J43
MATE1X2
K15
SSR
L1A
F/W CTRL
J26
MATE2X3
VACUUM PUMP
J24
MATE3X3
FANS
K13
SSR
J27
L1A
GND
AMPINERGY1X3
AC INPUT
L1A BRN 14
L2A/N BLU 14
GND G/Y 14
10-5170A
BRN 14
BLU 14
G/Y 14
L1A
L2A/N
GND
EXTERNAL CHILLER
518-00369A(NA)
518-00370A(EU)
INLET
PLUG
216-00041
PLUG REC
C20
IEC 320
C19
C20 C19

POWER DISTRIBUTION BOARD 0 (PDB0)
10-4112H
SCON BOARD ADDRESS = 0X10
NOTE G

FAN1 15-3191
POWER BOX
FAN
10-1436A
B2.L1A BLU 18
B2.L2A/N BLK 18
GND G/Y 18
REC PLUG
M & L
10-5264A
BRN 18 L1A
BLU 18 L2A/N
G/Y 18 GND
F/W CTRL
F6
6.3A
L1A
K6,K9
9A Max, Note C
SAFE SPARE
J15
MATE1X5
NC
10-5187A
HOIST [8]
TO HOIST LIMIT
SWITCHES AND GENINEO
HOIST.ON- BLK 22
RED 22
BLK 22
EXT_K9
15-3213
EXT_K10
15-3213
C3
6uF
L1 BLK 14
L1A BLK 14
L2A/N WHT 14
GND GRN 14
RED 14
BLK 14
WHT 14
GRN 14
G/Y MARK
N/C
10-5263A
Back Shell
M&L
2 x 3
PLUG REC
SLEEVE OPTION
220-00038A
RED 16
WHT 16
BLK 16
G/Y 16
M5
DRUM HOIST MOTOR
Back Shell
Note N
NON-SELV (240VAC)
SELV

220-00564A
ATTACHED MAINS
POWER CORD
16-4452
CSA/UL SJT, 12/3AWG
250V, 25A and
VDE/HAR H05VV-F,
3X4.0mm, 250V, 32A
NA PLUG: 16-4560 L6-30P
LOCKING, RATED 30A,
250V
EURO PLUG: 16-4024 IEC
309, RATED 32A, 250V
POWER ENTRY BOX
Line Plug
220-00075A(NA,JP)
OR 220-00203A(EU)
L1 BRN 12
L2/N BLU 12
GND G/Y 12
LF1
30A
13-5176
LOAD1
LOAD2
Notes H, J
G/Y 12
GND
M6 STUD
15-3085 X 2 (Note F)
CB1
CB2
15A
BRN 12
BLU 12
10-5189A
10-5196A
MAIN PWR SWITCH BOX
50-2556A ES1
SW 4POLE ROTARY
NOTE K
BRN 14 T1
BLU 14 T2
BRN 14 T3
BLU 14 T4
L1 L1A
L2
L3
L4
G/Y 14 GND
10-5192A
TB1
L2A/N
L1B
L2B/N
10-5211A
10-5263A
L1A BLK 14
L2A/N WHT 14
GND GRN 14
L1B BRN 14
L2B/N BLU 14
G/Y 14 GND
EH_AC [10] EH_K1.K2
TO DRUM AMP
L1B & L2B/N [11]
G/Y MARK
LF2 13-5027
(Optional)
LOAD1
LOAD2
16A
Notes H, J
10-5198A OR
220-00546A
10-5197A
BRN 14
DM_K3
15-3249
Note J
FROM TMCE J10 SOL_DRV
[7] DM_K3
BLK 22
RED 22
220-00216A
RNT
+24V
NON-SELV (240VAC)
SELV

All notes are on page 2.

creo
THERMOFLEX II PDB 0
WIRING DIAG.
C:\Sleeve_EP_Doblo_Wiring.ddb - Documents\Page05_EP_PDB_Wiring.sch

DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
J. MALM	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
J. MALM	M. ZHANG	K.POULIN
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
SEP 01, 2001	AUG. 9, 2004	5 of 11

POWER DISTRIBUTION BOARD

10-4112H

BOARD ADDRESS = 0X10

NOTE G

SAFETY CONTROL MODULE

11-1120A

(SEE PAGE 4 FOR DETAILED WIRING)

HOLD TO RUN BUTTONS

172-00001

LEFT SW18 · CENTRE SW19 · RIGHT SW20

BRAKE OVERRIDE SWITCH

SW2 15-3536 · SW TOGGLE

DRUM BRAKE SA-4-3/8 HUB STD

PARK POSITION CONTACT BOARD

17-5249B

(16-4570 Socket)

(16-4583 Probe)

MECH HAZARD OVERRIDE LAMPS

LP2 LAMP · LP1 LAMP 10-3721A x2

SERVICE INTERLOCK OVERRIDE

SW1 15-3334 KEYSWITCH(SIO) (2 POS)

creo	**THERMOFLEX II SAFETY SYSTEM WIRING DIAG.**
C:\Sleeve_EP_Doblo_Wiring.ddb - Documents\Page06_EP_Safety_Loop_Wiring.sch	
DESIGNED BY: J. MALM	DOCUMENT NUMBER: 73-7318A
DRAWN BY: J. MALM	LAST REVISED BY: M. ZHANG
DESIGN DATE: SEP 01, 2001	LAST MODIFIED DATE: AUG. 9, 2004
LAST ECO: CA05044	APPROVED BY: K. POULIN
SHEET: 6 of 11	

TURBOMCE BOARD

10-4766D

DRUM ENCODER

ENC1 34-3307 — 507-00019A — 220-00027A — HDB15M HDB15F

FROM PDB J14 [4] — SCON1

TO LIONEL1 J13 [9] — SCON2

ENGINE TEMP THERMISTOR RT1 10-0967A — REC PLUG — M&L

10-5195A — 10-5194A — 10-5164A

EH_DATA — [10] TO EXPOSURE HEAD

EH_CNTL — [10] TO EXPOSURE HEAD

10-5185A — 10-5184A

10-5202A OR 220-00548A

DA_CTRL — [11] TO DRUM AMP

DRUM BALANCER AWAY SIDE 10-4733A x4

CARRIAGE AWAY

Z.APRX 36-3141 — 220-00015JA — RED 22 BLK 22 WHT 22

Z.HS.COLLISION 36-3141 — 220-00015AA — RED 22 ORG 22 WHT 22

EXT. RETR. WT. DET

MINI-FIT REC. PLUG

EH_PARK_POS_SENSE — FROM CONTACT BOARD [6]

FERRITE 13-4807 (X2)

WS_COMM 16-3460

DIAG_COMM 16-3460

SCSI 16-3503

J39 WS_COMM DB9F

J38 J42 DB9F WS_SCSI

N/C

J40 DB9F

J20 HDB15F DRUM_ENC

J8 MINIFIT 2X5 CAN SCON2

J7 MINIFIT 2X5 CAN SCON1

J30 MINIFIT 2X6 TEMP

J1 SMB EH_DATA

HDB44.IDC EH_CNTL

J35 DB15F DRUM_AMP

J4 DB37F DIN_AS

J6 DB37M DIN_HS

10-5199A

FERRITE 13-3602

(or J44 for BRISQUE)

MANIFOLD 50-2743A SOLENOID 55-0771 X 4

10-5172B

TABLE FLT ON — SOL1

TLSTK LOCK OFF — SOL2

MANDR AIR ON — SOL3

DBL AIRINJECT ON — SOL4

MINI-FIT

220-00603A PARTIAL

[8] DBL_AirInjectDrive1 — BLK 22

PLUG REC

J16 2X5 HDR USR_IF

J21 2X7 HDR REG

BUZZER 137-00001 Mounting brkt: 252-01511A — 24V RED 26 RTN BLK 26 — 220-00177A

TO 10-5165B [7] — 24V.I

PFO TRANSMITTER S1 36-3145 — +24V.SAFE BRN 22 RTN BLU 22 — 950nm — 10-5169A — J3 MINIFIT 1X2 PFO_E

PFO DETECTOR S2 36-3118 — +24V BRN 22 FLYOFF BLK 22 RTN BLU 22 — 10-5168A — J19 1X8 HDR PFO-S

10-5213A (PARTIAL) — 220-00079A (PARTIAL) — MINIFIT JR. — PD.LR BLK 24 — +5V RED 24 LR.QUE/ WHT24 RTN BLK 24 — 10-5214B [6] — SW27-11 [6]

J12 MTA 1X6 LTPS

BS_TEMP J 46 DB9M

J10 2X13 HDR SOL_DRV

J26 HDR 2X10IDC CA_CTRL

J13 MINIMATE3X3 CA_PWR

J5 DB25F DIN_SPR

J37 DB9F

J24 MINIFIT 2X4 RLY_DRV

GRN 22 RELAY0+ RED 22 RELAY1+ RED 22 RELAY2+ WHT 22 RELAY0- BLK 22 RELAY1- BLK 22 RELAY2- GRN 22

10-5166A

MANIFOLDS 50-2743A

SOL5 L TABLE VAC ON

SOL6 R TABLE VAC ON

SOLENOID 55-0771 X 2

UDRC OPTION NOZZLE FLOW SENSOR PRESSURE SENSOR 0-100"WC diff. — 13-5128

DSEN18.C (CS_CD+) BRN 22 +24V RED 22 +24V BRN 22 RXD_WHT 22 (FS_RXD) RELAY0+ (FS_RLY+) RED 22 DSEN19.C (FS_STAT1+) RED 22 NOZ_EXC+ RED 22 RTN_BLK 22 DSEN18.E (CS_CD-) BLU 22 CS_RLY1- GRN 22 CS_RLY2- WHT 22 TXD (FS_TXD) RED 22 RELAY0- (FS_RLY-) BLK 22 DSEN21.E (FS_STAT1-) BLK 22 NOZ_COM- BLK 22

REC — DB15 — TO UDRC

TO 10-5165A [7] — EXTERNAL CHILLER CONTROL

10-4733A x4 — DRUM BALANCER HOME SIDE — EXT. RET. TSK LOK WT DET.

220-00129A — 10-5203A — 220-00130A

(1) DSEN9 LED+ RED 24 — (20) DSEN9 LED- BLK 24 — (2) DSEN9 C WHT 24 — (21) DSEN9 E GRN 24

(3) DSEN10 LED+ BLK/RED 24 — (22) DSEN10 LED- BLK/BLU 24 — (4) DSEN10 C BLK/WHT 24 — (23) DSEN10 E BLK/GRN 24

(5) DSEN11 LED+ WHT/RED 24 — (24) DSEN11 LED- WHT/BLK 24 — (6) DSEN11 C WHT/BLU 24 — (25) DSEN11 E WHT/ORG 24

(13) DSEN15 LED+ RED/ORG 24 — (32) DSEN15 LED- RED/BLK 24 — (14) DSEN15 C RED/WHT 24 — (33) DSEN15 E RED/BLU 24

(11) DSEN14 LED+ RED 24 — (30) DSEN14 LED- BLK 24 — (12) DSEN14 C WHT 24 — (31) DSEN14 E GRN 24

MINI-FIT 2X8 — MINI-FIT 2X3

10-4733A — CARRIAGE HOME

MINI-FIT

10-5200A — 10-5201A — CM_PWR — J1 M&L

J2 HDR 2X10IDC CA_CTRL

J3 UMNL 2X4 CM_DRIVE

CARRIAGE AMP 503C01525B

10-5160A

PHA+ RED 18 — PHB- BLK (WHT PR) 18 — PD+ GRN 18 — PHA- BLK (RED PR) 18 — PHB+ WHT 18 — CHASSIS_DRAIN — PD- BLK (GRN PR) 18

M2 — CARRIAGE STEPPER MOTOR — 184-00012B

HTR_SENS — [6] TO SAFETY SYSTEM AND CABLE 10-5177A

10-5165B — 10-5183A

36-3141 LOAD TABLE SENSOR — +5V RED 24 LR.QUE/ WHT24 RTN BLK 24 — SENS OPT REFL MOD

10-5212A — BLK 24 WHT 24 RED 24

PD_LSTEMP+ BLK24 (14) — LS_TEMP+ YEL 22 (9) — PD (9) — LS_TEMP- BLK 22 (8)

PD+ (2) BLK 24 — PD- (14)

+24V.SAFE RED 24 (25) — +24V.SAFE BLK 24 (12) — +24V.SAFE WHT 24 (24) — +24V.SAFE GRN 22 (26) — DRV4S_BRN 22 (9) — DRV4D_BLU 22 (10) — DRV6S BLK 22 (13) — DRV7S_BLK 22 (15) — BLK 22 (17)

10-0967A — RT2 — THERMISTOR LEADSCREW TEMP (ON CARRIAGE)

SOL8 2 — SOL9 2 — SOL7 2 — SOLENOID 55-0771 X 3

HEAD AIRJET ON — AY DRM BAL ON — HM DRM BAL ON

SAFETY CONTROLLED MANIFOLDS

DRV6S BLK 22 — +24V1 RED 22 — DRV7S_BLK 22 — +24V1 RED 22

DM_K3 [5] — PS3_K1 [10] — 220-00217A — 220-00216A

24V.I [7] FROM 10-5172B

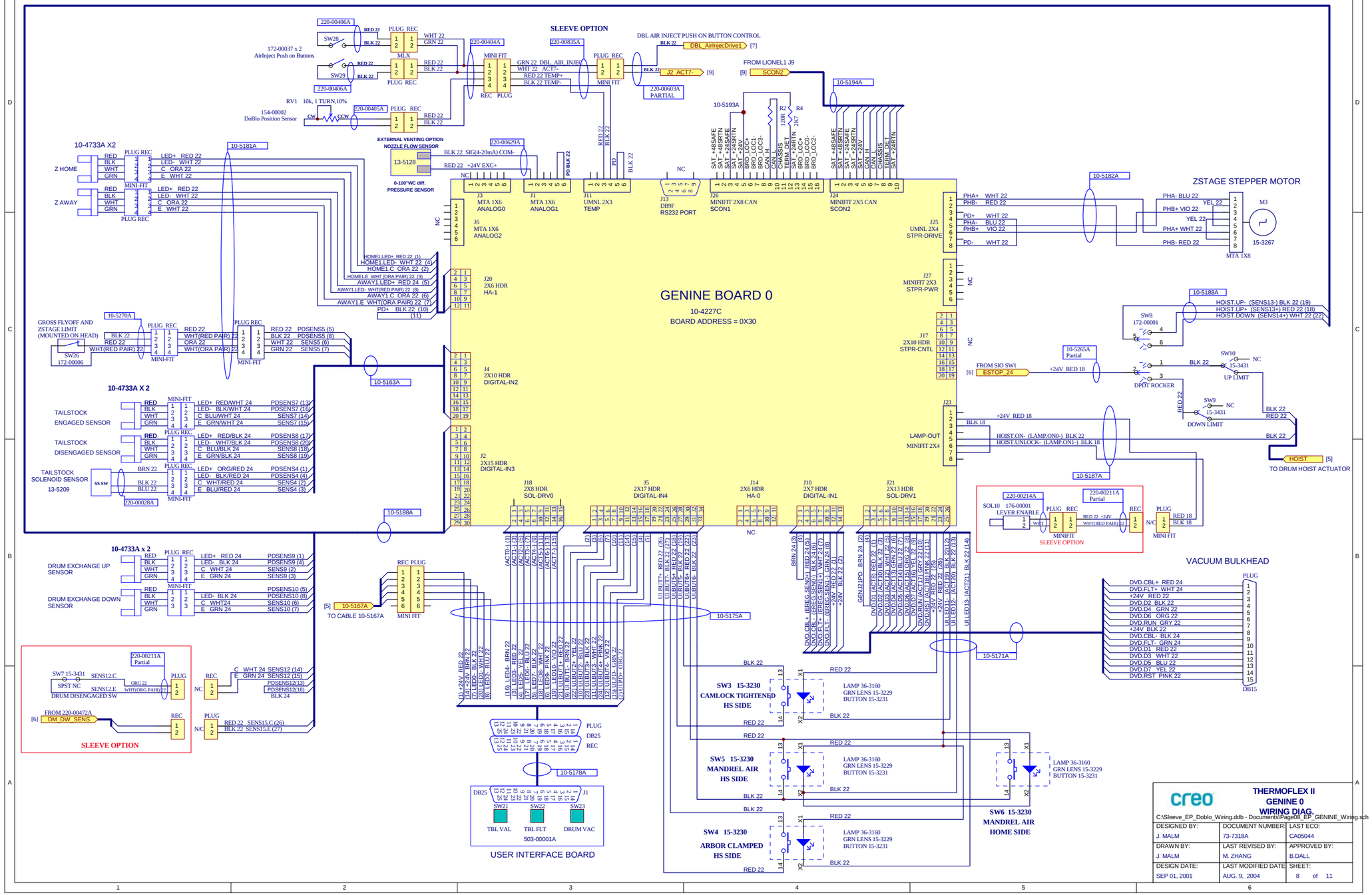
220-00403A — DM_BRK_K1 [6]

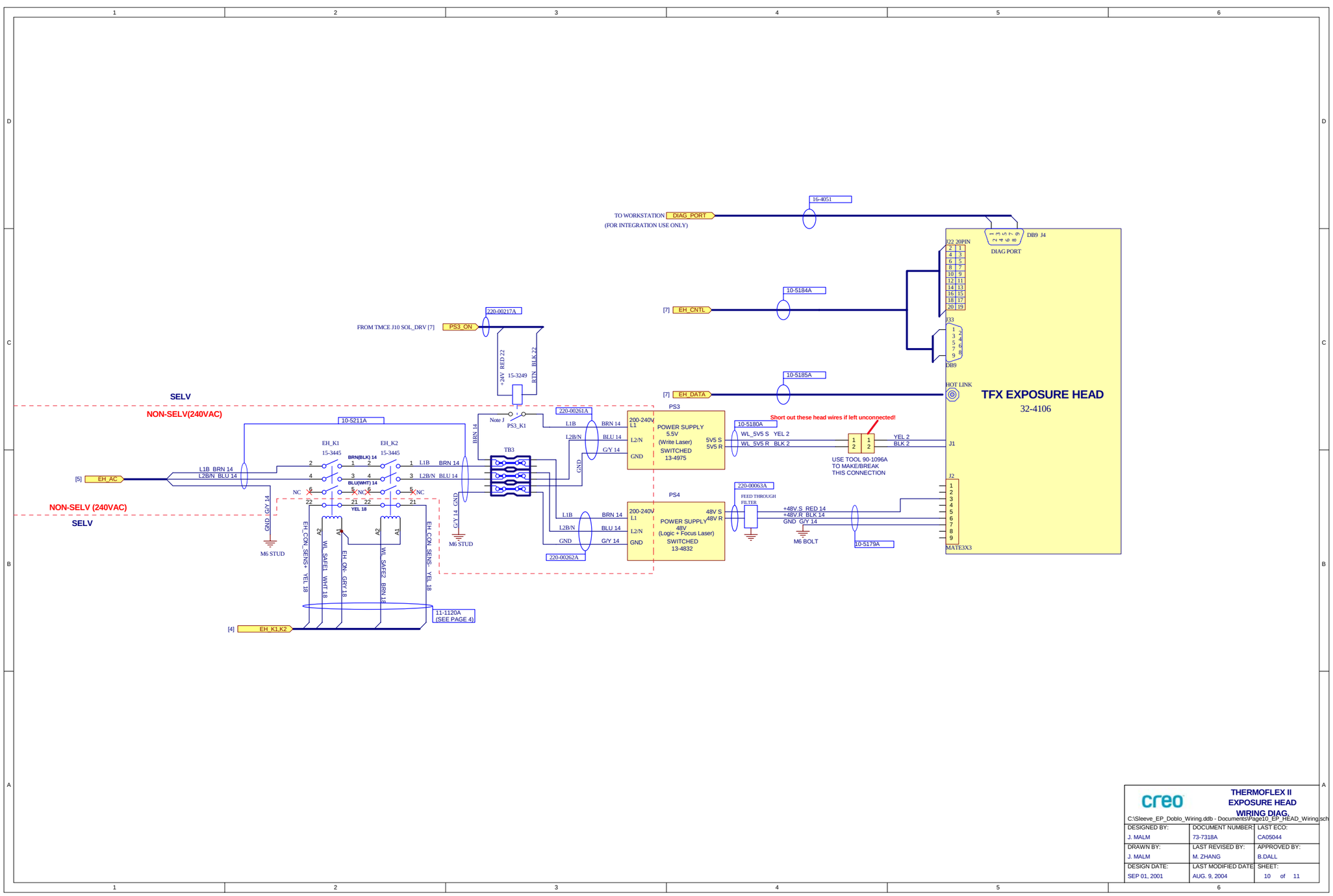
creo

THERMOFLEX II
TURBOMCE
WIRING DIAG.

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DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
J. MALM	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
J. MALM	M. ZHANG	B.DALL
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
SEP 01, 2001	AUG. 9, 2004	7 of 11


SLEEVE OPTION
DBL AIR INJECT PUSH ON BUTTON CONTROL
FROM LIONEL1 J9
10-5194A
10-5193A
ZSTAGE STEPPER MOTOR
10-4733A X2
Z HOME
Z AWAY
10-5181A
EXTERNAL VENTING OPTION
NOZZLE FLOW SENSOR
13-5128
0-100"WC diff.
PRESSURE SENSOR
GENINE BOARD 0
10-4227C
BOARD ADDRESS = 0X30
J3 MTA 1X6 ANALOG0
J1 MTA 1X6 ANALOG1
J11 UMNL 2X3 TEMP
J13 DB9F RS232 PORT
J26 MINIFIT 2X8 CAN SCON1
J24 MINIFIT 2X5 CAN SCON2
J6 MTA 1X6 ANALOG2
J20 2X6 HDR HA-1
J4 2X10 HDR DIGITAL-IN2
J2 2X15 HDR DIGITAL-IN3
J18 2X8 HDR SOL-DRV0
J5 2X17 HDR DIGITAL-IN4
J14 2X6 HDR HA-0
J10 2X7 HDR DIGITAL-IN1
J21 2X13 HDR SOL-DRV1
J25 UMNL 2X4 STPR-DRIVE
J27 MINIFIT 2X3 STPR-PWR
J17 2X10 HDR STPR-CNTL
J23 LAMP-OUT MINIFIT 2X4
10-5182A
10-5188A
10-5187A
10-5270A
10-5163A
10-4733A X 2
TAILSTOCK ENGAGED SENSOR
TAILSTOCK DISENGAGED SENSOR
TAILSTOCK SOLENOID SENSOR
13-5209
10-4733A x 2
DRUM EXCHANGE UP SENSOR
DRUM EXCHANGE DOWN SENSOR
10-5167A
TO CABLE 10-5167A
10-5175A
10-5171A
SW3 15-3230
CAMLOCK TIGHTENED
HS SIDE
SW5 15-3230
MANDREL AIR
HS SIDE
SW4 15-3230
ARBOR CLAMPED
HS SIDE
SW6 15-3230
MANDREL AIR
HOME SIDE
LAMP 36-3160
GRN LENS 15-3229
BUTTON 15-3231
10-5178A
USER INTERFACE BOARD
503-00001A
TBL VAL
TBL FLT
DRUM VAC
VACUUM BULKHEAD
DB15
SW8 172-00001
SW10 15-3431
UP LIMIT
SW9 15-3431
DOWN LIMIT
DPDT ROCKER
HOIST
TO DRUM HOIST ACTUATOR
SOL10 176-00001
LEVER ENABLE
SLEEVE OPTION
GROSS FLYOFF AND ZSTAGE LIMIT (MOUNTED ON HEAD)
SW26 172-00006
FROM SIO SW1
ESTOP_24
M3
15-3267
MTA 1X8
creo
THERMOFLEX II
GENINE 0
WIRING DIAG.
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DESIGNED BY: J. MALM
DOCUMENT NUMBER: 73-7318A
LAST ECO: CA05044
DRAWN BY: J. MALM
LAST REVISED BY: M. ZHANG
APPROVED BY: B.DALL
DESIGN DATE: SEP 01, 2001
LAST MODIFIED DATE: AUG. 9, 2004
SHEET: 8 of 11

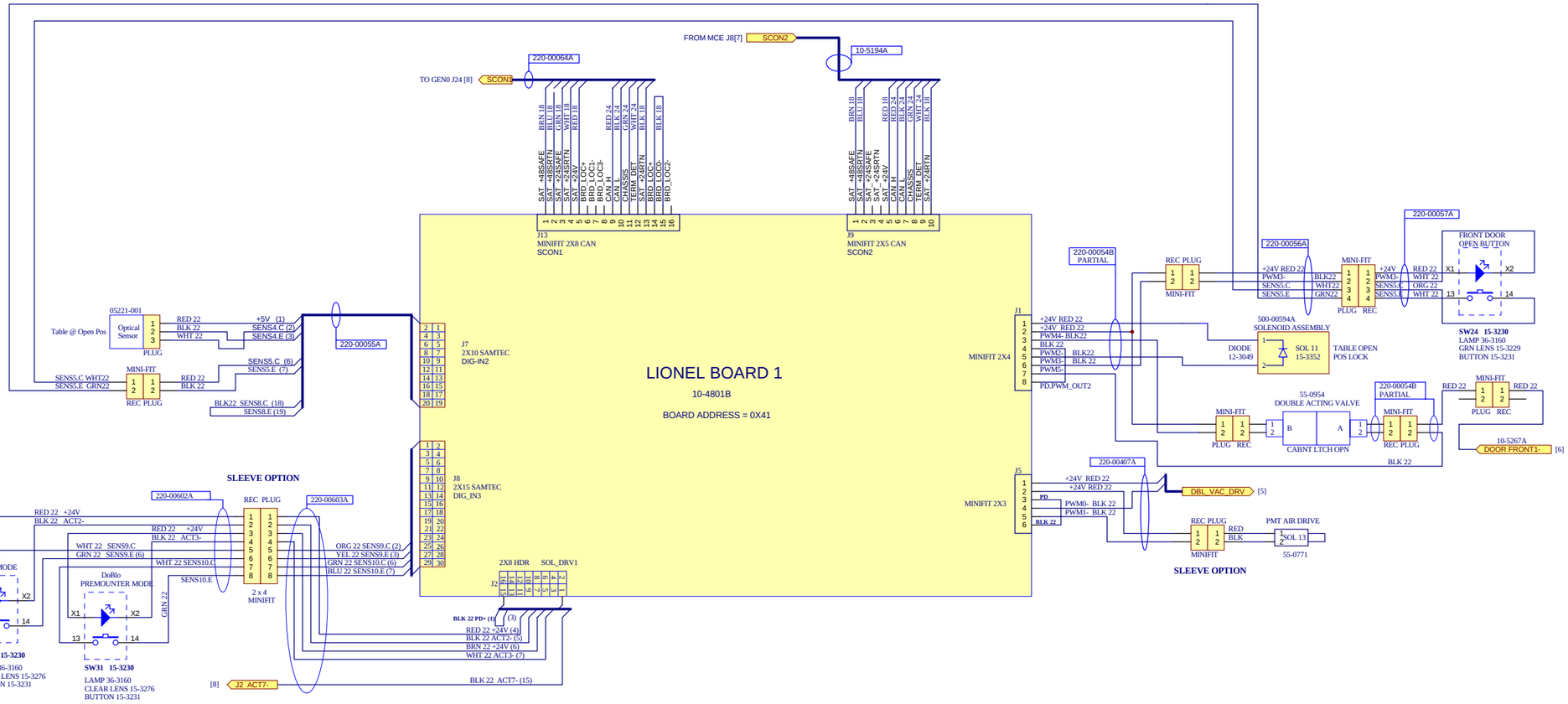


creo

THERMOFLEX II EXPOSURE HEAD WIRING DIAG.

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DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
J. MALM	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
J. MALM	M. ZHANG	B.DALL
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
SEP 01, 2001	AUG. 9, 2004	10 of 11



creo	THERMOFLEX II LIONEL1 WIRING DIAG.	
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DESIGNED BY: M.ZHANG	DOCUMENT NUMBER: 73-7318A	LAST ECO: CA05044
DRAWN BY: M.ZHANG	LAST REVISED BY: M. ZHANG	APPROVED BY: B.DALL
DESIGN DATE: DEC.17, 2002	LAST MODIFIED DATE: AUG. 9, 2004	SHEET: 9 of 11

SAFETY CONTROL MODULE
11-1120A

J1 REC — 2 x 4 MINIFIT — TO CABLE 10-5272A [6]
1 RED 18 ESTOP 24
2 BLK 18 DOOR HOME1-
3 BLK 18
4 YEL 18
5 YEL 18
6 BLK 18
7 RED 18 TABLE LOCK+
8 BLK 18 RTN

J2 REC — MINIFIT — TO CABLE 10-5166A [7]
1 HTR DET+ RED 18
2 HTR DET- BLK 18

J3 REC — 1 x 3 M&L — TO CABLE 10-5173A [6]
1 +24V RED 18
2 HTR CTR BLK 18
3 HTR SIDE WHT 18

J4 REC — 2 x 3 MINIFIT — TO CABLE 10-5162A [6]
1 DM_ON2 BLK 18
2 DM_ON1 WHT 18
3 RTN BLK 18
4 DM SAFE1 WHT 18
5 DM SAFE2 BRN 18
6 ESTOP 24 RED 18

J5 REC — 1 x 6 M&L — TO CABLE 220-00025A [6]
1 ESTOP_24 RED 18
2 ESTOP_24 RED 18
3 EH_CON_SENS- ORG 18
4 WL_SAFE1 WHT 18
5 WL_SAFE2 BRN 18
6 EH_CON_SENS+ YEL 18

J6 REC — 2 X 8 MINI-FIT — TO CABLE 10-5165A [6]
1 WL_SAFE3
2 RTN
3 MECH_SAFE1
4 RTN
5 +24V
6 +24V
7 +24V
8 ESTOP_24
9 EH_ON- GRY 18
10 RTN BLK 18
11 DM_ON- GRY 18
12 RTN BLK 18
13 MECH_EXT_CON_SENS- YEL 18
14 DM_CON_SENS- YEL 18
15 EH_CON_SENS- YEL 18
16 TABLE_LOCK+ RED 18

EXT_K3 15-3359 — EXT_K4 15-3359 — EXT_K5 RELAY, GRA-321-T075 15-3539 — EXT_K6 G5EA-TH301 15-3540
EXT_K7 15-3248 — EXT_K8 15-3248 — EXT_K1 15-5162 — EXT_K2 15-5162

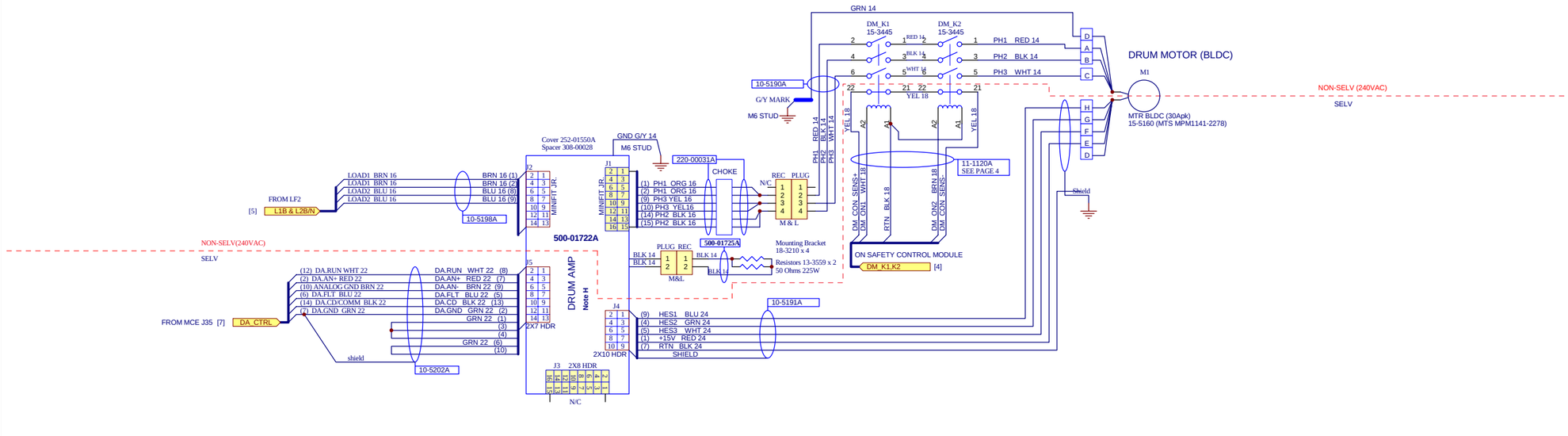
10-5167A PARTIAL
(5) FROM PDB(0) J37
+24V RED 22
SPR1 BLK 22
RNT BLK 22
TABLE_LOCK+ RED 18
YEL 18
BRN 18
BLK 18
RED 18
RTN BLK 18
HTR_IN GRY 18
RTN BLK 18
MECH_SAFE BRN 18
DM_ON- GRY 18
RTN BLK 18
MECH_EXT_CON_SENS- YEL 18
DM_CON_SENS- YEL 18
ESTOP_24 RED 18
EH_ON- GRY 18
WL_SAFE1 WHT 18
WL_SAFE2 BRN 18
EH_CON_SENS+ YEL 18
DM_CON_SENS-
DM_CON_SENS+
DM_ON1 WHT 18
DM_ON2 BRN 18
RTN BLK 18
EH_CON_SENS- YEL 18
EH_CON_SENS+ YEL 18
WL_SAFE1 WHT 18
WL_SAFE2 BRN 18
EH_ON- GRY 18

SELV
NON-SELV(240VAC)
10-5190A
PH1 RED 14
PH2 BLK 14
PH3 WHT 14
FROM 10-5190A [5]
DM_K1 15-3445 — DM_K2 15-3445
DRUM MOTOR(BLDC)
NON-SELV(240VAC)
SELV

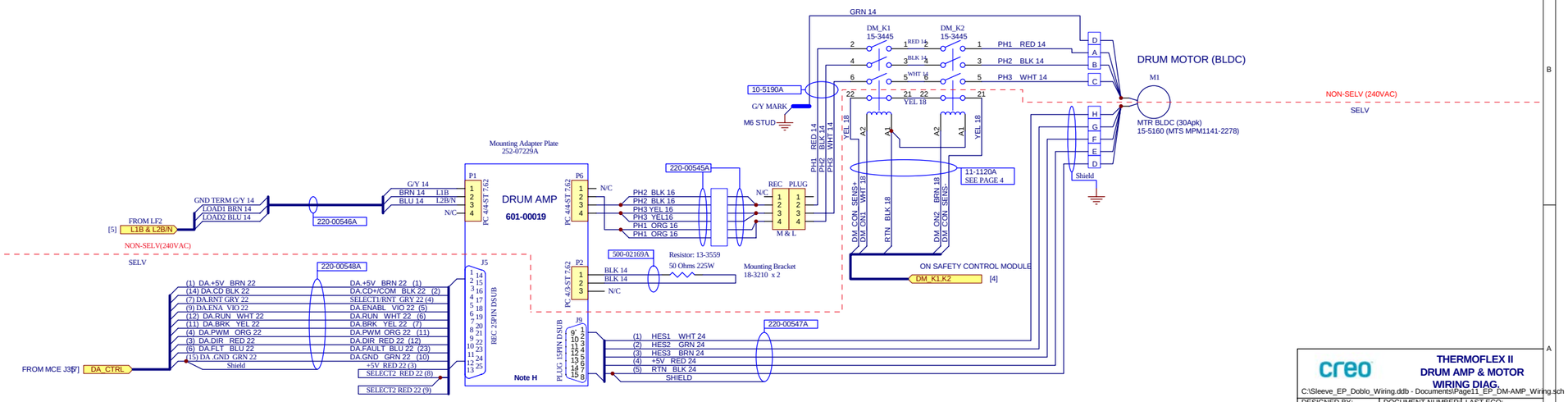
EH_K1 15-3445 — EH_K2 15-3445
NON-SELV(240VAC)
BRN 14
BLU(WHT) 14
LIB BRN 14
FROM 10-5211A [10]
NON-SELV(240VAC)
SELV

creo	THERMOFLEX II SAF CTRL MODULE WIRING DIAG.	
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DESIGNED BY: J. MALM	DOCUMENT NUMBER: 73-7318A	LAST ECO: CA05044
DRAWN BY: J. MALM	LAST REVISED BY: M. ZHANG	APPROVED BY: K. POULIN
DESIGN DATE: SEP 01, 2001	LAST MODIFIED DATE: AUG. 9, 2004	SHEET: 4 of 11

CREO DRUM DRIVER WIRING



AUTOMOTION DRUM AMP WIRING



creo

THERMOFLEX II
DRUM AMP & MOTOR
WIRING DIAG.

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DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
M.ZHANG	73-7318A	CA05044
DRAWN BY:	LAST REVISED BY:	APPROVED BY:
M.ZHANG	M. ZHANG	B. DALL
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
FEB.10, 2004	AUG. 9, 2004	11 of 11