MTA WIRING DIAGRAM

SERIES 2 SEMI-AUTOMATIC OPTION

MANTA-SYSTEM BLOCK DIAGRAM
PAGE 2 SYTEM BLOCK DIAGRAM

MANTA- SAFETY CIRCUIT
PAGE 3 SAFETY CIRCUIT

SAFETY DOOR LOOP
EMERGENCY STOP SWITCH
WRITE LASER SAFETY INTERLOCK
MECHANICAL SAFETY INTERLOCK
DRUM AMP SAFETY INTERLOCK
DRUM BRAKE SAFETY INTERLOCK
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS

MANTA - POWER ENTRY BOX WIRING
PAGE 4 POWER ENTRY BOX WIRING

MAIN POWER SWITCH
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS
CIRCUIT BRAKERS

MANTA - POWER DISTRIBUTION BOARD WIRING
PAGE 5 POWER DISTRIBUTION BOARD WIRING

CANBUS
POWER BOX AC POWER SW1
SAFETY DOOR LOOP
EMERGENCY STOP SWITCH
MECHANICAL SAFETY INTERLOCK
DRUM RESISTIVE BRAKE CONTROL
SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS
POWER SUPPLIES PS1, PS2, PS3
AC FANS
TEC MAGNETS CONTROL

MANTA - MASTER CONTROL ELECTRONICS WIRING
PAGE 6 MASTER CONTROL ELECTRONICS WIRING

CANBUS
CARRIAGE MOTROR DRIVE
PNEUMATIC SOLENOID DRIVE OUTPUTS
DRUM AMP CONTROL
ANLOG SENSORS
PLATE FLYOFF SENSOR
WORKSTATION CONNECTIONS
ENCODER
DEBRIS REMOVAL SENSOR
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MANTA - DIGITAL SENSORS WIRING
PAGE 7 DIGITAL SENSORS WIRING

CANBUS
CARRIAGE HOME AND AWAY SENSORS
ROLLER & LEC UP/DOWN SENSORS
HOME & AWAY BALANCE SENSORS
BACKBONE MECHANISM SENSORS
P-DOOR SENSORS
TEC DETECT SENSORS
TEC COILS
LOAD RAMP PLATE SENSOR 2
DRUM RESISTIVE BRAKE RELAYS SENSE

MANTA - DRUM DRIVE & MOTOR WIRING
PAGE 8 MANTA DRUM DRIVE AND MOTOR WIRING

DRUM DRIVE
DRUM MOTOR
DRUM RESISTIVE BRAKE

MANTA - LIONEL BOARD WIRING
PAGE 9 MANTA LIONEL BOARD WIRING

CANBUS
INTERNAL DEBRIS REMOVAL SENSORS
REGISTRATION LIGHTS
STATUS LIGHTS
CUSTOMER RELAY INTERFACE
EXTERNAL CHILLER CONNECTOR

MANTA - DRUM RESISTIVE BRAKE ASSEMBLY
PAGE 10 MANTA DRUM RESISTIVE BRAKE ASSEMBLY

RESISTIVE BRAKE WIRING

EXTERNAL CHILLER & INTERNAL DEBRIS REMOVAL
PAGE11 MANTA INTERNAL PUMP & DEBRIS REMOVAL

CHILLER WIRING
INTERNAL DEBRIS REMOVAL WIRING

MANTA - GENINE 0 BOARD WIRING
PAGE12 MANTA GENINE 0 BOARD WIRING

Z- STAGE

MANTA - DRUM VACUUM PUMP WIRING
PAGE 13 MANTA DRUM VACUUM PUMP WIRING

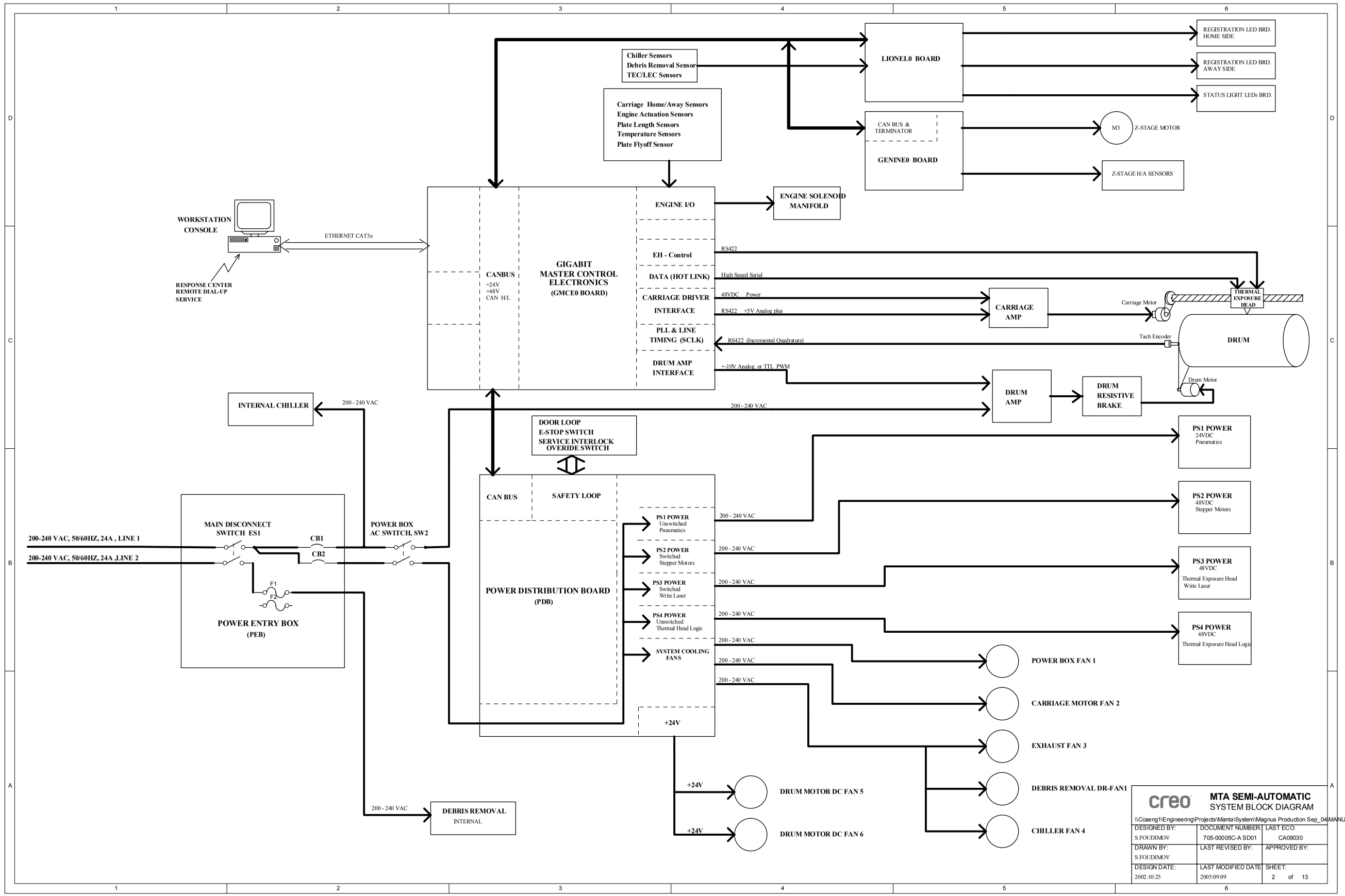
DRUM VACUUM PUMP

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MTA SEMI-AUTOMATIC
SYSTEM WIRING DIAGRAM

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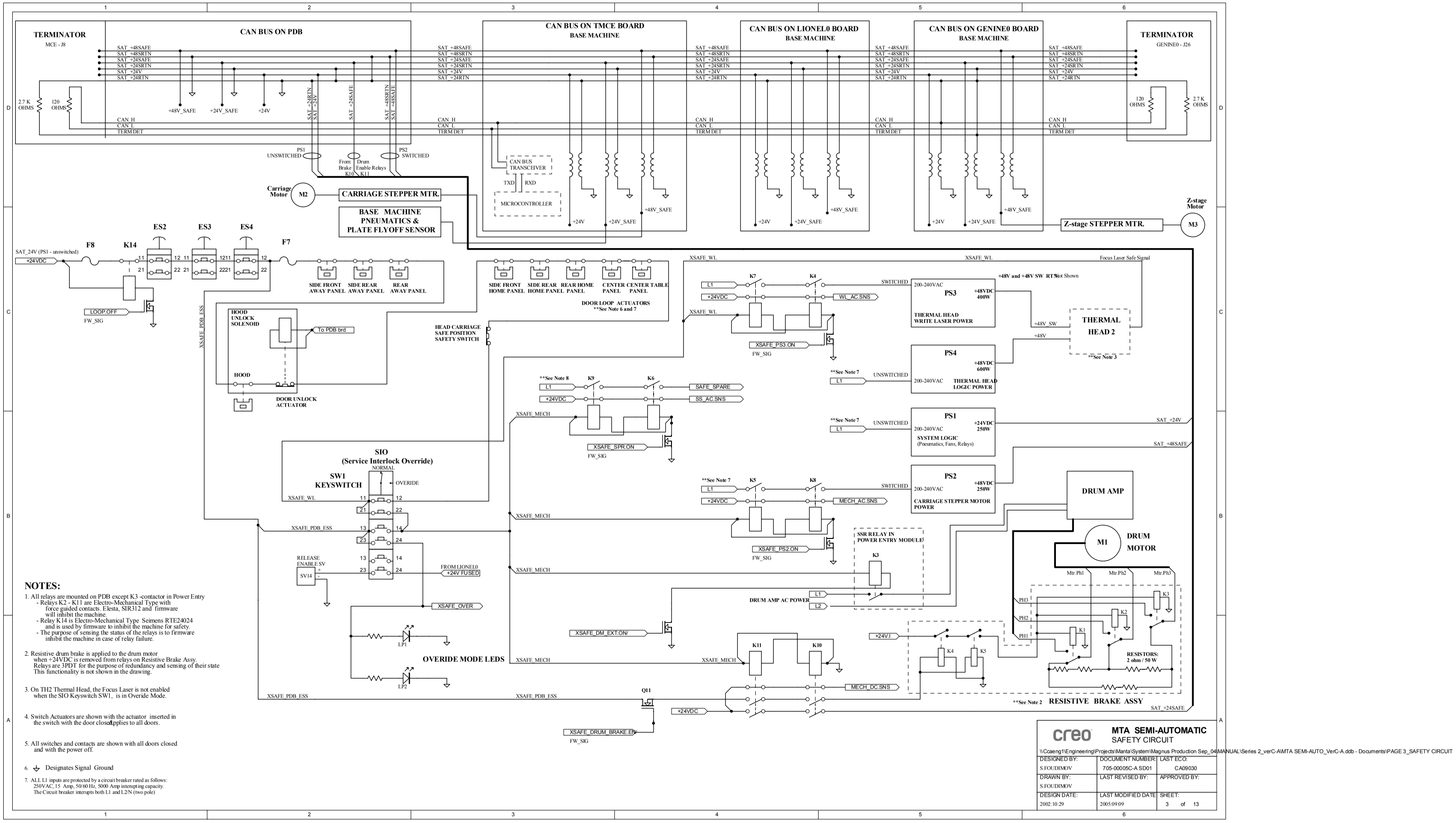


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MTA SEMI-AUTOMATIC
SYSTEM BLOCK DIAGRAM

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NOTES:

1. All relays are mounted on PDB except K3 -contactor in Power Entry
   - Relays K2 - K11 are Electro-Mechanical Type with force guided contacts. Elesta, SIR312 and firmware will inhibit the machine.
   - Relay K14 is Electro-Mechanical Type Seimens RTE24024 and is used by firmware to inhibit the machine for safety.
   - The purpose of sensing the status of the relays is to firmware inhibit the machine in case of relay failure.
2. Resistive drum brake is applied to the drum motor when +24VDC is removed from relays on Resistive Brake Assy. Relays are 3PDT for the purpose of redundancy and sensing of their state This functionality is not shown in the drawing.
3. On TH2 Thermal Head, the Focus Laser is not enabled when the SIO Keyswitch SW1, is in Overide Mode.
4. Switch Actuators are shown with the actuator inserted in the switch with the door closed. Applies to all doors.
5. All switches and contacts are shown with all doors closed and with the power off.
6. ⏚ Designates Signal Ground
7. ALL L1 inputs are protected by a circuit breaker rated as follows: 250VAC, 15 Amp, 50/60 Hz, 5000 Amp interrupting capacity. The Circuit breaker interupts both L1 and L2/N (two pole)

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MTA SEMI-AUTOMATIC
SAFETY CIRCUIT

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POWER ENTRY BOX (PEB) 11-1064A

200-240 VAC, 50/60HZ, 24A , LINE 2

AC Input 1 Plug

L1 BRN 12
L2/N BLU 12
GND G/Y 12

10-9088A (or 220-00437A)

GND G/Y 12 — 10-9089A — M5 BOLT ENGINE
GND G/Y 12 — 10-9089A — M5 BOLT CHASSIS
M5 BOLT CHASSIS
M5 STUD PEB

LF1 FILT30A — 162-00011
P → P'
E
N → N'

10-9092A — GND G/Y 12 — M5 STUD PEB

BRN12 — 10-9090A — 10-5217A

BLU 12

CB1 CIRBKR 15A
12 — 11 BRN 14
22 — 12 BLU 14
15-3085

TB1
10-5221A

10-5222A
BRN 14 — 1 — 2 — BLK 14
WHT 14

K1 — 15-3249 RELAY,25A,SOLID STATE
BLK-22 — RED-22
4 — 3

To K2 — [4] K2 CONTROL

10-9073A
J1
1 WHT 22
2 GRN 22
3 RED 22
4 BLK 22
MATE 1X4

To PDB J37
10-9068A — HEAD COOLER & BLOWER ON/OFF [5]

SELV

10-9084A
L1
L2/N
GND
G/Y 14 — M5 STUD PEB

AC POWER to CHILLER
HEAD COOLER AC POWER [11]

ES1
EMRGENCY STOP & MAIN SWITCH 25A
1 2 3 4 5 6 7 8
15-3525

10-9090A — 10-5218A

220-00042A
J3
1 RED 22
2 BLK 22
MATE 1X2

220-00044A — DRUM DRIVE AC ON/OFF [5]
To PDB J44

BLK 22 — RED 22
4 — 3
K3 — 15-3249 RELAY,25A,SOLID STATE

220-00049A
BRN14 — 1 — 2 — BRN 14
BLU 14

10-9075A
L1
L2/N
GND
G/Y 14 — M5 STUD PEB

To SW2-1,3 in POWER BOX
DDRIVE AC POWER - SW2 [5]

200-240 VAC, 50/60HZ, 24A , LINE 2

AC Input 2 Plug

L1 BRN 12
L2/N BLU 12
GND G/Y 12

10-9088A (or 220-00437A)

LF2 FILT30A — 162-00011
P → P'
E
N → N'
BRN 12
BLU 12

10-9092A — GND G/Y 12 — M5 STUD PEB
GND G/Y 12 — M5 STUD PEB

CB2 CIRBKR 15A
BRN 12 — 12 — 11 — BRN 14
BLU 12 — 22 — 21 — BLU 14
15-3085

220-00833A

F1, F2: 10A, 600V, BUSSMANN, Type LP-CC for 60 Hz
F1, F2: 12A, 600V, BUSSMANN, Type LP-CC for 50 Hz
(F1 & F2 replaced the former CB3)
182-00018 for 60 Hz
182-00016 for 50 Hz

F1, F2 FUSEHOLDER, 182-00015

10-9073A — K2 CONTROL [4]
BLK 22
RED 22
4 — 3
K2 — 15-3249 RELAY,25A,SOLID STATE
SELV

BRN 12 — F1 — BRN 14 — 220-00834A — 1 — 2 — BLK 14
BLU 12 — F2 — WHT 14

10-9077A
L1
L2/N
GND
GY 14 — M5 STUD PEB

To SW2-5,7 in POWER BOX
PDB AC POWER - SW2 [5]

10-9086B
L1
L2/N
GND
GY 14 — M5 STUD PEB

DEBRIS BLOWER AC POWER [11]

SIO KEYSWITCH (2 POS) 15-3334

SW1 NORMAL
(Shown in normal position)
OVERIDE

11 — 12
21 — 22
13 — 14
23 — 24
13 — 14
23 — 24

15-3067 DUAL NC Contact Block
15-3238 DUAL NO Contact Block
15-3238 DUAL NO Contact Block (For MCU option only)

OVERRIDE MODE LEDS
LP1 LP2
+24V RED 22
RTN BLK 22

10-3721A — 10-3721A

XSAFE_WL
XSAFE_ESS
MCU_OVER
XSAFE
MCU
XSAFE_OVER
XSAFE_MECH

YEL 22
BLK 22
RED 22
WHT 22
GRN 22
BLU 22
ORG 22
BRN 22 DOOR LOOP

MINIFIT 2X6
J2 1 2 3 4 5 6 7 8 9 10 11 12
10-9083A
10-9091B

RED 22
BLK 22
To RELEASE SV ADAPTOR
RELEASE ADPT 1 [6]

To PDB J34, J35, J41
OVERRIDE SW & LED [5]

SELV

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MTA SEMI-AUTOMATIC
POWER ENTRY BOX
WIRING DIAGRAM

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POWER DISTRIBUTION BOARD (PDB)

10-4112 H

SELV CIRCUITRY

NON-SELV CIRCUITRY
200-240 VAC

PS4 POWER SUPPLY 48V — HEAD LOGIC, UNSWITCHED — 13-4791 — AC IN 200-240V
PS1 POWER SUPPLY 24V, 250W — 13-5094 — AC IN 200-240V
PS2 POWER SUPPLY 48V, 250W SWITCHED — 13-5094 — AC IN 200-240V
PS3 POWER SUPPLY 48V (For Write Laser Diodes) SWITCHED — 13-4832 — AC IN 200-240V

TH2 Thermal Exposure Head

FAN1, POWER BOX AC — 10-1436A
FAN2, CARRIAGE MOTOR AC — 11-0453A
EXHAUST GARAGE LEFT SIDE — 10-1436A FAN 3, AC

ES2 EMERGENCY STOP SWITCH FRONT — 15-3474
ES3 EMERGENCY STOP SWITCH REAR — 15-3474
ES4 EMERGENCY STOP SWITCH REAR — 15-3474
ES5 EMERGENCY STOP SWITCH HOOD — 15-3474
ES6 EMERGENCY STOP SWITCH HOOD — 15-3474

SSW1 15-3263 REAR AWAY
SSW2
SSW3 15-3263 SIDE REAR AWAY
SSW4 15-3263 SIDE FRONT AWAY
SSW5 15-3263 SIDE FRONT HOME
SSW6 15-3263 SIDE REAR HOME
SSW7 REAR HOME 15-3263
SSW8 CENTER FRONT 15-3263
SSW9 CENTER TABLE 15-3263
SSW13 15-3450

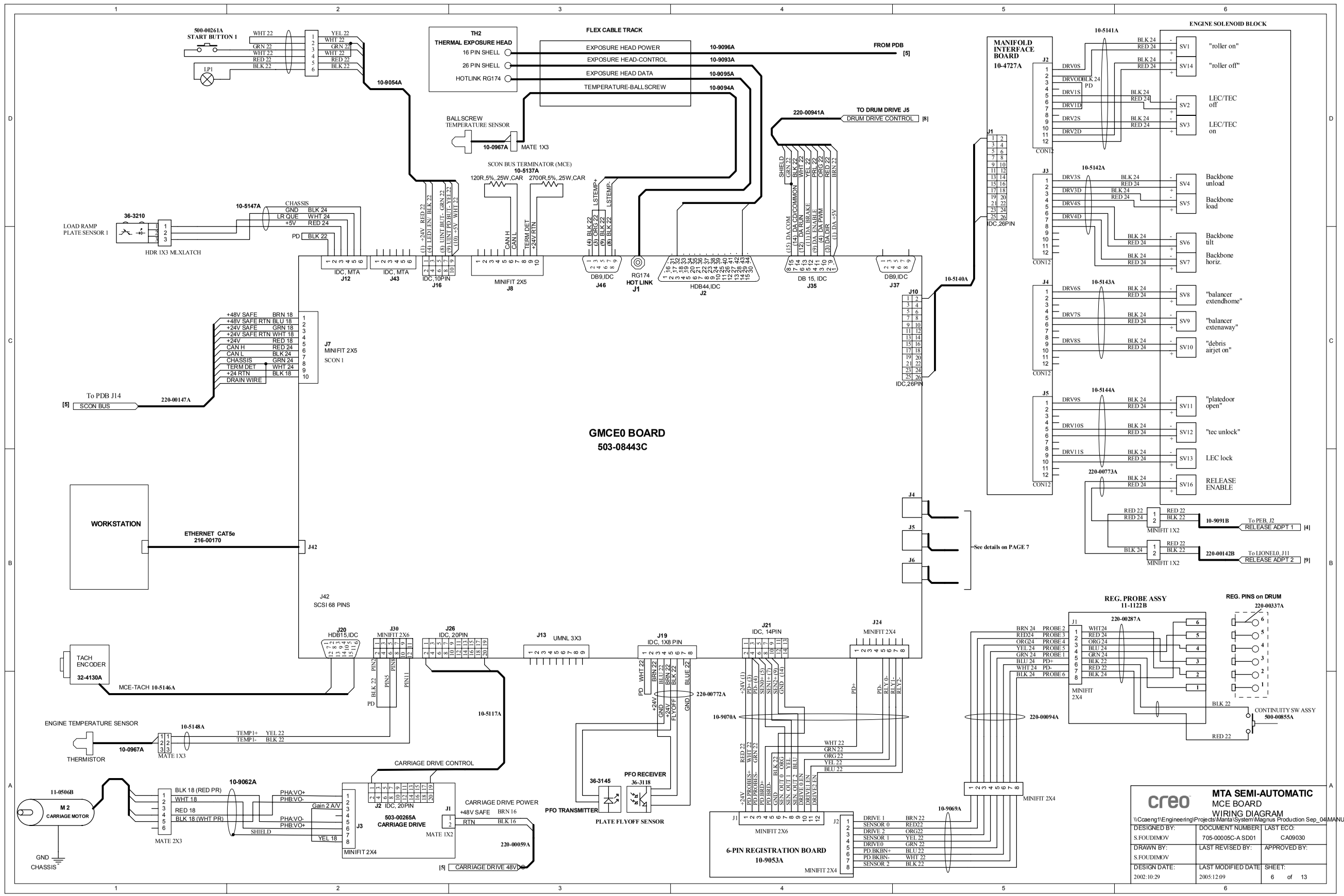
172-00032 HOOD UNLOCK SOLENOID

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MTA SEMI-AUTOMATIC
PDB BOARD
WIRING DIAGRAM

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500-00261A
START BUTTON 1
LP1
WHT 22
GRN 22
WHT 22
RED 22
BLK 22
YEL 22
WHT 22
GRN 22
WHT 22
RED 22
BLK 22
10-9054A
TH2
THERMAL EXPOSURE HEAD
16 PIN SHELL
26 PIN SHELL
HOTLINK RG174
FLEX CABLE TRACK
EXPOSURE HEAD POWER
EXPOSURE HEAD-CONTROL
EXPOSURE HEAD DATA
TEMPERATURE-BALLSCREW
10-9096A
10-9093A
10-9095A
10-9094A
FROM PDB
[5]
BALLSCREW
TEMPERATURE SENSOR
10-0967A
MATE 1X3
SCON BUS TERMINATOR (MCE)
10-5137A
120R,5%,.25W,CAR
270OR,5%,.25W,CAR
220-00941A
TO DRUM DRIVE J5
DRUM DRIVE CONTROL
[8]
SHIELD
GRN 22
BLK 22
WHT 22
YEL 22
PRL 22
GRD 22
BRN 22
(15) DA COM
(14) DA GRD/COMMON
(12) DA -5V
(11) DA BRAKE
(10) DA ENABLE
(9) DA PWM
(3) DA DIR
(1) DA -5V
MANIFOLD
INTERFACE
BOARD
10-4727A
J1
IDC,26PIN
10-5140A
IDC,26PIN
J10
ENGINE SOLENOID BLOCK
10-5141A
J2
DRV0S
DRV0D
DRV1S
DRV1D
DRV2S
DRV2D
CON12
BLK 24
RED 24
PD
SV1
SV14
SV2
SV3
"roller on"
"roller off"
LEC/TEC
off
LEC/TEC
on
10-5142A
J3
DRV3S
DRV3D
DRV4S
DRV4D
SV4
SV5
SV6
SV7
Backbone
unload
Backbone
load
Backbone
tilt
Backbone
horiz.
10-5143A
J4
DRV6S
DRV7S
DRV8S
SV8
SV9
SV10
"balancer
extendhome"
"balancer
extenaway"
"debris
airjet on"
10-5144A
J5
DRV9S
DRV10S
DRV11S
SV11
SV12
SV13
"platedoor
open"
"tec unlock"
LEC lock
220-00773A
SV16
RELEASE
ENABLE
10-9091B
To PEB, J2
RELEASE ADPT 1
[4]
220-00142B
To LIONELO, J11
RELEASE ADPT 2
[9]
MINIFIT 1X2
LOAD RAMP
PLATE SENSOR 1
36-3210
HDR 1X3 MLXLATCH
10-5147A
CHASSIS
GND
LR QUE
+5V
BLK 24
WHT 24
RED 24
PD
BLK 22
IDC, MTA
J12
IDC, MTA
J43
(1) +24V RED 22
(4) LED1 EN BLK 22
(8) UNT BUT1 GRN 22
(9) UNT PD BUT1 YEL22
(10) +5V WHT 24
IDC, 10PIN
J16
CAN H
CAN L
TERM DET
+24V RTN
MINIFIT 2X5
J8
(4) BLK 22
(3) ORG 22
(6) BLK 22
(8) BLK 22
LSTEMP+
LSTEMP-
DB9,IDC
J46
RG174
HOT LINK
J1
HDB44,IDC
J2
DB 15, IDC
J35
DB9,IDC
J37
+48V SAFE BRN 18
+48V SAFE RTN BLU 18
+24V SAFE GRN 18
+24V SAFE RTN WHT 18
+24V RED 18
CAN H RED 24
CAN L BLK 24
CHASSIS GRN 24
TERM DET WHT 24
+24 RTN BLK 18
DRAIN WIRE
J7
MINIFIT 2X5
SCON 1
To PDB J14
[5]
SCON BUS
220-00147A
GMCE0 BOARD
503-08443C
WORKSTATION
ETHERNET CAT5e
216-00170
J42
J4
J5
J6
See details on PAGE 7
J42
SCSI 68 PINS
J20
HDB15,IDC
J30
MINIFIT 2X6
J26
IDC, 20PIN
J13
UMNL 3X3
J19
IDC, 1X8 PIN
J21
IDC, 14PIN
J24
MINIFIT 2X4
TACH
ENCODER
32-4130A
MCE-TACH 10-5146A
PIN2
PIN5
PIN11
BLK 22
PD
10-5117A
J19 WHT 22
BRN 22
BLU 22
BRN 22
BLK 22
BLUE 22
+24V
GND
+24V
FLYOFF
GND
220-00772A
J21 +24V (1)
PD- (3)
PD+ (4)
SEND+ (5)
SEND- (6)
SENS+ (7)
SENS- (8)
GND (14)
10-9070A
J24 PD+
PD-
RLY 0-
RLY 1-
RLY 2-
220-00094A
ENGINE TEMPERATURE SENSOR
10-0967A
THERMISTOR
10-5148A
TEMP1+ YEL 22
TEMP1- BLK 22
MATE 1X3
CARRIAGE DRIVE CONTROL
11-0506B
M 2
CARRIAGE MOTOR
GND
CHASSIS
BLK 18 (RED PR)
WHT 18
RED 18
BLK 18 (WHT PR)
MATE 2X3
10-9062A
PHA:VO+
PHB:VO-
PHA:VO-
PHB:VO+
SHIELD
Gain 2 A/V
YEL 18
J3
MINIFIT 2X4
J2 IDC, 20PIN
503-00265A
CARRIAGE DRIVE
J1
MATE 1X2
CARRIAGE DRIVE POWER
+48V SAFE BRN 16
RTN BLK 16
220-00059A
[5] CARRIAGE DRIVE 48VDC
36-3145
PFO TRANSMITTER
PFO RECEIVER
36-3118
PLATE FLYOFF SENSOR
WHT 22
GRN 22
ORG 22
YEL 22
BLU 22
RED 22
WHT 22
ORG 22
+24V
PD PROBE5+
PD PROBE5-
PD BRD+
PD BRD-
SEN_OUT 0
SEN_OUT 1
SEN_OUT 2
SEN_OUT 3
DRIVE1 EN
DRIVE2 EN
J1
MINIFIT 2X6
J2
DRIVE 1 BRN 22
SENSOR 0 RED22
DRIVE 2 ORG22
SENSOR 1 YEL 22
DRIVE0 GRN 22
PD BKBN+ BLU 22
PD BKBN- WHT 22
SENSOR 2 BLK 22
6-PIN REGISTRATION BOARD
10-9053A
MINIFIT 2X4
10-9069A
MINIFIT 2X4
REG. PROBE ASSY
11-1122B
220-00287A
J1
WHT24
RED 24
ORG 24
BLU 24
GRN 24
BLK 22
RED 22
BLK 24
MINIFIT
2X4
BRN 24 PROBE 2
RED 24 PROBE 3
ORG24 PROBE 4
YEL 24 PROBE 5
GRN 24 PROBE 1
BLU 24 PD+
WHT 24 PD-
BLK 24 PROBE 6
REG. PINS on DRUM
220-00337A
BLK 22
RED 22
CONTINUITY SW ASSY
500-00855A
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MTA SEMI-AUTOMATIC
MCE BOARD
WIRING DIAGRAM
\\Ccaeng1\Engineering\Projects\Manta\System\Magnus Production Sep_04\MANUAL\Series 2_verC-A\MTA SEMI-AUTO_VerC-A.ddb - Documents\PAGE 6_ MASTER CONTRO
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DETAILS OF J4, J5, J6 WIRING FROM PAGE 6

GMCE0 BOARD
503-08443C

J4 DB37M, IDC

J5 DB25,IDC

J6 DB37F, IDC

10-5129A

10-5130A

10-5131A

RLR_DOWN Away Side — 36-3125 — 10-4982A
- LED+ — RED 22 — TO DSEN1 LED+ (3)
- LED- — BLK 22 — TO DSEN1 LED- (22)
- COLLECTOR — WHT 22 — TO DSEN1 C (4)
- EMITTER — GRN 22 — TO DSEN1 E (23)

RLR_UP Away Side — 36-3125 — 10-4982A
- LED+ — RED 22 — TO DSEN2 LED+ (5)
- LED- — BLK 22 — TO DSEN2 LED- (24)
- COLLECTOR — WHT 22 — TO DSEN2 C (6)
- EMITTER — GRN 22 — TO DSEN2 E (25)

LEC_DOWN Away Side — 36-3125 — 10-4982A
- LED+ — RED 22 — TO DSEN3 LED+ (7)
- LED- — BLK 22 — TO DSEN3 LED- (26)
- COLLECTOR — WHT 22 — TO DSEN3 C (8)
- EMITTER — GRN 22 — TO DSEN3 E (27)

LEC_UP Away Side — 36-3125 — 10-4982A
- LED+ — RED 22 — TO DSEN4 LED+ (9)
- LED- — BLK 22 — TO DSEN4 LED- (28)
- COLLECTOR — WHT 22 — TO DSEN4 C (10)
- EMITTER — GRN 22 — TO DSEN4 E (29)

CAR_AWAY — 36-3125 — 10-4982A
- (11) TO DSEN5 LED+ — RED 22
- (30) TO DSEN5 LED- — BLK 22
- (12) TO DSEN5 C — WHT 22
- (31) TO DSEN5 E — GRN 22

BAL_DETECT Away Side — 36-3125 — 10-4733A
- (13) TO DSEN6 LED+ — BLU 24
- (32) TO DSEN6 LED- — BLU/BLK 24
- (14) TO DSEN6 C — BLU/WHT 24
- (33) TO DSEN6 E — BLU/RED 24

BAL_EXTEND Away Side — 36-3125 — 10-4982A
- (15) TO DSEN 7 LED+ — GRN 24
- (34) TO DSEN7 LED- — GRN/BLK 24
- (16) TO DSEN7 C — GRN/WHT 24
- (35) TO DSEN7 E — BLK/WHT 24

BAL_RETRACT Away Side — 36-3125 — 10-4982A
- (17) TO DSEN8 LED+ — ORG 24
- (36) TO DSEN8 LED- — ORG/BLK 24
- (18) TO DSEN8 C — BLK/RED 24
- (37) TO DSEN8 E — ORG/RED 24

10-5065A: RSW1 RSW2 RSW3 RSW4 RSW5 RSW6 RSW7 RSW8 RSW9 RSW10

10-9060A
- (1) TO DSEN 0 LED+ — RED 22
- (20) TO DSEN0 LED- — BLK 22
- (2) TO DSEN0 C — WHT 22
- (21) TO DSEN0 E — GRN 22

BM_FORWARD Away Side — 36-3125 — 10-4733A
- (1) TO DSEN 18 LED+ — RED 24
- (14) TO DSEN 18 LED- — RED/BLK 24
- (2) TO DSEN 18 C — RED/WHT 24
- (15) TO DSEN 18 E — RED/GRN 24

BM_CENTER BACK Away Side — 36-3125 — 10-4733A
- (3) TO DSEN 19 LED+ — GRN 24
- (16) TO DSEN 19 LED- — GRN/BLK 24
- (4) TO DSEN 19 C — GRN/WHT 24
- (17) TO DSEN 19 E — BLK/WHT 24

BM_CENTER FORWARD Away Side — 36-3125 — 10-4733A
- (5) TO DSEN 20 LED+ — WHT 24
- (18) TO DSEN 20 LED- — WHT/BLK 24
- (6) TO DSEN 20 C — WHT/RED 24
- (19) TO DSEN 20 E — BLK 24

BM_ BACK Away Side — 36-3125 — 10-4733A
- (7) TO DSEN21 LED+ — BLU 24
- (20) TO DSEN21 LED- — BLU/BLK 24
- (8) TO DSEN21 C — BLU/WHT 24
- (21) TO DSEN21 E — BLU/RED 24

PD_OPEN Away Side — 10-4982A
- (9) TO DSEN22 LED+ — RED 22
- (22) TO DSEN22 LED- — BLK 22
- (10) TO DSEN22C — WHT 22
- (23) TO DSEN22E — GRN 22

PD_CLOSED Away Side — 10-4982A
- (11) TO DSEN23 LED+ — ORG 22
- (24) TO DSEN23 LED- — BRN 23
- (12) TO DSEN23 C — BLU 22
- (25) TO DSEN23 E — YEL 22

CAR_HOME — 36-3125 — 10-4982A
- LED+ — RED 22 — TO DSEN14 LED+ (11)
- LED- — BLK 22 — TO DSEN14 LED- (30)
- COLLECTOR — WHT 22 — TO DSEN14 C (12)
- EMITTER — GRN 22 — TO DSEN14 E (31)

CAR_HOME CLEANING — 36-3125 — 10-4982A
- RED 22 — BLK 22 — WHT 22 — GRN 22

K1-ENG 15-3248
- 1 — BLK 22
- 3 — BLK 22
- 5
- 2
- 6
- 4
- 8 — 7

To PDB0- J37 [5] K1-ENG — 10-9068A
- RED 22
- BLK 22

220-00446A
- (11) TO DSEN14 LED+ — RED 22
- (30) TO DSEN14 LED- — BLK 22
- (12) TO DSEN14 C — WHT 22
- (31) TO DSEN14 E — GRN 22

LOAD RAMP PLATE SENSOR 2 — 36-3210
- RED 22 — TO DSEN16 LED+ (15)
- WHT 22 — TO DSEN16 C (16)
- GRN 22 — TO DSEN16 E (35)

LOAD RAMP PLATE SENSOR 3 — 36-3210
- RED 22 — TO DSEN17 LED+ (17)
- WHT 22 — TO DSEN17 C (18)
- GRN 22 — TO DSEN17 E (37)

220-00238A
- (9) TO DSEN13 LED+ — RED 22
- (28) TO DSEN13 LED- — BLK 22
- (10) TO DSEN13 C — WHT 22
- (29) TO DSEN13 E — GRN 22
- (8) TO DSEN12 C — BRN 22
- (27) TO DSEN12 E — BLU 22

MINIFIT 2X3

500-00271A START BUTTON 2 — Text Text

DROP LEAF TABLE SWITCH — 10-5065A RSW11

BAL_DETECT Home Side — 36-3125 — 10-4733A
- (13) TO DSEN15 LED+ — ORG 24
- (32) TO DSEN15 LED- — ORG/BLK 24
- (14) TO DSEN15 C — BLK/RED 24
- (33) TO DSEN15 E — ORG/RED 24

BAL_EXTEND Home Side — 36-3125 — 10-4982A
- (3) TO DSEN10 LED+ — BLU 24
- (22) TO DSEN10 LED- — BLU/BLK 24
- (4) TO DSEN10 C — BLU/WHT 24
- (23) TO DSEN10 E — BLU/RED 24

BAL_RETRACT Home Side — 36-3125 — 10-4982A
- (5) TO DSEN 11 LED+ — GRN 24
- (24) TO DSEN11 LED- — GRN/BLK 24
- (6) TO DSEN11 C — GRN/WHT 24
- (25) TO DSEN11 E — BLK/WHT 24

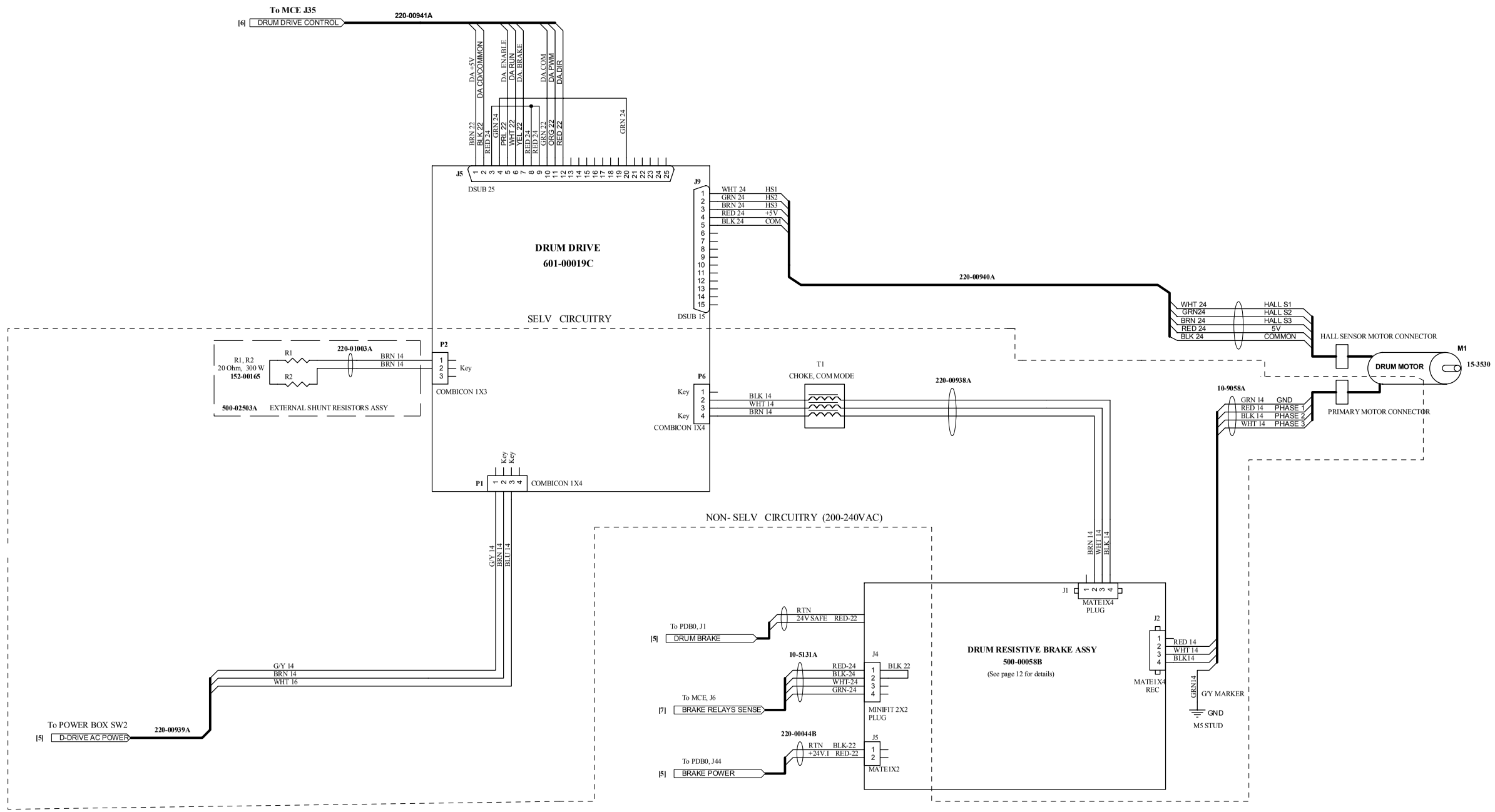
To RESISTIVE BRAKES ASSY [8] BRAKE RELAYS SENSE
- RED 22 — TO DSEN9 LED+ (1)
- BLK 22 — TO DSEN9 LED- (20)
- WHT 22 — TO DSEN9 C (2)
- GRN 22 — TO DSEN9 E (21)

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MTA SEMI-AUTOMATIC
DIGITAL SENSORS
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta\System\Magnus Production Sep_04\MANUAL\Series 2_verC-A\MTA SEMI-AUTO_VerC-A.ddb - Documents\PAGE 7_ DIGITAL SENSORS

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DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2002:10:29	LAST MODIFIED DATE: 2005:12:09	SHEET: 7 of 13



MTA SEMI-AUTOMATIC
DRUM DRIVE & MOTOR
WIRING DIAGRAM

\\Caeng1\Engineering\Projects\Manta\System\Magnus Production Sep_04\MANUAL\Series 2_verC-A\MTA SEMI-AUTO_VerC-A.ddb - Documents\PAGE 8_ MANTA DRUM DRI

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S.FOUDIMOV	705-00005C-A SD01	CA09030
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S.FOUDIMOV		
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NOTE: INSTALL POLYSWITCH F2, F5, F6 ON THE LIONEL BOARD

LIONEL0 BOARD
10-4801B
Board Address = 0x40h

SCON1

J9 — SCON2 — 2X5 MINIFIT JR
+48V SAFE BRN 18
+48V SAFE RTN BLU 18
+24V SAFE GRN 18
+24V SAFE RTN WHT 18
+24V RED 18
CAN H RED 24
CAN L BLK 24
CHASSIS GRN 24
TERM DET WHT 24
+24 RTN BLK 18
DRAIN WIRE

To PDB J13 [5] SCON BUS — 10-5138A

J7 — DIG_IN2 — IDC_20PIN

J21 — 2X3 MINI-MATE

J13 — SCON 1 — MINIFIT 2X8 CAN
SAT_+48SAFE
SAT_+48SRTN
SAT_+24SAFE
SAT_+24SRTN
SAT_+24V
BRD_LOC+
BRD_LOC1-
BRD_LOC3-
CAN_H
CAN_L
CHASSIS
TERM_DET
SAT_+24RTN
BRD_LOC+
BRD_LOC0-
BRD_LOC2-

220-00169A — To GENINE 0 J24 SCON BUS [12]

J5 — PWM_OUT1 — MINIFIT 2X3 REC

J2 — SOL_DRV1 — SAMTEC, 2X8
BLK 22
PD
ACT 3 BLK-22
+24 V RED-22
ACT 4 GRN-22
+24 V WHT-22
ACT 5 BRN-22
+24 V ORG-22
ACT 6 BLU-22
YEL-22
ACT 7

220-00141A — MINIFIT 2X4
220-00143A

MINIFIT 1X2 — RED 22, BLK 22

HOME SIDE
J1 — REGISTRATION LEDS BRD — 10-5216A — MINIFIT 2X2
+24V LEDs PD+ PD-
RED 22, BLK 22

AWAY SIDE
J1 — REGISTRATION LEDS BRD — 10-5216A — MINIFIT 2X2
RED 22 BLK 22 +24V LEDs PD+ PD-

STATUS LIGHT LEDS BRD
J1 — 10-9063A — (Will be replaced with 503-09063B) — 1ROW IDC
RED 22 BLK 22 GRN LEDs
BLUE LEDs
YEL LEDs
PD+
PD-
RED-22 BLK-22

220-00142B — To RELEASE SV ADAPTOR RELEASE ADPT 2 [6]
(1) +24V RED-22
(12) RTN BLK-22

J11 — IDC, 14PIN
(5) EREG.SEN0+ RED-22
(6) EREG.SEN0- BLK-22
(7) EREG.SEN1+ ORG-22
(8) EREG.SEN1- GRN-22
(9) EREG.SEN2+ WHT-22
(10) EREG.SEN2- BRN-22

MINIFIT 2X3
220-00144A

J17 AN_1 1X6 MTA
J16 AN_2 1X6 MTA

MINIFIT 2X4 PWM_OUT2 J1 — HDR 2X15
RED 22 +24V
BLK 22 +24V
BRN 22 PWM4
PD PWM1+
PWM2
WHT 22 PWM3
GRN 22 PWM5
BLU 22 PWM6
BLK 22 PD PWM1-

220-00566A
RED 22 WHT 22 +24VDC 4-20mA Out
GRN 22 GND
BLU 22 PD+
BRN 22 PD-
PSEB BOARD 10-4581A — DRUM VACUUM — MTA 1X6

518-00552A — To DRUM VACUUM PUMP DRUM VAC. PUMP CONTROL [13]

CHILLER PRESSURE SWITCH
172-00045 — NO, PS, C
220-00411B — RED 22, BLK 22 — MATE1X4

10-9085A
RED-22 TO DSEN9. LED+ (1)
WHT-22 TO DSEN9.C (2)
GRN-22 TO DSEN9.E (3)
BLK-22 TO DSEN9. LED- (4)
RED-22 DSEN10.C (6)
BLK-22 DSEN10.E (7)

To DEBRIS REMOVAL [11] DEBRIS REMOVAL SENSORS
RED-22 TO DSEN11 LED+ (9)
WHT-22 TO DSEN11 C (10)
GRN-22 TO DSEN11 E (11)
BLK-22 TO DSEN11 LED- (12)
ORG-22 TO DSEN12 LED+ (13)
BLU-22 TO DSEN12 C (14)
YEL-22 TO DSEN12 E (15)
BRN-22 TO DSEN12 LED- (16)
RED-22 TO DSEN13 LED+ (17)
WHT-22 TO DSEN13 C (18)
GRN-22 TO DSEN13 E (19)
BLK-22 TO DSEN13 LED- (20)
ORG-22 TO DSEN14 LED+ (21)
BLU-22 TO DSEN14 C (22)
YEL-22 TO DSEN14 E (23)
BRN-22 TO DSEN14 LED- (24)

J8 — DIG_IN3

36-3125 — 10-4982A — 220-00145A
TEC_LOCK
LED+ RED 22 — RED 24 TO DSEN11 LED+ (9)
LED- BLK 22 — BLK 24 TO DSEN11 LED- (12)
COLLECTOR WHT 22 — WHT 24 TO DSEN11 C (10)
EMITTER GRN 22 — GRN 24 TO DSEN11 E (11)

36-3125 — 10-4982A — 220-00145A
TEC_UNLOCK
LED+ RED 22 — ORG 24 TO DSEN12 LED+ (13)
LED- BLK 22 — BRN 24 TO DSEN12 LED- (16)
COLLECTOR WHT 22 — BLU 24 TO DSEN12 C (14)
EMITTER GRN 22 — YEL 24 TO DSEN12 E (15)

MINIFIT 2X4
RED-22 BLK-22 WHT-22 GRN-22 ORG-22 BRN-22 BLU-22 YEL-22

36-3125 — 10-4982A — 220-00146A
LEC_LOCK
LED+ RED 22 — RED 24 TO DSEN13 LED+ (17)
LED- BLK 22 — BLK 24 TO DSEN13 LED- (20)
COLLECTOR WHT 22 — WHT 24 TO DSEN13 C (18)
EMITTER GRN 22 — GRN 24 TO DSEN13 E (19)

36-3125 — 10-4982A
LEC_UNLOCK
LED+ RED 22 — ORG 24 TO DSEN14 LED+ (21)
LED- BLK 22 — BRN 24 TO DSEN14 LED- (24)
COLLECTOR WHT 22 — BLU 24 TO DSEN14 C (22)
EMITTER GRN 22 — YEL 24 TO DSEN14 E (23)

MINIFIT 2X4
RED-22 BLK-22 WHT-22 GRN-22 ORG-22 BRN-22 BLU-22 YEL-22

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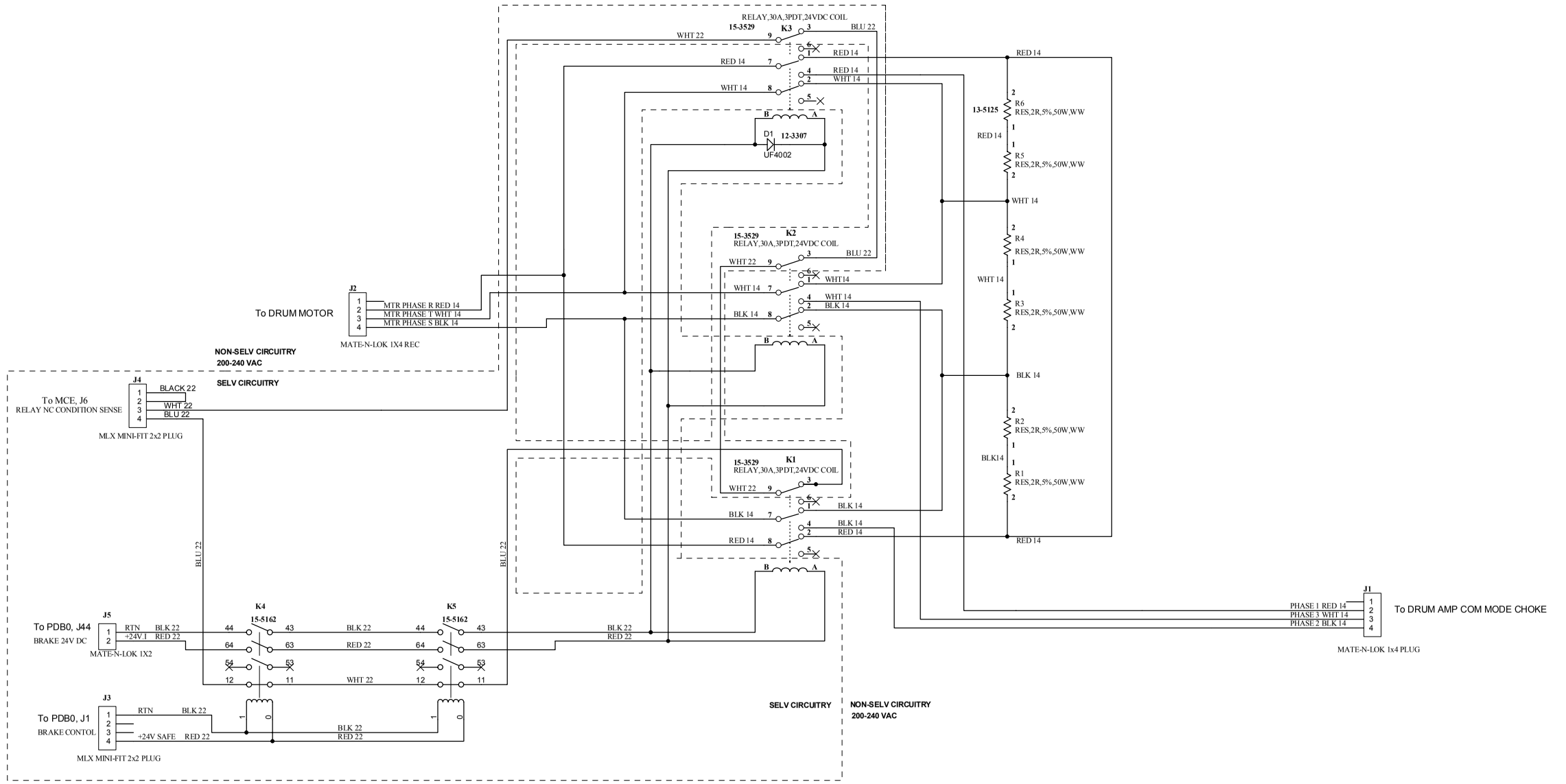
MTA SEMI-AUTOMATIC
LIONEL BOARD
WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta\System\Magnus Production Sep_04\MANUAL\Series 2_verC-A\MTA SEMI-AUTO_VerC-A.ddb - Documents\PAGE 9_ MANTA LIONEL BO

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DRUM RESISTIVE BRAKE ASSEMBLY 500-00058B

(See page 8 for details)



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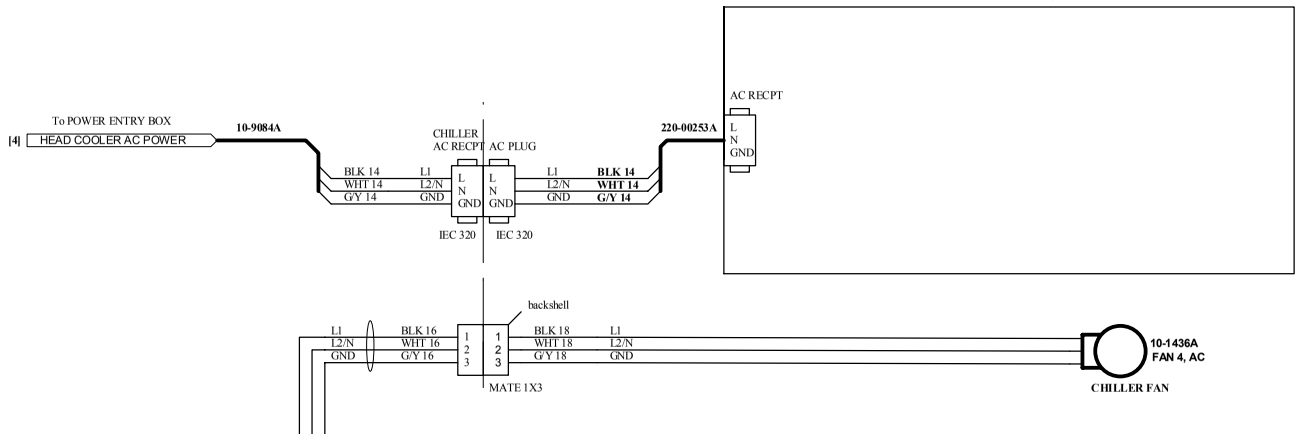
MTA SEMI-AUTOMATIC
DRUM RESISTIVE BRAKE
WIRING DIAGRAM

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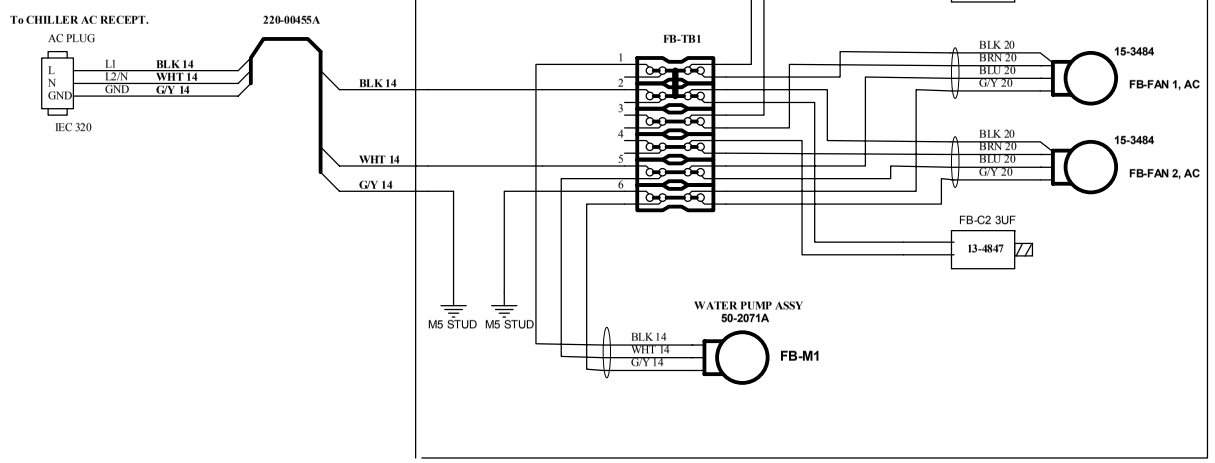
INTERNAL CHILLER (For TH 2)

602-00076 for 200-230V, 60Hz or 200V, 50Hz
602-00075 for 230V, 50Hz



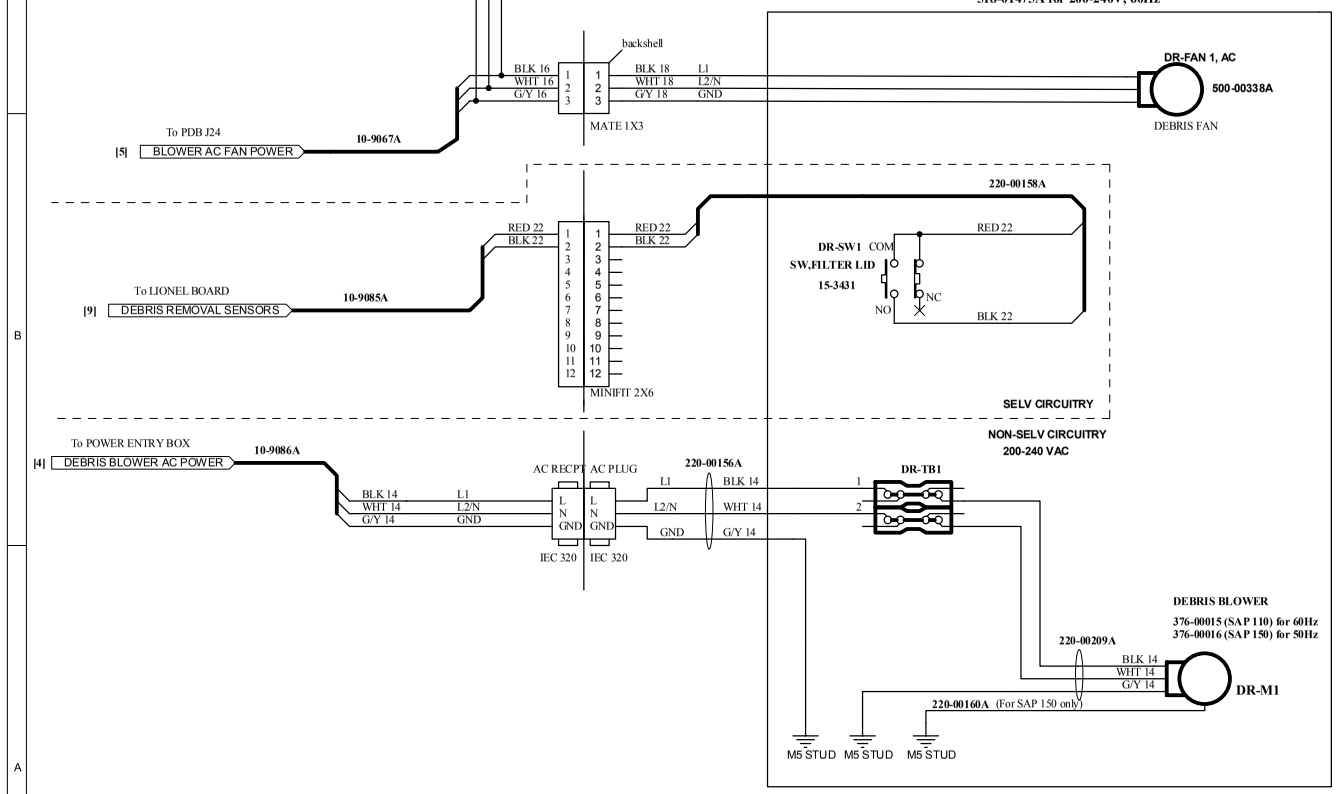
INTERNAL HEAT EXCHANGER ASSY (FOR TH 2.7)

11-1049A for 200-240V, 50/60 Hz



INTERNAL DEBRIS REMOVAL ASSY

518-01474A for 200-240V, 50Hz
518-01475A for 200-240V, 60Hz

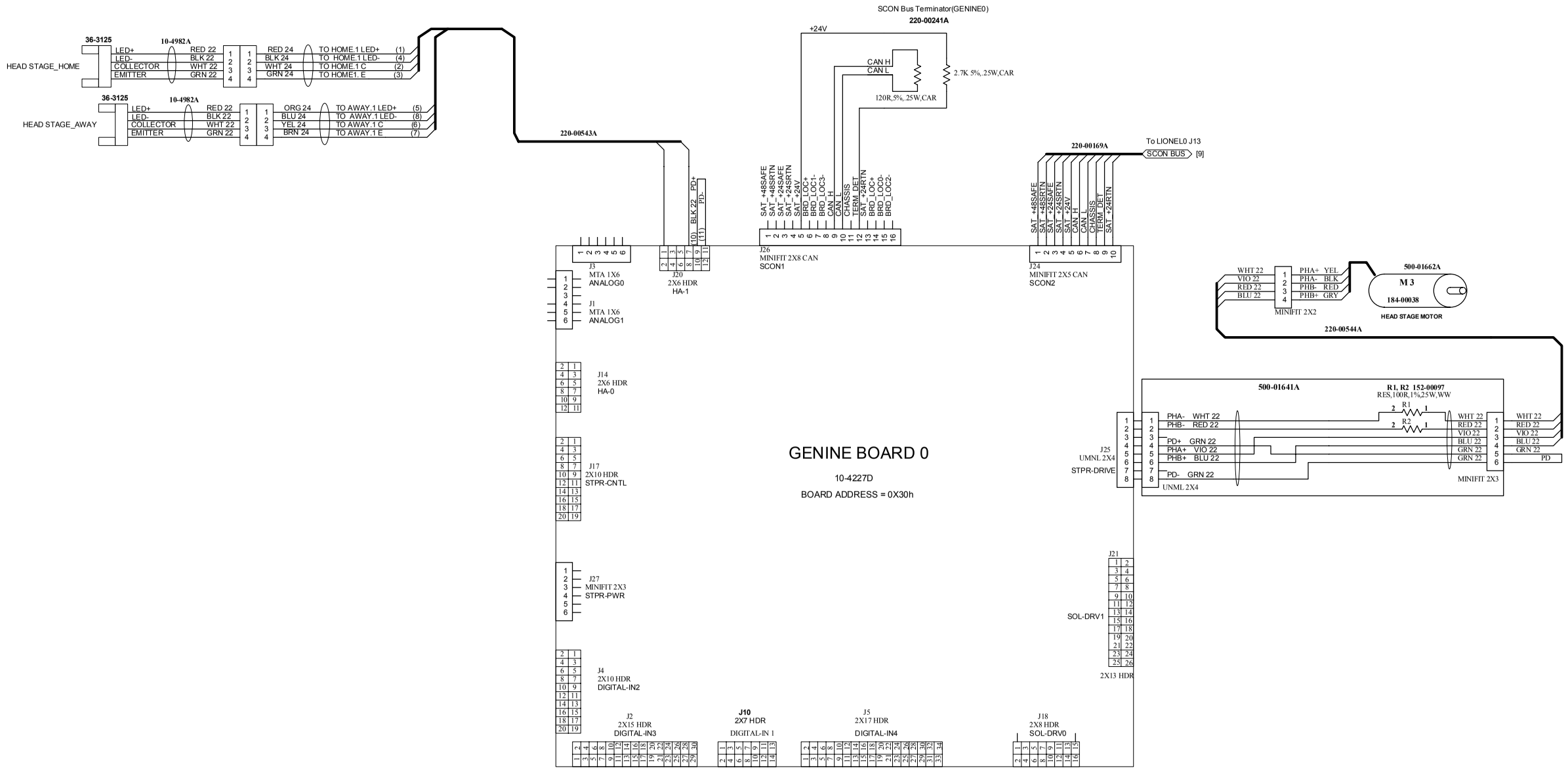


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MTA SEMI-AUTOMATIC
HEAD COOLER & DEBRIS WIRING DIAGRAM

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MTA SEMI-AUTOMATIC

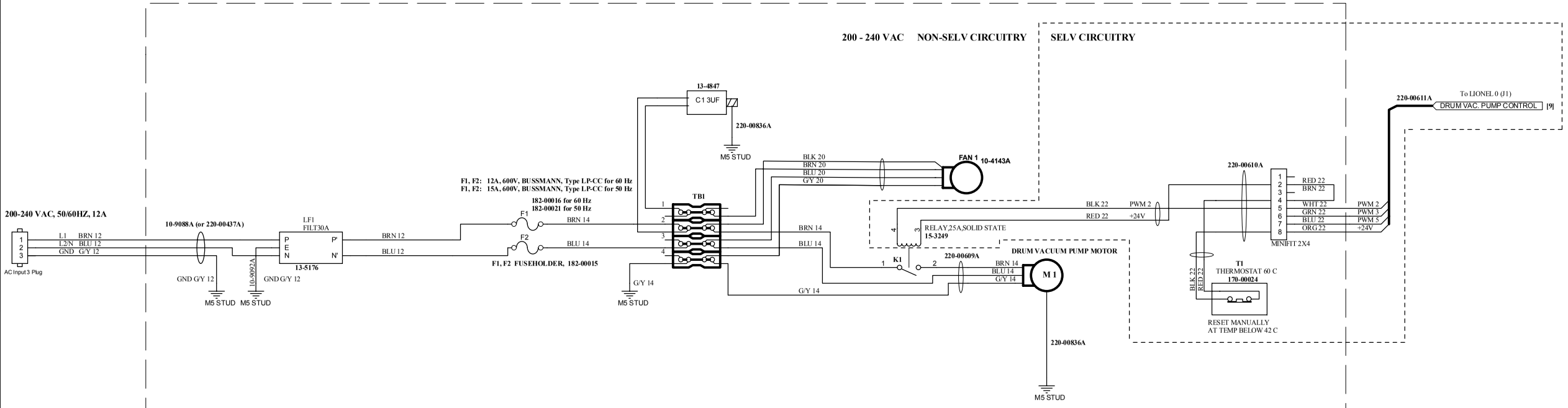
GENINE 0 BOARD

WIRING DIAGRAM

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MTA DRUM VACUUM PUMP ASSY (MTA-DVP) 518-01555B



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\\Ccaeng1\Engineering\Projects\Manta\System\Mechnical Production Sep_04\MANUAL\Series 2_verC-A\MTA SEMI-AUTO_VerC-A.ddb - Documents\PAGE 13_ MANTA DRUM VA		
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