MTA WIRING DIAGRAM

SERIES 2 AUTOLOADER (CL & MCU) OPTIONS

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SERIES 2 AUTOLOADER CONFIGURATIONS

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SERVICE INTERLOCK OVERRIDE SWITCH
SERVICE INTERLOCK OVERRIDE INDICATORS

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CAN BUS TERMINATOR
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MCU USER INTERFACE
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PROCESSOR INTERFACE BOARD

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EXTERNAL DRUM VACUUM PUMP

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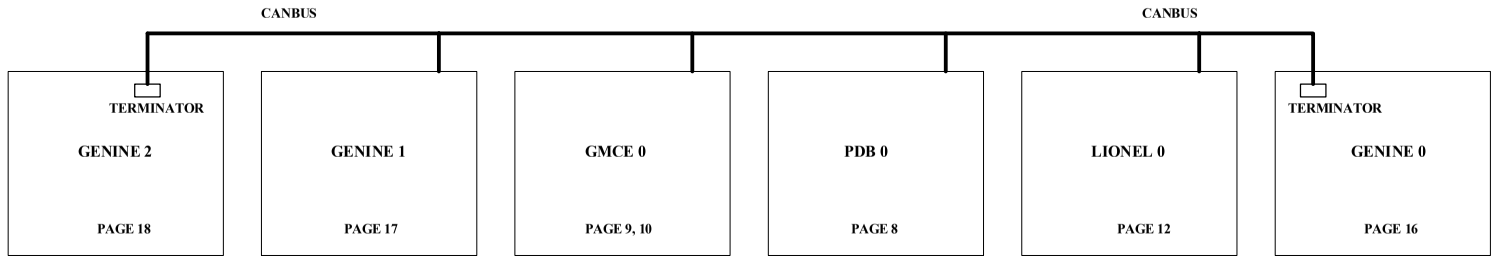
MTA AUTOLOADER
SERIES 2
SYSTEM WIRING DIAGRAM

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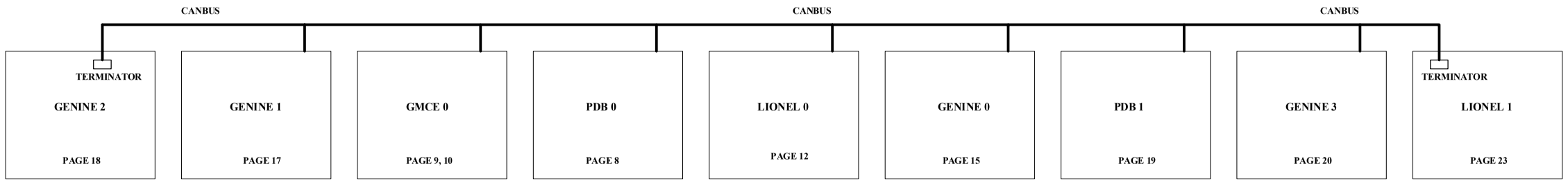
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MTA SERIES2 AUTOLOADER SATTELITE BOARD CONFIGURATIONS

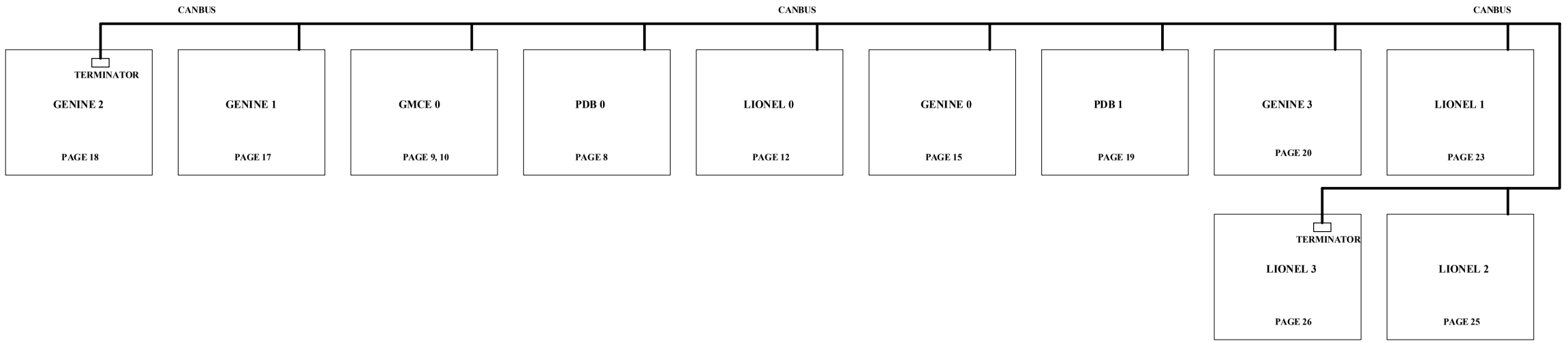
CL



MCU with WEDGE-MASTER (WM)



MCU with DM PICKER (DMPK)

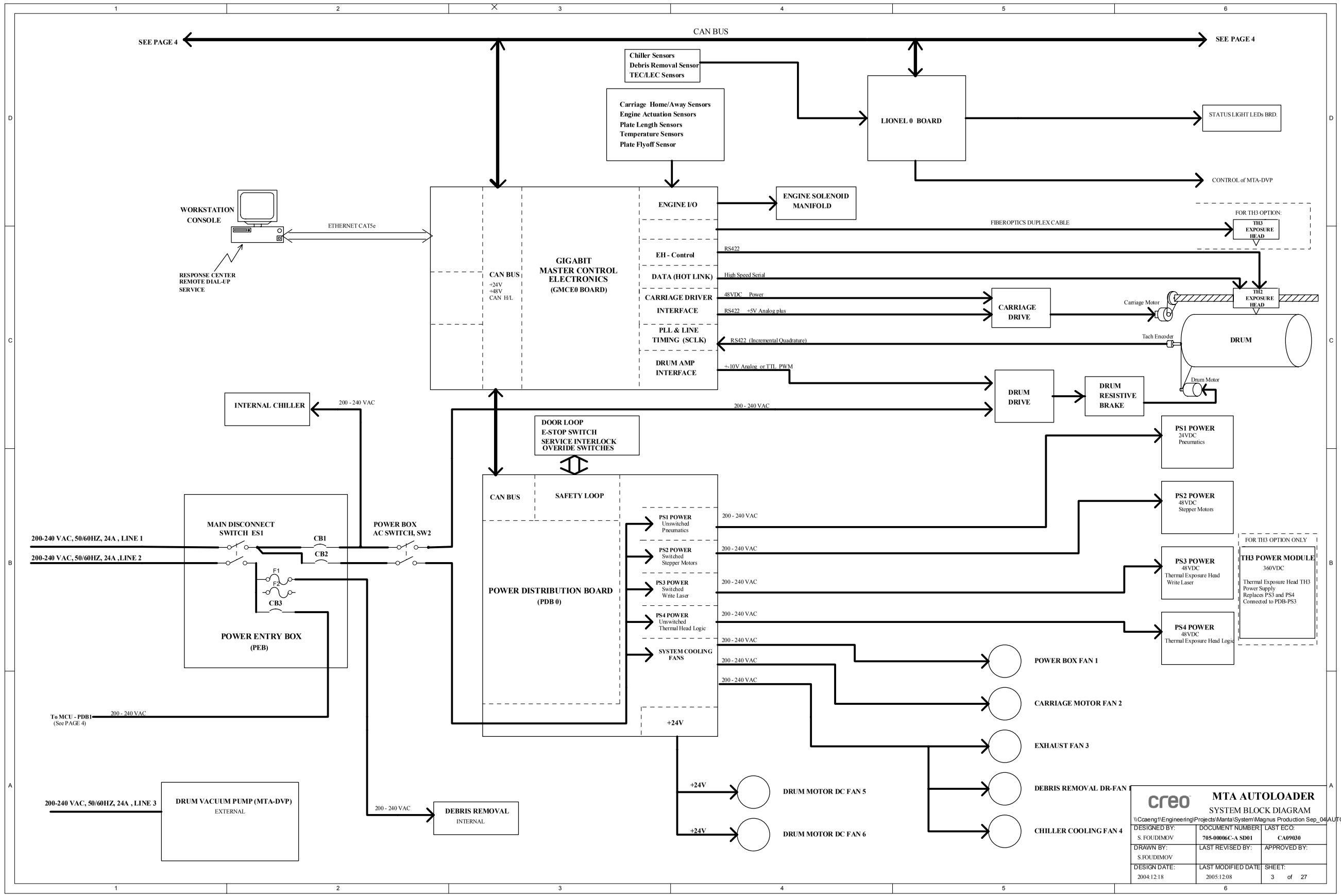


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MTA AUTOLOADER
AUTOLOADER CONFIGURATIONS

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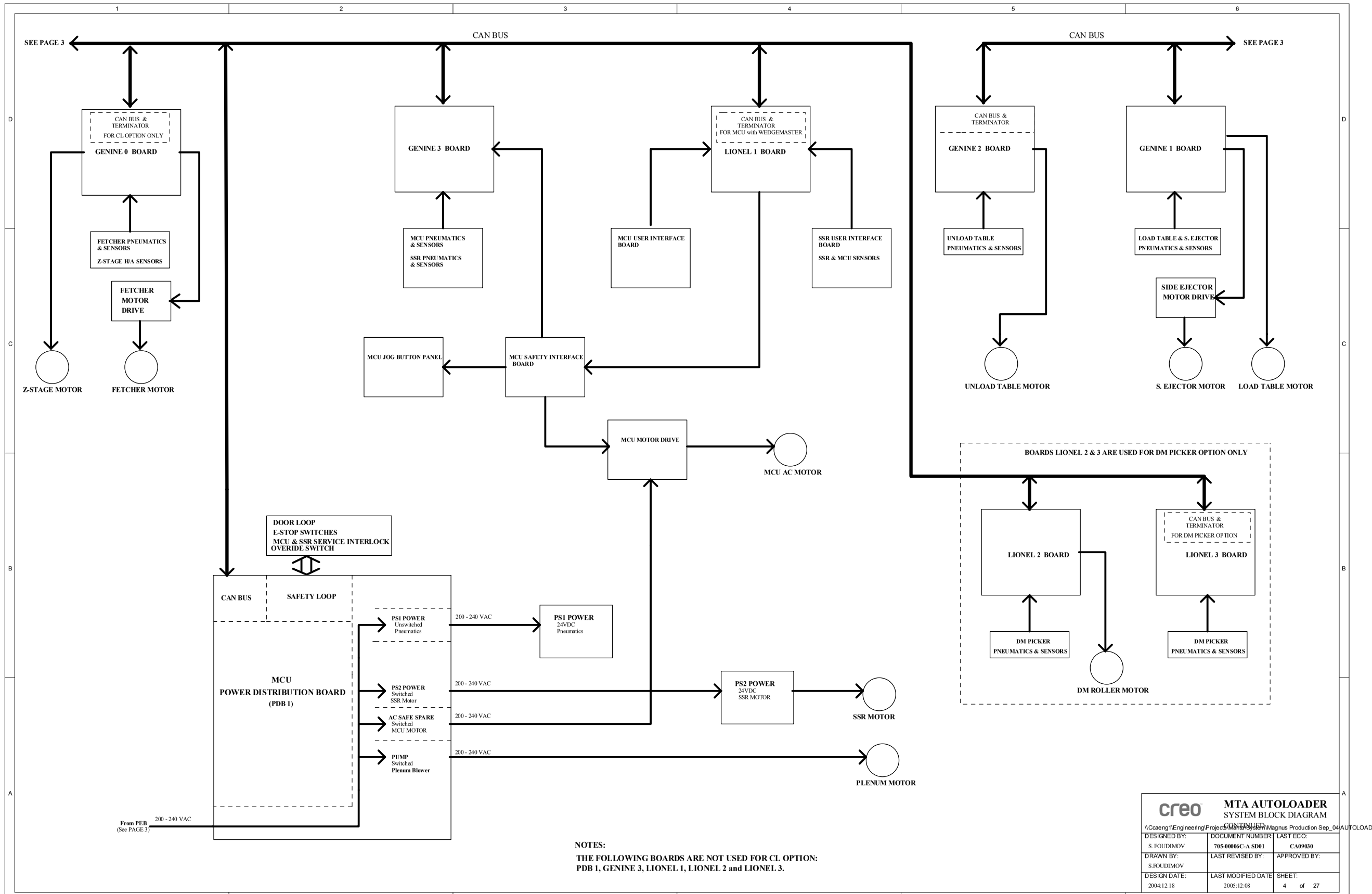
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MTA AUTOLOADER

SYSTEM BLOCK DIAGRAM

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NOTES:

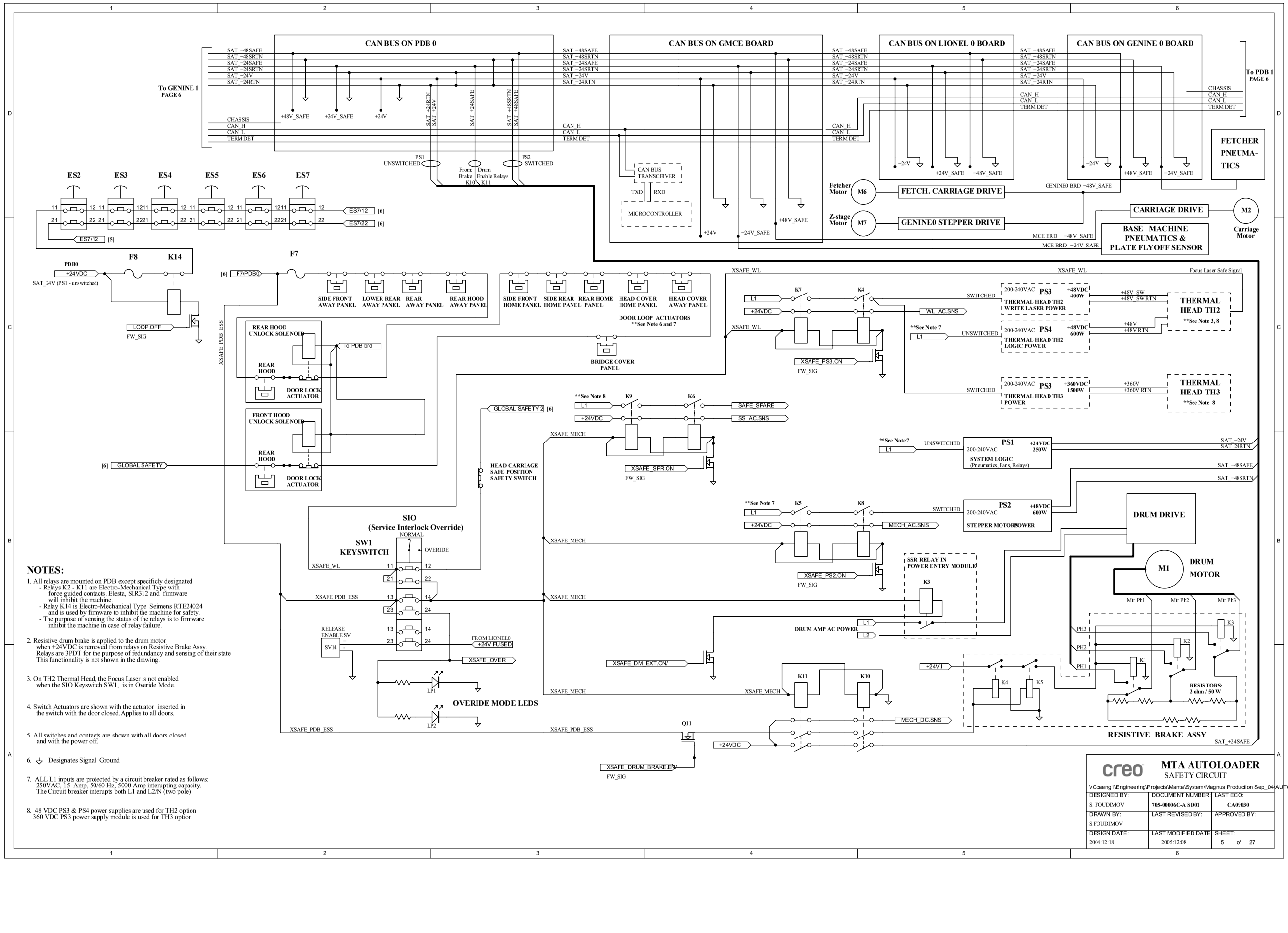
THE FOLLOWING BOARDS ARE NOT USED FOR CL OPTION:
PDB 1, GENINE 3, LIONEL 1, LIONEL 2 and LIONEL 3.

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MTA AUTOLOADER
SYSTEM BLOCK DIAGRAM
CONTINUED

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NOTES:

1. All relays are mounted on PDB except specifically designated
   - 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 interupting capacity. The Circuit breaker interupts both L1 and L2/N (two pole)
8. 48 VDC PS3 & PS4 power supplies are used for TH2 option 360 VDC PS3 power supply module is used for TH3 option

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MTA AUTOLOADER
SAFETY CIRCUIT

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CAN BUS ON PDB 1

CAN BUS ON GENINE 3 BOARD

CAN BUS ON LIONEL 1 BOARD

CAN BUS ON LIONEL 2 BOARD

CAN BUS ON LIONEL 3 BOARD

TERMINATOR
LIONEL 3 - J13

CAN BUS ON GENINE 2 BOARD

TERMINATOR
GENINE 2 - J26

FROM GENINE 0 PAGE 5

SAT_+24SAFE
SAT_+24SRTN
SAT_+24V
SAT_+24RTN
CAN_H
CAN_L
TERM DET

+24V_SAFE
+24V
CHASSIS
120 OHMS
2.7 K OHMS

MCU-PS1 250W
200-240VAC
+24VDC
24VRTN
SYSTEM LOGIC
(Pneumatics, Relays)
UNSW
L1

MCU, SSR & PICKER PNEUMATICS

DM PICKER PNEUMATICS

DM PICKER PNEUMATICS

SAT_+48SAFE
SAT_+48SRTN
+48V_SAFE

UNLOAD TABLE PNEUMATICS

GENINE 2 STEPPER DRIVE

M5
Unload Table Motor

From PDB 0 PAGE 5

CAN BUS ON GENINE 1 BOARD

LOAD TABLE & SIDE EJECTOR PNEUMATICS

GENINE 1 STEPPER DRIVE

M3
Load Table Motor

SIDE EJECTOR DRIVE

M4
Side Ejector Motor

ES1-MCU ES2-MCU ES1-SSR

ES7/22 [5]
F7/PDB0 [5]
ES7/12 [4]

MCU-PDB1
+24VDC
SAT_24V (PS1 - unswitched)
F8
K14
LOOP.OFF
FW_SIG

[5] GLOBAL SAFETY
GLOBAL SAFETY 2 [5]
GLOBAL SAFETY LOOP
[5] ES2/21
F7
XSAFE_PDB_ESS

CART HOME SAFETY SWITCH

SS BIN REAR DOOR
SS BIN COVER
MCU CASSETTE DOOR
MCU REAR RIGHT DOOR
MCU REAR LEFT DOOR
MCU SIDE ACCESS DOOR
MCU SIDE ACCESS DOOR

MCU LEFT ROOF SAFETY SWITCHES
MCU RIGHT ROOF SAFETY SWITCHES

**See Note 8
F6
K9
K6
L1
+24VDC
SAFE_SPARE
SS_AC.SNS
XSAFE_SPR.ON
FW_SIG

MCU AC MOTOR DRIVE

XSAFE_MECH

Mcu & SSR Service Interlock Override SIO

MCU-SW5
NORMAL
OVERIDE
XSAFE_WL
XSAFE_PDB_ESS
XSAFE_MECH

SSR Roller Motor
SSR M1
SSR +24V
SSR MOTOR OVERRIDE PBTN.
SSR-SW2

MANUAL JOG, SEMI-AUTO

XSAFE_OVER
LP1
MCU OVERIDE MODE LEDS
LP2

**See Note 7
K5
K8
L1
+24VDC
SWITCHED
MECH_AC.SNS
XSAFE_PS2.ON
FW_SIG

MCU POWER BOX RELAYS
K3
K4

MCU-PS2
200-240VAC
+24VDC 200W
SSR DC MOTOR POWER
SSR +24V

XSAFE_MECH

RUN, FORWARD, REVERSE, FREQ1, FREQ2

MCU-K1
MCU-K2
1 L1
2 T1
3 L2
4 T2
5 L3
6 T3
21 NC
22
A1 +
A2 -

MCU M1
MCU Casset Motor

CONTACTORS SENSE

CONTACTORS ON

MCU JOG BUTTON PANEL

MCU-SW1
2 POSITION LEVER SWITCH
SEMI-AUTO MODE
POS 2
MANUAL JOG MODE
POS 1

MCU-SW2
PUSHBUTTON
HOLD FOR SEMI-AUTO

13A
14A

MCU-SW3 JOG UP PUSHBUTTON

MCU-SW4 JOG DOWN PUSHBUTTON

JOGGED RUN, SEMI/AUTO RUN, JOG DOWN, MOTOR RUN

SSR MODULE

SSR LOCAL SAFETY LOOP
SS BIN FRONT DOOR SWITCH
+24VSAFE
SSR PNEUMATICS

SSR ROLLER EXTEND OVERRIDE PBTN.
SSR-SW1

MCU SAFETY BOARD

**See Note 8
F3
K1
L1
SAFE_SPARE

MCU M2
MCU Plenum Motor

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MTA AUTOLOADER
SAFETY CIRCUIT CONTINUED

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POWER ENTRY BOX (PEB) 11-1064A

200-240 VAC, 50/60HZ, 24A , LINE 1

AC Input 1 Plug — L1 BRN 12, L2/N BLU 12, GND G/Y 12

10-9088A (or 220-00437A)

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

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

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

GND G/Y 12 — M5 BOLT CHASSIS

GND G/Y 12 — M5 STUD PEB

GND G/Y 12 — 10-9092A — M5 STUD PEB

BLU 12, BRN12

10-9090A

10-5217A

CB1 CIRBKR 15A — 15-3085

BRN 12 — 12 — 11 BRN 14 — 1

BLU 12 — 22 — 12 BLU 14 — 2

TB1 — 10-5221A

10-5222A — BRN 14 — 1 — 2 — BLK 14

WHT 14

10-9084A — L1, L2/N, GND

G/Y 14 — M5 STUD PEB

AC POWER to CHILLER — HEAD COOLER AC POWER [14]

SELV

J1 — MATE 1X4

WHT 22, GRN 22, RED 22, BLK 22

10-9073A

RED 22, BLK 22

To K2 [7] K2 CONTROL

BLK-22, RED-22

K1 — 15-3249 RELAY,25A,SOLID STATE

10-9068A — To PDB0 J37 — HEAD COOLER & BLOWER ON/OFF [8]

ES1 EMRGENCY STOP & MAIN SWITCH 25A — 15-3525

1, 2, 3, 4, 5, 6, 7, 8

10-9090A

10-5218A

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 — P, E, N, P', N' — 162-00011

BRN12, BLU12

GND G/Y 12 — M5 STUD PEB

GND G/Y 12 — 10-9092A — M5 STUD PEB

SIO KEYSWITCH (2 POS) 15-3334

SW1 NORMAL (Shown in normal position) OVERIDE

11, 12, 21, 22, 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

10-3721A

+24V RED 22, RTN BLK 22, +24V WHT 22, RTN GRN 22

XSAFE_WL, XSAFE_ESS, MCU_OVER, XSAFE_MES, XSAFE_OVER, XSAFE_MECH

YEL 22, BLK 22, RED 22, WHT 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, BRN 22, BLU 22, GRN 22, YEL 22, BLK 22, BLU 22, ORG 22

RED 22, BLK 22 — To RELEASE SV ADAPTOR — RELEASE ADPT 1 [9]

To PDB J34, J35, J41 — OVERRIDE SW & LED [8]

SELV

CB2 CIRBKR 15A — 15-3085

BRN 12 — 12 — 11 BRN 14

BLU 12 — 22 — 21 BLU 14

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 — BRN 12, BLU 12 — 220-00834A — BRN 14, WHT 14 — BLK 14

F1, F2 FUSEHOLDER, 182-00015

10-9073A — K2 CONTROL [7]

BLK 22, RED 22 — K2 — 15-3249 RELAY,25A,SOLID STATE

SELV

10-5220A

CB3 (former CB4) CIRBKR 15A — 15-3085

BRN 12 — 12 — 11 BRN 14

BLU 12 — 22 — 21 BLU 14

220-00042A — J3 — MATE 1X2

RED 22, BLK 22

220-00044A — To PDB0 J44 — DRUM DRIVE AC ON/OFF [8]

SELV

BLK 22, RED 22

K3 — 15-3249 RELAY,25A,SOLID STATE

220-00049A — BRN14 — 1 — 2 — BRN 14

BLU 14

10-9075A — To SW2-1,3 in POWER BOX — DDRIVE AC POWER - SW2 [8] — L1, L2/N, GND

G/Y 14 — M5 STUD PEB

10-9077A — To SW2-5,7 in POWER BOX — PDB AC POWER - SW2 [8] — L1, L2/N, GND

G/Y 14 — M5 STUD PEB

10-9086B — AC POWER to DEBRIS REMOVAL MOTOR — DEBRIS BLOWER AC POWER [14] — L1, L2/N, GND

G/Y 14 — M5 STUD PEB

220-00352A — AC POWER to MCU (see NOTE1) — MCU AC POWER [19] — L1, L2/N, GND

G/Y 14 — M5 STUD PEB

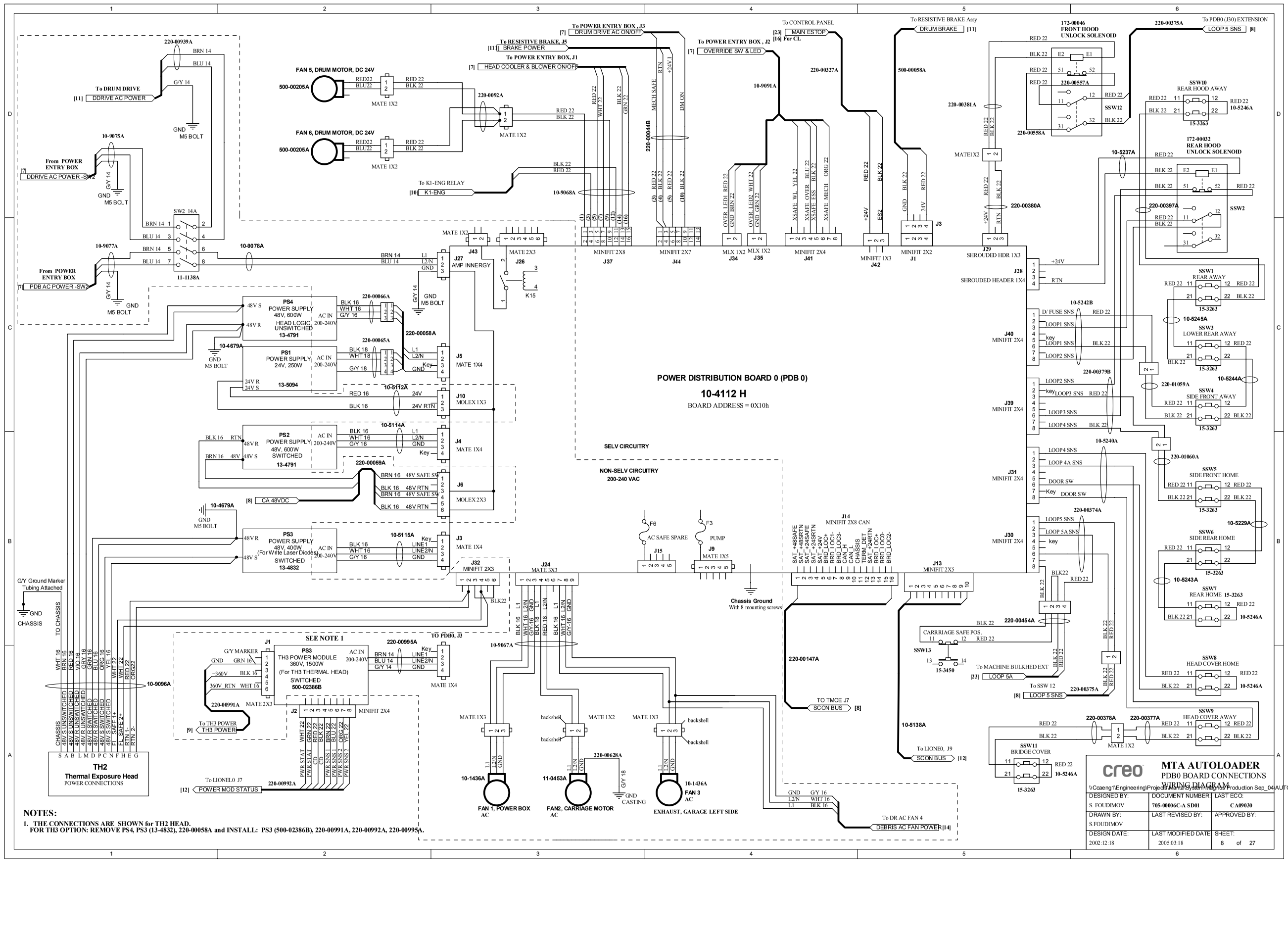
NOTES:
1. **CB3, 10-5220A, 220-00352A ARE NOT USED IN CL OPTION.**

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MTA AUTOLOADER
POWER ENTRY BOX
WIRING DIAGRAM

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POWER DISTRIBUTION BOARD 0 (PDB 0)
10-4112 H
BOARD ADDRESS = 0X10h
SELV CIRCUITRY
NON-SELV CIRCUITRY
200-240 VAC
To POWER ENTRY BOX , J3
[7] DRUM DRIVE AC ON/OFF
To RESISTIVE BRAKE, J5
[11] BRAKE POWER
To POWER ENTRY BOX, J1
[7] HEAD COOLER & BLOWER ON/OFF
To POWER ENTRY BOX , J2
[7] OVERRIDE SW & LED
To CONTROL PANEL
[23] MAIN ESTOP
[16] For CL
To RESISTIVE BRAKE Assy
DRUM BRAKE [11]
To PDB0 (J30) EXTENSION
LOOP 5 SNS [8]
To DRUM DRIVE
[11] DDRIVE AC POWER
From POWER ENTRY BOX
[7] DDRIVE AC POWER -SW2
[7] PDB AC POWER -SW2
To K1-ENG RELAY
[10] K1-ENG
FAN 5, DRUM MOTOR, DC 24V
FAN 6, DRUM MOTOR, DC 24V
500-00205A
MATE 1X2
220-0092A
220-00939A
10-9075A
10-9077A
10-9078A
11-1138A
SW2 14A
GND
M5 BOLT
J43
AMP INNERGY
J26
K15
J27
MATE 2X3
MINIFIT 2X8
J37
MINIFIT 2X7
J44
MLX 1X2
J34
MLX 1X2
J35
MINIFIT 2X4
J41
MINIFIT 1X3
J42
MINIFIT 2X2
J1
J3
MINIFIT 2X5
J13
MINIFIT 2X8 CAN
J14
MATE 3X3
J24
J15
F6
AC SAFE SPARE
F3
PUMP
J9
MATE 1X5
Chassis Ground
With 8 mounting screws
J29
SHROUDED HDR 1X3
J28
SHROUDED HEADER 1X4
J40
MINIFIT 2X4
J39
MINIFIT 2X4
J31
MINIFIT 2X4
J30
MINIFIT 2X4
J32
MINIFIT 2X3
J2
MINIFIT 2X4
J5
MATE 1X4
J10
MOLEX 1X3
J4
MATE 1X4
J6
MOLEX 2X3
J3
MATE 1X4
J1
MATE 1X4
PS4
POWER SUPPLY
48V, 600W
HEAD LOGIC, UNSWITCHED
13-4791
PS1
POWER SUPPLY
24V, 250W
13-5094
PS2
POWER SUPPLY
48V, 600W
SWITCHED
13-4791
PS3
POWER SUPPLY
48V, 400W
(For Write Laser Diodes)
SWITCHED
13-4832
PS3
TH3 POWER MODULE
360V, 1500W
(For TH3 THERMAL HEAD)
SWITCHED
500-02386B
SEE NOTE 1
TH2
Thermal Exposure Head
POWER CONNECTIONS
10-9067A
10-9096A
220-00147A
220-00991A
220-00992A
220-00995A
220-00066A
220-00065A
220-00058A
220-00059A
10-5112A
10-5114A
10-5115A
10-4679A
10-9068A
220-00044B
220-00327A
500-00058A
10-9091A
220-00381A
220-00380A
220-00454A
10-5138A
220-00628A
10-1436A
FAN 1, POWER BOX
AC
11-0453A
FAN2, CARRIAGE MOTOR
AC
FAN 3
AC
EXHAUST, GARAGE LEFT SIDE
172-00046
FRONT HOOD
UNLOCK SOLENOID
220-00557A
220-00558A
172-00032
REAR HOOD
UNLOCK SOLENOID
10-5237A
220-00397A
220-00375A
220-00374A
220-00379B
220-01059A
220-01060A
220-00378A
220-00377A
SSW10
REAR HOOD AWAY
10-5246A
15-3263
SSW12
SSW1
REAR AWAY
10-5242B
SSW3
LOWER REAR AWAY
10-5245A
10-5244A
SSW4
SIDE FRONT AWAY
SSW5
SIDE FRONT HOME
10-5240A
10-5229A
SSW6
SIDE REAR HOME
10-5243A
SSW7
REAR HOME
SSW2
SSW8
HEAD COVER HOME
SSW9
HEAD COVER AWAY
SSW11
BRIDGE COVER
SSW13
15-3450
CARRRIAGE SAFE POS.
To MACHINE BULKHED EXT
[23] LOOP 5A
To SSW 12
[8] LOOP 5 SNS
To TMCE J7
SCON BUS [8]
To LIONEL0 J9
SCON BUS [12]
To LIONEL0 J7
[12] POWER MOD STATUS
To TH3 POWER
[9] TH3 POWER
To DR AC FAN 4
DEBRIS AC FAN POWER [14]
[8] CA 48VDC
G/Y Ground Marker
Tubing Attached
CHASSIS
TO CHASSIS
TO PDB0, J3
NOTES:
1. THE CONNECTIONS ARE SHOWN for TH2 HEAD.
FOR TH3 OPTION: REMOVE PS4, PS3 (13-4832), 220-00058A and INSTALL: PS3 (500-02386B), 220-00991A, 220-00992A, 220-00995A.
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MTA AUTOLOADER
PDB0 BOARD CONNECTIONS
WIRING DIAGRAM
\\Ccaeng1\Engineering\Projects\Manta\System Images\ Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 8_PO
DESIGNED BY: S. FOUDIMOV
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SHEET: 8 of 27

TH3
THERMAL EXPOSURE HEAD
FLEX CABLE TRACK
EXPOSURE HEAD POWER 220-00991A To PS3 -J1 TH3 POWER [8]
EXPOSURE HEAD DATA and CONTROL 216-00117 To GMCE0- U126
TEMPERATURE-BALLSCREW 10-9094A To GMCE0 - J46
BALLSCREW TEMPERATURE SENSOR
10-0967A MATE 1X3
CONNECTIONS FOR TH3 OPTION

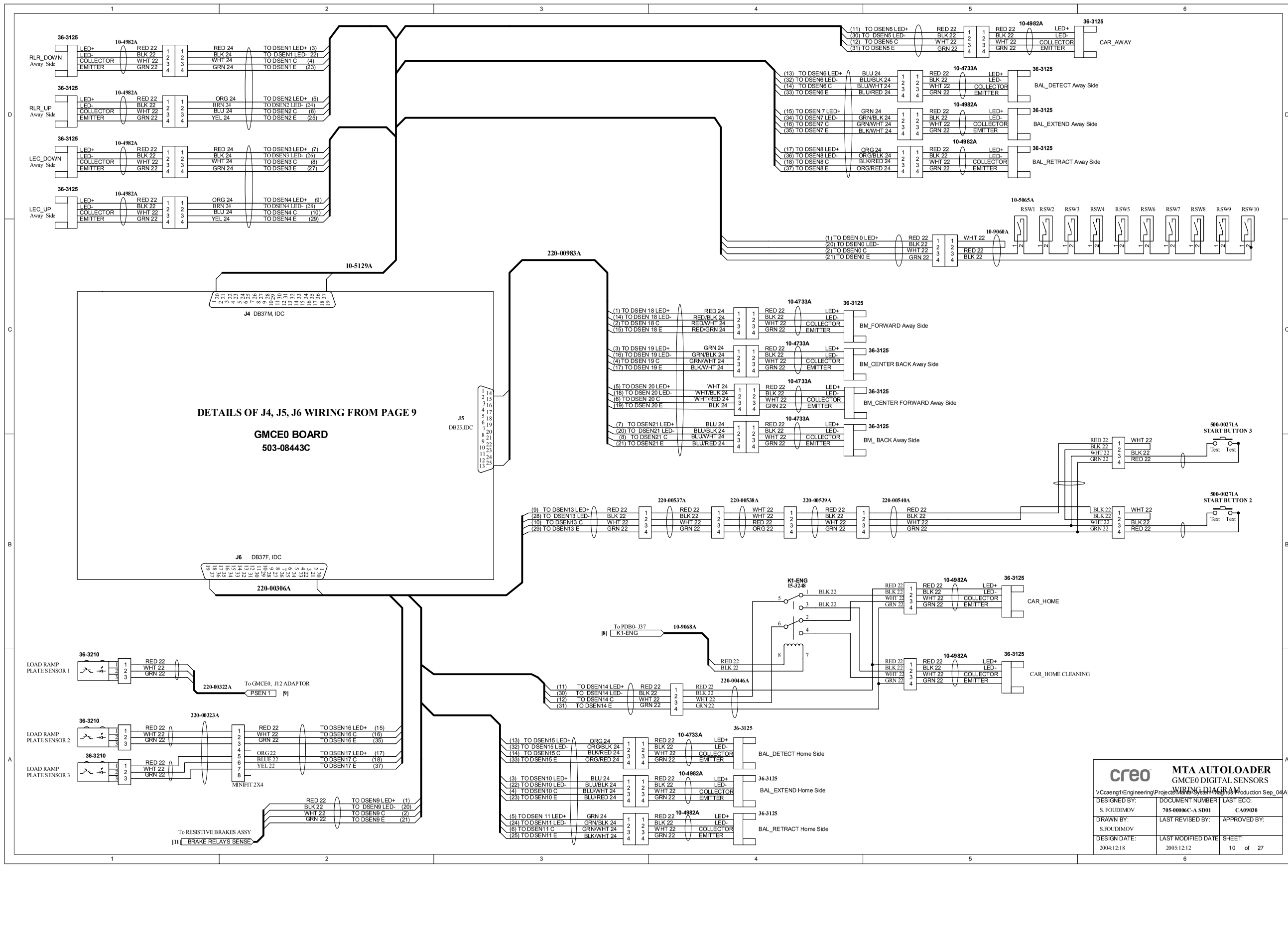
TH2
THERMAL EXPOSURE HEAD
FLEX CABLE TRACK
16 PIN SHELL
26 PIN SHELL
HOTLINK RG174
EXPOSURE HEAD POWER 10-9096A FROM PDB [7]
EXPOSURE HEAD-CONTROL 10-9093A
EXPOSURE HEAD DATA 10-9095A
TEMPERATURE-BALLSCREW 10-9094A
BALLSCREW TEMPERATURE SENSOR
10-0967A MATE 1X3
To GENINE1 J26 SCON BUS [17]
220-00170A
220-00941A TO DRUM DRIVE J5 DRUM DRIVE CONTROL [11]
To CONTROL PANEL [23] START BUTN
[16] For CL
220-00328A
220-00320A
To PLATE SEN 1 [10] PSEN 1
220-00322A
MINIFIT 2X2
PD BLK 22
IDC, MTA J12
IDC, MTA J43
IDC, 10PIN J16
MINIFIT 2X5 J8
DB9,IDC J46
RG174 HOT LINK J1
HDB44,IDC J2
DB 15, IDC J35
DB9,IDC J37
MANIFOLD INTERFACE BOARD 10-4727A
IDC,26PIN
J1
10-5140A
IDC,26PIN
J10
ENGINE SOLENOID BLOCK
10-5141A
J2 CON12
DRV0S BLK 24 RED 24 SV1 "roller on"
DRV0D BLK 24 PD SV14 "roller off"
DRV1S BLK 24 RED 24 SV2 LEC/TEC off
DRV1D BLK 24 RED 24 SV3 LEC/TEC on
DRV2S BLK 24 RED 24
DRV2D
10-5142A
J3 CON12
DRV3S BLK 24 RED 24 SV4 Backbone unload
DRV3D BLK 24 RED 24 SV5 Backbone load
DRV4S BLK 24 RED 24 SV6 Backbone tilt
DRV4D BLK 24 RED 24 SV7 Backbone horiz.
DRV5S BLK 24 RED 24 SV15 "headstage retract"
10-5143A
J4 CON12
DRV6S BLK 24 RED 24 SV8 "balancer extendhome"
DRV7S BLK 24 RED 24 SV9 "balancer extenaway"
DRV8S BLK 24 RED 24 SV10 "debris airjet on"
10-5144A
J5 CON12
DRV9S BLK 24 RED 24 SV11 "platedoor open"
DRV10S BLK 24 RED 24 SV12 "tec unlock"
DRV11S BLK 24 RED 24 SV13 LEC lock
220-00773A
BLK 24 RED 24 SV16 RELEASE ENABLE
RED 22 RED 24 1 2 RED 22 BLK 22 10-9091B To PEB_J2 RELEASE ADPT 1 [7]
MINIFIT 1X2
BLK 24 1 2 RED 22 BLK 22 220-00142B To LIONEL0_J11 RELEASE ADPT 2 [12]
MINIFIT 1X2
See details on PAGE 9
J4
J5
J6
REG. PROBE ASSY 11-1122B
220-00287A
J1 MINIFIT 2X4
WHT24 RED 24 ORG 24 BLU 24 GRN 24 BLK 22 RED 22 BLK 24
BRN 24 PROBE 2
RED24 PROBE 3
ORG24 PROBE 4
YEL 24 PROBE 5
GRN 24 PROBE 1
BLU 24 PD+
WHT 24 PD-
BLK 24 PROBE 6
220-00094A
MINIFIT 2X4
REG. PINS on DRUM
220-00337A
BLK 22
CONTINUITY SW ASSY 500-00855A
RED 22

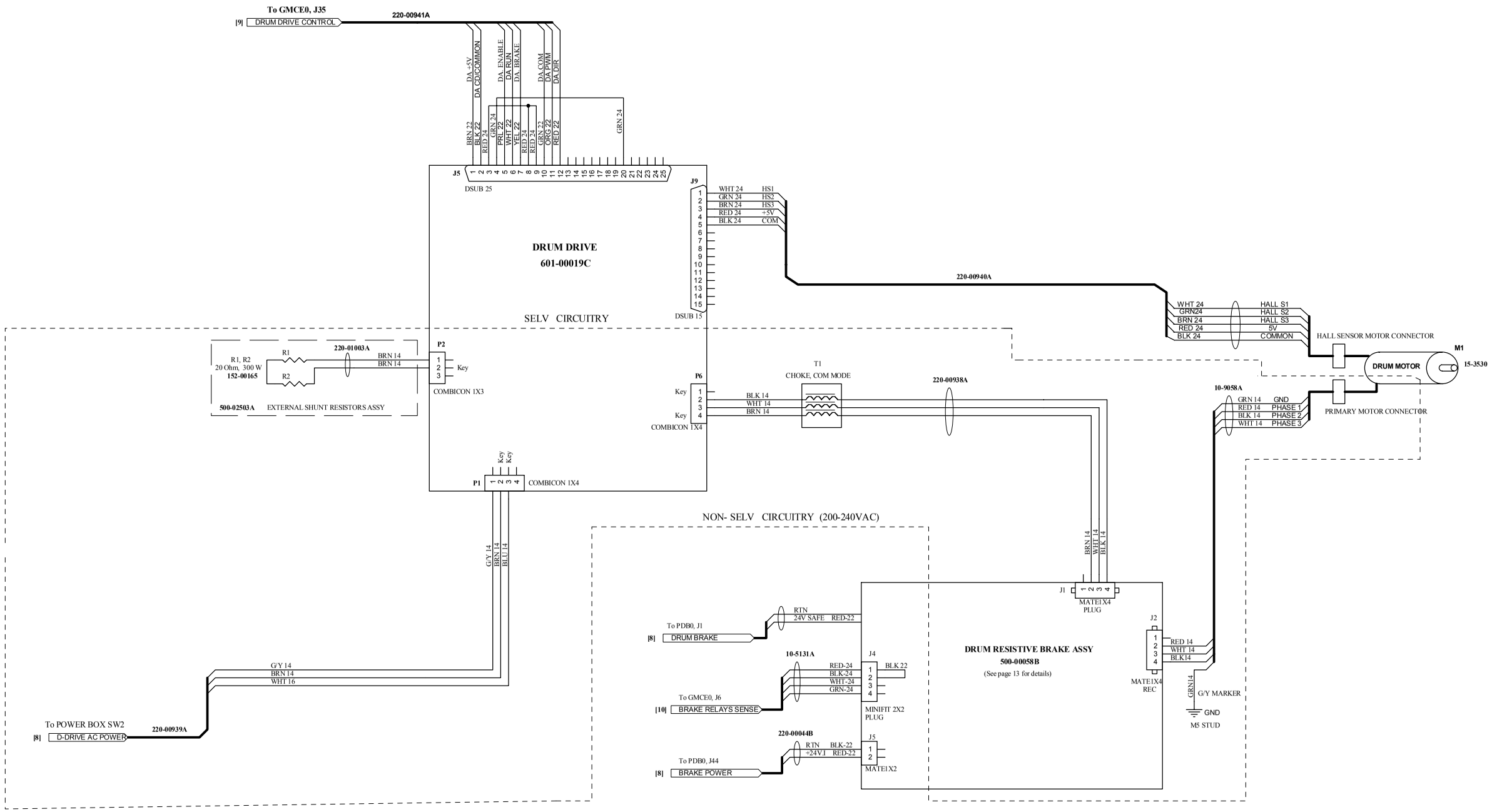
GMCE0 BOARD
503-08443C

WORKSTATION
ETHERNET CAT5e 216-00170 To GMCE-J42
CONNECTIONS FOR TH3 OPTION
DSUBB9PIN, IDC
DIAGNOSTIC PORT CABLE
J40 DB9,IDC
WORKSTATION
DSUBB9PIN, IDC
WORKSTATION PORT CABLE
J39 DB9,IDC
68 PIN
J42 SCSI 68 PINS
SCSI CABLE
TACH ENCODER 32-4130A
MCE-TACH 10-5146A
J20 HDB15,IDC
J30 MINIFIT 2X6
J26 IDC, 20PIN
J13 UMNL 3X3
J19 IDC, 1X8 PIN
J21 IDC, 14PIN
J24 MINIFIT 2X4
10-5117A
ENGINE TEMPERATURE SENSOR
10-0967A
THERMISTOR
10-5148A
MATE 1X3
TEMP1+ YEL 22
TEMP1- BLK 22
CARRIAGE AMP CONTROL
11-0506B
M 2 CARRIAGE MOTOR
GND CHASSIS
10-9062A
BLK 18 (RED PR)
WHT 18
RED 18
BLK 18 (WHT PR)
SHIELD
MATE 2X3
PHA:VO+
PHB:VO-
PHA:VO-
PHB:VO+
Gain 2 A/V
YEL 18
J3 503-00265A CARRIAGE DRIVE
J2 IDC, 20PIN
MINIFIT 2X4
J1 MATE 1X2
CARRIAGE AMP POWER
+48V SAFE BRN 16
RTN BLK 16
220-00059A
[8] CA 48VDC
PFO TRANSMITTER 36-3145
PFO RECEIVER 36-3118
PLATE FLYOFF SENSOR
220-00772A
10-9070A
J1 MINIFIT 2X6
J2 MINIFIT 2X4
6-PIN REGISTRATION BOARD 10-9053A
10-9069A
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

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MTA AUTOLOADER
GMCE0 INTERCONNECTIONS
WIRING DIAGRAM
\\Csaeng1\Engineering\Projects\Mta\System\mta Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 9_GM

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S. FOUDIMOV	705-00006C-A SD01	CA09030
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S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2004:12:18	2005:12:09	9 of 27


DETAILS OF J4, J5, J6 WIRING FROM PAGE 9
GMCE0 BOARD
503-08443C
J4 DB37M, IDC
J5 DB25,IDC
J6 DB37F, IDC
10-5129A
220-00983A
220-00306A
RLR_DOWN Away Side
RLR_UP Away Side
LEC_DOWN Away Side
LEC_UP Away Side
CAR_AWAY
BAL_DETECT Away Side
BAL_EXTEND Away Side
BAL_RETRACT Away Side
BM_FORWARD Away Side
BM_CENTER BACK Away Side
BM_CENTER FORWARD Away Side
BM_ BACK Away Side
START BUTTON 3
START BUTTON 2
CAR_HOME
CAR_HOME CLEANING
BAL_DETECT Home Side
BAL_EXTEND Home Side
BAL_RETRACT Home Side
LOAD RAMP PLATE SENSOR 1
LOAD RAMP PLATE SENSOR 2
LOAD RAMP PLATE SENSOR 3
To GMCE0, J12 ADAPTOR
To PDB0- J37
To RESISTIVE BRAKES ASSY
BRAKE RELAYS SENSE
MINIFIT 2X4
MTA AUTOLOADER
GMCE0 DIGITAL SENSORS
WIRING DIAGRAM
\\Csaeng1\Engineering\Projects\Mta\System Drawings\Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 10_GM
S. FOUDIMOV
705-00006C-A SD01
CA09030
2004:12:18
2005:12:12
10 of 27



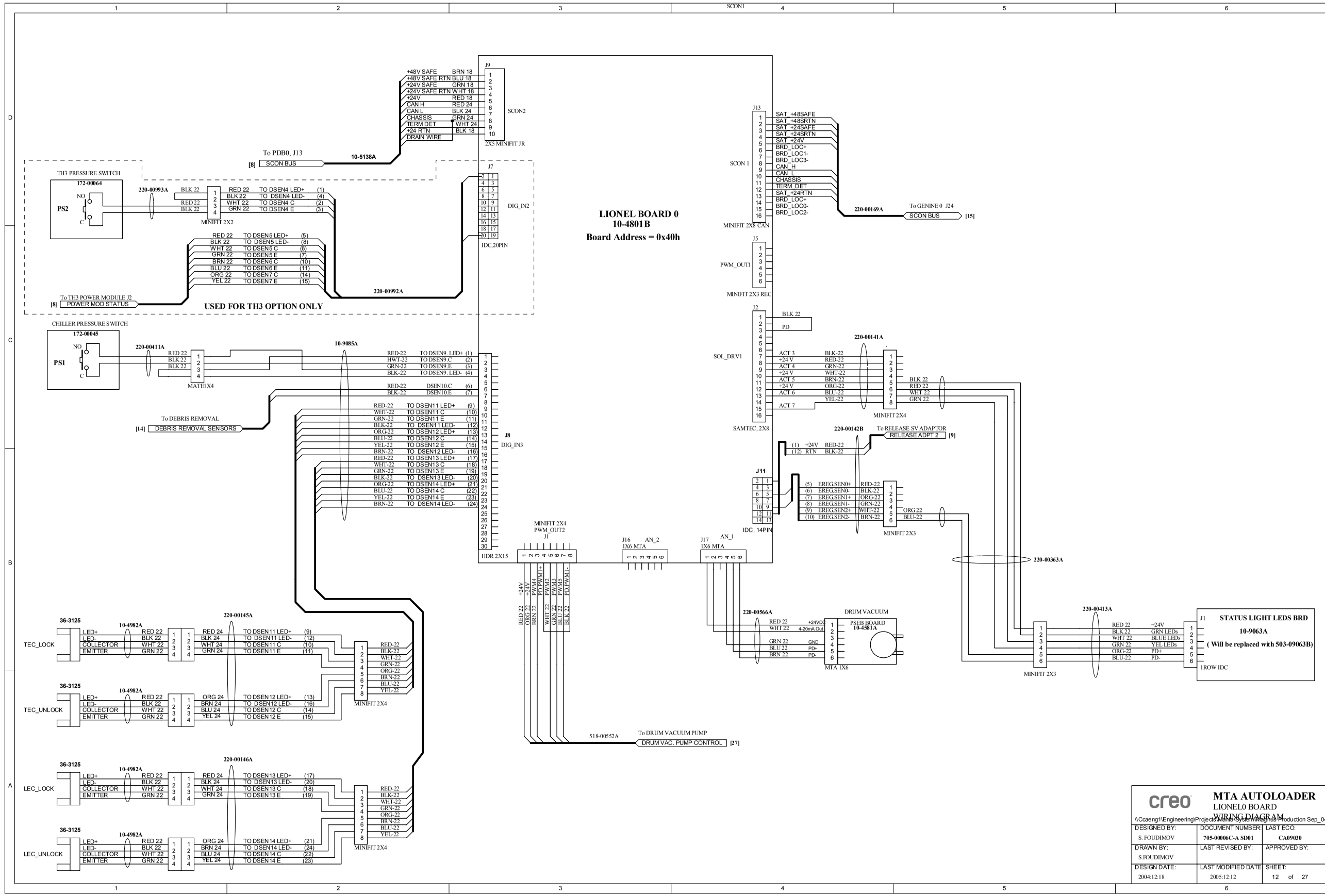
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MTA AUTOLOADER

DRUM DRIVER & MOTOR WIRING DIAGRAM

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S.FOUDIMOV		
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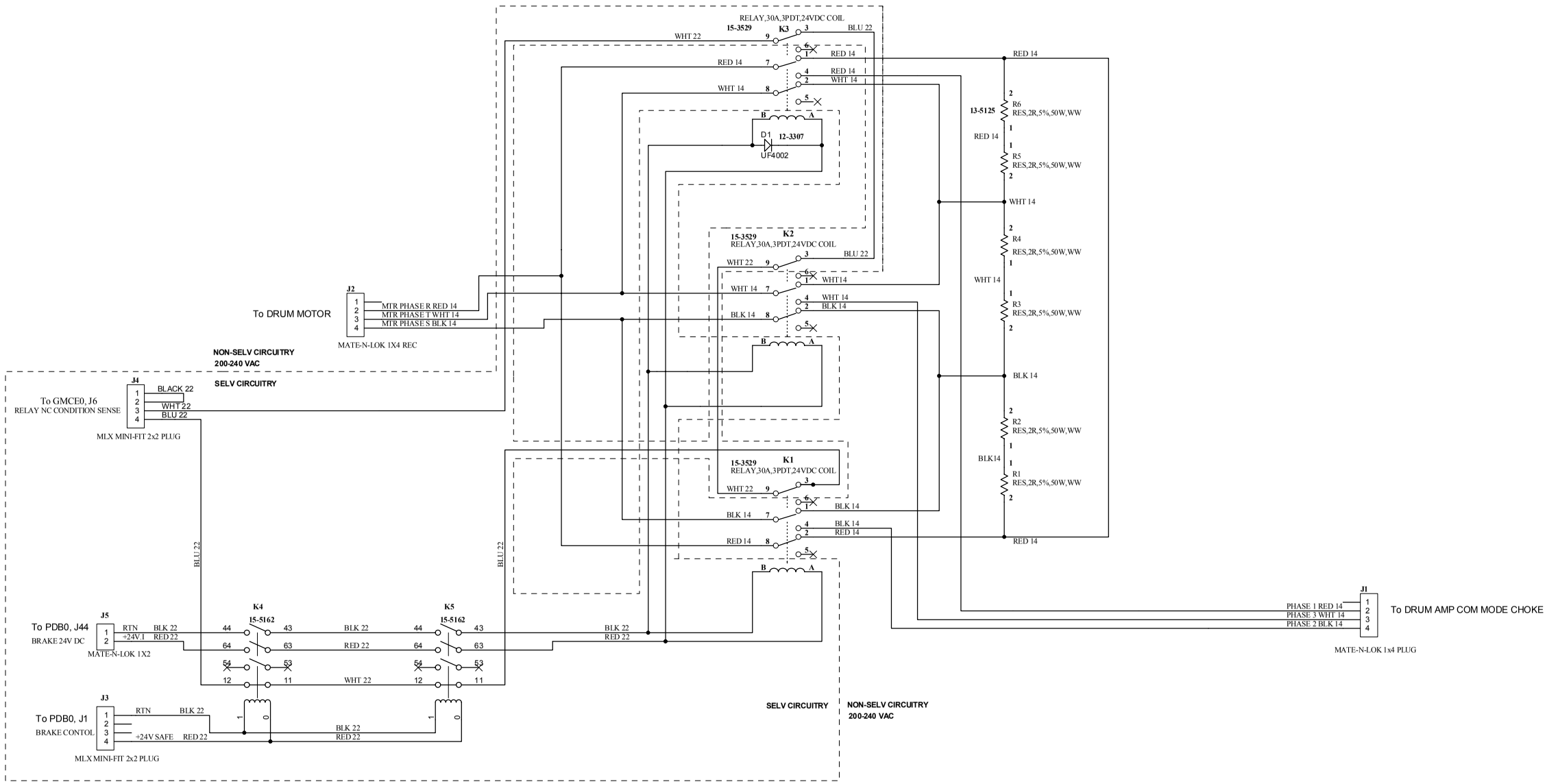
MTA AUTOLOADER
LIONEL0 BOARD
WIRING DIAGRAM

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S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2004:12:18	2005:12:12	12 of 27

DRUM RESISTIVE BRAKE ASSEMBLY 500-00058B

(See page 11 for details)



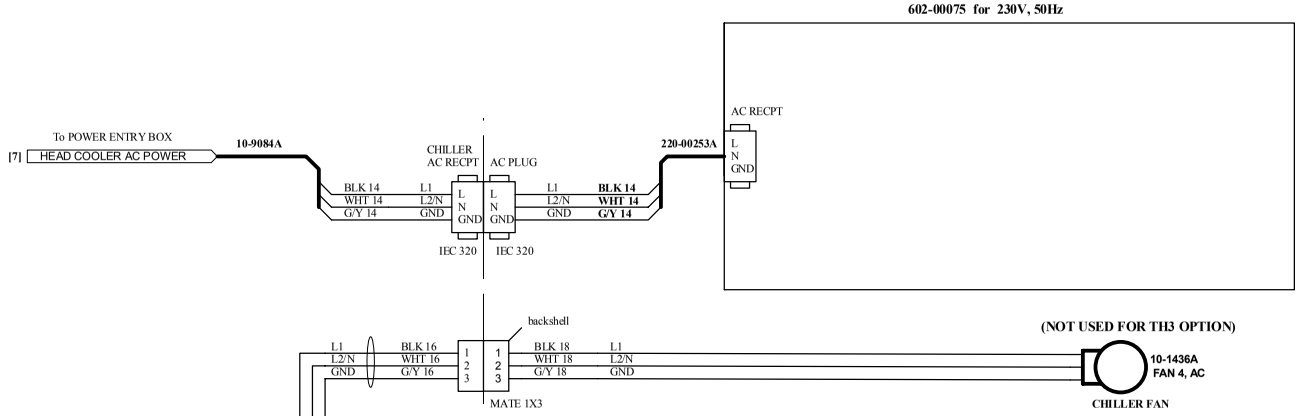
creo	**MTA AUTOLOADER**
	DRUM RESISTIVE BRAKE
	WIRING DIAGRAM

\\Ccaeng1\Engineering\Projects\Manta\Systemdrgings\Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 13_D

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S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2004:12:18	2005:12:12	13 of 27

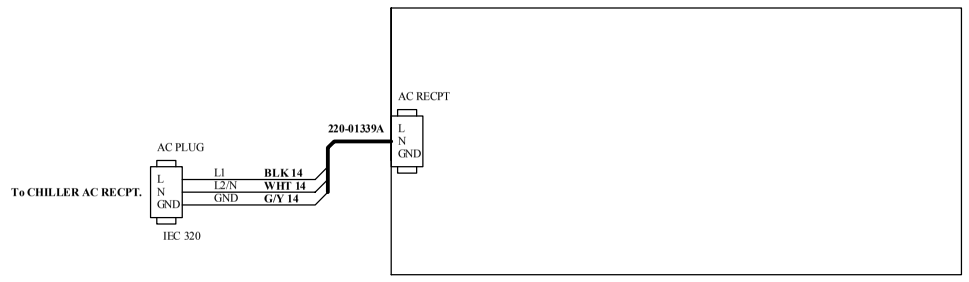
INTERNAL CHILLER (For TH 2)

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



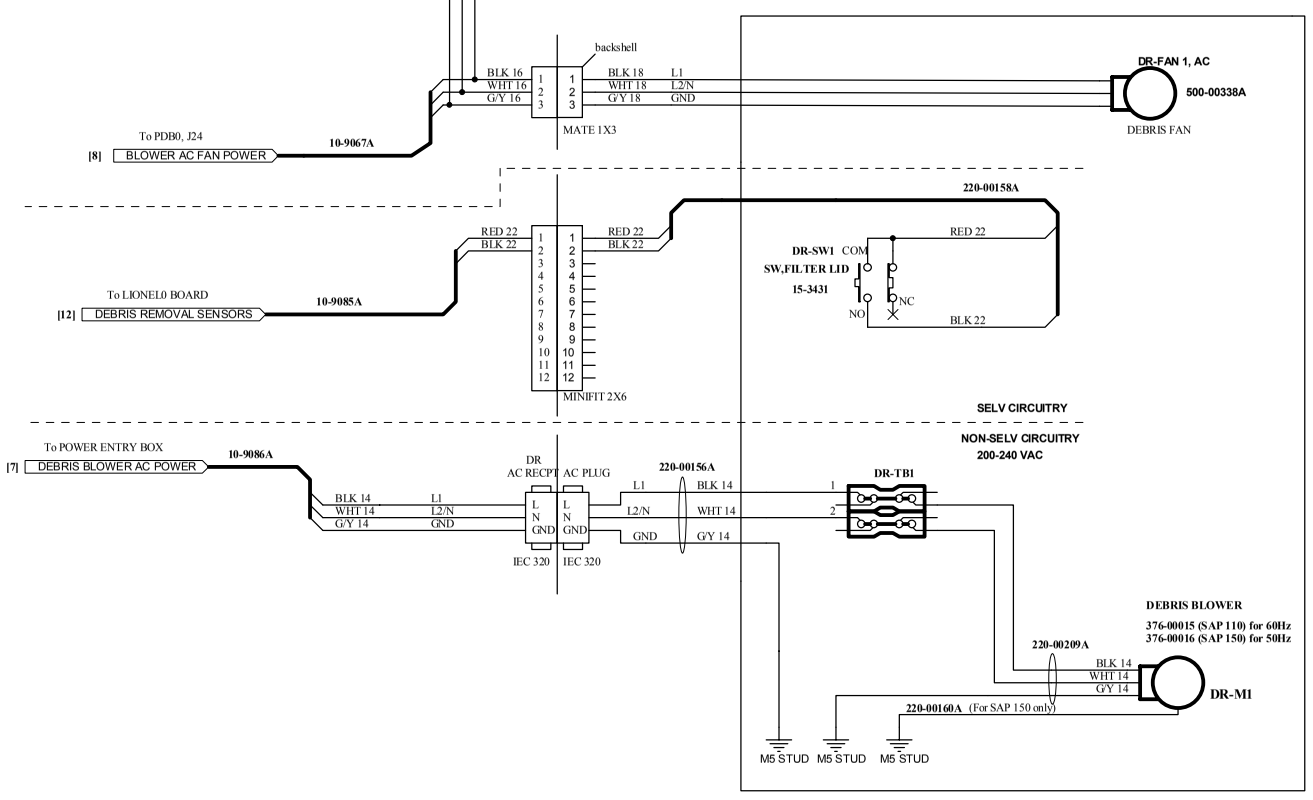
EXTERNAL CHILLER (For TH 3)

500-01405A for 60Hz
500-03396A for 50Hz



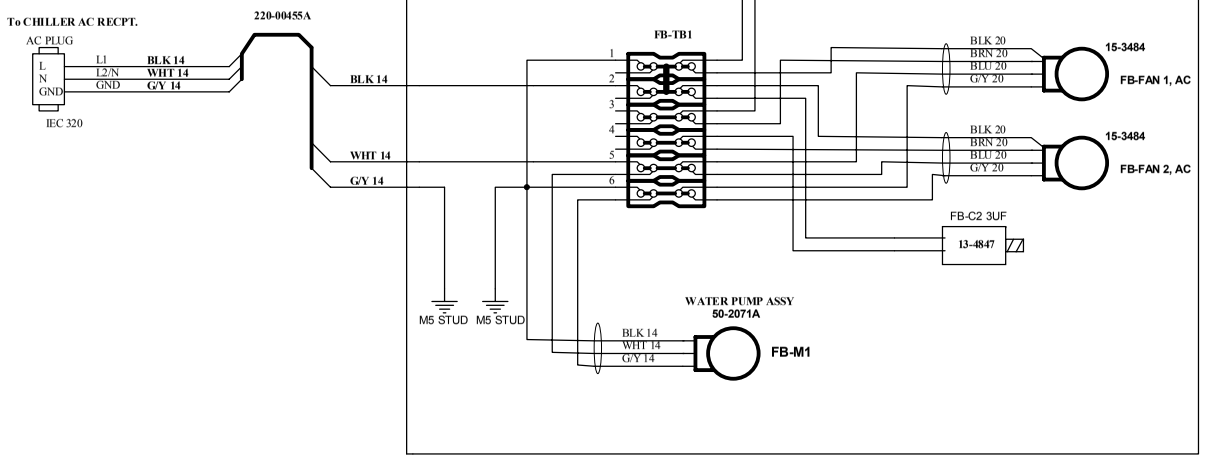
INTERNAL DEBRIS REMOVAL ASSY

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



INTERNAL HEAT EXCHANGER ASSY (For TH 2.7)

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



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MTA AUTOLOADER
HEAD COOLER & DEBRIS WIRING DIAGRAM

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DESIGNED BY:	DOCUMENT NUMBER:	LAST ECO:
S.FOUDIMOV	**705-00006C-A SD01**	**CA09030**
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S.FOUDIMOV		
DESIGN DATE:	LAST MODIFIED DATE:	SHEET:
2004:12:18	2005:12:12	14 of 27

GENINE BOARD 0

10-4227D

BOARD ADDRESS = 0X30h

NOT USED FOR TH3 OPTION

HEAD STAGE_HOME — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — RED 24 TO HOME.1 LED+ (1), BLK 24 TO HOME.1 LED- (4), WHT 24 TO HOME.1 C (2), GRN 24 TO HOME1. E (3)

HEAD STAGE_AWAY — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — ORG 24 TO AWAY.1 LED+ (5), BLU 24 TO AWAY.1 LED- (8), YEL 24 TO AWAY.1 C (6), BRN 24 TO AWAY.1 E (7)

220-00543A

FETCHER PRESSURE — PRESSURE SENSE BOARD 10-4887A — MTA 1X6

SS VACUUM — PSEB BOARD 10-4581A — MTA 1X6

220-00225A — RED 22, WHT 22, GRN 22, BLU 22, BRN 22, ORG 22, VIO 22, YEL 22, GRY 22, BLK 22 — MINIFIT 2X5

220-00227A (Add 220--00432A for L-R config.) — RED 24, WHT 24, GRN 24, BLU 24, WHT-BLK 24, ORG 24, RED-WHT 24, BLU-BLK 24, ORG-BLK 24, BLK 24 — MINIFIT 2X5

220-00226A — RED 22 WHT 22 +24VDC 4-20mA Out NC; GRN 22 BLU 22 GND PD+ PD-; BRN 22 ORG 22 VIO 22 +24VDC 4-20mA Out NC; YEL 22 GRY 22 BLK 22 GND PD+ PD-

J3 MTA 1X6 ANALOG0

J1 MTA 1X6 ANALOG1

J20 2X6 HDR HA-1

UNUSED — J11 UMNL 2X3 TEMP

UNUSED — J13 DIRF RS232 PORT

J26 MINIFIT 2X8 CAN SCON1 — SAT_+48SAFE, SAT_-48SRTN, SAT_-24SAFE, SAT_-24SRTN, BRD_LOC1-, BRD_LOC3-, CAN_H, CAN_L, CHASSIS, TERM_DET, SAT_+24RTN, BRD_LOC+, BRD_LOC0, BRD_LOC2-

220-00325A — To BULKHEAD MOD#2 SCON BUS [23] — RED24, BLK24, WHT24, GRN 24, BRN_WIRE, RED 22 — MINIFIT 2X4

220-00435A — RED 24, BLK 24, GRN 24, WHT 24, BRN_WIRE, RED 22

220-00169A — To LIONEL0 J13 SCON BUS [12] — SAT_+48SAFE, SAT_-48SRTN, SAT_-24SAFE, SAT_-24SRTN, SAT_+24V, CAN_H, CAN_L, CHASSIS, TERM_DET, SAT_+24RTN

J24 MINIFIT 2X5 CAN SCON2

NOT USED FOR TH3 OPTION

WHT 22 VIO 22 RED 22 BLU 22 — MINIFIT 2X2 — PHA+ YEL, PHA- BLK, PHB- RED, PHB+ GRY — 500-01662A M 7 184-00038 HEAD STAGE MOTOR

220-00544A

J25 UMNL 2X4 STPR-DRIVE — PHA- WHT 22, PHB- RED 22, PD+ GRN 22, PHA+ VIO 22, PHB+ BLU 22, PD- GRN 22 — UNML 2X4

500-01641A — R1, R2 152-00097 RES, 100R, 1%, 25W, WW — WHT 22, RED 22, VIO 22, BLU 22, GRN 22, PD — MINIFIT 2X3

220-00192A — PD+ BLK 22 (10), PD- (12) — J14 2X6 HDR HA-0

220-00230A — J17 2X10 HDR STPR-CNTL

FETCHER_HOME — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — RED 24 TO HOME.0 LED+ (1), BLK 24 TO HOME.0 LED- (4), WHT 24 TO HOME.0 C (2), GRN 24 TO HOME0. E (3)

FETCHER_AWAY — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — RED 24 TO AWAY.0 LED+ (5), BLK 24 TO AWAY.0 LED- (8), WHT 24 TO AWAY.0 C (6), GRN 24 TO AWAY.0 E (7)

(Add 220-00431A for L-R config.) — (1) ACT8+ RED 22, (2) ACT9+ WHT 22, (3) ACT10+ GRN 22, (4) ACT11+ BLU 22, (5) ACT12+ PRP, (6) ACT13+ ORG 22, (7) ACT14+ VIO 22, (8) ACT15+ YEL 22, (9) ACT16+ GRY 22, (25) +24V SAFE BLK 22, (26) +24V SAFE BRN 22 — RED 24 ACT8+, WHT 24 ACT9+, GRN 24 ACT10+, BLU 24 ACT11+, WHT-BLK 24 ACT12+, ORG 24 ACT13+, RED-WHT 24 ACT14+, BLU-BLK 24 ACT15+, ORG-BLK 24 ACT16+, BLK 24 +24V SAFE, GRN-BLK 24 +24V SAFE — MINIFIT 2X6

FETCHER MOTOR 11-0851B — M 6 — GND CHASSIS — BLK 18 (RED PR), BLK 18 (WHT PR), RED 18, WHT 18 — MATE 2X3

220-00191A — PHA:VO+, PHB:VO+, PHA:VO-, PHB:VO-, SHIELD — Gain 2 A/V — YEL 18

J2 IDC, 20PIN — 503-00265A CARRIAGE DRIVE — J3 MINIFIT 2X4

J1 — +48V SAFE, RTN — MATE 1X2

220-00190A — BRN 16, BLK 16, BLK 22 — J27 MINIFIT 2X3 STPR-PWR

PD

220-00231A

(Add 220-00430A for L-R config.) — RED 24, WHT 24, GRN 24, BLU 24, WHT-BLK 24, ORG 24, RED-WHT 24, BLU-BLK 24, ORG-BLK 24 — RED 22 TO DSEN4 LED+ (1), WHT 22 TO DSEN4 LED- (4), VIO 22 TO DSEN4 C (2), GRN 22 TO DSEN4 E (3), ORG 22 TO DSEN5 LED+ (5), BRN 22 TO DSEN5 C (6), BLU 22 TO DSEN5 E (7), GRY 22 TO DSEN6 C (10), YEL 22 TO DSEN6 E (11) — MINIFIT 2X5

J4 2X10 HDR DIGITAL-IN2

J2 2X15 HDR DIGITAL-IN3

J10 2X7 HDR DIGITAL-IN 1

J5 2X17 HDR DIGITAL-IN4

J18 2X8 HDR SOL-DRV0

220-00229A

220-00232A

220-00201A — J21 — SOL-DRV1 — 2X13 HDR

220-00236A

MANIFOLD INTERFACE BOARD 10-4727A — J1 IDC,26PIN

J2 — 220-00193A — ACT8+ BLK-22, +24V RED-22, ACT9+ BLK-22, +24V RED-22, ACT10+ BLK-22, +24V RED-22, ACT11+ BLK-22, +24V RED-22, ACT12+ BLK-22, +24V RED-22, ACT13+ RED-22 — CON12

J3 — 220-00194A — ACT14+ BLK-22, +24V RED-22, ACT15+ BLK-22, +24V RED-22, ACT16+ BLK-22, +24V RED-22 — CON12

FETCHER SOLENOID BLOCK

SV1 "fetcher cups up"
SV2 "fetcher vac on"
SV3 Fetcher SS picker down
SV4 "fetcher ss icup up"
SV5 Fetcher SS ocup up
SV6 Fetcher SS ocup down
SV7 "fetcher SS vac on"
SV8 "fetcher SS ejector on"
SV9 "fetcher platereject on"

WEDGE MASTER UP — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22

220-00228A — RED 22 RED 24, WHT 22 WHT 24, VIO 22 GRN 24, GRN 22 BLU 24, ORG 22 WHT-BLK 24, BRN 22 ORG 24, BLU 22 RED-WHT 24, GRY 22 BLU-BLK 24, YEL 22 ORG-BLK 24 — MINIFIT 2X5

PLATE-ON-FETCHER — 36-3210

PVAC VACUUM — 172-00021

FETCHER SAFE HOME — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — RED 24 TO DSEN9 LED+ (1), BLK 24 TO DSEN9 LED- (4), WHT 24 TO DSEN9 C (2), GRN 24 TO DSEN9 E (3)

FETCHER SAFE AWAY — 36-3125 — 10-4982A — LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 — RED 24 TO DSEN10 LED+ (5), BLK 24 TO DSEN10 LED- (8), WHT 24 TO DSEN10 C (6), GRN 24 TO DSEN10 E (7)

220-00516A — To EXTERNAL DEVICE INTERFACE BRD. J5 — DUAL PROCESSOR INTERFACE [24]

220-00515A — To EXTERNAL DEVICE INTERFACE BRD. J4 — SINGLE PROCESSOR INTERFACE [24]

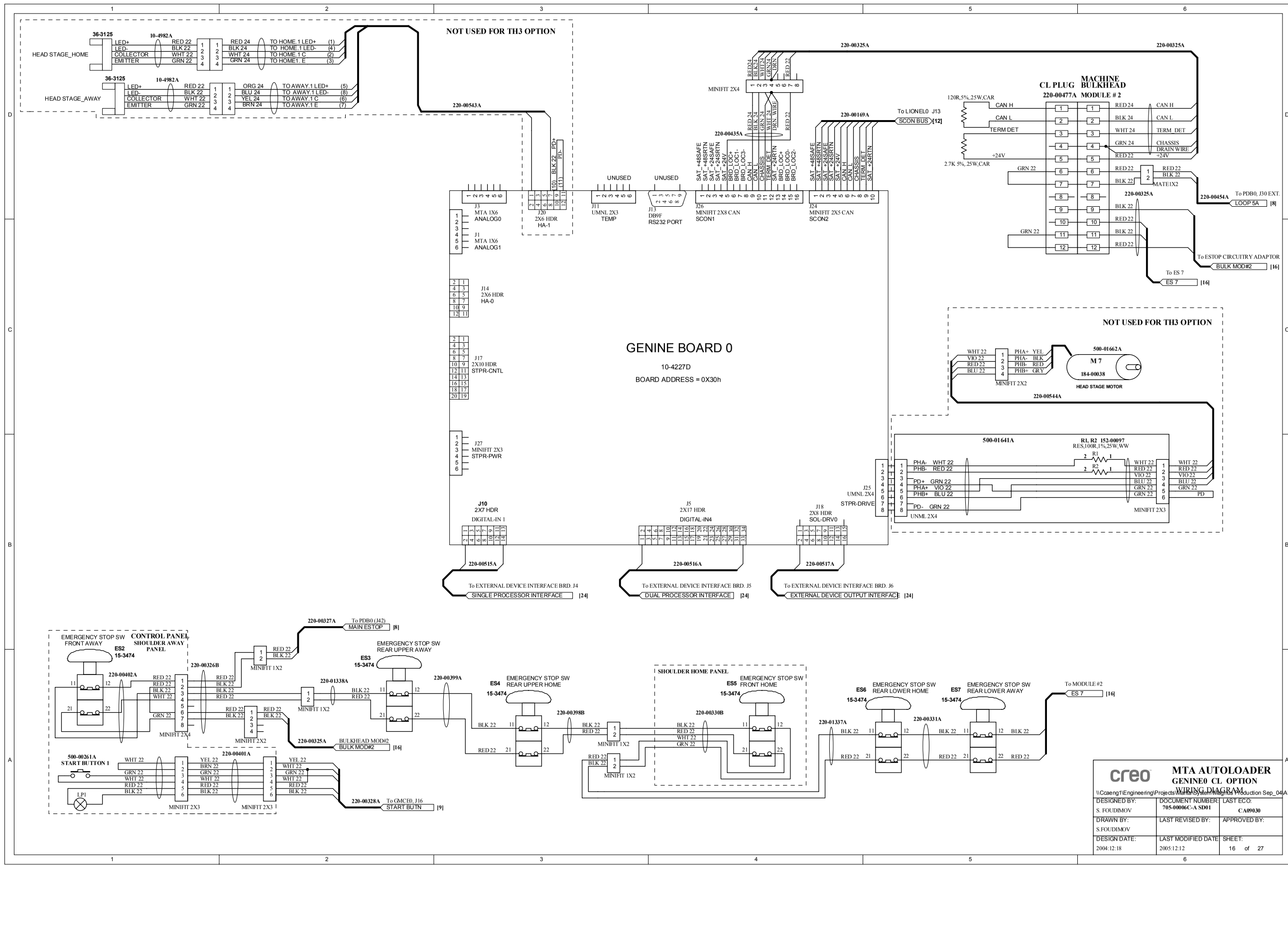
220-00517A — To EXTERNAL DEVICE INTERFACE BRD. J6 — EXTERNAL DEVICE OUTPUT INTERFACE [24]

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MTA AUTOLOADER
GENINE 0 FETCHER
WIRING DIAGRAM

\\Csaeng1\Engineering\Projects\Mars\Solidworks\Original Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 15_GE

DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: 705-00006C-A SD01	LAST ECO: CA09030
DRAWN BY: S.FOUDIMOV	LAST REVISED BY:	APPROVED BY:
DESIGN DATE: 2004:12:18	LAST MODIFIED DATE: 2005:12:12	SHEET: 15 of 27



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MTA AUTOLOADER
GENINE0 CL OPTION
WIRING DIAGRAM

\\Csaeng1\Engineering\Projects\Matrix\Customer Projects\Production Sep_04\AUTOLOADER\Series 2_ver C\MTA SERIES2 AUTOLOADER_Ver_C.ddb - Documents\PAGE 16_G

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GENINE BOARD 1

10-4227D

BOARD ADDRESS = 0X31h

(ADD 220-00425A FOR L-R CONFIG.)

220-00555A

36-3205 BAUMER SLIP SHEET UNDER PLATE SENSOR FZAM18N6440/S14

BRN 22, BLU 22, BLK 22 → MINIFIT 2X2

220-00248A: BLK 22, RED 22, GRN 22, WHT 22, GRY 22

15-3359 K1

(1) +24V, (5) ES0, (6) ES1, (13) GND → J10 2X7 HDR DIG_IN 1

To GMCE0, J8 [9] SCON BUS

220-00170A: SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, BRD_LOC+, BRD_LOC-, CAN_H, CAN_L, CHASSIS, TERM_DET, SAT +24RTN, BRD_LOC+, BRD_LOC-, RED232

J3 MTA 1X6 ANALOG0

J26 MINIFIT 2X8 CAN SCON1

220-00171B: SAT +48SAFE, SAT +48SRTN, SAT +24SAFE, SAT +24SRTN, SAT +24V, CAN_H, CAN_L, CHASSIS, TERM_DET, SAT +24RTN

To GENINE2 J24 [18] SCON BUS

J24 MINIFIT 2X5 CAN SCON2

J25 UMNL 2X4 STPR-DRIVE

PHA+ RED 22; PHB- BLK 22 (WHITE PAIR); PD+ GRN 22; PHA- BLK 22(RED PAIR); PHB+ WHT 22; Chassis; PD- GRN 22

220-00184A: PHA+ BLK, PHA- GRN, PHB- BLU, PHB+ RED, Shield → MINIFIT 2X2

500-00717A M 3 LOAD CARRIAGE MOTOR

LOAD CARRIAGE_HOME

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 → MINIFIT 2X2

RED 24 TO HOME.1 LED+ (1); BLK 24 TO HOME.1 LED- (4); WHT 24 TO HOME.1 C (2); GRN 24 TO HOME1. E (3)

220-00195A → J20 2X6 HDR HA-1

PD+ BLK 22 (10); PD- (11)

LOAD CARRIAGE_AWAY

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 → MINIFIT 2X2

RED 24 TO AWAY.1 LED+ (5); BLK 24 TO AWAY.1 LED- (8); WHT 24 TO AWAY.1 C (6); GRN 24 TO AWAY.1 E (7)

SIDE EJECTOR_HOME

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 → MINIFIT 2X2

RED 24 TO HOME.0 LED+ (1); BLK 24 TO HOME.0 LED- (4); WHT 24 TO HOME.0 C (2); GRN 24 TO HOME0. E (3)

220-00196A → J14 2X6 HDR HA-0

PD+ BLK 22 (10); PD- (12)

SIDE EJECTOR_AWAY

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22 → MINIFIT 2X2

RED 24 TO AWAY.0 LED+ (5); BLK 24 TO AWAY.0 LED- (8); WHT 24 TO AWAY.0 C (6); GRN 24 TO AWAY.0 E (7)

220-00187A → J17 2X10 HDR STPR-CNTL

SIDE EJECTOR MOTOR 11-0851B M 4 → GND CHASSIS

BLK 18 (RED PR), WHT 18, RED 18, BLK 18 (WHT PR) → MATE 2X3

220-00186A: PHA:VO+, PHB:VO-, PHA:VO-, PHB:VO+, SHIELD, YEL 18; Gain 2 A/V → J3 MINIFIT 2X4

J2 IDC, 20PIN 503-00265A CARRIAGE DRIVE

J1 +48V SAFE, RTN → MATE 1X2

220-00188A: BRN 16, BLK 16 → J27 STEPPER POWER; PD; BLK22

J21 2X13 HDR → SOL-DRV1 → 220-00185A → J1 IDC,26PIN

MANIFOLD INTERFACE BOARD 10-4727A

J2 → 220-00197A → CON12

ACT8+ BLK-22, +24V RED-22; ACT9+ BLK-22, +24V RED-22; ACT10+ BLK-22, +24V RED-22; ACT11+ BLK-22, +24V BLK-22; ACT12+ RED-22, +24V BLK-22; ACT13+ RED-22, +24V BLK-22

LOAD TABLE SOLENOID BLOCK

SV1 Loadtable centercups up/n; SV2 Loadtable centercups dn/n; SV3 Loadtable leftrightcups up/n; SV4 Loadtable leftrightcups dn/n; SV5 "loadtable centercups vac on"; SV6 "loadtable lefticups vac on"; SV7 "loadtable rightcups vac on"; SV8 "ejector pusher1 down"; SV9 Unloadtable tilt/stop; SV10 "loadtable centering unlock"; SV11 "loadtable w/tlle lock"; SV12 Unloadtable untilt/stop; SV13 "loadtable platestop up"; SV14 "loadtable pullout lock"

J3 → 220-00198A → CON12

ACT14+ BLK-22, +24V RED-22; ACT15+ BLK-22, +24V RED-22; ACT16+ BLK-22, +24V RED-22; ACT17+ BLK-22, +24V RED-22; ACT18+ BLK-22, +24V RED-22; ACT19+ BLK-22, +24V RED-22

J4 → 220-00483A → CON12

ACT20+ BLK-22, +24V RED-22; ACT22+ BLK-22, +24V RED-22

J5 → CON12

220-00249B: J5 2X17 HDR DIGITAL-IN4

220-00250A: J2 2X15 HDR DIGITAL-IN3

220-00251B: J4 2X10 HDR DIGITAL-IN2

LOADER VAC CUPS CENTER

172-00021: RED 22 TO DSEN9.C (2); BLK 22 TO DSEN9.E (3)

LOADER VAC CUPS LEFT

172-00021: ORG 22 TO DSEN10.C (6); BRN 22 TO DSEN10.E (7)

LOADER VAC CUPS RIGHT

172-00021: YEL 22 TO DSEN11.C (10); WHT 22 TO DSEN 11.E (11)

LOAD TABLE CLOSED 1 (LOCATED CLOSER TO DRUM)

36-3210: RED 22 TO DSEN16 LED+ (1); WHT 22 TO DSEN16 C (2); GRN 22 TO DSEN16 E (3)

LOAD TABLE CLOSED 2 (LOCATED FARTHER FROM DRUM)

36-3210: RED 22 TO DSEN17 LED+ (5); WHT 22 TO DSEN17 C (6); GRN 22 TO DSEN17 E (7)

UNLOAD TABLE_TILT

36-3210: RED 22 TO DSEN19 LED+ (13); WHT 22 TO DSEN19 C (14); GRN 22 TO DSEN19 E (15)

UNLOAD TABLE_HORIZONTAL

36-3210: RED 22 TO DSEN20 LED+ (17); WHT 22 TO DSEN20 C (18); GRN 22 TO DSEN20 E (19)

SIDE BRIDGE IN POSITION

36-3210: RED 22 TO DSEN 4 LED+ (1); WHT 22 TO DSEN 4 C (2); GRN 22 TO DSEN 4 E (3)

PLATE ON PROCESSOR

36-3210 → 220-00364A → P? → MINIFIT 2X2

RED 22 TO DSEN 5 LED+ (5); WHT 22 TO DSEN 5 C (6); GRN 22 TO DSEN 5 E (7)

ACCESS PANEL CLOSED SW 220-00426A 15-3355 (ADD 220-00436A FOR L-R CONFIG.)

RED 22 BLK 22 → MINIFIT 1X2 → RED 22 TO DSEN21.C (22); BLK 22 TO DSEN21.E (23)

PLATE STOP UP

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22

PLATE STOP DOWN

36-3125; 10-4982A: LED+ RED 22, LED- BLK 22, COLLECTOR WHT 22, EMITTER GRN 22

220-00482A → MINIFIT 2X4

RED 22 TO DSEN12 LED+ (13); BLK 22 TO DSEN12 LED- (16); WHT 22 TO DSEN12 C (14); GRN 22 TO DSEN12 E (15); ORG 22 TO DSEN13 LED+ (17); BRN 22 TO DSEN13 LED- (20); BLU 22 TO DSEN13 C (18); YEL 22 TO DSEN13 E (19)

ORG 22, BRN 22, BLU 22, YEL 22

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MTA AUTOLOADER

LOAD TABLE & SIDE EJECTOR WIRING DIAGRAM

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GENINE BOARD 2

10-4227D

BOARD ADDRESS = 0X32h

CAN BUS TERMINATOR 220-00168A

220-00171B To GENINE1 J24 SCON BUS |17|

J1 MTA 1X6 ANALOG1 — J3 MTA 1X6 ANALOG0 — J11 UMNL 2X3 TEMP — J13 DB9F RS232 PORT — J26 MINIFIT 2X8 CAN SCON1 — J24 MINIFIT 2X5 CAN SCON2

J6 MTA 1X6 ANALOG2

J25 UMNL 2X4 STPR-DRIVE

220-00172A

PHA- RED 22
PHB- BLK 22 (WHITE PAIR)
PD+ GRN 22
PHA+ BLK 22 (RED PAIR)
PHB+ WHT 22
Chassis Shield
PD- GRN 22

MINIFIT 2X2: PHA+ BLK, PHA- GRN, PHB- BLU, PHB+ RED

500-00717A M 5 — UNLOAD CARRIAGE MOTOR

220-00189A

J20 2X6 HDR HA-1

PD+ BLK 22 (10)
PD- (11)

36-3125 — 10-4733A

UNLOAD CARRIAGE_HOME1

LED+	RED 22	RED 22	TO HOME.1 LED+	(1)
LED-	BLK 22	BLK 22	TO HOME.1 LED-	(4)
COLLECTOR	WHT 22	WHT 22	TO HOME.1 C	(2)
EMITTER	GRN 22	GRN 22	TO HOME1. E	(3)

36-3125 — 10-4733A

UNLOAD CARRIAGE_AWAY1

LED+	RED 22	RED 22	TO AWAY.1 LED+	(5)
LED-	BLK 22	BLK 22	TO AWAY.1 LED-	(8)
COLLECTOR	WHT 22	WHT 22	TO AWAY.1 C	(6)
EMITTER	GRN 22	GRN 22	TO AWAY.1 E	(7)

220-00245A

J5 2X17 HDR — DIGITAL-IN4

36-3125 — 10-4982A

PLATE ROTATOR_HOME

LED+	RED 22	RED 24	TO DSEN16 LED+	(1)
LED-	BLK 22	BLK 24	TO DSEN16 LED-	(4)
COLLECTOR	WHT 24	WHT 24	TO DSEN16 C	(2)
EMITTER	GRN 22	GRN 24	TO DSEN16 E	(3)

36-3210

PLATE ROTATOR VACUUM CAPS_ DOWN

ORG 24	TO DSEN17 LED+	(5)	
RED-WHT 24	TO DSEN17 C	(6)	
BLK-WHT24	TO DSEN17 E	(7)	

36-3210

UNLOADER VACUUM CAPS LEFT_DOWN

RED-BLK 24	TO DSEN18 LED+	(9)
GRN-WHT 24	TO DSEN18 C	(10)
ORG-BLK 24	TO DSEN18 E	(11)

36-3210

UNLOADER VACUUM CAPS RIGHT_DOWN

RED 24	TO DSEN19 LED+	(13)
WHT 24	TO DSEN19 C	(14)
GRN 24	TO DSEN19 E	(15)

172-00021 — To PLATE ROTATOR VACUUM LINE

BLU 24 TO DSEN21.C (22)
ORG 24 TO DSEN21.E (23)

172-00021 — To UNLOADER VACUUM LINE LEFT CUPS

RED-WHT 24 TO DSEN22.C (26)
BLK-WHT 24 TO DSEN22.E (27)

172-00021 — To PLATE ROTATOR VACUUM LINE RIGHT CUPS

BLU-BLK 24 TO DSEN23.C (30)
ORG-BLK 24 TO DSEN 23.E (31)

J2 2X15 HDR — DIGITAL-IN3

J14 2X6 HDR HA-0

J10 2X7 HDR DIGITAL-IN1

J18 SOL-DRV0 2X8 HDR

ACT0+ BLK 22
ACT1+
ACT2+
+24V RED 22
ACT3+ BLK 22
+24V RED 22
ACT4+ BLK 22
+24V RED 22
ACT5+ BLK 22
+24V RED 22
ACT6+ BLK 22
+24V RED 22

220-00182A

UNLOAD TABLE MANIFOLD

SV1	"unloadtable centercups rotate"
SV2	"unloadtable centercups up"
SV3	"unloadtable centercups vac on"
SV4	"unloadtable leftrightcups up"
SV5	"unloadtable leftrightcups vac on"

J21 SOL-DRV1 2X13 HDR

220-00246A

36-3125 — 10-4733A

UNLOAD CARRIAGE @ ROTATOR

LED+	RED 22	RED 22	TO DSEN9 LED+	(1)
LED-	BLK 22	BLK 22	TO DSEN9 LED-	(4)
COLLECTOR	WHT 22	WHT 22	TO DSEN9 C	(2)
EMITTER	GRN 22	GRN 22	TO DSEN9 E	(3)

36-3125 — 10-4982A

UT FRONT PLATE DEFLECTOR

LED+	RED 22	RED 22	TO DSEN13 LED+	(17)
LED-	BLK 22	BLK 22	TO DSEN13 LED-	(20)
COLLECTOR	WHT 22	WHT 22	TO DSEN13 C	(18)
EMITTER	GRN 22	GRN 22	TO DSEN13 E	(19)

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MTA AUTOLOADER

UNLOAD TABLE WIRING DIAGRAM

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POWER DISTRIBUTION BOARD 1 (PDB 1)

10-4112 H

BOARD ADDRESS = 0X11h

SELV CIRCURY

NON-SELV CIRCURY
200-240 VAC

MCU-F1, F2: 12A, 600V, BUSSMANN, Type LP-CC

MCU-F1 182-00016

MCU-F2

F1, F2 FUSEHOLDER, 182-00015

To POWER ENTRY CB4 [7] MCU AC POWER 220-00352A

AC RECPT / AC PLUG / IEC 320 / IEC 320

220-00365A

220-00265A

GND M5 BOLT CHASSIS

GND M5 BOLT

J27 AMP INNERGY

MATE 1X3

MATE 2X3

J26

K15

J43

PS1 POWER SUPPLY 24V, 250W

AC IN 200-240V

13-5094

220-00267A

J5 MATE 1X4

220-00271A

J10 MOLEX 1X3

PS2 POWER SUPPLY 24V, 250W SWITCHED

220-00423A

220-00268A

J4 MATE 1X4

MATE1X2

220-00269A

MCU-K3

MCU-K4

15-3359

220-00458A

K3, K4 - LOCAL SSR SAFETY LOOP

To SSR BULKHEAD PS2 AC POWER ON [20]

220-00459A

To MCU SSR BULHEAD MOD#2 SSR DC MOTOR POWER [22]

220-00420A

F6 AC SAFE SPARE

F3 PUMP

J15 MATE 1X5

J9 MATE 1X5

13-5077

C1 6UF

MCU-TB1

220-00273A

220-00272B

MCU MOTOR DRIVE 601--00052

X1.A

X1.B

220-00278B

MCU-M2 PLENUM BLOWER ASSY 500-00906B

220-00281A

MATE1X4

220-00392A

CHASSIS GND

CONTACTOR,DIL EM-01-G 15-3445 MCU-K1

CONTACTOR,DIL EM-01-G 15-3445 MCU-K2

220-00283B

MCU-M1 MTR AC 3PHASE 184-00074

TO MCU SAFETY INTERFACE BOARD (J5)

CONTACTORS ON [21]

220-00279B

LIONEL1 MCU

CONTACTORS SENSE [23]

220-00280A

J14 MINIFIT 2X8 CAN

SAT_+48SAFE
SAT_-48SRTN
SAT_+24SAFE
SAT_-24SRTN
SAT_+24VA
BRD_LOC+
BRD_LOC1-
BRD_LOC3-
CAN_H
CAN_L
NO USS
TERM_SET
SAT_+24RTN
BRD_LOC+
BRD_LOC2-
BRD_LOC2+

J13 MINIFIT 2X5

J41 MINIFIT 2X4

220-00274A

To GENINE 3 J26 SCON BUS [20]

220-00452A

To MCU BULKHEAD SCON BUS [23]

XSAFE_WL YEL 22
XSAFE_OVER BLU 22
XSAFE_ESS BLK 22
XSAFE_MECH ORG 22
GND GRN 22
OVER_LED2 WHT 22
GND BRN 22
OVER_LED1 RED 22

220-00415A

To MCU JOG BUTTON PANEL MCU OVERRIDE SW & LED [19]

MINIFIT 2X8

J37

J42 MINIFIT 1X3

220-00282A

To MCU MANIFOLD EXT. CART &DOOR SV [20]

220-00452A

To JOG PANEL ES1-MCU (11) PDB1 ESTOP [21]

220-00452A

To MCU BULKHEAD MOD#2 (9) MCU ESTOP [23]

220-00382A

J40 MINIFIT 2X4

J39 MINIFIT 2X4

J31 MINIFIT 2X4

J30 MINIFIT 2X4

J34 MLX 1X2

J35 MLX 1X2

220-00313A

220-00391A

220-00390A

key

LOOP1 SNS
LOOP2 SNS
LOOP3 SNS
LOOP4 SNS
LOOP4A SNS
LOOP5 SNS
LOOP5A SNS
D/ FUSE SNS

MCU-SW12 SS BIN REAR DOOR

15-3263

SW12 & SW13 - GLOBAL SAFETY LOOP

MCU-SW13 SS BIN COVER

15-3477

220-00416A

MINIFIT 2X2

To MCU BULKHEAD MOD#2 [23] GLOBAL SAFETY 220-00452A

15-3263 MCU-SW8 MCU REAR RIGHT DOOR

220-00383A

MCU-SW9 MCU REAR LEFT DOOR

10-5246A

220-00441B

MCU-SW6

15-3263

CASSETTE DOOR CLOSED

To GENINE3 J5 [20] CASSETTE DOOR DETECT 220-00296B

220-00314B

MCU-SW7

15-3457

CART HOME

To GENINE3 J10 EXT [20] CART HOME DETECT 220-00438B

MCU-SW10 MCU SIDE ACCESS DOOR

220-00414A

MCU-SW11 MCU SIDE ACCESS DOOR

10-5246A

MCU LEFT ROOF SAFETY SWITCHES

LR-SW4 / LR-SW3 / LR-SW2 / LR-SW1

15-3355

220-00388A

220-00389A

MCU RIGHT ROOF SAFETY SWITCHES

RR-SW4 / RR-SW3 / RR-SW2 / RR-SW1

220-00314B

220-00441B

MINIFIT 2X2

SHATTER ON CHARIOT MCU-SW14

220-00441B

To GENINE3 J5 [20] SHATTER SW DETECT 220-00296B

MCU SERVICE OVERRIDE PANEL 500-01150A

OVERRIDE MODE LEDS

LP1 / LP2

10-3721A

SIO KEYSWITCH (2 POS) 15-3334

MCU-SW5 (Shown in NORMAL normal position)

OVERIDE

15-3067 DUAL NC Contact Block

15-3238 DUAL NO Contact Block

15-3067

15-3238

SSR-SW2 SSR MOTOR OVERRIDE PBTN. 15-3446 15-3447

15-3448

220-00422A

MATE 1X3

220-00421A

To MCU JOG BUTTON PANEL MANUAL JOG BUTN [21]

To MCU JOG BUTTON PANEL SEMI-AUTO BTN [21]

To PDB1 J34, J35, J41 MCU OVERRIDE SW & LED [19]

220-00415A

220-00352A

MCU AC POWER [7]

220-00296A

MCU-SW14

MTA AUTOLOADER
MCU PDB1 BOARD
WIRING DIAGRAM

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GENINE BOARD 3

10-4227D

BOARD ADDRESS = 0X33h

PICKER PRESSURE
PRESSURE SENSE BOARD
10-4887A
220-00288A
RED 22 +24VDC
WHT 22 4-20mA Out
GRN 22 GND
BLU 22 PD+
BRN 22 PD-
MTA 1X6

13-5062
BAUMER SLIP SHEET SENSOR
OZDM 16P1901
220-00357A
BRN 22
WHT 22
BLU 22
220-00354A
RED 22
WHT 22
GRN 22
MCU-K5
RED 22
15-3359
WHT 22 SIG
GRN 22 GND
BLK 22 PD
J1 MTA 1X6 ANALOG1
BLK 22 ACT5+
RED 22 +24V
To GENINE3 J18
[20] SS SENSOR POWER
220-00290A

To PLATE W. SENSOR ADAPTOR [20] +24V
220-00837A
RED 22 +24V
WHT 22 +24V
MINIFIT 1X2
220-00295B
RED 22 (1)
WHT 22 (2)
PD (3)
BLK 22 (4)
J10
IDC, 14PIN

CART PARK
15-3457 SW6
RED 22
BLK 22
220-00438B
RED 22 EREG.SEN0+ (5)
ORG 22 EREG.SEN0- (6)
YEL 22 EREG.SEN1+ (7)
GRN 22 EREG.SEN1- (8)
WHT 22 EREG.SEN2+ (9)
BLU 22 EREG.SEN2- (10)
BRN 22 EREG.SEN3+ (11)
BLK 22 EREG.SEN3- (12)
MINIFIT 2X4

To CART HOME SW5
[19] CART HOME DETEC
RED 22
BLK 22

J5
DIGITAL-IN4
2X17 HDR

220-00296B
36-3125
10-4982A
CASSETTE DOOR OPENED
LED+ RED 22 TO DSEN16 LED+ (1)
LED- BLK 22 TO DSEN16 LED- (4)
COLLECTOR WHT 22 TO DSEN16 C (2)
EMITTER GRN 22 TO DSEN16 E (3)
[19] CASSETTE DOOR DETECT
RED 22 TO DSEN17 C (6)
BLK 22 TO DSEN17 E (7)
CASSETTE LOCK
RED 22 TO DSEN18 LED+ (9)
WHT 22 TO DSEN18 C (10)
GRN 22 TO DSEN18 E (11)
CASSETTE EJECT
RED 22 TO DSEN19 LED+ (13)
WHT 22 TO DSEN19 C (14)
GRN 22 TO DSEN19 E (15)
CASSETTE LOCKED ON CHARRIOT 1
RED 22 TO DSEN20 LED+ (17)
WHT 22 TO DSEN20 C (18)
GRN 22 TO DSEN20 E (19)
CASSETTE LOCKED ON CHARRIOT 2
RED 22 TO DSEN21 LED+ (21)
WHT 22 TO DSEN21 C (22)
GRN 22 TO DSEN21 E (23)
LOCK EJECT CYLINDER IN
RED 22 TO DSEN22 LED+ (25)
WHT 22 TO DSEN22 C (26)
GRN 22 TO DSEN22 E (27)
To SHATTER SWITCH - SW 14
[19] SHATTER SW DETECT
RED 22 TO DSEN23 C (30)
BLK 22 TO DSEN23 E (31)
J2 DIGITAL-IN3
2X15 HDR

220-00297B
CASS POS 1
RED 22 TO DSEN9 LED+ (1)
WHT 22 TO DSEN9 C (2)
GRN 22 TO DSEN9 E (3)
CASS POS 2
RED 22 TO DSEN10 LED+ (5)
WHT 22 TO DSEN10 C (6)
GRN 22 TO DSEN10 E (7)
CASS POS 3
RED 22 TO DSEN11 LED+ (9)
WHT 22 TO DSEN11 C (10)
GRN 22 TO DSEN11 E (11)
CASS POS 4
RED 22 TO DSEN12 LED+ (13)
WHT 22 TO DSEN12 C (14)
GRN 22 TO DSEN12 E (15)
CASS LOAD/UNLOAD POS
RED 22 TO DSEN13 LED+ (17)
WHT 22 TO DSEN13 C (18)
GRN 22 TO DSEN13 E (19)
CASS LOCK/EJECT POS
RED 22 TO DSEN14 LED+ (21)
WHT 22 TO DSEN14 C (22)
GRN 22 TO DSEN14 E (23)
To GENINE 3, J10
[20] +24V
BLK 22 TO DSEN15 C (26)
GRN 22 TO DSEN15 E (27)
MINIFIT 1X2

To PDBI J14
[19] SCON BUS
220-XXXXA
SAT 48SSAFE
SAT 48SSRTN
SAT 24SSAFE
SAT 24SSRTN
SAT +24V
BRD LOC+
BRD LOC1-
BRD LOC2-
CAN_H
CAN_L
CHASSIS
TERM_DET
SAT -24RTN
RED23
RED22
J3 MTA 1X6 ANALOG0
J20 2X6 HDR HA-1
J25 UMNL 2X4 STPR-DRIVE
J26 MINIFIT 2X8 CAN SCON1
J24 MINIFIT 2X5 CAN SCON2
220-00289A
To LIONEL 1 J9
SCON BUS [23]

To GENINE3 J18
220-00290A
For DMPK OPTION ONLY
ACT0+ BLK 22
+24V RED 22
ACT1+ BRN 22
+24V ORG 22
ACT2+ BLU 22
+24V VIO 22
ACT3+ GRN 22
+24V YEL 24
ACT4+ GRY 24
+24V WHT 24
ACT5+ BLK 22
+24V RED 22
2X8 HDR
To DM PICKER MANIFOLD
SOL_DRV GEN 3 [25]
To RELAY K5
SS SENSOR POWER [20]

J18
SOL-DRV0
2X8 HDR
220-00290A
220-00456A
WM PICKER MANIFOLD
SV1 "picker down"
SV2 "picker slider in"
SV3 "picker pcups on"
SV4 "picker pcups on"
MINIFIT 2X5
To RELAY K5
SS SENSOR POWER [20]

[19] CART & DOOR SV
220-00282A
220-00419A
MCU MANIFOLD
BLK 22
RED 22
GRN 22
WHT 22
MINIFIT 2X2
SV1 "cassette door open"
SV7 "cassette cartpin up"
SV8 "platefloat 2 on"
SV2 Cassette lock
SV3 Cassette eject
SV4 "separator on"
SV5 "platefloat 1 on"
SV6 "picker mirror retract"

J21
SOL-DRV1
2X13 HDR
220-00291A
MANIFOLD INTERFACE BOARD
10-4727A
J2
220-01300A
ACT8+ BLK 24
+24V RED 24
ACT9+ BLK 24
+24V RED 24
ACT10+ BLK 24
+24V RED 24
ACT11+ BLK 24
+24V RED 24
ACT12+ BLK 24
+24V RED 24
ACT13+ BLK 24
+24V RED 24
CON12
J1
CON12
IDC,26PIN

J3
220-00293A
ACT14+
+24V
ACT15+
+24V
ACT16+ BLK 24
+24V
ACT17+ BLK 24
+24V
ACT18+ BLK 24
+24V
ACT19+ BLK 24
+24V RED 24
CON12
MINIFIT 2X3
BLK 22
BRN 22
BLU 22
WHT 22
RED 22
220-00285A
To SSR BULKHED
SSR MANIFOLD [22]

J4
ACT20+ BLK 22
+24V
ACT22+ WHT 22
+24V
ACT24+ GRN 22
+24V RED-22
CON12
220-00294A
To MCU SAFETY INTERFACE BOARD J3
MCU SAFETY CONTROL [21]

J4 2X10 HDR DIGITAL-IN2
220-00298A
P-CUP ARM UP
36-3210
RED 22 TO DSEN 4 LED+ (1)
WHT 22 TO DSEN 4 C (2)
GRN 22 TO DSEN 4 E (3)
P-CUP SLIDER RETRACT
36-3210
RED 22 TO DSEN 5 LED+ (5)
WHT 22 TO DSEN 5 C (6)
GRN 22 TO DSEN 5 E (7)
P-CUPS MOTION DOWN 10-9048A
36-3209
LED+ GRY 24
COLLECTOR WHT 24
EMITTER GRN 24
RED 22 TO DSEN 6 LED+ (9)
WHT 22 TO DSEN 6 C (10)
GRN 22 TO DSEN 6 E (11)
SS MIRROR EXTENDED 10-4982A
36-3125
LED+ RED 22
LED- BLK 22
COLLECTOR WHT 22
EMITTER GRN 22
RED 22 TO DSEN 7 LED+ (13)
BLK 22 TO DSEN7 LED- (16)
WHT 22 TO DSEN 7 C (14)
GRN 22 TO DSEN 7 E (15)
CASS PICK POS
36-3210
RED 22 TO DSEN8 LED+ (17)
WHT 22 TO DSEN8 C (18)
GRN 22 TO DSEN8 E (19)

220-00837A
RED 22
GRN 22
BLK 22
WHT 22
MINIFIT 2X2
220-01272A
MINIFIT 2X2
PLATE WIDTH SENSOR
10-4652A
36-3200
BRN 22
PINK 22
BLUE 22
BLK 22
NC

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MTA AUTOLOADER
MCU GENINE 3
WIRING DIAGRAM
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MCU SERVICE OVERRIDE PANEL
500-01150A

MCU-SW1
2 POSITION
LEVER SWITCH
15-3536

LEFT - SEMI-AUTO MODE
POS 2

RIGHT - MANUAL JOG MODE
POS 1

MODES OF OPERATION:

JOG MODE:

PUT OVERRIDE SWITCH IN OVERRIDE POSITION.
PUT LEVER SWITCH IN POS. 1
TO MOVE FORKS UP - PRESS AND HOLD PUSHBUTTON MCU-SW3
TO MOVE FORKS DOWN - PRESS AND

SEMI-AUTOMATIC MODE:

PUT OVERRIDE SWITCH IN OVERRIDE POSITION.
PUT LEVER SWITCH IN POS. 2
PRESS AND HOLD MCU-SW2 WHILE REGULAR AUTOMATIC OPERATION

MCU-SW2
PUSHBUTTON
HOLD FOR SEMI-AUTO
15-3446
15-3447
15-3448

MCU-SW3
PUSHBUTTON
JOG UP

MCU-SW4
PUSHBUTTON
JOG DOWN

15-3238

WHT 24
GRN 24
BLK 24

220-00421A

To MCU OVERRIDE SW.
[19] SEMI-AUTO BTN

To MCU OVERRIDE SW.
[19] MANUAL JOG BUTN

UPPER & LOWER LIMIT SWITCHES
15-3457
UPPER LIM SWITCH
SW2
SW3
LOWER LIM SWITCH
15-3457
220-00315A
RED 22
BLK 22
WHT 22
GRN 22
J1
2X2 MINIFITJR

J4
+24VSAFE
JOG MODE
ACT20+(MOTOR RUN)
SEMI/AUTO RUN
JOGGED RUN
JOG DOWN
SERV PNL SW OVR
GND

MCU SAFETY INTERFACE BOARD
10-4697C

SELV CIRCUITRY
NON-SELV CIRCUITRY

601-00052
MCU MOTOR DRIVE
220-00311B
INVERTER CONTROL
J2
2X6 MINIFIT

N/O CONTACT1	1	RED 22	X2.A 24 N/O CONTACT
N/O CONTACT2	2		
FREQ 1 (FAST)	3	WHT 22	26 SW COMMON
FREQ 2 (SLOW)	4	GRN 22	10 FREQ 1 (FAST)
+24V DC	5	BLK 22	11 FREQ2 (SLOW)
REVERSE	6	BRN 22	22 DC COMMON
FORWARD	7		
DC COMMON	8	YEL 22	20 24VDC
CONT REL (RUN)	9	BLU 22	15 REVERSE
	10	ORG 22	14 FORWARD
	11	GREY 22	16 CONT REL (RUN)
	12		

DIRECTION
UP
DOWN
K2
RTE24024
D4
UF4002

RUN
K1
RTE24024
D1
UF4002

DIR DOWN ISOLATION
K3
RTE24024
D2
UF4002

SPEED SLOW
K4
RTE24024
D3
UF4002

MOTOR RUN
SENS ISOLATION
R1
1K
U1A
ILQ30

220-00294A
J3
24V SAFE
ACT20+(MOTOR RUN)
ACT22+(DIR DOWN)
ACT24+(FREQ SLOW)
SENS 13.E (MOTOR RUN)
SENS 13.C (MOTOR RUN)
SENS14.C(SFTY LOOP)
SENS14.E(SFTY LOOP)
GND
2X5 MINIFITJR

TO MCU MANIFOLD INT. BRD (J4)
[20] MCU SAFETY CONTROL

24V OK
DS1
LED,GRN
R3
2K2

GRN 22
WHT 22
BLK 22
MINIFIT 2X2

To MCU LIONEL1 (J8)
[23] MCU SAFETY SENSING
220-00280A

SAFETY LOOP OK
DS2
LED,YEL
R4
2K2
D8
UF4002

J5
CONTACTOR COIL+
GND
2X3 M'nL

To MCU CONTACTOR COILS
[19] CONTACTORS ON
220-00279B

MCU-T1
THERMOSTAT 60 C
170-00024
RESET MANUALLY
AT TEMP BELOW 42 C
(PROVIDES MCU-MI THERMAL PROTECTION)

DIRECTION SIGNAL
PULLED LOW = DOWN

RUN SIGNAL
CONTROLLED BY F/W
AND K6, K7. ACTIVE LOW

AUTO/JOG SIGNAL SELECTOR 1
DIR DOWN REQ
SPEED SLOW REQ

J8
J9
J6
J7
J10
1X2 M'nL
24V SAFE
CONTACTOR COIL+
220-00418A

K5
RTE24024
D5
UF4002

AUTO/JOG SIGNAL SELECTOR2
K6
RTE24024
D6
UF4002

RUN SIGNAL CONTACTOR
RUN REQ
K7
RTE24024
D7
UF4002

U2A
ILQ30
R2
1K8

K5, K6 ENERGIZED WHEN
LEVER SWITCH SET TO
JOG MODE

RELAY ENERGIZED WHEN
MCU SAFETY LOOP IS OK

EMERGENCY
STOP SWITCH
ES1-MCU
15-3474
ES2-MCU
15-3474
ES3-SSR
15-3474
220-00317A
220-00417A
RED 22
BLK 22

To PDB1 (J42)
[19] PDB1 ESTOP
220-00452A

To MCU BULKHEAD MOD#2 (10)
[23] ES3-SSR
220-00452A

To MCU BULKHEAD MOD#2 (11)
[23] ESTOP1 FOM MCU
220-00452A

To MCU BULKHEAD (12)
[23] ESTOP3 FROM SSR
220-00452A

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MTA AUTOLOADER
MCU SAFETY INTERFACE BOARD
WIRING DIAGRAM
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SSR 500-00307A

SSR UMBILICAL CABLE 220-00453A

To MCU LIONEL1 J11
[23] SSR SENSORS 3

220-00458A

EREG.PD+ — DSEN10.E BLK 22 — RED 22
EREG.PD- — BLK 22
EREG.SEN0+ — WHT 22
EREG.SEN1+ — GRN 22
EREG.SEN2+ — YEL 22
EREG.SEN3+ — BLU 22
+24V — +24V SAFE SWITCHED RED 22 — ORG 22
EREG.SEN3- (GND) — BRN 22
DSEN 10.C — RED22

To K3,K4 MCU PDB1
[19] PS2 AC POWER ON
RED 22
BLK 22

To MCU LIONEL1 J8
[23] SSR SENSORS 2

220-00459A

ACT16+ — BLK 22
SENS12.LED- — BLK 22
SENS11.LED+ — RED 22
SENS11.C — BRN 22
SENS11.E — BLU 22
SENS11.LED- — WHT 22
+24V SAFE — RED 22
ACT17+ — BRN 22
ACT18+ — BLU 22
ACT19+ — WHT 22
RED 16
BLK 16

To MCU LIONEL1 J8
[23] SSR SENSORS 1

To MCU MANIFOLD INT. BOARD
[20] SSR MANIFOLD

To MCU PS2
[19] SSR DC MOTOR POWER

PS2 +24V
PS2 +24VRTN

MINIFIT 2X7

M5 BOLT MCU CHASSIS — GND
G/Y 16 — 220-00523A
GND — M5 BOLT SSBIN PANEL

MINIFIT 2X7

GND — RED/WHT & BLK STRIPES 24
EREG.PD+ — BLU/BLK STRIPE 24
EREG.PD- — GRN 24
EREG.SEN0+ — RED/BLK STRIPE 24
EREG.SEN1+ — BLU 24
EREG.SEN2+ — WHT/BLK STRIPE 24
EREG.SEN3+ — BLU/RED STRIPE 24
+24VSAFE(SW) — BLK/WHT STRIPE 24
+24V — WHT/RED STRIPE 24
EREG.SEN3- — BLU/WHT STRIPE 24
DSEN 10.C — GRN/WHT & BLK STRIPES 24
SPARE — ORG/RED STRIPE 24

ACT16+ — GRN/BLK STRIPE 24
SENS12.LED- — WHT/RED & BLK STRIPES 24
SENS11.LED+ — GRN/WHT STRIPE 24
SENS11.C — ORG 24
SENS11.E — BLK 24
SENS11.LED- — BLK/RED STRIPE 24
+24VSAFE — ORG/BLK STRIPE 24
ACT17+ — RED 24
ACT18+ — RED/WHT STRIPE 24
ACT19+ — WHT 24
PS2 +24V — RED 16
PS2 +24VRTN — BLK 16

MODULE #1
220-00461A

1	GND	RED 22
2	EREG.PD+	RED 22
3	EREG.PD-	+5V
4	EREG.SEN0+	
5	EREG.SEN1+	BLK 22
6	EREG.SEN2+	
7	EREG.SEN3+	WHT 22
8	+24VSAFE(SW)	+24VSAFE (SWITCHED) RED 22
9	+24V	
10	EREG.SEN3-	GND GRN 22
11	DSEN 10.C	
12	SPARE	N/C

MODULE #2
220-00462A

1	ACT16+	RED 22
2	SENS12.LED-	BLK 22
3	SENS11.LED+	+5V RED 22
4	SENS11.C	GRN 22
5	SENS11.E	BLK 22
6	SENS11.LED-	RED 22
7	+24VSAFE	+24VSAFE
8	ACT17+	BLK 22 BLK 22
9	ACT18+	
10	ACT19+	
11	PS2 +24V	+24V
12	PS2 +24VRTN	RTN

COMPACTOR RETRACT SENSOR
CONTACTS CLOSE WHEN COMPACTOR RETRACTS
15-3355

COMPACTOR EXTEND SENSOR
CONTACTS CLOSE WHEN COMPACTOR EXTENDS
15-3355

RED 22

ROLLER OPEN SENSOR
36-3210

SSR-SW1
ROLLER CLOSE OVERRIDE PBTN.
15-3447
15-3448
RED 22
BLK 22

GRN 22
RED 22
1 RED 2 YEL 3 BLK 4 WHT
16-3666
YEL TUBE
YEL TUBE

SSR LOCAL SAFETY LOOP
SS BIN FRONT DOOR SWITCH
+24VSAFE RED 22
11 12 BLK 22
21 22 WHT 22
15-3263

GRN 22
BLK 22

10-5247A YEL 22
ROLLER CLOSED SWITCHES
FAR END
NEAR END
15-3355
CONTACTS 3 AND 4 ARE CLOSED WHEN ROLLER IS CLOSED
10-5247A RED 22

ASSY BIN FULL SENSOR 10-4652A
RED 22
GRN 22
BLK 22
NC
36-3200

RED 22
BLK 22
16-4248
SSR compactor off

BLK 22
RED 22
BLK 22

SSR roller close
RED 22
BLK 22
16-4248

SSR roller open
RED 22
BLK 22
16-4248

SSR compactor on
RED 22
BLK 22
16-4248

MOTOR ON SENSE
SSR-K3 15-3359
RED 22
BLK 22

SSR-CB1
15-3472 4A
P&B W28-XQ1A4

RED 16
BLK 16

SSR-M1
SSR MOTOR
10-4756A

RED 16
BLK 16

MTA AUTOLOADER
SLIP SHEET REMOVAL MODULE
WIRING DIAGRAM

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NOTE: INSTALL POLYSWITCH F2, F5, F6 ON THE LIONEL BOARD

LIONEL BOARD 1
10-4801B
Board Address = 0x41h

For WM PICKER OPTION

For DM PICKER OPTION

MCU-MACHINE UMBILICAL CABLE 220-00451A

MACHINE BULKHEAD

SSR USER INTERFACE BOARD 503-00101A

MCU USER INTERFACE BOARD 503-00102A

CONTROL PANEL, SHOULDER AWAY PANEL

SHOULDER HOME PANEL

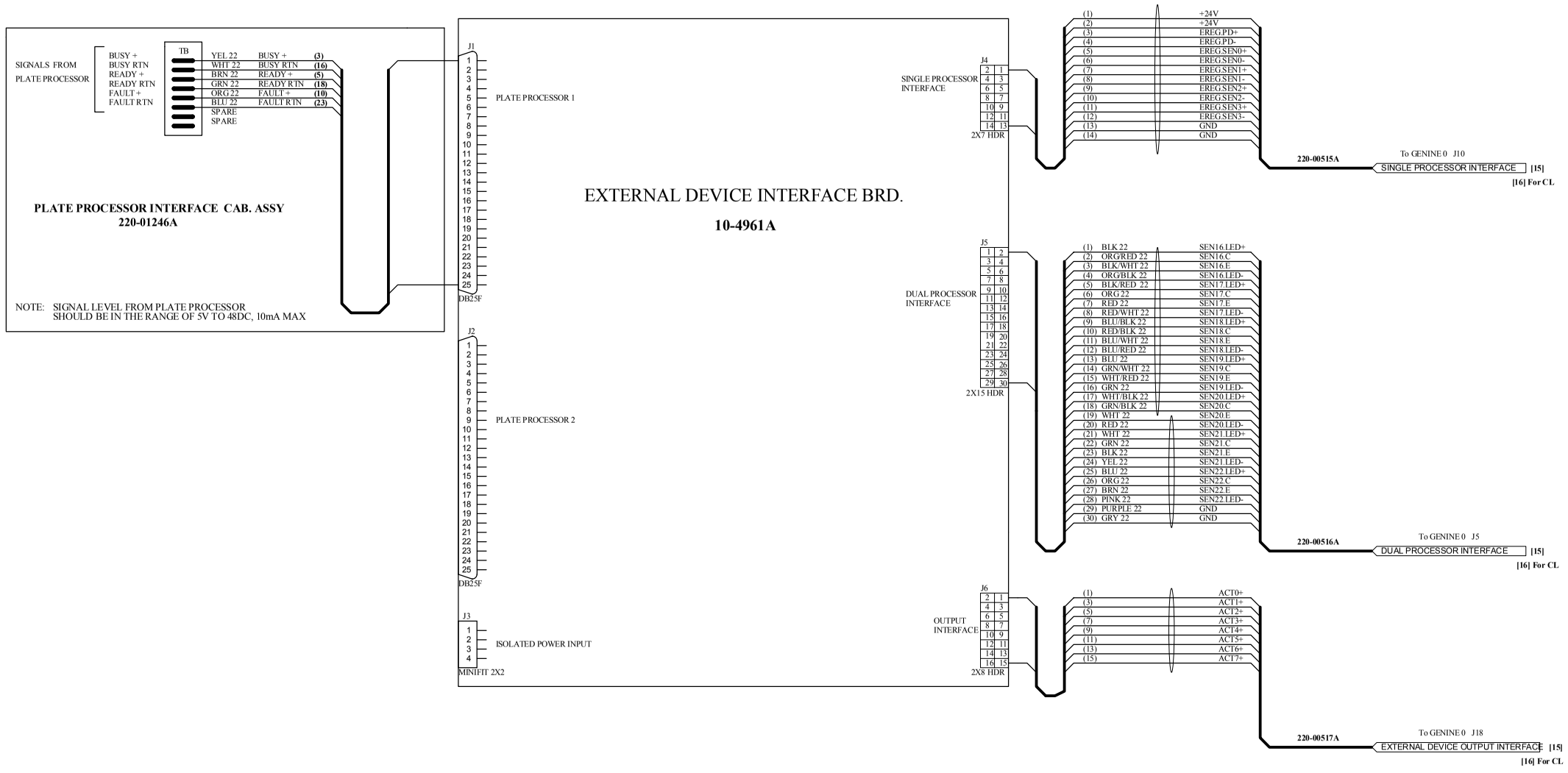
MODULE #1

MODULE # 2

MTA AUTOLOADER
MCU LIONEL 1
WIRING DIAGRAM

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MTA AUTOLOADER
PROCESSOR INTERFACE BOARD
WIRING DIAGRAM

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LIONEL BOARD 2
10-4801B
Board Address = 0x42h

PICKER UP — 36-3125 — 10-4982A — LED+ LED- COLLECTOR EMITTER — RED 22 BLK 22 WHT 22 GRN 22 — TO DSEN4 LED+ (1) TO DSEN4 LED- (4) TO DSEN4 C (2) TO DSEN4 E (3)

SLIDER HOME — 36-3125 — 10-4982A — RED 24 BLK 22 WHT 24 GRN 24 — TO DSEN5 LED+ (5) TO DSEN5 LED- (8) TO DSEN5 C (6) TO DSEN5 E (7)

SLIDER PLATE PICK — 36-3125 — 10-4982A — RED 22 BLK 22 WHT 22 GRN 22 — ORG 24 BRN 24 BLU 24 YEL 24 — TO DSEN6 LED+ (9) TO DSEN6 LED- (12) TO DSEN6 C (10) TO DSEN6 E (11)

SLIDER SS PICK — 36-3125 — 10-4982A — RED 22 BLK 22 WHT 22 GRN 22 — RED 24 BLK 24 WHT 24 GRN 24 — TO DSEN7 LED+ (13) TO DSEN7 LED- (16) TO DSEN7 C (14) TO DSEN7 E (15)

SLIDER BIN — 36-3125 — 10-4982A — RED 22 BLK 22 WHT 22 GRN 22 — ORG 24 BRN 24 BLU 24 YEL 24 — TO DSEN8 LED+ (17) TO DSEN8 LED- (20) TO DSEN8 C (18) TO DSEN8 E (19)

ROLLER UP — 36-3125 — 10-4982A — LED+ LED- COLLECTOR EMITTER — RED 22 BLK 22 WHT 22 GRN 22 — WHT 22 (RED PAIR) ORG 22 WHT 22 (ORG PAIR) — TO DSEN9 LED+ (1) TO DSEN9 LED- (4) TO DSEN9 C (2) TO DSEN9 E (3)

PICKER MOTION — 36-3209 — 10-9048A — LED+ COLLECTOR EMITTER — GRY 24 WHT 24 GRN 24 — RED 22 WHT 22 GRN 22 — TO DSEN12 LED+ (13) TO DSEN12 C (14) TO DSEN12 E (15)

To LIONEL1 J13 [23] SCON BUS — 220-01008A

J9 — SCON2 — 2X5 MINIFIT JR

1	+48V SAFE	BRN 18	2
3	+48V SAFE RTN	BLU 18	4
5	+24V SAFE	GRN 18	6
7	+24V SAFE RTN	WHT 18	8
9	+24V	RED 18	10
	CAN H	RED 24	
	CAN L	BLK 24	
	CHASSIS	GRN 24	
	TERM DET	WHT 24	
	+24 RTN	BLK 18	
	DRAIN WIRE		

J7 — DIG_IN2 — IDC_20PIN — 220-01004A

J8 — DIG_IN3 — HDR 2X15 — 220-01005A

J13 — SCON 1 — MINIFIT 2X8 CAN

1	SAT +48SAFE	BLK 22	2
3	SAT +48SRTN	RED 22	4
5	SAT +24SAFE	BRN 22	6
7	SAT +24SRTN	ORG 22	8
9	SAT +24V	BLU 22	10
11	BRD_LOC+	VIO 22	12
13	BRD_LOC1-	GRN 22	14
15	BRD_LOC3-	YEL 24	16
	CAN_H	GRY 24	
	CAN_L	WHT 24	
	CHASSIS		
	TERM_DET		
	SAT +24RTN		
	BRD_LOC+		
	BRD_LOC0-		
	BRD_LOC2-		

220-01009A — To LIONEL 3 J9 SCON BUS [26]

J5 — PWM_OUT1 — MINIFIT 2X3 REC

[20] To GENINE3 J18 SOL_DRV GEN3 — 220-00290A

J2 — SOL_DRV1 — SAMTEC, 2X8 — 220-01015A

1	ACT 0	BLK 24	2
3	+24 V	RED 24	4
5	ACT 1	BLK 24	6
7	+24 V	RED 24	8
9	ACT 2	BLK 24	10
11	+24 V	RED 24	12
13	ACT 3	BLK 24	14
15	+24 V	RED 24	16
	ACT 4	BLK 24	
	+24 V	RED 24	
	ACT 5	BLK 24	
	+24 V	RED 24	
	ACT 6	BLK 24	
	+24 V	RED 24	
	ACT 7	BLK 24	
	+24 V	RED 24	

J17 — AN_1 — 1X6 MTA — 220-01014A — PICKER ROLLER VACUUM — PSEB BOARD 10-4581A — MTA 1X6

	RED 24	+24VDC	
	WHT 24	4-20mA Out	
	GRN 24	GND	
	BLU 24	PD+	
	BRN 24	PD-	

PWM_OUT1 J5 — MINIFIT 2X3 — 220-01016A

1	+24V	RED 22	2
3	+24V	WHT 22	4
5	PD PWM0+		6
	PWM0-	BLK 22	
	PWM1	GRN 22	
	PD PWM0-	BLK 22	

DM PICKER MANIFOLD
(See continued on page 26)

220-00456A — BLK 22 RED 22 BRN 22 ORG 22 BLU 22 VIO 22 GRN 22 YEL 24 GRY 24 WHT 24 — BLK 24 RED 24 BLK 24 RED 24 BLK 24 RED 24 BLK 24 RED 24 — MINIFIT 2X5

SV1	"picker arm down"
SV2	picker slider extend plate pick on
SV3	picker slider extend plate pick off
SV4	"picker pcups on"
SV5	"picker pcups on"
SV6	picker roller down pick
SV7	picker roller down bin
SV8	picker slider bin on
SV9	"picker roller vac1 on"
SV10	picker slider ss pick off
SV11	picker slider ss pick on
SV12	"picker plate push"

DM ROLLER TEST ASSY 500-02888A

ROLLER MOTOR VOLTAGE REGULATOR — DM-R1 152-00059 180R,5W — DM-D3 126-00017 1N4734A,5.6V

DM-TB1 16-3666 — RED 22 BLK 22

ROLLER MOTOR DIRECTIONAL CONTROL — DM-K1 15-3248

RED 22	5	1	BLK 22
		3	RED 22
WHT 22	6	2	RED 22
		4	BLK 22
	8	7	
WHT 22 GRN 22			

+5V GND — 220-01107A

ROLLER MOTOR SENSORS TEST CONNECTOR — 220-01107A — RED 22 WHT 22 GRN 22 BLK 22 — MINIFIT 2X2

ROLLER HOME — DM-D1 LED 132-00009 — RED 22

ROLLER AWAY — DM-D2 LED 132-00009 — GRN 22

ROLLER MOTOR DIRECTION — DM-S1 172-00042 — HOME: 3 RED 22, 1 BLK 22 — AWAY: 6 BLK 22, 4 RED 22 — WHT 22 / RED 22

ROLLER MOTOR MODE: UP - TEST DOWN - AUTO — DM-S2 172-00043 — TEST: 2 BLK 22 — AUTO: 5 RED 22, RED 22 WHT 22

220-01107A — BLK 22 RED 22

36-3209 — LED+ COLLECTOR EMITTER — GRY 24 WHT 24 GRN 24

ROLLER HOME — 220-01095A — ORG 26 BRN 26 GRN 26 BLU 26

ROLLER AWAY — 220-01019A — ORG 26 BRN 26 GRN 26 BLU 26 — MINIFIT 2X2

220-01012A — RED 24 WHT 24 GRN 24 BLU 24 BRN 24 YEL 24 — MINIFIT 2X2

1	RED 22	TO DSEN14 LED+	(21)
3	WHT 22	TO DSEN14 C	(22)
5	GRN 22	TO DSEN14 E	(23)
7	BLK 22	TO DSEN15 C	(26)

RED 26 BLK 26 — MINIFIT 1X2 — 220-01107A — RED 22 BLK 22 — MINIFIT 1X2

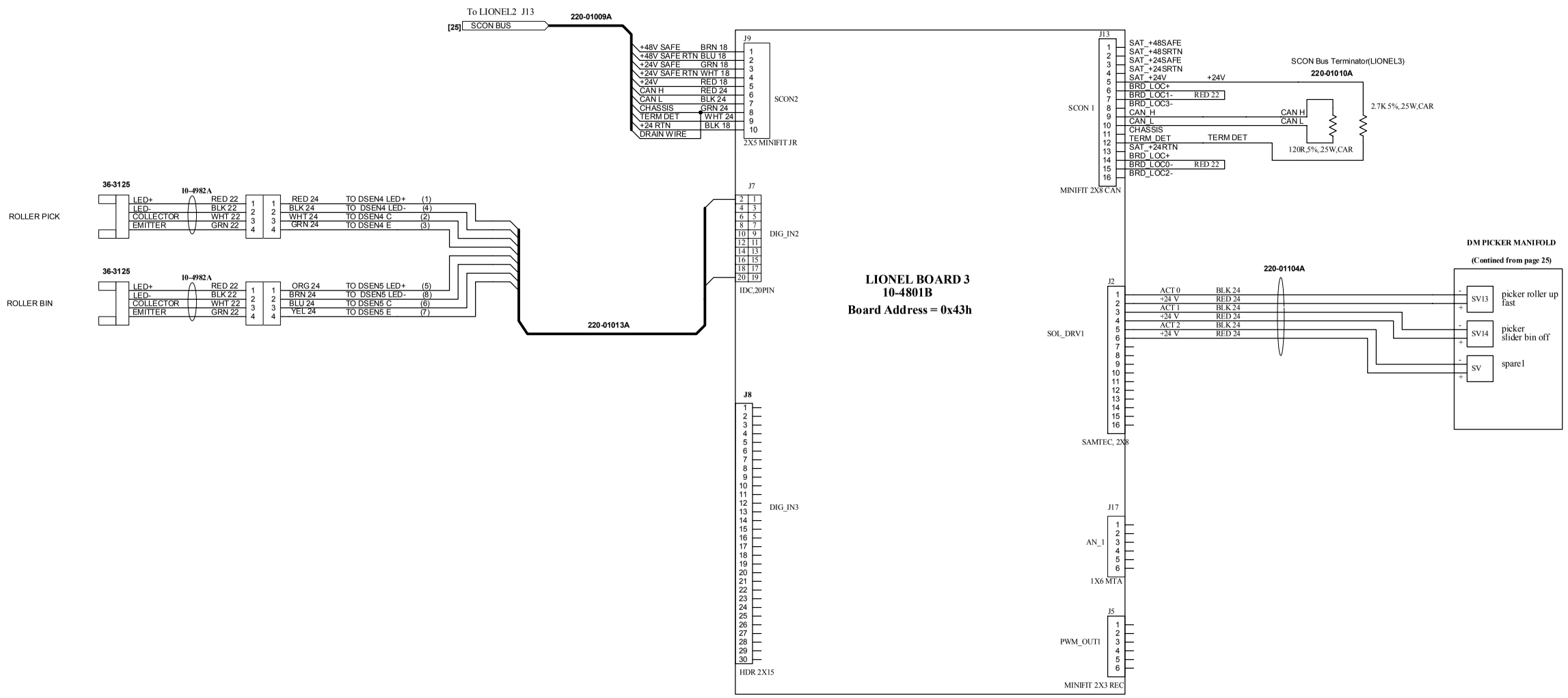
DM-M1 Roller Motor 220-00341B — RED 26 BLK 26 — CON2

DESIGNED BY: S. FOUDIMOV	DOCUMENT NUMBER: 705-00006C-A SD01	LAST ECO: CA09030	
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DESIGN DATE: 2004:11:09	LAST MODIFIED DATE: 2005:12:12	SHEET: 25 of 27	

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MTA AUTOLOADER
DM PICKER_LIONEL 2
WIRING DIAGRAM

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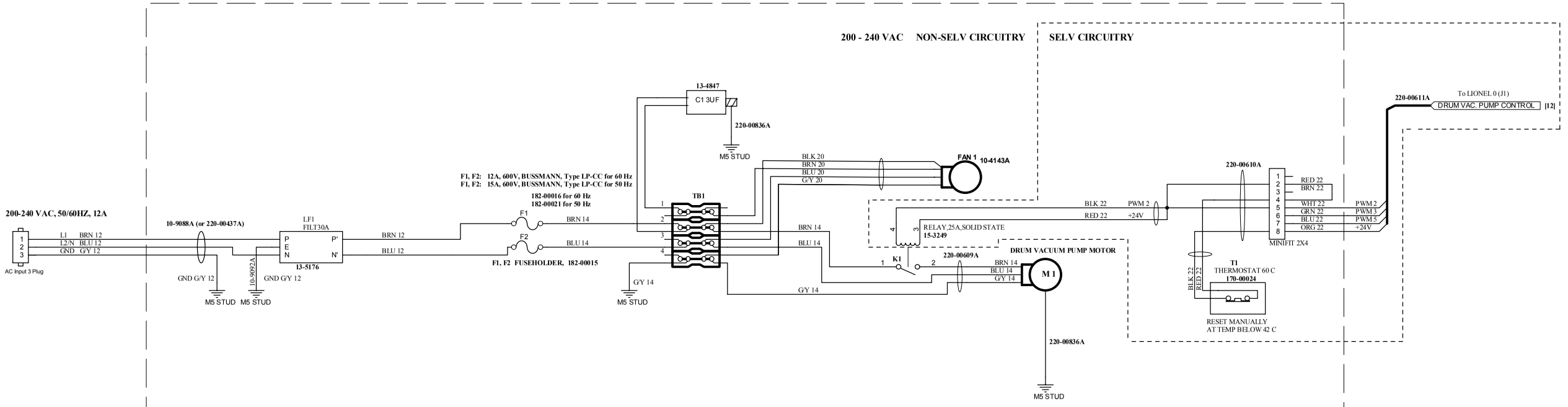


MTA AUTOLOADER
DM PICKER_LIONEL 3
WIRING DIAGRAM

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



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DRUM VACUUM PUMP
WIRING DIAGRAM

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2003:12:09	2005:12:12	27 of 27