# Wiring Diagrams

Generator Sets

Models:

## 650-1000DSEB
## 1350-2000DSEB
## 2500/2800DSE

Controllers:
Digital 550
Microprocessor-Plus

# Product Identification Information

Product identification numbers determine service parts. Record the product identification numbers in the spaces below immediately after unpacking the products so that the numbers are readily available for future reference. Record field-installed kit numbers after installing the kits.

## Generator Set Identification Numbers

Record the product identification numbers from the generator set nameplate(s).

Model Designation ______________________________
Specification Number ___________________________
Serial Number __________________________________

| Accessory Number | Accessory Description |
|---|---|
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## Controller Identification

Record the controller description from the generator set operation manual, spec sheet, or sales invoice.

Controller Description ___________________________

## Engine Identification

Record the product identification information from the engine nameplate.

Manufacturer ___________________________________
Model Designation ______________________________
Serial Number __________________________________

# Introduction

This manual provides wiring diagrams for the 650-1000DSEB, 1350-2000DSEB, and 2500/2800DSE DDC/MTU engine-powered generator sets equipped with the following controllers:

- Digital 550
- Microprocessor-Plus

Information in this publication represents data available at the time of print. The manufacturer of DDC/MTU Power Generation products reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

# Service Assistance

For professional advice on generator set power requirements and conscientious service, please contact your nearest DDC/MTU Power Generation distributor.

- Consult the Yellow Pages under the heading Generators—Electric.
- Visit the DDC/MTU Power Generation website at ddcmtupowergeneration.com.
- Look at the labels and stickers on your DDC/MTU Power Generation product or review the appropriate literature or documents included with the product.

# Wiring Diagrams

Use the Wiring Diagram Cross-Reference chart to determine the wiring diagram version number for a given model number and spec number. Then find that version number and the controller type on the Controller Wiring Diagrams Reference chart to determine the wiring diagram numbers for your unit. Refer to Controller Identification for controller type identification, if necessary.

## Wiring Diagram Cross-Reference

| Model No. | Hz | Generator Set Spec No. | Wiring Diagram Version No. |
|---|---|---|---|
| 650DSEB | 50 | GM30408-GA2S, -GA12S | 1-1 or 1-2 |
| 750DSEB | 50 | GM30408-GA4S, -GA14S | 1-1 or 1-2 |
| 900DSEB | 50 | GM30408-GA6S, -GA16S | 2-1 |
| 1000DSEB | 50 | GM30408-GA8S, -GA18S | 2-1 |
| 1350DSEB | 50 | GM24213-GA3S | 3-1 |
| 1350DSEB | 50 | GM34995-GA2S, -GA6S | 3-1 |
| 1500DSEB | 50 | GM24213-GA6S | 3-1 |
| 1500DSEB | 50 | GM34995-GA4S, -GA8S | 3-1 |
| 1820DSEB | 50 | GM24214-GA2S | 3-1 |
| 1820DSEB | 50 | GM34996-GA2S, -GA6S | 3-1 |
| 2000DSEB | 50 | GM24214-GA4S | 3-1 |
| 2000DSEB | 50 | GM34996-GA4S, -GA8S | 3-1 |
| 2500DSE | 50 | GM29817-GA3S | 4-1 |
| 2800DSE | 50 | GM29817-GA4S | 4-1 |
| 650DSEB | 60 | GM30408-GA1S, -GA11S | 1-1 or 1-2 |
| 750DSEB | 60 | GM30408-GA3S, -GA13S | 1-1 or 1-2 |
| 800DSEB | 60 | GM30408-GA9S, -GA10S | 2-1 |
| 900DSEB | 60 | GM30408-GA5S, -GA15S | 2-1 |
| 1000DSEB | 60 | GM30408-GA7S, -GA17S | 2-1 |
| 1350DSEB | 60 | GM24213-GA1S | 3-1 |
| 1350DSEB | 60 | GM34995-GA1S, -GA5S | 3-1 |
| 1500DSEB | 60 | GM24213-GA4S | 3-1 |
| 1500DSEB | 60 | GM34995-GA3S, -GA7S | 3-1 |
| 1820DSEB | 60 | GM24214-GA1S | 3-1 |
| 1820DSEB | 60 | GM34996-GA1S, -GA5S | 3-1 |
| 2000DSEB | 60 | GM24214-GA3S | 3-1 |
| 2000DSEB | 60 | GM34996-GA3S, -GA7S | 3-1 |
| 2500DSE | 60 | GM29817-GA1S | 4-1 |
| 2800DSE | 60 | GM29817-GA2S | 4-1 |

# 650/750DSEB Controller Wiring Diagrams Reference

| Controller Description | Version 1-1 | Page | Version 1-2 | Page |
|---|---|---|---|---|
| **Digital 550** | | | | |
| Point-to-Point Wiring Diagram | | | | |
| Sheet 1 | GM34560A-B | 48 | GM34560A-C | 49 |
| Sheet 2 | GM34560B-B | 50 | GM34560B-C | 51 |
| Schematic Diagram | | | | |
| Sheet 1 | ADV-6934A-B | 23 | ADV-6934A-C | 24 |
| Sheet 2 | ADV-6934B-B | 25 | ADV-6934B-C | 26 |
| Accessory Connections | | | | |
| Sheet 1 | GM16088A-F | 29 | GM16088A-F | 29 |
| Sheet 2 | GM16088B-F | 30 | GM16088B-F | 30 |
| Sheet 3 | GM28632B-G | 36 | GM28632B-G | 36 |
| Sheet 4 | GM28632C-G | 37 | GM28632C-G | 37 |
| Sheet 5 | GM28632D-G | 38 | GM28632D-G | 38 |
| Sheet 6 | GM28632E-G | 39 | GM28632E-G | 39 |
| **Microprocessor-Plus** | | | | |
| Point-to-Point Wiring Diagram | | | | |
| Sheet 1 | GM34561A-A | 52 | GM34561A-B | 53 |
| Sheet 2 | GM34561B-A | 54 | GM34561B-B | 55 |
| Schematic Diagram | ADV-6933-C | 21 | ADV-6933-D | 22 |
| Accessory Connections | | | | |
| Sheet 1 | 328912A-G | 60 | 328912A-G | 60 |
| Sheet 2 | 328912B-G | 61 | 328912B-G | 61 |
| Sheet 3 | 328912C-G | 62 | 328912C-G | 62 |
| Sheet 4 | GM28631B-B | 33 | GM28631B-B | 33 |
| Sheet 5 | GM28631C-B | 34 | GM28631C-B | 34 |
| Sheet 6 | GM28631D-B | 35 | GM28631D-B | 35 |
| **Alternator Reconnections** | ADV-5875C-G | 11 | ADV-5875C-G | 11 |

Version 1-1 shows separate starter motor and starter solenoid with diode D2.
Version 1-2 shows integrated starter solenoid and starter motor with diode D2 removed.

# 800-1000DSEB Controller Wiring Diagrams Reference

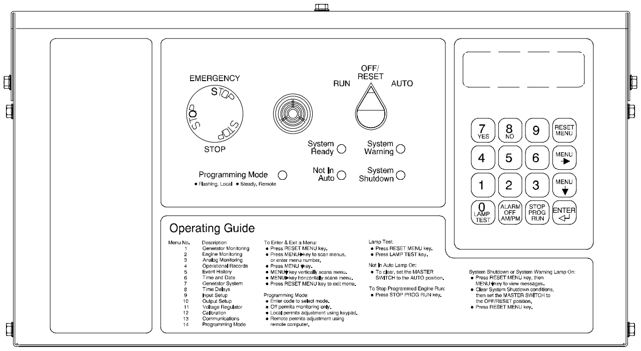
| Controller Description | Version 2-1 | Page |
|---|---|---|
| **Digital 550** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM28374A-J | 31 |
| Sheet 2 | GM28374B-J | 32 |
| Schematic Diagram | | |
| Sheet 1 | ADV-6805A-H | 12 |
| Sheet 2 | ADV-6805B-H | 13 |
| Accessory Connections | | |
| Sheet 1 | GM16088A-F | 29 |
| Sheet 2 | GM16088B-F | 30 |
| Sheet 3 | GM28632B-G | 36 |
| Sheet 4 | GM28632C-G | 37 |
| Sheet 5 | GM28632D-G | 38 |
| Sheet 6 | GM28632E-G | 39 |
| **Microprocessor-Plus** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM31056A-D | 46 |
| Sheet 2 | GM31056B-D | 47 |
| Schematic Diagram | ADV-6886-F | 20 |
| Accessory Connections | | |
| Sheet 1 | 328912A-G | 60 |
| Sheet 2 | 328912B-G | 61 |
| Sheet 3 | 328912C-G | 62 |
| Sheet 4 | GM28631B-B | 33 |
| Sheet 5 | GM28631C-B | 34 |
| Sheet 6 | GM28631D-B | 35 |
| **Alternator Reconnections** | ADV-5875C-G | 11 |

# 1350-2000DSEB Controller Wiring Diagrams Reference

| Controller Description | Version 3-1 | Page |
|---|---|---|
| **Digital 550 (190-600 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM28374A-J | 31 |
| Sheet 2 | GM28374B-J | 32 |
| Schematic Diagram | | |
| Sheet 1 | ADV-6805A-H | 12 |
| Sheet 2 | ADV-6805B-H | 13 |
| Accessory Connections | | |
| Sheet 1 | GM16088A-F | 29 |
| Sheet 2 | GM16088B-F | 30 |
| Sheet 3 | GM28632B-G | 36 |
| Sheet 4 | GM28632C-G | 37 |
| Sheet 5 | GM28632D-G | 38 |
| Sheet 6 | GM28632E-G | 39 |
| **Digital 550 (1905-4160 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM28739A-F | 40 |
| Sheet 2 | GM28739B-F | 41 |
| Schematic Diagram | | |
| Sheet 1 | ADV-6814A-F | 14 |
| Sheet 2 | ADV-6814B-F | 15 |
| **Microprocessor-Plus (190-600 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM31056A-D | 46 |
| Sheet 2 | GM31056B-D | 47 |
| Schematic Diagram | ADV-6886-F | 20 |
| Accessory Connections | | |
| Sheet 1 | 328912A-G | 60 |
| Sheet 2 | 328912B-G | 61 |
| Sheet 3 | 328912C-G | 62 |
| Sheet 4 | GM28631B-B | 33 |
| Sheet 5 | GM28631C-B | 34 |
| Sheet 6 | GM28631D-B | 35 |
| **Microprocessor-Plus (1905-4160 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM35971A-A | 56 |
| Sheet 2 | GM35971B-A | 57 |
| Schematic Diagram | ADV-6886-F | 20 |
| **Alternator Reconnections** | ADV-5875C-G | 11 |

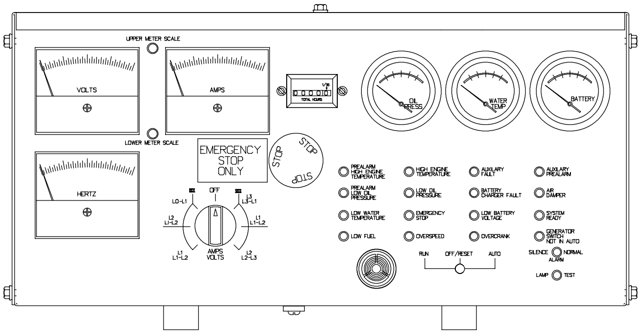
# 2500/2800DSE Controller Wiring Diagrams Reference

| Controller Description | Version 4-1 | Page |
|---|---|---|
| **Digital 550 (380-600 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM30090A-B | 42 |
| Sheet 2 | GM30090B-B | 43 |
| Schematic Diagram | | |
| Sheet 1 | ADV-6844A-B | 16 |
| Sheet 2 | ADV-6844B-B | 17 |
| Accessory Connections | | |
| Sheet 1 | GM16088A-F | 29 |
| Sheet 2 | GM16088B-F | 30 |
| Sheet 3 | GM28632B-G | 26 |
| Sheet 4 | GM28632C-G | 37 |
| Sheet 5 | GM28632D-G | 38 |
| Sheet 6 | GM28632E-G | 39 |
| **Digital 550 (3300 V, 4160 V, and 6600 V)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM30091A-B | 44 |
| Sheet 2 | GM30091B-B | 45 |
| Schematic Diagram | | |
| Sheet 1 | ADV-6848A-B | 18 |
| Sheet 2 | ADV-6848B-B | 19 |
| **Digital 550 (11-13.8 kV)** | | |
| Point-to-Point Wiring Diagram | | |
| Sheet 1 | GM39844A- | 58 |
| Sheet 2 | GM39844B- | 59 |
| Schematic Diagram | | |
| Sheet 1 | ADV-7044A- | 27 |
| Sheet 2 | ADV-7044B- | 28 |
| **Alternator Reconnections** | ADV-5875C-G | 11 |



## Digital 550 Controller

- Audiovisual annunciation with NFPA 110 Level 1 capability.
- Programmable microprocessor logic and digital display features.
- Safeguard circuit protection standard.
- 12- or 24-volt engine electrical system capability.
- Remote start, remote annunciation, and remote communication options.



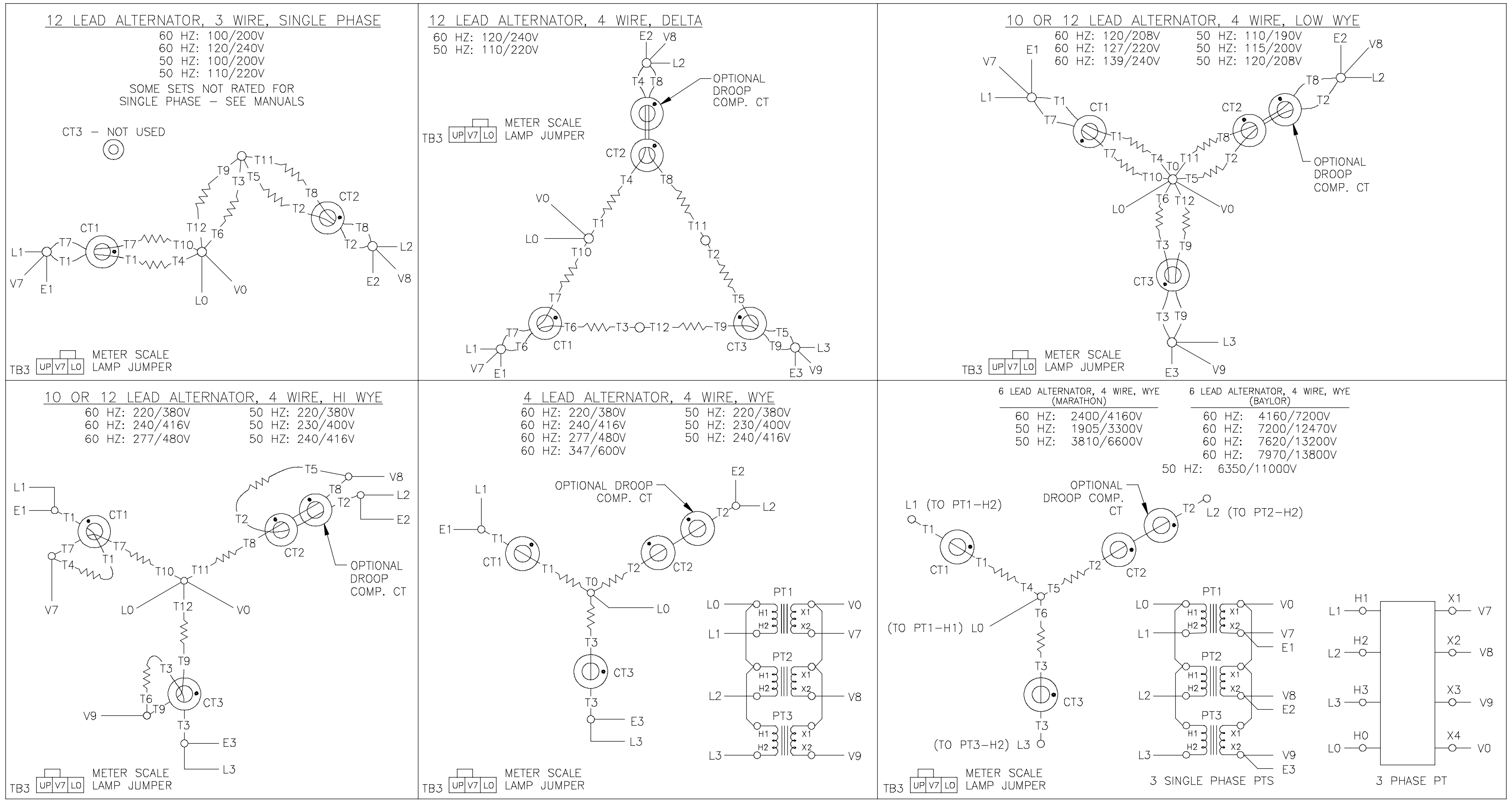
## Microprocessor-Plus, 16-Light Controller

- Audiovisual annunciation with NFPA 110 Level 1 capability.
- Microprocessor logic, AC meters, and engine gauge features.
- 12- or 24-volt engine electrical system capability.
- Remote start, prime power, and remote annunciation options.

# Notes

| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| E | 5-27-04 | (A-1) THIS SHEET ADDED & MARATHON WIRING DIAGRAMS | | |
| | | TRANSFERRED FROM SHEET 2-2; (A & C-2,-3,-4) TB3 WAS | | |
| | | TB2 (6 PLACES) & SEE SHEET 1 AND 2 [71832] | DFS | |
| F | 9-2-04 | SEE SHEET 2 OF 3. [72955] | RAC | |
| G | 12-12-05 | (B-2) 6 LEAD ALTS: 3 PHASE PT DIAGRAM ADDED [7698] | SAM | |
| | | | | |
| | | | | |

GENERATOR CONNECTIONS



PHASE ROTATION

| A | B | C |
|---|---|---|
| L1 | L2 | L3 |

NOTES:

ON 10 LEAD GENERATORS, LEADS T10, T11 & T12 ARE ALL BROUGHT OUT TOGETHER AND LABELED "T0".

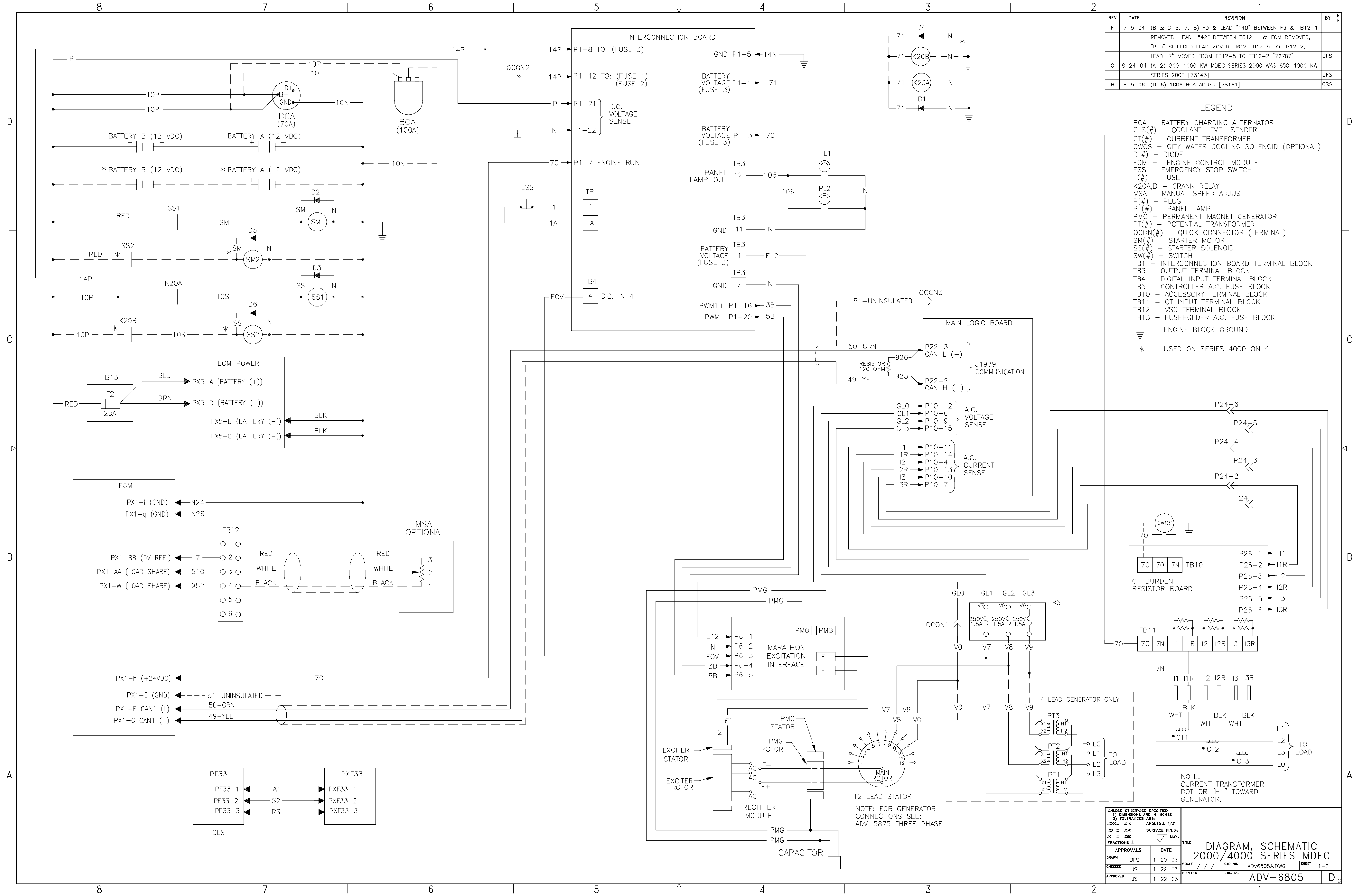
CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR.
CURRENT TRANSFORMERS NOT USED ON ALL SETS.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 5-27-04 |
| CHECKED | JS | 5-27-04 |
| APPROVED | JS | 5-27-04 |

TITLE
DIAGRAM,
3ø RECONNECTABLE

SCALE NONE
CAD NO. ADV5875C.DWG
SHEET 3-3
PLOTTED
DWG. NO. ADV-5875
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| F | 7-5-04 | (B & C-6,-7,-8) F3 & LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED, LEAD "542" BETWEEN TB12-1 & ECM REMOVED, | | |
| | | "RED" SHIELDED LEAD MOVED FROM TB12-5 TO TB12-2, | | |
| | | LEAD "7" MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| G | 8-24-04 | (A-2) 800-1000 KW MDEC SERIES 2000 WAS 650-1000 KW | | |
| | | SERIES 2000 [73143] | DFS | |
| H | 6-5-06 | (D-6) 100A BCA ADDED [78161] | CRS | |

LEGEND

BCA - BATTERY CHARGING ALTERNATOR
CLS(#) - COOLANT LEVEL SENDER
CT(#) - CURRENT TRANSFORMER
CWCS - CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) - DIODE
ECM - ENGINE CONTROL MODULE
ESS - EMERGENCY STOP SWITCH
F(#) - FUSE
K20A,B - CRANK RELAY
MSA - MANUAL SPEED ADJUST
P(#) - PLUG
PL(#) - PANEL LAMP
PMG - PERMANENT MAGNET GENERATOR
PT(#) - POTENTIAL TRANSFORMER
QCON(#) - QUICK CONNECTOR (TERMINAL)
SM(#) - STARTER MOTOR
SS(#) - STARTER SOLENOID
SW(#) - SWITCH
TB1 - INTERCONNECTION BOARD TERMINAL BLOCK
TB3 - OUTPUT TERMINAL BLOCK
TB4 - DIGITAL INPUT TERMINAL BLOCK
TB5 - CONTROLLER A.C. FUSE BLOCK
TB10 - ACCESSORY TERMINAL BLOCK
TB11 - CT INPUT TERMINAL BLOCK
TB12 - VSG TERMINAL BLOCK
TB13 - FUSEHOLDER A.C. FUSE BLOCK
⏚ - ENGINE BLOCK GROUND
* - USED ON SERIES 4000 ONLY

NOTE:
CURRENT TRANSFORMER
DOT OR "H1" TOWARD
GENERATOR.

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 1-20-03 |
| CHECKED | JS | 1-22-03 |
| APPROVED | JS | 1-22-03 |

TITLE
DIAGRAM, SCHEMATIC
2000/4000 SERIES MDEC

SCALE / / /
CAD NO. ADV6805A.DWG
SHEET 1-2
PLOTTED
DWG. NO. ADV-6805
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| E | 2-11-04 | SEE SHEET 1 [71543] | SAM | |
| F | 7-5-04 | SEE SHEET 1 [72787] | DFS | |
| G | 8-24-04 | (A-2) 800-1000 KW MDEC SERIES 2000 WAS 650-1000 KW | | |
| | | SERIES 2000 [73143] | DFS | |
| H | 6-5-06 | SEE SHEET 1 [78161] | CRS | |
| | | | | |
| | | | | |

INTERCONNECT BOARD

TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1(+) |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2(+) |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3(+) |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4(+) |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5(+) |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6(+) |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7(+) |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1(-) |
| TB2-17 | CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2(-) |
| TB2-19 | CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3(-) |
| TB2-21 | CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4(-) |
| TB2-23 | CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5(-) |
| TB2-25 | CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6(-) |
| TB2-27 | CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7(-) |
| TB2-29 | CH7 SHIELD GROUND |
| TB2-30 | N/C |

TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY(+) (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY(+) (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1(+) |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY(+) SENSE (P) |
| P1-22 | BATTERY(-) SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2(+) |

P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY+ (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUPTUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

MAIN LOGIC BOARD

P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | - |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | - |

P20 RS485 NON-ISOLATED CONNECTIONS

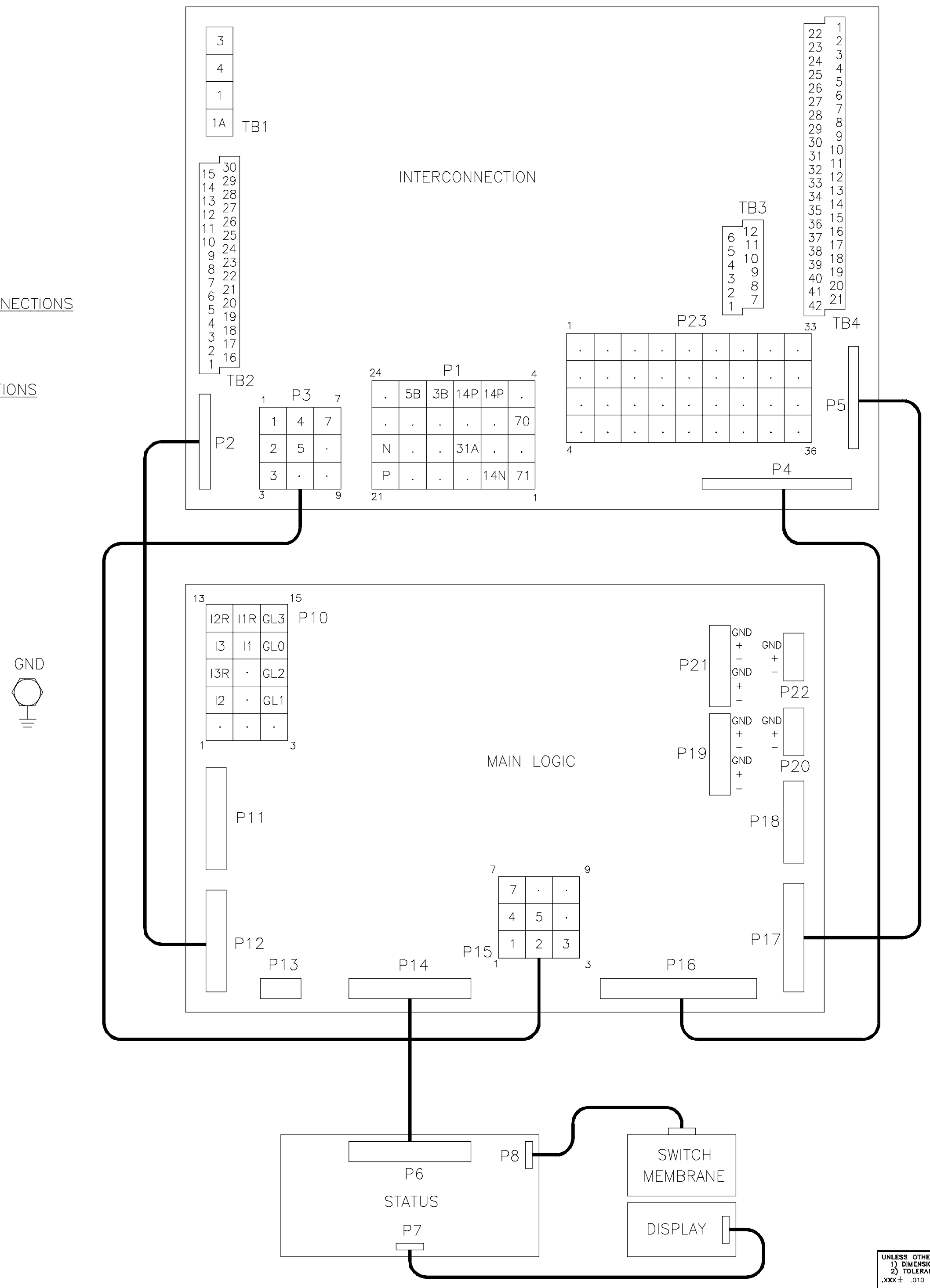
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | - |

P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | - |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | - |

P22 J1939 CONNECTIONS

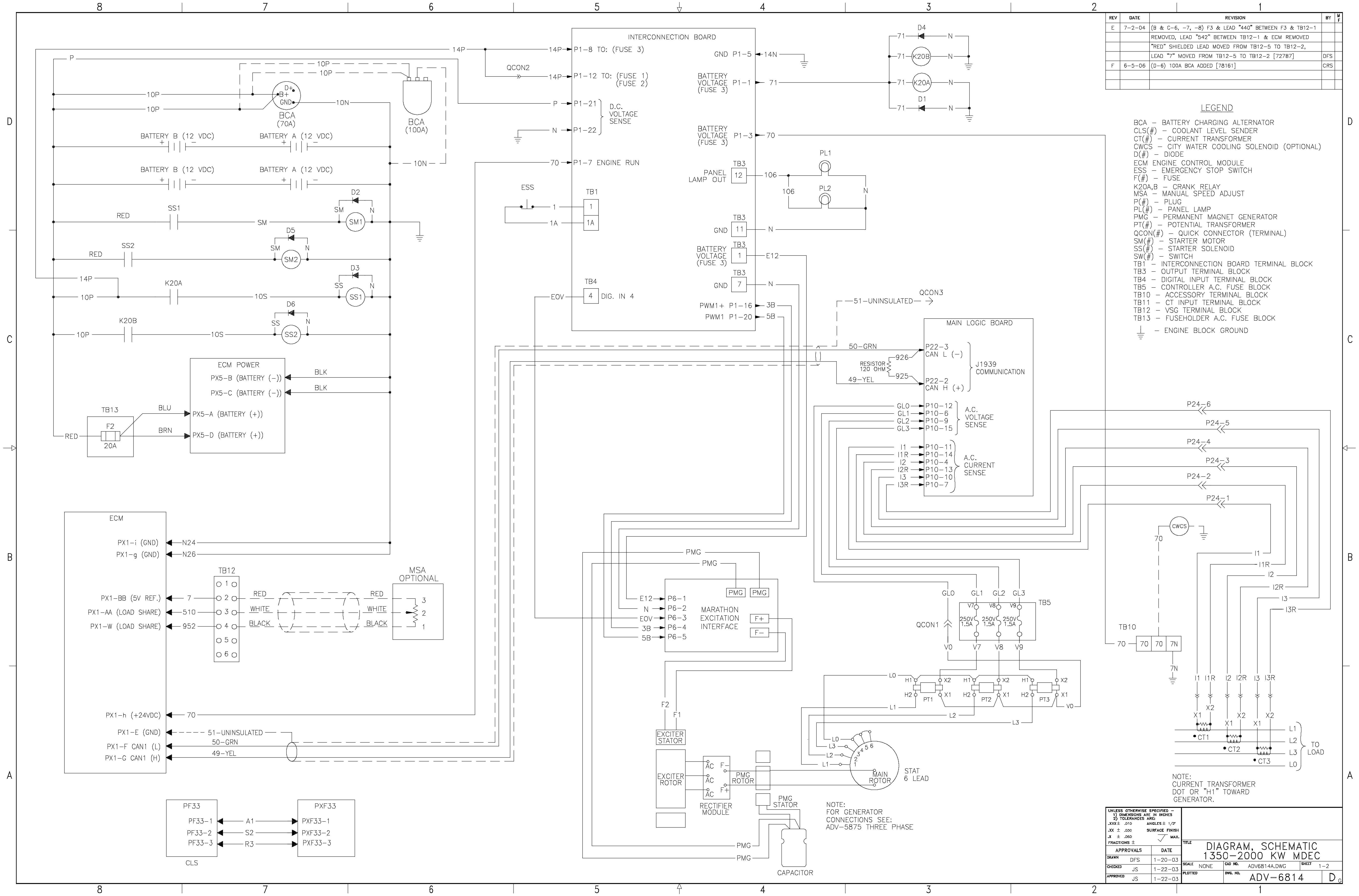
| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | - |



UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 1-20-03 |
| CHECKED | JS | 1-22-03 |
| APPROVED | JS | 1-22-03 |

TITLE DIAGRAM, SCHEMATIC
2000/4000 SERIES MDEC
SCALE / / / CAD NO. ADV6805B.DWG SHEET 2-2
PLOTTED DWG. NO. ADV-6805 D G



| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| E | 7-2-04 | (B & C-6, -7, -8) F3 & LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED, LEAD "542" BETWEEN TB12-1 & ECM REMOVED | | |
| | | "RED" SHIELDED LEAD MOVED FROM TB12-5 TO TB12-2, | | |
| | | LEAD "7" MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| F | 6-5-06 | (D-6) 100A BCA ADDED [78161] | CRS | |
| | | | | |
| | | | | |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ECM ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K20A,B – CRANK RELAY
MSA – MANUAL SPEED ADJUST
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
⏚ – ENGINE BLOCK GROUND

NOTE:
FOR GENERATOR
CONNECTIONS SEE:
ADV-5875 THREE PHASE

NOTE:
CURRENT TRANSFORMER
DOT OR "H1" TOWARD
GENERATOR.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 1-20-03 |
| CHECKED | JS | 1-22-03 |
| APPROVED | JS | 1-22-03 |

TITLE DIAGRAM, SCHEMATIC 1350-2000 KW MDEC
SCALE NONE
CAD NO. ADV6814A.DWG
SHEET 1-2
PLOTTED
DWG. NO. ADV-6814 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 2-11-04 | SEE SHEET 1 [71543] | SAM | |
| E | 7-5-04 | SEE SHEET 1 [72787] | DFS | |
| F | 6-5-06 | SEE SHEET 1 [78161] | CRS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1+ |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2+ |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3+ |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4+ |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5+ |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6+ |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7+ |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1- |
| TB2-17 | CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2- |
| TB2-19 | CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3- |
| TB2-21 | CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4- |
| TB2-23 | CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5- |
| TB2-25 | CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6- |
| TB2-27 | CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7- |
| TB2-29 | CH7 SHIELD GROUND |
| TB2-30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY+ (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY+ (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1+ |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY+ SENSE (P) |
| P1-22 | BATTERY- SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2+ |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY+ (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUTPUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | – |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | – |

### P20 RS485 NON-ISOLATED CONNECTIONS

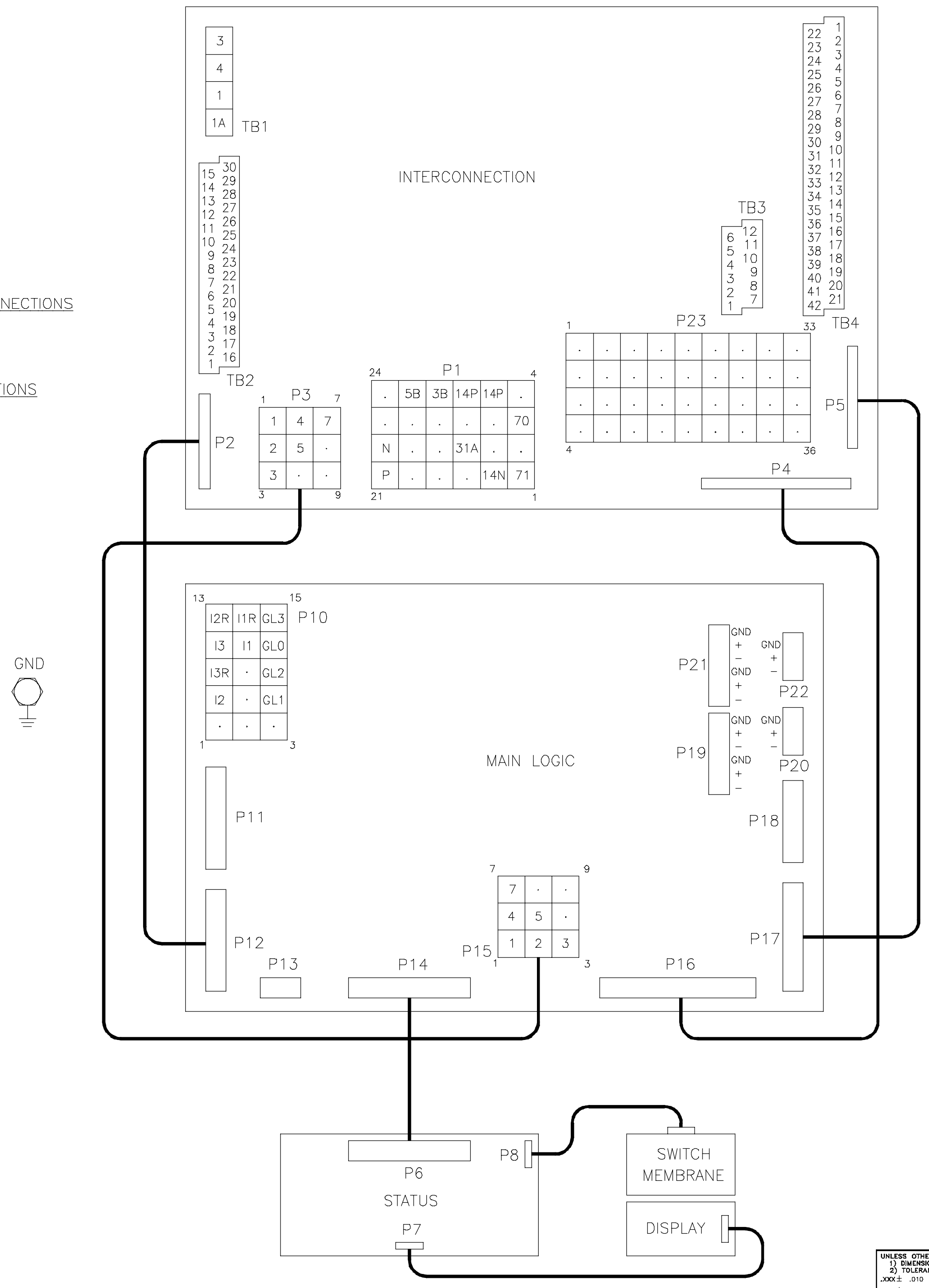
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | – |

### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | – |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | – |

### P22 J1939 CONNECTIONS

| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | – |

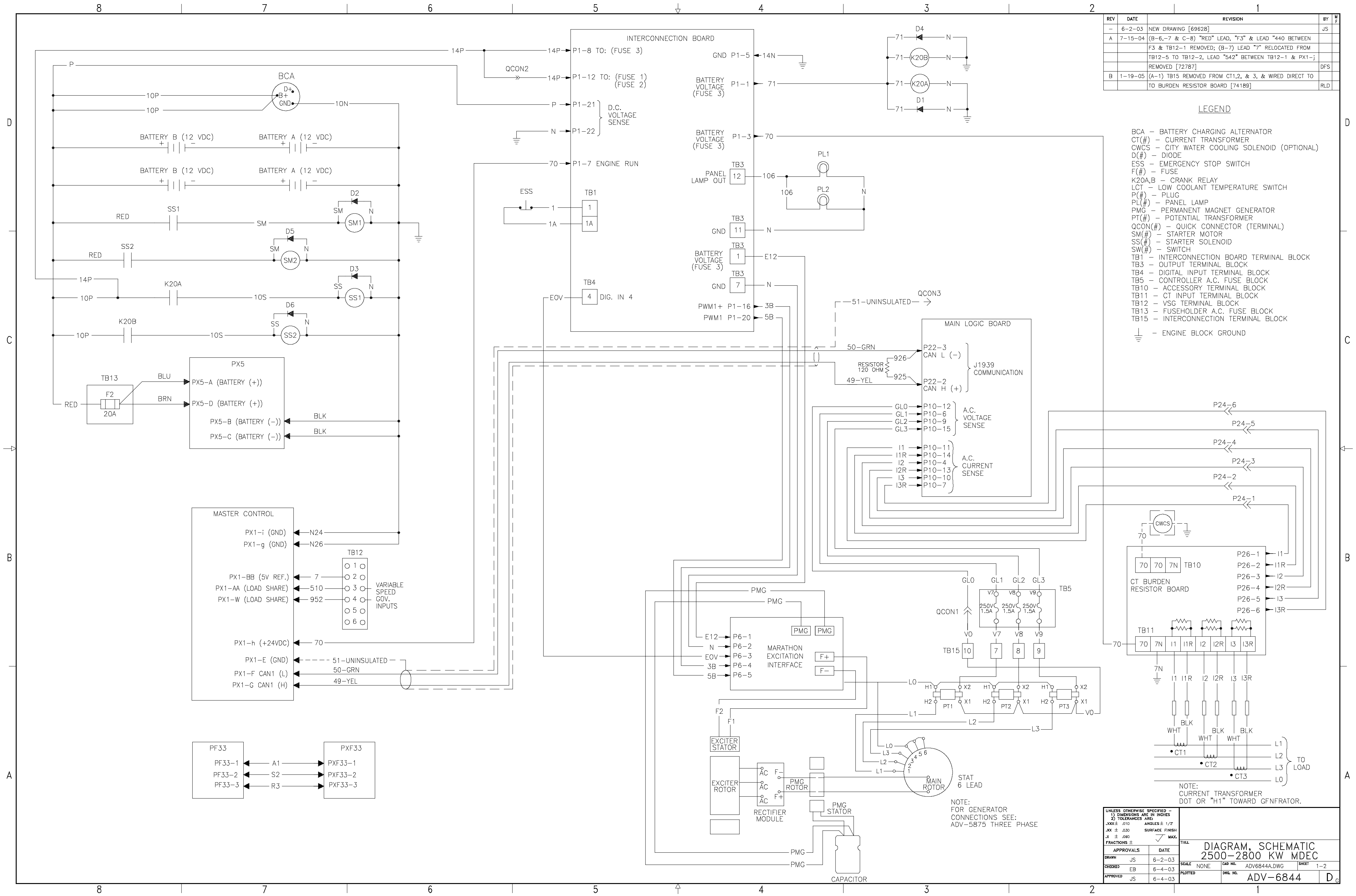


UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 1-20-03 |
| CHECKED | JS | 1-22-03 |
| APPROVED | JS | 1-22-03 |

TITLE
DIAGRAM, SCHEMATIC
1350-2000 KW MDEC

SCALE / / / CAD NO. ADV6814B.DWG SHEET 2-2
PLOTTED DWG. NO. ADV-6814 D G



NOTE: FOR GENERATOR CONNECTIONS SEE: ADV-5875 THREE PHASE

NOTE: CURRENT TRANSFORMER DOT OR "H1" TOWARD GFNFRATOR.

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | (B-6,-7 & C-8) "RED" LEAD, "F3" & LEAD "440 BETWEEN | | |
| | | F3 & TB12-1 REMOVED; (B-7) LEAD "7" RELOCATED FROM | | |
| | | TB12-5 TO TB12-2, LEAD "542" BETWEEN TB12-1 & PX1-j | | |
| | | REMOVED [72787] | DFS | |
| B | 1-19-05 | (A-1) TB15 REMOVED FROM CT1,2, & 3, & WIRED DIRECT TO | | |
| | | TO BURDEN RESISTOR BOARD [74189] | RLD | |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K20A,B – CRANK RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK
⏚ – ENGINE BLOCK GROUND

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE DIAGRAM, SCHEMATIC 2500-2800 KW MDEC
SCALE NONE
CAD NO. ADV6844A.DWG
SHEET 1-2
PLOTTED
DWG. NO. ADV-6844 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | SEE SHEET 1 [72787] | DFS | |
| B | 1-19-05 | SEE SHEET 1 [74189] | RLD | |

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1+ |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2+ |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3+ |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4+ |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5+ |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6+ |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7+ |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1- |
| TB2-17 | CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2- |
| TB2-19 | CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3- |
| TB2-21 | CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4- |
| TB2-23 | CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5- |
| TB2-25 | CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6- |
| TB2-27 | CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7- |
| TB2-29 | CH7 SHIELD GROUND |
| TB2-30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY+ (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY+ (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1+ |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY+ SENSE (P) |
| P1-22 | BATTERY- SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2+ |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY+ (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUPTUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | – |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | – |

### P20 RS485 NON-ISOLATED CONNECTIONS

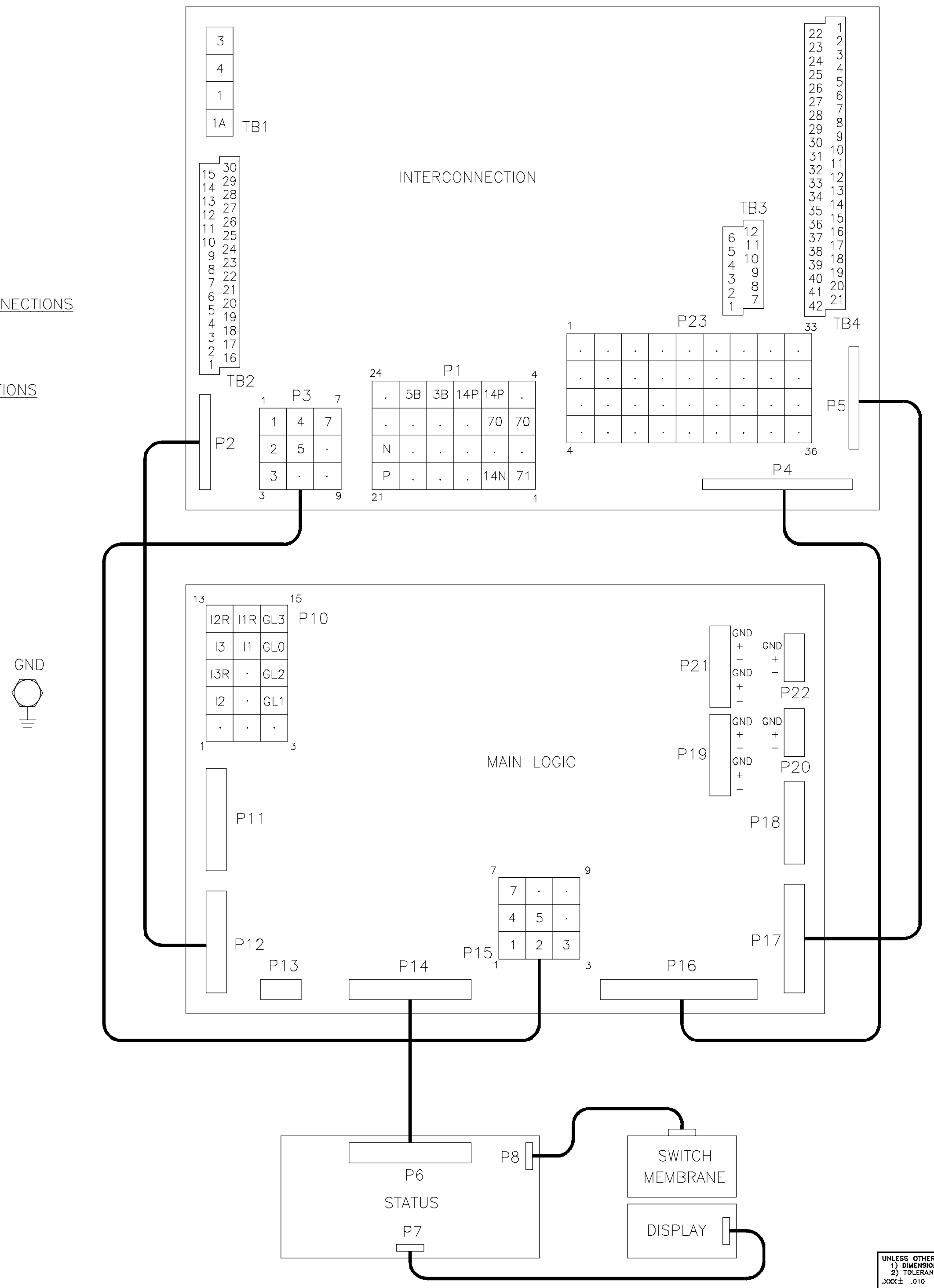
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | – |

### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | – |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | – |

### P22 J1939 CONNECTIONS

| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | – |

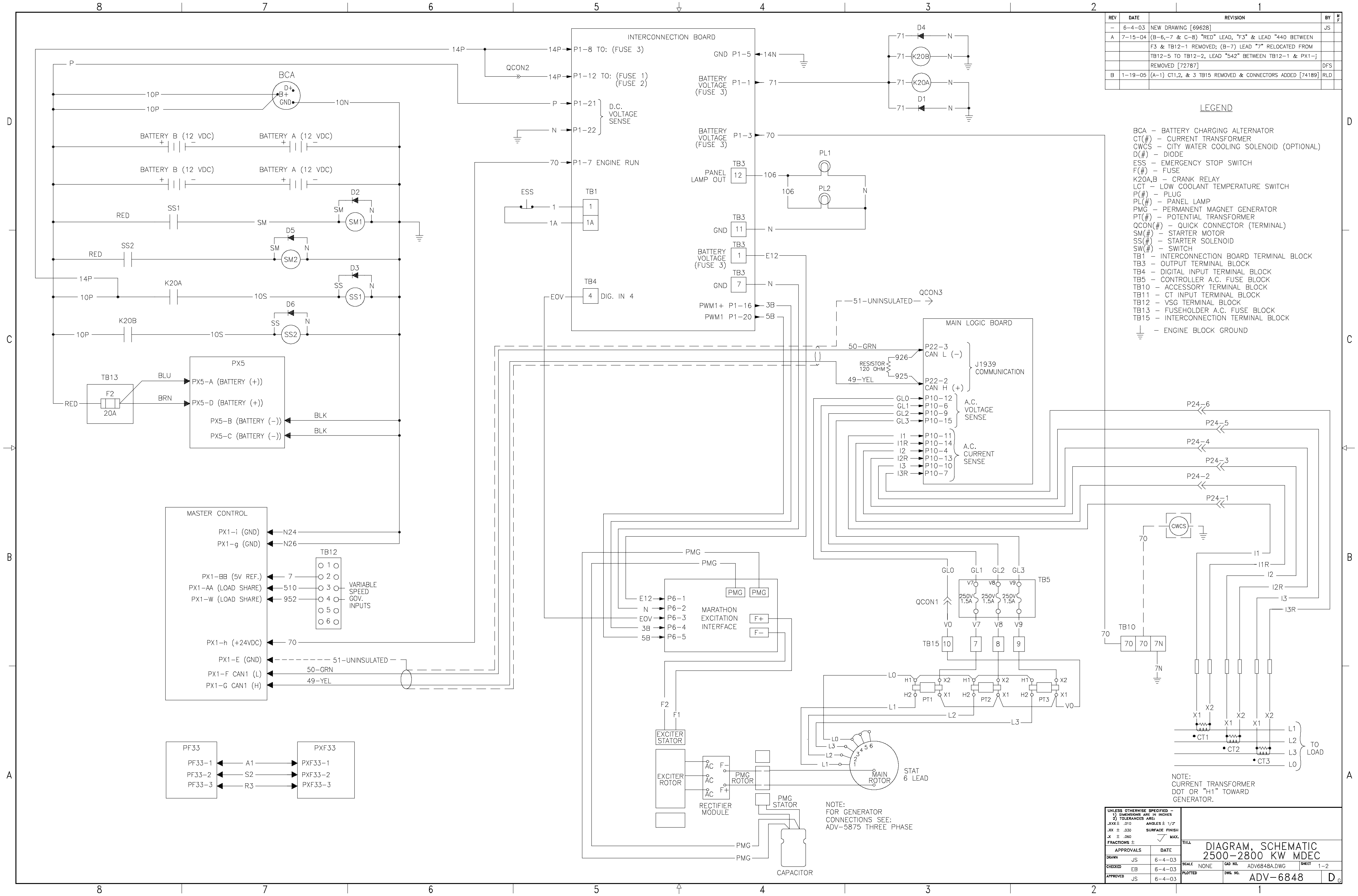


UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE
DIAGRAM, SCHEMATIC
2500-2800 KW MDEC

SCALE / / /
CAD NO. ADV6844B.DWG
SHEET 2-2
PLOTTED
DWG. NO. ADV-6844
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-4-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | (B-6,-7 & C-8) "RED" LEAD, "F3" & LEAD "440 BETWEEN | | |
| | | F3 & TB12-1 REMOVED; (B-7) LEAD "7" RELOCATED FROM | | |
| | | TB12-5 TO TB12-2, LEAD "542" BETWEEN TB12-1 & PX1-j | | |
| | | REMOVED [72787] | DFS | |
| B | 1-19-05 | (A-1) CT1,2, & 3 TB15 REMOVED & CONNECTORS ADDED [74189] | RLD | |
| | | | | |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K20A,B – CRANK RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK
⏚ – ENGINE BLOCK GROUND

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-4-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE DIAGRAM, SCHEMATIC 2500–2800 KW MDEC
SCALE NONE
CAD NO. ADV6848A.DWG
SHEET 1–2
PLOTTED
DWG. NO. ADV–6848
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-4-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | SEE SHEET 1 [72787] | DFS | |
| B | 1-19-05 | SEE SHEET 1 [74189] | RLD | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1+ |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2+ |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3+ |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4+ |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5+ |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6+ |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7+ |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1- |
| TB2-17 | CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2- |
| TB2-19 | CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3- |
| TB2-21 | CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4- |
| TB2-23 | CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5- |
| TB2-25 | CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6- |
| TB2-27 | CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7- |
| TB2-29 | CH7 SHIELD GROUND |
| TB2-30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY+ (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY+ (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1+ |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY+ SENSE (P) |
| P1-22 | BATTERY- SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2+ |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY+ (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUPTUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | – |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | – |

### P20 RS485 NON-ISOLATED CONNECTIONS

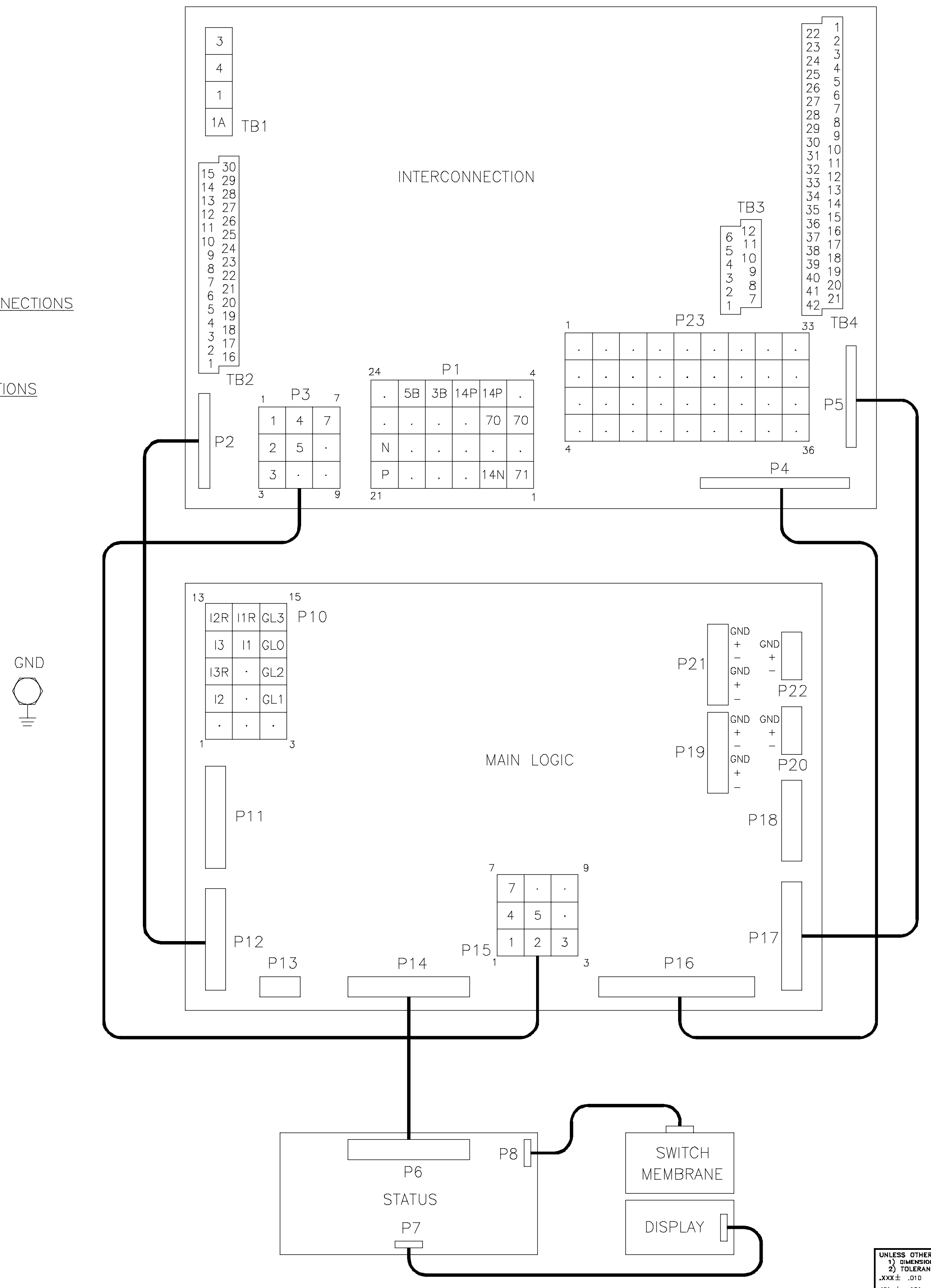
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | – |

### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | – |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | – |

### P22 J1939 CONNECTIONS

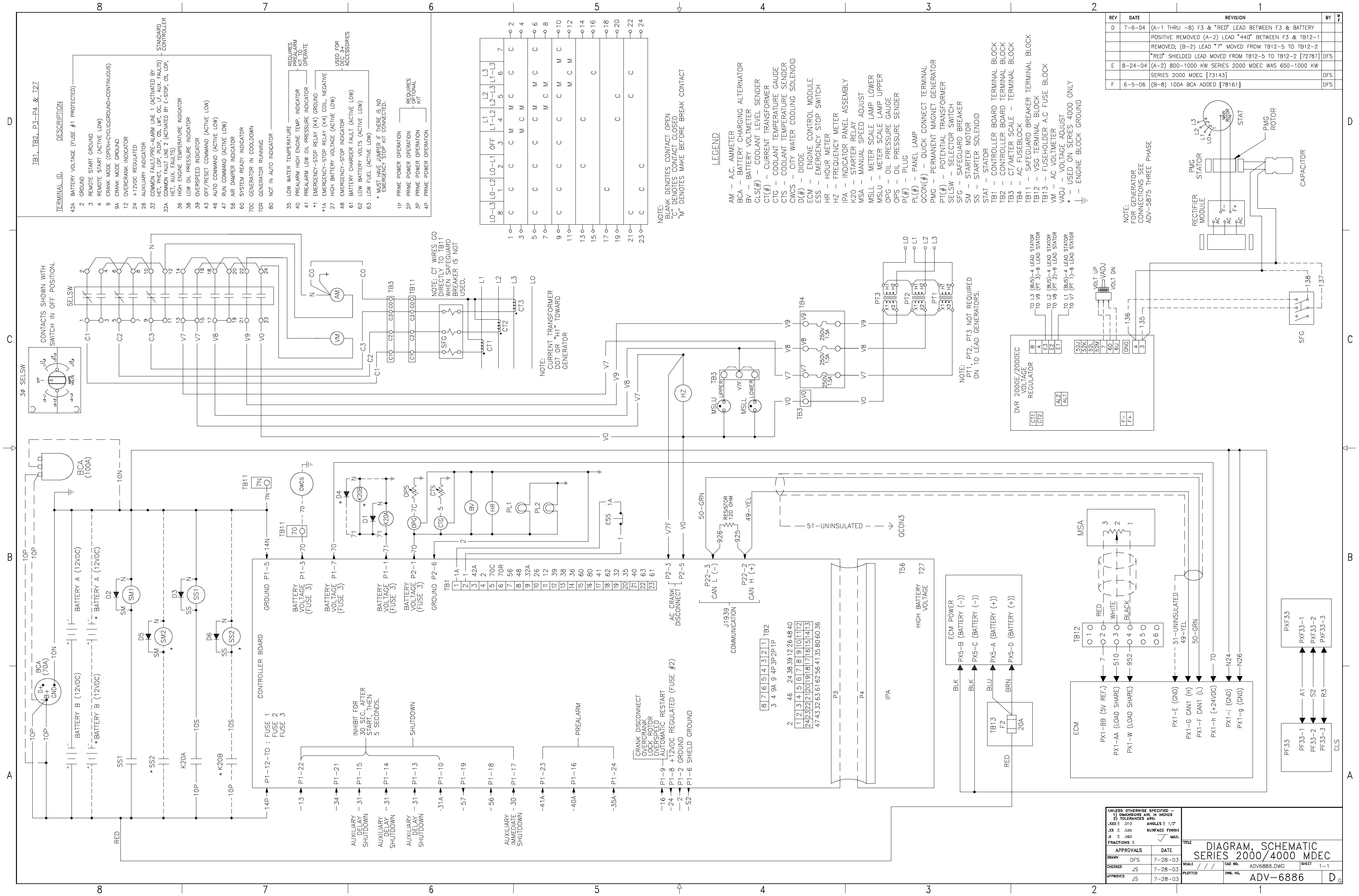
| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | – |



UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-4-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE
DIAGRAM, SCHEMATIC
2500-2800 KW MDEC
SCALE / / / CAD NO. ADV6848B.DWG SHEET 2-2
PLOTTED DWG. NO. ADV-6848 D G



| TERMINAL ID. | DESCRIPTION |  |
|---|---|---|
| 42A | BATTERY VOLTAGE (FUSE #1 PROTECTED) | STANDARD CONTROLLER |
| 2 | GROUND | |
| 3 | REMOTE START GROUND | |
| 4 | REMOTE START (ACTIVE LOW) | |
| 9 | CRANK MODE (OPEN=CYCLIC;GROUND=CONTINUOUS) | |
| 9A | CRANK MODE GROUND | |
| 12 | OVERCRANK INDICATOR | |
| 24 | +12VDC REGULATED | |
| 26 | AUXILIARY INDICATOR | |
| 32 | COMMON FAULT/PRE-ALARM LINE 1 (ACTIVATED BY HET, PHET, LOP, PLOP, OS, LWT, OC, LF, AUX. FAULTS) | |
| 32A | COMMON FAULT LINE 2 (ACTIVATED BY E-STOP, OS, LOP, HET, AUX. FAULTS) | |
| 36 | HIGH ENGINE TEMPERATURE INDICATOR | |
| 38 | LOW OIL PRESSURE INDICATOR | |
| 39 | OVERSPEED INDICATOR | |
| 43 | OFF/RESET COMMAND (ACTIVE LOW) | |
| 46 | AUTO COMMAND (ACTIVE LOW) | |
| 47 | RUN COMMAND (ACTIVE LOW) | |
| 56 | AIR DAMPER INDICATOR | |
| 60 | SYSTEM READY INDICATOR | |
| 70C | GENERATOR IN COOLDOWN | |
| 70R | GENERATOR RUNNING | |
| 80 | NOT IN AUTO INDICATOR | |
| 35 | LOW WATER TEMPERATURE | REQUIRES PREALARM KIT TO OPERATE |
| 40 | PREALARM HIGH ENGINE TEMP. INDICATOR | |
| 41 | PREALARM LOW OIL PRESSURE INDICATOR | |
| *1 | EMERGENCY-STOP RELAY (K4) GROUND | USED FOR DEC 3+ ACCESSORIES |
| *1A | EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE | |
| 27 | HIGH BATTERY VOLTAGE (ACTIVE LOW) | |
| 48 | EMERGENCY-STOP INDICATOR | |
| 61 | BATTERY CHARGER FAULT (ACTIVE LOW) | |
| 62 | LOW BATTERY VOLTS (ACTIVE LOW) | |
| 63 | LOW FUEL (ACTIVE LOW) | |
| 1P | PRIME POWER OPERATION | REQUIRES OPTIONAL KIT |
| 2P | PRIME POWER OPERATION | |
| 3P | PRIME POWER OPERATION | |
| 4P | PRIME POWER OPERATION | |

TB1, TB2, P3-P4 & T27

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTED.

| CONTACTS | LO-L3<br>8 | LO-L2<br>1 | LO-L1<br>2 | OFF<br>3 | | L1<br>L1-L2<br>4 | | L2<br>L2-L3<br>5 | | L3<br>L1-L3<br>6 | | 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-2 | C | C | C | C | M | | M | C | | C | | C |
| 3-4 | | | | | M | C | M | | | | | |
| 5-6 | C | C | C | C | | C | M | | M | C | | C |
| 7-8 | | | | | | | M | C | M | | | |
| 9-10 | C | C | C | C | | C | | C | M | | M | C |
| 11-12 | | | | | | | | | M | C | M | |
| 13-14 | | | C | | | C | | | | | | |
| 15-16 | | | | | | | | | | C | | |
| 17-18 | | C | | | | | | | | | | |
| 19-20 | | | | | | C | | C | | | | |
| 21-22 | C | | | | | | | C | | C | | |
| 23-24 | C | C | C | | | | | | | | | |

NOTE:
BLANK DENOTES CONTACT OPEN
"C" DENOTES CONTACT CLOSED
"M" DENOTES MAKE BEFORE BREAK CONTACT

LEGEND

AM - A.C. AMMETER
BCA - BATTERY CHARGING ALTERNATOR
BV - BATTERY VOLTMETER
CLS(#) - COOLANT LEVEL SENDER
CT(#) - CURRENT TRANSFORMER
CTG - COOLANT TEMPERATURE GAUGE
CTS - COOLANT TEMPERATURE SENDER
CWCS - CITY WATER COOLING SOLENOID
D(#) - DIODE
ECM - ENGINE CONTROL MODULE
ESS - EMERGENCY STOP SWITCH
HR - HOUR METER
HZ - FREQUENCY METER
IPA - INDICATOR PANEL ASSEMBLY
K20 - STARTER RELAY
MSA - MANUAL SPEED ADJUST
MSLL - METER SCALE LAMP LOWER
MSLU - METER SCALE LAMP UPPER
OPG - OIL PRESSURE GAUGE
OPS - OIL PRESSURE SENDER
P(#) - PLUG
PL(#) - PANEL LAMP
QCON(#) - QUICK CONNECT TERMINAL
PMG - PERMANENT MAGNET GENERATOR
PT(#) - POTENTIAL TRANSFORMER
SELSW - SELECTOR SWITCH
SFG - SAFEGUARD BREAKER
SM - STARTER MOTOR
SS - STARTER SOLENOID
STAT - STATOR
TB1 - CONTROLLER BOARD TERMINAL BLOCK
TB2 - CONTROLLER BOARD TERMINAL BLOCK
TB3 - CT/METER SCALE - TERMINAL BLOCK
TB4 - AC FUSEBLOCK
TB11 - SAFEGUARD BREAKER TERMINAL BLOCK
TB12 - VSG TERMINAL BLOCK
TB13 - FUSEHOLDER A.C FUSE BLOCK
VM - AC VOLTMETER
VADJ - VOLTAGE ADJUST
* - USED ON SERIES 4000 ONLY
⏚ - ENGINE BLOCK GROUND

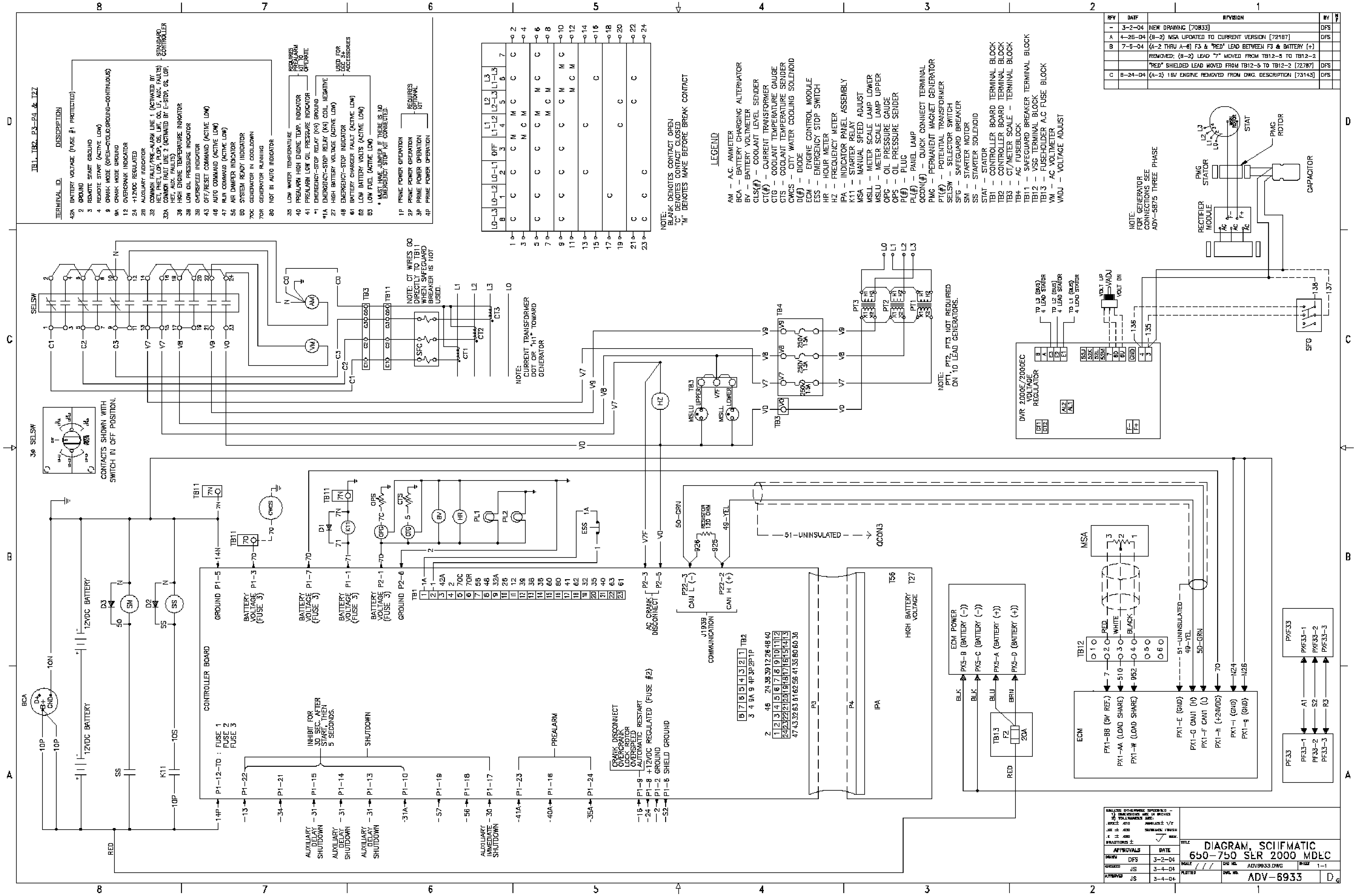
| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 7-6-04 | (A-1 THRU -8) F3 & "RED" LEAD BETWEEN F3 & BATTERY | | |
| | | POSITIVE REMOVED (A-2) LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED; (B-2) LEAD "7" MOVED FROM TB12-5 TO TB12-2 | | |
| | | "RED" SHIELDED LEAD MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| E | 8-24-04 | (A-2) 800-1000 KW SERIES 2000 MDEC WAS 650-1000 KW | | |
| | | SERIES 2000 MDEC [73143] | DFS | |
| F | 6-5-06 | (B-8) 100A BCA ADDED [78161] | DFS | |

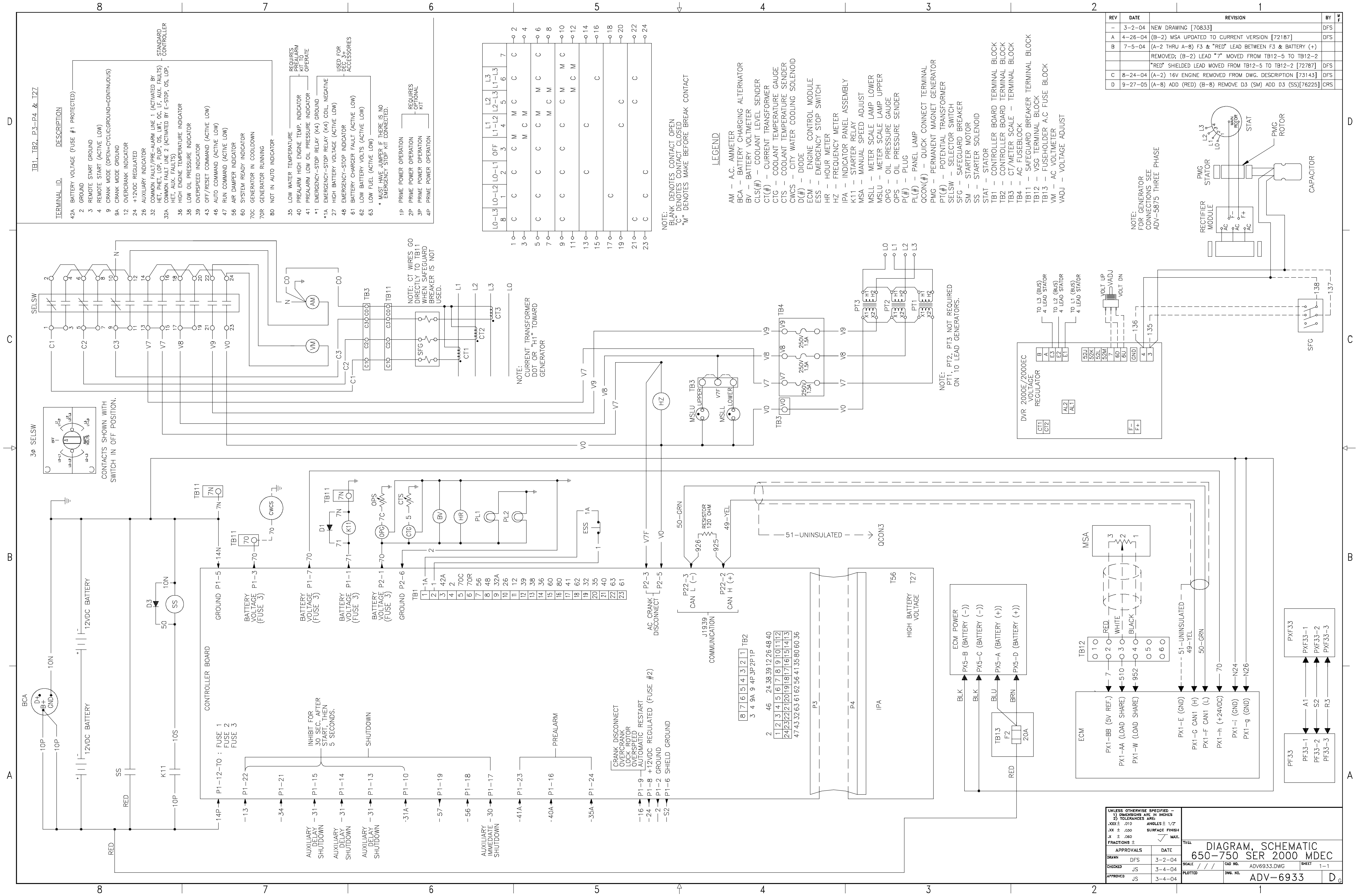
UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 7-28-03 |
| CHECKED | JS | 7-28-03 |
| APPROVED | JS | 7-28-03 |

TITLE
DIAGRAM, SCHEMATIC
SERIES 2000/4000 MDEC

SCALE / / / CAD NO. ADV6886.DWG SHEET 1-1
PLOTTED DWG. NO. ADV-6886 D G


REV | DATE | REVISION | BY
- | 3-2-04 | NEW DRAWING [70833] | DFS
A | 4-26-04 | (B-2) MSA UPDATED TO CURRENT VERSION [72187] | DFS
B | 7-5-04 | (A-2 THRU A-8) F3 & "RED" LEAD BETWEEN F3 & BATTERY (+) REMOVED; (B-2) LEAD "7" MOVED FROM TB12-5 TO TB12-2 "RED" SHIELDED LEAD MOVED FROM TB12-5 TO TB12-2 [72787] | DFS
C | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS
TB1, TB2, P3-P4 & T27
TERMINAL ID. DESCRIPTION
42A BATTERY VOLTAGE (FUSE #1 PROTECTED)
2 GROUND
3 REMOTE START GROUND
4 REMOTE START (ACTIVE LOW)
9 CRANK MODE (OPEN-CYCLIC;GROUND-CONTINUOUS)
9A CRANK MODE GROUND
12 OVERCRANK INDICATOR
24 +12VDC REGULATED
26 AUXILIARY INDICATOR
32 COMMON FAULT/PRE-ALARM LINE 1 (ACTIVATED BY HET, PHET, LOP, PLOP, OS, LWT, OC, LF, AUX. FAULTS)
32A COMMON FAULT LINE 2 (ACTIVATED BY E-STOP, OS, LOP, HET, AUX. FAULTS)
36 HIGH ENGINE TEMPERATURE INDICATOR
38 LOW OIL PRESSURE INDICATOR
39 OVERSPEED INDICATOR
43 OFF/RESET COMMAND (ACTIVE LOW)
46 AUTO COMMAND (ACTIVE LOW)
47 RUN COMMAND (ACTIVE LOW)
56 AIR DAMPER INDICATOR
60 SYSTEM READY INDICATOR
70C GENERATOR IN COOLDOWN
70R GENERATOR RUNNING
80 NOT IN AUTO INDICATOR
STANDARD CONTROLLER
35 LOW WATER TEMPERATURE
40 PREALARM HIGH ENGINE TEMP. INDICATOR
41 PREALARM LOW OIL PRESSURE INDICATOR
REQUIRES PREALARM KIT TO OPERATE
*1 EMERGENCY-STOP RELAY (K4) GROUND
*1A EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE
27 HIGH BATTERY VOLTAGE (ACTIVE LOW)
48 EMERGENCY-STOP INDICATOR
61 BATTERY CHARGER FAULT (ACTIVE LOW)
62 LOW BATTERY VOLTS (ACTIVE LOW)
63 LOW FUEL (ACTIVE LOW)
USED FOR DEC 3+ ACCESSORIES
* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTED.
1P PRIME POWER OPERATION
2P PRIME POWER OPERATION
3P PRIME POWER OPERATION
4P PRIME POWER OPERATION
REQUIRES OPTIONAL KIT
LO-L3 LO-L2 LO-L1 OFF L1-L2 L2-L3 L1-L3
8 1 2 3 4 5 6 7
L1 L2 L3
NOTE: BLANK DENOTES CONTACT OPEN "C" DENOTES CONTACT CLOSED "M" DENOTES MAKE BEFORE BREAK CONTACT
LEGEND
AM - A.C. AMMETER
BCA - BATTERY CHARGING ALTERNATOR
BV - BATTERY VOLTMETER
CLS(#) - COOLANT LEVEL SENDER
CT(#) - CURRENT TRANSFORMER
CTG - COOLANT TEMPERATURE GAUGE
CTS - COOLANT TEMPERATURE SENDER
CWCS - CITY WATER COOLING SOLENOID
D(#) - DIODE
ECM - ENGINE CONTROL MODULE
ESS - EMERGENCY STOP SWITCH
HR - HOUR METER
HZ - FREQUENCY METER
IPA - INDICATOR PANEL ASSEMBLY
K11 - STARTER RELAY
MSA - MANUAL SPEED ADJUST
MSLL - METER SCALE LAMP LOWER
MSLU - METER SCALE LAMP UPPER
OPG - OIL PRESSURE GAUGE
OPS - OIL PRESSURE SENDER
P(#) - PLUG
PL(#) - PANEL LAMP
QCON(#) - QUICK CONNECT TERMINAL
PMG - PERMANENT MAGNET GENERATOR
PT(#) - POTENTIAL TRANSFORMER
SELSW - SELECTOR SWITCH
SFG - SAFEGUARD BREAKER
SM - STARTER MOTOR
SS - STARTER SOLENOID
STAT - STATOR
TB1 - CONTROLLER BOARD TERMINAL BLOCK
TB2 - CONTROLLER BOARD TERMINAL BLOCK
TB3 - CT/METER SCALE - TERMINAL BLOCK
TB4 - AC FUSEBLOCK
TB11 - SAFEGUARD BREAKER TERMINAL BLOCK
TB12 - VSG TERMINAL BLOCK
TB13 - FUSEHOLDER A.C FUSE BLOCK
VM - AC VOLTMETER
VADJ - VOLTAGE ADJUST
NOTE: FOR GENERATOR CONNECTIONS SEE ADV-5875 THREE PHASE
STAT
PMG ROTOR
PMG STATOR
CAPACITOR
RECTIFIER MODULE
SFG
DVR 2000E/2000EC VOLTAGE REGULATOR
TO L3 (BUS) 4 LEAD STATOR
TO L2 (BUS) 4 LEAD STATOR
TO L1 (BUS) 4 LEAD STATOR
VOLT UP
VADJ
VOLT DN
NOTE: PT1, PT2, PT3 NOT REQUIRED ON 10 LEAD GENERATORS.
PT1 PT2 PT3
TB4
250V 1.5A
TB3
MSLU UPPER
MSLL LOWER
VIF
HZ
NOTE: CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR
CT1 CT2 CT3
NOTE: CT WIRES GO DIRECTLY TO TB11 WHEN SAFEGUARD BREAKER IS NOT USED.
TB11
AM
VM
SELSW
3Ø SELSW
CONTACTS SHOWN WITH SWITCH IN OFF POSITION.
BCA
12VDC BATTERY
12VDC BATTERY
SM
SS
K11
D2
D3
RED
CWCS
D1
OPS
CTS
OPG
CTG
BV
HR
PL1
PL2
ESS
CONTROLLER BOARD
GROUND P1-5
BATTERY VOLTAGE (FUSE 3) P1-3
BATTERY VOLTAGE (FUSE 3) P1-7
BATTERY VOLTAGE (FUSE 3) P1-1
BATTERY VOLTAGE (FUSE 3) P2-1
GROUND P2-6
TB1
AC CRANK DISCONNECT P2-3 P2-5
J1939 COMMUNICATION
P22-3 CAN L (-)
P22-2 CAN H (+)
RESISTOR 120 OHM
P1-12-TO : FUSE 1 FUSE 2 FUSE 3
INHIBIT FOR 30 SEC. AFTER START, THEN 5 SECONDS.
SHUTDOWN
AUXILIARY DELAY SHUTDOWN
AUXILIARY IMMEDIATE SHUTDOWN
PREALARM
CRANK DISCONNECT
OVERCRANK
LOCK ROTOR
OVERSPEED
AUTOMATIC RESTART
P1-8 +12VDC REGULATED (FUSE #2)
P1-2 GROUND
P1-6 SHIELD GROUND
TB2
51-UNINSULATED
QCON3
50-GRN
49-YEL
P3
P4
IPA
T56
T27
HIGH BATTERY VOLTAGE
ECM POWER
PX5-B (BATTERY (-))
PX5-C (BATTERY (-))
PX5-A (BATTERY (+))
PX5-D (BATTERY (+))
BLK
BLK
BLU
BRN
TB13 F2 20A
RED
MSA
TB12
RED
WHITE
BLACK
ECM
PX1-BB (5V REF.)
PX1-AA (LOAD SHARE)
PX1-W (LOAD SHARE)
PX1-E (GND)
PX1-G CAN1 (H)
PX1-F CAN1 (L)
PX1-h (+24VDC)
PX1-i (GND)
PX1-g (GND)
PXF33
PXF33-1
PXF33-2
PXF33-3
A1
S2
R3
PF33
PF33-1
PF33-2
PF33-3
UNLESS OTHERWISE SPECIFIED - 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE:
APPROVALS | DATE
DRAWN DFS 3-2-04
CHECKED JS 3-4-04
APPROVED JS 3-4-04
TITLE DIAGRAM, SCHEMATIC 650-750 SER 2000 MDEC
SCALE / / /
CAD NO. ADV6933.DWG
SHEET 1-1
DWG. NO. ADV-6933
D G



NOTE:
BLANK DENOTES CONTACT OPEN
"C" DENOTES CONTACT CLOSED
"M" DENOTES MAKE BEFORE BREAK CONTACT

CONTACTS SHOWN WITH SWITCH IN OFF POSITION.

NOTE:
CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR

NOTE: CT WIRES GO DIRECTLY TO TB11 WHEN SAFEGUARD BREAKER IS NOT USED.

NOTE:
PT1, PT2, PT3 NOT REQUIRED ON 10 LEAD GENERATORS.

NOTE:
FOR GENERATOR CONNECTIONS SEE ADV-5875 THREE PHASE

TB1, TB2, P3-P4 & T27

| TERMINAL ID. | DESCRIPTION | |
|---|---|---|
| 42A | BATTERY VOLTAGE (FUSE #1 PROTECTED) | STANDARD CONTROLLER |
| 2 | GROUND | |
| 3 | REMOTE START GROUND | |
| 4 | REMOTE START (ACTIVE LOW) | |
| 9 | CRANK MODE (OPEN=CYCLIC;GROUND=CONTINUOUS) | |
| 9A | CRANK MODE GROUND | |
| 12 | OVERCRANK INDICATOR | |
| 24 | +12VDC REGULATED | |
| 26 | AUXILIARY INDICATOR | |
| 32 | COMMON FAULT/PRE-ALARM LINE 1 (ACTIVATED BY HET, PHET, LOP, PLOP, OS, LWT, OC, LF, AUX. FAULTS) | |
| 32A | COMMON FAULT LINE 2 (ACTIVATED BY E-STOP, OS, LOP, HET, AUX. FAULTS) | |
| 36 | HIGH ENGINE TEMPERATURE INDICATOR | |
| 38 | LOW OIL PRESSURE INDICATOR | |
| 39 | OVERSPEED INDICATOR | |
| 43 | OFF/RESET COMMAND (ACTIVE LOW) | |
| 46 | AUTO COMMAND (ACTIVE LOW) | |
| 47 | RUN COMMAND (ACTIVE LOW) | |
| 56 | AIR DAMPER INDICATOR | |
| 60 | SYSTEM READY INDICATOR | |
| 70C | GENERATOR IN COOLDOWN | |
| 70R | GENERATOR RUNNING | |
| 80 | NOT IN AUTO INDICATOR | |
| 35 | LOW WATER TEMPERATURE | |
| 40 | PREALARM HIGH ENGINE TEMP. INDICATOR | REQUIRES PREALARM KIT TO OPERATE |
| 41 | PREALARM LOW OIL PRESSURE INDICATOR | |
| *1 | EMERGENCY-STOP RELAY (K4) GROUND | USED FOR DEC 3+ ACCESSORIES |
| *1A | EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE | |
| 27 | HIGH BATTERY VOLTAGE (ACTIVE LOW) | |
| 48 | EMERGENCY-STOP INDICATOR | |
| 61 | BATTERY CHARGER FAULT (ACTIVE LOW) | |
| 62 | LOW BATTERY VOLTS (ACTIVE LOW) | |
| 63 | LOW FUEL (ACTIVE LOW) | |
| 1P | PRIME POWER OPERATION | REQUIRES OPTIONAL KIT |
| 2P | PRIME POWER OPERATION | |
| 3P | PRIME POWER OPERATION | |
| 4P | PRIME POWER OPERATION | |

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTED.

LEGEND

AM - A.C. AMMETER
BCA - BATTERY CHARGING ALTERNATOR
BV - BATTERY VOLTMETER
CLS(#) - COOLANT LEVEL SENDER
CT(#) - CURRENT TRANSFORMER
CTG - COOLANT TEMPERATURE GAUGE
CTS - COOLANT TEMPERATURE SENDER
CWCS - CITY WATER COOLING SOLENOID
D(#) - DIODE
ECM - ENGINE CONTROL MODULE
ESS - EMERGENCY STOP SWITCH
HR - HOUR METER
HZ - FREQUENCY METER
IPA - INDICATOR PANEL ASSEMBLY
K11 - STARTER RELAY
MSA - MANUAL SPEED ADJUST
MSLL - METER SCALE LAMP LOWER
MSLU - METER SCALE LAMP UPPER
OPG - OIL PRESSURE GAUGE
OPS - OIL PRESSURE SENDER
P(#) - PLUG
PL(#) - PANEL LAMP
QCON(#) - QUICK CONNECT TERMINAL
PMG - PERMANENT MAGNET GENERATOR
PT(#) - POTENTIAL TRANSFORMER
SELSW - SELECTOR SWITCH
SFG - SAFEGUARD BREAKER
SM - STARTER MOTOR
SS - STARTER SOLENOID
STAT - STATOR
TB1 - CONTROLLER BOARD TERMINAL BLOCK
TB2 - CONTROLLER BOARD TERMINAL BLOCK
TB3 - CT/METER SCALE - TERMINAL BLOCK
TB4 - AC FUSEBLOCK
TB11 - SAFEGUARD BREAKER TERMINAL BLOCK
TB12 - VSG TERMINAL BLOCK
TB13 - FUSEHOLDER A.C FUSE BLOCK
VM - AC VOLTMETER
VADJ - VOLTAGE ADJUST

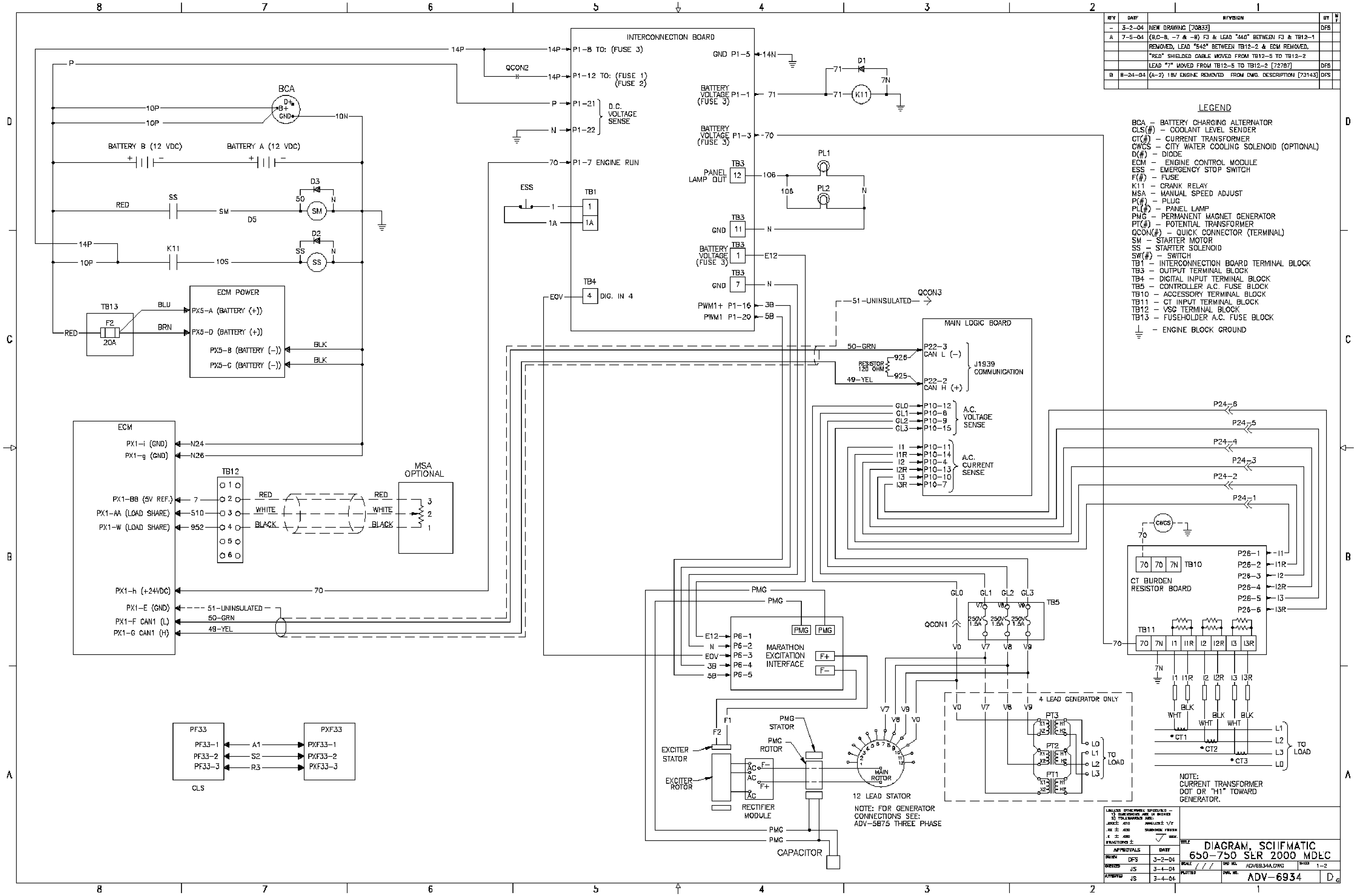
| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 3-2-04 | NEW DRAWING [70833] | DFS | |
| A | 4-26-04 | (B-2) MSA UPDATED TO CURRENT VERSION [72187] | DFS | |
| B | 7-5-04 | (A-2 THRU A-8) F3 & "RED" LEAD BETWEEN F3 & BATTERY (+) | | |
| | | REMOVED; (B-2) LEAD "7" MOVED FROM TB12-5 TO TB12-2 | | |
| | | "RED" SHIELDED LEAD MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| C | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| D | 9-27-05 | (A-8) ADD (RED) (B-8) REMOVE D3 (SM) ADD D3 (SS)[76225] | CRS | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 3-2-04 |
| CHECKED | JS | 3-4-04 |
| APPROVED | JS | 3-4-04 |

TITLE DIAGRAM, SCHEMATIC
650-750 SER 2000 MDEC

SCALE / / / CAD NO. ADV6933.DWG SHEET 1-1
PLOTTED DWG. NO. ADV-6933 D G



| REV | DATE | REVISION | BY | |
|---|---|---|---|---|
| – | 3-2-04 | NEW DRAWING [70833] | DFS | |
| A | 7-5-04 | (B,C-8, -7 & -8) F3 & LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED, LEAD "542" BETWEEN TB12-2 & ECM REMOVED, | | |
| | | "RED" SHIELDED CABLE MOVED FROM TB12-5 TO TB12-2 | | |
| | | LEAD "7" MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| B | 8-24-04 | (A-2) 18V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |

LEGEND

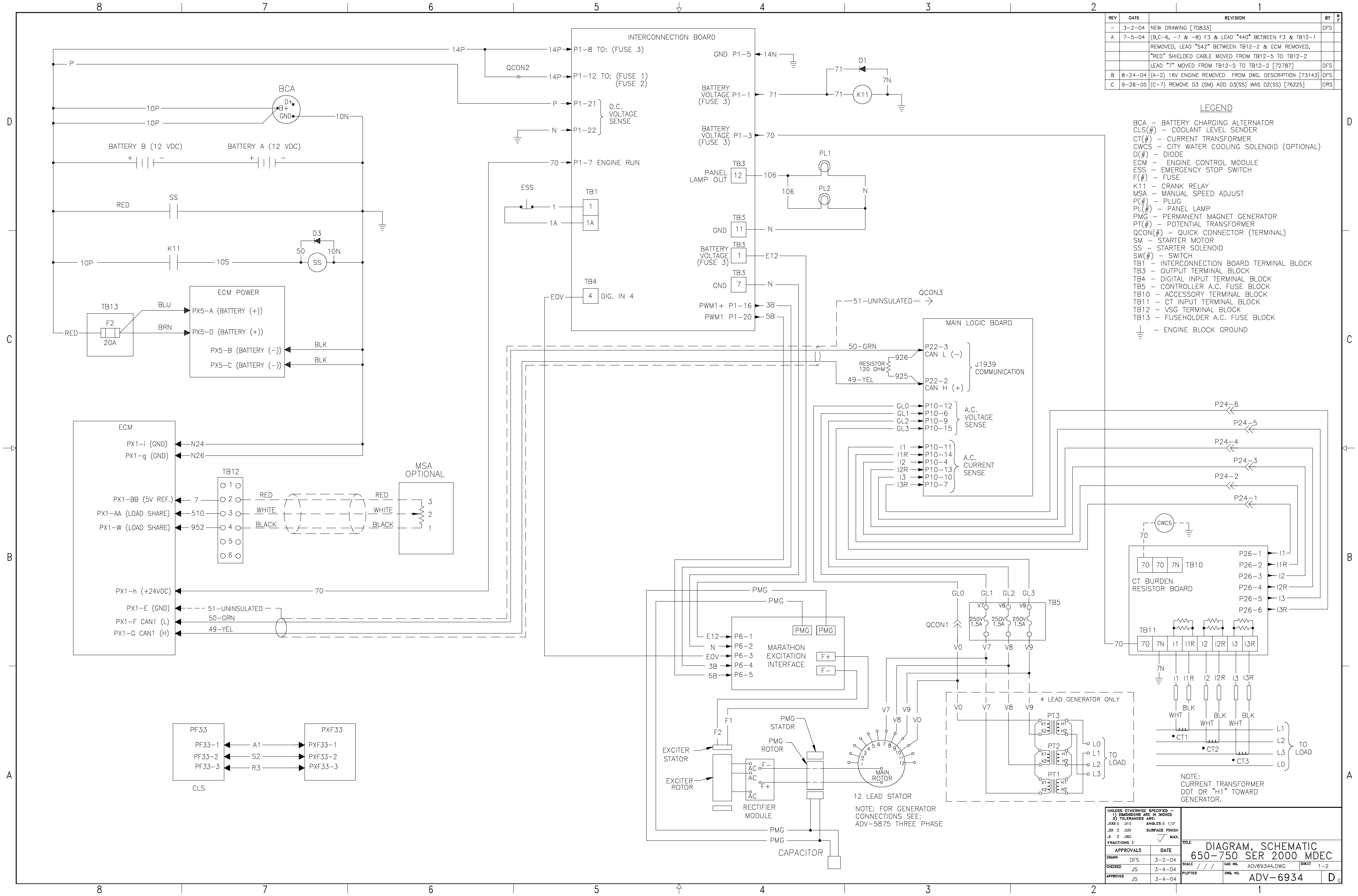
BCA – BATTERY CHARGING ALTERNATOR
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K11 – CRANK RELAY
MSA – MANUAL SPEED ADJUST
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM – STARTER MOTOR
SS – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
⏚ – ENGINE BLOCK GROUND

NOTE: FOR GENERATOR CONNECTIONS SEE: ADV-5875 THREE PHASE

NOTE:
CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR.

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 3-2-04 |
| CHECKED | JS | 3-4-04 |
| APPROVED | JS | 3-4-04 |

TITLE DIAGRAM, SCHEMATIC
650-750 SER 2000 MDEC
SCALE / / / CAD NO. ADV6934A.DWG SHEET 1-2
DWG. NO. ADV-6934 D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 3-2-04 | NEW DRAWING [70833] | DFS | |
| A | 7-5-04 | (B,C-6, -7 & -8) F3 & LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED, LEAD "542" BETWEEN TB12-2 & ECM REMOVED, | | |
| | | "RED" SHIELDED CABLE MOVED FROM TB12-5 TO TB12-2 | | |
| | | LEAD "7" MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| C | 9-26-05 | (C-7) REMOVE D3 (SM) ADD D3(SS) WAS D2(SS) [76225] | CRS | |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K11 – CRANK RELAY
MSA – MANUAL SPEED ADJUST
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM – STARTER MOTOR
SS – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
⏚ – ENGINE BLOCK GROUND

NOTE:
CURRENT TRANSFORMER
DOT OR "H1" TOWARD
GENERATOR.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 3-2-04 |
| CHECKED | JS | 3-4-04 |
| APPROVED | JS | 3-4-04 |

TITLE
DIAGRAM, SCHEMATIC
650-750 SER 2000 MDEC

SCALE / / /
CAD NO. ADV6934A.DWG
SHEET 1-2
PLOTTED
DWG. NO. ADV-6934
D G

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1(+) |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2(+) |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3(+) |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4(+) |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5(+) |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6(+) |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7(+) |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1(-) |
| TB2-17 | CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2(-) |
| TB2-19 | CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3(-) |
| TB2-21 | CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4(-) |
| TB2-23 | CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5(-) |
| TB2-25 | CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6(-) |
| TB2-27 | CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7(-) |
| TB2-29 | CH7 SHIELD GROUND |
| TB2-30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY(+) (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY(+) (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1(+) |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY(+) SENSE (P) |
| P1-22 | BATTERY(-) SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2(+) |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY(+) (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUPTUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | – |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | – |

### P20 RS485 NON-ISOLATED CONNECTIONS

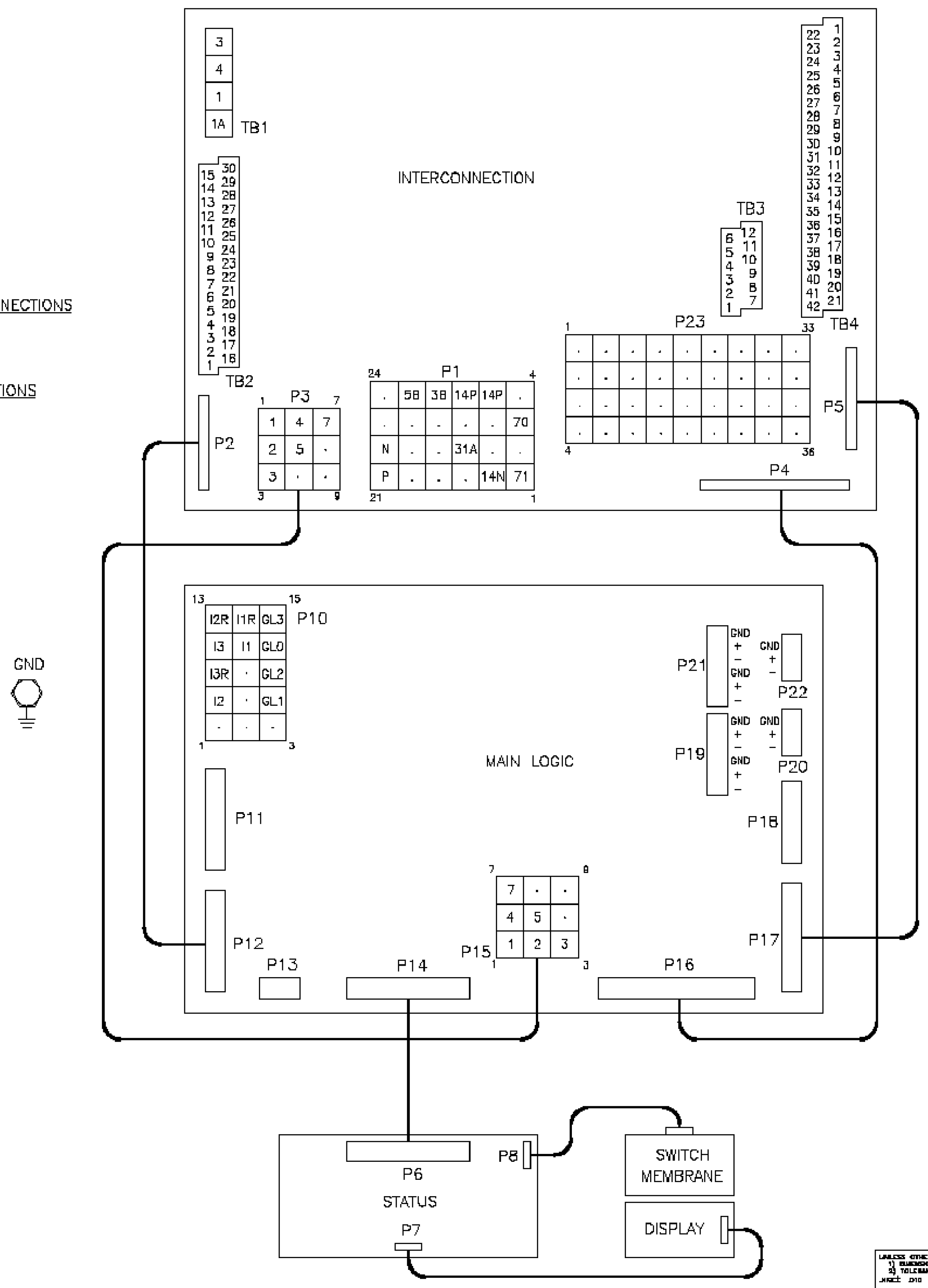
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | – |

### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | – |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | – |

### P22 J1939 CONNECTIONS

| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | – |



| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| – | 3-2-04 | NEW DRAWING [70833] | DFS | |
| A | 7-5-04 | SEE SHEET 1 [72787] | DFS | |
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |

UNLESS OTHERWISE SPECIFIED —
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 3-2-04 |
| CHECKED | JS | 3-4-04 |
| APPROVED | JS | 3-4-04 |

TITLE DIAGRAM, SCHEMATIC 650-750 SER 2000 MDEC
SCALE / / /
CAD NO. ADV69348.DWG
SHEET 2-2
PLOTTED
DWG. NO. ADV-6934
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 3-2-04 | NEW DRAWING [70833] | DFS | |
| A | 7-5-04 | SEE SHEET 1 [72787] | DFS | |
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| C | 9-27-05 | (C-8) ADDED ANALOG TO (CH 1,7) SHIELD GROUND [76225] | CRS | |
| | | | | |
| | | | | |
| | | | | |

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1-1 | REMOTE START (3) |
| TB1-2 | REMOTE START (4) |
| TB1-3 | EMERGENCY STOP GROUND (1) |
| TB1-4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2-1 | ANALOG CH1 |
| TB2-2 | ANALOG CH1(+) |
| TB2-3 | ANALOG CH2 |
| TB2-4 | ANALOG CH2(+) |
| TB2-5 | ANALOG CH3 |
| TB2-6 | ANALOG CH3(+) |
| TB2-7 | ANALOG CH4 |
| TB2-8 | ANALOG CH4(+) |
| TB2-9 | ANALOG CH5 |
| TB2-10 | ANALOG CH5(+) |
| TB2-11 | ANALOG CH6 |
| TB2-12 | ANALOG CH6(+) |
| TB2-13 | ANALOG CH7 |
| TB2-14 | ANALOG CH7(+) |
| TB2-15 | N/C |
| TB2-16 | ANALOG CH1(-) |
| TB2-17 | ANALOG CH1 SHIELD GROUND |
| TB2-18 | ANALOG CH2(-) |
| TB2-19 | ANALOG CH2 SHIELD GROUND |
| TB2-20 | ANALOG CH3(-) |
| TB2-21 | ANALOG CH3 SHIELD GROUND |
| TB2-22 | ANALOG CH4(-) |
| TB2-23 | ANALOG CH4 SHIELD GROUND |
| TB2-24 | ANALOG CH5(-) |
| TB2-25 | ANALOG CH5 SHIELD GROUND |
| TB2-26 | ANALOG CH6(-) |
| TB2-27 | ANALOG CH6 SHIELD GROUND |
| TB2-28 | ANALOG CH7(-) |
| TB2-29 | ANALOG CH7 SHIELD GROUND |
| TB2-30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4-1 | DIGITAL INPUT 1 |
| TB4-2 | DIGITAL INPUT 2 |
| TB4-3 | DIGITAL INPUT 3 |
| TB4-4 | DIGITAL INPUT 4 |
| TB4-5 | DIGITAL INPUT 5 |
| TB4-6 | DIGITAL INPUT 6 |
| TB4-7 | DIGITAL INPUT 7 |
| TB4-8 | DIGITAL INPUT 8 |
| TB4-9 | DIGITAL INPUT 9 |
| TB4-10 | DIGITAL INPUT 10 |
| TB4-11 | DIGITAL INPUT 11 |
| TB4-12 | DIGITAL INPUT 12 |
| TB4-13 | DIGITAL INPUT 13 |
| TB4-14 | DIGITAL INPUT 14 |
| TB4-15 | DIGITAL INPUT 15 |
| TB4-16 | DIGITAL INPUT 16 |
| TB4-17 | DIGITAL INPUT 17 |
| TB4-18 | DIGITAL INPUT 18 |
| TB4-19 | DIGITAL INPUT 19 |
| TB4-20 | DIGITAL INPUT 20 |
| TB4-21 | DIGITAL INPUT 21 |
| TB4-22 | COMMON DIGITAL INPUT RETURN |
| TB4-23 | COMMON DIGITAL INPUT RETURN |
| TB4-24 | COMMON DIGITAL INPUT RETURN |
| TB4-25 | COMMON DIGITAL INPUT RETURN |
| TB4-26 | COMMON DIGITAL INPUT RETURN |
| TB4-27 | COMMON DIGITAL INPUT RETURN |
| TB4-28 | COMMON DIGITAL INPUT RETURN |
| TB4-29 | COMMON DIGITAL INPUT RETURN |
| TB4-30 | COMMON DIGITAL INPUT RETURN |
| TB4-31 | COMMON DIGITAL INPUT RETURN |
| TB4-32 | COMMON DIGITAL INPUT RETURN |
| TB4-33 | COMMON DIGITAL INPUT RETURN |
| TB4-34 | COMMON DIGITAL INPUT RETURN |
| TB4-35 | COMMON DIGITAL INPUT RETURN |
| TB4-36 | COMMON DIGITAL INPUT RETURN |
| TB4-37 | COMMON DIGITAL INPUT RETURN |
| TB4-38 | COMMON DIGITAL INPUT RETURN |
| TB4-39 | COMMON DIGITAL INPUT RETURN |
| TB4-40 | COMMON DIGITAL INPUT RETURN |
| TB4-41 | COMMON DIGITAL INPUT RETURN |
| TB4-42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12 VDC (OEM USE ONLY) |
| TB3-2 | +12 VDC (OEM USE ONLY) |
| TB3-3 | +12 VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY(+) (42A) (5 AMP) |
| TB3-7 | GROUND |
| TB3-8 | GROUND |
| TB3-9 | GROUND |
| TB3-10 | GROUND |
| TB3-11 | GROUND |
| TB3-12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1-1 | ENGINE CRANK (71) |
| P1-2 | SHIELD 1 GROUND |
| P1-3 | ENGINE RUN (70) |
| P1-4 | ENGINE CRANK (71) |
| P1-5 | ENGINE BLOCK GROUND (14N) |
| P1-6 | SHIELD 2 GROUND |
| P1-7 | ENGINE RUN (70) |
| P1-8 | BATTERY(+) (14P) |
| P1-9 | SHIELD GROUND |
| P1-10 | LOW COOLANT LEVEL PTC (31A) |
| P1-11 | N/C |
| P1-12 | BATTERY(+) (14P) |
| P1-13 | MAGNETIC PICKUP INPUT 1 |
| P1-14 | N/C |
| P1-15 | N/C |
| P1-16 | PWM1(+) |
| P1-17 | MAGNETIC PICKUP INPUT 2 |
| P1-18 | N/C |
| P1-19 | N/C |
| P1-20 | PWM1 |
| P1-21 | BATTERY(+) SENSE (P) |
| P1-22 | BATTERY(-) SENSE (N) |
| P1-23 | PWM2 |
| P1-24 | PWM2(+) |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23-1 | DIGITAL OUTPUT 29 |
| P23-2 | DIGITAL OUTPUT 28 |
| P23-3 | DIGITAL OUTPUT 30 |
| P23-4 | DIGITAL OUTPUT 31 |
| P23-5 | GROUND |
| P23-6 | DIGITAL OUTPUT 21 |
| P23-7 | DIGITAL OUTPUT 24 |
| P23-8 | DIGITAL OUTPUT 22 |
| P23-9 | FUSED BATTERY(+) (42A) (5 AMP) |
| P23-10 | DIGITAL OUTPUT 23 |
| P23-11 | DIGITAL OUTPUT 25 |
| P23-12 | DIGITAL OUTPUT 26 |
| P23-13 | DIGITAL OUTPUT 4 |
| P23-14 | DIGITAL OUTPUT 14 |
| P23-15 | DIGITAL OUTPUT 27 |
| P23-16 | DIGITAL OUTPUT 15 |
| P23-17 | DIGITAL OUTPUT 5 |
| P23-18 | N/C |
| P23-19 | DIGITAL OUTPUT 20 |
| P23-20 | DIGITAL OUTPUT 18 |
| P23-21 | DIGITAL OUTPUT 3 |
| P23-22 | DIGITAL OUTPUT 16 |
| P23-23 | DIGITAL OUTPUT 8 |
| P23-24 | DIGITAL OUTPUT 7 |
| P23-25 | DIGITAL OUPTUT 1 |
| P23-26 | N/C |
| P23-27 | DIGITAL OUTPUT 9 |
| P23-28 | DIGITAL OUTPUT 17 |
| P23-29 | DIGITAL OUTPUT 6 |
| P23-30 | N/C |
| P23-31 | DIGITAL OUTPUT 11 |
| P23-32 | DIGITAL OUTPUT 19 |
| P23-33 | DIGITAL OUTPUT 12 |
| P23-34 | DIGITAL OUTPUT 10 |
| P23-35 | DIGITAL OUPUT 2 |
| P23-36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13-1 | GROUND |
| P13-2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18-1 | CD |
| P18-2 | RX |
| P18-3 | TX |
| P18-4 | DTR |
| P18-5 | GROUND |
| P18-6 | DSR |
| P18-7 | RTS |
| P18-8 | CTS |
| P18-9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19-1 | GND |
| P19-2 | + |
| P19-3 | – |
| P19-4 | GND |
| P19-5 | + |
| P19-6 | – |

### P20 RS485 NON-ISOLATED CONNECTIONS

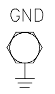
| | |
|---|---|
| P20-1 | GND |
| P20-2 | + |
| P20-3 | – |

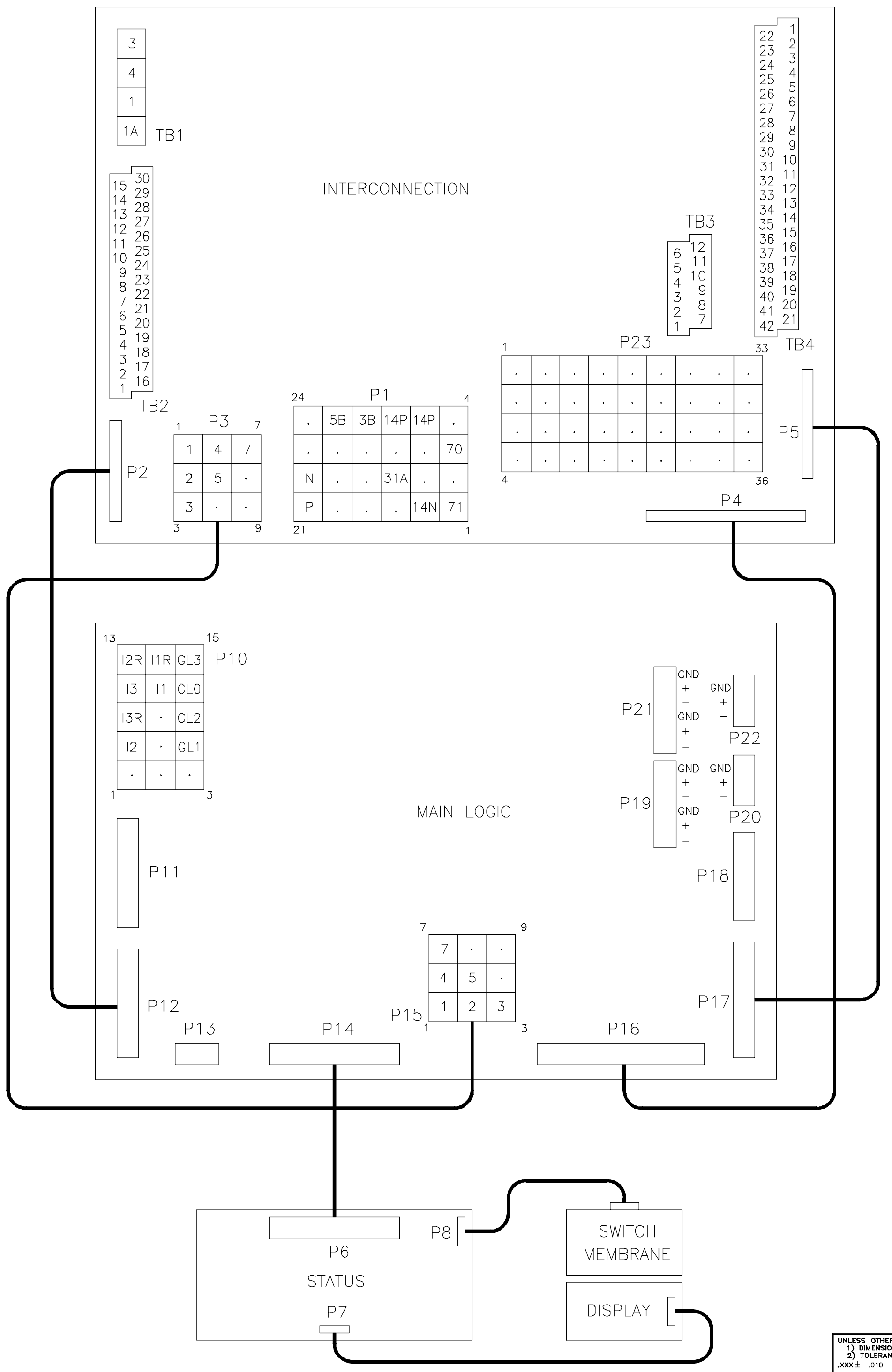
### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21-1 | GND |
| P21-2 | + |
| P21-3 | – |
| P21-4 | GND |
| P21-5 | + |
| P21-6 | – |

### P22 J1939 CONNECTIONS

| | |
|---|---|
| P22-1 | GND |
| P22-2 | + |
| P22-3 | – |



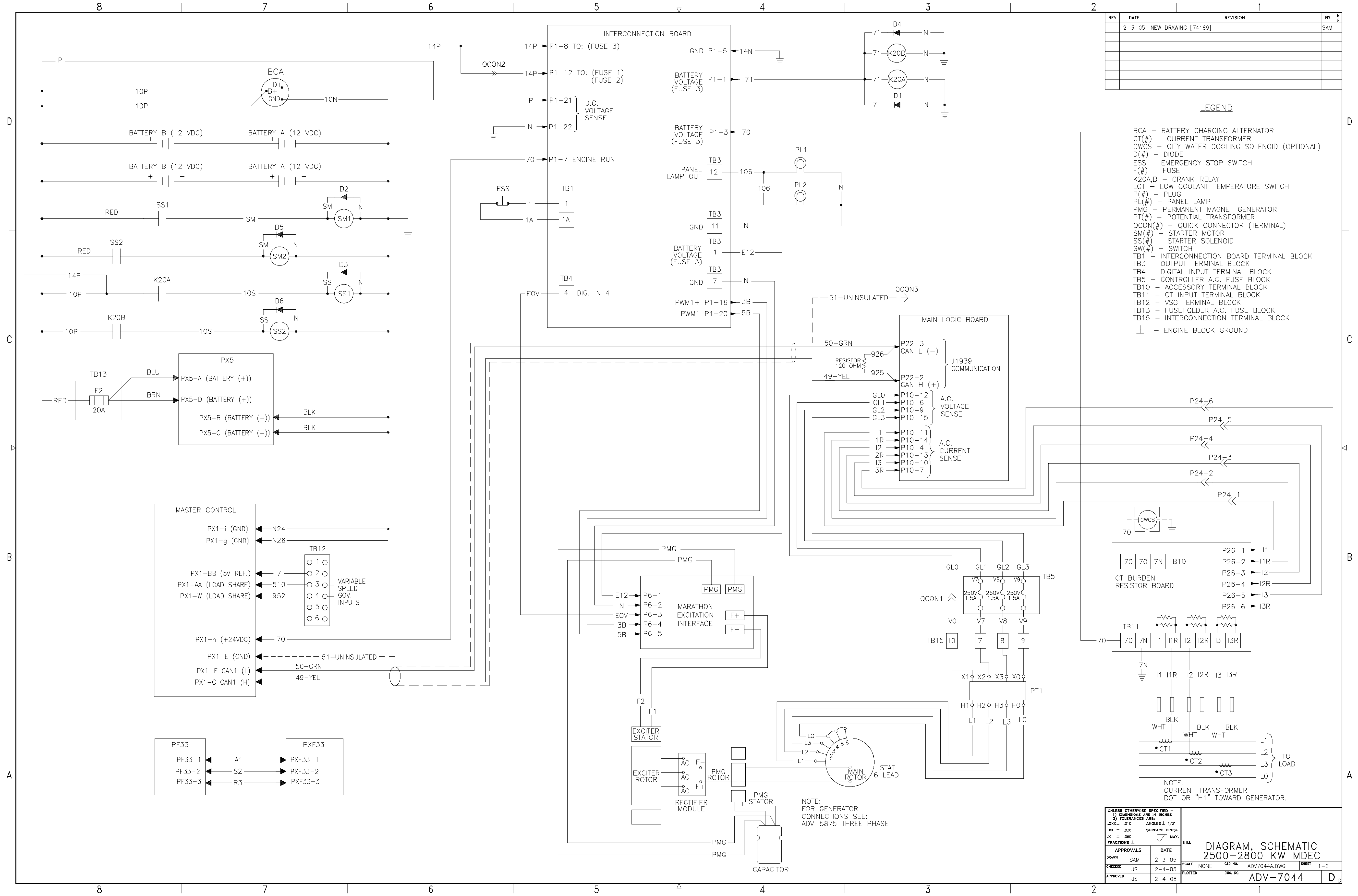


UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 3-2-04 |
| CHECKED | JS | 3-4-04 |
| APPROVED | JS | 3-4-04 |

TITLE
DIAGRAM, SCHEMATIC
650-750 SER 2000 MDEC

| | | |
|---|---|---|
| SCALE / / / | CAD NO. ADV6934B.DWG | SHEET 2-2 |
| PLOTTED | DWG. NO. ADV-6934 | D G |



NOTE:
CURRENT TRANSFORMER
DOT OR "H1" TOWARD GENERATOR.

| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| – | 2-3-05 | NEW DRAWING [74189] | SAM | |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPTIONAL)
D(#) – DIODE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
K20A,B – CRANK RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECTOR (TERMINAL)
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK
⏚ – ENGINE BLOCK GROUND

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | SAM | 2-3-05 |
| CHECKED | JS | 2-4-05 |
| APPROVED | JS | 2-4-05 |

TITLE DIAGRAM, SCHEMATIC 2500–2800 KW MDEC
SCALE NONE
CAD NO. ADV7044A.DWG
SHEET 1-2
PLOTTED
DWG. NO. ADV-7044
D G

## INTERCONNECT BOARD

### TB1 INPUT CONNECTIONS

| | |
|---|---|
| TB1–1 | REMOTE START (3) |
| TB1–2 | REMOTE START (4) |
| TB1–3 | EMERGENCY STOP GROUND (1) |
| TB1–4 | EMERGENCY STOP (1A) |

### TB2 ANALOG INPUT CONNECTIONS

| | |
|---|---|
| TB2–1 | ANALOG CH1 |
| TB2–2 | ANALOG CH1+ |
| TB2–3 | ANALOG CH2 |
| TB2–4 | ANALOG CH2+ |
| TB2–5 | ANALOG CH3 |
| TB2–6 | ANALOG CH3+ |
| TB2–7 | ANALOG CH4 |
| TB2–8 | ANALOG CH4+ |
| TB2–9 | ANALOG CH5 |
| TB2–10 | ANALOG CH5+ |
| TB2–11 | ANALOG CH6 |
| TB2–12 | ANALOG CH6+ |
| TB2–13 | ANALOG CH7 |
| TB2–14 | ANALOG CH7+ |
| TB2–15 | N/C |
| TB2–16 | ANALOG CH1– |
| TB2–17 | CH1 SHIELD GROUND |
| TB2–18 | ANALOG CH2– |
| TB2–19 | CH2 SHIELD GROUND |
| TB2–20 | ANALOG CH3– |
| TB2–21 | CH3 SHIELD GROUND |
| TB2–22 | ANALOG CH4– |
| TB2–23 | CH4 SHIELD GROUND |
| TB2–24 | ANALOG CH5– |
| TB2–25 | CH5 SHIELD GROUND |
| TB2–26 | ANALOG CH6– |
| TB2–27 | CH6 SHIELD GROUND |
| TB2–28 | ANALOG CH7– |
| TB2–29 | CH7 SHIELD GROUND |
| TB2–30 | N/C |

### TB4 DIGITAL INPUT CONNECTIONS

| | |
|---|---|
| TB4–1 | DIGITAL INPUT 1 |
| TB4–2 | DIGITAL INPUT 2 |
| TB4–3 | DIGITAL INPUT 3 |
| TB4–4 | DIGITAL INPUT 4 |
| TB4–5 | DIGITAL INPUT 5 |
| TB4–6 | DIGITAL INPUT 6 |
| TB4–7 | DIGITAL INPUT 7 |
| TB4–8 | DIGITAL INPUT 8 |
| TB4–9 | DIGITAL INPUT 9 |
| TB4–10 | DIGITAL INPUT 10 |
| TB4–11 | DIGITAL INPUT 11 |
| TB4–12 | DIGITAL INPUT 12 |
| TB4–13 | DIGITAL INPUT 13 |
| TB4–14 | DIGITAL INPUT 14 |
| TB4–15 | DIGITAL INPUT 15 |
| TB4–16 | DIGITAL INPUT 16 |
| TB4–17 | DIGITAL INPUT 17 |
| TB4–18 | DIGITAL INPUT 18 |
| TB4–19 | DIGITAL INPUT 19 |
| TB4–20 | DIGITAL INPUT 20 |
| TB4–21 | DIGITAL INPUT 21 |
| TB4–22 | COMMON DIGITAL INPUT RETURN |
| TB4–23 | COMMON DIGITAL INPUT RETURN |
| TB4–24 | COMMON DIGITAL INPUT RETURN |
| TB4–25 | COMMON DIGITAL INPUT RETURN |
| TB4–26 | COMMON DIGITAL INPUT RETURN |
| TB4–27 | COMMON DIGITAL INPUT RETURN |
| TB4–28 | COMMON DIGITAL INPUT RETURN |
| TB4–29 | COMMON DIGITAL INPUT RETURN |
| TB4–30 | COMMON DIGITAL INPUT RETURN |
| TB4–31 | COMMON DIGITAL INPUT RETURN |
| TB4–32 | COMMON DIGITAL INPUT RETURN |
| TB4–33 | COMMON DIGITAL INPUT RETURN |
| TB4–34 | COMMON DIGITAL INPUT RETURN |
| TB4–35 | COMMON DIGITAL INPUT RETURN |
| TB4–36 | COMMON DIGITAL INPUT RETURN |
| TB4–37 | COMMON DIGITAL INPUT RETURN |
| TB4–38 | COMMON DIGITAL INPUT RETURN |
| TB4–39 | COMMON DIGITAL INPUT RETURN |
| TB4–40 | COMMON DIGITAL INPUT RETURN |
| TB4–41 | COMMON DIGITAL INPUT RETURN |
| TB4–42 | COMMON DIGITAL INPUT RETURN |

### TB3 OUTPUT CONNECTIONS

| | |
|---|---|
| TB3–1 | +12 VDC (OEM USE ONLY) |
| TB3–2 | +12 VDC (OEM USE ONLY) |
| TB3–3 | +12 VDC (OEM USE ONLY) |
| TB3–4 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3–5 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3–6 | FUSED BATTERY+ (42A) (5 AMP) |
| TB3–7 | GROUND |
| TB3–8 | GROUND |
| TB3–9 | GROUND |
| TB3–10 | GROUND |
| TB3–11 | GROUND |
| TB3–12 | PANEL LAMP OUTPUT |

### P1 ENGINE CONNECTIONS

| | |
|---|---|
| P1–1 | ENGINE CRANK (71) |
| P1–2 | SHIELD 1 GROUND |
| P1–3 | ENGINE RUN (70) |
| P1–4 | ENGINE CRANK (71) |
| P1–5 | ENGINE BLOCK GROUND (14N) |
| P1–6 | SHIELD 2 GROUND |
| P1–7 | ENGINE RUN (70) |
| P1–8 | BATTERY+ (14P) |
| P1–9 | SHIELD GROUND |
| P1–10 | LOW COOLANT LEVEL PTC (31A) |
| P1–11 | N/C |
| P1–12 | BATTERY+ (14P) |
| P1–13 | MAGNETIC PICKUP INPUT 1 |
| P1–14 | N/C |
| P1–15 | N/C |
| P1–16 | PWM1+ |
| P1–17 | MAGNETIC PICKUP INPUT 2 |
| P1–18 | N/C |
| P1–19 | N/C |
| P1–20 | PWM1 |
| P1–21 | BATTERY+ SENSE (P) |
| P1–22 | BATTERY– SENSE (N) |
| P1–23 | PWM2 |
| P1–24 | PWM2+ |

### P23 OUTPUT CONNECTIONS

| | |
|---|---|
| P23–1 | DIGITAL OUTPUT 29 |
| P23–2 | DIGITAL OUTPUT 28 |
| P23–3 | DIGITAL OUTPUT 30 |
| P23–4 | DIGITAL OUTPUT 31 |
| P23–5 | GROUND |
| P23–6 | DIGITAL OUTPUT 21 |
| P23–7 | DIGITAL OUTPUT 24 |
| P23–8 | DIGITAL OUTPUT 22 |
| P23–9 | FUSED BATTERY+ (42A) (5 AMP) |
| P23–10 | DIGITAL OUTPUT 23 |
| P23–11 | DIGITAL OUTPUT 25 |
| P23–12 | DIGITAL OUTPUT 26 |
| P23–13 | DIGITAL OUTPUT 4 |
| P23–14 | DIGITAL OUTPUT 14 |
| P23–15 | DIGITAL OUTPUT 27 |
| P23–16 | DIGITAL OUTPUT 15 |
| P23–17 | DIGITAL OUTPUT 5 |
| P23–18 | N/C |
| P23–19 | DIGITAL OUTPUT 20 |
| P23–20 | DIGITAL OUTPUT 18 |
| P23–21 | DIGITAL OUTPUT 3 |
| P23–22 | DIGITAL OUTPUT 16 |
| P23–23 | DIGITAL OUTPUT 8 |
| P23–24 | DIGITAL OUTPUT 7 |
| P23–25 | DIGITAL OUPTUT 1 |
| P23–26 | N/C |
| P23–27 | DIGITAL OUTPUT 9 |
| P23–28 | DIGITAL OUTPUT 17 |
| P23–29 | DIGITAL OUTPUT 6 |
| P23–30 | N/C |
| P23–31 | DIGITAL OUTPUT 11 |
| P23–32 | DIGITAL OUTPUT 19 |
| P23–33 | DIGITAL OUTPUT 12 |
| P23–34 | DIGITAL OUTPUT 10 |
| P23–35 | DIGITAL OUPUT 2 |
| P23–36 | DIGITAL OUTPUT 13 |

## MAIN LOGIC BOARD

### P13 MODEM POWER CONNECTIONS

| | |
|---|---|
| P13–1 | GROUND |
| P13–2 | +5 VD |

### P18 RS232 CONNECTIONS

| | |
|---|---|
| P18–1 | CD |
| P18–2 | RX |
| P18–3 | TX |
| P18–4 | DTR |
| P18–5 | GROUND |
| P18–6 | DSR |
| P18–7 | RTS |
| P18–8 | CTS |
| P18–9 | RI |

### P19 FACTORY TEST PORT

| | |
|---|---|
| P19–1 | GND |
| P19–2 | + |
| P19–3 | – |
| P19–4 | GND |
| P19–5 | + |
| P19–6 | – |

### P20 RS485 NON–ISOLATED CONNECTIONS

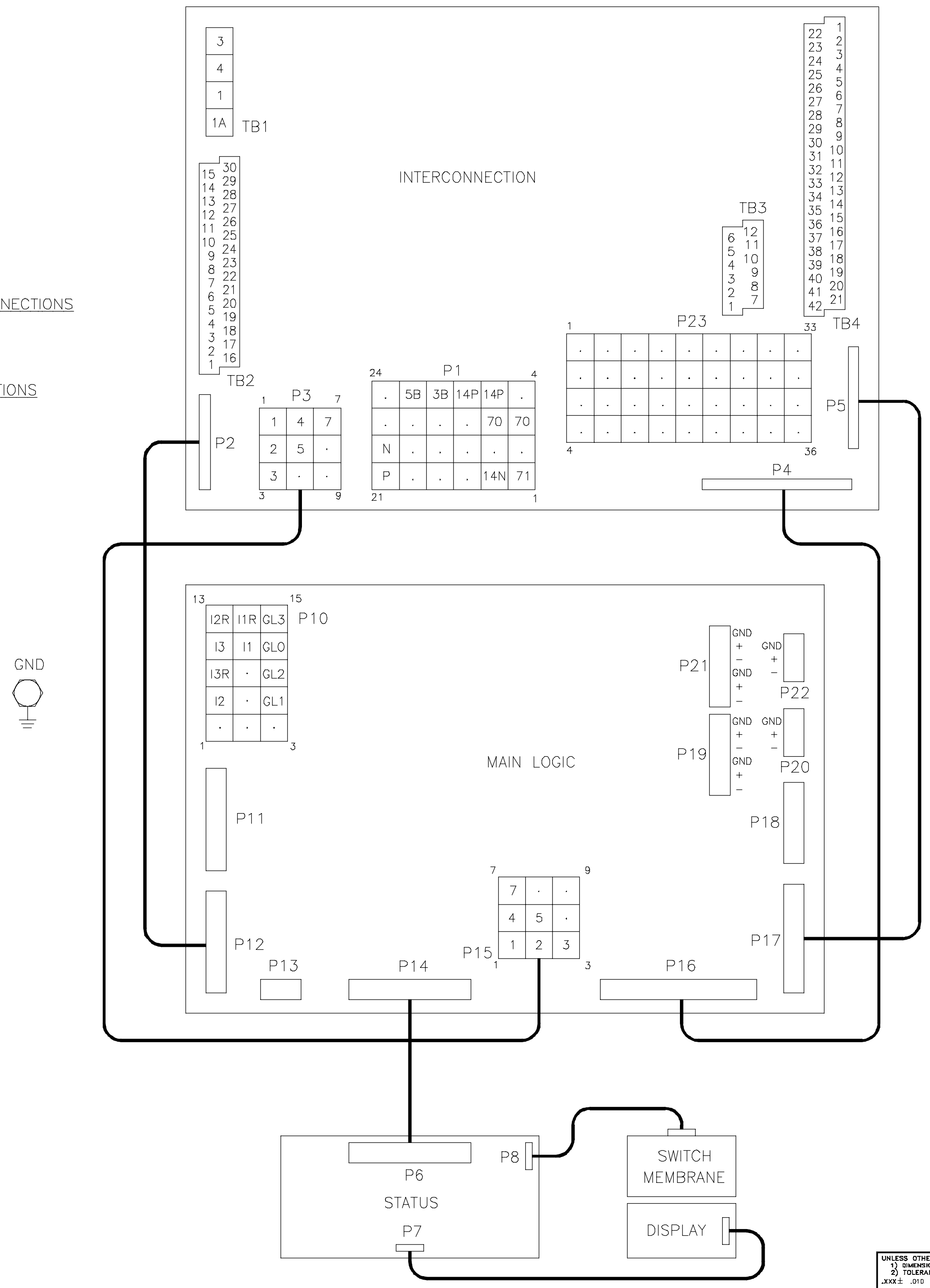
| | |
|---|---|
| P20–1 | GND |
| P20–2 | + |
| P20–3 | – |

### P21 RS485A ISOLATED CONNECTIONS

| | |
|---|---|
| P21–1 | GND |
| P21–2 | + |
| P21–3 | – |
| P21–4 | GND |
| P21–5 | + |
| P21–6 | – |

### P22 J1939 CONNECTIONS

| | |
|---|---|
| P22–1 | GND |
| P22–2 | + |
| P22–3 | – |



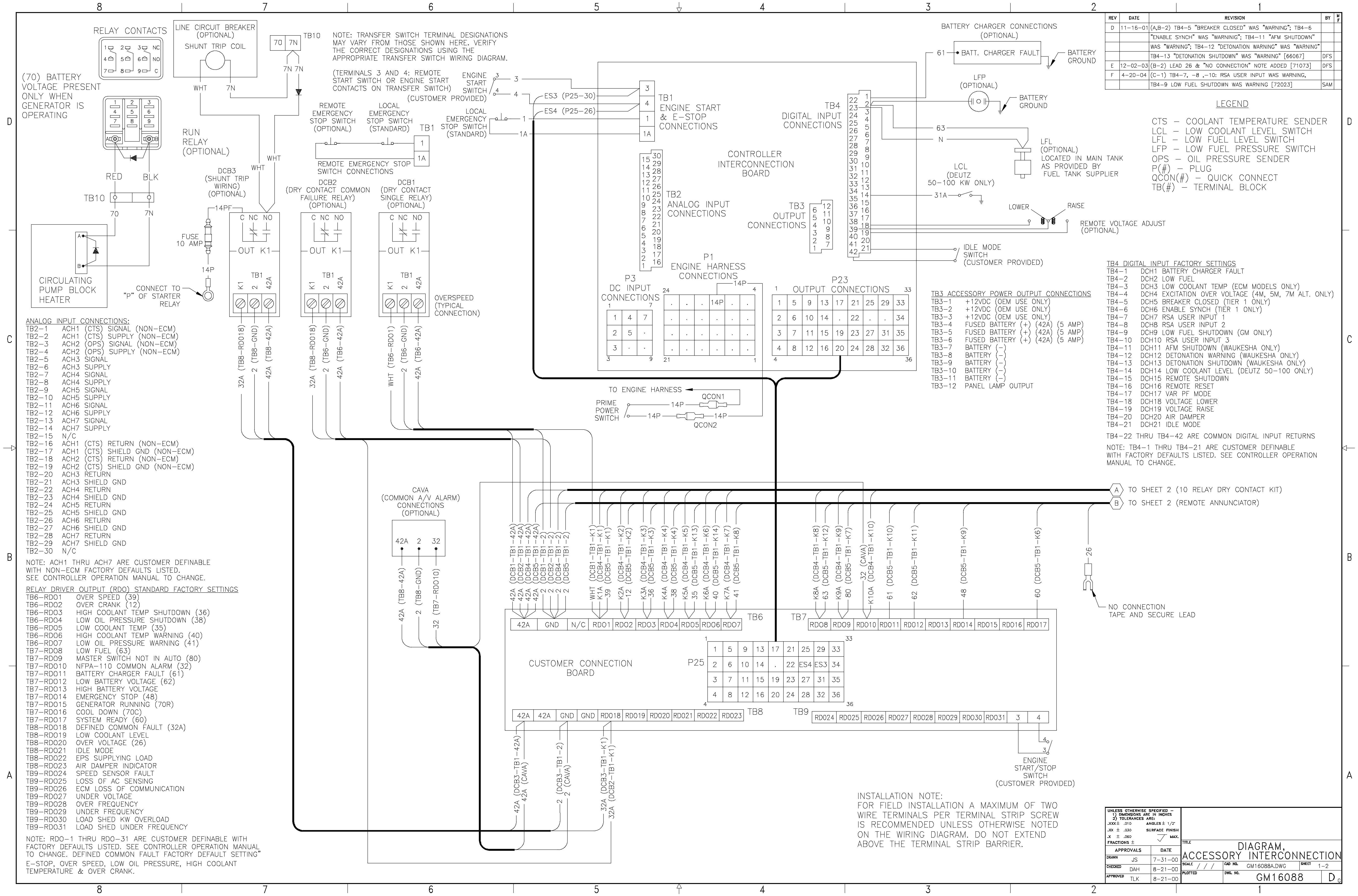
| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 2–3–05 | NEW DRAWING [74189] | SAM | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010  ANGLES ± 1/2°
.XX ± .030  SURFACE FINISH
.X ± .060  √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | SAM | 2–3–05 |
| CHECKED | JS | 2–4–05 |
| APPROVED | JS | 2–4–05 |

TITLE
DIAGRAM, SCHEMATIC
2500–2800 KW MDEC

SCALE / / /  CAD NO. ADV7044B.DWG  SHEET 2–2
PLOTTED  DWG. NO. ADV–7044  D G


RELAY CONTACTS
LINE CIRCUIT BREAKER (OPTIONAL)
SHUNT TRIP COIL
TB10
70
7N
WHT
(70) BATTERY VOLTAGE PRESENT ONLY WHEN GENERATOR IS OPERATING
RUN RELAY (OPTIONAL)
RED
BLK
CIRCULATING PUMP BLOCK HEATER
FUSE 10 AMP
14PF
14P
CONNECT TO "P" OF STARTER RELAY
DCB3 (SHUNT TRIP WIRING) (OPTIONAL)
DCB2 (DRY CONTACT COMMON FAILURE RELAY) (OPTIONAL)
DCB1 (DRY CONTACT SINGLE RELAY) (OPTIONAL)
C NC NO
OUT K1
TB1
K1 2 42A
OVERSPEED (TYPICAL CONNECTION)
32A (TB8-RD018)
2 (TB8-GND)
42A (TB8-42A)
2 (TB6-GND)
42A (TB6-42A)
WHT (TB6-RDO1)
REMOTE EMERGENCY STOP SWITCH (OPTIONAL)
LOCAL EMERGENCY STOP SWITCH (STANDARD)
REMOTE EMERGENCY STOP SWITCH CONNECTIONS
ENGINE START SWITCH (CUSTOMER PROVIDED)
ES3 (P25-30)
ES4 (P25-26)
TB1 ENGINE START & E-STOP CONNECTIONS
CONTROLLER INTERCONNECTION BOARD
TB2 ANALOG INPUT CONNECTIONS
TB3 OUTPUT CONNECTIONS
TB4 DIGITAL INPUT CONNECTIONS
P1 ENGINE HARNESS CONNECTIONS
P3 DC INPUT CONNECTIONS
P23 OUTPUT CONNECTIONS
TO ENGINE HARNESS
PRIME POWER SWITCH
QCON1
QCON2
BATTERY CHARGER CONNECTIONS (OPTIONAL)
BATT. CHARGER FAULT
BATTERY GROUND
61
LFP (OPTIONAL)
63
N
LFL (OPTIONAL) LOCATED IN MAIN TANK AS PROVIDED BY FUEL TANK SUPPLIER
LCL (DEUTZ 50-100 KW ONLY)
31A
LOWER
RAISE
REMOTE VOLTAGE ADJUST (OPTIONAL)
IDLE MODE SWITCH (CUSTOMER PROVIDED)
CAVA (COMMON A/V ALARM) CONNECTIONS (OPTIONAL)
42A (TB8-42A)
2 (TB8-GND)
32 (TB7-RDO10)
42A (DCB1-TB1-42A)
42A (DCB2-TB1-42A)
42A (DCB4-TB1-42A)
42A (DCB5-TB1-42A)
2 (DCB1-TB1-2)
2 (DCB2-TB1-2)
2 (DCB4-TB1-2)
2 (DCB5-TB1-2)
WHT (DCB1-TB1-K1)
K1A (DCB4-TB1-K1)
39 (DCB5-TB1-K1)
K2A (DCB4-TB1-K2)
12 (DCB5-TB1-K2)
K3A (DCB4-TB1-K3)
36 (DCB5-TB1-K3)
K4A (DCB4-TB1-K4)
38 (DCB5-TB1-K4)
K5A (DCB4-TB1-K5)
35 (DCB5-TB1-K13)
K6A (DCB4-TB1-K6)
40 (DCB5-TB1-K14)
K7A (DCB4-TB1-K7)
41 (DCB5-TB1-K8)
K8A (DCB4-TB1-K8)
63 (DCB5-TB1-K12)
K9A (DCB4-TB1-K9)
80 (DCB5-TB1-K7)
32 (CAVA)
K10A (DCB4-TB1-K10)
61 (DCB5-TB1-K10)
62 (DCB5-TB1-K11)
48 (DCB5-TB1-K9)
60 (DCB5-TB1-K6)
26
NO CONNECTION TAPE AND SECURE LEAD
A TO SHEET 2 (10 RELAY DRY CONTACT KIT)
B TO SHEET 2 (REMOTE ANNUNCIATOR)
CUSTOMER CONNECTION BOARD
TB6
TB7
TB8
TB9
P25
42A GND N/C RDO1 RDO2 RDO3 RDO4 RDO5 RDO6 RDO7
RDO8 RDO9 RDO10 RDO11 RDO12 RDO13 RDO14 RDO15 RDO16 RDO17
42A 42A GND GND RDO18 RDO19 RDO20 RDO21 RDO22 RDO23
RDO24 RDO25 RDO26 RDO27 RDO28 RDO29 RDO30 RDO31 3 4
42A (DCB3-TB1-42A)
42A (CAVA)
2 (DCB3-TB1-2)
2 (CAVA)
32A (DCB3-TB1-K1)
32A (DCB2-TB1-K1)
ENGINE START/STOP SWITCH (CUSTOMER PROVIDED)

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

(TERMINALS 3 AND 4: REMOTE START SWITCH OR ENGINE START CONTACTS ON TRANSFER SWITCH)

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 11-16-01 | (A,B-2) TB4-5 "BREAKER CLOSED" WAS "WARNING"; TB4-6 | | |
| | | "ENABLE SYNCH" WAS "WARNINIG"; TB4-11 "AFM SHUTDOWN" | | |
| | | WAS "WARNING"; TB4-12 "DETONATION WARNING" WAS "WARNING" | | |
| | | TB4-13 "DETONATION SHUTDOWN" WAS "WARNING" [66067] | DFS | |
| E | 12-02-03 | (B-2) LEAD 26 & "NO CONNECTION" NOTE ADDED [71073] | DFS | |
| F | 4-20-04 | (C-1) TB4-7, -8 ,-10: RSA USER INPUT WAS WARNING, | | |
| | | TB4-9 LOW FUEL SHUTDOWN WAS WARNING [72023] | SAM | |

LEGEND

CTS – COOLANT TEMPERATURE SENDER
LCL – LOW COOLANT LEVEL SWITCH
LFL – LOW FUEL LEVEL SWITCH
LFP – LOW FUEL PRESSURE SWITCH
OPS – OIL PRESSURE SENDER
P(#) – PLUG
QCON(#) – QUICK CONNECT
TB(#) – TERMINAL BLOCK

ANALOG INPUT CONNECTIONS:

| | |
|---|---|
| TB2-1 | ACH1 (CTS) SIGNAL (NON-ECM) |
| TB2-2 | ACH1 (CTS) SUPPLY (NON-ECM) |
| TB2-3 | ACH2 (OPS) SIGNAL (NON-ECM) |
| TB2-4 | ACH2 (OPS) SUPPLY (NON-ECM) |
| TB2-5 | ACH3 SIGNAL |
| TB2-6 | ACH3 SUPPLY |
| TB2-7 | ACH4 SIGNAL |
| TB2-8 | ACH4 SUPPLY |
| TB2-9 | ACH5 SIGNAL |
| TB2-10 | ACH5 SUPPLY |
| TB2-11 | ACH6 SIGNAL |
| TB2-12 | ACH6 SUPPLY |
| TB2-13 | ACH7 SIGNAL |
| TB2-14 | ACH7 SUPPLY |
| TB2-15 | N/C |
| TB2-16 | ACH1 (CTS) RETURN (NON-ECM) |
| TB2-17 | ACH1 (CTS) SHIELD GND (NON-ECM) |
| TB2-18 | ACH2 (CTS) RETURN (NON-ECM) |
| TB2-19 | ACH2 (CTS) SHIELD GND (NON-ECM) |
| TB2-20 | ACH3 RETURN |
| TB2-21 | ACH3 SHIELD GND |
| TB2-22 | ACH4 RETURN |
| TB2-23 | ACH4 SHIELD GND |
| TB2-24 | ACH5 RETURN |
| TB2-25 | ACH5 SHIELD GND |
| TB2-26 | ACH6 RETURN |
| TB2-27 | ACH6 SHIELD GND |
| TB2-28 | ACH7 RETURN |
| TB2-29 | ACH7 SHIELD GND |
| TB2-30 | N/C |

NOTE: ACH1 THRU ACH7 ARE CUSTOMER DEFINABLE WITH NON-ECM FACTORY DEFAULTS LISTED. SEE CONTROLLER OPERATION MANUAL TO CHANGE.

RELAY DRIVER OUTPUT (RDO) STANDARD FACTORY SETTINGS

| | |
|---|---|
| TB6-RDO1 | OVER SPEED (39) |
| TB6-RDO2 | OVER CRANK (12) |
| TB6-RDO3 | HIGH COOLANT TEMP SHUTDOWN (36) |
| TB6-RDO4 | LOW OIL PRESSURE SHUTDOWN (38) |
| TB6-RDO5 | LOW COOLANT TEMP (35) |
| TB6-RDO6 | HIGH COOLANT TEMP WARNING (40) |
| TB6-RDO7 | LOW OIL PRESSURE WARNING (41) |
| TB7-RDO8 | LOW FUEL (63) |
| TB7-RDO9 | MASTER SWITCH NOT IN AUTO (80) |
| TB7-RDO10 | NFPA-110 COMMON ALARM (32) |
| TB7-RDO11 | BATTERY CHARGER FAULT (61) |
| TB7-RDO12 | LOW BATTERY VOLTAGE (62) |
| TB7-RDO13 | HIGH BATTERY VOLTAGE |
| TB7-RDO14 | EMERGENCY STOP (48) |
| TB7-RDO15 | GENERATOR RUNNING (70R) |
| TB7-RDO16 | COOL DOWN (70C) |
| TB7-RDO17 | SYSTEM READY (60) |
| TB8-RDO18 | DEFINED COMMON FAULT (32A) |
| TB8-RDO19 | LOW COOLANT LEVEL |
| TB8-RDO20 | OVER VOLTAGE (26) |
| TB8-RDO21 | IDLE MODE |
| TB8-RDO22 | EPS SUPPLYING LOAD |
| TB8-RDO23 | AIR DAMPER INDICATOR |
| TB9-RDO24 | SPEED SENSOR FAULT |
| TB9-RDO25 | LOSS OF AC SENSING |
| TB9-RDO26 | ECM LOSS OF COMMUNICATION |
| TB9-RDO27 | UNDER VOLTAGE |
| TB9-RDO28 | OVER FREQUENCY |
| TB9-RDO29 | UNDER FREQUENCY |
| TB9-RDO30 | LOAD SHED KW OVERLOAD |
| TB9-RDO31 | LOAD SHED UNDER FREQUENCY |

NOTE: RDO-1 THRU RDO-31 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED. SEE CONTROLLER OPERATION MANUAL TO CHANGE. DEFINED COMMON FAULT FACTORY DEFAULT SETTING" E-STOP, OVER SPEED, LOW OIL PRESSURE, HIGH COOLANT TEMPERATURE & OVER CRANK.

TB3 ACCESSORY POWER OUTPUT CONNECTIONS

| | |
|---|---|
| TB3-1 | +12VDC (OEM USE ONLY) |
| TB3-2 | +12VDC (OEM USE ONLY) |
| TB3-3 | +12VDC (OEM USE ONLY) |
| TB3-4 | FUSED BATTERY (+) (42A) (5 AMP) |
| TB3-5 | FUSED BATTERY (+) (42A) (5 AMP) |
| TB3-6 | FUSED BATTERY (+) (42A) (5 AMP) |
| TB3-7 | BATTERY (–) |
| TB3-8 | BATTERY (–) |
| TB3-9 | BATTERY (–) |
| TB3-10 | BATTERY (–) |
| TB3-11 | BATTERY (–) |
| TB3-12 | PANEL LAMP OUTPUT |

TB4 DIGITAL INPUT FACTORY SETTINGS

| | |
|---|---|
| TB4-1 | DCH1 BATTERY CHARGER FAULT |
| TB4-2 | DCH2 LOW FUEL |
| TB4-3 | DCH3 LOW COOLANT TEMP (ECM MODELS ONLY) |
| TB4-4 | DCH4 EXCITATION OVER VOLTAGE (4M, 5M, 7M ALT. ONLY) |
| TB4-5 | DCH5 BREAKER CLOSED (TIER 1 ONLY) |
| TB4-6 | DCH6 ENABLE SYNCH (TIER 1 ONLY) |
| TB4-7 | DCH7 RSA USER INPUT 1 |
| TB4-8 | DCH8 RSA USER INPUT 2 |
| TB4-9 | DCH9 LOW FUEL SHUTDOWN (GM ONLY) |
| TB4-10 | DCH10 RSA USER INPUT 3 |
| TB4-11 | DCH11 AFM SHUTDOWN (WAUKESHA ONLY) |
| TB4-12 | DCH12 DETONATION WARNING (WAUKESHA ONLY) |
| TB4-13 | DCH13 DETONATION SHUTDOWN (WAUKESHA ONLY) |
| TB4-14 | DCH14 LOW COOLANT LEVEL (DEUTZ 50-100 ONLY) |
| TB4-15 | DCH15 REMOTE SHUTDOWN |
| TB4-16 | DCH16 REMOTE RESET |
| TB4-17 | DCH17 VAR PF MODE |
| TB4-18 | DCH18 VOLTAGE LOWER |
| TB4-19 | DCH19 VOLTAGE RAISE |
| TB4-20 | DCH20 AIR DAMPER |
| TB4-21 | DCH21 IDLE MODE |

TB4-22 THRU TB4-42 ARE COMMON DIGITAL INPUT RETURNS

NOTE: TB4-1 THRU TB4-21 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED. SEE CONTROLLER OPERATION MANUAL TO CHANGE.

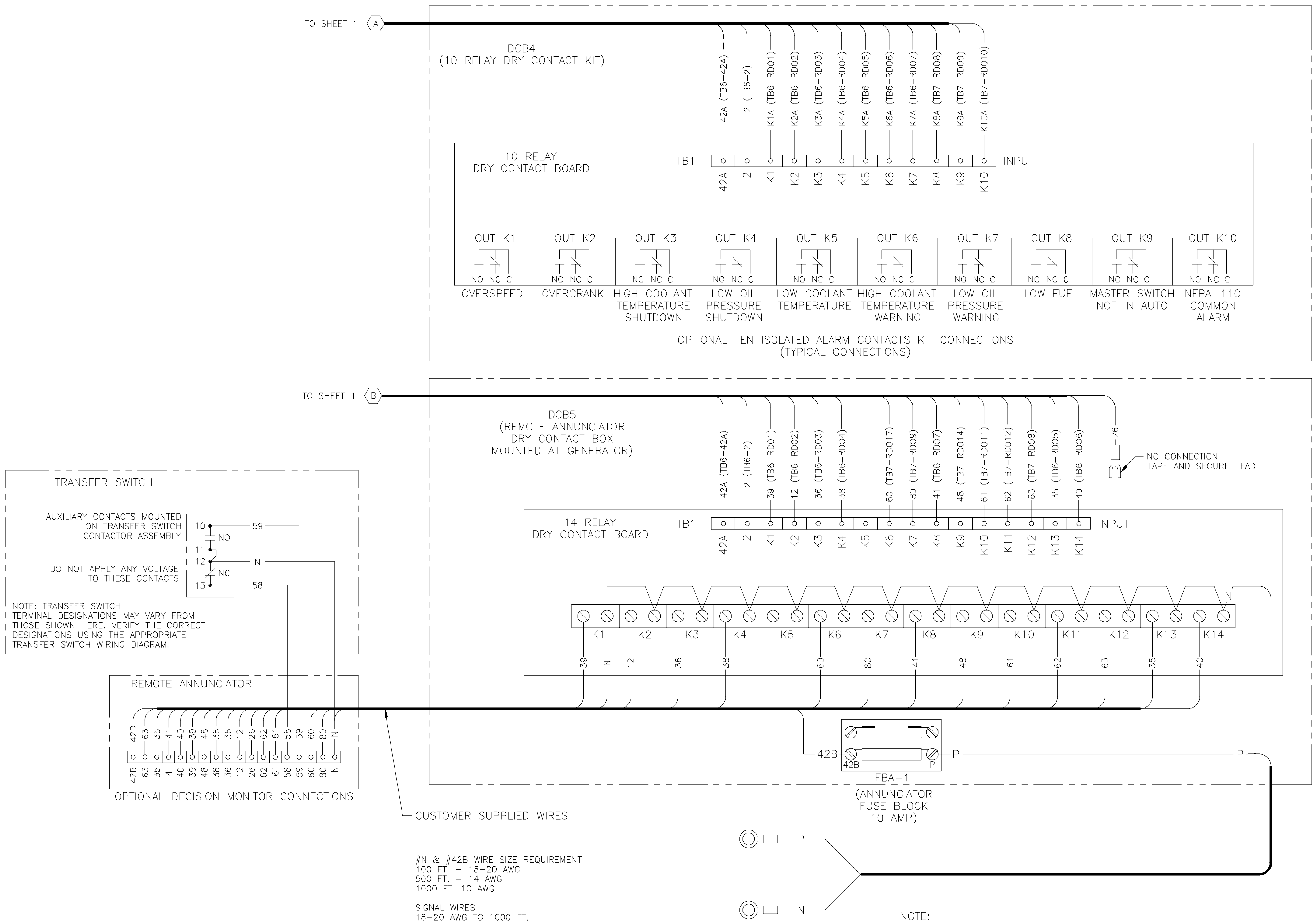
INSTALLATION NOTE:
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 7-31-00 |
| CHECKED | DAH | 8-21-00 |
| APPROVED | TLK | 8-21-00 |

TITLE DIAGRAM, ACCESSORY INTERCONNECTION
SCALE / / / CAD NO. GM16088A.DWG SHEET 1-2
PLOTTED DWG. NO. GM16088 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| B | 7-6-01 | (C-2-5) OPTIONAL OUTPUTS K3 THRU K10 RENAMED; SEE | JS | |
| | | SHEET 1 [64768] | | |
| C | 8-15-01 | SEE SHEET 1 OF 2 [65037] | DFS | |
| D | 11-16-01 | SEE SHEET 1 OF 2 [66067] | DFS | |
| E | 12-2-03 | (C-3) LEAD 26 & "NO CONNECTION" NOTE ADDED [71073] | DFS | |
| F | 4-20-04 | (A-4) LEAD CONNECTION NOTE UPDATED [72023] | SAM | |
| | | | | |



#N & #42B WIRE SIZE REQUIREMENT
100 FT. - 18-20 AWG
500 FT. - 14 AWG
1000 FT. 10 AWG

SIGNAL WIRES
18-20 AWG TO 1000 FT.

NOTE: IF ADDITIONAL LOAD IS ADDED
RESIZE N & 42B AS REQUIRED

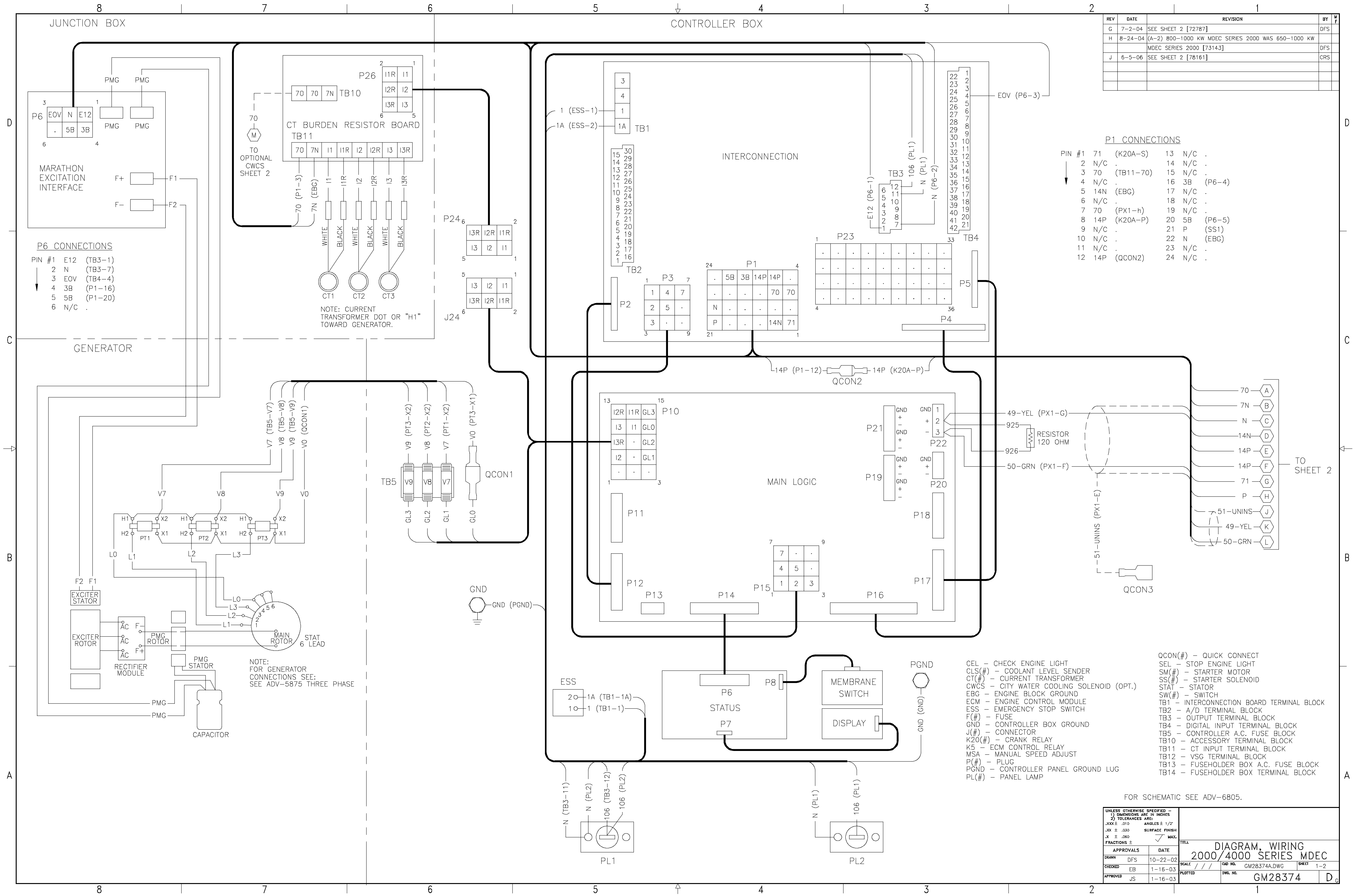
NOTE:
LEAD "N" CONNECTION: CONNECT LEAD "N" TO ENGINE BLOCK GROUND.
LEAD "P" CONNECTION:
PREFERRED- CONNECT LEAD "P" TO TERMINAL WITH "P" WIRES ON CRANK RELAY.
ALTERNATE - CONNECT LEAD "P" TO BATTERY POSITIVE (+) TERMINAL ON STARTER SOLENOID.
USE WIRE HARNESS PROVIDED, CUT AND TERMINATE AS REQUIRED.

INSTALLATION NOTE:
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 8-1-00 |
| CHECKED | DAH | 8-21-00 |
| APPROVED | TLK | 8-21-00 |

TITLE
DIAGRAM
ACCESSORY INTERCONNECTION
SCALE / / /
CAD NO. GM16088B.DWG
SHEET 2-2
PLOTTED
DWG. NO. GM16088
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| G | 7−2−04 | SEE SHEET 2 [72787] | DFS | |
| H | 8−24−04 | (A−2) 800−1000 KW MDEC SERIES 2000 WAS 650−1000 KW | | |
| | | MDEC SERIES 2000 [73143] | DFS | |
| J | 6−5−06 | SEE SHEET 2 [78161] | CRS | |
| | | | | |
| | | | | |
| | | | | |

P1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| #1 | 71 | (K20A−S) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB11−70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6−4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1−h) | 19 | N/C | . |
| 8 | 14P | (K20A−P) | 20 | 5B | (P6−5) |
| 9 | N/C | . | 21 | P | (SS1) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | E12 | (TB3−1) |
| 2 | N | (TB3−7) |
| 3 | EOV | (TB4−4) |
| 4 | 3B | (P1−16) |
| 5 | 5B | (P1−20) |
| 6 | N/C | . |

CEL − CHECK ENGINE LIGHT
CLS(#) − COOLANT LEVEL SENDER
CT(#) − CURRENT TRANSFORMER
CWCS − CITY WATER COOLING SOLENOID (OPT.)
EBG − ENGINE BLOCK GROUND
ECM − ENGINE CONTROL MODULE
ESS − EMERGENCY STOP SWITCH
F(#) − FUSE
GND − CONTROLLER BOX GROUND
J(#) − CONNECTOR
K20(#) − CRANK RELAY
K5 − ECM CONTROL RELAY
MSA − MANUAL SPEED ADJUST
P(#) − PLUG
PGND − CONTROLLER PANEL GROUND LUG
PL(#) − PANEL LAMP

QCON(#) − QUICK CONNECT
SEL − STOP ENGINE LIGHT
SM(#) − STARTER MOTOR
SS(#) − STARTER SOLENOID
STAT − STATOR
SW(#) − SWITCH
TB1 − INTERCONNECTION BOARD TERMINAL BLOCK
TB2 − A/D TERMINAL BLOCK
TB3 − OUTPUT TERMINAL BLOCK
TB4 − DIGITAL INPUT TERMINAL BLOCK
TB5 − CONTROLLER A.C. FUSE BLOCK
TB10 − ACCESSORY TERMINAL BLOCK
TB11 − CT INPUT TERMINAL BLOCK
TB12 − VSG TERMINAL BLOCK
TB13 − FUSEHOLDER BOX A.C. FUSE BLOCK
TB14 − FUSEHOLDER BOX TERMINAL BLOCK

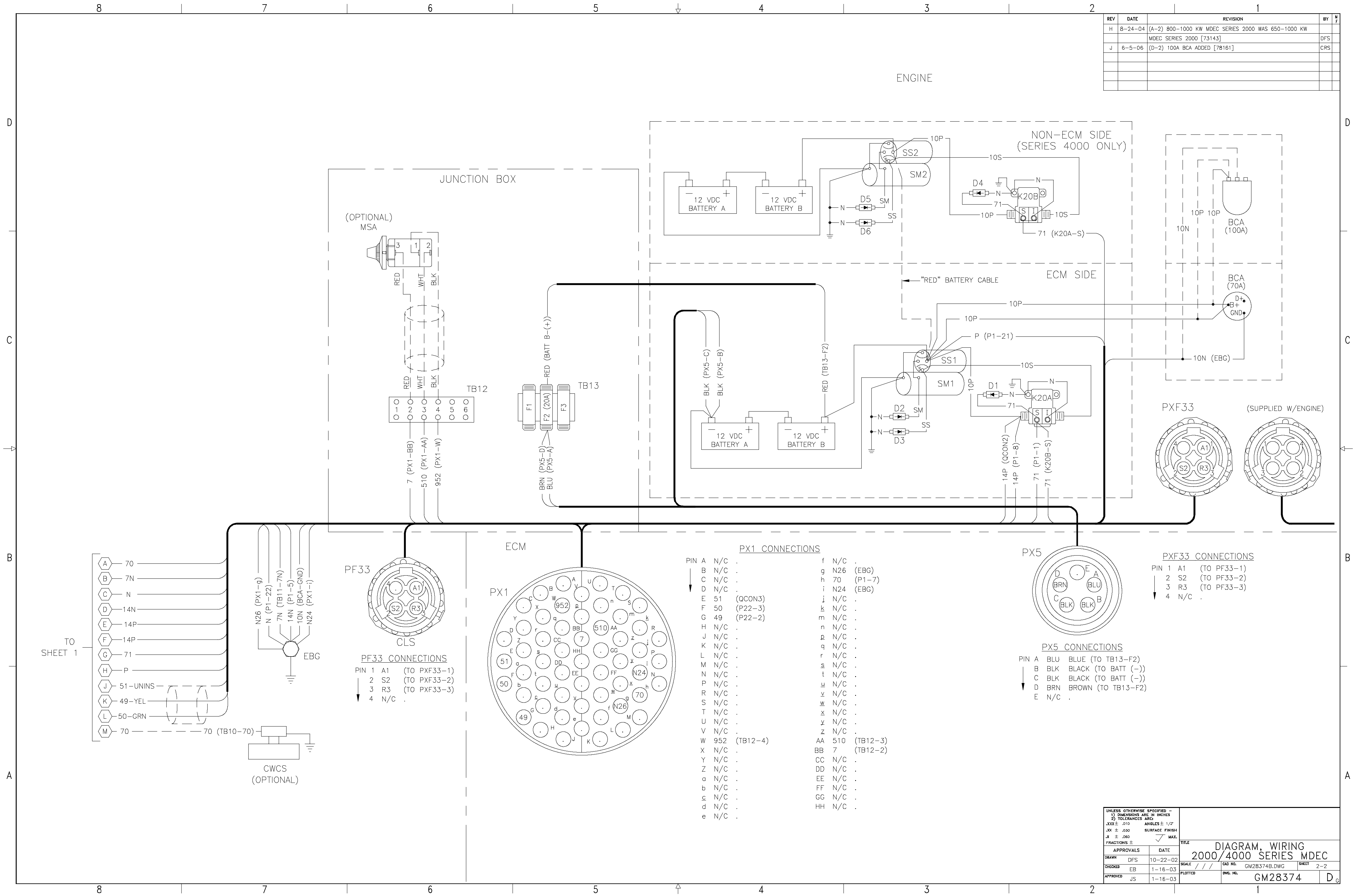
FOR SCHEMATIC SEE ADV−6805.

UNLESS OTHERWISE SPECIFIED −
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 10−22−02 |
| CHECKED | EB | 1−16−03 |
| APPROVED | JS | 1−16−03 |

TITLE
DIAGRAM, WIRING
2000/4000 SERIES MDEC

SCALE / / / CAD NO. GM28374A.DWG SHEET 1−2
PLOTTED DWG. NO. GM28374 D G



PF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PXF33-1) |
| 2 | S2 | (TO PXF33-2) |
| 3 | R3 | (TO PXF33-3) |
| 4 | N/C | . |

PX1 CONNECTIONS

| PIN | | |
|---|---|---|
| A | N/C | . |
| B | N/C | . |
| C | N/C | . |
| D | N/C | . |
| E | 51 | (QCON3) |
| F | 50 | (P22-3) |
| G | 49 | (P22-2) |
| H | N/C | . |
| J | N/C | . |
| K | N/C | . |
| L | N/C | . |
| M | N/C | . |
| N | N/C | . |
| P | N/C | . |
| R | N/C | . |
| S | N/C | . |
| T | N/C | . |
| U | N/C | . |
| V | N/C | . |
| W | 952 | (TB12-4) |
| X | N/C | . |
| Y | N/C | . |
| Z | N/C | . |
| a | N/C | . |
| b | N/C | . |
| c | N/C | . |
| d | N/C | . |
| e | N/C | . |
| f | N/C | . |
| g | N26 | (EBG) |
| h | 70 | (P1-7) |
| i | N24 | (EBG) |
| j | N/C | . |
| k | N/C | . |
| m | N/C | . |
| n | N/C | . |
| p | N/C | . |
| q | N/C | . |
| r | N/C | . |
| s | N/C | . |
| t | N/C | . |
| u | N/C | . |
| v | N/C | . |
| w | N/C | . |
| x | N/C | . |
| y | N/C | . |
| z | N/C | . |
| AA | 510 | (TB12-3) |
| BB | 7 | (TB12-2) |
| CC | N/C | . |
| DD | N/C | . |
| EE | N/C | . |
| FF | N/C | . |
| GG | N/C | . |
| HH | N/C | . |

PX5 CONNECTIONS

| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| H | 8-24-04 | (A-2) 800-1000 KW MDEC SERIES 2000 WAS 650-1000 KW | | |
| | | MDEC SERIES 2000 [73143] | DFS | |
| J | 6-5-06 | (D-2) 100A BCA ADDED [78161] | CRS | |

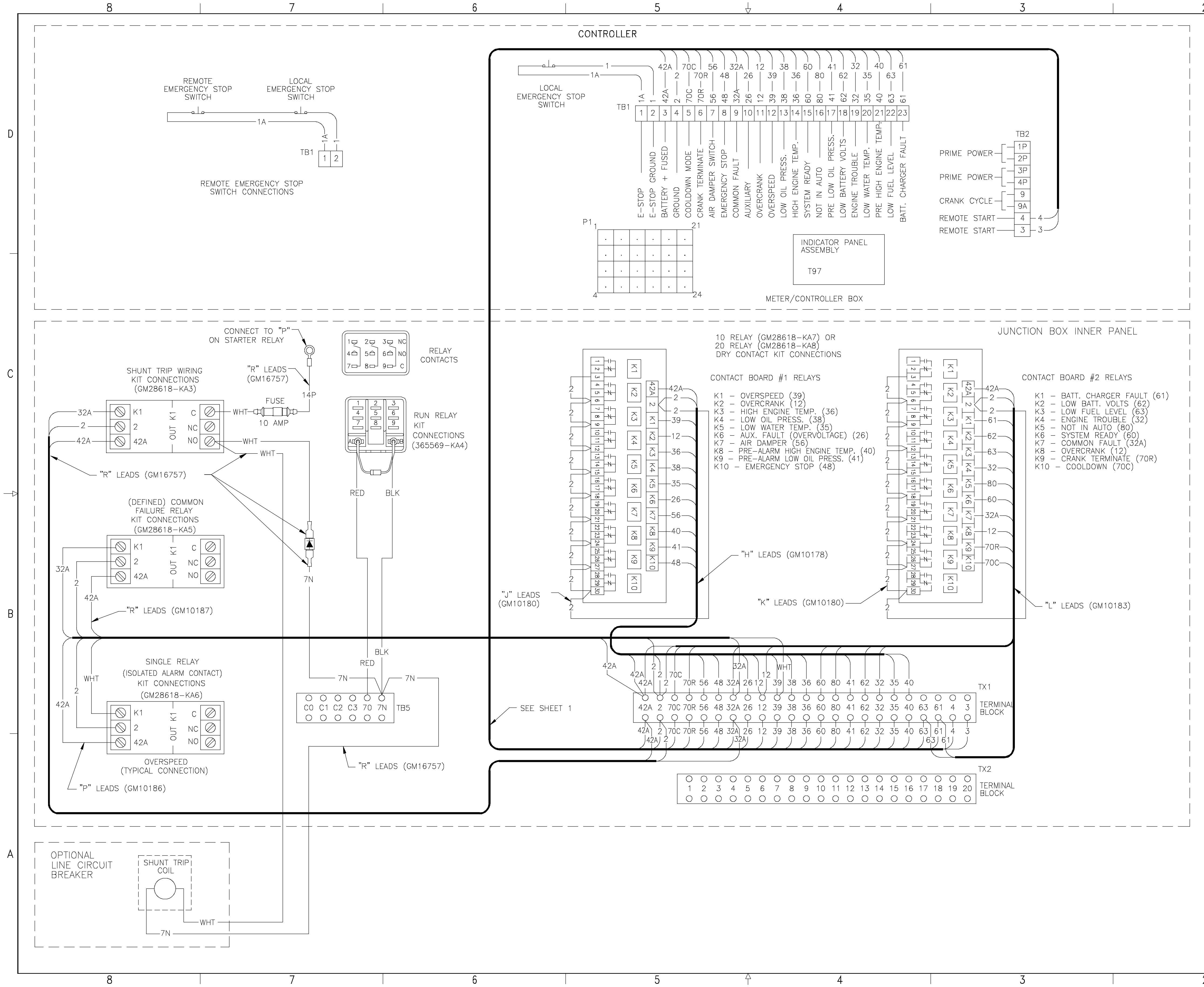
UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 10-22-02 |
| CHECKED | EB | 1-16-03 |
| APPROVED | JS | 1-16-03 |

TITLE DIAGRAM, WIRING 2000/4000 SERIES MDEC

SCALE / / /
CAD NO. GM28374B.DWG
SHEET 2-2
PLOTTED
DWG. NO. GM28374
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 11-26-02 | NEW DRAWING [68678] | DFS | |
| A | 2-6-03 | SEE SHEET 3 [68903] | DFS | |
| B | 7-5-04 | SEE SHEET 3 [72741] | DFS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



NOTES:

STANDARD TEN RELAY DRY CONTACT KIT USES DRY CONTACT BOARD #1

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11-26-02 |
| CHECKED | EB | 12-02-02 |
| APPROVED | TLK | 12-02-02 |

TITLE
DRAWING, ASSEMBLY
J-BOX INNER PANEL

SCALE / / / CAD NO. GM28631B.DWG SHEET 2-4
PLOTTED DWG. NO. GM28631 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 11-26-02 | NEW DRAWING [68678] | DFS | |
| A | 2-6-03 | (B,C-8) DVR 2000E VOLTAGE REGULATOR CONNECTIONS | | |
| | | ADDED [68903] | DFS | |
| B | 7-5-04 | (A-6) TB7 REMOVED [72741] | DFS | |
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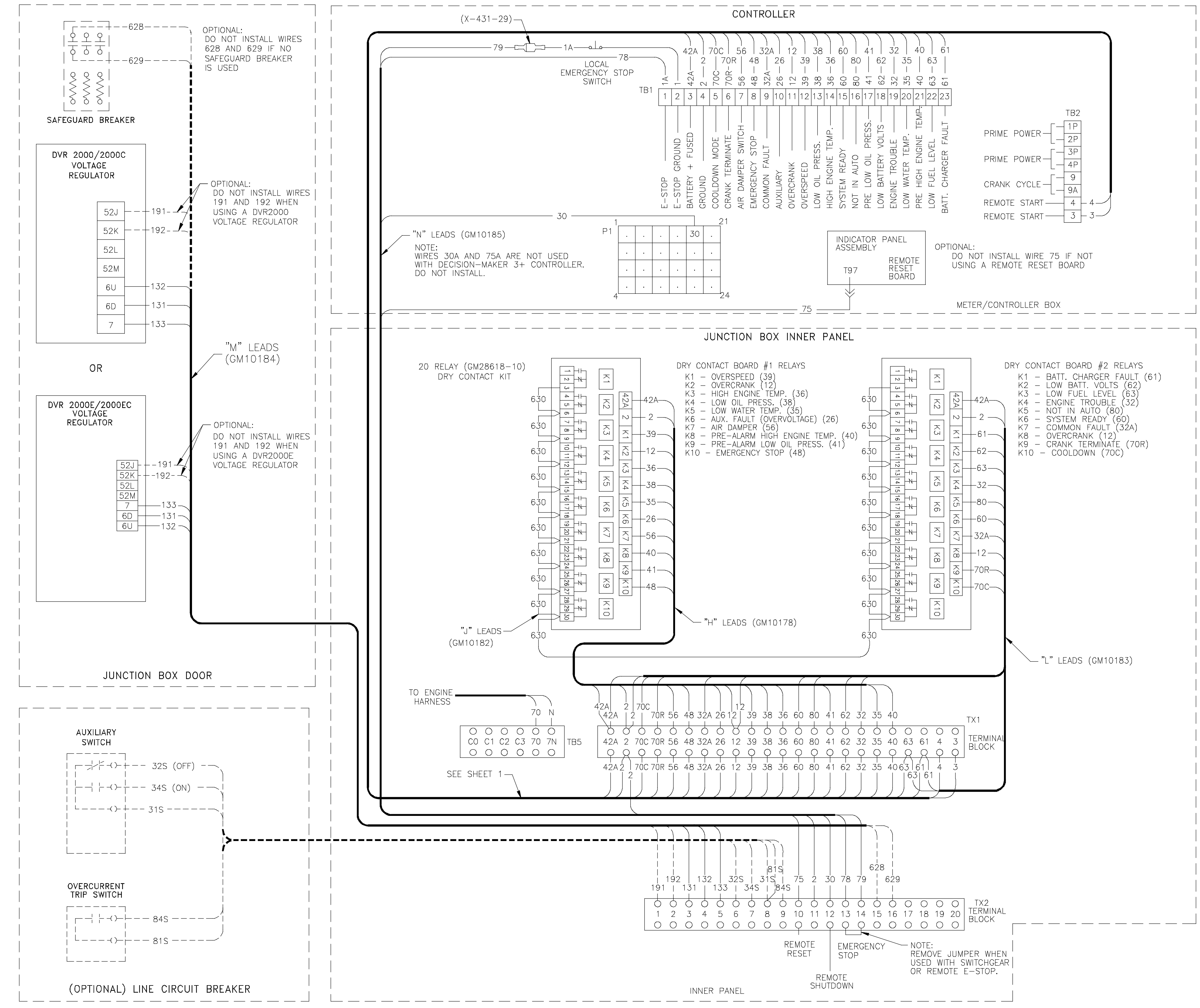


**NOTE:**

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

**INSTALLATION NOTE:**

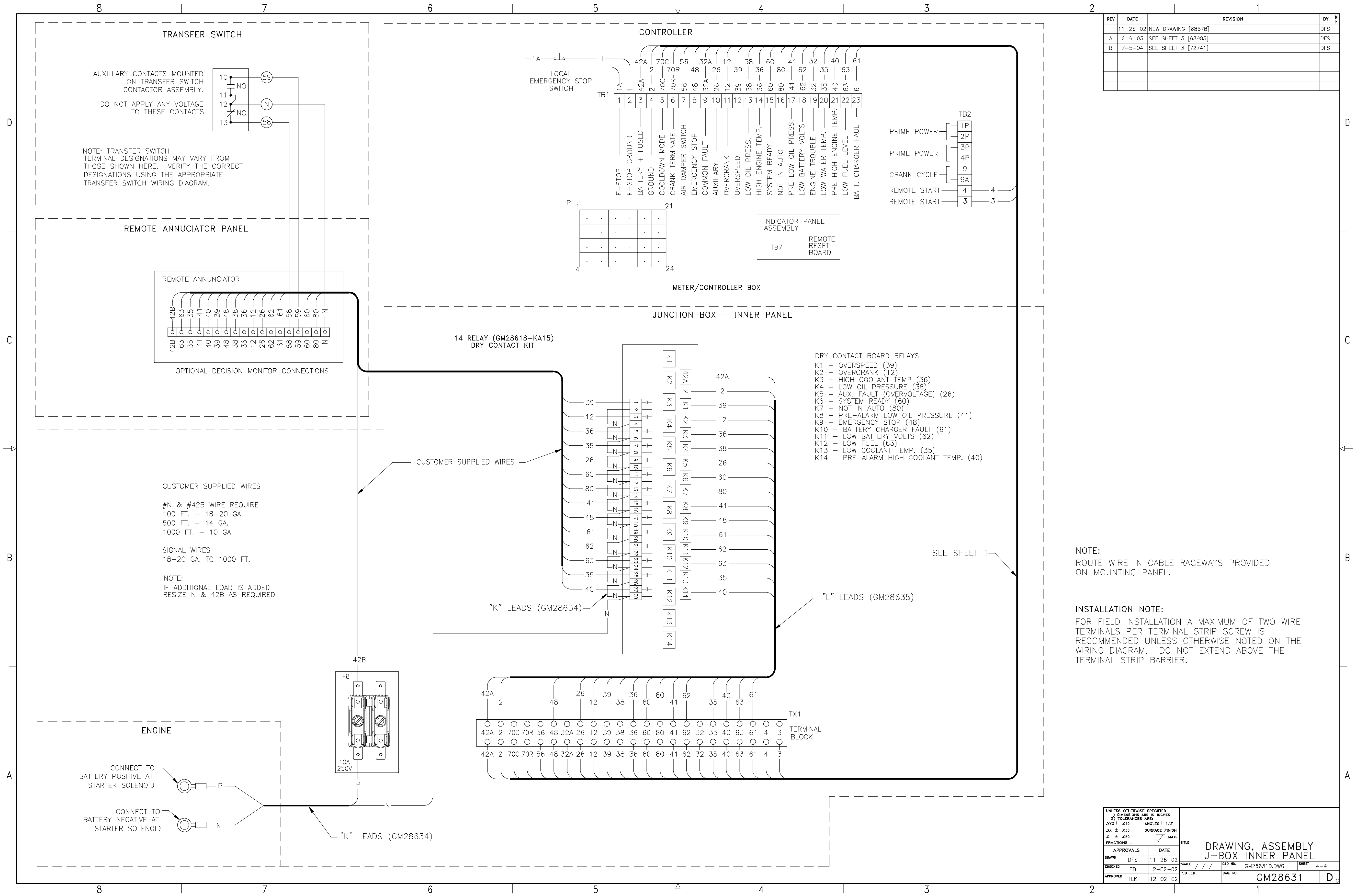
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11-26-02 |
| CHECKED | EB | 12-02-02 |
| APPROVED | TLK | 12-02-02 |

TITLE
DRAWING, ASSEMBLY
J-BOX INNER PANEL

SCALE / / / CAD NO. GM28631C.DWG SHEET 3-4
PLOTTED DWG. NO. GM28631 D G



AUXILLARY CONTACTS MOUNTED ON TRANSFER SWITCH CONTACTOR ASSEMBLY.

DO NOT APPLY ANY VOLTAGE TO THESE CONTACTS.

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

CUSTOMER SUPPLIED WIRES

#N & #42B WIRE REQUIRE
100 FT. – 18–20 GA.
500 FT. – 14 GA.
1000 FT. – 10 GA.

SIGNAL WIRES
18–20 GA. TO 1000 FT.

NOTE:
IF ADDITIONAL LOAD IS ADDED RESIZE N & 42B AS REQUIRED

CONNECT TO BATTERY POSITIVE AT STARTER SOLENOID

CONNECT TO BATTERY NEGATIVE AT STARTER SOLENOID

DRY CONTACT BOARD RELAYS
K1 – OVERSPEED (39)
K2 – OVERCRANK (12)
K3 – HIGH COOLANT TEMP (36)
K4 – LOW OIL PRESSURE (38)
K5 – AUX. FAULT (OVERVOLTAGE) (26)
K6 – SYSTEM READY (60)
K7 – NOT IN AUTO (80)
K8 – PRE-ALARM LOW OIL PRESSURE (41)
K9 – EMERGENCY STOP (48)
K10 – BATTERY CHARGER FAULT (61)
K11 – LOW BATTERY VOLTS (62)
K12 – LOW FUEL (63)
K13 – LOW COOLANT TEMP. (35)
K14 – PRE-ALARM HIGH COOLANT TEMP. (40)

NOTE:
ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 11–26–02 | NEW DRAWING [68678] | DFS | |
| A | 2–6–03 | SEE SHEET 3 [68903] | DFS | |
| B | 7–5–04 | SEE SHEET 3 [72741] | DFS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11–26–02 |
| CHECKED | EB | 12–02–02 |
| APPROVED | TLK | 12–02–02 |

TITLE
DRAWING, ASSEMBLY
J–BOX INNER PANEL

SCALE / / / CAD NO. GM28631D.DWG SHEET 4–4
PLOTTED DWG. NO. GM28631 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 3-24-04 | (A-1) SHEET 2-7 WAS 2-5. [71155] | JDH | |
| E | 7-6-04 | SEE SHEETS 3. 5, 6 & 7 [72741] | DFS | |
| F | 8-2-04 | SEE SHEET 5 [72954] | DFS | |
| G | 6-1-06 | SEE SHEET 6 [78312] | SAM | |
| | | | | |
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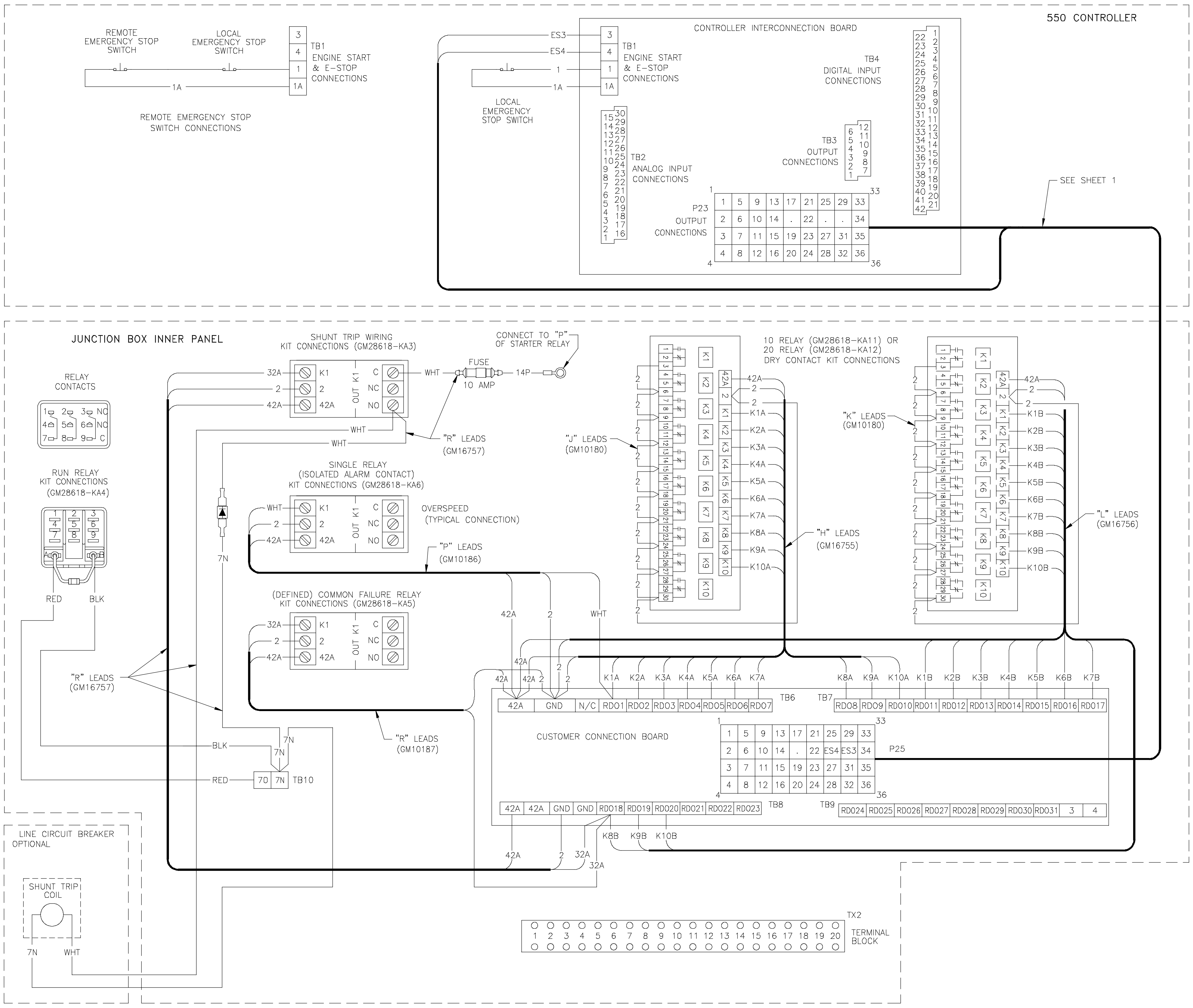
550 CONTROLLER
REMOTE EMERGENCY STOP SWITCH
LOCAL EMERGENCY STOP SWITCH
TB1 ENGINE START & E-STOP CONNECTIONS
3
4
1
1A
REMOTE EMERGENCY STOP SWITCH CONNECTIONS
ES3
ES4
LOCAL EMERGENCY STOP SWITCH
CONTROLLER INTERCONNECTION BOARD
TB2 ANALOG INPUT CONNECTIONS
TB3 OUTPUT CONNECTIONS
TB4 DIGITAL INPUT CONNECTIONS
P23 OUTPUT CONNECTIONS
SEE SHEET 1
JUNCTION BOX INNER PANEL
RELAY CONTACTS
RUN RELAY KIT CONNECTIONS (GM28618-KA4)
RED
BLK
SHUNT TRIP WIRING KIT CONNECTIONS (GM28618-KA3)
K1
2
42A
32A
OUT K1
C
NC
NO
WHT
FUSE
10 AMP
14P
CONNECT TO "P" OF STARTER RELAY
"R" LEADS (GM16757)
SINGLE RELAY (ISOLATED ALARM CONTACT) KIT CONNECTIONS (GM28618-KA6)
OVERSPEED (TYPICAL CONNECTION)
"P" LEADS (GM10186)
(DEFINED) COMMON FAILURE RELAY KIT CONNECTIONS (GM28618-KA5)
"R" LEADS (GM16757)
"R" LEADS (GM10187)
7N
TB10
7D
10 RELAY (GM28618-KA11) OR 20 RELAY (GM28618-KA12) DRY CONTACT KIT CONNECTIONS
"J" LEADS (GM10180)
"H" LEADS (GM16755)
"K" LEADS (GM10180)
"L" LEADS (GM16756)
K1A K2A K3A K4A K5A K6A K7A K8A K9A K10A
K1B K2B K3B K4B K5B K6B K7B K8B K9B K10B
TB6
TB7
CUSTOMER CONNECTION BOARD
42A GND N/C RDO1 RDO2 RDO3 RDO4 RDO5 RDO6 RDO7
RDO8 RDO9 RDO10 RDO11 RDO12 RDO13 RDO14 RDO15 RDO16 RDO17
P25
TB8
TB9
42A 42A GND GND RDO18 RDO19 RDO20 RDO21 RDO22 RDO23
RDO24 RDO25 RDO26 RDO27 RDO28 RDO29 RDO30 RDO31 3 4
LINE CIRCUIT BREAKER OPTIONAL
SHUNT TRIP COIL
TX2
TERMINAL BLOCK

NOTES:

TB4–1 THRU TB4–21 AND RDO–1 THRU RDO–31 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED ON DRAWING GM16088. SEE CONTROLLER OPERATIONS MANUAL TO CHANGE.

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± ANGLES ±
.XX ± SURFACE FINISH
.X ± √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11-27-02 |
| CHECKED | EB | 12-02-02 |
| APPROVED | TLK | 12-02-02 |

TITLE
DRAWING, ASSEMBLY
J–BOX INNER PANEL

SCALE / / /
CAD NO. GM28632B.DWG
SHEET 2–7
PLOTTED
DWG. NO. GM28632
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 3-25-04 | (A-1) SHEET 3-7 WAS 3-5. [71155] | JDH | |
| E | 7-6-04 | (A-6,-7) TB12 REMOVED [72741] | DFS | |
| F | 8-2-04 | SEE SHEET 5 [72954] | DFS | |
| G | 6-1-06 | SEE SHEET 6 [78312] | SAM | |
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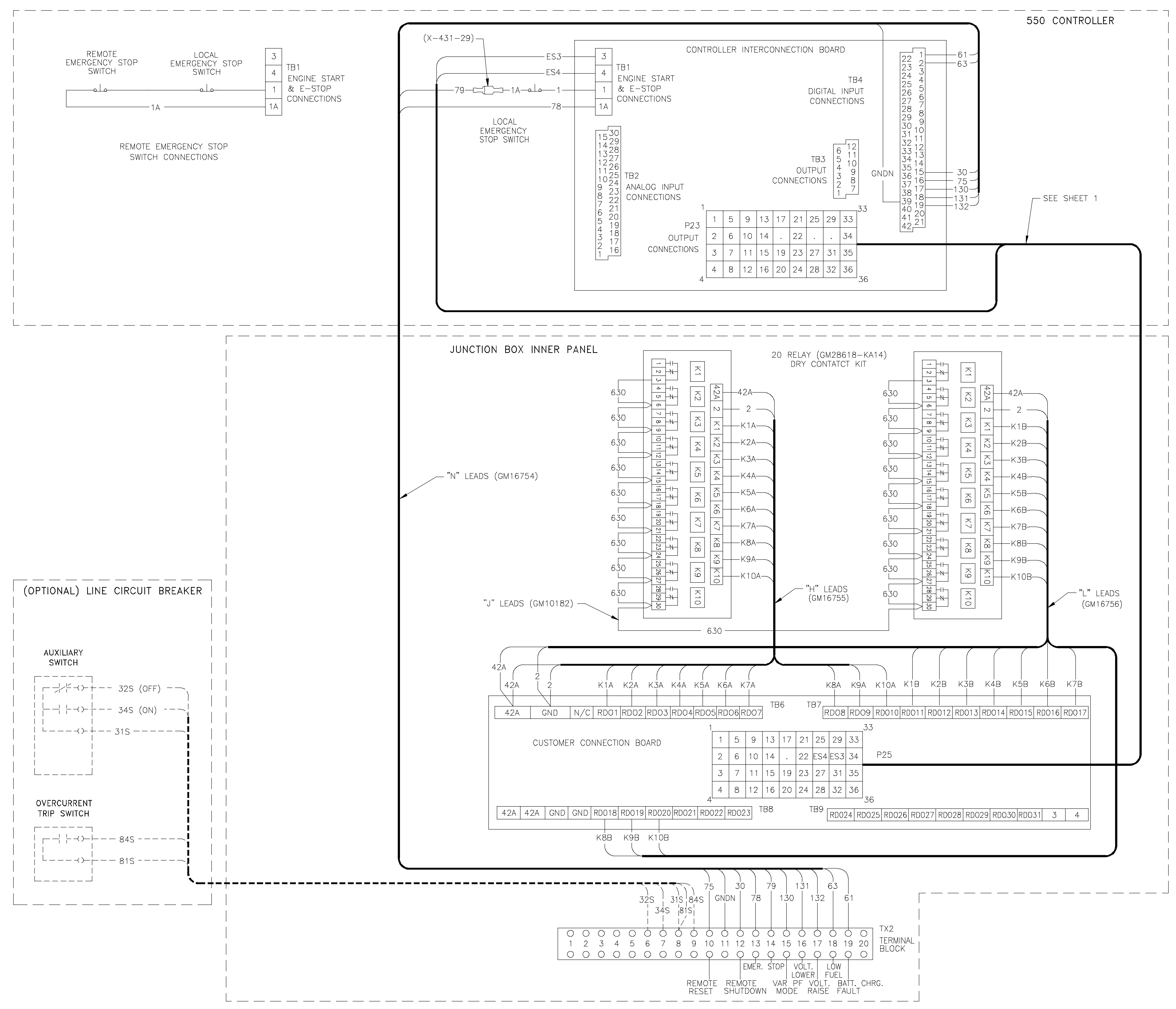


550 CONTROLLER
REMOTE EMERGENCY STOP SWITCH
LOCAL EMERGENCY STOP SWITCH
TB1 ENGINE START & E-STOP CONNECTIONS
REMOTE EMERGENCY STOP SWITCH CONNECTIONS
(X-431-29)
ES3
ES4
79
1A
78
LOCAL EMERGENCY STOP SWITCH
CONTROLLER INTERCONNECTION BOARD
TB2 ANALOG INPUT CONNECTIONS
TB3 OUTPUT CONNECTIONS
TB4 DIGITAL INPUT CONNECTIONS
P23 OUTPUT CONNECTIONS
GNDN
61
63
30
75
130
131
132
SEE SHEET 1
JUNCTION BOX INNER PANEL
20 RELAY (GM28618-KA14) DRY CONTATCT KIT
"N" LEADS (GM16754)
"J" LEADS (GM10182)
"H" LEADS (GM16755)
"L" LEADS (GM16756)
630
42A
2
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10
K1A K2A K3A K4A K5A K6A K7A K8A K9A K10A
K1B K2B K3B K4B K5B K6B K7B K8B K9B K10B
CUSTOMER CONNECTION BOARD
TB6
TB7
TB8
TB9
P25
42A GND N/C RDO1 RDO2 RDO3 RDO4 RDO5 RDO6 RDO7
RDO8 RDO9 RDO10 RDO11 RDO12 RDO13 RDO14 RDO15 RDO16 RDO17
42A 42A GND GND RDO18 RDO19 RDO20 RDO21 RDO22 RDO23
RDO24 RDO25 RDO26 RDO27 RDO28 RDO29 RDO30 RDO31 3 4
ES4
ES3
(OPTIONAL) LINE CIRCUIT BREAKER
AUXILIARY SWITCH
32S (OFF)
34S (ON)
31S
OVERCURRENT TRIP SWITCH
84S
81S
TX2 TERMINAL BLOCK
REMOTE RESET
REMOTE SHUTDOWN
EMER. STOP
VAR PF MODE
VOLT. LOWER
VOLT. RAISE
LOW FUEL
BATT. CHRG. FAULT

NOTES:

TB4-1 THRU TB4-21 AND RDO-1 THRU RDO-31 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED ON DRAWING GM16088. SEE CONTROLLER OPERATIONS MANUAL TO CHANGE.

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:

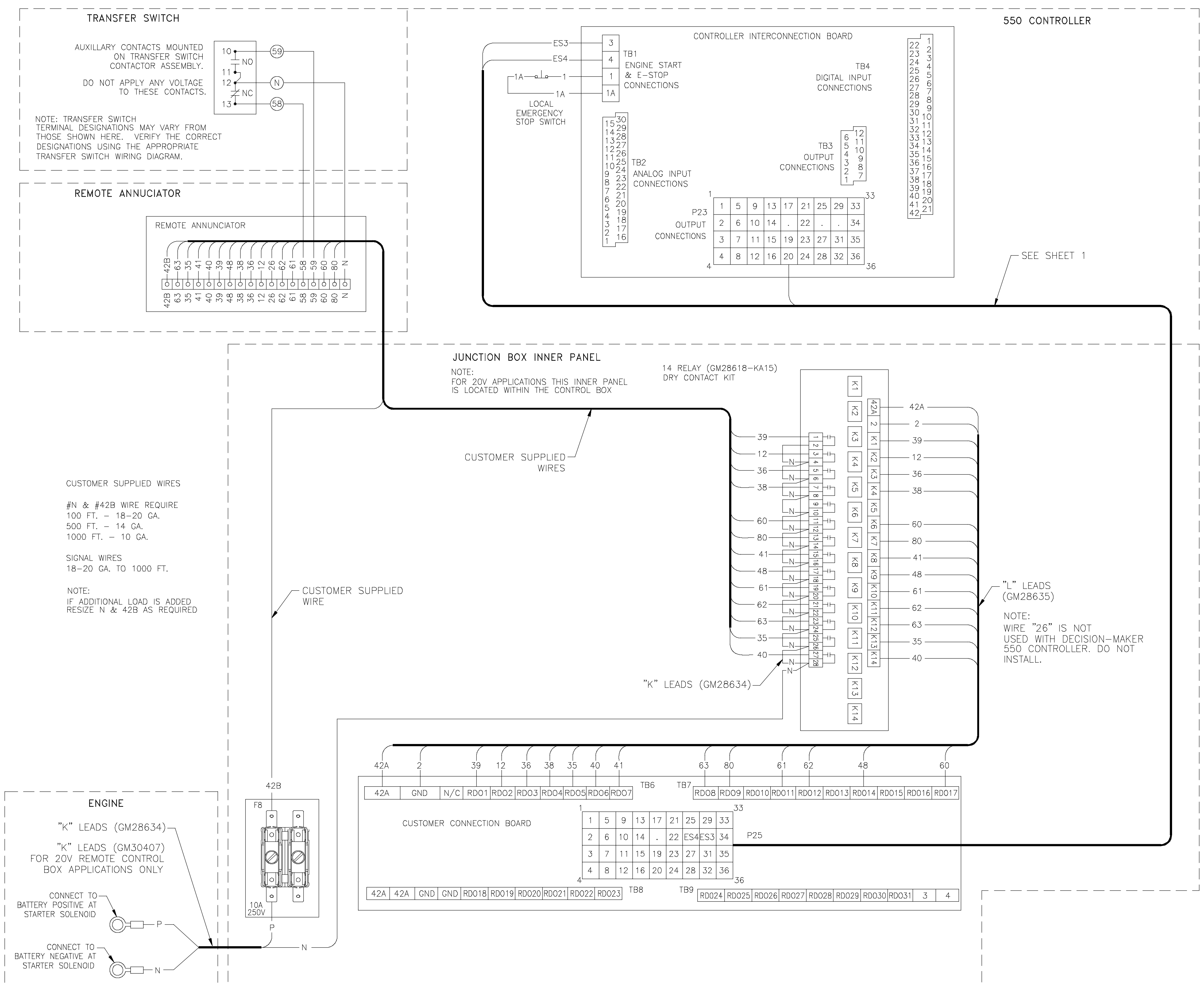
FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± ANGLES ±
.XX ± SURFACE FINISH
.X ± MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11-27-02 |
| CHECKED | EB | 12-02-02 |
| APPROVED | TLK | 12-02-02 |

TITLE
DRAWING, ASSEMBLY
J-BOX INNER PANEL

SCALE / / / CAD NO. GM28632C.DWG SHEET 3-7
PLOTTED DWG. NO. GM28632 D G



550 CONTROLLER
CONTROLLER INTERCONNECTION BOARD
TB1
ENGINE START & E-STOP CONNECTIONS
ES3
ES4
1A
LOCAL EMERGENCY STOP SWITCH
TB2
ANALOG INPUT CONNECTIONS
TB3
OUTPUT CONNECTIONS
TB4
DIGITAL INPUT CONNECTIONS
P23
OUTPUT CONNECTIONS
SEE SHEET 1
TRANSFER SWITCH
NO
NC
59
N
58
REMOTE ANNUNCIATOR
REMOTE ANNUNCIATOR
42B 63 35 41 40 39 48 38 36 12 26 62 61 58 59 60 80 N
JUNCTION BOX INNER PANEL
14 RELAY (GM28618-KA15)
DRY CONTACT KIT
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14
42A 2 39 12 36 38 60 80 41 48 61 62 63 35 40
CUSTOMER SUPPLIED WIRES
CUSTOMER SUPPLIED WIRE
"K" LEADS (GM28634)
"L" LEADS (GM28635)
CUSTOMER CONNECTION BOARD
TB6
TB7
TB8
TB9
P25
42A GND N/C RDO1 RDO2 RDO3 RDO4 RDO5 RDO6 RDO7
RDO8 RDO9 RDO10 RDO11 RDO12 RDO13 RDO14 RDO15 RDO16 RDO17
42A 42A GND GND RDO18 RDO19 RDO20 RDO21 RDO22 RDO23
RDO24 RDO25 RDO26 RDO27 RDO28 RDO29 RDO30 RDO31 3 4
F8
42B
10A 250V
P
N
ENGINE
"K" LEADS (GM28634)
"K" LEADS (GM30407) FOR 20V REMOTE CONTROL BOX APPLICATIONS ONLY
CONNECT TO BATTERY POSITIVE AT STARTER SOLENOID
CONNECT TO BATTERY NEGATIVE AT STARTER SOLENOID

AUXILLARY CONTACTS MOUNTED ON TRANSFER SWITCH CONTACTOR ASSEMBLY.

DO NOT APPLY ANY VOLTAGE TO THESE CONTACTS.

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

NOTE:
FOR 20V APPLICATIONS THIS INNER PANEL IS LOCATED WITHIN THE CONTROL BOX

CUSTOMER SUPPLIED WIRES

#N & #42B WIRE REQUIRE
100 FT. – 18–20 GA.
500 FT. – 14 GA.
1000 FT. – 10 GA.

SIGNAL WIRES
18–20 GA. TO 1000 FT.

NOTE:
IF ADDITIONAL LOAD IS ADDED RESIZE N & 42B AS REQUIRED

NOTE:
WIRE "26" IS NOT USED WITH DECISION-MAKER 550 CONTROLLER. DO NOT INSTALL.

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 3-24-04 | (A-1) SHEET 4-7 WAS 4-5. [71155] | JDH | |
| E | 7-6-04 | SEE SHEETS 3, 5, 6 & 7 [72741] | DFS | |
| F | 8-2-04 | SEE SHEET 5 [72954] | DFS | |
| G | 6-1-06 | SEE SHEET 6 [78312] | SAM | |
| | | | | |
| | | | | |
| | | | | |

NOTES:

TB4-1 THRU TB4-21 AND RDO-1 THRU RDO-31 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED ON DRAWING GM16088. SEE CONTROLLER OPERATIONS MANUAL TO CHANGE.

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
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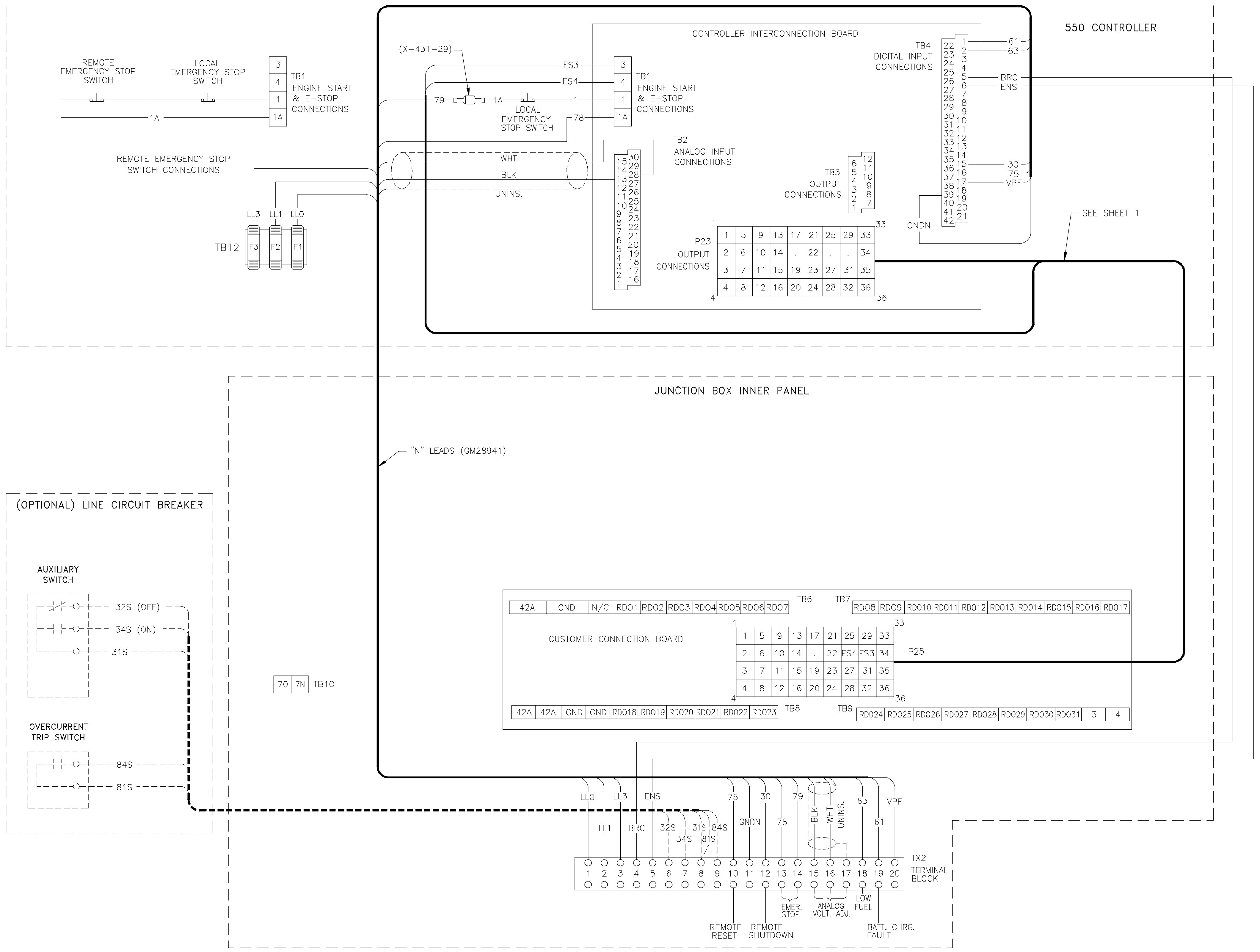
2) TOLERANCES ARE:
.XXX ± ANGLES ±
.XX ± SURFACE FINISH
.X ± MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 11-27-02 |
| CHECKED | EB | 12-02-02 |
| APPROVED | TLK | 12-02-02 |

TITLE
DRAWING, ASSEMBLY
J-BOX INNER PANEL

SCALE / / /
CAD NO. GM28632D.DWG
SHEET 4-7
PLOTTED
DWG. NO. GM28632
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| B | 5-27-03 | SEE SHEET 4 [69628] | DFS | |
| C | 9-2-03 | SEE SHEET 4 [70278] | SAM | |
| D | 3-25-04 | (A-1) SHEET 5-7 WAS 5-5. [71155] | JDH | |
| E | 7-6-04 | (A-6,-7) TB12 REMOVED [72741] | DFS | |
| F | 8-2-04 | (A-4, D-3,-4) "VPF" LEAD BETWEEN TB4-17 & TX2-20 | | |
| | | ADDED [72954] | DFS | |
| G | 6-1-06 | SEE SHEET 6 [78312] | SAM | |

NOTES:

TB4-1 THRU TB4-21 AND RDO-1 THRU RDO-31 ARE CUSTOMER DEFINABLE WITH FACTORY DEFAULTS LISTED ON DRAWING GM16088. SEE CONTROLLER OPERATIONS MANUAL TO CHANGE.

ROUTE WIRE IN CABLE RACEWAYS PROVIDED ON MOUNTING PANEL.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

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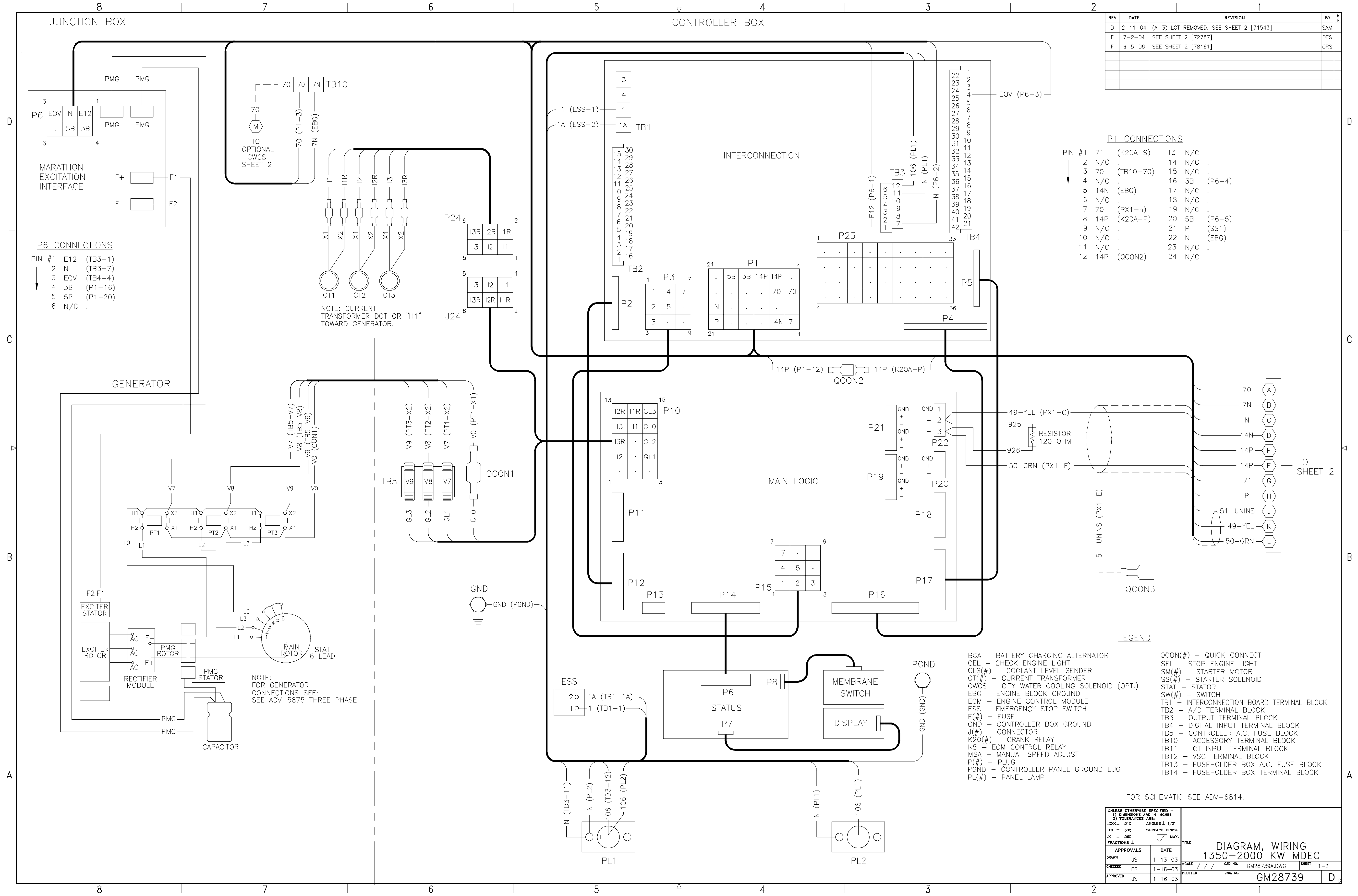
.X ± √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-7-03 |
| CHECKED | TLK | 2-10-03 |
| APPROVED | MEP | 1-17-03 |

TITL
DRAWING, ASSEMBLY
J-BOX INNER PANEL

SCALE / / / CAD NO. GM28632E.DWG SHEET 5-7
PLOTTED DWG. NO. GM28632 D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 2−11−04 | (A−3) LCT REMOVED, SEE SHEET 2 [71543] | SAM | |
| E | 7−2−04 | SEE SHEET 2 [72787] | DFS | |
| F | 6−5−06 | SEE SHEET 2 [78161] | CRS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

P1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| #1 | 71 | (K20A−S) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB10−70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6−4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1−h) | 19 | N/C | . |
| 8 | 14P | (K20A−P) | 20 | 5B | (P6−5) |
| 9 | N/C | . | 21 | P | (SS1) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | E12 | (TB3−1) |
| 2 | N | (TB3−7) |
| 3 | EOV | (TB4−4) |
| 4 | 3B | (P1−16) |
| 5 | 5B | (P1−20) |
| 6 | N/C | . |

EGEND

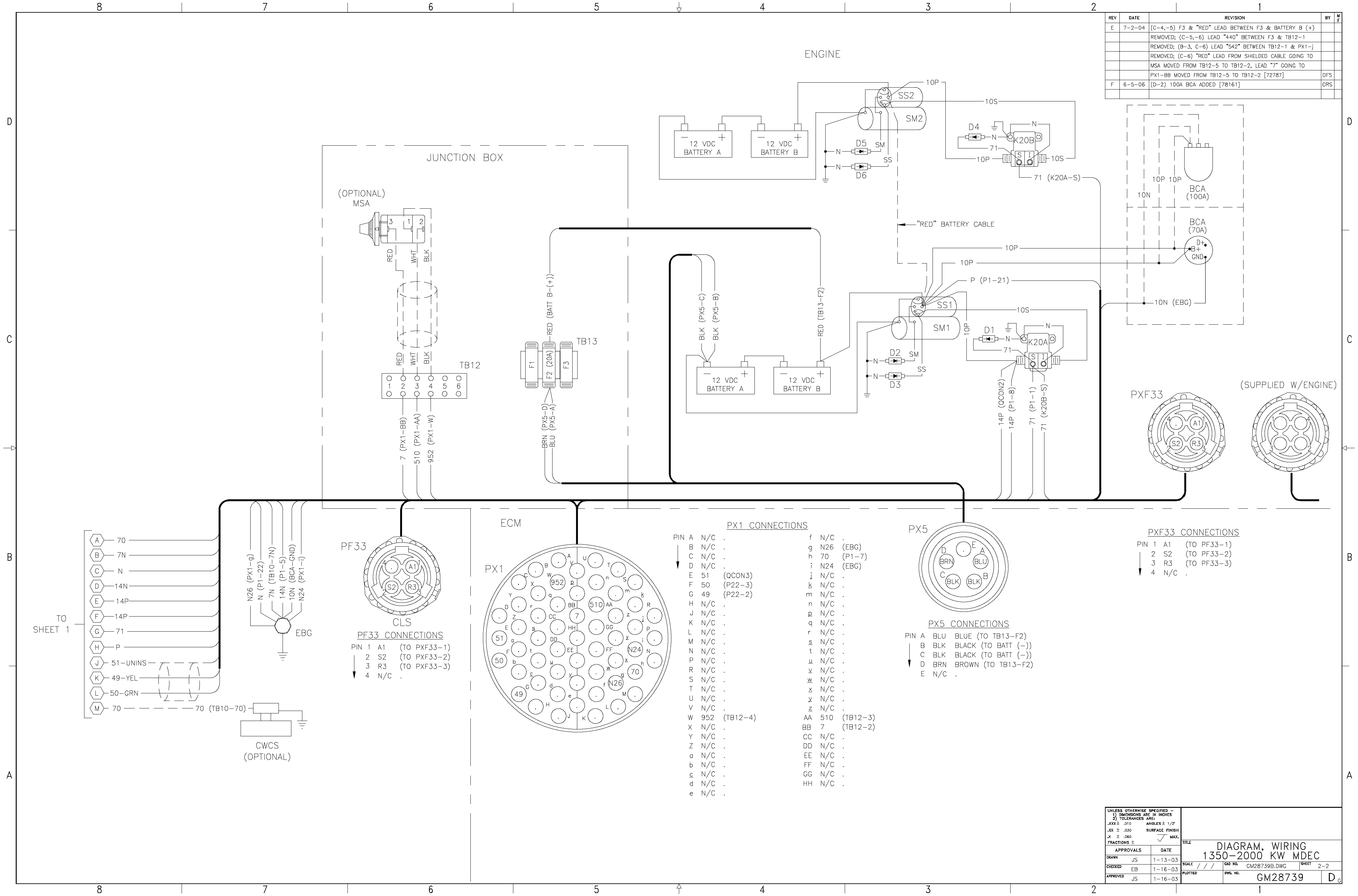
BCA − BATTERY CHARGING ALTERNATOR
CEL − CHECK ENGINE LIGHT
CLS(#) − COOLANT LEVEL SENDER
CT(#) − CURRENT TRANSFORMER
CWCS − CITY WATER COOLING SOLENOID (OPT.)
EBG − ENGINE BLOCK GROUND
ECM − ENGINE CONTROL MODULE
ESS − EMERGENCY STOP SWITCH
F(#) − FUSE
GND − CONTROLLER BOX GROUND
J(#) − CONNECTOR
K20(#) − CRANK RELAY
K5 − ECM CONTROL RELAY
MSA − MANUAL SPEED ADJUST
P(#) − PLUG
PGND − CONTROLLER PANEL GROUND LUG
PL(#) − PANEL LAMP
QCON(#) − QUICK CONNECT
SEL − STOP ENGINE LIGHT
SM(#) − STARTER MOTOR
SS(#) − STARTER SOLENOID
STAT − STATOR
SW(#) − SWITCH
TB1 − INTERCONNECTION BOARD TERMINAL BLOCK
TB2 − A/D TERMINAL BLOCK
TB3 − OUTPUT TERMINAL BLOCK
TB4 − DIGITAL INPUT TERMINAL BLOCK
TB5 − CONTROLLER A.C. FUSE BLOCK
TB10 − ACCESSORY TERMINAL BLOCK
TB11 − CT INPUT TERMINAL BLOCK
TB12 − VSG TERMINAL BLOCK
TB13 − FUSEHOLDER BOX A.C. FUSE BLOCK
TB14 − FUSEHOLDER BOX TERMINAL BLOCK

FOR SCHEMATIC SEE ADV−6814.

UNLESS OTHERWISE SPECIFIED −
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 1−13−03 |
| CHECKED | EB | 1−16−03 |
| APPROVED | JS | 1−16−03 |

TITLE DIAGRAM, WIRING
1350−2000 KW MDEC
SCALE / / / CAD NO. GM28739A.DWG SHEET 1−2
PLOTTED DWG. NO. GM28739 D G



| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| E | 7-2-04 | (C-4,-5) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED; (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-j | | |
| | | REMOVED; (C-6) "RED" LEAD FROM SHIELDED CABLE GOING TO | | |
| | | MSA MOVED FROM TB12-5 TO TB12-2, LEAD "7" GOING TO | | |
| | | PX1-BB MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| F | 6-5-06 | (D-2) 100A BCA ADDED [78161] | CRS | |
| | | | | |

PF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PXF33-1) |
| 2 | S2 | (TO PXF33-2) |
| 3 | R3 | (TO PXF33-3) |
| 4 | N/C | . |

PX1 CONNECTIONS

| PIN | | |
|---|---|---|
| A | N/C | . |
| B | N/C | . |
| C | N/C | . |
| D | N/C | . |
| E | 51 | (QCON3) |
| F | 50 | (P22-3) |
| G | 49 | (P22-2) |
| H | N/C | . |
| J | N/C | . |
| K | N/C | . |
| L | N/C | . |
| M | N/C | . |
| N | N/C | . |
| P | N/C | . |
| R | N/C | . |
| S | N/C | . |
| T | N/C | . |
| U | N/C | . |
| V | N/C | . |
| W | 952 | (TB12-4) |
| X | N/C | . |
| Y | N/C | . |
| Z | N/C | . |
| a | N/C | . |
| b | N/C | . |
| c | N/C | . |
| d | N/C | . |
| e | N/C | . |
| f | N/C | . |
| g | N26 | (EBG) |
| h | 70 | (P1-7) |
| i | N24 | (EBG) |
| j | N/C | . |
| k | N/C | . |
| m | N/C | . |
| n | N/C | . |
| p | N/C | . |
| q | N/C | . |
| r | N/C | . |
| s | N/C | . |
| t | N/C | . |
| u | N/C | . |
| v | N/C | . |
| w | N/C | . |
| x | N/C | . |
| y | N/C | . |
| z | N/C | . |
| AA | 510 | (TB12-3) |
| BB | 7 | (TB12-2) |
| CC | N/C | . |
| DD | N/C | . |
| EE | N/C | . |
| FF | N/C | . |
| GG | N/C | . |
| HH | N/C | . |

PX5 CONNECTIONS

| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

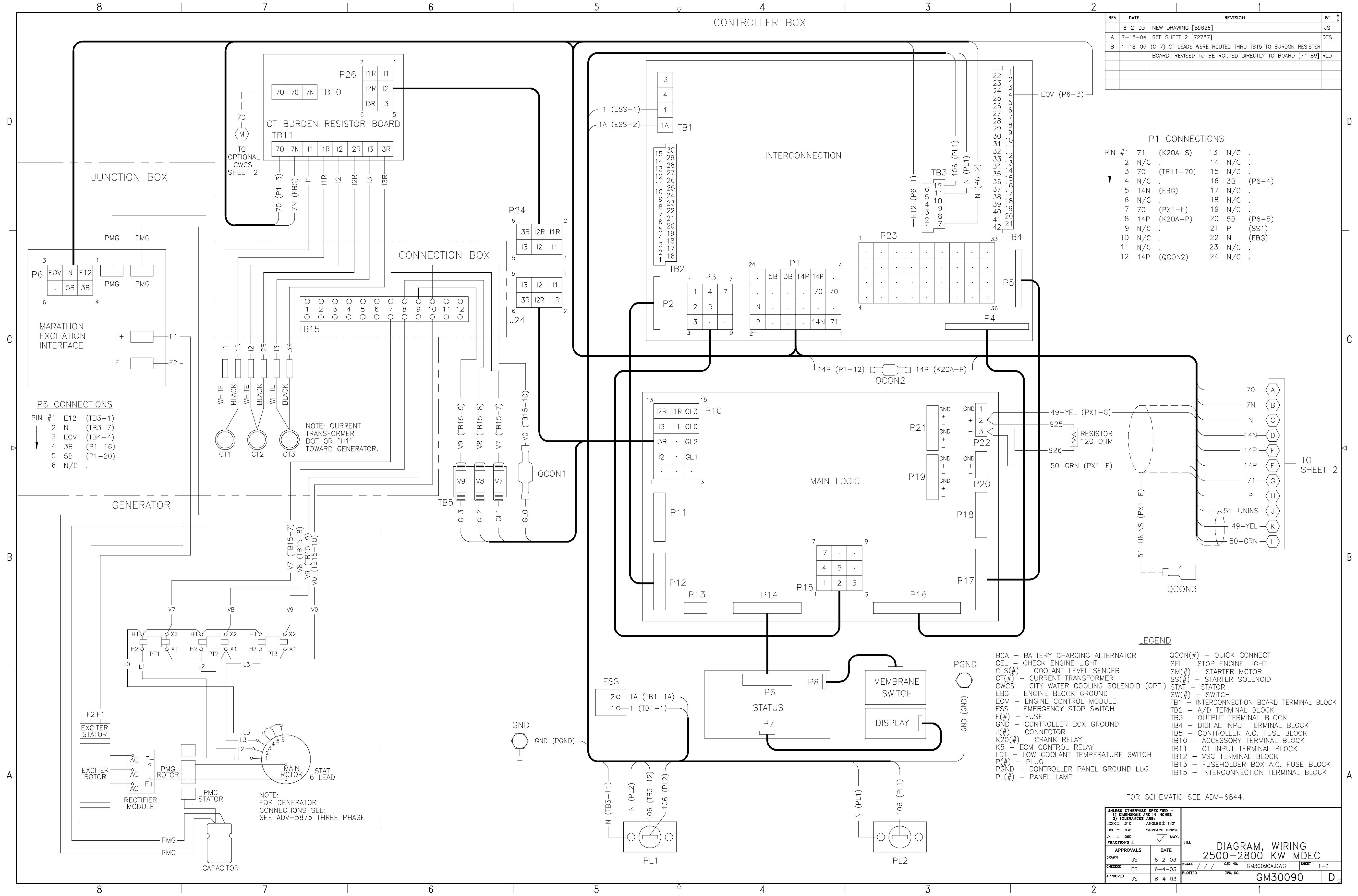
PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

UNLESS OTHERWISE SPECIFIED —
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 1-13-03 |
| CHECKED | EB | 1-16-03 |
| APPROVED | JS | 1-16-03 |

TITLE DIAGRAM, WIRING 1350-2000 KW MDEC
SCALE / / /
CAD NO. GM28739B.DWG
SHEET 2-2
PLOTTED
DWG. NO. GM28739
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | SEE SHEET 2 [72787] | DFS | |
| B | 1-18-05 | (C-7) CT LEADS WERE ROUTED THRU TB15 TO BURDON RESISTER | | |
| | | BOARD, REVISED TO BE ROUTED DIRECTLY TO BOARD [74189] | RLD | |
| | | | | |
| | | | | |
| | | | | |

P1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| #1 | 71 | (K20A-S) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB11-70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6-4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1-h) | 19 | N/C | . |
| 8 | 14P | (K20A-P) | 20 | 5B | (P6-5) |
| 9 | N/C | . | 21 | P | (SS1) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | E12 | (TB3-1) |
| 2 | N | (TB3-7) |
| 3 | EOV | (TB4-4) |
| 4 | 3B | (P1-16) |
| 5 | 5B | (P1-20) |
| 6 | N/C | . |

LEGEND

BCA – BATTERY CHARGING ALTERNATOR
CEL – CHECK ENGINE LIGHT
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPT.)
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
GND – CONTROLLER BOX GROUND
J(#) – CONNECTOR
K20(#) – CRANK RELAY
K5 – ECM CONTROL RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PGND – CONTROLLER PANEL GROUND LUG
PL(#) – PANEL LAMP
QCON(#) – QUICK CONNECT
SEL – STOP ENGINE LIGHT
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
STAT – STATOR
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB2 – A/D TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER BOX A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK

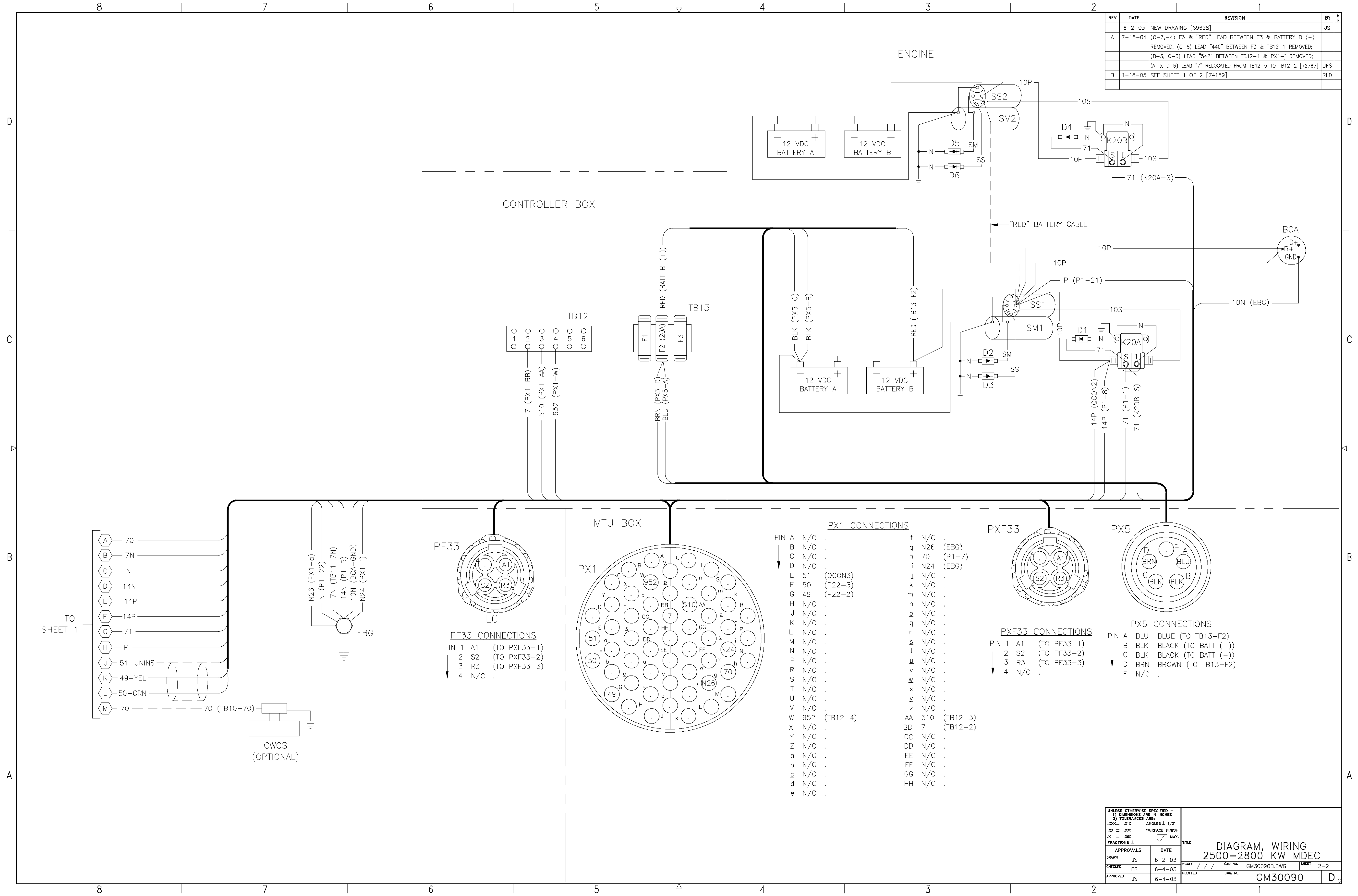
FOR SCHEMATIC SEE ADV-6844.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE
DIAGRAM, WIRING
2500–2800 KW MDEC

SCALE / / / CAD NO. GM30090A.DWG SHEET 1–2
PLOTTED DWG. NO. GM30090 D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | (C-3,-4) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-6) LEAD "440" BETWEEN F3 & TB12-1 REMOVED; | | |
| | | (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-j REMOVED; | | |
| | | (A-3, C-6) LEAD "7" RELOCATED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| B | 1-18-05 | SEE SHEET 1 OF 2 [74189] | RLD | |
| | | | | |

PF33 CONNECTIONS

| PIN | | | |
|---|---|---|---|
| 1 | A1 | (TO PXF33-1) | |
| 2 | S2 | (TO PXF33-2) | |
| 3 | R3 | (TO PXF33-3) | |
| 4 | N/C | . | |

PX1 CONNECTIONS

| PIN | | | | | |
|---|---|---|---|---|---|
| A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | N/C | . |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

PX5 CONNECTIONS

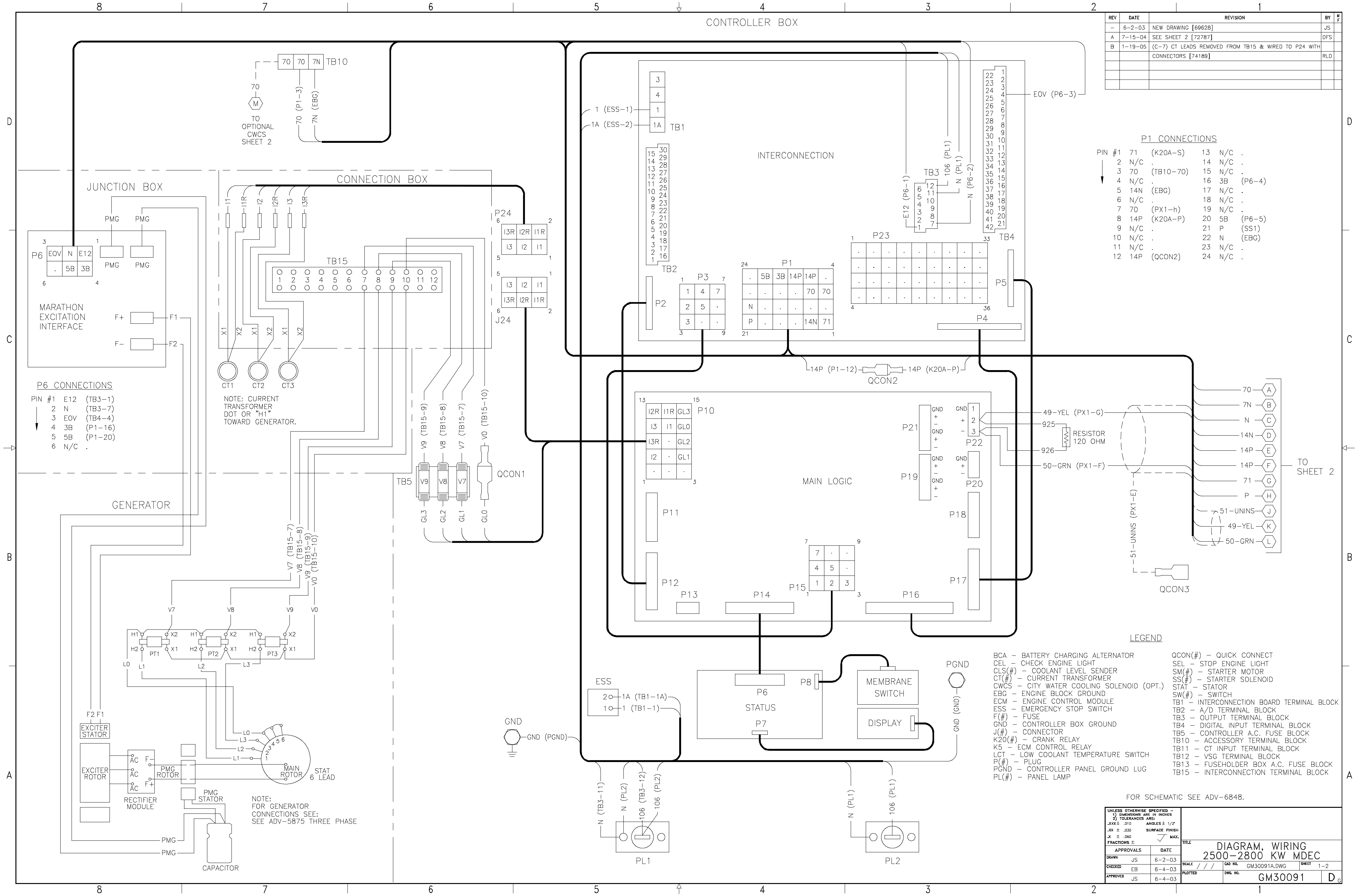
| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE
DIAGRAM, WIRING
2500–2800 KW MDEC

SCALE / / / CAD NO. GM30090B.DWG SHEET 2-2
PLOTTED DWG. NO. GM30090 D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | SEE SHEET 2 [72787] | DFS | |
| B | 1-19-05 | (C-7) CT LEADS REMOVED FROM TB15 & WIRED TO P24 WITH CONNECTORS [74189] | RLD | |

P1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| #1 | 71 | (K20A-S) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB10-70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6-4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1-h) | 19 | N/C | . |
| 8 | 14P | (K20A-P) | 20 | 5B | (P6-5) |
| 9 | N/C | . | 21 | P | (SS1) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | E12 | (TB3-1) |
| 2 | N | (TB3-7) |
| 3 | EOV | (TB4-4) |
| 4 | 3B | (P1-16) |
| 5 | 5B | (P1-20) |
| 6 | N/C | . |

NOTE: CURRENT TRANSFORMER DOT OR "H1" TOWARD GENERATOR.

NOTE: FOR GENERATOR CONNECTIONS SEE: SEE ADV-5875 THREE PHASE

LEGEND

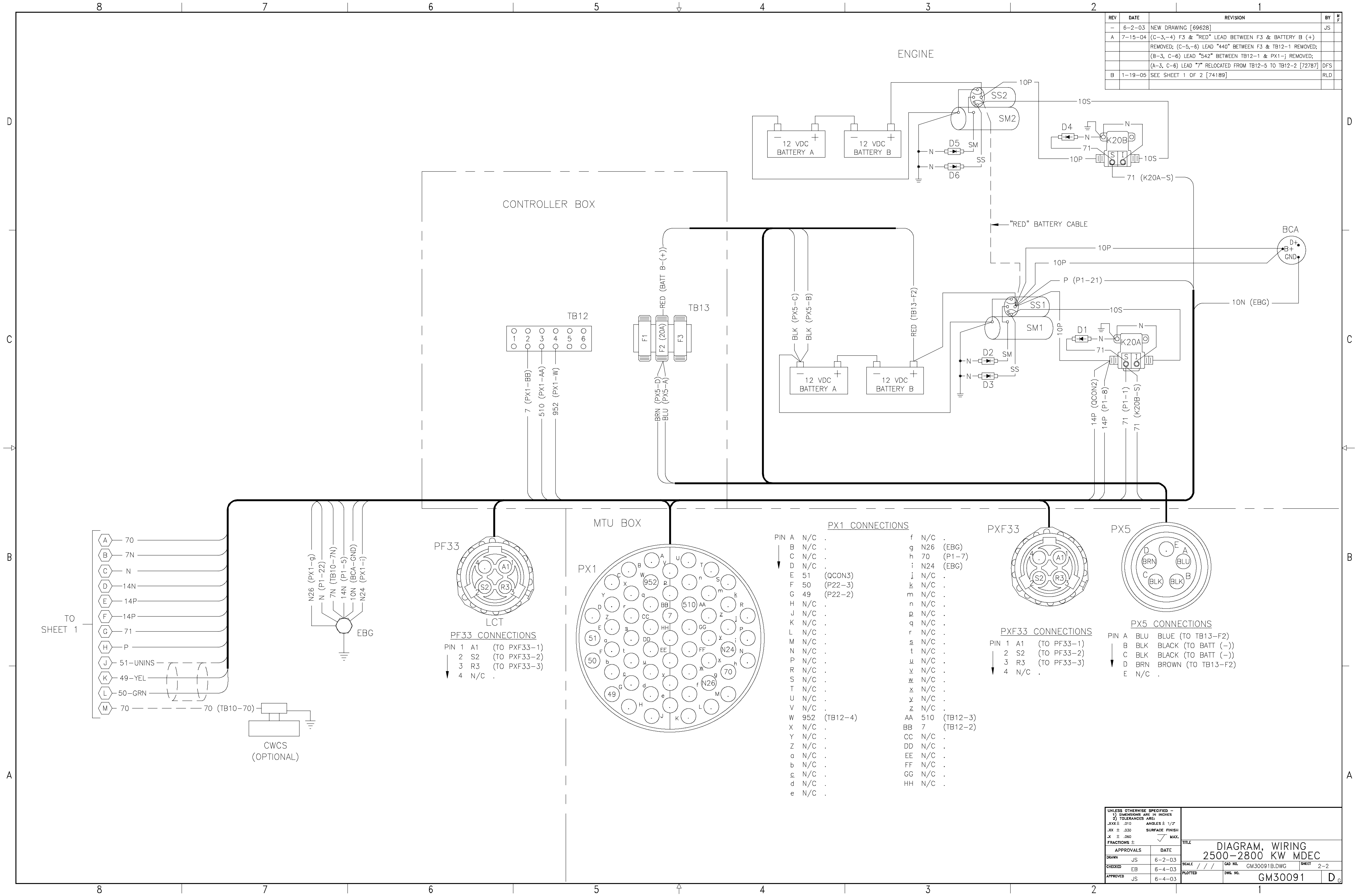
BCA – BATTERY CHARGING ALTERNATOR
CEL – CHECK ENGINE LIGHT
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPT.)
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
GND – CONTROLLER BOX GROUND
J(#) – CONNECTOR
K20(#) – CRANK RELAY
K5 – ECM CONTROL RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PGND – CONTROLLER PANEL GROUND LUG
PL(#) – PANEL LAMP
QCON(#) – QUICK CONNECT
SEL – STOP ENGINE LIGHT
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
STAT – STATOR
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB2 – A/D TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER BOX A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK

FOR SCHEMATIC SEE ADV-6848.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE DIAGRAM, WIRING 2500-2800 KW MDEC
SCALE / / / CAD NO. GM30091A.DWG SHEET 1-2
PLOTTED DWG. NO. GM30091 D G



| REV | DATE | REVISION | BY | M F |
|---|---|---|---|---|
| – | 6-2-03 | NEW DRAWING [69628] | JS | |
| A | 7-15-04 | (C-3,-4) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 REMOVED; | | |
| | | (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-j REMOVED; | | |
| | | (A-3, C-6) LEAD "7" RELOCATED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| B | 1-19-05 | SEE SHEET 1 OF 2 [74189] | RLD | |

PF33 CONNECTIONS

| PIN | | | |
|---|---|---|---|
| 1 | A1 | (TO PXF33-1) | |
| 2 | S2 | (TO PXF33-2) | |
| 3 | R3 | (TO PXF33-3) | |
| 4 | N/C | . | |

PX1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | N/C | . |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

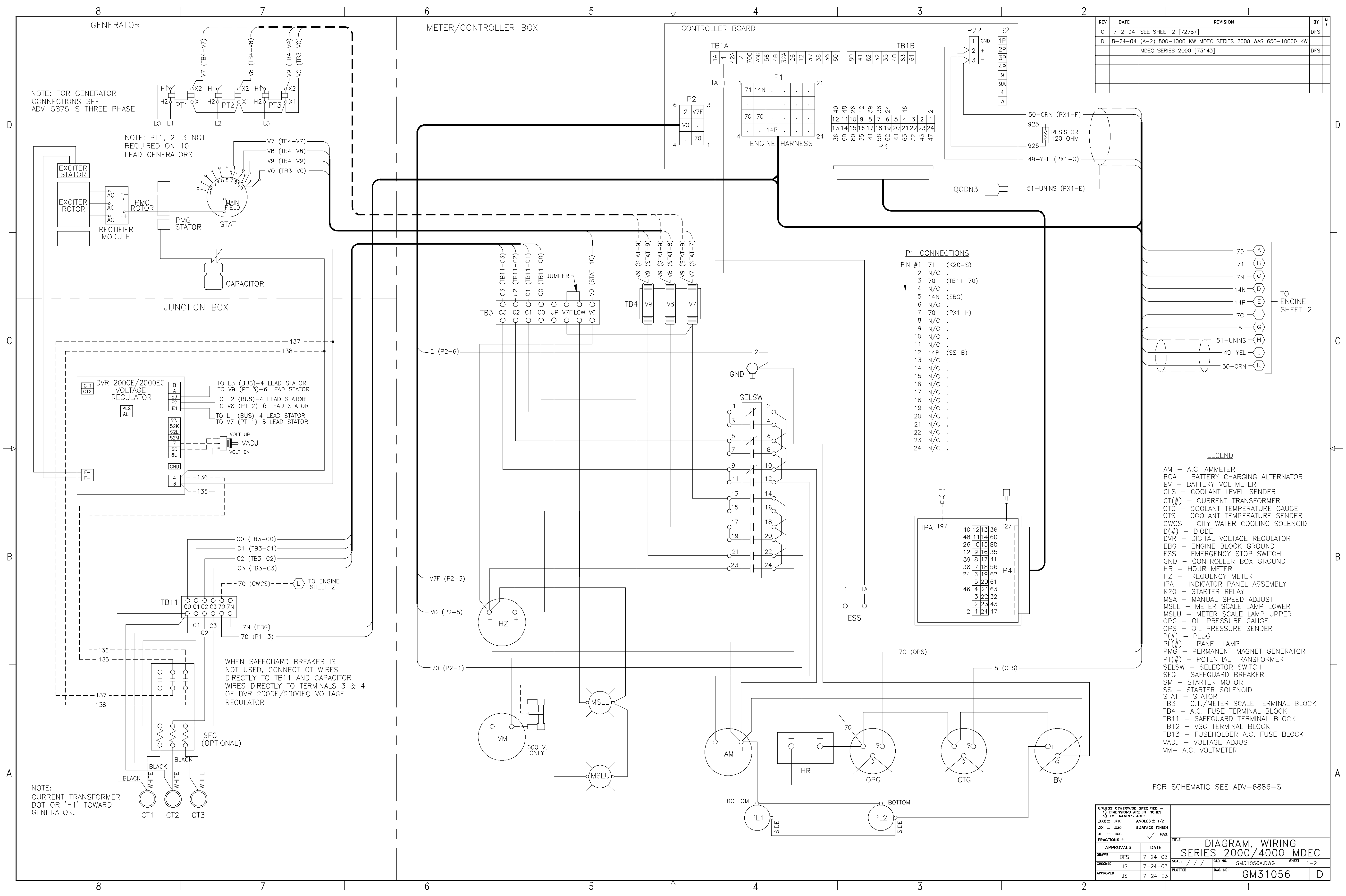
PX5 CONNECTIONS

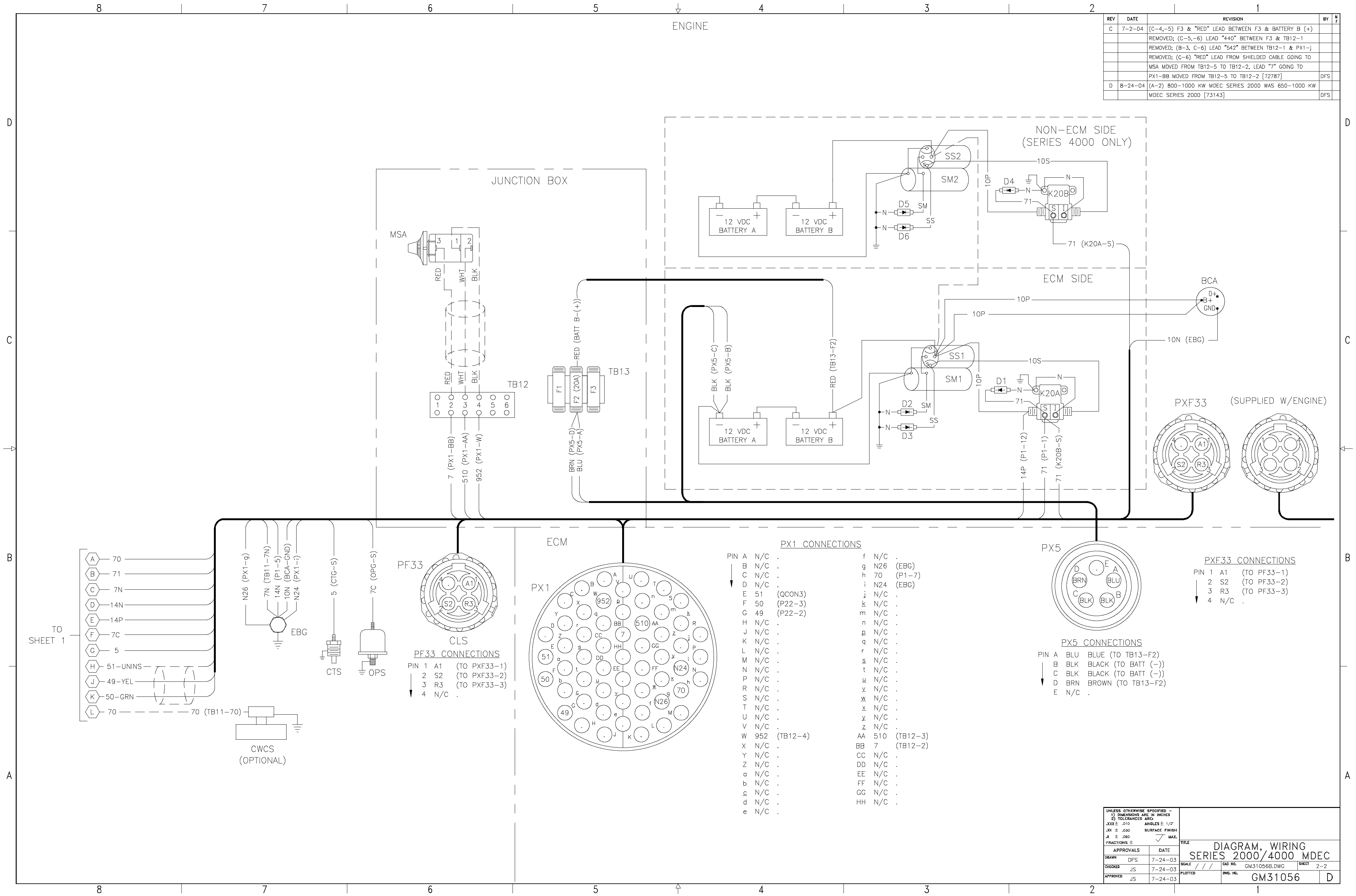
| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (–)) |
| C | BLK | BLACK (TO BATT (–)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | JS | 6-2-03 |
| CHECKED | EB | 6-4-03 |
| APPROVED | JS | 6-4-03 |

TITLE DIAGRAM, WIRING 2500-2800 KW MDEC
SCALE / / /
CAD NO. GM30091B.DWG
SHEET 2-2
PLOTTED
DWG. NO. GM30091 D G


GENERATOR
METER/CONTROLLER BOX
JUNCTION BOX
CONTROLLER BOARD
NOTE: FOR GENERATOR CONNECTIONS SEE ADV-5875-S THREE PHASE
NOTE: PT1, 2, 3 NOT REQUIRED ON 10 LEAD GENERATORS
PT1
PT2
PT3
H1
H2
X1
X2
L0
L1
L2
L3
V7 (TB4-V7)
V8 (TB4-V8)
V9 (TB4-V9)
V0 (TB3-V0)
EXCITER STATOR
EXCITER ROTOR
RECTIFIER MODULE
AC
F-
F+
PMG ROTOR
PMG STATOR
MAIN FIELD
STAT
CAPACITOR
DVR 2000E/2000EC VOLTAGE REGULATOR
TO L3 (BUS)-4 LEAD STATOR
TO V9 (PT 3)-6 LEAD STATOR
TO L2 (BUS)-4 LEAD STATOR
TO V8 (PT 2)-6 LEAD STATOR
TO L1 (BUS)-4 LEAD STATOR
TO V7 (PT 1)-6 LEAD STATOR
VOLT UP
VADJ
VOLT DN
GND
136
135
137
138
C0 (TB3-C0)
C1 (TB3-C1)
C2 (TB3-C2)
C3 (TB3-C3)
70 (CWCS)
TO ENGINE SHEET 2
TB11
7N (EBG)
70 (P1-3)
WHEN SAFEGUARD BREAKER IS NOT USED, CONNECT CT WIRES DIRECTLY TO TB11 AND CAPACITOR WIRES DIRECTLY TO TERMINALS 3 & 4 OF DVR 2000E/2000EC VOLTAGE REGULATOR
SFG (OPTIONAL)
BLACK
WHITE
CT1
CT2
CT3
NOTE: CURRENT TRANSFORMER DOT OR 'H1' TOWARD GENERATOR.
TB3
C3 C2 C1 C0 UP V7F LOW V0
JUMPER
(TB11-C3)
(TB11-C2)
(TB11-C1)
(TB11-C0)
V0 (STAT-10)
TB4
V9 (STAT-9)
V8 (STAT-8)
V7 (STAT-7)
2 (P2-6)
V7F (P2-3)
V0 (P2-5)
70 (P2-1)
HZ
VM
600 V. ONLY
MSLL
MSLU
AM
HR
OPG
CTG
BV
PL1
PL2
BOTTOM
SIDE
70
7C (OPS)
5 (CTS)
GND
SELSW
ESS
1
1A
IPA
T97
T27
P4
P2
2 V7F
V0
70
TB1A
TB1B
1A 1 42A 2 70C 70R 56 48 32A 26 12 39 38 36 60
80 41 62 32 35 40 63 61
P1
71 14N
70 70
14P
ENGINE HARNESS
P3
P22
TB2
1 GND
2 +
3 -
1P 2P 3P 4P 9 9A 4 3
50-GRN (PX1-F)
925
RESISTOR 120 OHM
926
49-YEL (PX1-G)
QCON3
51-UNINS (PX1-E)
P1 CONNECTIONS
PIN #1 71 (K20-S)
2 N/C .
3 70 (TB11-70)
4 N/C .
5 14N (EBG)
6 N/C .
7 70 (PX1-h)
8 N/C .
9 N/C .
10 N/C .
11 N/C .
12 14P (SS-B)
13 N/C .
14 N/C .
15 N/C .
16 N/C .
17 N/C .
18 N/C .
19 N/C .
20 N/C .
21 N/C .
22 N/C .
23 N/C .
24 N/C .
70 A
71 B
7N C
14N D
14P E
7C F
5 G
51-UNINS H
49-YEL J
50-GRN K
TO ENGINE SHEET 2
LEGEND
AM – A.C. AMMETER
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CLS – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CTG – COOLANT TEMPERATURE GAUGE
CTS – COOLANT TEMPERATURE SENDER
CWCS – CITY WATER COOLING SOLENOID
D(#) – DIODE
DVR – DIGITAL VOLTAGE REGULATOR
EBG – ENGINE BLOCK GROUND
ESS – EMERGENCY STOP SWITCH
GND – CONTROLLER BOX GROUND
HR – HOUR METER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K20 – STARTER RELAY
MSA – MANUAL SPEED ADJUST
MSLL – METER SCALE LAMP LOWER
MSLU – METER SCALE LAMP UPPER
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SM – STARTER MOTOR
SS – STARTER SOLENOID
STAT – STATOR
TB3 – C.T./METER SCALE TERMINAL BLOCK
TB4 – A.C. FUSE TERMINAL BLOCK
TB11 – SAFEGUARD TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
VADJ – VOLTAGE ADJUST
VM– A.C. VOLTMETER
FOR SCHEMATIC SEE ADV-6886-S
REV DATE REVISION BY MF
C 7-2-04 SEE SHEET 2 [72787] DFS
D 8-24-04 (A-2) 800-1000 KW MDEC SERIES 2000 WAS 650-10000 KW MDEC SERIES 2000 [73143] DFS
UNLESS OTHERWISE SPECIFIED – 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±
APPROVALS DATE
DRAWN DFS 7-24-03
CHECKED JS 7-24-03
APPROVED JS 7-24-03
TITLE DIAGRAM, WIRING SERIES 2000/4000 MDEC
SCALE / / /
CAD NO. GM31056A.DWG
SHEET 1-2
PLOTTED
DWG. NO. GM31056 D



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| C | 7-2-04 | (C-4,-5) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED; (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-j | | |
| | | REMOVED; (C-6) "RED" LEAD FROM SHIELDED CABLE GOING TO | | |
| | | MSA MOVED FROM TB12-5 TO TB12-2, LEAD "7" GOING TO | | |
| | | PX1-BB MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |
| D | 8-24-04 | (A-2) 800-1000 KW MDEC SERIES 2000 WAS 650-1000 KW | | |
| | | MDEC SERIES 2000 [73143] | DFS | |

PX1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | N/C | . |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

PF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PXF33-1) |
| 2 | S2 | (TO PXF33-2) |
| 3 | R3 | (TO PXF33-3) |
| 4 | N/C | . |

PX5 CONNECTIONS

| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

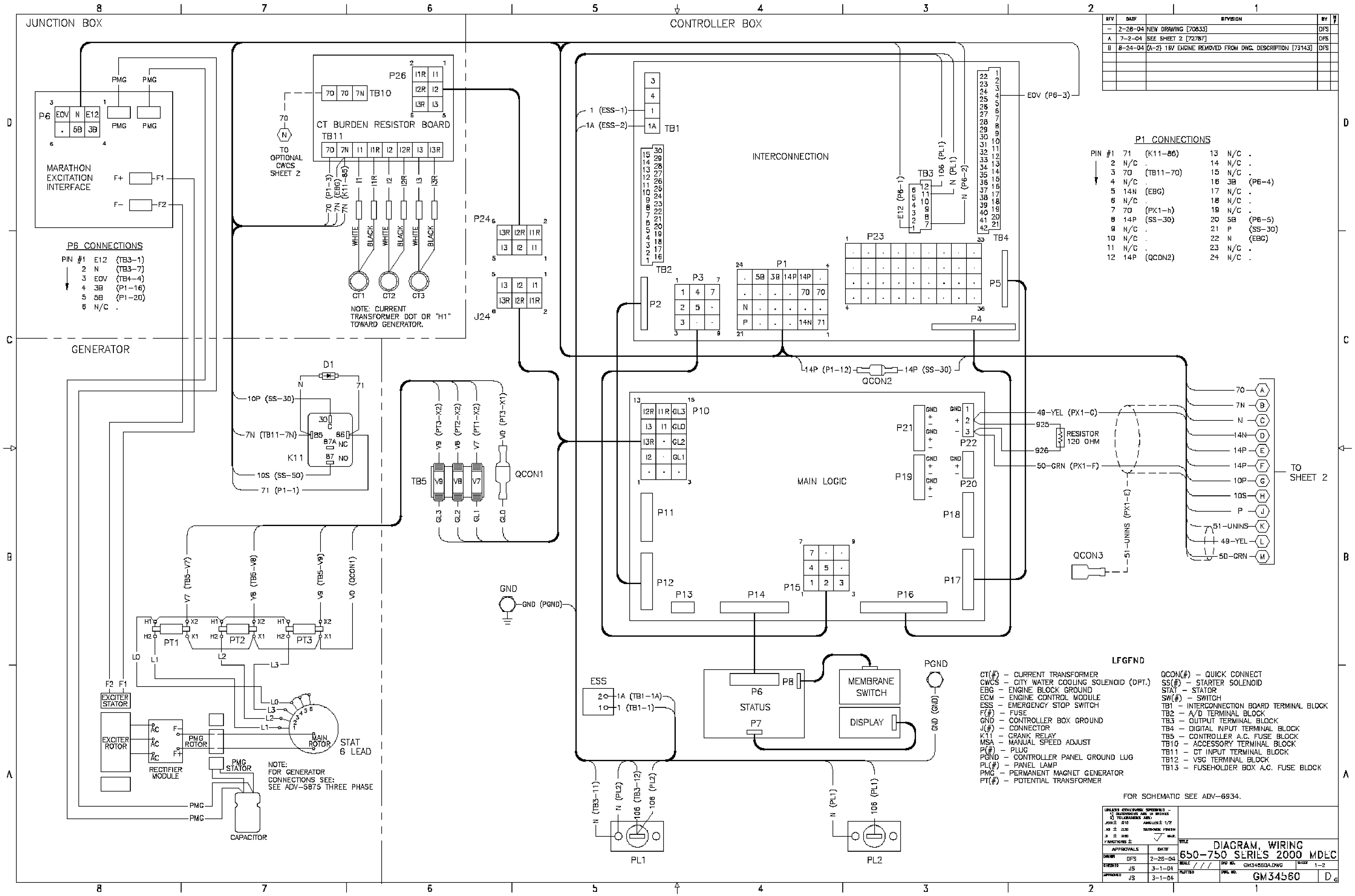
PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010  ANGLES ± 1/2°
.XX ± .030  SURFACE FINISH
.X ± .060  √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 7-24-03 |
| CHECKED | JS | 7-24-03 |
| APPROVED | JS | 7-24-03 |

TITLE DIAGRAM, WIRING SERIES 2000/4000 MDEC
SCALE / / /  CAD NO. GM31056B.DWG  SHEET 2-2
PLOTTED  DWG. NO. GM31056  D



| REV | DATE | REVISION | BY |
|---|---|---|---|
| – | 2-26-04 | NEW DRAWING [70833] | DFS |
| A | 7-2-04 | SEE SHEET 2 [72787] | DFS |
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS |

P1 CONNECTIONS

| PIN # | | | PIN # | | |
|---|---|---|---|---|---|
| 1 | 71 | (K11-86) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB11-70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6-4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1-h) | 19 | N/C | . |
| 8 | 14P | (SS-30) | 20 | 5B | (P6-5) |
| 9 | N/C | . | 21 | P | (SS-30) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN # | | |
|---|---|---|
| 1 | E12 | (TB3-1) |
| 2 | N | (TB3-7) |
| 3 | EOV | (TB4-4) |
| 4 | 3B | (P1-16) |
| 5 | 5B | (P1-20) |
| 6 | N/C | . |

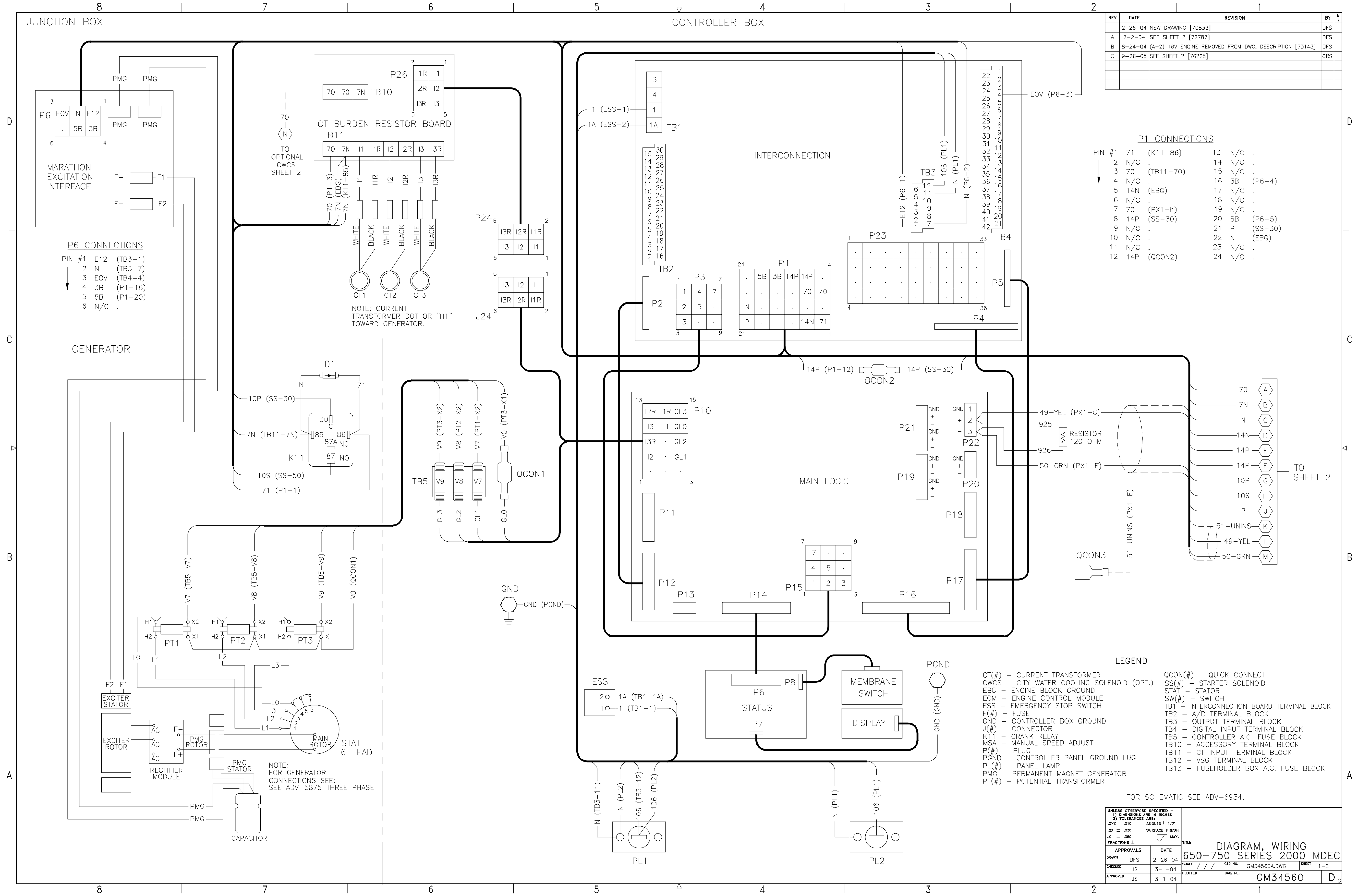
LEGEND

| | |
|---|---|
| CT(#) | CURRENT TRANSFORMER |
| CWCS | CITY WATER COOLING SOLENOID (OPT.) |
| EBG | ENGINE BLOCK GROUND |
| ECM | ENGINE CONTROL MODULE |
| ESS | EMERGENCY STOP SWITCH |
| F(#) | FUSE |
| GND | CONTROLLER BOX GROUND |
| J(#) | CONNECTOR |
| K11 | CRANK RELAY |
| MSA | MANUAL SPEED ADJUST |
| P(#) | PLUG |
| PGND | CONTROLLER PANEL GROUND LUG |
| PL(#) | PANEL LAMP |
| PMG | PERMANENT MAGNET GENERATOR |
| PT(#) | POTENTIAL TRANSFORMER |
| QCON(#) | QUICK CONNECT |
| SS(#) | STARTER SOLENOID |
| STAT | STATOR |
| SW(#) | SWITCH |
| TB1 | INTERCONNECTION BOARD TERMINAL BLOCK |
| TB2 | A/D TERMINAL BLOCK |
| TB3 | OUTPUT TERMINAL BLOCK |
| TB4 | DIGITAL INPUT TERMINAL BLOCK |
| TB5 | CONTROLLER A.C. FUSE BLOCK |
| TB10 | ACCESSORY TERMINAL BLOCK |
| TB11 | CT INPUT TERMINAL BLOCK |
| TB12 | VSG TERMINAL BLOCK |
| TB13 | FUSEHOLDER BOX A.C. FUSE BLOCK |

FOR SCHEMATIC SEE ADV-6934.

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-26-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE
DIAGRAM, WIRING
650-750 SERIES 2000 MDEC
SCALE / / /
DWG NO. GM34560A.DWG
SHEET 1-2
PLOTTED
DWG. NO. GM34560
D G



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 2-26-04 | NEW DRAWING [70833] | DFS | |
| A | 7-2-04 | SEE SHEET 2 [72787] | DFS | |
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| C | 9-26-05 | SEE SHEET 2 [76225] | CRS | |

P1 CONNECTIONS

| PIN | | | PIN | | |
|---|---|---|---|---|---|
| #1 | 71 | (K11-86) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB11-70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6-4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1-h) | 19 | N/C | . |
| 8 | 14P | (SS-30) | 20 | 5B | (P6-5) |
| 9 | N/C | . | 21 | P | (SS-30) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | E12 | (TB3-1) |
| 2 | N | (TB3-7) |
| 3 | EOV | (TB4-4) |
| 4 | 3B | (P1-16) |
| 5 | 5B | (P1-20) |
| 6 | N/C | . |

LEGEND

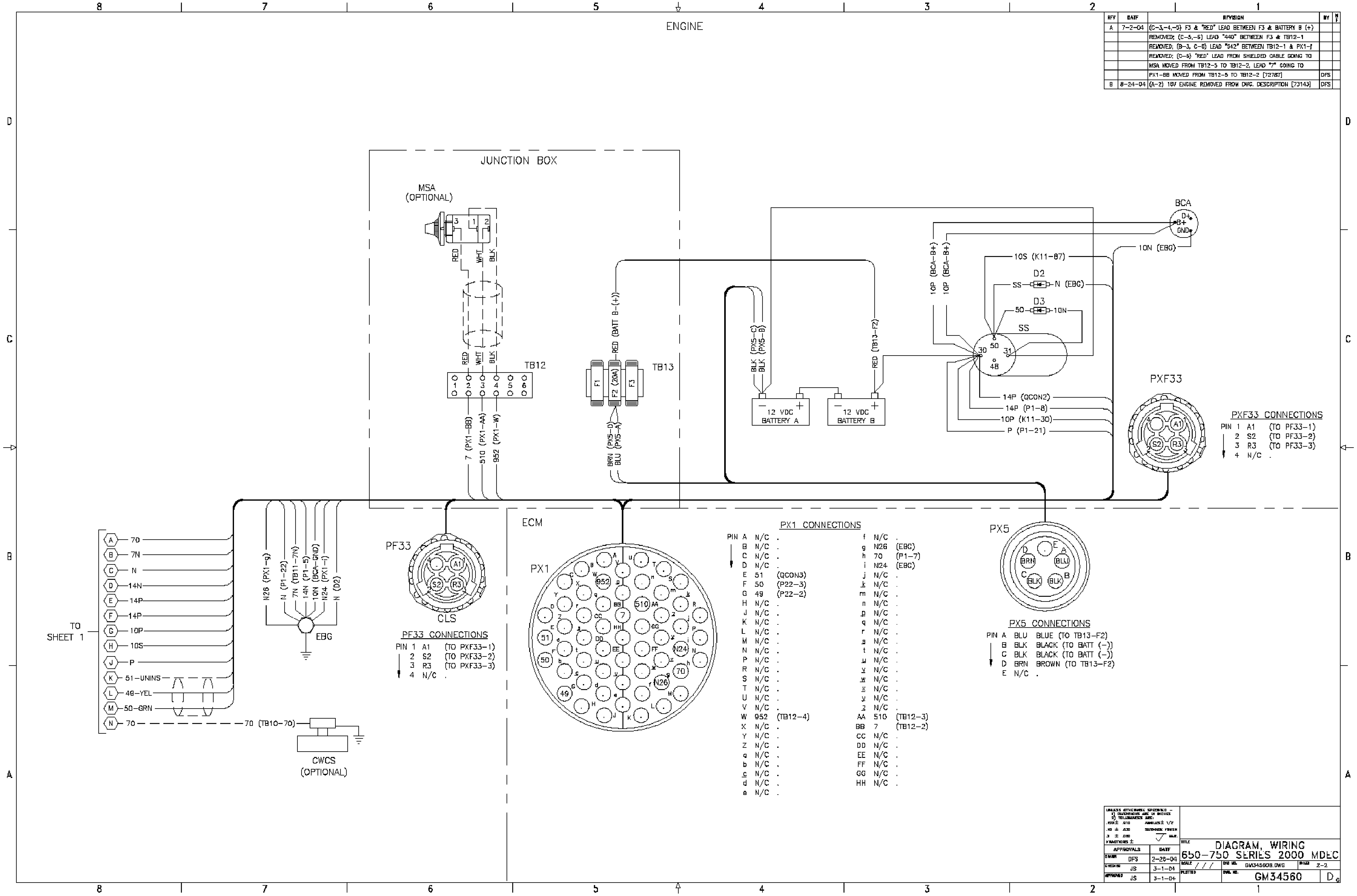
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPT.)
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
GND – CONTROLLER BOX GROUND
J(#) – CONNECTOR
K11 – CRANK RELAY
MSA – MANUAL SPEED ADJUST
P(#) – PLUG
PGND – CONTROLLER PANEL GROUND LUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
QCON(#) – QUICK CONNECT
SS(#) – STARTER SOLENOID
STAT – STATOR
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB2 – A/D TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER BOX A.C. FUSE BLOCK

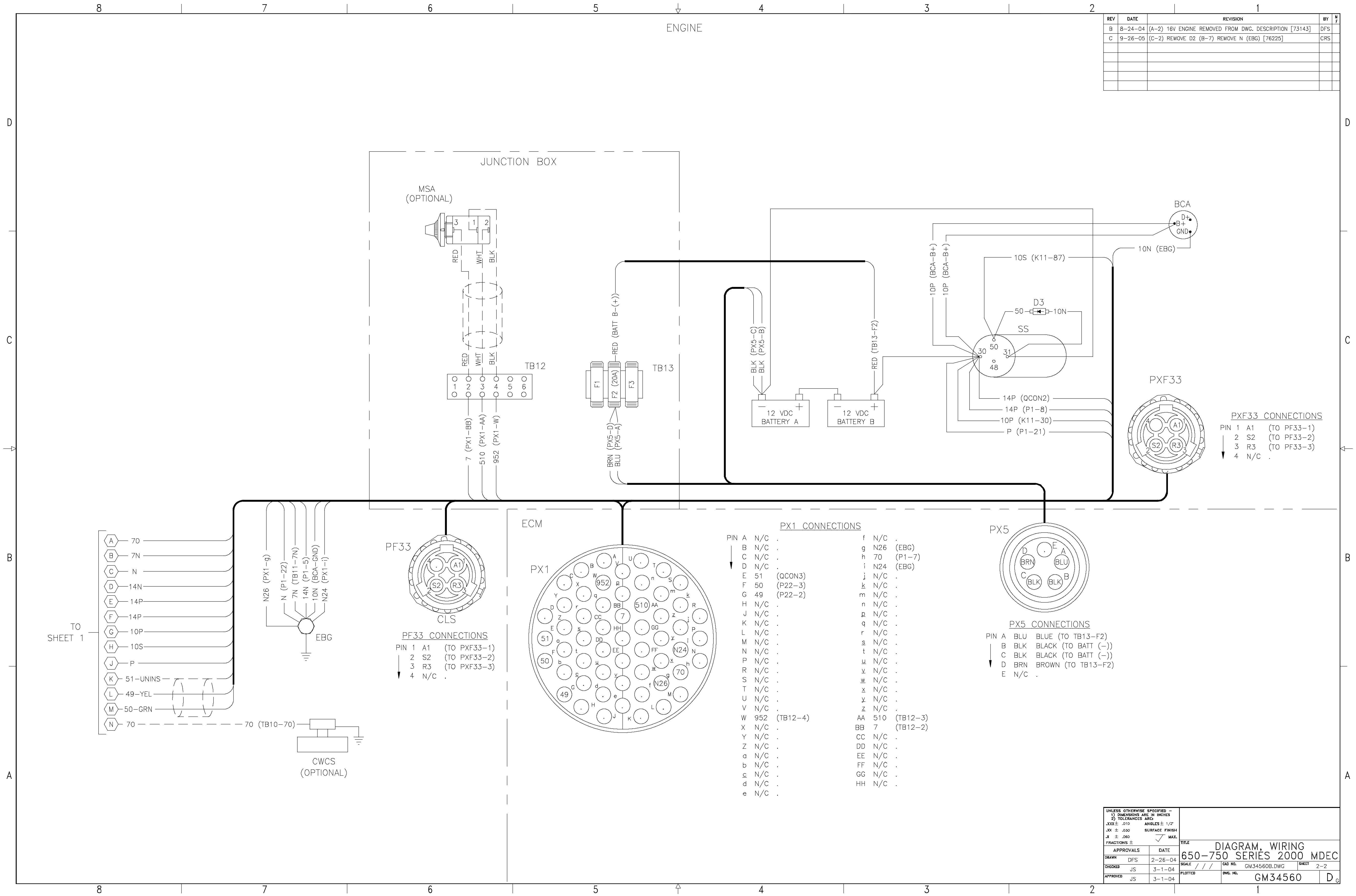
FOR SCHEMATIC SEE ADV-6934.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-26-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE DIAGRAM, WIRING
650-750 SERIES 2000 MDEC
SCALE / / / CAD NO. GM34560A.DWG SHEET 1-2
PLOTTED DWG. NO. GM34560 D G


ENGINE
JUNCTION BOX
ECM
MSA
(OPTIONAL)
RED
WHT
BLK
TB12
7 (PX1-BB)
510 (PX1-AA)
952 (PX1-W)
TB13
F1
F2 (20A)
F3
RED (BATT B-(+))
BRN (PX5-D)
BLU (PX5-A)
BLK (PX5-C)
BLK (PX5-B)
RED (TB13-F2)
12 VDC
BATTERY A
12 VDC
BATTERY B
10P (BCA-B+)
10P (BCA-B+)
BCA
D+
B+
GND
10N (EBG)
10S (K11-87)
D2
SS
N (EBG)
D3
50
10N
SS
30
50
31
48
14P (QCON2)
14P (P1-8)
10P (K11-30)
P (P1-21)
PXF33
PXF33 CONNECTIONS
PIN 1 A1 (TO PF33-1)
2 S2 (TO PF33-2)
3 R3 (TO PF33-3)
4 N/C .
PX5
PX5 CONNECTIONS
PIN A BLU BLUE (TO TB13-F2)
B BLK BLACK (TO BATT (-))
C BLK BLACK (TO BATT (-))
D BRN BROWN (TO TB13-F2)
E N/C .
PX1
PX1 CONNECTIONS
PIN A N/C .
B N/C .
C N/C .
D N/C .
E 51 (QCON3)
F 50 (P22-3)
G 49 (P22-2)
H N/C .
J N/C .
K N/C .
L N/C .
M N/C .
N N/C .
P N/C .
R N/C .
S N/C .
T N/C .
U N/C .
V N/C .
W 952 (TB12-4)
X N/C .
Y N/C .
Z N/C .
a N/C .
b N/C .
c N/C .
d N/C .
e N/C .
f N/C .
g N26 (EBG)
h 70 (P1-7)
i N24 (EBG)
j N/C .
k N/C .
m N/C .
n N/C .
p N/C .
q N/C .
r N/C .
s N/C .
t N/C .
u N/C .
v N/C .
w N/C .
x N/C .
y N/C .
z N/C .
AA 510 (TB12-3)
BB 7 (TB12-2)
CC N/C .
DD N/C .
EE N/C .
FF N/C .
GG N/C .
HH N/C .
PF33
CLS
PF33 CONNECTIONS
PIN 1 A1 (TO PXF33-1)
2 S2 (TO PXF33-2)
3 R3 (TO PXF33-3)
4 N/C .
N26 (PX1-g)
N (P1-22)
7N (TB11-7N)
14N (P1-5)
10N (BCA-GND)
N24 (PX1-i)
N (D2)
EBG
TO
SHEET 1
A 70
B 7N
C N
D 14N
E 14P
F 14P
G 10P
H 10S
J P
K 51-UNINS
L 49-YEL
M 50-GRN
N 70
70 (TB10-70)
CWCS
(OPTIONAL)
REV | DATE | REVISION | BY
A | 7-2-04 | (C-3,-4,-5) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+)
REMOVED: (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1
REMOVED; (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-f
REMOVED; (C-6) "RED" LEAD FROM SHIELDED CABLE GOING TO
MSA MOVED FROM TB12-5 TO TB12-2, LEAD "7" GOING TO
PX1-BB MOVED FROM TB12-5 TO TB12-2 [72787] | DFS
B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS
APPROVALS | DATE
DRAWN DFS 2-26-04
CHECKED JS 3-1-04
APPROVED JS 3-1-04
TITLE
DIAGRAM, WIRING
650-750 SERIES 2000 MDEC
SCALE / / /
CAD NO. GM34560B.DWG
SHEET 2-2
DWG. NO. GM34560
D



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| B | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| C | 9-26-05 | (C-2) REMOVE D2 (B-7) REMOVE N (EBG) [76225] | CRS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

PXF33 CONNECTIONS

| PIN | | | |
|---|---|---|---|
| 1 | A1 | (TO PF33-1) | |
| 2 | S2 | (TO PF33-2) | |
| 3 | R3 | (TO PF33-3) | |
| 4 | N/C | . | |

PF33 CONNECTIONS

| PIN | | | |
|---|---|---|---|
| 1 | A1 | (TO PXF33-1) | |
| 2 | S2 | (TO PXF33-2) | |
| 3 | R3 | (TO PXF33-3) | |
| 4 | N/C | . | |

PX1 CONNECTIONS

| PIN | | |
|---|---|---|
| A | N/C | . |
| B | N/C | . |
| C | N/C | . |
| D | N/C | . |
| E | 51 | (QCON3) |
| F | 50 | (P22-3) |
| G | 49 | (P22-2) |
| H | N/C | . |
| J | N/C | . |
| K | N/C | . |
| L | N/C | . |
| M | N/C | . |
| N | N/C | . |
| P | N/C | . |
| R | N/C | . |
| S | N/C | . |
| T | N/C | . |
| U | N/C | . |
| V | N/C | . |
| W | 952 | (TB12-4) |
| X | N/C | . |
| Y | N/C | . |
| Z | N/C | . |
| a | N/C | . |
| b | N/C | . |
| c | N/C | . |
| d | N/C | . |
| e | N/C | . |
| f | N/C | . |
| g | N26 | (EBG) |
| h | 70 | (P1-7) |
| i | N24 | (EBG) |
| j | N/C | . |
| k | N/C | . |
| m | N/C | . |
| n | N/C | . |
| p | N/C | . |
| q | N/C | . |
| r | N/C | . |
| s | N/C | . |
| t | N/C | . |
| u | N/C | . |
| v | N/C | . |
| w | N/C | . |
| x | N/C | . |
| y | N/C | . |
| z | N/C | . |
| AA | 510 | (TB12-3) |
| BB | 7 | (TB12-2) |
| CC | N/C | . |
| DD | N/C | . |
| EE | N/C | . |
| FF | N/C | . |
| GG | N/C | . |
| HH | N/C | . |

PX5 CONNECTIONS

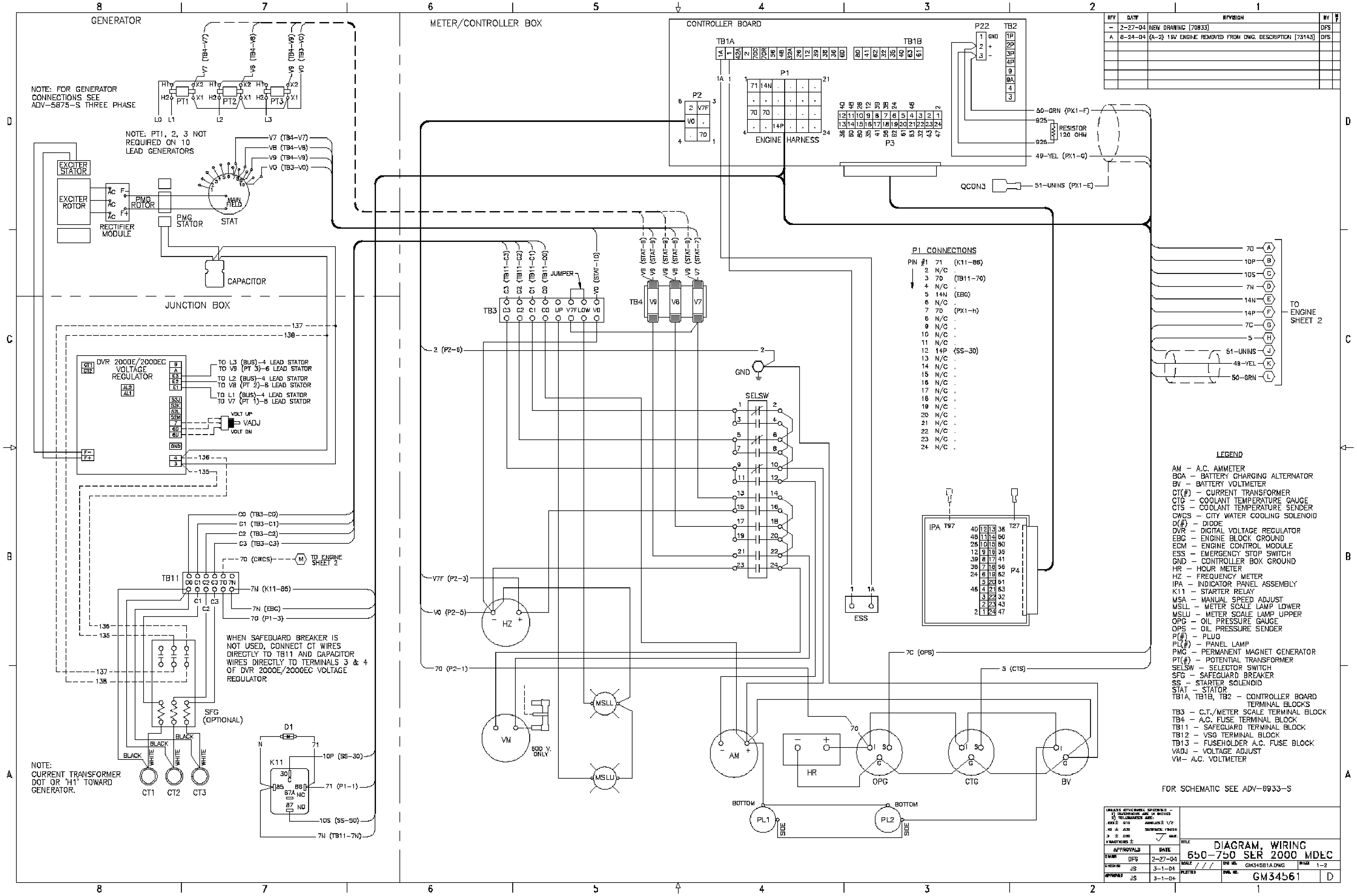
| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-26-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE
DIAGRAM, WIRING
650-750 SERIES 2000 MDEC

SCALE / / / CAD NO. GM34560B.DWG SHEET 2-2
PLOTTED DWG. NO. GM34560 D G



P1 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | 71 | (K11-86) |
| 2 | N/C | . |
| 3 | 70 | (TB11-70) |
| 4 | N/C | . |
| 5 | 14N | (EBG) |
| 6 | N/C | . |
| 7 | 70 | (PX1-h) |
| 8 | N/C | . |
| 9 | N/C | . |
| 10 | N/C | . |
| 11 | N/C | . |
| 12 | 14P | (SS-30) |
| 13 | N/C | . |
| 14 | N/C | . |
| 15 | N/C | . |
| 16 | N/C | . |
| 17 | N/C | . |
| 18 | N/C | . |
| 19 | N/C | . |
| 20 | N/C | . |
| 21 | N/C | . |
| 22 | N/C | . |
| 23 | N/C | . |
| 24 | N/C | . |

LEGEND

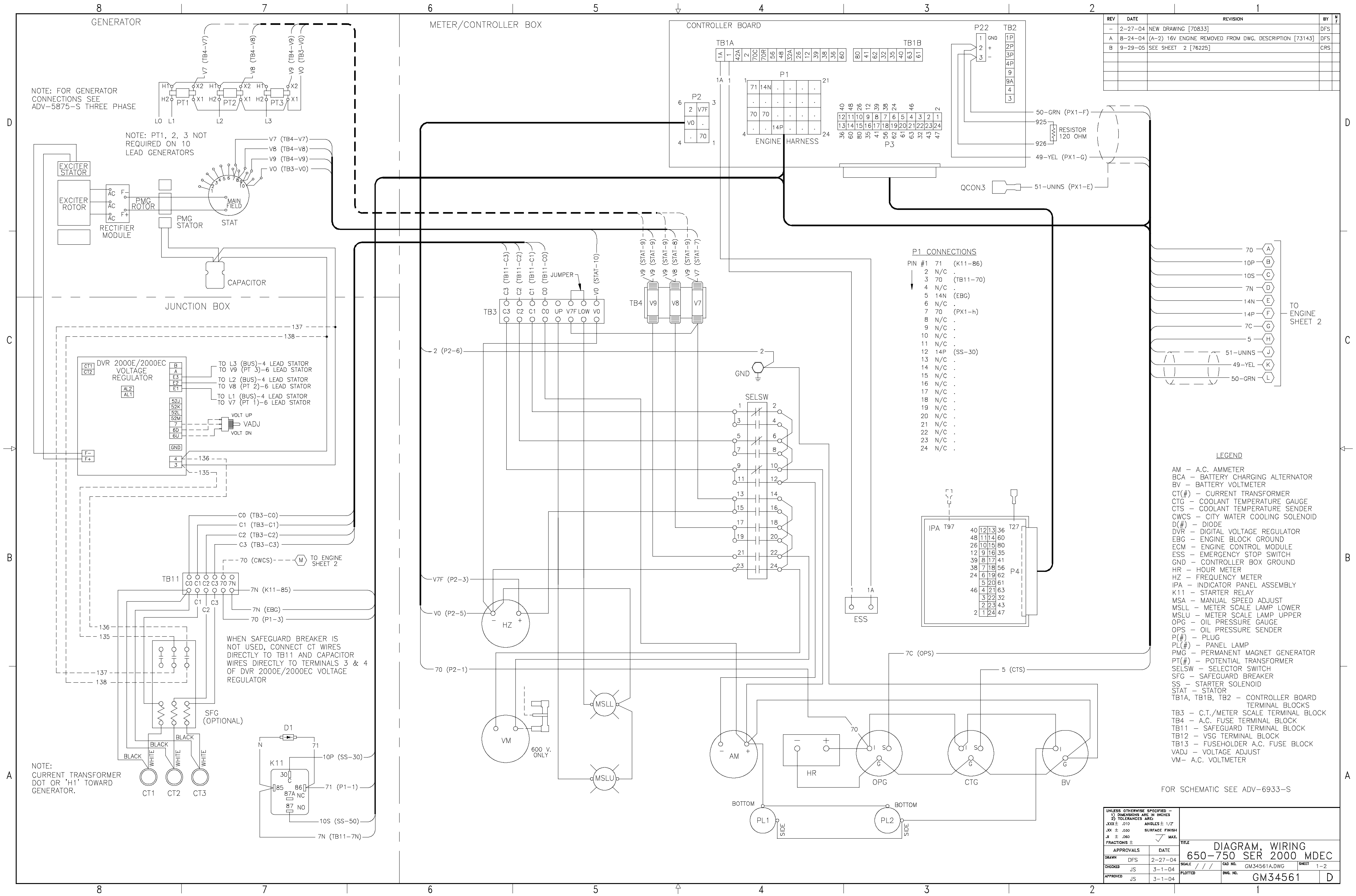
AM – A.C. AMMETER
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CT(#) – CURRENT TRANSFORMER
CTG – COOLANT TEMPERATURE GAUGE
CTS – COOLANT TEMPERATURE SENDER
CWCS – CITY WATER COOLING SOLENOID
D(#) – DIODE
DVR – DIGITAL VOLTAGE REGULATOR
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
GND – CONTROLLER BOX GROUND
HR – HOUR METER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K11 – STARTER RELAY
MSA – MANUAL SPEED ADJUST
MSLL – METER SCALE LAMP LOWER
MSLU – METER SCALE LAMP UPPER
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SS – STARTER SOLENOID
STAT – STATOR
TB1A, TB1B, TB2 – CONTROLLER BOARD TERMINAL BLOCKS
TB3 – C.T./METER SCALE TERMINAL BLOCK
TB4 – A.C. FUSE TERMINAL BLOCK
TB11 – SAFEGUARD TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
VADJ – VOLTAGE ADJUST
VM– A.C. VOLTMETER

FOR SCHEMATIC SEE ADV-6933-S

| REV | DATE | REVISION | BY | |
|---|---|---|---|---|
| – | 2-27-04 | NEW DRAWING [70833] | DFS | |
| A | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-27-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE DIAGRAM, WIRING
650-750 SER 2000 MDEC
SCALE / / /
CAD NO. GM34561A.DWG
SHEET 1-2
DWG. NO. GM34561 D



NOTE: FOR GENERATOR CONNECTIONS SEE ADV-5875-S THREE PHASE

NOTE: PT1, 2, 3 NOT REQUIRED ON 10 LEAD GENERATORS

WHEN SAFEGUARD BREAKER IS NOT USED, CONNECT CT WIRES DIRECTLY TO TB11 AND CAPACITOR WIRES DIRECTLY TO TERMINALS 3 & 4 OF DVR 2000E/2000EC VOLTAGE REGULATOR

NOTE: CURRENT TRANSFORMER DOT OR 'H1' TOWARD GENERATOR.

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 2-27-04 | NEW DRAWING [70833] | DFS | |
| A | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION [73143] | DFS | |
| B | 9-29-05 | SEE SHEET 2 [76225] | CRS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

P1 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | 71 | (K11-86) |
| 2 | N/C | . |
| 3 | 70 | (TB11-70) |
| 4 | N/C | . |
| 5 | 14N | (EBG) |
| 6 | N/C | . |
| 7 | 70 | (PX1-h) |
| 8 | N/C | . |
| 9 | N/C | . |
| 10 | N/C | . |
| 11 | N/C | . |
| 12 | 14P | (SS-30) |
| 13 | N/C | . |
| 14 | N/C | . |
| 15 | N/C | . |
| 16 | N/C | . |
| 17 | N/C | . |
| 18 | N/C | . |
| 19 | N/C | . |
| 20 | N/C | . |
| 21 | N/C | . |
| 22 | N/C | . |
| 23 | N/C | . |
| 24 | N/C | . |

LEGEND

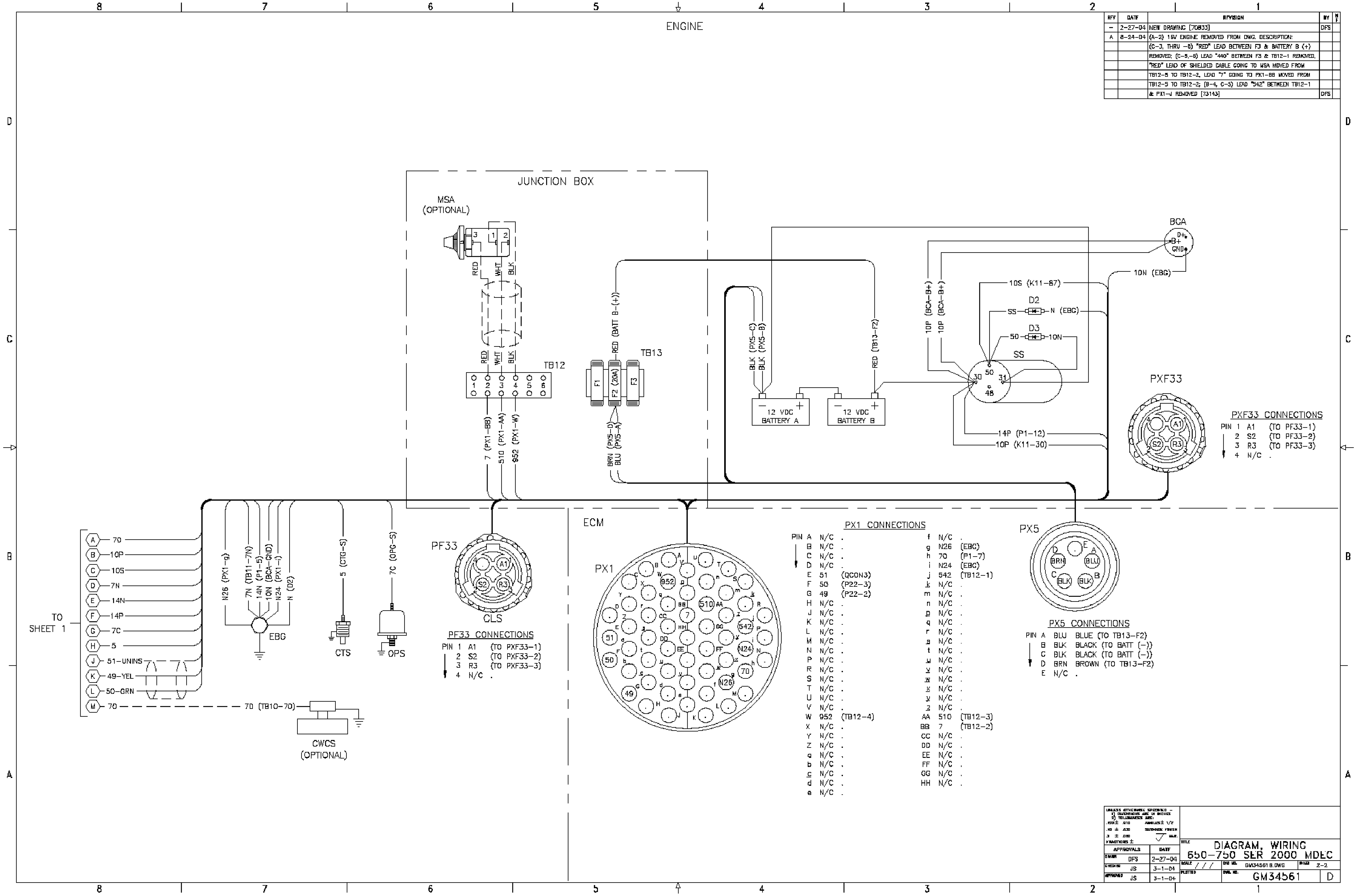
AM – A.C. AMMETER
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CT(#) – CURRENT TRANSFORMER
CTG – COOLANT TEMPERATURE GAUGE
CTS – COOLANT TEMPERATURE SENDER
CWCS – CITY WATER COOLING SOLENOID
D(#) – DIODE
DVR – DIGITAL VOLTAGE REGULATOR
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
GND – CONTROLLER BOX GROUND
HR – HOUR METER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K11 – STARTER RELAY
MSA – MANUAL SPEED ADJUST
MSLL – METER SCALE LAMP LOWER
MSLU – METER SCALE LAMP UPPER
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SS – STARTER SOLENOID
STAT – STATOR
TB1A, TB1B, TB2 – CONTROLLER BOARD TERMINAL BLOCKS
TB3 – C.T./METER SCALE TERMINAL BLOCK
TB4 – A.C. FUSE TERMINAL BLOCK
TB11 – SAFEGUARD TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
VADJ – VOLTAGE ADJUST
VM– A.C. VOLTMETER

FOR SCHEMATIC SEE ADV-6933-S

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-27-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE DIAGRAM, WIRING
650-750 SER 2000 MDEC
SCALE / / / CAD NO. GM34561A.DWG SHEET 1-2
PLOTTED DWG. NO. GM34561 D



| REV | DATE | REVISION | BY |
|---|---|---|---|
| – | 2-27-04 | NEW DRAWING [70833] | DFS |
| A | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION: | |
| | | (C-3, THRU -6) "RED" LEAD BETWEEN F3 & BATTERY B (+) | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 REMOVED, | |
| | | "RED" LEAD OF SHIELDED CABLE GOING TO MSA MOVED FROM | |
| | | TB12-5 TO TB12-2, LEAD "7" GOING TO PX1-BB MOVED FROM | |
| | | TB12-5 TO TB12-2; (B-4, C-5) LEAD "542" BETWEEN TB12-1 | |
| | | & PX1-J REMOVED [73143] | DFS |

PXF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

PF33 CONNECTIONS

| PIN | | |
|---|---|---|
| 1 | A1 | (TO PXF33-1) |
| 2 | S2 | (TO PXF33-2) |
| 3 | R3 | (TO PXF33-3) |
| 4 | N/C | . |

PX5 CONNECTIONS

| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

PX1 CONNECTIONS

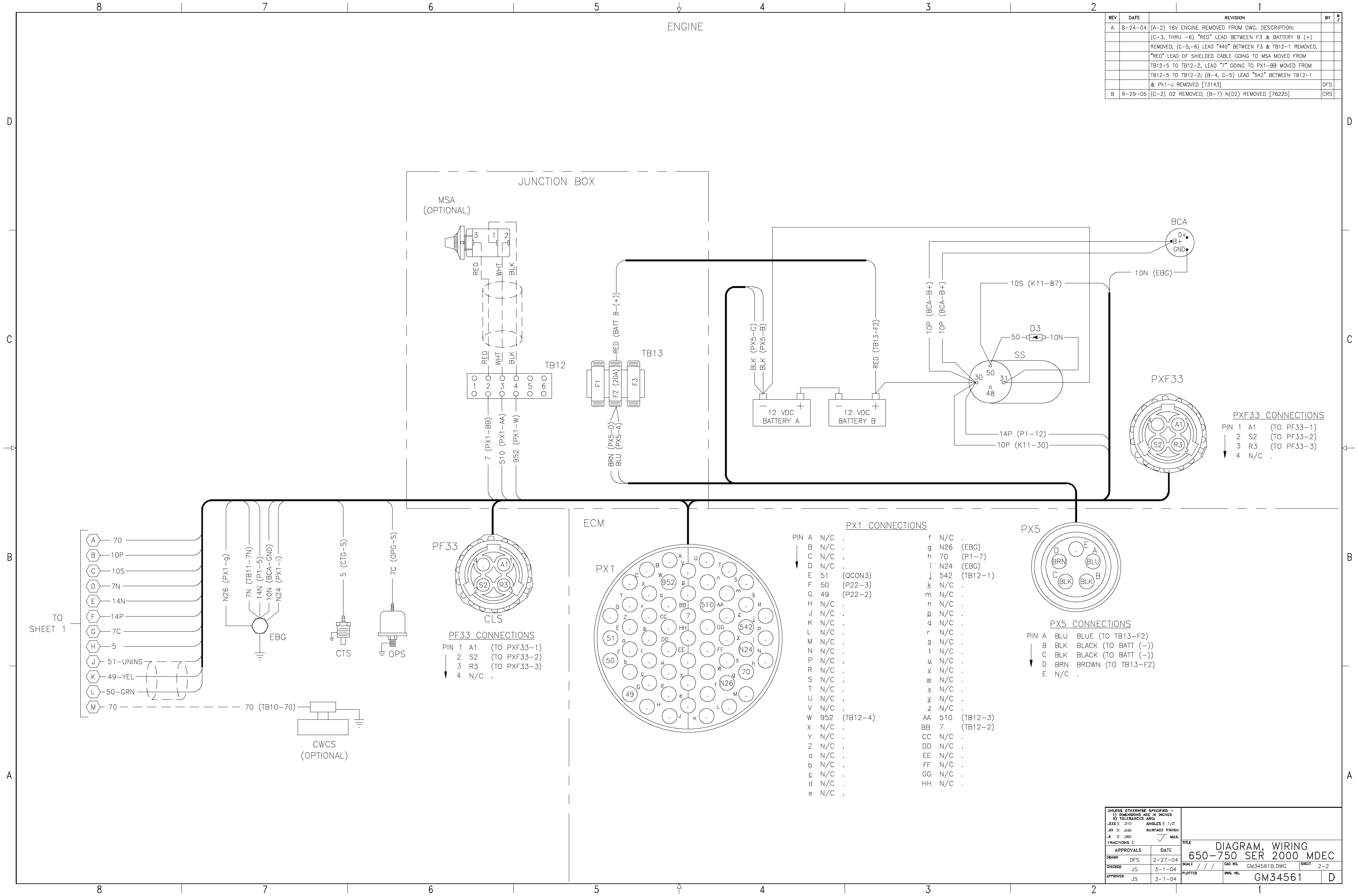
| PIN | | | | | |
|---|---|---|---|---|---|
| A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | 542 | (TB12-1) |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-27-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE DIAGRAM, WIRING
650-750 SER 2000 MDEC

SCALE / / / CAD NO. GM34561 8.DWG SHEET 2-2
PLOTTED DWG. NO. GM34561 D



PXF33 CONNECTIONS

| | | | |
|---|---|---|---|
| PIN 1 | A1 | (TO PF33-1) | |
| 2 | S2 | (TO PF33-2) | |
| 3 | R3 | (TO PF33-3) | |
| 4 | N/C | . | |

PF33 CONNECTIONS

| | | |
|---|---|---|
| PIN 1 | A1 | (TO PXF33-1) |
| 2 | S2 | (TO PXF33-2) |
| 3 | R3 | (TO PXF33-3) |
| 4 | N/C | . |

PX1 CONNECTIONS

| | | | | | |
|---|---|---|---|---|---|
| PIN A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | 542 | (TB12-1) |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

PX5 CONNECTIONS

| | | | |
|---|---|---|---|
| PIN A | BLU | BLUE | (TO TB13-F2) |
| B | BLK | BLACK | (TO BATT (-)) |
| C | BLK | BLACK | (TO BATT (-)) |
| D | BRN | BROWN | (TO TB13-F2) |
| E | N/C | . | |

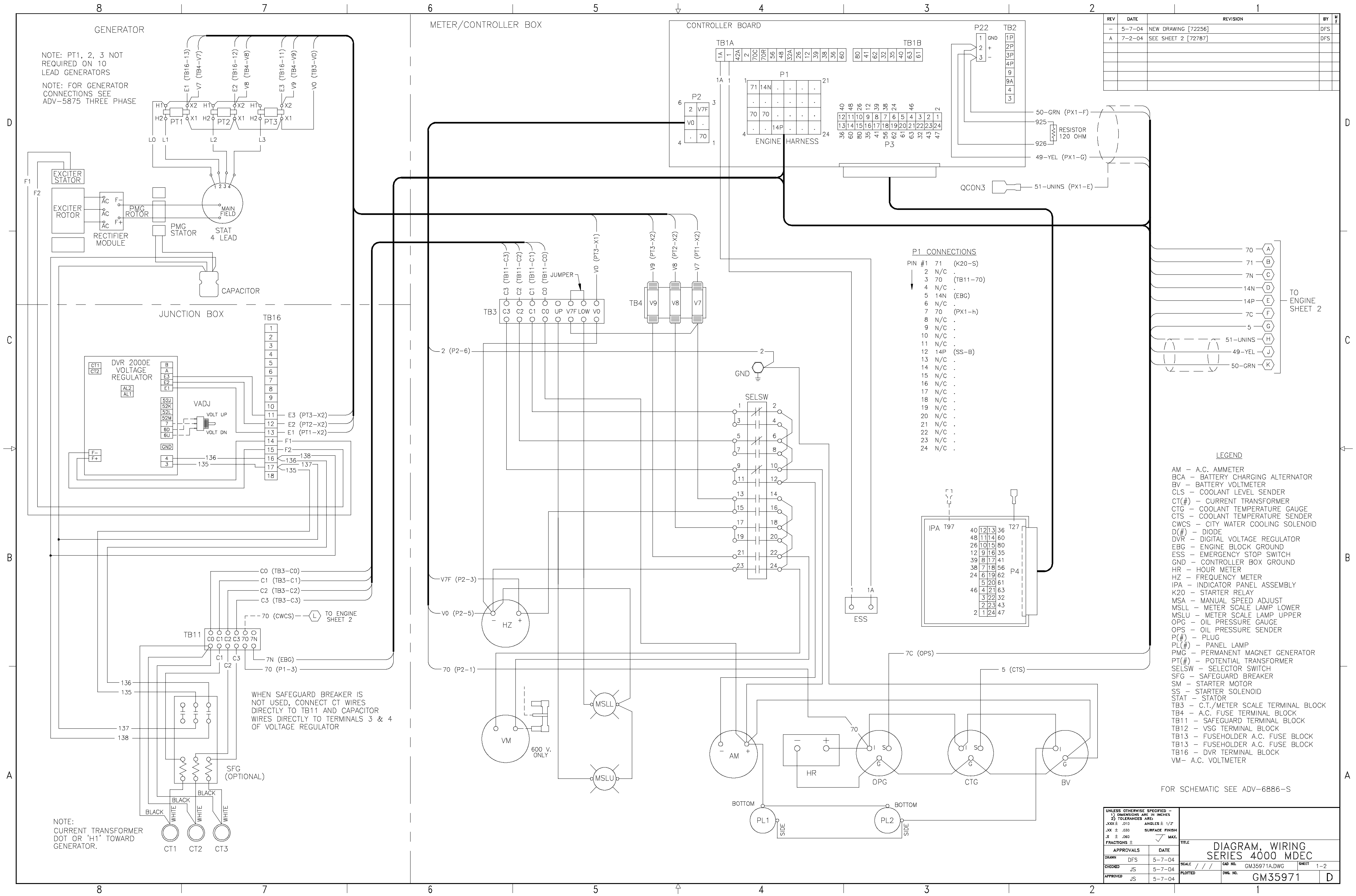
| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| A | 8-24-04 | (A-2) 16V ENGINE REMOVED FROM DWG. DESCRIPTION: | | |
| | | (C-3, THRU -6) "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 REMOVED, | | |
| | | "RED" LEAD OF SHIELDED CABLE GOING TO MSA MOVED FROM | | |
| | | TB12-5 TO TB12-2, LEAD "7" GOING TO PX1-BB MOVED FROM | | |
| | | TB12-5 TO TB12-2; (B-4, C-5) LEAD "542" BETWEEN TB12-1 | | |
| | | & PX1-J REMOVED [73143] | DFS | |
| B | 9-29-05 | (C-2) D2 REMOVED; (B-7) N(D2) REMOVED [76225] | CRS | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 2-27-04 |
| CHECKED | JS | 3-1-04 |
| APPROVED | JS | 3-1-04 |

TITLE
DIAGRAM, WIRING
650-750 SER 2000 MDEC

SCALE / / / CAD NO. GM34561B.DWG SHEET 2-2
PLOTTED DWG. NO. GM34561 D



NOTE: PT1, 2, 3 NOT REQUIRED ON 10 LEAD GENERATORS

NOTE: FOR GENERATOR CONNECTIONS SEE ADV-5875 THREE PHASE

WHEN SAFEGUARD BREAKER IS NOT USED, CONNECT CT WIRES DIRECTLY TO TB11 AND CAPACITOR WIRES DIRECTLY TO TERMINALS 3 & 4 OF VOLTAGE REGULATOR

NOTE: CURRENT TRANSFORMER DOT OR 'H1' TOWARD GENERATOR.

P1 CONNECTIONS

| PIN | | |
|---|---|---|
| #1 | 71 | (K20-S) |
| 2 | N/C | . |
| 3 | 70 | (TB11-70) |
| 4 | N/C | . |
| 5 | 14N | (EBG) |
| 6 | N/C | . |
| 7 | 70 | (PX1-h) |
| 8 | N/C | . |
| 9 | N/C | . |
| 10 | N/C | . |
| 11 | N/C | . |
| 12 | 14P | (SS-B) |
| 13 | N/C | . |
| 14 | N/C | . |
| 15 | N/C | . |
| 16 | N/C | . |
| 17 | N/C | . |
| 18 | N/C | . |
| 19 | N/C | . |
| 20 | N/C | . |
| 21 | N/C | . |
| 22 | N/C | . |
| 23 | N/C | . |
| 24 | N/C | . |

LEGEND

AM – A.C. AMMETER
BCA – BATTERY CHARGING ALTERNATOR
BV – BATTERY VOLTMETER
CLS – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CTG – COOLANT TEMPERATURE GAUGE
CTS – COOLANT TEMPERATURE SENDER
CWCS – CITY WATER COOLING SOLENOID
D(#) – DIODE
DVR – DIGITAL VOLTAGE REGULATOR
EBG – ENGINE BLOCK GROUND
ESS – EMERGENCY STOP SWITCH
GND – CONTROLLER BOX GROUND
HR – HOUR METER
HZ – FREQUENCY METER
IPA – INDICATOR PANEL ASSEMBLY
K20 – STARTER RELAY
MSA – MANUAL SPEED ADJUST
MSLL – METER SCALE LAMP LOWER
MSLU – METER SCALE LAMP UPPER
OPG – OIL PRESSURE GAUGE
OPS – OIL PRESSURE SENDER
P(#) – PLUG
PL(#) – PANEL LAMP
PMG – PERMANENT MAGNET GENERATOR
PT(#) – POTENTIAL TRANSFORMER
SELSW – SELECTOR SWITCH
SFG – SAFEGUARD BREAKER
SM – STARTER MOTOR
SS – STARTER SOLENOID
STAT – STATOR
TB3 – C.T./METER SCALE TERMINAL BLOCK
TB4 – A.C. FUSE TERMINAL BLOCK
TB11 – SAFEGUARD TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
TB13 – FUSEHOLDER A.C. FUSE BLOCK
TB16 – DVR TERMINAL BLOCK
VM– A.C. VOLTMETER

FOR SCHEMATIC SEE ADV-6886-S

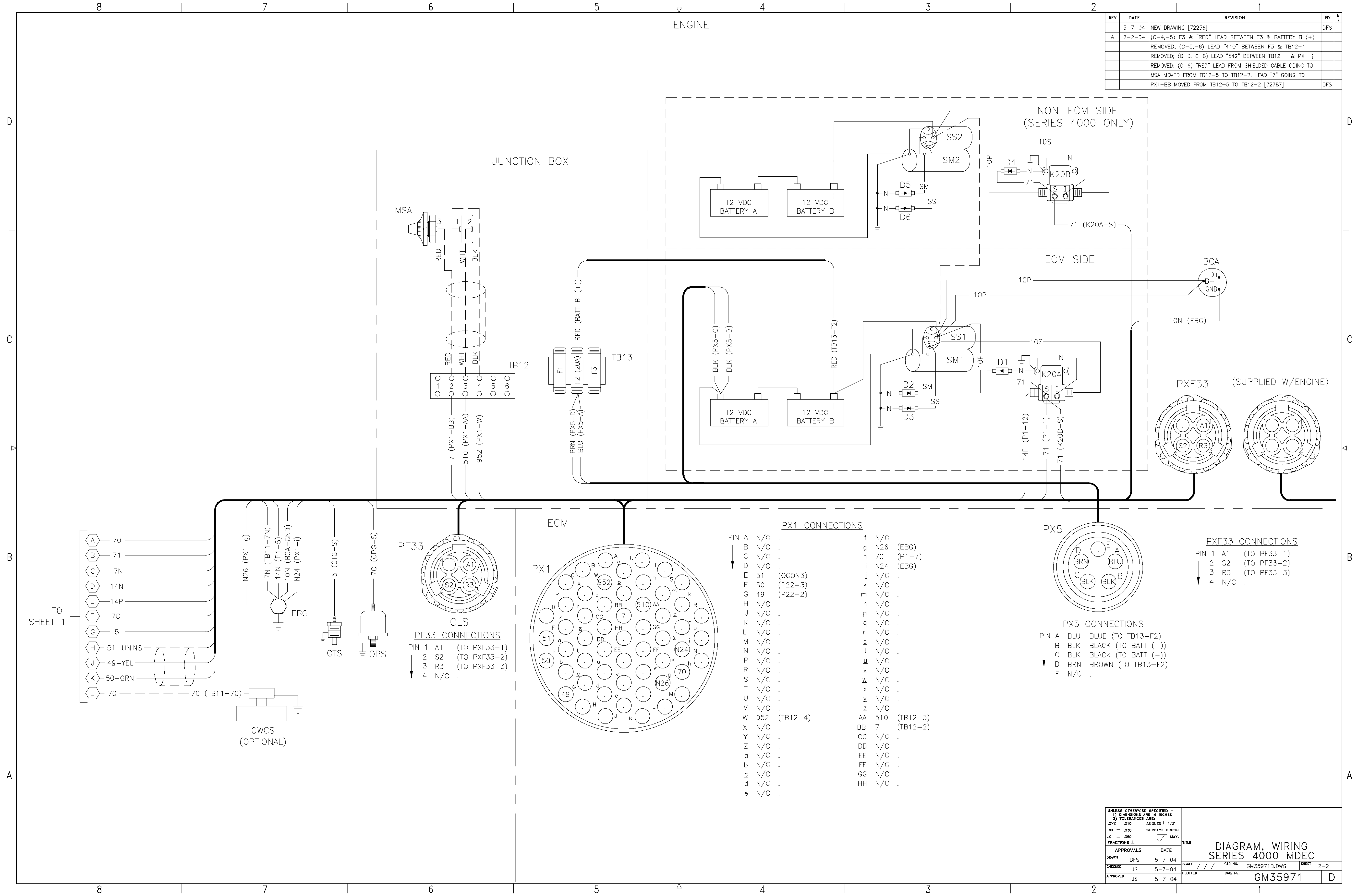
| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 5-7-04 | NEW DRAWING [72256] | DFS | |
| A | 7-2-04 | SEE SHEET 2 [72787] | DFS | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 5-7-04 |
| CHECKED | JS | 5-7-04 |
| APPROVED | JS | 5-7-04 |

TITLE
DIAGRAM, WIRING
SERIES 4000 MDEC

SCALE / / /
CAD NO. GM35971A.DWG
SHEET 1-2
PLOTTED
DWG. NO. GM35971 D



| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| – | 5-7-04 | NEW DRAWING [72256] | DFS | |
| A | 7-2-04 | (C-4,-5) F3 & "RED" LEAD BETWEEN F3 & BATTERY B (+) | | |
| | | REMOVED; (C-5,-6) LEAD "440" BETWEEN F3 & TB12-1 | | |
| | | REMOVED; (B-3, C-6) LEAD "542" BETWEEN TB12-1 & PX1-j | | |
| | | REMOVED; (C-6) "RED" LEAD FROM SHIELDED CABLE GOING TO | | |
| | | MSA MOVED FROM TB12-5 TO TB12-2, LEAD "7" GOING TO | | |
| | | PX1-BB MOVED FROM TB12-5 TO TB12-2 [72787] | DFS | |

PF33 CONNECTIONS

| PIN | | | |
|---|---|---|---|
| 1 | A1 | (TO PXF33-1) | |
| 2 | S2 | (TO PXF33-2) | |
| 3 | R3 | (TO PXF33-3) | |
| 4 | N/C | . | |

PX1 CONNECTIONS

| PIN | | | | | |
|---|---|---|---|---|---|
| A | N/C | . | f | N/C | . |
| B | N/C | . | g | N26 | (EBG) |
| C | N/C | . | h | 70 | (P1-7) |
| D | N/C | . | i | N24 | (EBG) |
| E | 51 | (QCON3) | j | N/C | . |
| F | 50 | (P22-3) | k | N/C | . |
| G | 49 | (P22-2) | m | N/C | . |
| H | N/C | . | n | N/C | . |
| J | N/C | . | p | N/C | . |
| K | N/C | . | q | N/C | . |
| L | N/C | . | r | N/C | . |
| M | N/C | . | s | N/C | . |
| N | N/C | . | t | N/C | . |
| P | N/C | . | u | N/C | . |
| R | N/C | . | v | N/C | . |
| S | N/C | . | w | N/C | . |
| T | N/C | . | x | N/C | . |
| U | N/C | . | y | N/C | . |
| V | N/C | . | z | N/C | . |
| W | 952 | (TB12-4) | AA | 510 | (TB12-3) |
| X | N/C | . | BB | 7 | (TB12-2) |
| Y | N/C | . | CC | N/C | . |
| Z | N/C | . | DD | N/C | . |
| a | N/C | . | EE | N/C | . |
| b | N/C | . | FF | N/C | . |
| c | N/C | . | GG | N/C | . |
| d | N/C | . | HH | N/C | . |
| e | N/C | . | | | |

PX5 CONNECTIONS

| PIN | | |
|---|---|---|
| A | BLU | BLUE (TO TB13-F2) |
| B | BLK | BLACK (TO BATT (-)) |
| C | BLK | BLACK (TO BATT (-)) |
| D | BRN | BROWN (TO TB13-F2) |
| E | N/C | . |

PXF33 CONNECTIONS

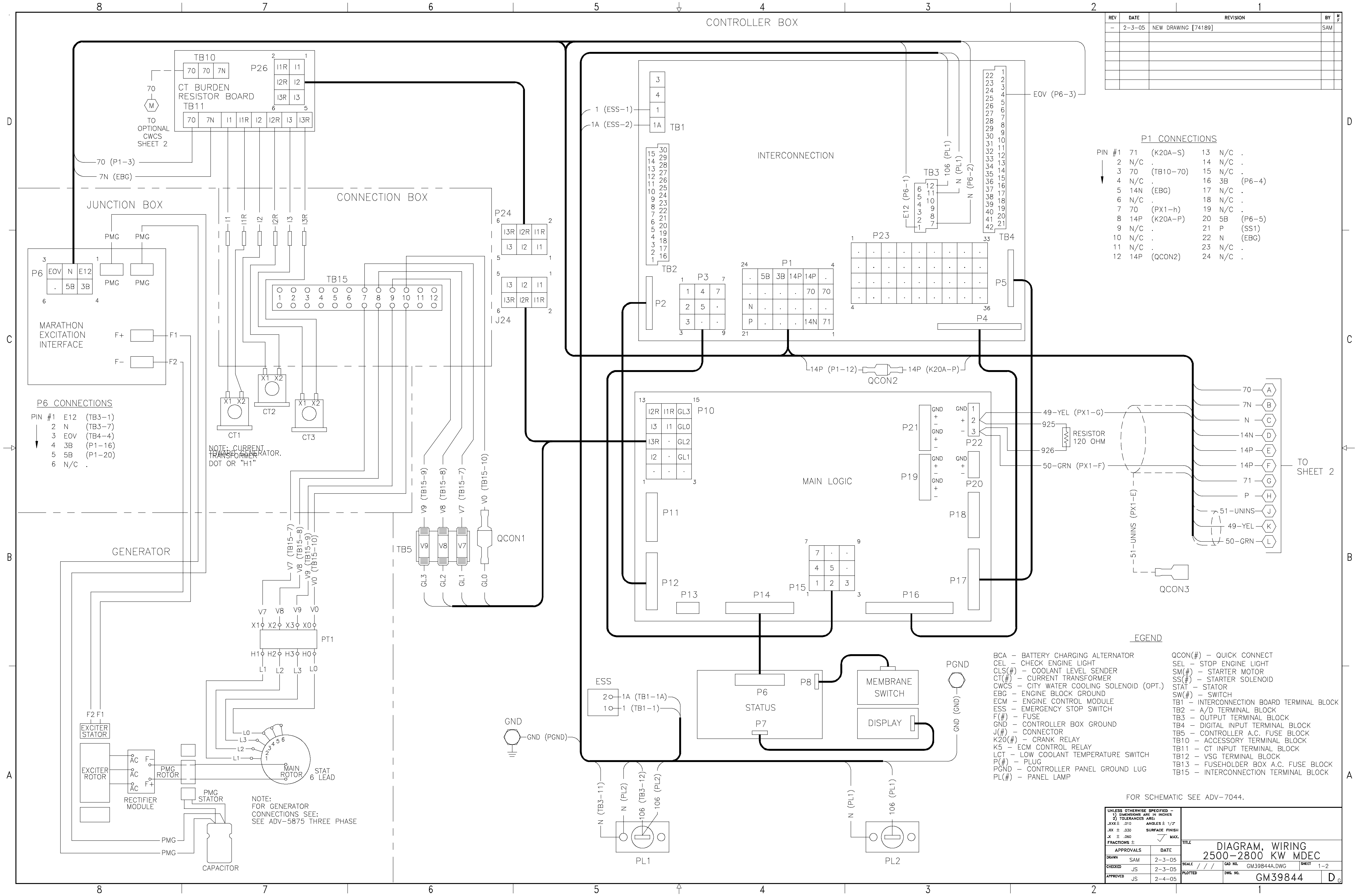
| PIN | | |
|---|---|---|
| 1 | A1 | (TO PF33-1) |
| 2 | S2 | (TO PF33-2) |
| 3 | R3 | (TO PF33-3) |
| 4 | N/C | . |

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | DFS | 5-7-04 |
| CHECKED | JS | 5-7-04 |
| APPROVED | JS | 5-7-04 |

TITLE
DIAGRAM, WIRING
SERIES 4000 MDEC

SCALE / / / CAD NO. GM35971B.DWG SHEET 2-2
PLOTTED DWG. NO. GM35971 D



| REV | DATE | REVISION | BY |
|---|---|---|---|
| – | 2-3-05 | NEW DRAWING [74189] | SAM |

P1 CONNECTIONS

| PIN # |  |  | PIN # |  |  |
|---|---|---|---|---|---|
| 1 | 71 | (K20A-S) | 13 | N/C | . |
| 2 | N/C | . | 14 | N/C | . |
| 3 | 70 | (TB10-70) | 15 | N/C | . |
| 4 | N/C | . | 16 | 3B | (P6-4) |
| 5 | 14N | (EBG) | 17 | N/C | . |
| 6 | N/C | . | 18 | N/C | . |
| 7 | 70 | (PX1-h) | 19 | N/C | . |
| 8 | 14P | (K20A-P) | 20 | 5B | (P6-5) |
| 9 | N/C | . | 21 | P | (SS1) |
| 10 | N/C | . | 22 | N | (EBG) |
| 11 | N/C | . | 23 | N/C | . |
| 12 | 14P | (QCON2) | 24 | N/C | . |

P6 CONNECTIONS

| PIN # |  |  |
|---|---|---|
| 1 | E12 | (TB3-1) |
| 2 | N | (TB3-7) |
| 3 | EOV | (TB4-4) |
| 4 | 3B | (P1-16) |
| 5 | 5B | (P1-20) |
| 6 | N/C | . |

EGEND

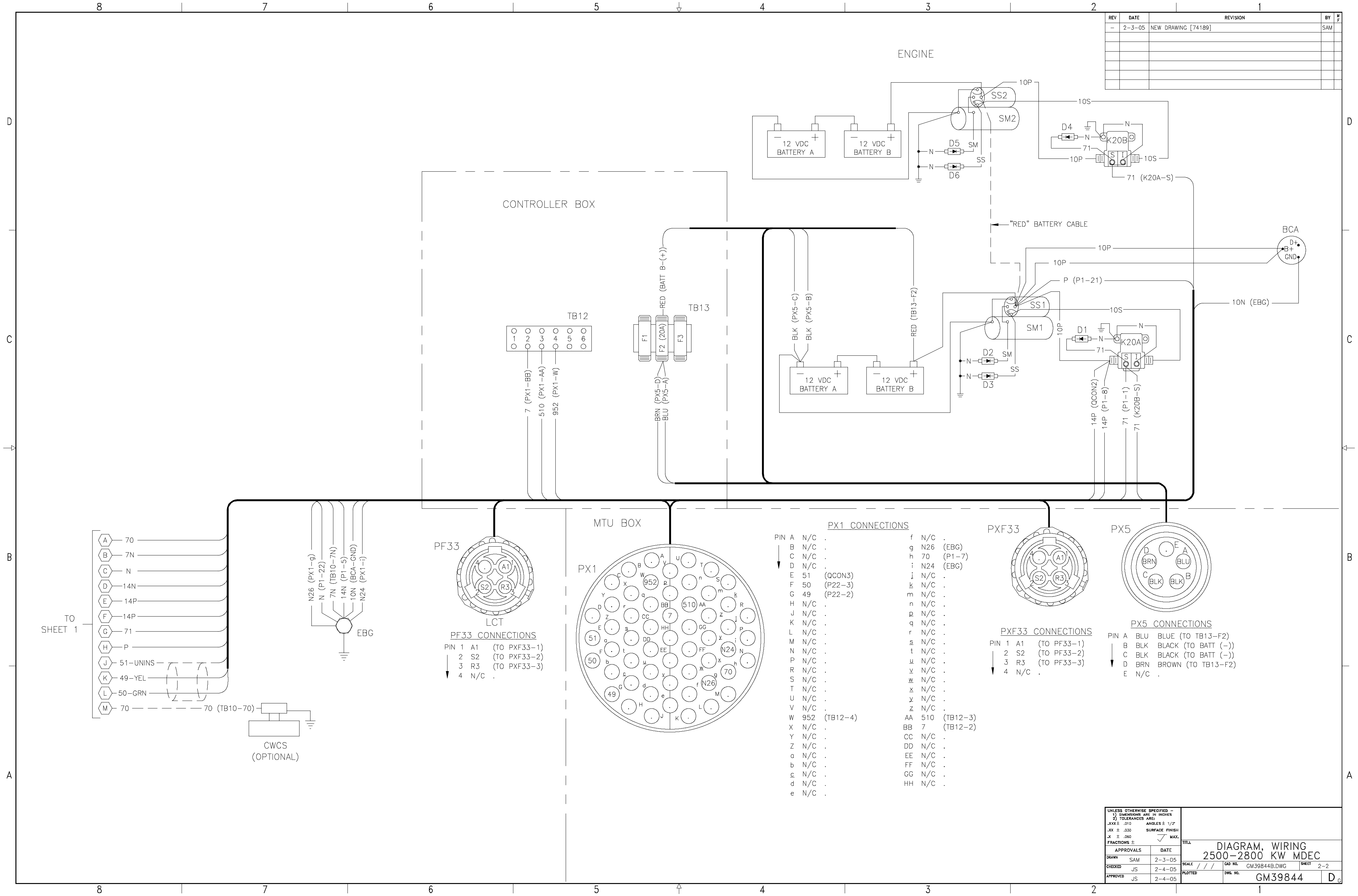
BCA – BATTERY CHARGING ALTERNATOR
CEL – CHECK ENGINE LIGHT
CLS(#) – COOLANT LEVEL SENDER
CT(#) – CURRENT TRANSFORMER
CWCS – CITY WATER COOLING SOLENOID (OPT.)
EBG – ENGINE BLOCK GROUND
ECM – ENGINE CONTROL MODULE
ESS – EMERGENCY STOP SWITCH
F(#) – FUSE
GND – CONTROLLER BOX GROUND
J(#) – CONNECTOR
K20(#) – CRANK RELAY
K5 – ECM CONTROL RELAY
LCT – LOW COOLANT TEMPERATURE SWITCH
P(#) – PLUG
PGND – CONTROLLER PANEL GROUND LUG
PL(#) – PANEL LAMP
QCON(#) – QUICK CONNECT
SEL – STOP ENGINE LIGHT
SM(#) – STARTER MOTOR
SS(#) – STARTER SOLENOID
STAT – STATOR
SW(#) – SWITCH
TB1 – INTERCONNECTION BOARD TERMINAL BLOCK
TB2 – A/D TERMINAL BLOCK
TB3 – OUTPUT TERMINAL BLOCK
TB4 – DIGITAL INPUT TERMINAL BLOCK
TB5 – CONTROLLER A.C. FUSE BLOCK
TB10 – ACCESSORY TERMINAL BLOCK
TB11 – CT INPUT TERMINAL BLOCK
TB12 – VSG TERMINAL BLOCK
TB13 – FUSEHOLDER BOX A.C. FUSE BLOCK
TB15 – INTERCONNECTION TERMINAL BLOCK

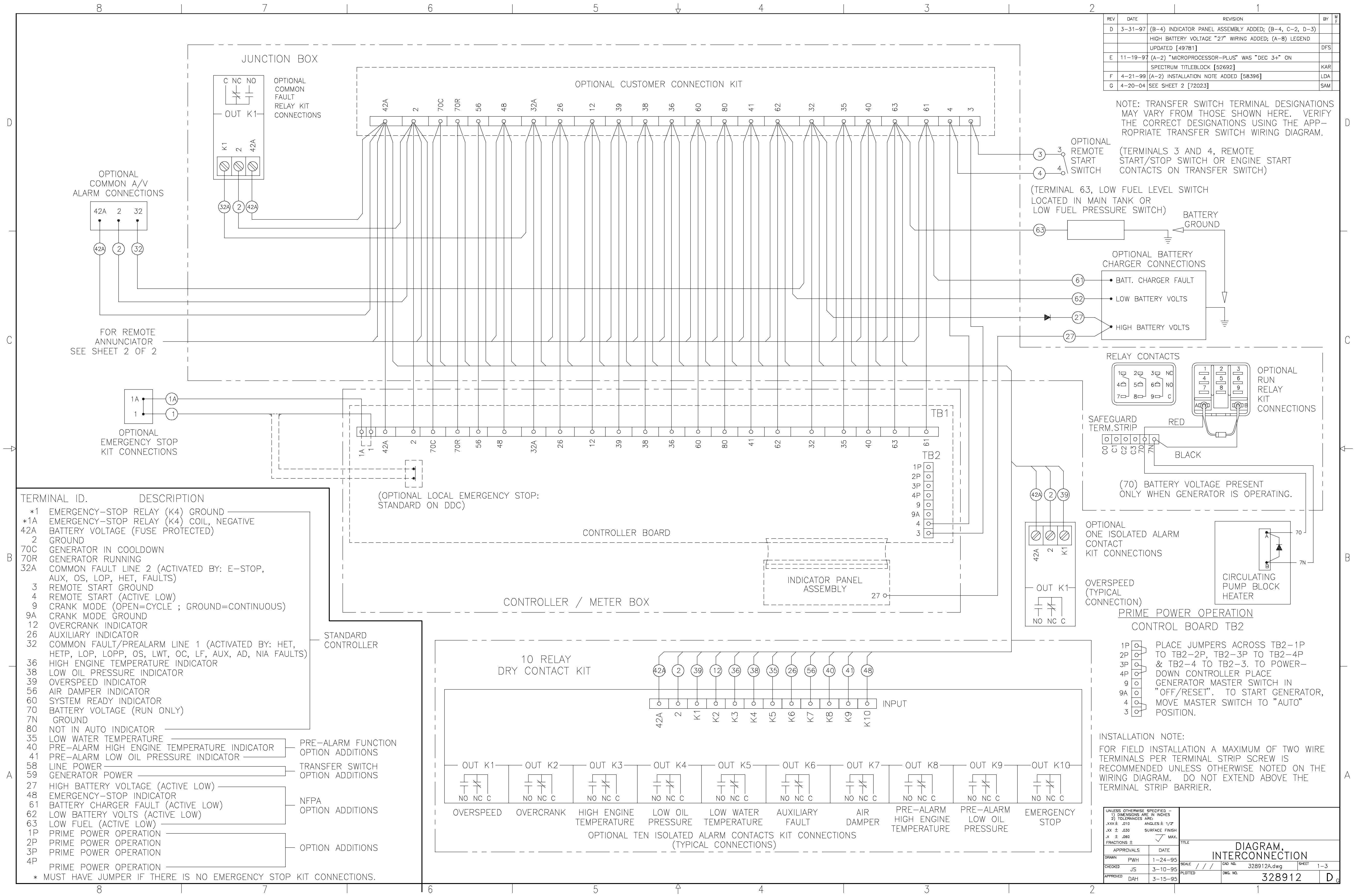
FOR SCHEMATIC SEE ADV-7044.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS |  | DATE |
|---|---|---|
| DRAWN | SAM | 2-3-05 |
| CHECKED | JS | 2-3-05 |
| APPROVED | JS | 2-4-05 |

TITLE DIAGRAM, WIRING 2500-2800 KW MDEC
SCALE / / /
CAD NO. GM39844A.DWG
SHEET 1-2
PLOTTED
DWG. NO. GM39844 D G


REV | DATE | REVISION | BY
– | 2-3-05 | NEW DRAWING [74189] | SAM
ENGINE
CONTROLLER BOX
MTU BOX
12 VDC BATTERY A
12 VDC BATTERY B
SS2
SM2
SS1
SM1
D1
D2
D3
D4
D5
D6
K20A
K20B
SM
SS
N
71
10P
10S
71 (K20A-S)
"RED" BATTERY CABLE
BCA
D+
B+
GND
P (P1-21)
10N (EBG)
BLK (PX5-C)
BLK (PX5-B)
RED (TB13-F2)
14P (QCON2)
14P (P1-8)
71 (P1-1)
71 (K20B-S)
TB12
1 2 3 4 5 6
7 (PX1-BB)
510 (PX1-AA)
952 (PX1-W)
TB13
F1
F2 (20A)
F3
RED (BATT B-(+))
BRN (PX5-D)
BLU (PX5-A)
TO SHEET 1
A 70
B 7N
C N
D 14N
E 14P
F 14P
G 71
H P
J 51-UNINS
K 49-YEL
L 50-GRN
M 70
70 (TB10-70)
CWCS (OPTIONAL)
N26 (PX1-g)
N (P1-22)
7N (TB10-7N)
14N (P1-5)
10N (BCA-GND)
N24 (PX1-i)
EBG
PF33
LCT
A1
S2
R3
PF33 CONNECTIONS
PIN 1 A1 (TO PXF33-1)
2 S2 (TO PXF33-2)
3 R3 (TO PXF33-3)
4 N/C .
PX1
952
510
7
51
50
49
N24
N26
70
PX1 CONNECTIONS
PIN A N/C .
B N/C .
C N/C .
D N/C .
E 51 (QCON3)
F 50 (P22-3)
G 49 (P22-2)
H N/C .
J N/C .
K N/C .
L N/C .
M N/C .
N N/C .
P N/C .
R N/C .
S N/C .
T N/C .
U N/C .
V N/C .
W 952 (TB12-4)
X N/C .
Y N/C .
Z N/C .
a N/C .
b N/C .
c N/C .
d N/C .
e N/C .
f N/C .
g N26 (EBG)
h 70 (P1-7)
i N24 (EBG)
j N/C .
k N/C .
m N/C .
n N/C .
p N/C .
q N/C .
r N/C .
s N/C .
t N/C .
u N/C .
v N/C .
w N/C .
x N/C .
y N/C .
z N/C .
AA 510 (TB12-3)
BB 7 (TB12-2)
CC N/C .
DD N/C .
EE N/C .
FF N/C .
GG N/C .
HH N/C .
PXF33
PXF33 CONNECTIONS
PIN 1 A1 (TO PF33-1)
2 S2 (TO PF33-2)
3 R3 (TO PF33-3)
4 N/C .
PX5
BLU
BRN
BLK
PX5 CONNECTIONS
PIN A BLU BLUE (TO TB13-F2)
B BLK BLACK (TO BATT (-))
C BLK BLACK (TO BATT (-))
D BRN BROWN (TO TB13-F2)
E N/C .
UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±
APPROVALS | DATE
DRAWN SAM 2-3-05
CHECKED JS 2-4-05
APPROVED JS 2-4-05
TITLE DIAGRAM, WIRING 2500–2800 KW MDEC
SCALE / / /
CAD NO. GM39844B.DWG
SHEET 2-2
PLOTTED
DWG. NO. GM39844
D G


8
7
6
5
4
3
2
1
D
C
B
A
JUNCTION BOX
OPTIONAL CUSTOMER CONNECTION KIT
42A
2
70C
70R
56
48
32A
26
12
39
38
36
60
80
41
62
32
35
40
63
61
4
3
C NC NO
OUT K1
OPTIONAL COMMON FAULT RELAY KIT CONNECTIONS
K1
2
42A
32A
OPTIONAL COMMON A/V ALARM CONNECTIONS
OPTIONAL REMOTE START SWITCH
OPTIONAL BATTERY CHARGER CONNECTIONS
BATT. CHARGER FAULT
LOW BATTERY VOLTS
HIGH BATTERY VOLTS
27
BATTERY GROUND
FOR REMOTE ANNUNCIATOR SEE SHEET 2 OF 2
1A
1
OPTIONAL EMERGENCY STOP KIT CONNECTIONS
TB1
TB2
1P
2P
3P
4P
9
9A
(OPTIONAL LOCAL EMERGENCY STOP: STANDARD ON DDC)
CONTROLLER BOARD
INDICATOR PANEL ASSEMBLY
CONTROLLER / METER BOX
RELAY CONTACTS
1
2
3
4
5
6
7
8
9
NC
NO
C
OPTIONAL RUN RELAY KIT CONNECTIONS
SAFEGUARD TERM.STRIP
C0
C1
C2
C3
70
7N
RED
BLACK
(70) BATTERY VOLTAGE PRESENT ONLY WHEN GENERATOR IS OPERATING.
OPTIONAL ONE ISOLATED ALARM CONTACT KIT CONNECTIONS
OVERSPEED (TYPICAL CONNECTION)
NO NC C
CIRCULATING PUMP BLOCK HEATER
A
B
10 RELAY DRY CONTACT KIT
INPUT
K2
K3
K4
K5
K6
K7
K8
K9
K10
OUT K1
OUT K2
OUT K3
OUT K4
OUT K5
OUT K6
OUT K7
OUT K8
OUT K9
OUT K10
OVERSPEED
OVERCRANK
HIGH ENGINE TEMPERATURE
LOW OIL PRESSURE
LOW WATER TEMPERATURE
AUXILIARY FAULT
AIR DAMPER
PRE-ALARM HIGH ENGINE TEMPERATURE
PRE-ALARM LOW OIL PRESSURE
EMERGENCY STOP
OPTIONAL TEN ISOLATED ALARM CONTACTS KIT CONNECTIONS (TYPICAL CONNECTIONS)

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 3-31-97 | (B-4) INDICATOR PANEL ASSEMBLY ADDED; (B-4, C-2, D-3) HIGH BATTERY VOLTAGE "27" WIRING ADDED; (A-8) LEGEND UPDATED [49781] | DFS | |
| E | 11-19-97 | (A-2) "MICROPROCESSOR-PLUS" WAS "DEC 3+" ON SPECTRUM TITLEBLOCK [52692] | KAR | |
| F | 4-21-99 | (A-2) INSTALLATION NOTE ADDED [58396] | LDA | |
| G | 4-20-04 | SEE SHEET 2 [72023] | SAM | |

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

(TERMINALS 3 AND 4, REMOTE START/STOP SWITCH OR ENGINE START CONTACTS ON TRANSFER SWITCH)

(TERMINAL 63, LOW FUEL LEVEL SWITCH LOCATED IN MAIN TANK OR LOW FUEL PRESSURE SWITCH)

| TERMINAL ID. | DESCRIPTION | |
|---|---|---|
| *1 | EMERGENCY-STOP RELAY (K4) GROUND | STANDARD CONTROLLER |
| *1A | EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE | |
| 42A | BATTERY VOLTAGE (FUSE PROTECTED) | |
| 2 | GROUND | |
| 70C | GENERATOR IN COOLDOWN | |
| 70R | GENERATOR RUNNING | |
| 32A | COMMON FAULT LINE 2 (ACTIVATED BY: E-STOP, AUX, OS, LOP, HET, FAULTS) | |
| 3 | REMOTE START GROUND | |
| 4 | REMOTE START (ACTIVE LOW) | |
| 9 | CRANK MODE (OPEN=CYCLE ; GROUND=CONTINUOUS) | |
| 9A | CRANK MODE GROUND | |
| 12 | OVERCRANK INDICATOR | |
| 26 | AUXILIARY INDICATOR | |
| 32 | COMMON FAULT/PREALARM LINE 1 (ACTIVATED BY: HET, HETP, LOP, LOPP, OS, LWT, OC, LF, AUX, AD, NIA FAULTS) | |
| 36 | HIGH ENGINE TEMPERATURE INDICATOR | |
| 38 | LOW OIL PRESSURE INDICATOR | |
| 39 | OVERSPEED INDICATOR | |
| 56 | AIR DAMPER INDICATOR | |
| 60 | SYSTEM READY INDICATOR | |
| 70 | BATTERY VOLTAGE (RUN ONLY) | |
| 7N | GROUND | |
| 80 | NOT IN AUTO INDICATOR | |
| 35 | LOW WATER TEMPERATURE | PRE-ALARM FUNCTION OPTION ADDITIONS |
| 40 | PRE-ALARM HIGH ENGINE TEMPERATURE INDICATOR | |
| 41 | PRE-ALARM LOW OIL PRESSURE INDICATOR | |
| 58 | LINE POWER | TRANSFER SWITCH OPTION ADDITIONS |
| 59 | GENERATOR POWER | |
| 27 | HIGH BATTERY VOLTAGE (ACTIVE LOW) | NFPA OPTION ADDITIONS |
| 48 | EMERGENCY-STOP INDICATOR | |
| 61 | BATTERY CHARGER FAULT (ACTIVE LOW) | |
| 62 | LOW BATTERY VOLTS (ACTIVE LOW) | |
| 63 | LOW FUEL (ACTIVE LOW) | |
| 1P | PRIME POWER OPERATION | OPTION ADDITIONS |
| 2P | PRIME POWER OPERATION | |
| 3P | PRIME POWER OPERATION | |
| 4P | PRIME POWER OPERATION | |

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTIONS.

PRIME POWER OPERATION

CONTROL BOARD TB2

PLACE JUMPERS ACROSS TB2-1P TO TB2-2P, TB2-3P TO TB2-4P & TB2-4 TO TB2-3. TO POWER-DOWN CONTROLLER PLACE GENERATOR MASTER SWITCH IN "OFF/RESET". TO START GENERATOR, MOVE MASTER SWITCH TO "AUTO" POSITION.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 MAX.
FRACTIONS ±

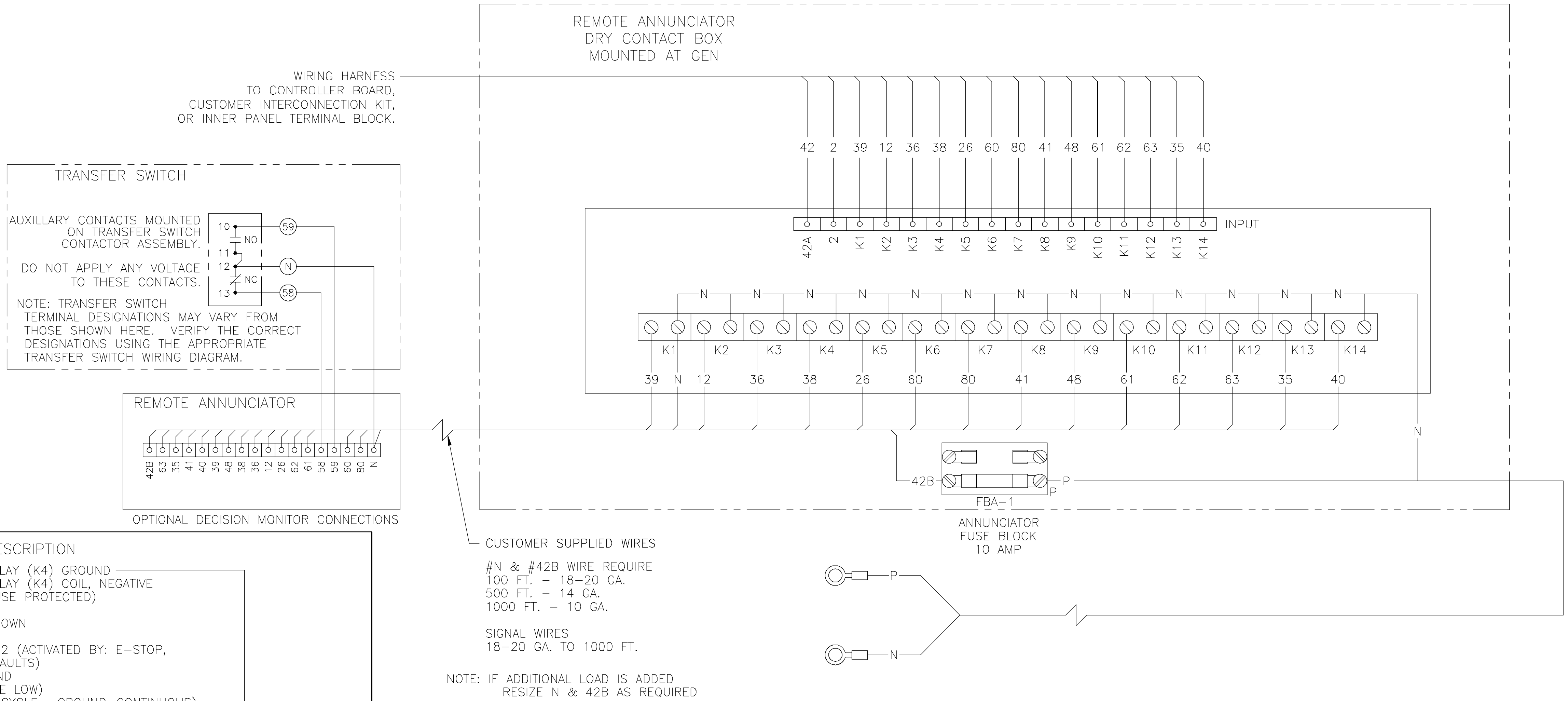
| APPROVALS | | DATE |
|---|---|---|
| DRAWN | PWH | 1-24-95 |
| CHECKED | JS | 3-10-95 |
| APPROVED | DAH | 3-15-95 |

TITLE DIAGRAM, INTERCONNECTION

SCALE / / / CAD NO. 328912A.dwg SHEET 1-3

PLOTTED DWG. NO. 328912 D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| D | 9-3-98 | (A-2) 20-2000 KW WAS 20-1600 KW; (D-6) CUSTOMER | | |
| | | INTERCONNECTION KIT, OR INNER PANEL TERMINAL BLOCK. | | |
| | | ADDED [55875] | LDS | |
| F | 4-21-99 | (A-2) INSTALLATION NOTE ADDED [58396] | LDA | |
| G | 4-20-04 | (B-4) LEAD CONNECTION NOTE UPDATED [72023] | SAM | |


REMOTE ANNUNCIATOR
DRY CONTACT BOX
MOUNTED AT GEN
WIRING HARNESS
TO CONTROLLER BOARD,
CUSTOMER INTERCONNECTION KIT,
OR INNER PANEL TERMINAL BLOCK.
42 2 39 12 36 38 26 60 80 41 48 61 62 63 35 40
INPUT
42A 2 K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14
N
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14
39 N 12 36 38 26 60 80 41 48 61 62 63 35 40
TRANSFER SWITCH
10 11 12 13
NO
NC
59
N
58
REMOTE ANNUNCIATOR
42B 63 35 41 40 39 48 38 36 12 26 62 61 58 59 60 80 N
OPTIONAL DECISION MONITOR CONNECTIONS
42B
P
FBA-1
ANNUNCIATOR
FUSE BLOCK
10 AMP
P
N

AUXILLARY CONTACTS MOUNTED ON TRANSFER SWITCH CONTACTOR ASSEMBLY.

DO NOT APPLY ANY VOLTAGE TO THESE CONTACTS.

NOTE: TRANSFER SWITCH TERMINAL DESIGNATIONS MAY VARY FROM THOSE SHOWN HERE. VERIFY THE CORRECT DESIGNATIONS USING THE APPROPRIATE TRANSFER SWITCH WIRING DIAGRAM.

CUSTOMER SUPPLIED WIRES

#N & #42B WIRE REQUIRE
100 FT. – 18–20 GA.
500 FT. – 14 GA.
1000 FT. – 10 GA.

SIGNAL WIRES
18–20 GA. TO 1000 FT.

NOTE: IF ADDITIONAL LOAD IS ADDED
RESIZE N & 42B AS REQUIRED

| TERMINAL ID. | DESCRIPTION | |
|---|---|---|
| *1 | EMERGENCY-STOP RELAY (K4) GROUND | STANDARD CONTROLLER |
| *1A | EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE | |
| 42A | BATTERY VOLTAGE (FUSE PROTECTED) | |
| 2 | GROUND | |
| 70C | GENERATOR IN COOLDOWN | |
| 70R | GENERATOR RUNNING | |
| 32A | COMMON FAULT LINE 2 (ACTIVATED BY: E-STOP, AUX, OS, LOP, HET FAULTS) | |
| 3 | REMOTE START GROUND | |
| 4 | REMOTE START (ACTIVE LOW) | |
| 9 | CRANK MODE (OPEN=CYCLE ; GROUND=CONTINUOUS) | |
| 9A | CRANK MODE GROUND | |
| 12 | OVERCRANK INDICATOR | |
| 26 | AUXILIARY INDICATOR | |
| 32 | COMMON FAULT/PREALARM LINE 1 (ACTIVATED BY: HET, HETP, LOP, LOPP, OS, LWT, OC, LF, AUX, AD, NIA FAULTS) | |
| 36 | HIGH ENGINE TEMPERATURE INDICATOR | |
| 38 | LOW OIL PRESSURE INDICATOR | |
| 39 | OVERSPEED INDICATOR | |
| 56 | AIR DAMPER INDICATOR | |
| 60 | SYSTEM READY INDICATOR | |
| 70 | BATTERY VOLTAGE (RUN ONLY) | |
| 7N | GROUND | |
| 80 | NOT IN AUTO INDICATOR | |
| 35 | LOW WATER TEMPERATURE | PRE-ALARM FUNCTION OPTION ADDITIONS |
| 40 | PRE-ALARM HIGH ENGINE TEMPERATURE INDICATOR | |
| 41 | PRE-ALARM LOW OIL PRESSURE INDICATOR | |
| 58 | LINE POWER | TRANSFER SWITCH OPTION ADDITIONS |
| 59 | GENERATOR POWER | |
| 48 | EMERGENCY-STOP INDICATOR | NFPA OPTION ADDITIONS |
| 61 | BATTERY CHARGER FAULT (ACTIVE LOW) | |
| 62 | LOW BATTERY VOLTS (ACTIVE LOW) | |
| 63 | LOW FUEL (ACTIVE LOW) | |
| 1P | PRIME POWER OPERATION | OPTION ADDITIONS |
| 2P | PRIME POWER OPERATION | |
| 3P | PRIME POWER OPERATION | |
| 4P | PRIME POWER OPERATION | |

* MUST HAVE JUMPER IF THERE IS NO EMERGENCY STOP KIT CONNECTIONS.

NOTE:
LEAD "N" CONNECTION: CONNECT LEAD "N" TO ENGINE BLOCK GROUND.
LEAD "P" CONNECTION:
PREFERRED– CONNECT LEAD "P" TO TERMINAL WITH "P" WIRES ON CRANK RELAY.
ALTERNATE – CONNECT LEAD "P" TO BATTERY POSITIVE (+) TERMINAL ON STARTER SOLENOID.
USE WIRE HARNESS PROVIDED, CUT AND TERMINATE AS REQUIRED.

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

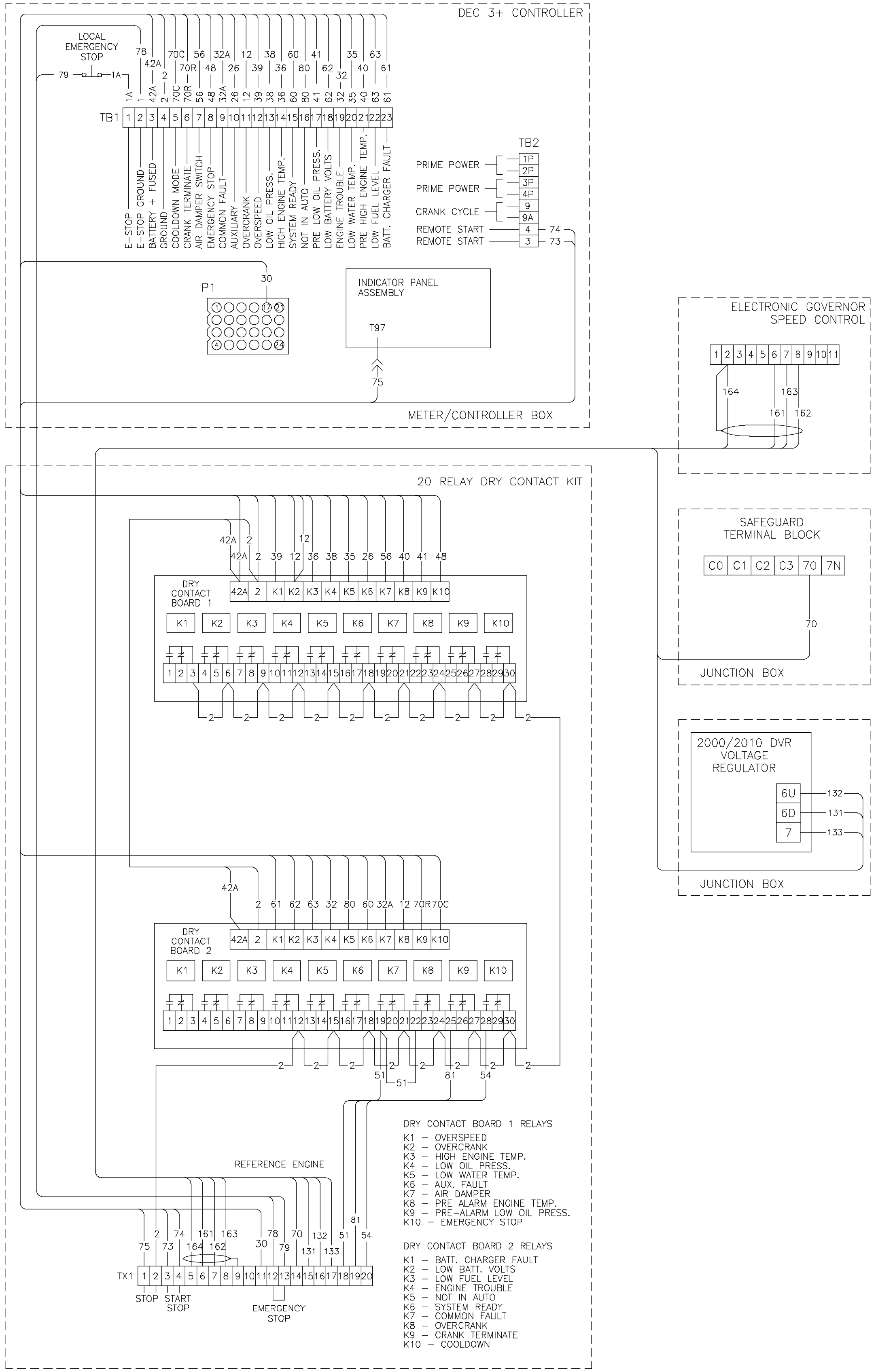
UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | PWH | 1-24-95 |
| CHECKED | JS | 3-10-95 |
| APPROVED | DAH | 3-15-95 |

TITLE
DIAGRAM,
INTERCONNECTION

SCALE / / /
CAD NO. 328912B.dwg
SHEET 2-3
PLOTTED
DWG. NO. 328912
D G

| REV | DATE | REVISION | BY | MF |
|---|---|---|---|---|
| A | 10-9-96 | SHEET 3 OF 3 ADDED [45684] | KAR | |
| B | 11-19-97 | (A-2) "MICROPROCESSOR-PLUS" WAS "DEC 3+" ON | | |
| | | SPECTRUM TITLEBLOCK [52692] | KAR | |
| F | 4-21-99 | (A-2) INSTALLATION NOTE ADDED [58396] | LDA | |
| G | 4-20-04 | SEE SHEET 2 [72023] | SAM | |
| | | | | |
| | | | | |



WIRING FOR DRY CONTACT KIT #342415 (DEC 3+ CONTROLLER)

INSTALLATION NOTE:

FOR FIELD INSTALLATION A MAXIMUM OF TWO WIRE TERMINALS PER TERMINAL STRIP SCREW IS RECOMMENDED UNLESS OTHERWISE NOTED ON THE WIRING DIAGRAM. DO NOT EXTEND ABOVE THE TERMINAL STRIP BARRIER.

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

| APPROVALS | | DATE |
|---|---|---|
| DRAWN | KAR | 10-9-96 |
| CHECKED | JS | 10-10-96 |
| APPROVED | DAH | 10-10-96 |

TITLE
DIAGRAM,
INTERCONNECTION

SCALE / / / CAD NO. 328912C.DWG SHEET 3-3
PLOTTED DWG. NO. 328912 D G

DDC/MTU Power Generation
605 North 8th Street, Suite 501
Sheboygan, Wisconsin 53081 USA
Phone 920-451-0846, Fax 920-451-0843
ddcmtupowergeneration.com

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