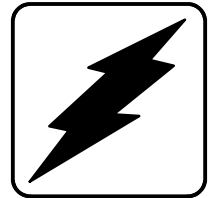


Wiring Diagrams

Industrial Generator Sets



Models:

350-2000ROZD (Detroit Diesel Powered)

Controllers:

Decision-Maker™ 3+, 16-Light

Decision-Maker™ 3+, 7-Light

Decision-Maker™ 3, 16-Light

Decision-Maker™ 3, 6-Light

Engine Gauge Box for Paralleling (Switchgear)

KOHLER[®]
POWER SYSTEMS

ISO 9001
KOHLER
GENERATORS
INTERNATIONALLY REGISTERED
U.S.A. Plant ISO Registered

TP-5722 1/97b

Introduction

This manual contains the wiring diagrams for the 350-2000ROZD Detroit Diesel-powered models equipped with microprocessor controller and engine gauge box for paralleling controller (switchgear). Use the wiring diagram cross-reference to determine the correct wiring diagrams.

All information in this publication represents data available at time of printing. Kohler Co. reserves the right to change this literature and the products represented without incurring obligation.

Service Assistance

For sales and service in the U.S.A. and Canada check the yellow pages of the telephone directory under the heading GENERATORS—ELECTRIC for an authorized service distributor/dealer or call 1-800-544-2444.

For sales and service outside the U.S.A. and Canada, contact your local distributor.

For further information or questions, contact the company directly at:

KOHLER CO., Kohler, Wisconsin 53044 U.S.A.
Phone: 920-565-3381
Fax: 920-459-1646 (U.S.A. Sales)
920-459-1614 (International)

Kohler Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone: (65)264-6422, Fax (65)264-6455

To ensure supply of correct parts or information, make note of the following identification numbers in the spaces provided:

GENERATOR SET

MODEL, SPEC, and SERIAL numbers are found on the nameplate attached to the generator set.

Model No. _____

Specification No. _____

Serial No. _____

GENERATOR SET ACCESSORIES

An alternate nameplate inside the junction box identifies factory-installed generator set accessories.

Accessory Nos. _____

ENGINE

The engine serial number is found on the engine nameplate.

Engine Serial No. _____

Wiring Diagrams

This manual applies to the model numbers and specification (spec) numbers following. On occasion this manual may be applicable to specs not listed below, such as when similar new specs are created prior to the updated reprint or in cases where the manual is deemed an acceptable substitute for a manual under development.

Use the Wiring Diagram Cross-Reference to determine the correct version number for a given model number and spec number. Find that version number in the Controller Wiring Diagrams Reference and determine the wiring diagrams by choosing the type of controller on the unit. Wiring diagram pages are numbered and arranged in numerical sequence by the numeric part of the alphanumeric part number.

Wiring Diagram Cross-Reference

Model No.	Spec. No.	Wiring Diagram Version No.
350ROZD	132801, 132819-23, 132903-18	1
	132519-23	(2, 3)*
400ROZD	132361, 132802, 132851-74	1
	132524-30	(2, 3)*
450ROZD	132382-5, 132904, 132907-9, 132916/19/20, 132980, 132993-7	1
	132531-5	(2, 3)*
500ROZD	132310-5, 132362, 132905/6/10/11/13/26/27, 132981	1
	132536-42	(2, 3)*
600ROZD	132316-21, 132363, 132911/12/14/15/18/28/29, 132982	1
	132543-9	(2, 3)*
750ROZD	132322-7, 132364, 132368-74, 132921-5, 132930/36, 132983	1
	132550-6	(2, 3)*
	132668-	3
800ROZD	132328-33, 132365, 132375-81, 132931-5, 132937/8, 132984	1
	132557-63	(2, 3)*
	132678-	3
900ROZD	132334-9, 132836, 132941-50, 132978, 132985 (12V-149TIB engine)	1
	132564-70 (12V-149TIB engine)	2
	132583-9 (24V-71TA engine)	(2, 3)*
	132684-	3
1000ROZD	132340-4, 132951-60, 132979, 132986 (12V-149TIB engine)	1
	132571-5 (12V-149TIB engine)	2
	132590-4 (24V-71TA engine)	(2, 3)*
	132689-	3
1200ROZD	132345-50, 132367, 132387-93, 132961, 132966-8, 132987, 132989-92	1
	132576-82	(2, 3)*
	132730-	3
1250ROZD	132740-	3
1500ROZD	132351-5, 132394-8, 132971-7, 132988	1
	132423-7	(2, 3)*
	132748-	3
1600ROZD	132356-60, 132412-6	1
	132428-32	(2, 3)*
	132756-	3
2000ROZD	132720-25, 132727, 132729-	3

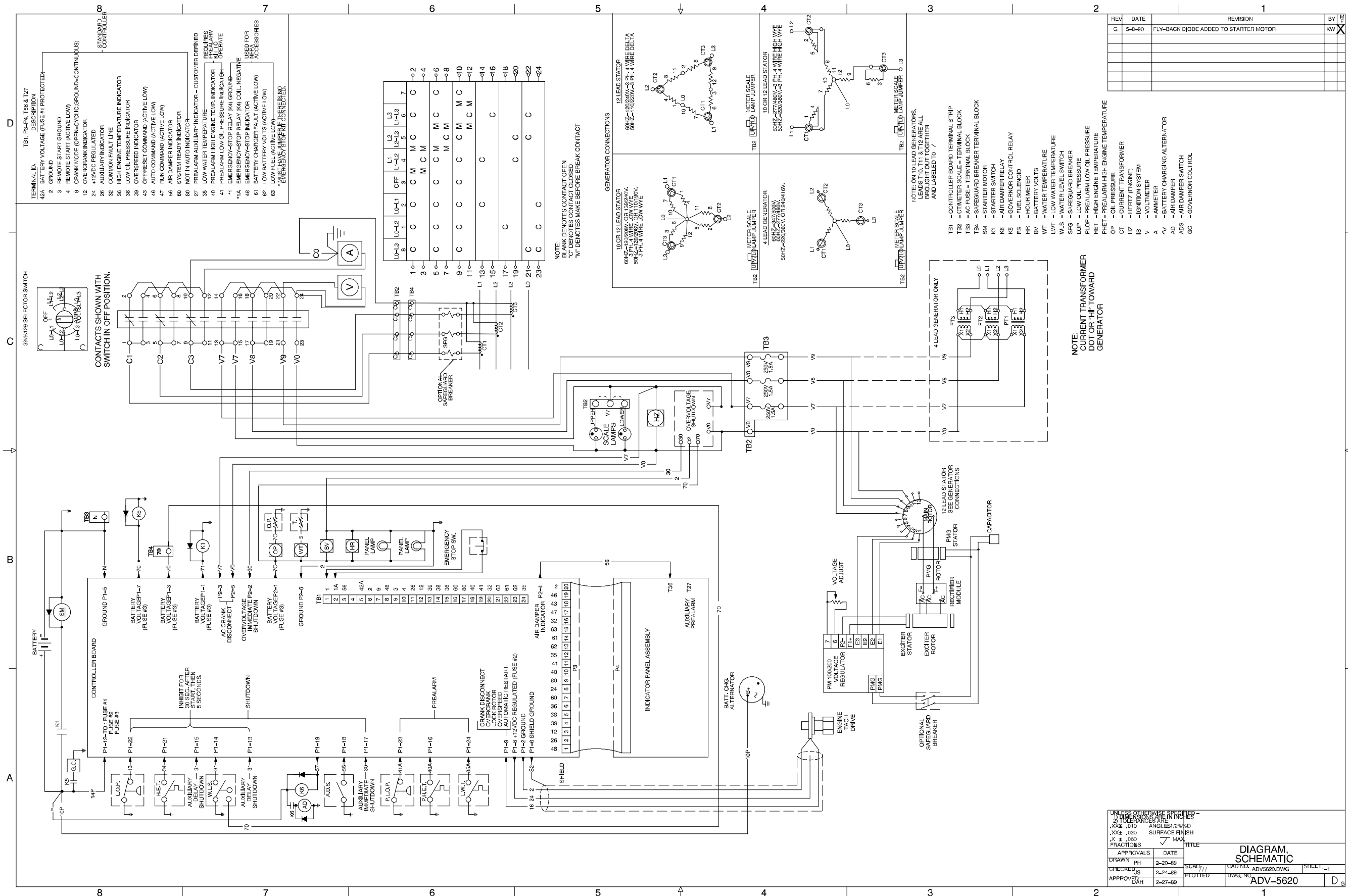
* Use version 2 for serial no. below 363369
Use version 3 for serial no. 363369 and above

Controller Wiring Diagrams Reference

Controller Description (350-2000ROZD)	Version 1	Pg	Version 2	Pg	Version 3	Pg
Microprocessor Controller (350-1600ROZD)						
Point-to-Point Wiring Diagram						
Standard	274249-J	28	279947-C	29	347152-B	34
Oversize	272891-G	27	279948-C	30	347153-B	35
Schematic Diagram						
3ph/600V	ADV-5620-G	1	ADV-5810-B	8	ADV-6005-	9
Microprocessor Controller Accessory Connections						
Accessories	255828A-M	16	255828A-M	16	328912A-C	31
Remote Annunciator Kit						
10-Relay	255828B-L	17	255828B-L	17	-	
14-Relay	255828C-C	18	255828C-C	18	328912B-B	32
20-Relay Dry Contact Kit					328912C-A	33
Microprocessor Controller (2000ROZD)						
Point-to-Point Wiring Diagram						
Standard						
Sheet 1					347396A-C	36
Sheet 2					347396B-D	37
Oversize						
Sheet 1					347570A-	40
Sheet 2					347570B-A	41
Schematic Diagram						
3ph/600V						
Sheet 1					ADV-6091A-A	10
Sheet 2					ADV-6091B-	11
Microprocessor Controller Accessory Connections						
Accessories					328912A-C	31
Remote Annunciator Kit						
10-Relay					-	
14-Relay					328912B-B	32
20-Relay Dry Contact Kit					328912C-A	33
Engine Gauge Box for Paralleling Controller (Switchgear) (350-1600ROZD)						
Point-to-Point Wiring Diagram						
Sheet 1	261152A-H	19	261423A-C	23	261423A-C	23
Sheet 2	261152B-J	20	261423B-E	24	261423B-E	24
Sheet 3	261152C-H	21	261423C-C	25	261423C-C	25
Sheet 4	261152D-H	22	261423D-B	26	261423D-B	26
Schematic Diagram	ADV-5712A-E	2	ADV-5809A-B	5	ADV-5809A-B	5
Accessories	ADV-5712B-E	3	ADV-5809B-B	6	ADV-5809B-B	6
Woodward Governor	ADV-5712C-E	4	ADV-5809C-B	7	ADV-5809C-B	7

Controller Description (350-2000ROZD)	Version 1	Pg	Version 2	Pg	Version 3	Pg
Engine Gauge Box for Paralleling Controller (Switchgear) (2000ROZD)						
Point-to-Point Wiring Diagram						
380-4160 V						
Sheet 1					347397A-B	38
Sheet 2					347397B-E	39
6.6-13.8 kV						
Sheet 1					347973A-B	42
Sheet 2					347973B-C	43
Schematic Diagram						
380-4160 V						
Sheet 1					ADV-6171A-	12
Sheet 2					ADV-6171B-	13
6.6-13.8 kV						
Sheet 1					ADV-6172A-	14
Sheet 2					ADV-6172B-	15

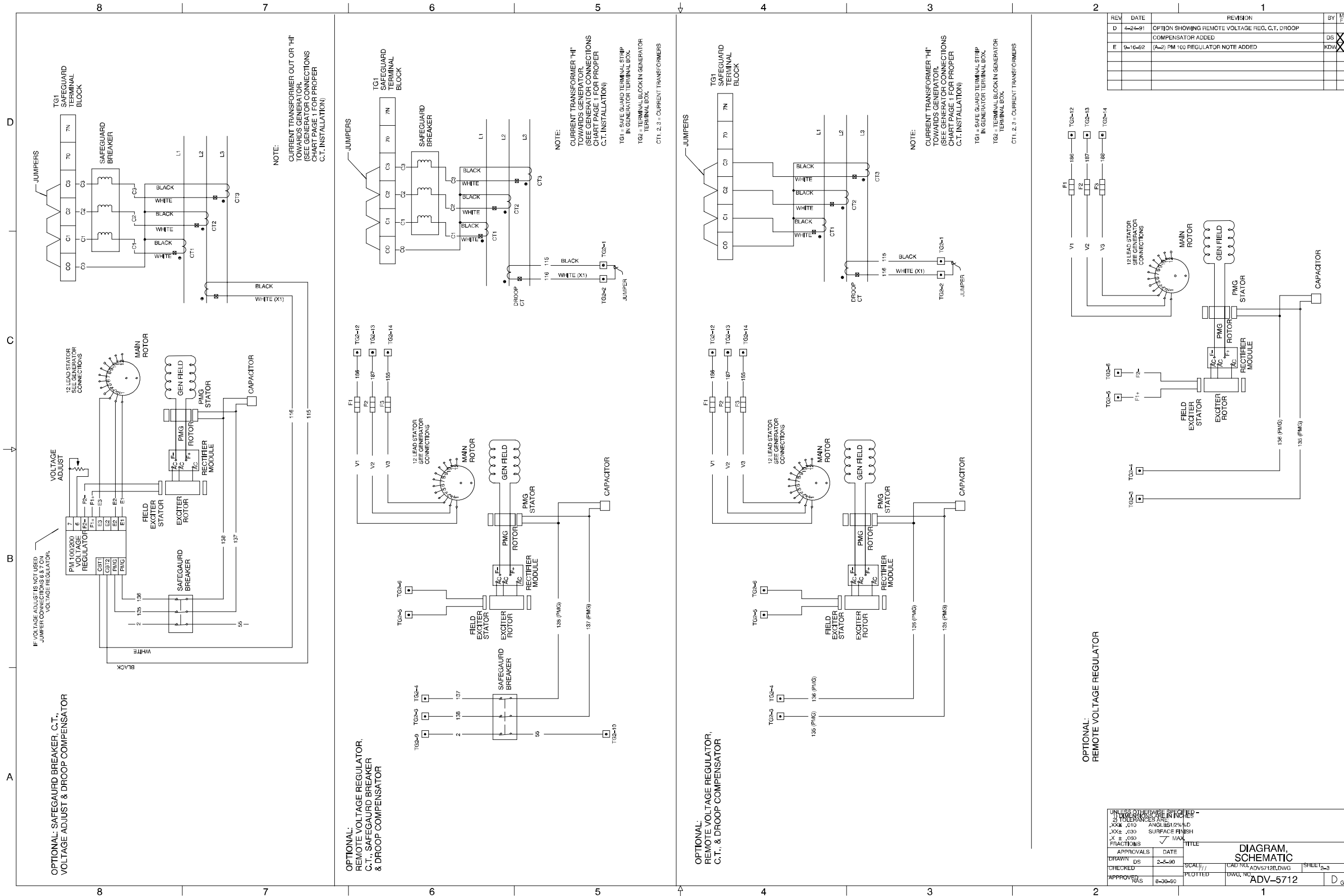
NOTE: Version 1 uses the PM100 voltage regulator.
Version 2 uses the DVR2000 voltage regulator and Decision-Maker™ 3 microprocessor controller.
Version 3 uses the Decision-Maker™ 3+ microprocessor controller.



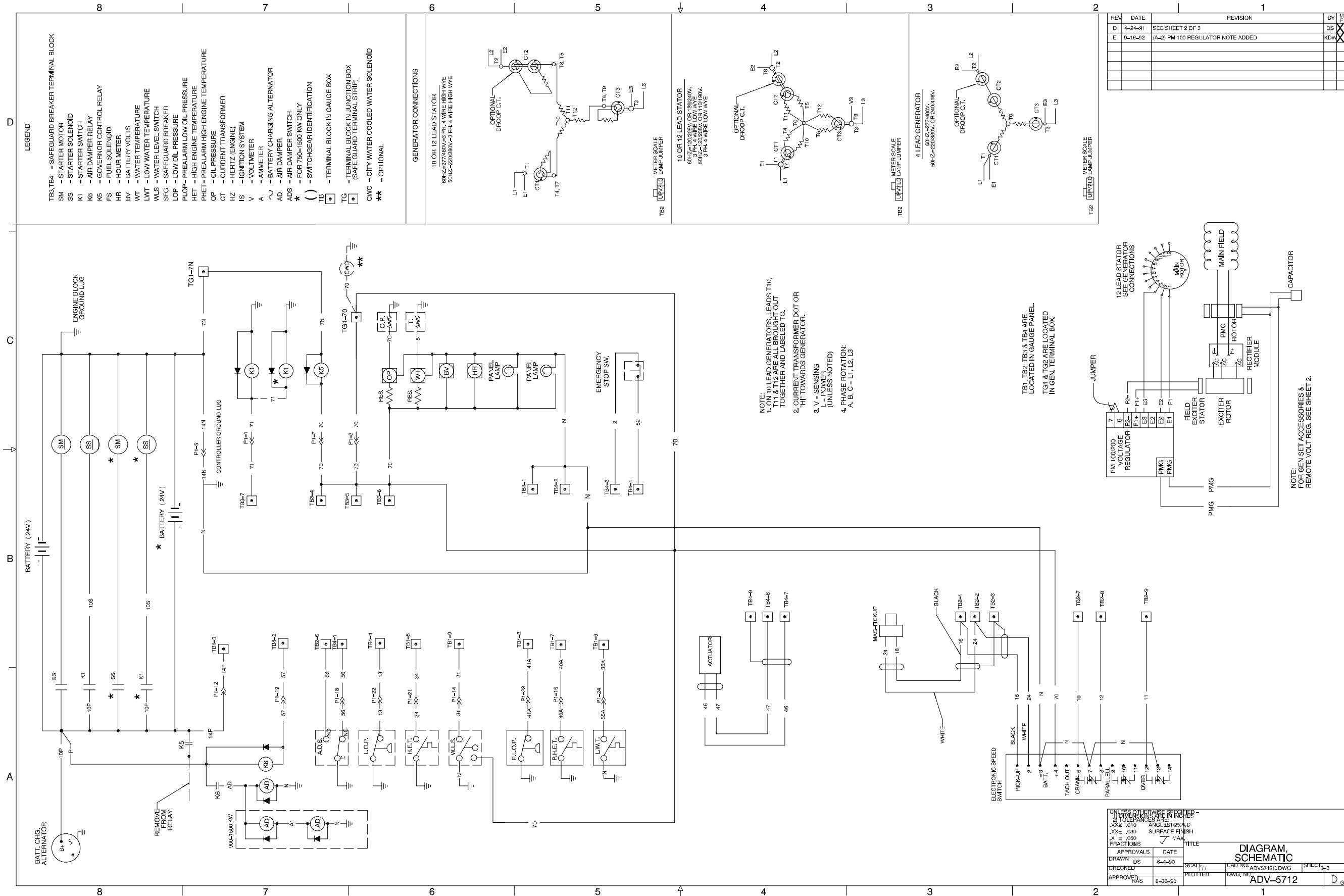
REV	DATE	REVISION	BY
G	5-8-80	FLY-BACK DIODE ADDED TO STARTER MOTOR	KW

APPROVALS		DATE	TITLE	
DRAWN	PH	2-20-89	DIAGRAM, SCHEMATIC	
CHECKED	JS	2-24-89	CAD NO.	ADV5620.DWG
APPROVED	EAH	2-27-89	PLOTTED	DWG NO. ADV-5620

Microprocessor Controller, Schematic Diagram, 3ph/600V, ADV-5620-G



Engine Gauge Box for Paralleling Controller (Switchgear), Accessories, ADV-5712B-E

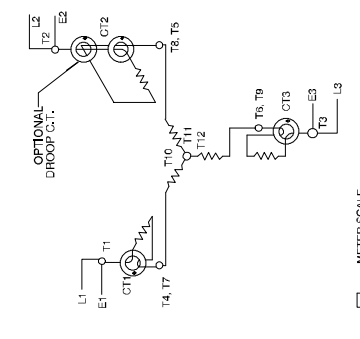


LEGEND

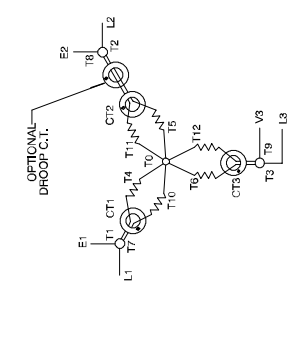
TB1, TB4 - SAFEGUARD BREAKER TERMINAL BLOCK
 SM - STARTER MOTOR
 SS - STARTER SOLENOID
 K1 - AIR DAMPER RELAY
 K6 - GOVERNOR CONTROL RELAY
 FS - FUEL SOLENOID
 HR - HOUR METER
 BV - BATTERY VOLTS
 WT - WATER TEMPERATURE
 LWT - LOW WATER TEMPERATURE
 WLS - WATER LEVEL SWITCH
 SFG - SAFEGUARD BREAKER
 LOP - LOW OIL PRESSURE
 PLOP - PREALARM LOW OIL PRESSURE
 HET - HIGH ENGINE TEMPERATURE
 PHET - PREALARM HIGH ENGINE TEMPERATURE
 OP - OIL PRESSURE
 CT - CURRENT TRANSFORMER
 HZ - HERTZ (ENGINE)
 IS - IGNITION SYSTEM
 V - VOLTMETER
 A - AMMETER
 AD - AIR DAMPER
 ADS - AIR DAMPER SWITCH
 * - FOR 750-1500 KW ONLY
 () - SWITCHGEAR IDENTIFICATION
 TB - TERMINAL BLOCK IN GAUGE BOX
 TG - TERMINAL BLOCK IN JUNCTION BOX (SAFEGUARD TERMINAL STRIP)
 CWC - CITY WATER COOLED WATER SOLENOID
 ** - OPTIONAL

GENERATOR CONNECTIONS

10 OR 12 LEAD STATOR
 60HZ-277/480V-3 PH, 4 WIRE HIGH WYE
 50HZ-240/380V-3 PH, 4 WIRE HIGH WYE



10 OR 12 LEAD STATOR
 60HZ-277/480V-3 PH, 4 WIRE HIGH WYE
 50HZ-240/380V-3 PH, 4 WIRE LOW WYE
 50HZ-240/380V-3 PH, 4 WIRE LOW WYE
 3 PH, 4 WIRE LOW WYE

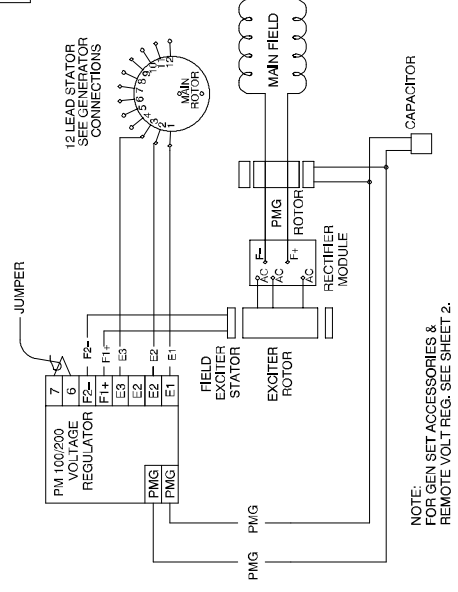


4 LEAD GENERATOR
 60HZ-277/480V-3 PH, 4 WIRE HIGH WYE
 50HZ-240/380V-3 PH, 4 WIRE LOW WYE

REV	DATE	REVISION	BY
D	4-24-91	SEE SHEET 2 OF 3	DS
E	6-16-02	(A-2) PM 100 REGULATOR NOTE ADDED	KDW

- NOTE:**
- ON 10 LEAD GENERATORS, LEADS T10, T11 & T12 ARE ALL BROUGHT OUT TOGETHER AND LABELED T10. "H" TOWARDS GENERATOR.
 - CURRENT TRANSFORMER DOT OR "H" TOWARDS GENERATOR.
 - V - SENSING
= POWER (UNLESS NOTED)
A, B, C = L1, L2, L3
 - PHASE ROTATION:

TB1, TB2, TB3 & TB4 ARE LOCATED IN GAUGE PANEL.
 TG1 & TG2 ARE LOCATED IN GEN. TERMINAL BOX.

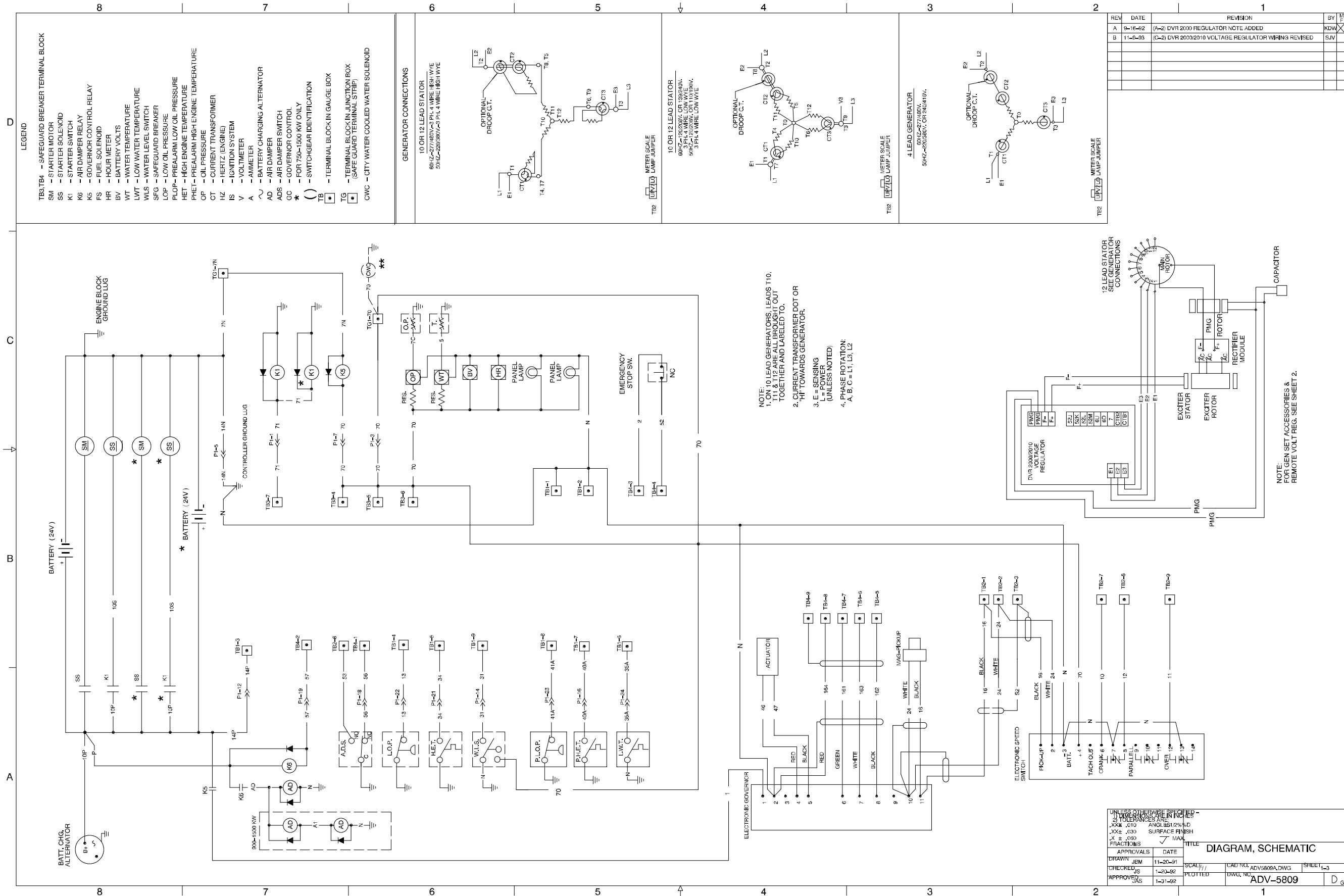


NOTE: ORIGINAL GEN SET ACCESSORIES & REMOTE VOLT REG. - SEE SHEET 2.

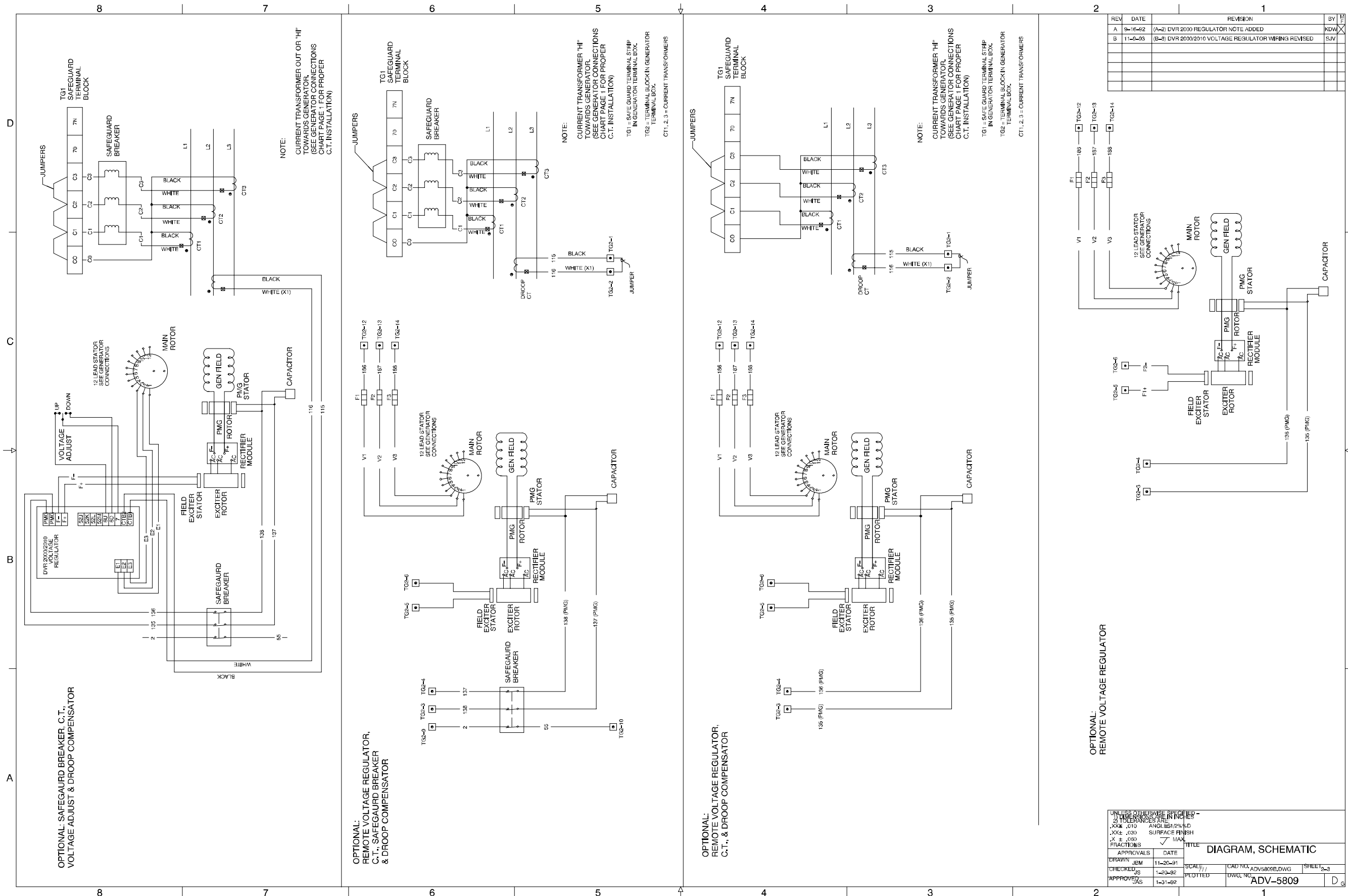
APPROVALS	DATE	TITLE
DRAWN DS	8-4-90	DIAGRAM, SCHEMATIC
CHECKED DS		
APPROVED HAS	8-30-90	

CAD NO. ADV5712C.DWG SHEET 3-3
 DWG. NO. ADV-5712

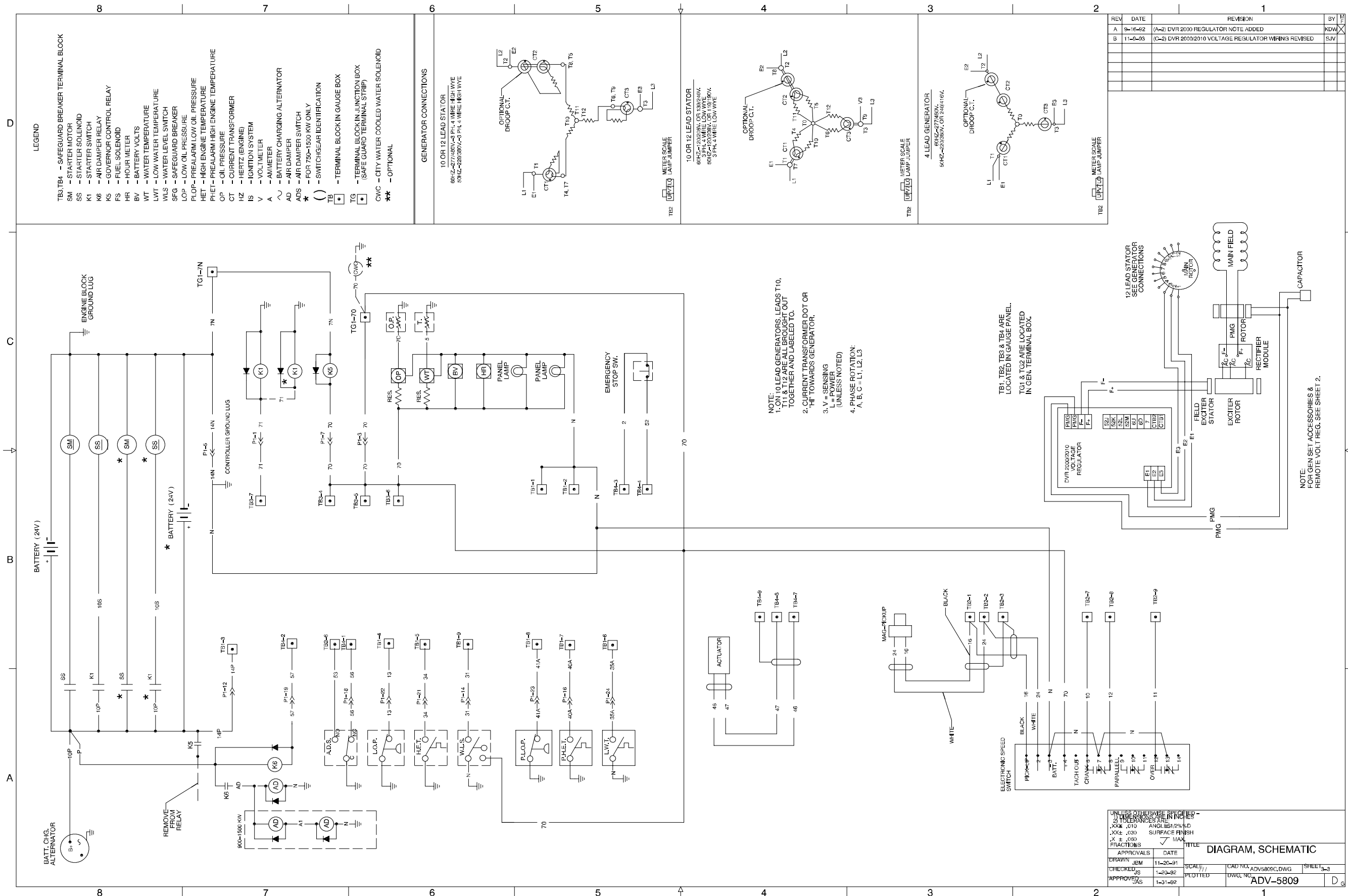
Engine Gauge Box for Paralleling Controller (Switchgear), Woodward Governor, ADV-5712C-E



Engine Gauge Box for Paralleling Controller (Switchgear), Schematic Diagram, ADV-5809A-B



Engine Gauge Box for Paralleling Controller (Switchgear), Accessories, ADV-5809B-B

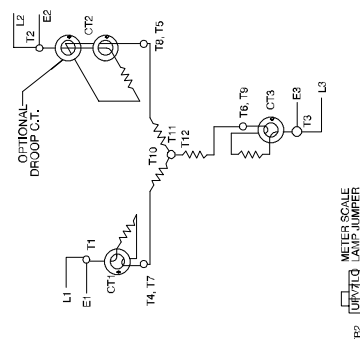


LEGEND

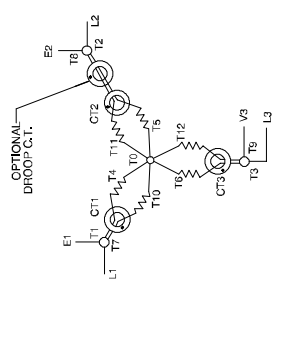
TB3, TB4 - SAFEGUARD BREAKER TERMINAL BLOCK
 SM - STARTER MOTOR
 SS - STARTER SOLENOID
 K1 - STARTER SWITCH
 K6 - AIR DAMPER RELAY
 K5 - GOVERNOR CONTROL RELAY
 FS - FUEL SOLENOID
 HR - HOUR METER
 BV - BATTERY VOLTS
 WT - WATER TEMPERATURE
 LWT - LOW WATER TEMPERATURE
 WLS - WATER LEVEL SWITCH
 SFG - SAFEGUARD BREAKER
 LOP - LOW OIL PRESSURE
 FLOP - PREALARMS LOW OIL PRESSURE
 HET - HIGH ENGINE TEMPERATURE
 PHET - PREALARMS HIGH ENGINE TEMPERATURE
 OP - OIL PRESSURE
 CT - CURRENT TRANSFORMER
 HZ - HERTZ (ENGINE)
 IS - IGNITION SYSTEM
 V - VOLTMETER
 A - AMMETER
 ~ - BATTERY CHARGING ALTERNATOR
 AD - AIR DAMPER
 AUS - AIR DAMPER SWITCH
 * - FOR 750-1500 KW ONLY
 () - SWITCHGEAR IDENTIFICATION
 TB - TERMINAL BLOCK IN GAUGE BOX
 TG - TERMINAL BLOCK IN JUNCTION BOX (SAFEGUARD TERMINAL STRIP)
 CWC - CITY WATER COOLED WATER SOLENOID
 ** - OPTIONAL

GENERATOR CONNECTIONS

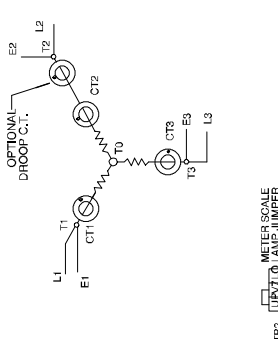
10 OR 12 LEAD STATOR
 60HZ-277/480V-3 PH, 4 WIRE HIGH WYE
 50HZ-260/380V-3 PH, 4 WIRE HIGH WYE



10 OR 12 LEAD STATOR
 60HZ-277/480V-3 PH, 4 WIRE LOW WYE
 50HZ-260/380V-3 PH, 4 WIRE LOW WYE
 3 PH, 4 WIRE LOW WYE

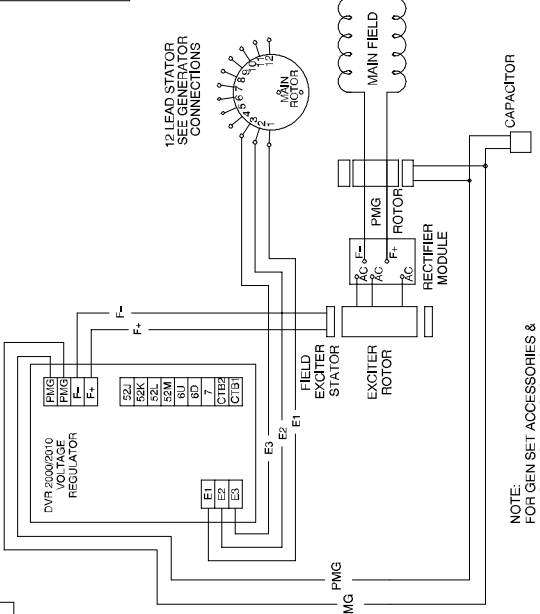


4 LEAD GENERATOR
 60HZ-277/480V-3 PH, 4 WIRE
 50HZ-260/380V-3 PH, 4 WIRE



NOTE:
 1. ON 10 LEAD GENERATORS, LEADS T10, T11 & T12 ARE ALL BROUGHT OUT TOGETHER AND LABELED T0.
 2. CURRENT TRANSFORMER DOT OR "H" TOWARDS GENERATOR.
 3. V = SENSING LINE POWER (UNLESS NOTED)
 4. PHASE ROTATION: A, B, C = L1, L2, L3

TB1, TB2, TB3 & TB4 ARE LOCATED IN GAUGE PANEL.
 TG1 & TG2 ARE LOCATED IN GEN. TERMINAL BOX.

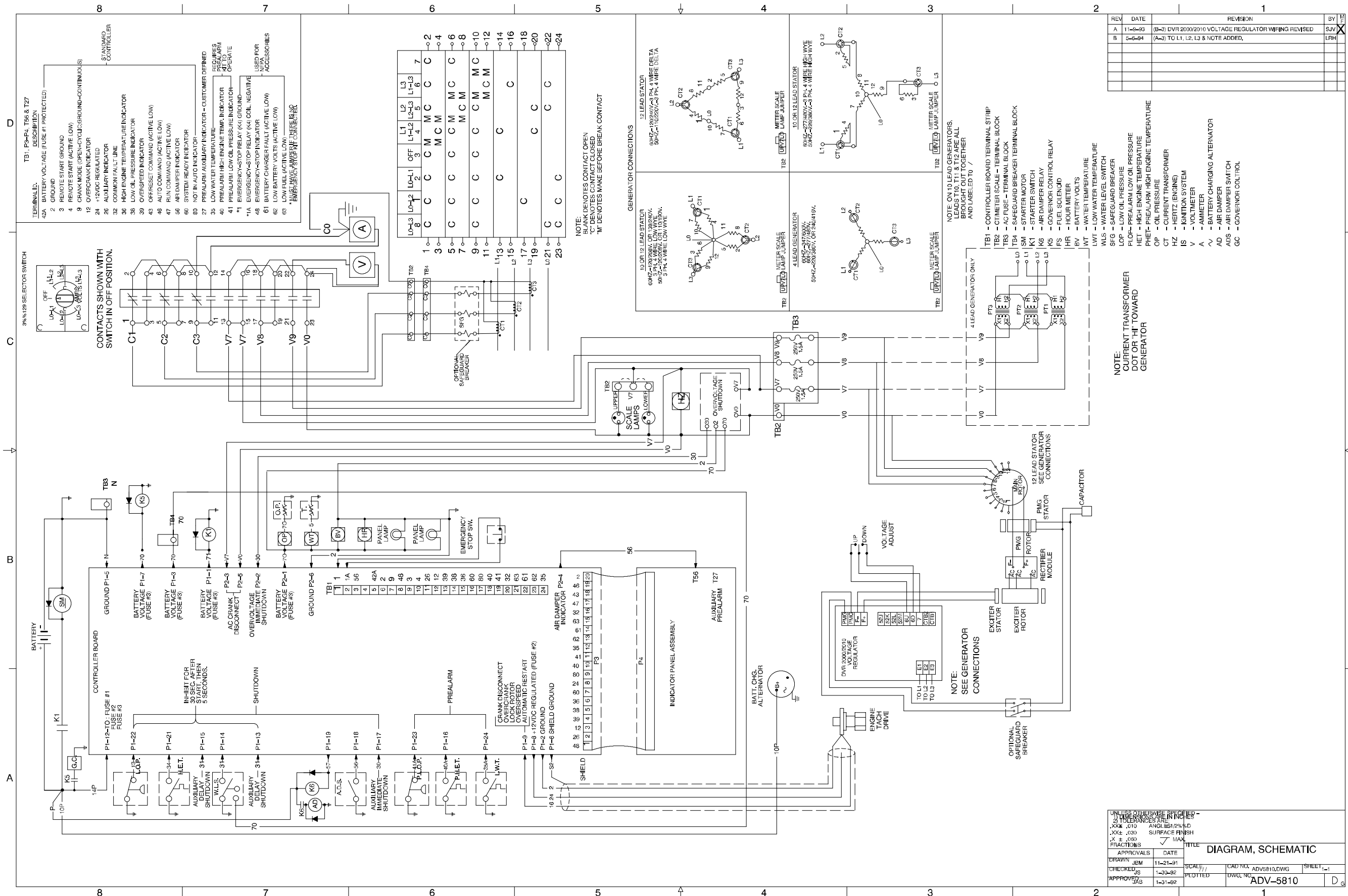


NOTE:
 FOR GEN SET ACCESSORIES & REMOTE VOLT REG. SEE SHEET 2.

UNLESS OTHERWISE SPECIFIED -
 DIMENSIONS ARE IN INCHES
 DECIMALS ARE IN THOUSANDS
 FRACTIONS ARE IN SIXTEENTHS
 SURFACE FINISH
 X ± .030 MAX
 X ± .050 MAX
 X ± .003 MAX

APPROVALS		DATE	TITLE	
DRAWN	JBM	11-20-91	DIAGRAM, SCHEMATIC	
CHECKED	JS	1-20-92	SCALE	FULL
APPROVED	CAS	1-31-92	PLOTTED	NO

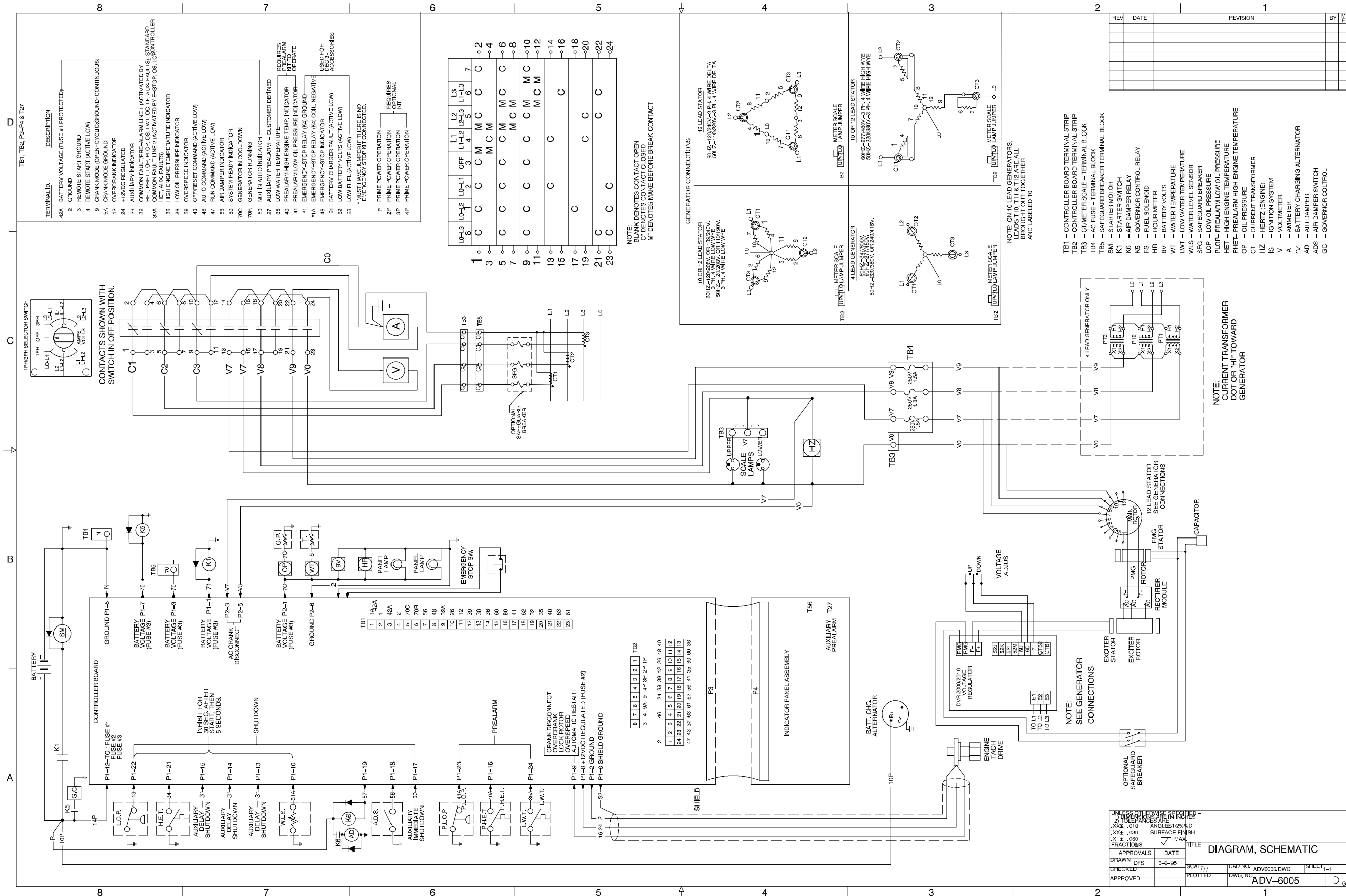
Engine Gauge Box for Paralleling Controller (Switchgear), Woodward Governor, ADV-5809C-B



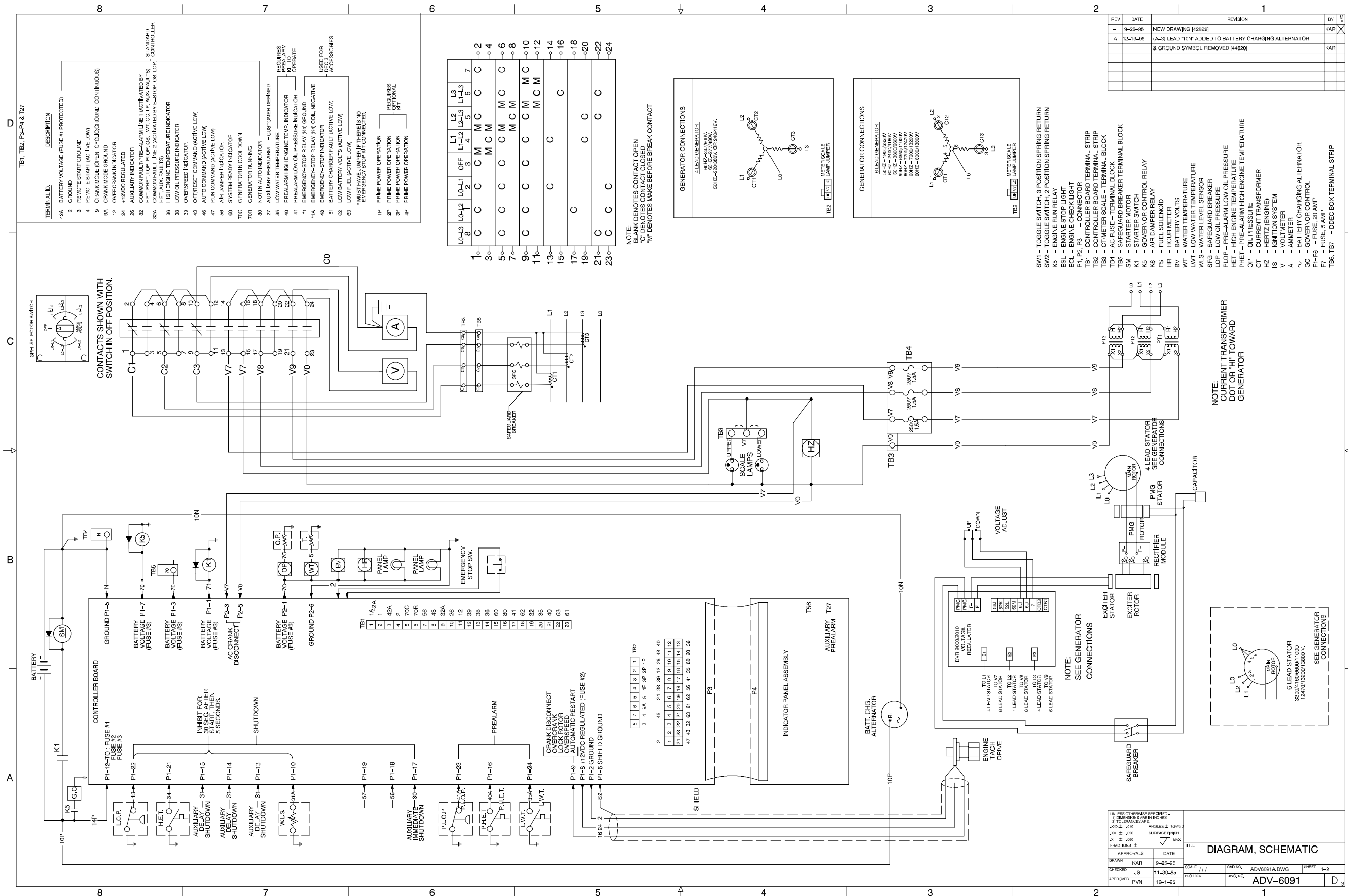
REV	DATE	REVISION	BY
A	11-8-93	(B-3) DVR 2000/2010 VOLTAGE REGULATOR WIRING REVISED	SJV
B	5-6-94	(A-3) TO L1, L2, L3 & NOTE ADDED.	LRH

APPROVALS		DATE	CAD NO.	SHEET
DRAWN	JBM	11-21-91	ADV581A.DWG	1
CHECKED	JS	1-30-92	DWG. NO.	ADV-5810
APPROVED	MB	1-31-92		D

Microprocessor Controller, Schematic Diagram, 3ph/600V, ADV-5810-B



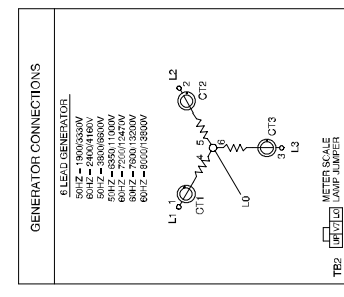
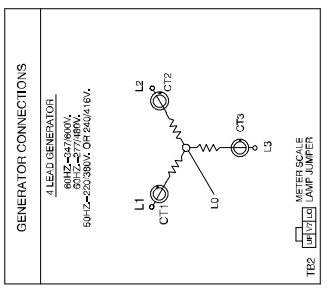
Microprocessor Controller, Schematic Diagram, 3ph/600V, ADV-6005-



REVISION		BY	DATE
1	NEW DRAWING (42628)	KAR	9-25-95
2	(A-3) LEAD '10' ADDED TO BATTERY CHARGING ALTERNATOR	KAR	10-19-95
3	GROUND SYMBOL REMOVED (44620)		

Terminal	Function	Terminal	Function
1-3	C	11	C
1-4	C	12	C
1-5	C	13	C
1-6	C	14	C
1-7	C	15	C
1-8	C	16	C
1-9	C	17	C
1-10	C	18	C
1-11	C	19	C
1-12	C	20	C
1-13	C	21	C
1-14	C	22	C
1-15	C	23	C
1-16	C	24	C

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



- SW1 - TOGGLE SWITCH, 3 POSITION SPRING RETURN
- SW2 - TOGGLE SWITCH, 2 POSITION SPRING RETURN
- K5 - ENGINE RUN RELAY
- ESL - ENGINE STOP LIGHT
- ECL - ENGINE CHECK LIGHT
- CT1 - CONTROLLER BOARD TERMINAL STRIP
- TB1 - CONTROLLER BOARD TERMINAL STRIP
- TB3 - CT METER SCALE - TERMINAL BLOCK
- TB4 - AC FUSE - TERMINAL BLOCK
- TB5 - SAFEGUARD BREAKER TERMINAL BLOCK
- SM - STARTER MOTOR
- K1 - GOVERNOR CONTROL RELAY
- K9 - AR DAMPER RELAY
- FS - FUEL SOLENOID
- HR - HOUR METER
- BV - BATTERY VOLTS
- WT - WATER TEMPERATURE
- LWT - LOW WATER TEMPERATURE
- WS - WATER LEVEL SENSOR
- SFG - SAFEGUARD/BREAKER
- FLOP - LOW OIL PRESSURE
- HET - HIGH ENGINE TEMPERATURE
- PHET - PRE-ALARM HIGH ENGINE TEMPERATURE
- OP - OIL PRESSURE
- OP - OIL PRESSURE
- HZ - HERTZ (ENGINE)
- IS - IGNITION SYSTEM
- V - VOLTMETER
- A - AMMETER
- GC - BATTERY CHARGING ALTERNATOR
- GC - GOVERNOR CONTROL
- F1-F6 - FUSE, 20 AMP
- F7 - FUSE, 5 AMP
- TB6, TB7 - DDEC BOX TERMINAL STRIP

NOTE:
 CURRENT TRANSFORMER
 DOT OR 'H' TOWARD
 GENERATOR

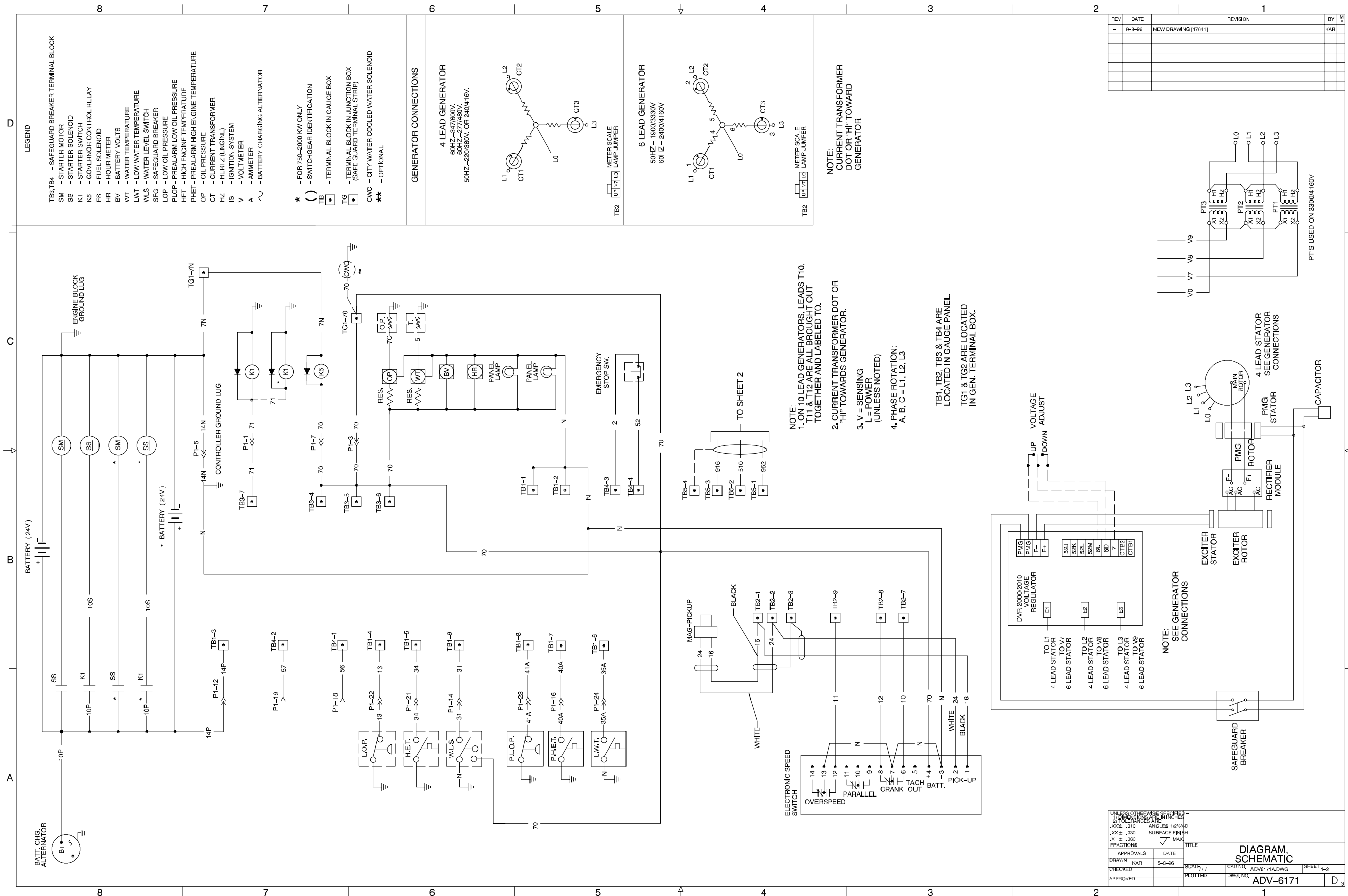
APPROVALS		DATE	SCALE	DWG. NO.	REV.	SHEET
DRAWN	KAR	9-25-95	1/1	ADV091A1DWG		1-2
CHECKED	JS	11-20-95				
APPROVED	PVN	12-1-95				

UNLESS OTHERWISE SPECIFIED -
 DIMENSIONS ARE IN INCHES
 SURFACE FINISH
 UNLESS OTHERWISE SPECIFIED -
 DIMENSIONS ARE IN INCHES
 SURFACE FINISH

TITLE: **DIAGRAM, SCHEMATIC**

DWG. NO.: **ADV-6091**

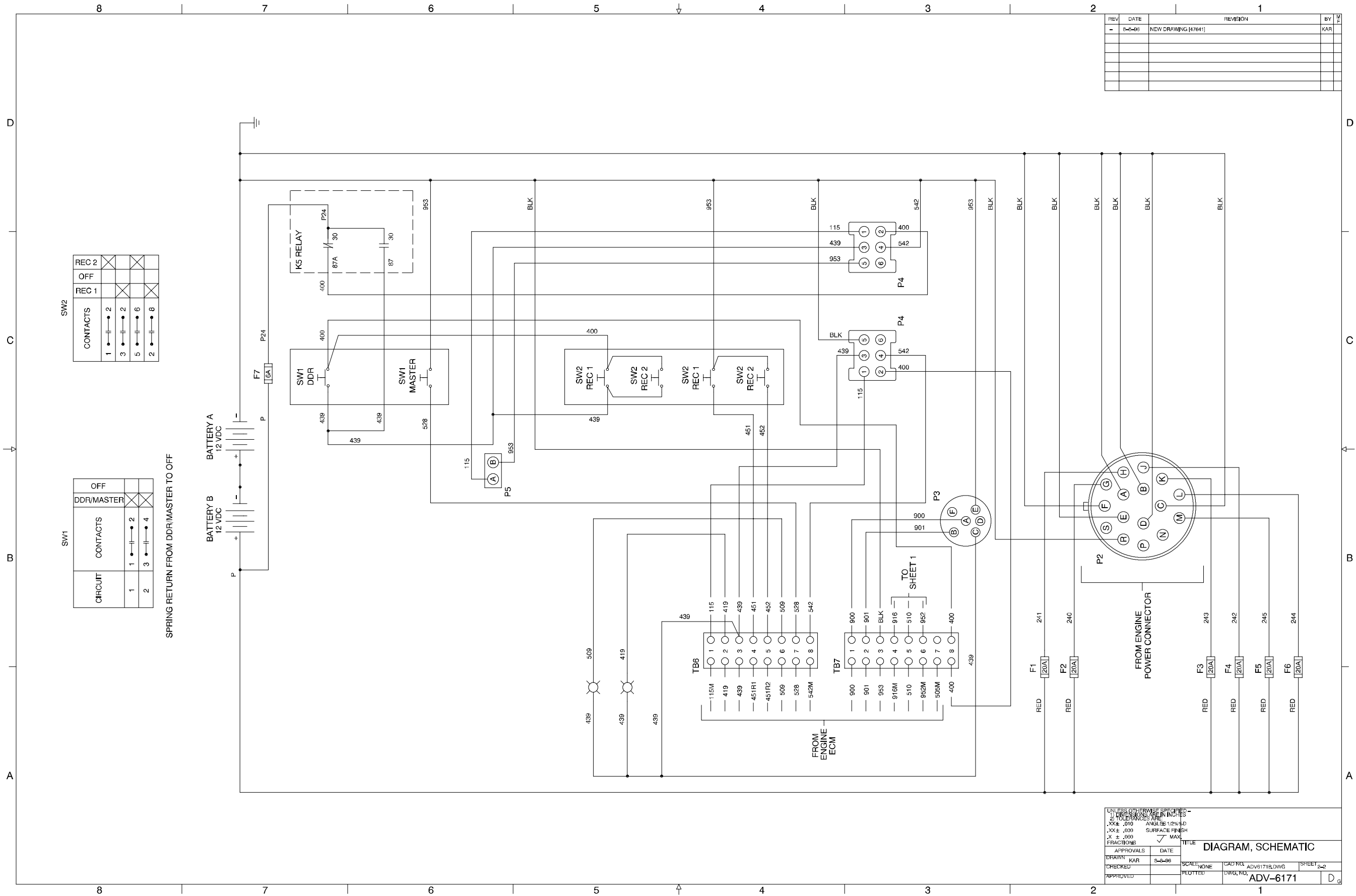
Microprocessor Controller, Schematic Diagram, 3ph/600V, Sheet 1, ADV-6091A-A



REV	DATE	REVISION	BY	CHK
-	8-8-96	NEW DRAWING (47941)	KAR	

APPROVALS		DATE	TITLE	
DRAWN	KAR	8-8-96	DIAGRAM, SCHEMATIC	
CHECKED			SCALE	CAD NO. ADV6171A.DWG
APPROVED			PLOTTED	DWG. NO. ADV-6171
				SHEET 1

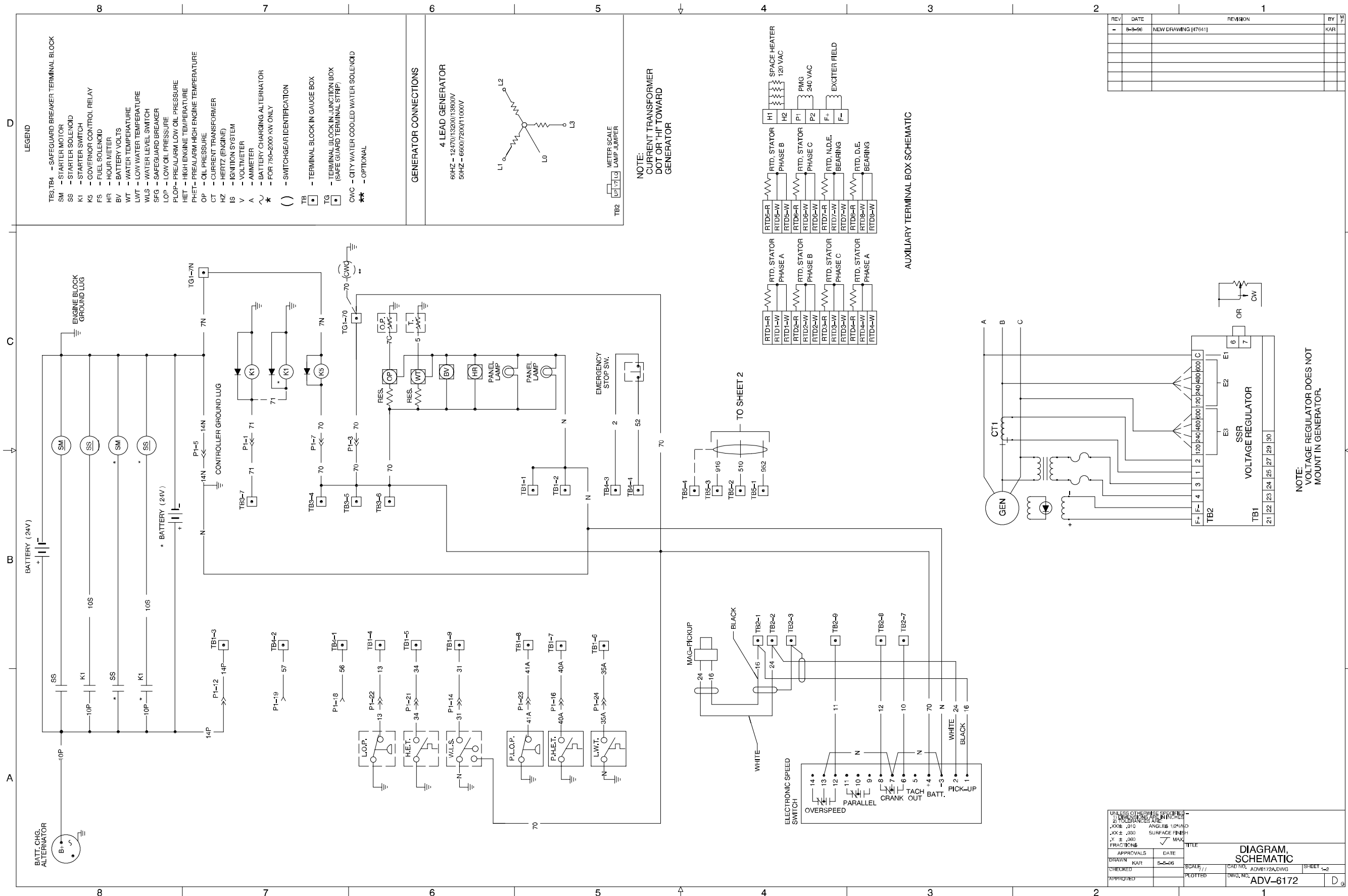
Engine Gauge Box for Paralleling Controller, Schematic Diagram, 380-4160 V, Sheet 1, ADV-6171A-



REV	DATE	REVISION	BY
-	8-3-06	NEW DRAWING (47641)	KAR

APPROVALS	DATE	TITLE
DRAWN: KAR	8-3-06	DIAGRAM, SCHEMATIC
CHECKED:		SCALE: NONE
APPROVED:		CAD NO: ADV6171R.DWG
		DWG NO: ADV-6171

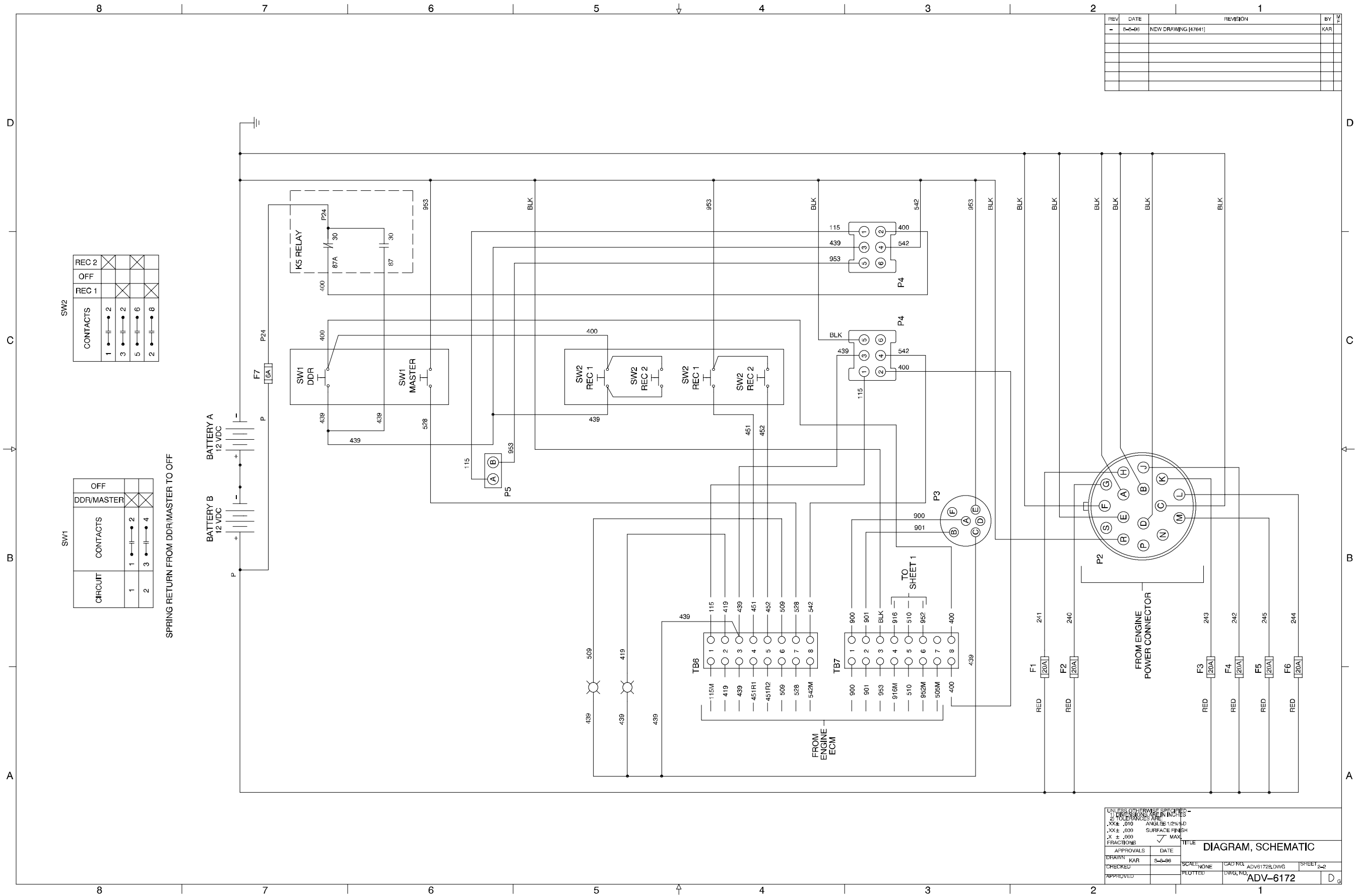
Engine Gauge Box for Paralleling Controller, Schematic Diagram, 380-4160 V, Sheet 2, ADV-6171B-



REV	DATE	REVISION	BY	M
-	8-8-96	NEW DRAWING (47941)	KAR	

UNLESS OTHERWISE SPECIFIED -		TITLE	
DIMENSIONS ARE IN INCHES		DIAGRAM, SCHEMATIC	
XX ± .010	ANGLE 1/2° MAX	CAD NO.	ADV6172A.DWG
XX ± .030	SURFACE FINISH	SHEET	1
XX ± .060	FRACTION	PLOTTED	
		DWG. NO.	ADV-6172

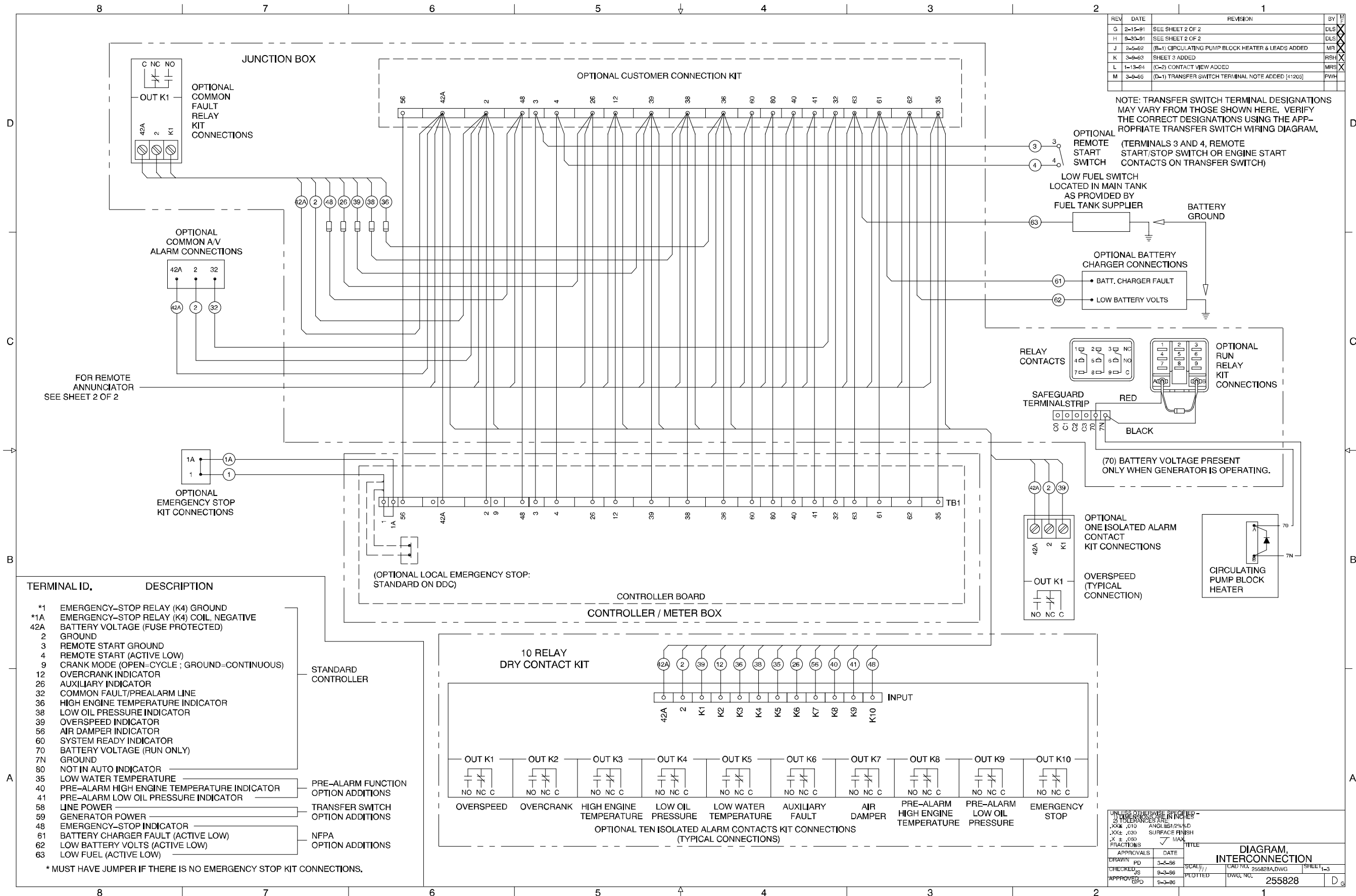
Engine Gauge Box for Paralleling Controller, Schematic Diagram, 6.6-13.8 kV, Sheet 1, ADV-6172A-



REV	DATE	REVISION	BY
-	8-3-08	NEW DRAWING (47641)	KAR

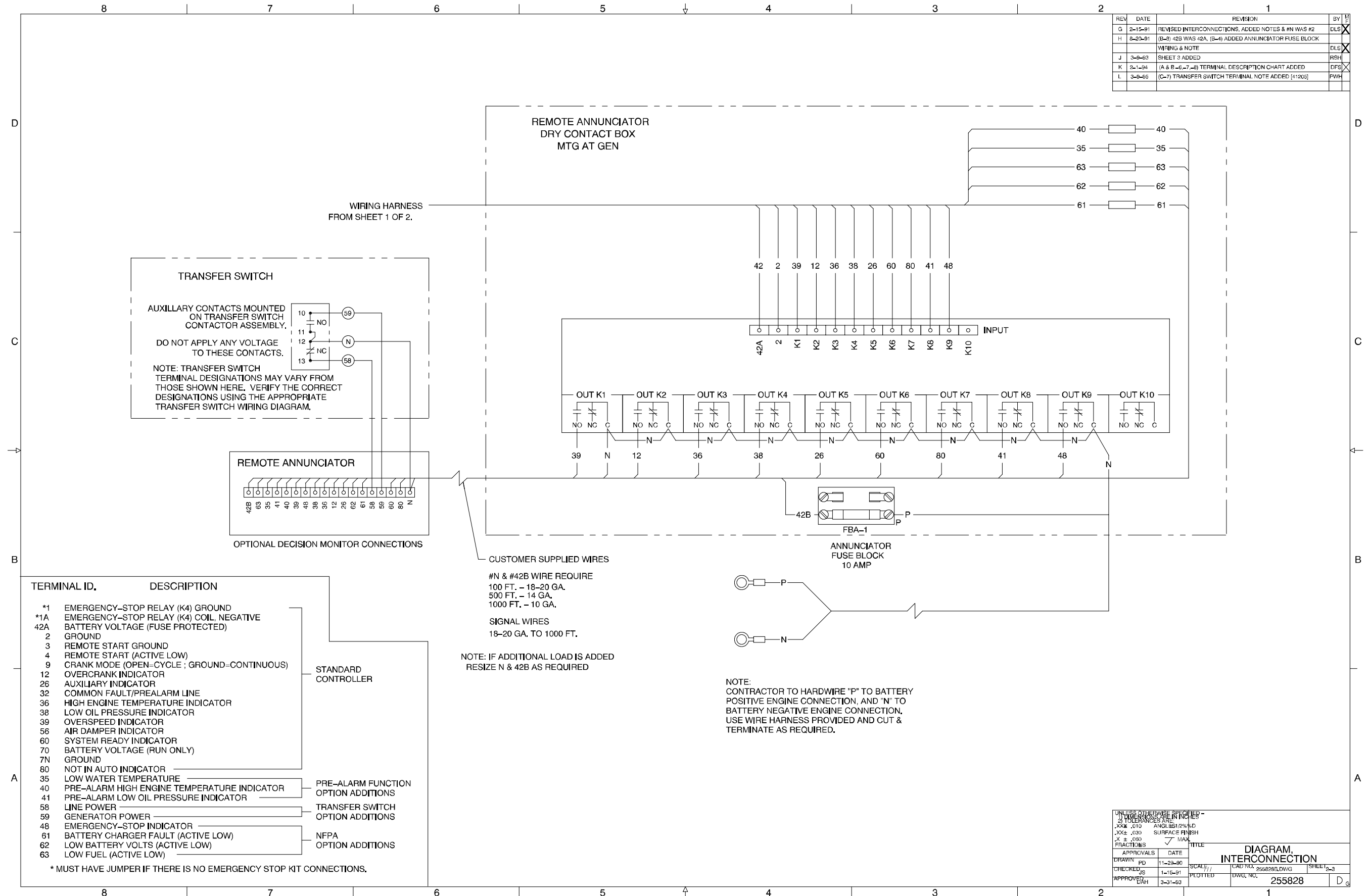
UNLESS OTHERWISE SPECIFIED -		TITLE	
DIMENSIONS ARE IN INCHES		DIAGRAM, SCHEMATIC	
TOLERANCES UNLESS NOTED		SCALE: NONE	CAD NO. ADV6172B.DWG
.XX ± .010	ANGLE 1/2° ± .01	CHECKED	SHEET 2 of 2
.XX ± .030	SURFACE FINISH	APPROVED	DWG. NO. ADV-6172
X ± .060	FRACTIONS		

Engine Gauge Box for Paralleling Controller, Schematic Diagram, 6.6-13.8 kV, Sheet 2, ADV-6172B-



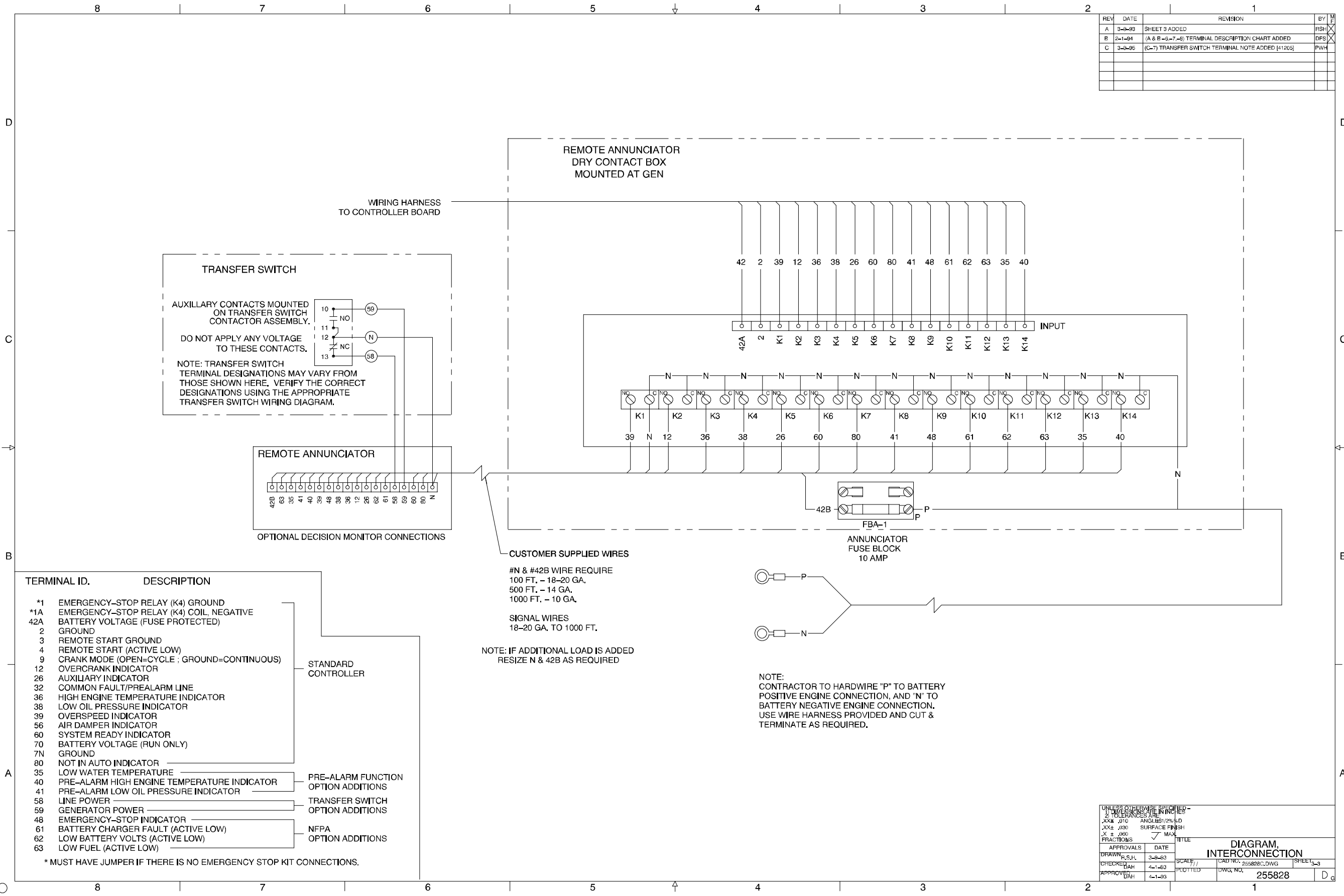
Microprocessor Controller Accessory Connections, Accessories, 255828A-M

REV	DATE	REVISION	BY
G	2-15-91	REVISED INTERCONNECTIONS, ADDED NOTES & #N WAS #2	DLS
H	8-20-91	(B-5) 42B WAS 42A, (B-4) ADDED ANNUNCIATOR FUSE BLOCK	DLS
J	3-9-93	WIRING & NOTE	DLS
K	2-1-94	SHEET 2 ADDED	RSH
L	3-9-95	(A & B-6-7-8) TERMINAL DESCRIPTION CHART ADDED (C-7) TRANSFER SWITCH TERMINAL NOTE ADDED [41205]	DFB PWH

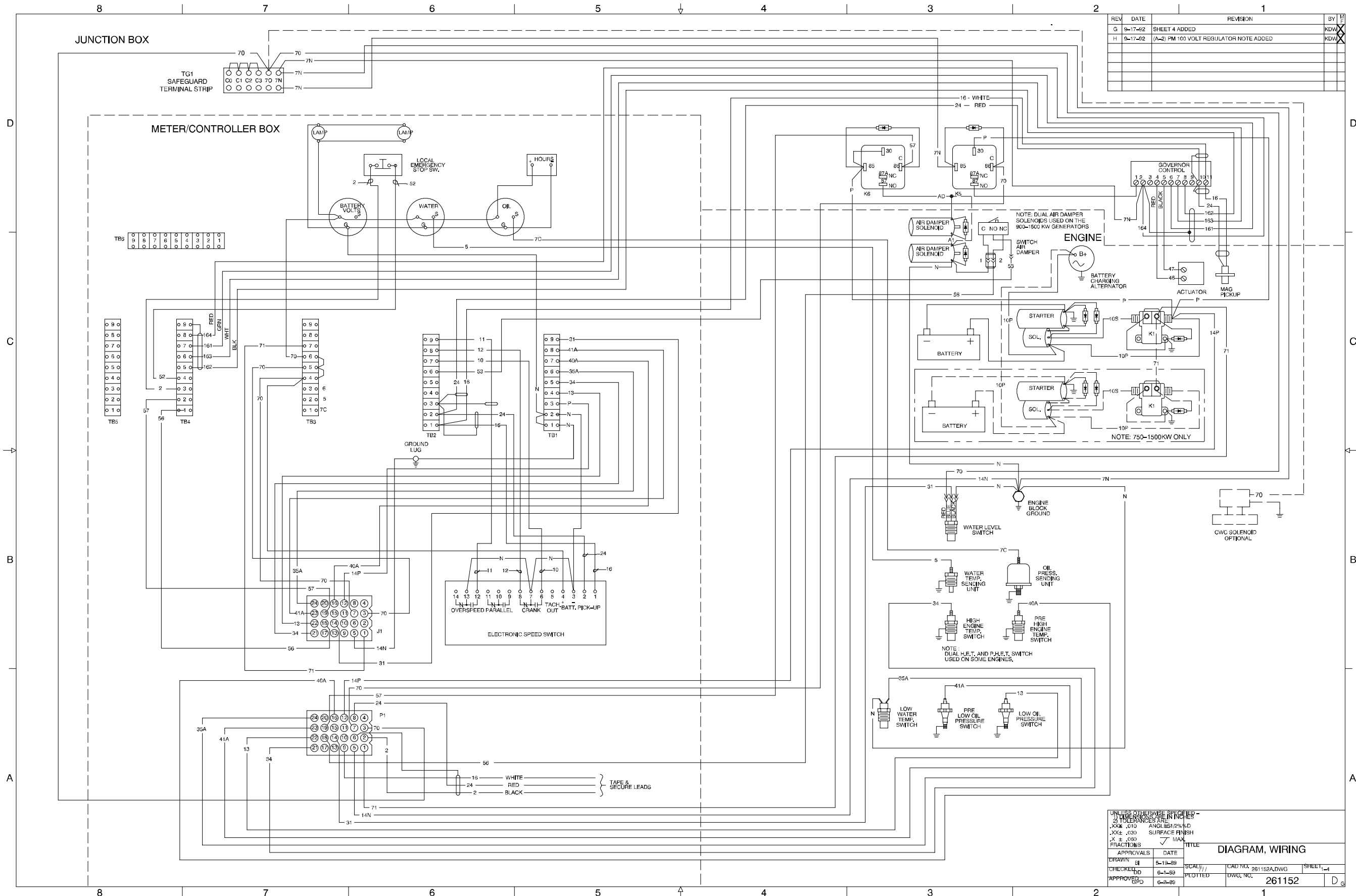


Microprocessor Controller Accessory Connections, Remote Annunciator Kit, 10-Relay, 255828B-L

REV	DATE	REVISION	BY
A	3-8-93	SHEET 3 ADDED	PSH
B	2-1-94	(A & B - 6-7-8) TERMINAL DESCRIPTION CHART ADDED	DFS
C	3-3-95	(C-7) TRANSFER SWITCH TERMINAL NOTE ADDED [41205]	PWH



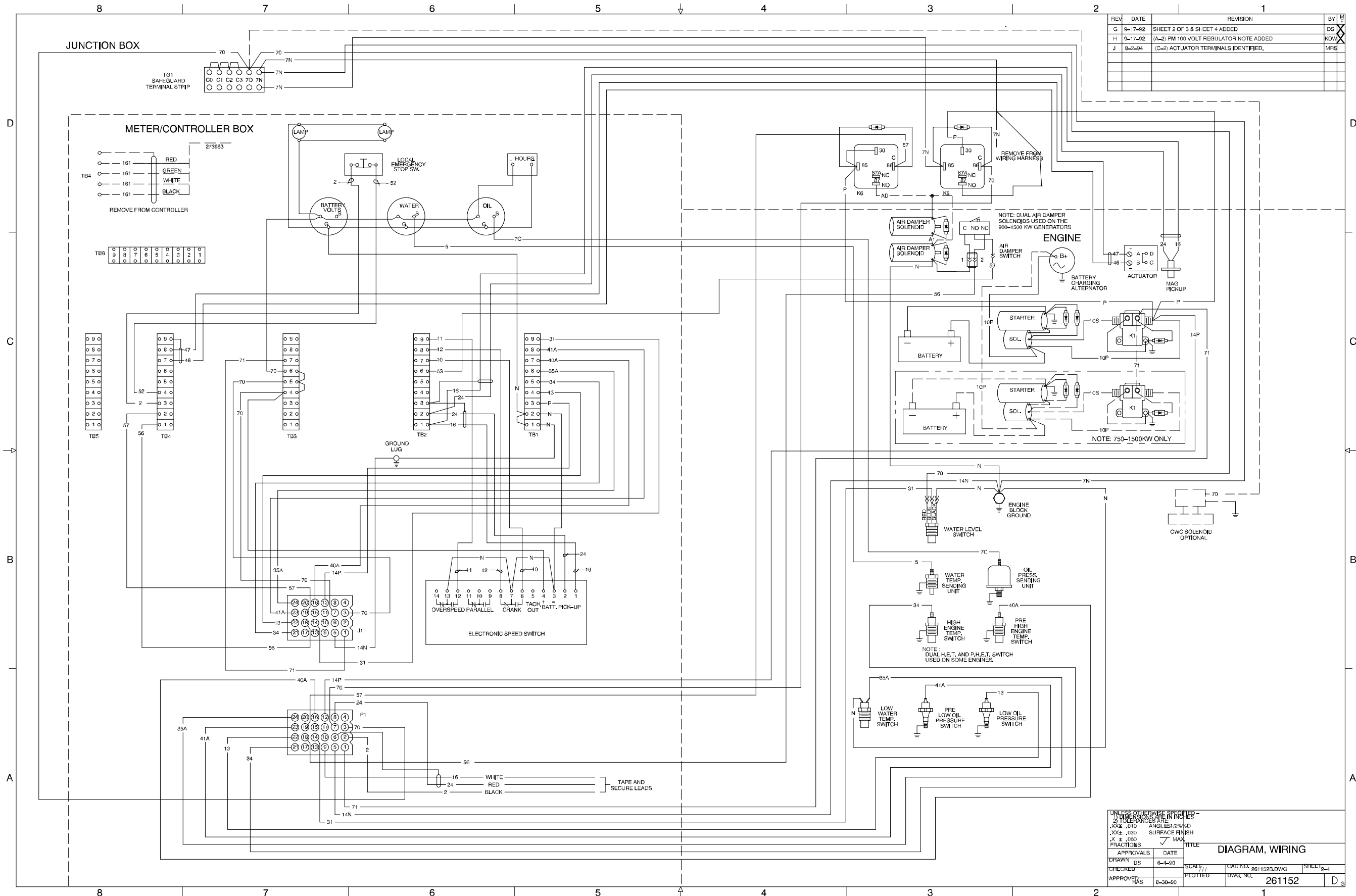
Microprocessor Controller Accessory Connections, Remote Annunciator Kit, 14-Relay, 255828C-C



REV	DATE	REVISION	BY
G	9-17-82	SHEET 4 ADDED	KDW
H	11-17-82	(A-2) PM 100 VOLT REGULATOR NOTE ADDED	KDW

UNLESS OTHERWISE SPECIFIED -		TOLERANCES ARE		SURFACE FINISH		TITLE	
.XX	.010	ANGLES	25% D	MAX	MAX	DIAGRAM, WIRING	
.XX	.030			MAX	MAX		
FRACTIONS				MAX	MAX		
APPROVALS	DATE	SCALE	CAD NO.	DWG. NO.	SHEET		
DRAWN: B	5-13-89		261152A.DWG	261152	1		
CHECKED: DD	8-1-89	NOTED					
APPROVED: GPO	8-3-89						

Engine Gauge Box for Parallel Controller, Point-to-Point Wiring Diagram, Sheet 1, 261152A-H

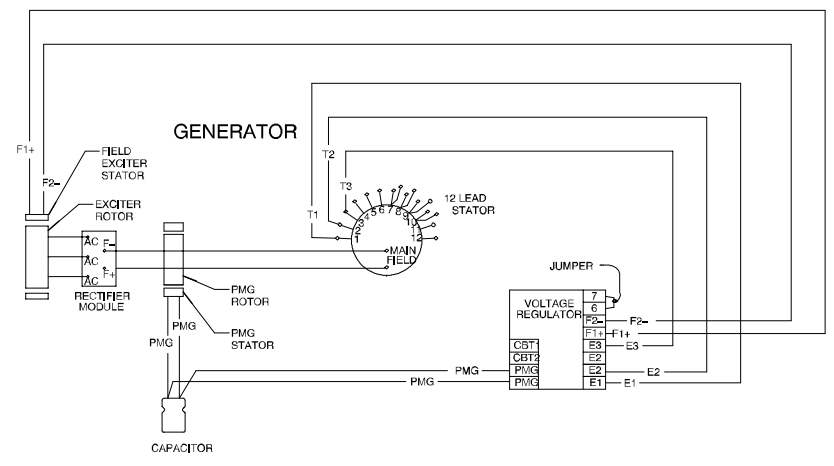


REV	DATE	REVISION	BY
G	9-17-92	SHEET 2 OF 3 & SHEET 4 ADDED	DS
H	9-17-92	(A-2) PM 100 VOLT REGULATOR NOTE ADDED	KDW
J	8-2-94	(C-2) ACTUATOR TERMINALS IDENTIFIED.	MFG

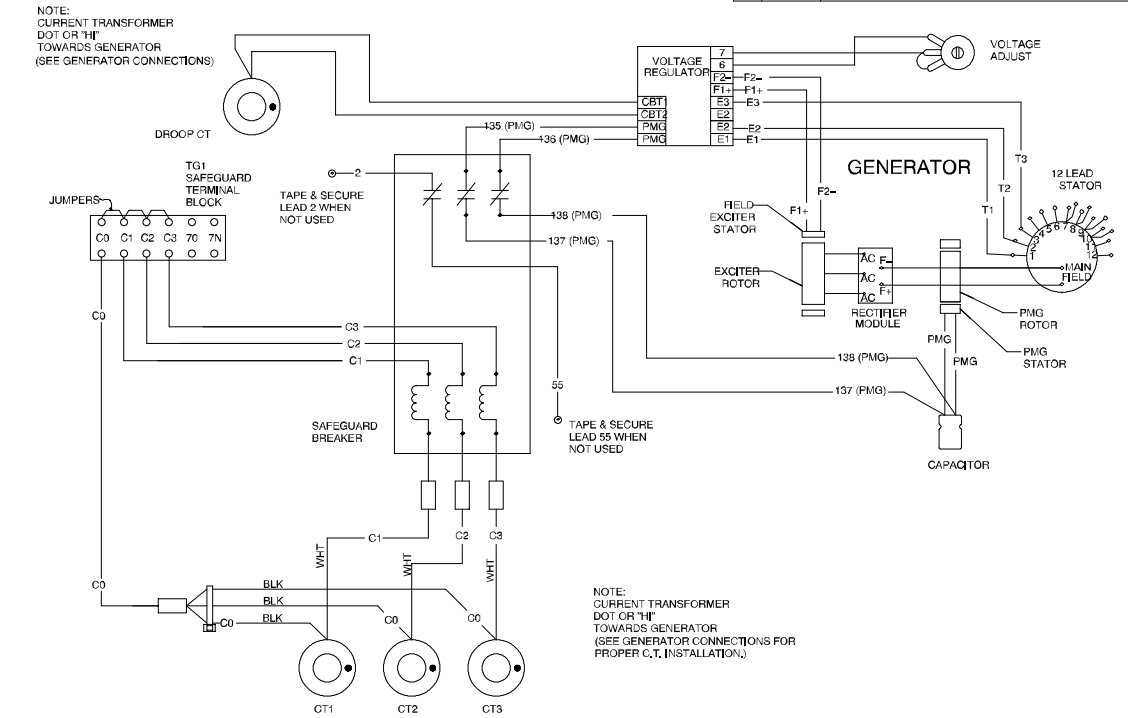
APPROVALS		DATE	TITLE	
DRAWN	DS	8-4-90	DIAGRAM, WIRING	
CHECKED	DS		SCALE	
APPROVED	MAS	8-30-90	CAD NO.	261152B.DWG
			DWG. NO.	261152
			SHEET	2-4
				D

Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, Sheet 2, 261152B-J

REV	DATE	REVISION	BY
G	4-23-91	SHEET 3 WAS 2 GEN. CONNECTIONS REMOVED, VIEWS REVISED & SHEET 4 ADDED	DS
H	9-17-92	(A-2) PM 100 VOLT REGULATOR NOTE ADDED	KDW

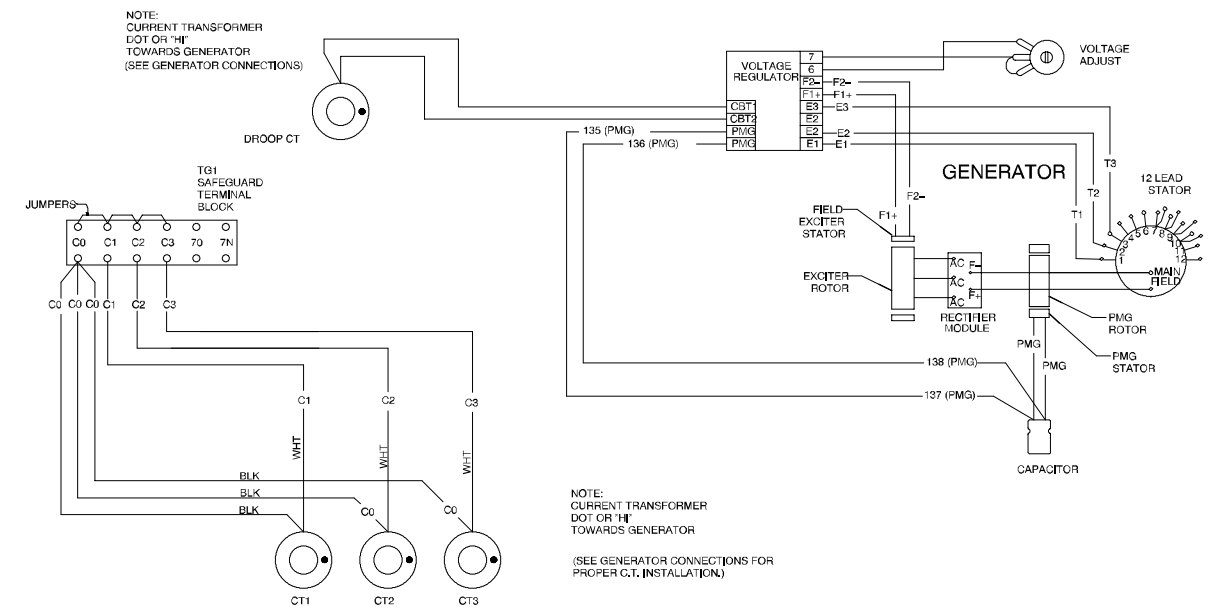


BASIC GENERATOR MOUNTED VOLTAGE REGULATOR



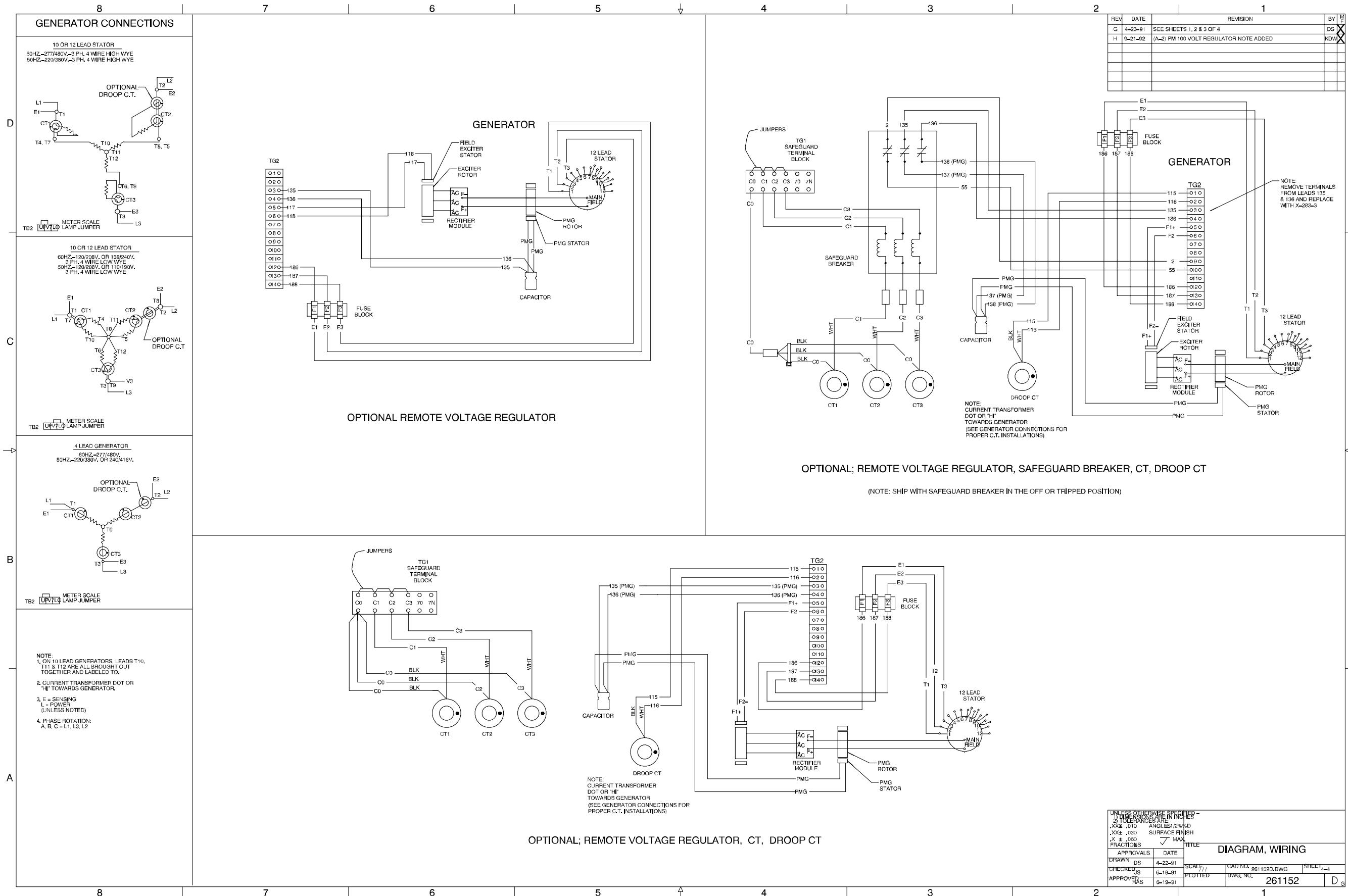
GENERATOR MOUNTED VOLTAGE REGULATOR WITH OPTIONAL: SAFEGUARD BREAKER, CT, DROOP CT, VOLTAGE ADJUST

(NOTE: SHIP WITH SAFEGUARD BREAKER IN THE OFF OR TRIPPED POSITION)

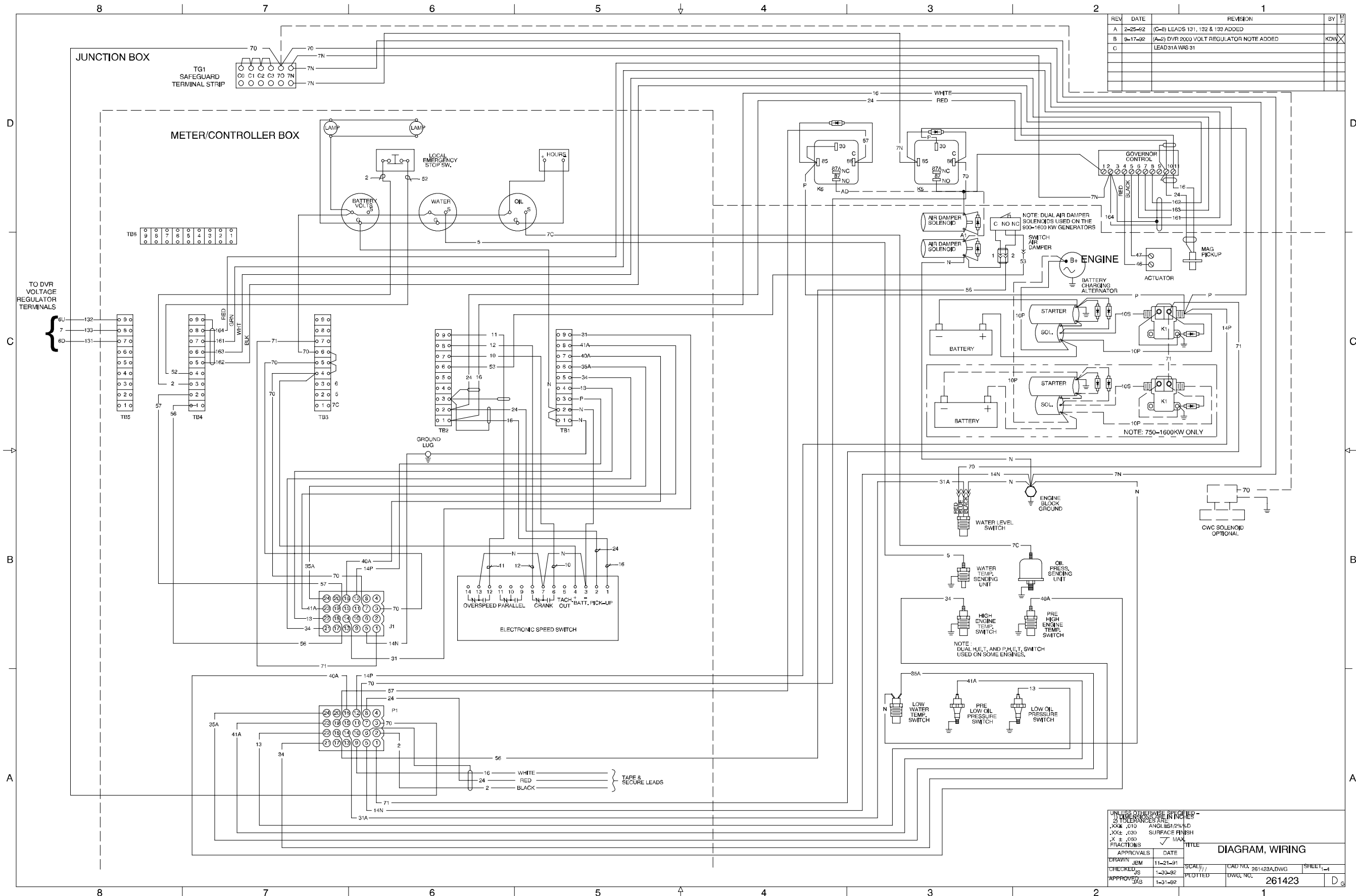


GENERATOR MOUNTED VOLTAGE REGULATOR WITH OPTIONAL: C.T., DROOP C.T. & VOLTAGE ADJUST

UNLESS OTHERWISE SPECIFIED -		TOLERANCES ARE:		TITLE	
.XXx	.010	ANGLES	25%±D	DIAGRAM, WIRING	
.XXx	.030	SURFACE FINISH		APPROVALS	
FRACTIONS		MAX		DATE	DATE
DRAWN DS	3-29-90	SCALE	1/1	CAD NO.	261152C.DWG
CHECKED EB	8-28-90	EDITED		DWG. NO.	261152
APPROVED HAS	8-30-90				SHEET 3-4



Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, Sheet 4, 261152D-H



Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, Sheet 1, 261423A-C

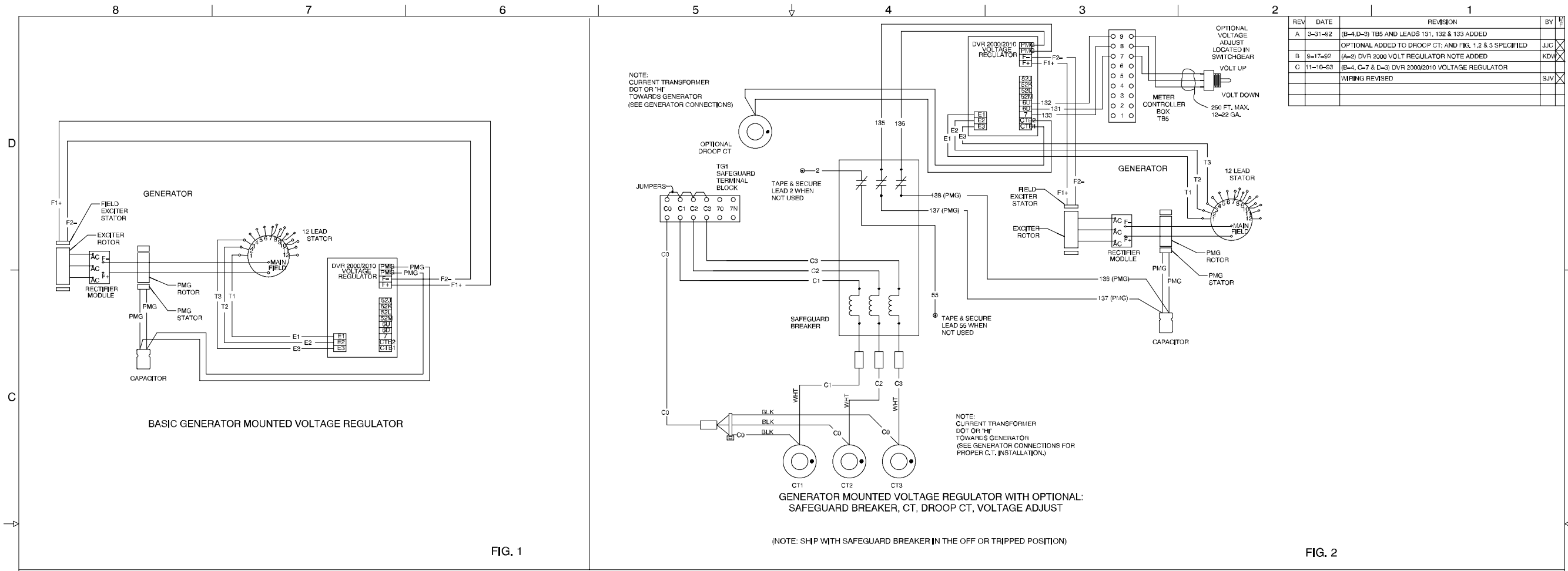
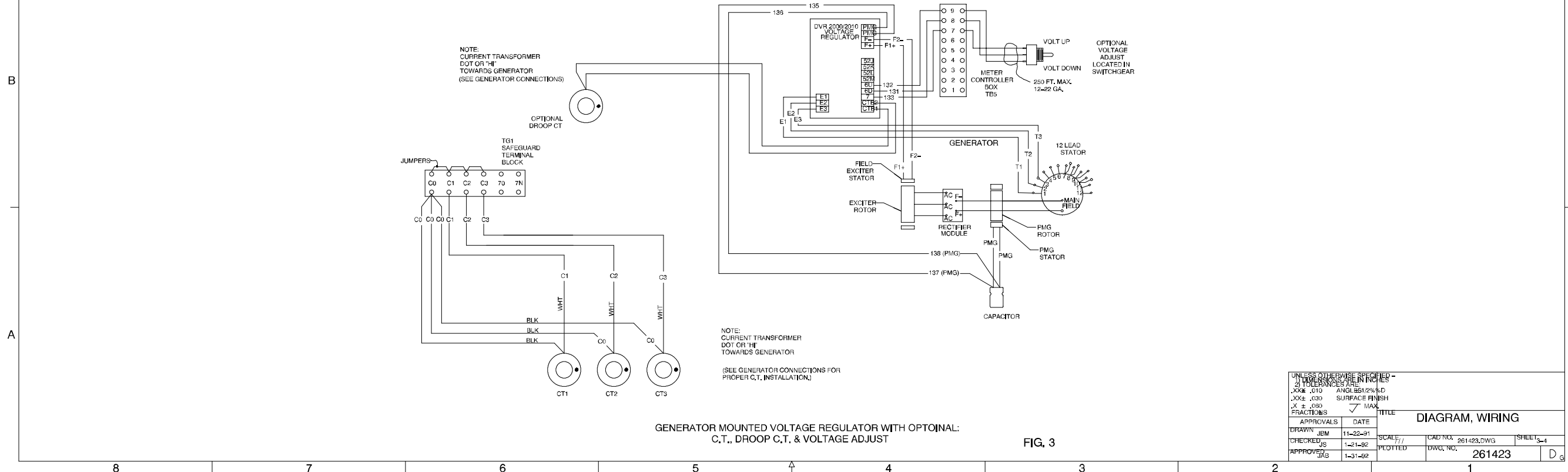


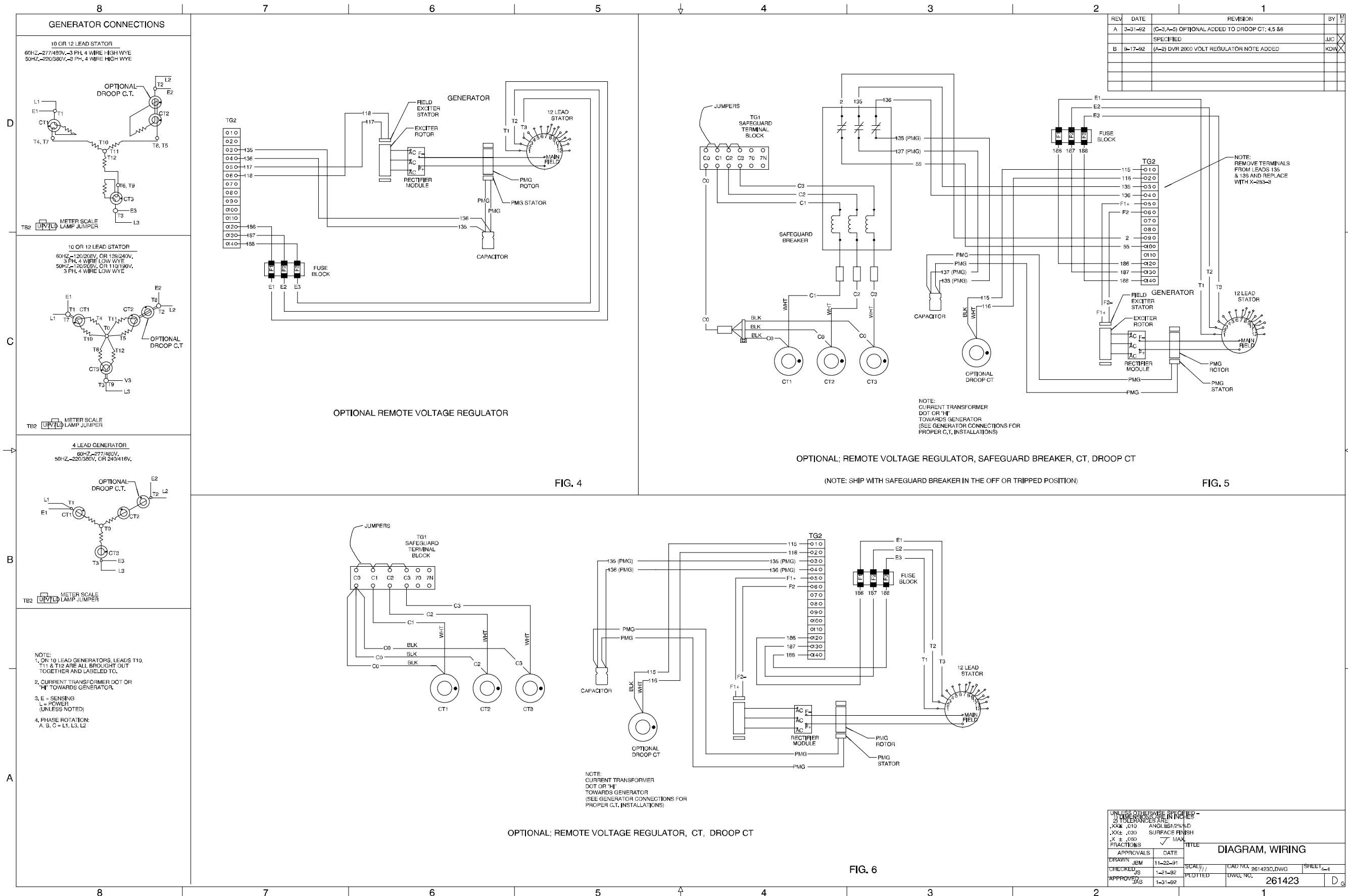
FIG. 1

FIG. 2

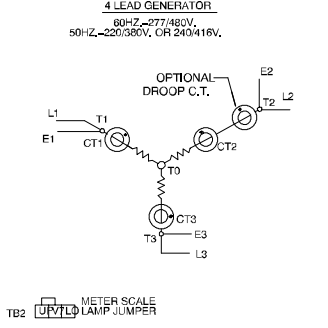
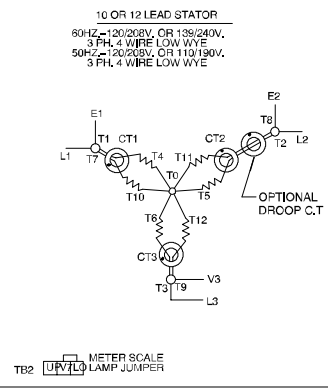
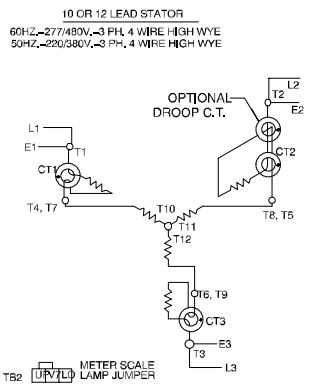


GENERATOR MOUNTED VOLTAGE REGULATOR WITH OPTIONAL:
C.T., DROOP C.T. & VOLTAGE ADJUST

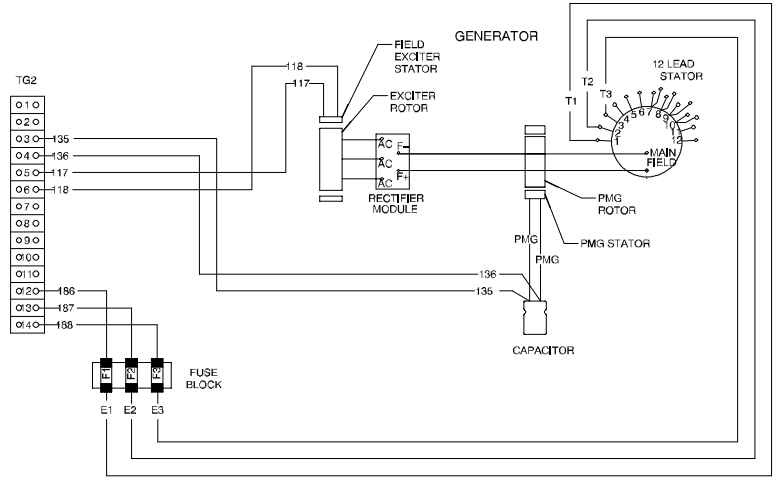
FIG. 3



GENERATOR CONNECTIONS

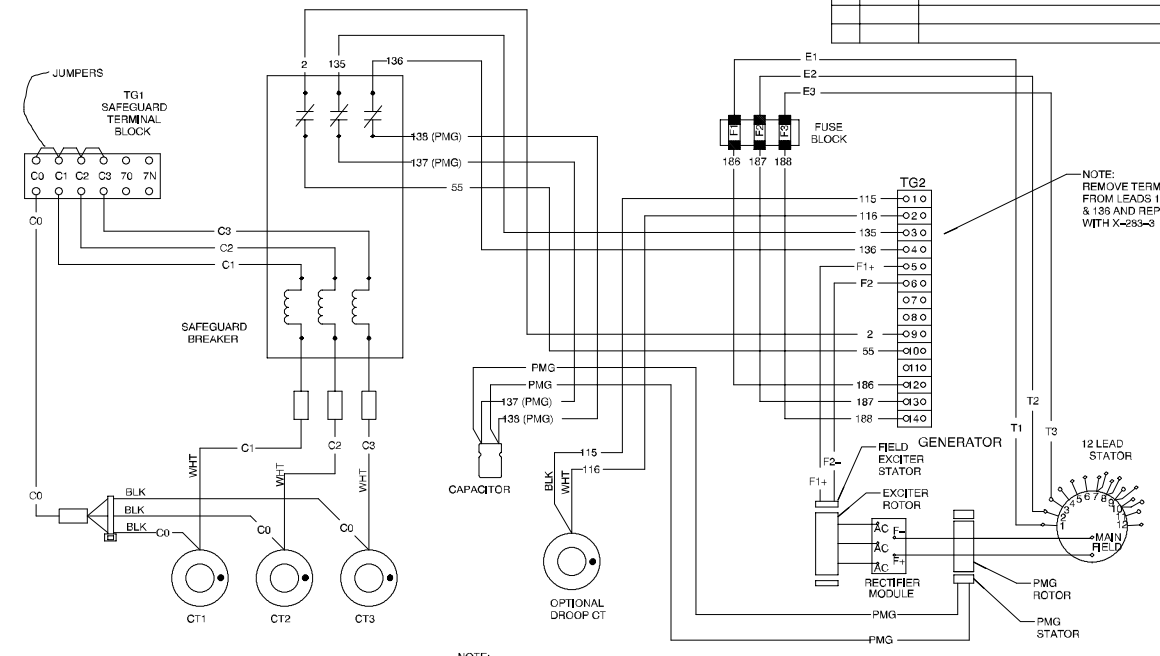


- NOTE:
- ON 10 LEAD GENERATORS, LEADS T10, T11 & T12 ARE ALL BROUGHT OUT TOGETHER AND LABELED TO.
 - CURRENT TRANSFORMER DOT OR "H" TOWARDS GENERATOR.
 - E = SENSING
L = POWER (UNLESS NOTED)
 - PHASE ROTATION:
A, B, C = L1, L3, L2



OPTIONAL REMOTE VOLTAGE REGULATOR

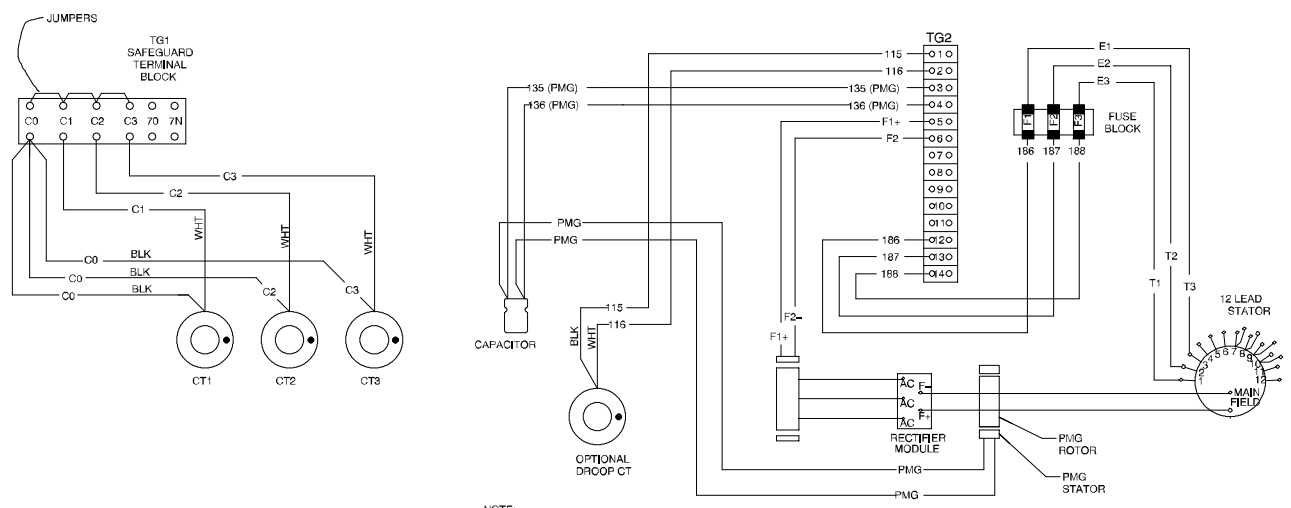
FIG. 4



OPTIONAL; REMOTE VOLTAGE REGULATOR, SAFEGUARD BREAKER, CT, DROOP CT

(NOTE: SHIP WITH SAFEGUARD BREAKER IN THE OFF OR TRIPPED POSITION)

FIG. 5



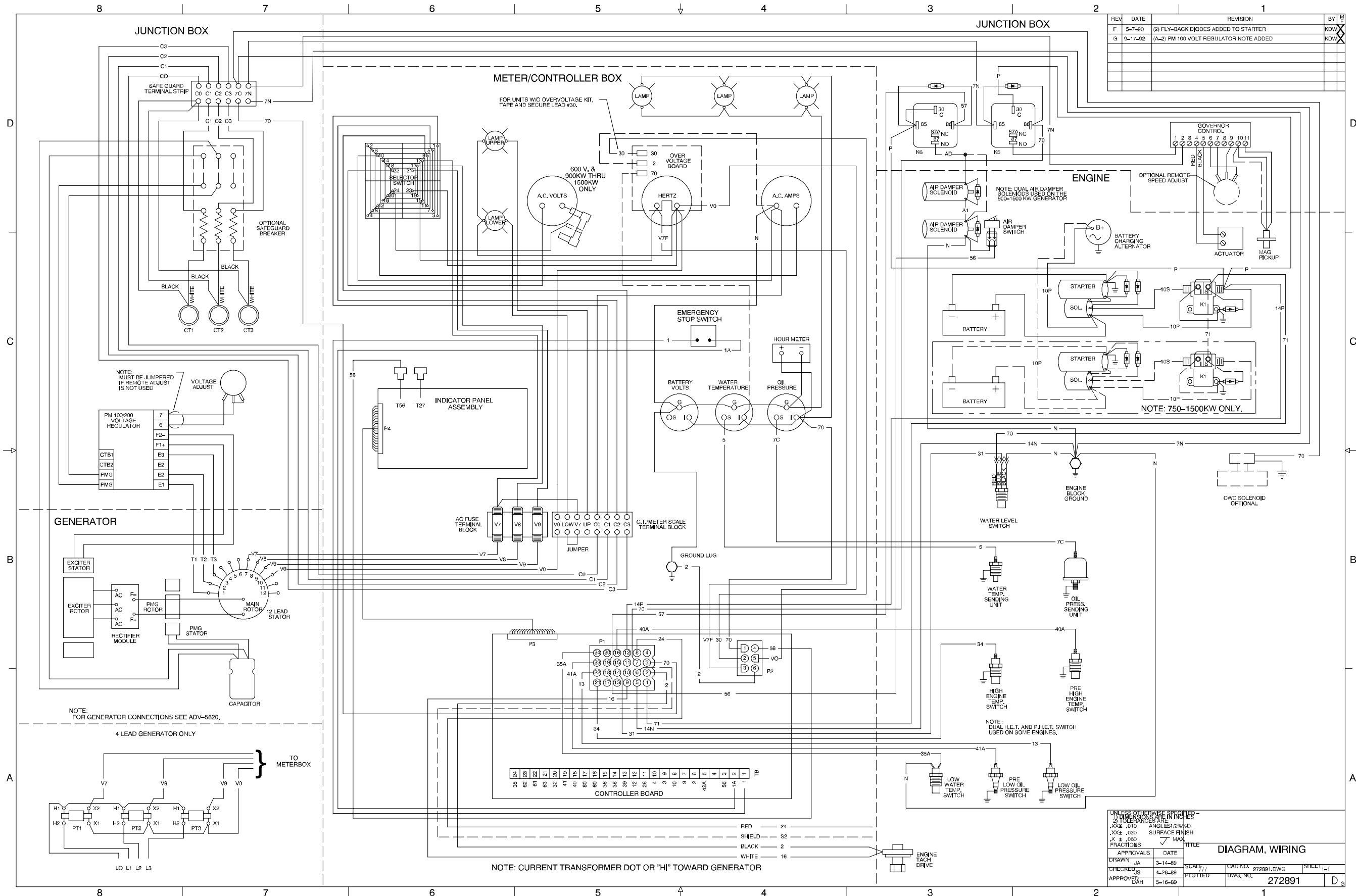
OPTIONAL; REMOTE VOLTAGE REGULATOR, CT, DROOP CT

FIG. 6

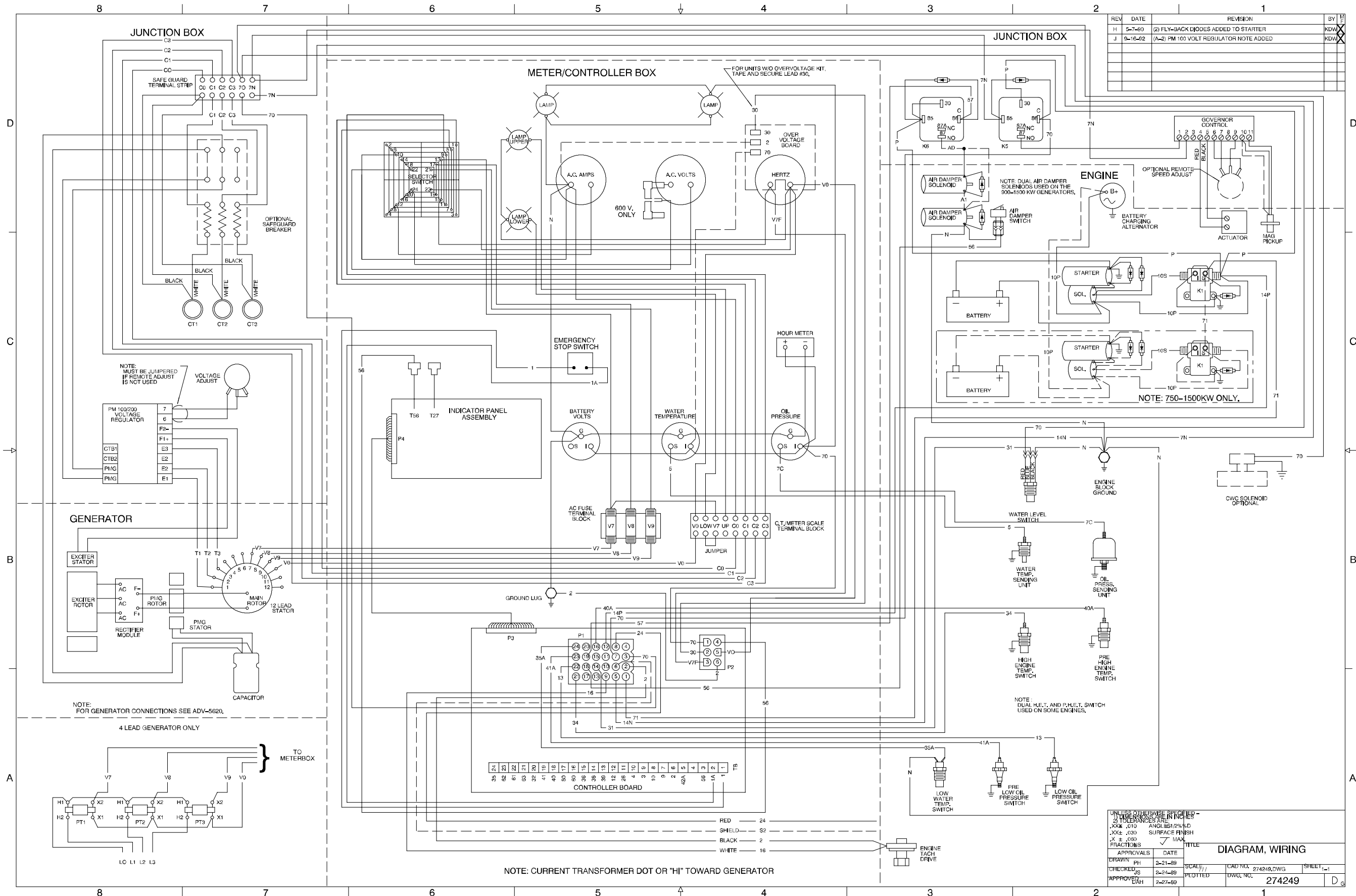
UNLESS OTHERWISE SPECIFIED -
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 .XX ± .010 ANGLE ± 2%
 .XX ± .030 SURFACE FINISH
 X ± .050 FRACTIONS MAX

APPROVALS	DATE	TITLE
DRAWN JBM	11-22-91	DIAGRAM, WIRING
CHECKED JS	1-21-92	
APPROVED JMB	1-31-92	

CAD NO. 261423D.DWG SHEET 4
 DWG. NO. 261423



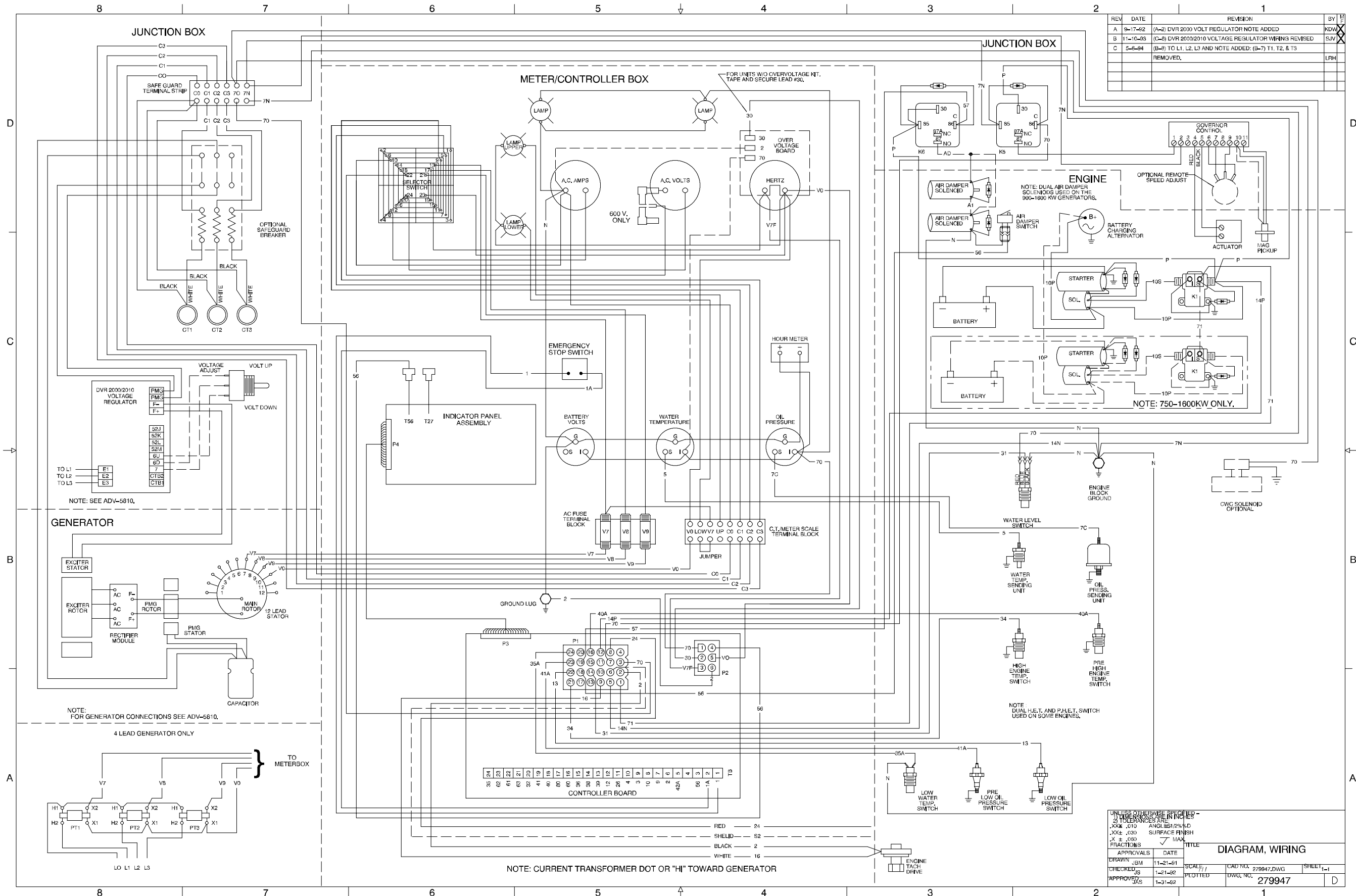
Microprocessor Controller, Point-to-Point Wiring Diagram, Oversize, 272891-G



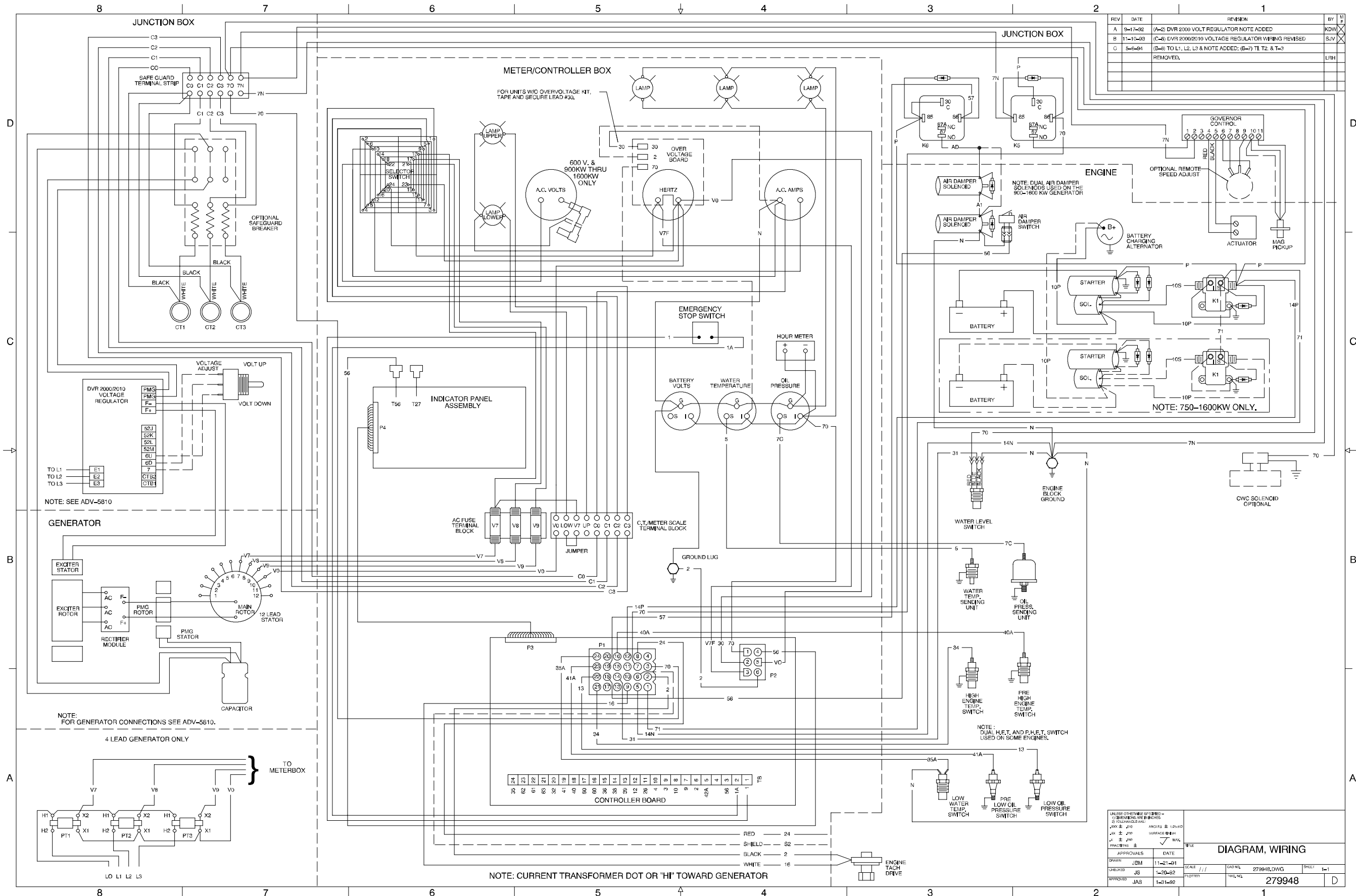
REV	DATE	REVISION	BY
H	5-7-80	(2) FLY-BACK DIODES ADDED TO STARTER	KDW
J	6-16-82	(A-2) PM 100 VOLT REGULATOR NOTE ADDED	KDW

APPROVALS		DATE	TITLE
DRAWN	PH	2-21-89	DIAGRAM, WIRING
CHECKED	JS	2-24-89	
APPROVED	EAH	2-27-89	

Microprocessor Controller, Point-to-Point Wiring Diagram, Standard, 274249-J



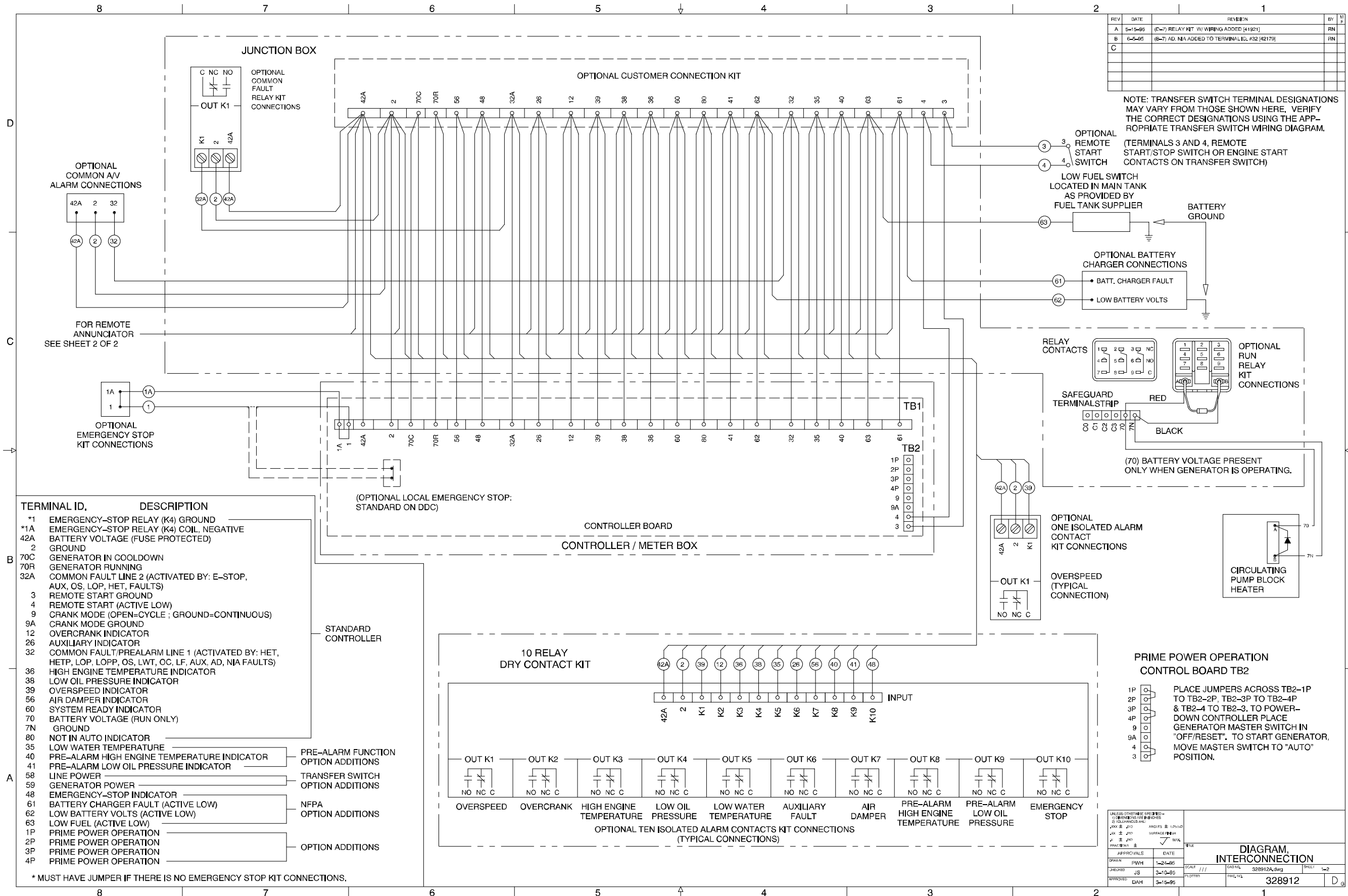
Microprocessor Controller, Point-to-Point Wiring Diagram, Standard, 279947-C



REV	DATE	REVISION	BY
A	9-17-92	(A-2) DVR 2000 VOLT REGULATOR NOTE ADDED	KDW
B	11-10-93	(C-6) DVR 2000/2010 VOLTAGE REGULATOR WIRING REVISED	SJV
C	5-6-94	(B-9) TO L1, L2, L3 & NOTE ADDED; (B-7) T1, T2, & T-3 REMOVED.	LRH

UNLESS OTHERWISE SPECIFIED -			
1) DIMENSIONS ARE IN INCHES	2) DIMENSIONS ARE IN MILLIMETERS	3) ANGLES ± 1/2°	4) SURFACE FINISH
5) FINISHES	6) FINISH	7) FINISH	8) FINISH
APPROVALS	DATE	TITLE	
DRAWN	JBM	11-21-91	DIAGRAM, WIRING
CHECKED	JS	1-20-92	SCALE: 1/1
APPROVED	JAS	1-31-92	CAD FILE: 279948.DWG SHEET: 1-1
			FIG. NO.: 279948

Microprocessor Controller, Point-to-Point Wiring Diagram, Oversize, 279948-C



REV	DATE	REVISION	BY	APP
A	5-15-95	(E-7) RELAY KIT W/ WIRING ADDED (41921)	RN	
B	6-5-95	(E-7) AD. N/A ADDED TO TERMINAL ID. #32 (42179)	RN	
C				

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 ID.	DESCRIPTION
*1	EMERGENCY-STOP RELAY (K4) GROUND
*1A	EMERGENCY-STOP RELAY (K4) COIL, NEGATIVE BATTERY VOLTAGE (FUSE PROTECTED)
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, N/A 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
40	PRE-ALARM HIGH ENGINE TEMPERATURE INDICATOR
41	PRE-ALARM LOW OIL PRESSURE INDICATOR
58	LINE POWER
59	GENERATOR POWER
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
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

1P ○ 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.

APPROVALS	DATE	TITLE
DESIGNED: PWH	1-24-95	DIAGRAM, INTERCONNECTION
CHECKED: JS	2-10-95	
APPROVED: DAH	3-15-95	

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES. ANGLES ± 1/2°. SURFACE FINISH: 1/8" MAX. FILE

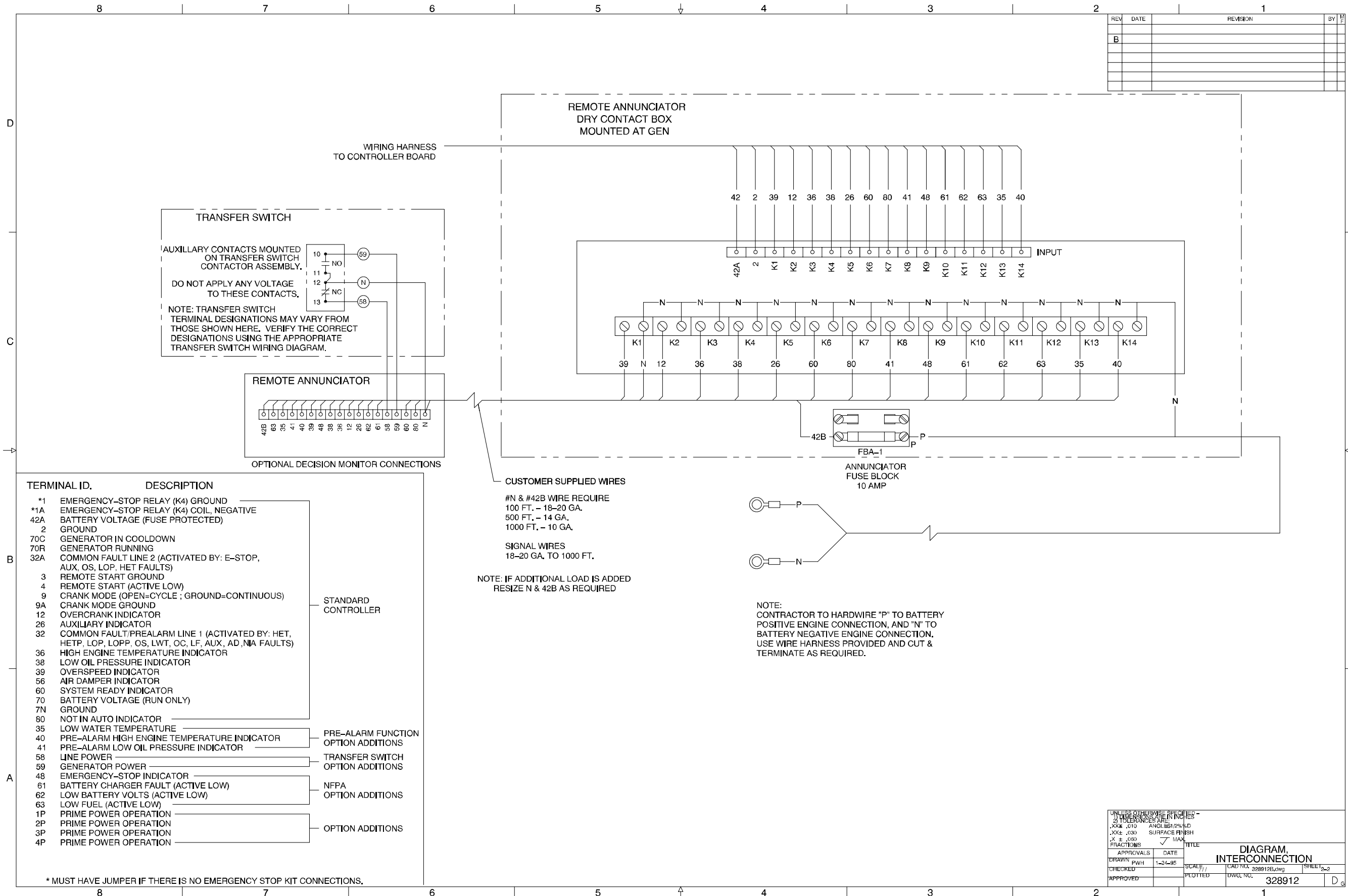
SCALE: 1/1

CAD FILE: 328912A.dwg

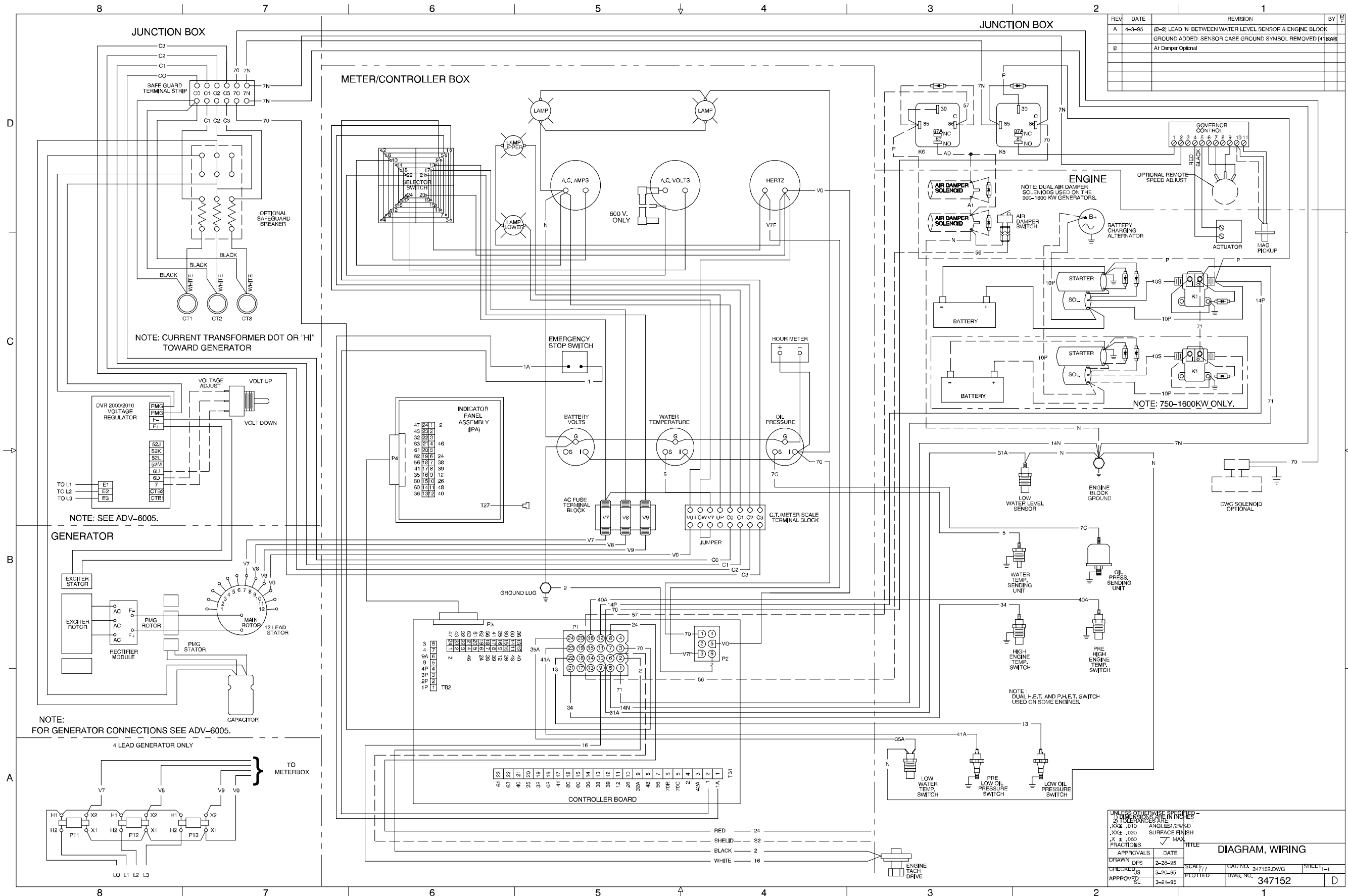
SHEET: 1-2

PWG FILE: 328912

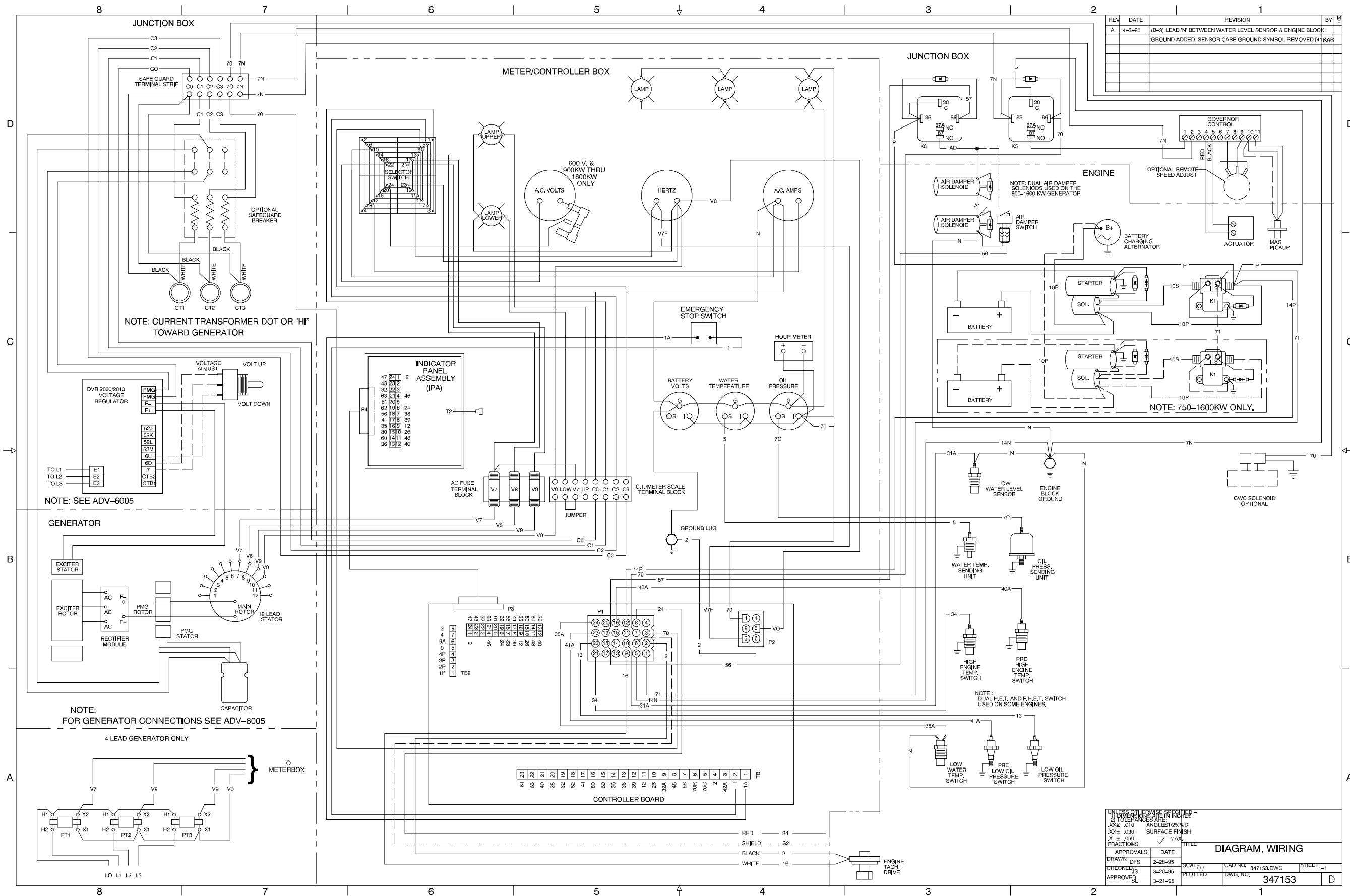
Microprocessor Controller Accessory Connections, Accessories, 328912A-C



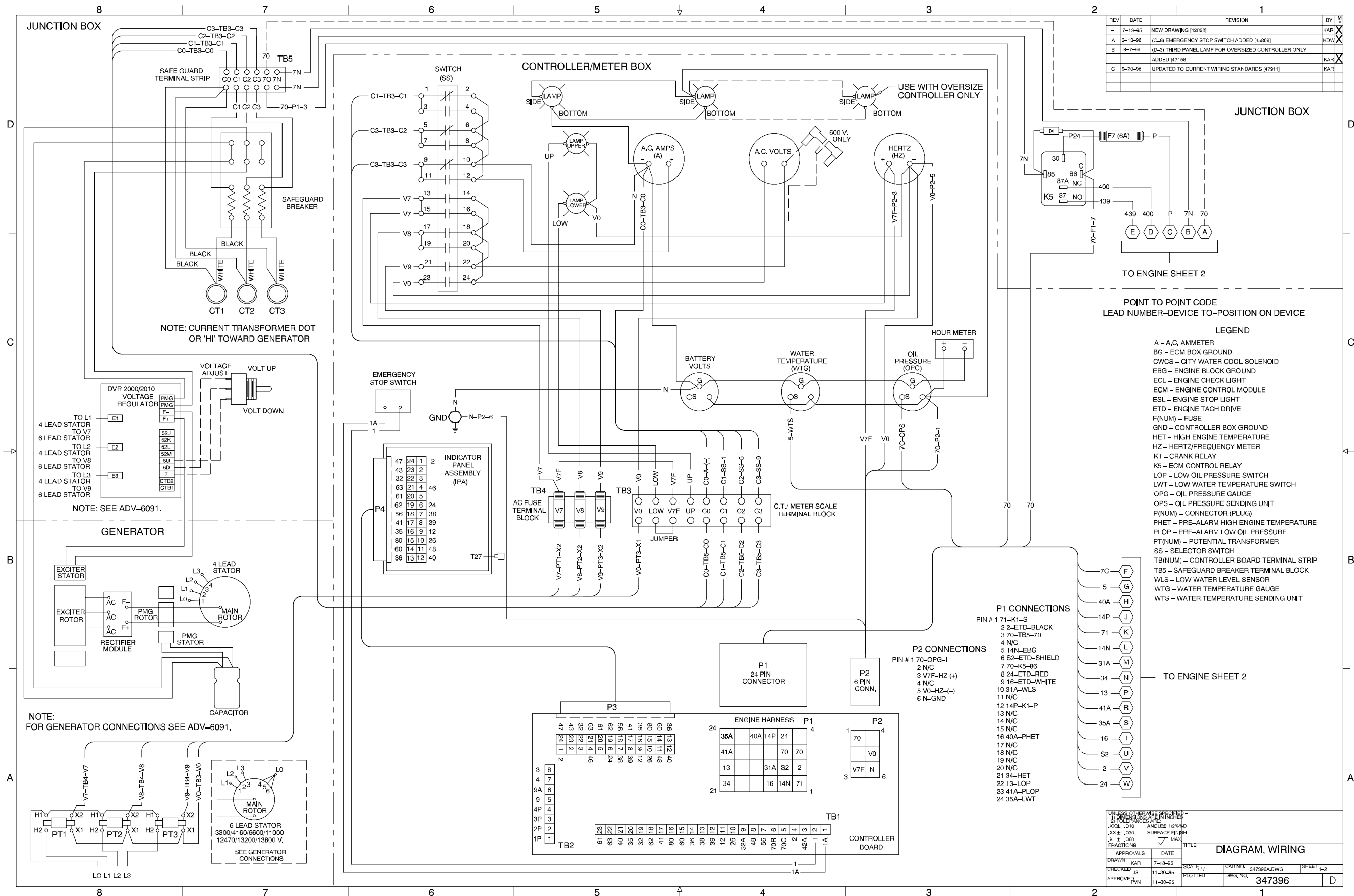
Microprocessor Controller Accessory Connections, Remote Annunciator Kit, 14-Relay, 328912B-B



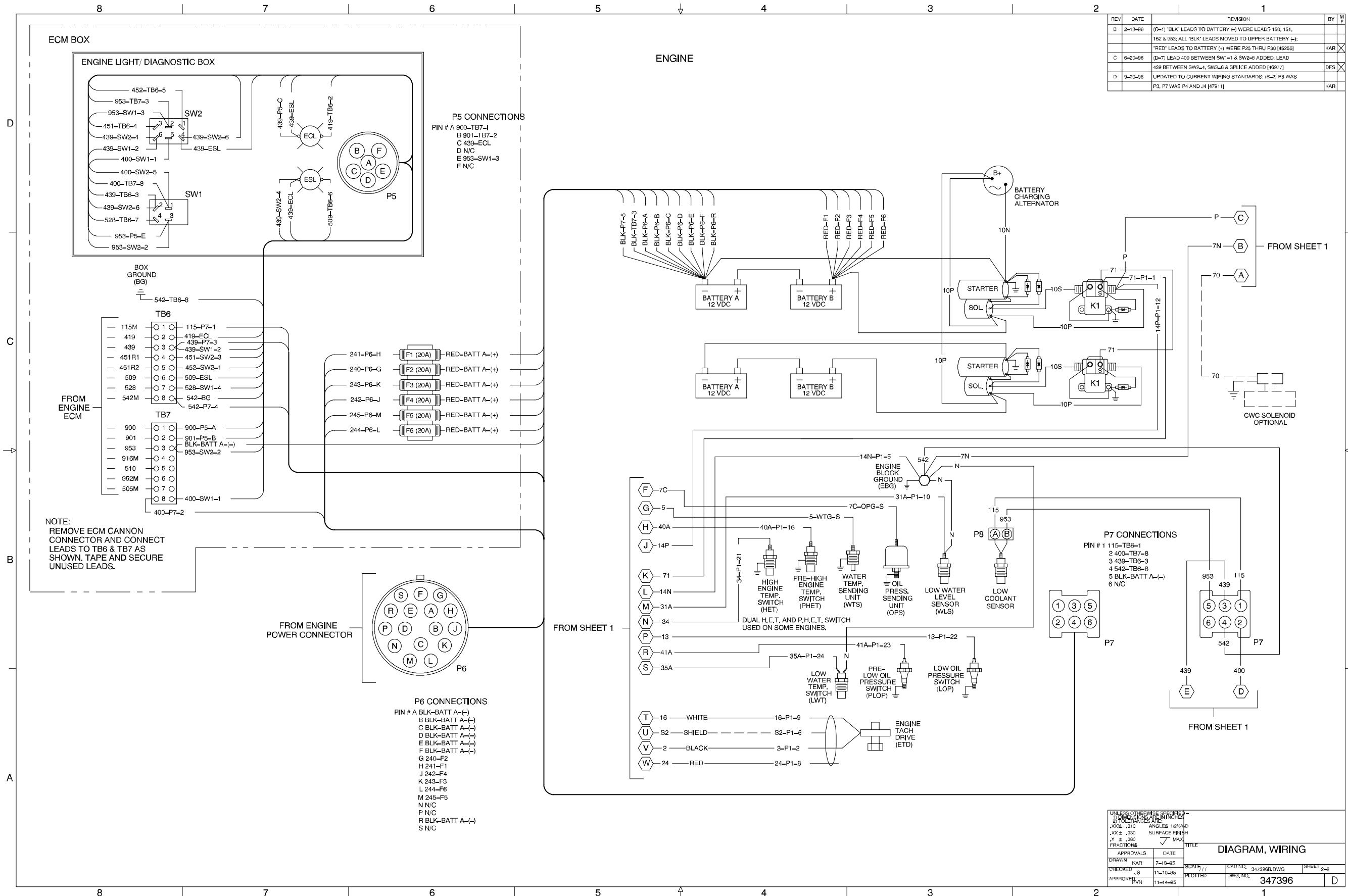
Microprocessor Controller, Point-to-Point Wiring Diagram, Standard, 347152-B

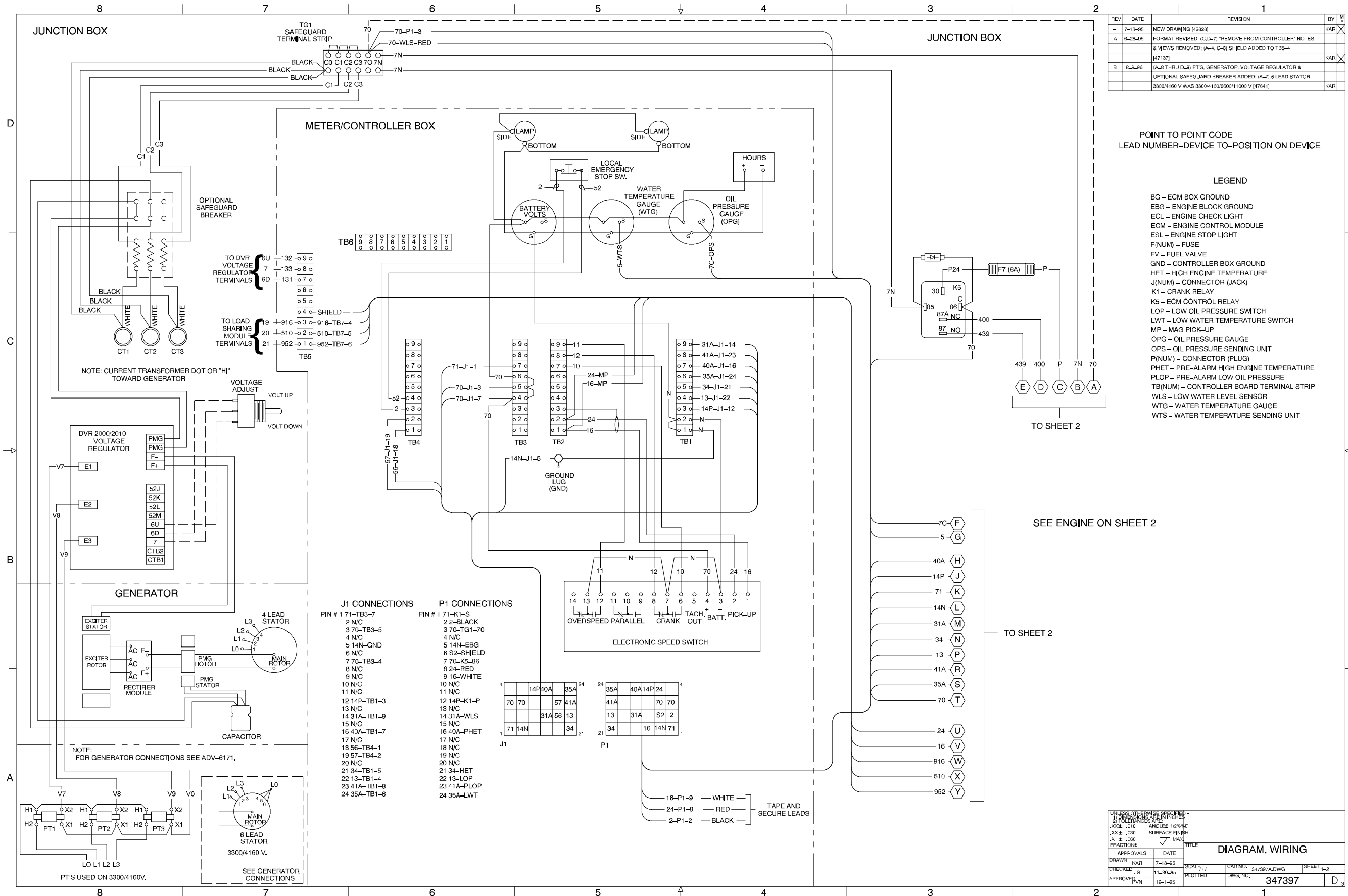


Microprocessor Controller, Point-to-Point Wiring Diagram, Oversize, 347153-A



Microprocessor Controller, Point-to-Point Wiring Diagram, Standard, Sheet 1, 347396A-C





REV	DATE	REVISION	BY
-	7-13-95	NEW DRAWING (42828)	KAR
A	6-26-96	FORMAT REVISED; (C,D-7) 'REMOVE FROM CONTROLLER' NOTES & VIEWS REMOVED; (A-1, C-8) SHIELD ADDED TO TB5-4	KAR
		167137	KAR
B	8-2-96	(A-8) THRU (D-8) PTS. GENERATOR VOLTAGE REGULATOR & OPTIONAL SAFEGUARD BREAKER ADDED; (A-7) 6 LEAD STATOR 3300/4160 V WAS 3300/4160/600/11000 V (47841)	KAR

POINT TO POINT CODE
LEAD NUMBER-DEVICE TO-POSITION ON DEVICE

LEGEND

- BG - ECM BOX GROUND
- EBG - ENGINE BLOCK GROUND
- ECL - ENGINE CHECK LIGHT
- ECM - ENGINE CONTROL MODULE
- ESL - ENGINE STOP LIGHT
- F(NUM) - FUSE
- FV - FUEL VALVE
- GND - CONTROLLER BOX GROUND
- HET - HIGH ENGINE TEMPERATURE
- J(NUM) - CONNECTOR (JACK)
- K1 - CRANK RELAY
- K5 - ECM CONTROL RELAY
- LOP - LOW OIL PRESSURE SWITCH
- LWT - LOW WATER TEMPERATURE SWITCH
- MP - MAG PICK-UP
- OPG - OIL PRESSURE GAUGE
- OPS - OIL PRESSURE SENDING UNIT
- P(NUM) - CONNECTOR (PLUG)
- PHET - PRE-ALARM HIGH TEMPERATURE
- PLOP - PRE-ALARM LOW OIL PRESSURE
- TB(NUM) - CONTROLLER BOARD TERMINAL STRIP
- WLS - LOW WATER LEVEL SENSOR
- WTG - WATER TEMPERATURE GAUGE
- WTS - WATER TEMPERATURE SENDING UNIT

SEE ENGINE ON SHEET 2

TO SHEET 2

J1 CONNECTIONS

PIN # 1	71-TB3-7
2	N/C
3	70-TB3-5
4	N/C
5	14N-GND
6	N/C
7	70-TB3-4
8	N/C
9	N/C
10	N/C
11	N/C
12	14P-TB1-3
13	N/C
14	31A-TB1-9
15	N/C
16	40A-TB1-7
17	N/C
18	56-TB4-1
19	57-TB4-2
20	N/C
21	34-TB1-5
22	13-TB1-4
23	41A-TB1-8
24	35A-TB1-6

P1 CONNECTIONS

PIN # 1	71-K1-S
2	2-BLACK
3	70-TG1-70
4	N/C
5	14N-EBG
6	52-SHIELD
7	70-K5-86
8	24-RED
9	16-WHITE
10	N/C
11	N/C
12	14P-K1-P
13	N/C
14	31A-WLS
15	N/C
16	40A-PHET
17	N/C
18	N/C
19	N/C
20	N/C
21	34-HET
22	13-LOP
23	41A-PLOP
24	35A-LWT

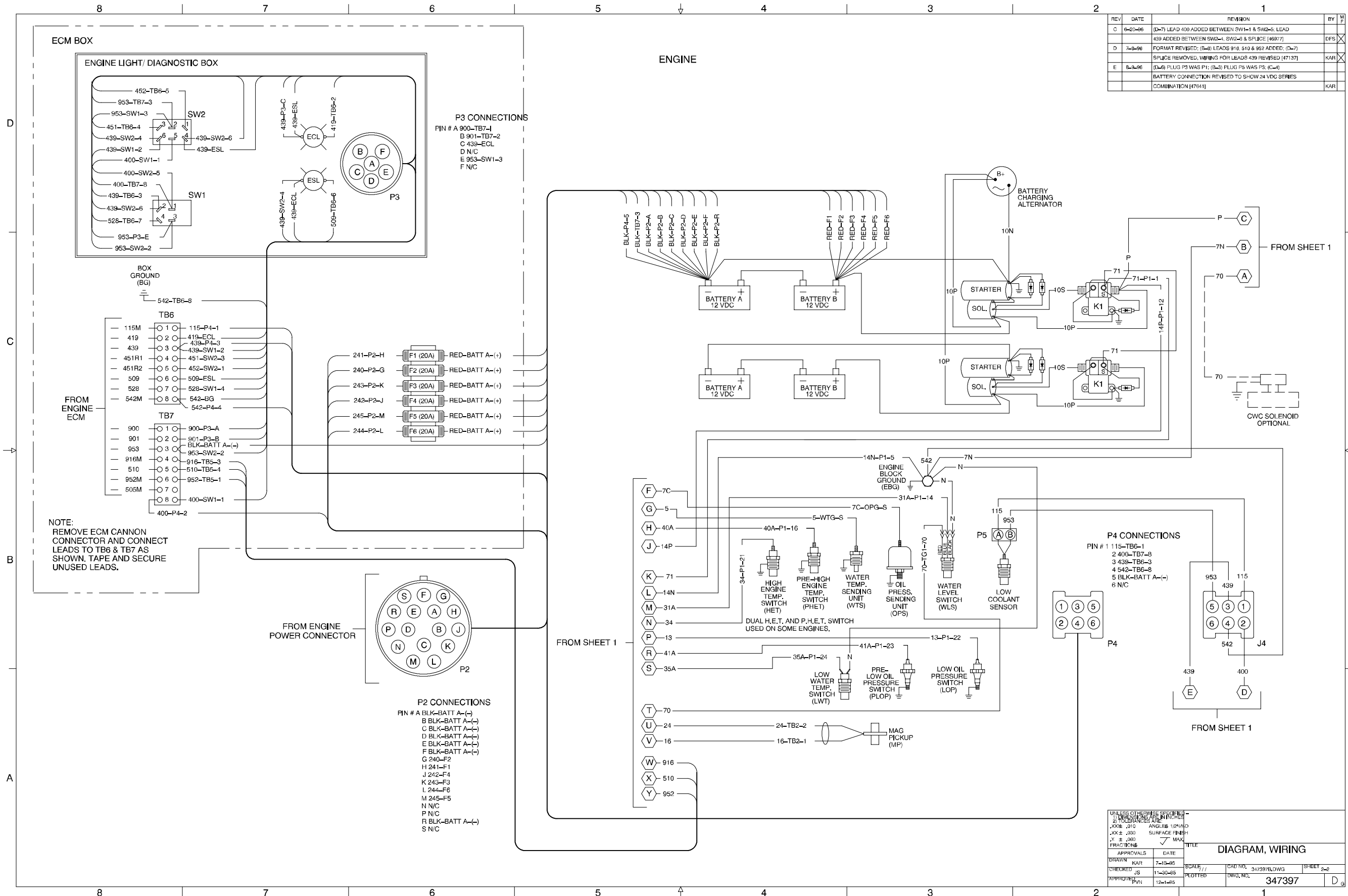
J1

14P	40A	35A	24
70	70	57	41A
		31A	56
			13
71	14N		34

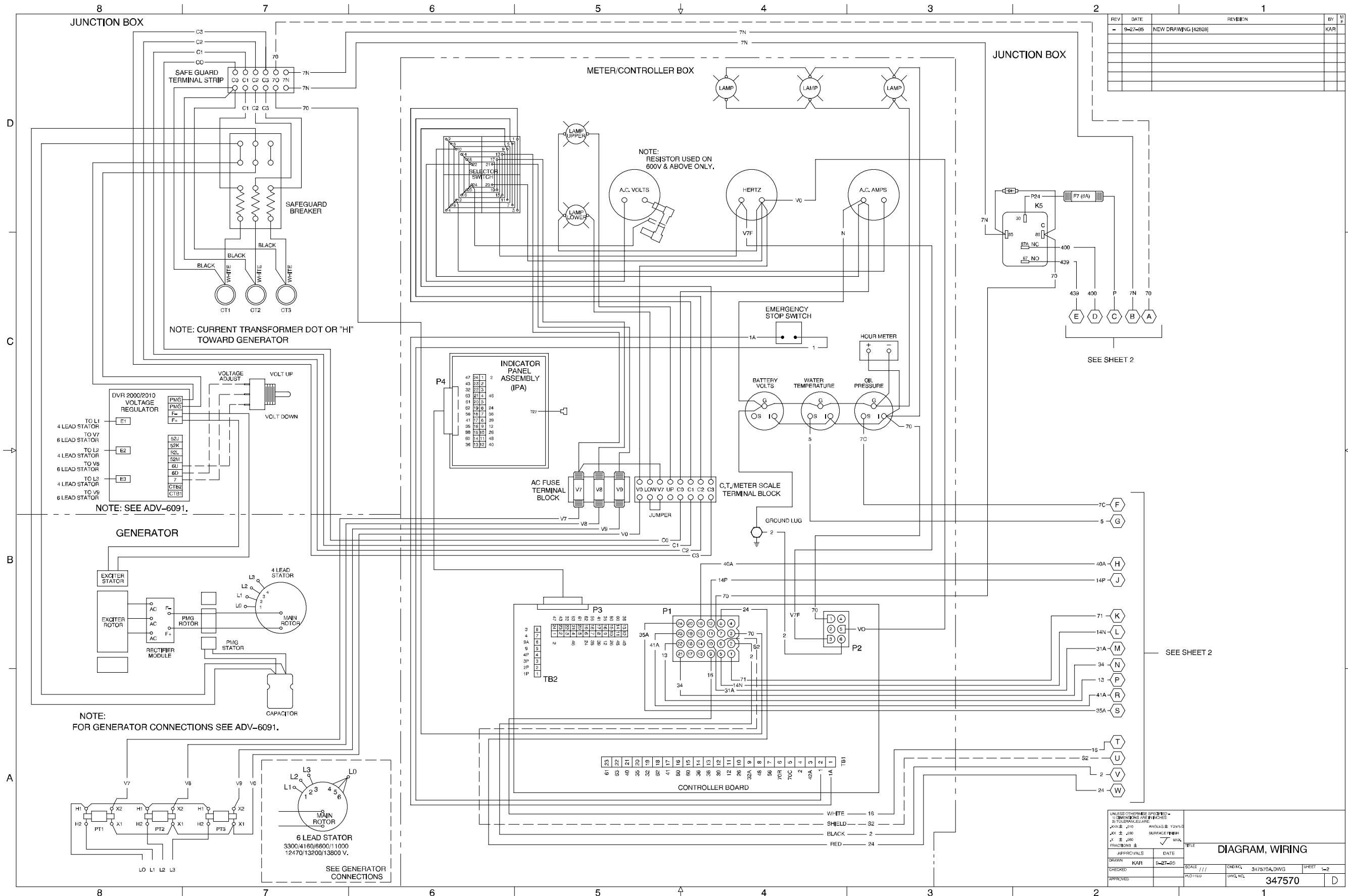
P1

35A	40A	14P	24	4
41A		70	70	
13	31A	S2	2	
34		16	14N	71

Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, 380-4160 V, Sheet 1, 347397A-B



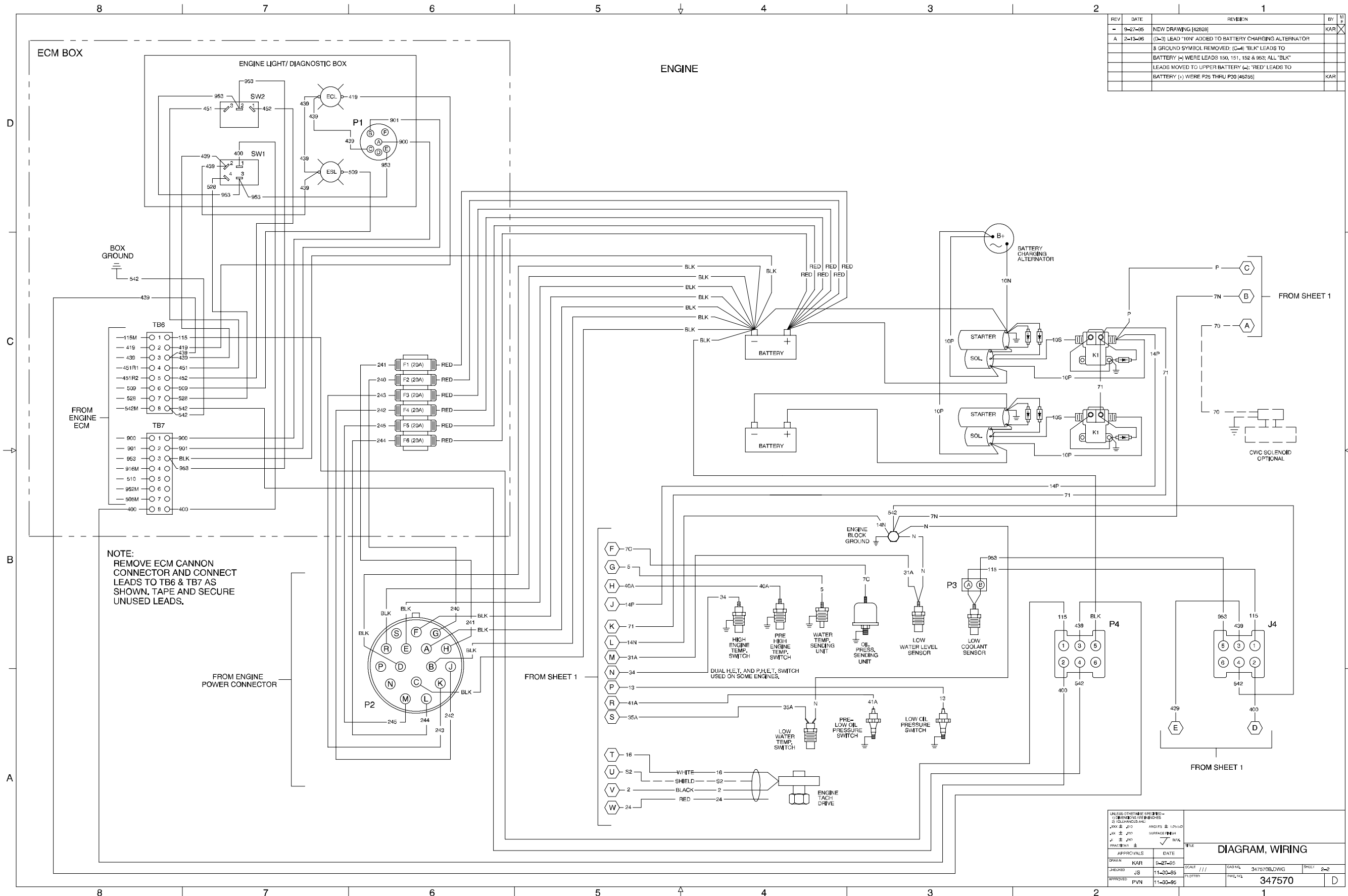
Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, 380-4160 V, Sheet 2, 347397B-E



REV	DATE	REVISION	BY	APP'D
-	9-27-05	NEW DRAWING (42828)	KAR	

APPROVALS		DATE	TITLE		
DRAWN	KAR	9-27-05	DIAGRAM, WIRING		
CHECKED			SCALE	DWG. NO.	SHEET
APPROVED			///	347570A.DWG	1-2
			347570		

Microprocessor Controller, Point-to-Point Wiring Diagram, Oversize, Sheet 1, 347570A-

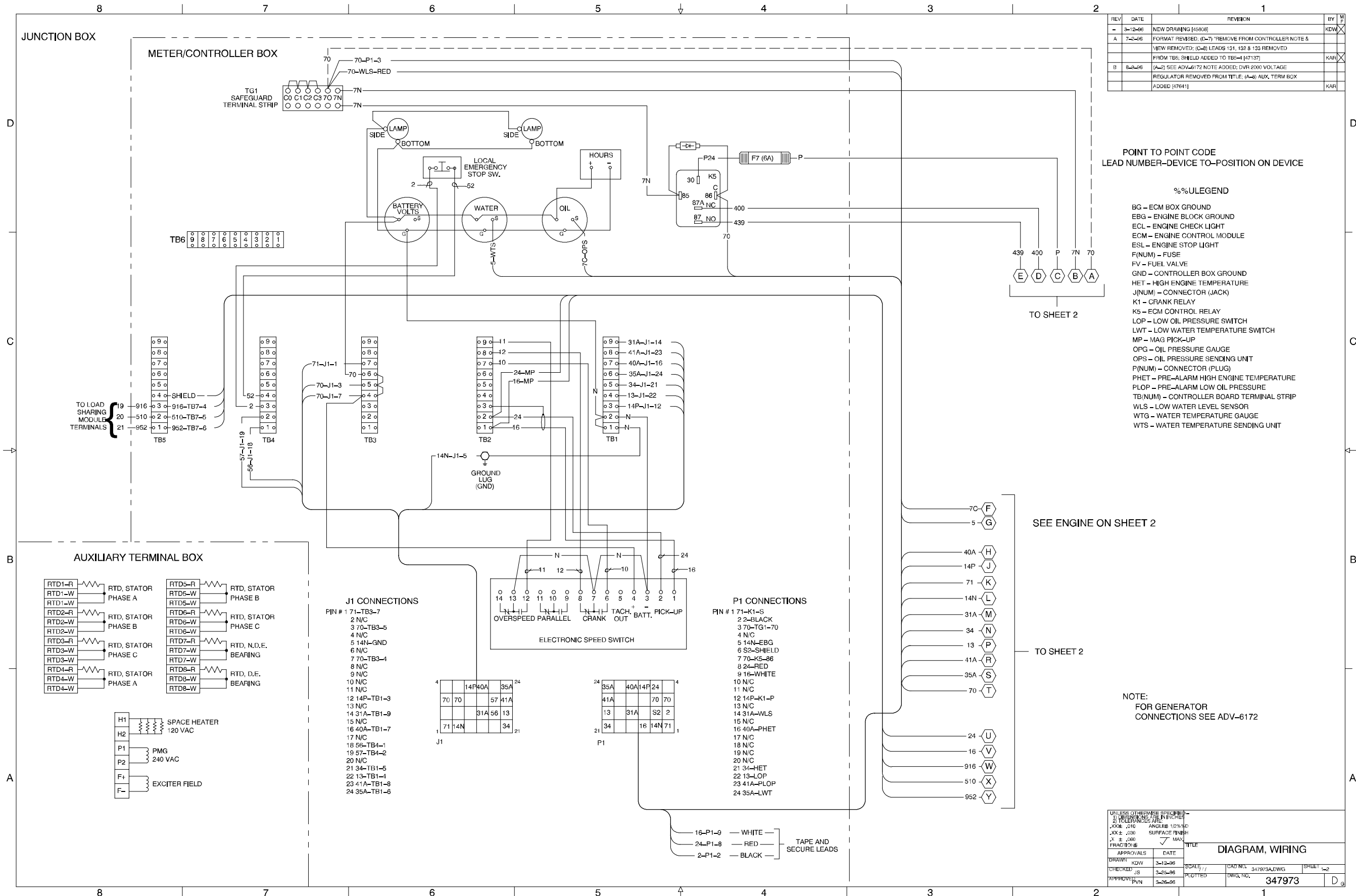


REV	DATE	REVISION	BY	CHK
-	9-27-95	NEW DRAWING (42828)	KAR	X
A	2-15-96	(D-3) LEAD 10N ADDED TO BATTERY CHARGING ALTERNATOR		
		(D-4) GROUND SYMBOL REMOVED; (C-4) BLK LEADS TO BATTERY (-) WERE LEADS 150, 151, 152 & 953; ALL 'BLK' LEADS MOVED TO UPPER BATTERY (-); 'RED' LEADS TO BATTERY (+) WERE P25 THRU P30 (45295)		
			KAR	

NOTE:
REMOVE ECM CANNON CONNECTOR AND CONNECT LEADS TO TB6 & TB7 AS SHOWN. TAPE AND SECURE UNUSED LEADS.

UNLESS OTHERWISE SPECIFIED -		DIMENSIONS ARE IN MILLIMETERS	
ALL DIMENSIONS ARE TO CENTER UNLESS NOTED OTHERWISE	ANGLES ± 1.0°	SURFACE FINISH	
APPROVALS	DATE	TITLE	
DRAWN: KAR	9-27-95	DIAGRAM, WIRING	
CHECKED: JS	11-30-95	SCALE: 1/1	CAD FILE: 347570B.DWG
APPROVED: P.V.N.	11-30-95	PLOTTED:	PWG FILE: 347570
		SHEET: 2-2	D

Microprocessor Controller, Point-to-Point Wiring Diagram, Oversize, Sheet 2, 347570B-A



REV	DATE	REVISION	BY	APP
-	3-12-96	NEW DRAWING [45808]	KDW	X
A	7-2-96	FORMAT REVISED; (D-7) REMOVE FROM CONTROLLER NOTE &		
		NEW REMOVED; (C-5) LEADS 131, 132 & 133 REMOVED		
		FROM TB5; SHIELD ADDED TO TB5-4 [47137]	KAR	X
B	8-2-96	(A-2) SEE ADV-6172 NOTE ADDED; DWR 2000 VOLTAGE		
		REGULATOR REMOVED FROM TITLE; (A-8) AUX. TERM BOX		
		ADDED [47641]	KAR	

POINT TO POINT CODE
LEAD NUMBER-DEVICE TO-POSITION ON DEVICE

- %%ULEGEND
- BG - ECM BOX GROUND
 - EBG - ENGINE BLOCK GROUND
 - ECL - ENGINE CHECK LIGHT
 - ECM - ENGINE CONTROL MODULE
 - ESL - ENGINE STOP LIGHT
 - F(NUM) - FUSE
 - FV - FUEL VALVE
 - GND - CONTROLLER BOX GROUND
 - HET - HIGH ENGINE TEMPERATURE
 - J(NUM) - CONNECTOR (JACK)
 - K1 - CRANK RELAY
 - K5 - ECM CONTROL RELAY
 - LOP - LOW OIL PRESSURE SWITCH
 - LWT - LOW WATER TEMPERATURE SWITCH
 - MP - MAG PICK-UP
 - OPG - OIL PRESSURE GAUGE
 - OPS - OIL PRESSURE SENDING UNIT
 - P(NUM) - CONNECTOR (PLUG)
 - PHET - PRE-ALARM HIGH ENGINE TEMPERATURE
 - PLOP - PRE-ALARM LOW OIL PRESSURE
 - TB(NUM) - CONTROLLER BOARD TERMINAL STRIP
 - WLS - LOW WATER LEVEL SENSOR
 - WTG - WATER TEMPERATURE GAUGE
 - WTS - WATER TEMPERATURE SENDING UNIT

SEE ENGINE ON SHEET 2

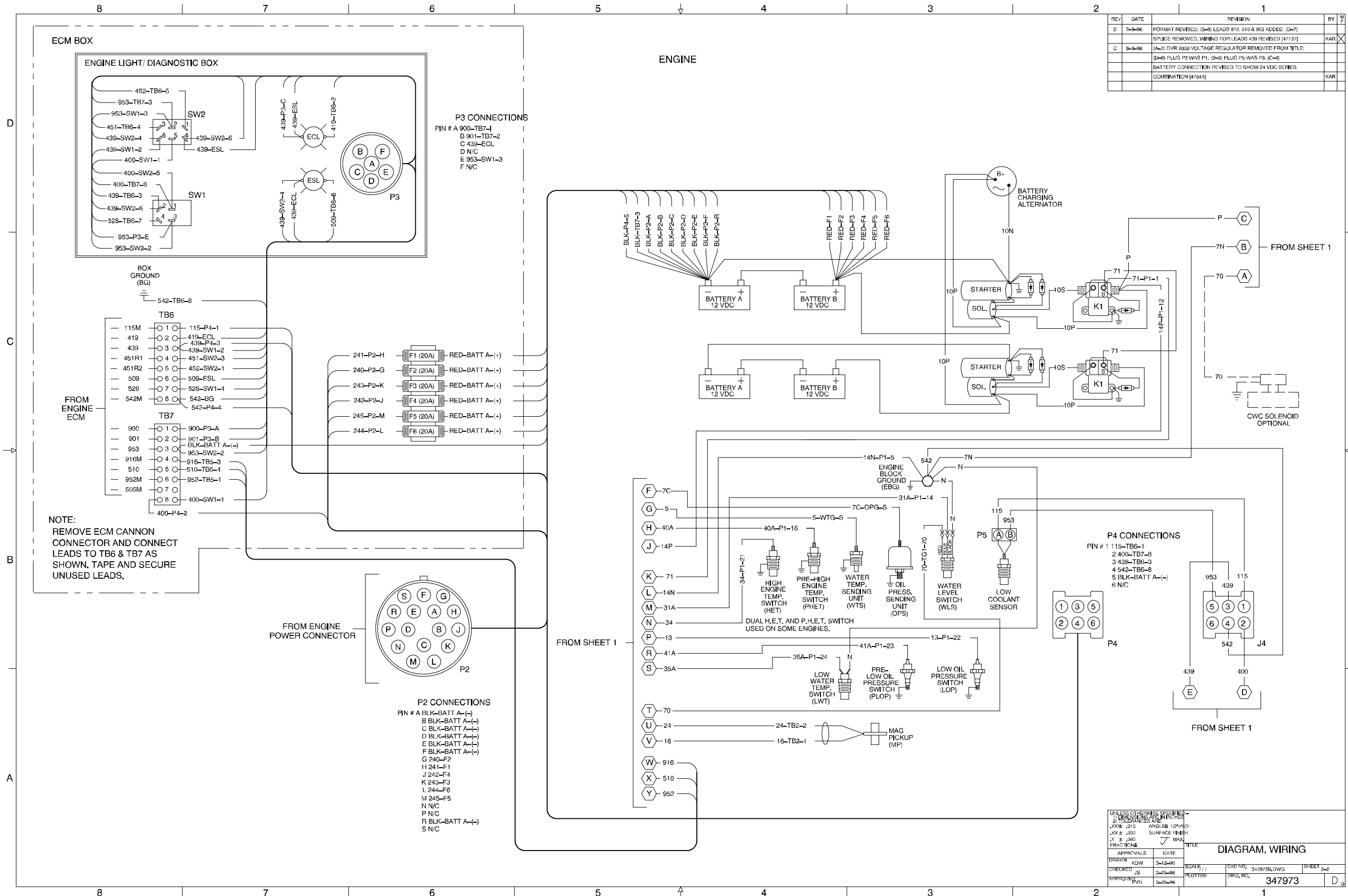
TO SHEET 2

NOTE:
FOR GENERATOR
CONNECTIONS SEE ADV-6172

APPROVALS		DATE	TITLE
DRAWN	KDW	3-12-96	DIAGRAM, WIRING
CHECKED	JS	2-25-96	
APPROVED	PVN	3-26-96	

SCALE	CAD NO.	DWG. NO.	PROJECT
1/1	347973A.DWG	347973	D

Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, 6.6-13.8 kV, Sheet 1, 347973A-B



REV	DATE	REVISION	BY	MR
B	7-9-96	FORMAT REVISED; (B-8) LEADS 916, 510 & 952 ADDED; (D-7)		
C	8-9-96	SPICE REMOVED; WIRING FOR LEADS 439 REVISED (47137); (A-2) DVR 2000 VOLTAGE REGULATOR REMOVED FROM TITLE; (D-6) PLUG P3 WAS P1; (B-3) PLUG P5 WAS P3; (C-4) BATTERY CONNECTION REVISED TO SHOW 24 VDC SERIES COMBINATION (47641)	KAR	

APPROVALS		DATE	SCALE	CAD NO.	DWG. NO.	SHEET
DRAWN	KDW	3-12-99	1/1	347973BLDWG	347973	2
CHECKED	JS	2-25-99				
APPROVED	PVN	2-25-99				

Engine Gauge Box for Paralleling Controller, Point-to-Point Wiring Diagram, 6.6-13.8 V, Sheet 2, 347973B-C

TP-5722 1/97b

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