

ABBREVIATIONS

AC	ALTERNATING CURRENT	MAN	MANUAL
AFCR	AUXILIARY FUEL CONTROL RELAY	MPU	MAGNETIC PICKUP
ALM	ALARM MODULE	OPT	OPTIONAL
ASOMS	AIR SHUTOFF MAGNETIC SWITCH	PAN	PANEL
ATB	AC TRANSFORMER BOX CONNECTOR	PDA	PRIMARY CAT DATA LINK
AUX	AUXILIARY RELAY (CRANK TERMINATION)	PL	PANEL ILLUMINATION LIGHT
AUXREL	AUXILIARY RELAY (CRANK TERMINATION)	PLS	PANEL LIGHT SWITCH
AWG	AMERICAN WIRE GAGE	PMS	PRELUBE MAG SWITCH
B	BATTERY	POT	POTENTIOMETER
CB	CIRCUIT BREAKER	PPRM	PRELUBE PUMP RELAY MASTER
CSA	CANADIAN STANDARDS ASSOCIATION	PVC	POTENTIAL TRANSFORMER
CT	CURRENT TRANSFORMER	PWM	PULSED WIDTH MODULATION
CU	COPPER		
D	DIODE	RAN	REMOTE ANNUNCIATOR
DC	DIRECT CURRENT	RDM	RELAY DRIVER MODULE
DCV	DC VOLTMETER	REL	RELAY
		RES	RESISTOR
		RM	RELAY MODULE
ECS	ENGINE CONTROL SWITCH	SAS	START AID SWITCH
EFOR	EMERGENCY FUEL CONTROL RELAY	SBD	SECONDARY CAT DATA LINK
EMC	EMERGENCY STOP	SHLD	SHIELD
EMCPH	EMERGENCY STOP PUSH BUTTON	SLM	SLAVE RELAY
ES	EMERGENCY STOP	SLR	SLIP
ESPB	EMERGENCY STOP PUSH BUTTON	SLMS	SLIP MOTOR SENSING
ETR	ENERGIZED TO RUN	SP	SPEED ADJUST POTENTIOMETER
ETS	ENERGIZED TO SHUTDOWN	SPA	SPARE DATA
F	FUSE	SR	SLAVE RELAY
GA	GAGE	SS	SENSOR
GEN	GENERATOR	SV	SENSOR VOLTAGE SWITCH
GND	GROUND	SW	SWITCH
GOV	GOVERNOR	T	GENERATOR LINE LEADS
GPHI	GROUND POST-HI VOLTAGE	TBC	TERMINAL BLOCK CONNECTOR
GPLO	GROUND POST-LOW VOLTAGE	TS	TERMINAL STRIP
GS	GOVERNOR SWITCH	UL	UNDERWRITERS LABORATORIES
GSC	GENERATOR SET CONTROL	V	VOLTS
HZ	HERTZ / FREQUENCY METER	VAB	A TO B LINE VOLTAGE
IC	REMOTE START/STOP INITIATE CONTACT	VAC	AC VOLTAGE
KWLR	KILOWATT LEVEL RELAY	VAR	VOLTAGE ADJUST RHEOSTAT
L	LOAD LEADS	VAS	VOLTAGE ADJUST SWITCH
		VBC	B TO C LINE VOLTAGE
		VCA	A TO C LINE VOLTAGE
		VA	VOLTAGE REGULATION
		VM	WOODWARD LOADSHARE MODULE

SYMBOLS

	AC VOLTS		HIGH COOLANT TEMPERATURE
	ADJUSTABLE LOW-HIGH		HIGH WATER TEMPERATURE
	AUTO		HORN
	BATTERY CHARGER MALFUNCTION		HORN SILENCE/ACKNOWLEDGE SWITCH
	COMPONENT CONNECTION		LOW BATTERY VOLTAGE
	COOL DOWN/STOP		LOW COOLANT LEVEL
	ELAPSED OPERATING HOURS		LOW COOLANT TEMPERATURE
	EMERGENCY STOP		LOW FUEL LEVEL
	EMERGENCY STOP		LOW OIL PRESSURE
	ENGINE COOLANT TEMPERATURE		MANUAL START
	ENGINE EXHAUST TEMPERATURE RIGHT		NORMALLY CLOSED CONTACT
	ENGINE EXHAUST TEMPERATURE LEFT		NORMALLY OPEN CONTACT
	ENGINE INTAKE AIR DAMPER CLOSED		OFF/RESET
	ENGINE OIL PRESSURE		ON
	ENGINE OIL TEMPERATURE		OVERSPEED
	ENGINE ROTATIONAL SPEED		PANEL LIGHTS
	FAIL TO START (OVER CRANK)		STARTING AID-ETHER
	FAULT ALARM		SYSTEM BATTERY VOLTAGE
	FAULT SHUTDOWN		SYSTEM NOT IN AUTOMATIC START/STOP MODE
	GENERATOR SYNCHRONIZING INDICATOR		TERMINAL BLOCK CONNECTION (GENERATOR MOUNTED)
	GSC RELAY MODULE CONNECTION		TERMINAL BLOCK CONNECTION (CONTROL PANEL)
	HERTZ		TERMINAL BLOCK CONNECTION (CONTROL PANEL)
	VOLTAGE ADJUST SWITCH		

NOTES

NOTE A: FOR ADDITIONAL INFORMATION SEE.

NOTE B: FOR USE WITH MEDIUM VOLTAGE APPLICATIONS

NOTE C: FOR USE WITH LOW VOLTAGE APPLICATIONS

NOTE D: DISCARD THE TRIM AND THRUST WASHERS THAT COME WITH THE E-STOP BUTTON.

NOTE E: WIRES T11 & T13 CONNECT TO THE SLRS (SLR1 & 2) OF THE OPTIONAL SLM. REFER TO SLR TABLE FOR PROPER CONNECTIONS.

NOTE F: WIRES TO BE CAPPED & SECURED WHEN NOT USED. PROVIDE WIRE ROUTING & HARDWARE TO PREVENT WIRE CHAFFING.

NOTE G: ALL WIRE SHALL BE A MINIMUM STRANDED 16 AWG UL & CSA, 90°C, 600 VAC INSULATION UNLESS OTHERWISE NOTED BY THE FOLLOWING SYMBOLS.
 = 10 AWG WIRE
 = 14 AWG WIRE
 = 20 AWG WIRE

NOTE H: EITHER THE OPTIONAL SLM OR ALM MAY BE INSTALLED IN THE PANEL INSTRUMENT DOOR RIGHT MOUNTING LOCATION.

NOTE J: WIRES ARE TO BE END CODED WITH WIRE NUMBERS.

NOTE K: SEGREGATE AC WIRING FROM DC WIRING.

NOTE L: VOLTAGE CONNECTIONS DETERMINED BY GENERATOR LINE TO LINE VOLTAGE.

NOTE M: ADD JUMPER USING 20 AWG WIRE SOLID TIN CU .017" PVC INSULATION .066" OUTSIDE DIAMETER 1000V MAX

NOTE N: SET THE MIDDLE DIAL ON THE TIMER TO "3 sec."

NOTE P: SET THE TOP DIAL ON THE TIMER TO "1."

NOTE R: SET THE BOTTOM DIAL ON THE TIMER TO "0.7".

NOTE S: CONTROL PANEL GROUND WIRE SHALL BE 12 AWG WITH GREEN AND YELLOW STRIPED INSULATION RATED 90°C, 600 VAC, UL & CSA. WIRE SHALL BE LABELED "GND" & SHALL HAVE AN APPROPRIATELY SIZED RING TERMINAL FOR 10-24 SCREW.

NOTE T: MOUNT FILM ON CONTROL PANEL FLOOR.

NOTE U: USE CABLE STRAPS FOR ROUTING OF WIRE FOR OPTIMAL FIT AND APPEARANCE.

NOTE V: MOUNT TETHER STRAPS TO METER PLATE.

NOTE W: FOR DELTA CONNECTED GENERATORS JUMPER H21, H22, AND H23 TOGETHER. DO NOT PROVIDE TO CONNECTION FOR DELTA GENERATORS.

NOTE X: FOR MEDIUM VOLTAGE APPLICATIONS (>600V), REMOVE THE TEN SCREWS FROM THE BACK OF THE GSC, AND REMOVE THE 6-PIN JUMPER FROM THE PRINTED CIRCUIT BOARD.

NOTE Y: CUSTOMER CONNECTIONS.

NOTE Z: FOR REQUIRED PRODUCT MARKING SEE.

NOTE AA: THE WIRING DIAGRAM ILLUSTRATED ON SHEET 6 DEPICTING CONTROL PANEL CONNECTIONS TO THE GENERATOR OUTPUT TERMINALS FOR VOLTAGE SENSING ILLUSTRATE CONNECTIONS FOR LOW VOLTAGE (≤ 600V) APPLICATIONS ONLY. MEDIUM VOLTAGE APPLICATIONS REQUIRE POTENTIAL TRANSFORMERS SIZED APPROPRIATELY FOR GENERATOR OUTPUT VOLTAGE.

NOTE AB: INSTALL TEN FUSES AND SHIP LOOSE TEN WITH THE PANEL.

NOTE AC: MOUNT FILM ON THE LEFT SIDE OF THE ATB MOUNTING BRACKET.

NOTE AD: NOTICE. DO NOT DIRECT CONNECT EMCPH+ VOLTAGE SENSING CONNECTIONS TO GENERATOR BUSS IF GENERATOR IS RATED AT > 600 VOLTS. VERIFY THAT EMCPH+ VOLTAGE SENSING LINES ARE TERMINATED WITH FERRULES IN ALL MEDIUM VOLTAGE APPLICATIONS (> 600V) AND ARE CONNECTED TO THE SECONDARY TAPS OF THE PTs THROUGH GENERATOR TERMINAL BLOCK CONNECTIONS TO, T1, T2, T3.

NOTE AE: MOUNT FILM ON VERTICAL SURFACE OF GSC NEAR FUSE BLOCK.

NOTE AF: INSTALL JUMPER 63 BETWEEN TERMINAL "6" AND TERMINAL "8" ON THE ECS SWITCH IF IT IS DESIRED TO HAVE THE GSC, ALM, AND RAN TO REMAIN "ON" WHEN THE ECS SWITCH IS IN THE "OFF" POSITION, NOT RECOMMENDED FOR PRIME POWER APPLICATIONS, DUE TO DRAIN ON BATTERY.

NOTE AG: DO NOT TERMINATE WIRE F17-2 IF TWO ALARMS ARE NOT PRESENT.

NOTE AH: REFER TO THE WIRING GP (VR6) FOR A LIST OF COMPONENTS TO BE INSTALLED IN THE CONTROL PANEL.

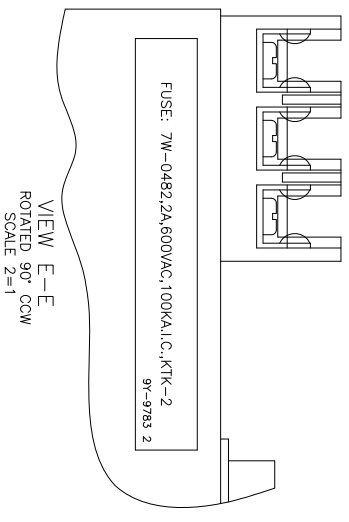
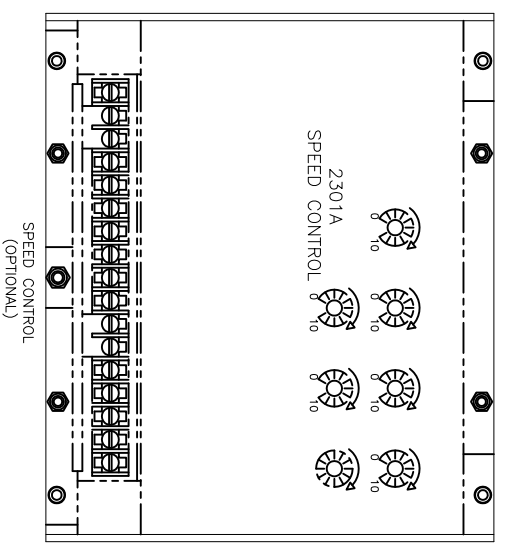
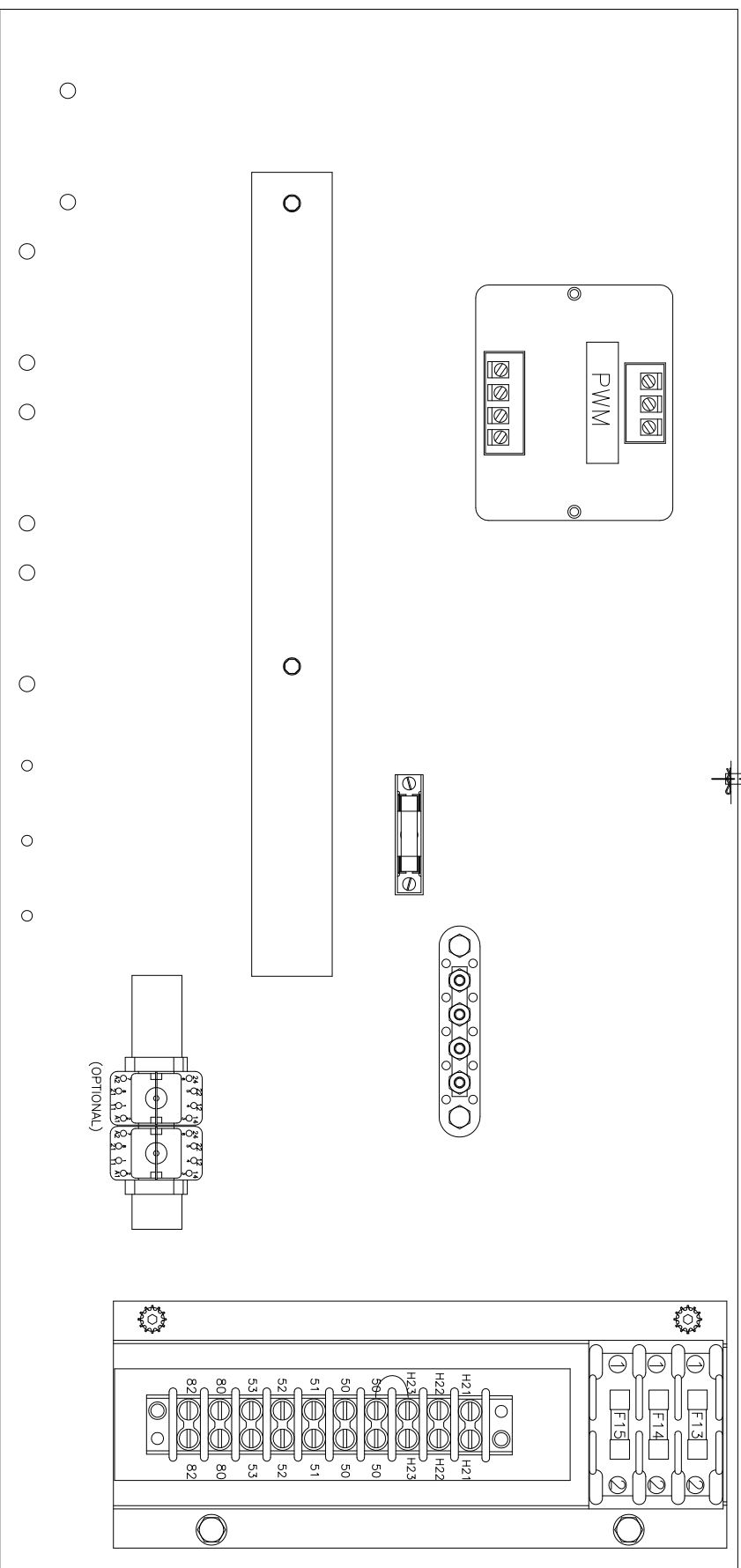
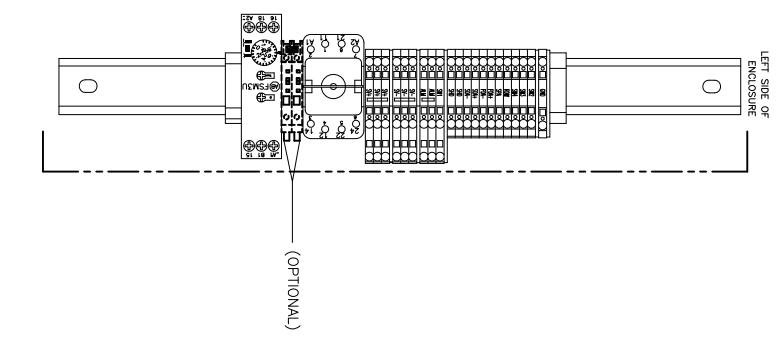
NOTE AJ: REFER TO WIRING GP (DWR) FOR A LIST OF COMPONENTS TO BE INSTALLED IN THE CONTROL PANEL.

1E2733 DRAWING - AUTOCAD
 91E0011 INTER & TOOL

DATE: 11/11/2011 10:58:11 AM
 USER: JIM CRAIG
 PROJECT: 187-6307
 SHEET: 1 OF 10

DESIGN ENGINEER: JIM CRAIG
 CHECKED: JIM CRAIG
 DIMENSIONS IN: IN, ANG: DEGREE
 SCALE: 1:1
 SHEET: 1 OF 10

187-6307



NOT TO SCALE
SEE SHEET 1
FOR NOTES
CATERPILLAR: CONFIDENTIAL YELLOW
INTERNAL PANEL LAYOUT

1	187-6307-1	1	1
2		2	2
3		3	3
4		4	4
5		5	5
6		6	6
7		7	7
8		8	8

187-6307-1

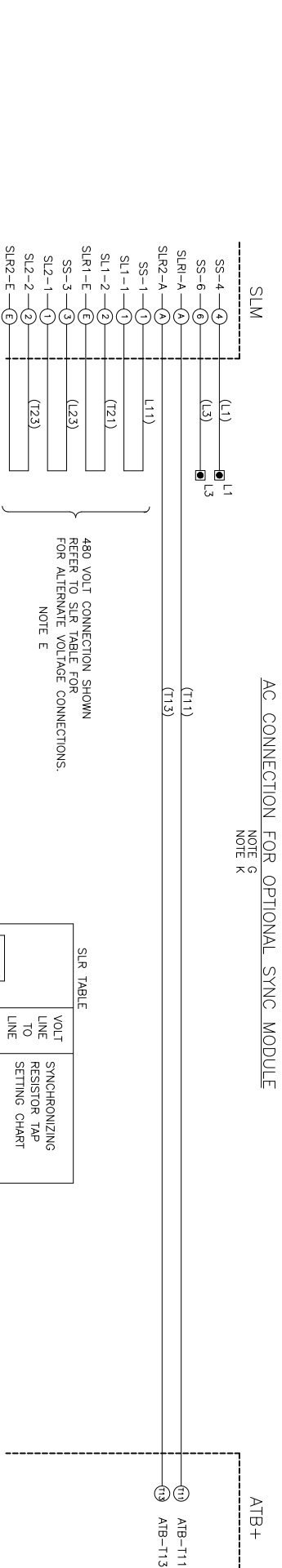
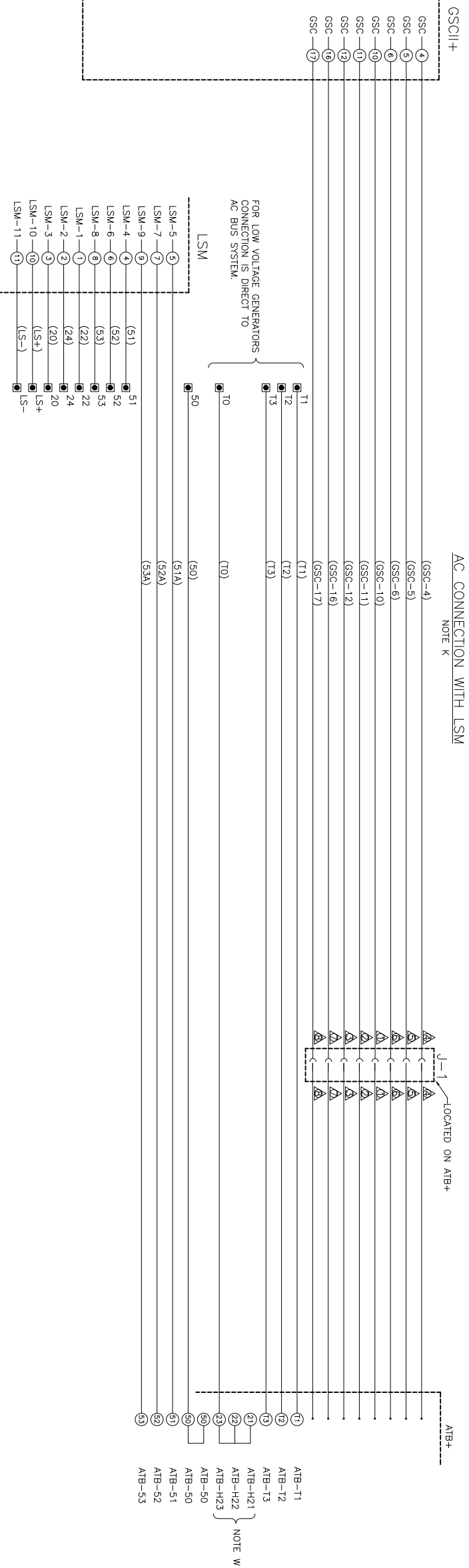
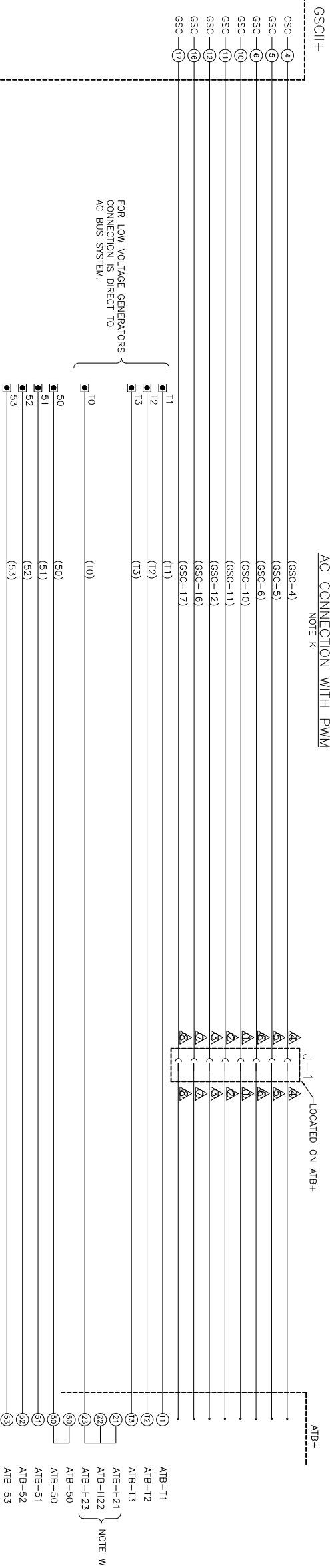
DATE: 1510FEB04

SCALE: 1 = 1

PROJECTION: 1ST ANGLE

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187-6307-1

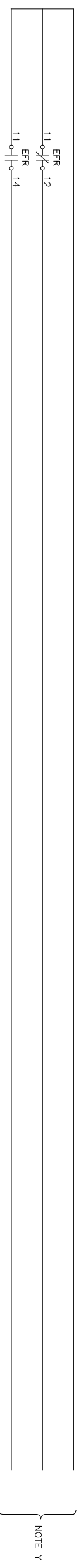
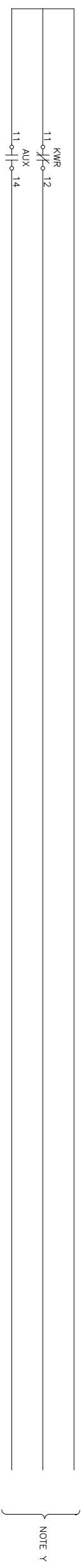
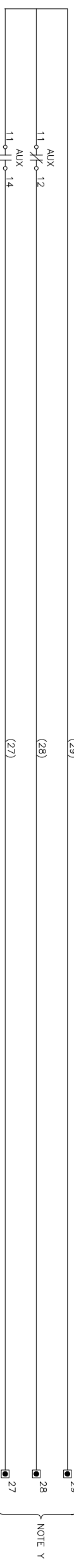
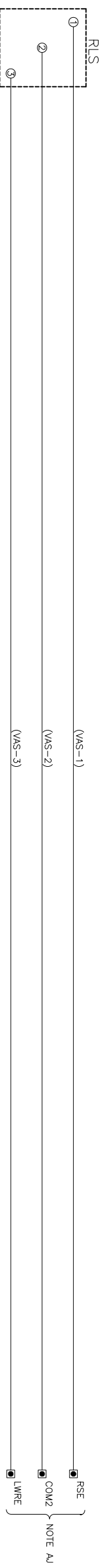


SUR TABLE

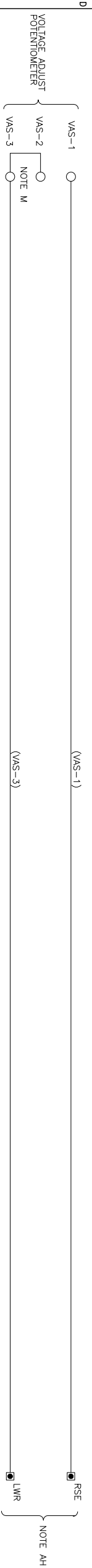
VOLT LINE TO SETTING CHART	USE E-D	1760 n
208	USE E-D	1760 n
240	USE E-C	2400 n
300	USE E-B	5600 n
380	USE E-B	5600 n
400	USE E-B	5600 n
416	USE E-A	7200 n
480	USE E-A	7200 n

CATERPILLAR: CONFIDENTIAL YELLOW
FOR NOTES SEE SHEET 1
MAIN CHASSIS WIRING
DIAGRAM EMCPII+

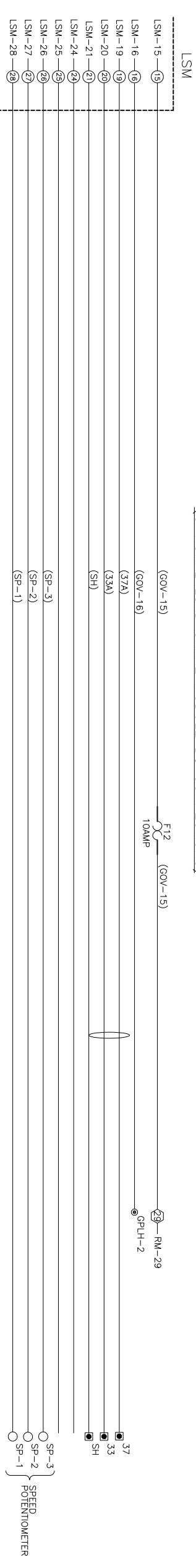
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(OPTIONAL REMOTE POTENTIOMETER FOR VR6 VOLTAGE REGULATOR)



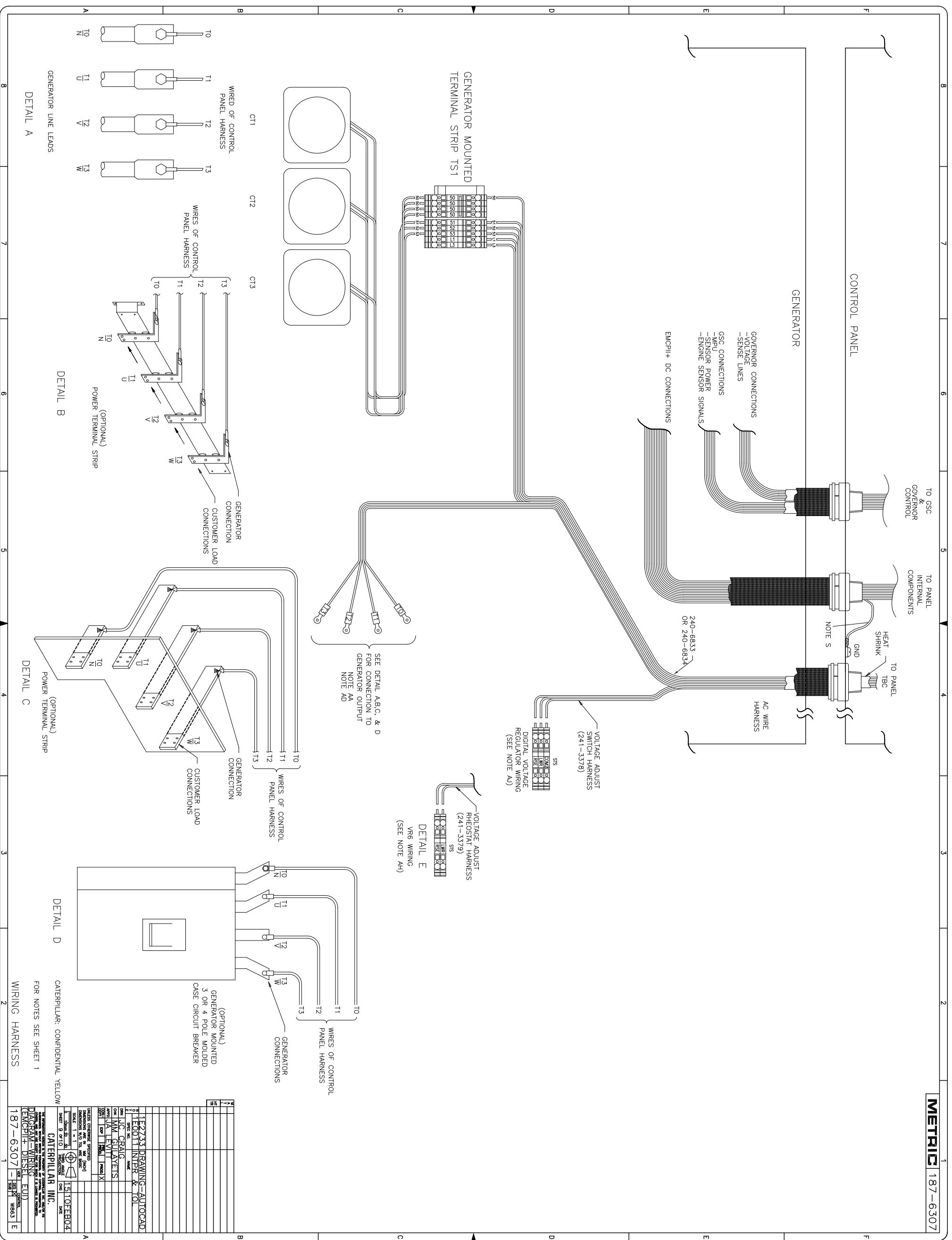
(OPTIONAL LOAD SHARE MODULE DC CONNECTIONS)



CATERPILLAR: CONFIDENTIAL YELLOW
FOR NOTES SEE SHEET 1
MAIN CHASSIS WIRING
DIAGRAM EMCPII+

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5		5	5
6		6	6
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187-6307-1



DETAIL A

DETAIL B

DETAIL C

DETAIL D

DETAIL E

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CATERPILLAR: CONFIDENTIAL YELLOW
FOR NOTES SEE SHEET 1

187-6307-1

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include TS1-1 through TS1-6.

HARNNESS 250-1112 (EC00)

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include RM-B4 through ALM-7.

HARNNESS 250-1116 (EC00)

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include RM-B4 through ALM-7.

HARNNESS 158-6182 (EC03)

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include F13-2 through SLR2-E.

HARNNESS 126-3085 (EC06)

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include TS-20 through TBC-53.

HARNNESS 178-2964 (EC00)

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include F16-1 through F17-2.

HARNNESS 241-2967 (DIGITAL VOLTAGE REGULATOR) SEE NOTE AU

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include TS2-RSE through TS2-LWR.

Large table with columns: NOTES, TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include GSC-4 through TS1-SH.

HARNNESS 240-6834

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include F13-1 through TBC-H22.

HARNNESS 240-6833

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include F13-1 through TBC-H22.

HARNNESS 241-2968 (VNB) SEE NOTE AF

Table with columns: TERMINATION, LOC, CIRCUIT IDENT, GA, LENGTH REF, COLOR IDENT, ITEM NO., LOC, TERMINATION. Rows include TS2-RSE through TS2-LWR.

CATERPILLAR: CONFIDENTIAL YELLOW
FOR NOTES SEE SHEET 1
WIRING HARNNESS

Technical drawing information including: 187-6307, DATE 15/10/2004, CATERPILLAR INC., DRAWING: 187-6307-1, SHEET 10 OF 10, and various revision notes.