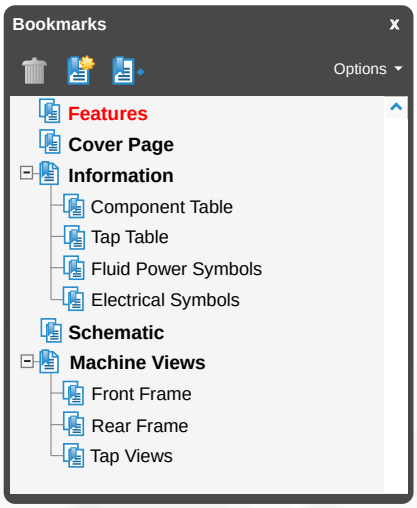
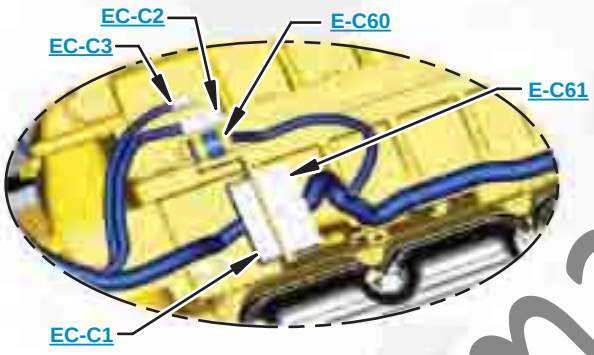
INTERACTIVE SCHEMATIC



The Bookmarks panel will allow you to quickly navigate to points of interest.

This document is best viewed at a screen resolution of 1024 X 768.

To set your screen resolution do the following:
RIGHT CLICK on the **DESKTOP**.
Select **PROPERTIES**.
CLICK the **SETTINGS TAB**.
MOVE THE SLIDER under **SCREEN RESOLUTION** until it shows **1024 X 768**.
CLICK OK to apply the resolution.



Click on any text that is BLUE and underlined. These are hyperlinks that can be used to navigate the schematic and machine views.

VIEW ALL CALLOUTS

When only one callout is showing on a machine view this button will make all of the callouts visible. This button is located in the top right corner of every machine view page.

HOTKEYS (Keyboard Shortcuts)		
	FUNCTION	**KEYS**
	Zoom In	**“CTRL” / “+”**
	Zoom Out	**“CTRL” / “-”**
	Fit to Page	**“CTRL” / “0” (zero)**
	Hand Tool	**“SPACEBAR” (hold down)**
	Find	**“CTRL” / “F”**

CATERPILLAR®

RENR3125-07
May 2010

Schematic

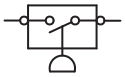
Solid State Magnetic Controller for Material Handlers Electrical System

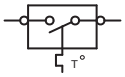
M318 MH: **6ES1-UP**	**M320 MH:** **6WL1-UP**	**320B MH:** **6LS1-UP** **5GW1-UP** **6CR1-UP**	**320C MH:** **BGB1-UP** **PAB1-UP** **SAH1-UP**	**322B MH:** **1YS1-UP**	**322C MH:** **BKJ1-UP**
325 MH: **2SL1-UP**	**325B MH:** **2JR1-UP**	**M325B MH:** **BGN1-UP**	**325C MH:** **S2C1-UP** **BFE1-UP** **BMM1-UP**	**M325C MH:** **PAN1-UP**	**325D MH:** **C4H1-UP** **RJK1-UP**
M325D MH: **EDF1-UP** **KGG1-UP** **KAY1-UP**	**330 MH:** **5YM1-UP**		**W330B MH:** **AME1-UP**	**330C MH:** **D3C1-UP** **DKY1-UP**	**330D MH:** **C5K1-UP** **LEM1-UP**
345B MH: **2NW1-UP** **4SS1-UP** **AGS1-UP** **CFM1-UP**	**345B II MH:** **APB1-UP**	**W345B MH:** **ANJ1-UP** **CDY1-UP**	**345C MH:** **MTE1-UP** **PJW1-UP** **M2R1-UP** **D3S1-UP**	**350 MH:** **3ML1-UP** **9FL1-UP** **8KZ1-UP**	**365B MH:** **CTY1-UP** **9PZ1-UP** **9TZ1-UP** **JMB1-UP** **DER1-UP** **SDL1-UP**
365C MH: **GWC1-UP**	**375 MH:** **1JM1-UP**	**385C MH:** **WAW1-UP**			

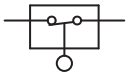
Printed in U.S.A.

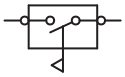
HARNESS and WIRE
Electrical Schematic Symbols

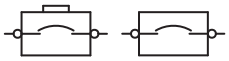
Symbols


Pressure Symbol


Temperature Symbol

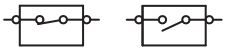

Level Symbol

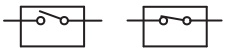

Flow Symbol

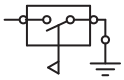

Circuit Breaker Symbol

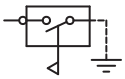
Symbols and Definitions

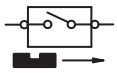

Fuse: A component in an electrical circuit that will open the circuit if too much current flows through it.

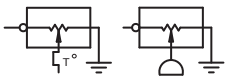

Switch (Normally Open): A switch that will close at a specified point (temp, press, etc.). The circle indicates that the component has screw terminals and a wire can be disconnected from it.

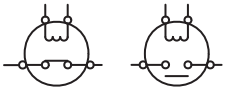

Switch (Normally Closed): A switch that will open at a specified point (temp, press, etc.). No circle indicates that the wire cannot be disconnected from the component.

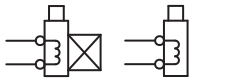

Ground (Wired): This indicates that the component is connected to a grounded wire. The grounded wire is fastened to the machine.

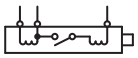

Ground (Case): This indicates that the component does not have a wire connected to ground. It is grounded by being fastened to the machine.


Reed Switch: A switch whose contacts are controlled by a magnet. A magnet closes the contacts of a normally open reed switch; it opens the contacts of a normally closed reed switch.


Sender: A component that is used with a temperature or pressure gauge. The sender measures the temperature or pressure. Its resistance changes to give an indication to the gauge of the temperature or pressure.

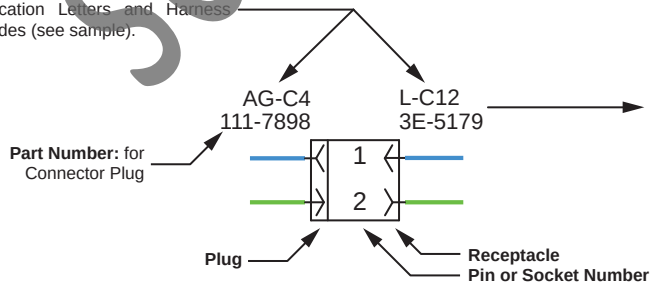

Relay (Magnetic Switch): A relay is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close the switch part of the relay.

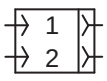

Solenoid: A solenoid is an electrical component that is activated by electricity. It has a coil that makes an electromagnet when current flows through it. The electromagnet can open or close a valve or move a piece of metal that can do work.


Magnetic Latch Solenoid: A magnetic latch solenoid is an electrical component that is activated by electricity and held latched by a permanent magnet. It has two coils (latch and unlatch) that make electromagnet when current flows through them. It also has an internal switch that places the latch coil circuit open at the time the coil latches.

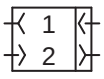
Harness and Wire Symbols

Wire, Cable, or Harness Assembly Identification: Includes Harness Identification Letters and Harness Connector Serialization Codes (see sample).

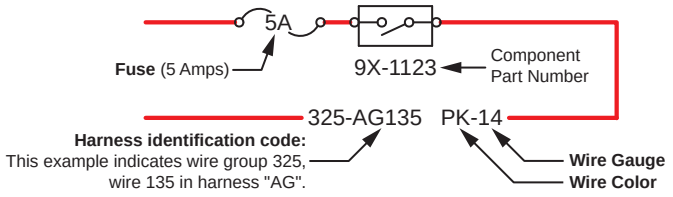




Deutsch connector: Typical representation of a Deutsch connector. The plug contains all sockets and the receptacle contains all pins.



Sure-Seal connector: Typical representation of a Sure-Seal connector. The plug and receptacle contain both pins and sockets.



WIRE GROUP COLOR DESCRIPTIONS	
(red)	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS OFF.
(blue)	WIRES THAT HAVE SYSTEM VOLTAGE WHEN THE KEY SWITCH IS ON.
(orange)	GENERATOR POWER CIRCUIT.
(black)	GROUND CIRCUIT.
(green)	OPERATOR MONITOR CIRCUIT.
(purple)	PLC CONTROL CIRCUIT.
OTHER COLOR DESCRIPTIONS	
(light blue)	HIGHWAYS

AWG	SXL MM2	AV MM2
00	63.4	60
0	50.1	50
4	18.93	20
6	12.10	15
8	7.50	8
10	4.73	5
12	2.96	3
14	1.88	2
16	1.18	1.25
18	0.78	0.85

ABBREV	COLOR
BK	BLACK
BR	BROWN
BU	BLUE
GN	GREEN
GY	GRAY
OR	ORANGE
PK	PINK
PU	PURPLE
RD	RED
WH	WHITE
YL	YELLOW

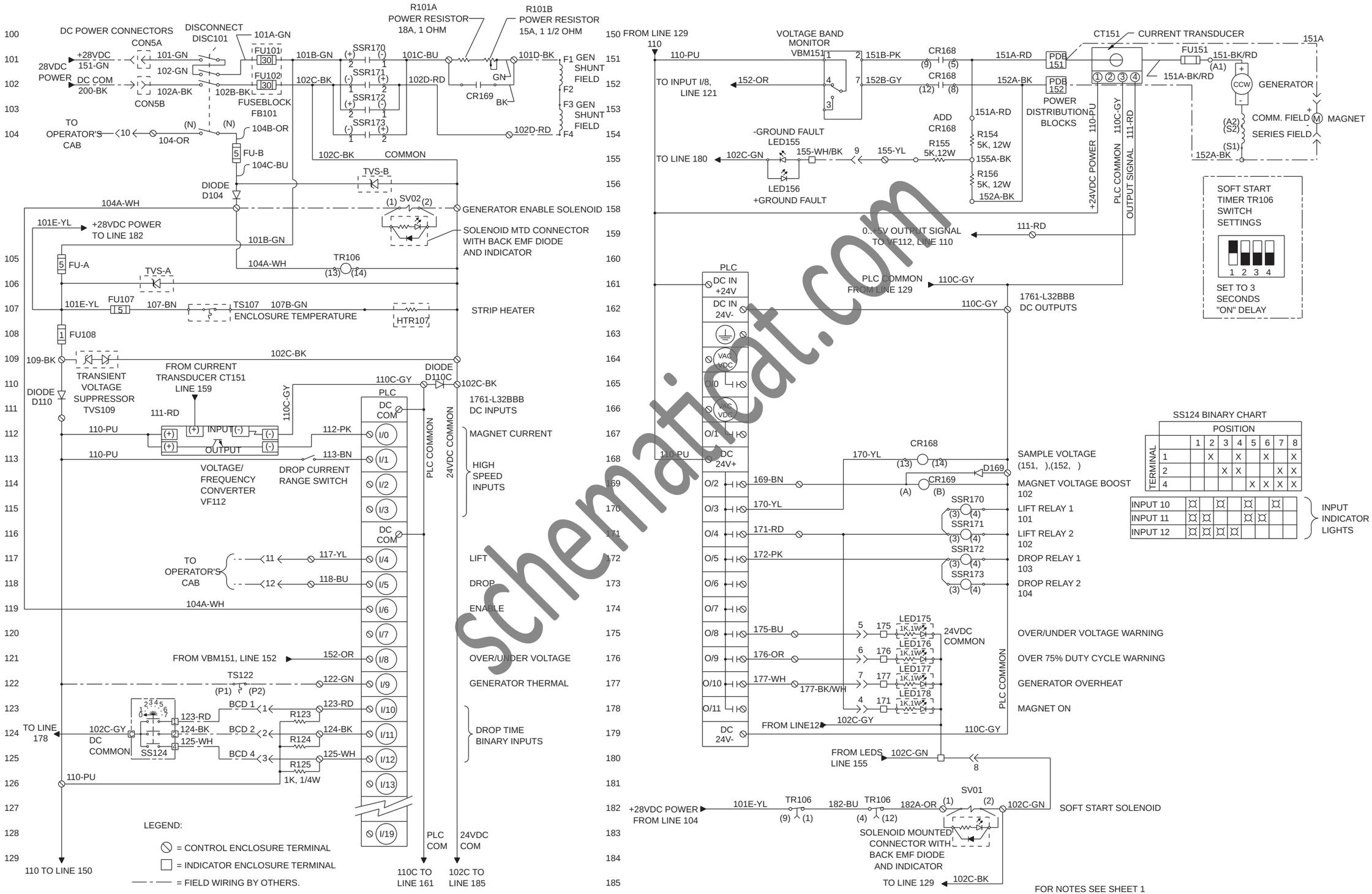
IDENT	PART NO.	SH	LOC	DESCRIPTION	NOTE
HARNESS AS.					
A	207-7013	1	B-7	GENERATOR	A
C	180-5557	1	C-10	GENERATOR 2	A
E	255-4405	1	A-12	GEN. JUNCTION BOX 1 (345C)	C
E	273-9767	1	A-12	GEN. JUNCTION BOX 1 (325D/330D)	C
F	255-4406	1	A-11	GEN. JUNCTION BOX 2 (345C)	C
F	274-5217	1	A-11	GEN. JUNCTION BOX 2 (325D)	C
F	273-9768	1	A-11	GEN. JUNCTION BOX 2 (330D)	C
G	166-4706	1	A-4	VALVE SOLENOIDS	A
J	260-1936	1	E-12	MONITOR JUMPER (CAB)	B,E
X	260-1934	1	E-12	MONITOR AND SWITCHES	B,E
Y	260-1935	1	C-11	MONITOR JUMPER (CHASSIS)	B,D,E
AA	253-6148	1	E-4	GENSET POWER	B,E
CABLE AS.					
CA	180-7096	1	D-11	POWER RESISTERS	A
CC	180-7047	1	E-4	RELAY PANEL	A
CE	221-9128	1	B-4	MAIN FUSE	A
WIRE AS.					
WA	205-8375	1	F-6	TB2 JUMPER	A

SYMBOL	DESCRIPTION
∘	BLADE, SPADE, RING, OR SCREW TERMINAL
∘–∘	SPLICE
+	CIRCUIT NOT CONNECTED
⏚	ELECTRICAL CONNECTION TO MACHINE STRUCTURE
⏚	INTERNAL ELECTRICAL CONNECTION TO SURFACE OF COMPONENT
→)—	CONNECTOR
→))→	GOLD TERMINAL
– –	ATCH WIRE, CABLE, COMPONENT
L#	CIRCUIT GROUPING DESIGNATION

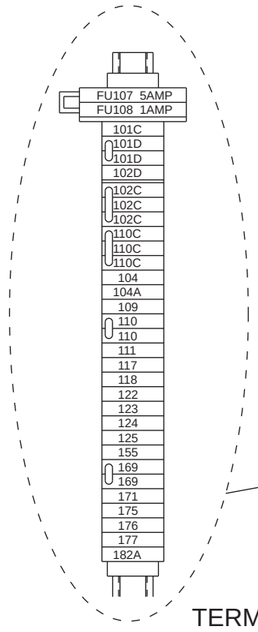
NOTE A: SAME PART NUMBER FOR ALL MODELS
NOTE B: SAME PART NUMBER ON 345C, 330D AND 325D
NOTE C: PART NUMBER VARIES BY MODEL
NOTE D: NOT USED ON MEDIUM B AND C OR LARGE B MODELS
NOTE E: DIFFERENT PART NUMBER FOR MEDIUM B, C AND LARGE B MODELS

SCHEMATIC FOR GENERATOR	
PART No.	283-1452
CHG-LEVEL	00
DATE	10-OCT-2005
VERSION	(-)
SHEET	1 OF 1

REFERENCE SCHEMATIC



VIEW WITH DOOR REMOVED



TERMINAL BLOCK