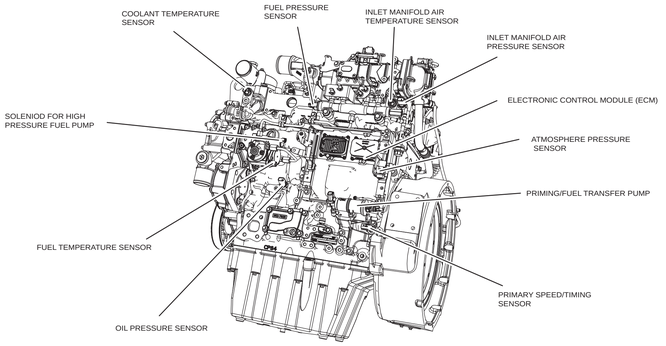
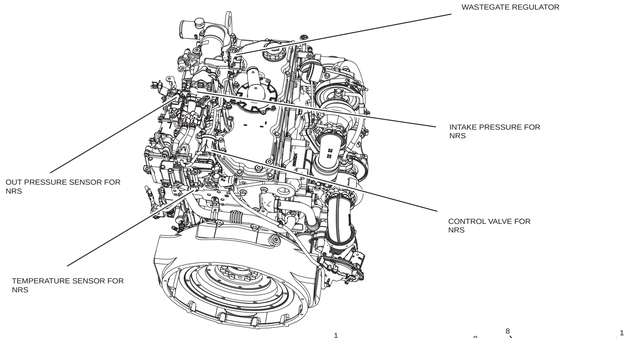
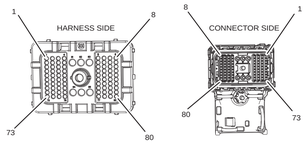
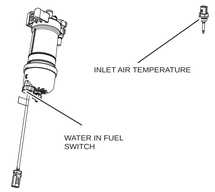
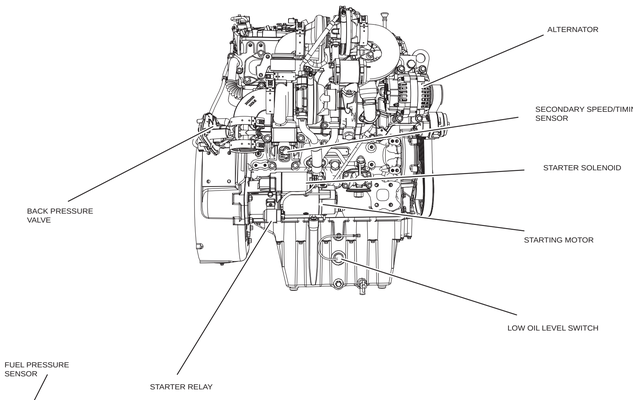
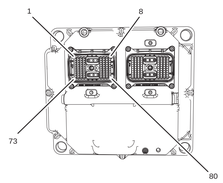


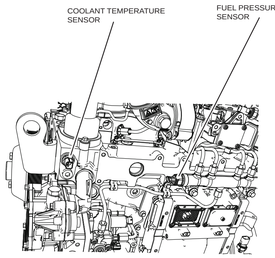


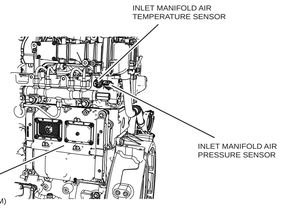


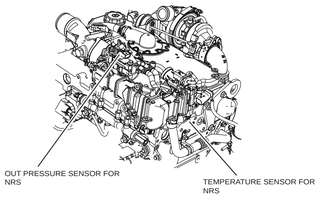


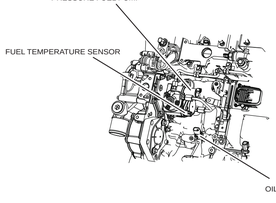


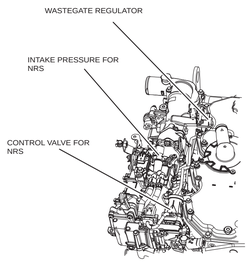


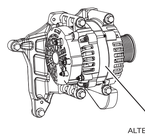


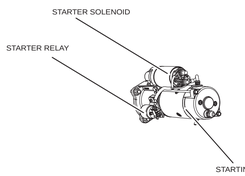


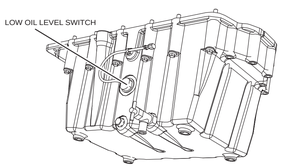


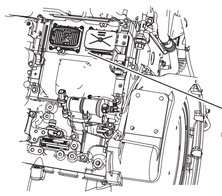


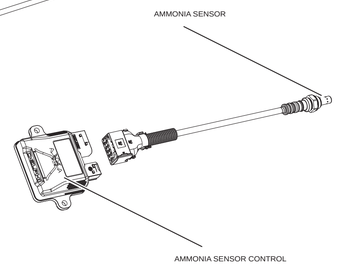


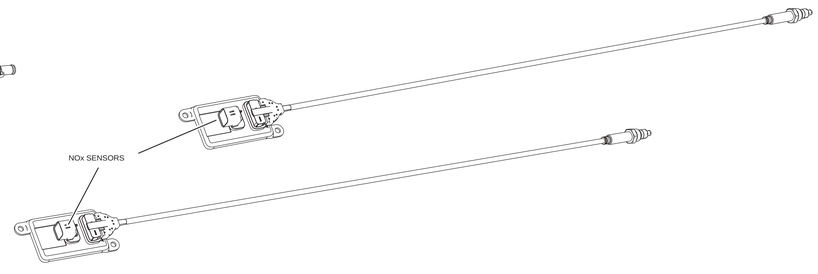


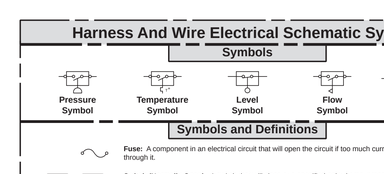


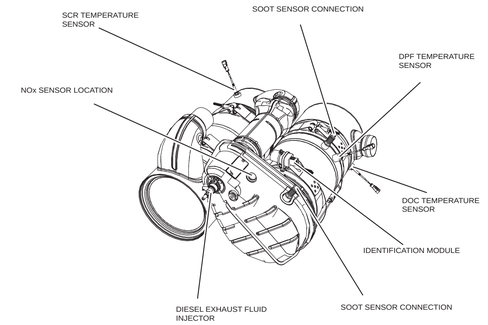












Perkins®

THE HEART OF EVERY GREAT MACHINE

UENR4451-00
Sept 2014

Schematic

1204F -E44TA and 1204F-E44TTA Industrial Engines Electrical System

MT
MU

Volume 1of 2:

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).

Harness Identification Letter(s): (A, B, C, ... AA, AB, AC, ...)

Harness Connector Serialization Code: The "C" stands for "Connector" and the number indicates which connector in the harness (C1, C2, C3,...).

AG-C4 111-7898 — **Part Number:** for Connector Plug

L-C12 3E-5179 — **Plug**

L-C12 3E-5179 — **Part Number:** for Connector Receptacle

Receptacle Pin or Socket Number

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.

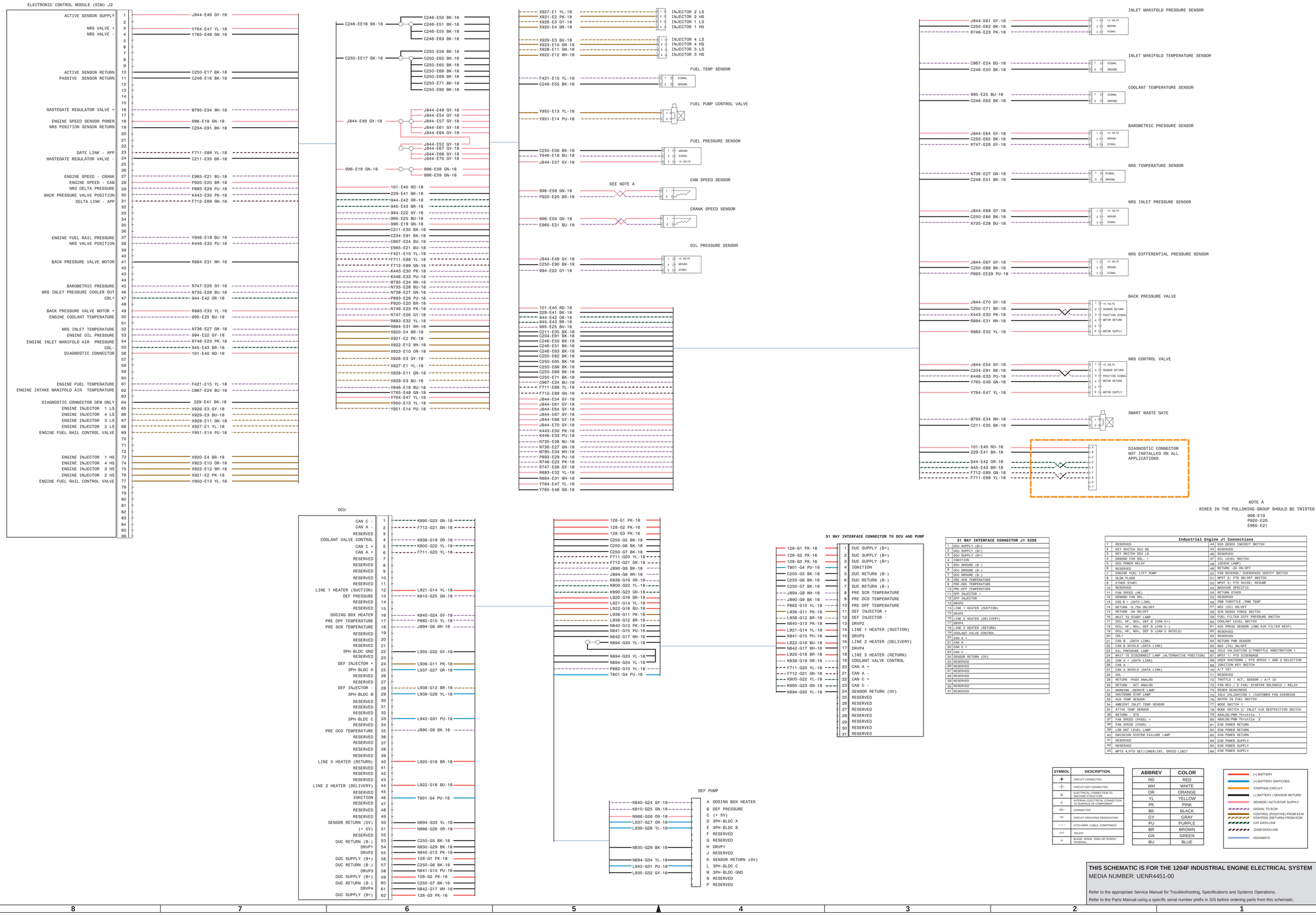
5A — **Fuse** (5 Amps)

9X-1123 — Component Part Number

325-AG135 — **Harness identification code:** This example indicates wire group 325, wire 135 in harness "AG".

PK-14 — **Wire Gauge** / **Wire Color**

Printed in U.S.A.



31 WAY INTERFACE CONNECTOR J1 SIDE

1	DCU SUPPLY (B+)
2	DCU SUPPLY (B+)
3	DCU SUPPLY (B+)
4	IGNITION
5	DCU GROUND (B-)
6	DCU GROUND (B-)
7	DCU GROUND (B-)
8	PRE_SCR TEMPERATURE
9	PRE_DOC TEMPERATURE
10	PRE_DPF TEMPERATURE
11	DPF INJECTOR +
12	DPF INJECTOR -
13	DRVP2
14	LINE 1 HEATER (SUCTION)
15	DRVP3
16	LINE 2 HEATER (DELIVERY)
17	DRVP4
18	LINE 3 HEATER (RETURN)
19	COOLANT VALVE CONTROL
20	CAN A +
21	CAN A -
22	CAN C +
23	CAN C -
24	SENSOR RETURN (OV)
25	RESERVED
26	RESERVED
27	RESERVED
28	RESERVED
29	RESERVED
30	RESERVED
31	RESERVED

Industrial Engine J1 Connections

1	RESERVED	44	SCR DESOX INHIBIT SWITCH
2	KEY SWITCH DCU HS	45	RESERVED
3	KEY SWITCH DCU LS	46	RESERVED
4	DEMAND FAN SOL. +	47	OIL LEVEL SWITCH
5	DCU POWER RELAY	48	(DESOX LAMP)
6	RESERVED	49	RETURN -2A ON/OFF
7	ENGINE FUEL LIFT PUMP	50	FAN REVERSE/ OVERSPEED VERIFY SWITCH
8	GLOW PLUGS	51	WPST 2/ PTO ON/OFF SWITCH
9	ETHER START	52	WPST 3/ PTO RAISE/ RESUME
10	RESERVED	53	MACHINE SPECIFIC
11	FAN SPEED (HE)	54	RETURN OTHER
12	DEMAND FAN SOL. -	55	RESERVED
13	CAN B + (DATA LINK)	56	PWM THROTTLE /PRM TEMP
14	RETURN -3.75A ON/OFF	57	NOX (EO) ON/OFF
15	RETURN -2A ON/OFF	58	SCR DESOX FORCE SWITCH
16	WAIT TO START LAMP	59	FUEL FILTER DIFF PRESSURE SWITCH
17	DCU, HF, NOx, DEF Q (CAN C+)	60	COOLANT LEVEL SWITCH
18	DCU, HF, NOx, DEF Q (CAN C-)	61	AUX PRESS SENSOR (CMG AIR FILTER REST)
19	DCU, HF, NOx, DEF Q (CAN C SHIELD)	62	RESERVED
20	CDL+	63	RESERVED
21	CAN B- (DATA LINK)	64	RETURN PRM SENSOR
22	CAN B SHIELD (DATA LINK)	65	NOX (TO) ON/OFF
23	OIL PRESSURE LAMP	66	IDLE VALIDATION 2/THROTTLE ARBITRATION 1
24	WAIT TO DISCONNECT LAMP (ALTERNATIVE POSITION)	67	WPST 1/ PTO DISENGAGE
25	CAN A + (DATA LINK)	68	USER SHUTDOWN / PTO SPEED 1 AND 2 SELECTION
26	CAN A -	69	IGNITION KEY SWITCH
27	CAN A SHIELD (DATA LINK)	70	A/T TD1
28	CDL-	71	RESERVED
29	RETURN -PASS ANALOG	72	THOTTLE / ACT. SENSOR / A/T TD
30	RETURN - ACT ANALOG	73	FAN REV./ E-FAN/ STARTER SOLENOID / RELAY
31	WARNING /DERATE LAMP	74	REGEN READINESS
32	SHUTDOWN STOP LAMP	75	IDLE VALIDATION 1 /CUSTOMER FAN OVERRIDE
33	AUX TEMP SENSOR	76	WATER IN FUEL SHIFTR
34	AMBIENT INLET TEMP SENSOR	77	MODE SWITCH 1
35	ATTAC TEMP SENSOR	78	MODE SWITCH 2/ INLET AIR RESTRICTION SWITCH
36	RETURN - STG	79	ANALOG/PWM Throttle 1
37	FAN SPEED (PASS) +	80	ANALOG/PWM Throttle 2
38	FAN SPEED (PASS) -	81	ECM POWER RETURN
39	LOW DEF LEVEL LAMP	82	ECM POWER RETURN
40	EMISSION SYSTEM FAILURE LAMP	83	ECM POWER RETURN
41	RESERVED	84	ECM POWER SUPPLY
42	RESERVED	85	ECM POWER SUPPLY
43	WPTS 4/PTO SET/LOWER/INT. SPEED LIMIT	86	ECM POWER SUPPLY

SYMBOL	DESCRIPTION
	CIRCUIT CONNECTED
	CIRCUIT NOT CONNECTED
	ELECTRICAL CONNECTION TO MACHINE STRUCTURE
	INTERNAL ELECTRICAL CONNECTION TO SURFACE OF COMPONENT
	CONNECTOR
	CIRCUIT GROUPING DESIGNATION
	ATCH WIRE, CABLE, COMPONENT
	SPLICE
	BLADE, SPADE, RING OR SCREW TERMINAL

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

(+) BATTERY
(+) BATTERY SWITCHED
STARTING CIRCUIT
(-) BATTERY / SENSOR RETURN
SENSOR / ACTUATOR SUPPLY
SIGNAL TO ECM
CONTROL (POSITIVE) FROM ECM
CONTROL (RETURN) FROM ECM
CAT DATA LINK
J1939 DATA LINK
HIGHWAYS

THIS SCHEMATIC IS FOR THE 1204F INDUSTRIAL ENGINE ELECTRICAL SYSTEM

MEDIA NUMBER: UENR4451-00

Refer to the appropriate Service Manual for Troubleshooting, Specifications and Systems Operations.

Refer to the Parts Manual using a specific serial number prefix in SIS before ordering parts from this schematic.